



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

August 16, 2005

Brett Coe
Riverside Ready Mix, Inc.
P.O. Box 248
Grants Pass, Oregon 97528

Dear Mr. Coe:

The Oregon Department of Environmental Quality (Department) has received the plans, specifications and other associated materials you provided for an additional septic tank configuration manufactured by your company. I am pleased to advise that the following tank may be installed in Oregon based on your certification that this tank complies with all applicable Department rules and regulations:

➤ **1500-Gallon Partition Dosing Septic Tank**

You are authorized to manufacture and distribute this tank for use in onsite sewage treatment and disposal systems in Oregon until further notice, providing the following conditions are met:

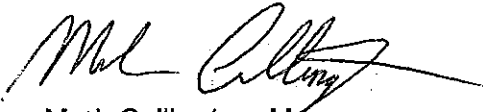
1. The tank must be manufactured in compliance with the Department's rules, and with the plans and design specifications provided. Any deviation from the plans and specifications shall not be permitted unless authorized in writing by this office.
2. The concrete mix shall be in accordance with the mix description on the plans prepared by your engineer. The minimum concrete strength of $f_c = 4,000$ psi as specified by your engineer shall be achieved. Three concrete sample cylinders shall be taken and tested for each tank manufactured until the minimum compressive strength is obtained. Thereafter, at least one concrete sample cylinder for each five tanks produced shall be taken. Samples shall be tested for compressive strength. Samples shall be alternately broken at 7 and 28 days. All samples shall be field cured where the tanks are stored. Laboratory curing of additional samples may be done at your option. All test results shall be made available for Department review upon request.
3. The tank shall be cured and protected from premature drying and excessive hot or cold temperatures for the first ten days following casting. Tanks may be shipped from the casting yard after seven days, or earlier if the concrete has reached two-thirds of its design strength.
4. It is the responsibility of your business to insure that each assembled tank delivered to the construction site is water-tight. It is expected that your business will pre-test some percentage of the tanks at the plant to verify they are water-tight.
5. A fully assembled and complete tank shall be delivered to the purchaser, including the necessary tank risers and covers.

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6. Each tank shall be delivered with the installation guide. The guide shall be printed on waterproof paper or an equivalent.
7. Each tank is only acceptable for use at locations where the top loading will not exceed the engineering design parameters. Tanks proposed for use at other locations shall require an engineering analysis of the potential top loading, and may require the preparation of site-specific plans and specifications.
8. Each tank shall be marked on the uppermost tank surface over the outlet with the liquid capacity, date of manufacturer, burial depth limit, and either your full business name or the assigned number 517.

Please feel free to contact Uri Papish at (503) 229-5013 if you have any questions about this letter.

Sincerely,



Mark Cullington, Manager
Water Quality Division

cc: WR Contract County Offices
DEQ Direct Service Offices
Mike Kucinski, DEQ WR Salem
Dick Nichols, DEQ ER Bend

SEPTIC TANK INSTALLATION MANUAL

Each Riverside Ready Mix septic tank is visually inspected before leaving the yard. If the installation instructions are followed correctly the tank will provide many years of trouble free use.

A. TANK INSTALLATION

- 1) The hole size must be at least one foot (1') wider and longer than the outside dimensions of the tank. Hole depth should be sufficient to cover the tank to a point near the top of the riser.
IMPORTANT: DO NOT completely cover the riser. The lid must be at or above ground level.
- 2) Before setting the tank into the hole, bed the bottom of the hole with four to six inches (4" – 6") of sand or 3/8" pea gravel containing no large rocks or chunks. The septic tank must be set on a level, stable base that will not settle. The inlet must be 1" – 3" higher than the outlet. Except for pumping systems, be sure to set the tank to maintain the appropriate fall to the first drain line. Consult a licensed installer of the DEQ for the appropriate grade.
NOTE: Any high or low spots that cause the tank to sit unlevel can cause the tank to crack or fracture when full.
- 3) The septic tank hole must be accessible for a large truck to backup to within six feet (6'). All over head limbs and power or phone lines must also be cleared from around the hole for a distance of twenty feet (20') vertical, measured from ground level. The truck access route must also be relatively level.
- 4) Tank shall be installed with no more than 3 feet of cover unless otherwise reinforced per OAR 340-071-0025 (5).

B. RISERS AND LIDS

All tanks are manufactured with a 6" high by 24" diameter Tuf-Tite riser, which is permanently set into the tank lid. Each riser comes with it's own polyethylene lid. The lid attaches to the riser with six stainless steel screws. A neoprene gasket is built into each lid providing a watertight seal.

To connect two or more risers together, please use the mastic rope provided by Riverside Ready Mix to insure a watertight seal.

All ATT tanks are manufactured with riser adapters cast in place. To connect risers to ATT tanks, use ADH-100 adhesive for watertight seal provided by RIVERSIDE READY MIX INC.

C. BACKFILLING

Backfill with clean, easily compacted material. A blend of reject sand and pea gravel works best. Do not backfill with any material containing cobbles. Backfill around the tank evenly, do not fill one side up before filling the opposite side part way. Do not cover the tank beyond the depth specified for that tank. The burial depth specified for each tank is no more than 3 feet.

D. PIPE CONNECTIONS

Each Riverside Ready Mix septic tank is manufactured with a four-inch (4") ABS sanitary tee (santee) on the inlet and outlet of the tank.

Tank manufacturer shall furnish 2 (4" dia.) Fernco couplers or #3034 bushings with each septic tank, and 1 (4" dia.) Fernco coupler or #3034 bushing with each dosing/septic tank.

Pump tank and dosing/siphon tank risers can be drilled to an inside measurement of 1", 1 ¼", 1 ½" or 2" sizes to fit the rubber grommets that will be placed in the holes. The installer will instruct us as to the placement and size of the holes.

Installation of pumps, siphons, controls and alarm systems on dosing/pump tanks will be in accordance with manufacturers specs. and the Oregon Dept. of Environmental Quality (DEQ) requirements. The contractor is to insure the placement of all fittings and electrical equipment such that the pump vault is easily removable for maintenance.

E. PUMPS, SIPHONS, CONTROLS, WIRING, ETC.

High level alarms shall be placed at the following levels:

- 500 gallon dosing tank with pump = 10 ½ inches below the invert of the inlet
- 1000 gallon dosing tank with pump = 15 ¾ inches below the invert of the inlet
- 1500 gallon dosing tank with pump = 15 ½ inches below the invert of the inlet
- 1500 gallon 2 chamber septic/dosing tank with pump = 14 inches below the invert of the inlet in the second chamber
- 1500 gallon flow through dosing/septic tank w/pump = 1 inch below the invert of the inlet

Pump on and off levels shall be placed as system design requirements and low water levels allow. Low water levels for the 1000 gallon dosing tank with pump, 1500 gallon dosing tank with pump, 1500 gallon flow through dosing/septic tank with pump and 1500 gallon 2 chamber septic/dosing tank with pump shall be specified by the manufacturer of the pump. Below is the gallon per inch (gpi) measurement for each tank utilizing a pump:

- 500 gallon dosing tank with pump = 16 gpi
- 1000 gallon dosing tank with pump = 23 gpi
- 1500 gallon dosing tank with pump = 33.7 gpi
- 1500 gallon 2 chamber septic/dosing tank with pump = 23.6 gpi (1st chamber) & 11.9 gpi (2nd chamber)
- 1500 gallon flow through dosing/septic tank with pump = 23.6 gpi (1st chamber) & 11.9 gpi (2nd chamber) (total of both chambers = 35.5 gpi)

OSI model 204 dosing siphon's are approved for use in the 1000 gallon dosing tank, the 1100 gallon dosing septic tank, the 1500 gallon dosing tank and the 1500 gallon two chamber septic/dosing tank. Instructions for installation of the dosing siphon assembly are provided on printed material obtained from Orenco Systems, Inc., 1-800-348-9843.

F. TESTING PROCEDURES

All Riverside Ready Mix septic tanks have been visually inspected for water-tightness at the plant before shipment. However, it is in your best interest to pretest the tank at least one (1) day before the scheduled inspection. This allows the cured concrete to absorb as much water as possible. The tank should be completely watertight tested and pass test prior to requesting an inspection.

The following should be done in order to test the tank for water-tightness. The tank must be back-filled to the point where the lid and the tank walls meet. All inlets and outlets must be plugged and then the tank filled with water up into the risers no more than two inches.

During the test there should not be any more than one gallon of leakage or 1/2" over a 24 hour period.

We found that the simplest method for sealing off the inlet and outlets is to use an inflatable ball plug. The Cherne 4" pneumatic test ball plug part #270-040 comes highly recommended.

G. SPECIAL PRECAUTIONS OR LIMITATIONS

Do not attempt to lift or move the tank without a designed tank pick-up device.

Be careful when operating equipment around the tank(s), especially when using a backhoe for back-filling.

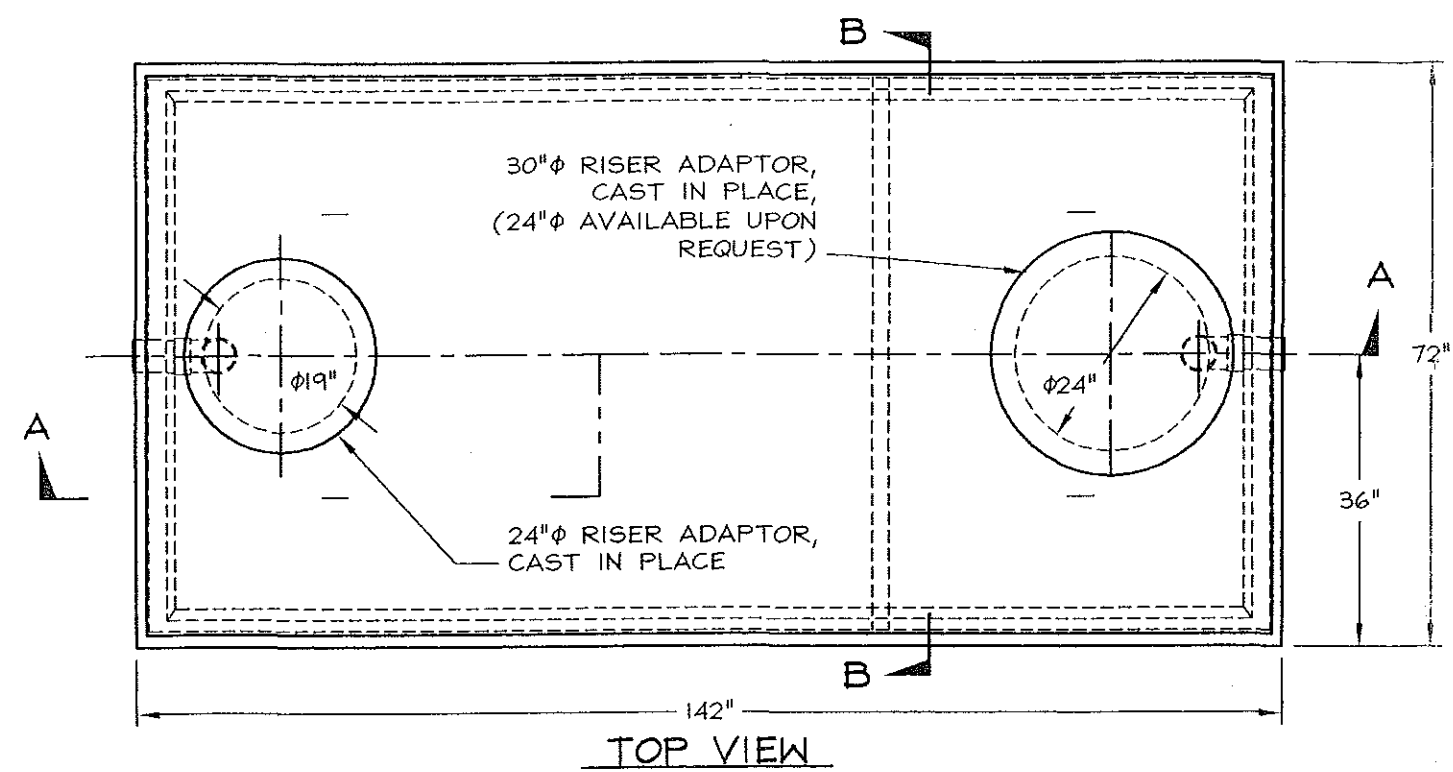
When setting a tank in a water-filled hole, special care must be taken that the hole bottom is level and smooth. The tank itself should be partially full of water when being set in a water-filled hole. If the tank can't be partially full of water while being set, then the hole should be pumped out prior to placing the tank and then the tank filled with water.

H. BUOYANCY AND COUNTERMEASURES

High ground water table for tank is defined as ground water up to one (1) foot above top of tank. Where high ground water is possible, the tank shall have 20 inches minimum cover or shall have a concrete slab, with at least 21 cubic feet of concrete, placed over the tank.

*****FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN A
CRACKED OR BROKEN TANK AND VOID ANY WARRANTY OF WATER
TIGHTNESS EITHER STATED OR IMPLIED.**

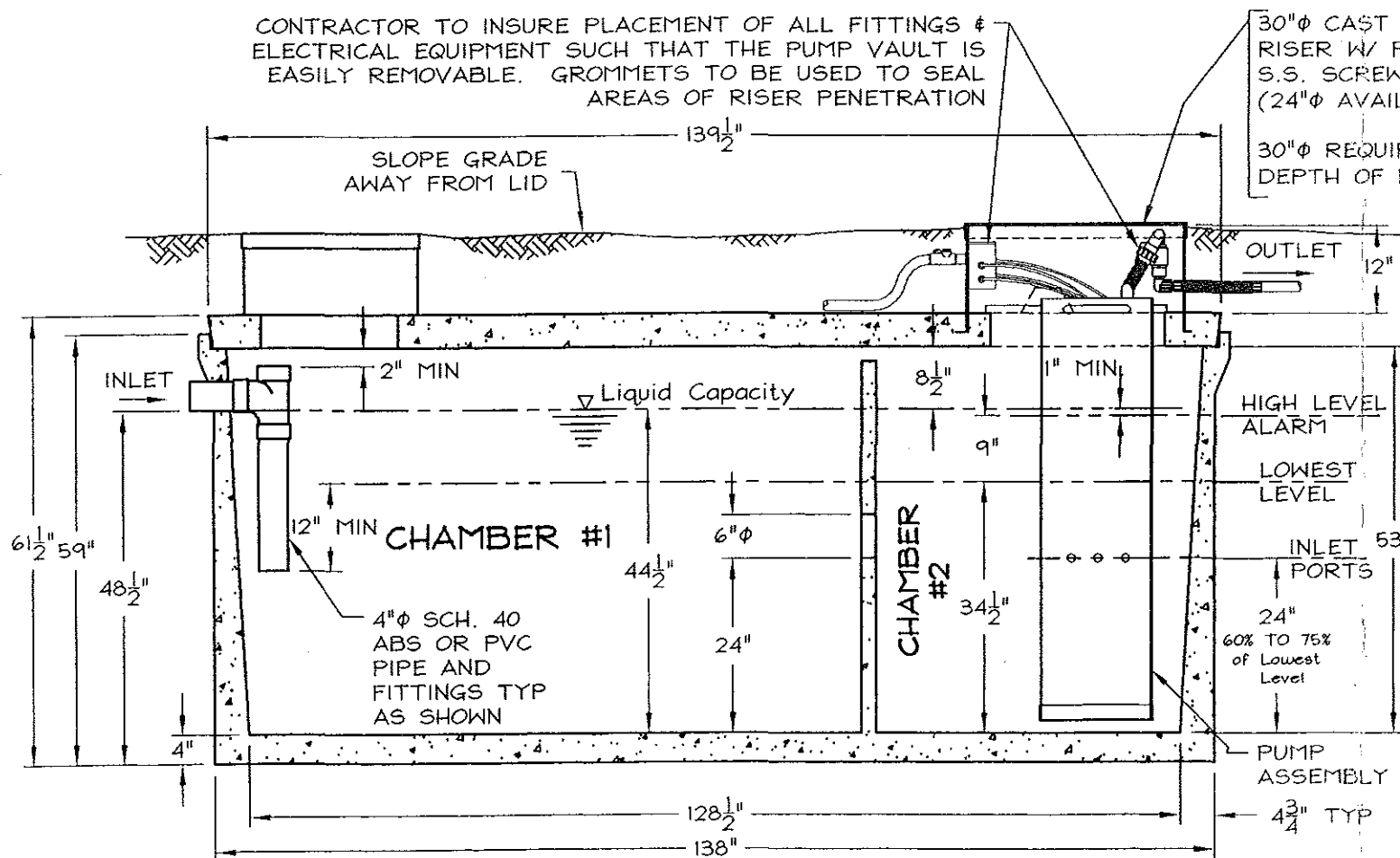
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GENERAL NOTES:

1. Vertical design live load: 300 psf plus 2,500# wheel load, plus 25 psf snow load.
2. Lateral load: 62.4 pcf equivalent fluid pressure plus soil surcharge of 300 psf with tank empty.
3. Concrete: f'c = 4,000 psi.
4. Reinforcing steel: ASTM A-615 deformed bars, Grade 60, fy = 60,000 psi.
5. See structural drawings for structural design and details not shown on these plans.
6. Tank shall be installed with no more than 3 feet of cover unless otherwise reinforced per OAR 340-073-0025 (5)
7. Tank to be installed on firm, smooth and level base material of 4" to 6" of sand or 3/8" pea gravel containing no large rocks or chunks.
8. Tank top to be in place before backfilling, and tank to be backfilled uniformly around perimeter.
9. Tank manufacturer shall furnish (2) 4" dia. FERNCO couplings or #3034 bushings with each septic tank, and (1) 4" dia. FERNCO coupling or #3034 bushing with each dosing-septic tank.
10. High ground water table for tank is defined as ground water up to one (1) foot above top of tank.
11. Where high ground water is possible, the tank shall have 20 inches minimum cover or shall have a concrete slab, with at least 21 cubic feet of concrete, placed over the tank.
12. Tank to be tested after placement for water-tightness as described in OAR 340-73-025 and in accordance with instruction manual supplied with the purchase of each tank.
13. Inlet & outlet (if applicable): 4" ϕ coupler fitting, cast in place. O.D. surface of fitting to be prepared by manufacturer prior to casting in place to ensure watertight seal.
14. Dosing volumes not to exceed maximum limits set by OAR 340-71 and 73. Maximum percent of projected daily flow: 10% to sandfilters or 20% in other applications.
15. Tank top to be sealed w/ Con-Seal or equivalent and then grouted.

CONTRACTOR TO INSURE PLACEMENT OF ALL FITTINGS & ELECTRICAL EQUIPMENT SUCH THAT THE PUMP VAULT IS EASILY REMOVABLE. GROMMETS TO BE USED TO SEAL AREAS OF RISER PENETRATION



SECTION A-A
FOR DETAILS NOT SHOWN SEE 1,500 GAL. 2 CHAMBER SEPTIC TANK DRAWING

TANK VOLUME:

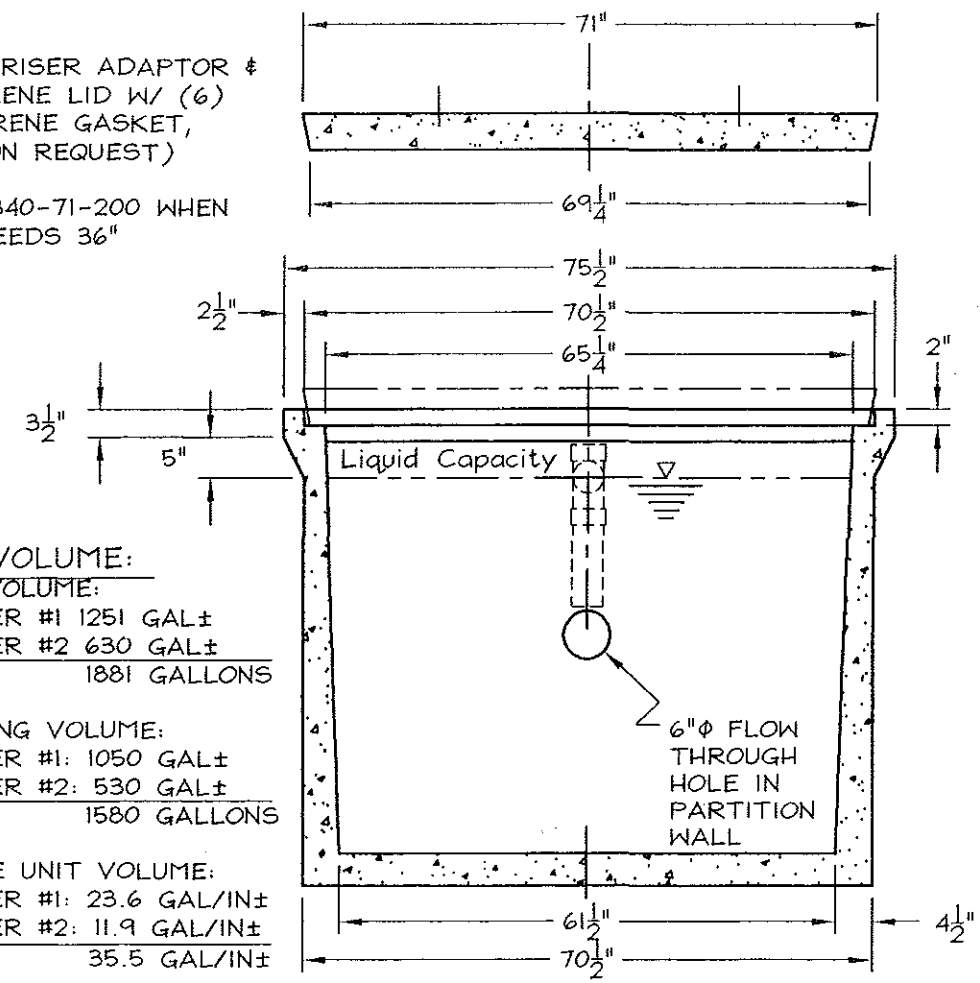
TOTAL VOLUME:	
CHAMBER #1	1251 GAL \pm
CHAMBER #2	630 GAL \pm
TOTAL:	1881 GALLONS

OPERATING VOLUME:

CHAMBER #1:	1050 GAL \pm
CHAMBER #2:	530 GAL \pm
TOTAL:	1580 GALLONS

AVERAGE UNIT VOLUME:

CHAMBER #1:	23.6 GAL/IN \pm
CHAMBER #2:	11.9 GAL/IN \pm
TOTAL:	35.5 GAL/IN \pm



SECTION B-B

T.J. BOSSARD, INC.
Civil & Structural Engineering
133 N.W. "D" Street
Grants Pass, OR 97526
TEL: (541) 479-5774
FAX: (541) 471-6084



RIVERSIDE READY MIX INC.
1500 GALLON FLOW THROUGH DOSING/SEPTIC TANK W PUMP

531 SE MILL STREET
GRANTS PASS, OREGON 97526

DRAWN BY	D. B.
CHECKED BY	
DATE	6/10/05
SCALE	1/2" = 1'-0"
CADD FILE	05028-PS
JOB NO.	05-028
SHEET	