Canwest Tanks & Ecological Systems Ltd.

(i) Sewage Treatment System Details

DESIGN SPECIFICATIONS
for
MODEL CWT25
25 MAN MOBILE CAMP
SEWAGE TREATMENT PLANT

Office & Plant: 11975 Old Yale Road, Surrey, B.C. V3V 3X4, Canada
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PREAMBLE

The Canwest Tanks' Mobile Sewage Treatment Plant is designed for efficiency and mobility when deployed in remote areas. The design takes into consideration that the camp site may be located in areas with severe weather conditions and thus is furnished to accommodate such conditions.

SYSTEM OVERVIEW

The system of four (4) stages, they are:

1st Stage - Pre-Aeration Chamber
2nd Stage - Settling Chamber
3rd Stage - Reactor Unit
4th Stage - Pump Chamber to discharge

The wastewater treatment plant (WWTP) utilizes the activated sludge extended aeration and Fixed Film Media process.
Raw wastewater is being pumped from a collections tank into the Pre-Aeration Chamber.
Wastewater is then hydraulically displaced into the Settling Chamber then into the Reactor Tank where it passes through the submerged media, which is aerated.
The fixed media is designed to promote colonization of microorganisms on the surface of the media thereby increasing process stability and sludge settle-ability.
A Sludge Return air lift is installed in the Reactor, circulating activated sludge from the bottom of the chamber to the Fixed Media. This increases effectiveness of the media by delivering more nutrients to the microorganisms, accelerating growth thus enabling increased digestion and better effluent quality.
Wastewater lastly flows through a quiescent zone (clarifier) at the outlet of the Reactor into the Pump Chamber.
In the pump Chamber the effluent passes through two sets of UV lights before final discharge..
Clear supernatant then leaves the WWTP

DESIGN CRITERIA

The treatment plant is designed to treat 1,250 imp. gals Average Daily Flow (ADF) of raw sewage with domestic influent strength.

However the treatment plant capable of delivering effluent quality of 25/25 BOD & TSS.
It should be noted that—, the influent strength and characteristics as well as proper maintenance are determining factors on the quality of the discharged effluent.
Expected Nitrate reduction is approx. 70%

A Commercial Grease Trap is strongly recommended in all cases where there is a kitchen attached.

ENGINEERS LETTERS FOR STRUCTURAL DESIGN OF TANKS & PERFORMANCE OF THE SYSTEM

GREY OWL ENGINEERING

July 31, 2013

TO WHOM IT MAY CONCERN:

Re: Design Review of Tanks for Canwest Mobile Sewage Treatment Plants - Model CWT25, CWT50, CWT100 & CWT200

Dear Sir/Madam,

Grey Owl Engineering Ltd. has been retained by Canwest Tanks & Ecological Systems Ltd.to conduct a design review of certain aspects of the Canwest Mobile Sewage Treatment Plants, Model CWT25, CWT50, CWT100 and CWT200.

I have reviewed the design of the tanks for the above applications, and have found them to be suitable for the intended purpose, and in conformance with all relevant Canadian federal and provincial design codes and regulations, industry standards and accepted practice. The tanks are suitably designed for their intended usage.

I confirm by this letter that the tanks will meet the necessary structural and seismic requirements.

Yours sincerely,

GREY OWL ENGINEERING

PROFESSIONAL ENGINEER ALBERTA STEPHEN RAMSAY

Steph[illegible] P.Eng.

Grey Owl Engineering Ltd. 1000, 825 – 8th Avenue SW Calgary, Alberta T2P 2T3 Phone: 403 266 5810 Fax: 403 218 6439 www.greyowleng.com

GREY OWL ENGINEERING

July 31, 2013

TO WHOM IT MAY CONCERN:

Re: Design Review of Sewage Treatment Process for Canwest Mobile Sewage Treatment Plants - Model CWT25, CWT50, CWT100 & CWT200

Dear Sir/Madam,

Grey Owl Engineering Ltd. has been retained by Canwest Tanks & Ecological Systems Ltd.to conduct a design review of certain aspects of the Canwest Mobile Sewage Treatment Plants, Model CWT25, CWT50, CWT100 and CWT200.

Further to your request, we have reviewed the general arrangement drawings, process flow diagrams (PFDs) and relevant design documents for the above captioned sewage treatment systems. Based on our experience with similar sized systems at industrial or work camps, it is our opinion that the systems proposed are capable of treating the influent wastewater such that carbonaceous biological oxygen demand (BOD5) and Total Suspended Solids TSS) are less than 25 mg/L and 25 mg/L, respectively, based on the following design and operating assumptions:

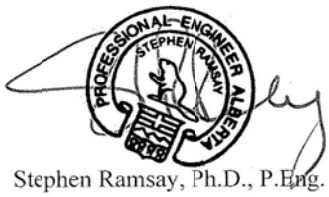
- When the systems were tested by NSF they produced effluent, consistently, of BOD5 and TSS less than 20 mg/L and 20mg/L, respectively.
- The source of the wastewater will be domestic in nature, i.e. toilet, sink, shower, kitchen and laundry with no significant industrial sources or deleterious substances discharged into the sewer
- The sewage flow rate for the various camps shall not exceed the design Average Daily Flow (ADF) specified for the individual models.
- The system will be maintained in good working order by personnel skilled and experienced in the operation of wastewater treatment plants. Specifically, the air compressor will operate continuously and sludge and ,mixed liquor suspended solids concentration will be managed.
- Grease from the kitchen shall be discharged to a suitably sized commercial grease trap prior to discharging to the building sewer.

Grey Owl Engineering Ltd. 1000, 825 – 8th Avenue SW Calgary, Alberta T2P 2T3 Phone: 403 266 5810 Fax: 403 218 6439 www.greyowleng.com

We trust that this provides the information you currently require. If you have any questions r require comments, please feel free to contact the undersigned.

Yours truly.

GREY OWL ENGINEERING



Stephen Ramsay, Ph.D., P.Eng.

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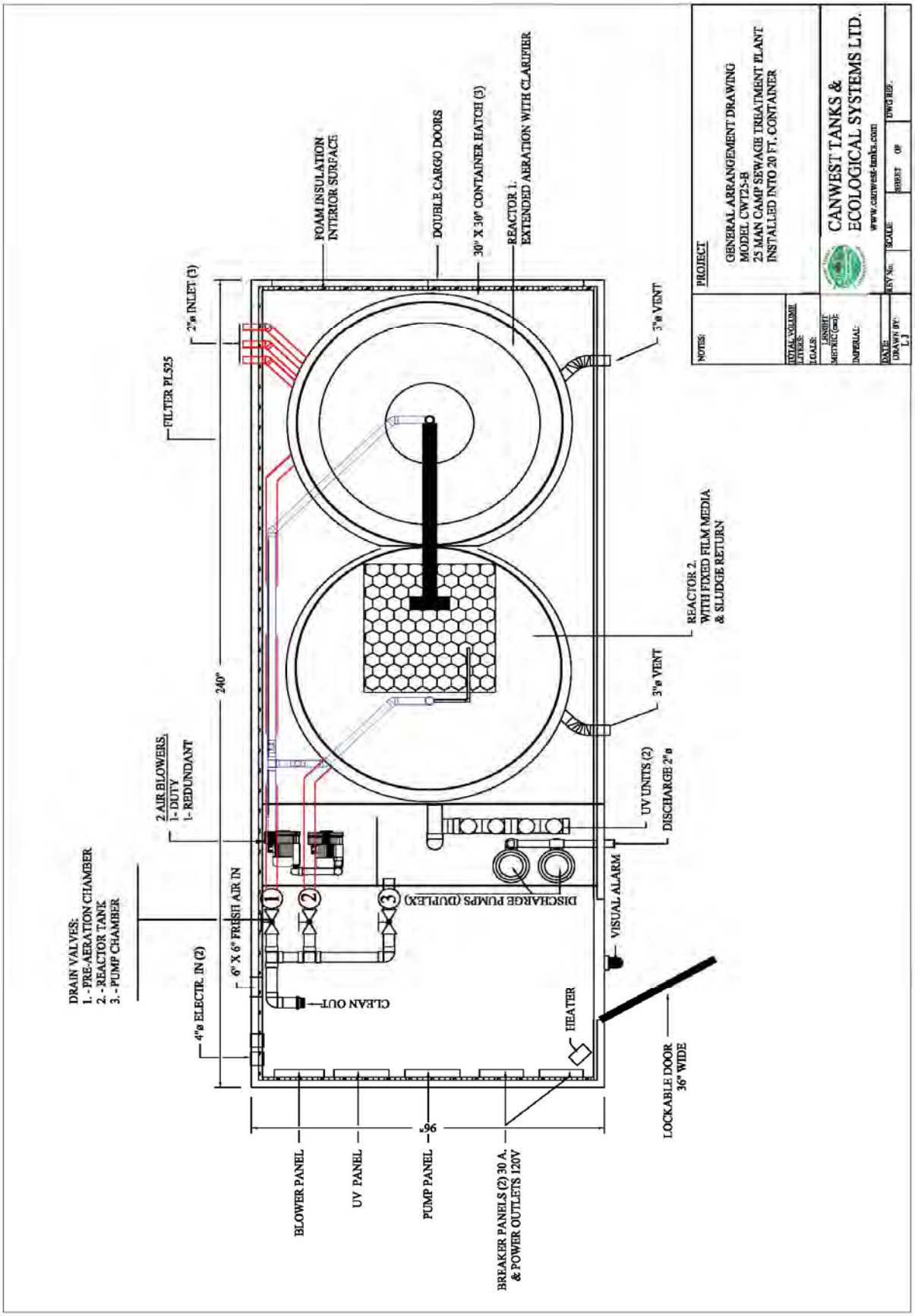
SYSTEM DRAWING



CONTAINER INFO

MODPRO

Jim Nicoll
CANWEST
11975 Old Yale Rd Surrey
B.C. V3V 3X4
07/28/13

Dear Jim,

In regards to the two container treatment enclosures with skids we provided you, unit # CIIU2085469 and CIIU2082808. Modpro is a CWB certified shop. The units listed were constructed with steel skids that were reenforced with W8x18lb wide flange beams joined with 4"OD schedule 40 black pipe cross members. Each peace was solid welded using flux core wire and 1/4" welds. The skids were then solid welded in six locations around the container to join the skids to the containers.

Paul Rathnam
President
Modpro Container Inc.