



WASTE WATER COLLECTION SYSTEMS

STEP - STEF Packet

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PROCEDURE FOR PRESSURE SEWER INSPECTIONS

When you need a Pressure Sewer Inspection call 360-817-1563 or make a request through the 24/7 online request form at www.cityofcamas.us/service-request. Your inspection request must be called 48 hours prior to inspection. **DO NOT CALL THE INSPECTOR!**

TANK SET CITY REQUIREMENTS

- Roth tank installers must be certified by Roth and approved by the City of Camas.
- A City inspector from the Water-Sewer Department must be on site for the Tank set.
- Tank set location minimum is 5-feet from foundation and 5-feet from property line, and no greater than 35 feet from a pumping surface.
- At the time, the Tank is set the inspector will be on site to check the tank for level.
- Placement of 4-6 inches of granular back fill, washed screenings or 3/4" minus crushed rock, will be placed in the bottom of the trench and compacted. An 18-inch minimum of granular backfill, washed screenings or 3/4" minus crushed rock will also be placed around all four sides of the tank. This will be a visual inspection by the city inspector. Tank will be back filled according to Roth standards.
- Two, 24" diameter risers shall be installed at a maximum depth of 24" on STEF systems. A 30" diameter riser installed on all STEP systems at a maximum depth of 24".
- Fill the tank with water up into risers 3-4" then call the Inspector to do a 24-hour leak test.

LATERAL REQUIREMENTS

- Roth tank installers must be certified by Roth and approved by the City of Camas.
- A City inspector from the Sewer Department will do a visual inspection before any back filling is done.
- A 2% minimum grade is required on all gravity lines to and from the tank. Lines are subject to T.V. inspection by City Inspectors.
- The minimum depth of all piping is 18-inches.
- All pipe and pipefittings will be glued with the appropriate glue for the materials being used.
- **NO FERNCO COUPLINGS ARE TO BE USED!**
- All inlet and outlet piping will lay in a ditch on 4-6 inches of packed granular material, with toning wire running the length of the pipe on the discharge side, at this time the city inspector will do a visual inspection and a pressure check, if this is a STEP system. Once this inspection has been completed the piping shall be bedded with an additional 4-6 inches of 3/4" minus or washed screenings material covering all exposed piping.
- **Any piping that runs under driveways and/or sidewalks will be sleeved.**
- The two tees that are located inside of the tank at the inlet and outlet will be level.
- A third tee shall be added if tank is more than 10' from foundation.
- 4" pipe must be class 200, or 3034.

TONING WIRE

Toning wire that is a minimum 14 gauge copper clad steel wire will be required on all discharge piping, it will be ran from the city's toning wire, connected by a gel cap wire nut made for underground burial and run up and into the riser leaving a minimum of 12-inches visible in the riser. If this is a STEP system, the toning wire will also be 12-inches minimum in the valve box at the curb.

CLEAN OUTS

Three two-way sweeping cleanouts shall be installed. If tank is within 10' of foundation, 2 C.O. shall be allowed.

1. Within 24-inches of the foundation
2. On the inlet side just outside of the tank
3. On the outlet side just outside of the tank- on STEF tanks

ALARM PANEL

After being wired and made operational the alarm panel will need to have an electrical inspection done by the Department of Labor and Industries. The City will not final any system that does not have an L&I sticker on the panel.

FINAL INSPECTIONS

- In order to have a final inspection done the following items shall be in place.
- **L&I STICKER MUST BE ON ALARM PANEL PRIOR TO FINAL INSPECTION!**
- 14 gauge copper clad steel toning wire 1-foot into outlet side of riser
- Pressure test and draw down on STEP systems
- Test floats
- All three cleanouts are to be visible and straight
- Inlet and outlet tees must be level

NOTE: The State approval sticker must come BEFORE the septic final inspection.

SPECIFICATIONS

STEP and Gravity Information

All tanks shall be of the type as called for in the Materials section of these specifications and the size shall be as called for on the plans. They shall be of watertight construction. Any tank found to leak will be replaced with a leak-proof tank. The Roth poly tank shall be backfilled to manufacturer specifications, on 4" - 6" deep, compacted granular bedding. The backfill around the tank shall be compacted, 3/4" crushed rock or screenings, filled to the top of the tank, unless otherwise directed by the City Inspector. Minimum depth of the tank shall be 18" and the maximum depth is 24".

Electrical

The electrical work shall be performed by a licensed, or certified, journeyman electrician, in accordance with all current applicable electrical and building codes in force for the locale of the installation, and shall include furnishing and installing all necessary materials not included with the pumping assembly. It will have to be inspected and approved by the Department of Labor and Industries. No direct bury cable is allowed.

Electrical work shall consist of:

- Furnishing and installing ¾" conduit with duct seal from the pump system to the panel. STEP must have a dedicated circuit that is clearly labeled.
- Multi-colored wire shall be used for all six wires.
- The electrical splice box that is located inside the riser shall be no lower than 6- inches from the lid surface.

- The electrical panel must be visible from the tank location and the street, mounted on the wall nearest to the tank. The alarm panel placement must be no higher than 60" (5-feet) and no lower than 36" (3-feet).

Service Lines

Testing of the service lines shall take place upon connection to the pressure main connection. Testing shall be visual, by allowing the pump to run against the closed valve in the service line. The pressure test must be 150 psi for 15 minutes with a gauge. As with the tanks, no leaks are allowed. The lines shall be sleeved under driveways and/or sidewalks.

Landscaping

Tank riser lids shall remain unburied and accessible at all times. Ponds, waterfalls, fountains, or other water affects shall not be constructed or placed above the tank. **Landscaping shall not hinder the operation, maintenance, or accessibility of the STEP/STEF Systems:**

- **No shrubs or ground cover within 3-feet of tank lids. No trees within 5-feet.**
- **No structures of any kind will be built over tank covers.**
- **BOTH LIDS SHALL BE VISIBLE AT ALL TIMES.**
- **Isolation valve at the easement can not have shrubs within 3-feet and no trees within 5-feet.**

Процедура осмотра

При необходимости осмотра канализационного давления, звоните 360-817-1563 нажмите 3. После того, как ваш запрос был получен, то инспектор имеет 48-часы для завершения проверки. Примечание: не звоните на мобильный телефон инспектора.

Procedimiento de inspección

Cuando necesite una inspección de alcantarillado a presión, llame al 360-817-1563 y presione 3. Una vez que se haya recibido su solicitud, el inspector tiene 48 horas para completar la inspección. Nota: No llame al teléfono móvil del inspector.

CITY CONTACT INFORMATION

For assistance or questions, contact any of these resources below:

WATER-SEWER QUESTIONS:	PERMITS:	ELECTRICAL INSPECTIONS:
City of Camas Public Works Department 1620 SE 8 th Ave Camas, WA 98607 360-817-1563	City of Camas Building Department 616 NE 4 th Ave Camas, WA 98607 360-817-1568	WA State Department of Labor and Industries 312 SE Stonemill Dr. Ste 120 Vancouver, WA 98684 360-896-2300

ACCEPTED SUPPLIERS LIST

If the installer would like to use materials other than those on this list, they must be approved by the City Engineer prior to installation.

INSTALLATION PACKAGE

(COMPLETE PACKAGE, INCLUDING PUMPING SYSTEM, VALVES, ETC.)

H.D. Fowler Company | Vancouver Branch

11316 NE Hwy 99
Vancouver, WA 98686
360-574-9377

Ferguson - Roth Tanks

14103 NW 3rd Ct
Vancouver, WA 98685
360-896-8708

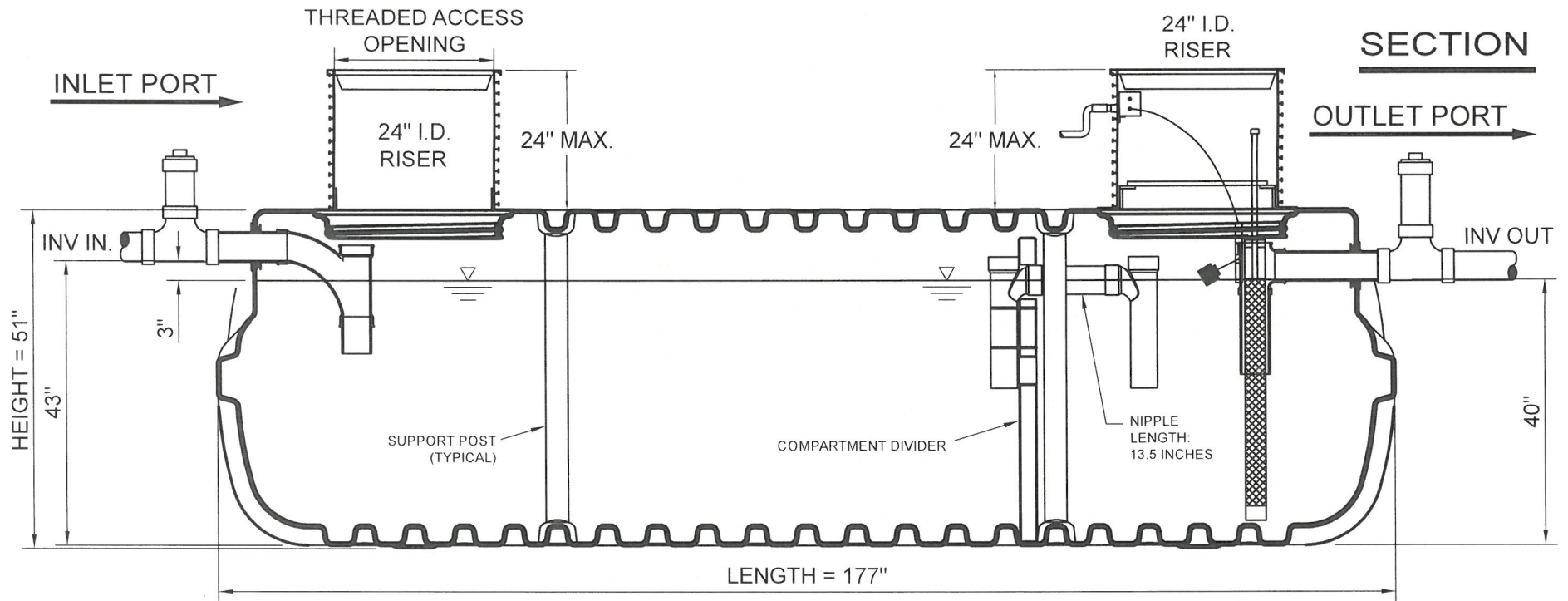
RISER AND LID

Orenco Systems, Inc.
2826 Colonial Road
Roseburg, OR 97470
541-673-0165

CONTROLS AND ALARM

STEF – AMAHW
STEP - Orenco S1DS with Float Package

**For additional information, see the technical specification pages,
or contact the Inspector at 360-817-1563.**



40" LIQUID LEVEL

TANK SPECIFICATIONS

DESIGN CAPACITY		TOTAL CAPACITY		WEIGHT
GALLONS	LITERS	GALLONS	LITERS	POUNDS
1500	5678	1771	6692	640

NOTES:

1. TANKS SHALL ONLY BE INSTALLED BY LICENSED CONTRACTORS THAT ARE MANUFACTURER CERTIFIED FOR INSTALLATION.
2. SHOWN WITH TYPE P COMPARTMENT DIVIDER WITH TEES CLOSE COUPLED, INSTALLED WITH STANDARD INFLOW AND OUTFLOW CONNECTIONS.
3. 2-WAY CLEAN OUT ON INLET AND OUTLET OF TANK; SOLVENT WELD CONNECTIONS REQUIRED; FERNCO COUPLINGS NOT ALLOWED.
4. FOR TANK LOCATED IN DRIVEWAY - SEE CITY OF CAMAS STEP & STEF TANK INSTALLATION INSTRUCTIONS.
5. SUPPORT POSTS REQUIRED FOR ALL 1500 GALLON TANKS
6. PIPE FROM TANK TO SERVICE STUB SHALL BE 4" ASTM D2241 PVC. CONNECT TO 4" SERVICE STUB WITH SOLVENT WELD COUPLER.

STEF (SEPTIC TANK EFFLUENT FILTER SYSTEM)
SECTION VIEW TYPICAL 1500 GALLON TANK W/DUAL COMPARTMENT
DRAWDOWN BIOTUBE EFFLUENT FILTER



SANITARY SEWER DETAIL

STEF & STEF 1500 GAL HDPE TANK - STEF SYSTEM

DETAIL APPROVED BY *[Signature]* DATE 6/27/2023

NOT TO SCALE

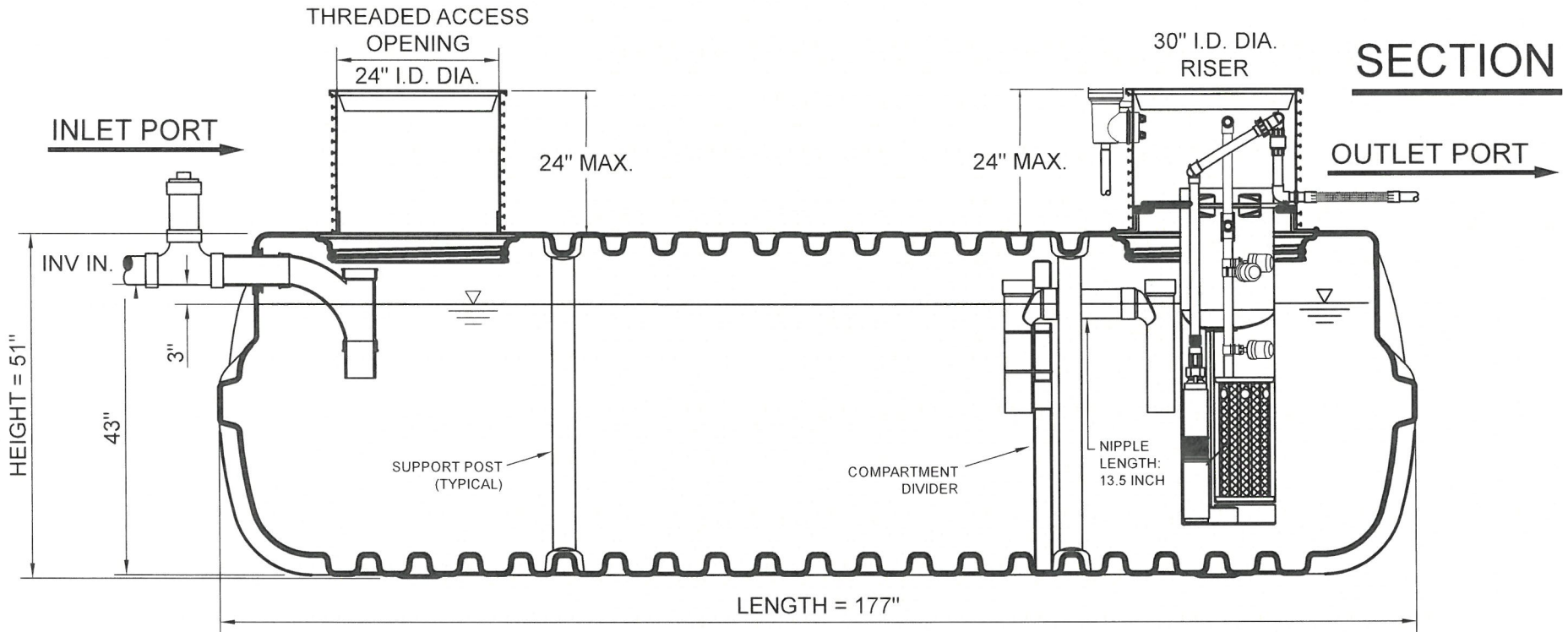
DETAIL NO.

S6A

REVISION: 3

DATE: 6/2023

STEF-STEP-TANK-1500 GAL.DWG



40" LIQUID LEVEL

TANK SPECIFICATIONS

DESIGN CAPACITY		TOTAL CAPACITY		WEIGHT
GALLONS	LITERS	GALLONS	LITERS	POUNDS
1500	5678	1771	6692	640

NOTES:

1. TANKS SHALL ONLY BE INSTALLED BY LICENSED CONTRACTORS THAT ARE MANUFACTURER CERTIFIED FOR INSTALLATION.
2. SHOWN WITH TYPE P COMPARTMENT DIVIDER WITH TEES CLOSE COUPLED, INSTALLED WITH ORENCO PUMP BIOTUBE IN THE OUTLET COMPARTMENT.
3. 2-WAY CLEAN OUT ON TANK INLET; SOLVENT WELD CONNECTIONS REQUIRED; FERNCO COUPLINGS NOT ALLOWED.
4. FOR TANK LOCATED IN DRIVEWAY - SEE CITY OF CAMAS STEP & STEF TANK INSTALLATION INSTRUCTIONS.
5. SUPPORT POSTS REQUIRED FOR ALL 1500 GALLON TANKS.
6. INSTALL 1" HDPE PIPE TO STEP VALVE BOX AND FUSE TO 1" HDPE SERVICE. CONNECT TO 1" PVC INSIDE TANK RISER WITH STAINLESS MNPT X HDPE COUPLER.

STEP (SEPTIC TANK EFFLUENT PUMP SYSTEM)
SECTION VIEW TYPICAL 1500 GALLON TANK W/ PUMP BIOTUBE
EFFLUENT FILTER



SANITARY SEWER DETAIL

STEF & STEF 1500 GAL HDPE TANK - STEP SYSTEM

DETAIL APPROVED BY *Paul M.*

6/27/2023
DATE

NOT TO SCALE

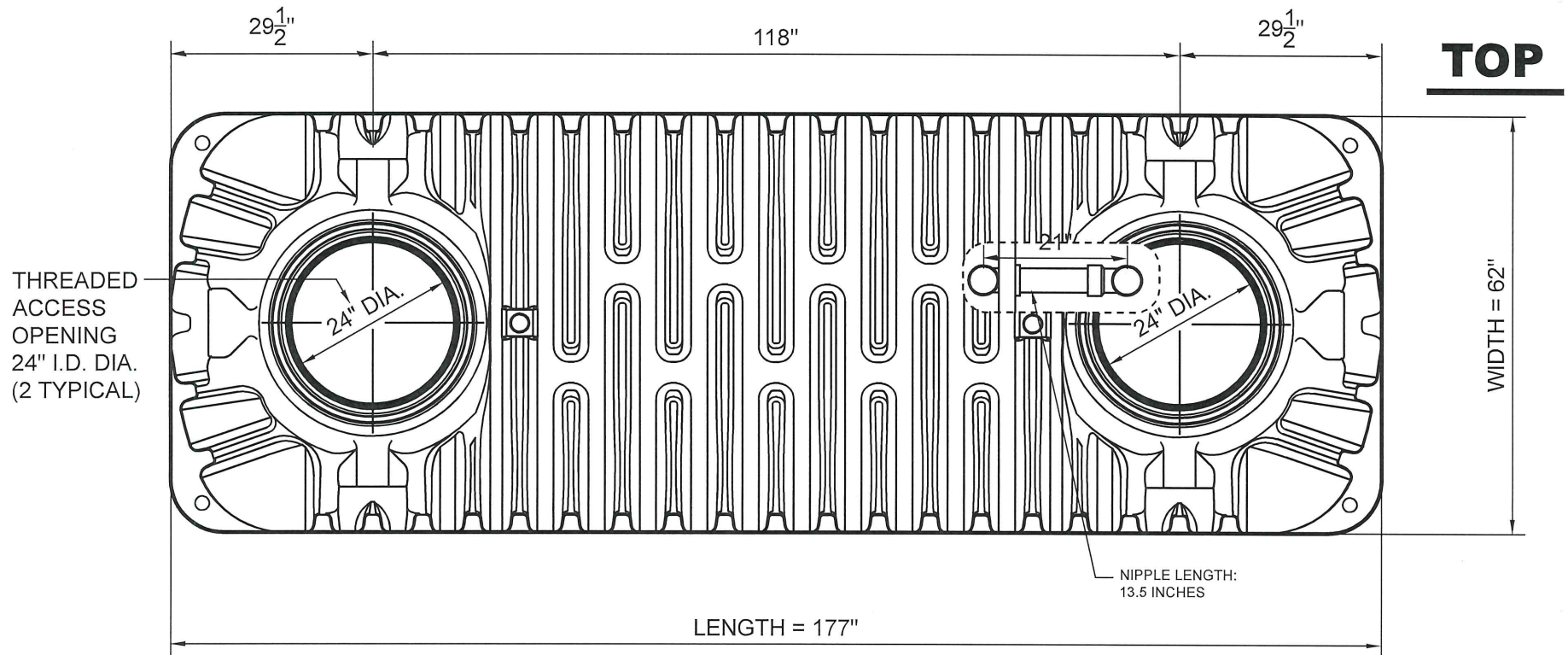
DETAIL NO.

S6B

REVISION: 3

DATE: 6/2023

STEP-STEP-TANK-1500 GAL.DWG



STEF TANK - TOP DOWN VIEW
CUT-AWAY VIEW OF CLOSE COUPLED TEES

TANK NOTES:

1. ACCESS AT OR ABOVE GRADE LEVEL SHALL BE SECURED AGAINST UNAUTHORIZED ACCESS.
2. TANK IS NOT RATED FOR VEHICULAR TRAFFIC LOADING WITHOUT FOLLOWING DRIVEWAY INSTALLATION REQUIREMENTS.
3. ALL RESIN USED SHALL BE COMPLIANT WITH ASTM D 1248 AS REQUIRED BY CSA B66 AND IAPMO / ANSI Z1000-2007.
4. TANK MATERIAL OF CONSTRUCTION SHALL BE HMW-HDPE.
5. PRIMARY DIMENSIONS ARE IN INCHES.
6. MINIMUM TANK WALL THICKNESS SHALL BE 1/4".
7. LABELING WILL INCLUDE: MAUFACTURER NAME, LIQUID CAPACITY, DATE, MAXIMUM BURIAL DEPTH, AND MODEL NUMBER.
8. RISER COVER SHALL CONTAIN THE FOLLOWING: 6" X 3" WARNING:
 "DANGER - DO NOT ENTER - POISON GAS" - WRITTEN IN ENGLISH, FRENCH & SPANISH
9. MAXIMUM BURIAL DEPTH IS 24" UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY THE MANUFACTURER OR THE CITY.
10. TANK SHALL BE CERTIFIED TO CSA AND IAPMO STANDARDS.



SANITARY SEWER DETAIL

STEF & STEP 1500 GAL HDPE TANK - TOP - STEF TEES

DETAIL APPROVED BY *San Adams* 7-23-18
 DATE

NOT TO SCALE

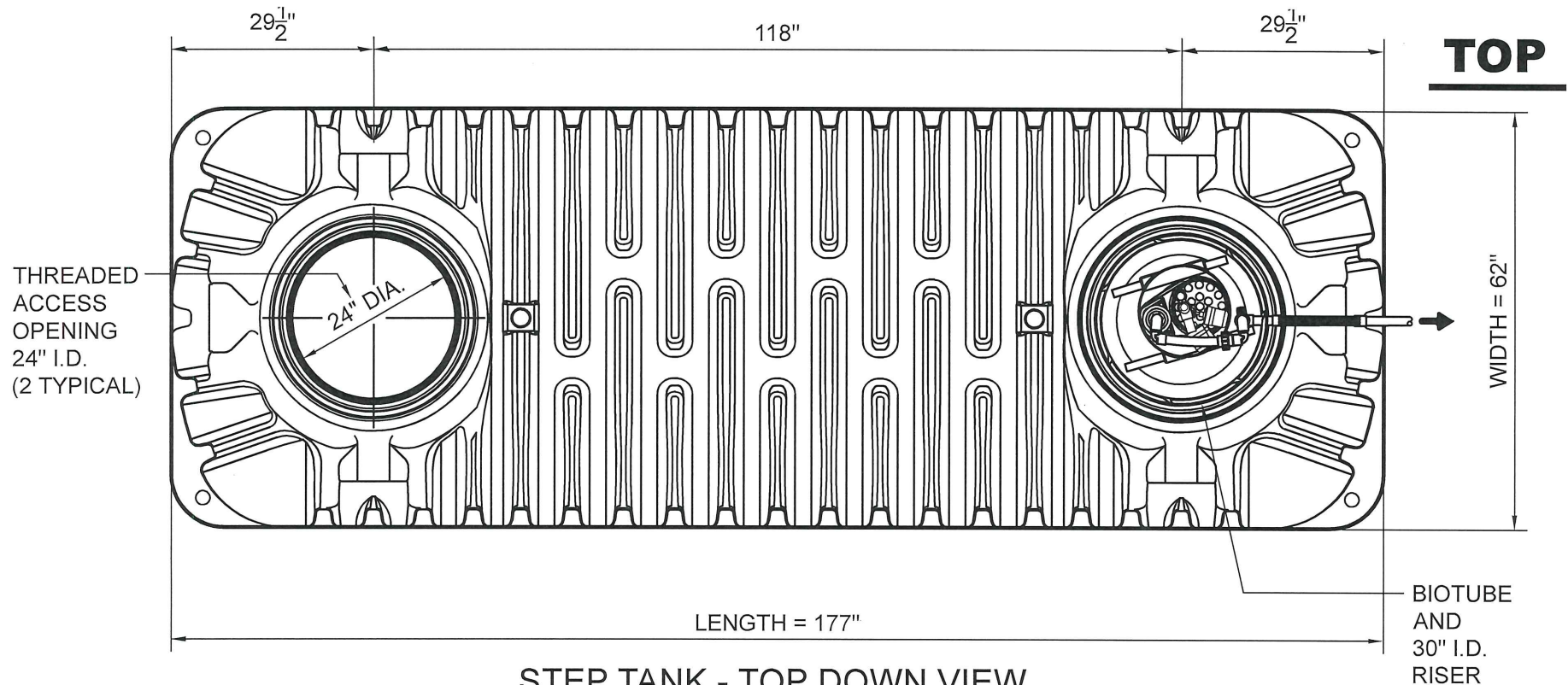
DETAIL NO.

S6C

REVISION: 2

DATE: 7/17/2018

STEF-STEP-TANK-1500 GAL.DWG



STEP TANK - TOP DOWN VIEW
 CUT-AWAY VIEW OF PUMP BIOTUBE EFFLUENT FILTER

TANK NOTES:

1. ACCESS AT OR ABOVE GRADE LEVEL SHALL BE SECURED AGAINST UNAUTHORIZED ACCESS.
2. TANK IS NOT RATED FOR VEHICULAR TRAFFIC LOADING WITHOUT FOLLOWING DRIVEWAY INSTALLATION REQUIREMENTS.
3. ALL RESIN USED SHALL BE COMPLIANT WITH ASTM D 1248 AS REQUIRED BY CSA B66 AND IAPMO / ANSI Z1000-2007.
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SANITARY SEWER DETAIL

STEP & STEP 1500 GAL HDPE TANK - TOP - STEP BIOTUBE

DETAIL APPROVED BY *[Signature]* DATE 7-23-18

NOT TO SCALE

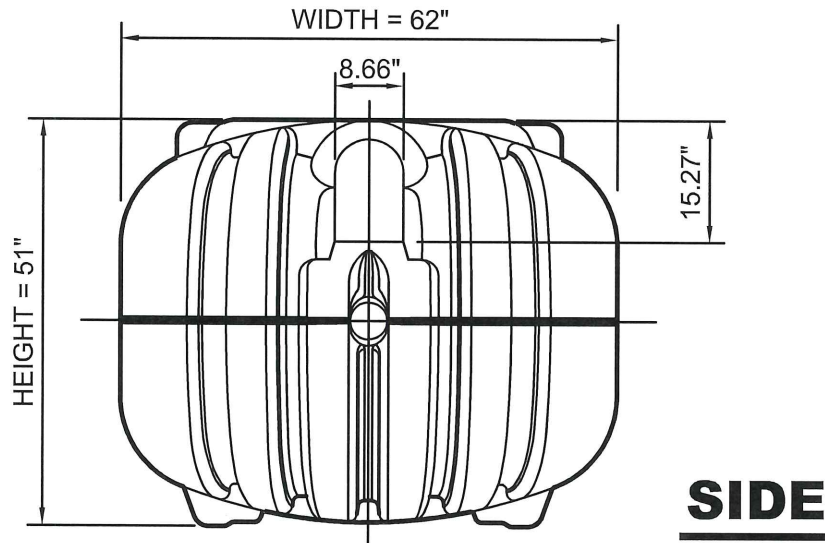
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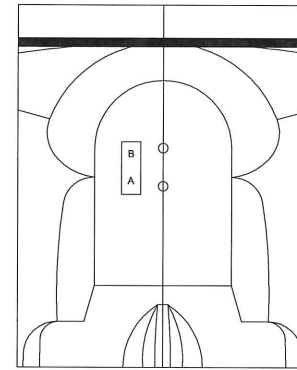
REVISION: 2

DATE: 7/17/2018

STEP-TANK-1500 GAL.DWG



SIDE



Drawing Not to Scale

Dimple	Inlet Invert	Outlet Invert	Invert Drop
A	43 "	40"	3"
B	44"	42"	2"

WA STATE APPROVAL - 40" LIQUID LEVEL, "A" DIMPLES ARE USED.

STEP & STEP TANK - ELEVATION VIEW
 INVERT DIMPLE LOCATIONS

REV. NO.	DATE	BY	APPR.
1	7/10/17	SCD	SA

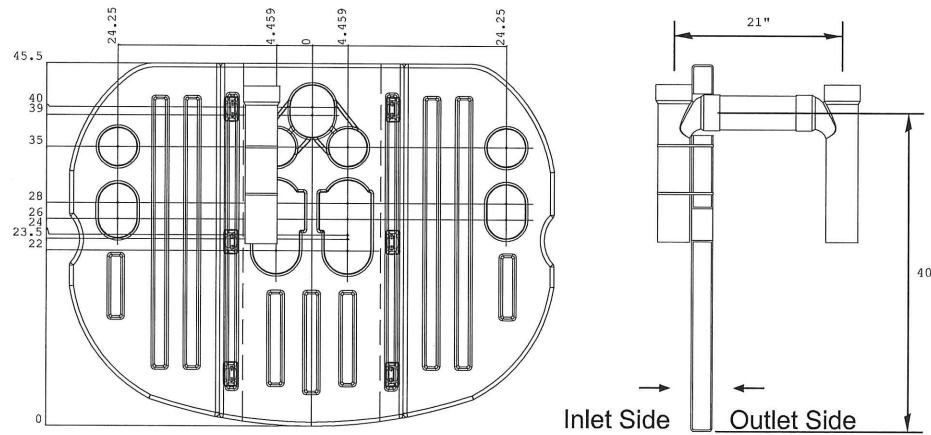


CITY OF CAMAS ~ SANITARY DETAIL
 STEP & STEP 1500 GAL HDPE TANK - SIDE VIEW
San H. Gamm 8-14-17
 DETAIL APPROVED BY DATE

NOT TO SCALE

DETAIL NO.
 S6E

STEP-STEP-TANK-1500 GAL.DWG



STEP & STEP TANK - COMPARTMENT DIVIDER
 VIEW OF CLOSE COUPLED TEES

REV. NO.	DATE	BY	APPR.
1	7/10/17	SCD	SA



CITY OF CAMAS ~ SANITARY DETAIL
 STEP & STEP 1500 GAL HDPE TANK – COMPARTMENT DIVIDER
San Adams 8-14-17
 DETAIL APPROVED BY _____ DATE _____

NOT TO SCALE

DETAIL NO.
 S6F