

1. Pipeline Materials:

Gravity sewer (8" min. - 48"):
PVC SDR 35 and SDR 26 per ASTM D-3034 (8" to 15" diameter)
PVC PS46 and PS 115 per ASTM F679 (18" to 48" diameters)

Pressure sewer (6" - 48"):
PVC C900 per AWWA C900 (DR18 minimum, 6" to 48")
Fusible PVC C900 per AWWA C900 (DR18 minimum, 6" to 24")
Fusible HDPE (DR11 minimum, 6" to 36")

Wastewater connections/
laterals (4" or 6"):
PVC SDR 35 and SDR 26 per ASTM D-3034
ABS SDR 26 and SDR 23.5 per ASTM D-2751
ABS Schedule 40 DWV per ASTM D-1785 and D-2665
Fusible PVC C-900 per AWWA C900 (DR18 minimum)
Fusible HDPE (DR11 minimum)

2. The City Engineer may require the use of fused (jointless) pipe in areas of high groundwater, shallow cover, or unstable ground conditions.
3. The largest pipeline that can be tapped for a sewer connection lateral is 15 inch unless approved by the City Engineer. Sewer taps on live sewer mains shall be performed by the City of Shasta Lake.
4. Pipe shall be installed in conformance with the manufacturer's recommendations and Page 610.10.
5. Pipeline backfill shall conform to Page 610.10. Structure backfill shall conform to Page 610.20.
6. Soft, wet, or spongy (unsuitable) material encountered in the trench at pipe subgrade shall be removed and replaced as directed by the City Engineer.
7. All pipe shall be carefully lowered into the trench to prevent damage. Under no circumstances shall pipe be dropped, rolled, or dumped into trenches.
8. Pipe ends shall be thoroughly cleaned before the pipe is joined. Whenever work ceases for any reason, the end of the pipe shall be closed with a watertight fitting, plug or cover. The interior of the pipe shall be kept free from dirt and debris as the work progresses. All pipe field cuts shall be made in accordance with the manufacturer's recommendations. Field cut pipe ends shall be made at right angles to the axis of the pipe except where pipes terminate in manholes.
9. All joints shall be made in accordance with the manufacturer's recommendations. Pipe lubricant shall be applied to all pipe gaskets prior to joint assembly. Lubricant shall be of a type specifically for the type of pipe being joined, required to make all joint connections.
10. Trace wire and warning tape shall be installed on all sanitary sewer pipelines and shall conform to Page 608.00. Trace wire branches shall terminate inside cleanout boxes and manholes.

				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		City Engineer _____ Date _____	
				SANITARY SEWER		Date: 09/2023 Dwg No.:	
				MATERIALS and CONSTRUCTION CRITERIA		Scale: None 300.01	
1		W. Bond	12/24				
REVISION	BY	APPROVED	DATE				

1. Design of sewer lines shall be based upon an average daily flow of 170 gallons per day per Household Equivalent (HE). Dry weather peaking factor shall be 1.70 for all services.
2. Pipelines shall be designed with a Manning coefficient of $n = 0.013$.
3. The minimum size gravity sewer main shall be 8".
3. The minimum slope (S, ft/ft) allowed for sewer pipelines shall be:

8" = 0.0040
 10" = 0.0030
 12" = 0.0025

Minimum slopes shall not be less than those required to produce a velocity of two feet per second (2.0 fps) when the sewer size selected is flowing full ($d/D = 1.0$) or half full ($d/D = 0.5$). Pipe sizes shall not be arbitrarily increased in order to take advantage of a flatter grade.

4. The minimum horizontal radius curvature for sewer mains shall be 1.5 times the manufacturer's recommendation. All curvature of flexible pipe shall be made by bending the pipe, and no deflection of the pipe joints shall be allowed. Vertical curvature is not permitted.
5. Minimum depth of cover:
 - A. 5.0' over gravity sewer mains
 - B. 4.5' over sewer connections/laterals at ROW line (per Pages 301.00 and 622.00)
 - C. 4.0' over sewer force mains unless otherwise noted by the City Engineer
6. Sewer mains shall not be designed with cover exceeding 10 feet from finish surface grade without approval by the City Engineer.
7. Manhole spacing:

A. Mainline sewers (8" to 12"):	500 feet maximum
B. Trunk sewers (15" to 30"):	700 feet maximum
C. Interceptor sewers (36" and larger):	800 feet maximum
D. All pipelines:	At all angle points in horizontal and vertical alignment and at all dead ends
8. Inside drop manholes shall only be permitted when approved by the City Engineer in accordance with Page 362.00. Outside drop manholes are not permitted.
9. No private force mains are allowed within City ROW unless approved by the City Engineer.

				CITY OF SHASTA LAKE Public Works Department	Approved:  09-30-2023 Date
				STANDARD DRAWING	City Engineer _____ Date
				SANITARY SEWER DESIGN CRITERIA	Date: 09/2023 Dwg No.: Scale: None 300.02
REVISION	BY	APPROVED	DATE		

PIPELINE ACCEPTANCE TESTING

The Contractor shall furnish all labor, equipment, and materials needed to complete the following items:

1. Video Inspection: Prior to acceptance of pipelines by the City Engineer, the Contractor shall provide to the City video inspection of the new sewer main. Video of lateral runs is not required.

All video inspection work shall be performed by a competent sewer video service provider and shall be recorded in digital format. The video inspection shall be performed in color, shall pan in all directions so that all joints and lateral connections can be thoroughly examined, and shall be of sufficient resolution to allow the City Engineer to clearly see all pipe joints, wyes, manhole connections, and other fittings.

The video inspection files will be reviewed by the City Engineer. If any irregularities are observed on the tapes (open or offset joints, grade problems, etc.), the City Engineer MAY elect to have the main in question re-inspected using City forces and equipment. If, in the opinion of the City Engineer, any of the following tolerances are found to be exceeded in any section of sewer main, that section shall be deemed to have failed the video inspection acceptance test.

- a. Joint Offset: ≥ 0.25 " in any direction
- b. Design Grade: +/- 20% of the Design Grade

When failure is observed, the Contractor shall be responsible for repairing or replacing the failed section of pipe at his own expense, including removal and replacement of all affected improvements and any and all other costs incurred in order to repair the pipe, as well as for all costs incurred by the City for the re-inspection of the sewer main.

The City may also perform a video inspection at any time during the guaranty period. Where any of the above tolerances are found to be exceeded in any section of sewer main, that section shall be deemed to have failed the video inspection acceptance test, and the Contractor shall be responsible for repairing or replacing the failed section of pipe at his own expense, including removal and replacement of all affected improvements and any and all other costs incurred in order to repair the pipe, as well as for all costs incurred by the City for the re-inspection of the sewer main.

2. Barrel deflection testing: The Contractor shall conduct barrel deflection testing for all plastic pipelines to ensure that vertical deflections do not exceed the allowable deflection. Deflection testing shall be completed at least 30 days after pipeline installation. The mandrel used for deflection testing shall meet the following requirements:

- a. Fabricated from steel and fitted with pulling rings at each end.
- b. Be rigid and nonadjustable with an odd number of legs (9 legs minimum).
- c. Have an effective length not less than its nominal diameter.
- d. Be stamped or engraved on a segment other than the running with the pipe material specification, nominal size, and outside diameter (i.e. PVC D3034-8"-7.366")

Nominal Pipe Diameter	Allowable Barrel Deflection, % Diameter
8" - 12"	5.0%
14" - 30"	4.0%
36" - 48"	3.0%

If the mandrel is not able to travel unobstructed through the pipe and stops at any point, that section of pipeline will have failed the acceptance test. When failure is observed, the Contractor shall be responsible for repairing or replacing the failed section of pipe at his own expense, including removal and replacement of all affected improvements and any and all other costs incurred in order to repair the pipe. The use of a re-rounder will not be permitted at any time.

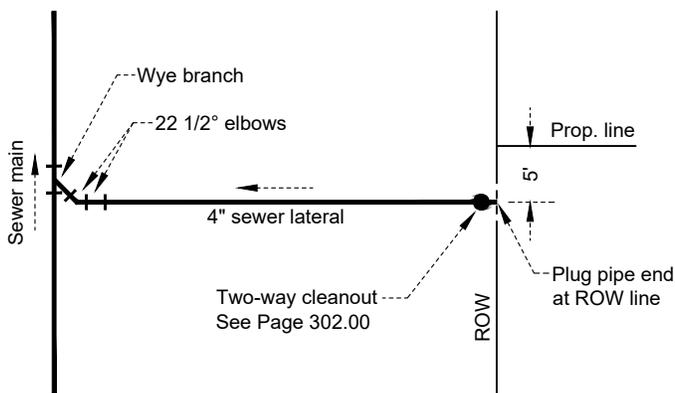
				CITY OF SHASTA LAKE Public Works Department STANDARD DRAWING	Approved:  09-30-2023 Date
				SANITARY SEWER PIPELINE ACCEPTANCE TESTING	Date: 09/2023 Scale: None
REVISION	BY	APPROVED	DATE		Dwg No.: 300.03

MANHOLE ACCEPTANCE TESTING

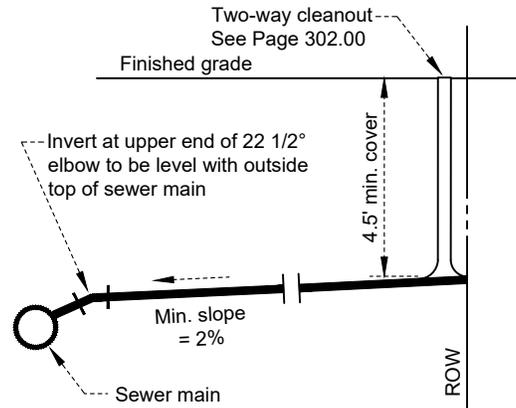
The Contractor shall furnish all labor, equipment, and materials needed to complete the following items:

1. Each manhole that can be isolated from the sanitary sewer system without causing backups shall be vacuum tested in the presence of the City Engineer for acceptance after all backfilling and compaction is completed. The Contractor may pretest manholes immediately after assembly and prior to backfilling; pretesting is for the Contractor's convenience and need not be completed in the presence of City personnel.
2. All testing equipment and labor shall be provided by the Contractor.
3. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole during the test.
4. The test head shall be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation.
5. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine inches. The manhole shall pass if the time is greater than 60 seconds for 48" diameter manholes, 75 seconds for 60" diameter manholes, and 90 seconds for 72" diameter manholes.
6. If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout or epoxy. Retesting shall proceed until a satisfactory test is obtained. No grout shall be placed in the horizontal joints before testing.

				CITY OF SHASTA LAKE Public Works Department	Approved:  Date: 09-30-2023
				SANITARY SEWER MANHOLE ACCEPTANCE TESTING	City Engineer _____ Date _____
REVISION	BY	APPROVED	DATE		Date: 09/2023 Dwg No.: Scale: None 300.04

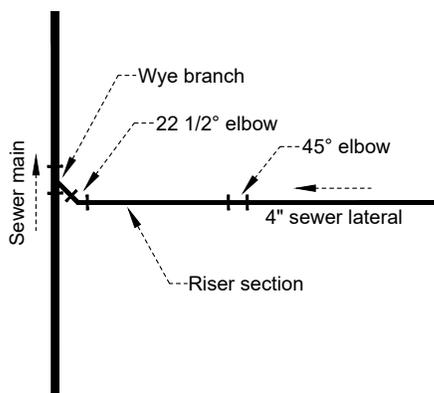


PLAN

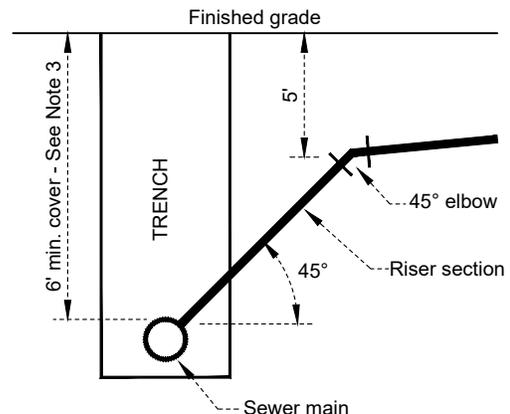


ELEVATION

TYPICAL HOUSE CONNECTION



PLAN



ELEVATION

RISER DETAIL

See Note 3

NOTES:

1. Backfill material shall conform to Page 610.10.
2. Sewer taps on live sewer mains shall be performed by City staff only. When tapping live mains, 90° taps are acceptable.
3. Risers shall be installed when the sewer main cover depth exceeds 6'. Risers shall bring the lateral up to approximately 5'. Vertical riser installations are not acceptable.
4. Where the sewer main is located in an easement, future lateral installation locations shall consist of a main line wye and plug.
5. Place 1" plastic conduit or 2x4 wood post upright at property line to mark the location of the sewer lateral cap. Marker shall be painted green.
6. Stamp "S" into the curb at the location of the lateral crossing.
7. Laterals shall be located near the middle of the lot wherever possible, and locations under driveways shall be avoided. In no case shall laterals be located within 5' of the property line.
8. Sewer laterals that require a backflow device be installed per the California Plumbing Code Section 710.0 shall have the backflow device installed near the cleanout.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

TYPICAL SANITARY SEWER LATERAL

Approved:

09-30-2023

City Engineer

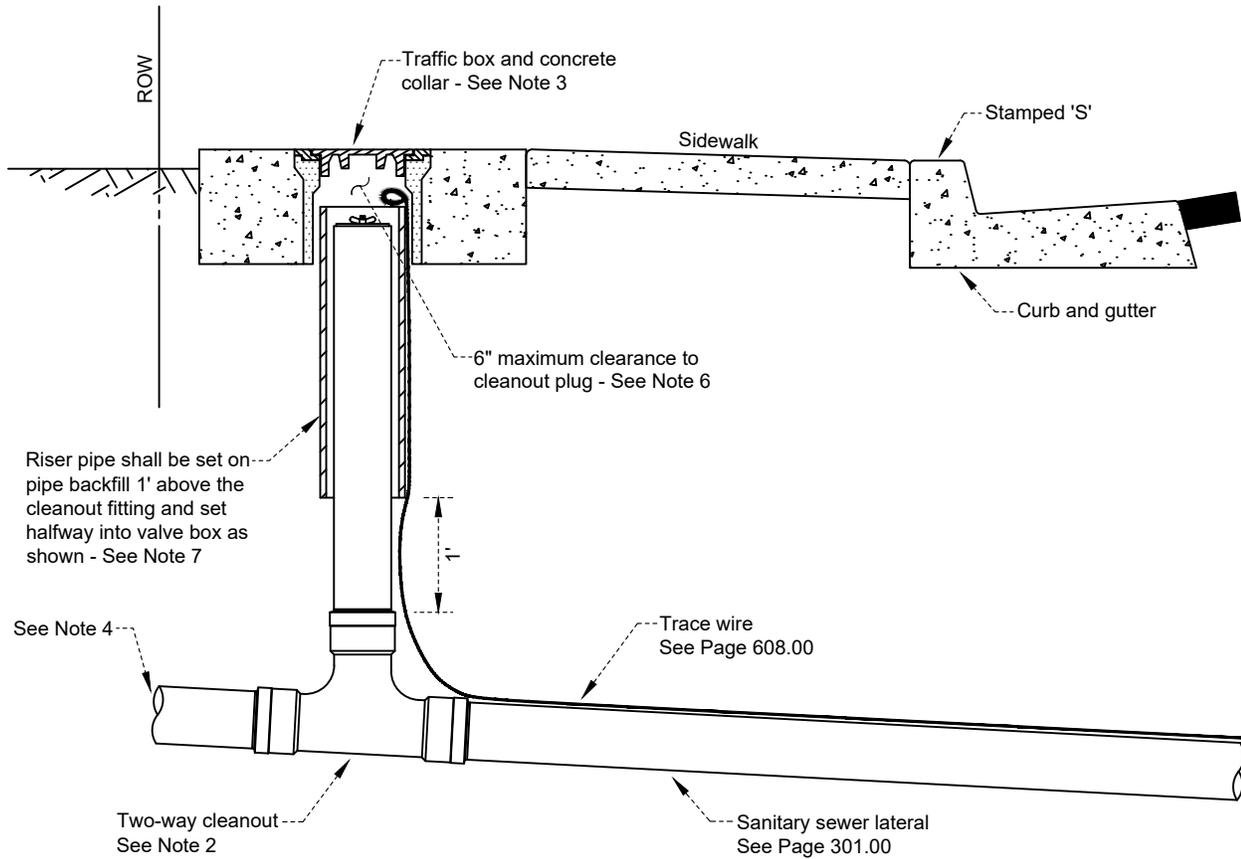
Date

Date: 09/2023

Dwg No.:

Scale: None

301.00



NOTES:

1. This standard is required for all new residential construction.
2. Two-way cleanout fitting shall be gasketed.
3. Where concrete flatwork exists, the lateral cleanout, traffic box, and concrete collar shall be placed as shown at the back of flatwork. If no concrete flatwork exists, the lateral cleanout, traffic box, and concrete collar shall be placed 1' off the property line. Traffic box and concrete collar installation shall conform with Page 612.10.
4. Following testing and acceptance by the City, the Contractor shall connect the building sewer to the new lateral. If the building sewer will be installed at a later time, the lateral shall be plugged with a gasketed end plug at the ROW line.
5. When a new 4" lateral is connected to an existing 6" lateral, the Contractor shall install a 4" x 6" eccentric reducer to accommodate the size change.
6. Cleanout plug shall be a mechanical gasketed end-of-pipe plug with wing nut (Cherne Industries or approved equal).
7. Riser pipe shall be 8" PVC SDR35. Trace wire shall be run on the OUTSIDE of the riser pipe.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SANITARY SEWER TWO WAY CLEANOUT

Approved:

09-30-2023

City Engineer

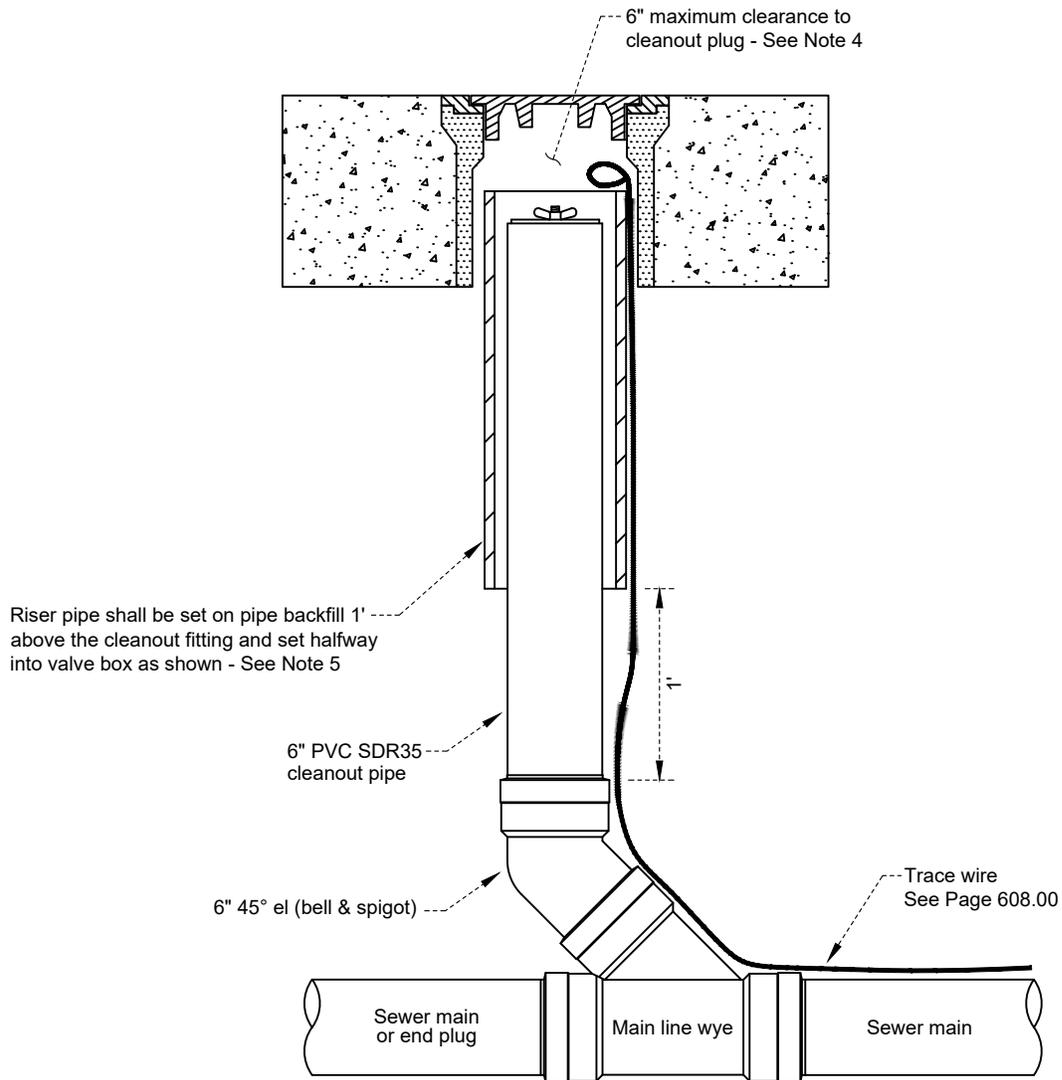
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Date: 01/2023

Dwg No.:

Scale: None

302.00



NOTES:

1. Backfill material shall conform to Page 610.10.
2. All fittings shall be gasketed. Cleanout pipe and fitting material shall be PVC SDR35 sewer pipe.
3. Traffic box and concrete collar installation shall conform with Page 612.10.
4. Cleanout plug shall be a mechanical gasketed end-of-pipe plug with wing nut (Cherne Industries or approved equal).
5. Riser pipe shall be 8" PVC SDR35. Trace wire shall be run on the OUTSIDE of the riser pipe.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SANITARY SEWER MAIN LINE CLEANOUT

Approved:

09-30-2023

City Engineer

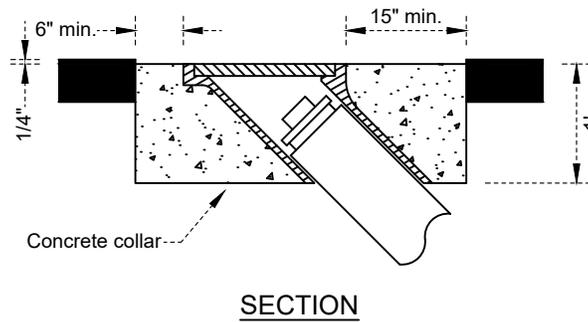
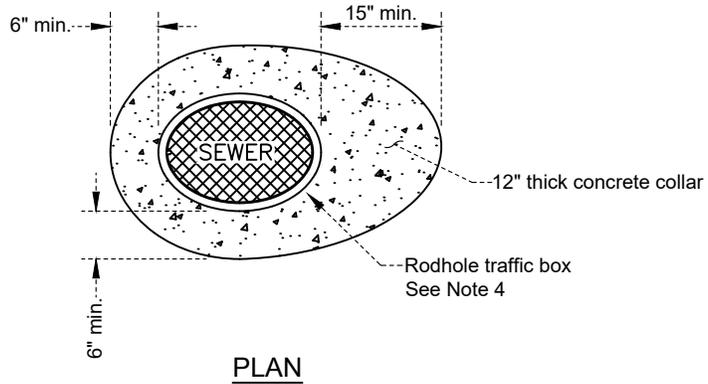
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Date: 09/2023

Dwg No.:

Scale: None

350.10



NOTES:

1. All material shall conform to Page 100.00.
2. Rodhole traffic boxes shall be installed on existing rodholes only. New mainline terminations shall occur at either a mainline cleanout (see Page 350.10) or a manhole (see Page 360.10).
3. Concrete collar around rodhole frame shall be oval to match frame assembly.
4. Rodhole traffic boxes shall be South Bay Foundry South Bay Foundry Model SBF 1249 or approved equal.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SANITARY SEWER RODHOLE TRAFFIC BOX

Approved:

09-30-2023

City Engineer

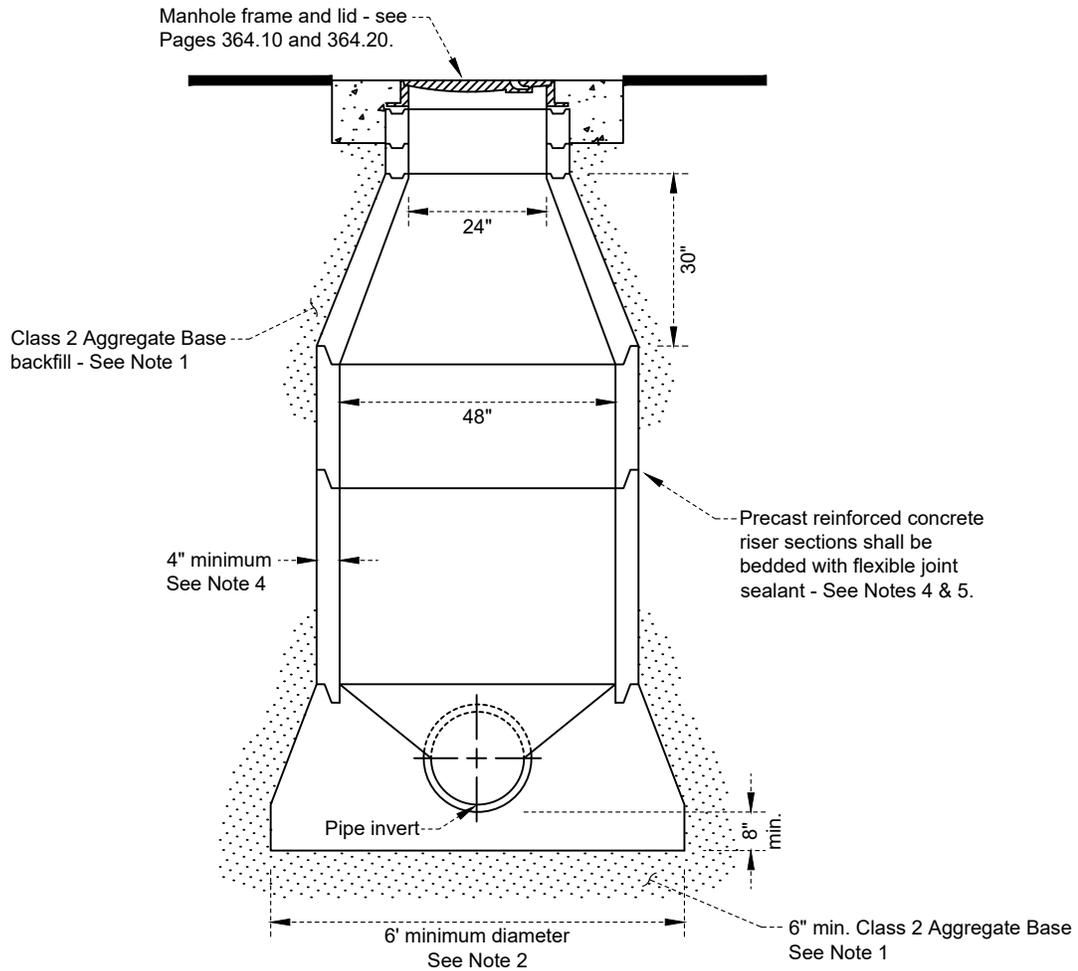
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Date: 09/2023

Dwg No.:

Scale: None

350.20



NOTES:

1. Structure backfill shall conform to Page 610.20.
2. Precast concrete bases manufactured by Cook Concrete Products, Teichert Aggregate, or approved equal may be used in lieu of poured in-place bases. See Page 363.00 for base details.
3. Eccentric type concrete cone sections shall be installed in place of concentric cones when directed by the Engineer. When eccentric cone sections are installed, the vertical wall shall be installed above the downstream pipe.
4. Precast reinforced concrete manhole segments shall conform to ASTM C478-70 (4" min. wall thickness). All sections shall have tongue and groove joints.
5. All manhole segments shall be bedded in double beads of flexible joint sealant (Kent Seal or approved equal).
6. Where manholes are not located in streets or the traveled way, the top of the manhole shall be set 12" to 24" above existing ground per Page 365.00 unless otherwise approved by the City Engineer.
7. 6' manholes shall be constructed at locations where pipe size is 30" or larger in diameter - see Page 361.00.
8. The minimum drop across manholes shall be the difference in diameters of the upstream and downstream pipes or 0.2', which ever is greater.
9. Trace wire shall be installed in conformance with Pages 608.00 and 612.20.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

**TYPE 1 4' DIAMETER
SANITARY SEWER MANHOLE**

Approved:

09-30-2023

City Engineer

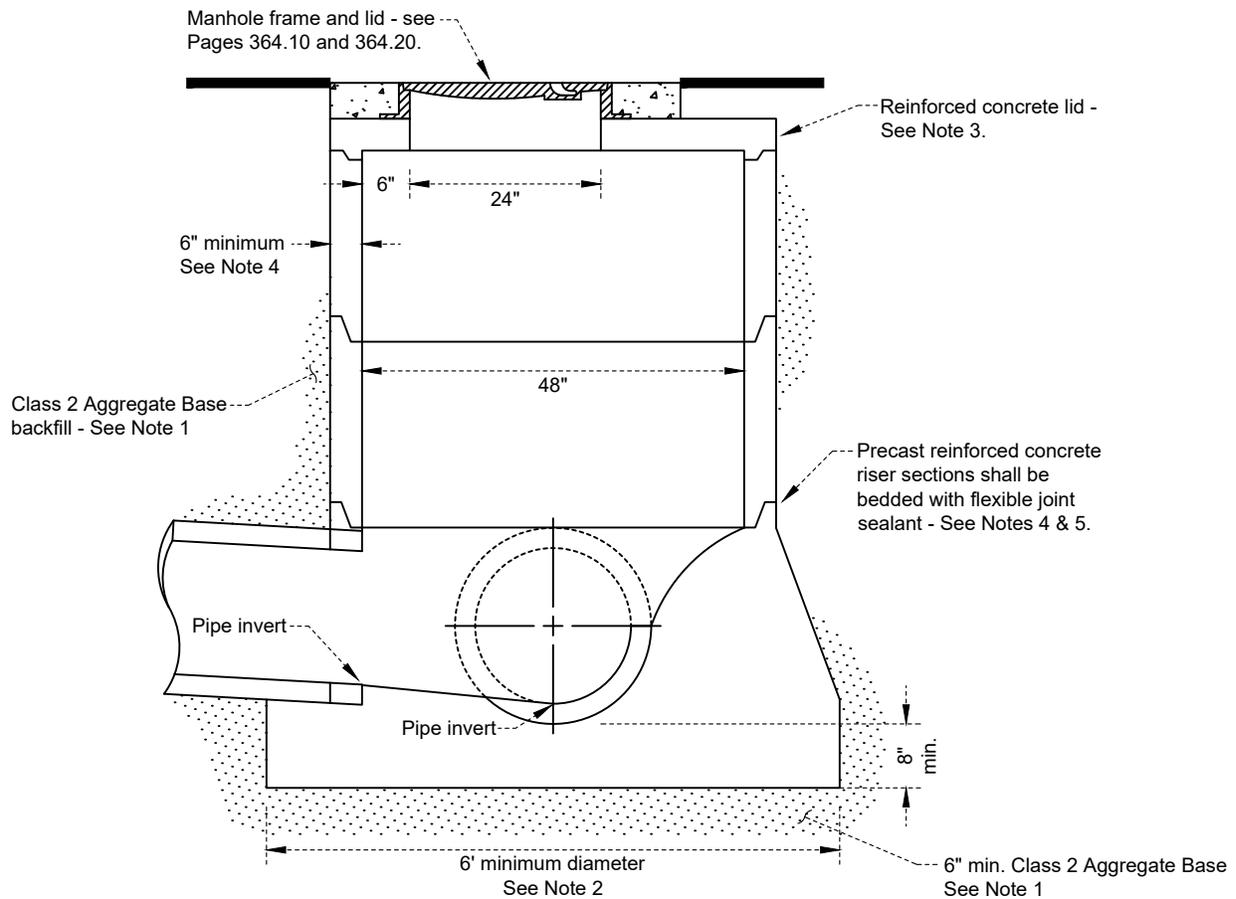
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Date: 09/2023

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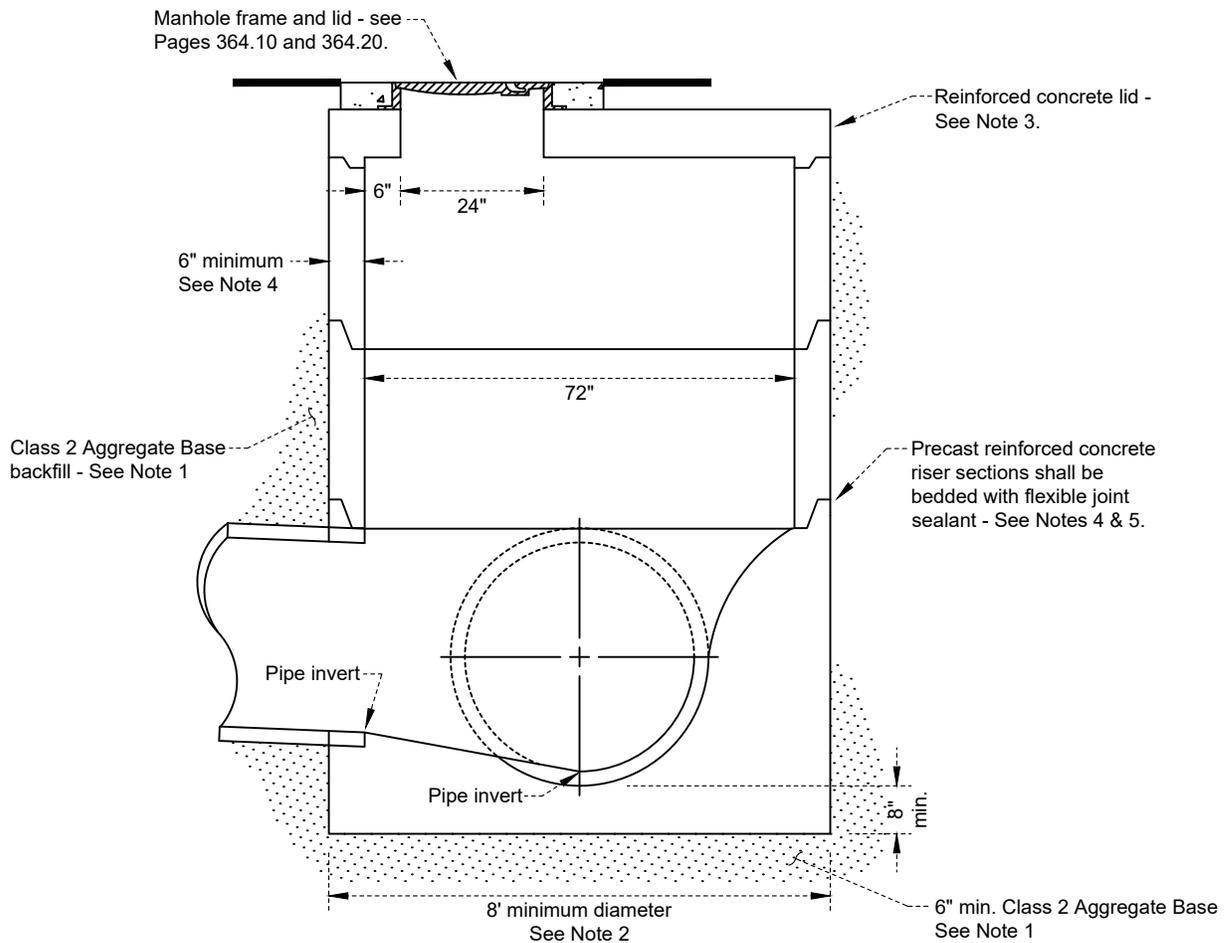
360.10



NOTES:

1. Structure backfill shall conform to Page 610.20.
2. Precast concrete bases manufactured by Cook Concrete Products, Teichert Aggregate, or approved equal may be used in lieu of poured in-place bases. See Page 363.00 for base details.
3. Flat reinforced concrete lid shall meet AASHTO HS20-44 requirements. Lid design shall be approved by the City Engineer prior to installation.
4. Precast reinforced concrete manhole segments shall conform to ASTM C478-70 (6" min. wall thickness). All sections shall have tongue and groove joints.
5. All manhole segments shall be bedded in double beads of flexible joint sealant (Kent Seal or approved equal).
6. Where manholes are not located in streets or the traveled way, the top of the manhole shall be set 12" to 24" above existing ground per Page 365.00 unless otherwise approved by the City Engineer.
7. 6' manholes shall be constructed at locations where pipe size is 30" or larger in diameter - see Page 361.00.
8. The minimum drop across manholes shall be the difference in diameters of the upstream and downstream pipes or 0.2', which ever is greater.
9. Trace wire shall be installed in conformance with Pages 608.00 and 612.20.

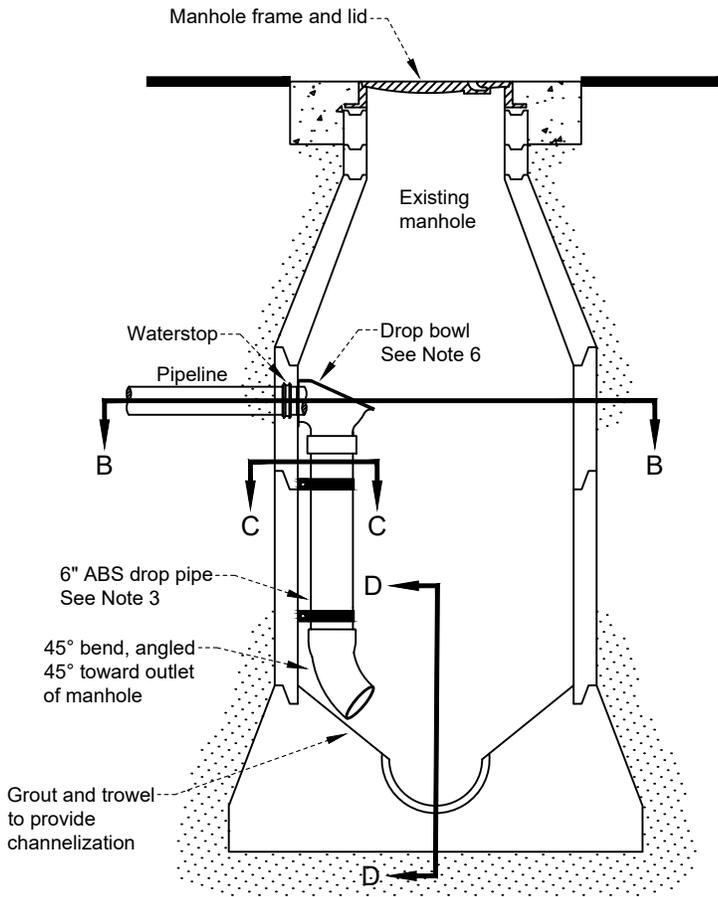
				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		City Engineer Date	
				TYPE 2 4' DIAMETER		Date: 09/2023 Dwg No.:	
				SANITARY SEWER MANHOLE		Scale: None 360.20	
REVISION	BY	APPROVED	DATE				



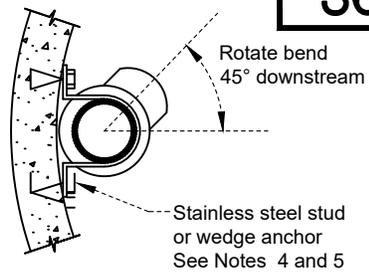
NOTES:

1. Structure backfill shall conform to Page 610.20.
2. Precast concrete bases manufactured by Cook Concrete Products, Teichert Aggregate, or approved equal may be used in lieu of poured in-place bases. See Page 363.00 for base details.
3. Flat reinforced concrete lid shall meet AASHTO HS20-44 requirements. Lid design shall be approved by the City Engineer prior to installation.
4. Precast reinforced concrete manhole segments shall conform to ASTM C478-70 (6" min. wall thickness). All sections shall have tongue and groove joints.
5. All manhole segments shall be bedded in double beads of flexible joint sealant (Kent Seal or approved equal).
6. Where manholes are not located in streets or the traveled way, the top of the manhole shall be set 12" to 24" above existing ground per Page 365.00 unless otherwise approved by the City Engineer.
7. 6' manholes shall be constructed at locations where pipe size is 30" or larger in diameter.
8. The minimum drop across manholes shall be the difference in diameters of the upstream and downstream pipes or 0.2', which ever is greater.
9. Trace wire shall be installed in conformance with Pages 608.00 and 612.20.

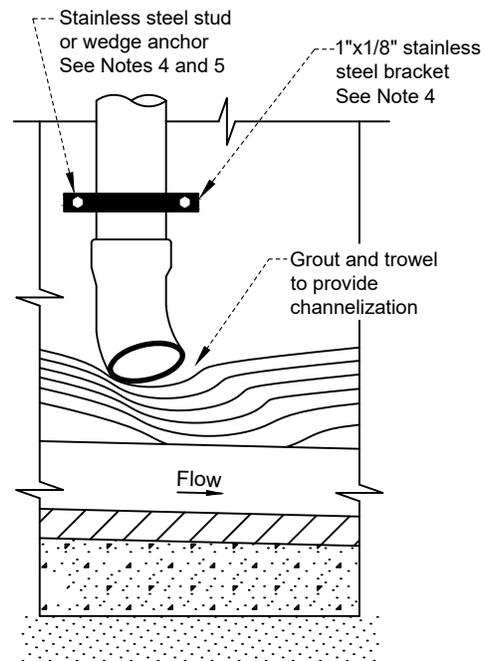
				CITY OF SHASTA LAKE		Approved:  09-30-2023 Date	
				Public Works Department			
				STANDARD DRAWING		City Engineer _____ Date _____	
				6' DIAMETER SANITARY SEWER MANHOLE		Date: 09/2023 Dwg No.: Scale: None 361.00	
REVISION	BY	APPROVED	DATE				



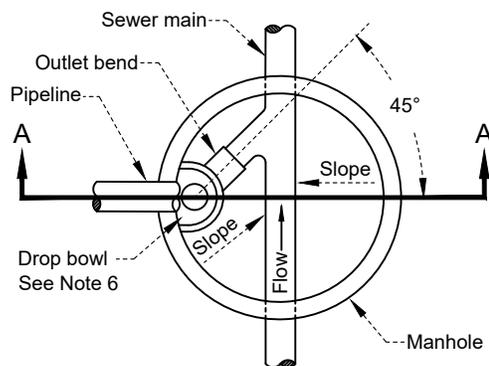
Section A-A



Section C-C



Section D-D



Section B-B



Drop Bowl Mounting Position

NOTES:

1. Inside drop manholes may be installed when the elevation difference is 6' or more on existing facilities and with special approval by the City Engineer.
2. Inside drop manholes may be utilized only with 8" or smaller inlet pipe.
3. Drop pipe shall be 6" ABS Schedule 40 DWV pipe.
4. 1"x1/8" stainless steel brackets shall be used to secure vertical drop pipe to the manhole wall, with a minimum of one bracket per joint of pipe and a minimum of two brackets per manhole installation.
5. All holes drilled into concrete for mounting brackets shall be sealed with watertight epoxy.
6. Drop bowl shall be Reliner by Duran, Inc. or approved equal.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SANITARY SEWER INSIDE DROP ASSEMBLY

Approved:

09-30-2023

City Engineer

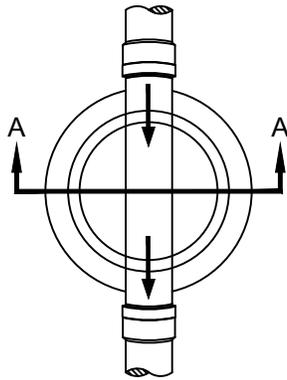
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Date: 09/2023

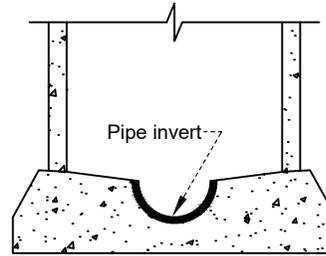
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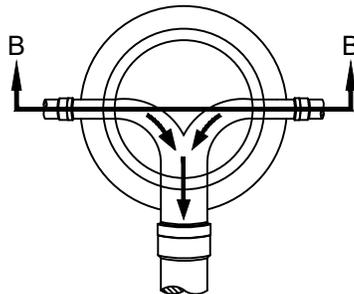
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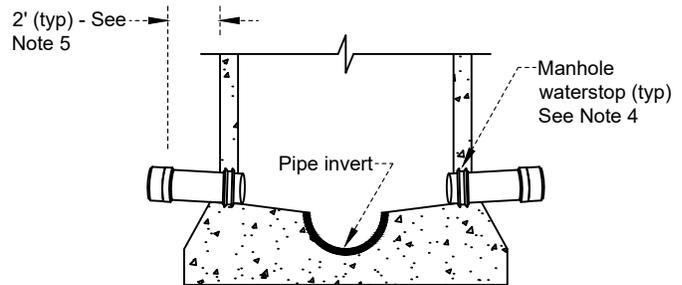
Plan A



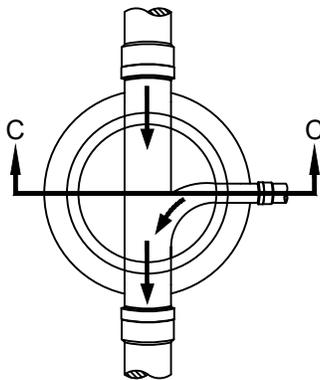
Section A-A



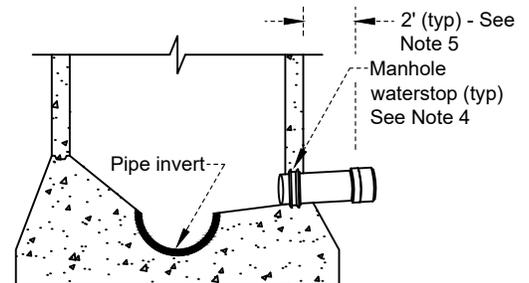
Plan B



Section B-B



Plan C



Section C-C

NOTES:

1. Concrete shall conform to Page 100.00. Structure backfill shall conform to Page 610.20.
2. Precast concrete bases manufactured by Cook Concrete Products, Teichert Aggregate, or approved equal may be used in lieu of poured in-place bases.
3. The minimum drop across manholes shall be the difference in diameters of the upstream and downstream pipes or 0.2', which ever is greater.
4. Where pipelines penetrate manhole walls, waterstops shall be installed around the pipe to form a watertight seal. Waterstops shall be centered in the manhole wall and grouted into the manhole wall with non-shrink grout on both faces. Precast manhole bases with pre-installed rubber push joints may be substituted for waterstops.
5. All pipelines shall have a pipe bell joint installed 2' outside of the manhole wall.
6. Flow channel may be hand-formed for poured-in-place bases.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

MANHOLE BASE DETAILS

Approved:

09-30-2023

City Engineer

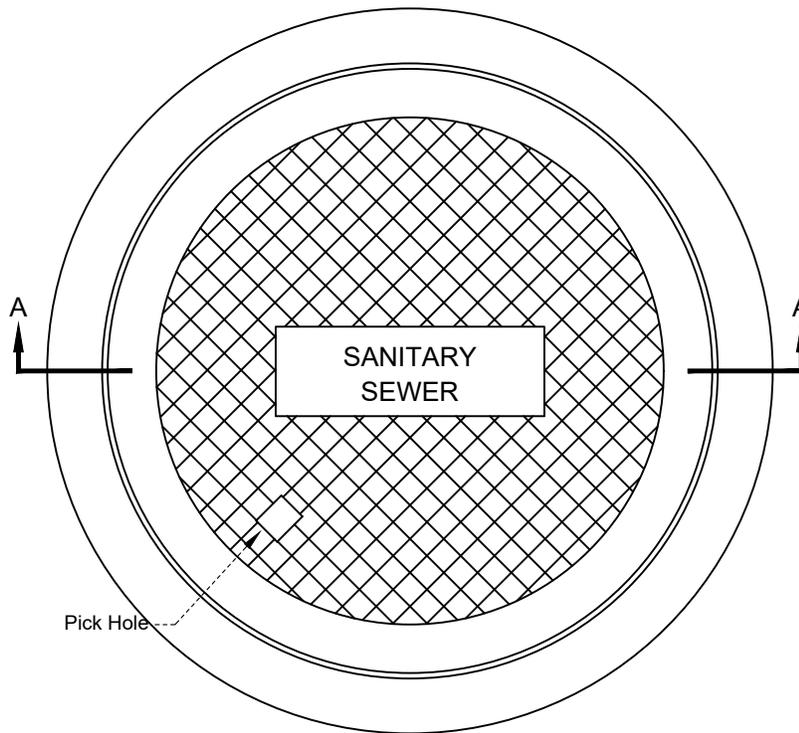
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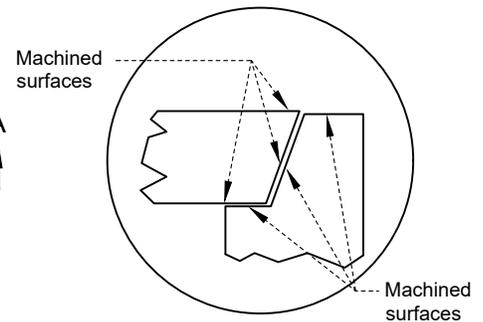
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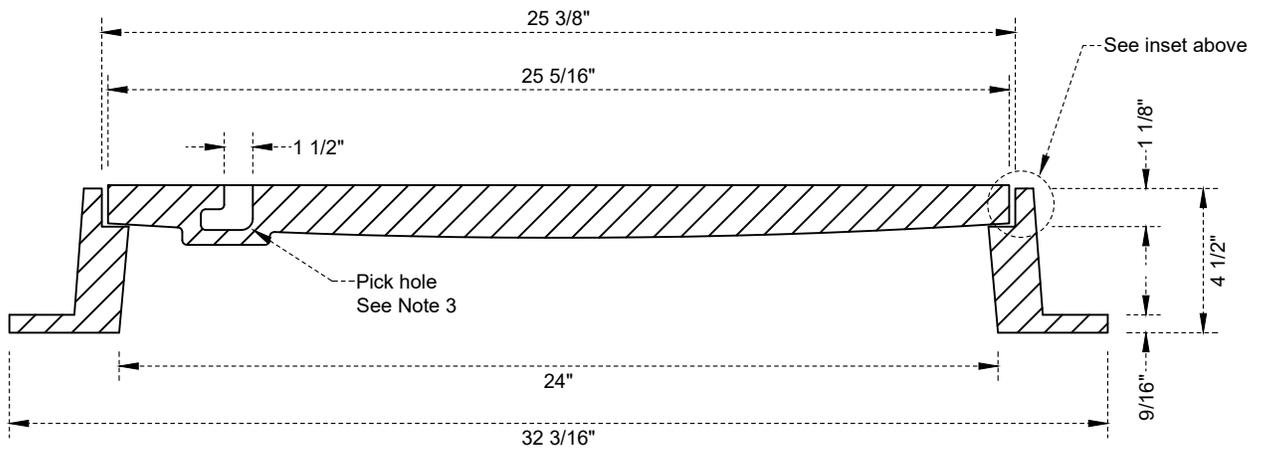
363.00



PLAN



INSET



SECTION A-A

NOTES:

1. Frame and cover shall be fully machined on surfaces as shown to provide a no-rock, no-stick fit, and shall be HS-20 traffic-rated.
2. Cover markings shall be "SANITARY SEWER", "SEWER", or "SS".
3. Lid shall be furnished with closed pickholes.
4. Frame and lid shall be D&L Supply Co. A-1024 or approved equal. All parts of acceptable assemblies shall be interchangeable.
5. See Page 612.20 for concrete collar and grade adjustment details.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

24" SANITARY SEWER
MANHOLE FRAME AND LID

Approved:

09-30-2023

City Engineer

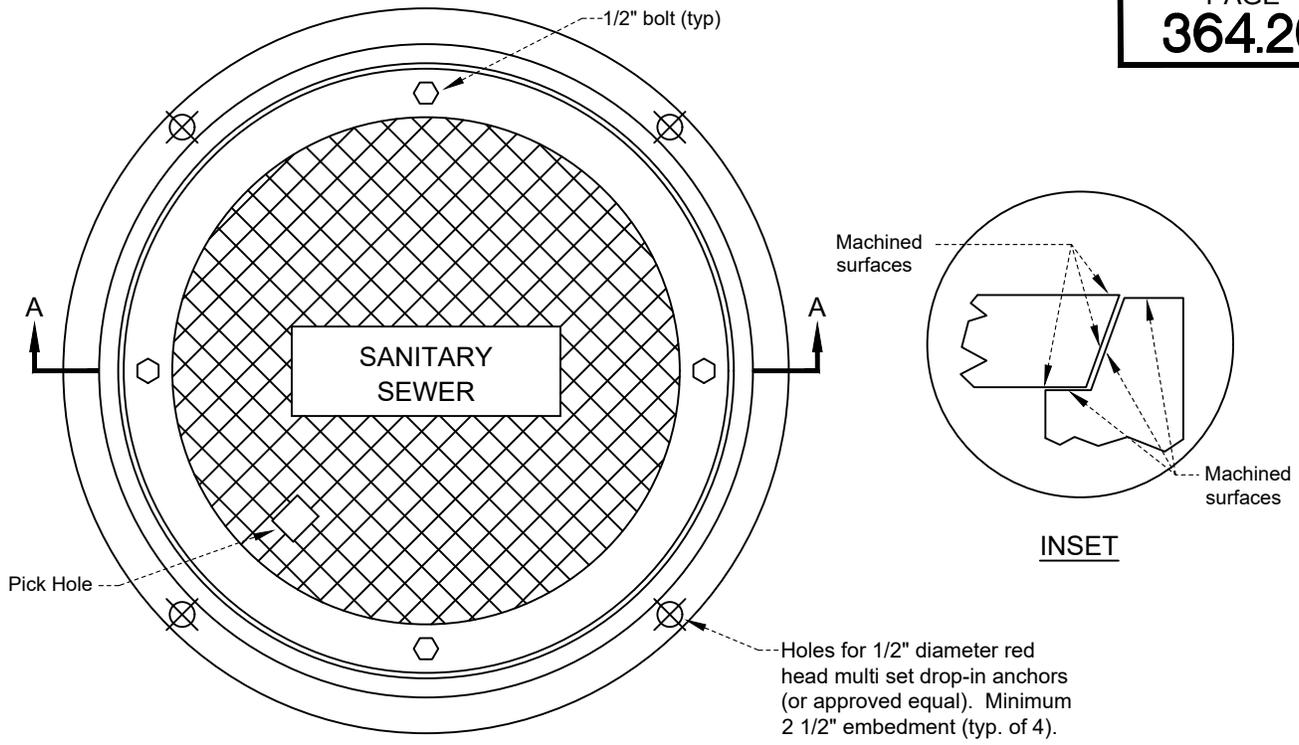
Date

Date: 09/2023

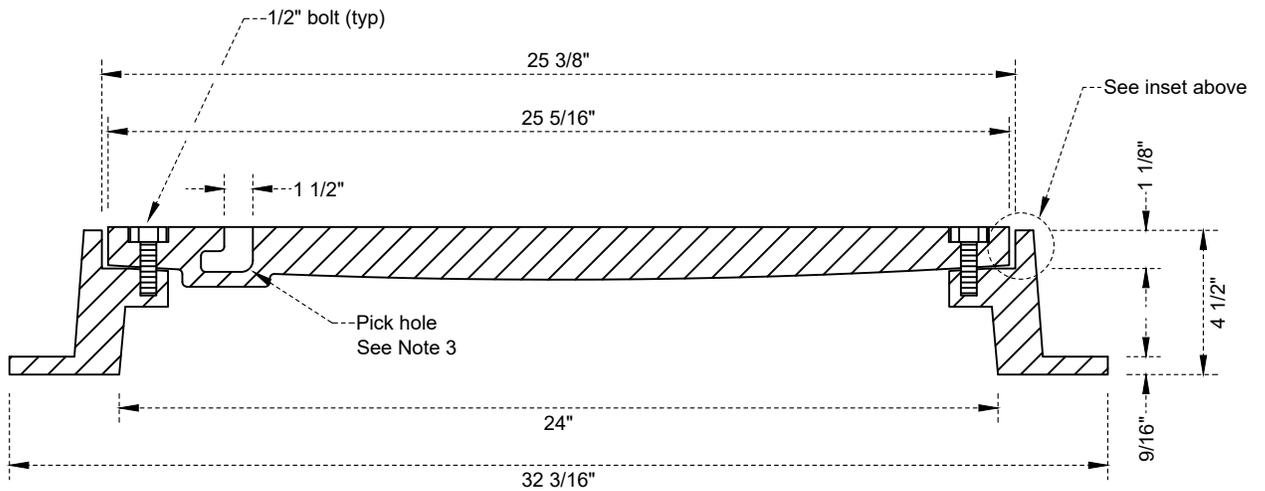
Dwg No.:

Scale: None

364.10



PLAN



SECTION A-A

NOTES:

1. Frame and cover shall be fully machined on surfaces as shown to provide a no-rock, no-stick fit, and shall be HS-20 traffic-rated.
2. Cover markings shall be "SANITARY SEWER", "SEWER", or "SS".
3. Lid shall be furnished with closed pickholes.
4. Frame and lid shall be D&L Supply Co. A-1024 or approved equal. All parts of acceptable assemblies shall be interchangeable.
5. See Page 612.20 for concrete collar and grade adjustment details.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

**24" SANITARY SEWER
MANHOLE FRAME AND LID - BOLT DOWN**

Approved:

09-30-2023

City Engineer

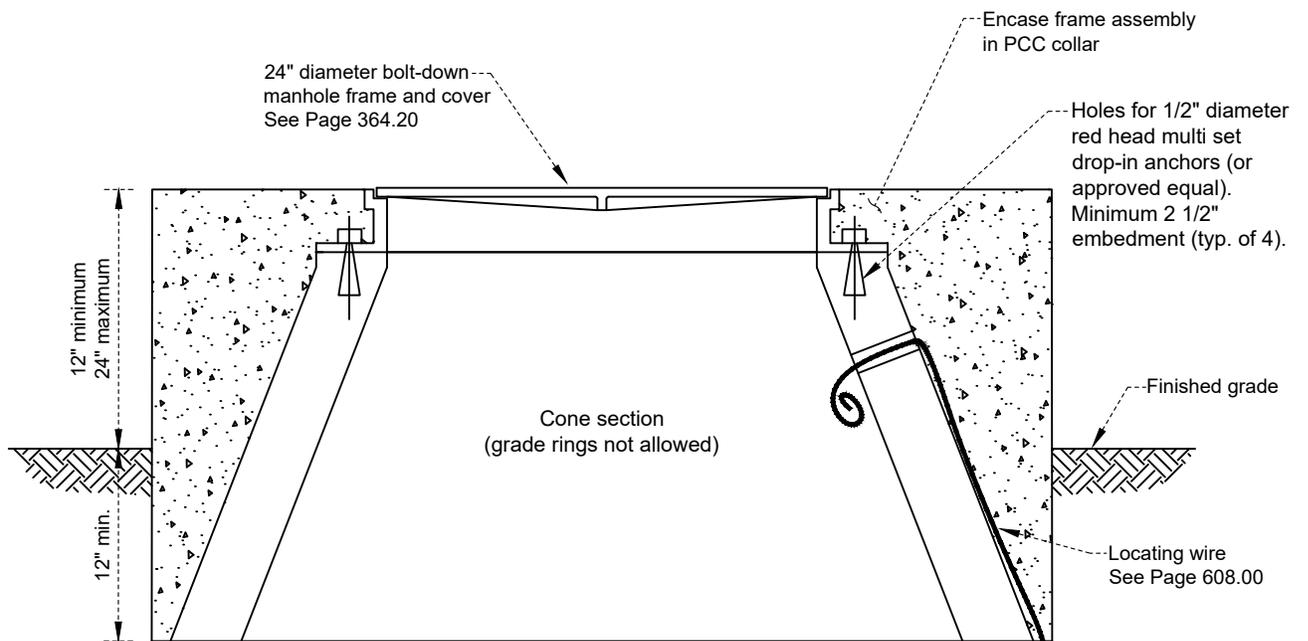
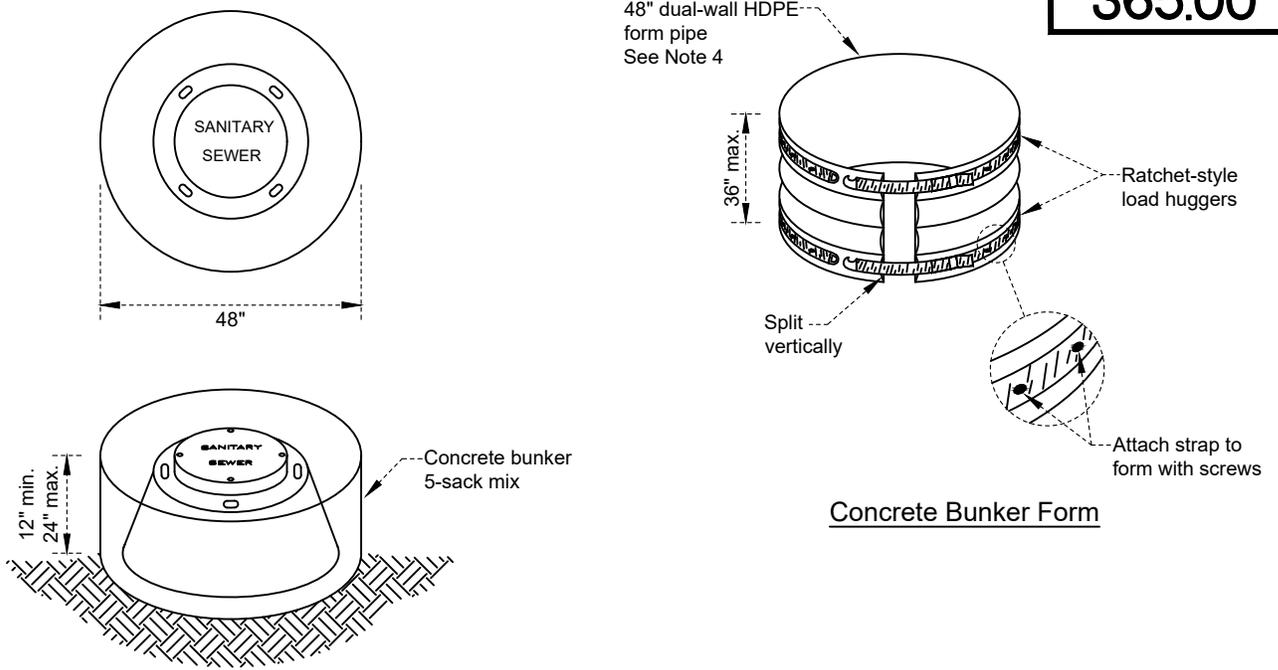
Date

Date: 09/2023

Dwg No.:

Scale: None

364.20



NOTES:

1. Concrete shall conform to Page 100.00.
2. For sanitary sewer manhole construction information, see Page 360.10.
3. Excess locating wire shall be within 12" of the finished grade.
4. Form pipe shall be 48" dual wall HDPE. The internal face shall be smooth, the external face shall be corrugated, and the form pipe shall be split to allow for form removal following concrete placement.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

**SANITARY SEWER ABOVE GROUND
MANHOLE INSTALLATION**

Approved:

09-30-2023

City Engineer

Date

Date: 09/2023

Dwg No.:

Scale: None

365.00

APPLICABILITY:

1. Sand and oil interceptors (also referred to as SOIs or oil/water separators) are required for industrial and commercial establishments where it is necessary to capture solids (sand, silt, sediment, sludge, etc.) and/or floatable material (oil, grease, etc.), such as auto repair facilities and car washes.
2. This standard applies to all new construction, tenant improvements, remodels, and existing systems which are in need of an upgrade.
3. SOIs shall be sized based on design information submitted by the developer's engineer and approved by the City Engineer.
4. Stormwater shall not enter the wash area. A roof is required over all areas that shed to a SOI.

SIZING CRITERIA:

1. Parameter: The parameters for sizing SOI units are hydraulic loading, retention time, and storage factor for one or more fixtures or industrial applications.

2. Sizing formula: The size of the SOI will be determined by using of the following formula:

$$\begin{matrix} \text{Number of} & & \text{Waste Flow} & & \text{Retention} & & \text{Storage} & & & & \text{Interceptor size} \\ \text{units washed} & \times & \text{Rate}^{**} & \times & \text{Time}^{***} & \times & \text{Factor}^{****} & = & & & \text{(liquid capacity)} \\ \text{per hour}^* & & & & & & & & & & \end{matrix}$$

- * Number of units washed per hour (i.e., autos, engines, parts, etc.)
- ** Waste flow rate in gallons per unit cleaned (for intermittent use) or gallons per hour (for constant use)
- *** Retention time = 2.0 hours
- **** Storage factors:
 - A. Self service/public: 1.5 hours
 - B. Employee operated automated/commercial 2.0 hours
 - C. Other industrial/commercial applications 2.0 hours

3. The minimum SOI size permitted by the City is 100 gallons.

				<p>CITY OF SHASTA LAKE Public Works Department</p>	<p>Approved:  09-30-2023</p> <p>City Engineer Date</p>
				<p>STANDARD DRAWING</p>	
				<p>SAND AND OIL INTERCEPTORS (SOI) APPLICABILITY AND SIZING</p>	<p>Date: 09/2023 Dwg No.:</p> <p>Scale: None 380.01</p>
REVISION	BY	APPROVED	DATE		

DESIGN:

1. SOI construction shall include a sample monitoring station.
2. The use of alternate pretreatment systems in conjunction with or in lieu of a SOI unit shall be approved by the City Engineer prior to implementation. Design specifications shall be submitted with the application paperwork, and details of the alternate system shall be included with the improvement plans.
3. If an existing SOI is undersized but is otherwise structurally sound and installed properly, a business or owner may install an additional SOI in series with the existing SOI to satisfy the total size capacity required.
4. Sanitary tees shall be installed at the inlet and outlet of each SOI. The sanitary tee shall be installed so the top opening of the sanitary tee is visible and accessible from the manhole lids.
5. The SOI shall be installed as shallow as possible. The bottom of the SOI shall not be greater than 15 feet below grade to facilitate routine pumping, and the installation shall not exceed the tank manufacturer's design criteria for maximum cover (top of tank to grade).
6. No more than 24" of grade rings shall be used for a SOI installation. An eccentric concrete cone or reducing top (36" to 24" manhole or 48" to 24" manhole) shall be used if the top of the SOI is more than 24 " below finished grade (see Pages 360.10 and/or 360.20).
7. Manhole lids for SOIs shall not be bolted down.
8. All SOIs shall be properly installed and maintained. All internal plumbing of proper design and length shall be in place at all times. SOIs are required to be pumped when 25% of the internal capacity is occupied by oils, grease , or solids. Pumping is typically required every 12 months depending on use. SOI pumping is the responsibility of the business operator unless other agreements have been made between the business operator and property owner or property manager. The City shall not be responsible for maintenance or pumping of private SOIs.
9. Grated openings shall not be installed over the SOI. Trench drains and drop inlets shall be separate from the SOI tank.
10. SOIs and hydromechanical separators may be inspected by the City to ensure proper installation and maintenance.
11. Sludge and other waste hauling manifests related to SOI pumping shall be retained for a minimum of 3 years.

				CITY OF SHASTA LAKE Public Works Department	Approved:  09-30-2023 Date
				SAND AND OIL INTERCEPTORS (SOI) DESIGN REQUIREMENTS	City Engineer _____ Date
					Date: 09/2023 Dwg No.: Scale: None 380.02
REVISION	BY	APPROVED	DATE		

APPLICABILITY:

1. Oil and grease interceptors (also referred to as OGIs or gravity grease interceptors) are required at commercial and industrial food and beverage facilities where it is necessary to capture grease, oil, and food solids before it enters the City sanitary sewer system.
2. This standard applies to all new construction, tenant improvements, remodels, and existing systems which are in need of an upgrade. OGIs must be installed outdoors or in a location outside of the food preparation area.
3. OGIs will be sized from information submitted on the facility's wastewater discharge application. Sizing criteria shall follow California Plumbing Code, Chapter 10. Gravity grease interceptors shall have a minimum retention time of 30 minutes and be a minimum size of 500 gallons.

SIZING CRITERIA:

1. OGI size shall be determined as follows:

<u>Drainage Fixture Units (DFUs)</u>	<u>OGI Size (gallons)</u>
≤ 8	500
21	750
35	1000
90	1250
172	1500
216	2000
307	2500
342	3000
428	4000
576	5000
720	7500

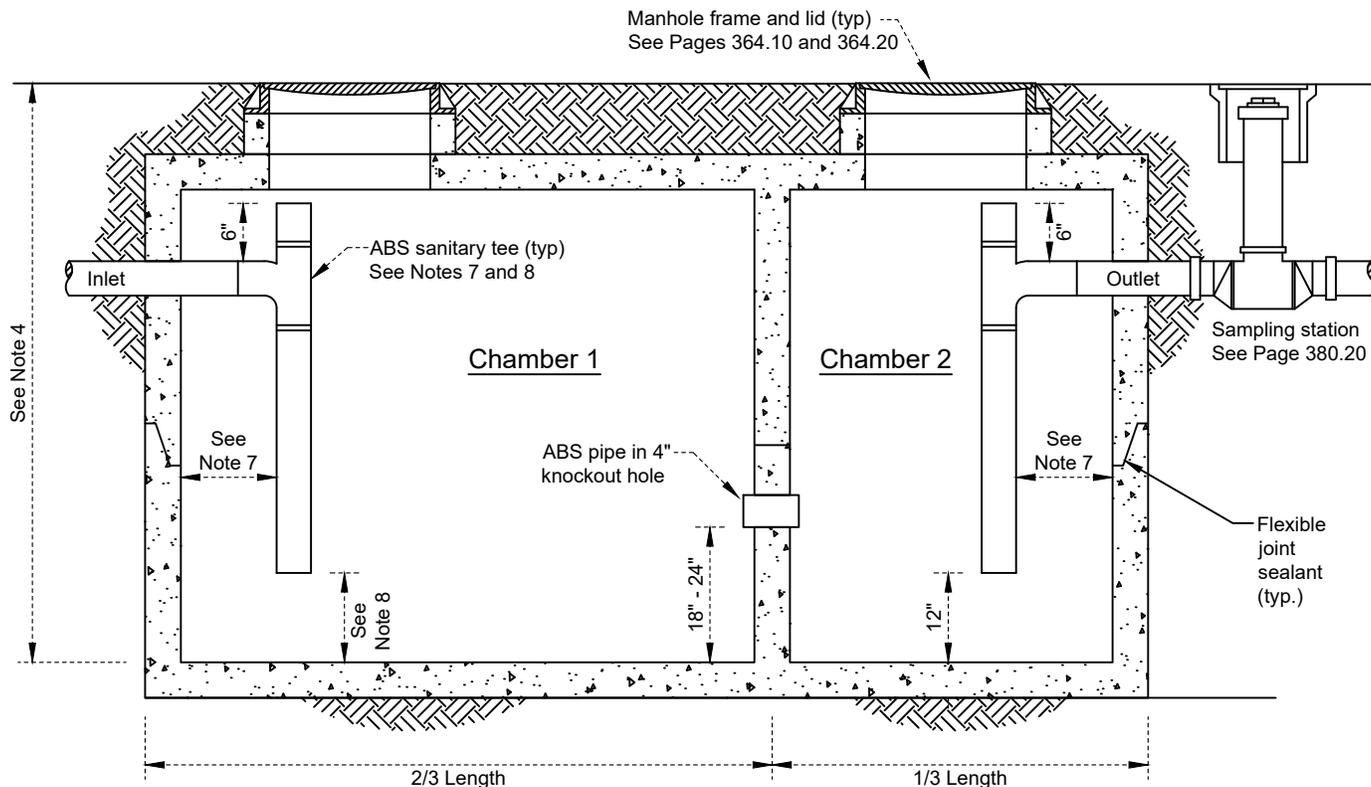
2. The minimum OGI size allowed by the City is 500 gallons. For very large facilities, the size will be established on a case by case basis. For OGIs larger than 3,000 gallons, multiple OGIs shall be installed in series to facilitate complete maintenance pumping (i.e. two 2,500 gallon OGIs shall be used when a total of 5,000 gallon capacity is required).

				CITY OF SHASTA LAKE Public Works Department STANDARD DRAWING	Approved:  Date: 09-30-2023
					City Engineer _____ Date _____
				OIL AND GREASE INTERCEPTORS (OGI) APPLICABILITY AND SIZING	Date: 09/2023 Dwg No.: Scale: None 380.03
REVISION	BY	APPROVED	DATE		

DESIGN:

1. OGI construction shall include a sample monitoring station.
2. All food wastes shall be screened and disposed of as solid waste. Garbage disposals are strongly discouraged; however, where disposals are installed, they shall be plumbed to the OGI.
3. If an existing OGI is undersized but is otherwise structurally sound and installed properly, a business or owner may install an additional OGI in series with the existing OGI to satisfy the total capacity requirement.
4. Sanitary tees shall be installed at the inlet and outlet of each OGI. The sanitary tee shall be installed so the top opening of the sanitary tee is visible and accessible from the manhole lids.
5. The OGI shall be installed as shallow as possible. The bottom of the OGI shall not be greater than 15 feet below grade to facilitate routine pumping, and the installation shall not exceed the tank manufacturer's design criteria for maximum cover (top of tank to grade).
6. No more than 24" of grade rings shall be used for an OGI installation. An eccentric concrete cone or reducing top (36" to 24" manhole or 48" to 24" manhole) shall be used if the top of the OGI is more than 24 " below finished grade (see Pages 360.10 and/or 360.20).
7. Manhole lids for OGIs shall not be bolted down.
8. All OGIs shall be properly installed and maintained. All internal plumbing of proper design and length shall be in place at all times. OGIs are required to be pumped when 25% of the internal capacity is occupied by oils, grease, or solids. Pumping is typically required every 3 months depending on use. OGI pumping is the responsibility of the business operator unless other agreements have been made between the business operator and property owner or property manager. The City shall not be responsible for maintenance or pumping of private OGIs.
9. Hydromechanical grease interceptors or other pre-manufactured devices shall only be allowed where space or other design constraints prohibit the installation of an OGI. The use of alternate devices shall be approved by the City Engineer prior to implementation. Design specifications for pre-manufactured devices shall be submitted with the wastewater discharge application, and details of the alternate system shall be included with the improvement plans.
10. OGIs and alternate devices may be inspected by the City to ensure proper installation and maintenance.
11. Sludge and other waste hauling manifests related to OGI pumping shall be retained for a minimum of 3 years, or as required by the Health Department.

				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		City Engineer _____ Date	
				OIL AND GREASE INTERCEPTORS (OGI)		Date: 09/2023 Dwg No.:	
				DESIGN REQUIREMENTS		Scale: None 380.04	
REVISION	BY	APPROVED	DATE				



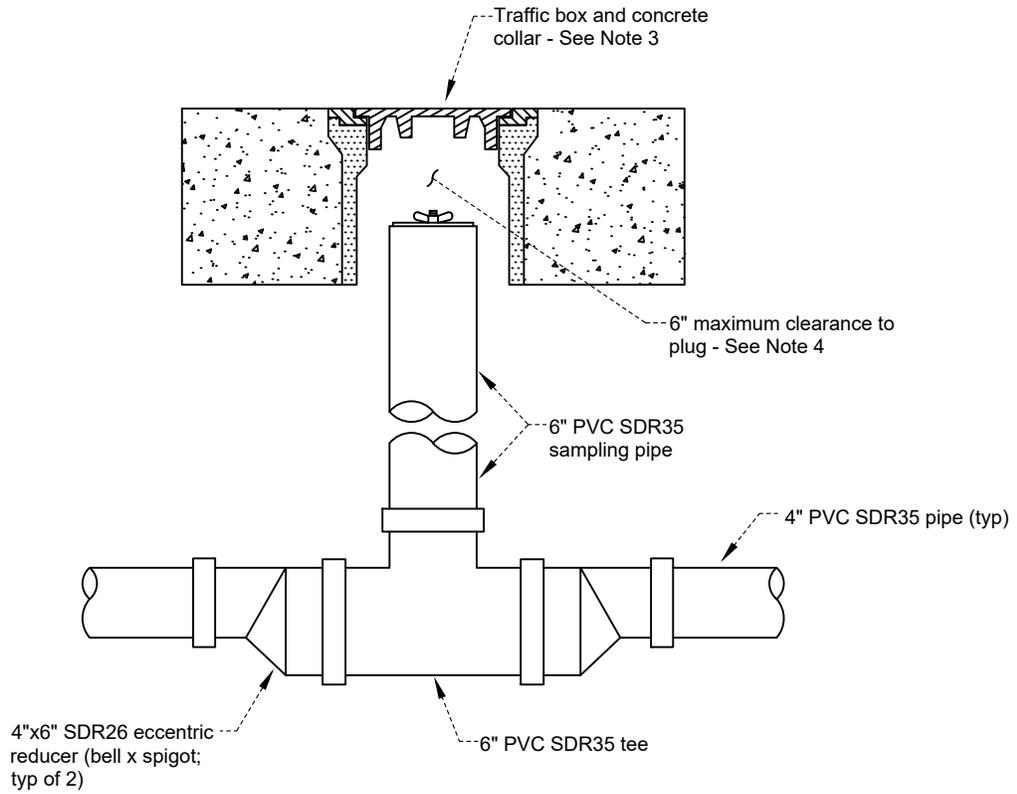
NOTES:

1. Interceptor tank shall have a minimum wall thickness of 3".
2. Interceptors that may be exposed to traffic loading shall be designed to AASHTO HS20-44 loading.
3. Structure backfill shall conform to Page 610.20.
4. The bottom of the SOI / OGI shall not be greater than 15 feet below grade, and the installation shall not exceed the tank manufacturer's design criteria for maximum cover (top of tank to grade).
5. No more than 24" of grade rings shall be used for a SOI / OGI installations. An eccentric concrete cone or reducing top (36" to 24" manhole or 48" to 24" manhole) shall be used if the top of the SOI / OGI is more than 24" below finished grade (see Pages 360.10 and/or 360.20). If eccentric cones are installed, the vertical wall shall be over the inlet and outlet ends of the tank.
6. Inlet and outlet plumbing shall be secured in place with non-shrink grout. Sanitary tees shall be glued to the inlet and outlet plumbing.
7. ABS sanitary tees shall be aligned with the edge of the access cover to allow for maintenance cleaning.
8. OGIs shall have 12" clearance below the inlet sanitary tee. SOIs shall have 24" clearance below the inlet sanitary tee.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE
Public Works Department
STANDARD DRAWING
SAND AND OIL (SOI) /
OIL AND GREASE (OGI) INTERCEPTOR

Approved: <i>WST</i>		09-30-2023
City Engineer		Date
Date: 09/2023	Dwg No.:	
Scale: None	380.10	



NOTES:

1. Backfill material shall conform to Page 610.10.
2. All fittings shall be gasketed.
3. Traffic box and concrete collar installation shall conform with Page 612.10.
4. Plug shall be a mechanical gasketed end-of-pipe plug with wing nut (Cherne Industries or approved equal).

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SAMPLING STATION

Approved:

09-30-2023

City Engineer

Date

Date: 09/2023

Dwg No.:

Scale: None

380.20