ENCASEMENT DETAIL

SYNTHETIC RUBBER SEAL
PLACE INSULATOR/SPACER AT ENDS OF CASING PIPE
PLACE INSULATOR/SPACER AT CENTER OF PIPE JOINT
STAINLESS STEEL JACK
SYNTHETIC RUBBER END SEAL
STAINLESS STEEL BAND
POLYMER PLASTIC RUNNERS
CARRIER PIPE
CARRIER PIPE
CARRIER PIPE
STAINLESS STEEL CLAMPS/BANDS
NOTE: SPACERS ARE TO BE NO GREATER THAN 8" APART OR AS SPECIFIED BY MANUFACTURER.
NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

<table>
<thead>
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<tr>
<td>CARRIER</td>
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<tr>
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<tr>
<td>CASING/WALL THICKNESS</td>
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NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.
THRUST BLOCKING

3/16" S.S. SADDLE STRAPS
HEL'D W/ 3/4" S.S. HEX NUT AND LOCK WASHER

12" MIN. THREAD EMBEDMENT IN CONCRETE

3/4" S.S. ALL-THREAD
OVERSIZED S.S. FLAT WASHER OR S.S. PLATE JAMMED BETWEEN
3/4" S.S. LOCK NUTS

TYPICAL BLOCKING FOR VERTICAL BENDS

3/16" S.S. SADDLE STRAPS
HEL'D W/ 3/4" S.S. HEX NUT AND LOCK WASHER

12" MIN. THREAD EMBEDMENT IN CONCRETE
OVERSIZED S.S. FLAT WASHER OR S.S. PLATE JAMMED BETWEEN
3/4" S.S. LOCK NUTS

SPECIAL BLOCKING OF TEE & PLUG
(WHEN DIRECTED BY WATER DEPT.)

TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING
(WHEN DIRECTED BY WATER DEPT.)

TYPICAL BLOCKING FOR HORIZONTAL BENDS

REINFORCING BARS

PUSH JOINT REDUCER

TYPICAL SECTION OF CROSS & PLUG BLOCKING
(WHEN DIRECTED BY WATER DEPT.)

THRUST SUPPORT FOR REDUCER
(SIZE TO BE DETERMINED BY WATER DEPT.)

NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE

DRAWN BY: CO    CHECKED BY: PN
GEN WATER/SEWER DETAIL: GWS02
LAST REVISION DATE: 05/09/2008
APPROVED: __________   DATE: 08/29/02
# Reaction Backing Table

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**Notes:**

1. All fittings shall be mechanical joints.
2. Do not cover bells or flanges with concrete.
3. Wrap all fittings with poly wrap.
4. Back all tees according to size of branch.
5. Backing future line extensions shall be such that later removal is possible.
6. All bends where fittings are used, both horizontal or vertical, shall be backed with concrete.
7. Reaction backing table is based on 150 psi and soil bearing pressure of 2,000 lb/sq. ft. Additional backing may be required in some areas as required by city water department.
# Anchor Collar Specifications

## Anchor Collar Schedule

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Dimensions</th>
<th>Reinforcing Bars</th>
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<td>36&quot;</td>
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## Anchor Collar (Elevation)

NOTE: PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS Poured.

## Anchor Collar (Side)

NOTE: USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.
ASPHALT STREET, ALLEY WAY OR DRIVE CUT/REPAIR

REPAIR SECTION

3" TYPE 2 HMAC SURFACE COURSE

EXISTING ASPHALT PAVEMENT

BROOM FINISH

3500 PSI P.C. CONCRETE
6" MIN. THICKNESS W/ #3 REBAR AT 18"-24"
C-C-CHAIRRED UP
OR AS SPECIFIED IN PAVING DETAILS.
SMOOTH SAW CUT (BOTH SIDES)

18" 18"

BACKFILL ENTIRE TRENCH WITH CLASS 7 CRUSHED STONE AT OPTIMUM MOISTURE CONTENT
PLACED IN 6" LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

ASTM NO. 67 CRUSHED STONE

PIECE AS SHOWN ON PLANS AT GRADE SPECIFIED

TRENCH WIDTH VARIES

NOTE: FLOWABLE FILL MAY BE USED IN LIEU OF CLASS 7 CRUSHED STONE
**IF APPROVED BY CITY ENGINEER**

NOTE: IF A FINAL REPAIR CANNOT BE STARTED WITHIN 24 HOURS OF AN OPEN CUT, THEN THE TRENCH SHALL BE BACKFILLED PER DETAIL
WITH IN A 1" MIN OF EXISTING SURFACE, THEN APPLY TEMPORARY COMPACTED COLD ASPHALT PATCH AND MAINTAIN UNTIL THE PERMANENT REPAIR IS MADE.
CONCRETE STREET OR DRIVE CUT/REPAIR

EXISTING CONCRETE PAVEMENT

BROOM FINISH

CONCRETE REPAIR SECTION

3500 PSI P.C. CONCRETE 6" MIN. THICKNESS MATCH EXISTING IF MORE THAN 6" THICK W/ #3 REBAR AT 18"-24" C-C CHARRED UP SMOOTH SAW CUT (BOTH SIDES)

SB-2 BASE (CLASS 7)

CLASS 67

6" MIN.

6"

D.D.

PIPE AS SHOWN ON PLANS AT GRADE SPECIFIED

BACKFILL ENTIRE TRENCH WITH APPROVED CRUSHED STONE WITH OPTIMUM MOISTURE CONTENT PLACED IN 8" LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

4" MIN. PER BEDDING DETAILS (6" MIN IN ROCK).

NOTE: FLOWABLE FILL MAY BE USED IN LIEU OF CLASS 7 CRUSHED STONE **IF APPROVED BY CITY ENGINEER**

NOTE: IF A FINAL REPAIR CANNOT BE STARTED WITHIN 24 HOURS OF AN OPEN CUT, THEN THE TRENCH SHALL BE BACKFILLED PER DETAIL WITH IN A 1" MIN OF EXISTING SURFACE, THEN APPLY TEMPORARY COMPACTED COLD ASPHALT PATCH AND MAINTAIN UNTIL THE PERMANENT REPAIR IS MADE.

DRAWN BY: CO CHECKED BY: PN
GEN WATER/SEWER DETAIL: GWS07 LAST REVISION DATE: 05/09/2008 APPROVED: DATE: 08/29/02
EXISTING GRAVEL STREET OR DRIVE

TRENCH WIDTH

SB-2 BASE (CLASS 7)

CLASS 67

6' MIN.

6'

O.D.

4' MIN. PER BEDDING DETAILS (6" MIN IN ROCK).

BACKFILL ENTIRE TRENCH WITH APPROVED CRUSHED STONE PLACED IN 8" LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

PIPE AS SHOWN ON PLANS AT GRADE SPECIFIED

GRAVEL STREET CUT/REPAIR

DRAWN BY: CO CHECKED BY: PN
GEN WATER/SEWER DETAIL: GWS08 LAST REVISION DATE: 05/09/2008
APPROVED: ____ DATE: 08/29/02
UNIMPROVED ROADS & DRIVEWAYS
PRIVATE DRIVEWAYS & PARKING AREAS

NOTE: IMPROVED PRIVATE DRIVEWAYS AND PARKING AREAS BACKFILLED AS SHOWN ABOVE.
SUBSURFACE MATERIAL TO EQUAL OR EXCEED EXISTING SURFACE.
ASPHALTIC CONCRETE WALKS – MINIMUM THICKNESS 4"
CONCRETE DRIVES OR PARKING AREAS – MINIMUM THICKNESS 6".

DRAWN BY: CO  CHECKED BY: PN
GEN WATER/SEWER DETAIL: GW510
LAST REVISION DATE: 05/09/2008
APPROVED:  DATE: 08/29/02
TYPICAL BEDDING DETAIL
AND BACKFILL DETAIL

EXISTING FINISH GRADE

6' MIN.
12' MAX.

INITIAL BACKFILL MATERIAL
COMPACTED TO ELIMINATE SETTLING

10 GAUGE SOUD TRACER WIRE
RUNNING ENTIRE LENGTH OF LINE

CLASS 67

4" x 1"

* IF IN ROCK 6" MIN. CLASS #67 STONE REQUIRED.
TEMPORARY 1" BLOW OFF ASSEMBLY
SAMPLE POINTS

1" CURB STOP (C.F. X C.F.)

POLYETHYLENE PIPE

STRAP TO METAL FENCE POST
OR OTHER SUITABLE SUPPORT

57.3669

GROUND LEVEL

METER BOX W/LID

DRISCO POLYETHYLENE PIPE

NOTE: AFTER TEST IS COMPLETE REMOVE DRISCO PIPE FROM SADDLE BEHIND THE SHETTING VALVE.
PLACE A 4" PIECE OF PVC PIPE THAT IS 6"-12" LONG OVER CORP.
BACKFILL WITH CLASS #67.

1" CORP. STOP WITH APPROVED SADDLE

WATER MAIN

DRAWN BY: CO   CHECKED BY: PN
WATER DETAIL: W01
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
WATER SERVICE DETAIL 1"

NOTE:
1" DRISCO TUBING WILL
SUPPLY WATER ONLY TO A SINGLE
1" METER SERVICE.

SINGLE SET

ROADWAY

MINIMUM COVER THROUGH OPEN DITCH 24"

48" TO 60"
PER MAIN DEPTH

ANGLE TO 15" - 30" FOR SERVICES
1" CORP. STOP
WATER MAIN

METER BOX AND
LID AS SPECIFIED
BY CITY.

DRISCO POLYETHYLENE PIPE DR9 200 PSI

#10 TRACER WIRE REQUIRED

METER BY CITY

METER RISER
PER BENTONVILLE
SPECS

3" PE PIGTAIL REQUIRED

18" MIN.

24" MIN.

WATER DETAIL: WD02
LAST REVISION DATE: 05/09/2008
APPROVED: 
DATE: 08/29/02
WATER SERVICE DETAIL 5/8"

NOTE:
1" DRISCO TUBING WILL SUPPLY WATER TO A SINGLE METER SERVICE OR A DOUBLE METER SERVICE.

DOUBLE SET

SINGLE SET

ROADWAY

49" TO 68" PER MAIN DEPTH

DRISCO POLYETHYLENE PIPE DR9 200 PSI

1" CORP. STOP

DOUBLE STRAP SERVICE SADDLE

#10 TRACER WIRE REQUIRED

METER RISER PER BENTONVILLE SPECS.

LOCATION OF METER TILE DETERMINED DURING PLAN REVIEW.

METER BOX AND LID AS SPECIFIED BY CITY.

3' PE PIGTAIL REQUIRED

16" MIN

WATER MAIN

DRAWN BY: CO CHECKED BY: PN
WATER DETAIL: W03
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
FIRE HYDRANT DETAIL W/ DUCTILE IRON PIPE AND RETAINER GLANDS

NOTES:
1. DRAINAGE BED SHALL CONSIST OF 8 CU FT OF CLASS 67 GRAVEL.
2. USE 6" D.I. NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTOR.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHER-WISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.
FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING

NOTES:
1. DRAINAGE BED SHALL CONSIST OF 8 CU FT OF CLASS 67 GRAVEL.
2. USE 6" D.I. NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHER-WISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
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10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO 9' BACK OF CURB, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

ELEVATION VIEW

DRAWN BY: CO
CHECKED BY: PN
WATER DETAIL: W05
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
RESTRAINED GATE VALVE W/ 2” BLOW-OFF

NOTES:
1. END BLOW OFF'S TO BE INSTALLED AS REQUIRED BY THE PLANS.
2. ALL THREADED OUTLETS SHALL HAVE A DOUBLE WRAP OF TEFLOM TAPE ON THREADS.
3. VALVE BOXES SHALL BE INSTALLED ON ALL BLOW OFF VALVES.
2" COMBINATION AIR/VACUUM VALVE DETAIL

2'-0' MIN.
2'-0' MIN.

24" ROUND METER BOX & LID
2" HARD COPPER PIPE
2" CORPORAION STOP

2"X4" BRASS NIPPLE
2'-2' 90° BRASS BENDS
2"X4" BRASS NIPPLE

FILL W/GRAVEL
SLOPE UP

2" JAMES JONES VALVE
TYPICAL VALVE BOX

NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLOM TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

2-90° BENDS W/CLOSED NIPPLE & BRASS OR STAINLESS SCREEN
TEEPOST SUPPORT 6'
3' IN GROUND AND 3' OUT OF GROUND
2" GALV.
GROUND SURFACE

90° BEND GALV.
BRICK SUPPORT ON COMPACTED SOIL (8"X8" MIN. BLOCK)
1/4"SIDE OUTLET W/1/4"CHECK VALVE
2" UNION
APCO AIR/VAC. #145-C
2" 90° COPPER BEND
BRICK SUPPORT ON COMPACTED SOIL (8"X8" MIN. BLOCK)

DOUBLE STRAP SADDLE

2-INCH AUTOMATIC SECTION

DRAWN BY: CO CHECKED BY: PN
WATER DETAIL: W09
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
1" COMBINATION AIR/VACUUM VALVE DETAIL

2-90° BENDS W/CLOSE NIPPLE & BRASS OR STAINLESS SCREEN

TEEPOST SUPPORT 6'
3' IN GROUND AND 3' OUT OF GROUND

1" GALV.

GROUND SURFACE
90° PVC BEND

3" SLOT THRU BOX
1"X 1/2"OUTLET (SIDE)
W/ 1/4"CHECK VALVE

UNION

FILL W/GRAVEL

1" C.F. CURB STOP (IN) F.I.P. (OUT)
1" TYPE "K" COPPER PIPE
1" C.F. CORP. STOP
DUCTILE IRON SADDLE

1-INCH DI PIPE
SECTION

NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLOM TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.
TYPICAL BUTTERFLY VALVE INSTALLATION
(16" AND LARGER PIPE)

ANCHOR COLLAR
W/2 MATS - "A"&"B" REBARS
(SEE DETAIL)
PIPE SPOOL PE X FLG
(8.0" MINIMUM)
WATER MAIN

M.J. X FLANGED BUTTERFLY VALVE

REMOVAL SECTION
PIPE SPOOL, FLG X PLAIN END
LENGTH = SLEEVE LENGTH X 1.5
SOLID D.I. SLEEVE

NOTE:
EXCAVATE TRENCH A MINIMUM
OF 2.0' FEET EACH SIDE OF
AND BELOW PIPE.

4.0' MIN
M.J.
FLANGED

P.E.
P.E.

2.0' MIN

DRAWN BY: CO    CHECKED BY: PN
WATER DETAIL: W12
LAST REVISION DATE: 05/09/2008
APPROVED:    DATE: 08/29/02
SWING CONNECTION – NEW MAIN TO EXISTING MAIN

SECTION VIEW

8" Anchor Rods (All Thread)

M.J. Tapping Valve

90' Bend

Existing Main

New Water Main

M.J. Tee or M.J. Outlet on Concrete Main or Tapping Saddle with M.J. Outlet

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED.)
3. PROVIDE STAINLESS STEEL "ALL THREAD" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

EITHER RIGHT OR LEFT

4.0'MIN.

4.5'MIN.

NIPPLE MINIMUM LENGTH 11/2"

M.J. TAPPING VALVE

TAPPING SLEEVE

NEW WATER MAIN

EXISTING MAIN

THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

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DRAWN BY: CO CHECKED BY: PN
WATER DETAIL: W13
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
SANITARY SEWER
INTERIOR DROP MANHOLE

OPEN INVERT

GROOVE IN CONCRETE BASE
BOTTOM OF GROOVE TO
MATCH PIPE INVERTS.

PIPE AS SPECIFIED
ON UTILITY PLAN

DIRECTION OF
FLOW

SECTION A-A

2'-0"
FRAME

12" MAX.
PLUS RING

EXISTING PRECAST
CONCRETE MANHOLE

NOTE:
INSIDE DROP MANHOLES
SHALL BE APPROVED
PRIOR TO CONSTRUCTION
ON A CASE-BY-CASE BASIS.

APPROVED FITTING

8" MIN.
PVC PIPE

PVC SANITARY
SEWER 90°
BEND (SDR).

WATER STOP

3/4" STAINLESS STEEL BANDS
ATTACHED TO CONCRETE WITH
5/8" X 3" STAINLESS STEEL BOLTS
WITH EXPANSION ANCHORS
(3'-0" O.C. MAXIMUM SPACING)

DRAWN BY: CO CHECKED BY: PN
SANITARY SEWER DETAIL: SS02
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
SANITARY SEWER
EXTERIOR DROP MANHOLE

CHANNEL IN CONCRETE BASE
BOTTOM OF CHANNEL TO MATCH PIPE INVERTS.

PROVIDE AS LARGE OF CURVE
AS POSSIBLE IN FLOW CHANNEL.

SECTION A-A

CONCRETE FRAME
TO MANHOLE

2'-0'
FRAME

CAST IRON MANHOLE RING AND COVER
(HEAVY DUTY, NON-VENTED COVERS ONLY)

12" MAX.
PLUS RING

STANDARD MANHOLE
CONSTRUCTION PER DETAIL

FLOW LINE

INVERT AS
SPECIFIED
ON PLANS

SANITARY SEWER "Y"

SEWER PIPE PER PLANS

DROP PIPE AS REQUIRED
(LENGTH MAY VARY)

45' BEND

DRAWN BY: CO  CHECKED BY: PN
SANITARY SEWER DETAIL: SS03
LAST REVISION DATE: 05/09/2008
APPROVED: _____  DATE: 08/29/02
HEAVY DUTY MANHOLE
LID & FRAME

CONCEALED PICKHOLE

MINIMUM 260LB IN STREETS

23.5"

1.5"

USA MANUFACTURED
RING AND LID
ASSEMBLY REQUIRED

* SEE PLANS FOR
PROPER MANHOLE ELEVATION

CONCRETE MANHOLE FRAME
TO MANHOLE AT SAME
TIME MANHOLE IS CAST.
(SEE CAST-IN-PLACE
SANITARY SEWER
MANHOLE DETAIL)

25"

23.75"

22"

25 11/16"

32"

STANDARD MANHOLE
CONSTRUCTION PER DETAIL

SANITARY SEWER DETAIL: SS04
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
WATER TIGHT BOLTED MANHOLE
LID & FRAME

CONCRETE MANHOLE FRAME TO MANHOLE AT SAME TIME MANHOLE IS CAST.
(SEE CAST-IN-PLACE SANITARY SEWER MANHOLE DETAIL)

SQUARE BOLT PATTERN

USA MANUFACTURED RING AND LID ASSEMBLY REQUIRED

* SEE PLANS FOR PROPER MANHOLE ELEVATION

STANDARD MANHOLE CONSTRUCTION PER DETAIL

DRAWN BY: CO CHECKED BY: PN
SANITARY SEWER DETAIL: SS05
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
SANITARY SEWER MANHOLE ABANDONMENT

REMOVE TOP OF PIPE OF MANHOLE AND RETURN EARTH TO EXISTING GRADE.

SAND AND/OR GRAVEL COMPACTED TO 90% OF THE MAXIMUM DRY DENSITY (STD. PROCTOR)

POUR 4000 P.S.I. CONCRETE TO A POINT 3" ABOVE TOP OF PIPE

EXISTING SANITARY SEWER MAIN IS TO BE PLUGGED WITH 4000 P.S.I. CONCRETE

EXISTING SANITARY SEWER MAIN IS TO BE PLUGGED WITH 4000 P.S.I. CONCRETE

DRAWN BY: CO CHECKED BY: PN
SANITARY SEWER DETAIL: SS07
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
LIFT STATION SITE DETAIL

TRANSFORMER PAD AS REQUIRED.

ASPHALT VALVE VAULT

CONTROL PANEL
6' CHAIN LINK FENCE,
W/ 1' SETBACK.

WET WELL

ASPHALT DRIVE BUILT TO BENTONVILLE STREET DEPARTMENT SPECIFICATIONS.

NOTE:

BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

14' ROLL BACK GATE OPENING TO BE DETERMINED BY THE WWTD

DRAWN BY: CO CHECKED BY: PN
LIFT STATION DETAIL: LS03
LAST REVISION DATE: 05/09/2008
APPROVED: ___ DATE: 08/29/02
WET WELL AND VALVE VAULT
TOP SLAB REINFORCEMENT DETAIL

#4 @ 6" O.C.
BOTH WAYS (TYP.)

#4 AT EACH CORNER A" (TYP.)

"A"
1125"
5.5"

-15.75"

-15.75"

NOTE:
BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

BOTTOM SLAB REINFORCEMENT DETAIL

#4 @ 6" O.C.
BOTH WAYS (TYP.)

#4 AT EACH CORNER A" (TYP.)

"B"
1125"

SECTION A-A

SECTION B-B

-72"

-72"

6"
2.25"

DRAWN BY: CO     CHECKED BY: PN
LIFT STATION DETAIL: LS06
LAST REVISION DATE: 05/09/2008
APPROVED: DATE: 08/29/02
LIFT STATION VALVE VAULT DETAIL

ACCESS COVER TO BE ALUM. W/LOCKING HASP

WHEEL GATE VALVE OR ECCENTRIC PLUG VALVE

CHECK VALVE SWING TYPE, LEVER & SPRING TYPE

WATER STOP

DISCHARGE PIPE MUST BE BELOW FROST LINE.

DRAIN PIPE PVC SDR-26

CONCRETE PIPE SUPPORT (TYP)

FLANGED CONNECTIONS

NOTE: REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

WATER STOP 6" CRUSHED STONE BASE

42"

10"

LIFT STATION DETAIL: LS07

LAST REVISION DATE: 05/09/2008

APPROVED: DATE: 08/29/02

DRAWN BY: CO  CHECKED BY: PN

BRENTWOOD
AIR VACUUM/RELEASE
MANHOLE FOR FORCE MAIN
NOT TO SCALE

MIN. 10 LF DIP FORCE MAIN CENTERED ON MANHOLE.

FLEXIBLE SEAL

4' DIA CAST IN PLACE CONCRETE MANHOLE

CLAVAL SEWER AIR RELEASE VALVE OR APPROVED EQUAL

NOTES:

FORCE MAIN PIPE SHALL BE CENTERED ACROSS MANHOLE.

CONTRACTOR TO INSTALL FORCE MAIN AT DEPTH REQUIRED TO FACILITATE INSTALLATION OF AIR RELEASE MANHOLE AT HIGH POINT OF LINE.

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

CONCRETE MANHOLE FRAME TO MANHOLE AT SAME TIME MANHOLE IS CAST. (SEE CAST-IN-PLACE SANITARY SEWER MANHOLE DETAIL)

24" RING & COVER TRAFFIC RATED W/ 1" DRILLED VENT HOLE

FINISHED GRADE

3' MIN.

24" MAX.

GRAVEL

TAPPING SADDLE

CLASS 7 FOR SUPPORT

MIN. 6" #67 STONE

BACK FLUSH ATTACHMENT WITH QUICK COUPLER

2" AIR VACUUM/PRESSURE RELEASE VALVE - CRISPIN OR APPROVED EQUAL

2" ISOLATION VALVE AND INLET PIPING SHALL BE SCH 40 SS 316

SECTION

DRAWN BY: CO CHECKED BY: PN
LIFT STATION DETAIL: LS08
LAST REVISION DATE: 05/09/2008
APPROVED: ____ DATE: 08/29/02
TYPICAL BEDDING DETAIL FOR FORCED MAIN

INITIAL BACKFILL MATERIAL COMPACTED TO ELIMINATE SETTLING

EXISTING FINISH GRADE

6" MIN. 12" MAX. 6" MIN. 12" MAX.

10 GAUGE SOLID TRACER WIRE RUNNING ENTIRE LENGTH OF LINE

DETECTOR TAPE LABELED "FORCED MAIN"

CLASS 67

* IF IN ROCK 6" MIN. CLASS #67 STONE REQUIRED.
TRACER WIRE PORT

NOTES:

LOCATOR PORTS ARE LOCATED EVERY 500’ AND CHANGE IN DIRECTION.
TO BE LOCATED AS CLOSE TO MANHOLE WHEREVER POSSIBLE TO EASE LOCATING.

CAST IRON LID
CONCRETE COLLAR
FINAL GRADE

SOLID 10 GAUGE 4” PVC TRACER WIRE

CLASS 67 BEDDING SUPPORT REQ'D.