APPLICATION FOR A COASTAL ZONE ACT PERMIT

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

Date of submission: November 27, 2013
High Viscosity Alkoxylation Reactor Project, 6 Autoclave
Croda, Inc.

Table of Contents

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.

Robert Stewart, Site Director on behalf of Croda Inc

Print Name of Applicant

Robert Stewart

Signature of Applicant

Site Director

Title

November 26, 2013

Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 Identification of the applicant:

Company Name: Croda, Inc.
Address: 315 Cherry Lane, New Castle, DE, 19720
Telephone: 302-429-5599
Fax: 302-429-5304

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. Robert J. Touhey – Safety, Health & Environmental Manager

2.3 Authorized agent (if any):

Name:
Address:
Telephone:
Fax:

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

2.4 Project property location (street address): 315 Cherry Lane, 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 A.**

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

This project is a high viscosity alkoxylation reactor system, 6 autoclave, which is comprised of a 5,000 gallon load tank, 6,500 gallon alkoxylation reactor, and the necessary supporting utility equipment. A scrubber will be utilized in conjunction with 6 Autoclave for the environmental offset.

The scrubber will be designed to remove residual, un-reacted ethylene oxide and propylene oxide from the reactor emissions. The scrubber will use water and a small amount of recycled sulfuric acid in order to hydrolyze the ethylene and propylene oxide to liquid ethylene and propylene glycol. The scrubber is 95% effective, and will be used for 6 Autoclave and for selected batches from 3A, 4, and 5 autoclave. Implementing the scrubber for selected batches from the existing autoclaves will allow Croda to offset 6 autoclave emissions and reduce the 6 autoclave total annual HAP emissions by 105%.

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:
Croda Inc.
315 Cherry Lane
New Castle, DE 19720

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

4.3 Name and address of lessee(s): **N/A**

4.4 Is the project premises under option by permit applicant? **No**

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

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

See Attachment B which applies to the property parcels on which this project is proposed.

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;
The project will primarily use existing raw materials. New raw materials and new products characteristics are summarized below:
New Raw Materials list with hazards:

- **Bakelite PF 7044 DZ** from Hexion or **SFC-600** from SI group (or similar) –liquid at room temperature, eye and skin irritant
- **Redubore** from H & V Chemicals (or similar) – liquid at room temperature, causes severe skin burns and eye damage, harmful if swallowed
- **Quadrol** from BASF (or similar) – no particular hazards known, white liquid
- **Lupasol** WF from BASF – colorless to yellowish liquid, may cause eye, skin and respiratory tract infection

New Products (made from Raw Materials) list with hazards:
Kemelix 3627X, Kemelix D510, Kemelix 3515X, Kemelix D503 (or similar products)
For all: May cause eye irritation, may cause skin irritation, no toxic effects are known to be associated with the inhalation of this material. Low oral toxicity but ingestion may cause irritation of the gastrointestinal tract. No toxic effects are expected following the ingestion of this product.

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 C

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; **The EO and PO will be delivered to the system via pipeline from the two existing storages tanks where they are currently being stored. EO and PO require special means of handling and they will be handled in the same proficient manner which they are currently being handled. Pipelines will be used to transfer the material from the storage tanks and deluge systems will be used to ensure safety. Some of the other**

raw materials are flammable however they do not present toxicity characteristics of either EO or PO. The raw materials will be handled in a similar, safe manner as comparable materials are currently handled throughout the site. The intermediates will be stored in either totes or existing storage tanks. The products will be drummed or will be transferred to storage tanks.

d. list the machinery (new and/or existing) to be utilized by this project;
A 5,000 gallon load tank, 6,500 gallon alkoxylation reactor, a vent condenser, vacuum pump, vacuum jet package, product exchanger, circulation pump, expansion tank, water heater, water cooler, and a tempered water pump and a scrubber.

e. list any new buildings or other facilities to be utilized;
A new building will be constructed around the new load tank.

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;

g. The existing EO and PO storage tanks will be utilized in support of this new project, which have a capacity of about 60,000 gallons and 42,000 gallons, respectively. A new alkoxylation reactor vessel and load tank are also being constructed and utilized for this project. The capacities of these are, 6,500 gallons and 5,000 gallons, respectively.

h. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production? **No production changes at an existing facility.**

i. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate?
This project will be a new facility and the maximum production rate will be about 3,300 metric tons per year.

5.2 Describe daily hours of plant operations and the number of operating shifts.
Five operators will work in 12 hour shifts 24/7 in order to operate and maintain the process. The operators have gone through extensive training and understand every aspect of the process.

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 attachment D

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

Existing/ currently utilized/ developed land: _____**Less than 1**____acres.

New land: __**No new land use associated with this project**___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. **HSCA Voluntary 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? **Areas of Concern (AOCs) have been identified and agreed upon by the Department's HSCA Voluntary Cleanup Program. The AOCs have no further actions letters, action plans or O&M plans in place.**

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)
	Lbs/day	*Tons/year*	*Lbs/day*	*Tons/year*	*Lbs/day*	*Tons/year*	
Ethylene Oxide	*	1.09	*	Varies**	*	**	**
Propylene Oxide	*	.31	*	Varies**	*	**	**
Dioxane	*	1.92	*	Varies**	*	**	**
VOC (including HAPs listed above)	*	8.258	*	Negligible***	*	***	***
Total HAPs from EO/PO/Dioxane		3.32		0.57		3.89	17%

Notes: *-lb/day is not a method of recording per the state as this is a batch operation.

**-Due to the operations being a batch operation, the net increase in tons/year for each HAP is not feasible to determine at this time as the spectrum of products is customer dependent. The facility commits to the batch emissions not exceeding the state requirement for Screen3 modeling. Additionally, the facility has provided the Potential to Emit (PTE) for total of the three HAPs in the 5th line.

***-The VOC emissions for this operation will not drastically change the site wide emissions, consequently "Negligible" was used to indicate the net Increase due to the 6 Autoclave

6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error. **Emissions may increase temporarily if the scrubber should malfunction. However, these conditions are continuously monitored by the data logging software and will notify the operator via alarms if a malfunction has occurred and appropriate methods to prevent further release will be conducted.**

6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1. **A scrubber will be utilized in order to control the emissions and to meet the levels cited above.**

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.)

Croda Inc. will be responsible for maintaining and utilizing this equipment. Croda Inc. The equipment operators are highly trained and must pass rigorous written and field tests prior to being authorized to work. The maintenance department is also managed and supervised by people with extensive experience and training. All mechanics and technicians, who will be responsible for maintenance on the equipment, have also passed rigorous written and field tests as well as held apprenticeships in their respective field. All people working on this project are more than qualified to operate and maintain this equipment properly and efficiently. Transcripts and records of training courses are maintained and available at the Atlas Point site if they are needed for review.

Water Quality

6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations: **No new water discharges, and no changes to current levels.**

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*

6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project. **Sanitary wastewater is discharged to the New Castle County sewer system and there are no proposed changes associated with this project.**

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. **Process wastewater is discharged to the New Castle County sewer system and there are no proposed changes associated with this project.**

6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program. **Croda currently has a pretreatment permit from the County WDP-08-119.**

6.9 Stormwater:

a. Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge. **Site storm water is discharged through numerous outfalls to the Delaware River under NPDES permit DE0000621.**

b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc). **Buildings, roadways, parking lots and other paved and un-paved areas of the site.**

c. Describe the amount of stormwater run-off increase over current levels that will result from the proposed project. **No increase in stormwater is expected.**

d. Describe any pollutants likely to be in the stormwater. **Pollutants currently limited in the permit are Biochemical Oxygen Demand (BOD), pH and temperature. No changes will result from this project.**

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. **No new improvements are planned with this project.**

f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient. **No new improvements are planned with this project.**

6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?
YES
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?
YES
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"?
YES
NO

If yes, explain:

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

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

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.) **N/A**

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. **Cooling water 1080 GPM, Plant water 20 GPM, Hot water 75 GPM from a private water utility. The use will not vary.**

6.17 Identify the source of water needed for the proposed project, including potable water supplies. **The water will be supplied from a private water utility.**

6.18 Are wells going to be used?
YES
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
NO

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).

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?
YES
NO

If yes, describe:

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

6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?
YES
NO

If yes, describe:

6.25 Does the applicant currently generate any hazardous waste at this site?
YES
NO

If yes, describe: **The site is currently a generator of hazardous waste under generator ID DED002342020**

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?
The project involves a small area on an existing industrial site next to an existing building.

6.27 Will the proposed project result in the loss of any wetland habitat?
YES
NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?
YES
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?
YES
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?
YES
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).
YES
NO

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site? **The project is in a small area on an existing industrial site.**

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways. **No filling, dredging or draining will be performed by this project.**

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal? **No filling, dredging or draining will be performed by this project.**

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.
No odors or other effects are anticipated with this project. The project will generate heat in the reactor and loading vessel but both will be insulated to minimize the loss to surroundings.

6.36 Describe what will be done to minimize and monitor such effects.
No noticeable effects are expected.

6.37 Describe any effect this proposed project will have on public access to tidal waters. **There will be no effect on public access to tidal waters. The project will be constructed on a privately owned industrial site.**

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.
The system will be fully automated; computer controlled and is designed to automatically shut down in the event of a malfunction.

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.
No significant changes are anticipated since the system will immediately shut down in the event of malfunction.

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"?

YES
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:

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.
The facility is installing a scrubber to be utilized with the new autoclave (6 Autoclave) and the 3 existing autoclaves (3A, 4 and 5 Autoclaves) on a batch-selected basis. The facility proposes to offset the total HAP emissions from the new autoclave (6 Autoclave) by running batches from the existing autoclaves to the scrubber in an amount to offset 105% of the total annual HAP emissions from 6 Autoclave.

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

C. What the environmental benefits will be and when they will be achieved.
As part of the scrubber project, the three existing autoclaves will be tied into the scrubber. The facility will commit to scrubbing batches from the existing autoclaves to reduce total HAP emissions by 105% of the annual total HAP emissions from 6 Autoclave.

D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.
The EPA recognizes hydrolysis by using a scrubber as an effective way of controlling EO emissions at a level of 95%. This document from the EPA provides evidence in order to prove the efficacy of the offset project. EPA Alternative Control Technology for EO

E. How the success or failure of the offset project will be measured in both the short and long term.
Croda will reduce total HAP (ethylene oxide, propylene oxide, and dioxane) emissions to the atmosphere as soon as the project is complete and will continue through the lifetime of the project.

F. What, if any, negative impacts are associated with the offset project.
None are anticipated.

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. **Reduction in the emission of these hazardous air pollutants will improve environmental air quality in the Coastal Zone and in the Region.**

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.

Workers required on the project will fluctuate during the construction period. There may be as many as 30 persons daily and few as 5 persons daily. Typically, the construction work force has been sourced about 70% from within Delaware.

7.2 Estimate the weekly construction payroll.

If it is assumed that the weekly average construction worker population is 12, the weekly construction payroll is about $33.6K.

7.3 Estimate the value of construction supplies and services to be purchased in Delaware.

Estimated value of construction supplies and services from Delaware sources is about $2MM.

7.4 State the expected dates of construction initiation and completion.

Construction is expected to initiate in May 2014 and finish in October 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).

No loss of habitat or degradation of air, or water quality is expected. On the contrary, improvement in air quality due to the net environmental benefits in emission reductions is expected. Therefore, no adverse economic impacts are expected.

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. **Five new employees will be hired as a direct result of this proposed project. It is estimated that 3 to 4 employees will be existing Delaware residents.**

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. **Employment will not vary on a seasonal or periodic basis.**

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

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

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

State personal income taxes:	**$25,000**
State corporate income taxes	**$38,000**
County and school district taxes:	**$25,000**
Municipal taxes:	**$5,000**

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 - **None**

b. Bridges - **None**

c. Piers and/or docks- **None**

d. Railroads- **None**

e. Microwave towers- **None**

f. Special fire protection services not now available- **None**

g. Traffic signals- **None**

h. Sewer expansion - **None**

i. Energy related facilities expansion - **None**

j. Pipelines – **New pipelines will be running from the existing EO and PO tanks to the reaction vessel.**

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). **Project will not be readily visible from off site**

9.2 Is the project site location within a half mile of a place of historic or scenic value? **No known historic site within one-half mile. Lukens Marsh is within one-half mile but the project will have no impact on the Marsh.**

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 project will be constructed on an existing industrial site next to an existing building.**

PART 10

EFFECTS ON NEIGHBORING LAND USES

10.1 How close is the nearest year-round residence to the site of this proposed project? **Over one-half mile**

10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources? **No**

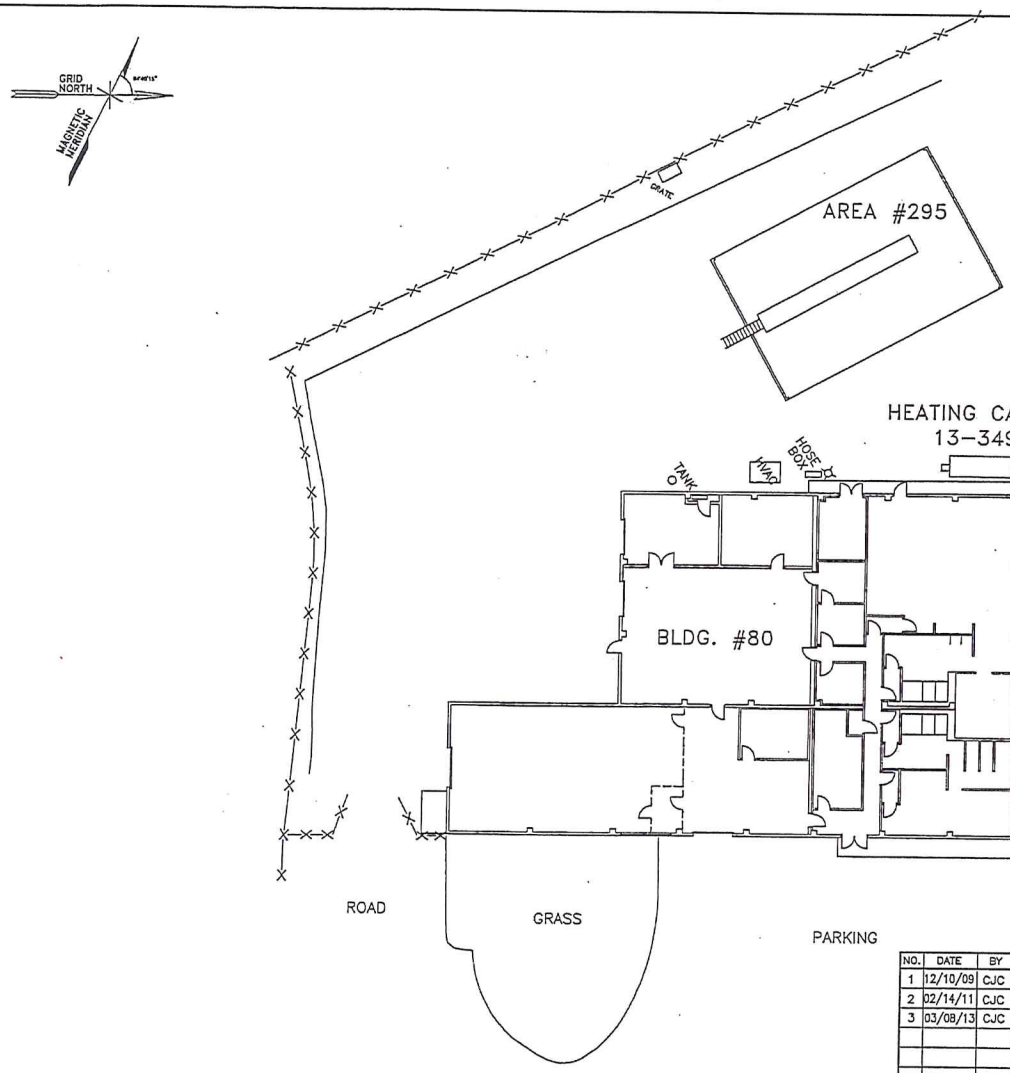
10.3 Will the proposed project utilize or interfere with agricultural areas? **No**

10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use? **No**

END OF APPLICATION

ATTACHEMENTS TO FOLLOW

Attachment A: Project Site



BLDG./AREA NO.	DESCRIPTION
80	FORMER MAINT. SHOPS, STOREROOM, CHANGE HOUSE
295	NO.5 AUTOCLAVE TRUCK DIKE
396	NO.6 AUTOCLAVE

Atlas Point Site

AP-FORMAT-B.dwg

NO.	DATE	BY	APP.	APP.	REVISION
1	12/10/09	CJC			REVISED PER 2008 DEMO
2	02/14/11	CJC			REMOVED HEATING CABINETS 197 & 196
3	03/08/13	CJC			REVISED DWG. & ADDED AREA'S #295/#396

SCALE	NONE
DATE	07/02/02
BY	DAB
SITE	ATLAS PT.
BLDG.	80, 396
PROJ.	
APP.	
APP.	
APP.	
APP.	
APP.	
APP. FOR CONST. BY DATE	

CRODA

MAINTENANCE & NO.6 AUTOCLAVE
BUILDING 80, 295 & 296
BUILDING LAYOUT

SIZE	DRAWING NUMBER	REV.
B	506 30 017	3 03/08/13

Attachment B: Evidence of Local Zoning Approval

Paul G. Clark
County Executive

David M. Culver
General Manager

Department of Land Use

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

I, **Joseph M. Abele, Jr.,** for **New Castle County** do hereby affirm that the project proposed by CRODA, Inc., **which will consist of the construction and installation of electric generators fueled by gas derived from the Cherry Island Landfill, at 315 & 321 Cherry Lane in New Castle, DE 19720 (TPs #10-016.00-002 & 10-016.00-007),** in the **Heavy Industrial (HI) 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.

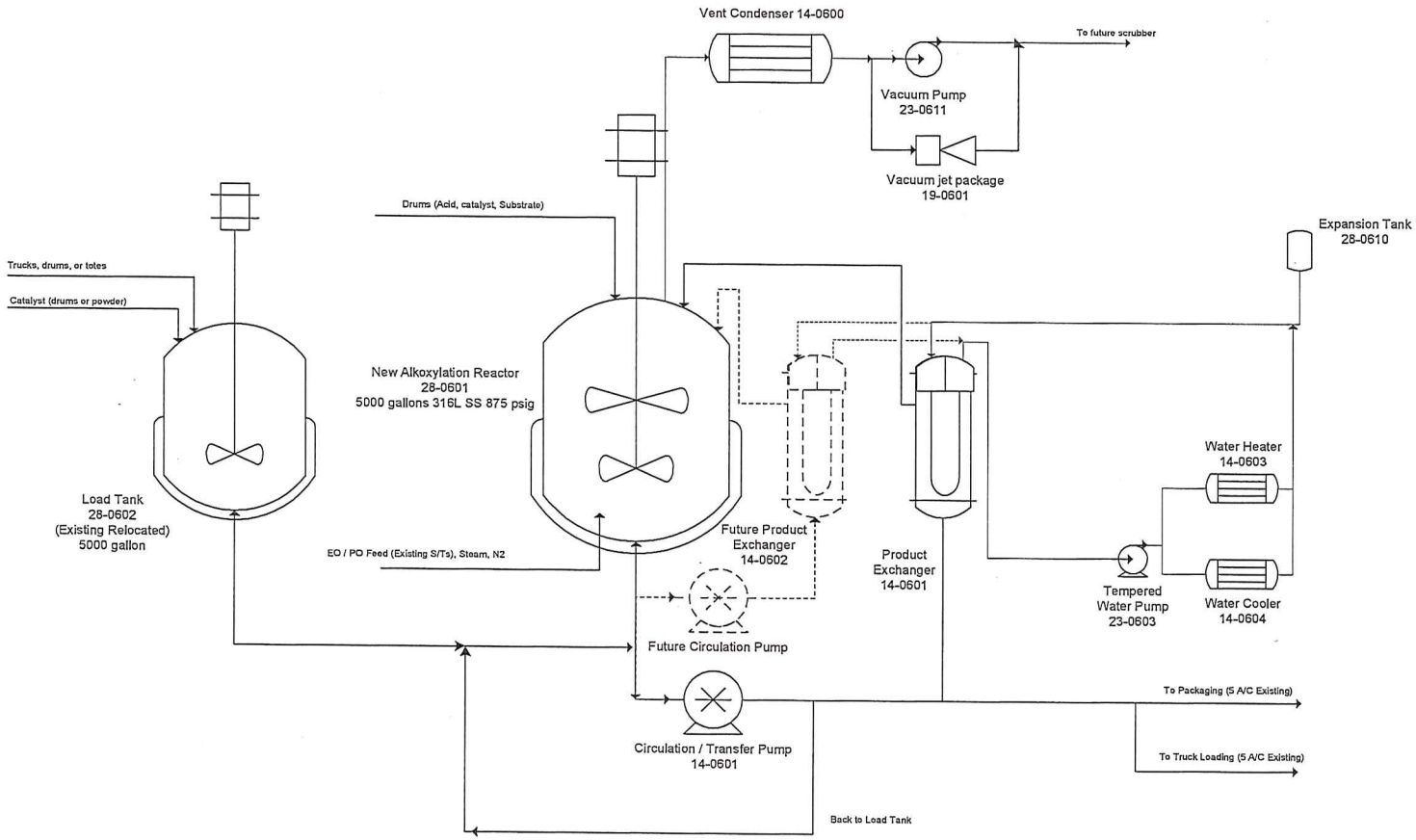
Planner III
New Castle County Department of Land Use

September 27, 2011

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.

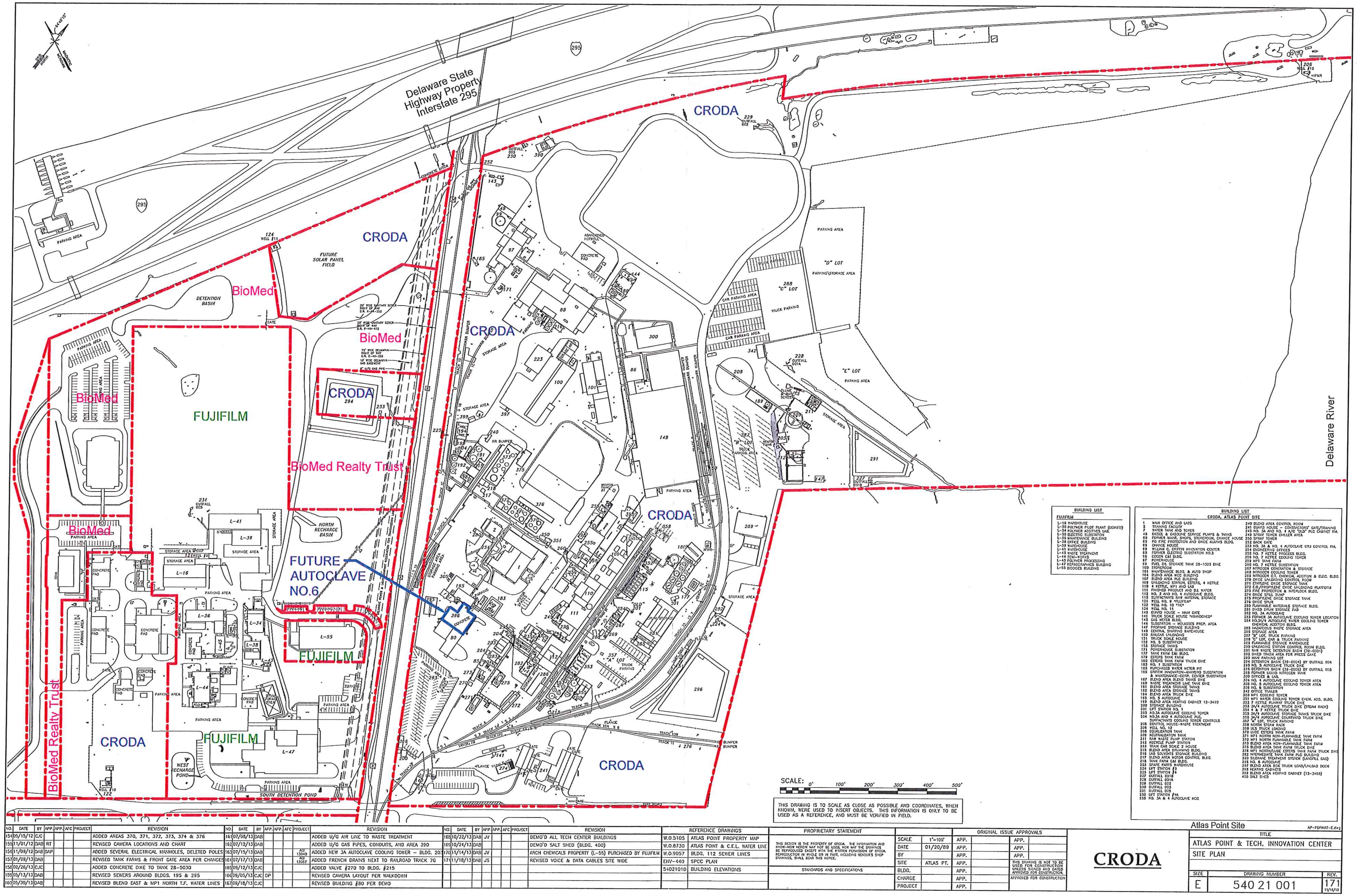
87 Reads Way, New Castle, DE 19720 www.nccdelu.org Phone: 302-395-5400 Fax: 302-395-5587

Attachment C: Process Flow Diagram



Process Flow Diagram
High Viscosity Alkoxylation Reactor Train
Croda Atlas Point
Issued for Estimate
Rev. B, 10/1/12

Attachment D: Site Map with Future 6 Autoclave


Delaware State Highway Property Interstate 295
CRODA
BioMed
FUJIFILM
BioMed Realty Trust
FUTURE AUTOCLAVE NO.6
Delaware River
Atlas Point Site
ATLAS POINT & TECH. INNOVATION CENTER
SITE PLAN
SCALE 1"=100'
DATE 01/20/89
SITE ATLAS PT.
SIZE E
DRAWING NUMBER 540 21 001
REV. 171
THIS DRAWING IS TO SCALE AS CLOSE AS POSSIBLE AND COORDINATES, WHEN KNOWN, WERE USED TO INSERT OBJECTS. THIS INFORMATION IS ONLY TO BE USED AS A REFERENCE, AND MUST BE VERIFIED IN FIELD.