T&B FABRICATION, LLC.

THE TBF ROTOCLAVE® WASTE TREATMENT AND MATERIAL RECOVERY PROCESS

The **TBF *Rotoclave*®** technology is a key component to mechanically separating and recovering Materials in the waste targeted to be recycled into existing markets, and/or to be used in Environmentally Friendly and Safe Energy Generation systems. Our goal is to achieve a Responsible Progressive Public Policy Target of "0" for a MSW Landfill.

The ***Rotoclave*®** Technology has been thoroughly and successfully proven, with constant upgrades being implemented, since its initial fabrication and operation in 1992 (with over 90 operational systems worldwide). Its patented technology is based on a static pressurized vessel fitted with a rotating internal drum. The Internal Drum contains and tumbles the unsorted waste throughout the duration of the processing cycle, reducing volumetrically the waste components during the steam sterilization process. This allows safe mechanical handling and separation of the treated materials coming from the ***Rotoclave*®** vessel at the end of the processing cycle.

In the ***Rotoclave*®** system, the waste is not in contact with the pressure vessel, but instead contained within the internal rotating drum. By doing so, the **pressure vessel's integrity is never compromised and or diminished**, since it is not exposed to any abrasive wear and tear and/or impact damage from the constant 24/7/365 operation.

A. Technical Descriptive of the TBF Rotoclave® Technology

The **TBF *Rotoclave*®** technology is based on a static pressurized vessel fitted with an internal rotating drum, designed to contain and tumble the unsorted waste. Saturated, pressurized steam is used to sterilize the waste in a batch, or cycle, process for a specific time at temperature (TAT) duration.

The **TBF *Rotoclave*®** Treatment system is typically composed of:

- Automated Waste Loading/Conveying Equipment
- The ***Rotoclave*®** Vessel
- Condensing System and Platform
- Interconnecting Piping
- Valves and Instrumentation
- Controls System programmed to Clients Requirements
- Automated Material Unloading/Conveying Equipment
- Utility Generation, Control, and Supply Equipment with related Controls and Piping
- Sewer, Potable Water, Vapor and Condensate Water handling Piping and Control Equipment

As part of specific project development plans, all equipment indicated above will be provided by specialized suppliers, the clients local General, Mechanical, Electrical, and Plumbing Contractors, and **TBF**.

Each ***Rotoclave***® Processing Cycle/Batch is basically divided into Nine (9) distinctive Steps:

Step 1	Staged Waste Automated Loading
Step 2	Initial Vacuum
Step 3	Steam Pressurization/ Heat-Up
Step 4	Time at Temperature (TAT) Processing
Step 5	Cool-Down/ Depressurization
Step 6	Drying/ Post Vacuum
Step 7	Pressure Equalization
Step 8	Cycle Complete Alarm
Step 9	Material Discharge

Step 1 Staged Waste Automated Loading

TBF works with each client to define a suitable plant Waste Dumping, Staging, and Loading System, fitted to their particular requirements, and designed to feed the selected ***Rotoclave***® vessel in the most effective manner.

The automated loading/conveying system designed for the particular operation, will seek to feed the ***Rotoclave***® internal drum to a specific design % fill. This fill % (active volume) varies according to the ***Rotoclave***® vessel size, as well as its inclination, with the active volume usually fluctuating between 70% - 85% of the internal rotating drum volume.

Step 2 Initial Vacuum

Once the system has been loaded and the operator has closed the ***Rotoclave***® vessel door from the Control Console, the "Processing Command" can be activated by the operator. Once the ***Rotoclave***® processing starts, the system and cycle processing are fully automated and controlled by the system Programmable Logic Controller (PLC).

During Step 2 the PLC activates a vacuum device (ejector) to remove as much of the air as possible from the vessel. The internal drum begins rotating during this Step and continues until the end of the processing cycle (Step 7).

Step 3 Steam Pressurization/ Heat-Up

At the conclusion of Step 2, the PLC energizes the ***Rotoclave***® vessel steam supply valve, causing steam to enter the ***Rotoclave***® vessel. The ***Rotoclave***® system is fitted with an abundance of controls and instrumentation in order to closely monitor the internal temperature and pressure during the duration of the processing cycle.

Once the design temperature of 113°C (235°F) for MSW or 137°C (278°F) for RMW has been attained on all internal temperature probes, the PLC closes the steam supply valve into the ***Rotoclave***® vessel and Step 4 of the cycle automatically starts.

Step 4 Time at Temperature Processing

Once the PLC starts Step 4 of the cycle, it opens and closes the steam supply valve to maintain a steady processing temperature of 113°C (235°F) for MSW or 137°C (278°F) for RMW. The constant tumbling of the waste in the internal rotating drum allows for the full penetration of the processing sterilizing steam to all the materials contained in the ***Rotoclave***® vessel.

The range of RMW materials that clients process in the ***Rotoclave***® system vary widely, mostly due to their regulations restrictions. They can range from typical materials that are in contact with any pathogenic activity and/ or contact with patients or providers (such as gown, linen, cleaning, and curing materials, medicine containers and/or infected equipment) to pathology waste, including ER and/or OR anatomical discharges, (including birthing areas, and disposed animals and/or animal portions from veterinary clinics and schools, as well as laboratories).

The ***Rotoclave***® process hydrolyzes organic materials, vegetable and/or animal, releasing the water content from the fibers. The "free water" released from the fibers, as well as additional processing water needed to break-down all paper and/or cardboard components, reverts the material back to a pulp state. This can include coated containers, heavy drink carriers (such as those used for beer and soft-drinks), and heavily manufactured goods such as diapers. This process can dramatically reduce the volume of the treated waste.

As an additional benefit from the ***Rotoclave***® process, all plastics deform to some degree depending on their chemical constitution and density. During the processing cycle the paper labels on most plastic containers are removed (pulped), leaving most plastics free of non-plastic materials.

All ferrous metals are also stripped of their paper labels, and other metals such as aluminum cans are stripped of their ink imprints. The metals will also deform and flatten to a degree, all depending on the strength and density of their specific design. However, metals surfaces will be clear of inks and labels, and depending on their design and/or shape they will contain some pulp residues due to the constant tumbling in the ***Rotoclave***® vessel. This makes separation not only easier, but more valuable for the re-cycling industry.

The volume reduction during Step 4 of the ***Rotoclave***® cycle is dramatic, averaging down to approximately 50% of the initial volume introduced at the start of the processing cycle.

Step 5 Cool-Down/ Depressurization

Once the Time at Temperature (TAT) selected in the PLC runs out, the PLC proceeds to activate specific valves and equipment to remove the processing vapors present during Step 4 of the cycle from the ***Rotoclave***® vessel.

At first, the vapors will be removed using the existing pressure in the vessel. Once the ***Rotoclave***® has reached a set design minimum pressure, the PLC will activate a system steam ejector, creating a negative pressure to move the balance of these vapors across the facility condenser. All recovered condensate water is stored in the condensate tank, and depending on the client's design and treatment system, it can be fed into the facility boiler and/or re-boiler to generate processing steam for a subsequent ***Rotoclave***® processing cycle. It can also be used as Process Water during the next processing cycle.

Non-condensable vapors are directed to the facility air cleaning/scrubbing system prior to releasing them onto the surrounding ambient air.

Step 6 Drying/ Post-Vacuum

Once the ***Rotoclave***® vessel pressure registers "0" PSIG, the PLC starts Step 6 for a specifically designed time. During this Step of the cycle all process waste tumbles in the rotating drum allowing the negative pressure generated by the steam ejector to remove as much of the remaining process vapors as possible.

In addition to the volume reduction, there is also a weight reduction. This is due to the evaporation of some of the remaining free liquids, either from the original waste loaded into the ***Rotoclave***® cycle, or from the processing water injected into the inner drum during Step 1 of the cycle.

Step 7 Pressure Equalization

Once the specific time set in the PLC for the drying lapses, the PLC will activate the Door Interlock Valve (vacuum breaker). This allows ambient air around the ***Rotoclave***® vessel to be introduced into the pressurized vessel, thus equalizing the ***Rotoclave***® vessel internal pressure. The internal drum ceases to rotate at this time.

Step 8 Cycle Complete Alarm

Once the ***Rotoclave***® vessel pressure registers "0" PSIG inside the vessel, the PLC activates a Control Alarm that indicates to the system operators that the cycle has ended. The ***Rotoclave***® vessel is now ready to unload the processed materials onto the Separation Equipment (for MSW operations) or unload the processed materials into the Grinder (for RMW operations).

Step 9 Material Discharge

After the PLC activates the Cycle Complete Alarm, the System Operators gain back the control of the ***Rotoclave***® vessel operation. This allows the operators to open the vessel door from the Control Console.

Once the ***Rotoclave***® vessel door is fully open and the limit switches indicate this to the PLC, the PLC changes the inner drum rotation setting to the unloading rotation. Once the operator activates the discharge system, all discharge conveyors feeding the Separation Process Bunker Conveyor (BC) begin to operate in order.

When all discharge conveyors are operational, the ***Rotoclave***® vessel inner drum begins operating in the discharge direction, progressively dumping all the processed sterilized materials onto the discharge conveyors and to the Separation Process Bunker Metering Conveyor.

After the ***Rotoclave***® vessel is fully discharged, the operator activates the "Discharge Complete" command in order to change the inner drum rotation to the loading direction. The operator will then activate the loading/conveying system already staged in front of the empty ***Rotoclave***® vessel to start another processing cycle.

B. Descriptive of the TBF Rotoclave® MSW Treatment and Material Recovery Process

A multitude of methods and policies "tried" around the world have attempted to recover, or recycle, the ever changing diversity of materials contained in **Municipal Solid Waste (MSW)**. They have been grossly ineffective, mostly due to the problematic handling of the organic components (which are 50 to 60% of the MSW). This is also due to their mix with other non-organic components, which become difficult, laborious, and costly to separate by mechanical and/or manual standard methods.

Wastes are formed by an ever changing wide diversity of materials, and regardless of that diversity, we tend to divide them into general category groups. This process takes into consideration how they are physically modified during the ***Rotoclave***® process, in order to determine and select the most effective (and industry proven) separation methods and technologies to recover each of these materials based on the Client's requirements, as well as their specific Market Analysis.

Obviously, the object is **NOT** to transform Waste into another type of Waste, but instead to transform the waste into "Recovered" elements with a specific ***"Value" (be it "Market and/or Energy).***

In any project, the Client will determine the "Main Objective" of their Waste Processing Plant: specifying which components in their waste stream shall be targeted for Recycling markets; which components will be targeted for Energy or Fuel generation; or which components will be ultimately directed for landfilling.

TBF has helped develop, in conjunction with Dominion Clean Energy Systems (**DCES**), several MSW projects (one built in the United Kingdom, and others under Preliminary Designs in various parts of the world under development consideration by various clients). On the detailed engineering design for the UK project, we cannot reveal or provide any information, due to Confidentiality Agreements with co-designers and client.

The **TBF** waste treatment "***remains the same"***, regardless of any **DCES** post ***Rotoclave***® treatment separation method used to satisfy the goals of the client. In that regard, the **TBF** ***Rotoclave***® waste treatment process can be considered ***"Post Treatment Technology Neutral"***, thus allowing us to adapt Plant Designs to Clients' needs, whether the Client desired goal is Power Generation, Bio-Fuels, Alternative Fuels, or any other option.

The Preliminary Design Project Descriptive we are providing next was developed for a **Waste to Energy (WtE)** Plant in the Philippines. The Dominion-Iloilo goal was to recover marketable materials for their subsequent sell into existing recycle markets, while the balance of recovered materials without market value (but high energy value) are to be used as Engineered Fuel/Refuse Derived Fuel (RDF) in a Gasification/ Steam Generator/ Turbine Electric Power Co-Generation facility. This Dominion-Iloilo **WtE** Facility will provide all the electrical power it will need, and all surplus Electric Power generated will be sold into the Power Grid. Inorganic materials without any market value (such as glass, stones, gravel etc.) will go to the local landfill and used as ground cover, although in other areas they can be used for road-bed construction.

There were three (3) Categories of Processed Materials targeted for Recovery:

1. ***Materials With Market Value***
2. ***Materials Without Market Value, but With Energy Value***
3. ***Materials Without Market and/or Energy Value.***

The Preliminary Plans on the **WtE** project included with this descriptive, have been provided for you in **confidence**, to use only as a reference to understand our **TBF** MSW Treatment Process. These plans also convey the **DCES** pre and post ***Rotoclave***® treatment Separation process selected for that particular plant, coupled with the **DCES** selected technologies used to satisfy the client goals to produce electricity.
The process we are describing next was developed to suit the Dominion-Iloilo (client) goals. Other clients will have to define their own goals in order for us to identify and suggest suitable technologies in a specific, adapted process and configuration. This allows the client to achieve all its objectives, among them, financial, environmental, political, and social.

Dominion-Iloilo/ WTE Plant Process Descriptive

The Waste Processing, Separation, and Power Generation Building, is a single story 20 feet/ 6 meter Eve High Building, physically divided and separated into two different sections. This allows proper management of the facility Air Quality System.

Section "A" houses all activities handling the "Raw/ Untreated" Solid Wastes (RMW and MSW). **This building section is provided with a Negative Air Mechanical Design**, therefore collecting all odors generated by the dumping and handling of the solid waste, as well as vapor and odors generated during the solid wastes processing. The collected air and vapors from Section "A" will be delivered and processed by the Biomass Gasification System.

All MSW arrives to the plant in the "standard waste collection trucks" after their daily routes are covered, whether they are from residential, commercial, and/or industrial sectors. All RMW arrives to the plant in the "standard Bin / Cart collection trucks" after the daily routes are covered.

There is NO need for any pre-sorting or separation before reaching the Dominion-Iloilo Processing Plant.

The MSW is handled and loaded onto a Walking Floor by a 2CY Bucket Front Loader. The Walking Floor supplies all the MSW into the facility 1CY MSW Carts.

The RMW is unloaded from the truck via their lift gates and, after checking all the containers and boxes for radioactivity, all non-radioactive RMW containers and boxes are placed in the unsorted RMW staging area.
This area has also been provided with a Client Container Washing area to thoroughly disinfect and clean the client containers before they are returned to the clients. A Client Clean Container Staging area has been provided.

Radioactive waste will be staged in a separate area to be carried off the complex for proper treatment.

Solid Waste Staging and Processing Area: This is an open area, adjacent to the Unsorted Dumping Floor, that provides space for the handling, sorting, weighing, scanning, loading, and processing of all MSW and RMW Waste.

Both the RMW and MSW Containers are kept separately in their own staging areas. They are provided with different colors to avoid operator errors; RMW in Red Containers and MSW in Blue Containers. Three (3) distinctive staging areas are provided for each of these two (2) types of solid wastes (which must be kept separated) to properly track them before and after treatment.

The first staging area is for all full containers waiting to be weighed. This staging area is ahead of the Weighing Scale, which is a floor mounted scales provided with ramps for easy access and exit to the next staging area. This area has been provided with a computerized scanning station.

The Second staging area is for containers that have been weighed and scanned by the operator. All containers are provided with a Bar Code embedded Label for the Operator to associate the container weight within the specific container. This system logs the MSW and/or RMW into the computer system, including client info, and is verified and compared by the Controller located in an adjacent office room.

The Third Staging Area is for all containers that will be loaded to a specific Rotoclave Unit Cycle. The Operator loading each vessel scans each container as it is placed in the vessel loader. This process associates all containers weight loaded into a particular vessel, along with the cycle time, date, and processing parameters. This is needed for accounting purposes, as well as for the required tracking of "Cradle to Grave" Destruction Proof by many government agencies worldwide.

Rotoclave Processing Area. This area houses the two (2) Rotoclave 1KC Units, along with their associated condensing skids, loaders, control consoles, and associated conveyors. After the cycle processing is concluded, the operators unload the sterilized materials onto the discharge conveyor system. Once the vessel is fully unloaded, they proceed to load the next processing cycle and begin its operation.

The operators will acknowledge, before starting the cycle, whether the cycle will process RMW or MSW. The PLCs have been programmed to control the discharge process after the sterilization is completed.

All RMW operations will direct the processed materials to the left side of the Surge Conveyor, into the RMW Grinder. The conveying system is provided with a grinder discharge conveyor to unload these sterilized and ground materials through a separation wall and onto the Dryer Feed Conveyor.

Rotoclave® 24K Vessels at MSW Plant

After the MSW has been processed, based on the ***Rotoclave***® process already described above, the operators discharge ***all processed materials*** remotely from the Control Console and over the discharge conveying system to stage the treated materials into a ***Re-Metering Bunker Conveyor***. The operators will progressively feed the Material Separation/ Recovery System via a ***Metering Drum*** and conveying system.

Between 50% - 60% of the materials discharged from the *Rotoclave*® process were initially in the form of food, paper, diapers, and cardboard, and have now been reduced to "pulp" during the *Rotoclave*® process. This process eases the mechanical separation of ALL processed components, turning the separation process into an easy task, as well as a financially viable and profitable venture.

All processed materials, after being discharged from the ***Rotoclave***® vessel, are moved and staged into a metering bunker conveyor, and gradually fed through a Separation Process specifically designed for each particular plant. This design fits the specific goals and targets established by each client for their plant.

Section "B" houses all activities handling the Material Separation, Recovery, Drying, Density Separation, Gasification, and Steam and Power Generation Operations. This building section does **NOT** have to be provided with a negative pressure air handling system, but instead localized exhaust at certain conveyor discharges (such as feeding at the Trommel feed system and separation and Dryer Feed hopper).

a. **Separation and Recovered Material Staging Area:** This is a an open area providing a space which houses a storage room, a mechanical room, and an electrical room to support the building operation, along with Material Separation Equipment with their associated conveying system. This includes:

i. **Trommel Separator**. The first separation equipment at the Dominion-Iloilo Plant is a ***Trommel*** fitted with 35mm (1 3/8") holes, similar to the one in the photo above. This trommel separates all materials equal or smaller than 35mm ("Unders"), directing them to the facility Dryer via an underside conveyor. At its discharge top end all the materials that are larger than 35mm ("Overs") are moved through a -

ii. **Magnetic Separator**, where all ferrous metals are separated and directed to the Ferrous Recyclates Bunker Conveyor for further baling. All overs are moved through an -

iii. **Eddie Current Separator**, where all aluminum materials are directed to the Aluminum Recyclates Bunker Conveyor for further baling. All overs are moved through an -

iv. **Optical Separator**, where all HDPE plastics are separated and directed to the Plastics Recyclates Bunker Conveyor for further baling. All overs are moved through a -

v. **Hand Sorting Station**, where all materials that do NOT have Energy Value are removed and directed to a Rejects Dumpster. The materials left on the sorting station belt are all materials with Energy Value, and are directed to any of -

vi. **Two Grinders,** operating alternately, where all large materials with energy value are grounded and discharged onto the Dryer.

vii. The volume of materials equal or smaller than 35mm ("Unders") coming out of the Trommel are fed into the **Dryer.** The Unders are mostly formed by biomass (material or organic fiber from food, paper, diapers and cardboard), along with an assortment of small metal items (such as screws, bolts, washers, nuts, nails, etc.), and other inorganic materials (such as sand, glass, etc.).

The full bulk of these ***Trommel Under Materials*** are comingled with the shredded materials coming out of the Facility Secondary RDF Shredder System, and moved across a ***Tumbling Dryer,*** using the waste heat of the facility Pyrolysis system to dry all the materials recovered from the 35mm trommel separation and shredder system, before directing them to the -

viii. **Density Separator,** where all small inorganics are removed from the dried materials with energy value. The Dried and cleaned Refuse Derived Fuel (RDF) is conveyed to the Bunker Conveyor on the Gasification Feed System.

b. **Recovered & Baled Materials Shipping Docks:** This area, part of the separation and recovery material space defined above, houses three Recyclates Bunker Conveyors which stage all these recyclates until they are conveyed individually to the facility baler. From the baler, each baled, recovered material group is staged in an area selected near the shipping dock using facility forklifts.

This separation circuit recovers its metals and targeted plastics (Materials **WITH** market value) and inorganic materials (Materials **WITHOUT** market or energy value), leaving at the tail end of this circuit the "Biomass" and plastics without market value. These items will be staged at the feeding area of the Pyrolysis System, to be used as "***Engineered Fuel/ RDF***" in the SynGas generation process to be fed into the facility Turbines/ Power Generation Equipment.

c. **Refuse Derived Fuel (RDF) Gasification, Steam and Power Generation Area:** This is an open area adjacent to the separation and recovered material area described above. This open area provides a space which houses the DCS 2000 System, as well as a Power Generation System. This includes:

i. The **Feed Bunker Conveyor**, which holds the RDF as it is discharged from the Dryer, and it continually supplies the feed conveying system into their -

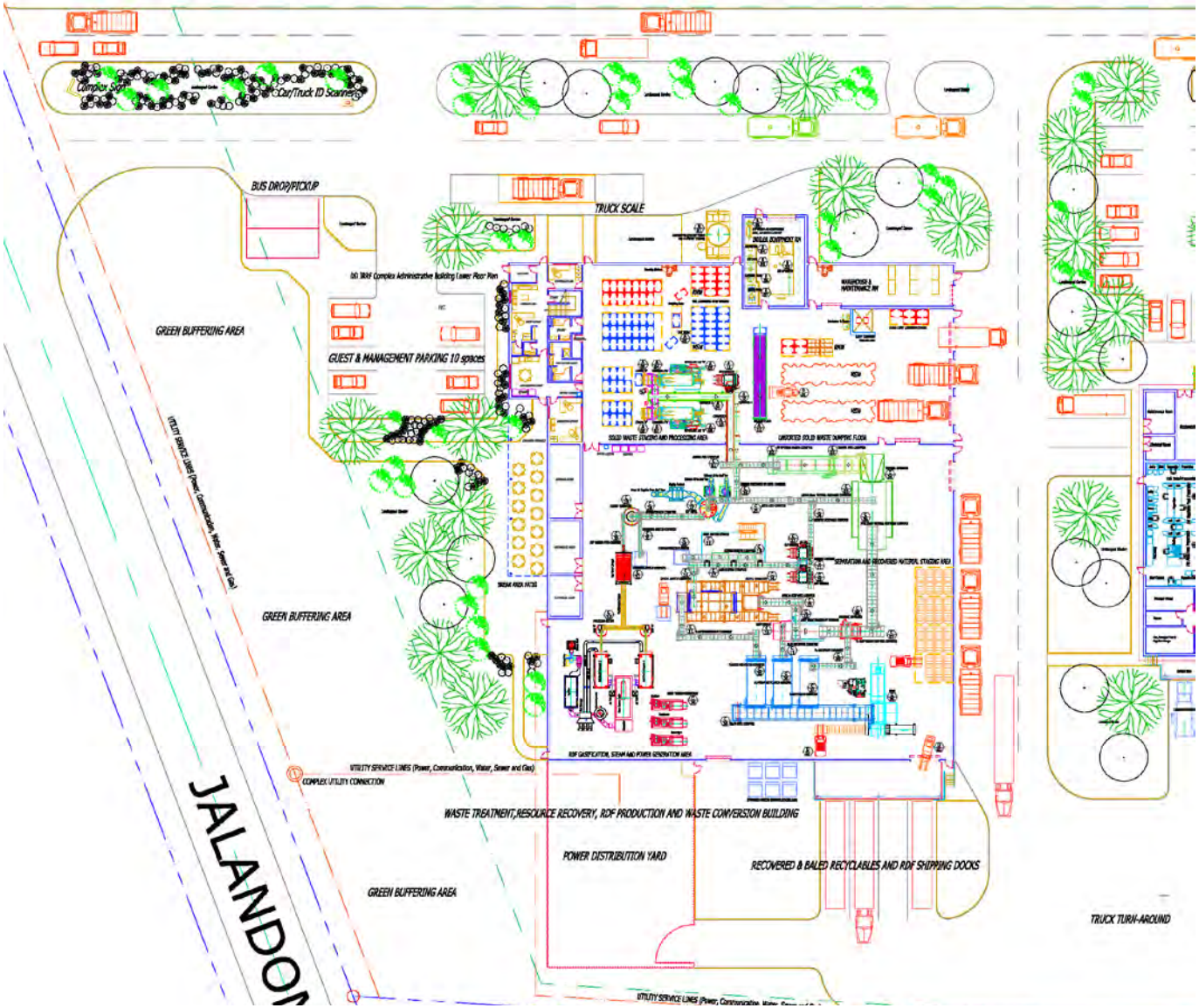
ii. **Loaders**, which continually feeds the RDF into each of the two (2) -

iii. **DCS 2000 Solid Fuel Disintegrator** units, where the RDF is gasified in its high temperature pyrolysis chamber and fed into the -

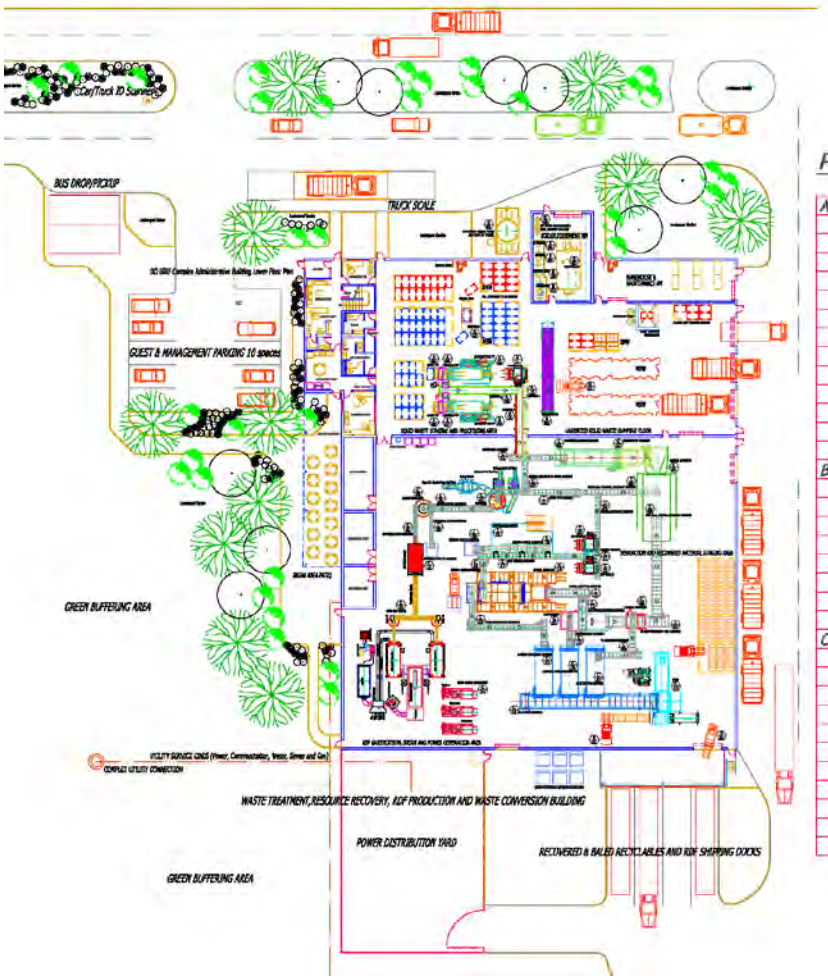
iv. **Steam Recovery Boiler (Heat Exchanger)**, which is a triple insulated, four pass high yield boiler (above 90%), providing the high pressure steam it generates into three (3) -

v. **Turbine Electrical Power Generator units**, which are composed by a single stage steam, high speed efficient turbine. This first Step converts steam into energy by driving a gear reducer from the high speed turbine operation into a lower speed of the standard 4-pole electrical power generator.

Power Distribution Yard: An open/fenced area has been set aside and designated for this activity. It is located right across and outside the area where the three (3) turbine power generators are located.



Sample Preliminary Site Plan/ Waste to Energy



PLANT EQUIPMENT KEY LIST

A. PROCESSING EQUIPMENT

- A/01. WALKING FLOOR (By Dominion CES/Sparta Manuf./ USA)
- A/02. CART WEIGHING SCALE (By Dominion CES/ USA)
- A/03. ROTOCLAVE 1KC SYSTEM "A" (Dominion CES/TBF/ USA)
- A/04. CONVEYOR 1"A" (Dominion CES/TBF/ USA)
- A/05. LOADER "A" (Dominion CES/TBF/ USA)
- A/06. LOADER "B" (Dominion CES/TBF/ USA)
- A/07. CONVEYOR 1"B" (Dominion CES/TBF/ USA)
- A/08. ROTOCLAVE 1KC SYSTEM "B" (Dominion CES/TBF/ USA)
- A/09. CONVEYOR 2 (Dominion CES/TBF/ USA)
- A/10. CONVEYOR 3 (Dominion CES/TBF/ USA)
- A/11. GRINDER #1 (By Dominion CES/ Vecoplan Llc/ USA)
- A/12. CONVEYOR 4 (Dominion CES/TBF/ USA)

B. MECHANICAL UTILITIES EQUIPMENT

- B/01. EVAPORATIVE COOLING TOWER AND PUMPS (By Dominion CES/ Philippines)
- B/02. 300HP STEAM BOILER (By Dominion CES/ Philippines)
- B/03. AIR COMPRESSOR, FILTER & DRYER SYSTEM (By Dominion CES/ Philippines)
- B/04. BOILER BLOWDOWN/ AFTERCOOLER (By Dominion CES/ Philippines)
- B/05. TWIN WATER SOFTENER SYSTEM (By Dominion CES/ Philippines)
- B/06. CHEMICAL FEED TANK SYSTEM (By Dominion CES/ Philippines)
- B/07. BOILER DEAERETOR WATER FEED (By Dominion CES/ Philippines)

C. SEPARATION EQUIPMENT

- C/01. BUNKER FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/02. RE-METERING BUNKER CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/03. TROMMEL FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/04. TROMMEL SEPARATOR (By Dominion CES/ Sparta Manuf./ USA)
- C/05. UNDER 35mm TROMMEL DISCHARGE CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/06. OVER 35mm TROMMEL DISCHARGE CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/07. MAGNET-EDDY SEPARATORS FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/08. MAGNET DRUM SEPARATOR (By Dominion CES/ Sparta Manuf./ USA)
- C/09. (2) FERROUS METALS DISCHARGE CONVEYORS (By Dominion CES/ Sparta Manuf./ USA)
- C/10. EDDY CURRENT SEPARATOR (By Dominion CES/ Sparta Manuf./ USA)
- C/11. ALUMINUM DISCHARGE CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)

C. SEPARATION EQUIPMENT (Continues)

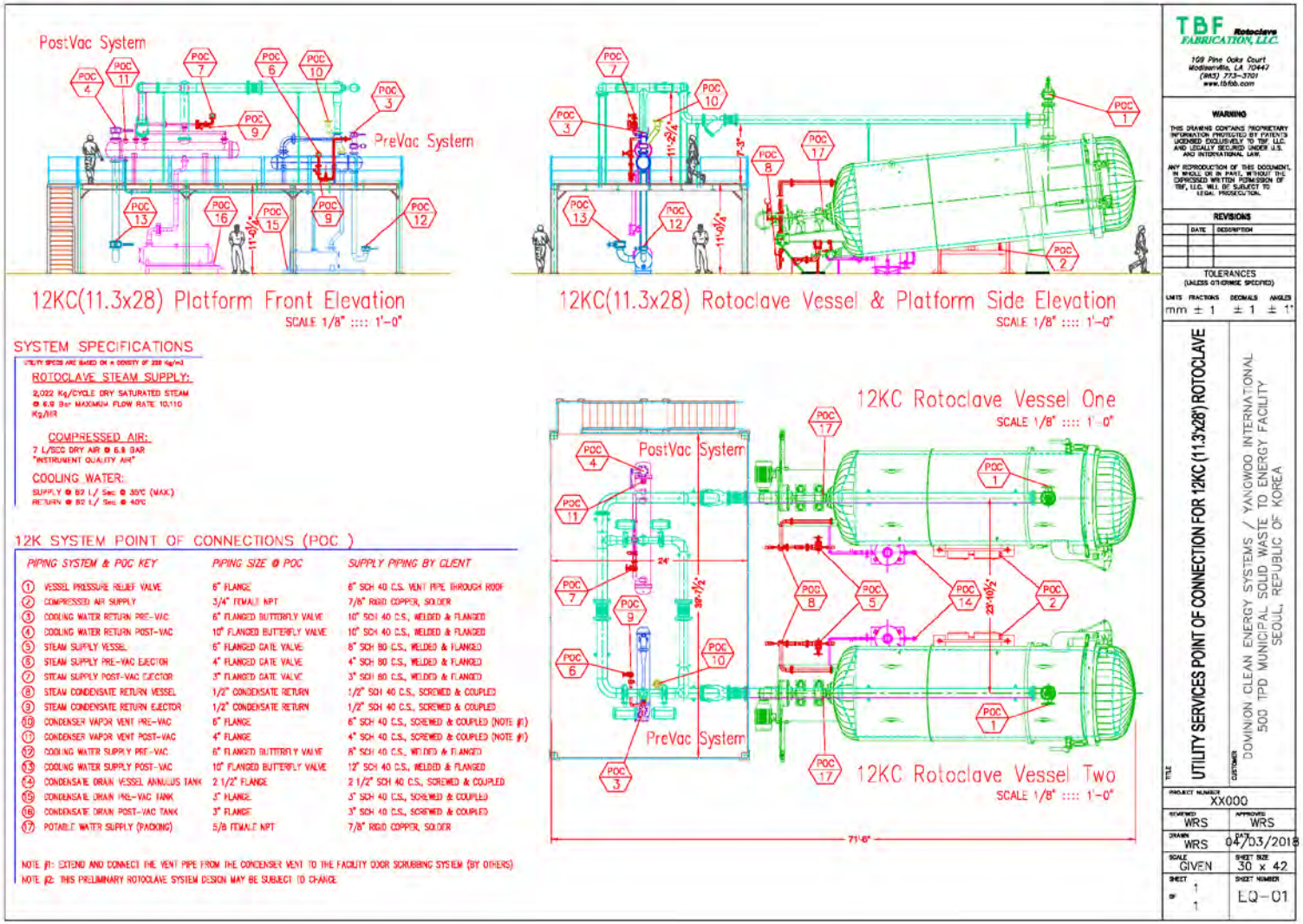
- C/12. EDDY NEGATIVE DISCHARGE CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/13. OPTICAL SORT FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/14. OPTICAL SORTER (By Dominion CES/ Sparta Manuf./ USA)
- C/15. (3) PLASTICS DISCHARGE CONVEYORS (By Dominion CES/ Sparta Manuf./ USA)
- C/16. OPTICAL SORTER REJECTS CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/17. HAND SORTING CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/18. HAND SORTING STATION (By Dominion CES/ Sparta Manuf./ USA)
- C/19. SORTING REJECTS CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/20. SORTING REJECTS DUMPSTER (By Client)
- C/21. GRINDER DIVERTER CHUTE (By Dominion CES/ Sparta Manuf./ USA)
- C/22. GRINDER #2 (By Dominion CES/ Vecoplan Llc/ USA)
- C/23. GRINDER #3 (By Dominion CES/ Vecoplan Llc/ USA)
- C/24. GRINDER DISCHARGE CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/25. DRYER FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/26. GRINDER DISCHARGE TO DRYER CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/27. RDF DRYER (By Dominion CES/ Kason Corp./ USA)
- C/28. SEPARATOR FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/29. DENSITY SEPARATOR (By Dominion CES/ Kason Corp./ USA)
- C/30. RDF BUNKER FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/31. SEPARATOR REJECTS CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/32. SEPARATOR REJECTS DUMPSTER (By Client)
- C/33. PYROLYSIS SYSTEM (By Dominion CES/ ITALY)
- C/34. (3) STEAM TURBINE GENERATORS (By Dominion CES/ USA)
- C/35. PLASTICS BUNKER CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/36. ALUMINUM BUNKER CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/37. FERROUS BUNKER CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/38. RECYCLATES BALER FEED CONVEYOR (By Dominion CES/ Sparta Manuf./ USA)
- C/39. RECYCLATES BALER (By Dominion CES/ Sparta Manuf./ USA)

D. HANDLING EQUIPMENT

- D/01. MSW BUCKET FRONT LOADER (By Client)
- D/02. BALED RECYCLATES FORK LIFT (By Client)
- D/03. BALED RECYCLATES FORK LIFT (By Client)

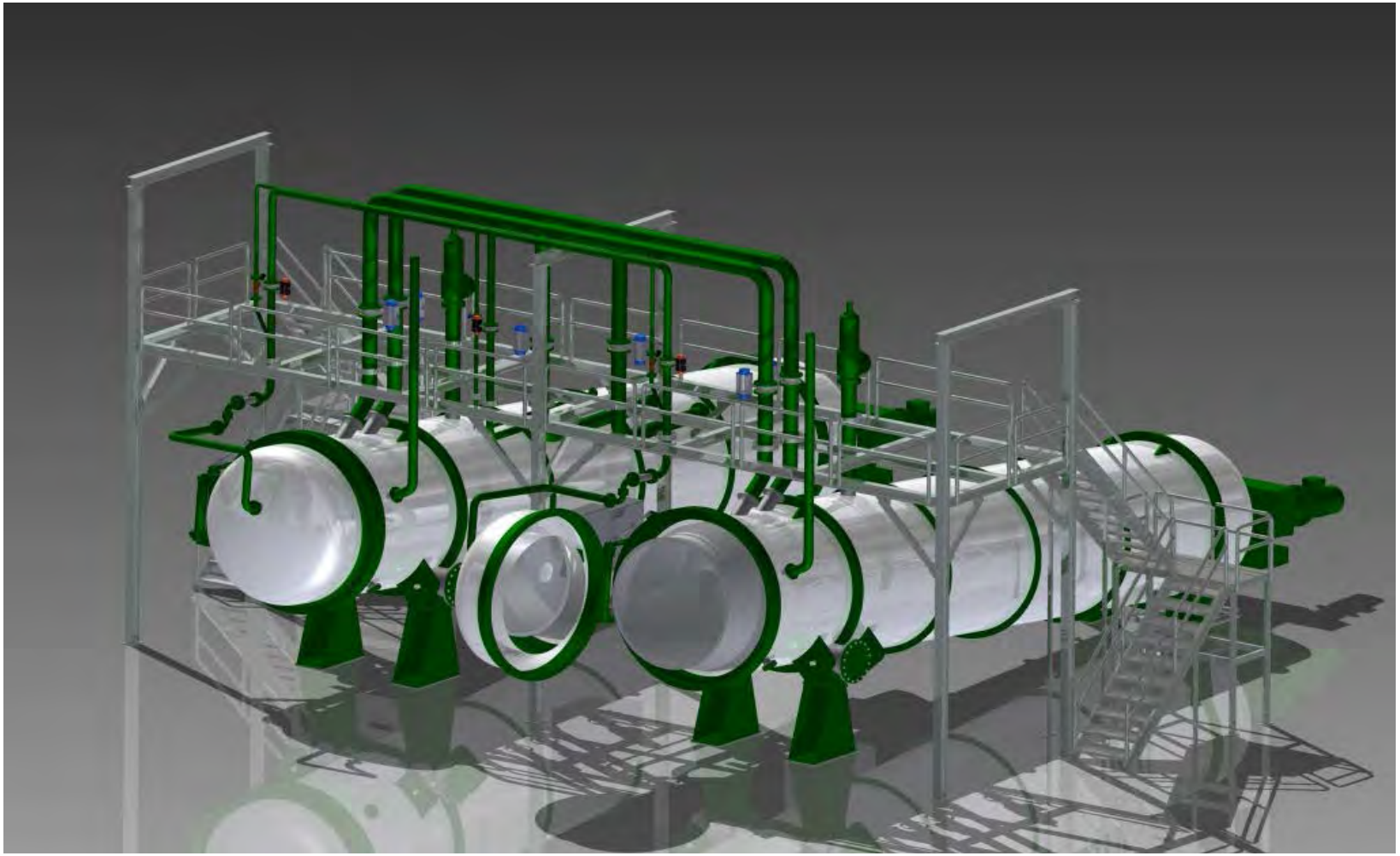
Sample Preliminary Detailed Plan/ Waste to Energy

C. Sample Drawings and Photographs



Plans & Elevations of Rotoclave® 12KC Vessels

Side View of Rotoclave® 6.5K Vessels



3D View of Rotoclave® 6.5K Vessels

Transverse Rotoclave® Vessel Feed Conveyor

Retractable Rotoclave® Vessel Feed Conveyor

Rotoclave® Vessel Discharge Conveyor moving processed Materials to the Separation Staging Walking Floor

D. Third Party Emission Tests and Reports performed on the TBF Rotoclave® Technology.

We are providing, under a separate attachment for your review, the following Emission Tests and Reports performed on the **TBF *Rotoclave*®** Technology by Independent Institutions as required by the United States Government.

- ***Environmental Impact Statement***. Performed by Dr. Gary Braedt, testing All Outflows from the **TBF *Rotoclave*®** Solid Waste Processing vessels. The stringent testing by Dr. Braedt was performed during the processing of Infectious Solid Waste, and demonstrated that All Outflows were Sterile, Non-Toxic, and Non-Carcinogenic. This demonstrates that the **TBF *Rotoclave*®** Technology does NOT have a negative effect onto the Environment.

- ***Health and Safety Assessment of the Rotoclave®* Technology**. Performed by DynCorp Health Research Services and Research Triangle Institute for the National Institute of Occupational Safety and Health (NIOSH, a dependency of the United States Center for Disease Control). The report was performed processing Infectious Solid Waste on a ***Rotoclave*®** processing vessel to evaluate the workers environment with regards to safety, aerosol, chemical, blood, and microorganism hazards, and the use of the engineering controls in controlling exposures. As a result of this assessment, the **TBF *Rotoclave*®** Technology was determined to be safe for the operators by **NOT** exposing them to any danger during the system operation.

T&B FABRICATION, LLC.

22212 Prats Dairy Road,
Abita Springs, LA 70420
Phone: 985.259.7212
Email: tbf@tbfabricationllc.com
www.rotoclave.com