

ENVIRO-PORT

READY-MIX RECYCLING SOLUTIONS



COMPLETE RECOVERY SERIES

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Description

Enviro-Port's Complete Recovery Series separates sand and stone for reuse and implements an agitation tank that keeps the Portland cement in suspension.

Precise density, temperature, and level monitoring allow for the controlled reuse of the gray water in new mixes.

Tank levels are automatically replenished by the customers capture basin which has collected the properties process water.

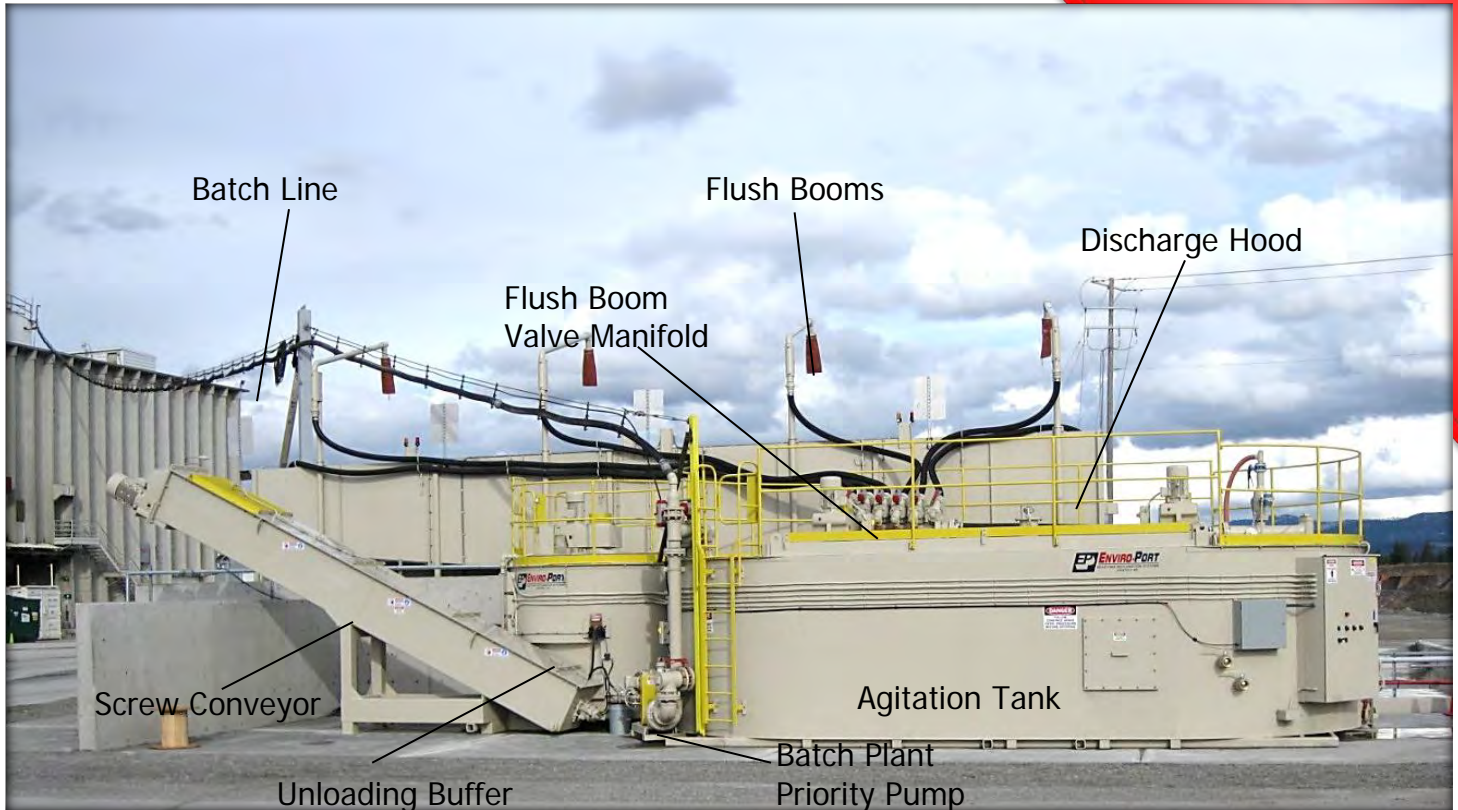
The Complete Recovery Series helps customers in meeting:

- Environmental compliance
- Truck washout needs
- Reclaiming sand and stone
- Process water management

This series provides customers with these options:

- Washing out 1-4 truck(s)
- Addition of a Single Deck Vibrating Screen to further separate the sand from the stone

Operations



Summary of Operations

The Complete Recovery Series operates as a washout station with sand and stone separation and Gray water rebatching technology.

1. Driver will approach discharge hood with hopper aligned to a flush boom.
2. Driver presses the green System Start Button, the button will illuminate, and this initiates the screw conveyor, flush boom pump, trough flush and operates the respective valve(s).
3. The driver will receive water for a preset time, once the button is no longer illuminated; the driver can discharge the contents of his truck into the intake hood.
4. The driver may repeat this as needed or desired.
5. Reclaimed Water in tank is agitated 24/7.
6. Density and temperature are monitored, the batch computer receives updates and using this information, calculates a blend of reclaimed water and fresh water
7. Agitation tank is automatically replenished from the customer's existing capture basin, this uses rain and process water.

Gray Water Rebatching Technology

- 1) Enviro-Port Agitation tank System, Gray water is constantly agitated to maintain the suspension of solids.



- 2) A density sample is taken recurrently and communicated to the customer's batch computer.



- 3) The customer's batch computer blends Fresh Water with Enviro-Port Gray Water to reach the Target Density, as seen in the two examples below.



Target Density of 1.05, into the batch.



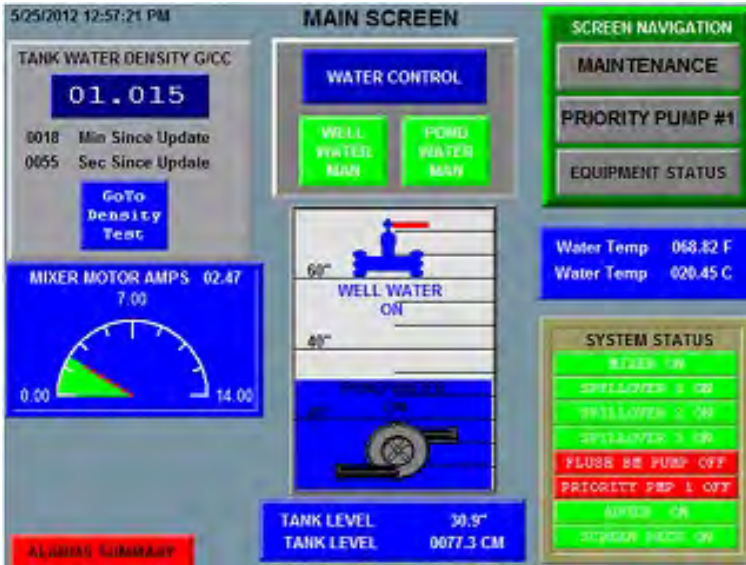
Target Density of 1.05, into the batch.



Advantages:

- Heavy Duty Equipment Construction allows for reduced tank size & plant footprint – Using Gray Water Rebatching Technology allows Enviro-Port to mix on the fly instead of having to mix within the reclamation system itself.
- Reducing the amount of water to store, reduces the amount of water to heat or chill, greatly reducing energy consumption, only chill or heat the water than can be used to batch.
- Allows for constant Quality Control without fluctuations due to mixing cycles

Allen Bradley Panel View Plus, Touch Screen

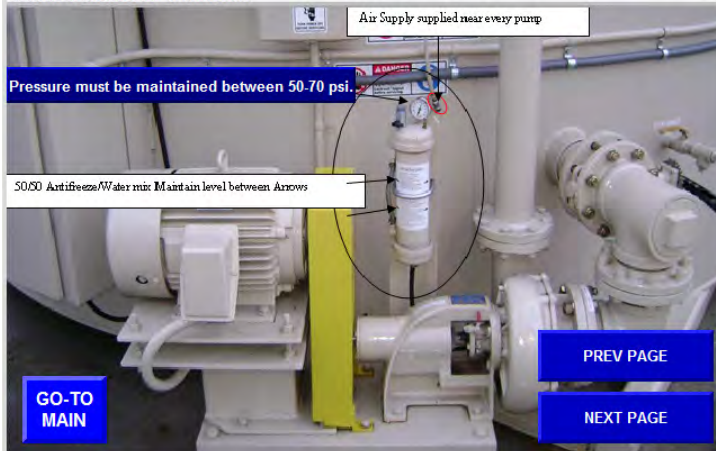


Allen Bradley Panel View Plus touch screen provides complete system monitoring from the batch room. All timers and settings can be viewed and adjusted easily.

Enviro-Port technicians can view customer concerns remotely with an Allen Bradley Modem located in the Panel View enclosure.

- Main screen displays status of all pumps agitators, and screw conveyor
- View and monitor unloading buffer motor amps
- Displays tank water density and temperature.
- Tank level can be adjusted manually or automatically using fresh water or pond water as a priority supply.
- Automatic density updates every thirty minutes.
- Alarms summary displays time and event description for any alarms that occur.

3. Check pump pressure seal tank. Pressure must be maintained between 50-70psi. Level must never drop below the full line, preferably 3/4 full at all times.(Use a water/antifreeze mixture 50/50) Replace seals (See Pic# 9) when a constant fluid level can not be maintained. Consult Pump section of manual for instructions.



GO-TO MAIN **MAINTENANCE SCHEDULE**

BEFORE REMOVING ANY GUARDS OR DOING ANY SERVICE TO THIS MACHINE, TURN OFF MAIN POWER DISCONNECT SWITCH AND INSTALL A SAFETY LOCKOUT/TAGOUT DEVICE.

THIS MACHINE HAS AUTOMATIC START-UP SYSTEMS. CONFORM TO ALL CONFINED SPACE REGULATIONS. THE PUMP SYSTEMS CAN START BY AUTOMATIC CYCLE MODE FOR SELF-CLEANING, SYSTEM START MODE, AND BATCH PLANT SIGNAL MODE. THE AUGER SYSTEMS CAN START BY AUTOMATIC CYCLE MODE, AMPERAGE SENSOR START MODE, WATER INTRODUCTION MODE, AND SYSTEM START MODE.

With proper maintenance, your ENVIRO-PORT reclaimer will provide you with safe operation and trouble-free service. Inspect your reclaimer periodically. Completely understand equipment operation so that faulty operation can be detected immediately. Replace any worn parts promptly and check nuts and bolts for looseness.

DAILY MAINTENANCE

WEEKLY MAINTENANCE

MONTHLY MAINTENANCE

6 & 12 MONTH MAINTENANCE

TECHNICAL SUPPORT
CALL ENVIRO-PORT, INC
1-800-356-8106

A full maintenance schedule can be viewed through the Maintenance Main screen.

- Daily, weekly, monthly, 6 and 12 month schedules.
- Clearly defined pictures and descriptions for maintenance items.

Sizing a System

Unloading Buffer: 13-2000 vs. 23-2000

The 13-2000 unloading buffer with a discharge rate of 10-15yds³/hour is for a small production plant with no more than 10 trucks or plants with a small return rate, for example a precast plant. Its recommended that the discharge hood not exceed 2 truck stations.

The 23-2000 unloading buffer with a discharge rate of 25-30yds³/hour is for all plants, with 1- 4 trucks stations acceptable.

Selecting an Agitation tank

When sizing an agitation tank there are a couple things to take into consideration:

- What is the average daily production rate?
- How many gallons do they use per yard?
- We want a customer to use 100% gray water, but sometimes this cannot be achieved due to circumstances out of our control, so we base the gray water usage on 75%.
- Does the customer plan to expand?

(Daily Production) × (Water per yard) × (.75(using 75% graywater in mixes)) = Agitation Tank Volume

$(700\text{yds/day}) \times (30\text{gallons per yard}) \times .75 = 15,750 \text{ gals}$

In this case a 17KATS would be quoted with a 26KATS Optioned, allowing room if the customer were to expand. It's a better value to the customer if they are not chilling or heating more water than they can use daily, this assist in using more of the fines in tank.

Suggested tank sizes:

→200yds/day:	04KATS
200-350yds/day:	08KATS
350-450yds/day:	10KATS
450-750yds/day:	17KATS
750-1200yds/day:	26KATS
1200+ yds/day:	35KATS

Selecting a Discharge Hood

When selecting a discharge hood consider:

- Customer input, how many stations do they require
- Location of discharge hood on property, verify the area will fit your selected hood
- If a 13-2KUB is proposed, it's recommended that a 1 or 2 truck discharge hood be installed, if the customer has trucks carrying boost-a-load axles, recommend a 2TFSDH, it is more suitable for these trucks because it offers an open top allowing for more clearance.

Selecting a Batch Plant Pump

A known distance from the Enviro-Port system to the batch plant is needed to provide a proper recommendation for the pump. If reasonable, the batch pump should match the flush boom pump to maintain consistency with the customer.

Consult Enviro-Port when recommending a Batch Plant Pump, a general description of the pumps can be found in this document



232KUB - 23-2000 Unloading Buffer

Integral Unloading Buffer System

- Discharge Rate of 25-30 yd³ per hour
- Dry Weight 15,800lbs, Full Load Weight 35,800lbs
- 200 mesh aggregate removal capabilities
- 1.5" Aggregate Receiving Capabilities
- Cast scraper blades, wear estimate: 2 – 3 years contingent on aggregate type, and volume of return
- Aggregate/Slurry Separation:
 - A maximum 0-2 gallons of clear water added, produced by screw conveyor spray bars, per cubic yard of concrete reclaimed



A.R. Replaceable Flights

Agitator Drive:

- 10hp Nord motor with lock out safety disconnect
- 8382 Nord Direct Drive Speed Reducer
- Output drive shaft 4.062", #1018 Cold Rolled

Dewatering Screw Conveyor Construction:

- Rock-Box Square Housing 27" x 27" x 1/4" Wall – Self-adjusting auger flights
- A.R. 400 Flights 23" x 22°, wear estimate: 1.5 – 3 years, contingent on aggregate type, and volume of return
- Automatic Lubrication System (standard)
- Drive Unit:
 - 25hp Nord motor with lock out safety disconnect
 - 7382 Nord Speed Reducer
 - Automatic Lubrication System (standard)
- Tank Constructions:
 - Tank Walls 1/4" A-36 plate
 - Tank Floor 5/16 A-36 plate
 - Top access door 23" x 23" (one)
 - Lower access door 25" x 25" (one)
 - 3" Butter fly hand valve, drain port
- External water inlet: 4" port for introduction of process or storm water



Auto Lube System

132KUB - 13-2000 Unloading Buffer

Integral Unloading Buffer System

- Discharge Rate of 10-15yd³ per hour
- Dry Weight 14,300lbs, Full Load Weight 31,000lbs
- 200 mesh aggregate removal capabilities
- 1.5" Aggregate Receiving Capabilities
- Cast scraper blades, wear estimate: 2 – 3 years contingent on aggregate type, and volume of return
- Aggregate/Slurry Separation:
 - A maximum 0-2 gallons of clear water added, produced by screw conveyor spray bars, per cubic yard of concrete reclaimed



Chrome Buildup Flighting
13" x 22° x 3/8"

Agitator Drive:

- 10hp Nord motor with lock out safety disconnect
- 8382 Nord Direct Drive Speed Reducer
- Output drive shaft 4.062", #1018 Cold Rolled

Dewatering Screw Conveyor Construction:

- Rock-Box Square Housing 18" x 18" x 1/4" Wall – Self-adjusting auger flights
- Chrome Buildup Flighting, 13" x 22° x 3/8", wear estimate: 1.5 – 3 years, contingent on aggregate type, and volume of return
- Automatic Lubrication System (standard)
- Drive Unit:
 - 15hp Nord motor with lock out safety disconnect
 - Nord Speed Reducer
 - Automatic Lubrication System (standard)
- Tank Constructions:
 - Tank Walls 1/4" A-36 plate
 - Tank Floor 5/16 A-36 plate
 - Top access door 23" x 23" (one)
 - Lower access door 25" x 25" (one)
 - 3" Butter fly hand valve, drain port
- External water inlet: 4" port for introduction of process or storm water



Auto Lube System

Detailed View: 23-2000 Unloading Buffer

Right: An overhead view shows the main prop that is used to push sand and stone into the screw.

Center: Our side mount screw allows for easy inspection of the lower screw bearing, the bearing is greased by an auto-lube system that initiates every instance the screw is activated.

Bottom: Close-up view of agitation scraper blades. Blades and mounting bar can be replaced easily if needed.



04KATS - 3,880gal Agitation Tank System

Residual Water Tank Construction:

- Tank 10' Diameter x 6' 7" High
- Approximate shipping weight 10,500lbs.
- Tank Wall 1/4" A-36 plate
- Tank Floor 5/16" A-36 plate.
- Drive Unit:
 - 5HP input
 - 6382 NORD Direct Drive Speed Reducer.

Heat/Cool Transfer Piping System:

Operates in conjunction with customer's water chiller and/or hot water system

- Piping to be 3" x # 40.
- Piping to be minimum of 50' long in app. 8' sections.
- Piping will be supported by brackets welded to sidewalls and secured by U-bolts.
- Two (2) weld penetrations will provide 3" threaded fitting for cooling or heating fluid to enter and exit.

Rated Holding Capacity: 3,880 gal + 2,000 gal operating at a maximum regular operating density of 1.15 SGU is approximately 7,347 lbs. of fines storage. *NOTE: The Enviro-Port System can handle operating "spikes" in density of up to 1.20 SGU. for short periods of time without equipment failure.

08KATS - 8,000gal Agitation Tank System



Residual Water Tank Construction:

- 14' 4" Round Tank, 6' 7" High
- Dry Weight 17,700lbs. Full Load Weight 84,340lbs.
- Tank Wall 1/4" A-36 plate
- Tank Floor 5/16" A-36 plate
- Top access doors 23" x 23" (one)
- Lower access doors 25" x 25" (two)
- 3" Butterfly hand valve, drain port
- Drive Units:
 - (1) One 8382 NORD Direct Drive Speed Reducer
 - 10hp Nord motors with individual lock out safety disconnect
 - Output drive shafts 4.062", #1018 Cold Rolled

Rated Holding Capacity: 8,000 gal + 2,000 gal operating at a maximum regular operating density of 1.15 SGU is approximately 12,495 lbs. of fines storage. *NOTE: The Enviro-Port System can handle operating "spikes" in density of up to 1.20 SGU. for short periods of time without equipment failure.

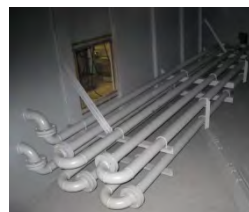


(1) Agitation prop

Heat/Cool Transfer Pipes:

Operates in conjunction with customer's water chiller and/or hot water system

- Piping to be 3" x #40
- 100' long in 10' sections
- Supported by brackets welded to sidewalls, secured with U-Bolts
- Two (2) weld penetrations will provide 3" threaded fitting for cooling or heating fluid to enter and exit



Heat/Cool Fluid Entrance Points & Thermostat Port



10KATS - 10,000gal Agitation Tank System

Rated Holding Capacity:
10,000 gal + 2,000 gallons
operating at a maximum
regular operating density
of 1.15 SGU is approximately 14,994 lbs.
of fines storage.

*NOTE: The Enviro-Port
System can handle
operating "spikes" in
density of up to 1.20 SGU.
for short periods of time
without equipment failure.



Residual Water Tank Construction:

- 14' 4" x 17'4" Oval 79" tall
- Tank Wall 1/4" A-36 plate
- Tank Floor 5/16" A-36 plate
- Dry Weight 20,600lbs.
- Full Load Weight 103,900lbs
- Top access doors 23" x 23" (two)
- Lower access doors 25" x 25" (two)
- 3" Butter fly hand valve, drain port
- Drive Units:
 - (1) One, 8382 NORD Direct Drive Speed Reducers
 - 10hp Nord motors with individual lock out safety disconnect
 - Output drive shafts 4.062", #1018 Cold Rolled

Heat/Cool Transfer Pipes:

Operates in conjunction with customer's
water chiller and/or hot water system

- Piping to be 3" x #40
- 100' long in 17' sections
- Supported by brackets welded to
sidewalls, secured with U-Bolts
- Two (2) weld penetrations will provide 3"
threaded fitting for cooling or heating
fluid to enter and exit



(1) Agitation prop



Heat/Cool Fluid Entrance
Points & Thermostat Port



Detailed View: Agitation Tank

Right: Top view of the tank, all tanks come with safety rails, ladder with access gate.



Left: 10HP Nord gearboxes provide reliable agitation 24/7. All motors have local disconnects, labeled for easy identification and overall safer approach for maintenance personal.



A non-contact level controller, provides tank level and allows for constant control of replenishing water.



Inside view of agitation impeller and heat/cool transfer pipes. The agitation impeller sweeps over and under the pipes, moving water efficiently across heat/cool pipes.

3" Inlet and Outlet for easy customer connection, and 1" access point for monitoring and controlling water temperature.



Complete Recovery Series

2TTMDH – 2 Truck Tank Mounted Discharge Hood

- 2 Truck Stations
- Auto Trough Flush
- 17' wide
- 3/16" plate steel construction
- Shipping weight Approx. 2,050lbs

Two (2) Flush Boom Systems for Slurry Washout

- Each boom complete with all necessary plumbing.
- 3" butterfly pneumatic valve and an on/off switch.
- 3M Flush Boom & Trough Flush feed
 - 4" suction 3" discharge
 - 10hp motor 1400rpm
 - Double V-Belt drive

Visual and
Audio Alarm
System



Auto Trough
Flush



Flush Boom
start/stop &
instructions



48SDVS – 48" x 96" Single Deck Vibrating Screen

- C-Channel Extension Frame allowing up to a 13' wide bunker
- Height Adjustment Kit
- ROSTA™ Anti-vibration Mounting
- Screen Cloth:
 - 1pc 48" x 48" x 7/32" vertical slot
 - 1pc 48" x 48" x 7/32" horizontal slot
- Pre-Wired Motor Starter and Disconnect Box
- Approximate shipping weight 2,500lbs



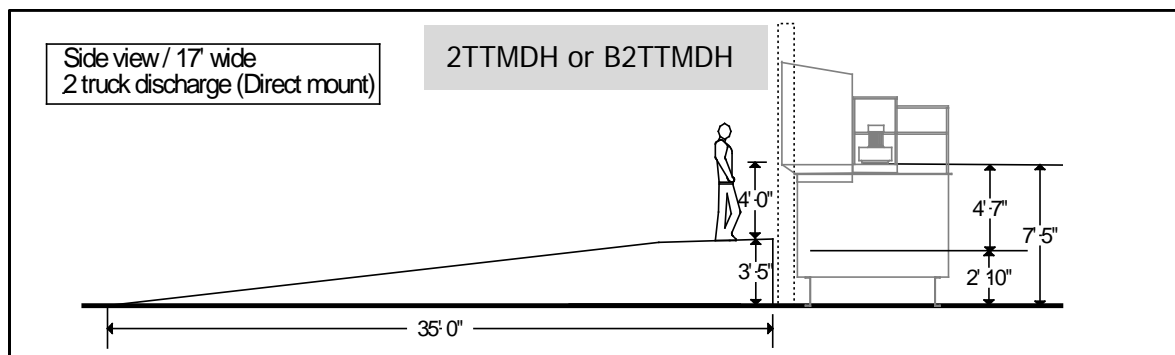
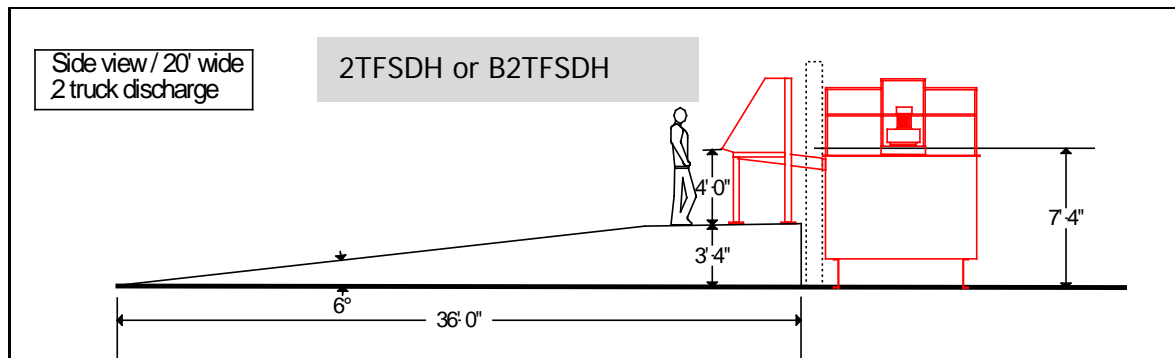
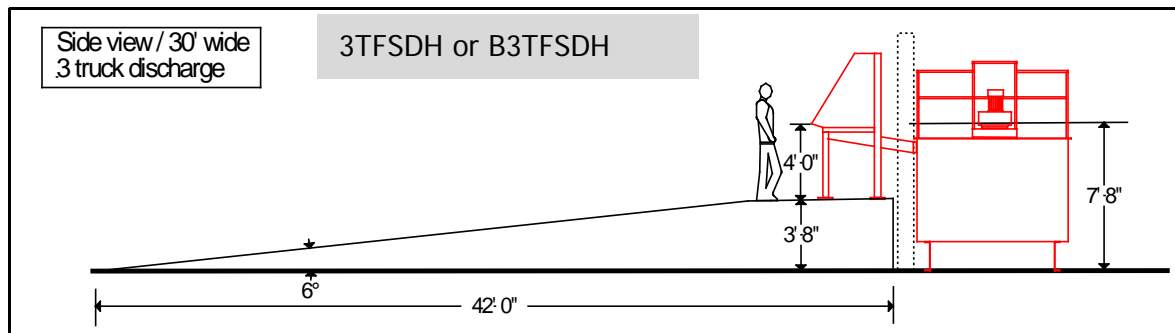
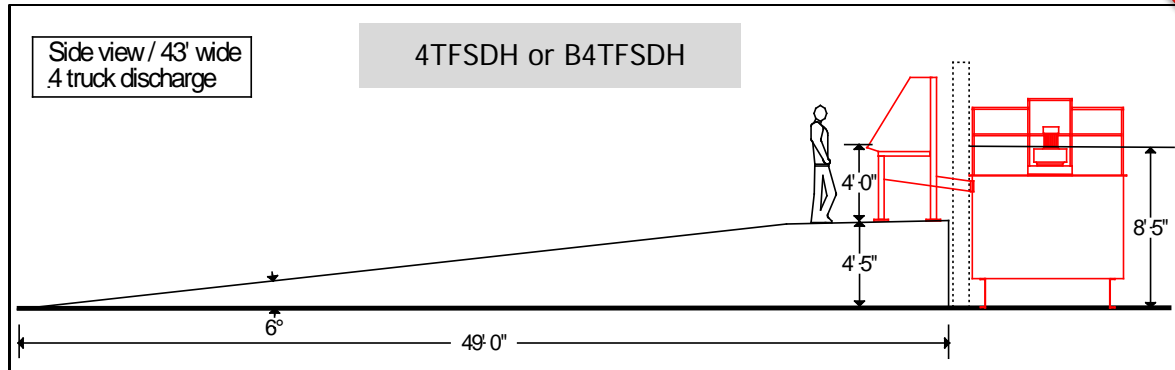
ROSTA™ SCREEN MOUNT



Complete Recovery Series

Typical Incline Approaches

Shown below are the most common incline approaches for all discharge hood configurations. Enviro-Port can offer alternate options for truck approaches if required by customer.



3MBPPP – 3-M Batch Plant Priority Pump



Sole purpose, residual water pumping to the batch plant

- 3" Residual Water Pump with Double V-Belt 10 HP Drive at 1400rpm
- (2) two, 3" Butterfly Pneumatic Actuated Valve (Instant on/off control)
- Pre-wired electrical system with auto cycle mode controls
- Suction & auto cycle loop, pre-plumbed to Enviro-Port tank
- 300 gal/min at 100' of line run (approximate)

4MBPPP – 4-M Batch Plant Priority Pump



Sole purpose, residual water pumping to the batch plant

- 4" Residual Water Pump with Double V-Belt 15 HP Drive at 1400rpm
- (2) two, 4" Butterfly Pneumatic Actuated Valve (Instant on/off control)
- Pre-wired electrical system with auto cycle mode controls
- Suction & auto cycle loop, pre-plumbed to Enviro-Port tank
- 400-475 gal/min at 100' of line run (approximate)

5MBPPP – 5-M Batch Plant Priority Pump



Sole purpose, residual water pumping to the batch plant

- 5" Residual Water Pump with Triple V-Belt 20 HP Drive at 1400rpm
- (2) two, 5" Butterfly Pneumatic Actuated Valve (Instant on/off control)
- Pre-wired electrical system with auto cycle mode controls
- Suction & auto cycle loop, pre-plumbed to Enviro-Port tank
- 475-500 gal/min at 100' of line run (approximate)



- All pump configurations are pre-plumbed to Enviro-Port Tanks
- Suction isolation valve
- Motor starters and overload protection
- Local disconnect for each pump
- Enviro-Port proprietary Tungsten Carbide seals installed and tested
- Pressure Vessel kits standard with every pump system
- Full 10" impellers
- Each pump system is designed from information sheet criteria