## STANDARD DETAIL LIST
(Continued)

### Sewer Details

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Minimum 2' clearance from any structure, deck etc. City specified 4' cleanout

NOTES:
If cleanout is in driveway use Sioux Chief Mfg. Co., Inc. Toupee Plus adjustable cleanout #851-34 or approved equal.

When a cleanout is located in a driveway, permit holder is required to contact the City for a final inspection of the driveway cleanout prior to occupancy of the house. (See Detail S-3.3)

Cleanout required for every 135° change in direction and every 70 feet. No 90° bends allowed.

Pipe material will match existing lateral.

TYPICAL HOUSE SIDE SEWER

CITY OF RIDGEFIELD
1. Service laterals shall be installed per Section 7.08.3 of the Standard Specifications.

2. Service laterals shall be plugged per Section 7-08.3(2)f of the Standard Specifications. Service laterals shall be clearly marked per Section 7-18.3(5) of the Standard Specifications.

3. All service laterals shall be a minimum of 6-inches in diameter, except for single family lots which may be 4-inch.

4. In new subdivisions all single-family side sewers (laterals) shall be 4" PVC Wye.

5. Approved commercial taps:
   - SEALTIGHT® TYPE "C" OR "D" SEWER SADDLE.
   - FOWLER QUIK-WAY® SEWER TAP.
   - FOWLER "T & L"® SEWER TEE.
   - "TAP-TITE"® SEWER TEE.

6. Service laterals connecting to ductile iron pipe shall also be ductile iron.

7. Transitions between dissimilar pipe materials or sizes shall be made with approved adaptors (Fernco, Caulder or equal).

8. In new subdivisions and other construction involving new roads, install laterals to 8 feet behind property line for sewers in street Right-of-Way and mark with a vertical 2x4 painted green. Refer to Standard Sanitary note 10 (G-4.1)
NOTES:
1. ALL CONCRETE TO BE 3000 P.S.I., 2" TO 4" SLUMP.
2. WALLS WILL BE PLACED WHERE GRADE IS 20% OR OVER.
3. ANCHOR WALLS TO BE EQUALLY SPACED WITH MAXIMUM DISTANCE BETWEEN WALLS TO BE AS SHOWN IN TABLE "A".
4. PLACE WALL IMMEDIATELY BELOW BELL OF PIPE WHERE POSSIBLE.
5. CONCRETE SHALL BE Poured AGAINST FORMS OR STABLE UNDISTURBED SOIL.

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<td>Slope %</td>
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<tr>
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<tr>
<td>Pipe Size (D)</td>
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<td>6&quot;, 8&quot;, 10&quot;</td>
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<tr>
<td>12&quot;, 15&quot;</td>
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<tr>
<td>18&quot;, 21&quot;, 24&quot;</td>
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<td>30&quot;, 36&quot;</td>
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PIPE SECTIONS SHALL BE ENCASED IN CONCRETE WHEN:
1) SEPARATION BETWEEN WATER AND SEWER LINE AT CROSSING IS LESS THAN 18". ENCASEMENT SHALL EXTEND A MINIMUM OF 3' BEYOND WATERLINE TRENCH. CONCRETE COMPRESSIVE STRENGTH SHALL BE 300 PSI.
2) PIPE WILL BE LAID IN AN AREA WITH POTENTIAL FOR SETTLING SUCH AS IN A ROADWAY OR BELOW A STREAM. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI MINIMUM. REBAR SHALL BE REQUIRED PER THE DESIGN ENGINEER.
3) AS DIRECTED BY THE CITY ENGINEER.
1. All precast manhole rings and cones shall conform to ASTM C-478 with cast in place joint. (See Standard Plan No. S-2.3)

2. All manhole installations shall be bored and conformed to Standard Plan S-2.4.

3. In over excavated areas, provide support for the pipe as follows: place 3/4" minus crushed rock over undisturbed ground in 6" layers and compact using hand tamper.

4. Base concrete shall be 3,000 p.s.i., 2-4 in. slump. Flow lines and inside surfaces shall be trowled smooth & uniform at time of pour. Manhole base may be monolithic cast to 8" above bore of main sewer. Channels shall conform accurately to sewer grade. Install benches to elevation of springline of pipe.

5. Cast-in-place, monolithic manhole may be substituted with specific approval of the Engineer.

6. Joints shall be constructed so as to be watertight. See Standard Plan No. S-2.9. Seal all manhole joints with Infit-Shield "Seal Wrap" Exterior Seal System or equal.

7. Manholes under 6'-0" in depth from rim to shelf shall have a top slab in lieu of cone. (See Standard Plan No. S-2.5).

8. Vacuum testing of monoholes will be required.

9. Locking covers are required in easements, or at the discretion of the City Inspector.

10. WhirlyGig Manhole Riser/Collar System shall be used in place of riser rings unless otherwise approved.

11. All manholes shall be provided with Rain Shields to prevent infiltration of stormwater.
STANDARD MANHOLE FRAMES AND COVERS

STANDARD DETAILS

CITY OF RIDGEFIELD

SHEET S-2.2
LANE INTERNATIONAL CORPORATION
POLYPROPYLENE MANHOLE SAFETY
STEP P-14850 WITH REFLECTORS.

NOTES:

All steps must meet ASTM C-478 and
AASHTO M-199 Specifications,
polypropylene ASTM D-4104, the 1/2"
Grade 60 deformed reinforcing bar
ASTM-A-615.

Installation method must resist 1,500
lb. horizontal pull out force and 500
lb. vertical load.

Locate steps over bench whenever
possible (not over the main).

1/2" GRADE 60 STEEL
REINFORCING BAR

SEE DETAIL TO
LEFT FOR STEP
REINFORCING BAR

STANDARD MANHOLE STEPS

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NOTES:

1. CONNECTIONS TO MANHOLE SHALL BE MADE WITH AN APPROVED EXPANSION TYPE RUBBER BOOT; KOR-N-SEAL® OR SEALTITE®, (NO FLEX JOINT REQUIRED), FOR ALL PIPES UP TO 18". LARGER PIPES WILL BE HANDLED ON A CASE-BY-CASE BASIS.

2. CORE NEAT HOLE IN MANHOLE AND INSTALL BOOT AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.

3. STUB-OUTS INSTALLED FOR FUTURE EXTENSIONS ARE TO BE PLUGGED AT BOTH ENDS.
NOTES:
1. CONSTRUCTION SHALL CONFORM TO STD. PLAN NO. S-2.1 IF NOT OTHERWISE SHOWN.
2. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478. ALL POURED INPLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. & 2" TO 4" SLUMP.
3. ALL REINFORCING SHALL BE GRADE 40 STEEL.
4. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE UNIT "MH" TOP SLAB IN LIEU OF CONE AS SHOWN ON STD. PLAN S-2.1.
5. REFER TO STD. PLAN S-2.1 FOR JOINT SEALING REQUIREMENTS.
6. WhirlyGig Manhole Riser/Collar System shall be used in place of riser rings unless otherwise approved.
Provide for pipes <12" when entering manhole >24" above the invert. Place larger pipe at manhole invert.

One length of ductile iron pipe (MJ) Class 52 to solid bearing when span is more than 4'.

Flexible joint or adapter.

Backfill with compacted material as directed by engineer.

Concrete 3000 p.s.i. 2" - 4" slump poured in place.

CI 90° bend (MJ x PE)

Typical manhole foundation construction.

Connect to manhole per STD. PLAN S-2.4

Elevation 'A-' 'A'

Outside Drop Connection

Standard Details

City of Ridgefield

Sheet S-2.6
CUT NEAT HOLE, AND CONNECT PER STD. PLAN S-2.4

(TYP.) MANHOLE WALL

PE x PE PVC SPOOL

PVC/CONCRETE TRANSITION COUPLING (CAULDER, FERNCO OR EQUAL)

CONCRETE PIPE

SECURE ASSEMBLY TO MANHOLE WALL WITH MIN. 1-1/2", 16 GA SSTL STRAPS AT EACH JOINT SECTION, USING 1/4" x 4" SSTL EXPANSION ANCHORS

PE x PE PVC

BELL x PE PVC

IN EXISTING MANHOLE, PLACE PVC ELBOW ON BENCH, GROUT NEW BENCH TO SPRINGLINE AND TROWEL SMOOTH. FORM SMOOTH CHANNEL TO INVERT

NOTE: INSIDE DROP ASSEMBLY MAY BE USED ONLY WHEN SPECIFICALLY APPROVED BY CITY ENGINEER. MAXIMUM ONE ASSEMBLY PER 48" MANHOLE.

INSIDE DROP CONNECTION

STANDARD DETAILS

CITY OF RIDGEFIELD

SHEET S-2.7
Concrete for closure collar shall be ready-mixed conforming with ASTM C94, alternate 2 and shall have a compressive strength of 3000 psi @ 28 days.

Adjustment grade rings and casting frame set in 1" of non-shrinking grout.

Notes:
1. Whirly-Gig manhole riser/collar system shall be used in place of riser rings within the city's public roadways. Concrete closure collars shall be provided around all manholes adjustment sections in easements.
FINISH SURFACE OF JOINT WITH WATER TIGHT GROUT. (TYPICAL ALL JOINTS) STRIKE EVEN WITH WALL.

KEYLOCK

MASTIC

TONGUE & GROOVE

MASTIC

(2 Rows)

CLEAN ALL JOINT AREAS AND PLACE GASKET END TO END

CORRECT MASTIC PLACEMENT

NOTES:

1. SEAL THE MANHOLE JOINTS WITH INFI-SHIELD "SEAL WRAP" EXTERNAL SEAL SYSTEM.

2. GROUT FOR SEALING JOINTS SHALL BE FIVE STAR, SIKA 212, EUCO N-5, OR APPROVED NON-SHRINK GROUT. STANDARD GROUT WILL NOT BE ACCEPTED.
CAST IRON VALVE BOX & COVER
WITH METALLIC INSERT FOR LOCATING PURPOSES

CONCRETE ANCHOR REQUIRED ON UNIMPROVED SURFACE

MATCH A.C. OR P.C.C. DEPTH (3" MIN.)

PAVED SURFACE

WATERTIGHT PLUG

CAST IRON VALVE BOX AND COVER NO. 910

NOTES:
1. VALVE BOX SHALL BE FORT VANCOUVER PATTERN NO. 910 CAST IRON OR APPROVED EQUAL
2. SEE DETAIL S-3.3 FOR ADDITIONAL REQUIREMENTS

REV. 3/05/08 SCH

STANDARD SEWER CLEANOUT

STANDARD DETAILS
CITY OF RIDGEFIELD

SHEET S-3.1
CUT NEAT HOLE, AND CONNECT PER
STD. PLAN S-2.4

(TYP.) 60" MANHOLE WALL

90 DEGREE ELL

PRESSURE MAIN

SECURE ASSEMBLY TO MANHOLE WALL AND BENCH
(FOR EXISTING MANHOLE) WITH MIN. 1-1/2", 16 GA
SSTL STRAPS AT EACH JOINT SECTION, USING 1/4" x 4" SSTL EXPANSION ANCHORS.

IN NEW MANHOLE, SECURE ASSEMBLY TO BENCH WITH MIN. 1-1/2", 16 GA SSTL STRAPS AT EACH JOINT SECTION, USING 1/4" x 4" SSTL EXPANSION ANCHORS OR BY INSTALLING STRAPS INTO CONCRETE WHEN FORMING BENCH.

EXTEND ASSEMBLY DISCHARGE PIPE TO OUTLET OF MANHOLE. INSTALL SO THAT THE TOP OF THE PRESSURE MAIN OUTLET IS AT THE SAME ELEVATION AS THE TOP OF THE MANHOLE OUTLET.

NOTES:

1. PRESSURE MAIN CONNECTION ASSEMBLY MAY BE USED ONLY WHEN SPECIFICALLY APPROVED BY THE CITY ENGINEER. MAXIMUM OF ONE ASSEMBLY PER 60" MANHOLE.

2. ALL PIPES AND JOINTS SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR FORCE MAIN CONSTRUCTION. ALL JOINTS, PIPES AND ANCHORS SHALL BE DESIGNED TO HANDLE THE PRESSURES AND FORCES GENERATED BY THE FORCE MAIN FLOW.

3. THE DISCHARGE MANHOLE AND TWO MANHOLES DOWNSTREAM MUST BE COATED WITH 120 MIL RAVEN EPOXY SYSTEM OR EQUAL.
CLEAN-OUTS IN DRIVEWAYS

Where residential clean-outs occur in driveways in new construction, a casting shall be installed to protect it. The cast iron casting is to be a min. of 2' greater I.D. than the size of pipe it is installed over, it shall be set in concrete at finished grade. Casting shall conform to the requirements of AASHTO M 105, grade 30B. See the following sketch for further details.

Standard cast iron frame Sioux Chief Mfg. Co., Inc. Toupee plus adjustable cleanout #851-34i or approved equal.

Set casting in concrete

Install 50# felt between pipe and concrete.

4" Diameter standpipe.
HANSON PIPE PRODUCTS, INC. CONCRETE VAULT

466-23

6'-6' (L) X 4'-6' (W) X 6'-1" (H)
OR APPROVED EQUAL.

WALI SHALL BE 0.1' HIGHER THAN FINISHED GRADE WITH POSITIVE DRAINAGE AWAY FROM WALI.

WALL SUPPORT 1" STAINLESS STEEL STAINLESS STEEL SINGLE OR DOUBLE EXPANSION ANCHOR (TP)

INSTALL LID DRAIN TO MAINTAIN POSITIVE DRAINAGE OF LID CHANNEL.

WC TREE. NUMBER OF CANISTER PER MANUFACTURES RECOMMENDATION. 3.

ALL DUCTILE IRON PIPE SHALL BE PAINTED WITH A THREE COAT SYSTEM PER WSDOT STD. SPEC. 6-07.3(1). METHOD B. PAINT SHALL MEET THE REQUIREMENTS OF WSDOT STD. SPEC. 9-08.1

SCHEDULE 80 WC W/ SOLVENT WELD JOINTS

KOR-N-SEAL AIR VACUUM/RELEASE VAULT WITH ODOR CONTROL

4/15/08
SCH.

STANDARD DETAILS
CITY OF RIDGEFIELD
SHEET S-3.6
12" dia. x 6' deep 3000psi concrete collar around valve box.

Rich no. 910 cast iron valve box w/cover marking "SEWER"

Finished pavement grade.

Riser pipe to be cut off 4' min. and 5' max. below finished grade.

1/4" plastic nut and bolt, 1' below top of pipe.

25° min.

Riser pipe, 4" ABS pipe (or approved equal).

Toning wire.

2/11/08 SCH

SECTION A-A

Provide min. 3 wraps of riser wire around bolt

STANDARD LOCATOR STATION

1. Bare mainline toning wire (do not sever).
2. Solder house toning wire to mainline (minimum 2" solder cap).
3. Encase with 3M Scott #2200 vinyl nastic pads (3 1/2" by 4 1/2") or 3M Scotch 33 electrical tape and coated with Scotchkote electrical coating #1485 (repeat process after first coating dries), or approved equal.
4. Mainline toning wire shall be one piece - no splices.
5. Individual locator station toning wires shall be one piece.
Note: After fabrication, the valve stand base shall be cleaned, primed with Fuller O'Brian 621-04 Blox-Rust alkyd metal primer or approved equal and then painted with Fuller O'Brian 612-XX heavy duty alkyd enamel or approved equal.
Locator tape to be located eighteen (18) inches above a force main and twelve (12) inches above a pressure service line.

The locator tape should be marked with continuous three (3) inch wide green six (6) mil thick locator tape three (3) inch high black letters every three (3) feet with "Warning - Buried Pressure Sewer".

A continuous toning wire shall be attached to the top of the pressure service line. The toning wire shall be 12 gauge insulated toning wire. The toning wire shall end in the valve box with a minimum of one (1) foot coil of wire. The toning wire shall be tested for continuity prior to acceptance. All splices will be soldered a minimum of two (2) inches in length and encased with 3M Scotch #220 vinyl mastic pads (3 1/2" by 4 1/2") or 3M Scotch 33 electrical tape and coated with Scotchkote electrical coating #1485 (repeat process after first coating dries), or approved equal.
Residence Control & power cables in conduit per code. Minimum 24' deep.

2" pressure service line W/36" min. cover unless otherwise noted.

Curb or EP

Valve box

Adjacent to Right-of-Way

NOTES:

1. PUMPS SHALL BE ENGINEERED POSITIVE DISPLACEMENT SYSTEMS C/ONE, W-SERIES, WH231 "SQUAT", OR CITY APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS. TANK SHALL BE AT LEAST 237 GALLON CAPACITY.

2. LOCATE PUMP AND TANK MINIMUM 5' FROM BUILDING AND BETWEEN BUILDING AND STREET.

3. MAINTAIN ACCESS TO TANK.

4. MOUNT CONTROL PANEL ON FRONT OF HOUSE, AS CLOSE TO TANK AS POSSIBLE AND VISIBLE FROM TANK.

5. VALVE BOX SHALL NOT BE IN DRIVEWAY, AND SHALL BE AT PUBLIC R/W OR BACK OF COMMON EASEMENT.

6. SITE PLAN AND PUMP SUBMITTAL APPROVAL REQUIRED PRIOR TO INSTALLATION.

7. GRINDER PUMP SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE BUILDING, PLUMBING, AND ELECTRICAL CODES.

8. SUBMITTALS ON ALL GRINDER SYSTEM COMPONENTS WILL BE REQUIRED WITH BUILDING PERMIT SUBMITTAL.

9. OPERATION AND MAINTENANCE OF EACH INDIVIDUAL GRINDER PUMP SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE HOME OWNER.

TYPICAL GRINDER PUMP PRESSURE SEWER SITE PLAN

STANDARD DETAILS

CITY OF RIDGEFIELD

SHEET S-3.10
Service box - Carson Industries model no. 1419 with bolted hinged cover and no. 1419E extension when in non-traffic areas. SERVICE BOX SHALL BE PLACED IN DRIVEWAYS

Finished grade.

24" Min.

12"

36" Min.

To grinder pump tank.

Stub and plug 2" service with 2" PVC pipe plug (do not glue)

2" Bronze check valve.

2" Bronze gate valve.

10 Ga insulated copper toning wire

To public sewer main.
See Standard Detail Drawing S-3.12 or S-1.3 for continuation.

1 Schedule 40 PVC 45° bends.

2 All PVC pipe and fittings to be schedule 40.

3 SYSTEM TO BE INSTALLED AND TESTED PER CITY ENGINEERING STANDARDS TO TEMPORARY CAP. REMINDER OF SYSTEM TO GRINDER PUMP TANK TO BE INSTALLED PER PLUMBING CODE.
Standard cast iron frame and cover. Sioux Chief Mfg. Co., Inc. Toupee Plus adjustable cleanout marked "SEWER". See Detail S-3.1

2' x 2' square x 12' deep concrete pad. (Non-paved Areas only)

Connect toning wire for service to mainline toning wire. See note below and schematic.

Valve box. See detail S-3.11

10 Ga. insulated copper toning wire.

2" SCH. 40 PVC

4" casing with casting over valve will be required.

2" SLx threaded SL PVC nipple

2" bronze coupler

2" corp. stop.

Located in pavement with #4 aggregate per Standard Specification Section 9-031.3C.

Note: All PVC pipe & fittings shall be schedule 40 PVC.

1. Bare mainline toning wire (do not sever).
2. Solder house toning wire to mainline (minimum 2" solder cap).
3. Encase with 3M Scotch #2200 vinyl mastic pads (3 1/2" by 4 1/2") or 3M Scotch 33 electrical tape coated Scotchkote electrical coating #1485 (repeat process after first coating dries), or approved equal.
4. Mainline toning wire shall be one piece - no splices.
5. Individual house toning wires shall be one piece.
NOTES:

1. If cleanout is in driveway use
   Sioux Chief Mfg. Co., Inc. Toupee
   Plus adjustable cleanout #851-34i
   or approved equal.

2. When a cleanout is located in a driveway,
   permit holder is required to contact the
   City for a final inspection of the
   driveway cleanout prior to occupancy
   of the house. (See detail S-3.3)

3. Contact City for information on location,
   depth and pipe material for existing gravity lateral.
   If a new lateral is required, construct in
   accordance with City specifications and drawings.

4. All PVC pipe and fittings to be schedule 40.
NOTES:

1. CONSTRUCTION SHALL CONFORM TO STD. PLAN NO. S-2.1, IF NOT OTHERWISE SHOWN.

2. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-476. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND 7" TO 4" SLUMP.

3. THE MANHOLE BASE MAY BE POURED MONOLITHIC TO 8" ABOVE THE BARREL OF THE MAIN SEWER.

4. MANHOLES UNDER 6'-0" IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE. SEE DETAIL S-2.5.

5. FOR CONNECTIONS, THE HOLE DIAMETER SHALL BE EQUAL TO THE OUTSIDE PIPE DIAMETER PLUS THE MANHOLE WALL THICKNESS.

6. CHANNELS SHALL CONFORM ACCURATELY TO SEWER GRADE. INSTALL BENCHES TO ELEVATION OF SPRINGLINE OF PIPE.

7. Joints shall be constructed so as to be watertight. See Standard Plan No. S-2.9. Seal all manhole joints and frame with 'Infi-Shield "Seal Wrap" Exterior Seal System or equal.

8. Vacuum testing of manholes will be required.

9. Locking covers are required in easements, or at the discretion of the City Inspector.

10. WhirlyGig Monhole Manhole Riser/Collar System shall be used in place of riser rings unless otherwise approved.

11. All manholes shall be provided with Rain Shields to prevent infiltration of stormwater.

FLAT SLAB ALTERNATE
NOTES:
1. Position risers below and off-center of manholes to allow access and entry.
2. No concrete plugs below cast iron manhole covers.
3. Place interceptor in location which allows for pump truck/maintenance access.
4. Fill with clean water prior to start-up and after pumpouts.
5. **Gray Water Only.** Domestic (sanitary) water shall be conveyed by separate line.
6. For capacities equal to or greater than 1,500 gallons, a center manhole is required and the cover shall be a standard 24" diameter cover.
7. Unit shall be rated for H-20 AASHTO loading (certified).
8. Submit vault specs with site/civil plans for final approval.
RECOMMENDED MANAGEMENT PRACTICES

1. SIZE SEPARATOR FOR A 45 MINUTE RETENTION TIME AT PEAK FLOW, OR EQUIVALENT RETENTION IF USING COALESCING PLATES.

2. BEFORE INSTALLATION, SUBMIT ALL PLANS TO THE CITY ENGINEER FOR REVIEW. INDICATE ALL SOURCES OF WATER TO SEPERATE AND PROVIDE ESTIMATES OF EXPECTED AVERAGE AND MAXIMUM FLOW RATES.

3. INSPECT SEPARATOR EVERY 6 MONTHS. USE A LONG STICK TO CHECK SLUDGE BUILD-UP IN FIRST CHAMBER. HAVE SEPARATOR CLEANED IF SLUDGE BUILD-UP IS OVER 8" INCHES OR IF THERE ARE MORE THAN 2" INCHES OF OIL FLOATING ON THE SURFACE IN ANY CHAMBER.

4. FOR COALESCING PLATE SEPARATOR, CLEAN THE PLATES BEFORE THEY BECOME COATED WITH SILT OR SOLIDS.

5. DO NOT ALLOW THE FOLLOWING TO ENTER THE SEPARATOR AS THEY WILL EMULISFY THE OIL: ANTIFREEZE, DEGREASERS, DETERGENTS, ALCOHOL & SOLVENTS. ALSO, AVOID OVERLOADING THE SYSTEM WITH CONCENTRATED OILS OR HEAVY METAL-BEARING WASTEWATER.

6. TO REDUCE MAINTENANCE, REMOVE FLOATING OIL WITH ABSORBENT PADS OR VACUUM OUT OIL FILM. IF NECESSARY, INSTALL A CATCH BASIN BEFORE THE SEPARATOR TO REDUCE SLUDGE LOAD.