Res 368
Significant

Contract Cover Sheet

Note: Shaded areas are for County Executive review.

Department: Airport	Contract/Addendum #: 12909

1. This contract, grant or addendum: ☒ AWARDS ☐ ACCEPTS
2. This contract is discretionary ☒ Yes ☐ No
3. Term of Contract or Addendum: November 1, 2016 - October 31, 2021
4. Amount of Contract or Addendum: not to exceed $160,132.45 during the 5 year term of the agreement.
5. Purpose: To provide engineering services related to monitoring and maintaining the Truax Landfill and gas extraction system located at the Airport in accordance with State and Local regulations.

Contract		Addendum
	If Addendum, please include original contract number	
☒	POS	☐
☐	Grant	☐
☐	Co Lease	☐
☐	Co Lessor	☐
☐	Intergovernmental	☐
☐	Purchase of Property	☐
☐	Property Sale	☐
☐	Other	☐

6. Vendor or Funding Source: TRC ENVIRONMENTAL CORP
7. MUNIS Vendor Code: 21701 (remit #2)
8. Bid/RFP Number: 116081
9. If grant: Funds Positions? ☐ Yes ☐ No Will require on-going or matching funds? ☐ Yes ☐ No
10. Are funds included in the budget? ☒ Yes ☐ No
11. Account No. & Amount, Org & Obj. AIRINDUS 31375 Amount $_____
    Account No. & Amount, Org & Obj. _____ Amount $_____
    Account No. & Amount, Org & Obj. _____ Amount $_____
12. If this contract awards funds, a purchase requisition is necessary. Enter requisition # & year 2017 161
13. Is a resolution needed? ☐ Yes ☐ No If yes, please attach a copy of the Resolution.
    If Resolution has already been approved by the County Board, Resolution No. & date of adoption 2016 RES-368
14. Does Domestic Partner equal benefits requirement apply? ☒ Yes ☐ No
15. Director's Approval:

Contract Review/Approvals

Initials		Ftnt	Date In	Date Out
MG	Received		11-11-16	
	Controller			11/14/16
	Corporation Counsel		11-15-16	11-15-16
	Risk Management		11.14.16	11.15.16
PCP	Purchasing		11/15/16	11/15/16
	County Executive			

Vendor

Vendor Name
TRC ENVIRONMENTAL CORP
Contact Person
Curt Madsen
Phone No.
(608) 826-3640
E-mail Address
cmadsen@trcsolutions.com

Footnotes:

1.

2.

Return to:	Name/Title: Kimberly Jones, Dep. Airport Dir. Fin & Admin	Dept.: Airport
	Phone: (608) 246-3391	Mail Address: 4000 International Lane
	E-mail Address: jones.kimberly@msnairport.com	Madison WI 53704

Certification

The attached contract: *[check as many as apply]*

- ☐ conforms to Dane County's standard Purchase of Services Agreement form in all respects
- ☐ conforms to Dane County's standard Purchase of Services Agreement form with modifications and is accompanied by a revision copy[1]
- ☐ is a non-standard contract which has been reviewed or developed by corporation counsel and which has not been changed since that review/development
- ☐ is a non-standard contract previously review or developed by corporation counsel which has been changed since that review/development; it is accompanied by a revision copy[1]
- ☐ is a non-standard contract not previously reviewed by corporation counsel; it is accompanied by a revision copy
- ☐ contains non-standard/indemnification language which has been reviewed or developed by risk management and which has not been changed since that review/development
- ☐ contains non-standard insurance/indemnification language which has been changed since review/development or which has not been previously seen by risk management; it is accompanied by a revision copy
- ☐ contains non-standard affirmative action/equal opportunity language which has been reviewed or developed by contract compliance and which has not been changed since that review/development
- ☐ contains non-standard affirmative action/equal opportunity language which has been changed since the earlier review/development by contract compliance or which has not been previously seen by contract compliance; it is accompanied by a revision copy[1]

Date: 11-16-16 Signed: _____

Telephone Number (608) 246-3390 Print Name: Bradley S. Livingston, AAE Airport Director

Major Contracts Review (DCO Sect. 25.20) This review applies only to contracts which both exceed $100,000 in disbursements or receipts and which require county board review and approval.

Executive Summary (attach additional pages, if needed).

1. ***Department Head*** ☐ Contract is in the best interest of the County.
   Describe any deviations from the standard contracting process and any changes to the standard Purchase of Services Form Agreement.

   Date: 11-16-16 Signature: _____

2. ***Director of Administration*** ☐ Contract is in the best interest of the County.
   Comments:

   Date: 11/9/16 Signature: _____

3. ***Corporation Counsel*** ☐ Contract is in the best interest of the County.
   Comments:

   Date: 11-15-16 Signature: _____

[1] A revision copy is a copy of the contract which shows the changes from the standard contract or previously revised/developed contract by means of overstrikes (indicating deletions from the standard language) and underlining (showing additions to the standard language).

COUNTY OF DANE
Purchase of Services Agreement

Number of Pages, including schedules: 77

Agreement No. 12909

Expiration Date: October 31, 2021

Department: Dane County Regional Airport

Maximum Cost: $160,132.45

Registered Agent: C T Corporation System
8020 Excelsior Dr., Ste. 200
Madison, WI 53717

Contact: Curt Madsen
708 Heartland Trail, Suite 3000
Madison, Wisconsin 53717
608 826 3640

THIS AGREEMENT is made and entered into by and between the County of Dane (hereafter, "COUNTY"), a Wisconsin quasi-municipal corporation, and TRC Environmental Corporation, a corporation organized under the laws of the state of Connecticut (hereafter, "ENGINEER"), and shall be effective as of the date it is fully executed on behalf of each party.

W I T N E S S E T H :

WHEREAS COUNTY, whose address is c/o Dane County Regional Airport, 4000 International Lane, Madison, Wisconsin 53704, desires to enter an agreement with ENGINEER for the purpose of monitoring and maintaining the Truax Landfill and the landfill gas extraction system located at said landfill; and

WHEREAS ENGINEER, whose local address is 708 Heartland Trail, Suite 3000, Madison, Wisconsin 53717 is able and willing to enter into such an agreement;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party, COUNTY and ENGINEER do agree as follows:

I. TERM. The term of this Agreement shall commence as of November 1, 2016 and shall expire as of October 31, 2021, unless otherwise terminated by agreement of the parties or as set forth below.

II. SERVICES TO BE PROVIDED.

A. During the term of this Agreement ENGINEER shall provide the services described in Schedule A, attached hereto, and COUNTY shall pay for such services as set forth in Section III below. In the event COUNTY requests services in addition to those set forth in Schedule A, such services, if rendered during the first year of the term of the Agreement, shall be provided by ENGINEER at the rates set forth in the Schedule of Rates and Charges attached hereto as Schedule B. Rates and charges applicable for any such additional services rendered after the first year of the term of the Agreement shall increase at a rate of 1.5 percent annually.

B. ENGINEER shall secure at ENGINEER's own expense all personnel necessary to carry out its obligations under this Agreement. Such personnel shall not be deemed to be employees of COUNTY or to have any direct contractual relationship with COUNTY.

III. PAYMENTS. COUNTY shall make payments for ENGINEER'S performance under this Agreement, as set forth in attached Schedule A, in the amount and manner specified in the Schedule of Annual Charges attached to this Agreement as Schedule C.

IV. ASSIGNMENT AND TRANSFER: ENGINEER shall not assign or transfer any interest or obligation under this Agreement without the prior written consent of COUNTY unless otherwise
provided herein.

V. TERMINATION.

A. Failure of ENGINEER to fulfill any of its obligations under this Agreement in a timely manner, or violation by ENGINEER of any of the terms of this Agreement, shall constitute grounds for COUNTY to terminate this Agreement by giving written notice to ENGINEER specifying a date of termination not less than 30 days after the date said notice is delivered to ENGINEER.

B. The following shall constitute grounds for immediate termination:

1. ENGINEER's violation of or failure to comply with directives of the Airport Director or any federal, state, or local law, regulation, ordinance or rule.
2. ENGINEER's failure to obtain and maintain licenses or certifications as required by law, regulation, ordinance or rule for the performance of the services called for hereunder.
3. ENGINEER's inability to perform the work called for herein.

C. Failure of the Dane County Board of Supervisors or, if applicable, the State or Federal Governments, to appropriate sufficient funds to carry out COUNTY's obligations hereunder shall result in automatic termination of this Agreement as of the date funds are no longer available.

D. In the event this Agreement is terminated prior to its expiration all finished and unfinished documents, services, papers, data, products, and the like prepared, produced or made by ENGINEER under this Agreement shall, at the option of COUNTY, become the property of COUNTY, and ENGINEER shall be entitled to receive just and equitable compensation for any satisfactory work completed in the preparation or provision of such documents, services, papers, data, products or the like. Notwithstanding the above, ENGINEER shall not be relieved of liability to COUNTY for damages sustained by COUNTY by virtue of any breach of this Agreement by ENGINEER, and COUNTY may withhold any payments to ENGINEER for the purpose of set-off.

VI. DELIVERY OF NOTICES AND OTHER COMMUNICATIONS. Notices, bills, invoices, reports and other communications between the parties hereto shall be deemed delivered as of the date of postmark if deposited in a United States mailbox, first class postage attached, addressed to a party's address as set forth above. It shall be the duty of a party changing its address to notify the other party of such change in writing within a reasonable time.

VII. INSURANCE AND INDEMNIFICATION.

A. General Indemnification. ENGINEER is and shall be deemed to be an independent contractor exclusively responsible for its own acts or omissions. ENGINEER shall indemnify, hold harmless and defend the Airport, COUNTY, COUNTY's agents, representatives, appointees and employees from and against all claims for losses, costs, attorney fees, expenses and damages arising out of, resulting from or relating to any loss of or damage to any property or business or any injury to or death of any person, where such loss, damage, injury, or death actually or allegedly arises, whether directly or indirectly, wholly or in part, from (i) any action or omission of ENGINEER, ENGINEER's employees, agents, contractors, suppliers or invitees while on Airport property, including the Truax Landfill site; or (ii) the exercise of the rights granted herein by ENGINEER, ENGINEER's employees, agents, contractors, suppliers or invitees. ENGINEER's obligation of indemnification, as set forth herein, shall not apply to damages or liability resulting from the acts or omissions of COUNTY. The obligations of ENGINEER under this paragraph shall survive the expiration or termination of this Agreement.

B. Environmental Protection and Indemnification. ENGINEER, at its own expense, shall ensure that ENGINEER and ENGINEER's employees, agents, contractors, suppliers or invitees comply with all present and hereafter enacted or amended Environmental

Laws affecting ENGINEER's activities on the Airport. As used in this Agreement, "Environmental Laws" shall mean all laws, rules, regulations, regulatory agency guidance provisions and policies, ordinances, applicable court decisions, and airport guidance documents, directives, policies (whether enacted by any local, state or federal governmental authority, or reasonably issued by the Airport Director) now in effect or hereafter enacted or issued that deal with the regulation or protection of the environment (including, but not limited to, air, water, soil and subsurface elements), or with the generation, handling, storage, disposal or use of chemicals or substances that could be detrimental to health, public welfare, or the environment. ENGINEER shall indemnify, defend and hold COUNTY harmless from and against any and all liability, loss, damage, expense, penalties and costs (including legal fees and all costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work) arising from or related to any proceeding, claim or action for injury, liability, breach of warranty or representation, or damage to persons or property and any and all proceedings, claims or actions brought or asserted by any party or governmental authority of any kind, alleging or arising in connection with (i) contamination of, or adverse effects on the environment (whether known, alleged, potential, or threatened), or (ii) alleged or potential violation of any Environmental Law or other statute, ordinance, rule, regulation, judgment or order of any government or judicial entity which are brought as a result of any activity or operation of ENGINEER, ENGINEER's employees, agents, contractors, suppliers or invitees conducted on Airport property, including the Truax Landfill site, or under authority of this Agreement. ENGINEER's obligations and liabilities under this subsection shall continue so long as COUNTY may bear any liability or responsibility under Environmental Laws for any activities conducted by ENGINEER, ENGINEER's employees, agents, contractors, suppliers or invitees on Airport property, including the Truax Landfill site, or under authority of this Agreement. COUNTY's right to indemnification hereunder shall not be in limitation or exclusion of any other rights and remedies provided by law. ENGINEER shall promptly notify COUNTY of any action or condition that is contrary to any provision of this section.

C Insurance Requirements. ENGINEER shall, by the commencement date of this lease, obtain Commercial General Liability Insurance, including automobile, property damage, and environmental impairment (pollution) liability endorsements, with coverage of at least $1,000,000, combined single limits. Notwithstanding the foregoing, ENGINEER may satisfy the coverage requirements set forth herein through separate policies, each providing coverage of at least $1,000,000, combined single limits. The insurance required hereunder shall be primary and provide coverage for ENGINEER's obligations of indemnity as set forth in subsections A and B above. All insurers providing the insurance required herein shall be authorized to do business in the State of Wisconsin and approved by COUNTY. All policies shall name COUNTY as an additional insured. ENGINEER shall, prior to commencing activities at the Airport, provide COUNTY with a certificate or certificates of insurance evidencing the

insurance coverage required under this Agreement. Each insurance policy obtained hereunder shall contain a provision that ENGINEER's insurer shall send to COUNTY written notice of cancellation or any material change in said policy at least 10 days in advance of the effective date thereof. Further, if insurance is underwritten on a claims-made basis, the retroactive date shall be prior to or coincide with the commencement date of this agreement and the certificate of insurance provided therefore shall state that coverage is claims-made and indicate the retroactive date. ENGINEER shall maintain all insurance coverage required hereunder for the duration of this Agreement and for one year following the termination or expiration hereof

D. Subcontractor Insurance. In the event of any subcontract of work under this Agreement, ENGINEER shall furnish evidence that each subcontractor has in force and effect insurance policies providing coverage identical to that required of ENGINEER hereunder.

E. Waiver of Insurance Requirements. COUNTY, acting at its sole option and through its Risk Manager, may waive any and all insurance requirements contained in this Agreement, such waiver to be in writing only. The extent of waiver shall be determined solely by COUNTY's Risk Manager taking into account the nature of the work and other factors relevant to COUNTY's liability exposure under this Agreement.

VIII. NO WAIVER BY PAYMENT OR ACCEPTANCE. The making of any payment or acceptance of any labor or materials provided under this Agreement shall not constitute or be construed as a waiver by COUNTY of any breach of the terms of this Agreement or a waiver of any default of ENGINEER. The making of any payment or acceptance of any labor or materials by COUNTY while ENGINEER is in default or breach hereunder shall not impair or prejudice the right of COUNTY to recover damages under all remedies available for such default or breach.

IX. NON-DISCRIMINATION. ENGINEER shall not in any manner associated with the employment of personnel or the provision of the services called for under this Agreement discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record, conviction record, political beliefs, or military participation including membership in the national guard or any other reserve component of federal or state military forces. ENGINEER shall comply with all requirements imposed by or pursuant to Title 49 Code of Federal Regulations Part 21 and the Americans with Disabilities Act, as said regulations may be amended. ENGINEER shall post in conspicuous places, available to ENGINEER's employees and applicants for employment, notices setting forth the provisions of this Agreement as it relates to affirmative action and non-discrimination. The exceptions and special cases relating to discrimination enumerated in sections 111.33 through 111.365 of the Wisconsin Statutes shall be applicable to the provisions of this section

X. CIVIL RIGHTS COMPLIANCE.

A. If ENGINEER has 20 or more employees and is being paid $20,000 or more per calendar year through contracts with COUNTY, ENGINEER shall submit to COUNTY a current Civil Rights Compliance (CRC) Plan meeting the requirements of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title VI and XVI of the Public Service Health Act, the Age Discrimination Act of 1975, the Omnibus Budget Reconciliation Act of 1981, and the Americans with Disabilities Act of 1990. ENGINEER shall also file an Affirmative Action (AA) Plan with COUNTY in accordance with the requirements of chapter 19 of the Dane County Code of Ordinances, and shall provide COUNTY with a copy of its discrimination complaint form. Failure to provide the submittals required under this subsection within ten days of the effective date of this Agreement shall be a material breach and grounds for termination of the Agreement. If a plan required under this subsection has been received and approved by COUNTY during the year prior to the effective date of this Agreement, submission of an update for such plan shall be sufficient hereunder. If ENGINEER has less than 20 employees, but is being paid $20,000 or more per calendar year through contracts with COUNTY, it may be required by COUNTY to submit a CRC Action Plan to correct any problems discovered as the result of complaint investigation or CRC monitoring. If ENGINEER submits a CRC or AA Plan to the Wisconsin Department of Workforce Development, or a division thereof, or to the Wisconsin Department of Health and Family Services, or a division thereof, that is applicable to the services provided under this Agreement, a verification of acceptance by the State of the plan(s) is sufficient to satisfy the plan submission requirements under this subsection.

B. ENGINEER shall comply with COUNTY's civil rights policies and procedures, including those applicable to civil rights monitoring and the examination of records and files maintained by ENGINEER that may relate to affirmative action and non-discrimination. ENGINEER shall cooperate with COUNTY in developing, implementing and monitoring corrective action in the event ENGINEER is not in compliance with COUNTY's civil rights policies and procedures. Sections 19.50 through 19.72 of the Dane County Code of Ordinances are incorporated into this Agreement as if fully set forth herein.

C. ENGINEER shall post its discrimination complaint procedure and the name of its Equal Opportunity Coordinator in conspicuous places available to its employees, recipients of its services, and applicants for employment. The complaint process shall be in compliance with COUNTY's policies and procedures and made available in languages and formats understandable to ENGINEER's clients, customers and employees.

D. ENGINEER shall provide copies of all announcements of new employment opportunities to COUNTY's Contract Compliance Officer when such announcements are issued.

XI. LIVING WAGE.

A. If this Agreement is a service contract as defined in section 25.015 of the Dane County Code of Ordinances, ENGINEER shall pay all of its employees providing services under this Agreement, whether full-time or part-time, no less than the living wage established pursuant to the Dane County Code of Ordinances. Upon request, ENGINEER shall make available for inspection ENGINEER's payroll records relating to workers providing services under this Agreement.

B. If ENGINEER'S payroll records contain any false, misleading or fraudulent information, or if ENGINEER fails to comply with section 25.015 of the Dane County Code of Ordinances, COUNTY may withhold payments, suspend or terminate this Agreement and may suspend ENGINEER from participating in bidding on future COUNTY contracts.

C. Prior to final payment under this Agreement, ENGINEER shall submit to COUNTY a certification stating that it has complied with the living wage requirements established under section 25.015 of the Dane County Code of Ordinances.

D. ENGINEER shall display COUNTY's current living wage poster in a prominent place where it can be easily seen and read by persons employed by ENGINEER.

E. ENGINEER shall ensure that any subcontractors it may use in performance hereunder comply with the provisions of this section.

XII. DOMESTIC PARTNER EQUAL BENEFITS. If this Agreement is a service contract within the meaning of section 25.016 (2) of the Dane County code of Ordinances, ENGINEER is subject to the provisions of this section and shall provide the same economic benefits to its employees with domestic partners, as that term is used in the Dane County Code of Ordinances, as it does to employees with spouses, or the cash equivalent if any such benefit cannot reasonably be provided. ENGINEER agrees to make available for COUNTY inspection ENGINEER's payroll records relating to employees providing services under this Agreement. If ENGINEER's payroll records contain any false, misleading or fraudulent information, or if ENGINEER fails to comply with the provisions of section 25.016 of the Dane County Code of Ordinances, COUNTY may withhold payments, terminate, cancel or suspend this Agreement in whole or in part; or deny ENGINEER the right to participate in bidding on future COUNTY contracts. Final payment under this Agreement shall not be made until ENGINEER certifies to COUNTY, on a form provided by COUNTY, that it has complied with the requirements of section 25.016 of the Dane County Code of Ordinances during the term of the Agreement.

XIII. COMPLIANCE WITH FAIR LABOR STANDARDS.

A. Reporting of Adverse Findings. During the term of this Agreement ENGINEER shall report to COUNTY's Contract Compliance Officer any allegations filed with, or findings made by the National Labor Relations Board or Wisconsin Employment Relations Commission asserting or finding that ENGINEER has violated a statute or regulation regarding labor standards or relations. The foregoing report shall be provided COUNTY within 10 days of the filing of the allegations or, if the allegations were not filed during the term of this Agreement, within 10 days of the issuance of the findings regarding the allegations. If, after an investigation of the allegations or a review of the findings, COUNTY's Contract Compliance Officer determines that ENGINEER breached its obligations under this Agreement and recommends termination or suspension of this Agreement, COUNTY may take the recommended action after the determination becomes final under the following appeal procedures.

B. Appeal Process. ENGINEER may appeal an adverse determination made by COUNTY's Contract Compliance Officer under this section pursuant to the procedures set forth in section 25.015(11)(c) through (e) of the Dane County Code of Ordinances.

C. Notice Requirement. ENGINEER shall post the following statement in a prominent place visible to employees: "As a condition of receiving and maintaining a contract with Dane County, this employer shall comply with federal, state and local laws and regulations addressing retaliation or collective bargaining."

XIV. SUBCONTRACTORS. Services performed under this Agreement may be performed pursuant to subcontract only with COUNTY's the prior written approval.

XV. FEDERAL LAW PROVISIONS. The provisions in this section are included in this Agreement as prescribd by federal law.

A. General Civil Rights Provisions. Engineer shall comply with pertinent statutes, executive orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from federal assistance. This provision binds Engineer and any subtier contractors from the contract solicitation period through the termination of this Agreement. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

B. Compliance with Nondiscrimination Requirements. During the performance of this Agreement, Engineer, its assignees, and successors in interest (in this section hereinafter collectively referred to as Engineer) agrees as follows:

(1) Compliance with Regulations: Engineer will comply with the acts and authorities compiled in the Title VI List of Pertinent Nondiscrimination Acts and Authorities, attached hereto as Schedule D and fully incorporated herein, as they may be amended from time to time.

(2) Non-discrimination: Engineer, with regard to the work performed by it under the terms of this Agreement, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including those involved in the procurement of materials, consulting, and the leasing of equipment. Engineer will not participate directly or indirectly in discrimination prohibited by the Nondiscrimination Acts and Authorities listed in attached Schedule D, including employment practices when the Agreement covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by Engineer for work authorized under this Agreement to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by Engineer of the obligations of Engineer and its subcontractors under this Agreement and the Nondiscrimination Acts and Authorities listed in Schedule D.

(4) Information and Reports: Engineer will provide all information and reports required by the Nondiscrimination Acts and Authorities listed in Schedule D, including all regulations, instructions and directives adopted or issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the County or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and regulations, instructions and directives adopted or issued pursuant thereto. Where any information required of Engineer is in the exclusive possession of another who fails or refuses to furnish the information, Engineer will so certify to the County or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

(5) Sanctions for Noncompliance: In the event Engineer fails to comply with the non-discrimination provisions of this Agreement, the County will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

a. Withholding payments to Engineer under the Agreement until Engineer complies; and

b. Cancelling, terminating, or suspending the Agreement, in whole or in part.

(6) Incorporation of These Provisions: Engineer will include the provisions of this paragraph and the preceding paragraphs (1) through (5) in every subcontract under this Agreement, including subcontracts for the procurements of materials and leases of equipment, unless exempt under the Nondiscrimination Acts and Authorities listed in Schedule D and the regulations, instructions and directives adopted or issued pursuant thereto. Engineer will take action with respect to any subcontract, lease or procurement as the County or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if Engineer becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, Engineer may request the County to enter into any litigation to protect the interests of the County. In addition, Engineer may request the United States to enter into the litigation to protect the interests of the United States.

C. Provisions of 29 CFR part 201. This Agreement does, and any contracts and subcontracts entered into under authority of this Agreement shall, incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if provided in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers. Engineer has full responsibility to monitor compliance with 29 CFR part 201. Engineer must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

D. Requirements of 29 CFR Part 1910. This Agreement does, and any contracts and subcontracts entered into under authority of this Agreement shall, incorporate by reference the requirements of 29 CFR Part 1910, the Occupational Safety and Health Act of 1970, with the same force and effect as if given in full text. Engineer and any subcontractors performing work under this Agreement shall provide a work environment that is free from recognized hazards that may cause death or serious physical harm to an employee. Engineer shall comply with, and monitor the compliance of its subcontractors with, the Occupational Safety and Health Act of 1970, and shall address any claims or disputes that pertain to such Act directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

XVI. MISCELLANEOUS.

A. Authority To Do Business and Compliance With Laws. ENGINEER warrants that it has complied with all requirements to do business in the State of Wisconsin and that the person executing this Agreement on its behalf is authorized to do so. Performance hereunder shall be in compliance with directives issued by the Airport Director, and all applicable federal, state, and local laws and regulations.

B. Controlling Law and Venue. In the event of any disagreement or controversy between the parties, Wisconsin law shall be controlling. Venue for any legal proceedings shall be in the Dane County Circuit Court.

C. Limitation Of Agreement. This Agreement is intended to be an agreement solely between the parties hereto and for their benefit only. No part of this Agreement shall be construed to add to, supplement, amend, abridge or repeal existing duties, rights, benefits or privileges of any third party or parties, including but not limited to employees of either of the parties.

D. Amendment. This Agreement, including any attachments, constitutes the entire agreement between the parties and supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. This Agreement may be modified or amended only in writing executed by the duly authorized representatives of the parties hereto, such representative on the part of COUNTY being the Director of the Dane County Regional Airport.

E. Counterparts and Copies. The parties may evidence their agreement to the foregoing upon one or several counterparts of this instrument, which together shall constitute a single instrument. A photocopy, facsimile, or electronic copy of this Agreement shall have the same effect for all purposes as an original.

IN WITNESS WHEREOF, COUNTY and ENGINEER, by their respective authorized agents, have executed this Agreement on the dates indicated below.

FOR TRC ENVIRONMENTAL CORPORATION:

By: _____ Date: 11/1/16
~~Douglas Gerthe~~ DEAN EPPING
~~Managing Principal.~~ OFFICE PRACTICE LEADER

FOR DANE COUNTY:

By: _____ Date: _____
Joe Parisi
County Executive

By: _____ Date: _____
Scott McDonell
County Clerk

SCHEDULE A
Engineering Services To Be Provided
LANDFILL MONITORING

ENGINEER shall provide the following services under the Purchases of Services Agreement to which this Schedule A is attached.

(1) Unless otherwise expressly provided in this Schedule A, ENGINEER shall provide services with respect to operations, maintenance, monitoring, analysis, record keeping and reporting as specified and required of COUNTY in the following exhibits attached to this Schedule A:

(a) EXHIBIT 1. State of Wisconsin Department of Natural Resources document entitled Plan Modification To Reduce Groundwater And Gas Probe Monitoring Requirements At The Dane County Truax Landfill (#03306) FID 113183620, dated October 15, 2007. **NOTE:** (i) The services described in the foregoing Plan Modification document at Paragraphs 1, 2, and 3 in the section captioned Conditional Plan Approval have been intentionally struck and are not applicable, and (ii) Table 1, also attached to the foregoing Plan Modification document, has been intentionally struck and is not applicable. **NOTE ALSO:** Exhibit 5 below modifies the requirements set forth in Exhibit 1.

(b) EXHIBIT 2. Document entitled Appendix E, Landfill Gas Management System Operating Plan, dated February 1999.

(c) EXHIBIT 3. Map entitled Landfill Gas Extraction System, dated July 2014, showing system components referenced in other exhibits.

(d) EXHIBIT 4. Map entitled Groundwater Monitoring Locations. dated July 2014.

(e) EXHIBIT 5. Expedited Plan Modification, Reduction in Data Reporting, Dane County Truax Landfill, WDNR License No. 3306, dated and submitted to WDNR on April 23, 2012. WDNR approval letter for the Expedited Plan Modification Request dated May 31, 2012.

(2) Notwithstanding any requirement to the contrary contained in the above referenced exhibits, ENGINEER is not required to monitor or analyze groundwater at the landfill site. Groundwater data will be provided to ENGINEER by others for inclusion in reports prepared by ENGINEER as required under the foregoing exhibits.

(3) Notwithstanding any requirement to the contrary contained in the above referenced exhibits, ENGINEER is not required to analyze gas for VOC scan.

(4) Notwithstanding any requirement to the contrary contained in the above referenced exhibits, ENGINEER is not required to provide gas condensate sampling and analysis. Data derived from gas condensate analysis will be provided to ENGINEER by others for inclusion in reports prepared by ENGINEER as required under the foregoing exhibits.

(5) In addition to the services specified in the attached exhibits, ENGINEER shall provide the following services:

(a) Lubricate blower bearings per manufacturer's recommendations.
(b) Inspect flare semiannually and clean ultra violet sensor as necessary.

SCHEDULE A
[With Five Exhibits Attached]

(c) Inspect extraction wells, extraction trenches, and valves monthly for evidence of integrity failure.
(d) Inspect the condensate lift station and condensate levels monthly.
(e) Inspect condensate management system annually and clean as necessary to maintain effective gas extraction capabilities.
(f) Perform gas extraction valve adjustments as necessary to minimize lateral subsurface gas migration.
(g) Troubleshoot, adjust and restart the blower/flare system per the attached exhibits.
(h) Monitor and report with respect to gas extraction wells N-4 and N-5 in the same manner that the attached exhibits specify as to gas extraction wells N-1, N-2, and N-3.
(i) Record barometric pressure, air temperature, and barometric trend during all monitoring events required hereunder.
(j) Report results of inspections and monitoring activities performed under this section (5) to the Dane County Regional Airport.
(k) Monitor and report with respect to gas extraction well W-16 (as shown on attached Exhibit 3) in the same manner that that the attached exhibits specify as to gas extraction wells W-1 through W-15.
(l) Respond to restart the flare, as specified under the attached exhibits, within twenty four (24) hours of notice of flame failure.

(6) ENGINEER shall on an annual basis, by January 1 of each year under the term of the Purchase of Services Agreement, prepare and submit to the Dane County Regional Airport an itemized projected budget estimate for operation, repair and maintenance tasks at the Truax Landfill that need to be performed during next calendar year and are not included within the foregoing scope of services.

(7) ENGINEER shall prepare and submit in an appropriate and timely manner all reports, plans, records, and documentation referred to in the above identified Exhibit 1 and Exhibit 2, as such may be modified under the plan modification request and approval attached as Exhibit 5. All submittals required under this Agreement shall be in a format that is acceptable to the recipient agency and shall contain all data and documentation required by said agency(s).

(8) ENGINEER shall provide to the Dane County Regional Airport copies of all reports, plans, records, and documentation submitted to any governmental agency on behalf of the Airport or COUNTY.

SCHEDULE A

[With Five Exhibits Attached]

Exhibit 1

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PLAN MODIFICATION TO REDUCE GROUNDWATER AND GAS PROBE MONITORING REQUIREMENTS
AT THE
DANE COUNTY TRUAX LANDFILL (#3306)
FID 113183620

FINDINGS OF FACT

The Department of Natural Resources ("Department") finds that:

1. Dane County ("County") owns the Truax Landfill, a closed solid waste disposal facility located in the NE ¼ of Section 31, T8N, R10E, City of Madison, Dane County, Wisconsin.

2. In 1972, the Department issued the City of Madison License #0306 for the Truax Landfill. In 1973, ownership of the landfill was transferred from the City of Madison to Dane County.

3. The facility is a non-approved facility under s. 289.01(24), Stats. Prior to 1990, the Department had not approved any plans for the landfill. In 1990, the Department assigned license number #3306 to the landfill and a facility identification number (FID #113183620).

4. The Department received a "*Plan Modification Request to Reduce Groundwater and Gas Probe Monitoring Requirements*" on August 20, 2007. The Plan Modification review fee was received September 10, 2007.

5. The Department received an "*Addendum to the* [August 20, 2007] *Plan Modification Request to Reduce Groundwater and Gas Probe Monitoring Requirements*" on October 9, 2007.

6. In drafting this plan modification request, the Department considered the following documents and information:

   a) A report entitled "Year 2004 Annual O&M Progress Report Truax Landfill (License #3306), submitted by RMT, Inc. and dated January 20, 2005.

   b) A February 5, 2002 submittal from RMT, Inc. entitled "Addendum to Plan Modification for Environmental Monitoring Dane County Truax Landfill (Lic. #03306)."

   c) A January 30, 2002 submittal from RMT, Inc. entitled "Evaluation of Information on 3 abandoned Kaufmann Wells (113, 128, 140) at Truax Landfill."

   d) A report entitled Environmental Monitoring Plan Modification; Dane County Truax Landfill: June, 2001, submitted by RMT, Inc. on behalf of Dane County, and received by the Department on July 6, 2001.

   e) A report entitled "Dane County Truax Landfill Groundwater Monitoring for Pesticides", submitted by RMT, Inc. and dated August 9, 2000.

   f) A conditional plan approval, dated November 18, 1999, for environmental monitoring for the Dane County Truax landfill #3306, sent by the Department to Mr. Mike Kirchner,

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Dane County Regional Airport.

g) An April 29, 1999 conditional plan approval, sent by the Department to Mr. Mike Kirchner, Dane County Regional Airport, approving Construction Documentation for the Final Cover and Gas Extraction System for the Truax Landfill Lic. #03306

h) A November 26, 1997 grant of exemption issued by the Department to Mr. Thomas B Sanford of Affiliated Commercial Companies, and to Mr. Mike Kirchner of Dane County, for construction of a portion of a golf course on the Dane County Truax landfill.

i) A June 2, 1993 report entitled "Truax Landfill Environmental Contamination Assessment Report" with subsequent addenda, submitted by Dames & Moore on behalf of Dane County and the City of Madison.

j) The Department's approval, correspondence, and plan files for the Dane County Truax landfill (Lic. #03306, FID #113183620).

k) Groundwater quality and landfill gas monitoring information in Department files and the Groundwater Environmental Monitoring System (GEMS) database for the Dane County Truax landfill (Lic. #03306, FID #113183620).

5. The Department considers the following facts to be significant in drafting this plan modification approval:

a) The Truax landfill does not have an engineered liner or leachate collection system, and contains approximately 1,000,000 cubic yards of municipal solid waste.

b) In 1999, an improved landfill cap was completed on the landfill and improvements made to the landfill grades. The cap consists of a two-foot clay barrier layer and a two-foot rooting zone.

c) In the March 1994 Environmental Contamination Assessment (ECA) report, Dames & Moore, Inc. documented exceedances of chapter NR 140, Wis. Adm. Code enforcement and preventive action limits at monitoring wells near the Truax landfill. Analytical results for samples collected at the landfill between January 1, 1994, and November 2001, indicate that groundwater continues to exceed ch. NR 140, Wis. Adm. Code Preventive Action Limits at many on-site monitoring wells.

d) City of Madison Municipal Well UW-7 is located approximately ½ mile from the Truax landfill.

e) Part of the Bridges Golf Course has been constructed on top of the Truax landfill above the rooting zone and barrier layers of the landfill cap. The June 2001, Environmental Monitoring Plan Modification request prepared by RMT, Inc., lists the fertilizers and pesticides used on the Bridges Golf Course in years 2000 and 2001.

6. Based on information submitted by RMT, MW-113 was destroyed during landfill cap construction, and MW-128 and MW-140 were destroyed during construction of the golf course. It is the Department's belief that monitoring wells MW-113, MW-128, and MW-140 have not been properly abandoned.

7. The approval conditions listed below supersede all previous approval conditions of previous plan modification approvals for groundwater and gas probe monitoring the landfill

8. The conditional plan approval set forth below is needed to continue to evaluate the impact of the Truax landfill on local groundwater, soil and air quality, and to assure compliance with the applicable portions and standards of chs. NR 500-538, 140 and 141, Wis. Adm. Code.

CONCLUSIONS OF LAW

The Department concludes that:

1. The Department has authority under s. 289.31(7), Stats. to impose monitoring requirements for a nonapproved facility, as defined under s. 289.01(24), Stats.

2. The Department has authority under ch. 289, Stats. to modify a plan approval if the modification would not inhibit compliance with applicable portions of NR 500-538, Wis. Adm. Code.

3. The Department has authority under ch. 289, Stats. to approve a plan of operation modification with special conditions if the conditions are needed to ensure compliance with chs. NR 500-538, Wis. Adm. Code.

4. The conditions of approval set forth below are needed to assure compliance with s. NR 140, Wis. Adm. Code, and applicable portions of NR 500-538, Wis. Adm. Code.

5. In accordance with the foregoing, the Department has authority under ch. 289, Stats. to issue the following conditional approval modifying a plan approval.

CONDITIONAL PLAN APPROVAL

The Department hereby approves the long-term monitoring plan for the Dane County Truax Landfill, subject to the following conditions and the applicable requirements of chapters NR 500-538, and chapters NR 140 and 141, Wis. Adm. Code:

~~Groundwater monitoring~~

~~1. Dane County shall monitor groundwater as detailed in Table 1 attached.~~

~~2. Dane County shall submit the data described in Table 1 to the Department as required in NR 507.26, including both hard copy and electronic copy of the data in a format suitable for incorporation into the Groundwater Environmental Monitoring System (GEMS).~~

~~3. Dane County shall properly abandon wells MW-6, MW-8, MW-9, and TG-1 per the requirements~~ of NR141.25.

Monitoring of Gas Systems

4. Dane County shall monitor landfill gas, the gas extraction system, and gas condensate as detailed in Tables 2 and 3, attached.

5. Dane County shall submit the data described in Table 2 to the Department in hard copy along with the quarterly maintenance log for the blower/flare system, in addition to the electronic reporting required in Table 2. If the Department approves a written request, this additional hard

copy reporting can be stopped.

The Department reserves the right to require the submittal of additional information and to modify this approval at any time, if in the Department's opinion, modifications are necessary. Unless specifically noted, the conditions of this approval do not supersede or replace any previous conditions of approval for this facility.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

Dated: OCT 15 2007

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Gene Mitchell, P.E.
Waste and Materials Management Team Supervisor
South Central Region

Tom Bennwitz, P.E.
Waste and Materials Management Engineer
South Central Region

James Kralick, P.G.
Waste and Materials Management Hydrogeologist
South Central Region

Attachments: Table 1: Groundwater Monitoring Schedule for Landfill Lic. #3306
Table 2: Gas Monitoring Schedule for Landfill Lic. #3306
Table 3: Gas Condensate Monitoring for Landfill Lic #3306

TABLE 1-Groundwater Monitoring Schedule
Dane County Truax Landfill (Lic. #3306)
October 15, 2007

Monitoring Point (DNR ID)	Frequency of Sampling	Parameters
Monitoring wells for water quality testing: MW-3 (007) MW-3A (009) MW-4A (013) MW-4B (015) MW-5A (019) MW-5B (021) MW-10 (031) MW-11 (063) MW-12B (073) MW-12C (077) MW-14 (071)	Semi-annual (March, September)	00010 Field Temperature in °C 00094 Field Conductivity @25 ° C 00400 Field pH 00631 Dissolved Nitrate+Nitrite 00946 Dissolved Sulfate 01000 Dissolved Arsenic 01005 Dissolved Barium 01025 Dissolved Cadmium 01046 Dissolved Iron 01049 Dissolved Lead 01056 Dissolved Manganese 04189 Groundwater Elevation 22413 Filtered Hardness 39036 Filtered Alkalinity Note sample odor (00001), color (00002) and turbidity (00003), if present
	Annual (September)	VOC Scan EPA SW 846 Method 8260 [NR 507 Appendix 3 list of VOCs]
Monitoring wells for water quality testing: MW-1 (001) MW-1A (003) MW-4 (011) MW-5 (017) MW-7 (025) MW-13 (067) MW-13A (069) MW-15 (079) TG-2 (035)	Annual (September)	00010 Field Temperature in °C 00094 Field Conductivity @25 ° C 00400 Field pH 00631 Dissolved Nitrate+Nitrite 00946 Dissolved Sulfate 01000 Dissolved Arsenic 01005 Dissolved Barium 01025 Dissolved Cadmium 01046 Dissolved Iron 01049 Dissolved Lead 01056 Dissolved Manganese 04189 Groundwater Elevation 22413 Filtered Hardness 39036 Filtered Alkalinity Note sample odor (00001), color (00002) and turbidity (00003), if present

TABLE 2: GAS MONITORING SCHEDULE FOR LICENSE #3306
Dane County Truax Landfill
October 15, 2007

Sampling Point (DNR ID)	Frequency	Parameters
Gas Probes GP-1SR (502) GP-1D (503) GP-2S (505) GP-2D (507) GP-3S (509) GP-3D (511) GP-10 (523) GP-12 (527) GP-17 (537) GP-18 (539) GP-19W (541) GP-19E North (543) GP-19E South (551) GP-30 (555)	**Once Monthly** (reported electronically semi-annually March, September)	85547 Methane Gas, volume percent 85550 Oxygen Gas, volume percent 46389 Soil Gas Pressure
Gas Extraction Wells: **(vertical system)** N-1 (641) N-2 (643) N-3 (645) W-1 (611) W-2 (613) W-3 (617) W-4 (619) W-5 (621) W-6 (623) W-7 (627) W-8 (629) W-9 (631) W-10 (633) W-11 (635) W-12 (637) W-13 (639) W-14 (615) W-15 (625) S-1 (651) S-2 (653) S-3 (655) S-4 (657)	**Monthly** (reported electronically semi-annually March, September)	85547 Methane Gas, volume percent 85550 Oxygen Gas, volume percent 46385 Well-side pressure (inches water) 46388 Gas Temperature (Deg F) 46386 Flow rate (ft^3/min) 46387 Valve setting (% open)

TABLE 2: GAS MONITORING SCHEDULE FOR LICENSE #3306
Dane County Truax Landfill
October 15, 2007

Gas Probes: GP-4 (513) GP-5 (515) GP-7 (519) GP-8R (522) GP-11 (525) GP-13 (529) GP-14 (531) GP-15 (533) GP-16 (535) GP-20 East (547) GP-20 West (549) GP-21 East (551) GP-21 West (553)	Gas Probes are to be left in place, but monitoring is suspended until further notice.	
Gas Extraction Valves (horizontal system): TR-1 (700) TR-2 (702) TR-3 (704) TR-4 (706) TR-5 (708) TR-6 (710) TR-8 (712) TR-9 (714) TR10 (716) TR-11 (718) TR-12 (720) TR-13 (722)	**Monthly** (reported electronically semi-annually March, September)	85547 Methane Gas, volume percent 85550 Oxygen Gas, volume percent 46385 Well-side Pressure (inches water) 46387 Valve setting (% open)
Blower Inlets: Vertical system inlet (760) Horizontal system inlet (762)	**Twice Monthly** (reported electronically semi-annually March, September)	46385 Pressure (inches water) 46386 Flow rate (ft^3/min)
Blower Outlet: Blower outlet (764)	**Twice monthly:** (reported electronically semi-annually March, September)	85547 Methane Gas, volume percent 85550 Oxygen Gas, volume percent 46385 Pressure (inches water) 46386 Flow rate (ft^3/min)
Site Conditions: ID Number (900)	Recorded at each gas monitoring event (reported electronically semi-annually March, September)	00025 Barometric pressure 00011 Temperature, Air 46381 Pressure trend, barometric Ground conditions, report annually in the Operations and Maintenance report

Exhibit 1

TABLE 3: GAS CONDENSATE MONITORING FOR LICENSE #3306
Dane County Truax Landfill
October 15, 2007

Sampling Point (DNR ID)	Frequency	Parameters
Gas Condensate: Lift station (770)	Annually (September)	00310 BOD_5 00094 Field Conductivity @25° C 00400 Field pH 00410 Total Alkalinity 01027 Total Cadmium 00940 Chloride 01032 Total Chromium 00340 COD, Unfiltered 00951 Total Fluoride 00900 Total Hardness 74010 Total Iron 01051 Total Lead 01055 Total Manganese 71900 Total Mercury 00610 Total Ammonia Nitrogen 00625 Total Kjeldahl Nitrogen 00929 Total Sodium 00945 Total Sulfate 00150 Total Suspended Solids VOCs (EPA Method 8260B) Base Neutral/Acid Extractable compounds (EPA Method 8270)
	Monthly (Report annually)	Report gas condensate liquid level and operational status of the wet well lift station in the annual Operations and Maintenance report.

Exhibit 2

APPENDIX E
LANDFILL GAS MANAGEMENT SYSTEM
OPERATING PLAN

TRUAX LANDFILL GAS SYSTEM

February 1999

Table of Contents

List of Attachments

Landfill Gas Management System Operating Plan Monitoring Schedule Summary

Trench and Well Monitoring Ports

- Monitor frequently for the first two weeks of operation.
- Monitor monthly after system shakedown period for percent methane, percent oxygen, pressure, and temperature.
- Monitor if oxygen at blower increases above 3.0 percent.

Condensate Sump Pump

- Visually inspect warning lights twice monthly.
- Visually inspect the liquid level and pump operation monthly.
- Analyze condensate for pH, COD, TSS, and conductivity quarterly.
- Analyze condensate for priority pollutants annually.

Flare[1]

- Visually inspect windscreen at pilot outlet semiannually.
- Follow manufacturer's recommendations.

Blower and Related Equipment

Blower

- Monitor flow rate, pressure, percent methane, and percent oxygen twice monthly.
- Inspect blower wheel for foreign material or excessive wear annually.
- Visually inspect drive unit per manufacturer's recommendation.
- Visually inspect blower unit for excessive vibration monthly.

Gas Flow Valves

- Record position during trench and well monitoring.

1 Refer to the manufacturer's detailed maintenance instructions supplied at time of installation.

- Operate gas valves through full range of motion semiannually.

Note: Refer to attachment E-2 for monitoring forms.

Section 1
Introduction

1.1 Gas Extraction System Overview

The gas extraction system for the landfill includes 22 vertical gas extraction wells and 18 horizontal gas extraction trenches (trench sections). The wells and horizontal trenches are connected to a single-looped header pipe. Valves for the vertical extraction wells are located within manholes. Valve actuators for the horizontal extraction trench valves are located within riser pipes. All valves for the vertical and horizontal systems are adjustable from final grade.

The gas flow from both the trenches and vertical wells is conveyed to the blower/flare station after passing condensate driplegs located just west of the blower/flare station.

1.2 Purpose

The purpose of this report is to provide a comprehensive guide for the operation and maintenance (O&M) of the gas management system. This O&M Plan has been prepared to provide a usable document through the operating life of the gas extraction system.

Note: Application of the information presented in this report requires a certain level of experience and training which this manual is not intended to provide.

Section 2
General Safety Precautions for Landfills

This section highlights some of the hazards associated with landfill gas and typical safety precautions often used. It is not intended to be a comprehensive safety guide nor an authoritative guide to means and methods. Personnel performing operation and maintenance activities shall have appropriate training and experience in landfill gas safety, shall be responsible for the means and methods employed, and shall be responsible for their own health and safety.

Landfill gas (LFG) is typically composed of approximately 50 percent methane and 50 percent carbon dioxide. Methane is explosive when present in air at concentrations of 5 to 15 percent by volume, and combustible above concentrations of 15 percent by volume in the presence of air and an ignition source. This characteristic is extremely important when considering construction or maintenance on or near a municipal solid waste landfill.

LFG containing methane can collect at or in locations such as driplegs, valve boxes, sumps, and enclosed structures on or near buried waste. The collection system piping, above ground and below ground, may likely contain LFG whether or not the blowers are operating. When working in areas where the presence of LFG is suspected, the operator should use detection instrumentation, and avoid making a flame or spark (ignition source) available to combustible gas. Smoking shall not be permitted on the landfill or at the Blower Station. Operating personnel should use intrinsically safe flashlights or mirrors, never matches or lighters, to assist in visual inspection.

When making repairs, the operator should isolate the repair area from LFG by closing appropriate valves, plugging the pipes, and/or shutting down portions of the system. Portions of the header pipe can also be purged of LFG by closing wellhead valves and disconnecting one or more flex hose connections. After the flex hoses are disconnected, operating the blower in the manual mode will draw atmospheric air through the system and purge the landfill gas.

The "Guidelines for Protection of Construction Workers," located in Attachment E.1, should be followed where applicable for the type of repair work involved. Workers should remain alert to other nearby maintenance and construction activities that could damage the gas control system.

Section 3
Gas Extraction System Operation and Maintenance Plan

3.1 Operating Approach

The goal of operating the gas management system is to prevent off-site migration of LFG by extracting enough gas out of a well or horizontal trench section so that the zone of influence around neighboring wells or horizontal trench legs overlap without drawing atmospheric air through the cover of the landfill. Air intrusion occurs when the zone of influence extends above the landfill surface or into open phases of the landfill. This is influenced primarily by the integrity of the final cover. The final cover installed at the Truax Landfill should minimize the potential for air intrusion.

LFG is usually warm and saturated with moisture when it is in the landfill. As it enters the gas management system, the LFG cools and liquid condenses on the walls of the pipe. This condensate is primarily water, but there may be trace amounts of other compounds present. The gas extraction well system is designed so that condensate will travel to low points in the pipe network. There, it is conveyed from the gas extraction system to condensate driplegs where it either gravity drains to a condensate pumping station (which discharges to the City of Madison sanitary sewer system) or gravity drains directly into the City of Madison sanitary sewer system. Within the perforated pipe/trench system, condensate is allowed to drain back into the landfill.

The gas extraction system utilizes common negative pressure barometric driplegs to keep vacuum pressure within the main header and extraction well/trench components. Accumulated liquids in the driplegs serve as a barometric seal.

Settlement will occur throughout the life of the landfill. Differential settlement, where one part of the landfill settles at a different rate than another, is common and is due to the varying composition, moisture, compaction, and depth of the refuse. Periodically, throughout the life of the gas extraction system, differential settlement may restrict condensate flow within the piping and cause a blockage. At that time, the settled portion of the piping or blockage must be located and repaired by restoring adequate pipe slopes to allow for drainage of condensate.

3.2 System Description

3.2.1 Vertical Gas Extraction Wells

The vertical gas extraction wells are constructed of 8-inch-diameter PVC pipe placed in approximately 36-inch-diameter boreholes, with the annular space around the perforated portion of the pipe consisting of a washed stone pack. The wells are installed to within approximately 5 to 10-feet of the base of the closed landfill.

Each wellhead assembly is within a manhole and includes a flexible connection to a 10-inch-diameter PVC gas header pipe to allow for differential settlement. A butterfly valve is provided at each well for controlling the gas flow rate. A valve extension which reaches to the valves from the landfill surface is used for adjustments. Manholes should not be entered by personnel unless they have been trained properly for confined space entry. Monitoring ports are extended through the manhole cover on each well for gas sampling.

3.2.2 Horizontal Gas Extraction Trenches

Horizontal gas extraction trenches consist of a 3-inch perforated HDPE pipe wrapped with a geotextile and placed within a trench backfilled with granular material and located a minimum of 5 feet below the surface of the waste. Each extraction trench is connected to the 6-inch-diameter HDPE header pipe. Vacuum and gas flow within the extraction trench is controlled by a butterfly valve at the connection of the perforated pipe and header pipe. A riser is located at each valve to allow for operation of the valve with an extension. Two monitoring hoses extend through the riser and are labeled "HEADER" and "TRENCH." The hose labeled "HEADER" is connected to a port on the header side of the control valve. The hose labeled "TRENCH" is located on the trench side of the control valve.

3.2.3 Gas Header System

The gas header system conveys the LFG from the extraction wells and trenches to the blower building. The 6-inch- and 10-inch-diameter header pipes are connected on the south side of the landfill by a butterfly valve to regulate the vacuum between the extraction wells and trenches.

3.2.4 Dripleg Assemblies

The condensate produced by the cooling of the saturated gas mixture in the header system is removed from the piping by dripleg assemblies placed along the western

portion 10-inch-diameter header system and at the blower house. The 10-inch-diameter header pipe slopes to drain condensate to the dripleg vault. A dripleg is located along the west side of the landfill and at the blower house. The west side dripleg discharges to a pumping station which then discharges to the City of Madison sanitary sewer system. Condensate from either the 6-inch- or 10-inch-diameter header pipes enters the dripleg vault near the blower house gravity-drains through a 6-inch-diameter pipe where it discharges into the City of Madison sanitary sewer system. The condensate drain pipe in the dripleg vaults are constructed with a 90° bend that extends a PVC pipe to the landfill surface, where the pipe end is plugged with a threaded cap. This surface access point provides cleanout access for the condensate drain pipe.

3.2.5 Condensate Pumping Station

The condensate manhole which is located between and west of gas extraction wells W8 and W9 consists of a reinforced precast concrete manhole. A submersible pump is provided to pump the accumulated liquid into a condensate conveyance pipe which discharges to the City of Madison sanitary sewer system. A dedicated control panel is located at the pumping station to control operation.

The condensate sump is controlled automatically by float switches which turn the pump on and off as liquid levels rise and fall. Additional float switches are provided at elevations above the pump-on switch and below the pump-off switch to provide redundancy. Visual alarms will be activated if liquid levels activate the redundant floats.

3.2.6 Monitoring

Provisions for monitoring LFG composition, and pressure throughout the LFG extraction system have been made at the wellheads, trench risers and selected locations in the gas header system. The wellheads within the manholes are fitted with hoses that extend through the manhole cover to monitor gas composition and pressure within each well. Butterfly valves are provided on each vertical extraction well and horizontal trench to adjust individual gas well or horizontal trench leg flow rates and pressure.

The total and separate flow rates from both the extraction trenches and wells can be determined with the flow meters provided at the blower house. The status of the flare can be monitored by observing the flare control panel. The indicator light is on when enough heat is present at the top of the flare to activate either the thermocouple at the pilot or on the main burner. A separate indicator light is activated when insufficient heat is present at the top of the flare.

3.2.7 LFG Flaring System

The flare is operated on a fuel source consisting of LFG and air. The pilot fuel source consists of bottled LP gas. The flaring system also includes ancillary piping, valves, controls, and safety equipment. For additional information on the flare system, refer to the manufacturer's Operation and Maintenance Manual in Attachment E.3.

3.3 Operation

3.3.1 Blower Operating Mode

Blower A and Blower B may be operated individually (i.e., the system can be operated with a single blower while the second blower is off-line for maintenance or normal off-line rotation), or in parallel. The blower operation mode will be dependent on gas flow achieved, the associated vacuum requirements, and the results of off-site gas probe monitoring. Normal operating conditions are expected to consist of one blower running at a time.

3.3.2 Startup

Startup of the gas management system will be necessary when the system has been shut down for an extended period of time. When the system is initially restarted, the wells will require a period of time to stabilize while the stored gas is depleted. Do not adjust wells during this stabilization period if the system had been operating satisfactorily prior to shutdown.

Before system startup, it is critical to check the level of condensate in the condensate driplegs. The condensate in the driplegs has to be at a depth to overcome the vacuum of the system. If the condensate is not at or above this depth, water is required to be added.

Detailed startup procedures are included in Attachment E.3. However, the following abbreviated procedures can be used for routine startup activities.

System Startup

If both blowers have been shut down, the entire system will need to be restarted. The steps discussed below should be followed.

If system shut down is due to an alarm condition, the corresponding alarm light will be activated on the control panel. Prior to restarting the system, the condition should be investigated and rectified, if possible. If an alarm light is activated, the flare will remain

locked out until it is manually reset. Push the reset button prior to initiating system startup. Select the blower or blowers (blower A and/or blower B) which are to be operated by turning the selected blower switch(es) to the "on" position.

To start the flare, turn the operation mode switch to "Auto." The controller will then automatically start the system proceeding through the following logic sequence:

1. The pilot gas solenoid valve and pilot igniter timer will be activated.
2. The pilot will ignite and raise the thermocouple temperature to the blower-on set point.
3. At the blower-on set point, the controller will start the blower(s) and open the automated landfill gas header valve.
4. The pilot will ignite the landfill gas and raise the thermocouple temperature to the pilot-off set point.
5. At the pilot-off set point, the controller will shut off the pilot gas solenoid valve and activate the ultraviolet scanner.
6. The flare will continue to operate until the supply of combustible landfill gas is interrupted to the point that the flame extinguishes.

3.3.3 Balancing

Whenever any part of the gas extraction system is shut down for more than 1 week, the entire system may need to be re-balanced. Changes in one part of the system will likely affect the rest of the wells. Careful monitoring is extremely important in operating a dynamic gas extraction system. To balance the system, the following steps should be taken:

- Adjust the wellheads to pre-shutdown settings, if they have been adjusted after shutdown.
- Start the blower following the system startup procedures listed in Subsection 3.3.2.
- Compare the measured pressure at each well and trench leg to a previously stabilized pressure, and adjust accordingly. If more or less vacuum is needed at a well or trench leg, adjust the well or trench leg valve to provide additional or reduced vacuum to the trench leg or well.
- Adjust each well/trench leg down the branch going away from the blower house to its previously stabilized pressure. Then, proceed back toward the blower house, readjusting each well/trench leg on that branch. This way, each well/trench leg is adjusted twice, except for the well/trench leg at the end.
- Monitor the header gas at the blower house for pressure, oxygen, and methane. If an oxygen concentration of more than 3.0 percent is present,

then monitor each vertical well and horizontal trench leg individually until each well/trench leg introducing oxygen is found. At each well/trench leg where oxygen is detected, check the well's/trench leg's integrity. Proceed to close the valve to reduce the well/trench leg vacuum approximately 1- to 2-inches water column (wc) from the previously stabilized vacuum pressure (make more positive). Recheck the well/trench leg for oxygen and pressure in approximately 24 hours. Repeat until oxygen is eliminated.

3.3.4 Monitoring

Periodically, the entire system must be monitored to maintain proper operation. Monitoring should only be performed by trained personnel and with the proper equipment (refer to Attachment E.2 for monitoring data sheets).

System Monitoring

The capability to monitor the system as a whole is provided by monitoring ports in the blower building. The methane, carbon dioxide, oxygen content, and pressure from the well field can be monitored throughout the system. Gas flow can be monitored in the header within the blower house. To monitor the entire system, perform the following steps within the blower house:

- Measure and record the methane, carbon dioxide, and oxygen content from the gas header pipes within the blower house.
- Measure and record the header gas flow rate.
- Measure and record the header gas temperature.
- Measure and record the header gas pressure.
- If the oxygen content is greater than or equal to 3.0 percent, proceed with branch monitoring.

Extraction Well and Trench Leg Monitoring

To monitor the individual extraction wells and trench legs, perform the following steps:

- From above the manholes (for the vertical wells), visually inspect the wells for loose bolts, hose clamps, pipe connections, cracks, etc. If leaks in the system are present, a hissing sound may be present.
- Attach the 0- to 10-inch water column (wc) Magnehelic pressure gauge to the hose which extends from the well or trench leg riser. Record the respective well/trench leg and header vacuum. In periods of cold weather, ice may form in the inside of the header pipe or hose preventing pressure monitoring.

- Use the sampling hose to also monitor the methane, carbon dioxide, and oxygen content.

3.3.5 Shutdown

The entire system or parts of the system should only need to be shut down when maintenance is required. It is important to recognize that gas will continue to be produced in the landfill after shutting down the gas extraction system.

System Shutdown

In the case where the blowers or flare must be shut down for maintenance or repair, the entire system may need to be shut down. To shut down the entire system, perform the following tasks:

- Push the emergency stop button in the control panel.
- Close the valves where the 6-inch- and 10-inch-diameter header lines enter the blower building.

Partial System Shutdown

In cases when maintenance is taking place over limited area of the landfill or if a single portion of the header is being maintained, it is more convenient to shut down the whole branch rather than a number of wells. In order to shutdown the wells or trench legs, proceed with the following steps:

- Close the valve within the blower house at the 6-inch- or 10-inch-diameter header connecting valve necessary to isolate the portion of the system to be shut down.
- Close the valve connecting the 6-inch- and 10-inch-diameter header lines located near extraction well S4.

Well and Trench Leg Shutdown

There will be times when an individual well or trench leg will need maintenance and must be disconnected from the rest of the gas extraction system. In order to shutdown an individual well or trench leg, close the gate valve located at the wellhead or trench riser.

3.4 Maintenance Requirements

Periodic maintenance is required for the gas management system to keep it running smoothly and efficiently. The gas management system is dependent on the integrity of the landfill cover

to prevent air infiltration. Additionally, because refuse in the landfill is continually decomposing, problems due to settlement may be a common maintenance item.

3.4.1 Maintenance Schedule

Gas Extraction Wells

Monthly

- Inspect wells for loose bolts; cracks in pipes; air leaks in pipes; broken valve handles; evidence of differential settlement, such as stretching of the flex hose; or other evidence of integrity failure.

Valves

Semiannually

- Operate the valves throughout the entire range of motion of the valve and set back to the original position.

Driplegs and Condensate Transfer Pipes

Annually

- Clean out the driplegs and pipes (*e.g.*, flush out sediment build-up).

Blower System[2]

Annually

- Inspect the blower wheel for foreign matter or excessive wear.

Twice Monthly

- Visually inspect the drive unit.
- Visually inspect the blower unit for excessive vibration.

[2] Refer to Attachment E.3 for manufacturer's blower maintenance and lubrication instructions

Flare[3]

Annually

- Inspect and clean the flame arrestor.

Semiannually

- Visually inspect the windscreen at the pilot outlet, and clean the filter assembly at the pilot gas venturi. Inspect the sparker at the top of the flare.

Gas Header System

The gas header pipe is not expected to require cleaning. However, during routine maintenance, if the gas system appears to be operating with widely fluctuating pressures/flows, the header alignment will be checked for excessive settlement, which may indicate that a portion of the header pipe has "watered out."

3.4.2 Troubleshooting

At times, the gas extraction system will react to a situation which was not previously recognized. This leaves the operator trying to determine the cause of the reaction along with finding a remedy for the situation. This section is included to provide a rationale for determining the cause of the situation. The most important tools in troubleshooting are the monitoring instruments. Therefore, the first thing to do when trouble arises is to check to see if all of the monitoring instruments are operating properly. After checking instrument operation and calibration, re-check all of the parameters to make sure that a number was not misread or that the situation has not rectified itself. Check the operation of the system first before spending a lot of time determining exactly what is happening.

- Verify equipment integrity
- Verify monitoring data
- Follow the outline presented below

[3] Refer to Attachment E-4 for maintenance instructions

SYMPTOM	INVESTIGATION/PROCEDURE
Loss of flow at blower	■ Readjust valves within the blower house ■ Check wells for frozen conditions. ■ Check for fluctuating pressures within the header pipe (may be a liquid blockage).
Fluctuating pressure	■ Check upstream and downstream for large pressure change to indicate location of liquid blockage. ■ Check driplegs for solids build-up and adequate liquid levels. ■ Check surface of landfill for areas of pronounced differential settlement which may have caused a liquid blockage. ■ Check for reduced liquid flow at the sumps. ■ Remove manhole covers to listen for liquid splashing, and determine if liquid is in the header.
Sudden increase in vacuum	■ For vertical wells check for frozen conditions around valve and flex hose. ■ Reduce valve setting and check for vacuum recovery. ■ Check for change in pressure and flow within the header pipes. ■ Readjust well/trench leg vacuum.
Sudden decrease in vacuum in a well	■ Readjust well/trench leg vacuum.

Exhibit 2

SYMPTOM	INVESTIGATION/PROCEDURE
Oxygen greater than 3 percent at blower	▪ Check monitoring instrument (hoses, battery, calibration). ▪ Check oxygen at wells and trench legs. ▪ Check that all monitoring port valves are closed. ▪ Check to see if flex hoses are all attached at vertical wells. ▪ Check that all monitoring ports on gas wells/trench legs are closed. ▪ Check driplegs for air leaks or loss of liquid seal.
Oxygen greater than 3 percent at well/trench leg	▪ Check monitoring instrument (hoses, battery, calibration). ▪ Check integrity of well/trench leg (monitoring ports, hoses, flanges, valves, etc.). ▪ Check for likely areas for air intrusion in soil (cracks, ruts, holes). ▪ Reduce vacuum on well/trench leg (*e.g.*, by 30 percent).

3.5 Records and Reporting

This section describes the facility records that will be kept, and the mechanisms and schedules for reporting, records retention, emergency reporting procedures, and progress reports related to the operation and maintenance of the landfill gas management system.

3.5.1 Inspection Reports

Landfill gas extraction system monitoring is described in Subsection 3.3.4. Copies of the monitoring reports (or data summaries) will be included in the O&M Progress Reports described in Subsection 3.5.4.

3.5.2 Maintenance Records

A summary of major maintenance activities performed on the gas extraction system (i.e., blower, header line clean-out, blockage repair, etc.) will be maintained and submitted with O&M Progress Reports.

3.5.3 Reporting Emergencies

Verbal notification will be provided to the WDNR as soon as possible in the event of any emergencies that would threaten human health or the environment (e.g., concentrations of gas migration greater than 25 percent of the LEL near occupied structures). Immediate notification does not apply to physical injury accidents unrelated to environmental concerns at the site.

The initial notification shall include an explanation of the nature and extent of the incident, any interim response actions taken or planned, and a description of the actions required to obtain additional information, if needed. Within 30 days of any such incident, a written report describing the above information and documentation of the cleanup or response remedy will be submitted to the WDNR. The report shall also discuss the need for design, monitoring, or maintenance changes, if necessary to prevent a recurrence of the incident.

3.5.4 O&M Progress Reports

Following construction, Annual O&M Progress Reports will be submitted to the WDNR. The reports will include a narrative describing O&M activities during the reporting period highlighting any problems encountered and the status of response actions. Progress reports will include summaries of project changes, WDNR correspondence, and personnel changes during the reporting period.

Specific information to be included within the O&M Progress Report are inspection reports, summaries of major gas extraction system maintenance activities, summaries of final cover care and maintenance activities, and facility monitoring data. The report will include an evaluation of the effectiveness of the gas extraction system and the final cover. A description of the projected work for the next reporting period will also be provided.

3.5.5 Records Retention

Facility records will be maintained by the Dane County Regional Airport.

ATTACHMENT E.1

GUIDELINES FOR PROTECTION OF CONSTRUCTION WORKERS

NOTE: These guidelines were taken from "A Compilation of Landfill Gas Laboratory and Field Practices and Procedures," prepared by SWANA Landfill Gas Division, Health and Safety Task Force, August 1991. These guidelines are general in nature and do not include site-specific safety information. Site-specific safety procedures must be followed in accordance with any site safety plans that may be in effect.

GUIDELINES FOR PROTECTION OF CONSTRUCTION WORKERS

Any person performing construction or maintenance activities on or within 1,000-feet of a refuse-filled area should be aware of the existence of, or the potential for, the development of hazardous conditions. One-thousand-feet is used by some authorities as the maximum distance LFG will migrate through soil through underground conduits or where surface conditions interfere with normal venting through soil cover.

The hazard may be one or more of the following:

- Fires may start spontaneously or from exposed and/or decomposing refuse.
- Fires and explosions may occur if a spark is provided in the presence of LFG.
- LFG may cause an oxygen deficiency in underground trenches, vaults, conduits, and structures.
- Hydrogen sulfide, a highly toxic and flammable gas, may be present.
- Caving of trenches and excavations may occur over or in refuse fills.

Specific site conditions will determine what measures should be taken to protect the health and safety of the workers and the public. Some typical safety precautions for persons working in areas over and near decomposing refuse follow. These recommended precautions are not to be considered the only precautions necessary and are not a substitute for being alert, informed, and responsible. These precautions apply in addition to those safety requirements of agencies having jurisdiction.

The safety recommendations are given in two categories: (a) general safety procedures when working in the vicinity of the refuse landfill, and (b) safety procedures when working on refuse-filled areas.

General Safety Procedures

1. Workers should be advised of the presence of LFG resulting from the decomposition of refuse buried at or near the job site, and precautions should be taken to ensure the safety of workers and the public.
2. A person trained in the use of gas instruments and safety equipment should be designated as Safety Monitor. The Safety Monitor should be present at all times with appropriate instruments to test for oxygen deficiency and for the presence of methane or hydrogen sulfide gas. A Gastech Gas Detector, or similar unit, should be available for this purpose. The Safety Monitor should periodically test the excavation areas, utility vault, structure, etc., for safe working conditions and should ensure that appropriate safety equipment is available at the site.
3. Workers should not be allowed to work alone at any time in an excavation. Work parties of at least two should be mandatory, with one worker located outside of possible gas effects.
4. Workers should not be permitted to enter excavations where there is an oxygen deficiency or a combustible mixture of methane.
5. No welding should be permitted in trenches, enclosed areas, or over refuse-filled areas unless performed over ground mats or in areas of the site approved by the Safety Monitor.
6. As construction progresses, all valves and conduit openings should be closed as soon as installed to prevent the migration of gases through the pipeline system.
7. Smoking should be prohibited in or near open excavations and in the vicinity of pipe-laying activities.
8. No excavation or drilled hole greater than 2-feet deep should be left unattended or open overnight unless it is securely covered in a manner acceptable to the regulatory agency having jurisdiction.
9. Utility access manholes should be entered with extreme caution. Applicable Confined Space Entry Procedures must be followed. Sparks can occur from metal manhole covers and rings. The air in a manhole or enclosed space should be tested with a detector before entering. Positive ventilation is an excellent procedure to follow when working in any underground structure.
10. Fire extinguishers with a rating of at least A, B, and C should be available.

Safety Procedures When Working on Refuse Landfills

1. Workers should be cautioned regarding the potential unstable soil and refuse material and the strong possibility of caving during drilling operations and in open excavations. Anyone working near the edge of drilling or deep excavations should be secured with a safety belt, harness, or short rope to permit rescue in the event of a worker falling into an excavation.
2. In the event hydrogen sulfide (H_2S) odor is smelled or if H_2S gas is present in sufficient quantity to trigger the H_2S alarm on the gas detector, all persons should be evacuated from the area immediately.
3. Electric motors used in refuse excavation areas should be explosion proof.
4. The use of explosives should not be permitted.
5. Inhalation of LFG should be avoided. Such gases (or oxygen-deficient air) may cause nausea and dizziness.
6. Workers should not leave open wells or excavations unattended.
7. Stockpile soil adjacent to operations in areas of exposed refuse for firefighting purposes. Soil is probably the most effective means of extinguishing landfill fires.
8. Workers should avoid contact with exposed refuse as much as possible. Irritants or hazardous materials may be present.
9. Smoking shall be prohibited on the landfill site.
10. A Health and Safety plan addressing planned activities should be prepared and understood by all personnel working on the site.

ATTACHMENT E.2

MONITORING DATA SHEETS

FORM 1

BLOWER AND FLARE STATION GAS MONITORING
TRUAX LANDFILL

Date: _____

Temperature: _____ °F

Atmospheric Barometric Pressure: _____ in. Hg R/F

Weather Conditions: _____

Ground Conditions: _____

Gas/O_2 Meter Modal: _____

Gas/O_2 Meter Serial No.: _____

Date Last Calibrated: _____

Gas Temperature: _____ °F

Gas Flow: _____ cfm

Visually Inspect Level in Condensate MH: _____

Were Condensate MH Warning Lights Checked?: _____

Date Monthly Monitoring is Required: _____

Dates Annual and Semiannual Inspections/Maintenance are Required

_____ / _____

(Annual) (Semiannual)

Blower House						
Trench Header						
Well Header						
Combined Header						

N1					
N2					
N3					
W1					
W2					
W14					
W3					
W4					
W5					
W6					
W15					
W7					
W8					
W9					

W10					
W11					
W12					
W13					
S1					
S2					
S3					
S4					

R1	H					
	T					
R2	H					
	T					
R3	H					
	T					
R4	H					
	T					
R5	H					
	T					
R6	H					
	T					
R8	H					
	T					
R9	H					
	T					
R10	H					
	T					
R11	H					
	T					
R12	H					
	T					
R13	H					
	T					

H = Header Monitoring Hose
T = Extraction Pipe/Trench Monitoring Hose

ATTACHMENT E.3

BLOWER AND FLARE INFORMATION

Waste Gas Flare
CANDLE FLARE
Purpose and Operation

A. PURPOSE

This system has been designed and constructed to dispose of waste landfill gas by means of controlled combustion. During this disposal, the temperature is controlled to ensure efficient removal of pollutants, preventing their release into the atmosphere.

The major components of the system have the basic functions as follows.

1. MAIN CONTROL PANEL

The main control panel houses the components that control the operation of the flare and provides the signaling capability to other areas as to the status of the flare operation.

2. TEMPERATURE MONITOR (IF USED)

The temperature controller controls the operating temperature of the flare by regulating the operation of the cooling dampers.

3 TEMPERATURE RECORDER

The temperature recorder isolated in the main control panel. Its function is to provide a printed record of the temperature inside of the flare stack and landfill gas flow rate into the flare while it is in operation. The recorder also acts as the high temperature alarm instrument and condensate injection system minimum temperature limit.

4. COOLING AIR DAMPERS

The cooling air dampers operate upon command from the temperature controller to regulate the amount of cooling and combustion air allowed into the flare to maintain the proper operating temperature.

5. FLAME SAFEGUARD SYSTEM

The flame safeguard system consists of the flame safeguard control in conjunction with an ultra violet (U V.) sensor. The flame safeguard controls the ignition system, pilot fuel solenoid, and landfill gas isolation valve. The U.V. sensor detects the presence of the flame and provides the signal to the flame safeguard for safe operation of the combustion process.

6. **PILOT ASSEMBLY**

The pilot assembly provides a flame source to prove the combustion process has been established and to ignite the main burner during flare operation.

7. **LANDFILL GAS ISOLATION VALVE**

This valve controls the flow of landfill gas to the burner. It operates pneumatically; is electrically controlled, and it operates fail-safe closed. The fail-safe operation assures that upon loss of operating power or air pressure, the valve will automatically close stopping the flow of landfill gas to the flare burner.

8. **THERMOCOUPLE**

The thermocouple is isolated in the upper portion of the flare stack and provides a temperature indicating signal to the temperature controller and temperature recorder.

9. **BLOWER(S)**

Blower(s) provide the means to evacuate the methane from the landfill field under negative pressure, compressing the gas and discharging it into the flare to be disposed of by controlled combustion.

10. **KNOCK-OUT POT (K/O POT)**

The K/O port provides moisture and particulate separation of the incoming landfill gas from the field.

11. **K/O POT TRANSFER PUMP(S)**

This/these pump(s) separates condensate from the K/O pot to the condensate storage tank. The pump(s) will operate automatically or can be manually operated.

12. **CONDENSATE INJECTION SYSTEM**

The condensate injection system stores condensate from the K/O pot and injects it into the flare during operation. This evaporates the water and disposes of the contaminates by means of incineration.

B. OPERATION

This system operates in the following manner and sequence.

1. When the main control panel power is turned to the "ON" position, this allows the control system to be electrically powered, and the temperature controller and the temperature recorder become operational automatically.

2. When the flare operation selector switch is turned to the automatic ("AUTO") position, the flare system will automatically turn on. The flame safeguard becomes powered allowing the pilot solenoid to open and the ignitor coil to energize. the pilot then ignites and the U.V. sensor detects and proves the establishment of the pilot flame.

3. When the pilot flame has been established and proven by the U.V. sensor, the flame safeguard will allow power to be supplied to the blower motor starter, starting the blower. The motor starter energizing closes contact to allow the landfill gas isolation valve to open.

4. The landfill gas blower and isolation valve is controlled by the flame safeguard system.

5. The pilot flame ignites the landfill gas being released and the combustion of the landfill gas causes the temperature to rise in the flare stack. As the temperature rises, the thermocouple senses the temperature and transmits a signal to the temperature controller indicating the temperature inside the flare stack. The temperature controller, in turn, signals the damper motors located on the base of the flare. The dampers adjust (open or close) to maintain the required temperature as regulated by the temperature controller. The temperature setting for the temperature controller is programmable and may be set as needed to meet the specified temperature requirements.

6. The flare will continue to operate until the system is manually shut down. The system will automatically shut down if the methane supply is depleted or if it malfunctions.

7. the flame from the pilot and/or the main burner is monitored at all times by the U.V. sensor. If the signal from the U.V. sensor verifying the presence of the flame is lost, at any time while the flare is in operation, the flame safeguard system will automatically shut down the system. After shutdown, the flame safeguard will reset, and the purge delay will reactivate the system re-start. The pilot solenoid and ignition coil will again energize, causing the pilot to re-light. If the U.V. sensor verifies the

presence of the pilot flame, the system will turn on the and operate as described above.

8. In the event of flame failure where the pilot energizes, but the U.V. sensor does not verify the presence of the pilot flame during the energizing process, the flame safeguard system will shut down and lock out the operation of the flare system. When the problem is resolved, the flame safeguard is reset.

9. Manual Operation

When the flare control is set in the "MANUAL" operation mode, the flare system will operate in the same manner as described above EXCEPT AS FOLLOWS:

Once the pilot flame has been proven by the flame safeguard, the "MANUAL BLOWER START" button will then have to be pushed and the selected blower will start. With the blower in operation, push the Manual Landfill Gas "ON" button and the landfill gas isolation valve will open. In this "Manual" operation mode, the burner will stay in operation with all of the same safety features of the automatic operation.

BURNER ADJUSTMENT
for
CANDLE STYLE FLARE

The "NEW KIND OF CANDLE" flare has been designed to provide a very high efficiency of combustion on a wide fuel range. This unit will operate with a low methane content of 12% with an oxygen content of 12 %. In order to operate over a very wide fuel range of 50% to 12% methane, the fuel to air ratio must be adjusted to achieve the desired combustion characteristic.

SHUTTER ADJUSTMENT

A. The lower the methane content the less combustion and cooling air is required. (close shutters)

B. The higher the methane content the combustion and cooling air must be increased. (open shutters)

TO ADJUST THE SHUTTERS

1. SHUT DOWN THE FLARE AND LOCK OUT THE ELECTRICAL CONTROL SYSTEM. ALLOW THE FLARE TO COOL.

2. Install a ladder to reach the bottom side of the flare head and the location of the shutters. Tie off the ladder carefully to stabilize the ladder.

3. Loosen the two retaining nuts on the shutter and adjust the air gap as needed. Use anti seize compound on the shutter retaining nuts when re installing the shutters each time they are adjusted.

ADJUSTMENT INDICATIONS

Open the shutters when:

A. The flare is operating at an excessive temperature

B. There is visible yellow flames above the flare during operation

C. Drastic increase in landfill gas flow or an increase of 15% or more in the methane content may require shutter adjustment.

Close the shutters when:

A. The flare is operating at a lower temperature than desired.

B. The flare vibrates during operation (loud pounding combustion noise). This would be caused by to high of air to fuel ratio causing premature detonation of the landfill gas causing sever vibration.

C. Drastic decrease in landfill gas flow or a decrease of 15% or more in the methane content may require shutter adjustment.

TROUBLE SHOOTING INSTRUCTIONS
for
CANDLE STYLE FLARE

Many malfunctions can be isolated by mounting the panel lamps and their relationship to the components on the electrical schematic.

In addition to those causes listed below, loose or broken wiring and blown fuses should also be considered where applicable.

For repair instructions, refer to the appropriate manufacture's information.

MALFUNCTION - POSSIBLE CAUSE

1. Failure of pilot to light.

    A. Grounded spark rod, disconnected cable.
    B. One or more safety limits ahead of safeguard may be open.
    C. Faulty solenoid valve.

2. Pilot light will light but will not prove.

    A. Pilot flame is too short, possibly due to insufficient gas pressure or plugged spud.
    B. Malfunctioning U.V. flame detector.
    C. U.V. flame detector lens is fogged or dirty.
    D. Faulty safeguard.

3. If the system is in full operation and the indicated temperature remains low for more than three (3) minutes after the burner on lamp lights, check the following:

    A. The air control shutters need to be adjusted or of one or more of the following:

        1. Dirty, damaged or improperly installed thermocouple

        2. Insufficient land fill gas flow to maintain temperature.

        3. Failed temperature monitor.

    B. Main gas valve is closed.

        1. Open circuit to actuator.
        2. Faulty gas valve actuator

C. The thermocouple is grounded or shorted.

D. Plugged spuds.

E. Insufficient BTU content of landfill gas.

4. Over temperature condition (actuator or indicted.)

A. Thermocouple is open.
B. The air control shutters open to far or :

1. The landfill gas flow (Btu loading) is beyond the capacity of the flare.
2. The methane content of the landfill gas has increased. Adjust shutters
3. Faulty temperature monitor

5. Pilot Gas Low Pressure

Indication: "Low Pressure Fuel"
Red Alarm light will Illuminate.

Effect: If the flare is not in operation at the time. The system will not start.

Cause: Insufficient fuel pressure.

Action: Open fuel valve(s), or re-fill propane tank.

6. High Temp Alarm

Indication: "High Temp Alarm"
Red Alarm light will Illuminate.

Effect: Will cause Flare Shut Down & will activate auto dialer (IF USED) activates timed delay relay , which will shut down the system after a field adjustable timed delay relay times out.

Cause: Improperly adjusted air shutters, failed thermocouple, failed temperature monitor, excessive landfill gas flow rate or BTU loading.

Action: Adjust air control shutters, Repair or Replace Malfunctioning Equipment.

7. High Temp Shutdown

Indication: "High Temp Shutdown"
Red Alarm light will Illuminate.

Effect: Will cause Flare Shut Down.

Cause: Same as High Temperature Alarm.

Action: Remedy malfunction then push "High Temperature Reset" button to re-start the system.

8. Low Temperature Alarm

Indication: "Low Temp Alarm"
Red Alarm light will Illuminate.

Effect:

A. After a field selectable timed delay (STDR), the supplemental fuel system will activate, if turned on.(IF SUPPLIED WITH SYSTEM) This will increase the BTU input to the flare and raise the operation temperature.

B. If supplemental fuel is not activated (OR SUPPLIED)the system will shut down & activate the auto dialer. (IF SUPPLIED)

Cause: Insufficient Landfill Gas flow, (low BTU loading), improperly adjusted air control shutters, failed temperature monitor.

Action: Increase Landfill Gas flow, adjust air control shutters, replace Temperature Monitor, check thermocouple..

9. Condensate Tank High Level Alarm (IF SUPPLIED)

Indication: "Condensate Tank High Level Alarm"
Red Alarm light will Illuminate.

Effect: Auto Dialer activated, field selectable timed relay activates and the flare system will shut down.

Cause: High Condensate Level in Storage Tanks (Sump) closes High Limit switch sending signal to Main Control Panel.

10. High level Alarm

Indication: Auto Dialer Activated
Red Alarm light will Illuminate.

Effect: Flare System Shutdown

Cause: Low Temperature Alarm
High Temperature Alarm
Flame Failure
K.O. Pot High Level Alarm (IF SUPPLIED)
Condensate High Level Alarm (IF SUPPLIED)
High O2 Alarm (IF SUPPLIED)

Action: Respond to alarm & re-start system.

12. O2 High Level Shut Down (IF SUPPLIED)

Indication: "O2 High Level Alarm"
Red Alarm light will Illuminate.

Effect: Auto Dialer activated, field selectable timed relay activates () is activated and the flare system will shut down.

Cause: High O2 content in Landfill Gas, broken or open Landfill Gas Lines, Excessive Vacuum on Landfill Fields, valve open in landfill Gas Lines.

Action: Reduce Landfill Gas flow rate, located and repair leaks in Landfill Gas piping.

Note: Refer to Electrical DWG. & or Timer Log for times settings for relays.

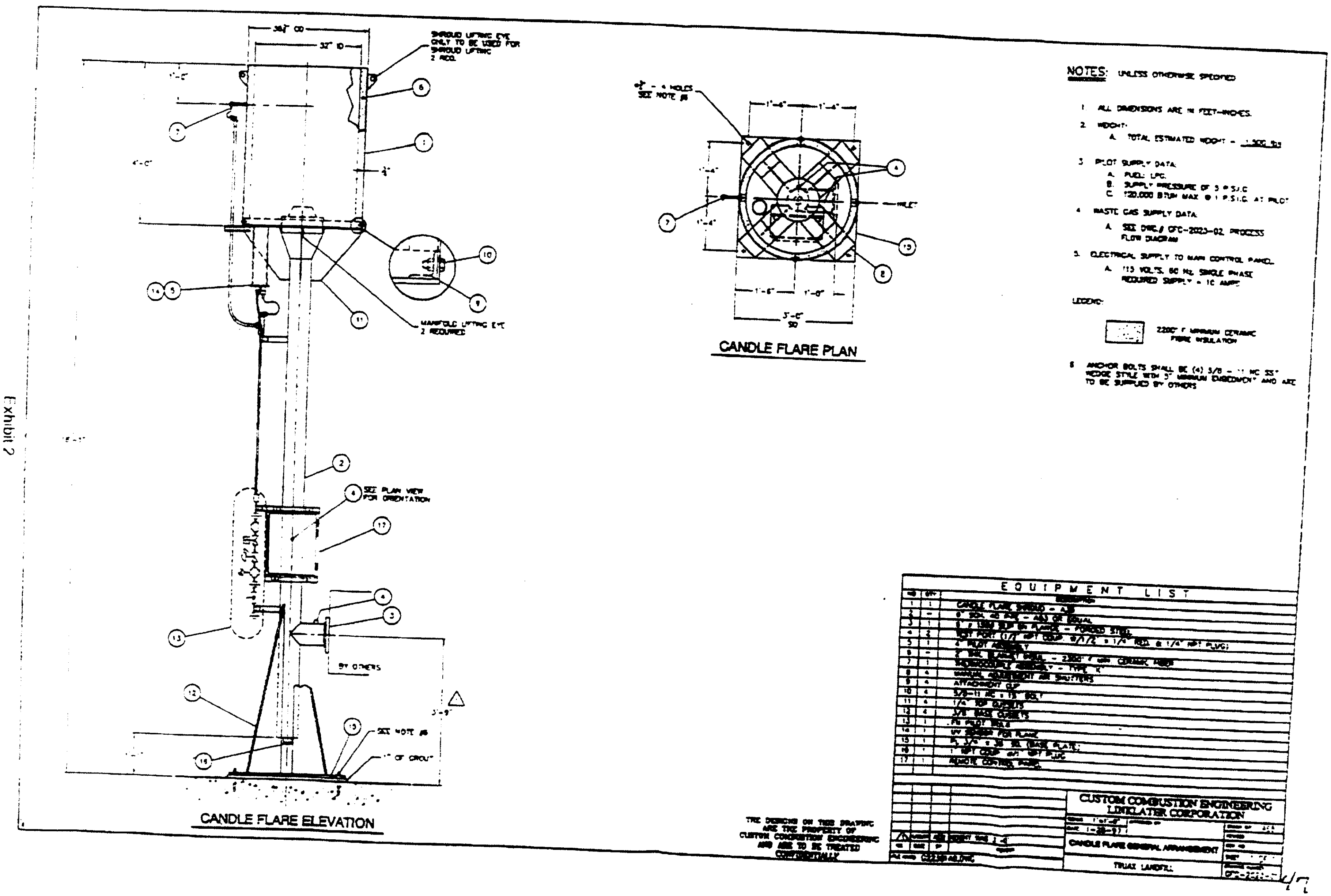
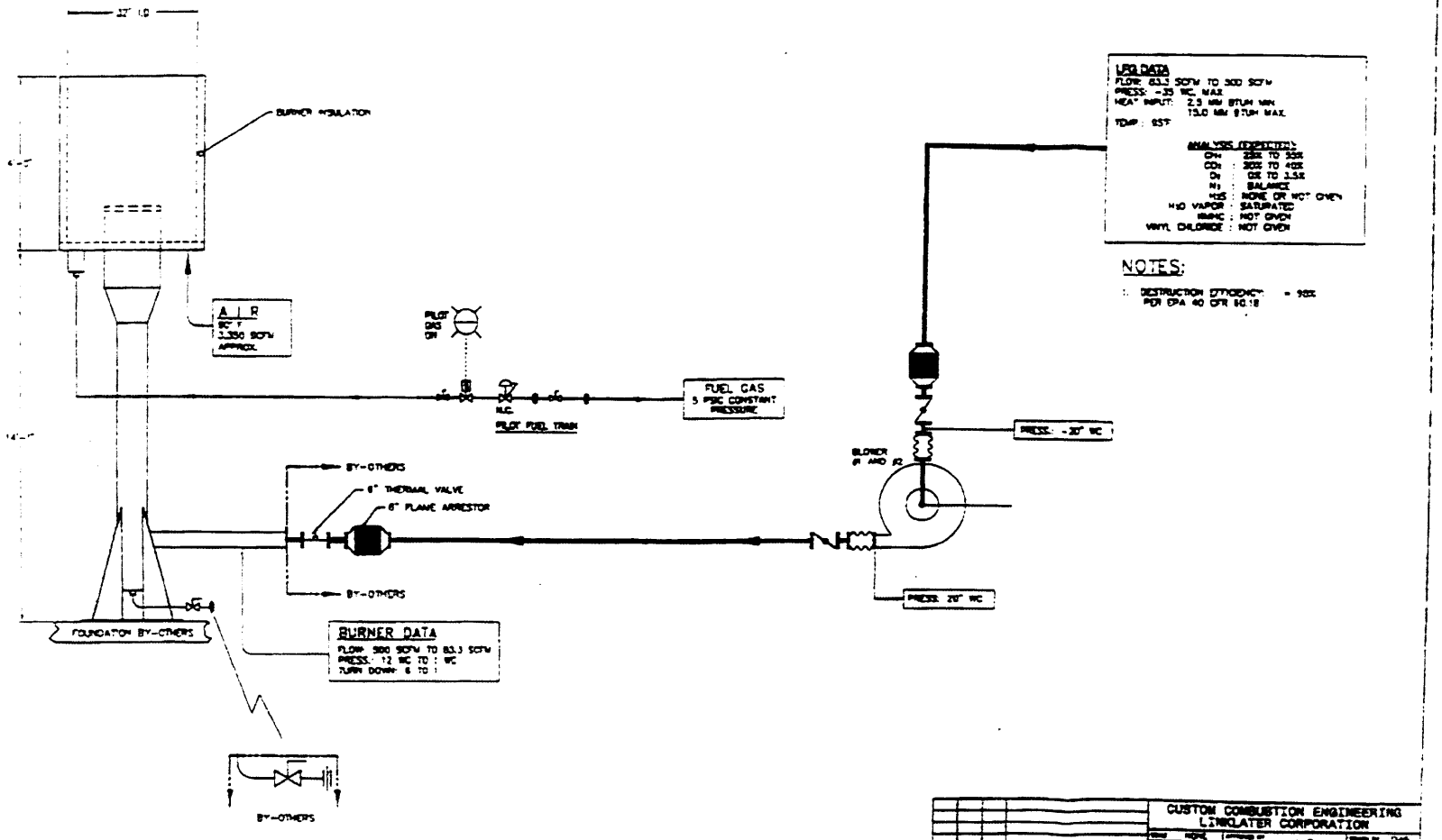

NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL DIMENSIONS ARE IN FEET-INCHES.
2. WEIGHT:
A. TOTAL ESTIMATED WEIGHT
3. PILOT SUPPLY DATA:
A. FUEL: LPG
B. SUPPLY PRESSURE OF 3 P.S.I.G
C. 120,000 BTUH MAX @ 1 P.S.I.G. AT PILOT
4. WASTE GAS SUPPLY DATA:
A. SEE DWG.# CFC-2023-02, PROCESS FLOW DIAGRAM
5. ELECTRICAL SUPPLY TO MAIN CONTROL PANEL
A. 115 VOLTS, 60 Hz, SINGLE PHASE
LEGEND:
2300° F MINIMUM CERAMIC FIBRE INSULATION
6. ANCHOR BOLTS SHALL BE (4) 3/8
TO BE SUPPLIED BY OTHERS
CANDLE FLARE ELEVATION
CANDLE FLARE PLAN
SHROUD LIFTING EYE
ONLY TO BE USED FOR
SHROUD LIFTING
2 REQ'D.
MANIFOLD LIFTING EYE
2 REQUIRED
SEE PLAN VIEW FOR ORIENTATION
BY OTHERS
SEE NOTE #6
1" OF GROUT
- 4 HOLES
SEE NOTE #6
INLET
36" OD
32" ID
1'-4"
1'-6"
3'-0"
SQ
EQUIPMENT LIST
CANDLE FLARE SHROUD
ATTACHMENT CLIP
REMOTE CONTROL PANEL
THE DESIGNS ON THIS DRAWING ARE THE PROPERTY OF CUSTOM COMBUSTION ENGINEERING AND ARE TO BE TREATED CONFIDENTIALLY
CUSTOM COMBUSTION ENGINEERING
LINKLATER CORPORATION
CANDLE FLARE GENERAL ARRANGEMENT
TRUAX LANDFILL

Exhibit 2

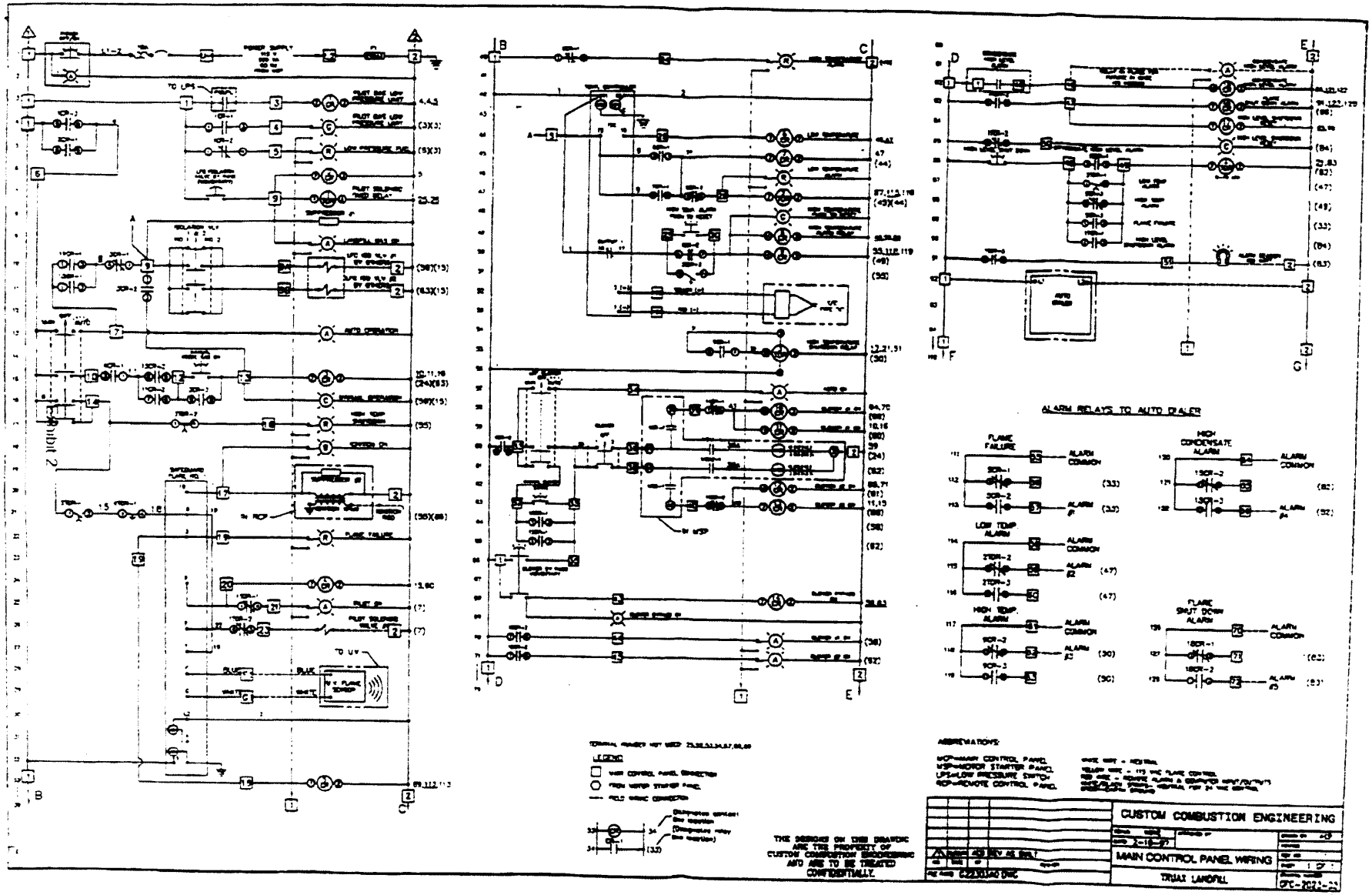
Exhibit 2



CUSTOM COMBUSTION ENGINEERING
LINKLATER CORPORATION

PROCESS FLOW DIAGRAM

TRUAX - LANDFILL


ALARM RELAYS TO AUTO DIALER
FLAME FAILURE
ALARM COMMON
HIGH CONDENSATE ALARM
LOW TEMP ALARM
HIGH TEMP. ALARM
FLAME SHUT DOWN ALARM
ABBREVIATIONS:
MCP-MAIN CONTROL PANEL
MSP-MONITOR STARTER PANEL
LPS-LOW PRESSURE SWITCH
RCP-REMOTE CONTROL PANEL
THE DESIGNS ON THIS DRAWING ARE THE PROPERTY OF CUSTOM COMBUSTION ENGINEERING AND ARE TO BE TREATED CONFIDENTIALLY.
CUSTOM COMBUSTION ENGINEERING
MAIN CONTROL PANEL WIRING
TRIAX LANDFILL

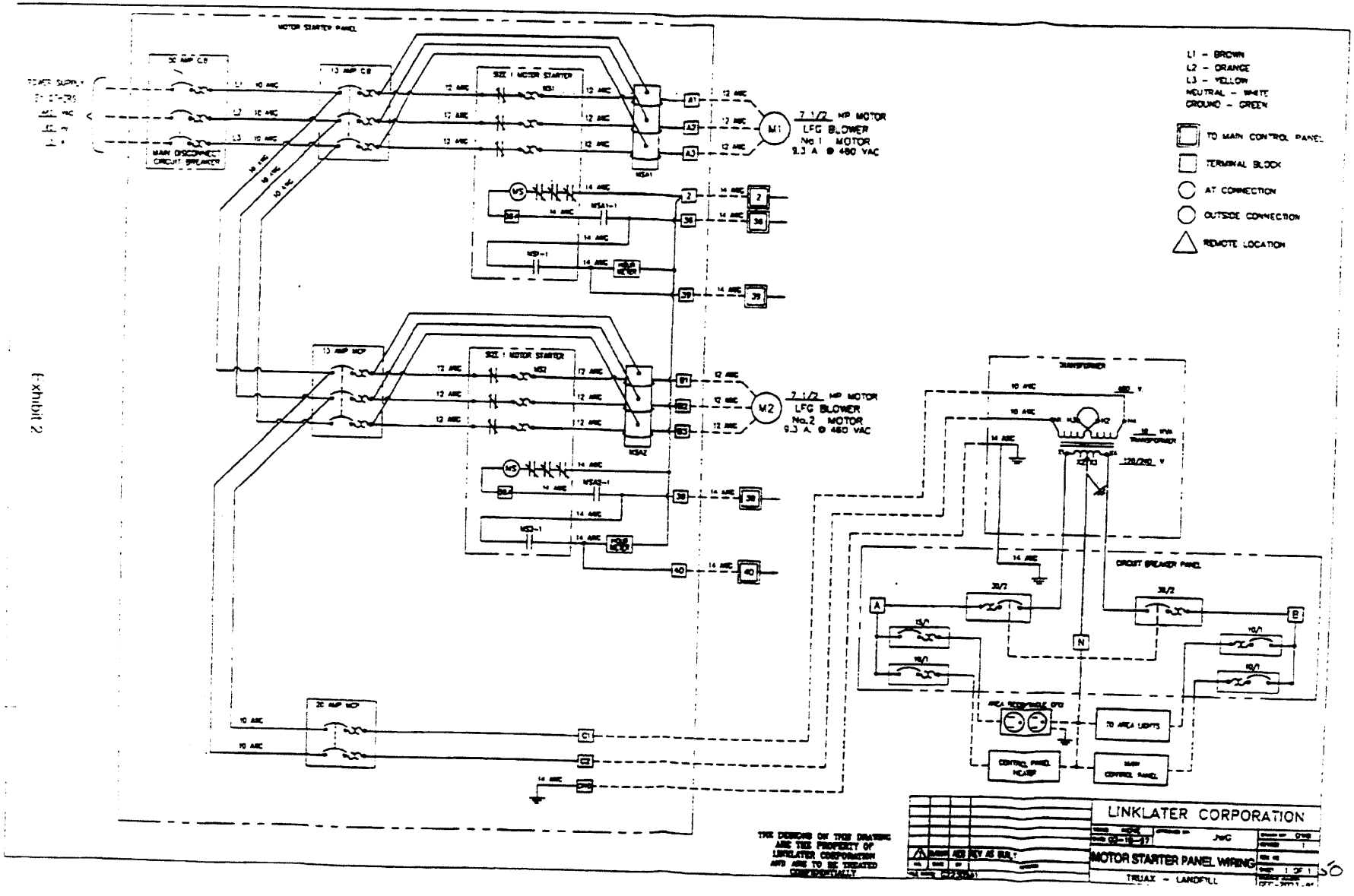
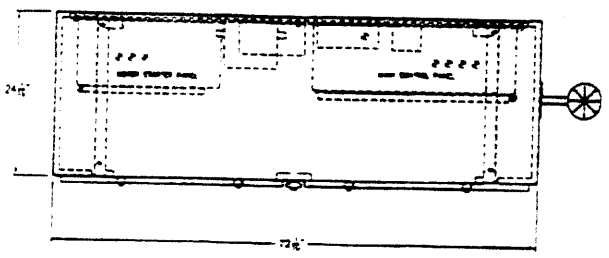
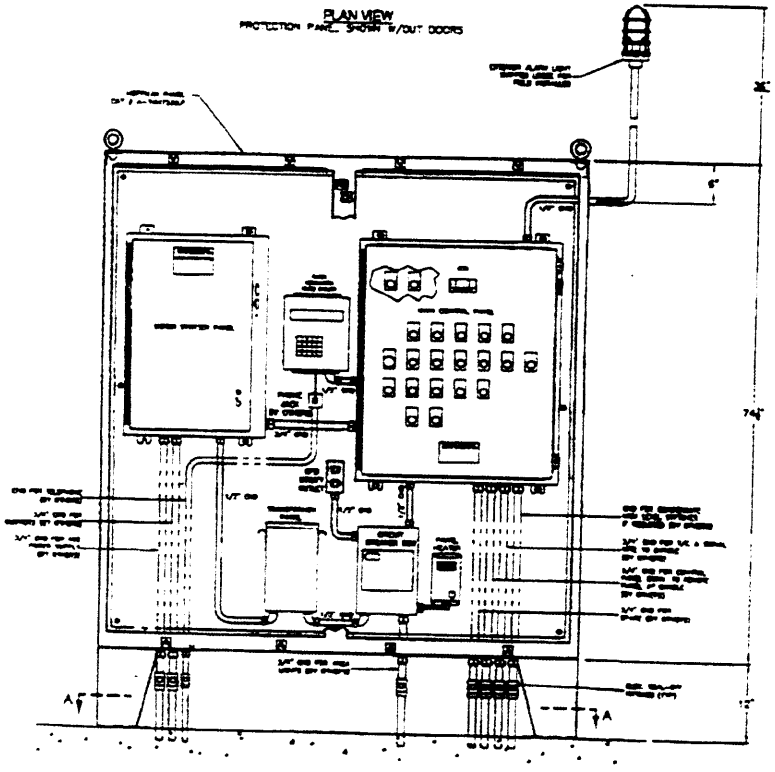

L1 - BROWN
L2 - ORANGE
L3 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN
TO MAIN CONTROL PANEL
TERMINAL BLOCK
AT CONNECTION
OUTSIDE CONNECTION
REMOTE LOCATION
MOTOR STARTER PANEL
MAIN DISCONNECT CIRCUIT BREAKER
7 1/2 HP MOTOR
LFG BLOWER
No.1 MOTOR
9.3 A @ 480 VAC
M1
7 1/2 HP MOTOR
LFG BLOWER
No.2 MOTOR
9.3 A @ 480 VAC
M2
CIRCUIT BREAKER PANEL
TO AREA LIGHTS
LINKLATER CORPORATION
MOTOR STARTER PANEL WIRING
TRIAX - LANDFILL
THE DESIGNS ON THIS DRAWING ARE THE PROPERTY OF LINKLATER CORPORATION AND ARE TO BE TREATED CONFIDENTIALLY

Exhibit 2

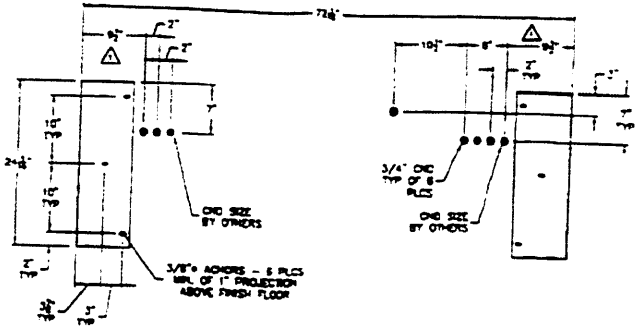
Exhibit 2



PLAN VIEW
PROTECTION PANEL SHOWN W/OUT DOORS



FRONT VIEW
PROTECTION PANEL SHOWN W/OUT DOORS



SECTION A-A

NOTE: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN INCHES.
2. ENTRANCE HOLES FOR PROTECTION PANEL AND INNER PANELS ARE NOT PRE PUNCH FOR INCOMING CONDUIT SUPPLIED BY OTHERS.
3. LOCATIONS FOR INCOMING CONDUIT ARE GIVEN AS SUGGESTIONS AND FINAL LOCATIONS TO BE DETERMINED @ FIELD INSTALLATION

CUSTOM COMBUSTION ENGINEERING
LINKLATER CORPORATION

PROTECTION PANEL

TRUAX LANDFILL

CFC-2023-07

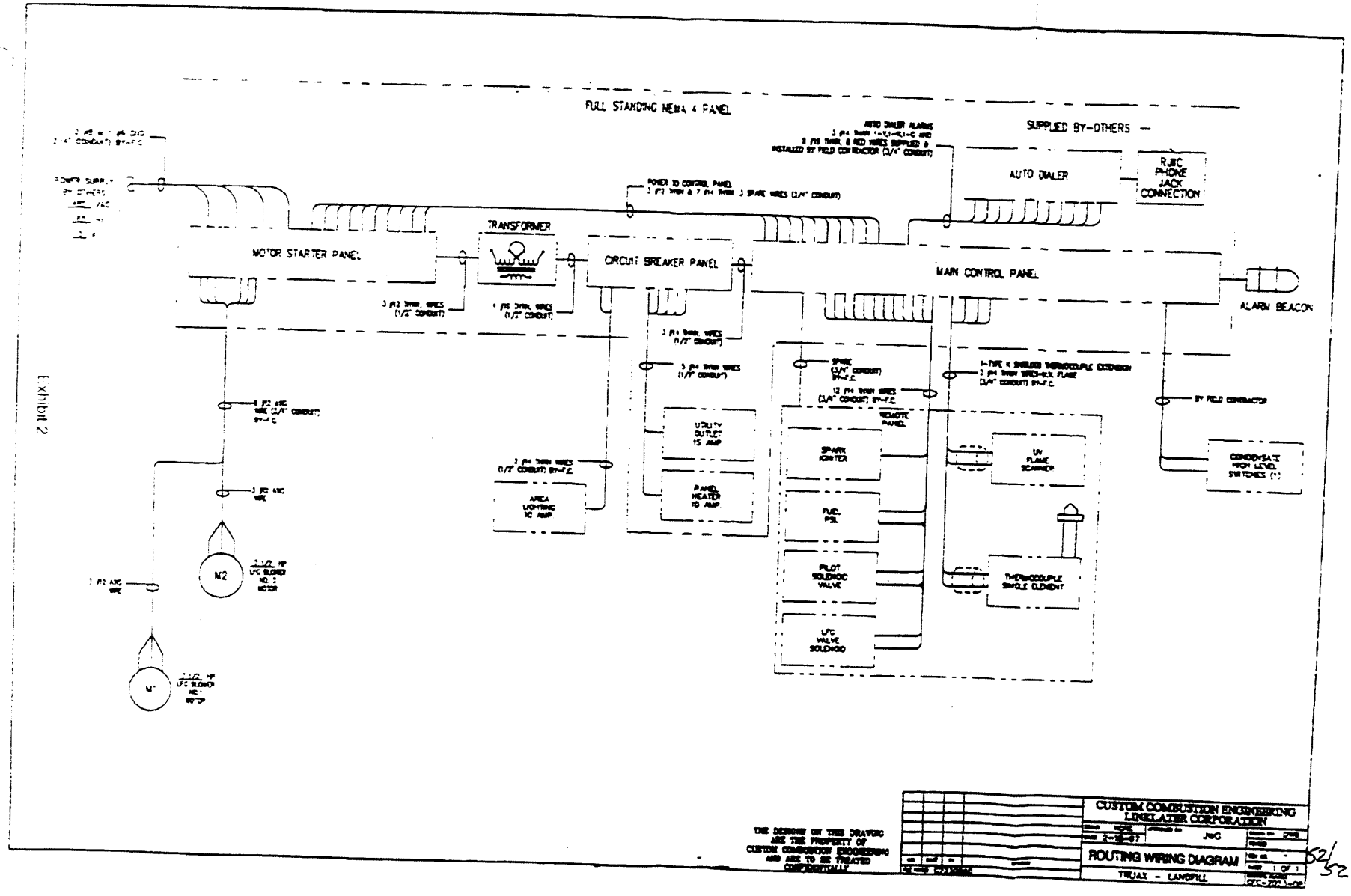
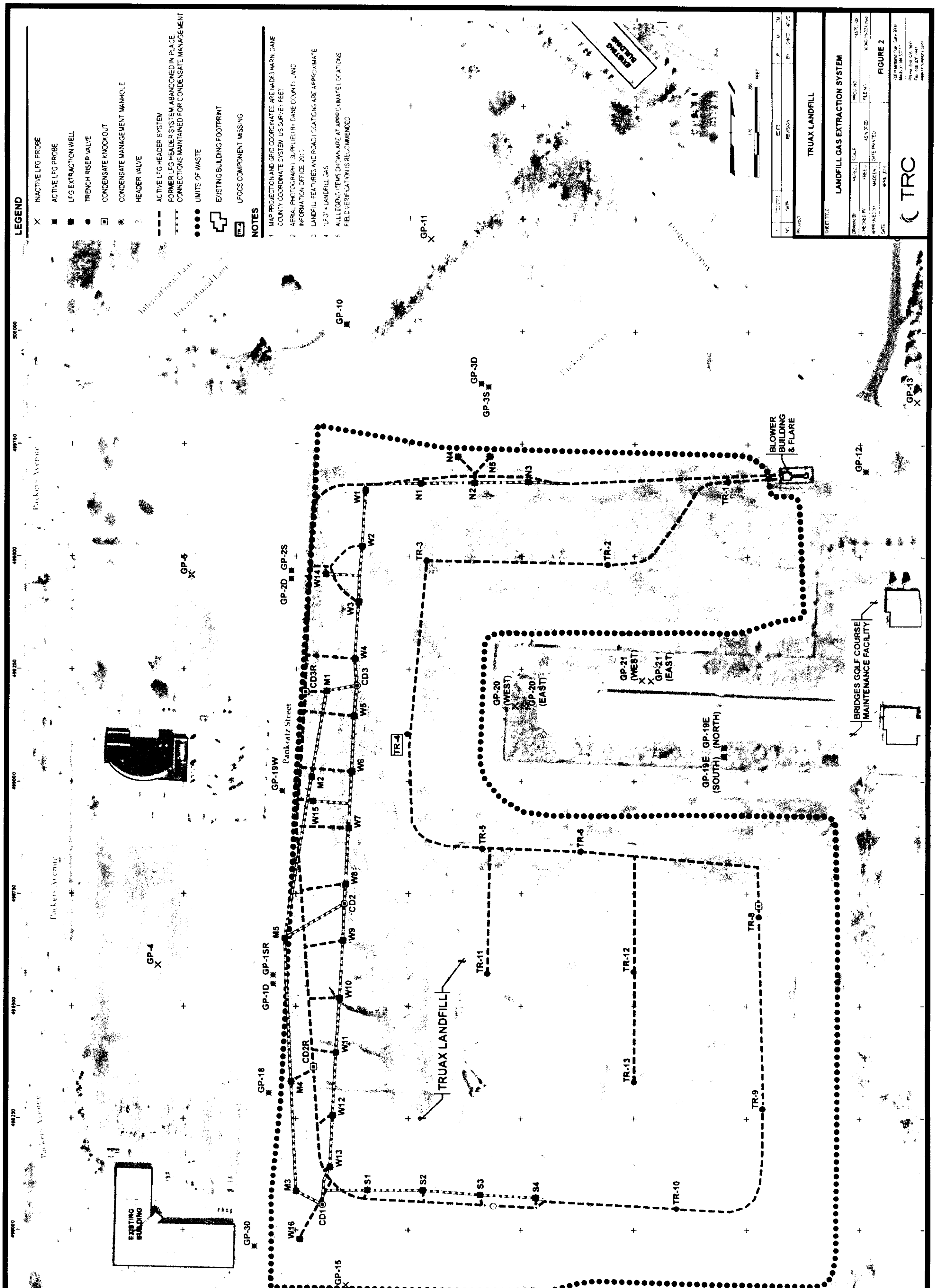

FULL STANDING HEMA 4 PANEL
SUPPLIED BY-OTHERS —
AUTO DIALER
RJ11C PHONE JACK CONNECTION
TRANSFORMER
MOTOR STARTER PANEL
CIRCUIT BREAKER PANEL
MAIN CONTROL PANEL
ALARM BEACON
UTILITY OUTLET 15 AMP
PANEL HEATER 10 AMP
AREA LIGHTING 10 AMP
REMOTE PANEL
SPARK IGNITER
FUEL PSL
PILOT SOLENOID VALVE
LFG VALVE SOLENOID
UV FLAME SCANNER
THERMOCOUPLE SINGLE ELEMENT
CONDENSATE HIGH LEVEL SWITCHES (1)
BY FIELD CONTRACTOR
M2
M1
THE DESIGNS ON THIS DRAWING ARE THE PROPERTY OF CUSTOM COMBUSTION ENGINEERING AND ARE TO BE TREATED CONFIDENTIALLY
CUSTOM COMBUSTION ENGINEERING
LINDLATER CORPORATION
ROUTING WIRING DIAGRAM
TRUAX - LANDFILL

Exhibit 2



LEGEND
INACTIVE LFG PROBE
ACTIVE LFG PROBE
LFG EXTRACTION WELL
TRENCH RISER VALVE
CONDENSATE KNOCKOUT
CONDENSATE MANAGEMENT MANHOLE
HEADER VALVE
ACTIVE LFG HEADER SYSTEM
LIMITS OF WASTE
EXISTING BUILDING FOOTPRINT
LFGCS COMPONENT MISSING
NOTES
TRUAX LANDFILL
LANDFILL GAS EXTRACTION SYSTEM
FIGURE 2
TRC
BLOWER BUILDING & FLARE
BRIDGES GOLF COURSE MAINTENANCE FACILITY
EXISTING BUILDING
Pankratz Street
Packers Avenue
TRUAX LANDFILL

EXHIBIT 3

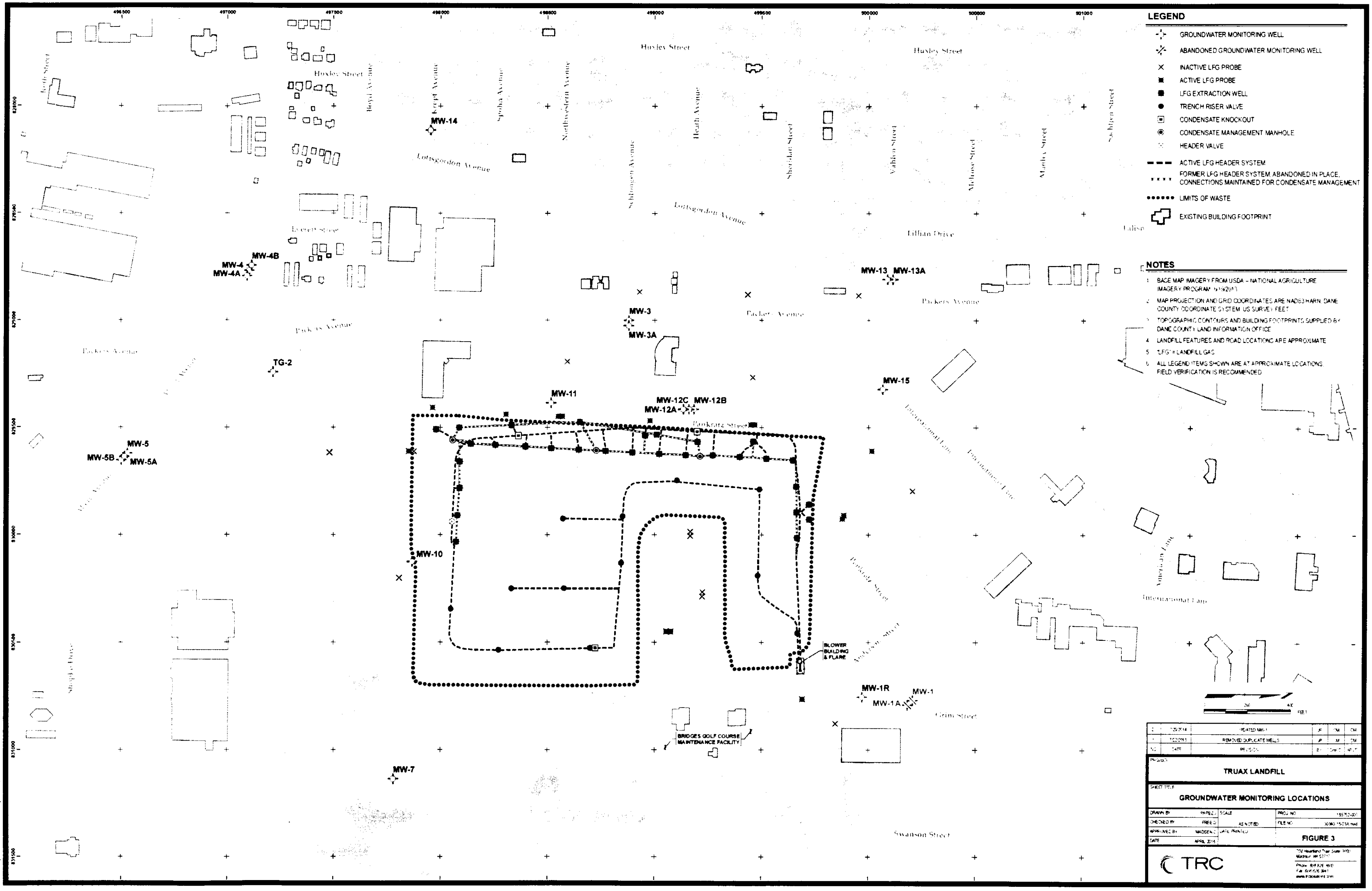

LEGEND
GROUNDWATER MONITORING WELL
ABANDONED GROUNDWATER MONITORING WELL
INACTIVE LFG PROBE
ACTIVE LFG PROBE
LFG EXTRACTION WELL
TRENCH RISER VALVE
CONDENSATE KNOCKOUT
CONDENSATE MANAGEMENT MANHOLE
HEADER VALVE
ACTIVE LFG HEADER SYSTEM
FORMER LFG HEADER SYSTEM ABANDONED IN PLACE, CONNECTIONS MAINTAINED FOR CONDENSATE MANAGEMENT
LIMITS OF WASTE
EXISTING BUILDING FOOTPRINT
NOTES
1. BASE MAP IMAGERY FROM USDA - NATIONAL AGRICULTURE IMAGERY PROGRAM
2. MAP PROJECTION AND GRID COORDINATES ARE NAD83 HARN DANE COUNTY COORDINATE SYSTEM US SURVEY FEET
3. TOPOGRAPHIC CONTOURS AND BUILDING FOOTPRINTS SUPPLIED BY DANE COUNTY LAND INFORMATION OFFICE
4. LANDFILL FEATURES AND ROAD LOCATIONS ARE APPROXIMATE
5. "LFG" = LANDFILL GAS
6. ALL LEGEND ITEMS SHOWN ARE AT APPROXIMATE LOCATIONS. FIELD VERIFICATION IS RECOMMENDED
MW-1
MW-1A
MW-1R
MW-3
MW-3A
MW-4
MW-4A
MW-4B
MW-5
MW-5A
MW-5B
MW-7
MW-10
MW-11
MW-12A
MW-12B
MW-12C
MW-13
MW-13A
MW-14
MW-15
TG-2
BLOWER BUILDING & FLARE
BRIDGES GOLF COURSE MAINTENANCE FACILITY
Huxley Street
Packers Avenue
Lotsgordon Avenue
Lillian Drive
Swanson Street
Grim Street
International Lane
Pankratz Street
TRUAX LANDFILL
GROUNDWATER MONITORING LOCATIONS
FIGURE 3
TRC

EXHIBIT 4

EXHIBIT 5

TRC

708 Heartland Trail
Suite 3000
Madison, WI 53717

608-826-3600 PHONE
608-826-3941 FAX

www.TRCsolutions.com

April 23, 2012

Mr. Tom Bennwitz, P.E.
Environmental Engineer
Wisconsin Department of Natural Resources
South Central Region
Madison Service Center
101 S. Webster Road
Madison, WI 53703

Subject: Expedited Plan Modification
Reduction in Data Reporting
Dane County Truax Landfill
WDNR License No. 3306

Dear Mr. Bennwitz:

On behalf of the Dane County Regional Airport, TRC Environmental Corporation (TRC) is submitting this request for an expedited plan modification relative to three items; (1) to compile the various quarterly and annual reports currently submitted to WDNR into two report submittals per year; (2) to reduce the quarterly condensate monitoring at Gas Extraction Wells N-4 and N-5 to semi-annually; and, (3) to reduce the twice-monthly monitoring of the Blower inlets and Blower outlet to monthly. These requests are being made in accordance with NR 514.09(1)10.

To simplify the logistics of preparation and review of the several reports that are required to be submitted for review every year TRC proposes to combine the reporting requirements into two submittals per year. The first submittal, which would occur by July 31st of each year, would include the monthly landfill gas (LFG) monitoring data, the March semi-annual groundwater monitoring data, the annual site inspection summary, and the Annual Operations and Maintenance (O&M) Progress Report. The second submittal, which would occur by January 31st of each year, would include the monthly LFG monitoring data and the September semi-annual groundwater monitoring data.

TRC also proposes to reduce monitoring condensate levels in LFG extraction wells N-4 and N-5 (see attached figure) from quarterly to semi-annually to coincide with the semi-annual groundwater monitoring. The reduction of monitoring at N-4 and N-5 was commented by

the Department in their letter to Mike Kirchner, dated February 20, 2007. The condensate levels and monitoring frequency were evaluated as part of the Year 2008 Annual O&M Progress Report and it was determined, due to slight increases in the condensate level at LFG extraction well N-5, that monitoring would be continued through 2009. TRC reassessed the condensate levels in the second submittal of 2011, and planned to, but never submitted an Addendum to the Plan Modification approval dated December 15, 2004. A summary of the condensate level data through the first quarter of 2012 is included in the attached Table 1. Condensate levels have been consistent for several years.

It is also proposed to reduce the monitoring of the landfill gas blower inlets and outlet to monthly (from semi-monthly), to align with the frequency of other monitoring requirements, and in consideration of the closed and stable nature of the landfill gas collection system operation, typical absence of methane in the perimeter gas probes, and groundwater monitoring results.

If you have any questions or comments after you review the information provided, please call me, at (608) 826-3640.

Sincerely,

TRC Environmental Corporation

Curt Madsen, P.E.
Senior Project Manager

Attachments: Table 1
Figure 1

cc: Mike Kirchner – Dane County Regional Airport
Jim Kralick--WDNR
Scott Inman – TRC
Central Files

Table 1
Liquid Head Measurements: Wells N-4 and N-5
Truax Landfill Gas Extraction System

MONITORING ROUND (Month-Year)	TOTAL WELL DEPTH (feet)	DEPTH TO LIQUID (feet)	LIQUID HEAD (feet)
N-4 (WDNR ID #647)			
January-05	20 92	19 50	1 42
February-05	20 92	20 33	0 59
March-05	20 92	20 47	0 45
April-05	20 92	20 57	0 35
May-05	20 92	20 50	0 42
June-05	20 92	20.42	0 50
July-05	20 92	20 34	0 58
August-05	20 92	20 46	0 46
September-05	20 92	19 46	1 46
October-05	20 92	19 52	1 40
November-05	20 92	19 57	1 35
December-05	20 92	19 35	1 57
January-06	20 92	19 44	1 48
February-06	20 92	19 51	1 41
March-06	20 92	19 46	1 46
April-06	20 92	19 32	1 60
May-06	20 92	19 30	1 62
June-06	20 92	19 31	1 61
July-06	20 92	19 47	1 45
August-06	20 92	19 45	1 47
September-06	20 92	19 38	1 54
October-06	20 92	19 05	1 87
November-06	20 92	NR	NR
December-06	20 92	19 32	1 60
January-07	20 92	19 31	1 61
February-07	20 92	19 61	1 31
March-07	20 92	19 61	1 31
July-07	20 92	19 60	1 32
December-07	20 92	19 40	1 52
April-08	20 92	19 60	1 32
June-08	20 92	19 60	1 32
September-08	20 92	18 21	2 71
November-08	20 92	17 52	3 40
March-09	20 92	18 06	2 86
June-09	20 92	17 54	3 38
August-09	20 92	17 91	3 01
December-09	20 92	18 31	2 61
March-10	20 92	18 44	2 48
June-10	20 92	18 81	2 11
September-10	20 92	18 31	2 61
December-10	20 92	19 36	1 56
January-11	20 92	19 56	1 36
May-11	20 92	19 00	1 92
February-12	20 92	17 17	3 75

Table 1 (continued)
Liquid Head Measurements: Wells N-4 and N-5
Truax Landfill Gas Extraction System

MONITORING ROUND (Month-Year)	TOTAL WELL DEPTH (feet)	DEPTH TO LIQUID (feet)	LIQUID HEAD (feet)
N-5 (WDNR ID #649)			
January-05	18.68	17.27	1.41
February-05	18.68	18.16	0.52
March-05	18.68	18.13	0.55
April-05	18.68	18.44	0.24
May-05	18.68	18.39	0.29
June-05	18.68	18.34	0.34
July-05	18.68	18.33	0.35
August-05	18.68	18.27	0.41
September-05	18.68	17.34	1.34
October-05	18.68	17.55	1.13
November-05	18.68	17.45	1.23
December-05	18.68	17.46	1.22
January-06	18.68	17.35	1.33
February-06	18.68	17.46	1.22
March-06	18.68	17.42	1.26
April-06	18.68	17.47	1.21
May-06	18.68	17.46	1.22
June-06	18.68	17.47	1.21
July-06	18.68	17.43	1.25
August-06	18.68	17.48	1.20
September-06	18.68	17.15	1.53
October-06	18.68	17.15	1.53
November-06	18.68	NR	NR
December-06	18.68	17.37	1.31
January-07	18.68	17.21	1.47
February-07	18.68	17.26	1.42
March-07	18.68	17.26	1.42
July-07	18.68	17.23	1.45
December-07	18.68	17.20	1.48
April-08	18.68	17.20	1.48
June-08	18.68	17.20	1.48
September-08	18.68	16.54	2.14
November-08	18.68	16.15	2.53
March-09	18.68	16.64	2.04
June-09	18.68	17.30	1.38
August-09	18.68	17.56	1.12
December-09	18.68	17.42	1.26
March-10	18.68	16.38	2.30
June-10	18.68	16.38	2.30
September-10	18.68	16.24	2.44
December-10	18.68	16.58	2.10
January-11	18.68	16.58	2.10
May-11	18.68	16.90	1.78
February-12	18.68	16.32	2.36

"NR" = No Reading taken (data not available)

Notes:

1. The monitoring frequency was reduced from monthly to quarterly per the February [illegible] 2007 WDNR Approval Letter

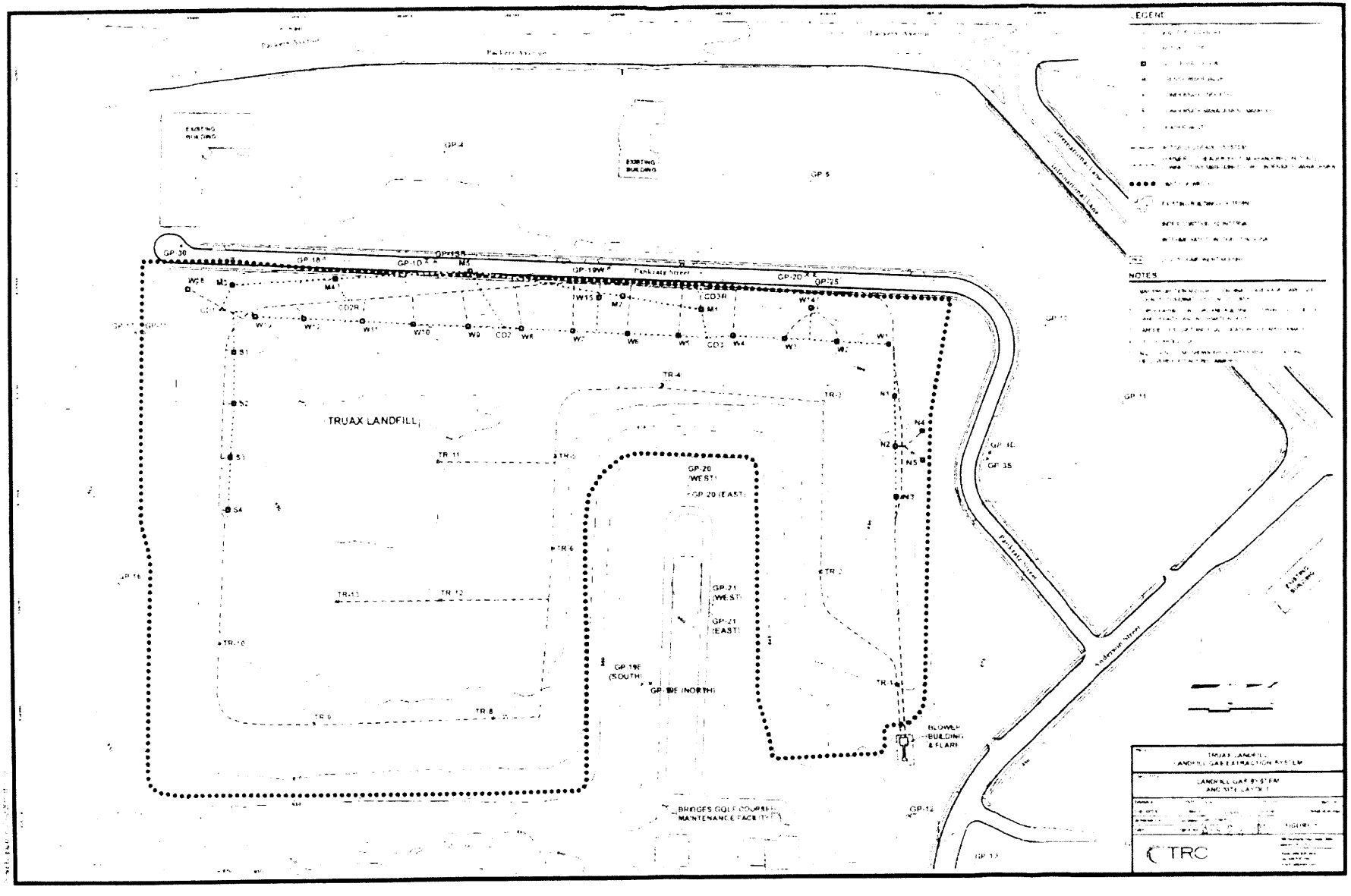

TRUAX LANDFILL
GP-4
GP-5
GP-11
GP-12
GP-13
GP-15
GP-16
GP-18
GP-19E (SOUTH)
GP-19E (NORTH)
GP-19W
GP-20 (WEST)
GP-20 (EAST)
GP-21 (WEST)
GP-21 (EAST)
GP-25
GP-30
GP-35
TR-1
TR-2
TR-3
TR-4
TR-5
TR-6
TR-7
TR-8
TR-9
TR-10
TR-11
TR-12
TR-13
Pankratz Street
Anderson Street
International Lane
BRIDGES GOLF COURSE MAINTENANCE FACILITY
BLOWER BUILDING & FLARE
EXISTING BUILDING
LEGEND
NOTES
TRC

Exhibit 5

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN DEPT. OF NATURAL RESOURCES

MAY 31 2012

Mr. Mike Kirchner
Dane County Regional Airport
4000 International Lane
Madison, WI 53704-3120

File Ref: FID #113183620
Dane County
SW Approval

Subject: Expedited Plan Modification request for the Dane County Truax Landfill, WDNR Lic # 03306

Dear Mr. Kirchner:

We have reviewed, and approved the expedited plan modification request that we received on April 23, 2012 from TRC regarding the reduction in reporting frequency, condensate monitoring, and monitoring of the blowers.

Currently the Dane County Truax landfill submits quarterly and annual reports to the Department. In the future Dane County will be allowed to consolidate the reporting requirements into two report submittals per year. The second request is to reduce the quarterly condensate monitoring at Gas Extraction wells N-4 & N-5 to semi-annually, and third request is to reduce the twice monthly monitoring of the Blower inlets and outlets to monthly.

If you have any questions regarding this letter please contact Tom Bennwitz at (608) 275-3211, or Jim Kralick at (608) 275-7769.

Sincerely:

Dennis Mack, P.E.
Waste Management Supervisor
South Central Region

Cc: Tom Bennwitz/Jim Kralick -- SCR
✓Curtis Madsen, P.E. TRC

SCHEDULE B
SCHEDULE OF RATES AND CHARGES

PROJECT TEAM MEMBER	PROJECT ROLE	YEAR 1 OF CONTRACT HOURLY RATES
Curt Madsen	Project Manager	$159.00
Roxanne Wienkes/Dave Engstrom	Technical Coordinators	$85.00
John Roelke	Engineering Technician	$76.00
Peggy Popp	Database Management	$89.00
James Wedekind	Hydrogeology/Quality Assurance	$159.00

TRC Environmental 2016 Standard Rate Schedule

CODE	TRC LABOR CLASSIFICATION/CATEGORY	HOURLY LABOR RATE
	PRINCIPAL/PRINCIPAL SCIENTIST/PRINCIPAL ENGINEER	
A4	Level IV	$278
A3	Level III	241
A2	Level II	214
A1	Level I	198
	PROJECT MANAGER	
B4	Level IV	$193
B3	Level III	171
B2	Level II	150
B1	Level I	132
	SENIOR SCIENTIST/PLANNER/ENGINEER	
C4	Level IV	$182
C3	Level III	164
C2	Level II	141
C1	Level I	117
	SCIENTIST/PLANNER/ENGINEER	
D4	Level IV	$112
D3	Level III	97
D2	Level II	85
D1	Level I	74
	DESIGNER/TECHNICIAN/INSPECTORS	
E4	Level IV	$97
E3	Level III	84
E2	Level II	64
E1	Level I	43
	DRAFTING/CADD/GIS	
F4	Level IV	$112
F3	Level III	97
F2	Level II	75
F1	Level I	64
	PROJECT SUPPORT/CLERICAL	
G4	Level IV	$102
G3	Level III	80
G2	Level II	64
G1	Level I	54

(1) A 15% ODC Mark-up will be added to non-labor costs and expenses/ODCs to address client insurance, AP processing, procurement, contracting, and client warrantee of performance.
(2) A 6% Communication Fee will be applied to all labor charges in lieu of separate reimbursement for routine photocopying, faxing, computer usage, telephone charges, and routine postage costs.
(3) Overtime rates will apply to non-exempt (hourly) staff in conformance with applicable law.
(4) All TRC rates are subject to an annual calendar year escalation.
(5) All invoicing will apply TRC billing rates in conformance with the rate schedule in effect at the time of the services.
(6) This rate table is not to be used for Litigation or Litigation Support Services.

SCHEDULE C
SCHEDULE OF ANNUAL AND MONTHY CHARGES

PROJECT TASK	AVERAGE MONTHLY TOTAL	ANNUAL TOTAL
Year 1: Gas System Monitoring; Regulatory Reporting/Data Management; Inspection & Blower/Flare Startup	$2,513.33	$30,160.00
Year 1: Condensate Line Cleaning	$76.67	$920.00
YEAR 1 TOTAL	**$2,590.00**	**$31,080.00**
YEAR 2 TOTAL	**$2,628.85**	**$31,546.20**
YEAR 3 TOTAL	**$2,668.28**	**$32,019.39**
YEAR 4 TOTAL	**$2,708.31**	**$32,499.68**
YEAR 5 TOTAL	**$2,748.93**	**$32,987.18**

Upon receipt of an invoice, COUNTY will make payment to ENGINEER on a monthly basis in the amount of the applicable Average Monthly Total set forth above.

SCHEDULE D

TITLE VI LIST OF PERTINENT NONDISCRIMINATION ACTS AND AUTHORITIES

During the performance of this Agreement, ENGINEER and, its assignees, and successors in interest shall comply with the following non-discrimination statutes and authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38);
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, reasonable steps must be taken to ensure that LEP persons have meaningful access to covered programs (70 Fed. Reg. at 74087 to 74100); and
- Title IX of the Education Amendments of 1972, as amended (prohibits discrimination because of sex in education programs or activities (20 U.S.C. 1681 et seq)).