

AUG 28 2014



APPLICATION FOR A COASTAL ZONE ACT PERMIT

**State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary**

August 22, 2014 – REV. 4
42 Lukens Drive, New Castle DE Recycling Facility Application
Green Recovery Technologies, LLC

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Permit Application Instructions

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.
2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.
3. Submit eight complete hard copies of the permit application to:

Office of the Secretary
Department of Natural Resources & Environmental Control
State of Delaware
89 Kings Highway
Dover, DE 19901

- In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.
4. Comply, if required, or as requested by the DNREC Secretary, with 7 Delaware Code, Chapter 79, Section 7902. If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.
 5. Be sure to include your permit application fee of \$3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."
 6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act (29 Delaware Code, Chapter 100) and DNREC's Freedom of Information Act Regulation, Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.

PART 1

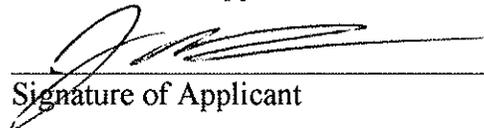
CERTIFICATION BY APPLICANT

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

Green Recovery Technologies, LLC
Print Name of Applicant


Signature of Applicant

CTO
Title

08.22.2014
Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 Identification of the applicant:

Company Name: Green Recovery Technologies, LLC
Address: 42 Lukens Drive, Suite 100, New Castle, DE 19720
Telephone: (302) 691-7458
Fax: (610) 444-9754

2.2 Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.

Joe Caulfield
Chief Technology Officer
(302) 691-7468
jcaulfield@greenrecoverytech.com

2.3 Authorized agent (if any):

Name: Patrick Heringslack, Verrico Associates
Address: 137 West State Street, Kennett Square, PA 19348
Telephone: (610) 444-9752
Fax: (610) 444-9754

If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.

See attachment 00.

2.4 Project property location (street address):

42 Lukens Drive, Suite 100
New Castle, DE 19720

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site.

See attachment 01-A.

2.6 Is the applicant claiming confidentiality in any section of their application?

NO

If yes, see instructions on page 3.

PART 3
PROJECT SUMMARY

Provide a one-page summary describing the proposed project. Include a brief quantitative description of the anticipated environmental impacts, and how the Environmental Offset Proposal will “clearly and demonstrably” more than offset any negative impacts.

GRT’s Process

Inputs:

4,200 lbs per hour of a previously rendered, comingled stream of protein and lipids from the poultry processing industry. This consists of 69% lipids, 29% protein and 2% moisture in a solid-based format. The nature of this stream is not related to traditional “sludge” but more of a solid material since it’s so low in moisture. It is also bio-inactive and free of biological contaminants as determined via 3rd party testing prior to delivery to GRT’s site. This is delivered in a super sack format on a box trucks. Estimated traffic is 2 trucks/day.

Process:

A small quantity of liquefied flammable gas is used as a solvent to separate the protein fraction from the lipid fraction. This is done in a nitrogen-blanketed environment to prevent process upsets. The solvent is run in a closed, full cycle system with a full solvent recovery process embedded.

Outputs:

A high purity protein stream (free of oil) is produced and bagged in super sacks under a negative air filtration system. This is shipped out in box trucks at less than 1 truck per day.

A high purity lipid stream (free of proteins) is produced and output directly to a tanker truck in a closed, piped environment. This is shipped out at 2 tanker trucks per day.

Water is also produced as waste stream. This is from the incoming moisture from the input stream and the condensate from process steam consumed during the operation. This is piped to the city sewer and is monitored using a detector station at the outfall.

Boiler air emissions from the 7.2MM BTU boiler are output. This is under the permit-required threshold 15MM BTU.

Nitrogen from the process is discharged to the air at a rate of 60 SCFH (std. cubic feet/hour), along with additional separated air components. This nitrogen is separated using on-site process nitrogen generators. The process takes air, compresses it, runs it through a membrane that splits the nitrogen from the oxygen, and exhausts the oxygen out as a pure O₂ vent. The nitrogen goes out as well after purging the vent lines. Thus net nitrogen usage and emission is zero since the process converts atmospheric air into nitrogen and other components, then releases it again with no additional contaminants.

Environmental Impacts

Water - No negative environmental impacts are expected from the GRT process. The output of water will be potable from city sewer standards, as it will be steam condensate or distilled during the process.

Air -Greenhouse gas related emissions are limited to sulfur oxide and nitrogen oxide gasses from standard boiler emissions. The boiler emissions will be offset at a 1.3:1 ratio with air credits. Nitrogen emissions will be net zero, as the air separation performed onsite will result in release of nitrogen, oxygen and other existing air components at the same quantities as atmospheric air.

Solid Waste - Office solid waste will be generated at 1.5 lbs per employee per day based on DNREC guidelines, as shown in <http://www.dnrec.state.de.us/del-offc.htm>. With 15 office/administrative employees (maximum) projected, this comes to a daily rate of 22.5 lbs. of solid waste per day or (50 weeks X 5 days x 22.5 lbs) 5,625 lbs. This will be offset through office recycling and solid waste recycling programs described in the offset proposal. Packaging waste will be completely recycled with pallets being reused and supersacks being returned and recycled with the manufacturer.

NOTE: Please review Attachment 11 Environmental Offset Proposal for detailed quantitative analysis of impacts (and associated offsets).

PART 4

**PROJECT PROPERTY RECORD AND
EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL**

PROJECT PROPERTY RECORD

4.1 Name and address of project premises owner(s) of record:

Riveredge II LLC
300 Water Street, Suite 300
Wilmington, DE 19801

4.2 Name and address of project premises equitable owner(s):

Riveredge II LLC
300 Water Street, Suite 300
Wilmington, DE 19801

4.3 Name and address of lessee(s):

Green Recovery Technologies LLC
42 Lukens Drive Suite 100
New Castle, DE 19720

4.4 Is the project premises under option by permit applicant?

YES

4.5 What is the present zoning of the land for this entire project site?

The current property is zoned Heavy Industrial (HI). See attachment 02 for official documentation.

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

See Attachment 02 in lieu of form below.

I, _____, for _____
(Name of County, City of Town)

do hereby affirm that the project proposed by _____
(Name of Applicant)

located at _____, in
(Address)

the _____ zoning district is in

full compliance with the zoning code as it applies to this project.

The above named applicant's project is in compliance with the adopted comprehensive development plan for the geographic area within which the project will be located.

(Signature)

(Title)

(Date)

This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate "evidence of local zoning approval," provided such documents are signed and dated by the proper official.

PART 5

PROJECT OPERATIONS

- 5.1 Describe the characteristics of the manufactured product and all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):
- a. the raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available;

Raw materials:

A rendered, comingled stream of protein and lipids from the poultry processing industry. This consists of 69% lipids, 29% protein and 2% moisture in a solid-based format.

Intermediate products:

Liquefied gas (used for fractionation), separated nitrogen (used to prevent process upsets).

Final products:

A *high purity protein stream* (free of oil) is produced and bagged in super sacks under a negative air filtration system.

A *high purity lipid stream* (free of proteins) is produced and output directly to a tanker truck in a closed, piped environment.

- b. the step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures;

See Attachment 03

- c. the nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling;

Special handling requirements apply only to fractionation gas. This will be handled in a nitrogen-blanketed environment.

- d. list the machinery (new and/or existing) to be utilized by this project;

See Attachment 04

- e. list any new buildings or other facilities to be utilized;

Not applicable. No new buildings will be constructed.

- f. list the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations;

1,000 gallon aboveground liquefied gas storage tank, appropriately secured and monitored, below regulatory thresholds.

- g. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production?

Not applicable. Application will not increase or decrease any existing facility's capacity.

- h. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate?

Production rate for *high purity protein stream* will be less than 1 truck of supersacks per day.

Production rate for *high purity lipid stream* will be a maximum of 2 tanker trucks per day.

The maximum theoretical production rate is 2.5 tons/hour (per the transportation/export thresholds above)

5.2 Describe daily hours of plant operations and the number of operating shifts.

3 shifts per day, 5 days per week (M-F) for production.

2 shifts per day on weekends to monitor process equipment, perform maintenance and other activities associated with operations (non-production).

5.3 Provide a site plan of this project with:

- a. a north arrow;
- b. a scale of not less than one inch to 200 feet;
- c. identity of the person responsible for the plan, including any licenses and their numbers;
- d. the acreage of the applicant's entire property and acreage of the proposed project;
- e. property lines of entire property;

- f. lines designating the proposed project area for which application is being made, clearly distinguished from present facilities and operating areas (if any);
- g. existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities;
- h. existing water bodies and wetlands and proposed dredge and fill areas, and;
- i. existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

See Attachments 01-A, 05 and 06.

5.4 How many acres of land in total are required for this proposed project?

Existing/ currently utilized/ developed land: 0.50 acres.

New land: 0.50 acres.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program.

This property has not been involved with a state or federal site cleanup program.

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued by the Department? If so are the planned construction activities consistent with the requirements or conditions stated in these documents?

This property has not been involved with a state or federal site cleanup program.

PART 6A

ENVIRONMENTAL IMPACTS

Air Quality

- 6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	<i>Lbs/day</i>	<i>Tons/year</i>	<i>Lbs/day</i>	<i>Tons/year</i>	<i>Lbs/day</i>	<i>Tons/year</i>	
None	NA	NA	NA	NA	NA	NA	NA

- 6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error.

Nitrogen system is monitored via closed loop control & automatically shuts down in the event of a malfunction. Moreover, this is nitrogen generated from atmospheric air separators and any emissions include released oxygen and other air components.

- 6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1.

Minimal sized boiler used to prevent unnecessary emissions. Boiler emissions have been offset with credits purchased through DEDO.

- 6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.)

All reviews and commensurate control advice has been provided by Verrico Associates (Verrico), authorized CZA agent and environmental, health, safety and security (EHS&S) consultant. Verrico has been in the EHS&S business for over 20 years, and Associates include former Coastal Zone Commissioner Donald J. Verrico and a number of additional regulatory experts and associates. In addition, the organization has met with the DNREC Regulatory Advisory Service (RAS) to review and verify its plans and necessary EHS&S expertises.

The necessary pollution controls will be operated by certified operators and serviced by licensed contractors as applicable.

Verrico Associates' Statement of Qualifications is provided as attachment 10.

Water Quality

- 6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations:

There will be no wastewater discharge.

Pollutant	Current Discharge Concentration (ppm)	New or Changed Discharge Concentration (ppm)	Current Discharge		Net Increase/Decrease		New Total Emissions	
			Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year
NA								

- 6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project.

Site uses the county sewer for employee sanitary wastewater disposal and no changes are required.

- 6.7 Identify the number, location, and name of receiving water outfall(s) of any and all process wastewater discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected.

Not applicable, no NPDES Permit is required.

- 6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program.

No pretreatment for steam condensate, employee sanitary wastewater and input stream moisture.

- 6.9 Stormwater:

a. Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge.

b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc).

One facility roof, parking lot and loading dock. All sources are consistent with existing facility and no permit is required.

c. Describe the amount of stormwater run-off increase over current levels that will result from the proposed project.

There will be no increase in stormwater run-off due to the proposed project.

- d. Describe any pollutants likely to be in the stormwater.
- e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge.
- f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient.

There will be no change in stormwater as no new impervious surfaces will be added as part of this project, moreover no pollutants/pollutant sources will be added to the external areas of the facility where stormwater could be effected.

- 6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?

NO

If yes, state:

- a. the volume of water to be withdrawn, and;
- b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.

- 6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?

NO

If yes, state:

- a. the volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;
- b. how warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?
- c. the equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.

- 6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedence of applicable criteria appearing in the "State of Delaware Surface Water Quality Standards"?

NO

If yes, explain:

6.13 Describe any oils discharged to surface waters due to this proposed project.

No oils will be discharged.

6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.

No settleable or floating solid wastes will be discharged to surface waters.

6.15 Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 5.5 through 5.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.)

No water pollution control equipment is necessary.

6.16 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors.

Boiler makeup water 2.5 gpm, cooling tower 15 gpm. This will be consistent during production days (M-F). Maximum water usage not expected to exceed 25,000 gallons per day total. Expected production fluctuations and normal downtime indicate that water usage should be closer to 20,000 gallons per day (M-F).

Maximum expected water use not expected to vary seasonally and water usage will be limited during non-production times.

6.17 Identify the source of water needed for the proposed project, including potable water supplies.

Municipal water supplied by Artesian

6.18 Are wells going to be used?

NO

If yes:

- a. Identify the aquifer to be pumped and the depth, size and pumping capacity of the wells.
- b. Has a permit been applied for to do this?
- c. How close is the proposed well(s) to any well(s) on adjacent lands?

Solid Waste

6.19 Will this project result in the generation of any solid waste?

YES

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s).

Office waste will be recycled to the extent possible. Packaging waste will be reused/recycled with manufacturer.

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

YES

If yes, describe:

100% of feedstock solids will be reclaimed in the final product. Packaging wastes will be recycled with manufacturer. Office paper and other waste will be recycled in appropriate bins, collected by waste disposal company.

6.21 Will any waste material generated by this project be destroyed on-site?

NO

If yes, how will that be done?

Hazardous Waste

- 6.22 Will this proposed project result in the generation of any hazardous waste as defined by the “Delaware Regulations Governing Hazardous Waste”?

NO

If yes, identify each hazardous waste, its amount, and how it is generated:

- 6.23 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized.

No hazardous waste will be transported.

- 6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

NO

If yes, describe:

- 6.25 Does the applicant currently generate any hazardous waste at this site?

NO

If yes, describe:

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?

The land is currently an industrial park.

6.27 Will the proposed project result in the loss of any wetland habitat?

NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?

NO

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.29 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?

NO

If yes, how many acres?

6.30 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?

NO

If yes, list each species:

6.31 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act)?

NO

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site?

An environmental survey of the facility and grounds was complete and did not identify any threatened or endangered species.

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways.

There will be no filling, dredging or draining.

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal?

Dredging is not proposed.

Other Environmental Effects

- 6.35 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects.

There will be no noticeable effects of the operation on heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects

- 6.36 Describe what will be done to minimize and monitor such effects.

None anticipated, but production operations will be responsible for monitoring other environmental effects and proposing corrective actions

- 6.37 Describe any effect this proposed project will have on public access to tidal waters.

There will be no change to tidal water access due to this proposed project.

- 6.38 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents.

Storage tank and process equipment handling chemicals are contained in a diked area and any chemical discharge resulting from a malfunction are contained in the spill zone

- 6.39 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error.

The diking and tank protection applies to all water impact. Air impact of nitrogen due to error or malfunction is contained through automatic shutoff devices.

PART 6B

ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the “Regulations Governing Delaware’s Coastal Zone”?

NO

If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.

PART 6C

ENVIRONMENTAL OFFSET PROPOSAL

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish:

The attached spreadsheet quantifies the offset created by the GRT process to divert animal wastes from landfill disposal. This is intended to offset the solid wastes from office/administrative activities (“trash”) and the emissions from the boiler.

- A. A qualitative and quantitative description of how the offset project will “*clearly and demonstrably*” more than offset the negative impacts from the proposed project.

See Attachment 11: “Environmental Offset Proposal”

- B. How and in what period of time the offset project will be carried out.

The offset will be completed during the first 18 months of operation. After scale-up and testing, it is expected that evidence of product diversion from Delaware landfills will be realized by December 31, 2015 at the latest.

- C. What the environmental benefits will be and when they will be achieved.

Environmental benefits: The environmental benefits will be realized immediately due to purchasing DEDO offsets at a ratio of 1.3:1.

- D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.

Emission credits used by DEDO in the past have shown immediate and long lasting benefits to the coastal zone.

- E. How the success or failure of the offset project will be measured in both the short and long term.

DEDO credits have been proven as a viable method to offset emissions from within the coastal zone. These impacts will be immediate in both the short and long term.

- F. What, if any, negative impacts are associated with the offset project.

None.

- G. How the offset will impact the attainment of the Department's environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.

Retirement of DEDO credits will aid DE in meeting its environmental goals. In addition, the facility at 42 Lukens has the potential to further clean up DE by taking in poultry waste generated within the state and turning it into a viable feed material.

Additional Offset Proposal Information for the Applicant

1. The offset proposals must “*clearly and demonstrably*”¹ more than offset any new pollution from the applicant’s proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.
2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (<http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm>, or by clicking on [this link](#). On page one, the applicant must list all environmental impacts in the column labeled “Describe Environmental Impacts.” In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the “Describe Environmental Offset Proposal” column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.
3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

¹ For purposes of this requirement, the DNREC will interpret the phrase “clearly and demonstrably” to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

PART 7

ECONOMIC EFFECTS

Construction

- 7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.
- 60 construction workers, spanning framing, HVAC, piping, mechanical, electrical, concrete, crane trades
- 7.2 Estimate the weekly construction payroll.
- Estimated construction payroll of \$1,500,000
- 7.3 Estimate the value of construction supplies and services to be purchased in Delaware.
- Estimated value is \$1,900,000.
- 7.4 State the expected dates of construction initiation and completion.
- Start July 1, 2014 completed by October 1, 2014
- 7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers).
- There will be no negative economic impact due to loss of habitat, water/air quality or other issues related to the facility.

Operations

- 7.6 State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states.

GRT payroll will consist of 30 employees, 22 of which will be from Delaware and 8 from other states

- 7.7 If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved.

There will be no seasonal variation in staffing levels.

- 7.8 Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project:

<u>Wage/salary</u>	<u>Percent of employees</u>
<\$10,000	
\$10,000-14,999	
\$15,000-24,999	40%
\$25,000-34,999	
\$35,000-49,999	5%
\$50,000-64,999	5%
\$65,000-74,999	10%
\$75,000-99,999	10%
>\$100,000	30%

- 7.9 Estimate the annual taxes to be paid in Delaware attributable to this proposed project:

State personal income taxes:	\$150,000
State corporate income taxes	\$200,000
County and school district taxes:	\$0
Municipal taxes:	\$10000

PART 8

SUPPORTING FACILITIES REQUIREMENTS

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to:

- a. Roads
- b. Bridges
- c. Piers and/or docks
- d. Railroads
- e. Microwave towers
- f. Special fire protection services not now available
- g. Traffic signals
- h. Sewer expansion
- i. Energy related facilities expansion
- j. Pipelines

There will be no new supporting facilities and services required to support the proposed project.

PART 9

AESTHETIC EFFECTS

- 9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers).

Site is located in an industrial park well away from an outside view.

- 9.2 Is the project site location within a half mile of a place of historic or scenic value?

There are no historic or scenic places of value within half a mile of the facility.

- 9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening.

The site is in an industrial park and the planned project will be consistent with the current industrial park setting.

PART 10

EFFECTS ON NEIGHBORING LAND USES

- 10.1 How close is the nearest year-round residence to the site of this proposed project?

Within 1 mile of the site.

- 10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources?

The site will not interfere with existing public or private recreational facilities or resources.

- 10.3 Will the proposed project utilize or interfere with agricultural areas?

The proposed project will not utilize or interfere with agricultural areas.

- 10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use?

No, it will continue to operate within the industrial park setting, and truck traffic will not be unusual considering current occupied use.

END OF APPLICATION

ATTACHMENTS TO FOLLOW

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant: Green Recovery Technologies, LLC
 Project: 42 Lukens Drive, New Castle DE Recycling Facility
 CZA Offset Review Reference: (DNREC Only)

Page 1 of 3
 Application Date: August 22nd, 2014
 Amendments: Rev 4
 Offset Review Date: (DNREC Use Only)
 Matrix Amended: August 22, 2014

ENVIRONMENTAL IMPACTS	(Applicant's Use) DESCRIBE ENVIRONMENTAL IMPACTS	PAGE NO.	(Applicant's Use) DESCRIBE ENVIRONMENTAL OFFSET PROPOSAL ¹	PAGE NO.	(DNREC Use Only) OFFSET SUFFICIENCY Yes, No or N/A
Air Quality (Applicant to List Below by Parameter)					
NOx	10,057 lbs. emitted annually from boiler operation	2		3	
CO	4,446 lbs. emitted annually from boiler operation	2		3	
CO ₂	6,351,586 lbs. emitted annually from boiler operation	2		3	
N ₂ O	116 lbs. emitted annually from boiler operation	2		3	
SO ₂	32 lbs. emitted annually from boiler operation	2		3	
TOC	582 lbs. emitted annually from boiler operation	2		3	
Methane	122 lbs. emitted annually from boiler operation	2		3	
VOC	291 lbs. emitted annually from boiler operation	2		3	
Water Quality	No water quality impacts are expected				
Surface					
Groundwater					
Water Quantity	No water quantity impacts expected				

7 tons of ozone seasoned Nox provided by DEDO as an offset clearly and demonstrably offset emissions from the small boiler. This also provides a ratio of 1.3:1 which is consistent with previous coastal zone regulations. When the system is proven successful, it will provide additional benefits by diverting waste material into a viable food stock.

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant: Green Recovery Technologies, LLC
 Project: 42 Lukens Drive, New Castle DE Recycling Facility
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Page 1 of 3
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Surface					
Groundwater					
Water Use For:	(normal volumes)				
Processing					
Cooling					
Effluent Removal					
Solid Waste	Office wastes/administrative wastes of 5,625 lbs./year	2	Office waste recycling program	NA	
Hazardous Waste	No hazardous waste impacts expected				
Habitat	No habitat impact expected - will use existing industrial area footprint				
Wetlands					
Flora Fauna					
Drainage/Flood Control	No change in drainage/flood control				
Erosion ²	No change in erosion				

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant: Green Recovery Technologies, LLC

Page 1 of 3

Project: 42 Lukens Drive, New Castle DE Recycling Facility

Application Date: August 22nd, 2014

CZA Offset Review Reference: (DNREC Only)

Amendments: Rev 4

Offset Review Date: (DNREC Use Only)

Matrix Amended: August 22, 2014

ENVIRONMENTAL IMPACTS	(Applicant's Use) DESCRIBE ENVIRONMENTAL IMPACTS	PAGE NO.	(Applicant's Use) DESCRIBE ENVIRONMENTAL OFFSET PROPOSAL ¹	PAGE NO.	(DNREC Use Only) OFFSET SUFFICIENCY Yes, No or N/A
Land Use Effects	No change in land use				
Glare					
Hent					
Noise					
Odors					
Vibration					
Radiation					
Electro-Magnetic Interference					
Other Effects					
Threatened & Endangered Species	No threat to any endangered/threatened species				
Impacts From:	No impact from production - raw material through final product				
Raw Material					
Intermediate Products					
By-Products					
Final Products					

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant: Green Recovery Technologies, LLC

Page 1 of 3

Project: 42 Lukens Drive, New Castle DE Recycling Facility

Application Date: August 22nd, 2014

CZA Offset Review Reference: (DNREC Only)

Amendments: Rev 4

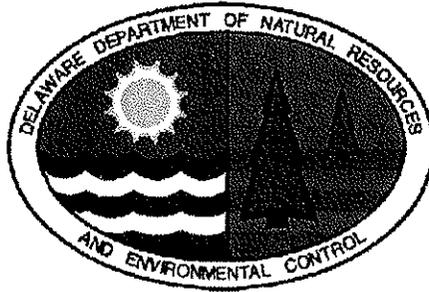
Offset Review Date: (DNREC Use Only)

Matrix Amended: August 22, 2014

ENVIRONMENTAL IMPACTS	(Applicant's Use) DESCRIBE ENVIRONMENTAL IMPACTS	PAGE NO.	(Applicant's Use) DESCRIBE ENVIRONMENTAL OFFSET PROPOSAL ¹	PAGE NO.	(DNREC Use Only) OFFSET SUFFICIENCY Yes, No or N/A

1 See paragraph I.1.b in "Secretary Assessment"

2 Construction and normal operation



APPLICATION FOR A COASTAL ZONE ACT PERMIT

**State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary**

August 22, 2014 – REV. 4
42 Lukens Drive, New Castle DE Recycling Facility Application
Green Recovery Technologies, LLC

Surface								
Groundwater								
Water Use For:								
Processing								
Cooling								
Effluent Removal								
Solid Waste		Office wastes/administrative wastes of 5,625 lbs./year	2	Office waste recycling program			NA	
Hazardous Waste		No hazardous waste impacts expected						
Habitat		No habitat impact expected - will use existing industrial area footprint						
Wetlands								
Flora Fauna								
Drainage/Flood Control		No change in drainage/flood control						
Erosion ²		No change in erosion						
Land Use Effects		No change in land use						
Glare								
Heat								
Noise								
Odors								
Vibration								
Radiation								
Electro-Magnetic Interference								
Other Effects								

Threatened & Endangered Species	No threat to any endangered/threatened species								
Impacts From:	No impact from production - raw material through final product								
Raw Material									
Intermediate Products									
By-Products									
Final Products									

1 See paragraph I.1.b in "Secretary Assessment"

2 Construction and normal operation

May 23, 2014

To Whom It May Concern:

Verrico Associates is authorized to act on behalf of Green Recovery Technologies, LLC related to the Coastal Zone permit application process for 42 Lukens Drive in New Castle, Delaware.

Sincerely,


Signature

Joe Caulfield
Printed Name

CTO
Title

Green Recovery Technologies, LLC

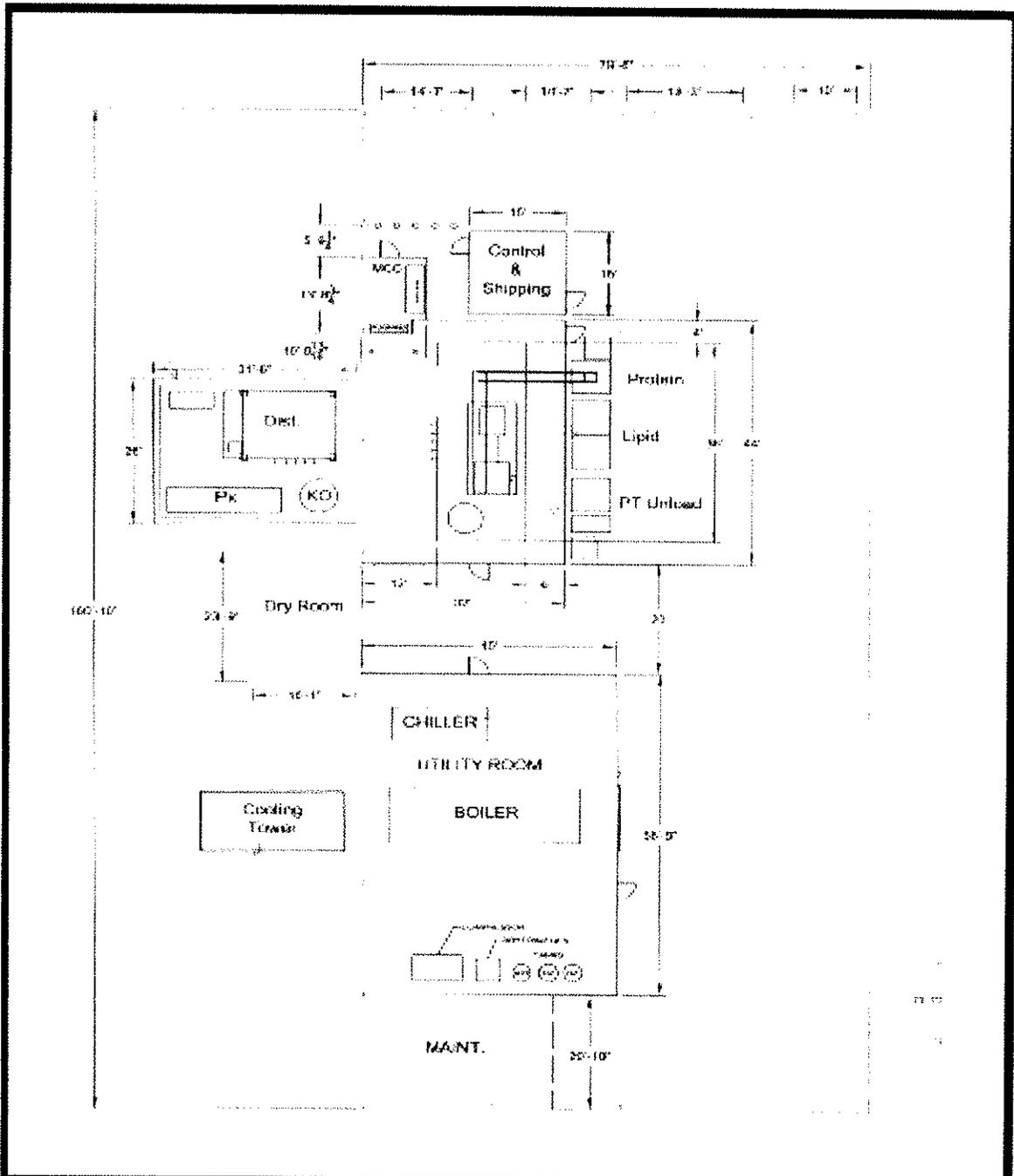


Figure 3 – Conceptual Process Design

Green Recovery Technologies, 42 Lukens Drive, New Castle, DE

<p>Date: November 2013</p>	<p>Map Scale: GRT, LLC, 2013</p>	<p>Scale: As Noted</p>
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Department of Land Use

February 5, 2014

**In reply, refer to:
2014-0037-V
42 Lukens Drive**

Alan G. Steinle, P.E.
VanDemark & Lynch, Inc.
4305 Miller Road
Wilmington, DE 19802

Dear Alan Steinle,

The New Castle County Department of Land Use is in receipt of your request for a verification of zoning and use for tax parcel number 10-015.40-357, which is located at 42 Lukens Drive in New Castle, Delaware.

A review of the Official Zoning Map of New Castle County indicates the subject parcel is zoned **HI (Heavy Industrial)**, which **permits heavy industrial uses, including animal food, meat product, and seafood product manufacturing**, pursuant to Table 40.03.110 and Section 40.33.270.C of the *New Castle County Code*. No variances or building or zoning code violations were found for the subject parcel in a search of the County tax parcel information system. **Please note that the proposed foundations constitute impervious cover, the maximum allowable of which in a Class C Wellhead area is fifty (50) percent. The applicant is encouraged to submit evidence that the proposed foundation will not cause the site to exceed the maximum allowable impervious cover.**

A Record Resubdivision Plan for Riveredge II and Lot 7, Riveredge Park (microfilm number 9954) was recorded in the Office of the Recorder of the Deeds for New Castle County on August 10, 1989. The approval and recordation of this plan indicate compliance with the subdivision and zoning code regulations in effect at that time. Any new construction or changes in use to that shown on the record plans will require compliance with current UDC regulations. A Record Minor Subdivision and Land Development Plan for Riveredge VI & VII (microfilm number 10384) was recorded in the Office of the Recorder of the Deeds for New Castle County on May 4, 1990. While this plan does not depict the subject property, it did vacate the Venture Court right-of-way, which has the effect of eliminating the street yard setback that would have impacted 42 Lukens Drive. A copy of the recorded plan is enclosed for your information as well.

Please be advised that this letter only verifies whether the type of use that exists or is proposed on the site – to the extent you described it in your zoning verification application – is permitted, not permitted, or permitted under limited circumstances in the zoning district. **This letter is not**

a permit and does not offer any guarantee that any other required plans, applications, certifications, or variances for your project will be approved.

If your project involves an expansion of the existing use, a change of use, alterations to the building or site, demolition, or new construction, one or more permits may be needed before you can initiate the use. The following is a summary of Department of Land Use permits, certificates, and plans that may be required for your project:

Any new use or change of use in an existing building may require:

1. **Limited Use Permit.** If the existing or proposed use is identified as a "limited use" on the first page of this letter you will need to apply for a Limited Use Permit. This application must be accompanied by a site plan, or other supporting documentation, demonstrating that the special standards for that use are met. Refer to Articles 3 and 31 of the Unified Development Code for additional information.
2. **Certificate of Use.** To either institute a new use, or expand an existing use, in an existing building you must obtain a Certificate of Use. The Department will determine whether the building meets the BOCA Code (building code) and parking requirements for such use. Refer to Chapter 6, Article 2 of the *New Castle County Code* (Building and Property Regulations) for additional information.

Any new construction, or alteration or expansion of existing buildings and features on the site may require:

1. **Major or Minor Land Development Plan.** If your project will subdivide land or add more than 1,000 square feet of gross floor area, you must submit a major or minor land development plan. The plan will be reviewed for compliance with the land development criteria outlined in the Unified Development Code. During review of the plan, the Department may hold public hearings and may identify other applications, plans, studies, or permits that need to be submitted before development can commence. Refer to Article 31 of the Unified Development Code for general requirements.
2. **Parking Plan.** If your project requires installation, expansion, or reconfiguration of a parking lot, you will need to submit a parking plan. Refer to Articles 3 and 31 of the Unified Development Code for general requirements.
3. **Building Permit / Demolition Permit / Sign Permit.** If your project will involve altering or enlarging a building (including mechanical systems), demolishing all or part of a building, or installing new signs, you must obtain permits for those activities. During the review of these applications, the Department may identify other applications, plans, studies, or permits that need to be submitted before development can commence. Before the new or improved building can be inhabited, a **Certificate of Occupancy** must be secured from the Department. Refer to Chapter 6, Article 2 of the *New Castle County Code* (Building and Property Regulations) for additional information.

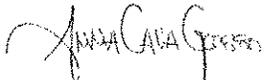
This summary of Department of Land Use permit applications is intended only for general informational purposes and is not intended to be inclusive of the comprehensive requirements contained in the *New Castle County Code*. Please be advised that some of the review processes

described above may also require recommendations or decisions from County boards (Planning Board, Historic Review Board, Board of Adjustment, and Resource Protection Area Technical Advisory Committee) or outside agencies. New Castle County must abide by regulations imposed on it by a variety of State and Federal agencies. Accordingly, any of the County permits described above may be subject to additional review processes that address environmental concerns; resource protection; public health, safety, and welfare; and a variety of other issues. In some cases, landowners may need to address the requirements of those agencies independently.

Landowners contemplating a change of use, future development, or alterations to buildings and land are encouraged to engage the services of an engineer, land surveyor, and/or attorney for advice on any physical constraints that may limit development of the property, and guidance on what permits may be needed to commence a new use or development.

General questions regarding the plan review process; building, demolition, and sign permits; and Certificates of Use/Occupancy, can be answered by the Department at 395-5400. Thank you for your attention to this matter.

Sincerely,



Anna Cava Grosso
Planner I

EQUIPMENT LIST

P&ID	TAG	SERVICE	DESCRIPTION	CAL RANGE/SPEC	MODEL/VENDOR	QTY	UOM
D202	V-501/V-505	PROCESS	Super Sack Unloader Station w/ flexers and 50 cu ft hopper		Flexicon	1	EA
D202	M-510	PROCESS	Lumpbreaker	5,000 lb/hr, 5 HP	Jersey Crushers	1	EA
D202		PROCESS	Transition to Seepex Pump with N2 purge		BJ Sheetmetal	1	EA
D202	MD-515/IV-515	PROCESS	Inline Metal Detector, 43" Display, SS NEMA 4X	High Sensitivity (3" DIA)	Fortress Phantom	1	EA
D202	P-515	PROCESS	Progressive Cavity Pump	10GPM, 175 PSI	Seepex	1	EA
D202			3" SS removable piping			1	LOT
D203	B-701	INSTRUMENT AIR	Air Compressor Package w/sound enclosure	40 HP	Kaeser	1	EA
D203	V-705	INSTRUMENT AIR	Air Receiver	TBD	Kaeser	1	EA
D203	B-706	INSTRUMENT AIR	Desicant Dryer		Kaeser	1	ea
D204	F-800A/B/C	NITROGEN	Nitrogen Generator		GRT SUPPLIED		
D204	V-830	NITROGEN	Pressure Relief tank - pressure vessel		Buckeye	1	EA
D204	V-810, V820	NITROGEN	N2 Holding Tank, valves, regulators etc	120 Gal, 200 PSI	Kaeser	2	lot
D205	T-750	COOLANT	Recirculation Tank-pressure vessel	1,000 gallons, 30 PSI Operating	Buckeye	1	EA
D205	E-750	COOLANT	Chiller		GRT SUPPLIED		
D205	P-750	COOLANT	Pump, centrifugal Distribution	377 GPM, 197 PSI, 75 HP	Armstrong(Chesapeake Systems)	1	
D205	P-760	COOLANT	Pump, centrifugal Recirculation	850 GPM, 40 PSI, 30 HP	Armstrong(Chesapeake Systems)	1	
D206	P-602	COOLING WATER	Pump, centrifugal	1,750 GPM, 75 PSI, 125 HP	Armstrong(Chesapeake Systems)	1	
D206	E-601	COOLING WATER	Cooling Tower				
D207	X-950/V-951	CONDENSATE	Boiler pre-treatment equipment, including feed tank, pumps, water softening, etc pre-skidded and prepiped		Shipco (Chesapeake Systems)	1	LOT
D207	E-950	STEAM	Boiler				
D207	E-965	GAS	Burner, Fan				
D207	X-951	CONDENSATE	Gas Heater	~1,300 lb/hr, 60 to 170 F			
D208	C-902	PROCESS	Chain-Vey 4" conveyor Line from Class I, Div II to Super Sack Loading	10 HP	Chain-vey (MPE)	1	EA
D208	V-910	PROCESS	Super Sack Filling Station w/scale		Taylor	1	EA
D208	V-901	PROCESS	Hopper w/screener		BJ Sheetmetal	1	EA
D208	VS-901	PROCESS	Vibratory Screener part of hopper V-901			1	EA
D208	RV-905	PROCESS	Rotary Valve		ACS (Jim Rutter)	1	EA
D208	MG-901	PROCESS	Manual Slide Gate w/limit sws		ACS (Jim Rutter)	1	EA
D208		PROCESS	Spout			1	ea
D208		PROCESS	flexible fill hose, 3/4" diameter, Special Caps for totes			2	EA
D208	V-450, V-451	PROCESS	(2) ISO tote Load Station w/scale		Force Flow	2	EA
D208	F-903	AIR	Dust Collector and stand		Flexicon	1	
D208	KG-901		Knife Gate				
D210	EP-100		Back up GENERATOR for HVAC		Generac	1	EA
D210	B-1000	AIR	Fan, Roof Mounted	7,822 CFM, 3HP	Twin City (Heaven)		
	x-1000		Duct Damper, Normally Open - fuseable link		Dayton	4	ea

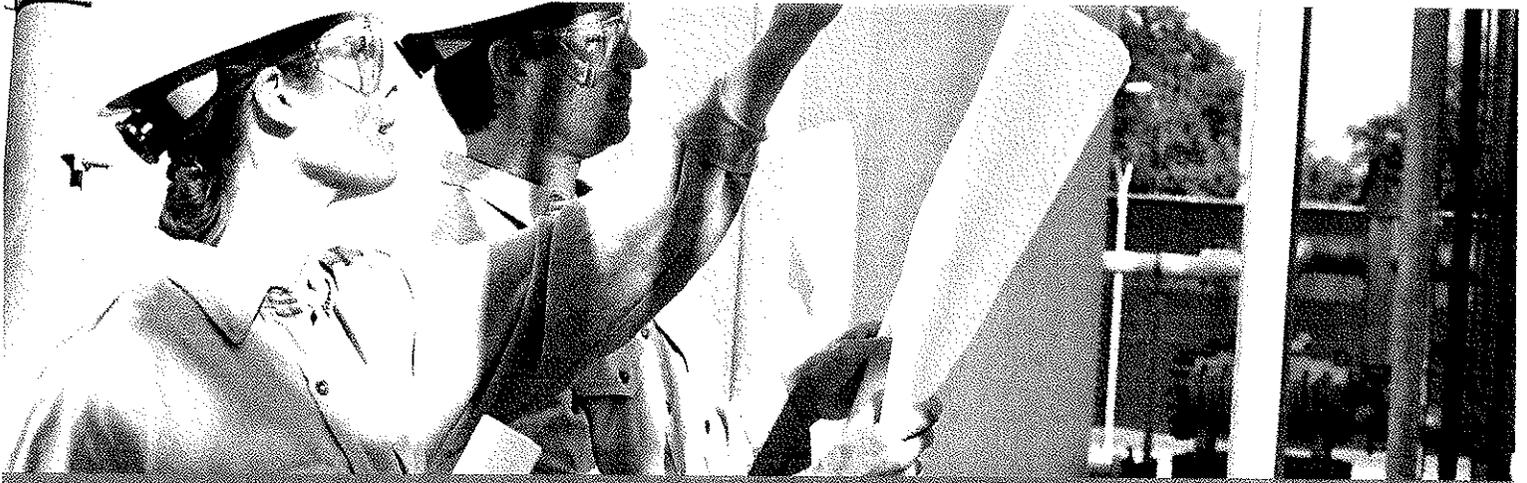
		Piping to Disengaging tank			1	LOT
		Convey Lines to Distillation tower from skids			1	EA
		PX skids (2) stacked- PS&D to provide full interconnection between skids			1	EA
		HVAC System for ventilation of glass area			1	LOT
		Emergency Ventilation Break Glass Switch			2	EA
		Modular Plant Office 12 x 8		CHC	1	
		Misc Piping, air lines etc.			1	LOT
	V-750	Air Separator		Armstrong	1	
		MCC		Pendant	1	LOT

Solidair SIS 24-14 Dryer
Bin Vent Filter
Rotary pressure filter
2 bar discharge
Distillation, PX (log), Plant Control System
Boiler
In Line mixer
Chiller, Cooling Tower

BEPEX
BEPEX
BHS
BHS
KAPS
IPP
Prime Process Equipment
IPP

VERRICO ASSOCIATES

STATEMENT OF QUALIFICATIONS



Environment | Health | Safety | Security | Quality

Who We Are

Verrico Associates (Verrico) is a full-service management systems consulting firm. The company has its roots in chemical and related industries. Verrico was an integral part in the development of industry-wide management system initiatives, including the chemical industry's Responsible Care program.

Verrico has worked with over 400 companies (4,500+ facilities) and over 25,000 employees at all levels to develop, implement, evaluate and improve businesses. We provide pre-assessments, training, gap analyses, internal audits, document reviews, design and implementation support for numerous industries in the United States and across the globe. Experience includes chemical/general manufacturing, health care, medical diagnostics, refining, pharmaceutical, energy and transportation services (marine, air, truck and rail).

We have over 30 Associates on our team and a network of 250 industry professionals to meet needs in a variety of areas, including domestic (US) and International support. Our Associates are experts in their fields, with experience in doing, not just consulting. Most have over 25 years of experience in industry. Biographical information is available for any of our Associates.

Services Provided

Verrico provides services to meet Client needs. We develop customized methods to help organizations through training, auditing and consulting. Selected services include:

Gap Analysis of Organization's Systems: Working with a Project Lead from the organization, Verrico identifies gaps in the program and helps determine next steps and resource needs for the management system.

Review of Gap/Non-conformance Status: Verrico reviews previous reports with Project Lead to validate resolutions or plans to resolve the issues.

Implementation Planning Assistance: Where a clear path has not been identified, Verrico works with the Project Lead to develop a reasonable action plan and provides guidance or assistance with the identified actions.

Training: Verrico trains implementation team members and internal auditors to international standards and how they relate to the organization's system. Verrico works with Project Lead to develop materials and a format for this activity. This includes domestic and international training.

CONTACT VERRICO ASSOCIATES
FOR MORE INFORMATION
www.verricassociates.com | 610.444.9752



Focused Internal Working Sessions: Verrico works with the project team within “challenge areas” in terms of function or process for the organization. Many companies find challenges implementing a management system in the areas of sales and marketing, research/product development, supply chain operations or other outlying areas.

Audit: Verrico has audit tools to help your organization. Beyond checklists, we have a training program that provides auditor training and an actual audit, in which your trainees participate. We also help fulfill audit requirements through an outside consultant audit.

Senior Management Presentation/Review: A number of system elements require senior management engagement and involvement. Verrico helps facilitate materials and presentations for those engagements, including direct presentations and assessments with your management team.

Management System Implementation Assistance: Based on your plan, activities include assistance for:

- General Risk Assessment Activities (“aspect/impact” or hazard/risk)
- Product Risk Assessment
- Product Information Management
- Commercial Procedures and Processes
- Communications Program Refinements
- Other Needs as Identified by Project Lead

Customized Project Facilitation: Our true strength is proven ability and experience managing projects at multiple levels of an organization. Frequently, a Client’s challenge does not fit into a typical service area or standardized solution. Verrico is adept at helping you address issues in a practical way, involving the appropriate stakeholders throughout your organization.

Client Experience

A&R Distribution, Inc.	Dominion Resources Services	ISP Chemicals, Inc.	Productive Plastics
Alpha Chem of Georgia	Dow Chemical	JM Huber	Quality Distribution, Inc.
American Chemistry Council	Dow Corning	Kansas City Southern Railway	Reilly Industries, Inc.
Afton Chemical Corporation	Durez Occidental Company	Kemira	Remedium Group, Inc.
AKZO Nobel	Eastman Chemical Company	Koppers Inc.	Rhodia Inc.
Air Products & Chemicals, Inc.	Eka Chemicals, Inc.	Lanxess Corporation	Roche Colorado Corporation
APL Logistics	EISCO-NJ	Lonza	Sabic
Arch Chemicals, Inc.	El Dorado Nitrogen	Lubrizol	Sartomer Company
Arkema Inc.	EMD Chemicals Inc.	LyondellBasell	Shell
Ashland Inc.	Exelon Corporation	Marathon Petroleum Company	Shepherd Chemical Company
BASF Corporation	Exxon Mobil	Merisol Antioxidants	SI Group, Inc
Bayer Corporation	First Chemical Texas	Methanex Trinidad Limited	Sika Corporation
BNSF Railway	Flexsys	Millennium	Sipchem
Braskem	FMC Corporation	Miller Transportation, Inc.	SOCMA
Cabot Corporation	Fujirebio Diagnostics, Inc.	Milliken	Solutia
Cambrex	GATX Rail	Mitsubishi	Solvay Solexis
Chemtura Corporation	Georgia Gulf	Monsanto Company	Sumitomo Chemical USA
Chevron	Green Recovery Technologies	Nova	Sunoco, Inc
Church & Dwight Co., Inc.	Hercules Incorporated	Noveon	Superior Carriers
Compass Minerals	Highway Transport, Inc.	Occidental Chemical	Taminco Inc.
Croda Inc	Honeywell	Odyssey Logistics	Thomson Inc.
Cytec Industries	Horsehead Corporation	OM Group, Inc	TransWood, Inc.
Daikin America, Inc	ICL Performance Products, LP	OMNOVA Solutions	Trinity Logistics
Dakota Gasification	Inland Star Distribution Centers	Perstorp Polyols, Inc.	Texas Brine Company
Degussa Corporation	Innospec Fuel Specialties	Potters Beads	TPC Group
Delta Quality Systems, Inc	International Specialty Products	PQ Corporation	Waste Technology Services
DF Young, Inc.	Intercontinental Terminal Corp	Praxair	Westway Terminal Company

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910.180 Standard must be
consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No 1218-0072

IDENTITY (As Used on Label and Use)
Rendered Poultry Fat

Note: Blanks are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I - Company Identification

Manufacturer's Name Green Recovery Technologies, LLC	Emergency Telephone Number 267.303.3201
Address (Number, Street, City, State and Zip Code) 42 Lukens Drive, Suite 100 New Castle, DE 19720	Telephone Number for Information 302. 691-7458
	Date Prepared 05.22.2014
	Signature of Preparer (optional)

Section II - Hazardous Ingredients

Hazardous Components (Specific Chemical Identity: Common Name(s))	CAS Nr	ONU Nr	Other Limits Recommended	% (Optional)
Hazardous Components - Contains no Hazardous Components as described in the Hazard Communication Standard				
Substance - Rendered Poultry Fat				
Trade Names - - Chicken Fat				
Chemical Family: Triglyceride; Triacylglycerol				
Molecular Formula: N/A Molecular Weight: N/A				
Components and Contaminants				
Components: : Triglycerides Percent: 100%				
Other Contaminants: None				

Section III a - Identity Information of Product

Commercial Name	Chemical Name or Code n/a
Chemical Family n/a	Chemical Formula n/a
Synonyms n/a	CAS n/a

Section III b - Physical / Chemical Characteristics

Boiling Point Decomposes	Decomposes	Specific Gravity (H2O = 1):	0.84 avg.
Vapor Pressure (mm Hg.) N/A	Not Applicable	Melting Point	35° C
Vapor Density (AIR =1) N/A	Not Applicable	Evaporation Rate 0 (Butyl Acetate = 1)	0
Solubility in Water Insoluble			
Appearance and Odor Light brown liquid to pale brown solid, bland odor			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 525° F, Open Cup	Flammable Limits 525° F	LEL N/A	UEL N/A
Extinguishing Media Type B (Flammable Liquids)			
Special Fire Fighting Procedures None			
Unusual Fire and Explosion Hazards None			

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable Stable		None
Incompatibility (Materials to Avoid) None			
Hazardous Decomposition or Byproducts None			
Hazardous Polymerization			Conditions to Avoid
	Will Not May Occur Will not occur		None

Section VI – Health Hazard Data

Route(s) of Entry: N/A	Inhalation N/A	Skin N/A	Ingestion N/A
Health Hazards (Acute and Chronic) N/A			
Carcinogenicity N/A	NTP? N/A	IARC Monographs N/A	OSHA Regulated? N/A
Signs and Symptoms of Exposure N/A			
Medical Conditions Generally Aggravated by Exposure N/A			
Emergency and First Aid Procedures Wash well, treat for possible heat burns			

Section VII – Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled Contain and contact Green Recovery Technologies, LLC concerning reprocessing.
Waste Disposal Method Rendering (reprocessing), not to be landfilled. Do not flush to sewer contact Green Recovery Technologies, LLC
Precautions to Be Taken in Handling and Storing None
Other Precautions None

Section VIII – Control Measures

Respiratory Protection (Specify Type) None	
Ventilation	Local Exhaust Mechanical (General) Ventilate tanks before entering.
	Special Other
Protective Gloves Standard	Eye Protection Standard
Other Protective Clothing or Equipment Standard	
Work/Hygienic Practices Standard	

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910.180 Standard must be
consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No 1218-0072

IDENTITY (As Used on Label and Use)
Extracted DAF Protein

Note: Blank are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I - Company Identification

Manufacturer's Name Green Recovery Technologies, LLC	Emergency Telephone Number 267.303.3201
Address (Number, Street, City, State and Zip Code) 42 Lukens Drive, Suite 100 New Castle, DE 19720	Telephone Number for Information 302.691.7468
	Date Prepared 02.04.2013
	Signature of Preparer (optional)

Section II - Hazardous Ingredients

Hazardous Components (Specific Chemical Identity: Common Name(s))	CAS Nr	ONU Nr	Other Limits Recommended	% (Optional)
Hazardous Components - Contains no Hazardous Components as described in the Hazard Communication Standard				
Substance - Extracted Chicken By-product meal				
Trade Names - Chicken Meal, Chicken Protein				
Chemical Family: Protein supplement with associated fatty and mineral components				
Molecular Formula: N/A Molecular Weight: N/A				
Components and Contaminants				
Components: dehydrated Chicken Protein, Bone, and Feathers Percent: 100%				
Other Contaminants: None Exposure Limits: N/A				

Section III a - Identity Information of Product

Commercial Name Poultry Protein	Chemical Name or Code n/a
Chemical Family n/a	Chemical Formula n/a
Synonyms n/a	CAS n/a

Section III b - Physical / Chemical Characteristics

Boiling Point	Decomposes	Specific Gravity (H ₂ O = 1)	0.5
Vapor Pressure (mm Hg.)	Not Applicable	Melting Point	Decomposes
Vapor Density (AIR = 1)	Not Applicable	Evaporation Rate (Butyl Acetate = 1)	0
Solubility in Water Insoluble Appearance and Odor Light tan, characteristic odor			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 460F	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media Type A or B			
Special Fire Fighting Procedures None			
Unusual Fire and Explosion Hazards None			

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable Stable		None
Incompatibility (Materials to Avoid) None			
Hazardous Decomposition or Byproducts None			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not May Occur		
	Will not occur		None

Section VI – Health Hazard Data

Route(s) of Entry: N/A	Inhalation N/A	Skin N/A	Ingestion N/A
Health Hazards (Acute and Chronic) N/A			
Carcinogenicity N/A	NTP? N/A	IARC Monographs N/A	OSHA Regulated? N/A
Signs and Symptoms of Exposure N/A			
Medical Conditions Generally Aggravated by Exposure N/A			
Emergency and First Aid Procedures Wash Well			

Section VII – Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled Sweep up spilled meal and dispose of in Sanitary Landfill or contact Green Recovery Technologies, LLC.
Waste Disposal Method Send to sanitary landfill or contact Green Recovery Technologies, LLC
Precautions to Be Taken in Handling and Storing None
Other Precautions None

Section VIII – Control Measures

Respiratory Protection (Specify Type) None	
Ventilation	Local Exhaust Special
	Mechanical (General) Other Ventilate bins before entering
Protective Gloves Standard	Eye Protection Standard
Other Protective Clothing or Equipment Standard	
Work/Hygienic Practices Standard	

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard
 29 CFR 1910.180 Standard must be
 consulted for specific requirements

U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No 1218-0072

IDENTITY (As Used on Label and Use)
 Pre-Treated DAF Sludge

Note: Blanks are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I - Company Identification

Manufacturer's Name Green Recovery Technologies, LLC	Emergency Telephone Number 267.303.3201
Address (Number, Street, City, State and Zip Code) 42 Lukens Drive, Suite 100 New Castle, DE 19720	Telephone Number for Information 302.691.7468
	Date Prepared 08.14.2013
	Signature of Preparer (optional)

Section II - Hazardous Ingredients

Hazardous Components (Specific Chemical Identity: Common Name(s))	CAS Nr	ONU Nr	Other Limits Recommended	% (Optional)
Hazardous Components - Contains no Hazardous Components as described in the Hazard Communication Standard				
Substance - Dried poultry processing DAF sludge				
Trade Names - DAF Sludge				
Chemical Family: Sludge consisting of protein supplement with associated fatty and mineral components				
Molecular Formula: N/A Molecular Weight: N/A				
Components and Contaminants				
Components: dehydrated Chicken Protein, Bone, Feathers, fatty and mineral components Percent: 100%				
Other Contaminants: None Exposure Limits: N/A				

Section III a - Identity Information of Product

Commercial Name DAF sludge	Chemical Name or Code n/a
Chemical Family n/a	Chemical Formula n/a
Synonyms n/a	CAS n/a

Section III b - Physical / Chemical Characteristics

Boiling Point	Decomposes	Specific Gravity (H2O = 1)	0.96
Vapor Pressure (mm Hg.)	Not Applicable	Melting Point	Decomposes
Vapor Density (AIR =1)	Not Applicable	Evaporation Rate (Butyl Acetate = 1)	0
Solubility in Water Insoluble			
Appearance and Odor Dark, characteristic odor			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 460F	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media Type A or B			
Special Fire Fighting Procedures None			
Unusual Fire and Explosion Hazards None			

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable Stable		None
Incompatibility (<i>Materials to Avoid</i>) None			
Hazardous Decomposition or Byproducts None			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not May Occur Will not occur		None

Section VI – Health Hazard Data

Route(s) of Entry: N/A	Inhalation N/A	Skin N/A	Ingestion N/A
Health Hazards (<i>Acute and Chronic</i>) N/A			

Carcinogenicity N/A	NTP? N/A	IARC Monographs N/A	OSHA Regulated? N/A
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Signs and Symptoms of Exposure
N/A

Medical Conditions Generally Aggravated by Exposure
N/A

Emergency and First Aid Procedures
Wash Well

Section VII – Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled
Sweep up spilled material and dispose of in sanitary landfill or contact Green Recovery Technologies, LLC.

Waste Disposal Method
Send to sanitary landfill or contact Green Recovery Technologies, LLC

Precautions to Be Taken in Handling and Storing
None

Other Precautions
None

Section VIII – Control Measures

Respiratory Protection (*Specify Type*)
None

Ventilation	Local Exhaust	Special
	Mechanical (<i>General</i>)	Other

Protective Gloves
Standard

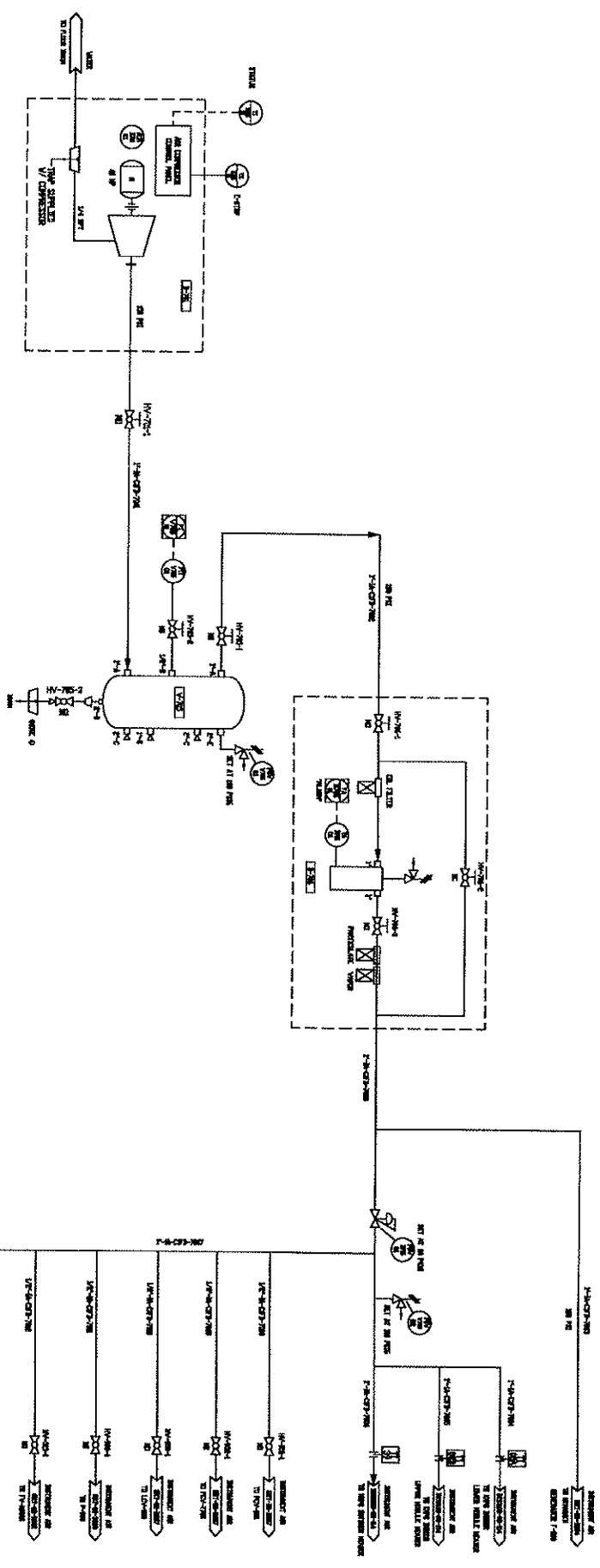
Eye Protection
Standard

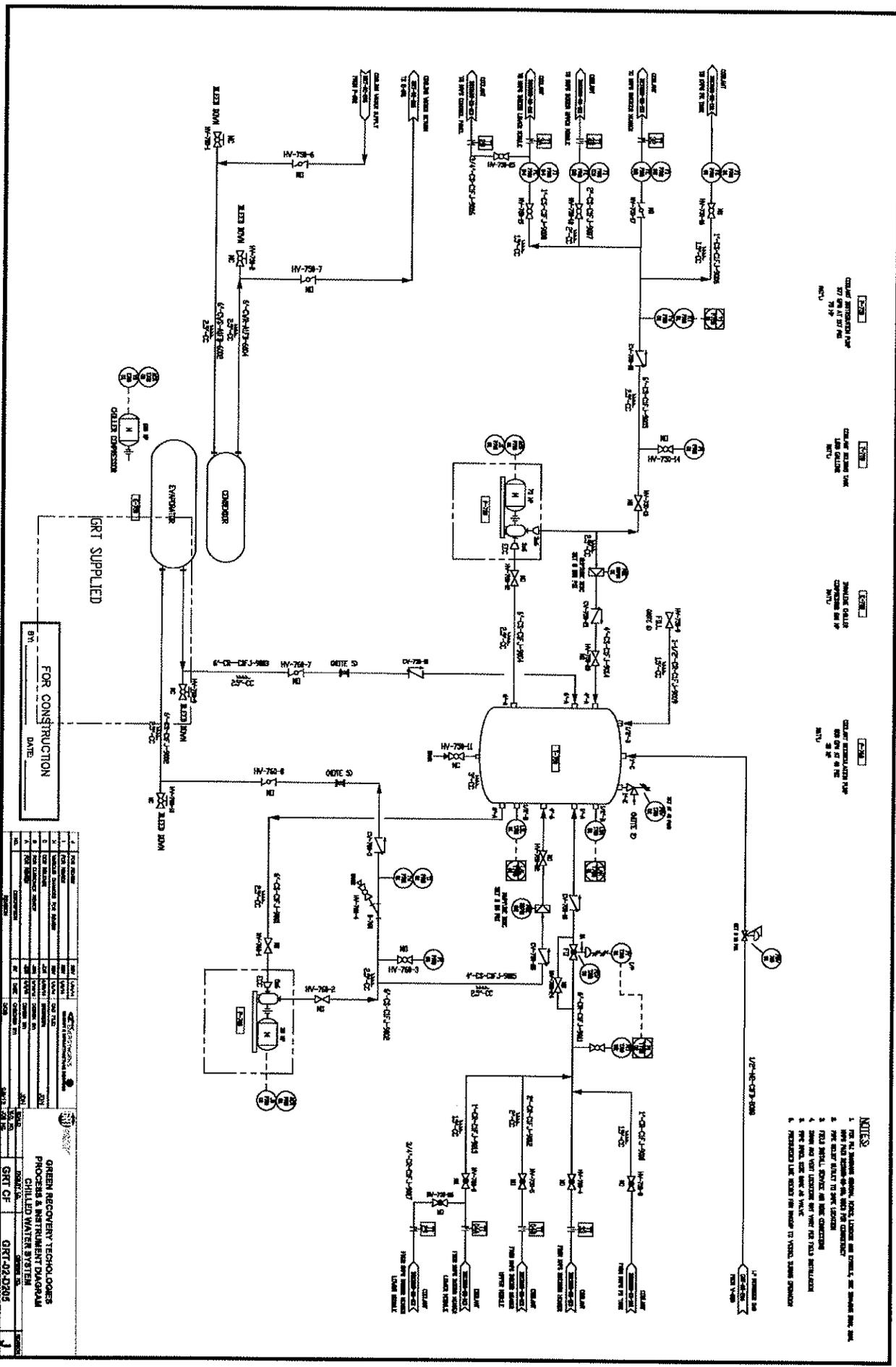
Other Protective Clothing or Equipment
Standard

Work/Hygienic Practices
Standard

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- 608. 27696" NPT
- 609. 27744" NPT
- 610. 27792" NPT
- 611. 27840" NPT
- 612. 27888" NPT
- 613. 27936" NPT
- 614. 27984" NPT
- 615. 28032" NPT
- 616. 28080" NPT
- 617. 28128" NPT
- 618. 28176" NPT
- 619. 28224" NPT
- 620. 28272" NPT
- 621. 28320" NPT
- 622. 28368" NPT
- 623. 28416" NPT
- 624. 28464" NPT
- 625. 28512" NPT
- 626. 28560" NPT
- 627. 28608" NPT
- 628. 28656" NPT
- 629. 28704" NPT
- 630. 28752" NPT
- 631. 28800" NPT
- 632. 28848" NPT
- 633. 28896" NPT
- 634. 28944" NPT
- 635. 28992" NPT
- 636. 29040" NPT
- 637. 29088" NPT
- 638. 29136" NPT
- 639. 29184" NPT
- 640. 29232" NPT
- 641. 29280" NPT
- 642. 29328" NPT
- 643. 29376" NPT
- 644. 29424" NPT
- 645. 29472" NPT
- 646. 29520" NPT
- 647. 29568" NPT
- 648. 29616" NPT
- 649. 29664" NPT
- 650. 29712" NPT
- 651. 29760" NPT
- 652. 29808" NPT
- 653. 29856" NPT
- 654. 29904" NPT
- 655. 29952" NPT
- 656. 30000" NPT

- NOTES:
1. FOR THE PURPOSES OF THIS DRAWING, ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 4. DIMENSIONS ARE SHOWN TO THE CENTER UNLESS OTHERWISE SPECIFIED.





- 1. CONDENSER WATER PUMP
- 2. CONDENSER WATER PUMP
- 3. CONDENSER WATER PUMP
- 4. CONDENSER WATER PUMP
- 5. CONDENSER WATER PUMP

- NOTES**
1. SEE THE DRAWING FOR THE LOCATION AND SIZE OF THE PUMP AND MOTOR.
 2. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
 3. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
 4. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
 5. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
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 8. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
 9. THE PUMP SHALL BE OF THE TYPE SPECIFIED.
 10. THE PUMP SHALL BE OF THE TYPE SPECIFIED.

NO.	REV.	DATE	BY	CHKD.	DESCRIPTION
1					ISSUED FOR CONSTRUCTION
2					
3					
4					
5					
6					
7					
8					
9					
10					

GREEN RECOVERY TECHNOLOGIES
PROCESS & INSTRUMENT DIAGRAM
CHILLED WATER SYSTEM

DATE: 08/11/2005
BY: GRT/CF
GRT-05-0205

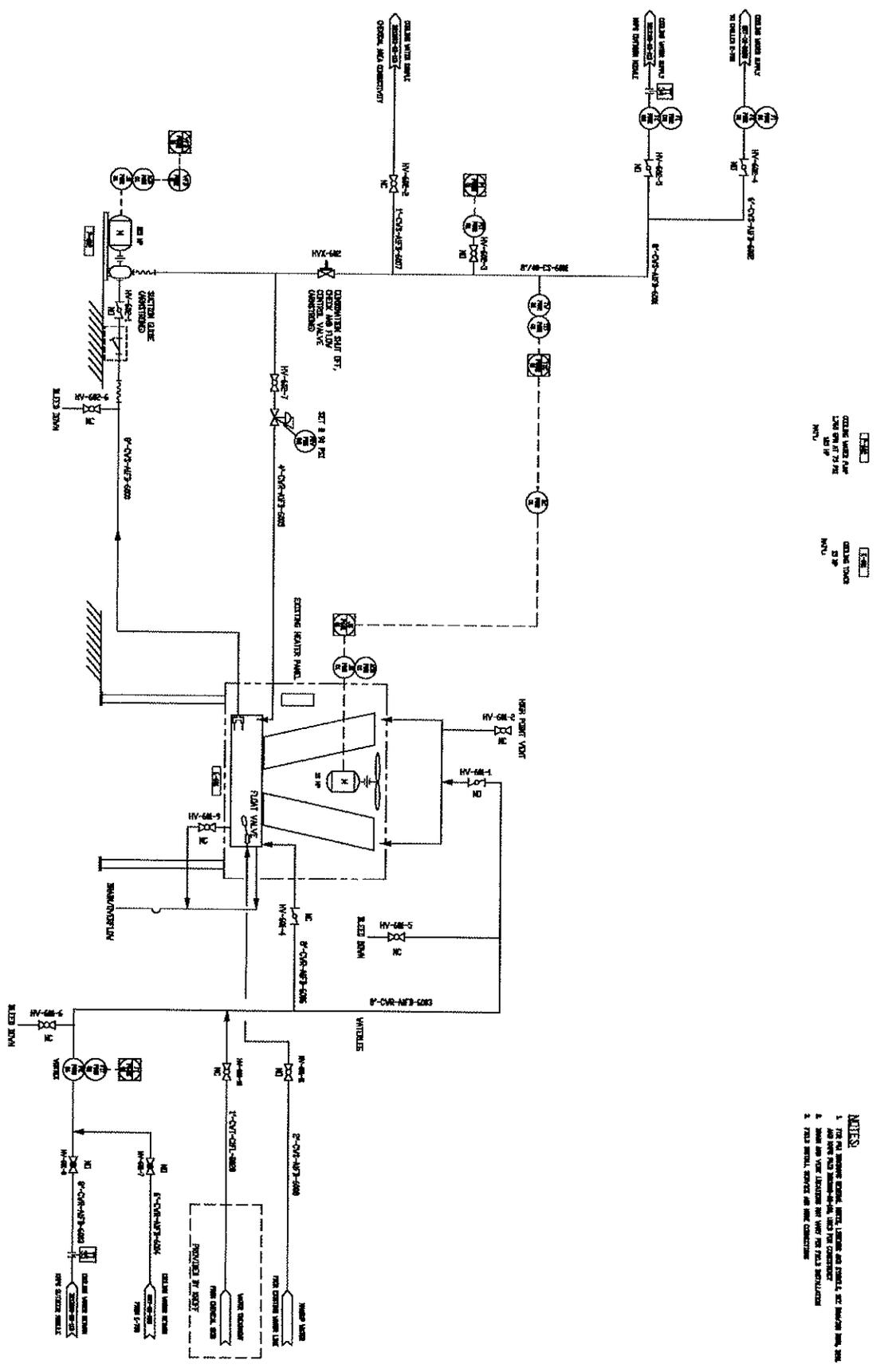
NOTES
1. EQUIPMENT REQUIREMENT AGREEMENT BY LOCAL VENDOR QUALITY

FOR CONSTRUCTION
DATE: _____

NO.	REV.	DATE	DESCRIPTION
1	0		ISSUED FOR CONSTRUCTION
2	1		REVISION
3	2		REVISION
4	3		REVISION
5	4		REVISION
6	5		REVISION
7	6		REVISION
8	7		REVISION
9	8		REVISION
10	9		REVISION

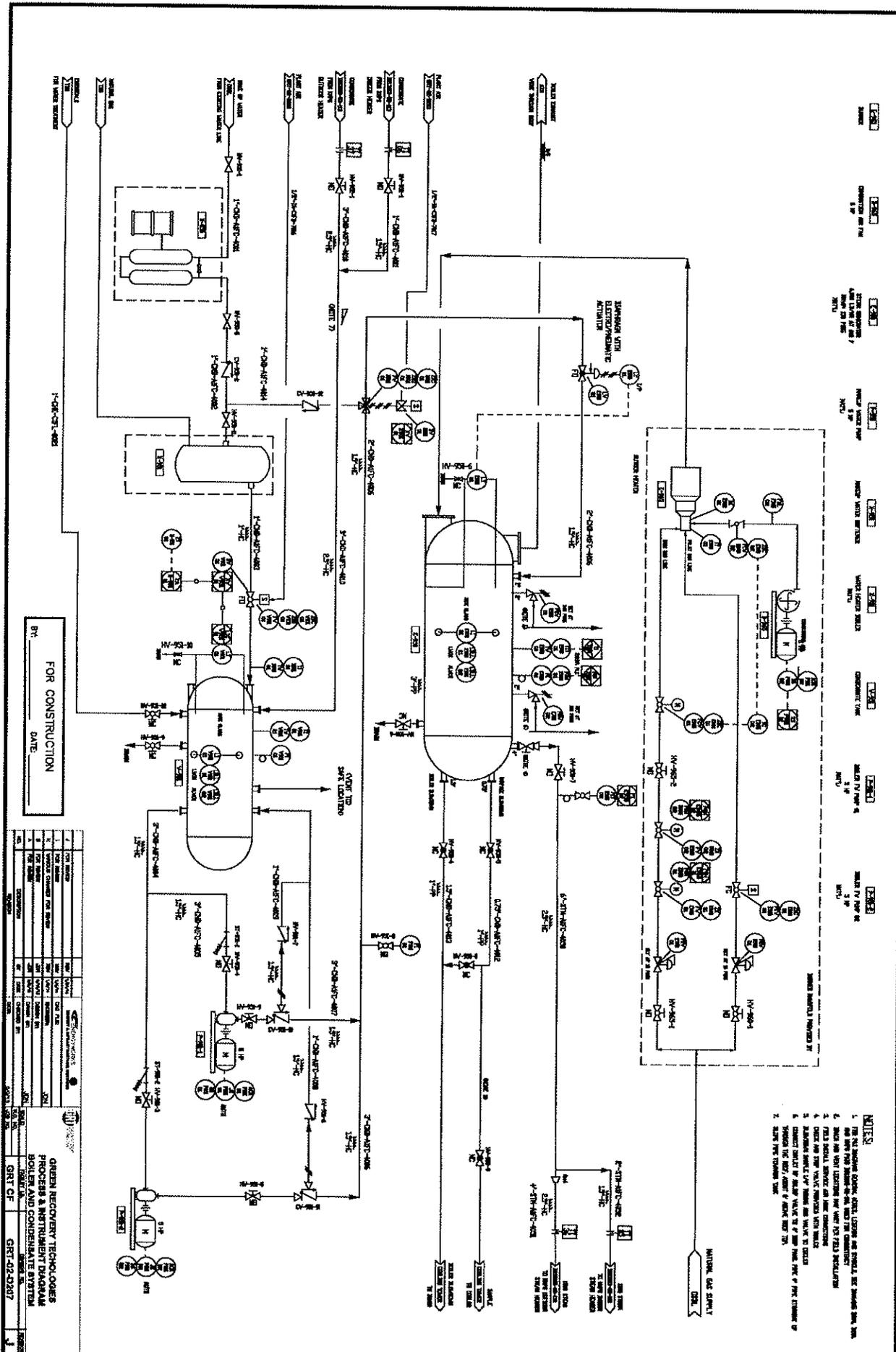
GREEN RECOVERY TECHNOLOGIES
PROCESS & INSTRUMENT DIAGRAM
COOLING TOWER PROCESS

PROJECT NO. GRT-02-0218



LEGEND
COOLING WATER PUMP
LEVEL TRANSDUCER
FLOW
PRESSURE

NOTES
1. ALL INSTRUMENTS SHALL BE PROVIDED BY THE LOCAL VENDOR.
2. ALL INSTRUMENTS SHALL BE PROVIDED BY THE LOCAL VENDOR.
3. ALL INSTRUMENTS SHALL BE PROVIDED BY THE LOCAL VENDOR.
4. ALL INSTRUMENTS SHALL BE PROVIDED BY THE LOCAL VENDOR.
5. ALL INSTRUMENTS SHALL BE PROVIDED BY THE LOCAL VENDOR.



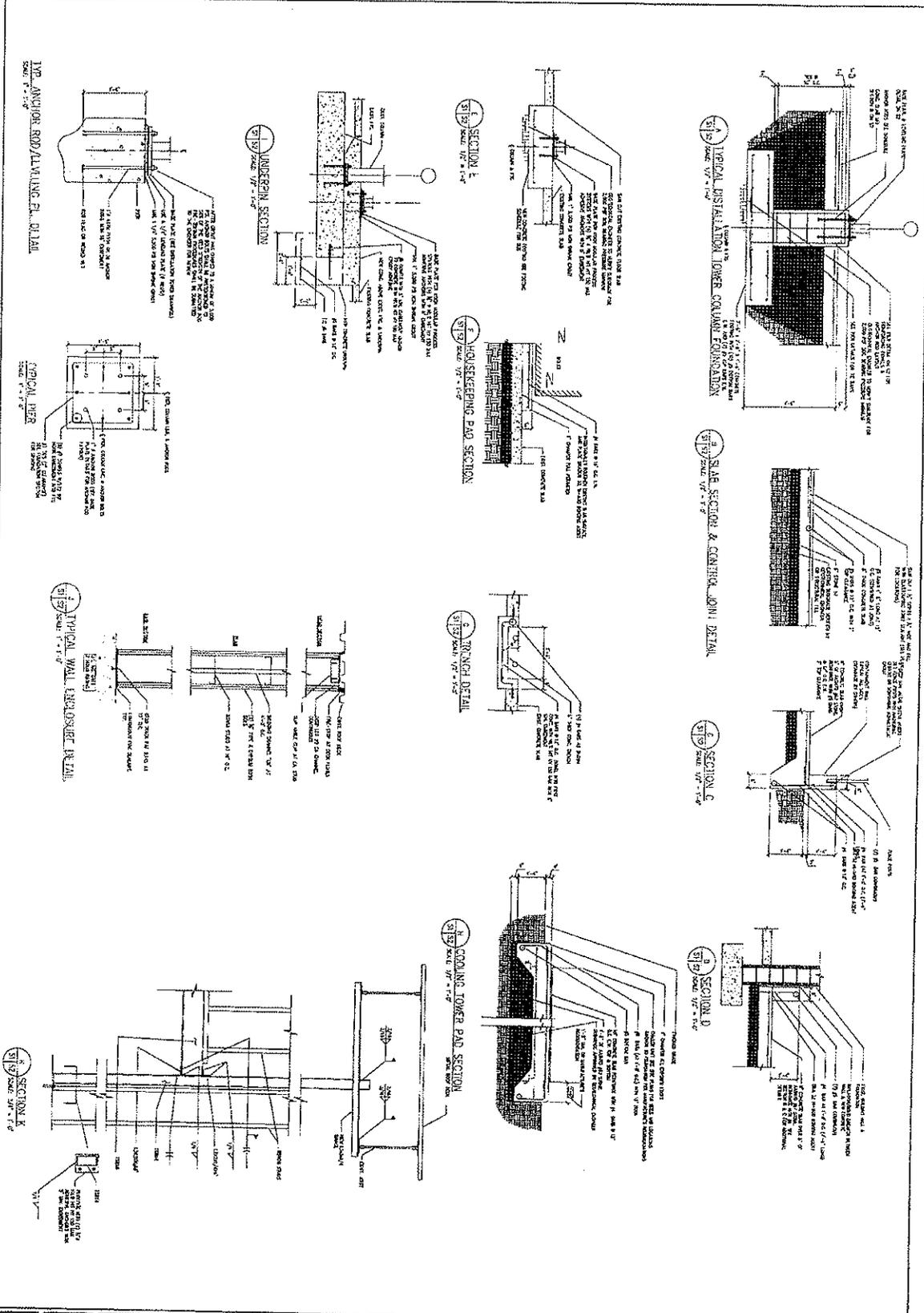
- 1. THIS DRAWING IS A PART OF THE PROJECT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.
- 2. THIS DRAWING IS THE PROPERTY OF THE PROJECT AND IS NOT TO BE LOANED, REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.
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- NOTES**
1. THE PIPING SYMBOLS ARE IDENTICAL TO THOSE SHOWN IN THE PIPING SYMBOLS MANUAL.
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FOR CONSTRUCTION
DATE: _____
BY: _____

NO.	REVISION	DATE	BY	CHKD.	APP'D.
1	ISSUED FOR CONSTRUCTION	10/1/68	J. J. ...	J. J. ...	J. J. ...
2	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
3	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
4	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
5	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
6	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
7	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
8	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
9	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...
10	REVISION	10/1/68	J. J. ...	J. J. ...	J. J. ...

GREEN RECOVERY TECHNOLOGIES
PROCESS & INSTRUMENT DIAGRAM
BOILER AND COMBUSTION SYSTEM
SHEET 11
GRT CF GRT-02-0207



GREEN RECOVERY TECHNOLOGIES NEW CASTLE, DELAWARE 202-42 LUKENS DRIVE DISTILLATION TOWER & PROCESS EQUIPMENT FOUNDATION	STEINLE CONSTRUCTION ENGINEERS A DIVISION OF SCF VANDEMARK & LYNCH, INC. 4305 MILLER ROAD WILMINGTON, DE 19802 TEL: 302-734-1856 FAX: 302-734-4170 WWW.SCF-VA.COM	DATE: 11-28-13 PROJECT NO.: 1301 DRAWING NO.: 101 DESIGNED BY: J.E. CHECKED BY: J.E. APPROVED BY: J.E.	REV. # DATE DESCRIPTION
		S2 DATE: 11-28-13 PROJECT NO.: 1301 DRAWING NO.: 101 DESIGNED BY: J.E. CHECKED BY: J.E. APPROVED BY: J.E.	REV. # DATE DESCRIPTION



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
DELAWARE ECONOMIC DEVELOPMENT OFFICE

August 18, 2014

Mr. Kenneth Laubsch
President & Chief Executive Officer
Green Recovery Technologies
42 Lukens Drive
New Castle, DE 19720

Dear Mr. Laubsch:

I am pleased to inform you that the Delaware Economic Development Office will grant to Green Recovery Technologies (GRT) effective immediately 7 Emission Reduction Credits (ERCs) necessary as required offsets for the issuance of a Delaware Coastal Zone permit allowing the operation of a steam generating boiler at GRT's facility.

These air credits are granted under the following terms and conditions.

1. The credits granted are for 7 VOC Ozone Season credits currently held in the DEDO credit bank; and
2. The credits are granted effective immediately upon receipt of a copy of this letter signed by an authorized officer of GRT acknowledging and accepting these terms and conditions.
 - GRT submits a \$500 application fee to DEDO prior to August 29, 2014.
 - GRT commences full operation of its New Castle, DE biomass conversion facility on or before December 31, 2014. Should operations not commence by that date, DEDO reserves the right to rescind this award and return the credits to the credit bank.
 - GRT agrees that they will employ a minimum of 15 full-time employees in the operation of the facility on or before December 31, 2015.
 - GRT will be required to certify the new jobs created and total employment on an annual basis beginning on December 31, 2014 and continuing through December 31, 2017. GRT shall certify, on a form acceptable to DEDO, the number and compensation level of all full-time permanent employees.

Mr. Kenneth Laubsch
August 18, 2014
Page 2

- GRT agrees that should its employment fall below 15 full-time employees for four consecutive months, or if the operation is idle for four consecutive months, DEDO reserves the right to rescind this award and return the credits to the credit bank.
- GRT agrees that the credits are for the operation of its boiler at 42 Lukens Drive, Suite 100, New Castle, DE and may not be sold or transferred in any manner to any other organization or utilized at any other location without the expressed written consent of DEDO. If DEDO does not approve a transfer, the credits will be returned to the credit bank.

If you need more information, please contact Jeff Stone at (302) 672-6849 or jeff.stone@state.de.us.

I appreciate your continuing investment in the State of Delaware and your efforts to preserve and enhance our environment and wish you continued growth and success in your operations.

Sincerely,



Alan B. Levin
Director

cc: David Small, Department of Natural Resources and Environmental Control
Ali Mirzakhali, Department of Natural Resources and Environmental Control
Phil Cherry, Department of Natural Resources and Environmental Control
Kevin Coyle, Department of Natural Resources and Environmental Control

On behalf of Green Recovery Technologies, I hereby acknowledge and accept the terms and conditions as detailed above.

By:  CTO
Name & Title

08.22.2014
Date