5/14/99

PROJECT REFERENCE NO. | SHEET NO.
W-5510 | UC-3A

UTILITY
CONSTRUCTION
PLANS ONLY

REVISIONS

MANHOLE RING & COVER TYPE 1

SANITARY SEWER

WATER

DETAIL "C C"

TOP OF COVER

BOTTOM OF COVER

DETAIL "B B"

NOTE: TWO HOLES TO BE SPACED OPPOSITE TO EACH OTHER IN THE OUTER RING AS SHOWN. (HOLES TO BE 1" DIAMETER)

NOTE:
RING AND COVER WILL HAVE MACHINED SEAT AND WILL CONFORM TO ASTM A48, CLASS 35B. RING AND COVER WILL BE DESIGNED TO SUPPORT AN H-20 WHEEL LOAD.

PLAN

MINIMUM AVERAGE WEIGHTS
RING 190 LBS.
COVER 120 LBS.
310 LBS.

Dimensions: 25 1/4", 23 3/4", 23 1/2", 22 1/4", 24 1/2", 33 1/4", 3/4", 3/4", 1/2", 7 1/2", 4 3/4"

SECTION

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S.   REVISED 9-20-01   APPROVED
utility_spec_drawings/mh_r&c_type1.dwg   VII-16

NOTE:
CLEANOUT SHALL BE LOCATED WITHIN THE GRASS STRIP WHEN APPLICABLE. IF THERE IS NO GRASS STRIP THEN THE CLEANOUT SHALL BE PLACED A MINIMUM OF 5 FEET FROM THE R/W OR EASEMENT LINE. IN NO CASE SHALL CLEANOUT BE PLACED WITHIN SIDEWALK, DRIVEWAY, OR INSIDE A FENCE.

NOTE:
IN LIEU OF WYE'S THE LATERAL MAY BE CONNECTED TO THE MAIN USING A TAPPING MACHINE AND SADDLE APPROVED BY THE ENGINEER, OR THE CONNECTION MAY BE MADE INTO A MANHOLE.

SEWER MAIN
O RING JOINT OR RUBBER GASKET
4" C.O. (SEE NOTE FOR LOCATION)
1/16 C.I. SOIL PIPE BEND
WYE

PLAN

4" C.I. FERRULE W/ 3" BRASS PLUG (3 1/2" O.D. PLUG)- C.O. FLUSH WITH TOP OF PIPE BELL (WITHIN 1/2")

STANDARD OR VALLEY CURB & GUTTER.

PLUG — USE ONE OF METHODS BELOW:
1. BRASS CLEANOUT.
2. C.I. PLUG WITH NO-HUB COUPLING.
3. QUICK SEAL PLUG (BY FERNCO).
4. "T" CONE EXPANDABLE STOPPER (ST-401 BY ETCO).
5. C.I. PLUG WITH RUBBER GASKET.

CONCRETE BLOCK TO BE POURED 180° FROM WHERE CONNECTION ENTERS THE MAIN (NOT REQUIRED IF WYE IS USED). BLOCK WILL PROTECT MAIN WHEN RODDING.

SECTION

4" COMBINATION WYE AND 1/8 BEND.

MIN. 5' TAILPIECE– EXTEND TO R/W OR EASEMENT LINE (WHICHEVER IS FURTHEST FROM MAIN).

1/16 C.I. SOIL PIPE BEND
4" C.I. SOIL PIPE, SERVICE WEIGHT.
MIN. 1% SLOPE   MAX. 2% SLOPE
O RING JOINT OR RUBBER GASKET
JOINTS SHALL BE RUBBER GASKET
PLUG

CONNECTIONS TO OUTFALLS MUST HAVE 5' BETWEEN THE OUTFALL & CLEANOUT. CONNECTIONS TO 15" OUTFALLS & GREATER MUST BE MADE INTO MANHOLE. CLEANOUTS ON OUTFALLS TO BE 3' ABOVE GROUND.

NOTE:
CONTRACTOR MAY BE REQUIRED TO LAY CONNECTION AS SHOWN BY DASHED LINES IF ELEVATION IS CRITICAL.

CITY OF WINSTON-SALEM
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N.T.S.   REVISED 11-18-13   4" SEWER CONNECTION   APPROVED
VII-20

NOTES:
1. INSTALLATION TO BE THE SAME AS FOR 4" SEWER CONNECTION (DETAIL DRAWING ON PAGE 20).
2. CONTRACTOR MAY BE REQUIRED TO LAY CONNECTIONS AT 1% (REGARDLESS OF DEPTH) IN ORDER TO SERVE CUSTOMER. IN THIS CASE, 1/8 BEND WILL NOT BE USED.
3. CONNECTIONS INTO MANHOLES MAY COME IN AT ANY ELEVATION AS LONG AS IT IS DEEP ENOUGH TO SERVE CUSTOMER. (4' MIN. COVER)

STANDARD OR VALLEY CURB & GUTTER.
DEEP ENOUGH TO SERVE CUSTOMER (4' MIN. COVER)
5' MIN.
1/8 C.I. SOIL PIPE BEND
4" C.I. SOIL PIPE, SERVICE WEIGHT.
MIN. 1% SLOPE   MAX. 2% SLOPE
PLUG
4" COMBINATION WYE AND 1/8 BEND
SEWER MAIN
1/16 BEND IF WYE IS USED
WYE OR APPROVED TAPPING SADDLE

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S.   REVISED 11-6-13   4" SEWER CONNECTION FOR DEEP MAINS   APPROVED
VII-21

BRASS CLEANOUT (SEE 4" SEWER CONNECTION DRAWING)

STANDARD 4' OR 5' MANHOLE

4" C.I. SOIL PIPE SERVICE WEIGHT.

CONCRETE TROUGH TO BE BUILT TO DIRECT FLOW FROM 6" CONNECTION TO EFFLUENT PIPE.

4'-0" OR 5'-0"
6" C.I. SOIL PIPE, SERVICE WEIGHT.
PLUG AS PER 4" SEWER CONNECTION DRAWING
MIN. 1% SLOPE   6"   MAX. 2% SLOPE   6"   4"   6"
FLEXIBLE CONNECTOR
JOINTS SHALL BE RUBBER GASKET
COMBINATION WYE AND 1/8 BEND.

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
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N.T.S.   REVISED 9-1-08   6" SEWER CONNECTION   APPROVED
VII-22

NOTE:
CLEANOUT SHALL BE LOCATED WITHIN THE GRASS STRIP WHEN APPLICABLE. IF THERE IS NO GRASS STRIP THEN THE CLEANOUT SHALL BE PLACED A MINIMUM OF 5 FEET FROM THE R/W OR EASEMENT LINE. IN NO CASE SHALL CLEANOUT BE PLACED WITHIN SIDEWALK, DRIVEWAY, OR INSIDE A FENCE.

NOTE:
IN LIEU OF WYE'S THE LATERAL MAY BE CONNECTED TO THE MAIN USING A TAPPING MACHINE AND SADDLE APPROVED BY THE ENGINEER, OR THE CONNECTION MAY BE MADE INTO A MANHOLE.

SEWER MAIN
O RING JOINT OR RUBBER GASKET
4" C.O.
1/16 SDR 26 PVC GASKETED PIPE BEND
WYE

PLAN

4" C.I. FERRULE W/ 3" BRASS PLUG (3 1/2" O.D. PLUG)- C.O. FLUSH WITH TOP OF PIPE BELL (WITHIN 1/2")

STANDARD OR VALLEY CURB & GUTTER.

PLUG — USE ONE OF METHODS BELOW:
1. BRASS CLEANOUT.
2. C.I. PLUG WITH NO-HUB COUPLING.
3. QUICK SEAL PLUG (BY FERNCO).
4. "T" CONE EXPANDABLE STOPPER (ST-401 BY ETCO).
5. C.I. PLUG WITH RUBBER GASKET.

4" C.I. DOUBLE HUB.

CONCRETE BLOCK TO BE POURED 180° FROM WHERE CONNECTION ENTERS THE MAIN (NOT REQUIRED IF WYE IS USED). BLOCK WILL PROTECT MAIN WHEN RODDING.

SECTION

4" SDR 26 PVC GASKETED COMBINATION WYE AND 1/8 BEND.

MIN. 5' TAILPIECE– EXTEND TO R/W OR UTILITY EASEMENT LINE (WHICHEVER IS FURTHEST FROM MAIN).

1/16 SDR 26 PVC GASKETED PIPE BEND
4" SDR 26 PVC GASKETED PIPE
MIN. 1% SLOPE   MAX. 2% SLOPE
O RING JOINT OR RUBBER GASKET
JOINTS SHALL BE RUBBER GASKET
PLUG

CONNECTIONS TO OUTFALLS MUST HAVE 5' BETWEEN THE OUTFALL & CLEANOUT. CONNECTIONS TO 15" OUTFALLS & GREATER MUST BE MADE INTO MANHOLE.

NOTE:
CONTRACTOR MAY BE REQUIRED TO LAY CONNECTION AS SHOWN BY DASHED LINES IF ELEVATION IS CRITICAL.

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N.T.S.   11-12-13   4" RESTAURANT SEWER CONNECTION   APPROVED
VII-23

NOTES:
1. INSTALLATION TO BE THE SAME AS FOR 4" RESTAURANT SEWER CONNECTION (DETAIL DRAWING ON PAGE 23).
2. CONTRACTOR MAY BE REQUIRED TO LAY CONNECTIONS AT 1% (REGARDLESS OF DEPTH) IN ORDER TO SERVE CUSTOMER. IN THIS CASE, 1/8 BEND WILL NOT BE USED.
3. CONNECTIONS INTO MANHOLES MAY COME IN AT ANY ELEVATION AS LONG AS IT IS DEEP ENOUGH TO SERVE CUSTOMER. (4' MIN. COVER)

CITY STREET W/ STANDARD CURB.
4" C.I. DOUBLE HUB.
DEEP ENOUGH TO SERVE CUSTOMER (4' MIN. COVER)
5' MIN.
1/8 SDR 26 PVC GASKETED PIPE BEND
4" SDR 26 PVC GASKETED PIPE
MIN. 1% SLOPE   MAX. 2% SLOPE
PLUG
4" SDR 26 PVC GASKETED COMBINATION WYE AND 1/8 BEND
SEWER MAIN
1/16 BEND IF WYE IS USED
WYE OR APPROVED TAPPING SADDLE

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S.   11-12-13   4" RESTAURANT SEWER CONNECTION FOR DEEP MAINS   APPROVED
VII-24