



BIBKO NORTH AMERICA , LLC
P.O. BOX 902, CEDAR FALLS, IOWA 50613
1.855.242.5687

Sustainability for the Concrete Industry

The Problem – Process Water and Returned Concrete



The Stick ...

Federal EPA - Title 27 Criteria:

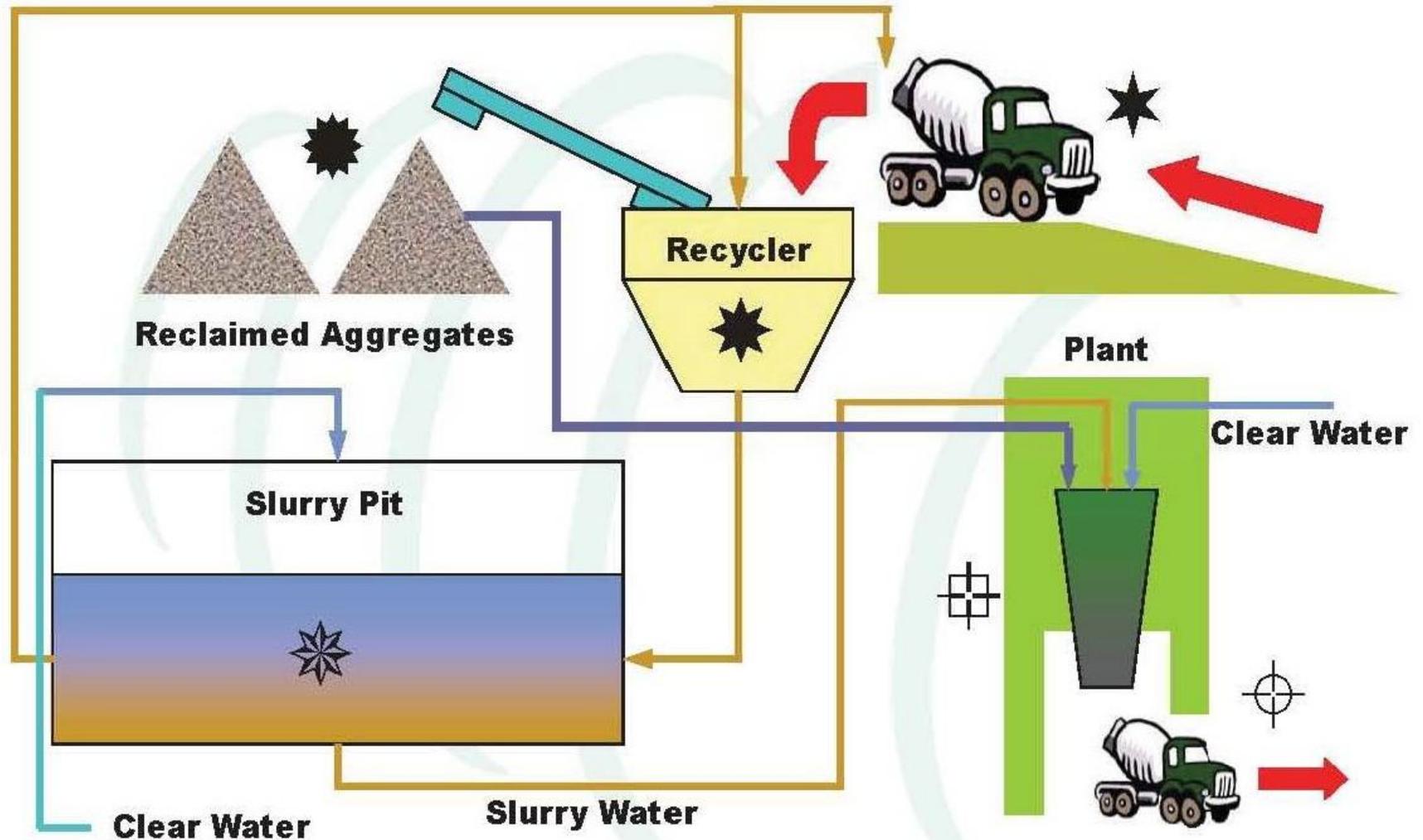
Any waste management unit used to treat, store, or dispose of designated waste must:

- Be sited, designed, and constructed in accordance with applicable performance and minimum prescriptive standards for **Class II** waste management units contained therein;
 - Be monitored to detect any releases to soil or groundwater;
 - Have an approved closure and post-closure maintenance plan that includes groundwater monitoring for at least thirty years after final closure;
 - Provide financial assurance that funds will be available to finance closure, post-closure maintenance, monitoring, and corrective action in the event of a release of waste from the unit.
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ZERO DISCHARGE CONCRETE RECLAIMING
THREE MIXER TRUCK DISCHARGE WITH 21,000 GALLON
EXPANDABLE SLURRY TANK

Zero Discharge



Courtesy: Szecsy



BIBKO SYSTEM DOES NOT REQUIRE RAMPS, BUTTERFLY VALVES OR ANNUAL MAINTENANCE EXPENDITURES



BIBKO MOTOR, GEAR BOX AND BEARINGS ARE AWAY FROM SLURRY



BIBKO PATENT PRE-WASH AND FINAL-WASH PROCESS
MIXER TRUCK DRIVERS ARE NOT ABLE TO OVERFILL THE
SYSTEM BECAUSE OF THE BUCKET SYSTEM



EXPANDABLE GALVANIZED ABOVE GROUND SLURRY TANKS
3 HP MOTOR AGITATORS KEEP SLURRY IN SUSPENSION.
MOTORS OPERATE 5 MINUTES ON AND 10 MINUTES OFF



AGITATED SLURRY TANK
DENSITY PROBES DISPLAY REAL-TIME SPECIFIC GRAVITY
AND TEMPERATURE OF SLURRY

Ratio Chart to maintain 1.03 sg of slurry for fresh concrete.

Gray Water Blend Chart

based on
specific gravity
of gray water

% Gray Water / Tap Water (Based on sp. gr. of Gray Water)

per ASTM C-94 Optional Table 3

(Limit of Total Solids in Mixing Water = 50,000 ppm)

Chart Based on 35 gal. Water/ 500 lb. Cement Mix Design

Gray Water Specific Gravity	% Gray Water	% Tap Water
1.01	100%	0%
1.02	100%	0%
1.03	99%	1%
1.04	79%	21%
1.05	64%	36%
1.06	54%	46%
1.07	46%	54%
1.08	41%	59%
1.09	37%	63%
1.10	33%	67%
1.11	31%	69%
1.12	28%	72%
1.13	26%	74%
1.14	25%	75%
1.15	23%	77%
1.16	22%	78%
1.17	21%	79%
1.18	20%	80%
1.19	19%	81%
1.20	18%	82%



YARD WATER IS COLLECTED BY "BOAT RAMP" AND PUMPED INTO PLASTIC STORAGE TANKS FOR RE-USE



DILUTION OF SLURRY WATER WITH COLLECTED
YARD WATER
YARD WATER IS AUTOMATICALLY FED INTO SLURRY
TANK BY PLC AUTOMATION



DISCHARGE OF CLEANED SAND AND AGGREGATE
OPTIONAL SINGLE AND DOUBLE SCREEN DECK NOT SHOWN



BIBKO BUFFER FOR 6 TO 10 MIXER TRUCK WASHOUT



BIBKO PUMP DISCHARGE CONVEYOR (PDC)
FOR WASHOUT OF CONCRETE PUMPS
INTO BIBKO CONCRETE RECLAIMER



PORTABLE BIBKO 2000 CONCRETE RECLAIMER WITH 5,000 GALLON SLURRY TANK



**BIBKO 1000 PORTABLE JOB-SITE CONCRETE RECLAIMER
AND WASHOUT**



BIBKO PRECAST CONCRETE RECLAIMER AND WASHOUT SYSTEM



PREFERRED LOCATION OF A BIBKO ZERO DISCHARGE
CONCRETE RECLAIMER
CLOSE LOCATION TO PLANT TO REDUCE PROCESS WATER
FOOTPRINT

RECYCLING RETURN CONCRETE AND WASHOUT WATER POTENTIAL SAVINGS

- Eliminate haul off and disposal cost of return concrete.
- Reduce driver washout time.
- Water savings of 35% to 45%.
- Aggregate recovery of 4% to 5%.
- Cost savings of rinsing

