THERMALDYNE, LLC
PORT ALLEN PLANT

PORT ALLEN, LOUISIANA

FEEDSTOCK VARIANCE REQUEST
RESPONSE TO NOD # 1

February 2018

CK Project No. 15648

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MAIN FILE

LDEQ RECEIPT
2018 FEB 14 PM 12:41

February 14, 2018

original to JOHW
copy to HW Thomas
Dan

Mr. Estuardo Silva, P.G.
Administrator, Waste Permits Division
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Re: Response to Notice of Deficiency (NOD) #1 for Site-Specific Variance from the Classification as a Solid Waste Pursuant to LAC 33:V.105.O.1.c and 105.O.2.c.
Thermaldyne, LLC
Agency Interest No.: 198467/PER20170004/EPA ID: TBD

Dear Mr. Silva:

On behalf of Thermaldyne, LLC, CK Associates (CK) is providing this response to the Louisiana Department of Environmental Quality (LDEQ) Notice of Deficiency (NOD) #1 for the Site-Specific Variance from the Classification as a Solid Waste Pursuant to LAC 33:V.105.O.1.c and 105.O.2.c.

Each LDEQ comment is reproduced herein, with responses in bo d text.

Environmental Scientist/Engineering Comments:

Page 5 Material Handling to Minimize Loss	Response to 105.O.2.b.ii states: *"Most of the processing of OBSM will occur in an enclosed building.* Indicate what processing takes place in 'an enclosed building' (e.g. the Material Handling Building), and what type of processing occurs on the "Thermal Pad".

The response to 105.O.2.b.ii has been revised to state that "The processing of OBSM will occur in an enclosed building (the Material Handling Building) or within the containment area of the Thermal Pad."

The revised Introductory Letter is provided in Appendix A to this document. The response to 105.O.2.b.ii has also been revised to include the below processing description.

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Processing Within Material Handling Building

All OBSM will be unloaded within the Material Handling Building into either the Liquids Containment Area (low solids OBSM) or within the Solids Containment Area (high solids OBSM).

The Liquids Containment Area consists of a concrete lined pit measuring approximately 40' L x 12' H x 8' D and the dewatering unit (a High G linear shaker) which measures approximately 8' x 40'. The Liquids Containment Area is located in the northeast corner of the Material Handling Building. The low solids OBSM will be unloaded into the Liquids Containment Area Pit then transferred via submersible pump the into dewatering unit (a High G linear shaker). The liquid stream from the dewatering unit will be transferred via pipe to the Thermal Pad for processing in the centrifuge system. The solid stream from the dewatering unit will be transferred via front loader to the Solids Containment Area.

The Solids Containment Area consists of that portion of the Material Handling Building not occupied by the Liquids Containment Area or other structures. The high solids OBSM will be unloaded within the Solids Containment Area. It will then be transferred via an auger conveyor to the Thermal Desorption Unit (TDU) for processing.

Processing on Thermal Pad

OBSM will be processed on the Thermal Pad in the centrifuge system and the TDU. The centrifuge system will separate the Low Solids OBSM into individual streams: water, oil, and solids. The water will be processed through the wastewater treatment plant (also located on the Thermal Pad). The oil will be collected in tanks or containers. The solids will be conveyed to the Solids Containment Area (located in the Material Handling Building) prior to conveyance into the TDU for further reclamation.

Page 5
Time Between Generating And Reclamation

Response to 105.O.2.b.iii states: *"Upon arrival at Thermaldyne, the OBSM will be processed immediately or when a sufficient quantity has been received to ensure efficient processing. The reclaimed oil will be then returned to petroleum refineries upon completion of a batch process or when a sufficient quantity has been generated."*

Define the length of time needed to reclaim a complete batch. Define the length of time between completing the reclamation on a batch of material, and it's return to the refinery production process. Define the statement "immediately or when a sufficient quantity has been received". Define the

quantity of material that is necessary to be considered 'sufficient quantity' to ensure efficient processing of a batch of OBSM. Define 'sufficient quantity' of recovered oil that will be required in order tc return the reclaimed material to the refinery.

Length of time to reclaim a complete batch

The length of time needed to reclaim a complete batch will be dependent on the size the batch. Typically, the size of a batch needed to efficiently process the material consists of approximately twenty truckloads (approximately 300 tons). A batch of this size would take approximately 48 operating hours to completely process. However, each truckload of OBSM shall be processed within 90 days of receipt with receipt defined as OBSM entering the site.

It should also be noted that in certain situations (e.g., the Material Handling Building is at capacity), OBSM may not be unloaded immediately from their containers. In those situations, the containers will be staged outside of the Material Handling Building on the limestone staging area. The staged containers will be inspected daily to ensure that they are closed and in good conditioned while being staged.

Length of time between completing the reclamation on a batch of material, and it's return to the refinery production process

In some contracts, the recovered oil from a processed batch would be returned to a refinery within days. In other situations, reclaimed oil may be consolidated from multiple batches (from different refineries) and then returned to a refinery. In all situations, the length of time between completing the reclamation on a batch of material, and it's return to the refinery production process will be no longer than 90 days.

Immediately or when a sufficient quantity has been received

Processing of the OBSM will begin "immediately or when a sufficient quantity has been received." This statement is related to the timing of the receipt of the OBSM. A refinery may transport the OBSM to Thermaldyne as each truck load is generated (e.g., during a tank cleanout). In this situation, Thermaldyne would begin processing the batch when it has received enough OBSM to reclaim the batch in one session (typically twenty truckloads).

In other situations, a refinery may consolidate the OBSM prior to transport and then transport the material to Thermaldyne at a rate where the material can be immediately processed upon receipt

Quantity of material that is necessary to be considered 'sufficient quantity' to ensure efficient processing of a batch of OBSM

Typically, the size of a batch needed to efficiently process the material consists of approximately twenty truckloads (approximately 300 tons). This quantity allows the units to operate efficiently without starting up and shutting down repeatedly.

'Sufficient quantity' of recovered oil

A "sufficient quantity" of recovered oil that will be required in order to return the reclaimed material to the refinery will vary depending on the contract with the refinery and the content of oil contained in the OBSM. In all situations, reclaimed oil will be returned to a refinery within 90 days of generation.

The response to 105.O.2.b.iii in the Introductory Letter has been revised to reflect the above information. The revised Introductory Letter is provided in Appendix A of this document.

Operational Plan: Page 2 Section 1.1.3 Facility Characteristics	It is stated that: *"The majority of the operating area will be located inside an enclosed building and will not be subject to run-on/runoff.*
	Indicate what processing takes place in 'an enclosed building' (e.g. the Material Handling Building), and what type of processing occurs on the OBSM-handling area. If the 'enclosed building' refers to the Material Handling Building, and the OBSM-handling area refers to the Thermal Pad, then clarify this throughout the variance request.
	Section 1.1.3 of the Operation Description has been rewritten to note that the processing of OBSM will occur in an enclosed building or within the containment area of the Thermal Pad. The revised Operational Description is provided in Appendix B of this document. Additional detail is also provided in first response to this correspondence.
Appendix J HW-1 Form	The HW-1 Form is not in Appendix J. Submit a completed HW-1 Form, including the Hazardous Secondary Materia (HSM) addendum, so that the proper identification number can be assigned to this hazardous waste variance request. All proposed materials listed in the response to LAC 33:V.105.O.2.b.iv must be listed on the HSM addendum and appropriate hazardous waste codes assigned.

An HW-1 has been prepared and is included in Appendix C of this document. An original HW-1 has been submitted to LDEQ under a separate cover.

Figure C 1.2 Submit the Figure C 1.2 version of the "Er larged Site Plan" as part of the feedstock variance request under LAC 33:V.105.O.2.b

Figure C 1.2 is provided in Appendix D of this document.

<u>Engineering comments:</u>

<u>Introductory Letter</u>

Page 3 The LPDES permit for wastewater discharge from the property must be in place prior to the beginning of operations at the facility.

Thermaldyne submitted an LPDES permit application to LDEQ on January 16, 2018 and anticipates that a permit will be issued prior to the beginning of operations at the facility. On January 19, 2018, LDEQ notified Thermaldyne that the application has been determined to be administratively complete. If the LPDES permit is not issued prior to operation, Thermaldyne will collect any process wastewater and transport it to a permitted wastewater treatment facility in accordance with applicable regulations. Thermaldyne may also dispose of process wastewater offsite at a permitted facility if it does not discharge the wastewater through its permitted LPDES outfall (i.e., after the LPDES permit is issued).

Page 5 Define the volume or capacity being used to designate as a sufficient quantity for processing and being generated.

The response to 105.O.2.b.iii in the Introductory Letter has been revised to note that the volume of OBSM that is necessary to be considered a sufficient quantity is that which will allow the material to be processed in a continuous, efficient run. Typically, that quantity will consist of twenty truckloads of OBSM. However, since all OBSM will be processed within 90 days of receipt, less than twenty truckload runs may be processed at certain times.

The revised Introductory Letter is provided n Appendix A of this document.

Page 9 The Appendix location of the Contingency Plan in Attachment 1 is misidentified.

A corrected copy of the Introductory Letter is provided in Appendix A of this document.

Attachment 1
Operation Description

Section 2.0 There is a discrepancy between the language in the Operation Description and the schematic drawings of the facility. The Operation Description identifies a receiving area where low solids and high solids OBSM are handled, but the schematics identify a material handling building. Clarify if this is one and the same building. Define and indicate the size of the areas that handle the low solids and high solids OESM within the building.

Section 2.0 of the Operation Description has been revised to clarify that the enclosed building is designated as the Material Handling Building. All OBSM will be unloaded within the Material Handling Building into either the Liquids Containment Area (Low Solids OBSM) or within the Solids Containment Area (High Solids OBSM). The Liquids Containment Area consist of a concrete lined pit measuring approximately 40' L x 12' H x 8' D and the dewatering unit (a High G linear shaker) which measures approximately 8' x 40'. The Liquids Containment Area is located in the northeast corner of the Material Handling Building.

The Solids Containment Area consists of that portion of the Material Handling Building not occupied by the Liquids Containment Area or other structures.

The revised Operation Description is provided as Appendix B.

Section 5.1 The LPDES permit for wastewater discharge from the property must be in place prior to the beginning of operations at the facility.

Thermaldyne submitted an LPDES permit application to LDEQ on January 16, 2018 and anticipates that a permit will be issued prior to the beginning of operations at the facility. On January 19, 2018, LDEQ notified Thermaldyne that the application has been determined to be administratively complete. If the LPDES permit is not issued prior to operation, Thermaldyne will collect any process wastewater and transport it to a permitted wastewater treatment facility in accordance with applicable regulations. Thermaldyne may also dispose of process wastewater offsite at a permitted facility if it does not discharge the wastewater through its permitted LPDES outfall (i.e., after the LPDES permit is issued).

Section 5.2 Define the vent streams that are controlled by the thermal oxidizer and the vent streams that are controlled by the carbon canisters.

Section 5.2 of the Operation Description has been revised to note that the vent stream that is controlled by the thermal oxidizer is the gas exiting the VRU, which is a part of the TDU. The vent streams controlled by the carbon canisters include the Material Handling Building induced draft and vented product tanks/ containers.

The revised Operation Description is provided in Appendix B of this document.

Section 5.3 Define the analysis for determination of the residuals from the other miscellaneous solid waste related to the reclamation process (bag house cake, filter bags, screened debris, carbon filter media, and empty used containers).

Section 5.3 of the Operation Description has been revised to note that Thermaldyne will make a hazardous waste determination for each of the residual waste streams related to the reclamation process in accordance with LAC 33:V.1103. Therefore, for each residual, Thermaldyne will: first, determine if it is exempted from hazardous waste regulation. Thermaldyne will then determine if the residuals are hazardous waste by either: testing the material according to methods set forth in the *Test Methods for Evaluating Solid Waste: Physical Chemical Methods, EPA Publication SW-846, as revised*; or by applying process knowledge of the hazard characteristic of the waste in light of the materials or the processes used. Thermaldyne will also determine whether each residual is listed as a hazardous waste in LAC 33:V.Chapter 49. Additional analysis will be conducted on the residuals, as required by the disposal facility.

Section 5.3 has also been revised to delete bag house cake as a residual since it will not be generated at the facility.

It should also be noted that residuals from the reclamation of OBSM catalyst may be sold to metals reclaimers or as a raw material for steel manufacturing. Otherwise, it will be disposed off-site as an industrial solid waste or a hazardous waste, depending on its characterization.

The revised Operation Description is provided in Appendix B of this document.

Section 9.1 A copy of the Hazardous Waste Activity Form HW-1 was not submitted in Appendix J as stated in this section.

An HW-1 has been prepared and is provided in Appendix C of this document. An original HW-1 has been submitted to LDEQ under a separate cover.

Appendix G
Material Acceptance Plan

Section 2.0 Define other oil-containing secondary materials.

Section 2.0 of the Material Acceptance Plan has been revised to note that other oil-containing secondary materials include OBSM that may exhibit a hazardous waste characteristic but is not listed as a hazardous waste.

The revised Material Acceptance Plan is provided in Appendix E of this document.

Section 3.3 Define the screening process of the OBSM at the facility.

Generators of OBSM will be required to complete and submit a Generator Material Profile as described in Section 3.1 of the Material Acceptance Plan. An example form has been added to the Material Acceptance Plan.

Section 3.3 of the Material Acceptance Plan has been revised to note that upon arrival of the OBSM at site, Thermaldyne personnel will verify that the physical characteristics of each load (Color/Appearance, Phases, Physical State (i.e., liquid, solid, sludge, or granular, and Odor) match the Generator Material Profile.

The revised Material Acceptance Plan is provided in Appendix E of this document.

Section 3.3 Define the management of rejected loads to the facility.

Section 3.3 of the Material Acceptance Plan has been revised to note that if a load is rejected prior to unloading, Thermaldyne will direct the load back to the generator. If the load is rejected after unloading, the load will be transferred into the truck and the truck will be directed back to the generator. Loads without prior approval will not be allowed on the site.

The revised Material Acceptance Plan is provided in Appendix E of this document.

Appendix I

Contingency Plan

Section 1.3 Define other oil-containing secondary materials.

Section 1.3 of the Contingency Plan has been revised to note that other oil-containing secondary materials include OBSM generated at petroleum refineries that may exhibit a hazardous waste characteristic, but is not listed as a hazardous waste.

The revised Contingency Plan is provided in Appendix F of this document.

Section 2.2 Define a short period of time.

Section 2.2 of the Contingency Plan has been revised to note that the Emergency Coordinator shall be available to respond to an emergency by reaching the facility within two hours.

The revised Contingency Plan is provided in Appendix F of this document.

Section 3.0 A list and description of the emergency equipment was not submitted in Attachment 2 of the Contingency Plan.

Attachment 2 of the Contingency Plan has been revised to provide a list and description of the emergency equipment.

The revised Contingency Plan is provided in Appendix F of this document.

Section 4.1 A list and location of the spill kits and supplies was not submitted in Attachment 2 of the Contingency Plan. Submit this information.

Attachment 2 of the Contingency Plan has been revised to provide a list and location of spill kits and supplies.

The revised Contingency Plan is provided in Appendix F of this document.

Section 5.2 The Attachment to the Contingency Plan for the off-site agencies and telephone numbers was misidentified.

Section 5.2 of the Contingency Plan has been revised to note Attachment 3 as the correct attachment listing the off-site agencies and telephone numbers.

The revised Contingency Plan is provided in Appendix F of this document.

Clarification is needed on the regulation cited for reportable quantities (i.e., LAC 33.V.10111).

LAC 33:V.10111 describes hazardous material Release and Incident Reporting requirements for the Louisiana Department of Public Safety.

Section 6.3 Under the discussion of Evacuation Procedures the same language is used for re-entry and sheltering-in-place. Sheltering-in-place is not a form of evacuation but an action response to an incident at the facility. Should an evacuation be required after an initial action of sheltering-in-place, then alternate language needs to be discussed in this section.

Section 6.3 of the Contingency Plan has been revised to clarify procedures for sheltering-in-place.

A revised Contingency Plan is provided in Appendix F of this document.

Section 7.0 The All Clear Notification section is misidentified. Correct this discrepancy.

Section 7.0 of the Contingency Plan has been revised to correctly identify the All Clear Notification section.

The revised Contingency Plan is provided in Appendix F of this document.

Section 7.1 Other than the received material that is being recovered from a spilled or released at the facility may be treated on site. Generated waste during an incident is to be disposed offsite. Clarification of the language in this section is needed.

Section 7.1 of the Contingency Plan has been revised to note that waste generated following an incident, other than OBSM, will be disposed offsite.

The revised Contingency Plan is provided in Appendix F of this document.

Section 7.2 Identify the facility as the entity assuming generator status and management of the recovered material in an emergency response (last sentence, first paragraph).

Section 7.2 of the Contingency Plan has been revised to identify Thermaldyne as the entity assuming generator status and management of the recovered material in an emergency response.

The revised Contingency Plan is provided in Appendix F of this document.

Section 8.0 Letters of agreement with outside agencies were not submitted in Attachment 4 of the Contingency Plan as stated in this section. Submittal of this information is required.

Thermaldyne has sent requests for letters of agreement with outside agencies. Copies of the letters are provided in Attachment 4 of the revised Contingency Plan. The letters of agreement will be maintained onsite by Thermaldyne as they are received. If outside agencies decline to enter into agreements, documentation or requests will be maintained onsite.

The revised Contingency Plan is provided in Appendix F of this document.

Appendix K
Closure Cost Estimate

Update closure cost estimate to include:

- the number of personnel to conduct closure operations and time (number of days for personnel),
- personal protection equipment,
- labor cost for demolition,
- any equipment rental cost need for closure

An updated closure cost estimate is provided in Appendix G of this document.

As requested, five (5) copies of the response are enclosed herein. If you have any questions or need additional information, please do not hesitate to contact Brooks Ray at 225.755.1000 or at brooks.ray@c-ka.com.

Sincerely,
CK Associates

Brooks Ray
Sr. Environmental Scientist

Bill Greenwich
Sr. Environmental Scientist

Encl: As stated

APPENDIX A

REVISED INTRODUCTORY LETTER

CK ASSOCIATES
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~~December 1~~February 14, 201~~7~~8

Mr. Elliot Vega, Assistant Secretary
Louisiana Department of Environmental Quality
Office of Environmental Services
PO Box 4313
Baton Rouge, Louisiana 70821-4313

Re: Feedstock Variance Request
Thermaldyne, LLC – West Baton Rouge Parish
Agency Interest No. 198467

Dear Mr. Vega:

Thermaldyne, LLC (Thermaldyne) is proposing a facility to receive and process oil-bearing secondary material (OBSM) generated at petroleum refineries. Thermaldyne intends to reclaim the oil contained in the OBSM via centrifuge and thermal desorption processes. The recovered oil will be transferred back to refineries for reinsertion as a feedstock into the refining process. Thermaldyne hereby requests that the Louisiana Department of Environmental Quality (LDEQ) grant a variance from classifying this OBSM as a solid waste pursuant to LAC 33:V.105.O.2.b. Five copies of this request are provided.

In accordance with LAC 33:V.105.O.2, LDEQ may grant this solid waste variance request for those materials that are reclaimed and then reused as feedstock within the original primary production process in which the materials were generated if the reclamation operation is an essential part of the production process. Thermaldyne requests that LDEQ grant this variance based on Thermaldyne's responses to the criteria described in LAC 33:V.105.O.2.b.i-vii, which are provided herein.

This variance request includes an overview of the facility, a description of the reclamation process, and the facility design and operation. In support of this request, an Operation Description, which provides details about the proposed facility and its operations, is provided in **Attachment 1**, along with other supporting documentation.

FACILITY OVERVIEW

The proposed facility will be located at 2325 North Line Road in Port Allen, Louisiana (West Baton Rouge Parish). A Site Location Map is provided in **Attachment 1** as **Figure 1**. The area in which the facility will be located is zoned *industrial, moderate*, which is consistent with this type of operation. There is no residential housing adjacent to the site.

Approximately seven acres of the 28.2-acre site will be used to process material. The processing area of the site will be surrounded by a buffer zone exceeding 200-feet and the entire site will be fenced and secure.

Primary access to the facility will be from Interstate I-10, exiting south and proceeding approximately one mile on Louisiana Highway 1, then proceeding west on North Line Road. North Line Road may only be accessed from Highway 1. The Louisiana Department of Transportation and Development (DOTD) does not foresee adverse impacts to transportation or roadways from the operation of this facility. Documentation from DOTD is provided in **Appendix B** of **Attachment 1**.

PROCESS OVERVIEW

Thermaldyne will use a centrifuge process and/or a thermal desorption process to reclaim the oil from OBSM. Centrifuges will be used to initially process low solids OBSM, which consists of mostly water (i.e., 70 – 90%). Thermal desorption will be used to process high solids OBSM, which consists of mostly solids (i.e., 40 – 70%), with the remaining volume consisting of oil and water. Details of the reclamation process are provided in **Section 3.0** of **Attachment 1**. A brief description of the process is provided below.

All low solids OBSM will be screened over a High G linear shaker and then fed to one of three 3-phase tricanting centrifuges. Water, oil, and solids will be separated into individual streams. Oil will be further conditioned and treated for market. The water will be processed through the onsite wastewater treatment plant and then discharged or disposed. The solids will be conveyed to the Thermal Desorption Unit (TDU) for further processing and recovery.

The thermal desorption operation will utilize an indirect-fired (natural-gas fueled) TDU and associated equipment to process high solids OBSM. In the indirect heating process, heat is applied to the exterior of the heating chamber and transferred through the wall of the chamber to the OBSM. The TDU burner flame will not be in direct contact with the OBSM or the off-gases. Hydrocarbons are separated from the substrate material by increasing the temperature above the boiling point of the hydrocarbons (approximately 900° F). Heavier materials, such as metals and inert matter, are removed from the dryer in solid form. The hydrocarbons are then processed through a Vapor Recovery Unit (VRU) that is designed to maximize recovery of the volatilized material from the off-gases. In this process, the majority of hydrocarbons contained in the OBSM feed are recovered, not destroyed.

Both the centrifuge process and the TDU process are proven technologies that are currently used to reclaim oil from oil-containing materials at many commercial facilities. The technology is also used to reclaim OBSM at several petroleum refineries in the United States, including refineries in Louisiana.

DESIGN AND OPERATION OVERVIEW

Thermaldyne will implement stringent material acceptance procedures (see **Appendix G** of **Attachment 1**). The facility will limit the OBSM that it receives to those generated at petroleum refineries.

All processing of OBSM will occur upon concrete pads with secondary containment to prevent impacts to the soil and groundwater. A synthetic liner will also be installed below the concrete in process areas. The receiving area for the OBSM will be located inside an enclosed building and is not subject to run-on/runoff. The entire perimeter of the OBSM-handling area will have an 8-inch curb to prevent surface drainage through the operating areas of the facility.

Residuals generated during the reclamation process will include wastewater, air emissions, and solids. All residuals will be managed in accordance with applicable regulations and in a manner protective of human health and the environment. The facility will operate as a minor source of air emissions pursuant to Air Permit No. 3120-00116-00.

Thermaldyne will collect all wastewater, *i.e.*, water not recycled into the reclamation process or contact stormwater, in containers (*e.g.*, frac tanks) prior to treatment in an onsite wastewater treatment system. Treated wastewater will be discharged in accordance with Thermaldyne's LPDES permit (application to be submitted). Wastewater that is not recycled in the process or treated in the onsite system will be collected in containers and shipped offsite for treatment or disposal at a permitted facility in accordance with applicable regulations.

Thermaldyne will install a thermal oxidizer to control emissions (*i.e.*, vent streams not recycled into the reclamation process) from the TDU vent, API separator, and storage tanks at the facility. The air pollution control system is designed to operate with greater than 99.9% destruction efficiency.

Residual solids will be containerized and transferred offsite for treatment, and/or disposal in accordance with applicable regulations. None of the residual solids will be disposed on site.

Thermaldyne will operate under stringent standards, above and beyond those required by regulation. As such, Thermaldyne will:

- Submit detailed design and operating descriptions of its process to LDEQ (see **Attachment 1**).

- Provide financial assurance. The financial assurance will guarantee that funds are provided to close the facility based on LDEQ approved cost estimates. The cost estimates assume a worst-case scenario. Thermaldyne will also maintain liability insurance at or above those required for hazardous waste facilities.

- Maintain a contingency plan that describes the specific emergency preparedness and response procedures to that will be implemented while managing the OBSM (see **Appendix ~~I~~J** of **Attachment 1**).

In addition, Thermaldyne understands that the variance, if approved, shall be effective for a fixed term not to exceed 10 years. Thermaldyne will need to submit another variance request if it would like to continue its operation. Among other criteria, LDEQ may consider Thermaldyne's operating history in determining whether to renew the variance.

REVIEW OF REGULATORY CRITERIA

LAC 33:V.105.O.2.b.i-vii sets forth the criteria that LDEQ uses to evaluate requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original primary production process in which the materials were generated if the reclamation operation is an essential part of the production process. Thermaldyne has reviewed each of the criteria and determined that all criteria will be satisfied by the proposed facility. Each criterion is reviewed separately below.

How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials (LAC 33:V.105.O.2.b.i)

The economic viability of petroleum refining at a petroleum refinery is determined by its profitability. The profitability is determined by factors including feedstock costs, operational expenses, and market prices for produced products. Profit margins and economic viability can vary from refinery to refinery, and over time for each refinery, based on the price of the particular feedstock used, individual operating costs, and the price of the refined product that it produces.

Reclaiming oil from OBSM at Thermaldyne can result in significant cost savings and improve a petroleum refinery's economic viability in two ways: 1) by increasing its supply of feedstock at a lower cost than virgin materials that have not been reclaimed; and 2) by lowering its OBSM management costs.

When a petroleum refinery sends OBSM to Thermaldyne for reclamation, it will be charged a reclamation fee. The reclamation fee will be based on several factors including the quantity and quality of the OBSM. Typically, the reclamation fee will be substantially lower than the cost of alternative management options for the OBSM (typically disposal in a hazardous waste landfill).

Thermaldyne will sell the reclaimed oil back to the petroleum refinery that generated the OBSM or to other petroleum refineries for reinsertion as a feedstock into their refining process. The reclaimed oil will be sold at a cost lower than the price of oil not reclaimed from OBSM, although it will be of equal quality.

The extent to which the material is handled before reclamation to minimize loss (LAC 33:V.105.2.b.ii)

The OBSM will be sent directly to Thermaldyne and managed as a valuable commodity. All OBSM processed at the Port Allen facility will be contained in units that are in good condition and are designed to handle OBSM. The units will be constructed of materials compatible with OBSM. The units will be inspected daily to ensure that there are no leaks or spills outside of containment. ~~Most of the processing of OBSM will occur in an enclosed building.~~ The processing of OBSM will occur in an enclosed building (the Material Handling Building) or within the containment area of the Thermal Pad. All OBSM handling will take place on a concrete pad with a subsurface liner and surrounded with secondary containment curbs or rollover berms. Any OBSM placed on the concrete pad will be immediately recovered and reinserted into reclamation process. The physical management of the OBSM will meet or exceed industry standards for similar raw materials.

The time periods between generating the material and its reclamation and between reclamation and return to the original primary production process (LAC 33:V.105.O.2.b.iii)

OBSM will be generated upon removal from the unit in which it is managed. The OBSM will be transferred from the unit into containers or vacuum trucks and then transferred to Thermaldyne. Once generated, a refinery may manage the OBSM onsite for up to 90 days prior to shipment to Thermaldyne.

Upon arrival at Thermaldyne, the OBSM will be processed immediately or when a sufficient quantity has been received to ensure efficient processing. Ensuring that a sufficient quantity (or batch) of OBSM is received before processing reduces the number of startup/shutdown cycles which prolongs the life of the equipment and saves energy. Efficient processing requires approximately 20 truckloads of OBSM (approximately 300 tons) for each run. A batch of this size would take approximately 48 operating hours to completely process.

Whether a batch can be processed immediately or not depends on the timing of its receipt. For example, a refinery may transport the OBSM to Thermaldyne as each truck load is generated (e.g., during a tank cleanout). In this situation, Thermaldyne would begin processing the batch when it has received enough OBSM to reclaim the batch in one session (typically twenty truckloads).

In other situations, a refinery may consolidate the OBSM prior to transport and then transport the material to Thermaldyne at a rate and quantity where the material can be immediately processed upon receipt.

In all situations, each truckload of OBSM shall be processed within 90 days of receipt with receipt defined as OBSM entering the site.

The reclaimed oil will be then returned to petroleum refineries upon completion of a batch process or when a sufficient quantity has been generated. A "sufficient quantity" of recovered oil that will be required in order to return the reclaimed material to the refinery will vary depending on the contract with the refinery. In some contracts, the recovered oil from a processed batch would be returned to a refinery within days. In other situations, reclaimed oil may be consolidated from multiple batches (from different refineries) and then returned to a refinery. In all situations, reclaimed oil will be returned to a refinery within 90 days of generation.

The location of the reclamation operation in relation to the production process (LAC 33:V.105.O.b.iv)

Thermaldyne's reclamation operation will be located within 250 miles of at least 39 petroleum refineries, including 18 active refineries in Louisiana. These 39 refineries represent over 40% of the total U.S. petroleum refining capacity. The location of Thermaldyne in relation to the refineries is depicted in **Figure 1**.

Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form (LAC 33:V.105.O.2.b.v)

The reclaimed oil will be reinserted into the petroleum refining process as was its original purpose. It will also be returned substantially in its original form (virgin feedstock).

Whether the person who generates the material also reclaims it (LAC 33:V.105.O.2.b.vi)

The OBSM will be generated by the petroleum refineries. Thermaldyne will be the reclaimer.

Other relevant factors (LAC 33:V.105.O.2.b.vii)

This variance will encourage more reclamation. Currently, OBSM that is generated at a petroleum refinery and inserted into the petroleum refining process is excluded from the definition of solid waste under LAC 33:V.105.D.1.l. The exclusion requires that the material be inserted into the same petroleum refinery or sent directly to another petroleum refinery. For various reasons, there is limited capacity in the refineries to reclaim the oil from the OBSM. As a result, much of the material is managed as hazardous waste and oil reclamation is not maximized.

This variance will encourage the reclamation of OBSM by providing more management options for petroleum refineries by increasing the reclamation capacity. This will not only likely lower the cost of the reclamation, as a result of increased competition, but it will reduce the timing constraints of many projects that generate the OBSM (e.g., tank cleaning) since the refineries will not have to wait for reclamation capacity to become available.

To further support this variance, it should be noted that the reclamation process will meet the recycling legitimacy criteria described in LAC 33:V.105.R. Section 105.R establishes four factors that must be satisfied for recycling of hazardous secondary materials to be considered legitimate. A description of how Thermaldyne intends to satisfy each of the four factors is discussed below.

Factor 1: Legitimate recycling shall involve a *hazardous secondary material* that provides a *useful contribution* to the recycling process or to a product or intermediate of the recycling process.

Hazardous Secondary Material

"Hazardous secondary material" is defined in LAC 33:V.109 to mean "a secondary material (*e.g.,* spent material, by-product, or sludge) that when discarded, would be identified as hazardous waste under LAC 33:V.Supbpart 1." "Oil bearing" secondary material is not defined in the federal or state hazardous waste regulations. However, in the preamble to the final rule establishing the OBSM exclusion in 40 CFR 261.4(a)(12)(i) (the federal counterpart to LAC 33:V.105.D.1.l.i), EPA stated that OBSM must contain "some amount of recoverable oil." Specifically, EPA stated that OBSM may include "...any oil-bearing material generated at a petroleum refinery, including oil-bearing wastes currently regulated as listed hazardous wastes...that are suitable for insertion into normal petroleum refining operations." (*See*, 63 Fed. Reg. 42,118.) While the secondary material must contain some amount of recoverable oil, EPA did not specify a minimum oil content in secondary materials since "...it would be counter to the overall efficiency of the petroleum refining process." (*See*, 63 Fed. Reg. 42,127)

Thermaldyne will accept and recover oil from materials that are identical to that which is already excluded under LAC 33:V.105.D.1.l. The OBSM accepted by Thermaldyne may include the following types of oil-bearing materials generated by a petroleum refinery (SIC code 2911):

- Dissolved air float (DAF)
- Slop oil emulsion solids
- Heat exchanger bundle cleaning sludge
- API separator sludge
- Tank bottoms (leaded)
- Crude oil tank sediment
- Clarified slurry oil tank sediment and/or in-line filter/separation solids
- Primary refinery oil/water/solids separation sludge
- Secondary (emulsified) oil/water/solids separation sludge
- Spent hydrotreating catalyst
- Spent hydrorefining catalyst

- Any other oil-containing secondary material (*e.g.,* spent material, by-product, or sludge)

Useful Contribution

In accordance with LAC 33:V.105.R.2, a hazardous secondary material provides a useful contribution to the recycling process if it:

(i) Contributes valuable ingredients to a product or intermediate; or
(ii) Replaces a catalyst or carrier in the recycling process; or
(iii) Is the source of a valuable constituent recovered by the recycling process; or
(iv) Is recovered or regenerated by the recycling process; or
(v) Is used as an effective substitute for a commercial product.

The OBSM recovered in Thermaldyne's process will provide a useful contribution since it will be the source of a valuable constituent (oil). In fact, both the centrifuge and TDU processes are well-established as efficient means to recover oil from OBSM. For many years, they have been used for that purpose at petroleum refineries in the United States, including in Louisiana (*e.g.,* the Shell refinery located in Norco, LA and the Marathon refinery located in Garyville, LA).

Thermaldyne will have the capability of processing up to approximately 500 tons of OBSM per day. Thermaldyne anticipates that the OBSM accepted will contain an average of 30% recoverable oil. The proposed facility will not accept any secondary material that does not contain recoverable oil. If operating at maximum capacity and assuming OBSM with an average content of recoverable oil, this process could result in the recovery of over 1,000 barrels of oil equivalent per day, depending on the specific gravity of the oil.

Factor 2: The recycling process shall produce a *valuable product or intermediate.*

In accordance with LAC 33:V.105.R.3, a product is valuable if it is:
(i) Sold to a third party; or
(ii) Used by the recycler or the generator as an effective substitute for a commercial chemical product or as an ingredient in an industrial process.

The oil that will be recovered in the Thermaldyne recycling process will be returned to the petroleum refinery that generated the OBSM or to other petroleum refineries for use as an ingredient in an industrial process.

The refinery will reinsert the oil as a feed material or ingredient into their refining process. This oil recovered in Thermaldyne's process will have similar chemical

and physical properties to the oil recovered from OBSM on site at petroleum refineries.

Factor 3: The hazardous secondary material must be managed as a *valuable commodity.*

Thermaldyne will manage OBSM as a valuable commodity. All OBSM processed at the Port Allen facility will be contained in units that are in good condition and are designed to handle OBSM. The units will be constructed of materials compatible with OBSM. The units will be inspected daily to ensure that there are no leaks or spills outside of containment. Most of the processing of OBSM will occur in an enclosed building. All OBSM handling will take place on a concrete pad with a subsurface liner and surrounded with secondary containment curbs or rollover berms. Any OBSM placed on the concrete pad will be immediately recovered and reinserted into reclamation process. The physical management of the OBSM will meet or exceed industry standards for similar raw materials.

As with any valuable commodity, Thermaldyne will also ensure the OBSM meets appropriate criteria before acceptance. As noted, Thermaldyne will implement stringent material acceptance procedures as outlined in **Appendix G** of **Attachment 1**). Thermaldyne will maintain receiving and inventory records regarding the types and quantities of OBSM received and processed at the site as well as the quantities of recovered oil.

Factor 4: The product of the recycling process must be *comparable* to a legitimate product or intermediate.

Where there is an analogous product or intermediate, the product of the recycling process is comparable to a legitimate product or intermediate if:

- The product of the recycling process does not exhibit a hazardous constituent as defined in LAC 33:V.4903 that analogous products do not exhibit; and
- The concentration of any hazardous constituents found in LAC 33:V.3105.Table 1 that are in the product or intermediate are at levels that are comparable to or lower than those found in analogous products or at levels that meet widely-recognized commodity standards and specifications, in the case where the commodity standards and specifications include levels that specifically address these hazardous constituents; or...

The product of the Thermaldyne recycling process will be recovered oil. The recovered oil will be used for reinsertion into the petroleum refining.

To be reinserted into the petroleum refining process, the recovered oil must meet widely-accepted commodity physical and chemical specifications. The specifications, however, will vary depending on the individual refinery receiving the oil and their needs at the time.

Financial Assurance

Although not required, Thermaldyne shall satisfy the financial assurance requirements described LAC 33:V.3707 and 3715. Thermaldyne has prepared a detailed written estimate, in current dollars, of the cost of disposing any OBSM as listed hazardous waste, and the potential cost of closing the facility as a treatment, storage, and disposal facility. The cost estimate is provided in **Attachment 1, Appendix K**. Thermaldyne requests that it be allowed to submit documentation of financial assurance for closure and liability insurance after approval of the variance request and at least 60 days prior to receiving OBSM.

Safety and Emergency Preparedness

Employees involved in operation of the TDU and associated equipment at the facility will be fully trained at hiring and periodically thereafter. Initial and subsequent training will include updates and/or changes in policies, procedures, and onsite equipment. A training plan has been developed to ensure appropriate training is conducted and documented. A description of the training plan is provided in **Attachment 1, Section 8.0.**

A detailed description of the equipment that will be used to safely manage the OBSM is provided in **Attachment 1, Sections 2.0 – 5.0.**

Thermaldyne has prepared a Contingency Plan to meet the requirements of LAC 33:V.1513. A copy of the plan is provided in **Attachment 1, Appendix J.**

Management of Residual Material

Residuals generated during the reclamation process will include wastewater, air emissions, and solids. These materials will be managed in a manner that is protective of human health and the environment. A brief description of the residual management is provided below. More detailed information is provided in **Attachment 1, Section 5.0.**

Wastewater

Thermaldyne will collect all wastewater, which includes water not recycled into the reclamation process and contact stormwater. Wastewater will be stored in containers (*e.g.,* frac tanks) prior to treatment in its onsite wastewater treatment system. Treated wastewater will be discharged in accordance with Thermaldyne's LPDES permit (application to be submitted). If wastewater is not recycled or treated in the onsite

system, it will be collected in containers and shipped offsite for treatment or disposal at a permitted facility in accordance with applicable regulations.

Air Emissions

Thermaldyne will install a thermal oxidizer to control emissions (i.e., vent streams not recycled into the reclamation process) from the TDU vent, API separator, and storage tanks at the facility. The control system is designed to operate with greater than 99.9% destruction efficiency. LDEQ issued Air Permit No. 3120-00116-00 to authorize air emissions from the facility.

Solids

Residual solids exiting the TDU will be transferred to roll-off containers. The residual solids from each batch of OBSM being reclaimed will be characterized in accordance with approved EPA methods. Based on this analysis, these solids will be classified as either industrial solid waste or hazardous waste, and managed accordingly. Management will include storage of residual solids in appropriate containers, proper labeling, manifesting, offsite disposal, and recordkeeping.

Other miscellaneous solids related to the reclamation process will also be generated at the site. These solids will include filter bags, screened debris, carbon filter media, and empty used containers. All residual solids will be properly characterized and disposed offsite in accordance with applicable regulations. No waste will be disposed onsite.

Risk to Proximate Populations

The material that Thermaldyne will recycle, OBSM, is not mobile and, thus, does not have a high potential to adversely impact nearby populations if it were released. Nevertheless, Thermaldyne will employ numerous preventative measures to further reduce the already low risk to proximate populations from unpermitted releases of OBSM. Potential release of any material through precipitation runoff, release to soil and groundwater, wind-blown dust, fugitive air emissions, or from catastrophic failure of units from the operation is minimal. A description of these measures is provided below.

Precipitation Runoff

The OBSM-handling area will be located upon a raised concrete pad. The TDU will be located within an enclosed building. A synthetic liner will be placed under the concrete in the building. The entire perimeter of the uncovered OBSM-handling areas will have an 8-inch curb or berm to prevent surface drainage through the operating areas of the facility.

The runoff control system for the uncovered handling areas is designed to manage the rainfall from a 24-hour/25-year storm event, i.e., nine inches (based on the Rainfall Frequency /Magnitude Atlas for the South-Central United States, published in 1997).

Runoff from inside the curbed area will be collected and drained into a sump where it will then be pumped into frac tanks for holding. From there, it may be recycled into the reclamation process, treated in the onsite wastewater treatment system and discharged in accordance with an LPDES permit, or transported offsite to a permitted wastewater treatment or disposal facility.

Soil and Groundwater Protection

As described above, the OBSM handling area will located upon a raised and synthetic-lined concrete slab, which will protect the underlying soil and groundwater. All tanks, vessels and containers containing reclamation residues and recovered oil will be located within secondary containment that will meet the requirements of Thermaldyne's Spill Prevention Control and Countermeasures (SPCC) Plan.

An additional description of the measures that will be taken to protect the aquifer (as well as the underlying soil) is provided in **Attachment 1, Appendix E**

Wind Blown Dust

The only source of wind blow dust will be from the residual solids generated during the reclamation process. Water quenching will be conducted to keep the residual solids cool and control dust. Recovered water that has been treated in the onsite wastewater treatment system will be reused on-site to suppress dust emitted from the treated waste material before or after it exits the treatment plant.

Fugitive Air Emissions

The thermal treatment process will be conducted in a sealed chamber to minimize air ingress and to prevent the release of fugitive emissions. Negative pressure will be maintained in the enclosed receiving building to reduce fugitive emissions. Solid residuals will be stored in closed containers. As noted, it is extremely unlikely that residual material will be released to the environment and, therefore, will not pose a risk to offsite receptors.

Catastrophic Unit Failures

Thermaldyne will implement a comprehensive inspection and maintenance program to ensure that the reclamation equipment is properly maintained. The program will follow

the procedures recommended by the vendor. Not only will this significantly decrease the risk of catastrophic failure, it will maintain system availability and efficiency. Containers holding residuals will be inspected on a regular basis to ensure that they are maintained in good condition (e.g., no rusting or apparent structural defects) and not leaking. If any containers holding residuals are found to be leaking or in poor condition, the contents will be transferred to a container that is in good condition.

Nearby Potential Stressors

A Phase I Environmental Site Assessment (ESA) was conducted on the Thermaldyne site by an independent, third party. One of the objectives of the ESA was to determine if nearby activities presented a risk of a recognized environmental condition[1] (REC) to the site. In addition to contacting various state and local authorities, an environmental database search was conducted, in part, to assess the likelihood that the property was affected by any activities in the area that would result in an REC. The database search radii extended up to a mile from the property depending on the database. The assessment did not find any location within the ASTM radii that indicated a risk of a REC to the property. A copy of the ESA report is provided in **Attachment 2.**

The absence of RECs in the area in addition to the safeguards that will be implemented at the facility indicate that there will be no significant addition to the cumulative risk to the proximate population from Thermaldyne's operations.

CONCLUSION

As demonstrated in this request and the attached supplemental documents, the OBSM that will be reclaimed at Thermaldyne's proposed facility meets all criteria required to be granted a variance. Approval of this variance request will encourage the reclamation of OBSM by providing more management options for petroleum refineries since it will increase the capacity for reclamation of OBSM. This will not only likely lower the cost of the reclamation, as a result of increased competition, but it will reduce the timing constraints of many projects that generate the OBSM (e.g., tank cleaning) since the refineries will not have to wait for reclamation capacity to become available.

This variance will encourage reclamation of OBSM in a manner that does not result in an increased risk to human health and the environment from discarded OBSM. Issuance of this

[1] The term REC is defined by the American Society for Testing and Materials (ASTM) Standard E 1527-13 as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, material threat of a release of any hazardous substances or petroleum products into structures of the property or into the ground, groundwater or surface water of the property.

variance request will fulfill this purpose and result in a net increase in the protection of human health and the environment. For these reasons, Thermaldyne respectfully requests that LDEQ approve this variance.

If you have any questions concerning this request, please do not hesitate to contact Ricky Cates of Thermaldyne at 337.288.4600, Kyle Beall at 225.336.8450, or Brooks Ray of CK Associates at 225.755.1000 or brooks.ray@c-ka.com.

Sincerely,
CK Associates

Brooks Ray

Brooks Ray
Sr. Environmental Scientist

Bill Greenwich

Bill Greenwich
Sr. Environmental Scientist

Figure 1 – Area Refineries
Attachment 1 – Operation Description
Attachment 2 – Environmental Site Assessment (ESA) Report

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APPENDIX B

REVISED OPERATION DESCRIPTION

OPERATION DESCRIPTION

Thermaldyne, LLC
Port Allen Facility
Port Allen, Louisiana

~~DECEMBER 2017~~FEBRUARY 2018

EXECUTIVE SUMMARY

This Operation Description is intended to provide detailed information in support of the Thermaldyne, LLC (Thermaldyne) variance request under LAC 33:105.O.2.b. The Operation Description includes information regarding the facility location, design, operations, and compliance with applicable regulations.

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1.0 FACILITY OVERVIEW

Thermaldyne, LLC (Thermaldyne) owns and will operate the Port Allen Facility. The facility reclaims oil from oil-bearing secondary material (OBSM) by utilizing a 3-phase centrifuge process and an indirect thermal desorption (ITD) process. The OBSM consists of sludges, byproducts, spent or other oil-bearing materials generated at petroleum refineries. The oil that is reclaimed is returned to petroleum refineries for reinsertion into the refining process. Residuals generated by the process are managed in an environmentally sound manner in accordance with applicable regulations.

1.1 Site and Facility Description

1.1.1 Location

The facility is located upon approximately 28.2 acres at 2325 North Line Road in Port Allen, Louisiana in West Baton Rouge Parish. A Site Location Map is provided as **Figure 1.**

1.1.2 Location Area Information

Zoning

The area in which the facility is located is zoned "industrial, moderate", which is consistent with this type of operation. Documentation is provided in **Appendix A**.

Land Use

A Land Use Map showing land use within a two-mile radius of the facility is provided as **Figure 2**. As noted on the map, which is based on the National Land Cover Database (2011), the land use within the radius is approximately 70 percent undeveloped.

The estimated population within the two-mile radius is 6,653 based on the most recent U.S. Census data. The population within a one-mile radius is 477 based on the same data.

Traffic

Primary access to the facility is from Interstate I-10, exiting south and proceeding approximately one mile on Louisiana Highway 1, then proceeding west on North Line Road. North Line Road may only be accessed from Highway 1. Approximately 25 trucks containing OBSM may be received at the facility each day, when operating at full capacity. All loads are expected to be within legal limits. The Louisiana Department of Transportation and Development (DOTD) does not foresee any significant adverse traffic impacts from the operation of this facility. Documentation from DOTD is provided in **Appendix B**.

Environmental Characteristics

The facility is not located within 1,000 feet of any critical/sensitive environmental sites, wetlands, estuaries, wildlife-hatchery areas, habitats of endangered species, archaeological sites, historic sites, publicly-owned recreation areas, or similar critical environmental areas. Documentation is provided in **Appendix C.**

1.1.3 Facility Characteristics

Approximately seven acres of the 28.2-acre site is used to process OBSM. As described below, all OBSM processing will occur within an enclosed building (the Material Handling Building) or within the containtainment area of the Thermal Pad. A Site Plan is provided in **Figure 3** of this document.

Processing within Material Handling Building

All OBSM will be unloaded within the Material Handling Building into either the Liquids Containment Area (Low Solids OBSM) or within the Solids Containment Area (High Solids OBSM).

The Liquids Containment Area consists of a concrete lined pit measuring approximately 40' L x 12' H x 8' D and the dewatering unit (a High G linear shaker) which measures approximately 8' x 40'. The Liquids Containment Area is located in the northeast corner of the Material Handling Building. The Low Solids OBSM will be unloaded into the Liquids Containment Area Pit then transferred via submersible pump the into dewatering unit (a High G linear shaker). The liquid stream from the dewatering unit will be transferred via pipe to the Thermal Pad for processing in the centrifuge system. The solid stream from the dewatering unit will be transferred via front loader to the Solids Containment Area.

The Solids Containment Area consists of that portion of the Material Handling Building not occupied by the Liquids Containment Area or other structures. The High Solids OBSM will be unloaded within the Solids Containment Area. It will then be transferred via an auger conveyor to the Thermal Desorption Unit (TDU) for processing.

Processing on Thermal Pad

OBSM will be processed on the Thermal Pad in the centrifuge system and the TDU. The centrifuge system will separate the Low Solids OBSM into individual streams: water, oil, and solids. The water will be processed through the wastewater treatment plant (also located on the Thermal Pad). The oil will be collected in tanks or containers. The solids will be conveyed to the Solids Containment Area (located in the Material Handling Building) prior to conveyance into the TDU for further reclamation.

Buffer Zone

The processing area of the facility will be surrounded by a buffer zone exceeding 200-feet to the nearest property boundary. Documentation is provided in **Appendix D**.

Perimeter Barrier

The entire facility will be fenced. Entry point(s) will be gated and continuously manned or monitored during operating hours. Gates will be closed and secured when they are not manned or monitored. The fenceline is depicted on **Figure 3**.

Surface Hydrology

The processing of OBSM will occur in an enclosed building or within the containment area of the Thermal Pad~~The majority of the operating area will be located inside an enclosed building~~ and will not be subject to run-on/runoff. The entire perimeter of the OBSM-handling area will have an 8-inch curb to prevent surface drainage through the operating areas of the facility. Runoff from inside the curbed area will be collected and drained into a sump where it will then be pumped into frack tanks for holding before treatment or off site disposal. The runoff control system is designed to manage the rainfall from a 24-hour/25-year storm event, i.e., nine inches (based on the Rainfall Frequency /Magnitude Atlas for the South-Central United States, published in 1997).

Aquifer Protection

The facility is located within an aquifer recharge area as shown in **Appendix E**. The entire OBSM handling area will be located upon a raised concrete slab with a subsurface synthetic liner. **Figure 3** depicts the location of the concrete slab. A description of the liner and the measures that site preparation measures that will be taken to protect the aquifer (as well as the underlying soil) are also described in **Appendix E**.

Flood Zone

The facility is located outside of the 100-year floodplain. Documentation is provided in **Appendix F**.

1.2 Processing Operations

OBSM contains valuable resources that are recovered in the 3-phase centrifuges and/or the ITD process and used within the petroleum refining process or as fuel (e.g., oil and hydrocarbons). Basic steps in the process include OBSM acceptance, OBSM storage and

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preparation, OBSM reclamation, management of recovered oil, and residual handling. A process flow diagram depicting these steps is provided as **Figure 4**.

1.2.1 OBSM Acceptance

Thermaldyne has established a Material Acceptance Plan (MAP) to ensure that only qualified OBSM is accepted at the facility. A copy of the MAP is provided in **Appendix G.**

1.2.2 OBSM Preparation

OBSM preparation involves the physical handling and preparation of the materials prior to insertion into the centrifuge and/or IDT process. The methods used to prepare the OBSM are described in Section 2.0 of this document.

1.2.3 OBSM Reclamation

Following OBSM preparation, the material will be inserted into the centrifuge and/or IDT process for reclamation. The reclamation process is further described in Section 3.0 of this document.

1.2.4 Recovered Oil Management

Recovered oil will be stored in appropriate tanks or cortainers until transferred offsite. Additional information on the recovered oil is provided in Section 4.0 of this document.

1.2.5 Residual Management

The reclamation process will generate several residuals including solids, wastewater and air emissions. Management of residuals is further described in Section 5.0 of this document.

2.0 OBSM STORAGE AND PREPARATION

After the OBSM has been accepted in accordance with the MAP, it will be unloaded and contained in the ~~Receiving Area~~enclosed Material Handling Building.

To facilitate materials handling and preparation, OBSM will be classified into two separate categories prior to unloading: low solids OBSM and high solids OBSM.

All OBSM will be held in containment units, designated as the Liquids Containment Area and the Solids Containment Area, that meet the following criteria:

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- Each unit in good condition, with no leaks or other continuing or intermittent unpermitted releases of the OBSM to the environment, and is designed, as appropriate for the OBSM, to prevent releases of OBSM to the environment. Unpermitted releases are releases that are not covered by a permit (such as a permit to discharge to water or air) and may include, but are not limited to, releases through surface transport by precipitation runoff, releases to soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic unit failures;
- Each unit is properly labeled or otherwise has a system (such as a log) to immediately identify the OBSM in the containment unit; and
- Each unit holds OBSM that is compatible with other OBSM placed in the unit
- Each unit is constructed of materials compatible with OBSM and addresses any potential risks of fires or explosions.

2.1 Low Solids OBSM

Low solids OBSM consists of mostly water (i.e., 70 – 90%) with the remaining mixture consisting of various oil and solids. Low solids OBSM is typically received in vacuum trucks or vacuum containers and pumped into the Liquids Containment Area.

The Liquids Containment Area will include a concrete lined pit measuring approximately 40' x 12' x 8'. If full, the pit will hold approximately 28,726 gallons of low solids OBSM. The Liquid Containment Area, including the pit, will be located within an enclosed building (the Material Handling Building) to prevent rainwater from coming into contact with the material. Design drawings of the pit are provided in **Appendix H.**

The OBSM will be transferred from the pit to the dewatering system via a submersible slurry pump for screening through High G Shakers (located in the enclosed Material Handling Building) which measure approximately 8' x 40'. The liquid stream from the dewatering unit will be transferred via pipe to the Thermal Pad for processing in the centrifuge system. The solid stream from the dewatering unit will be transferred via front loader to the Solids Containment Area.~~and then sent through the centrifuge process.~~

2.2 High Solids OBSM

High solids OBSM consists of mostly solids (i.e., 40 – 70%), with the remaining volume consisting of oil and water. High solids OBSM are typically received in roll-off boxes or other containers. High solids OBSM is offloaded into the Solids Containment Area. The Solids Containment Area consists of that portion of the Material Handling Building not occupied by the Liquids Containment Area or other structures. The high solids OBSM will be unloaded

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within the Solids Containment Area. It will then be transferred via an auger conveyor to the Thermal Desorption Unit (TDU) for processing.

3.0 OBSM RECLAMATION

OBSM will be reclaimed via a centrifuge process and/or an indirect heated thermal desorption process. A description of the process and equipment involved is provided below.

3.1 Centrifuge Process

All low solids OBSM will be screened over a High G linear shaker and then fed to one of three 3-phase tricanting centrifuges. Water, oil, and solids will be separated into individual streams. Oil will be further conditioned and treated for market. The water will be processed through the wastewater treatment plant and then discharged or disposed. The solids will be conveyed to the Thermal Desorption Unit (TDU) for further processing and recovery.

3.2 Thermal Desorption Process

Thermaldyne will use an indirect TDU to reclaim the OBSM. Indirect thermal desorption is a non-incineration technology designed to separate hydrocarbons from various matrices including oilfield waste, soil, sludge, sand, filter cake, tank and tanker bottoms, and contaminated soil. Thermaldyne will limit OBSM that it receives to that generated at petroleum refineries. This proven thermal desorption technology is currently used to reclaim oil from oil-containing materials within petroleum refineries and at numerous commercial facilities.

In the indirect heating process, heat is applied to the exterior of the heating chamber and is transferred through the wall of the chamber to the OBSM. Neither the burner flame nor the combustion gases come in contact with the OBSM or the off-gases. This type of TDU is designed to maximize the recovery of the volatilized contaminants from the off-gases.

3.2.1 Feed System

The main components of a feed system will include single or dual-feed hoppers for waste material storage. The hoppers are furnished with variable speed screw auger systems in the bottom for discharge of difficult to convey material. This mechanism of discharge is also known as the "live bottom" design. Each hopper is furnished with a walking platform around top for cleaning and maintenance of the feed hopper. The feed hopper can be loaded using a front-end loader or crane operated clam-shell type bucket.

After material is discharged from the hopper it travels via single or dual enclosed conveyors to the inlet of the TDU. The TDU feed rate is controlled by adjusting the speed of the

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rotation of the screw-auger system in the feed hopper bottom while all other conveying components operate at constant speed. Material preparation and pre-treatment might be necessary during certain projects to assure good material conveying and oil reclamation.

3.2.2 Indirectly-Heated Rotary Drum

The primary function of the indirectly heated rotary drum is to vaporize the hydrocarbons and the moisture from the incoming material. The indirectly-heated drum is critical to this operation and is fabricated with heat and corrosion resistant stainless steel alloy to accommodate design furnace service temperatures ranging in 1,200°F –1,600°F. The rotary drum is heated from outside where several burners provide the necessary process heat. The natural gas-fired unit will operate at up to 30 MMBTU per hour.

As the drum shell is heated, energy is transferred to the OBSM inside the rotary drum through conduction. The materials inside are also heated through radiation from the rotary drum's interior shell surface. The rotary drum shell material and the furnace burner capacity are designed to elevate the OBSM temperature up to 900°F, although these higher operating temperature ranges are rarely necessary for material processing under normal conditions. By having the burners located inside the furnace the materials inside the rotary drum do not come in contact with the products of combustion from the burners. The drum's material inlet and discharge are controlled via two airlocks designed to minimize air (oxygen) leakage into the drum. The inlet and discharge end of the rotary drum are equipped with custom designed seals to prevent air leakage.

The OBSM residence time through the rotary drum is controlled by the slope of the unit, the number and location of the internal lifters, and the rotational speed of the rotary drum. Typically, the drum slope and the position and number of lifters are fixed; the rotational speed of the drum is the key feature that controls the retention time of the material inside the rotary drum. The required retention time inside the rotary drum for optimum reclamation is highly dependent on the free and bound moisture content of the OBSM, the physical characteristics of the material such as particle size distribution, type of organic and inorganic compounds present in the OBSM, and the vapor pressure of the hydrocarbons.

During the reclamation process, as the OBSM progresses through the rotary drum, the hydrocarbons and water undergo the evaporation (description) process while generating very dry solid residuals. The processed solids are conveyed at a high temperature into a conveyor where it is mixed with water for cooling before being discharged.

The OBSM temperature is continuously monitored by thermocouples at the inlet and the discharge points of the rotary drum. The shell temperature is monitored at several points along the length of the unit to prevent overheating. The furnace stack gas discharge temperature is monitored very closely. A combination of the stack gas exit temperature, material exit temperature from the TDU and the shell temperature are typically used to

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achieve optimal fuel consumption rate during plant operation. The atmosphere inside the rotary drum is under continuous negative pressure by the plant's induced draft (ID) fan. The desorbed vapors are transported from the rotary drum into the system's Vapor Recovery Unit (VRU). The TDU is furnished with access doors for easy access for inspection, cleaning and maintenance of the lifters inside the rotary drum.

3.2.3 Treated Solids Cooling

The hot treated solids discharged from the rotary drum may be cooled with treated wastewater as they are conveyed into containers.

3.2.4 Vapor Recovery Unit

The main function of the Vapor Recovery Unit (VRU) is to condense and recover the desorbed hydrocarbons, water vapor and the solid particles present in the gas stream exiting the rotary drum. The VRU includes several main components, including a quench section, venturi scrubber, separator, mist eliminator section, induced draft fan and condenser. In the quench section, the gas stream is cooled by direct contact with finely atomized water droplets via multiple nozzles. The water spray system also removes additional solids from the gas stream.

As the gas temperature is reduced, most of the hydrocarbons are condensed before gases exit the quench section. The VRU is equipped with an integrated variable throat venture scrubber, which removes fine solid particles from the gas stream. The dust-laden gas stream and the process water collide, dispersing the liquid into droplets that the particles impact and become entrapped within. These droplets, containing the fine solid particles, are removed from the gas stream in a horizontal cyclonic separator downstream of the venture scrubber. The venturi scrubber is designed with an adjustable throat to maintain the desired pressure drop across the throat as the gas volume changes. This feature assures that the same particulate removal efficiency is maintained as operating parameters change in the system.

The gas exiting the cyclonic separator passes through a mist eliminator to remove entrained water droplets before reaching the system ID fan. The mist eliminator can be easily removed for regular maintenance cleaning. The process ID fan is equipped with a variable speed controlled drive, designed to maintain sufficient draft through the system to continuously transfer the vent gas through the process and control equipment. After the vent gas reaches the condenser (indirect heat exchanger), the gas temperature is reduced to less than 300°F to remove residual hydrocarbon vapors (the lighter hydrocarbons) from the gas stream.

After gas exits the condenser, it is routed through a flame arrester before being discharged into the thermal oxidizer for final polishing prior to discharge to the atmosphere.

3.2.5 API Separator

The condensates, residual fines/sediments, and the water collected inside the VRU will be treated in an above ground API-type primary oil/water separator. Depending on the type of OBSM being processed by the TDU, the separator can produce water containing sediments and oil concentrations in the range of approximately 50 –200 mg/liter. The API separator is a gravity separation device that works on the principle of Stokes Law, which defines the rise velocity of an oil particle based on its density and size. The oil droplets float to the top and the sediments settle in the bottom of the separator tank. The recovered oil is collected using a stationary skimmer. The collected oil is continuously pumped into an above ground storage tank. At this point, the reclaimed oil can be reinserted into the refining process without major pretreatment. If the reclaimed oil is to be used as fuel, it can undergo filtration or centrifuging to remove sediments and moisture.

The recovered sediments/sludge is pumped from the API separator using a pneumatic pump and is recycled back into the TDU process. After the oil and suspended solids are removed from the influent in the API separator, the middle phase (water) is then pumped to an on-site storage tank for recycling.

A portion of the recovered water is pumped into a plate and frame heat exchanger where it is cooled and reused as cooling process water for the VRU unit. The cooling media for the plate and frame heat exchanger is also water. A portion of the water recaptured in the process will be processed through the wastewater treatment plant and also used to rehydrate residue from the thermal process.

The water is continuously cooled inside a small cooling tower. The cooling tower can be equipped with inlet air filtration system to minimize solids and slat particles from entering the unit; therefore, lowering the water-blow down rate and water makeup. The outlet of the cooling tower can be equipped with demisters to further reduce water loss.

The API separator includes a fixed cover for VOC emission control. To minimize potential issues associated with the oil emulsions in the separator, certain additives and/or chemical treatment may be used during certain campaigns for proper phase separation.

4.0 RECOVERED OIL

Oil recovered during the reclamation process will be transferred to onsite storage tanks or containers prior to transport to customers. The storage tanks and associated secondary containment shall comply with applicable Spill Prevention Control and Countermeasure (SPCC) requirements.

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5.0 RESIDUAL MANAGEMENT

Residuals generated during the reclamation process will include wastewater, air emissions, and solids. All residuals will be managed in accordance with applicable regulations and in a manner protective of human health and the environment.

5.1 Wastewater

Thermaldyne will collect all wastewater, i.e., water not recycled into the reclamation process or contact stormwater, in containers (e.g., frac tanks) prior to treatment in its onsite wastewater treatment system. Treated wastewater will be discharged in accordance with Thermaldyne's LPDES permit (application to be submitted). If wastewater is not recycled or treated in the onsite system, it will be collected in containers and shipped offsite for treatment or disposal at a permitted facility in accordance with applicable regulations.

5.2 Air Emissions

Thermaldyne will utilize a thermal oxidizer and other equivalent control devices (e.g., carbon canisters) to control emissions from vent streams not recycled into the reclamation process. The thermal oxidizer will control the vent stream exiting the VRU. The vent streams controlled by the carbon canisters include the Material Handling Building induced draft and vented product tanks/ containers. The control system is designed to operate with better than 99.9% destruction efficiency. LDEQ issued Air Permit No. 3120-00116-00 to the facility as a minor source.

OBSM will be stored within suitable physical enclosures provided with appropriate dust/vapor control measures to prevent and minimize potential fugitive emissions. Dust curtains will be used to contain potential fugitive releases, preventing release of particulate matter outside of the product receiving building. When totally enclosed, the building will have a negative pressure draft created by the vapor recovery unit (VRU). Regulation of building temperature will further minimize hydrocarbon emissions from the building.

5.3 Solids

The bulk of the residual solids generated at the facility will consist of processed OBSM. Treated solid material will be representatively sampled and analyzed on-site for residual contaminants and other potential compounds of concern, including treated volatile contaminants and inorganic contaminants (e.g. heavy metals). If possible, sampling of the waste will be carried out before any water is added to the material.

Post-handling of the solid waste material typically entails water quenching to help cool the solids, control dust and aid handling. Water will be applied to the treated material in a gradual and controlled manner to achieve an appropriate consistency and to prevent leaching of residual contaminants.

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The inert residual solids will be transferred to roll-off containers and stored on site until transported to an offsite disposal facility. As an original point of waste generation, ~~these residual solids will be characterized in accordance with approved methods.~~ Thermaldyne will make a hazardous waste determination for each of the residual waste streams related to the reclamation process in accordance with LAC 33:V.1103. Therefore, for each residual, Thermaldyne will: first, determine if it is exempted from hazardous waste regulation. Thermaldyne will then determine if the residuals are hazardous waste by either: testing them according to methods set forth in the *Test Methods for Evaluating Solid Waste: Physical Chemical Methods, EPA Publication SW-846, as revised*; or by applying process knowledge of the hazard characteristic of the waste in light of the materials or the processes used. Thermaldyne will also determine whether each residual is listed as a hazardous waste in LAC 33:V.Chapter 49. Additional analysis will be conducted on the residuals, as required by the disposal facility.

Based on this analysis, the solids will be classified as either industrial solid waste or hazardous waste, and managed accordingly (e.g., appropriate containers, labeling, manifesting, disposal, recordkeeping, etc.).

Certain residuals from the reclamation of OBSM catalyst may be sold to metals reclaimers or as a raw material for steel manufacturing. Otherwise, it will be disposed off-site as an industrial solid waste or a hazardous waste, depending on its characterization.

Other miscellaneous solid waste related to the reclamation process will also be generated at the site. This material will include ~~bag house cake,~~ filter bags, screened debris, carbon filter media, and empty used containers. None of these solid residuals will be disposed of onsite. These residual solids will be characterized as described above and managed in accordance with applicable regulations.

6.0 HEALTH AND SAFETY

Safety will be of prime importance at the Thermaldyne facility. All appropriate measures will be implemented to identify, assess, and manage the potential hazards and associated risks posed by the activities carried out on site.

Thermaldyne has developed a health and safety plan to help ensure that personnel are protected from risks associated with the reclamation operations. Thermaldyne will require that the plan be followed. Key health and safety procedures include:

- Employees will undergo appropriate screening for any existing medical conditions, which may affect their employment status.

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- Employees will be provided with all necessary safety equipment appropriate to their job classification. They will be instructed in its proper use and failure to properly use it may be grounds for dismissal.
- All visitors and contractors will undergo a site-specific safety orientation prior working onsite.

7.0 EMERGENCY RESPONSE

Thermaldyne will meet the emergency preparedness regulations that are applicable to large quantity generators of hazardous waste. Thermaldyne will maintain appropriate emergency equipment on site, will have alarm systems in place, and will make arrangements with local emergency response authorities. A Contingency Plan describing these and other measures to be implemented during an emergency involving OBSM or hazardous waste at the facility is provided in **Appendix I**.

8.0 TRAINING

Employees involved in the operation of the facility will be trained in operating procedures and company policies in accordance with their job description. All employees will be trained in the emergency procedures described in the Contingency Plan, as applicable. If classified as large quantity generator of hazardous waste, Thermaldyne will also comply with the training requirements described in LAC 33:V.1515.

9.0 NOTIFICATION AND RECORDKEEPING

Notification and recordkeeping requirements must be followed to comply with the variance. These requirements are described below.

9.1 Notification

~~Thermaldyne will send a notification to LDEQ prior to operating using Hazardous Waste Activity Form HW-1.~~ A copy of the completed form ~~will be~~is included as **Appendix J** ~~upon approval of the variance~~.

If any information changes in the Hazardous Waste Activity Form HW-1, Thermaldyne must notify LDEQ within seven days.

9.2 Records of Shipments

Thermaldyne will maintain records of OBSM sent or received when operating. The records will include the following information for each shipment:

- Name of transporter

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- Date of shipment
- Name and address of the OBSM generator
- Type and quantity of OBSM sent or received

These recordkeeping requirements may be satisfied by maintaining routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations).

9.3 Confirmation of Receipt

Thermaldyne will send a confirmation of receipt to the OBSM generator for all off-site shipments of OBSM. Confirmations of receipt shall include:

- Name and address of Thermaldyne
- Type and quantity of the OBSM
- Date which the OBSM was received

These recordkeeping requirements may be satisfied by maintaining routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations).

9.4 Speculative Accumulation

OBSM may not be accumulated speculatively. A material is not accumulated speculatively if it can be shown that:

- The material is potentially recyclable;
- Thermaldyne has the feasible means to recycle the material; and
- During the calendar year (commencing January 1), the amount of material that is recycled, or transferred to a different site for recycling, equals to at least 75% by weight or volume of the amount of that material accumulated at the beginning of the period.

Material must be placed in a storage unit with a label indicating the first date that the material began to be accumulated. If placing a label on the storage unit is not practicable (such as where material is stored in batch tanks, continuous flow tanks, waste piles, or containment buildings), the accumulation period must be documented through an inventory log or other appropriate method. In calculating the percentage of turnover, the 75% requirement is to be applied to each material of the same type (e.g., OBSM) that is recycled the same way (via the Thermaldyne reclamation process).

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9.5 Retention of Records

Shipping records must be maintained for no less than three years. Documentation of legitimate recycling (see Section 9.4 for requirements) must be maintained for no less than three years after the recycling operation has ceased.

9.6 Financial Assurance

Thermaldyne shall satisfy the financial assurance requirements described LAC 33:V.3707 and 3715 for both closure and liability.

9.6.1 Closure

Thermaldyne will obtain and maintain financial assurance to directly demonstrate that it will not abandon the OBSM, it will properly decontaminate equipment, and it will clean up any unacceptable releases, even if events beyond its control make its operations uneconomical. The financial assurance also helps demonstrate that Thermaldyne is financially sound and will not discard the OBSM by setting aside funds to address any issues in closing the facility.

Thermaldyne will submit documentation of financial assurance upon approval of its variance request. The financial assurance shall satisfy the requirements in LAC 33:V.Chapter 37.

Thermaldyne has prepared a detailed written estimate of the cost of disposing of any OBSM as hazardous waste, and the potential cost of closing the facility as a treatment, storage, and disposal facility. This cost estimate, which must be maintained on site, is provided in **Appendix K**. The cost estimate:

- Equals the cost of conducting the above closure activities at the point when the extent and manner of the facility's operation would make the activities the most expensive;
- Is based on the costs to Thermaldyne of hiring a third party to conduct these activities; and
- Does not incorporate any salvage value that may be realized with the sale of OBSM, or hazardous or non-hazardous wastes (if applicable), facility structures, land, or other assets associated with the facility.

During the active life of the facility, Thermaldyne will adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to demonstrate financial assurance. If using the financial test or corporate guarantee, the cost estimate will be adjusted within 30 days of the close of Thermaldyne's fiscal year.

During the active life of the facility, Thermaldyne will rev se the cost estimate no later than 30 days after a change in the facility Operations Plan or design would increase the costs of conducting the closure activities or no later than 60 days after an unexpected event which increases the cost of those activities.

9.6.2 Liability Requirements

Prior to receiving OBSM and in accordance with LAC 33:V.3715, Thermaldyne will:

- provide documentation demonstrating financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. Thermalydyne will have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

- maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs.

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APPENDIX C

HW-1

STATE OF LOUISIANA
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY (HW-1) FORM
(COMPLIES WITH US EPA'S RCRA SUBTITLE C SITE IDENTIFICATION FORM REQUIREMENTS)

.. Reason for Submittal CHOOSE ONLY ONE REASON PER SUBMITTAL	**A. Reason for Submittal:** ☒ To provide initial notification (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities). ☐ To provide subsequent notification (to update site identification information). **or** ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application. ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____). **or** ☐ As a component of the Hazardous Waste Report. ☐ Site met the definition of an LQG in 1 or more months of the reporting year.			
	B. Number of Employees: 3			
2. Site ID Number	**EPA ID Number:**		**LA AI#: 198467**	
3. Site Name	**Legal Name: Thermaldyne, LLC**			
4. Site Location (PHYSICAL ADDRESS-NOT P.O. BOX or ROUTE)	**Street Address: 2325 North Line Road**			
	City, Town, or Village: Port Allen		**State: LA**	
	Parish: West Baton Rouge		**Zip: 70767**	
5. Site Land Type	**Site Land Type:** ☒ Private ☐ County/Parish ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other			
orth American Industry Classification System (NAICS) Code(s)	**A. 324191**	**C.**		
	B. 423930	**D.**		
7. Site Mailing Address	**Street Address or P. O. Box: 45 Maryeanna**			
	City, Town, or Village: Atlanta			
	State: GA	**Zip Code: 30342**	**Country: USA**	
8. Site Contact Person	**First Name: Richard**	**MI: A**	**Last Name: Cates**	
	Phone Number (337) 288-4600		**Title: President**	
	Address: 45 Maryeanna		**Email: rcates@thermaldyne.com**	
	City: Atlanta	**State: GA**	**Zip: 30342**	
9. Legal Owner and Operator of the Site (SEE INSTRUCTIONS)	**A. Name of Site's Legal Owner: Thermaldyne, LLC**			
	Date Became Owner (mm/dd/yyyy): 07/23/2015			
	Owner Type: ☒ Private ☐ County/Parish ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other			
	B. Name of Site's Operator: Thermaldyne, LLC			
	Date Became Operator (mm/dd/yyyy): 07/23/2015			
	Operator Type: ☒ Private ☐ County/Parish ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other			

EPA ID No._____

10. Type of Regulated Waste Activity for current activities, as of the date of this form (mark 'X' in the appropriate boxes)

A. Hazardous Waste Activities

☐ 1. **Generator of Hazardous Waste** Select one of the following categories:

- ☐ a. LQG: Greater than 1,000 kg/mo (2,200 lbs.) Non-acute hazardous waste; or
- ☐ b. SQG: 100 to 1,000 kg/mo (220 - 2,200 lbs.) Non-acute hazardous waste; or
- ☐ c. CESQG: Less than 100 kg/mo Non-acute hazardous waste

In addition, indicate other generator activities (check all that apply)

- ☐ d. Short-Term Generation (not normally a generator but generated through a One-time, Emergency, or Short-term Event). Give details in Comments.
- ☐ e. United States Importer of Hazardous Waste
- ☐ f. Mixed Waste (hazardous and radioactive) Generator

For items 2-7, check all that apply

☐ 2. **Transporter of Hazardous Waste.** If yes, check all that apply

- ☐ a. Transporter of Hazardous Waste
- ☐ b. Transfer Facility Status (State approval required prior to startup)

☐ 3. **Treater, Storer, or Disposer of HW (at your site)** Note: A hazardous waste permit is required for this activity.

☐ Permitted ☐ Interim Status ☐ Proposed

☐ 4. **Recycler of Hazardous Waste (at your site)** Note: A hazardous waste permit may be required for this activity.

☐ 5. **Exempt Boiler and/or Industrial Furnace**

- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, Refining Furnace Exemption

☐ 6. **Underground Injection Control**

☐ 7. **Receives Hazardous Waste from Off-site**

B. Universal Waste Activities (indicate activity type)

☐ 1. **Large Quantity Handler of Universal Waste** Refer to your State regulations to determine what is regulated. Indicate types of universal waste generated and/or accumulated at your site. Check all boxes that apply.

	Generated	Accumulated		Generated	Accumulated
a. Batteries	☐	☐	d. Antifreeze	☐	☐
b. Pesticides	☐	☐	e. Mercury-containing equipment	☐	☐
c. Lamps	☐	☐	f. Electronics	☐	☐

☐ 2. **Destination Facility for Universal Waste** Note: A hazardous waste permit may be required for this activity

C. Used Oil Activities (indicate activity type)

☐ 1. **Used Oil Transporter**

- ☐ a. Transporter
- ☐ b. Transfer Facility (State approval required prior to start-up)

☐ 2. **Used Oil Processor and/or Re-refiner**

☐ a. Processor

☐ b. Re-refiner

☐ 3. **Off-specification Used Oil Burner**

☐ 4. **Used Oil Fuel Marketer**

☐ a. Marketer who directs shipment of off-specification used oil to Off-speciation Used Oil Burner

☐ b. Marketer who first claims the used oil meets the specifications

☐ 5. **Used Oil Fuel Burner** (indicate combustion device)

☐ Utility Boiler ☐ Industrial Boiler ☐ Industrial Furnace

D. **Eligible Academic Entities with Laboratories**-notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K (THIS DOES NOT YET APPLY IN LOUISIANA)

☐ 1. **Opting into 40 CFR Part 262, Subpart K** for the management of hazardous waste in laboratories (check all that apply)

☐ a. College or university

☐ b. Teaching hospital owned by or has a formal written affiliation agreement with a college or university

☐ c. Non-profit institute owned by or has a formal written affiliation agreement with a college or university

☐ 2. **Withdrawing from 40 CFR Part 262, Subpart K** for the management of hazardous waste in laboratories.

11. Description of Hazardous Wastes

A. **Waste Codes for Federally Regulated Hazardous Wastes.** Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D002, F001, K001, P001, U001, U002, etc). Use an additional page if more spaces are needed for waste codes. (Louisiana does not have separate State Waste codes.)

12. Notification of Hazardous Secondary Material (HSM) Activity

Are you notifying in compliance with LAC 33:V.105.K or LAC 33:V.105.O that you will begin managing, are managing or will stop managing hazardous secondary materials under LAC 33:V.105.R.5.c.iii; or LAC 33:V.105.D.1.x; y; or z?

☒ Yes ☐ No

"Yes," you must fill out the *Addendum to the State of Louisiana Notification of Hazardous Waste Activity (HW-1) Form: Notification of Hazardous Secondary Material Activity* (see page 7).

EPA ID No._____

Comments (optional): However, if you have checked "Transfer Facility" for Hazardous Waste or Used Oil, please provide a brief description of the activities and/or changes at your site.

Section 10: In accordance with LAC 33:V.105.Q, this form is submitted to notify the administrative authority that this facility will manage hazardous secondary materials under a variance granted under LAC 33:V.105.O.

Addendum, Section 3: The facility will not manage hazardous secondary materials under LAC 33:V.105.D.1.y.vi.(f) or LAC 33:V.105.D.1.z, therefore financial assurance is not required pursuant to LAC 33:V.105.D.1.y.vi.(f). However, Thermaldyne will maintain financial assurance that meets or exceeds the referenced requirements.

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Owner, Operator, or an Authorized Representative	Name (type or print)	Official Title (type or print)	Date of Signature (mm-dd-yyyy)
Richard A. Cates	Richard A. Cates	President	02-13-2018

Please send completed form to:
Louisiana Department of Environmental Quality
Office of Environmental Services
Public Participation and Permit Support Division
Notifications & Accreditations Section
Post Office Box 4313
Baton Rouge, LA 70821-4313

If you have any questions, please call (225) 219-1352.

EPA ID No._____

ADDENDUM TO THE STATE OF LOUISIANA NOTIFICATION OF HAZARDOUS WASTE ACTIVITY (HW-1) FORM: NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY

(COMPLIES WITH US EPA'S RCRA SUBTITLE C SITE IDENTIFICATION FORM REQUIREMENTS)

NOTE: Louisiana allows the management of excluded hazardous secondary material (HSM) in accordance with LAC 33:V.105.D.1.x-z.

ONLY fill out this form if you are or will be managing excluded HSM in compliance with LAC 33:V.105.D.1.x-z. or if you have stopped managing excluded HSM in compliance with the exclusion(s) and do not expect to manage any amount of excluded HSM under the exclusion(s) for at least one year. Do not include any information regarding your hazardous waste activities in this section.

1. **Indicate reason for notification.** Include dates where requested.

   ☒ Facility will begin managing excluded HSM as of 10/01/2018 (mm/dd/yyyy)

   ☐ Facility is still managing excluded HSM/re-notifying as required by March 1 of each even-numbered year.

   ☐ Facility has stopped managing excluded HSM as of _____(mm/dd/yyyy) and is notifying as required.

2. **Description of excluded HSM activity.** Please list the appropriate codes and quantities in **short tons** to describe your excluded HSM activity ONLY (do not include any information regarding your hazardous wastes). Use additional pages if more space is needed.

a. Facility code (contact the LDEQ for Code List)	b. Waste code(s) for HSM	c. Estimated short tons of excluded HSM to be managed annually	d. Actual short tons of excluded HSM that were managed during the most recent odd-numbered year	e. Land-based unit code (contact the LDEQ for Code List)
15	D001	14,600	0	NA
15	D018	included with above	0	NA
15	F037	9,125	0	NA
15	F038	3,650	0	NA
15	K048	7,300	0	NA
15	K049	10,950	0	NA
15	K050	10,950	0	NA
Continued on Page 6				

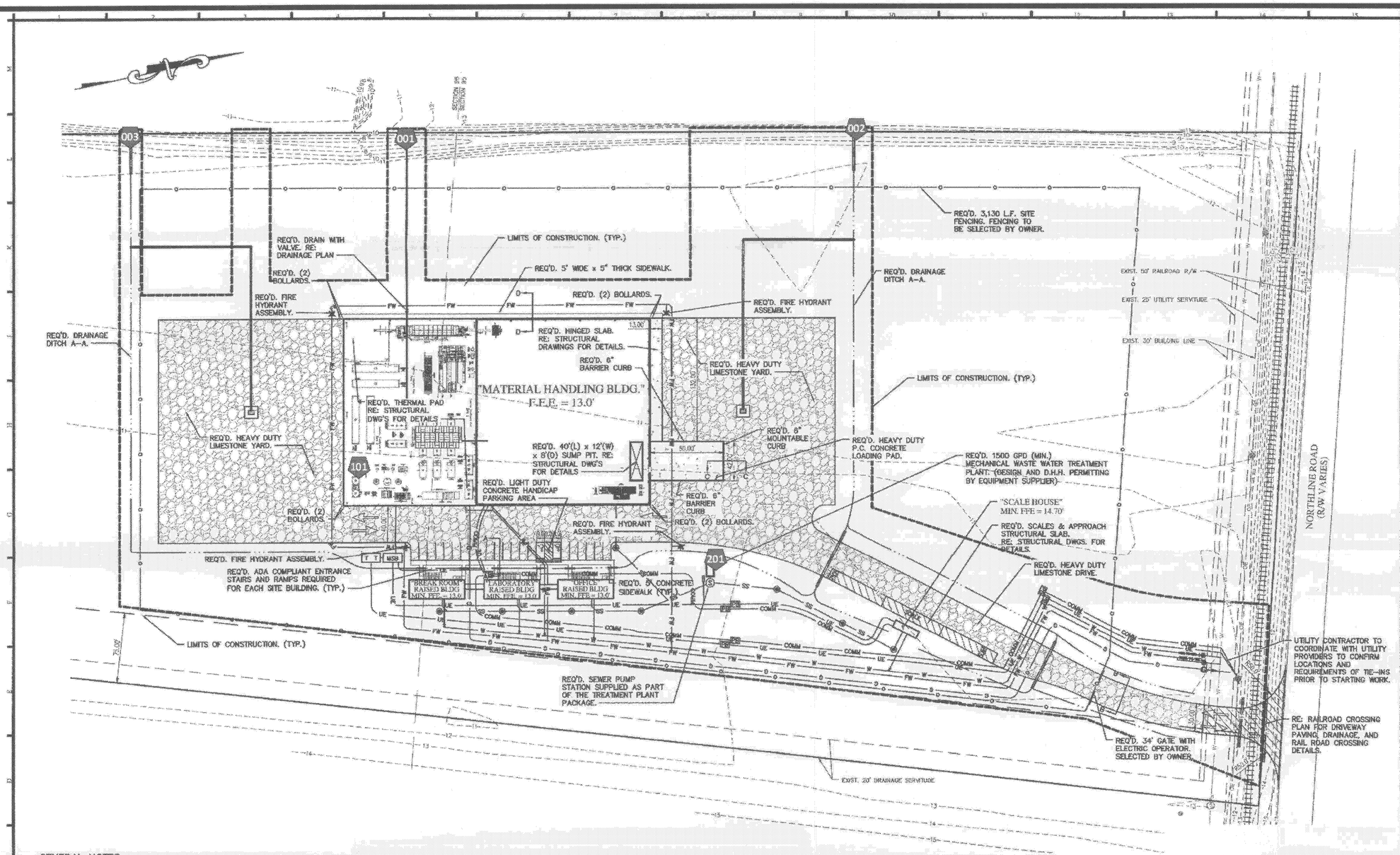
3. **Facility has financial assurance pursuant to 40 CFR 261.4(a)(24)(v).** (Financial assurance is required for reclaimers and intermediate facilities managing excluded HSM under LAC 33:V.105.D.1.y.vi.(f) and LAC 33:V.105.D.1.z)

Does this facility have financial assurance pursuant to LAC 33:V.105.D.1.y.vi.(f)? ☐ Yes ☒ No

a. **Facility code** (contact the LDEQ for Code List)	b. **Waste code(s) for HSM**	c. **Estimated short tons of excluded HSM to be managed annually**	d. **Actual short tons of excluded HSM that were managed during the most recent odd-numbered year**	e. **Land-based unit code** (contact the LDEQ for Code List)
15	**K051**	**9,125**	**0**	**NA**
15	**K052**	**913**	**0**	**NA**
15	**K169**	**36,956**	**0**	**NA**
15	**K170**	**55,206**	**0**	**NA**
15	**K171**	**18,250**	**0**	**NA**
15	**K172**	**5,475**	**0**	**NA**

APPENDIX D

FIGURE C 1.2



GENERAL NOTES:

ACCORDING TO THE FEDERAL EMERGENCY FLOOD INSURANCE MAP No. 22121 C 0165 D DATED JULY 16, 2014 THIS PROPERTY IS LOCATED IN FLOOD ZONE "X".

BASE FLOOD ELEVATIONS ARE SUBJECT TO CHANGE AND THE CURRENT BASE FLOOD ELEVATION SHOULD BE VERIFIED WITH THE ENGINEERING DIVISION OF THE DEPARTMENT OF PUBLIC WORKS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY FAILURE TO COMPLY WITH THESE INSTRUCTIONS.

ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE WEST BATON ROUGE PARISH DEPARTMENT OF PUBLIC WORKS.

REFER TO ELECTRICAL PLANS FOR SITE LIGHTING.

FOR ACCESSIBLE ROUTES, CROSS SLOPES ON SIDEWALKS SHALL NOT EXCEED 2% RUNNING SLOPE SHALL NOT EXCEED 5%

SIGNAGE AND PAVEMENT MARKINGS ARE TO COMPLY WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY STANDARDS.

REFER TO SHEET C6.1 FOR SECTIONS.

50 0 50 100
SCALE IN FEET

EVANS-GRAVES ENGINEERS, INC.
ENGINEERING CONSULTANTS 9029 JEFFERSON HWY. BATON ROUGE, LA. 70809 (225)926-1620

EXISTING LEGEND:

- WATER METER
- WATER LINE
- UTILITY POLE
- OVERHEAD ELECTRIC LINE

REQ'D. LEGEND:

- WASTEWATER TREATMENT PLANT
- SANITARY SEWER LINE
- SANITARY SEWER CLEANOUT
- GRATE INLET
- DRAINAGE SWALE
- DRAINAGE PIPE
- ELECTRICAL TRANSFORMER
- ELECTRIC CONDUIT (3) 4" SCH 80 PVC
- COMMUNICATION PULL BOX
- COMM. CONDUIT (3) 3" SCH 80 PVC
- ELECTRICAL SWITCHBOARD
- FIRE HYDRANT
- WATER METER
- BACK FLOW PREVENTER
- 8" C-900 PVC FIRE WATER LINE
- 4" CL180 PVC WATER LINE
- GAS METER
- 4" PE 2306, SDR 11 GAS LINE
- FENCING
- Outfall Location

GENERAL NOTES:

ZONING: I-2

SIZE: 28.2 ACRES

PROPOSED USE: INDUSTRIAL

PROPOSED MINUMUM SETBACKS:
FRONT: 30'
SIDES: 10'
REAR: 20'

THERMALDYNE
ARKEL Constructors

No.	Revision/Description	Date
0	ISSUED FOR CONSTRUCTION	11/13/17
B	REVISED ISSUED FOR APPROVAL	07/19/17
A	ISSUED FOR APPROVAL	06/30/17

CRUMPWILSON ARCHITECTS

Project: THERMALDYNE FACILITY PROJECT
PORT ALLEN, LOUISIANA

Drawing: ENLARGED SITE PLAN

Seal: STATE OF LOUISIANA — LLOYD R. DIXSON, License No. 31061, PROFESSIONAL ENGINEER IN CIVIL PRACTICE

Date: 11/13/17

Project Number	16-0306
File Name	16306EG02
Drawn By	LRW
PM/PIC	LRW

C1.2

CK 15153-05

APPENDIX E

REVISED MATERIAL ACCEPTANCE PLAN

MATERIAL ACCEPTANCE PLAN

Thermaldyne, LLC
Port Allen, Louisiana

~~December 2017~~February 2018

Prepared by:

CK ASSOCIATES
Environmental Consultants
17170 Perkins Road
Baton Rouge, LA 70810

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Attachment A Example Generator Material Profile Form

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1.0 MATERIAL ACCEPTANCE PLAN OVERVIEW

This Material Acceptance Plan (MAP) establishes the steps in which Thermaldyne:

- Obtains and verifies information prior to approving oil-bearing secondary materials (OBSM) for processing;
- Identifies safe handling procedures for plant workers; and
- Ensures that each acceptance unit receives only OBSM authorized to be processed in this recycling facility.

The highest priorities for this facility are ensuring that OBSM accepted from a third party meet regulatory eligibility and internal operating criteria.

2.0 OBSM REGULATORY ELIGIBILITY

The types of materials that may be accepted by Thermaldyne consist of the following OBSM generated by petroleum refineries (SIC Code 2911):

- Dissolved air float (DAF)
- Slop oil emulsion solids
- Heat exchanger bundle cleaning sludge
- API separator sludge
- Tank bottoms (leaded)
- Crude oil tank sediment
- Clarified slurry oil tank sediment and/or in-line filter/separation solids
- Primary refinery oil/water/solids separation sludge
- Secondary (emulsified) oil/water/solids separation sludge
- Spent hydrotreating catalyst
- Spent hydrorefining catalyst
- Any other oil-containing secondary material (e.g., spent material, by-product, or sludge) <u>that may exhibit a hazardous waste characteristic but is not listed as a hazardous waste</u>

2.1 Generator Requirements

Generators must meet the following requirements for their OBSM to be eligible for acceptance at Thermaldyne.

2.1.1 Petroleum Refinery Operations

The OBSM generator's primary business activity must be classified by the SIC Code 2911.

2.1.2 OBSM Accumulation

Generators of OBSM may not speculatively accumulate OBSM prior to shipment to Thermaldyne.

2.1.3 OBSM Handling

OBSM may not be handled by any person or facility other than the generator, the transporter, or at Thermaldyne's Port Allen facility. While in transport, it may be stored at transfer facility, as defined by LAC 33:V.109; however, it may not be stored for more than 10 days.

While in transport, the OBSM must be packaged in accordance with applicable United States Department of Transportation regulations at 49 CFR Parts 173, 178, and 179.

If classified as a hazardous waste by the generator, it must be managed as a hazardous waste until received by Thermaldyne.

3.0 THERMALDYNE ACCEPTANCE CRITERIA

Prior to acceptance by Thermaldyne, OBSM must meet the following requirements. Thermaldyne must have clearly-defined acceptance and rejection criteria for OBSM that can be safely stored on-site and reclaimed by Thermaldyne, including consideration of factors such as:

- Concentration, boiling point and flash point of volatile organic contaminants
- Water content, pH and physical characteristics of O3SM material
- Presence of inorganic contaminants, chlorinated co npounds and odorous materials

3.1 OBSM Characterization

The OBSM generator must complete and submit to Thermaldyne ~~an OBSM Characterization Form~~a Generator Material Profile form. The form will be reviewed by Thermaldyne to ensure that the OBSM meets regulatory and operational parameter requirements for reclamation. An example form is provided in Attachment A.

Thermaldyne may also require that the generator provide a representative sample of the OBSM prior to acceptance or shipment. These samples w ll be analyzed in either an onsite or offsite laboratory to characterize the material and identify contaminants. The samples collected should be as fully representative of the entire shipment as possible. Sample size and number should be large enough to adequately represent the range of characteristics and contaminants contained in the material. Materials that are not known to be homogenous may need to be pre-treated or sampled in a way that ensures variability is taken into account, for example, by pre-mixing the material before sampling or by using a coring tool.

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If necessary, lab-scale studies will be carried out to characterize and quantify the separate solid, oil/solvent and water fractions of the material, for example using retort apparatus.

Material samples will be taken and analyzed for a full range of contaminants, (organic/inorganic, volatile/non-volatile) for example:

- BTEX compounds (benzene, toluene, ethylbenzene and xylenes)
- Total and spectated hydrocarbons
- Metals (e.g. arsenic, cadmium, chromium, copper, lead, mercury and nickel)
- Base/Neutral/Acid compounds
- Polycyclic aromatic hydrocarbons
- Halogenated compounds (e.g. PCBs or compounds containing chlorine)

Where significant concentrations of volatile metals are detected in a sample, the corresponding material should only be accepted for processing by the thermal desorption unit if the processing temperature will be sufficiently below the boiling point of the metal (in order to prevent evaporation of the metal), unless it has been assessed that the metal will not cause unacceptable contamination of the condensate and suitable off-gas abatement systems are in place, which will ensure that any volatilized metals are fully removed from the gas before it is discharged to atmosphere.

The characterized material will be assessed (for example through documented literature studies, lab-scale tests, trials) to confirm whether or not it is suitable for storage and reclamation by Thermaldyne and to identify any potentially problematic contaminants.

OBSM containing PCBs and other chlorinated substances will not be accepted for processing by thermal desorption.

3.2 Maximum Quantity

Thermaldyne may only accept quantities of OBSM that it can process and reclaim such that no speculative accumulation of the OBSM will occur at the Port Allen facility.

3.3 Screening

Upon arrival of the OBSM at Thermaldyne, personnel will first confirm that the material has been approved for acceptance. Thermaldyne -will then screen each load of the material to verify that the physical characteristics: Color/Appearance; Phases; Physical State (i.e., liquid, solid, sludge, or granular); and Odor match the Generator Material Profile. ~~ensure that it is consistent with the generator OBSM characterization form.~~ If the screening indicates that the material is not consistent the OBSM profile provided by the generator or is otherwise unacceptable, the material will be rejected.

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Loads without prior approval will not be allowed on the site. Rejected material will be directed back to the generator.

Representative samples ~~will~~ may be taken to either the onsite laboratory or an offsite laboratory and analyzed to characterize the material and identify contaminants. The samples collected need to be as fully representative of the whole to be characterized as possible. Sample size and number should be large enough to adequately represent the range of characteristics and contaminants contained in the material. Materials that are not known to be homogenous may need to be pre-treated or sampled in a way that ensures variability is taken into account, for example, by pre-mixing the material before sampling or by using a coring tool.

ATTACHMENT A

EXAMPLE GENERATOR PROFILE FORM

Profile #:	

THERMALDYNE

Thermaldyne – Baton Rouge Plant
2351 Northline Road
Port Allen, La 70767
Phone: (Xxx) Xxx-Xxxx
Fax: (Xxx) Xxx-Xxxx

GENERATOR MATERIAL PROFILE

I. CUSTOMER INFORMATION

A. GENERATOR NAME: _____ G. BILLING NAME: _____

B. GENERATOR ADDRESS: _____ H. BILLING ADDRESS: _____

C. GENERATOR CONTACT: _____ I. BILLING CONTACT: _____

D. GENERATOR EPA ID NO.: _____ J. BILLING PHONE NO.: _____

E. GENERATOR STATE ID NO.: _____ K. SALES CONTACT: _____

F. GENERATOR PHONE NO.: L. GENERATOR CATEGORY:

II. MATERIAL INFORMATION

A. NAME OF MATERIAL: _____

B. PROCESS GENERATING THE MATERIAL: _____

C. VOLUME: _____ D. FREQUENCY: _____ E. CONTAINER TYPE (BULK,DRUM,BIN): _____ F. RQ: _____

G. DOT SHIPPING NAME: H. HAZARD CLASS: I. UN/NA#: J. PG:

III. CHARACTERISTICS OF MATERIAL

A. FLASH POINT: _____ °F B. pH: _____ C. DENSITY (#/GAL OR S.G.): _____

D. COLOR/APPEARANCE: _____ E. ASH (%) : _____ F. ODOR: _____

G. PHASES/LAYERS: SINGLE ☐ MULTIPLE ☐ H. BTU VALUE: _____

I. PHYSICAL STATE: (check all that apply) LIQUID ☐ SLUDGE ☐ SOLID ☐ GRANULAR SOLID ☐ (catalyst)

Material is excluded from RCRA as a Hazardous Secondary Material (HSM): ☐ YES ☐ NO

Material is oil bearing and originates from the Production, Transport or Refining of Petroleum: ☐ YES ☐ NO

IV. COMPONENTS

Water		%	Mercury		PPM	Arsenic (As)		PPM	Cadmium (Cd)		PPM
Solids		%	Sulfides		PPM	Barium (Ba)		PPM	Lead (Pb)		PPM
Oil/Petroleum		%	Halogens		PPM	Chromium (Cr)		PPM			PPM
Total		%	Chlorine, Organic		PPM						

V. MATERIAL HANDLING (Thermaldyne processing data)

Centrifuged	☐ YES	☐ NO	Demulsifiers	☐ YES	☐ NO	Asphalt	☐ YES	☐ NO	If yes, what is % by volume?
Debris > 2 Inch	☐ YES	☐ NO	Surfactants	☐ YES	☐ NO	Tar	☐ YES	☐ NO	If yes, what is % by volume?
Emulsifiers	☐ YES	☐ NO	Polymers	☐ YES	☐ NO	Self Heating	☐ YES	☐ NO	(for catalyst only)

VI. ASSOCIATED WASTE CODES (from Petroleum Refining)

☐ K048 ☐ K049 ☐ K050 ☐ K051 ☐ K052 ☐ K169 ☐ K170 ☐ K171 ☐ K172 ☐ F037 ☐ F038 ☐ D001 ☐ D018 ☐ None

VII. GENERATOR'S CERTIFICATION

THE SAMPLE SUBMITTED IS REPRESENTATIVE AS DEFINED IN 40 CFR 261-APPENDIX I. I HEREBY CERTIFY THAT THE ABOVE AND ATTACHED DESCRIPTION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND ABILITY TO DETERMINE THAT NO DELIBERATE OR WILLFUL OMISSIONS OF COMPOSITION OR PROPERTIES EXIST AND THAT ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED. I AUTHORIZE THERMALDYNE TO OBTAIN A SAMPLE FROM ANY WASTE SHIPMENT FOR PURPOSES OF RECERTIFICATION.

SIGNATURE PRINTED (OR TYPED) NAME & TITLE DATE

III. THERMALDYNE, LLC

SIGNATURE PRINTED (OR TYPED) NAME & TITLE DATE

APPENDIX F

REVISED CONTINGENCY PLAN

HAZARDOUS WASTE CONTINGENCY PLAN

Thermaldyne, LLC
Port Allen, Louisiana

~~December 2017~~February 2018

Prepared by:

CK ASSOCIATES
Environmental Consultants
17170 Perkins Road
Baton Rouge, LA 70810

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FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan and Evacuation Routes

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Attachment 1 Emergency Coordinators
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Attachment 3 Emergency Response Contacts
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1.0 INTRODUCTION

1.1 Purpose

This Hazardous Secondary Materials Contingency Plan has been prepared in accordance with LAC 33:V.1513. Its purpose is to document plans and procedures designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of oil-bearing secondary materials (OBSM), hazardous waste or hazardous waste constituents to air, soil, or surface water at the Thermaldyne, LLC (Thermaldyne) facility.

Thermaldyne is located at 2325 North Line Road, West Baton Rouge Parish, Louisiana, 70767. A site location map is provided as **Figure 1**.

The purpose of this plan is to establish orderly procedures for mitigating problems created by an emergency or disaster at Thermaldyne. Procedures described in this plan can be utilized when responding to any incident involving OBSM or hazardous waste at the facility.

This Contingency Plan is prepared as complementary and adjunct to existing emergency measures. It is not intended that this Contingency Plan replace or supersede other appropriate emergency measures.

1.2 Implementation

Provisions of this plan will be implemented immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment at the facility. This plan will be maintained by Thermaldyne and will be communicated through hazardous waste training.

1.3 Background

The Thermaldyne facility receives oil-bearing ~~hazardous~~ secondary materials (OBSM) that are generated at petroleum refineries reclaims the oil contained in the OBSM via a centrifuge and/or thermal desorption processes.

The OBSM received and reclaimed by Thermaldyne may include the following oil-bearing materials generated by a petroleum refinery (SIC code 2911):

- Dissolved air float (DAF)
- Slop oil emulsion solids
- Heat exchanger bundle cleaning sludge
- API separator sludge
- Tank bottoms (leaded)

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- Crude oil tank sediment
- Clarified slurry oil tank sediment and/or in-line filter/separation solids
- Spent hydrotreating catalyst
- Spent hydrorefining catalyst
- Primary refinery oil/water/solids separation sludge
- Secondary (emulsified) oil/water/solids separation sludge
- Any other oil-containing secondary material -(*e.g.*, spent material, by-product, or sludge) that may exhibit a hazardous waste characteristic but is not listed as a hazardous waste

2.0 EMERGENCY RESPONSE ORGANIZATION

2.1 Emergency Coordinator

The Emergency Coordinator (EC) is responsible for coordinating all emergency response measures at the facility. A list of personnel qualified to act is an EC is provided in **Attachment 1**. Should the EC be unavailable, an alternate is qualified to act as the EC during an emergency (see **Attachment 1**).

2.2 Emergency Coordinator Responsibilities

The EC (or alternate EC) is at the facility or on call (.e., available to respond to an emergency by reaching the facility within ~~a short period of time~~two hours) at all times. The EC is thoroughly familiar with this Contingency Plan, plant operations and activities, the location and characteristics of wastes handled the location of records, and the plant layout. In addition, the EC has the authority to commit the necessary resources to implement the Contingency Plan if an emergency arises.

3.0 EMERGENCY EQUIPMENT

A description of the emergency equipment located at the facility is provided in **Attachment 2.**

4.0 EMERGENCY RESPONSE PROCEDURES

Described below are general emergency response procedures. Procedures for specific types of incidents (i.e., spills or releases, fires, or explosions) are described in **Sections 4.1 to 4.4**.

Any person observing a fire, explosion, or release involving hazardous secondary materials or a release of hazardous secondary material constituents into the air, soil or surface water is responsible for:

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- Identifying the problem to the best of his ability taking his own safety into account at all times;
- Informing his supervisor or the EC; and
- Implementing fire extinguishing or release prevention systems as necessary with **safety as foremost concern**.

During an emergency involving hazardous waste, the EC or his designee will immediately activate internal alarms/communication systems to notify all personnel; notify the appropriate federal/state/local emergency response teams if their help is needed or as required by other reporting regulations; and notify fire/medical facilities as necessary. Notification procedures are further described in **Section 5.0**.

Whenever there is a release, fire, or explosion, the EC will immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation, review of the manifests of field requisitions, or, if necessary, through characteristic chemical analysis.

Concurrently, the EC will assess hazards to human health or the environment that may result from a release, fire, or explosion (*i.e.*, direct and indirect effects of the emergency, the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off or chemical agents used to control fire and heat-induced explosions). He may do this by identifying wastes involved, consulting Safety Data Sheets (SDSs, which are kept in the administrative office) to determine potential exposure/release effects and safety precautions, and identifying exposure/release pathways and quantities of wastes involved.

The EC will record the following information

- The substance being released;
- Area from this material is being released;
- Magnitude of release;
- Time the release started;
- Estimated time required to bring release under control; and
- Wind direction and velocity.

If the hazardous secondary material emergency could reasonably threaten the health and safety of the public, cause significant adverse impact to the environment, or cause severe damage to property, the EC or his designee should immediately notify the Louisiana Department of Public Safety (DPS) 24-Hour Louisiana Emergency Hazardous Materials Hotline at 225-925-6595 and provide the following information:

- Name and telephone number;
- Name and address of the facility;
- Time and type of incident;

- Name and quantity of material(s) involved;
- Extent of injuries, if any; and
- Possible hazards to human health of the environment cutside the facility.

The DPS Hotline will notify the Louisiana Department of Environmental Quality (LDEQ). A list of additional emergency contacts is provided in **Attachment 3**.

During any emergency, the EC will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes at the facility. These measures include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

If the facility stops operation in response to a fire, explosion, or release, the operations personnel designated by the EC must monitor the following:

- Leaks – using existing hydrocarbon detection equipment in the area, or with a portable detection device;
- Pressure buildup – visually inspecting pressure gauges;
- Gas generation – detection by visual monitoring and using the appropriate instruments to detect abnormal gas generation; and
- Ruptures in valves, pipes, or equipment – visually observe valves, pipes, and equipment for rupture or breakdown in the area of the emergency.

The EC must ensure that in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed and that all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

The EC will note in the operating log the time, date, and deta ls of any incident which required implementation of the Contingency Plan. The facility will also submit a written report to the LDEQ, Office of Environmental Compliance, Single Point of Contact (SPOC) within 15 days, which will include:

- Facility name, address, and phone number;
- Date, time, and type of incident;
- Name and quantity of materials involved;
- Extent of injuries;
- Assessment of potential or actual hazards to human health or the environment, where applicable; and
- Estimated quantity and disposition of recovered mater al resulting from the incident.

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Facility personnel have been instructed when making verbal notification to stay on the line until all information is understood and to meet the emergency responders on the road to direct them to the scene of the emergency.

Facility personnel have been instructed to avoid any exposure to the hazardous waste and to not attempt any response actions unless having been trained for hazardous waste emergency response.

In the event of a hazardous waste emergency, the EC will perform the following actions:

- Determine the need for evacuation of areas beyond the plant boundary and notify the appropriate authorities.
- Direct the response to minimize the spread of hazardous waste both inside and outside the plant boundary.
- Ensure appropriate personal protective equipment (PPE) is used when handling hazardous waste releases.
- Determine if decontamination is required.
- Ensure that clean-up activities are conducted and residues are properly identified and classified for disposal.

4.1 Spill Procedures

The Thermaldyne Spill Prevention Control & Countermeasure (SPCC) Plan is intended to define employee responsibilities and establish procedures for preventing and controlling the discharge of pollutants resulting from a spill event, thereby minimizing the effects on the environment. The SPCC Plan is a separate document and is maintained at the facility. It may be used as complement to this Contingency Plan.

In the event of a spill involving hazardous secondary materials, the following procedures will be implemented:

- The first person observing the spill will notify the EC and any personnel in the immediate areas.
- The EC will use two-way radios to immediately notify all facility personnel of the incident.
- The observer will notify the designated EC of the incident and provide the information pertaining to the following:
    - The material spilled or released;
    - Location of the release or spillage of hazardous secondary material;
    - An estimate of quantity released and the rate at which it is being released;
    - The direction in which the spill or vapor or smoke release is heading;
    - Any injuries involved; and

  - Fire and/or explosion or possibility of these events.
- The EC will ensure the area is secure and evacuated by:
  - Evacuating the immediate area and area downwind of spill;
  - Eliminating all sources of ignition;
  - Keeping all persons out of the danger area. Stay upwind and warn people downwind of possible fire hazard;
  - If required, blocking in or shutting down all sources feeding the spill without placing oneself in immediate danger;
  - Directing initial containment procedures: and
  - If possible, cautiously transfer liquid to an awaiting tank or appropriate container using non-spark producing equipment.
- The EC will determine if an emergency situation exists and ensure that the following actions are taken:
  - Shutdown or isolate all affected equipment as necessary and practical;
  - Evacuate all personnel not actively involved with the incident or process unit operations/shutdown;
  - Determine whether off-site evacuation is necessary;
  - Remove and treat injured persons by qualified medical personnel;
  - Remove nearby materials that may be incompatible with spilled waste, if possible;
  - Activate spill response personnel, ensuring that proper personal protective equipment is worn;
  - Contain the spill to the smallest possible area;
  - After the spill is contained, treat the spill with appropriate agents. Apply non-reactive sorbent materials;
  - Decontaminate area affected by spill by removal of spilled and sorbent materials and contaminated soil; and
  - Clean up, restore, or replace spill response equipment and return it to its original location.

The locations of spill kits and spill supplies are indicated on **Attachment 2**.

4.2 Fire Procedures

In the event of a fire involving hazardous waste, the procedures will be implemented:

- A person detecting a fire will notify the EC and any personnel in the immediate area.
- All employees in the immediate area will attempt to extinguish the fire utilizing incipient stage fire-fighting equipment, **if safe**.
- From outside the danger area, apply cooling water as quickly as possible to the vapor space surfaces of any vessel exposed to heat. Concentrate on piping, metal surfaces of vessels, and surfaces exposed to flame or intense heat.
- The EC will notify all facility personnel of the incident.

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- The EC will ensure the area is secure and evacuated by, evacuating the immediate danger area and if required, blocking in or shutting down all sources feeding the release without placing themselves in immediate danger.
- The EC will then determine if a state of emergency exists.

NOTE: Under no circumstances shall an employee attempt to fight a fire that has passed the incipient stage (that which can be put out with a fire extinguisher), nor shall any employee attempt to enter a burning building or process areas to conduct search and rescue. These actions shall be left to emergency services professionals who have the necessary training, equipment, and experience (such as the fire department or emergency medical professionals). Untrained individuals may endanger themselves and/or those they are trying to rescue.

- The EC will ensure that the following actions are taken:
  - Determine what is on fire;
  - Determine if persons are endangered by the fire or if the fire could spread to other wastes;
  - Evacuate all endangered persons and determine whether off-site evacuation is necessary;
  - Remove and treat injured personnel by qualified medical personnel;
  - Call the fire department, if needed;
  - Ensure that fire response team can safely extinguish fire and if so, ensure they respond with proper equipment and protection;
  - If hazardous waste has been released or spilled, ensure that spill procedures are followed. Runoff from water used in firefighting should be evaluated, treated as hazardous waste, if necessary, and disposed of properly; and
  - Clean up all firefighting equipment and return it to its original location in a state of readiness.

4.3 Explosion Procedures

In the event of an explosion or an imminent explosion (e.g., bulging container) involving hazardous secondary materials, the person observing the situation shall immediately assess the location of explosion, notify other persons in the immediate vicinity, and evacuate the area, **with his/her own safety as foremost concern**. The person will then immediately inform the designated EC at the time of the incident.

The EC will ensure that the following actions are taken:

- Assess the situation;
- Activate evacuation procedures if personnel are endangered;

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- Notify the fire department and other appropriate authorities; and
- Implement spill or fire procedures, if safe and appropriate.

4.4 Bomb Threat

This procedure provides guidelines for planning the appropriate reaction to a bomb threat. It applies to all Thermaldyne personnel and subcontractors working on projects where bomb threat safety requirements are applicable. Upon receipt of a bomb threat at the project site, the EC must quickly assess the situation and make an immediate decision to implement a prearranged procedure.

Advanced provision should be made for the immediate communication of any bomb threat. All bomb threats will be considered authentic and the employee receiving the threat should do the following:

- Notify the EC immediately;
- If a bomb threat is received in writing, it should be kept including any envelope or other container. Unnecessary handling must be avoided and every possible effort must be made to retain possible evidence such as fingerprints, handwriting, paper and postmarks; and
- If a bomb threat is made by phone, the person receiving the call should not disconnect the caller and should make every effort to keep the person talking, make notes and attempt to ask questions such as: When is the bomb going to explode? Where is the bomb now? What does the bomb look like? What will cause it to explode? Did you place the bomb? What is your name and address?

  Also, take notes and write down the estimated age of the caller, determine any accent in his speech, sound or characteristics of voice, background sounds and threat language.

5.0 NOTIFICATION

5.1 Internal Notification

The communications system employed at the facility include telephones, two-way radios and a facility alarm system. The alarm system includes a plant horn to alert facility personnel.

The purpose of the plant horn alarm system is to signal a possible emergency. The plant alarm system is broken down into 2 levels. Level 1 is a shelter in place and it is one short blast. Level 2 is evacuation and it is continuous short blasts and the ALL Clear is one long blast. The horn signals the alert and further information is communicated through two-way radios and/or telephones.

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Call out of emergency organization personnel is executed at the EC's discretion.

5.2 External Notification

If the EC determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, he/she (or their designee) will report the findings as follows:

1. If the assessment indicates that evacuation of local areas may be advisable, he/she will immediately notify the appropriate local authorities by 911. A list of pertinent off-site agencies and telephone numbers is provided in **Attachment 23**. In addition, the EC must be available to help appropriate officials and decide whether local areas should be evacuated.

2. The EC, or designee, will immediately notify the Louisiana State Police (LSP) Hotline (225-925-6595) and the National Response Center (800-424-8802). The report will include the following information:

    a. Name and telephone number of reporter;
    b. Name and address of facility;
    c. Time and type of incident (*e.g.*, fire, release);
    d. Name and quantity of materials involved, to the extent known;
    e. The extent of injuries, if any; and
    f. The possible hazards to human health or the environment outside the facility.

Additional external notification and reporting requirements depend on the amount of hazardous materials released and whether they exceed the Reportable Quantity (RQ), or other factors. See: LAC 33:I.Chapter 39; LAC 33.V.10111; 40 CFR Part 110; and 40 CFR Part 302.

6.0 EVACUATION PROCEDURES

If the EC determines that the facility has had a release, fire, or explosion involving hazardous waste which could threaten human health or the outside environment, the EC will assess the event. Based on the assessment, the EC will determine what risk is posed to facility workers and neighboring areas. If the incident cannot be controlled by plant personnel without incurring undue risk, the EC will order an evacuation of all workers at risk.

In the event it is necessary to evacuate the facility, all personnel should exit through one of the gates shown on the evacuation diagram in **Figure 2** and proceed to the primary assembly area to await further instructions. During the evacuation, personnel should be aware of the wind direction and possible dangers presented by gas being carried by the wind. Move first in a

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crosswind direction followed by movement in an upwind direction. If your primary exit route or primary assembly area is unsafe, use alternate route or alternate assembly area.

If the evacuation emergency occurs while you are driving in the facility, stop the vehicle and turn off the ignition but leave the key to the vehicle. Leave your vehicle, recognize where the emergency is and proceed to the safest evacuation route then to the gathering point. You should be aware of the wind direction and possible dangers presented by gas being carried by the wind. Move first in a crosswind direction followed by movement in an upwind direction. If your primary exit route is unsafe, seek an alternate route.

Everyone should remain at the assembly area until all personnel have been accounted for. After all personnel have been accounted for and this information has been reported to the EC, efforts can be directed to controlling the emergency. All employees shall remain at the assembly area until the fire department or other emergency response agency notifies the EC that:

- The facility is safe for re-entry, in which case personnel shall return to their work places; and
- The facility is not safe, in which case personnel shall be instructed how and when to leave the site.

If the EC determines that it is necessary to evacuate the surrounding area, the EC shall:

- Notify the West Baton Rouge Parish authorities (911) and the LSP Hotline (225-925-6595). They will provide for the evacuation and isolation of the public community;
- Once the public has been evacuated, the road blocks should remain in place until the All Clear signal is authorized by the EC; and
- The EC will advise the authorities when the All Clear signal has been sounded.

6.1 Accounting for Employees/Visitors After Evacuation

Once an evacuation has occurred, the EC is responsible for accounting for each employee, contractors, and visitors at the designated gathering point. Each employee is responsible for reporting to the EC or his designee so an accurate head count can be made.

6.2 Re-Entry

Once the facility has been evacuated, no one shall re-enter the facility for any reason, except for designated and properly trained rescue personnel such as fire department or emergency medical professionals. Untrained individuals may endanger themselves and/or those they are trying to rescue.

6.3 Sheltering-In-Place

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In the event that hazardous toxic chemicals are released into the environment in the vicinity of the plant, the EC may determine that it is safer to remain indoors (in the control room or office trailer) rather than evacuating the facility. In this case, employees, contractors, and visitors shall be notified to Shelter-In-Place. All personnel including visitors shall immediately depart to the nearest Shelter-in-Place without venturing outside.~~Once the facility has been evacuated, no one shall re-enter the facility for any reason, except for designated and properly trained rescue personnel such as fire department or emergency medical professionals. Untrained individuals may endanger themselves and/or those they are trying to rescue.~~

6.4 Severe Weather

The Plant Supervisor shall announce severe weather alerts (such as tornados) by public address system or by other means of immediate notification available at the facility. All employees shall immediately retreat to the designated safe area until the threat of severe weather has passed as communicated by the Plant Supervisor.

6.5 All Clear Designation

The EC will designate the site All Clear with one long blast of the horn only after the following:

- Ensuring that the safety/health hazard no longer poses a threat to facility personnel;
- Consultation with the Safety Officer;
- Ensuring clean-up operations are complete;
- Appropriate Controlled Response Procedures have been followed by all personnel;
- The appropriate company management personnel have been notified;
- The proper government agencies have been notified; and
- Termination procedures are in place and being followed.

7.0 POST-EMERGENCY PROCEDURES

For the purposes of this Contingency Plan, post-emergency procedures are activities that follow the approval of the All Clear Notification (**Section 6.~~6~~5**) by the EC.

7.1 Cleanup and Decontamination

Immediately after an emergency, the EC will make arrangements for treatment, storage, and/or off-site disposal of ~~recovered wastes, contaminated soil, surface water, or any other contaminated material~~hazardous waste and hazardous waste contaminated media resulting from the incident.

~~Besides spilled or released material,~~ Wastes~~any contaminated soil or debris which has been~~ created as a result of a spill will be picked up and placed in drums, roll-off containers, or

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dump trailers and disposed at an approved waste disposal facility; however, ~~When possible, wastes generated during an emergency will be treated on-site.~~OBSM may be reclaimed in the Thermaldyne process.

After an emergency event, all emergency equipment used in that event will be cleaned, checked to ensure it is in good working order, and placed back in service.

If the cleanup involves hazardous waste and is done by facility employees, then the emergency response is still in effect. The EC will ensure that the cleanup personnel comply with 29 CFR 1910.120 paragraphs (b) through (o) or have completed the training requirements of the following:

- Emergency Planning – 29 CFR 1910.38(a);
- Personal Protective Equipment including Respiratory Protection – 29 CFR 1910.134 or 29 CFR 1910.132;
- Hazard Communication – 29 CFR 1910.1200; and
- Appropriate Hazardous Waste Training – LAC 33:V.1515.

7.2 Post-Emergency Response

If the facility stops operations in response to a fire, explosion, or release of hazardous waste, the EC will monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate. Unless it can be demonstrated that the recovered material is not a hazardous waste, Thermaldyne will assume generator status and manage the hazardous waste in accordance with all applicable requirements.

Immediately after the emergency, the EC will provide for treating, storing, or disposing off-site of required waste, contaminated soil or surface water, or any other material that results from a release, fire or explosions at the facility (i.e., contaminated sorbent pads will be drummed in EPA/DOT approved containers and transported to an off-site disposal facility). The EC will ensure that in the affected area(s) of the facility:

- No waste that may be incompatible with the released materials is treated, stored, and disposed of until cleanup procedures are completed; and
- All emergency equipment listed in this plan is cleaned and fit for its intended use before operations are resumed.

After an emergency involving hazardous waste, and before affected facility operations are resumed, the EC will notify the LDEQ that the facility is back in compliance and plans to resume operations.

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8.0 ARRANGEMENTS WITH LOCAL AUTHORITIES

Thermaldyne has requested formal agreements with the following outside agencies and organizations for aid in the event of a hazardous waste emergency:

- West Baton Rouge Parish Office of Homeland Security & Emergency Preparedness
- West Baton Rouge Parish Sheriff Office
- Port Allen Police Department
- Acadian Ambulance
- Port Allen Fire Department
- LDEQ Emergency Response
- Louisiana State Police
- Our Lady of the Lake

Copies of the requests and/or responses are provided in **Attachment 4** of the Contingency Plan or maintained in the Contingency Plan files as they are received.

9.0 POST-INCIDENT REPORTING

The EC will note in the operating record the time, date, and details of any incident that requires implementation of the Contingency Plan.

Within 15 days after a hazardous waste incident, the EC will submit a written report on the incident to LDEQ Single Point of Contact (SPOC). The report will include the following:

1. Name, address, and telephone number of the owner or operator;
2. Name, address, and telephone number of the facility;
3. Date, time, and type if incident (e.g., fire, explosion, release);
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where applicable; and
7. An estimated quantity and disposition of recovered material that resulted from the incident.

The report shall be mailed to:

Louisiana Department of Environmental Quality
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312
ATTENTION: Office of Environmental Compliance
"Implementation of Contingency Plan Report"

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10.0 TRAINING

At least annually, facility personnel shall receive training on the contingency plan content and implementation, depending on their job description. All facility personnel, contractors and site visitors shall be familiar with emergency response communications, alarms and evacuation routes.

11.0 REVISIONS AND RECORDKEEPING

11.1 Revisions

This Contingency Plan will be reviewed and immediately amended under the following circumstances:

- The plan fails in an emergency;
- The facility changes its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents;
- The list of ECs changes;
- The list of emergency equipment changes;
- The facility changes the response necessary in an emergency; or
- Applicable regulations are revised.

11.2 Recordkeeping

Copies of the Contingency Plan and all revisions to the plan must be:

- Maintained at the facility; and
- Submitted to all local police departments, fire departments, and state and local emergency response teams that may be called upon to provide emergency services.

The following records will also be maintained by the facility:

- Documentation of arrangements or attempted arrangements with emergency response services; and
- Hazardous waste training and emergency equipment inspection records.

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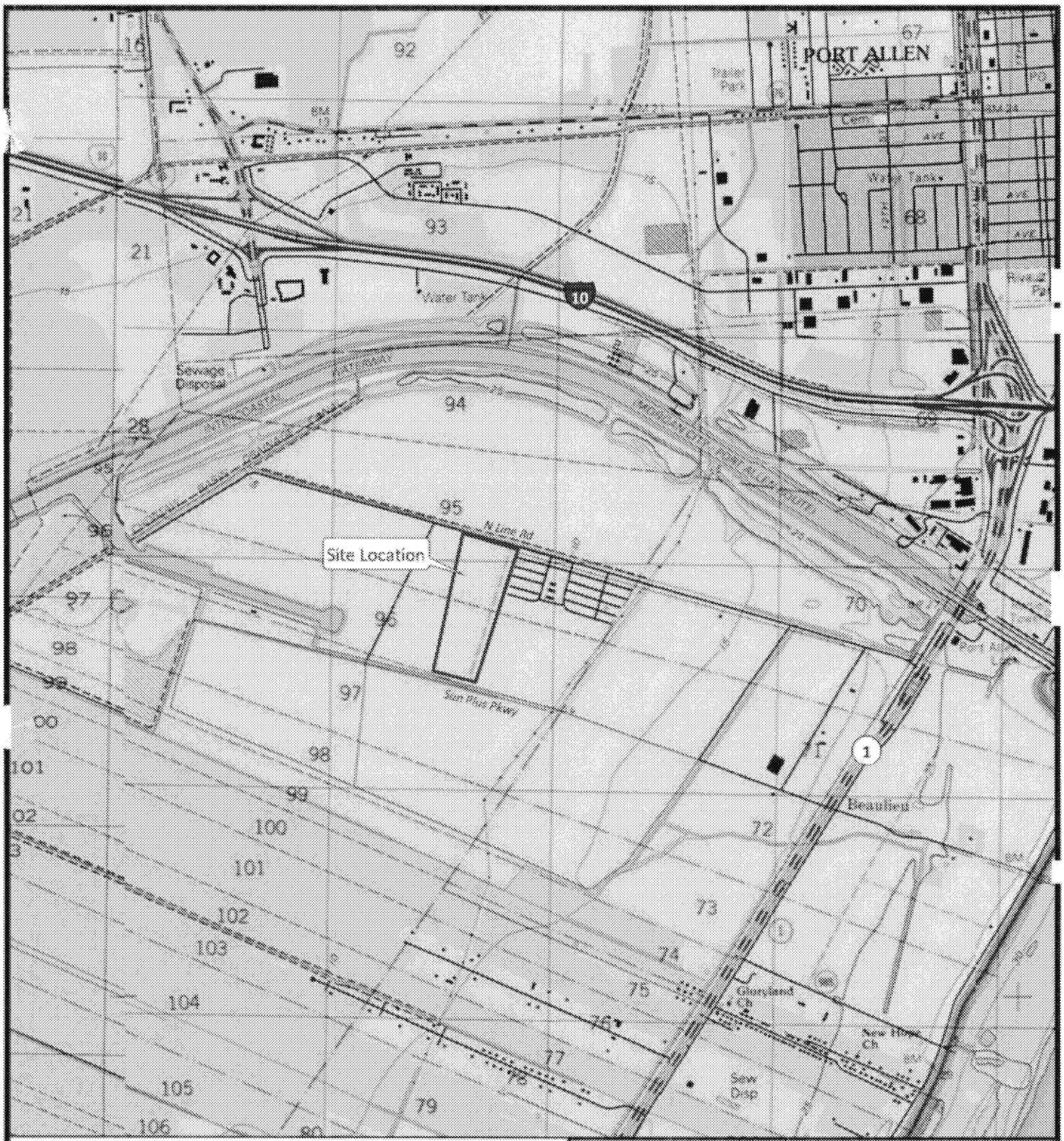
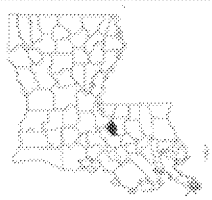
FIGURES

FIGURE 1

SITE LOCATION MAP





N

0 2,000 4,000
Feet

USGS 24K Series Quad Map, Baton Rouge West, LA.

esri

Thermaldyne, LLC
Port Allen, Louisiana

Port Allen Facility

Site Location Map

West Baton Rouge Parish

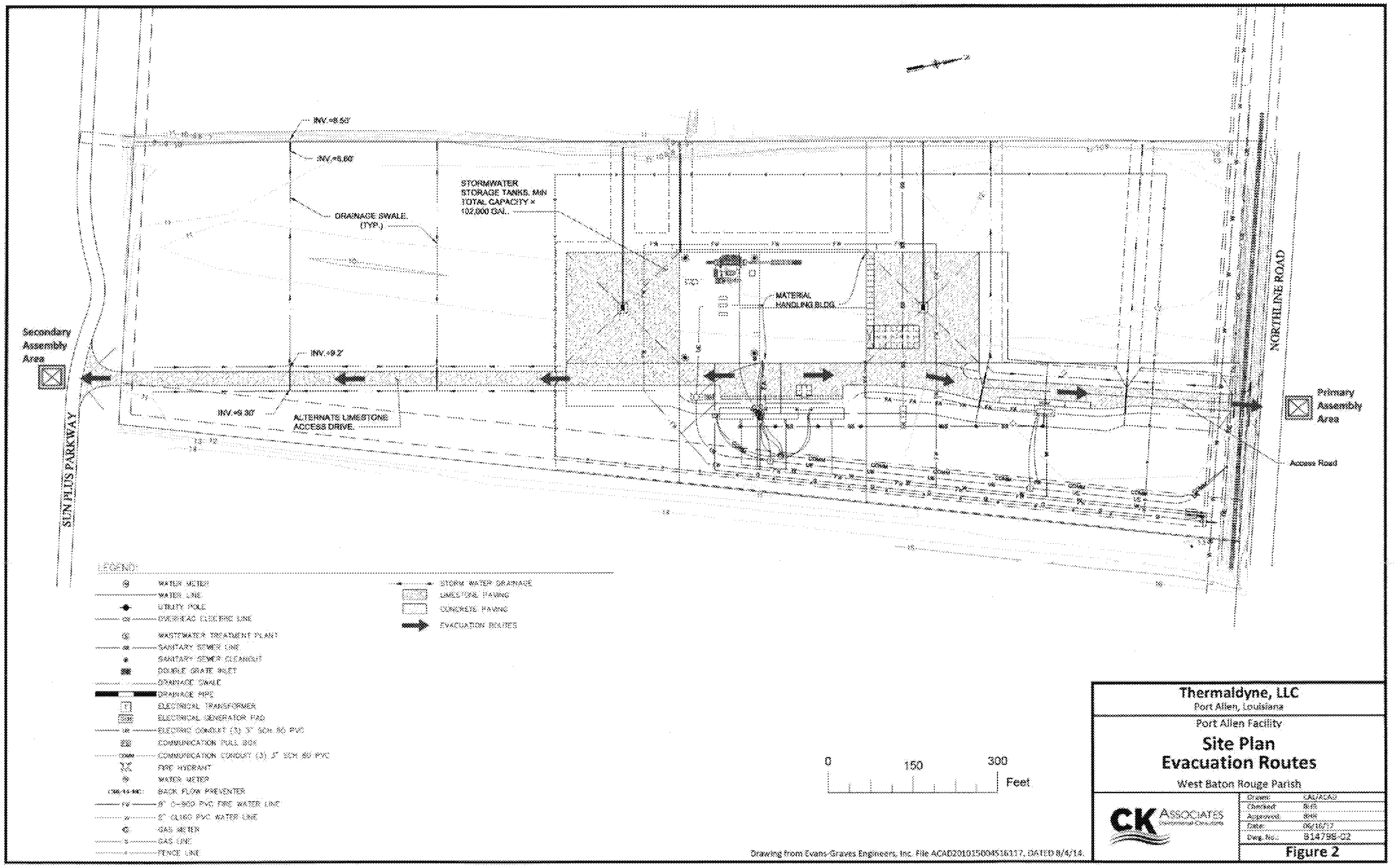
CK Associates
Environmental Consultants

Drawn:	CAJ/AM10.5
Checked:	BHR
Approved:	BHR
Date:	06/16/17
Dwg. No.:	A14798-01

Figure1

FIGURE 2

SITE PLAN AND EVACUATION ROUTES


INV.=8.50'
INV.=8.60'
STORMWATER STORAGE TANKS. MIN TOTAL CAPACITY = 102,000 GAL.
DRAINAGE SWALE. (TYP.)
MATERIAL HANDLING BLDG.
Secondary Assembly Area
INV.=9.2'
INV.=9.30'
ALTERNATE LIMESTONE ACCESS DRIVE.
SUN FLIS PARKWAY
NORTHLINE ROAD
Primary Assembly Area
Access Road
LEGEND:
WATER METER
WATER LINE
UTILITY POLE
OVERHEAD ELECTRIC LINE
WASTEWATER TREATMENT PLANT
SANITARY SEWER LINE
SANITARY SEWER CLEANOUT
DOUBLE GRATE INLET
DRAINAGE SWALE
DRAINAGE PIPE
ELECTRICAL TRANSFORMER
ELECTRICAL GENERATOR PAD
ELECTRIC CONDUIT (3) 3" SCH. 80 PVC
COMMUNICATION PULL BOX
COMMUNICATION CONDUIT (3) 3" SCH. 80 PVC
FIRE HYDRANT
WATER METER
BACK FLOW PREVENTER
8" D-900 PVC FIRE WATER LINE
2" CL180 PVC WATER LINE
GAS METER
GAS LINE
FENCE LINE
STORM WATER DRAINAGE
LIMESTONE PAVING
CONCRETE PAVING
EVACUATION ROUTES
0
150
300
Feet
Drawing from Evans-Graves Engineers, Inc. File ACAD20101580045161 17, DATED 8/4/14.
Thermaldyne, LLC
Port Allen, Louisiana
Port Allen Facility
Site Plan
Evacuation Routes
West Baton Rouge Parish
CK Associates
Drawn: CAL/ACAD
Checked: BHR
Approved: BHR
Date: 06/18/17
Dwg. No.: B14798-02
Figure 2

ATTACHMENTS

ATTACHMENT 1

EMERGENCY COORDINATORS

Thermaldyne LLC

Emergency Coordinators[1]

Title	Name	Telephone
Primary EC	To be provided prior to operations	
Alternate EC	To be provided prior to operations	
Alternate EC	To be provided prior to operations	

NOTES:

1. All Emergency Coordinators may be contacted through the listed numbers. Home addresses and alternate telephone numbers are maintained in the control room and can be produced upon request.

ATTACHMENT 2

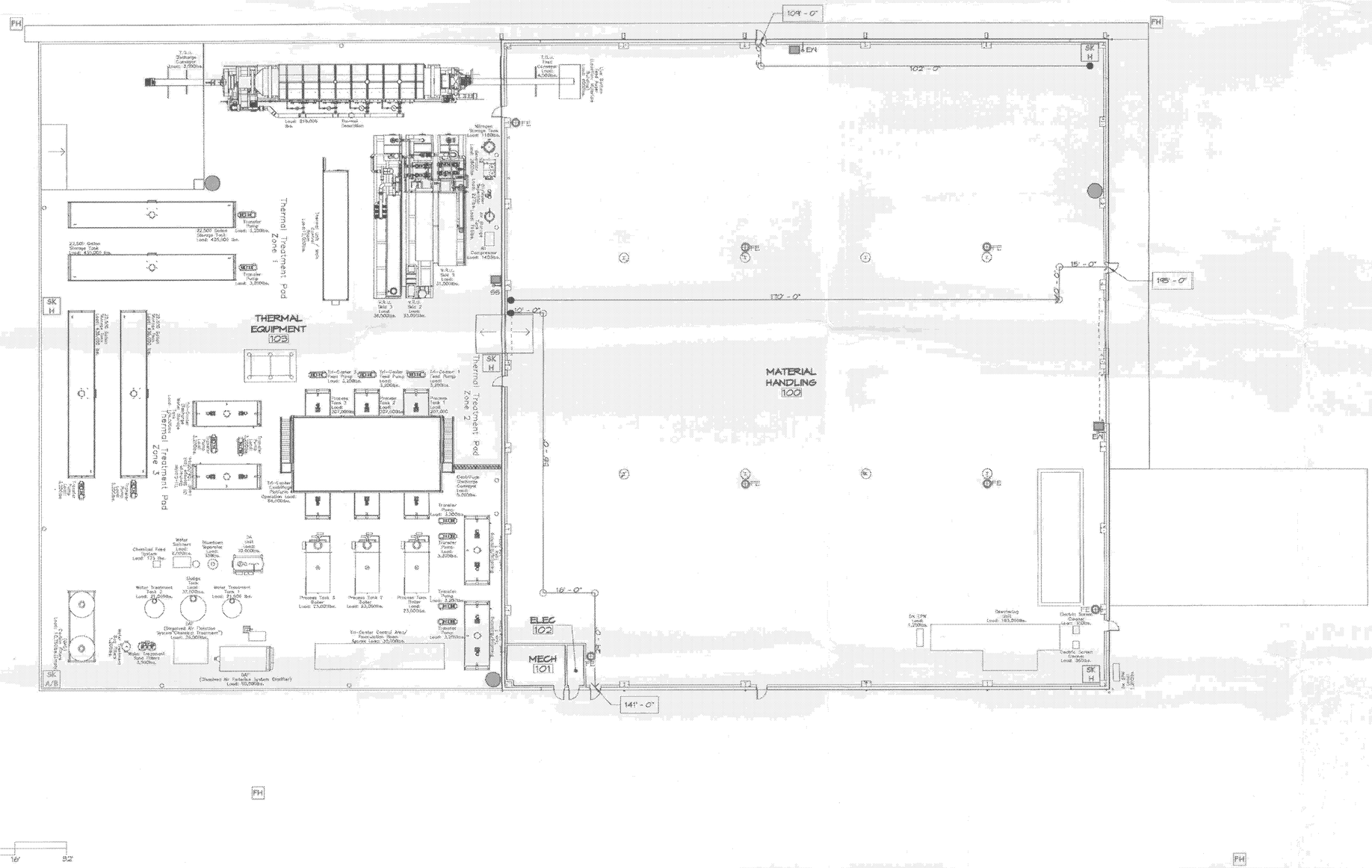
EMERGENCY EQUIPMENT

Emergency Equipment

Equipment	Location	Capability
7 Fire Extinguishers	See Life Safety Plan (Attachment 2)	4A: 80B-C
2 Eye Wash Stations		Permanent
Safety Shower		Permanent
4 Spill Kits		Containment of spills involving hydrocarbons, coolants, solvents, and water
1 Spill Kit		Containment of acids and bases
3 Spill Stations		Containment of oily spills

OVERSIZED MAP

1



BUILDING DATA

BUILDING IS 37,552 SF.
BUILDING IS PROTECTED BY AN AUTOMATIC SPRINKLER SYSTEM.
BUILDING HAS A FIRE ALARM.

	IBC	NFPA 101
OCCUPANCY CLASSIFICATION	FACTORY GROUP F-1	INDUSTRIAL
OCCUPANT LOAD	100 SF/PERSON = 376 OCCUPANTS	100 SF/PERSON = 376 OCCUPANTS
CONSTRUCTION TYPE	IIB	II (000)
MAXIMUM TRAVEL DISTANCE	250'	250'
MAXIMUM COMMON PATH	100'	100'

APPLICABLE CODES:
2015 INTERNATIONAL BUILDING CODE
2015 NFPA 101: LIFE SAFETY CODE

LEGEND

- 6' - 0" — LINE OF TRAVEL PATH
- START
- TURN
- DISCHARGE
- FE — FIRE EXTINGUISHER 4A: 80 B-C
- SS/EW — SAFETY SHOWER/EYE WASH, FE: PLUMBING
- SPILL CONTROL STATION
- SK H — SPILL KIT (Hydrocarbons, coolants, solvents, water)
- SK A/B — SPILL KIT (Acids/Bases)
- FH — FIRE HYDRANT

THERMALDYNE
ARKEL Constructors

No.	Revision/Description	Date
A	ISSUED FOR CONSTRUCTION	11/10/17

CRUMPWILSON ARCHITECTS

Project
THERMALDYNE FACILITY PROJECT
PORT ALLEN, LOUISIANA

Drawing
LIFE SAFETY PLAN

Seal: MICHAEL B. WILSON, No. 29,9, STATE OF LOUISIANA, REGISTERED ARCHITECT

Project Number	59-17
File Name	THERM
Drawn By	CMC/CRB
PM/PIC	CMC/MBW
Date	11/09/17

G1.2

A1	LIFE SAFETY PLAN
1/16" = 1'-0"	REF: A1.1 / A2.1

D15648-02_Life_Safety_Plan.pdf

ATTACHMENT 3

EMERGENCY RESPONSE CONTACTS

Emergency Response Contacts

Federal Agencies	
National Response Center (NRC)	800-424-8802
EPA Region 6	214-665-2222
DOT Hazardous Materials Information	800-366-4488
Louisiana State Agencies	
LA Dept. of Env. Quality (LDEQ)	225-342-1234
Louisiana State Police	225-925-6595
Louisiana Oil Spill Coordinators Office	225-922-3230
Local Agencies	
West Baton Rouge Parish Sheriff's Office	911 (emergency) 225-343-9234 (non-emergency)
West Baton Rouge Parish Office of Homeland Security and Emergency Preparedness	225-346-1577 (day) 911(emergency)
Port Allen Police Department	225-343-5525 (day) 911 (emergency)
West Baton Rouge Fire Department	225-346-5676 or 911 (emergency)
Medical	
Acadian Ambulance	911 (emergency) 800-259-9771 (non-emergency)
Our Lady of the Lake Hospital	225-765-6565

ATTACHMENT 4

LETTERS OF ARRANGEMENT

CK ASSOCIATES
Environmental Consultants

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PHONE (225) 755-1000
FAX (225) 751-2010
www.c-ka.com

HOUSTON, TX
PHONE (281) 397-9016
FAX (281) 397-6637

LAKE CHARLES, LA
PHONE (337)625-6577
FAX (337)625-6580

SHREVEPORT, LA
PHONE (318) 797-8636
FAX (318) 798-0478

February 14, 2018

Mr. Neil Davis, HSE Director
Acadian Ambulance Service
P.O. Box 98000
Lafayette, LA 70509-8000

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Mr. Davis:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

Arrangements will be made, at your request, to familiarize your agency with the layout of the site, properties and associated hazards of the hazardous wastes to be handled, places where personnel would be working, security procedures, and possible evacuation routes. The facility is expected to complete construction and begin operations in mid- to late-2018.

Thermaldyne also respectfully requests that you complete the enclosed written documentation indicating whether your agency can or cannot provide emergency services should an emergency arise at Thermaldyne. A self-addressed, stamped envelope is enclosed for your convenience.

A copy of the Hazardous Waste Contingency Plan will be provided to you prior to operations.

Please contact me at 225.755.1000 or at brooks.ray@c-ka.com with any questions relative to this matter. If you would like to make arrangements to familiarize your agency with the facility, please contact Ricky Cates (President of Thermaldyne) at 337.288.4600 or at rcates@thermaldyne.com.

Sincerely,
CK Associates

Brooks Ray

Brooks Ray
Environmental Scientist

Enclosure

THERMALDYNE, LLC
PORT ALLEN FACILITY

ARRANGEMENTS FOR EMERGENCY SERVICES

Please read and check the following statement that applies to your cooperation in providing emergency services to the Thermaldyne Port Allen Facility located at 2325 North Line Road, Port Allen, West Baton Rouge Parish, Louisiana, 70767:

- ❑ The Emergency Response Agency can provide emergency services.
- ❑ The Emergency Response Agency cannot provide emergency services.

Additional Comments:

_____
_____
_____
_____
_____

_____
Signature of representative of Emergency Response Agency and Date

_____
Print/Type name of representative of Emergency Response Agency

_____
Name of Emergency Response Agency

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CK ASSOCIATES
Environmental Consultants

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PHONE (225) 755-1000
FAX (225) 751-2010
www.c-ka.com

HOUSTON, TX
PHONE (281) 397-9016
FAX (281) 397-6637

LAKE CHARLES, LA
PHONE (337)625-6577
FAX (337)625-6580

SHREVEPORT, LA
PHONE (318) 797-8636
FAX (318) 798-0478

February 14, 2018

West Baton Rouge Fire Department
700 North Alexander Ave
Port Allen, Louisiana 70767
Attn: Chief Kenny Hunts

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Chief Hunts:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

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CK Associates

Brooks Ray

Brooks Ray
Environmental Scientist

Enclosure

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PORT ALLEN FACILITY

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- ☐ The Emergency Response Agency cannot provide emergency services.

Additional Comments:

_____
_____
_____
_____
_____

_____
Signature of representative of Emergency Response Agency and Date

_____
Print/Type name of representative of Emergency Response Agency

_____
Name of Emergency Response Agency

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CK ASSOCIATES
Environmental Consultants

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PHONE (225) 755-1000
FAX (225) 751-2010
www.c-ka.com

HOUSTON, TX
PHONE (281) 397-9016
FAX (281) 397-6637

LAKE CHARLES, LA
PHONE (337)625-6577
FAX (337)625-6580

SHREVEPORT, LA
PHONE (318) 797-8636
FAX (318) 798-0478

February 14, 2018

Louisiana State Police, Troop A
17801 Highland Road
Baton Rouge, LA 70810
Attn: Captain William Davis

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Captain Davis:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

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Sincerely,
CK Associates

Brooks Ray

Brooks Ray
Environmental Scientist

Enclosure

THERMALDYNE, LLC
PORT ALLEN FACILITY

ARRANGEMENTS FOR EMERGENCY SERVICES

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- ☐ The Emergency Response Agency cannot provide emergency services.

Additional Comments:

_____
_____
_____
_____
_____

_____
Signature of representative of Emergency Response Agency and Date

_____
Print/Type name of representative of Emergency Response Agency

_____
Name of Emergency Response Agency

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CK ASSOCIATES
Environmental Consultants

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PHONE (225) 755-1000
FAX (225) 751-2010
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HOUSTON, TX
PHONE (281) 397-9016
FAX (281) 397-6637

LAKE CHARLES, LA
PHONE (337)625-6577
FAX (337)625-6580

SHREVEPORT, LA
PHONE (318) 797-8636
FAX (318) 798-0478

February 14, 2018

Louisiana Department of Environmental Quality
Emergency Response Division
P.O. Box 4312
Baton Rouge, Louisiana 70821-4312
Attention: Mr. Jeff Dauzat

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Mr. Dauzat:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

Arrangements will be made, at your request, to familiarize your agency with the layout of the site, properties and associated hazards of the hazardous wastes to be handled, places where personnel would be working, security procedures, and possible evacuation routes. The facility is expected to complete construction and begin operations in mid- to late-2018.

Thermaldyne also respectfully requests that you complete the enclosed written documentation indicating whether your agency can or cannot provide emergency services should an emergency arise at Thermaldyne. A self-addressed, stamped envelope is enclosed for your convenience.

A copy of the Hazardous Waste Contingency Plan will be provided to you prior to operations.

Please contact me at 225.755.1000 or at brooks.ray@c-ka.com with any questions relative to this matter. If you would like to make arrangements to familiarize your agency with the facility, please contact Ricky Cates (President of Thermaldyne) at 337.288.4600 or at rcates@thermaldyne.com.

Sincerely,
CK Associates

Brooks Ray

Brooks Ray
Environmental Scientist

Enclosure

THERMALDYNE, LLC
PORT ALLEN FACILITY

ARRANGEMENTS FOR EMERGENCY SERVICES

Please read and check the following statement that applies to your cooperation in providing emergency services to the Thermaldyne Port Allen Facility located at 2325 North Line Road, Port Allen, West Baton Rouge Parish, Louisiana, 70767:

- ☐ The Emergency Response Agency can provide emergency services.
- ☐ The Emergency Response Agency cannot provide emergency services.

Additional Comments:

_____
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_____
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_____
Signature of representative of Emergency Response Agency and Date

_____
Print/Type name of representative of Emergency Response Agency

_____
Name of Emergency Response Agency

ED_002099_0001130-00106

CK ASSOCIATES
Environmental Consultants

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PHONE (225) 755-1000
FAX (225) 751-2010
www.c-ka.com

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February 14, 2018

West Baton Rouge Parish
Office of Homeland Security and Emergency Preparedness
2413 Ernest Wilson Dr.
Port Allen, Louisiana 70767
Attn: Mr. Deano Moran

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Mr. Moran:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

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February 14, 2018

Divisional Director, Emergency Services
Our Lady of the Lake Regional Medical Center
5000 Hennessy Boulevard
Baton Rouge, Louisiana 70808

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Director:

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February 14, 2018

Port Allen Police Department
375 Court Street
Port Allen, Louisiana 70767
Attn: Chief Esdron Brown

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Chief Brown:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

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FAX (318) 798-0478

February 14, 2018

West Baton Rouge Parish Sheriff's Office
P.O. Box 129
Port Allen, Louisiana 70767
Attn: Sheriff Mike Cazes

RE: Thermaldyne, LLC
Port Allen, Louisiana
Request for Arrangements

Dear Sheriff Cazes:

Thermaldyne, LLC (Thermaldyne) is constructing a reclamation facility for oil-bearing secondary materials. The facility is located at 2325 North Line Road, Port Allen, Louisiana, 70767. In accordance with Louisiana hazardous waste regulations, specifically LAC 33:V.1511.G, Thermaldyne must attempt to make arrangements to familiarize local authorities or agencies that are subject to respond to an emergency at the facility. On behalf of Thermaldyne, CK Associates is submitting this request regarding these arrangements.

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Environmental Scientist

Enclosure

THERMALDYNE, LLC
PORT ALLEN FACILITY

ARRANGEMENTS FOR EMERGENCY SERVICES

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Name of Emergency Response Agency

ED_002099_0001130-00114

APPENDIX G

REVISED CLOSURE COST ESTIMATES

Table 1
Itemized Closure Cost Estimate
Thermaldyne, LLC

Notification of Closure	Unit	Quantity	Unit Price	Total Cost
Notification of Closure to LDEQ	Lump Sum	1	$1,200.00	$1,200.00
			Subtotal	**$1,200.00**
Equipment Cleaning and Waste Disposal	**Unit**	**Quantity**	**Unit Price**	**Total Cost**
Mobilization/demobilization of equipment	Lump Sum	1	$5,000.00	$5,000.00
Labor costs for decontamination of process equipment and frack tank (5 man crew)	Per Day	15	$2,800.00	$42,000.00
Equipment Rental	Per Day	15	$1,000.00	$15,000.00
Hazardous Liquid disposal from cleaning equipment	Gal	20,000	$1.74	$34,800.00
Hazardous Liquid Transportation	6,900 gallon per truck	3	$3,060.00	$9,180.00
Non-hazardous liquid disposal from cleaning equipment	Gal	80,000	$0.37	$29,600.00
Non-hazardous liquid transportation	Gal	80,000	$0.20	$16,000.00
Disposal of Hazardous Sludge/OBSM	Ton	77	$595.00	$45,815.00
Hazardous Sludge/OBSM Transportation	18 ton load per Truck	5	$2,200.00	$11,000.00
Frac Tank Rinsing	Lump Sum	5	$600.00	$3,000.00
Frac Tank liner disposal	Lump Sum	1	$1,750.00	$1,750.00
			Subtotal	**$213,145.00**
Demolition of Floor at Materials Handling Building	**Unit**	**Quantity**	**Unit Price**	**Total Cost**
Mobilization/demobilization of equipment	Lump Sum	1	$5,000.00	$5,000.00
Labor costs for demolition of floor at material handling building (5 man crew)	Per Day	15	$2,800.00	$42,000.00
Removal and staging of crushed concrete flooring	yd^3	834	$2.49	$2,076.66
Removal and staging of limestone and soil	yd^3	1,389	$2.49	$3,458.61
Loading of flooring, limestone, and soil into trucks	yd^3	2,223	$2.49	$5,535.27
Transportation of flooring, limestone, and soil to landfill	yd^3	2,223	$14.00	$31,122.00
Disposal of flooring, limestone, and soil to landfill	Ton	3,890	$35.00	$136,158.75
Equipment Rental	Per Day	15	$2,515.00	$37,725.00
			Subtotal	**$263,076.29**
Clean Closure Analytical Testing	**Unit**	**Quantity**	**Unit Price**	**Total Cost**
Sampling, analysis, and reporting	Lump Sum	1	$40,000.00	$40,000.00
			Subtotal	**$40,000.00**
Personal Protective Equipment	**Unit**	**Quantity**	**Unit Price**	**Total Cost**
Personal Protective Equipment	Lump Sum	1	$5,000.00	$5,000.00
Engineer Oversight and Closure Inspection	**Unit**	**Quantity**	**Unit Price**	**Total Cost**
Supervision by Professional Engineer	Lump Sum	1	$10,000.00	**$10,000.00**
Closure Report	Lump Sum	1	$5,000.00	**$5,000.00**
			Subtotal	**$15,000.00**

Subtotal Closure Cost	**$537,421**
20% Contingency	$107,484
Total Closure Cost	**$644,906**

Notes:
1) Assume 20% of liquids will be hazardous.
2) Assume hazardous waste will be disposed of at the nearest permitted facility.
3) Assume non-hazardous waste will be disposed of at the nearest permitted facility.
4) Unit prices were obtained from RSMeans, professional judgement, and third party contractors.
5) All costs assume closure is conducted by third party contractors.
6) Site will be clean closed and no remediation is required.