



Date: February 7, 2022

COMPANY INFORMATION

Company Name: Trident TNZ LLC

Phone: 1-800-799-3740

Web Site: <https://tridenttnz.com/>

Address: 446 Harrison Street #81D

City: Sumas

State: Washington, USA

Zip Code: 98295

BUSINESS CONTACT

Name: Kerry Doyle

Phone: (604) 226-6075

Email: Kerry.Doyle@tridentprocesses.com

Address: 2238 Queen St, Unit 101

City: Abbotsford

State: BC Canada

Zip Code: V2T 0B7

TECHNICAL CONTACT

Name: Kerry Doyle

Phone: (604) 226-6075

Email: Kerry.Doyle@tridentprocesses.com

Address: 2238 Queen St, Unit 101

City: Abbotsford

State: BC Canada

Zip Code: V2T 0B7

BUSINESS HISTORY

How long have you been in business? 11 years

Are you part of a larger company? ☐ Yes ☒ No

Did you exist as another company before this company was formed? ☒ Yes ☐ No

If so, what was that company's name?

Yes, KPD Consulting Ltd dba Manure
Systems Inc.

Number of employees? 0-10

What is your business structure? Privately Held Company

What types of insurance and or surety do you provide?

General Liability, Error & Omissions

References. Please provide customers or colleagues with whom we can discuss your business and performance.

Please include a separate list with company name, location, contact name and contact information.

Mike McCloskey-Fair Oaks Farms
Gil den Dulk-Prairies Edge Dairy Farms
Jerry Keulen-Seabreeze Farm Ltd
Steve Bos-Windy Ridge Farms
Geoff Steinback-Midwestern Bio Ag
Scott Rogers-Aqua Engineering

Glen Perry- Alpro Energy and Water
Dr Aicardo Roa-Soilnet LLC

Describe your business service(s). *For example: consulting, development, engineering, equipment sales, finance, other.*

We provide state of the art, turnkey nutrient recovery systems and manure management equipment for the livestock industry

Area or region of operation.

Canada, USA, China, Australia

Does your company hold any patents or the rights to any patents? *Please identify.*

Licensed from Soilnet LLC- Patents
(numerous) for polymer formulation.
Licensed from Soilnet LLC- Patent
Pending for "Separation of Bio
Components from Manure"
Licensed from Soilnet LLC- Patent
Pending for "Struvite Formation
Prevention"

Licensed from KPD Consulting Ltd.-
Patent Pending on Solid Liquid
Separation equipment

Do you manufacture equipment? ☐ Yes ☒ No *Please describe.*

All equipment is contract manufactured by various specialty manufacturers that "custom design build" to strict Trident guidelines & specifications

Do you integrate equipment manufactured by others? ☒ Yes ☐ No

If you integrate, please list the names of the companies you represent.

TD Precision Steelworks Ltd.
Lee's Contracting and Fabrication Inc.
Leap Technologies Inc.
Benenv Co. Ltd.
Soilnet LLC

How do you answer potential customer's question about financial strength of your company?

Capable of bonding projects up to \$ 200 million in-house.

Do you offer technical/service support? ☒ **Yes** ☐ **No** *If so, what methods?*

Engineering and Design
Turnkey Construction
Systems Management and Operation
Laboratory and Analytical Services
Remote Monitoring and Diagnostic
Polymer Supply
Nutrient Cake Acquisition/Purchase

Technical support delivered via online monitoring with remote system management & operation. Onsite service provided via local, regional and national strategic partners.

Do you offer design services? ☒ **Yes** ☐ **No** *Please describe.*

Do you offer financing? ☒ **Yes** ☐ **No** *If so, what terms?*

Yes, Leasing - Client Driven

Are you a full stop shop? *Design to construction to operate?* ☒ **Yes** ☐ **No** *Please describe.*

Yes, Engineering, Procurement,
Construction (EPC)
Operation and Maintenance (O&M)

Do you have preferred partners? ☒ **Yes** ☐ **No**

If so, please list and provide contact information/identify partners by name.

Do you have any third-party verification/research that has been done on this technology? ☒ Yes ☐ No
If so, please describe.

Yes, University of Wisconsin, Madison
 Accelerated Renewable Energy
 Consortium: Production of Granulated
 Bio-nutrients from Dairy Manure
 Aicardo Roa-Espinosa, Damodhara Rao
 Mailapalli, John L Markley, RC Ludke
 Biological Systems Engineering
 Department, University of Wisconsin,
 Madison, WI-53706,
 Biochemistry Department, University of
 Wisconsin, Madison, WI-53706,

Do you provide a performance guarantee? ☒ Yes ☐ No

If so, what are you guaranteeing? For example: up time, methane production, biogas production, parasitic load, throughput, O&M cost, percent recovery, other.

Yes, Up-time, Throughput, Percent
 recovery efficiencies, O&M costs

Are there any other aspects of your business that you feel should be included in this document?

Recipient of the 2014 Abbotsford Environmental Leadership award. Trident Processes is one of the leading providers of wastewater treatment and nutrient recovery solutions. We develop custom solutions and turnkey systems for wastewater and sludge treatment as well as biosolids dewatering and focus in particular on the municipal, industrial and agriculture sector.

INITIAL TECHNOLOGY OVERVIEW

This information is to guide in the development of a more specific and detailed Technology Information Request. Please answer the following questions for each Technology or Service Provided.

What is the name of the technology or service?

Trident Nutrient Recovery System

What unit process is the technology used in?

For example: initial collection/transfer manure storage, energy recovery, primary/coarse solids recovery, advanced suspended/fine solids recovery, drying, struvite production, nitrification denitrification, ammonia stripping, algae, vermi composting, membrane filtration, evaporation, other.

Primary/coarse solids recovery for fiber reuse for Bedding material
Advanced suspended/fine solids recovery
Dewatering & Drying of nutrient cake

How many systems have you installed on dairy farms or other livestock operations?

Seabreeze Dairy Farm, Delta, BC
Fair Oaks Farms, Fair Oaks, IN
Maple Leaf Dairy Cleveland WI

Size of farm(s)?

Seabreeze (250 cows)
Fair Oaks (14,500)
Maple Leaf Dairy (4,000)

Location of farm(s)?

BC, Indiana & Wisconsin

What's the smallest/largest farm for your system?

250 cows

Input material description/characteristics:

For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.

Raw Manure,
Digestate with & without off-farm
feedstocks

Does the technology treat the full manure stream for a farm or a fraction of the stream?

Full Stream

Do you consider this a mature system or ongoing farm development?

Mature Technology with ongoing continuous improvement

Any weather constraints? ☒ Yes ☐ No *Please describe.*

Must be located indoors in cold climates

Any bedding constraints? ☐ Yes ☒ No *Please describe.*

No bedding material constraints

Is this process scalable and to what extent (top and bottom limits)? ☒ Yes ☐ No *Please describe.*

250 cows – no upper limit

Do you have a known scaling factor? ☐ Yes ☒ No *Please describe.*

TBD

Input and output of your unit/system – do you have a mass balance analysis? ☒ Yes ☐ No *Please describe.*

Mass balance analysis provided with each system

Do you consider this technology part of a larger system that you provide? ☒ Yes ☐ No *Please describe.*

Currently sold as one integrated system, some components are optional.

Has your technology been accepted by the NRCS? ☐ Yes ☒ No *Please describe.*

Currently Under Review

Would you be willing to provide information for a technical review? ☒ Yes ☐ No

Would you be willing to respond to a Request for Quotation (RFQ) on a generic project for comparison of your technology against other technologies in the same unit process? ☒ Yes ☐ No

Are there any other facts about this technology that you feel should be included in this document?

Under ongoing development for 2nd stage effluent clarification / nitrogen removal system. Currently prototyping an on-farm scale granule production system for value adding the produced nutrient cake.