SECTION 3
GRAVITY SEWER

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NOTE:
1. PROVIDE 1% SLOPE THROUGH MANHOLE.
NOTE:
1. PROVIDE 1% SLOPE THROUGH MANHOLE.
REBAR PLACEMENT DETAIL

4 - #4 REBAR TO BE EQUALLY SPACED AROUND DROP AND A MIN. OF 3" FROM ALL SIDES. TIE TO EXISTING REBAR IN BOTTOM SECTION. (MIN. 4 REBAR)

NOTE:
1. PROVIDE 1% SLOPE THROUGH MANHOLE.
NOTES:

1. PENETRATIONS TO EXISTING MANHOLES SHALL BE CORE BORED, AND ELASTOMERIC GASKET WITH STAINLESS STEEL PIPE CLAMP SHALL BE INSTALLED.

2. DROP CONNECTION SHALL BE REQUIRED WHENEVER THE INVERT OF AN INFLUENT SEWER IS LOCATED TWO (2) OR MORE FEET ABOVE THE MAIN CHANNEL.

3. DROP PIPE SHALL BE OF EQUAL SIZE AS THE INFLUENT SEWER. DROP PIPE SHALL BE PVC WITH STAINLESS STEEL FITTINGS. IF A TRANSITION TO OTHER TYPE OF PIPE, THE TRANSITION SHALL BE OUTSIDE OF MANHOLE.
WET WELL WALL BOLTED TO ANGLE IRON WITH 316 SS HARDWARE

6"X3"X1/4" 304 SS PLATE W/ TWO 5/8" HOLES WELDED TO 2"X1/4" 316 SS ANGLE IRON ANCHORED TO WET WELL WALL W/ 1/2"X6" 316 SS WEDGE ANCHORS

FLOW

TOP VIEW

MATCH EXIST. SURFACE

TRAFFIC AREA

FIN. GRADE 3" MIN

PROFILE VIEW

1"X 1 1/2" S.S. CHANNEL STRUT W/S.S. U-BOLT, NUTS & WASHERS (SEE DETAIL "A") (2 MINIMUM)

ELASTOMERIC GASKET

PVC SAN. SEWER

PLUG VALVE

PLUG VALVE SIZED TO LOW PRESSURE FORCE MAIN

PVC SAN. SEWER

ELASTOMERIC GASKET

PVC SAN. SEWER

EXISTING CONC. MANHOLE

DROP NOT REQUIRED IF NEW INVERT IS LESS THAN 24" ABOVE EXISTING INVERT.

INSIDE DROP MANHOLE

CHARLOTTE COUNTY UTILITIES

DATE: 11/01/2011
DRAWN BY: DEC
APPROVED BY: BRB

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GS-05
ID: GS-05-SDP-PCM.wdw
NOTES:
1. ALL P.V.C. SANITARY GRAVITY SEWER PIPE SHALL BE:
   FOR DEPTHS BETWEEN 0-4 FEET - DR 18 - FOR DEPTHS 4 FEET OR GREATER BURY DEPTH - DR 26
2. SEWER SERVICE SHALL BE INSTALLED AT GRADE OF NOT LESS THAN 1/8" PER FOOT AND NO MORE THAN 1 3/4" PER FOOT

TYPICAL PLAN

LENGTH OF SERVICE VARIES

SIDE PROFILE

FRONT PROFILE

GRAVITY SEWER CUT-IN
WYE & SERVICE
CHARLOTTE COUNTY UTILITIES

DATE: 11/01/2011
DRAWN BY: DEC
APPROVED BY: BRB

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ID: GS-06-CIW.dwg
NOTES:

1. CONNECTIONS TO EXISTING SEWER MAINS SHALL BE MADE BY CONTRACTOR IN ACCORDANCE WITH CHARLOTTE COUNTY UTILITIES SPECIFICATIONS.

2. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.

3. NO MORE THAN ONE CUT IN WYE SHALL BE ALLOWED FOR EACH LENGTH OF SEWER MAIN.

4. TAP SHALL BE MADE AT APPROXIMATELY CENTER OF JOINT LENGTH.

5. THE HOLE FOR THE COLLAR WYE FITTING FOR A SEWER SADDLE SHALL BE MADE WITH A TAPPING MACHINE. THE HOLE SHALL BE CLEANLY MACHINED AND IF NECESSARY WORKED BY HAND WITH A RASP OR Sanded TO ACCOMPLISH A TRUE AND NEAT OPENING FOR THE COLLAR WYE.

6. THE COLLAR WYE SADDLE SHALL BE SECURED TO THE SEWER WITH APPROVED STAINLESS STEEL BANDS.

7. ALL CHIPS, DIRT, EPOXY, MORTAR, AND CONCRETE SHALL BE KEPT OUT OF THE SADDLED REACH. CLEANING AND BALLING OF THE SADDLED REACH SHALL BE PERFORMED IF REQUIRED BY CCU.

8. ANY DAMAGED PIPE SHALL BE REPAIRED OR REPLACED AS DIRECTED BY CCU.

9. COLLAR WYE SADDLE OR CUT IN WYE TO BE USED WHEN LATERAL IS 4" OR 6" IN DIAMETER. FOR 8" AND OVER, A STANDARD MANHOLE CONNECTION SHALL BE USED.

10. MAIN LINE SHALL BE BROKEN OUT FOR SADDLE ONLY IN THE PRESENCE OF CCU PERSONAL.
NOTE:
1. ALL P.V.C. SANITARY GRAVITY SEWER PIPE SHALL BE:
   1.a. FOR DEPTHS BETWEEN 0-4 FEET - DR 18
   1.b. FOR DEPTHS 4 FEET OR GREATER BURY DEPTH - DR 26
   1.c. SEWER SERVICE SHALL BE INSTALLED AT GRADE OF NOT LESS THAN 1/8" PER FOOT AND NO MORE THAN 1 3/4" PER FOOT
   1.c. GASKETED FITTINGS SHALL BE SAME AS OR GREATER THAN GRADE OF PIPE.

2. CLEAN-OUT BOX WITH HEXAGONAL COVER MARKED "S"
TYPICAL RESIDENTIAL SEWER
SERVICE WITH RISER
CHARLOTTE COUNTY UTILITIES

NOTE:
ALL P.V.C. SANITARY GRAVITY SEWER PIPE SHALL BE:
FOR DEPTHS BETWEEN 0.4 FEET - DR. 18
FOR DEPTHS 4 FEET OR GREATER - DR. 26
GASKETED FITTINGS SHALL BE THE SAME AS OR GREATER THAN GRADE OF PIPE

SERVICELINE CONNECTION
WATER TIGHT PLUG OR CAP

SERVICE CONNECTON
WATER TIGHT PLUG OR CAP

6" X 4" X 4"
DOUBLE WYE

SEE TYPICAL CLEANOUT DETAIL

NOTE:
ELECTRONIC MARKERS SHALL REMAIN IN POSITION AFTER THE BUILDING PLUMBER HAS COMPLETED THE SERVICE TIE-IN. MARKERS SHALL BE PLACED AT PROPERTY LINE OR ABOVE END OF LINE.
NOTES:

1. ALL P.V.C. SANITARY GRAVITY SEWER PIPE SHALL BE:
   1.a. FOR DEPTHS BETWEEN 0-4 FEET - DR 18
   1.b. FOR DEPTHS 4 FEET BURY DEPTH - DR 26

2. 6" FITTINGS & PIPE FOR SEWER SERVICES.

3. CLEAN-OUT BOX WITH HEXAGONAL COVER MARKED "S"
30" SQUARE x 6" THICK CONCRETE SLAB TO BE CAST AROUND PVC CAP AND PLACE 2 - #4 REBAR ON ALL SIDES

SEE NOTE # 1

8" x45° BEND

8" WXE

8" PVC PLUG

NOTE:
1. CLEAN-OUT BOX WITH HEXAGONAL COVER MARKED "S", WITH THREADED BRASS PLUG IN FEMALE SLIP ON COUPLING.
(2) NON-PENETRATING PICKHOLES

NOTE: MANHOLE COVER SHALL NOT HAVE ALIGNMENT TABS

MACHINED SURFACES

DOVETAIL GROOVE & GASKET

** AVAILABLE IN HINGED MODEL **

MANHOLE RING & COVER

CHARLOTTE COUNTY UTILITIES

DATE: 11/01/2011

APPROVED BY: BRB

ID: GS-12-MHRC.dwg
Manhole shall be labeled sanitary sewer.

Note:
Manhole cover and frame shall be PAMREX or equal. Min. frame weight: 73 lbs. Cover weight: 122 lbs. Total weight 195 lbs.

Passage Ø 24"

Outside Ø 33.46"

Embossing height .032"
Corner radius .187"

Finish
NATURAL FINISH

Material
304 Annealed Stainless Steel

Thickness
.062"

Weight
.218 lbs.

Options / Accessories
Square hole: .437" for S.S. carriage bolt

Charlotte County Utilities

Hinged Manhole Ring & Cover

Provided for informational purposes only. No modifications without written CCU approval.

Date: 11/01/2011

Drawn by: DEC

Approved by: BRB

ID: GS-13-HMHRC.dwg
NOTES:

1. CONCRETE: 28 DAY / 4500 p.s.i. COMPRESSION STRENGTH
2. REBAR: ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN:
   CHARLOTTE COUNTY CODE (AS AMENDED) SEC. 3-8-150
   FLORIDA BUILDING CODE - PLUMBING, CHAPTER 10
   PLUMBING AND DRAINAGE INSTITUTE G101
   ASTM C-857 MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRE CAST
   6" MINIMUM WALL THICKNESS
   PREVENT FLOATATION WHEN EMPTY
5. LOADS: H-20 TRUCK WHEEL W/30% IMPACT PER AASHTO
6. COMPLETE STRUCTURE AND PIPING TO BE WATERTIGHT
7. FILL WITH CLEAN WATER PRIOR TO START UP OF SYSTEM
8. CONTRACTOR TO SUPPLY AND INSTALL ALL PIPING AND SANITARY TEES, CLEAN OUTS
   FOR CLEANING TOWARD INTERCEPTOR AND FOR CLEANING AWAY FROM INTERCEPTOR ON
   BOTH THE INLET AND OUTLET / ALT. DUAL SWEEP CLEAN OUTS
9. GRAY WATER ONLY, BLACK WATER SHALL BE CARRIED BY SEPARATE SEWER TO A POINT
   DOWNSTREAM OF THE GREASE INTERCEPTOR.
10. 4'' DIAMETER VENT HOLE.
11. BOOT TO BE SUPPLIED WITH TANK.
12. SEAL HOLE IF VENT NOT INSTALLED.

OUTLET TO SANITARY SEWER SYSTEM

SEWER FROM BUILDING

EXISTING PAVEMENT

24" FRAME & COVER

EXISTING GRADE

PLAN VIEW

CONCRETE GRADE RINGS

AND NON-SHRINK GROUT

(USE FOR ADJUSTING TO

EXISTING GRADE)

CONCRETE MORTAR

8" MIN. ACCESS COVER

SAMPLING ACCESS POINT

(TYPICAL)

6" PVC PIPE

OUTLET TO SANITARY SEWER SYSTEM

SECTION "A-A"

NOTE 11, 2/3 TANK LENGTH

NOTE 10, 11, 12

NOTE 11

DATE: 11/01/2011

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CHARLOTTE COUNTY UTILITIES

ID: GS-14-GIT.dwg
### RESTAURANT WITH PAPER PLATES

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<tr>
<th>Seats Up To</th>
<th>&lt; 4 Hours Class 1 &amp; 2</th>
<th>4-8 Hours Class 3 &amp; 4</th>
<th>8-12 Hours Class 5</th>
<th>Greater Than 12 Hours Class 6</th>
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**EXAMPLE:**
125 seat restaurant that serves meals in baskets with plastic forks and knives (so service dishes washed) that is open 8 hours a day. A minimum size grease interceptor required is 833 gallons capacity. Local availability of a grease interceptor may require the next largest manufactured size of 1,000 gallons capacity.

### RESTAURANT WITH CHINA PLATES

<table>
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<tr>
<th>Seats Up To</th>
<th>&lt; 4 Hours Class 1 &amp; 2</th>
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**EXAMPLE:**
100 seat restaurant that serves meals on washable plates (china) that is open 8 hours a day. The minimum size grease interceptor required is 1,667 gallons capacity. Local availability of a grease interceptor may require the next largest manufactured size of 2,000 gallons capacity.

### GREASE INTERCEPTOR VOLUME REQUIREMENT

**NOTES:**
1. Minimum size is 750 gallons
2. Interceptor tanks may be placed in series to achieve total volume
3. The restaurant grease interceptor size table above is based on Table 1003.5.1, Florida Plumbing Code. Refer to Table 1003.5.1 for design of grease interceptors that are required for other establishments with commercial kitchens
4. Grease interceptors shall comply with Florida Building Code, Plumbing, Chapter 10 - Traps, Interceptors and Separators.

**CLASS 1 = BREAKFAST ONLY, CLOSED BY 11:00AM, OPEN < 4 HOURS**
**CLASS 2 = LUNCH ONLY, CLOSED BY 3:00 PM, OPEN < 4 HOURS**
**CLASS 3 = DINNER ONLY, OPEN 4-8 HOURS**
**CLASS 4 = BREAKFAST & LUNCH, OPEN 4-8 HOURS**
**CLASS 5 = LUNCH & DINNER, OPEN 8-12 HOURS**
**CLASS 6 = ALL MEALS, OPEN MORE THAN 12 HOURS**

**DATE:** 11/01/2011

**DRAWN BY:** DEC

**APPROVED BY:** BRB

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**ID:** GS-15-GIT-TBL

**CHARLOTTE COUNTY UTILITIES**