



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

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

September 19, 2003

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

Re: 3000-Gallon Septic Tank and 3000-Gallon Dosing Tank approval

Dear Mr. Coe:

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

- 3000 Gallon Septic Tank; and
- 3000 Gallon Dosing Tank

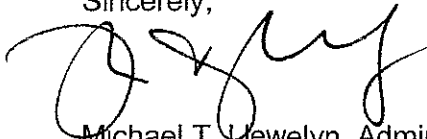
You are authorized to manufacture and distribute these tanks for use in onsite sewage treatment and disposal systems in Oregon until further notice, providing the following conditions are met:

1. The tanks must be manufactured in compliance with the Department's rules, and the plans and design specifications provided. Any deviation from the plans and specifications shall not be permitted unless authorized in writing by this office. The approved plans by T.J. Bossard, Inc., are dated 7/29/2003.
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 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.
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 will require an engineering analysis of the potential top loading, and may require the preparation of site-specific plans and specifications.
9. 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,



Michael T. Llewelyn, Administrator
Water Quality Division

cc: Contract County Offices, Western Region
DEQ Direct Service Offices, Western Region
Kerri Nelson, WR
Greg Farrell, WR
Dick Nichols, ER
Andy Schaedel, NWR

SEPTIC TANK INSTALLATION MANUAL FOR 3000 GAL TANKS

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 3" riser adapters for 30" OSI risers on outlet side and a 3" adapter for 24" Tuf-Tite risers on inlet side. These adapters are permanently casted in tanktop. All risers shall be attached in a permanent and watertight manner. To adapt Tuf-Tite risers together use mastic rope provided by Riverside Ready Mix. To adapt 30" risers use PVC glue or 2-part epoxy. All lids attach to the risers with stainless screws or bolts. A neoprene gasket is built into each lid providing a water-tight seal.

C. TESTING PROCEDURES AND 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. The following shall be done in order to test the tank for water tightness. The tank must be backfilled to the point below the midrib seam. Then fill with water just above the

backfilled to the point below the midrib seam. Then fill with water just above the midrib seam about 2 inches and check the seam for any leaks. With no leaks, finish backfilling the tank and bring water level to a point no more than 2 inches into the risers. During the test the water should not drop over 1" in the riser over a 24 hour period.

We found 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.

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:

3000 gallon dosing tank with pump = 23 ¾ inches below the invert of the inlet

3000 gallon dosing septic tank with pump = 1 inch below the invert of the inlet

Pump on and off levels shall be placed as systems design requirements and low water levels allow. The low water level for the 3000 gallon dosing septic tank with pump is 36 ¾ inches from the floor. The low water levels for the 3000 gallon dosing with pump and the 3000 gallon septic tank with pump shall be specified by the manufacture of the pump. Below is the gallons per inch (gpi) measurement for each tank utilizing pumps:

3000 gallon dosing tank with pump = 44.3 gpi

3000 gallon dosing septic tank with pump = 44.3 gpi

OSI model 204 dosing siphons are approved for use in the 3000 gallon dosing tank with siphon. Instructions for installation for the dosing siphon assembly are provided on printed material obtained from Orenco Systems, Inc. 1-800-348-9843

F. 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.

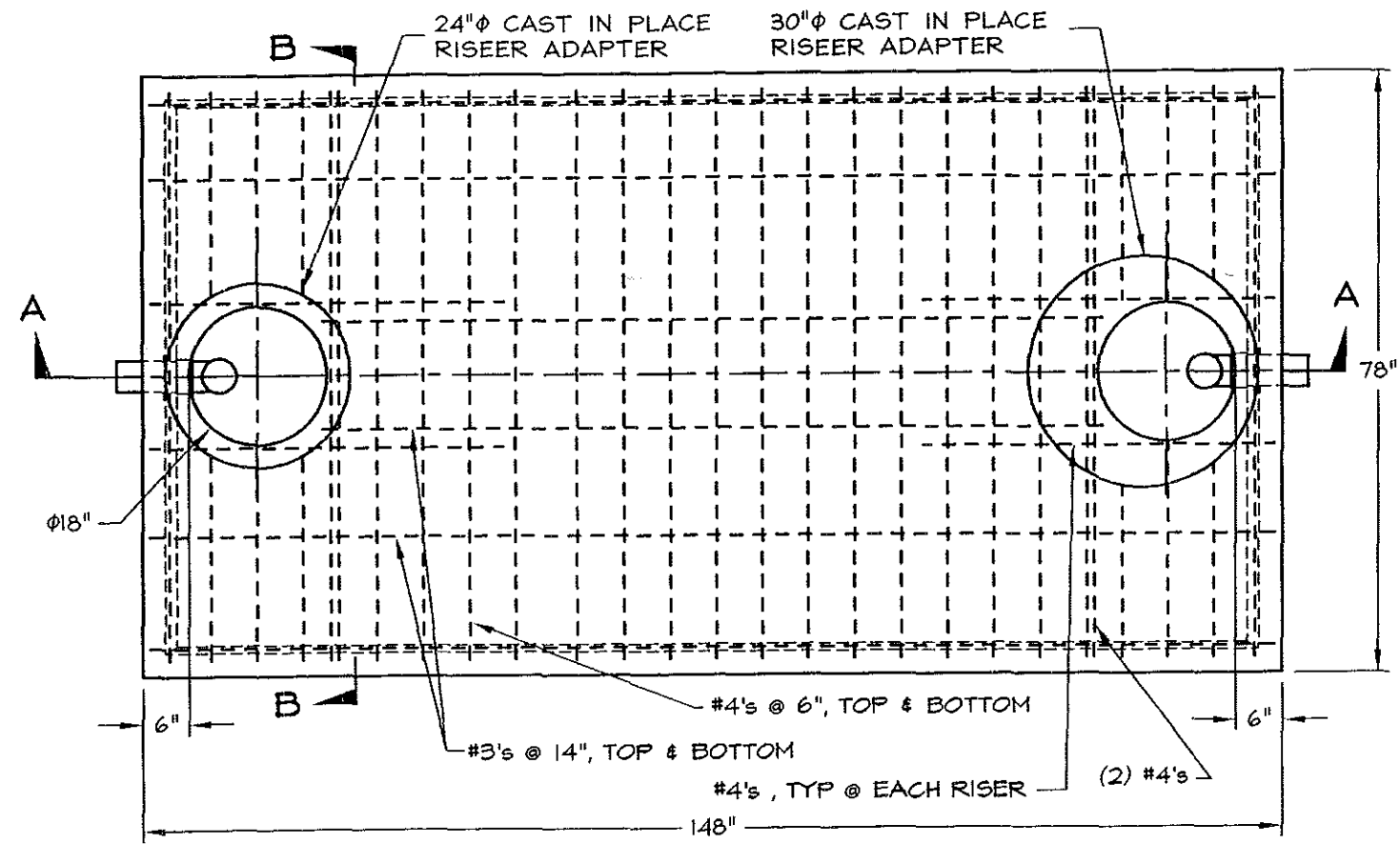
When setting a tank in a water-filled hole, special care must be taken that the hole bottom is level and smooth. The tank itself should be partially full of water when being set in a water-filled hole. If the tank can't be partially full of water while being set, then the hole should be pumped out prior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

G. 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 30 inches minimum cover or shall have a concrete slab, with at least 24 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.**

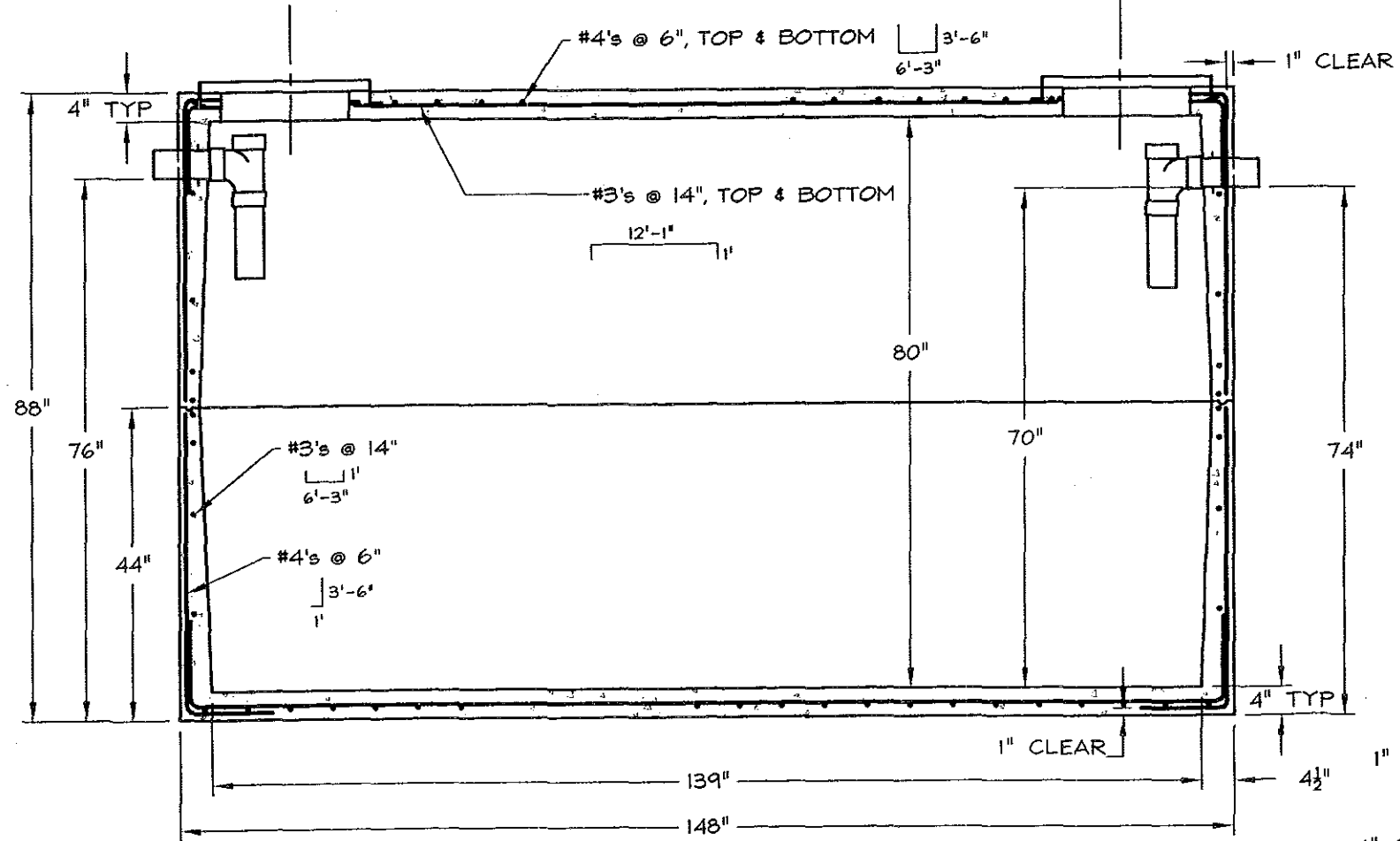
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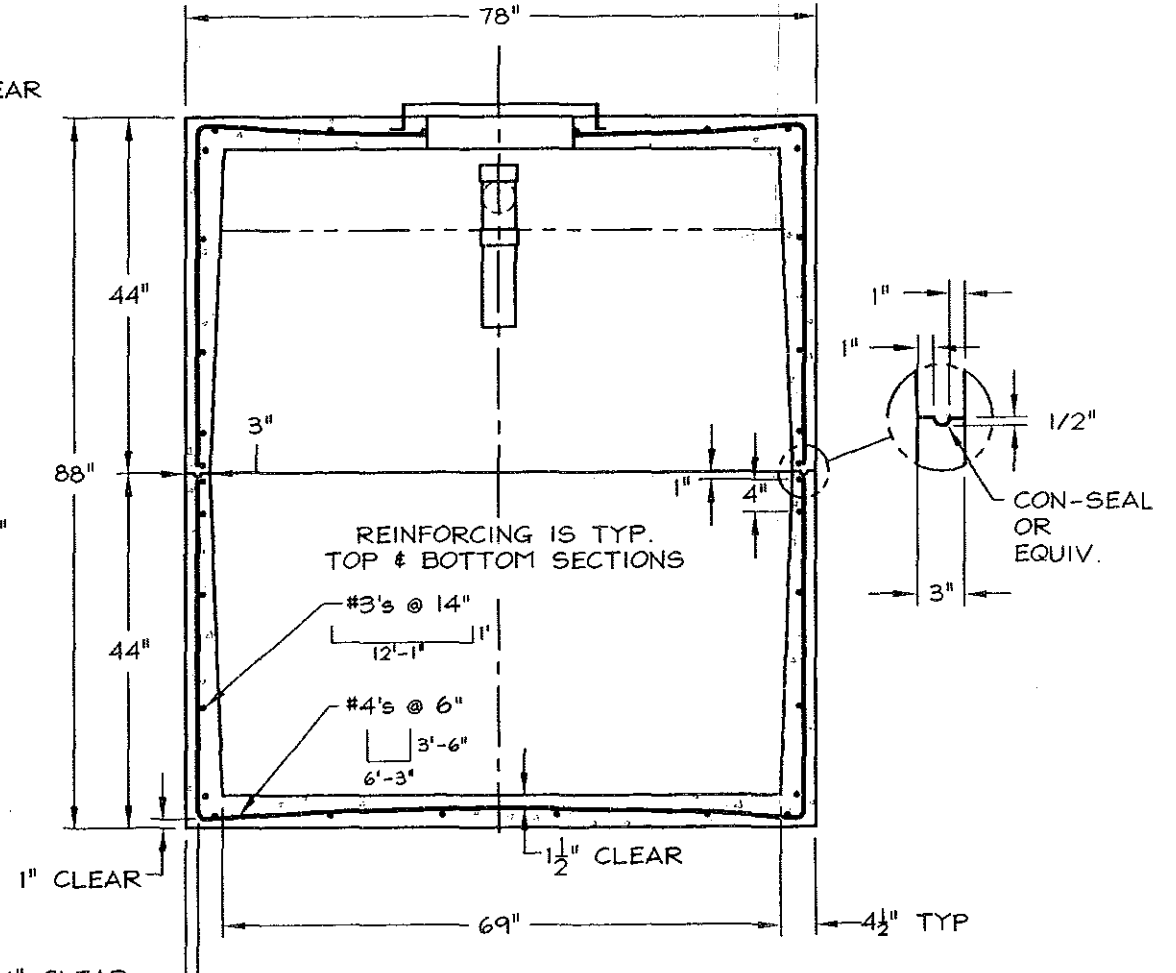
TOP VIEW

GENERAL NOTES:

1. Vertical design live load: 300 psf plus 2,500# wheel load.
2. Horizontal design live load: 80 pcf fluid pressure from soil and water with tank empty.
3. Concrete: $f'_c = 4,500$ psi.
4. Reinforcing steel: ASTM A-615 deformed bars, Grade 60, $f_y = 60,000$ psi.
5. All reinforcement to be located and tied in place, as shown on plan.
6. 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.
7. Tank top half to be in place before backfilling, and tank to be backfilled uniformly around perimeter.
8. 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.
9. High ground water table for tank is defined as ground water up to one (1) foot above top of tank.
10. Where high ground water is possible, the tank shall have 32 inches minimum cover.
11. 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.
12. Inlet & outlet (if applicable): 4" ϕ nipple fitting, cast in place w/ 4" ϕ rubber gasket, Del Zotto or equivalent.
13. Tank seam to be sealed w/ Con-Seal or equivalent.



SECTION A-A



SECTION B-B

REVISIONS

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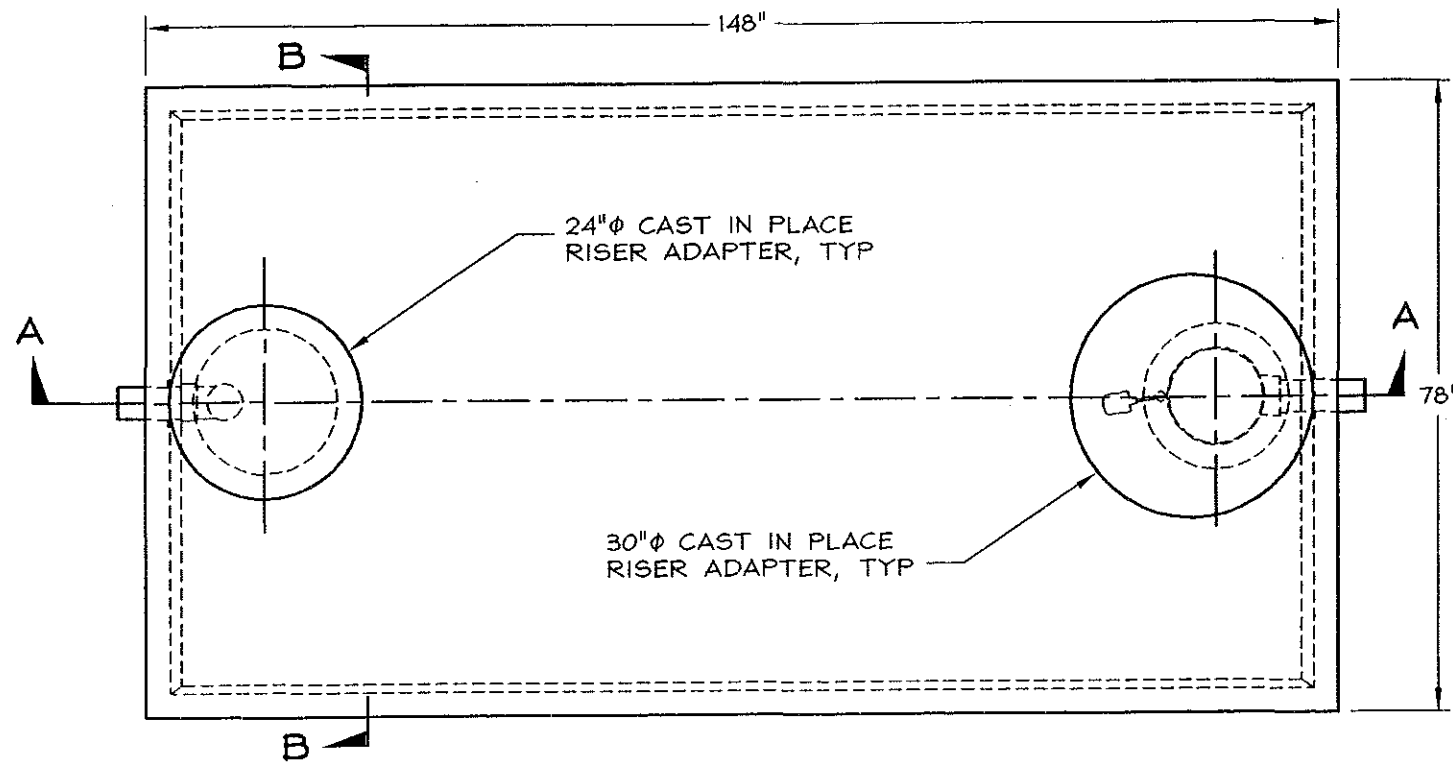
T. J. BOSSARD, INC.
Civil & Structural Engineering
193 N.W. "D" Street
Grants Pass, OR. 97526
TEL: (541) 479-5774
FAX: (541) 471-6084

REGISTERED PROFESSIONAL ENGINEER
STATE OF OREGON
NO. 1210
EXPIRES 12-31-03

RIVERSIDE READY MIX INC.
STRUCTURAL: 3000 GALLON SEPTIC TANK (SINGLE)

531 SE MILL STREET
GRANTS PASS, OREGON 97526

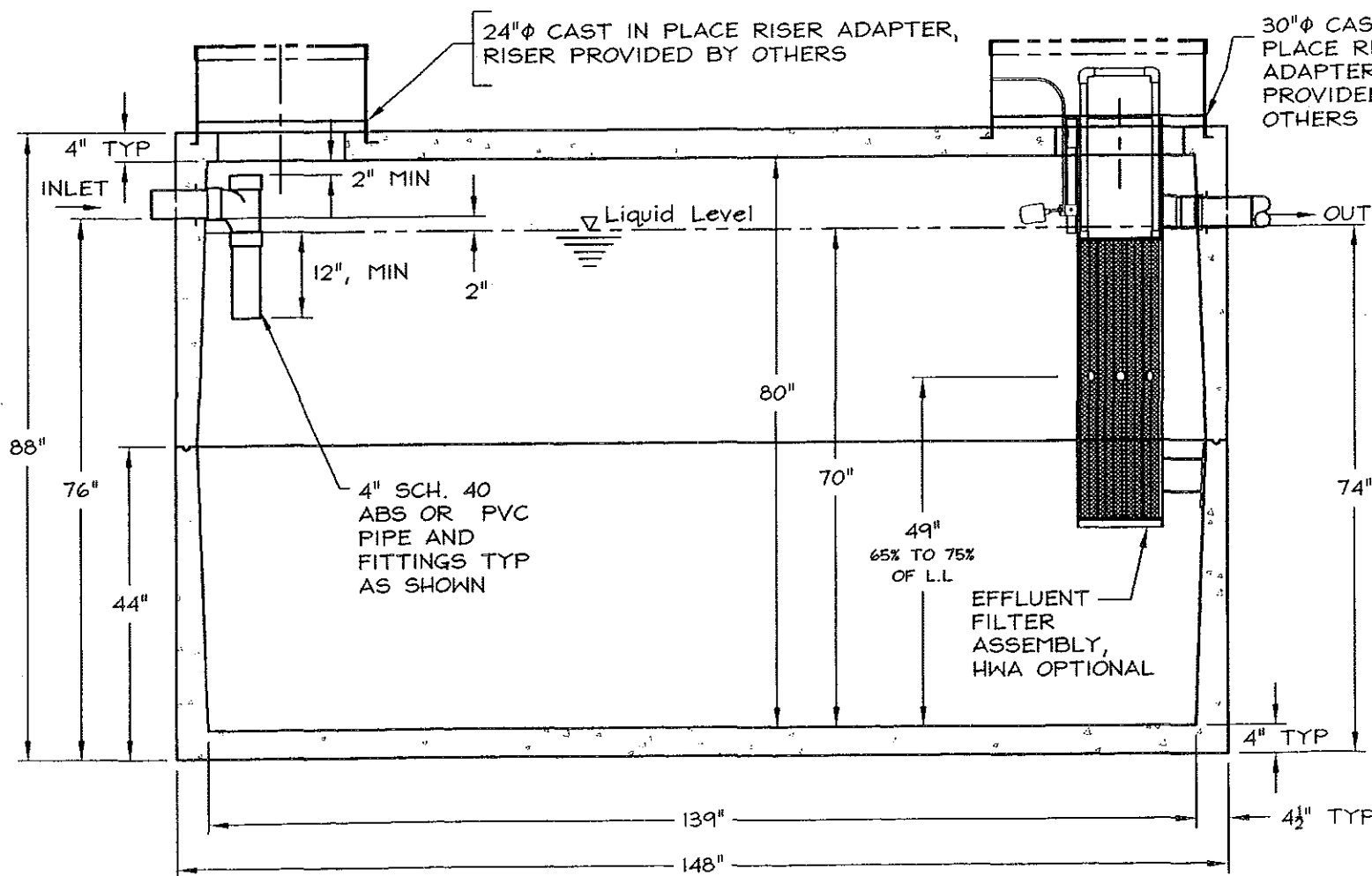
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CHECKED BY:
DATE 7/29/03
SCALE 1/2"=1'-0"
CADD FILED 3046-PS
JOB NO. 03-046
SHEET



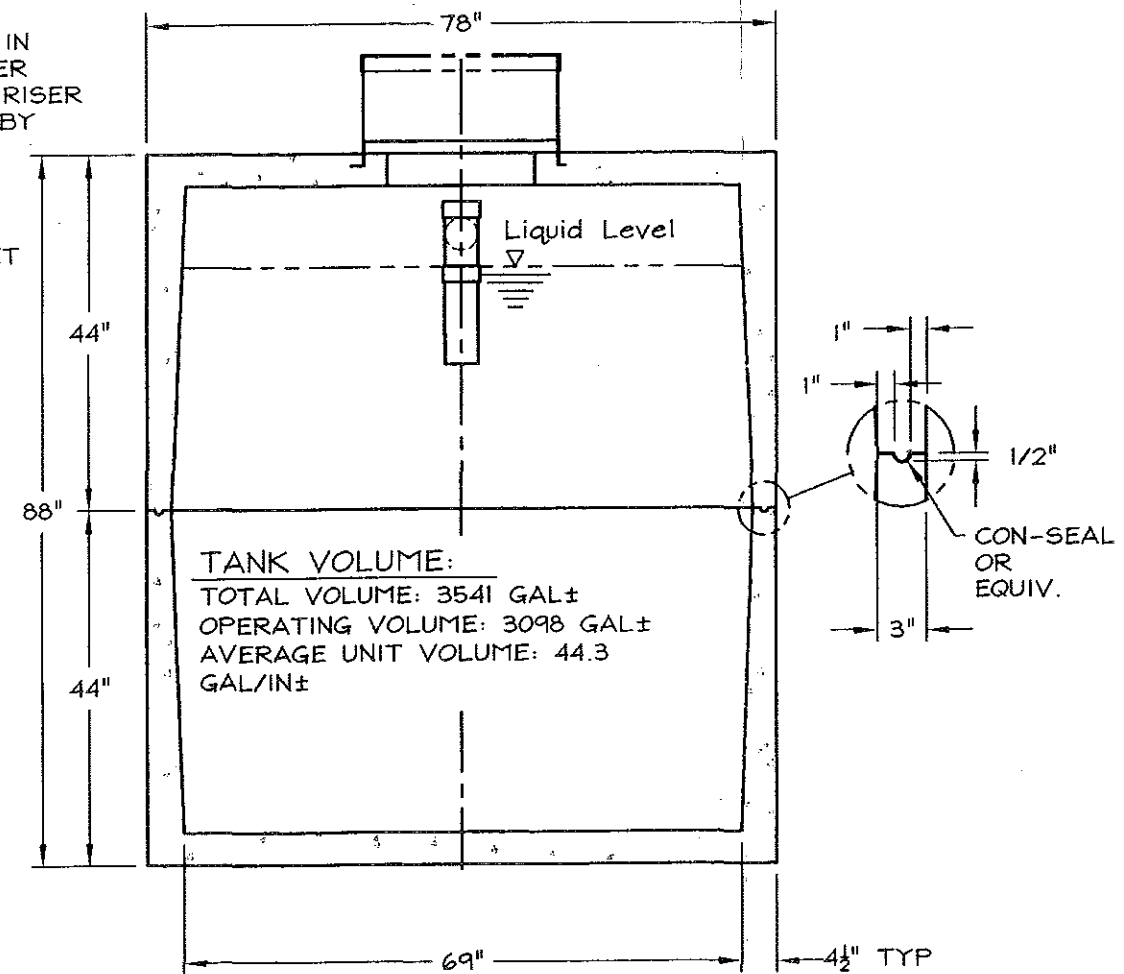
TOP VIEW

GENERAL NOTES:

1. Vertical design live load: 300 psf plus 2,500# wheel load.
2. Horizontal design live load: 80 pcf fluid pressure from soil and water with tank empty.
3. Concrete: $f'c = 4,500$ psi.
4. Reinforcing steel: ASTM A-615 deformed bars, Grade 60, $f_y = 60,000$ 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 half 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. caulder 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 32 inches minimum cover.
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" dia nipple fitting, cast in place w/ 4" dia rubber gasket, Del Zotto or equivalent.
14. Tank seam to be sealed w/ Con-Seal or equivalent.



SECTION A-A



SECTION B-B

TANK VOLUME:
 TOTAL VOLUME: 3541 GAL±
 OPERATING VOLUME: 3098 GAL±
 AVERAGE UNIT VOLUME: 44.3 GAL/IN±

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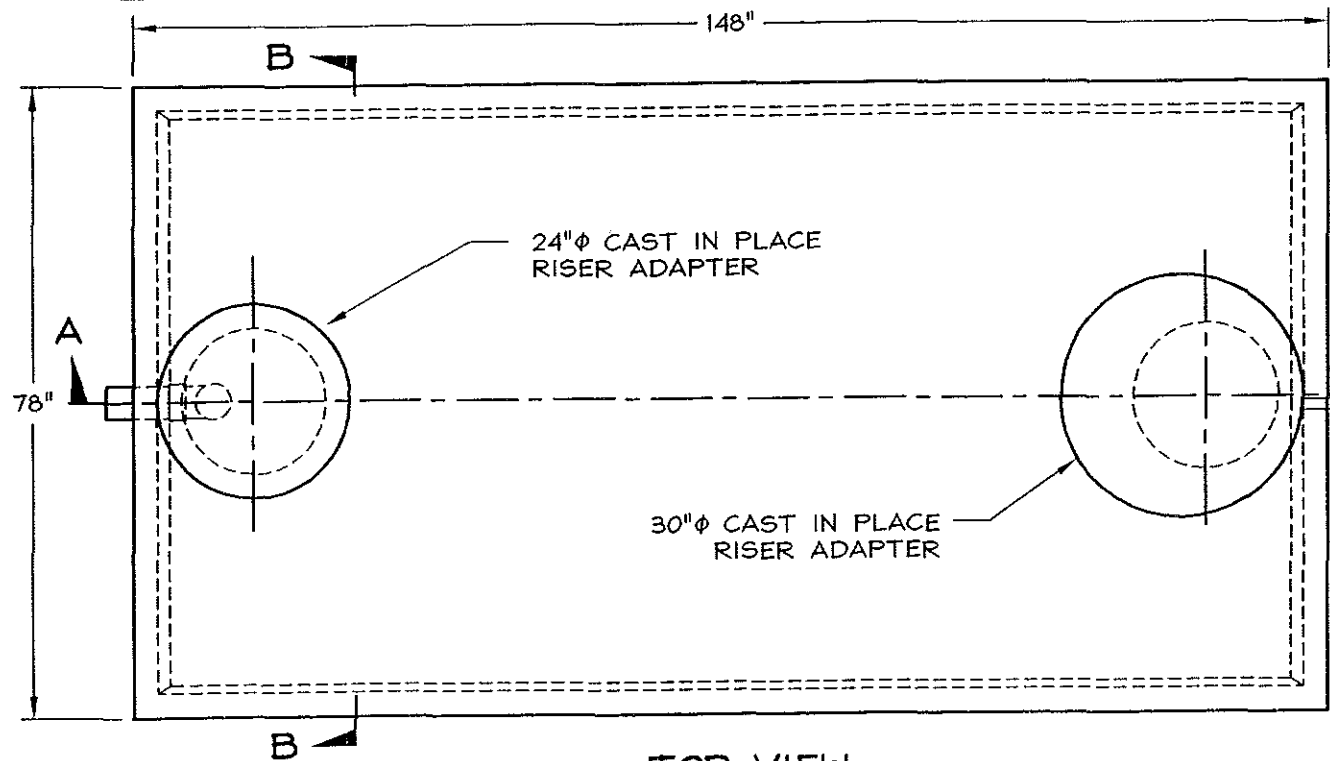
T. J. BOSSARD, INC.
 Civil & Structural Engineering
 198 N.W. 7th Street
 Grants Pass, OR 97526
 TEL: (541) 479-5774
 FAX: (541) 471-6084

REGISTERED PROFESSIONAL ENGINEER
 STATE OF OREGON
 NO. 1012
 EXPIRES 12-31-03

RIVERSIDE READY MIX INC.
 3000 GALLON SEPTIC TANK W/ FILTER

551 SE MILL STREET
 GRANTS PASS, OREGON 97526

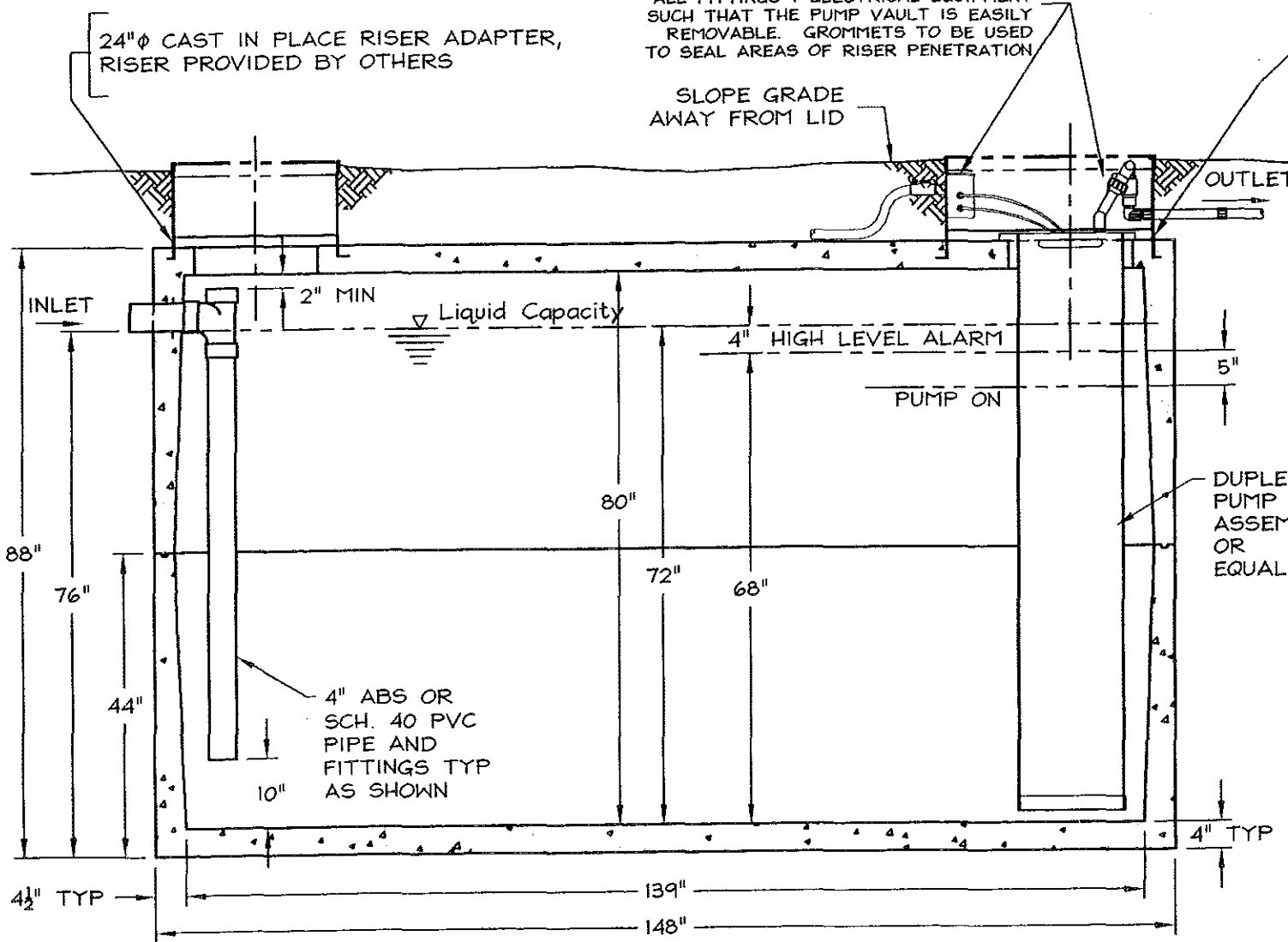
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 CHECKED BY:
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 JOB NO.: 03-048
 SHEET



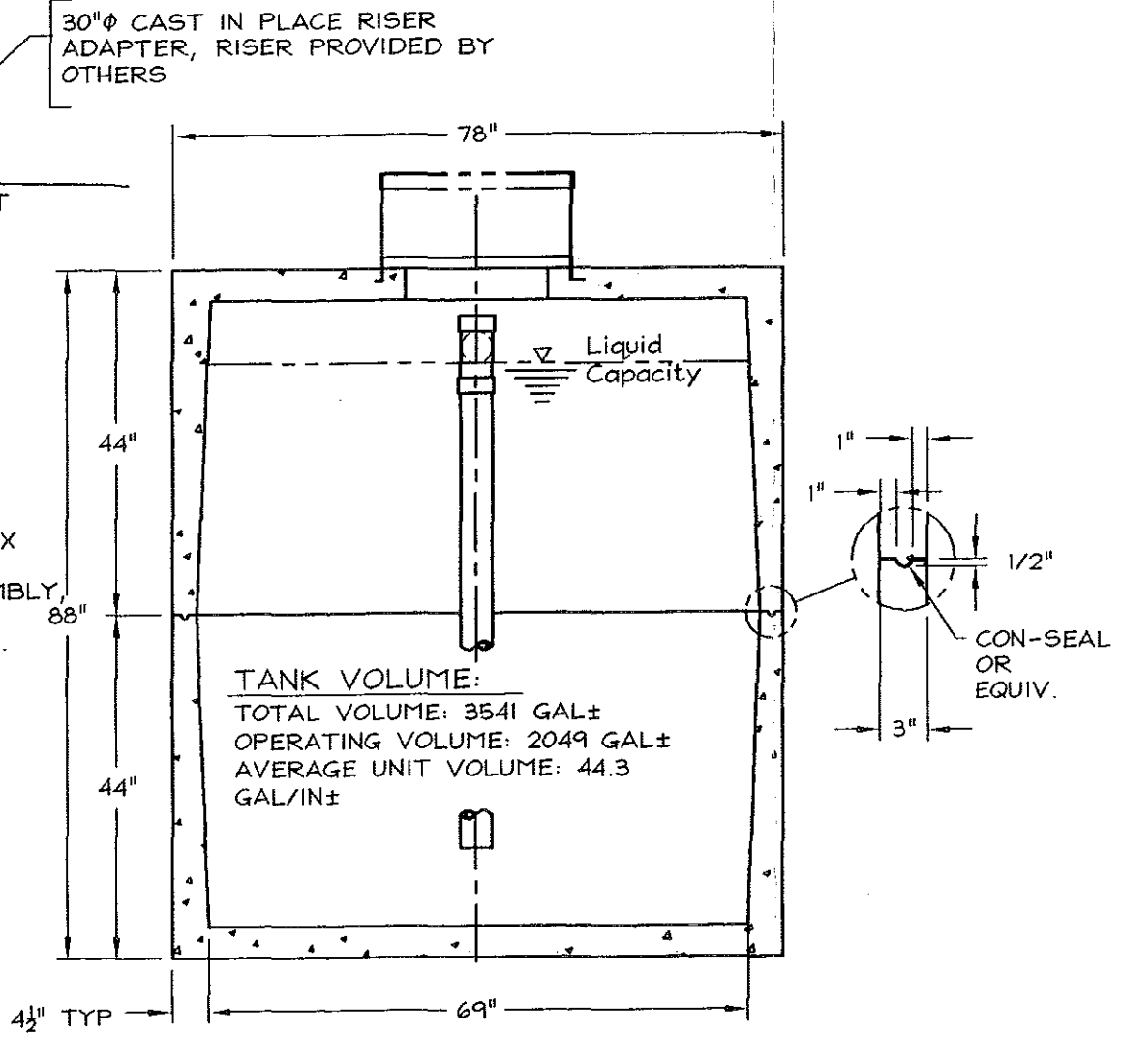
TOP VIEW

- GENERAL NOTES:**
1. Vertical design live load: 300 psf plus 2,500# wheel load.
 2. Horizontal design live load: 80 pcf fluid pressure from soil and water with tank empty.
 3. Concrete: $f'_c = 4,500$ psi.
 4. Reinforcing steel: ASTM A-615 deformed bars, Grade 60, $f_y = 60,000$ 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 half 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.
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 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 nipple fitting, cast in place w/ 4" ϕ rubber gasket, Del Zotto or equivalent.
 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 seam to be sealed w/ Con-Seal or equivalent.

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



SECTION B-B

TANK VOLUME:
 TOTAL VOLUME: 3541 GAL±
 OPERATING VOLUME: 2049 GAL±
 AVERAGE UNIT VOLUME: 44.3 GAL/IN±

REVISIONS

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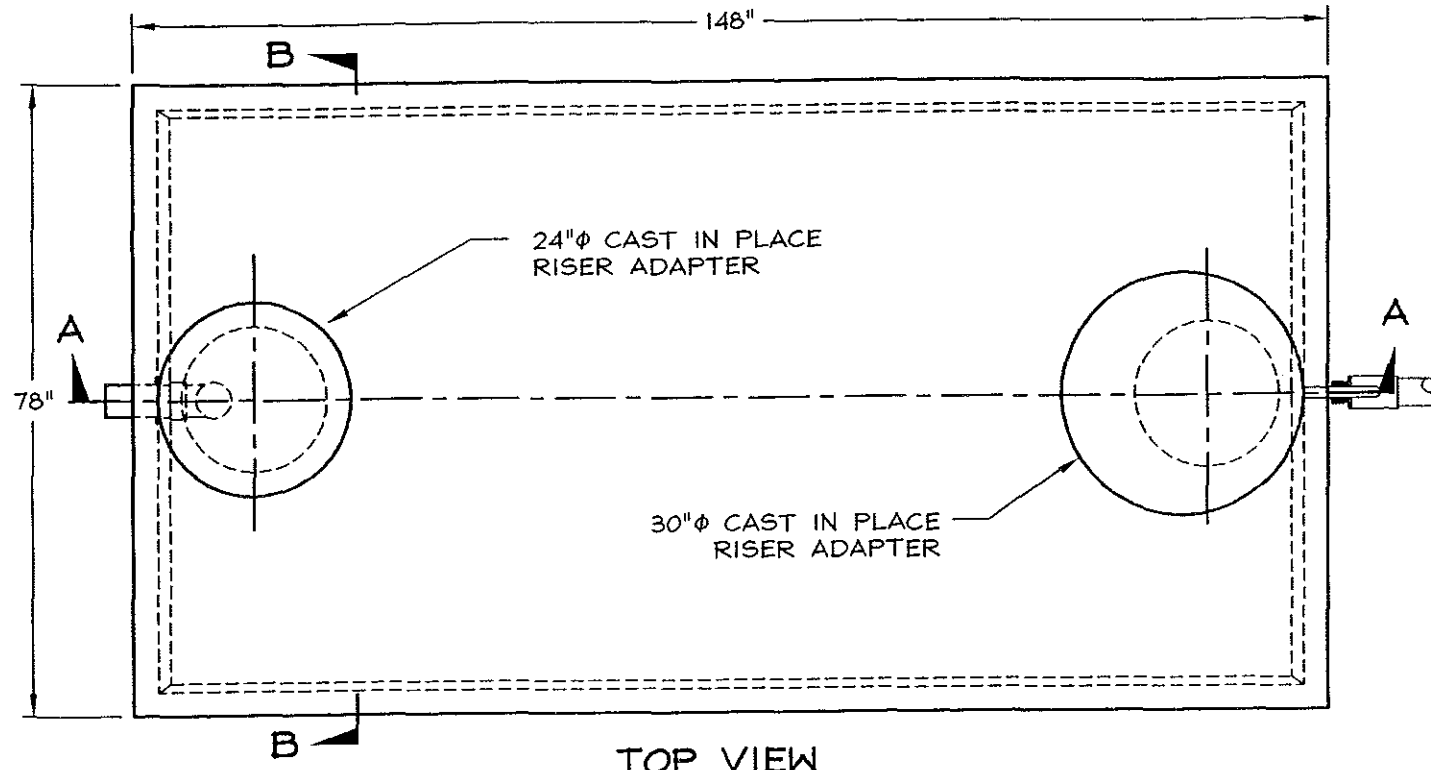
T.J. BOSSARD, INC.
 Civil & Structural Engineering
 133-N.W. "D" Street
 Grants Pass, OR. 97526
 TEL.: (541) 479-5774
 FAX: (541) 471-6084

PROFESSIONAL ENGINEER
 No. 12345
 State of Oregon
 EXPIRES 12-31-03

RIVERSIDE READY MIX INC.
 3000 GALLON DOSING TANK W/ PUMP

591 SE MILL STREET
 GRANTS PASS, OREGON 97526

DRAWN BY: D. B.
 CHECKED BY: _____
 DATE: 7/29/03
 SCALE: 1/2" = 1'-0"
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 JOB NO.: 03-046
 SHEET

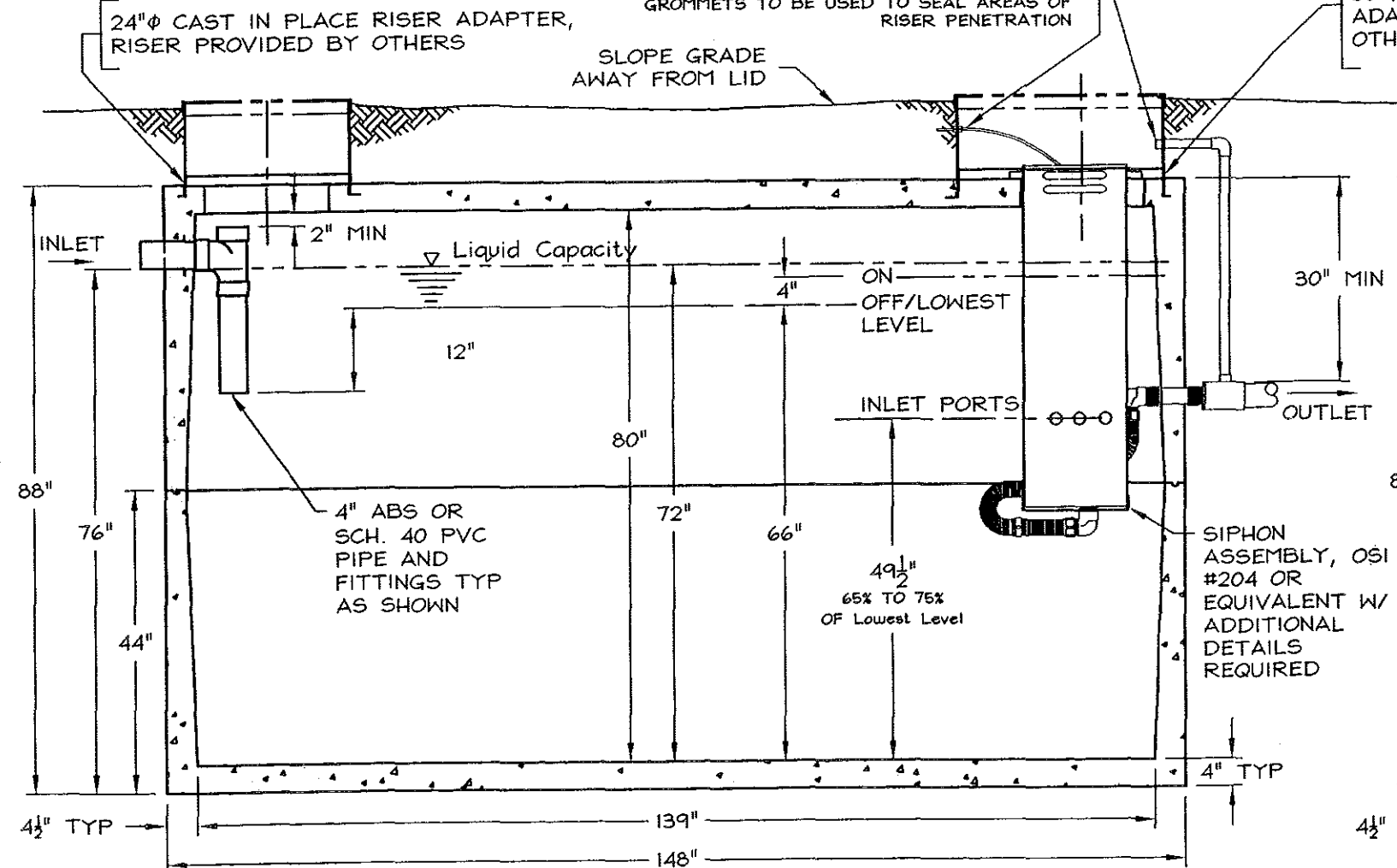


TOP VIEW

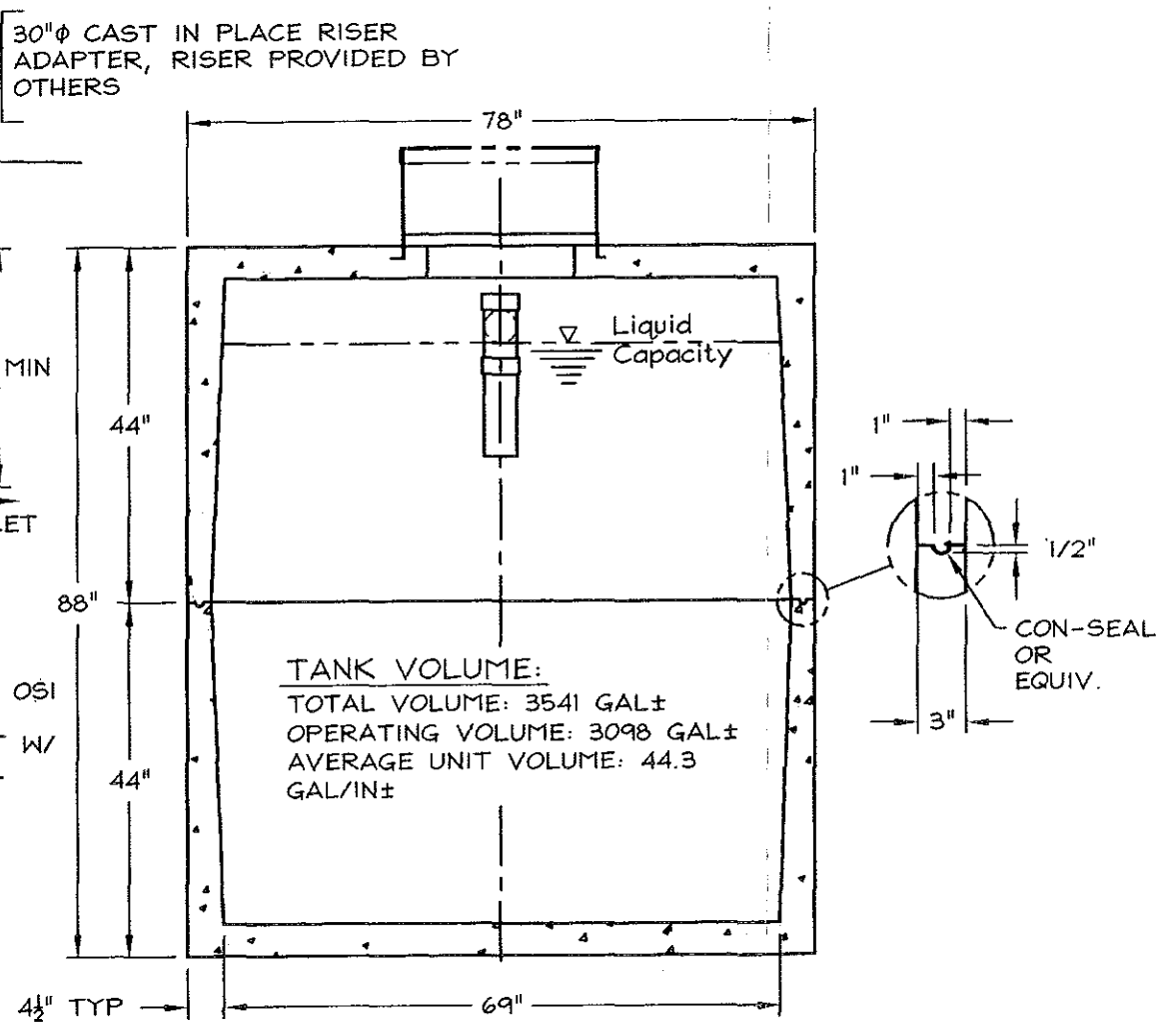
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CONTRACTOR TO INSURE PLACEMENT OF ALL FITTINGS & ELECTRICAL EQUIPMENT SUCH THAT THE PUMP VAULT IS EASILY REMOVABLE. GROMMETS TO BE USED TO SEAL AREAS OF RISER PENETRATION



SECTION A-A

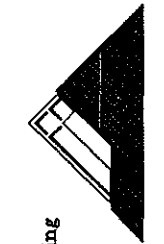


SECTION B-B

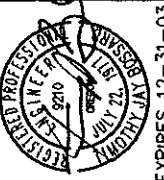
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REVISIONS

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T.J. BOSSARD, INC.
 Civil & Structural Engineering
 128 N.W. "D" Street
 Grants Pass, OR. 97528
 TEL : (541) 479-5774
 FAX : (541) 471-6084



RIVERSIDE READY MIX INC.
 3000 GALLON DOSING TANK W/ SIPHON
 531 SE MILL STREET
 GRANTS PASS, OREGON 97526

DRAWN BY D. B.
 CHECKED BY :
 DATE : 7/29/03
 SCALE : 1/2" = 1'-0"
 CADD FILE : 03046-PS
 JOB NO. : 03-046
 SHEET