NOTES:

1. NO TREES OR FENCES ALLOWED WITHIN THE ROAD R/W OR UTILITY EASEMENT EXCEPT WHERE REQUIRED BY CITY, COUNTY, OR OTHER GOVERNMENT ORDINANCE.

2. ALL TREES SHALL BE CLEARED AND SHOULDER GRADED WITHIN 6" OF FINAL GRADE (INCLUDING UTILITY EASEMENT) PRIOR TO THE INSTALLATION OF ANY UTILITIES.


4. TOTAL CLEARED AND GRADED WIDTH TO BE 60' MINIMUM.

5. PROPERTY CORNER REFERENCE SHALL BE PLACED ON CURB AND GUTTER AND ON 10' OFFSET STAKE.

6. UTILITY EASEMENT SHALL BE SHOWN AND RECORDED WITH THE FINAL PLAT.

7. WATER METER BOXES SHALL BE LOCATED 6' BACK OF R/W. SEWER SERVICES SHALL BE STUBBED OUT 17' BACK OF CURB.

8. WATER LATERALS SHALL BE MARKED WITH A BLUE "W" ON CURB. SEWER LATERALS SHALL BE MARKED WITH A GREEN "X" ON CURB.

9. DEPTH REQUIREMENTS INDICATE MINIMUM DEPTH AT TIME OF INSTALLATION BELOW CURB LINE.

10. THIS STANDARD MAY BE COMBINED WITH JOINT USE STANDARD.

11. UTILITIES SHALL BE LOCATED WITHIN PLUS/MINUS 6" OF PLAN LOCATION.
SELECT EARTH BACKFILL PLACED IN 6" LIFTS AND COMPACTED TO MINIMUM 90 PERCENT STANDARD PROCTOR, (ASTM D698) OR AS REQUIRED BY HCWA

SELECT EARTH BACKFILL LIGHTLY CONSOLIDATED TO CROWN OF PIPE
PIPE BEDDED IN MINIMUM 4" LOOSE SELECT EARTH BACKFILL

NOTES:

1. DUCTILE IRON PIPE FOR SANITARY SEWAGE FORCE MAINS SHALL BE BEDDED IN ACCORDANCE WITH ANSI/AWWA C150/A21.50 AND ANSI/AWWA C151/A21.51, TYPE 3 LAYING CONDITION.

2. MINIMUM DEPTH OF COVER SHALL BE 5'-0" UNLESS OTHERWISE APPROVED BY HCWA.
SELECT EARTH BACKFILL LIGHTLY CONSOLIDATED TO CROWN OF PIPE
PIPE BEDDED IN MINIMUM 4" LOOSE SELECT EARTH BACKFILL

NOTES:

1. C900 POLYVINYL CHLORIDE (PVC) PIPE FOR SANITARY SEWAGE FORCE MAINS SHALL BE BEDDED IN ACCORDANCE WITH AWWA C605, TYPE 3 LAYING CONDITION.

2. MINIMUM DEPTH OF COVER SHALL BE 5'-0" UNLESS OTHERWISE APPROVED BY HCWA.

3. MAXIMUM DEPTH OF COVER SHALL BE 16'-0".

4. TRACER WIRE SHALL BE INSTALLED ON ALL SANITARY SEWAGE FORCE MAINS.
PIPE BEDDED IN COMPACTED STABILIZATION STONE TO CENTERLINE OF PIPE. MINIMUM 4" UNDER PIPE. COMPACTED STABILIZATION STONE OR SELECT EARTH BACKFILL TO TOP OF PIPE. (APPROXIMATELY 90 PERCENT STANDARD PROCTOR, ASTM D689.)

IN ASPHALT AREAS, SELECT EARTH BACKFILL PLACED IN 6" LIFTS AND COMPACTED TO MINIMUM 90 PERCENT STANDARD PROCTOR, (ASTM D698), OR AS REQUIRED BY HCWA

NOTES:

1. DUCTILE IRON PIPE FOR SANITARY SEWER GRAVITY LINES SHALL BE BEDDED IN ACCORDANCE WITH ANSI/AWWA C150/A21.50 AND ANSI/AWWA C151/A21.51, TYPE 5 LAYING CONDITION.
PIPE BEDDED IN COMPACTED STABILIZATION STONE TO CROWN OF PIPE. MINIMUM 4" UNDER PIPE. (APPROXIMATELY 90 PERCENT STANDARD PROCTOR, ASTM D698.)

IN ASPHALT AREAS, SELECT EARTH BACKFILL PLACED IN 6" LIFTS AND COMPACTED TO MINIMUM 90 PERCENT STANDARD PROCTOR, (ASTM D698), OR AS REQUIRED BY HCWA

NOTES:

1. SDR 35/ SDR 26 POLYVINYL CHLORIDE (PVC) PIPE FOR SANITARY SEWER GRAVITY LINES SHALL BE BEDDED IN ACCORDANCE WITH AWWA C605, TYPE 5 LAYING CONDITION.

2. MAXIMUM DEPTH OF COVER SHALL BE 16'-0".
PIPE DEPTH WITH DECLINING GRADE
AT EDGE OF PAVEMENT

PIPE DEPTH WITH INCREASING GRADE
AT EDGE OF PAVEMENT

NOTES:

1. SANITARY SEWAGE FORCE MAINS SHALL HAVE A MINIMUM DEPTH OF COVER OF 5'-0" UNLESS OTHERWISE APPROVED BY HCWA.
NOTES:

1. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE WATER TIGHT BOLT-DOWN LIDS AND 2 FEET ABOVE FINISHED GRADE WITH FRAME CAST INTO THE CONE SECTION.

2. MANHOLES SHALL HAVE A MINIMUM DROP OF 0.10 FEET FROM INFLUENT INVERT TO EFFLUENT INVERT.
NOTES:

1. OUTSIDE DROPS REQUIRED WHEN INSIDE DROP IS GREATER THAN 2 FEET.
2. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE WATER TIGHT BOLT-DOWN LIDS AND 2 FEET ABOVE FINISHED GRADE WITH FRAME CAST INTO THE CONE SECTION.
3. PIPE ENCASED IN CONCRETE SHALL BE WRAPPED WITH MINIMUM 10 MIL PLASTIC.
NOTES:

1. ALL JOINTS AROUND EXISTING AND PROPOSED SEWER LINE SHALL BE GROUTED WATERTIGHT.

2. AFTER DOGHOUSE MANHOLE CONSTRUCTION IS COMPLETE, TOP HALF OF EXISTING SEWER LINE SHALL BE CUT OUT USING A METHOD APPROVED BY THE HCWA INSPECTOR.

3. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE WATER TIGHT BOLT-DOWN LIDS AND 2 FEET ABOVE FINISHED GRADE WITH FRAME CAST INTO THE CONE SECTION.
NOTES:

1. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE WATER TIGHT BOLT-DOWN LIDS AND 2 FEET ABOVE FINISHED GRADE WITH FRAME CAST INTO THE CONE SECTION.
POLYPROPYLENE
MANHOLE STEP
SPACED AT 12" O.C.
(TYP.)

PRECAST MANHOLE
FLOOD ELEVATION
ABOVE 100 YEAR
LOCATE 12"

6" STEEL VENT PIPE;
PAINT GREEN

(1) 6" WELD-ON FLANGE
(1) SS INSECT SCREEN
(1) 6" BACKER FLANGE

CAST IN WATER TIGHT
CAST IRON MANHOLE
FRAME AND COVER
(COVER TO BE MARKED
"SEWER")

GRADE RINGS OR BRICK
WHEN REQUIRED
(MAX. ADJUSTMENT = 12")

PREFORMED 01" BUTYL
JOINT SEAL (TYP.)

PRECAST MANHOLE

POLYPROPYLENE
MANHOLE STEP
SPACED AT 12" O.C.
(TYP.)

3,000 PSI CONCRETE
ENCASMEENT
(MINIMUM 12" COVERAGE
ON EACH SIDE OF PIPE)

NOTES:
1. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE WATER TIGHT BOLT-DOWN LIDS AND 2 FEET
   ABOVE FINISHED GRADE WITH FRAME CAST INTO THE CONE SECTION.
NOTES:

1. CONCRETE FILL SHALL BE 3 PARTS SAND TO 1 PART CEMENT.

2. BRICK SHALL BE COMMON SMOOTH RED BRICK.

3. PROVIDE A MINIMUM OF 2" OF COVER OVER BRICK.
NOTES:

1. MANHOLE FRAME AND COVER SHALL BE HEAVY DUTY DUCTILE IRON CASTINGS.

2. BEARING SURFACES SHALL BE MACHINED.
NOTES:

1. MANHOLE FRAME AND COVER SHALL BE HEAVY DUTY DUCTILE IRON CASTINGS.

2. BEARING SURFACES SHALL BE MACHINED.
POLYPROPYLENE MANHOLE STEP SPACED AT 12" O.C. (TYP.)

GRADE RINGS OR BRICK WHEN REQUIRED (MAX. ADJUSTMENT = 12")

CONCRETE FILL SLOPED TO OUTLET

NO. 57 STABILIZATION STONE

NOTES:
1. DISCHARGE MANHOLE SHALL BE LINED WITH A FIBERGLASS REINFORCED EPOXY RESIN LINING SYSTEM OR AN ELASTOMERIC POLYURETHANE LINING SYSTEM.
IN ACCORDANCE WITH PERMIT REQUIREMENTS.

1. JOINTS INSIDE CASING PIPE SHALL BE RESTRAINED.
2. PROVIDE A MINIMUM OF 2 CASING SPACERS PER JOINT OF PIPE.
3. ENDS OF CASING PIPE SHALL BE SEALED WITH 8" BRICK AND CEMENT MORTAR.
4. ALL COUNTY ROAD CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH HENRY COUNTY DOT STANDARDS AND PERMIT REQUIREMENTS.
5. ALL STATE HIGHWAY CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH GEORGIA DOT STANDARDS AND PERMIT REQUIREMENTS.
6. ALL RAILROAD CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH AMERICAN RAILWAY ENGINEERING ASSOCIATION REGULATIONS AND IN ACCORDANCE WITH PERMIT REQUIREMENTS.

NOTES:

PROVIDE A MINIMUM OF 2 CASING SPACERS PER JOINT OF PIPE.

ENDS OF CASING PIPE SHALL BE SEALED WITH 8" BRICK AND CEMENT MORTAR.

HENRY COUNTY WATER AUTHORITY

TYPICAL JACK AND BORE DETAIL

HENRY COUNTY WATER AUTHORITY

REVISED: 01/01/2012

SCALE: N.T.S.

DETAIL NO. S16
NOTES:

1. PIPE USED FOR CREEK CROSSINGS SHALL BE DUCTILE IRON PIPE UNLESS OTHERWISE APPROVED BY HCWA. AT LEAST ONE JOINT BEYOND THE END OF CASING SHALL BE RESTRAINED, OR AS REQUIRED BY HCWA.

2. MINIMUM DEPTH OF COVER SHALL BE 12 INCHES.

3. REFER TO DETAIL S16 FOR GRAVITY SEWER AND S38 FOR FORCE MAIN CASING DIAMETERS.

4. PLACE STONE RIP-RAP APPROXIMATELY 5 FEET UPSTREAM AND 5 FEET DOWNSTREAM FROM CENTERLINE OF PIPE ALONG CREEK BED.
1. SERVICE LINES SHALL BE STUBBED OUT TO 17 FEET BEHIND THE BACK OF CURB AND SHALL BE NO MORE THAN 10 FEET DEEP.

2. A WATER TIGHT CAP SHALL BE INSTALLED ON THE END OF THE LINE.

3. SERVICE LINES HAVING LESS THAN 5 FEET OF COVER SHALL BE DUCTILE IRON PIPE.

4. PLUMBING CONTRACTOR SHALL TIE ON TO SERVICE LINE USING STANDARD PVC FITTINGS OR "DONUT" CONNECTION WITH GROUT.
SHALLOW SLOPES

6" DIP SERVICE LINE (ONE CONTINUOUS PIECE) STUBBED OUT TO 17 FEET BEHIND BACK OF CURB

MINIMUM 4" NO. 57 STABILIZATION STONE

2" PVC RISER EXTENDING 5 FEET ABOVE FINISHED GRADE FOR LOCATING SERVICE LINE

DIP GRAVITY SEWER MAIN

STEEP SLOPES

6" DIP SERVICE LINE (ONE CONTINUOUS PIECE)

MINIMUM 4" NO. 57 STABILIZATION STONE

DIP GRAVITY SEWER MAIN

NOTES:

1. SERVICE LINES SHALL BE DUCTILE IRON PIPE STUBBED OUT TO 17 FEET BEHIND THE BACK OF CURB AND SHALL BE NO MORE THAN 10 FEET DEEP.

2. FITTINGS SHALL BE RESTRAINED.

3. SERVICE LINE SHALL BE PLUGGED WITH A WATERTIGHT CAP.
NOTES:

1. A SEWER TAP INSPECTION IS REQUIRED BY HCWA.

2. PLUMBING CONTRACTOR SHALL TIE ON TO SERVICE LINE USING STANDARD PVC FITTINGS OR "DONUT" CONNECTION.

3. CLEAN-OUT COVER SHALL HAVE "HCWA SEWER" EMBOSSED ON LID AND BE FLUSH WITH FINISHED GRADE.
COMBINATION AIR/VACUUM VALVE

60" HS-20 LOAD RATED PRECAST FLAT TOP

PREFORMED BUTYL JOINT SEAL

60" PRECAST MANHOLE SECTION

30" MANHOLE FRAME AND COVER

MIN. 12"

COMBINATION AIR/VACUUM VALVE

(1) MNPT x MNPT TYPE 316 SS NIPPLE
(1) FNPT x FNPT TYPE 316 SS BALL VALVE
(1) MNPT x MNPT TYPE 316 SS NIPPLE

#57 STABILIZATION STONE

SS DBL STRAP SADDLE

HENRY COUNTY WATER AUTHORITY

SANITARY SEWAGE

COMBINATION AIR/VACUUM VALVE

(3" AND SMALLER)
NOTES:

1. THRUST BLOCK DIMENSIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA.

   WORKING PRESSURE = 150 PSI
   SOIL BEARING CAPACITY = 1,500 PSF
   SAFETY FACTOR = 1.5

   THESE ARE THE MINIMUM DESIGN CRITERIA. IF ACTUAL WORKING PRESSURE IS GREATER THAN 150 PSI OR IF ACTUAL SOIL BEARING CAPACITY IS LESS THAN 1,500 PSF, DIMENSIONS SHALL BE RECALCULATED.

2. THRUST BLOCK CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
3. THRUST BLOCK SHALL BEAR AGAINST UNDISTURBED SOIL.
4. A MINIMUM 10 MIL PLASTIC SHEET SHALL BE PLACED BETWEEN CONCRETE AND PIPE.
5. ALL BOLTS SHALL REMAIN ACCESSIBLE. DO NOT COVER WITH CONCRETE.
DEADMAN DIMENSIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA:

1. WORKING PRESSURE = 150 PSI
2. SOIL BEARING CAPACITY = 1,500 PSF
3. SAFETY FACTOR = 1.5

THese ARE THE MINIMUM DESIGN CRITERIA. IF ACTUAL WORKING PRESSURE IS GREATER THAN 150 PSI OR IF ACTUAL SOIL BEARING CAPACITY IS LESS THAN 1,500 PSF, DIMENSIONS SHALL BE RECALCULATED.

2. DEADMAN CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
3. DEADMAN SHALL BEAR AGAINST UNDISTURBED SOIL.
4. A MINIMUM 10 MIL PLASTIC SHEET SHALL BE PLACED BETWEEN CONCRETE AND PIPE.
5. ALL BOLTS SHALL REMAIN ACCESSIBLE. DO NOT COVER WITH CONCRETE.

HENRY COUNTY WATER AUTHORITY

CONCRETE DEADMAN

REVISED: 01/01/2012
SCALE: N.T.S.
DETAIL NO. S25
1. Restrained joint lengths shall be calculated by the design engineer. Calculations shall be submitted to HCWA.

2. Threaded rod shall have a minimum yield strength of 50,000 PSI.

Tie-Rod Chart:

<table>
<thead>
<tr>
<th>Pipe Dia. (In)</th>
<th>Rod Size (In)</th>
<th># of Rods</th>
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<tbody>
<tr>
<td>6</td>
<td>3/8</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>3/4</td>
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<tr>
<td>16</td>
<td>3/4</td>
<td>6</td>
</tr>
</tbody>
</table>
3'-0" SHOULDER

30'-0" RIGHT-OF-WAY OR ACCESS EASEMENT

3'-0" SHOULDER

12'-0"

SLOPE 2%

SLOPE 2%

6" GRADED AGGREGATE BASE ON COMPACTED SUBGRADE

2' FLAT BOTTOM DITCH. RIP-RAP MAYBE REQUIRED AT DISCRETION OF HCWA.
24' CLASS 5 PENTA TREATED UTILITY POLE (EMBEDDED 5' INTO GROUND)

3-PHASE LIGHTNING ARRESTOR

(3) #8, 1" C

24' CLASS 5 PENTA TREATED UTILITY POLE (EMBEDDED 5' INTO GROUND)

10' x 5/8" COPPER CLAD GROUND ROD DRIVEN FULL DEPTH INTO EARTH

NOTES:

1. POWER COMPANY TO PROVIDE 120/240/480 V, 3-PHASE SERVICE TO WEATHER HEAD.
NOTES:

1. MINIMUM WET WELL DIMENSION IS 6' DIAMETER OR 6' x 6' SQUARE.

2. MINIMUM VOLUME SHALL BE CALCULATED BASED ON A MINIMUM PUMP CYCLE TIME OF 10 MINUTES (6 STARTS PER HOUR) FOR THE SINGLE LARGEST PUMP. A LONGER PUMP CYCLE TIME SHALL BE USED IF REQUIRED BY THE PUMP MANUFACTURER.
1.66" Ø TOP RAIL
2.375" Ø LINE POST
3 STRANDS BARBED WIRE
4" Ø GATE POST

1.66" Ø BRACE RAIL
0.375" Ø TRUSS ROD (TYP.)
0.177" Ø TENSION WIRE

HENRY COUNTY WATER AUTHORITY

REVISED: 01/01/2012
SCALE: N.T.S.
DETAIL NO.

CHAIN LINK FENCE
30"x30"x4" THICK 3,000 PSI CONCRETE PAD (UNPAVED LOCATIONS ONLY)

24"x24"x4" THICK 3,000 PSI CONCRETE PAD

ADJUSTABLE VALVE BOX WITH COVER MARKED "WATER"

1" TYPE K COPPER SERVICE LINE

1" CTS COMP. x CTS COMP. CURB STOP

NO. 57 STABILIZATION STONE

1"x3/4" REDUCER

3/4" HOSE CONNECTION WITH VACUUM BREAKER, WATTS NO. 80, OR EQUAL

FROST PROOF YARD HYDRANT

2'-0" 2'-0" 18" 12"

HENRY COUNTY WATER AUTHORITY

REVISED: 02/16/2018
SCALE: N.T.S.
DETAIL NO. S32
1. GREASE INTERCEPTOR SHALL HAVE A MINIMUM CAPACITY OF 1,500 GALLONS AND A MAXIMUM CAPACITY OF 3,000 GALLONS. IF REQUIRED CAPACITY IS GREATER THAN 3,000 GALLONS, MULTIPLE GREASE INTERCEPTORS SHALL BE USED.

2. CONCRETE DESIGN STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.

3. GREASE INTERCEPTOR SHALL BE HS-20 LOAD RATED.
EXISTING PAVEMENT
TRENCH BACKFILLED
PER APPROPRIATE
PIPE BEDDING DETAIL

1 1/2" ASPHALT SURFACE TOPPING WITH TACK COAT APPLIED TO CONCRETE AND EDGES OF EXISTING PAVEMENT

SAW CUT EDGE
EXISTING PAVEMENT
8" CONCRETE CAP
TRENCH BACKFILLED PER APPROPRIATE PIPE BEDDING DETAIL

NOTES:

1. THIS DETAIL IS THE MINIMUM PAVEMENT REPAIR REQUIREMENT. HENRY COUNTY DOT OR GEORGIA DOT PAVEMENT REPAIR DETAILS SHALL SUPERCEDE THIS DETAIL AND SHALL BE USED WHERE APPLICABLE.

2. CONCRETE FOR CONCRETE CAP SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI @ 28 DAYS.
SANITARY SEWER CONNECTION FOR DUMPSTER PAD

NOTES:

1. THE OIL/WATER SEPARATOR THAT IS USED SHALL BE PRE-APPROVED BY HCWA OR CONNECT TO GREASE INTERCEPTOR.
NOTES:

1. FENCE POSTS SHALL BE EMBEDDED IN CLASS "B" CONCRETE.

2. WOVEN WIRE FIELD FENCE SHALL BE ATTACHED TO FENCE POSTS WITH 1 ⅛" GALVANIZED STAPLES.
1. ENDS OF CASING PIPE SHALL BE SEALED WITH CEMENT MORTAR.

2. ALL COUNTY ROAD CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH HENRY COUNTY DOT STANDARDS AND PERMIT REQUIREMENTS.

3. ALL STATE HIGHWAY CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH GEORGIA DOT STANDARDS AND PERMIT REQUIREMENTS.

4. ALL RAILROAD CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH AMERICAN RAILWAY ENGINEERING ASSOCIATION REGULATIONS AND IN ACCORDANCE WITH PERMIT REQUIREMENTS.