



# Oregon

John A. Kitzhaber, MD, Governor

Department of Environmental Quality  
Western Region Eugene Office  
165 East 7th Avenue, Suite 100  
Eugene, OR 97401  
(541) 686-7838  
FAX (541) 686-7551  
TTY 711

January 6, 2012

Anastasia O'Hara  
Norwesco, Inc.  
PO Box 439  
St. Bonifacius, Minnesota 55357

RE: Low Profile Septic Tank Approvals

The Oregon Department of Environmental Quality (Department) has received plans, specifications and other associated materials you provided for septic tanks manufactured by your company. This letter is to inform you the following tanks can be installed in the State of Oregon, based on your certification that they comply with all applicable Department rules and regulations:

- 1000 gallon low profile septic tank-Norwesco Part # 43496
- 1000 gallon low profile septic tank-Snyder Industries Part # 1006800w95301
- 1250 gallon low profile septic tank- Norwesco Part #43497
- 1250 gallon low profile septic tank-Snyder Industries Part # 1006900w95301
- 1500 gallon low profile septic tank-Norwesco Part # 43498
- 1500 gallon low profile septic tank-Snyder Industries Part # 1007000w95301

Parkin Engineering Inc. was the engineering firm for all plans submitted. These plans were stamped by Britt Killian, P.E. on December 20, 2011. The plans, specifications and installation manuals are enclosed with this letter. Roth Norwesco Inc. and Snyder Industries is authorized to manufacture and distribute the above-mentioned tanks for use in onsite wastewater treatment systems in Oregon until further notice, provided 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 deviations from the plans and specifications approved January 6, 2012 are not permitted unless authorized in writing by the Department.
2. The minimum burial depth to the top of the tank in soil terrain is six (6) inches. The minimum burial depth to the top of the tank in rock terrain is twelve (12) inches.
3. The maximum burial depth is thirty-six (36) inches above the top of the tank.
4. Anti-Buoyancy countermeasures are required where saturated soils or seasonal high water tables are indicated between the bottom of the tank and the ground surface.

5. Each tank listed above must be manufactured to meet the structural specifications described in the plans and are only acceptable for use at locations where top loading will not exceed the engineering design parameters. Tanks proposed for use at other locations require an engineering analysis of the potential top loading, and may require preparation of site specific plans and specifications.
6. It is the responsibility of Norwesco Inc. and Snyder Industries to ensure that each tank delivered to the construction site is watertight. Each tank must be water-tight tested in accordance with Oregon Administrative Rule (OAR) 340-073-0025(3) after complete installation at the job site.
7. Norwesco Inc. and Snyder Industries are required to deliver to each purchaser, a complete tank, including tees, gaskets, risers and lids.
8. It should be clear to each purchaser what type of traffic loads the tank can withstand. The tank is to be located in an area where the engineering parameters used in the design are not exceeded.
9. An installation manual, on waterproof paper or equivalent, must be provided with each tank. The manual must describe how to properly install the tank, how to properly connect the risers, gaskets, covers, and pipes, and outline testing procedures, tank backfill, and any other special precautions and limitations.
10. Tank Identification markings must be located on the uppermost surface of the tank at the outlet end of the tank. The tank identification markings must include the liquid capacity, date of manufacture (month/day/year), minimum and maximum burial depth limits and either the manufactures business name or use and identification number assigned by the Department. The identification number assigned to Norwesco, Inc. is 1810. The identification number assigned to Snyder Industries Inc. is 980.

This determination should not be construed in any way as the Department's endorsement of this product or any advertising. Moreover, the Department is not responsible for any situation which may result in use or mis-application of your product.

If you have any questions about this letter, please feel free to contact Dan Wiltse at (541) 687-7436, or by email, ([wiltse.daniel@deq.state.or.us](mailto:wiltse.daniel@deq.state.or.us)).

Sincerely,



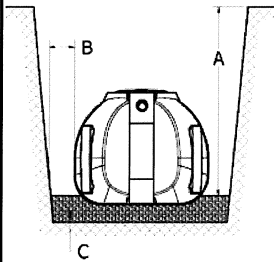
Michael E. Kucinski, Manager  
Water Quality/Onsite

Enclosures:           Approved Plans/Approved Installation Guide  
Electronic copies:   All Contract County Offices (w/encl.)  
                              DEQ Direct Service Offices (w/encl.)



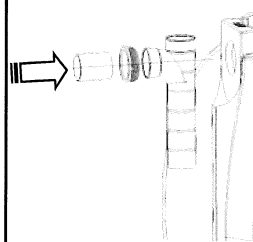
## Low Profile Underground Tank Installation Instructions

### 1. EXCAVATION



- A.** Excavate to a depth that will provide a minimum of 6" and maximum of 36" of cover over the top of the tank.
- B.** Allow 18" to 24" on both sides and both ends of the tank.
- C.** Prepare the tank bed. Preferred bedding material is well-packed sand — 6" minimum in soil terrain, 12" minimum in rock terrain. Native soil can be used if it is flowable, compactable, rock free, and can provide uniform support in the recessed rib areas. The tank should be installed level.

### 2. SEPTIC TANK CONNECTIONS

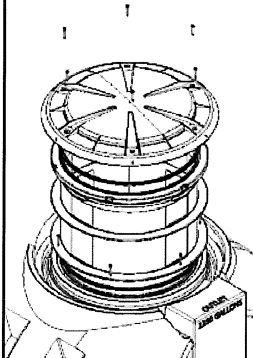


- A.** Low Profile septic tanks are provided with 4" PVC sanitary tees and rubber gaskets for the inlet and outlet.
- B.** All pipes should be chamfered and gaskets lubricated.
- C.** Install gasket from the outside of the tank as shown in the diagram. From outside of the tank, push the pipe into the gasket.
- D.** Inlet and outlet piping should be solvent welded to sanitary tees.
- E.** Note the direction of flow. The outlet is lower than inlet and all tanks are marked accordingly.

### 3. WATER-TIGHT TESTING INSTRUCTIONS

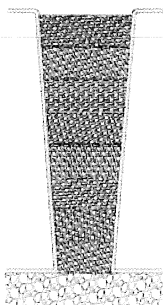
- A.** After backfilling, block inlet and outlet and continue to fill with water to a level at least 2 inches above the point of the manhole extension connection to the top of the tank.
- B.** The leakage over 24 hours must be less than one gallon.

### 4. MANHOLE EXTENSIONS



- A.** Install manhole extensions and/or lid risers **before** you backfill.
- B.** Manhole extensions are supplied with gaskets and screws.
- C.** Install screws as shown in the diagram around the circumference of the base of the extension.
- D.** Be sure that the self-tapping screws seat squarely into the tank.

### 5.



- A.** Backfill around tank with 12" layers and compact each layer. Always compact ends first.
- B.** Each of the interior support columns must be filled with free-flowing fill and compacted in 6" layers. The columns must have the soil compacted to provide structural support. See diagram.
- C.** Be sure to compact soil under inlet and outlet piping.
- D.** Minimum backfill depth is 6". Maximum backfill depth is 36".
- E.** Mound soil over the top of the tank to direct surface water away from the tank.

### 6. BACKFILL MATERIALS

- A.** Free flowing native soil can be used as backfill. All fill must be free of any wood, masonry debris, or silt. Shrink/swell clay soils should be avoided as backfill material.
- B.** If the native soil is unsuitable, replace it with a free flowing, compactable material. A typical specification is 100% smaller than 1 1/2" and approximately 50% smaller than 1/4".
- C.** Sharp objects must not come into contact with the tank.

**APPROVED**

*By Oregon DEQ on January 06, 2012*

# CAUTION

*Failure to comply with the points below voids warranty.*

- A. Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 180 °F.
- B. Do not install any tank under the path of vehicles or heavy equipment. Low Profile tanks are not traffic rated.
- C. Do not leave Low Profile tanks empty for more than 24 hours.
- D. Low Profile septic tanks are designed only for use as underground tanks.
- E. Low Profile tanks are made of resins that meet FDA specifications.
- F. Protect the tank from sharp objects which could puncture it and cause leakage.
- G. Where saturated soil or seasonal high water tables are indicated between the bottom of the tank and the ground surface, see separate supplemental installation instructions for these site conditions. Supplemental instructions can be found on our website.

***Norwesco advises against the use of a plastic underground tank for any other uses!  
Such uses would void any Norwesco product warranty either stated or implied. In no event shall  
Norwesco be held liable for any consequential damages.***

---

## WARRANTY

The Norwesco underground tanks, when installed in accordance to manufacturer's instructions, are warranted against defective materials and/or workmanship for a full three (3) years from the date of manufacture. Should a defect appear within the warranty period, Norwesco will supply a new equivalent tank in replacement thereof. Norwesco's liability is limited to the value of the tank itself and specifically excludes the cost of installation and/or removal and consequential damages.

---



NORWESCO INC.

4365 Steiner Street  
P.O. Box 439  
St. Bonifacius, MN 55375-0439  
TEL (952) 446-1945 FAX (800) 874-2371  
[www.norwesco.com](http://www.norwesco.com)

**APPROVED**  
**By Oregon DEQ on January 06, 2012**

## Norwesco Low Profile /Snyder D2 Buoyancy Control

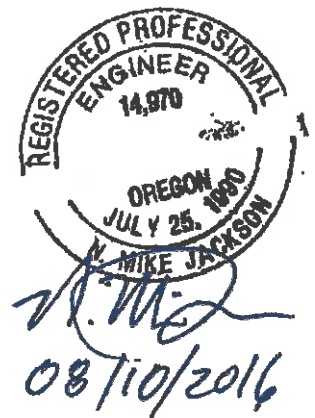
### 1. Determine if buoyancy control is needed.

Tanks must be installed per state and local codes. In some cases, those regulations may supersede this document. You need the following information:

- Height of seasonal water table above the bottom of the tank.
- Depth of soil cover over the top of the tank.

Use the table below to determine the amount of ballast required (if any).

Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1000 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		400	2100	3700	5400	7000	8700
9			600	2300	3900	5600	7200
12				800	2500	4100	5800
15		No Additional			1000	2700	4300
18			Ballast Weight			1200	2900
21				Required for			1400
24					Buoyancy Control		
27							
30							





Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1250 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		500	2500	4500	7000	8700	10700
9			750	2800	5000	7000	9000
12				1000	3000	5000	7000
15		No Additional			1200	3200	5300
18			Ballast Weight			1500	3500
21				Required for			1700
24					Buoyancy Control		
27							
30							

Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1500 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		600	3000	5300	7600	10000	12300
9			900	3200	5600	7900	10300
12				1200	3500	5900	8200
15		No Additional			1400	3800	6100
18			Ballast Weight			1700	4100
21				Required for			2000
24					Buoyancy Control		
27							
30							

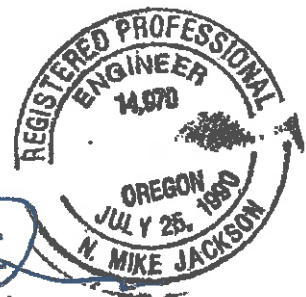
- Soil cover/backfill is assumed to be 110 pounds per cubic foot.
- Tank is assumed to be empty at critical buoyancy event.
- Calculations based on only one lid brought to grade.
- 1.5 Safety Factor used in calculations.

**NOTE:**

**Gray** = No additional ballast required.

**Yellow** = Indicates pounds of ballast required to prevent floatation.

**Red** = Installation not recommended.



*M. Jackson*  
08/10/2016

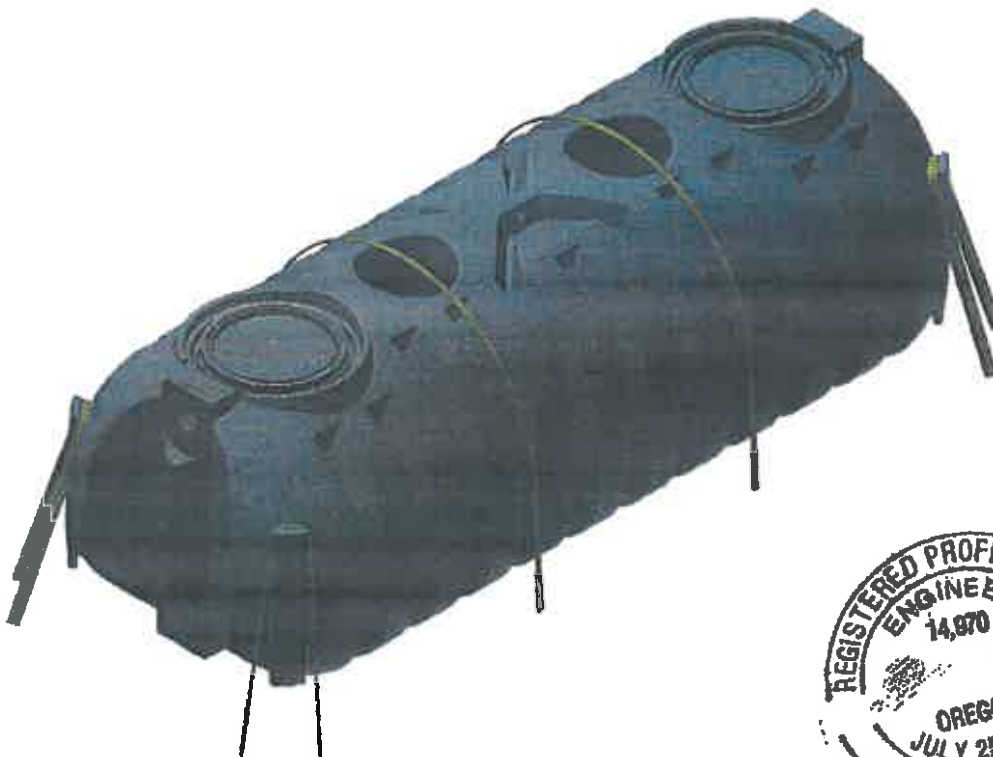
## 2. Method of Control

Tanks can be anchored by:

- a. Concrete dead men
  - a. Traffic Barriers
  - b. Pre-poured blocks
  - c. Parking Bumpers
- b. Helical anchors

## 3. Implementation of Control

- a. Tank should be anchored down with 10,000 lb. rated capacity ratchet straps.
  - i. One looped around each corner tie down lug and one centered over the top of each column. (See attached drawing).
  - ii. 1000: 5 straps (1 on each lug + 1 centered over column)
  - iii. 1250: 6 straps (1 on each lug + 1 centered over each of the 2 columns)
  - iv. 1500: 6 straps (1 on each lug + 1 centered over each of the 2 columns)



*N. Mike Jackson*

08/10/2016

# Norwesco Low Profile /Snyder D2 Buoyancy Control

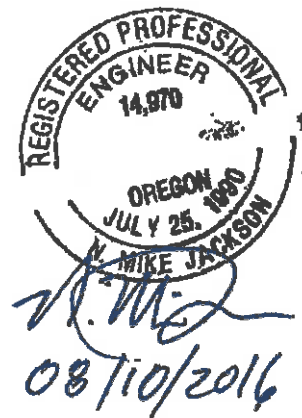
## 1. Determine if buoyancy control is needed.

Tanks must be installed per state and local codes. In some cases, those regulations may supersede this document. You need the following information:

- Height of seasonal water table above the bottom of the tank.
- Depth of soil cover over the top of the tank.

Use the table below to determine the amount of ballast required (if any).

Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1000 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		400	2100	3700	5400	7000	8700
9			600	2300	3900	5600	7200
12				800	2500	4100	5800
15		No Additional			1000	2700	4300
18			Ballast Weight			1200	2900
21				Required for			1400
24					Buoyancy Control		
27							
30							





Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1250 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		500	2500	4500	7000	8700	10700
9			750	2800	5000	7000	9000
12				1000	3000	5000	7000
15		No Additional			1200	3200	5300
18			Ballast Weight			1500	3500
21				Required for			1700
24					Buoyancy Control		
27							
30							

Soil Cover Provided Over Top of the Tank (Inches)	Norwesco 1500 Gallon Low Profile Tank: Additional Ballast Weight Required (lbs) for Buoyancy Control at the Noted Groundwater Rise Above the Base of the Tank (feet)						
	0.5'	1.0'	1.5'	2.0'	2.5'	3.0'	3.5'
6		600	3000	5300	7600	10000	12300
9			900	3200	5600	7900	10300
12				1200	3500	5900	8200
15		No Additional			1400	3800	6100
18			Ballast Weight			1700	4100
21				Required for			2000
24					Buoyancy Control		
27							
30							

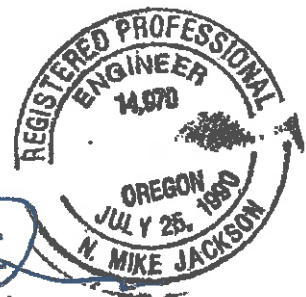
- Soil cover/backfill is assumed to be 110 pounds per cubic foot.
- Tank is assumed to be empty at critical buoyancy event.
- Calculations based on only one lid brought to grade.
- 1.5 Safety Factor used in calculations.

**NOTE:**

**Gray** = No additional ballast required.

**Yellow** = Indicates pounds of ballast required to prevent floatation.

**Red** = Installation not recommended.



*M. Jackson*  
08/10/2016

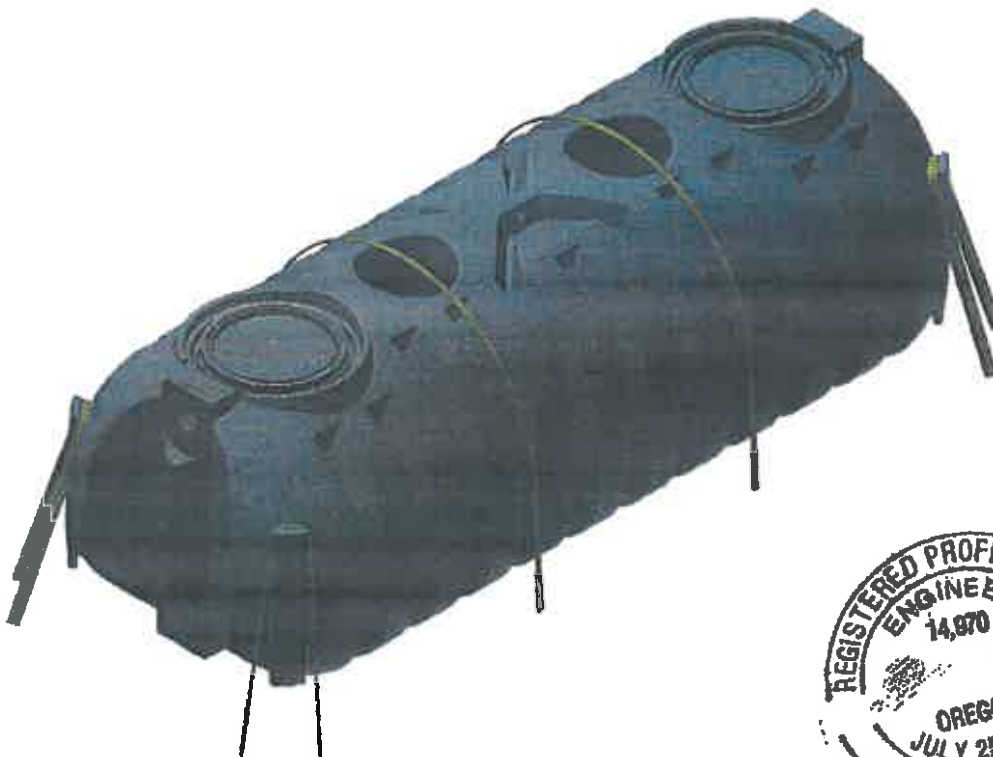
## 2. Method of Control

Tanks can be anchored by:

- a. Concrete dead men
  - a. Traffic Barriers
  - b. Pre-poured blocks
  - c. Parking Bumpers
- b. Helical anchors

## 3. Implementation of Control

- a. Tank should be anchored down with 10,000 lb. rated capacity ratchet straps.
  - i. One looped around each corner tie down lug and one centered over the top of each column. (See attached drawing).
  - ii. 1000: 5 straps (1 on each lug + 1 centered over column)
  - iii. 1250: 6 straps (1 on each lug + 1 centered over each of the 2 columns)
  - iv. 1500: 6 straps (1 on each lug + 1 centered over each of the 2 columns)



*N. Mike Jackson*

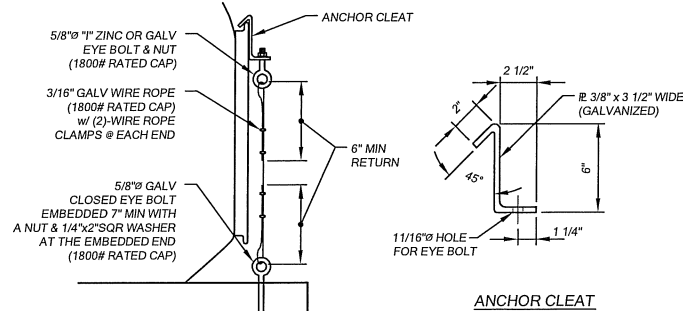
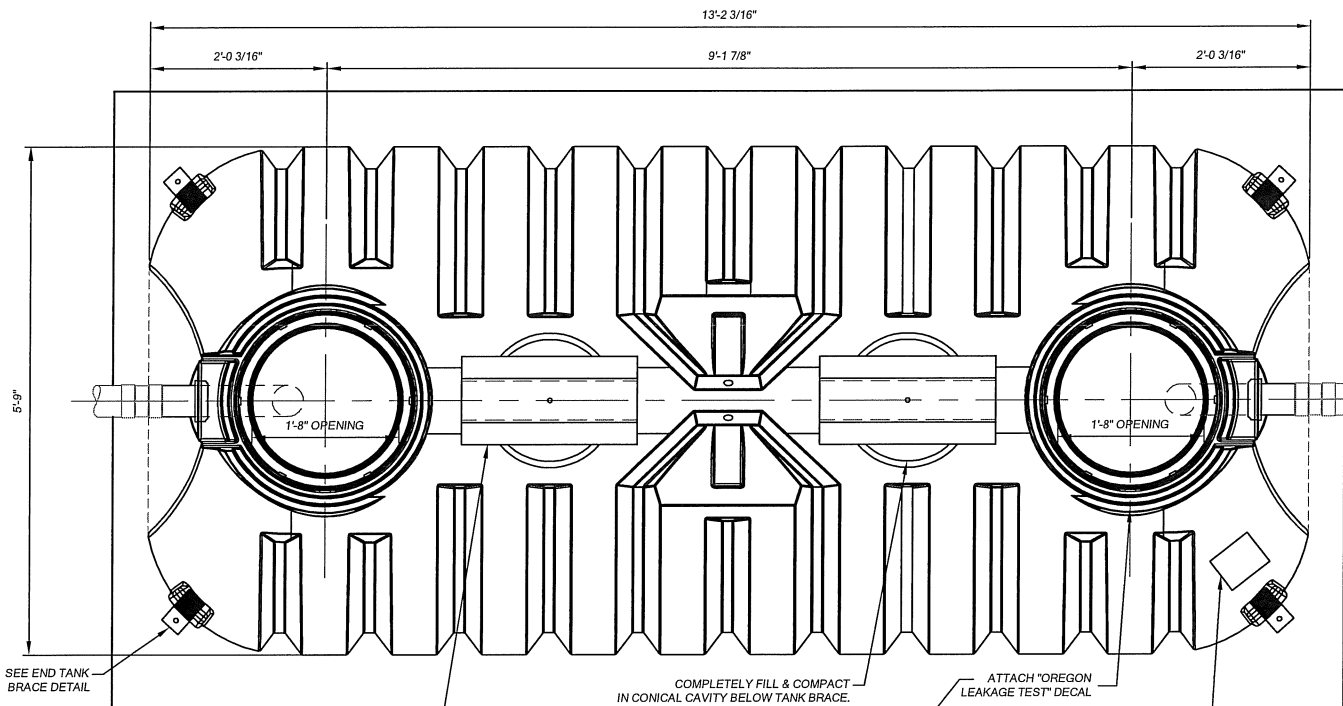
08/10/2016



APPROVED

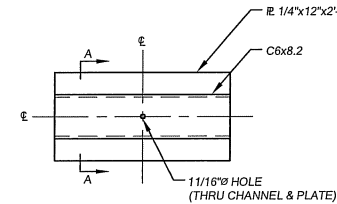
By Oregon DEQ on January 06, 2012

TOP VIEW



\*END TANK BRACE

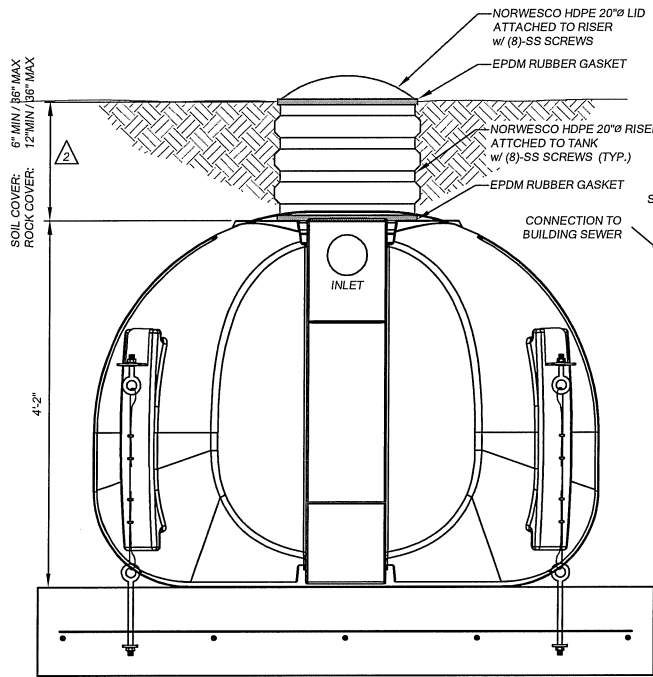
SCALE: NONE



\*MID TANK BRACE

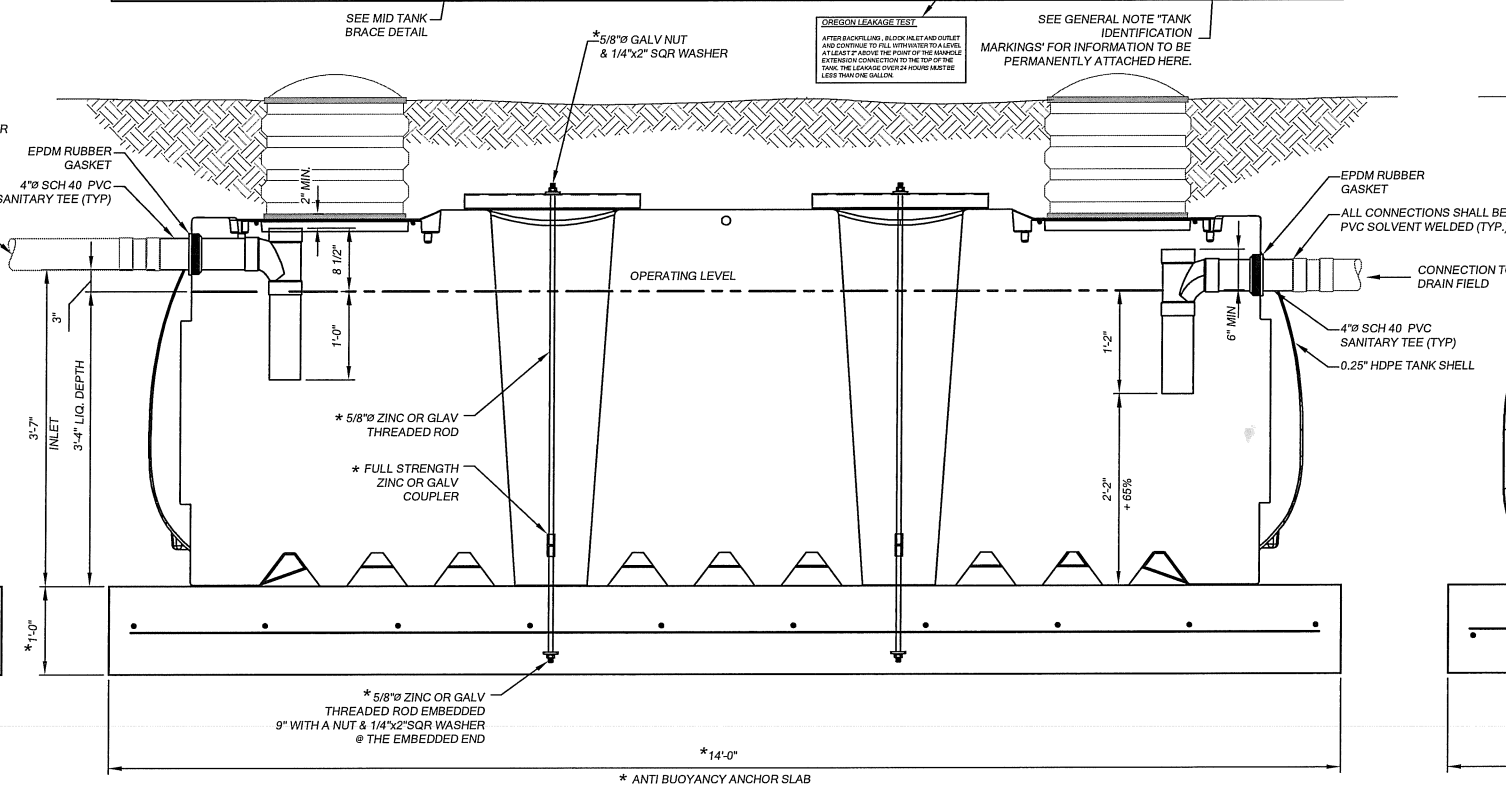
SCALE: NONE

NOTE:  
HOT DIP GALVANIZE THE BRACE ASSEMBLY  
AFTER FABRICATION TO ASTM 123

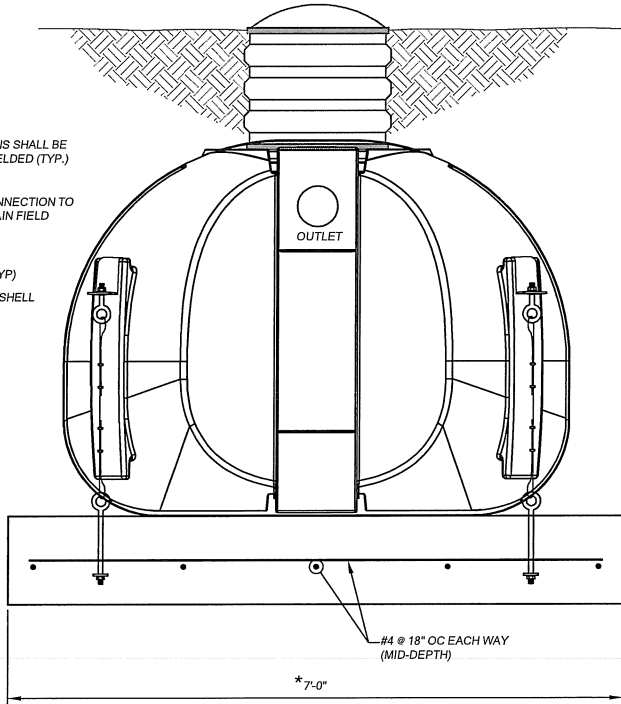


INLET END VIEW

SCALE: 1" = 1'-0"



TANK SECTION VIEW



OUTLET END VIEW

## GENERAL NOTES

### TANK PROPERTIES

TOTAL VOLUME: 1,743 gal ±  
AVG. VOL/DEPTH: 37.6 gal/in  
VOLUME: 1617 gal ± (BELOW INLET INVERT)  
LIQUID VOLUME: 1,504 gal ± (BELOW OUTLET INVERT)  
SCUM STORAGE = 1743 - 1504 = 239 gal (15.9%)

### MATERIAL

MOLDED TANK & COMPONENTS:  
HIGH DENSITY POLYETHYLENE (HDPE)  
STEEL COMPONENTS OF THE COUNTER BUOYANCY SYSTEM:  
THREADED RODS & BOLTS: ASTM A307  
STEEL PLATE: ASTM A36  
STEEL ANCHOR CHANNEL: ASTM A36  
WIRE ROPE: ASTM 1007-07

CONCRETE:  
MIN 28 DAY COMPRESSIVE STRENGTH OF 2500PSI (F<sub>c</sub> 2500PSI)

### DESIGN LOADS

TANK TOP: 360psf or 2500 WHEEL  
TANK WALL & BOTTOM: 62.4 PCF HYDROSTATIC  
SOIL COVER: 6" MIN  
SOIL LOAD: 120 PCF

## CONSTRUCTION NOTES

1. MOLDING SHALL BE CONTROLLED TO ENSURE WATERTIGHTNESS.

### TANK IDENTIFICATION MARKINGS

MARK EACH TANK LID OVER OUTLET WITH:  
LIQUID CAPACITY: 1,500 GALLONS  
MINIMUM BURIAL DEPTH: 6" MIN - SOIL TERRAIN  
12" MIN - ROCK TERRAIN  
MAXIMUM WHEEL LOAD: 2500 POUNDS  
DATE OF MANUFACTURE:  
MFG. NUMBER:  
NORWESCO, INC., ST BONIFACIUS, MN

### TEST

TANKS SHALL BE TESTED & CERTIFIED WATERTIGHT AFTER INSTALLATION  
PER OREGON ADMINISTRATIVE RULES 340-73-0025 (3)

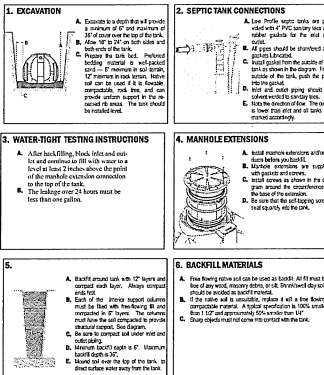
OAR 340-73-0025(3) STATES THAT AFTER INSTALLATION, ALL TANKS MUST BE TESTED WATERTIGHT. THE INSTALLER MUST TEST EACH TANK FOR WATERTIGHTNESS BY FILLING THE TANK TO AT LEAST 2" ABOVE THE POINT OF RISER CONNECTION TO THE TOP OF THE TANK. DURING THE TEST THERE MAY BE NO MORE THAN ONE GALLON LEAKAGE OVER A 24 HR PERIOD.

## ANTI BUOYANCY NOTES

\* 1. ANTI BUOYANCY ANCHORAGE AND CONCRETE BASE SLAB ARE SHOWN ON THE PLAN BUT ARE ONLY NECESSARY WHEN SATURATED SOIL OR SEASONAL HIGH WATER TABLES ARE EXPECTED TO RISE TO A LEVEL BETWEEN THE BOTTOM OF THE TANK AND THE GROUND SURFACE.

## NORWESCO

### Low Profile Underground Tank Installation Instructions



## CAUTION

Failure to comply with the points below voids warranty.

- Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 150 °F.
- Do not install any tank under the path of vehicles or heavy equipment. Low Profile tanks are not for traffic.
- Do not leave Low Profile tanks empty for more than 24 hours.
- Low Profile septic tanks are designed only for use as underground tanks.
- Low Profile tanks are made of resins that meet FDA specifications.
- Protect the tank from sharp objects which could puncture it and cause leakage.
- Where saturated soil or seasonal high water tables are indicated between the bottom of the tank and the ground surface, use separate supplemental installation instructions for these conditions. Supplemental instructions can be found on our website.

Norwesco advises against the use of a plastic underground tank for any other use!  
Such uses would void any Norwesco product warranty either stated or implied. In no event shall Norwesco be held liable for any consequential damages.

### WARRANTY

The Norwesco underground tanks, when installed in accordance to manufacturer's instructions, are warranted against defective materials and workmanship for a 10 year (10 years) from the date of manufacture. Should a defect appear within the warranty period, Norwesco will supply a new equivalent tank to replace the tank. Norwesco's liability is limited to the cost of the tank and specifically excludes the cost of installation or any other removal and consequential damages.

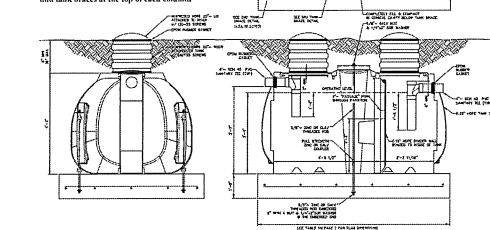
## NORWESCO

NORWESCO INC.  
4055 Snyder Street  
P.O. Box 425  
St. Bonifacius, MN 55575-0425  
TEL: (763) 464-9141 FAX: (763) 464-8731  
WWW.NORWESCO.COM

## NORWESCO

### Low Profile Underground Tank Counter Buoyancy Instructions

- These instructions are a supplement to the general installation instructions included with the tank.
- Check with your local authorities to ensure code compliance in your area.
- Specific details of individual components are on page 2 of this document.
- This document applies to the 750, 1000, 1250, and 1500 gallon Norwesco Low Profile septic and cistern tanks.
- Note: 1250 and 1500 gallon tanks require two counter buoyancy bracing at the top of each column.



PARKIN ENGINEERING INC.  
CONSULTING AND STRUCTURAL ENGINEERING

14014 NE SALMON CREEK AVE.  
VANCOUVER, WA. 98686  
(360) 694-8378  
FAX (360) 694-3376

REVISIONS	DATE	SCALE	ENGINEER	DRAWN	CHECK	FILE
1	7/16/2010	BK	BK	SLMc	BK	1007000w65301
2	1/29/11	BK	BK	SLMc	BK	
3	3/10/11	BK	BK	SLMc	BK	
4	11/21/11	BK	BK	SLMc	BK	

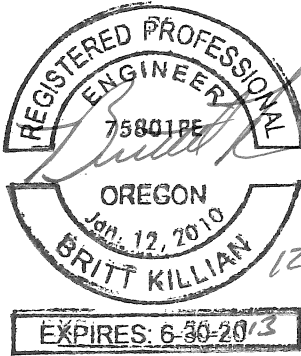
NORWESCO, INC. / SNYDER INDUSTRIES INC  
4365 STEINER STREET  
ST BONIFACIUS, MN 55575  
PO# 94099

1,500 GALLON SEPTIC TANK (LOW PROFILE)  
OREGON  
NORWESCO PART # (43498)  
SNYDER INDUSTRIES PART # (1007000w65301)

SHEET TITLE:  
TANK / SLAB  
LAYOUT & DETAILS

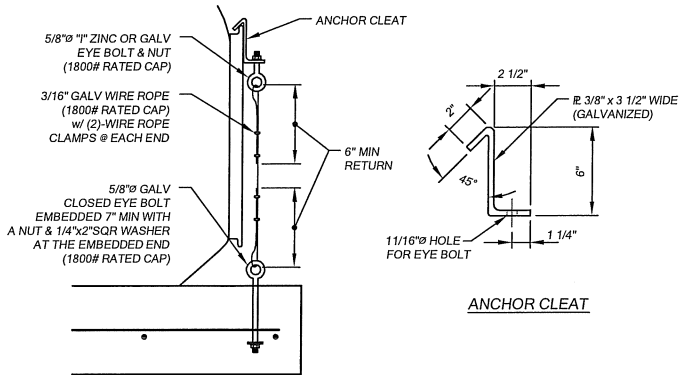
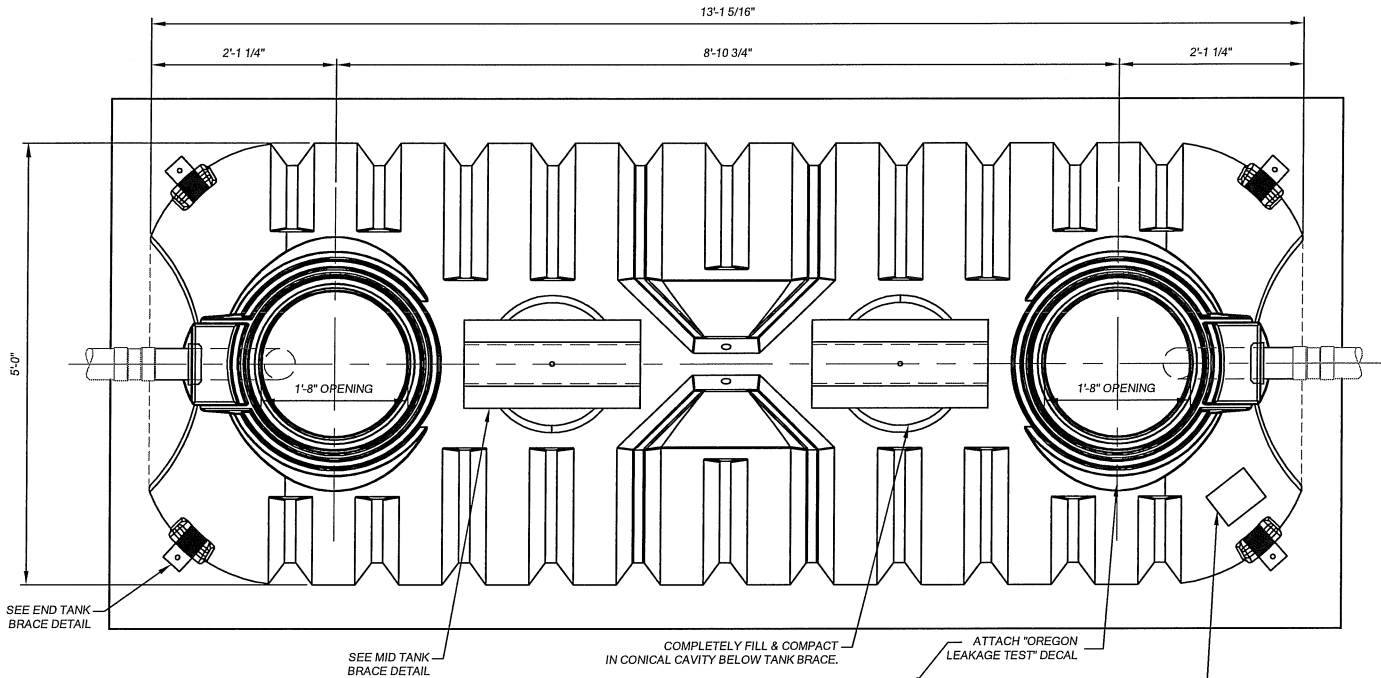
S2.3o





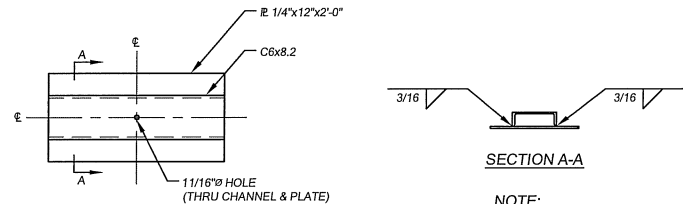
TOP VIEW

**APPROVED**  
By Oregon DEQ on January 06, 2012



**\*END TANK BRACE**

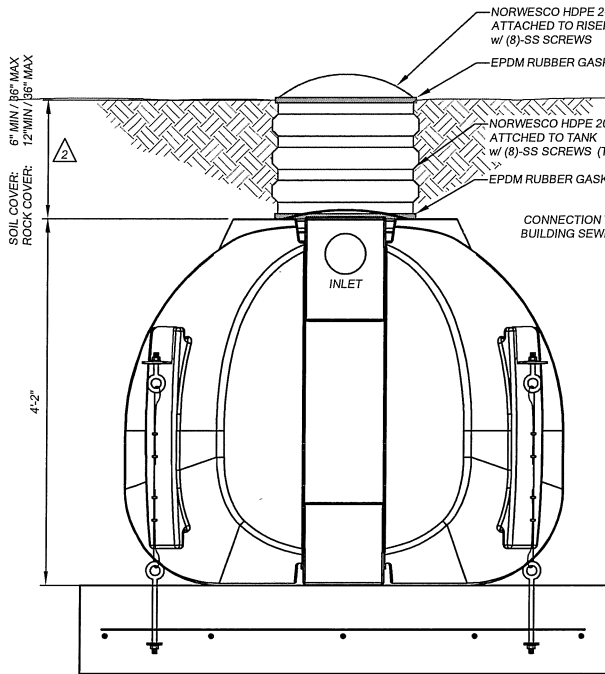
SCALE: NONE



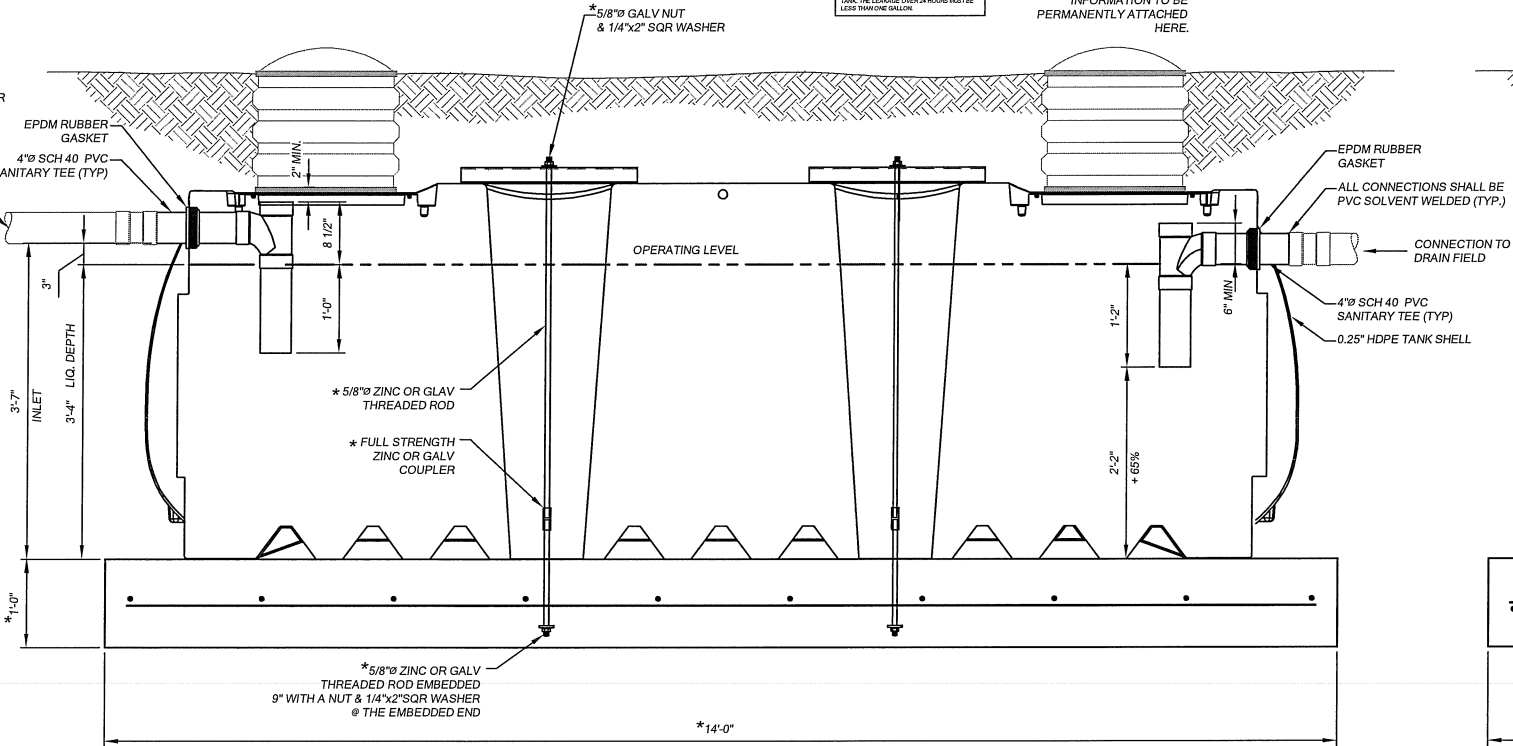
**\*MID TANK BRACE**

SCALE: NONE

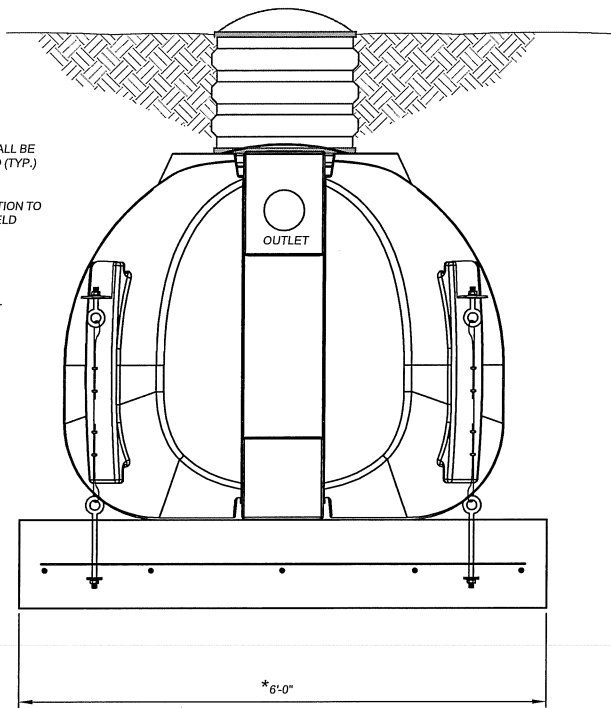
NOTE:  
HOT DIP GALVANIZE THE BRACE ASSEMBLY  
AFTER FABRICATION TO ASTM 123



INLET END VIEW



TANK SECTION VIEW



OUTLET END VIEW

SCALE: 1" = 1'-0"

**GENERAL NOTES**

**TANK PROPERTIES**

TOTAL VOLUME: 1,429 gal ±  
AVG. VOL/DEPTH: 31.6 gal/ft  
VOLUME: 1358 gal ± (BELOW INLET INVERT)  
LIQUID VOLUME: 1,263 gal ± (BELOW OUTLET INVERT)  
SCUM STORAGE = 1429 - 1263 = 166 gal (13.1%)

**MATERIAL**

MOLDED TANK & COMPONENTS:  
HIGH DENSITY POLYETHYLENE (HDPE)  
STEEL COMPONENTS OF THE COUNTER BUOYANCY SYSTEM:  
THREADED RODS & BOLTS: ASTM A307  
STEEL PLATE: ASTM A36  
STEEL ANCHOR CHANNEL: ASTM A36  
WIRE ROPE: ASTM 1007-07

CONCRETE: MIN 28 DAY COMPRESSIVE STRENGTH OF 2500PSI (F<sub>c</sub> 2500PSI)

**DESIGN LOADS**

TANK TOP: 360psf or 2500 WHEEL  
TANK WALL & BOTTOM: 62.4 PCF HYDROSTATIC  
SOIL COVER: 6" MIN  
SOIL LOAD: 120 PCF

**CONSTRUCTION NOTES**

1. MOLDING SHALL BE CONTROLLED TO ENSURE WATERTIGHTNESS.

**TANK IDENTIFICATION MARKINGS**

MARK EACH TANK LID OVER OUTLET WITH:  
LIQUID CAPACITY: 1,250 GALLONS  
MINIMUM BURIAL DEPTH: 6" MIN - SOIL TERRAIN  
12" MIN - ROCK TERRAIN  
2500 POUNDS  
DATE OF MANUFACTURE: \_\_\_\_\_  
MFG. NUMBER: \_\_\_\_\_  
NORWESCO, INC., ST BONIFACIUS, MN

**TEST**

TANKS SHALL BE TESTED & CERTIFIED WATERTIGHT AFTER INSTALLATION  
PER OREGON ADMINISTRATIVE RULES 340-73-0025 (3)

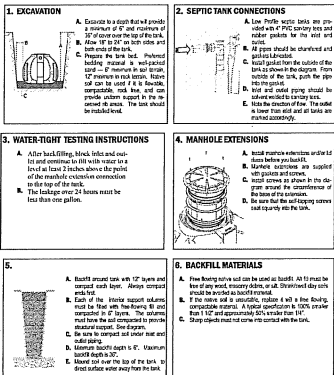
OAR 340-73-0025(3) STATES THAT AFTER INSTALLATION, ALL TANKS MUST BE TESTED WATERTIGHT. THE INSTALLER MUST TEST EA, TANK FOR WATERTIGHTNESS BY FILLING THE TANK TO AT LEAST 2" ABOVE THE POINT OF RISER CONNECTION TO THE TOP OF THE TANK. DURING THE TEST THERE MAY BE NO MORE THAN ONE GALLON LEAKAGE OVER A 24 HR PERIOD.

**ANTI BUOYANCY NOTES**

1. ANTI BUOYANCY ANCHORAGE AND CONCRETE BASE SLAB ARE SHOWN ON THE PLAN BUT ARE ONLY NECESSARY WHEN SATURATED SOIL OR SEASONAL HIGH WATER TABLES ARE EXPECTED TO RISE TO A LEVEL BETWEEN THE BOTTOM OF THE TANK AND THE GROUND SURFACE.



**Low Profile Underground Tank Installation Instructions**



**CAUTION**

Failure to comply with the points below voids warranty.  
A. Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 180 °F.  
B. Do not install any tank under the path of vehicles or heavy equipment. Low Profile tanks are not traffic rated.  
C. Do not leave Low Profile tanks empty for more than 24 hours.  
D. Low Profile septic tanks are designed only for use as underground tanks.  
E. Low Profile tanks are made of resins that meet FDA specifications.  
F. Protect the tank from sharp objects which could puncture it and cause leakage.  
G. Where saturated soil or seasonal high water tables are indicated between the bottom of the tank and the ground surface, use separate supplemental installation instructions for these site conditions.  
Supplemental instructions can be found on our website.

Norwesco advises against the use of a plastic underground tank for any other use!  
Such uses would void any Norwesco product warranty either stated or implied. In no event shall Norwesco be held liable for any consequential damages.

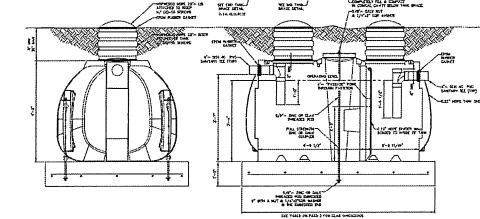


NORWESCO INC.  
6300 Steiner Street  
P.O. Box 439  
St. Bonifacius, MN 55375-0439  
TEL (952) 446-1945 FAX (952) 446-2371



**Low Profile Underground Tank Counter Buoyancy Instructions**

1. These instructions are a supplement to the general installation instructions included with the tank.  
2. Check with your local sanitation to ensure code compliance in your area.  
3. Specific details of individual components are on page 2 of this document.  
4. This document applies to the 750, 1000, 1250, and 1500 gallon Norwesco Low Profile septic and cleanout tanks.  
5. Note: 1250 and 1500 gallon tanks require two ea. mid tank braces at the top of each column.



RENEWAL DATE: 6-30-2011	
<b>PARKIN ENGINEERING INC.</b> CONSULTING AND STRUCTURAL ENGINEERING	
(360) 694-8378 FAX (360) 694-3376	
14014 NE SALMON CREEK AVE. VANCOUVER, WA 98686	
DATE: 7/16/2010	FILE: 10D16064-S2.00
SCALE: BK	ENGINEER: BK
1/29/11 BK	3/10/11 SLMc
11/21/11 SLMc	11/21/11 SLMc
CHECK: BK	DRAFTER: SLMc
FILE: 10D16064-S2.00	CLIENT: NORWESCO, INC / SNYDER INDUSTRIES INC 4365 STEINER STREET ST BONIFACIUS, MN 55375 PC# 94009
PROJECT: 1,250 GALLON SEPTIC TANK (LOW PROFILE) OREGON NORWESCO PART # (43497) SNYDER INDUSTRIES PART # (1006900w95301)	SHEET TITLE: TANK / SLAB LAYOUT & DETAILS
<b>S2.2o</b>	

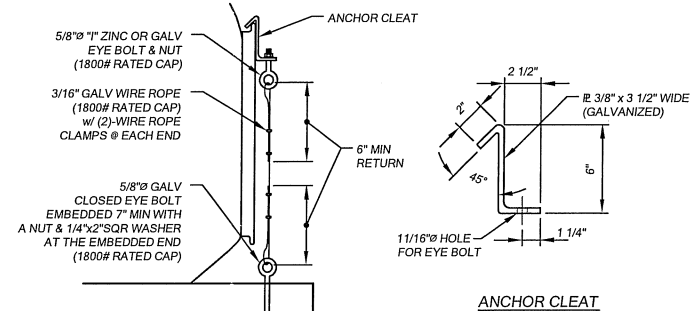
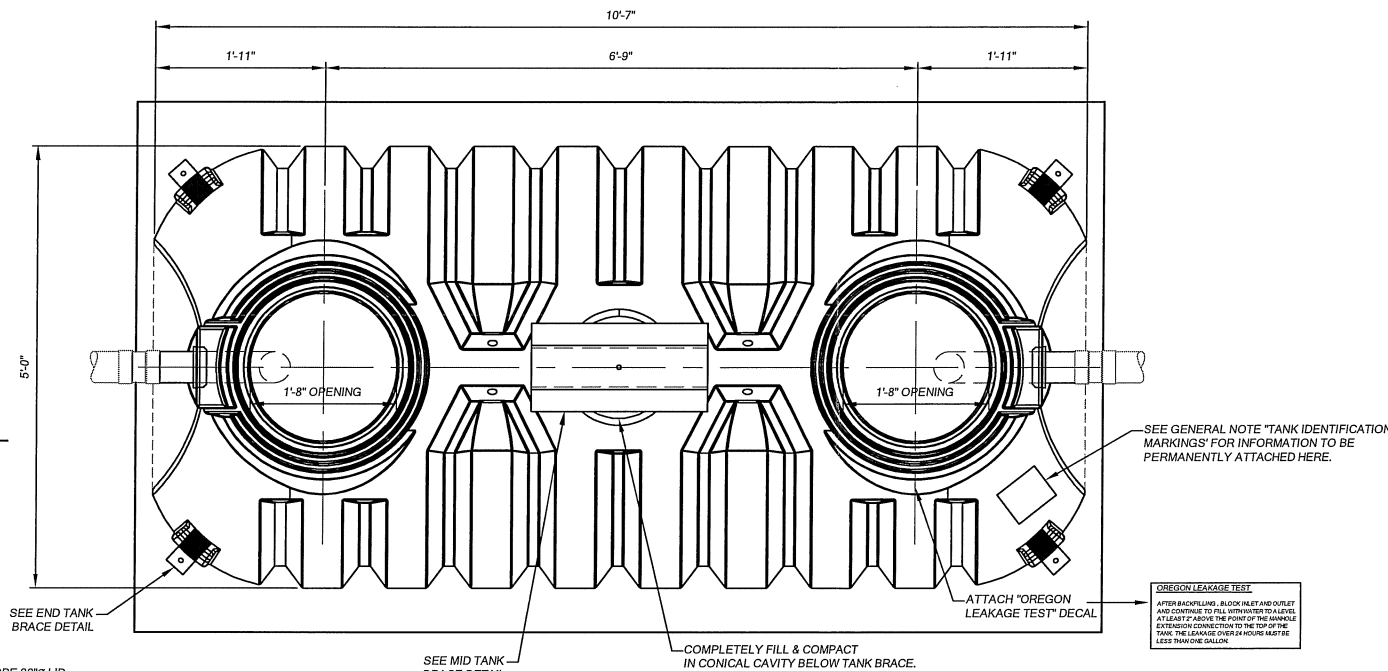


12-20-11

EXPIRES: 6-30-2013

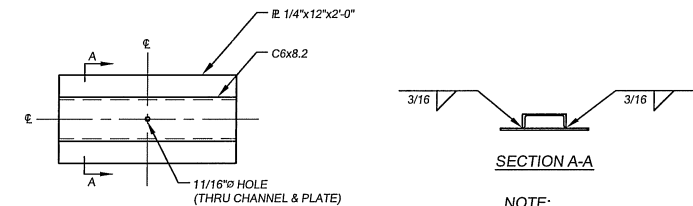
TOP VIEW

**APPROVED**  
By Oregon DEQ on January 06, 2012



\*END TANK BRACE

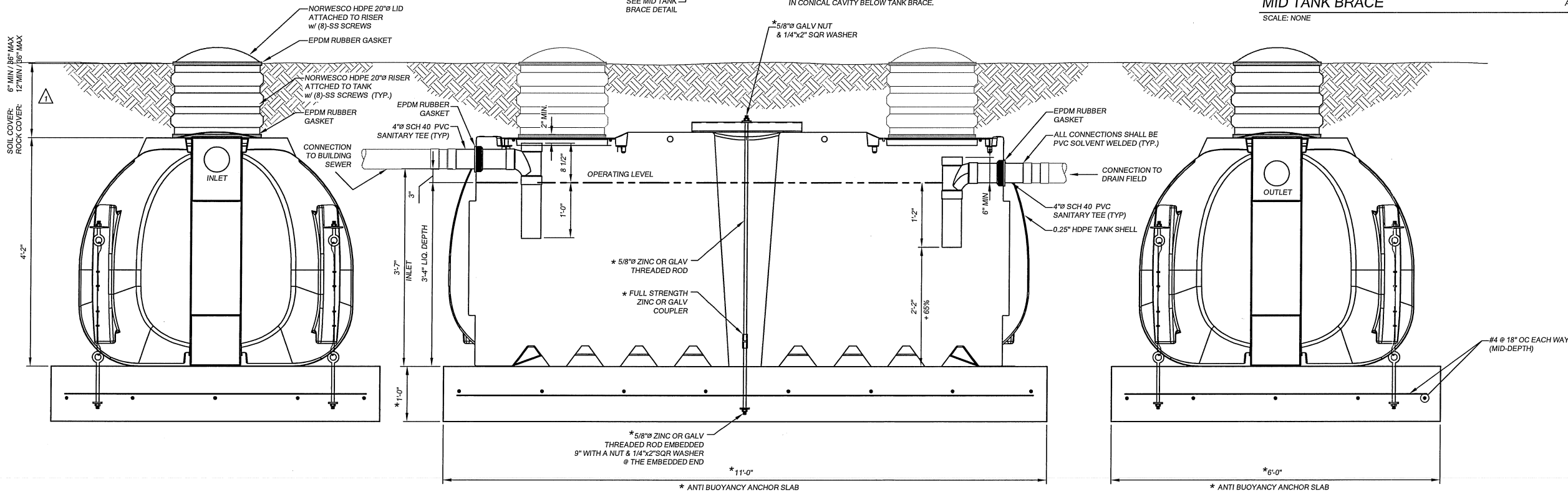
SCALE: NONE



\*MID TANK BRACE

SCALE: NONE

NOTE:  
HOT DIP GALVANIZE THE BRACE ASSEMBLY  
AFTER FABRICATION TO ASTM 123



INLET END VIEW

TANK SECTION VIEW

OUTLET END VIEW

SCALE: 1" = 1'-0"

## GENERAL NOTES

### TANK PROPERTIES

TOTAL VOLUME: 1,171 gal ±  
AVG. VOL./DEPTH: 25.5 gal/in  
VOLUME: 1078 gal ± (BELOW INLET INVERT)  
LIQUID VOLUME: 1,002 gal ± (BELOW OUTLET INVERT)  
SCUM STORAGE = 1171 - 1002 = 169 gal (16.8%)

### MATERIAL

MOLDED TANK & COMPONENTS:  
HIGH DENSITY POLYETHYLENE (HDPE)  
STEEL COMPONENTS OF THE COUNTER BUOYANCY SYSTEM:  
THREADED RODS & BOLTS: ASTM A307  
STEEL PLATE: ASTM A36  
STEEL ANCHOR CHANNEL: ASTM A36  
WIRE ROPE: ASTM 1007-07

CONCRETE: MIN 28 DAY COMPRESSIVE STRENGTH OF 2500PSI (F<sub>c</sub> 2500PSI)

### DESIGN LOADS

TANK TOP: 360psf or 2500 WHEEL  
TANK WALL & BOTTOM: 62.4 PCF HYDROSTATIC  
SOIL COVER: 8" MIN  
SOIL LOAD: 120 PCF

## CONSTRUCTION NOTES

1. MOLDING SHALL BE CONTROLLED TO ENSURE WATERTIGHTNESS.

### TANK IDENTIFICATION MARKINGS

MARK EACH TANK LID OVER OUTLET WITH:  
LIQUID CAPACITY: 1,000 GALLONS  
MINIMUM BURIAL DEPTH: 6" MIN - SOIL TERRAIN  
12" MIN - ROCK TERRAIN  
DATE OF MANUFACTURE:  
MFG. NUMBER: NORWESCO, INC., ST BONIFACIUS, MN

### TEST

TANKS SHALL BE TESTED & CERTIFIED WATERTIGHT AFTER INSTALLATION  
PER OREGON ADMINISTRATIVE RULES 340-73-0025 (3)

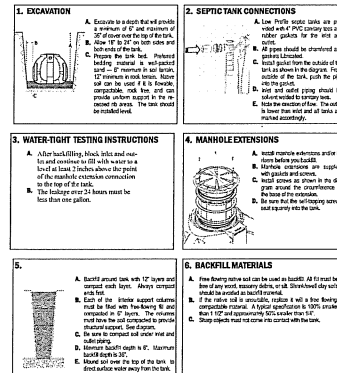
OR 340-73-0025(3) STATES THAT AFTER INSTALLATION, ALL TANKS MUST BE TESTED WATERTIGHT. THE INSTALLER MUST TEST EA. TANK FOR WATERTIGHTNESS BY FILLING THE TANK TO AT LEAST 2" ABOVE THE POINT OF RISER CONNECTION TO THE TOP OF THE TANK. DURING THE TEST THERE MAY BE NO MORE THAN ONE GALLON LEAKAGE OVER A 24 HR PERIOD.

## ANTI BUOYANCY NOTES

\* 1. ANTI BUOYANCY ANCHORAGE AND CONCRETE BASE SLAB ARE SHOWN ON THE PLAN BUT ARE ONLY NECESSARY WHEN SATURATED SOIL OR SEASONAL HIGH WATER TABLES ARE EXPECTED TO RISE TO A LEVEL BETWEEN THE BOTTOM OF THE TANK AND THE GROUND SURFACE.



### Low Profile Underground Tank Installation Instructions



## CAUTION

Failure to comply with the points below voids warranty.

- Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 180 °F.
- Do not install any tank under the path of vehicles or heavy equipment. Low Profile tanks are not traffic rated.
- Do not leave Low Profile tanks empty for more than 24 hours.
- Low Profile septic tanks are designed only for use as underground tanks.
- Low Profile tanks are made of resins that meet FDA specifications.
- Protect the tank from sharp objects which could puncture it and cause leakage.
- Where saturated soil or seasonal high water tables are indicated between the bottom of the tank and the ground surface, see separate supplemental installation instructions for these conditions. Supplemental instructions can be found on our website.

Norwesco advises against the use of a plastic underground tank for any other uses! Such uses would void any Norwesco product warranty either stated or implied. In no event shall Norwesco be held liable for any consequential damages.

### WARRANTY

The Norwesco underground tanks, when installed in accordance to manufacturer's instructions, are warranted against defective materials and/or workmanship for a full three (3) years from the date of manufacture. Should a defect appear within the warranty period, Norwesco will supply a new undamaged tank in replacement thereof. Norwesco's liability is limited to the value of the tank itself and specifically excludes the cost of installation and/or removal and consequential damages.

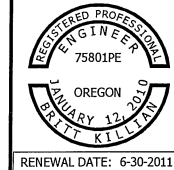
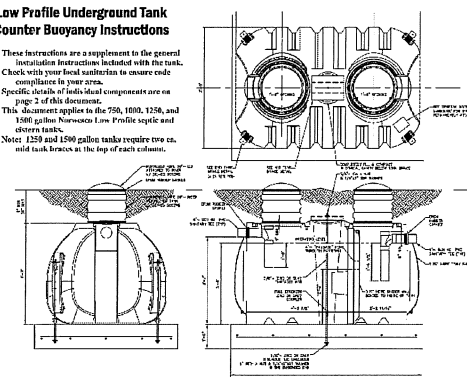


NORWESCO INC.  
4365 Steiner Street  
P.O. Box 439  
St. Bonifacius, MN 55375-4399  
TEL: (763) 446-5145 FAX: (800) 874-2371  
www.norwesco.com



### Low Profile Underground Tank Counter Buoyancy Instructions

- These instructions are a supplement to the general installation instructions included with the tank.
- Check with your local authorities to ensure code compliance in your area.
- Specific details of field dual components are on page 2 of this document.
- This document applies to the 750, 1000, 1250, and 1500 gallon Norwesco Low Profile septic and overflow tanks.
- Note: 1250 and 1500 gallon tanks require one or two dual tanks at the top of each column.



**PARKIN ENGINEERING INC.**  
CONSULTING AND STRUCTURAL ENGINEERING

(360) 694-8378  
FAX (360) 694-3376

14014 NE SALMON CREEK AVE.  
VANCOUVER, WA 98686

DATE:	7/16/2010
SCALE:	
ENGINEER:	BK
DRAFTER:	SLMc
CHECK:	BK
FILE:	10016064-S2.00

NORWESCO, INC. / SNYDER INDUSTRIES INC  
4365 STEINER STREET  
ST BONIFACIUS, MN 55375  
PO# 94099

1,000 GALLON SEPTIC TANK (LOW PROFILE)  
OREGON  
NORWESCO PART # (43496)  
SNYDER INDUSTRIES PART # (1006800w95301)

SHEET TITLE:  
TANK / SLAB  
LAYOUT & DETAILS

S2.1o





# Oregon

Kate Brown, Governor

Department of Environmental Quality  
Western Region Eugene Office  
165 East 7th Avenue, Suite 100  
Eugene, OR 97401  
(541) 686-7838  
FAX (541) 686-7551  
TTY 711

April 6, 2016

Anastasia O'Hara  
Norwesco/Snyder Industries  
PO Box 439  
St. Bonifacius, MN 55375-0439

RE: Product approval amendments for:

- 1,000 gallon Norwesco/Snyder low profile septic tank
- 1,250 gallon Norwesco/Snyder low profile septic tank
- 1,500 gallon Norwesco/Snyder low profile septic tank

Ms. O'Hara,

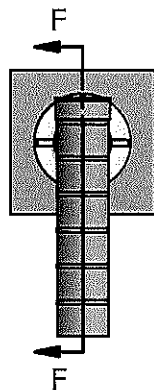
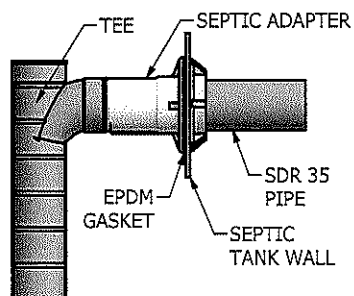
We have reviewed your recent request to amend the January 6, 2012 product approvals to the septic tanks listed above. The change is an alternative option for the 'gasket and tee' with the addition of a septic adapter. You provided a schematic of these options that are attached. The proposed amendment will be included to the existing product approval. This is the only change that has been proposed or approved to the existing approval.

Questions? Please contact Randy Trox, [trox.randall@deq.state.or.us](mailto:trox.randall@deq.state.or.us), or by phone, 541-687-7338.

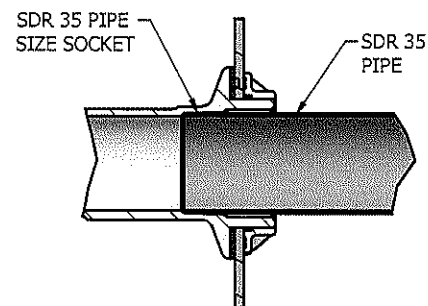
Sincerely,

David Belyea, Manager  
Regional Environmental Solutions

# SEPTIC ADAPTER WITH SDR 35 PIPE

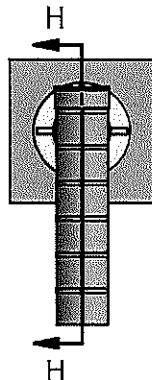
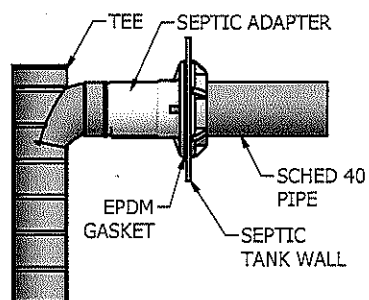


SECTION F-F  
SCALE 0.1 : 1

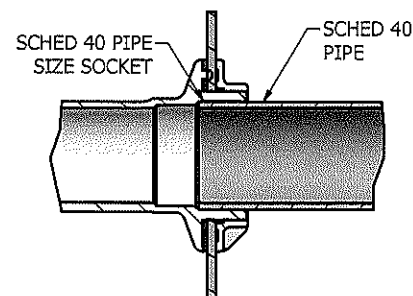


DETAIL G  
SCALE 1 / 5

# SEPTIC ADAPTER WITH SCHED 40 PIPE

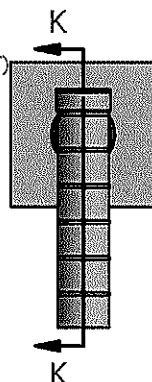
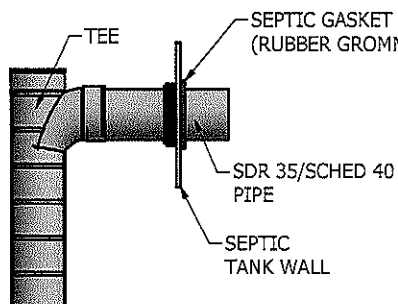


SECTION H-H  
SCALE 0.1 : 1



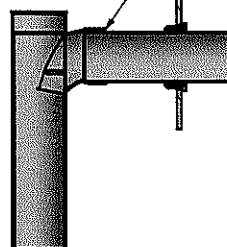
DETAIL J  
SCALE 1 / 5

# GASKET AND TEE



SECTION K-K  
SCALE 0.1 : 1

USE REDUCER RING  
FOR SDR35 PIPE



**APPROVED**

By Randy Trox at 8:11 am, Apr 06, 2016

DRAWN Bolzer	2/11/2016			
CHECKED		NORWESCO, INC. SAINT BONIFACIUS, MN		
QA		TITLE		
MFG		SEPTIC ADAPTER/GASKET AND TEE COMPARISON		
APPROVED		SIZE B	DWG NO	REV
		SCALE: 1/16	SHEET 1 OF 1	