

**RESTRAINED LENGTHS FOR VERTICAL BENDS**  
AUD DETAIL 3.2.2

PIPE SIZE (INCH)	BEND ANGLE (DEG)	LOW SIDE DEPTH	L1 UPPER BEND RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 PSI	L2 LOWER BEND RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 PSI
6	45	5	24	8
6	22.5	5	12	4
6	11.25	5	6	2
6	4.5	5	24	8
6	22.5	10	12	2
6	11.25	10	6	1
8	45	5	35	11
8	22.5	5	15	5
8	11.25	5	8	3
8	4.5	10	32	7
8	22.5	10	15	3
8	11.25	10	8	2
12	45	5	45	16
12	22.5	5	22	7
12	11.25	5	11	4
12	4.5	10	45	10
12	22.5	10	22	5
12	11.25	10	11	2

NOTES:  
1. RESTRAINED LENGTH CALCULATIONS ARE FOR PVC PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE.  
2. THE NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY.  
3. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.  
4. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING THE INSTALLATION.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**RESTRAINED LENGTHS FOR TEES**  
AUD DETAIL 3.2.3

PIPE SIZE (INCH)	BRANCH SIZE (INCH)	LENGTH OF RUN (FT.)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 PSI
6	4	5	7
6	4	10	6
6	6	5	35
6	6	10	11
8	4	5	42
8	4	10	39
8	6	5	1
8	8	10	77
8	8	5	30
12	8	10	6
12	4	13	42
12	6	5	59
12	6	10	1
12	8	10	77
12	8	5	7
12	8	10	1
12	12	15	109
12	12	5	86
12	12	10	63
12	12	15	39

NOTES:  
1. RESTRAINED LENGTH CALCULATIONS ARE FOR PVC AND DIP PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE.  
2. THE NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY.  
3. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.  
4. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING THE INSTALLATION.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**MANHOLE STEP**  
AUD DETAIL 3.5

NOTE: STEP SHALL BE MANUFACTURED BY OLIVER IRON AND RUBBER COMPANY OR APPROVED EQUAL.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**AED UTILITY ROAD CUT DETAIL**  
AUD DETAIL 4.1.2

ASPHALT OVERLAY - ALL UTILITY ROAD CUTS WILL REQUIRE AN ASPHALT OVERLAY. THE MINIMUM WIDTH SHALL BE ONE (1) LANE WIDTH AND THE MINIMUM LENGTH SHALL BE FIFTY (50) FEET WHICH IS A MINIMUM TWENTY (20) FEET ON EACH SIDE OF THE CENTER OF THE UTILITY CUT. THE MINIMUM DEPTH OF THE ASPHALT OVERLAY SHALL BE ONE (1) INCH AFTER COMPACTION.

ASPHALT PATCH - ALL EDGES OF THE EXISTING ASPHALT SHALL BE SAWED VERTICALLY TO PROVIDE A CLEAN NEAT SURFACE AND PACKED. THE MINIMUM DEPTH OF THE ASPHALT PATCH SHALL BE TWO (2) INCHES AFTER COMPACTION. THE FINISH GRADE OF THE ASPHALT PATCH SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT AFTER PROPER ROLLING.

EXISTING GRADE OF ASPHALT TYPICAL EACH SIDE

CONCRETE CAP - AN EIGHT (8) INCH THICK PORTLAND CEMENT CONCRETE CLASS "C" OR BETTER CONCRETE CAP SHALL BE PLACED TWELVE (12) INCHES WIDER EACH SIDE THAN THE EXCAVATED TRENCH/CUTCH. ALL EDGES SHALL BE SQUARED. ALL CONCRETE SHALL BE PROTECTED FOR TWENTY FOUR (24) HOURS AFTER PLACEMENT AND NO ASPHALT SHALL BE PLACED DURING THIS PERIOD. IF HIGH EARLY STRENGTH CONCRETE IS USED ASPHALT PATCHING WITHIN THE TWENTY FOUR (24) HOUR PERIOD WILL BE CONSIDERED BASED ON EARLY BREAK CYLINDERS OBTAINING A COMPRESSED STRENGTH OF 3000 PSI. ALL JOISTS ASSOCIATED WITH VERIFYING COMPRESSIVE STRENGTH SHALL BE BORNE BY THE APPLICANT.

ASPHALT PATCH SHALL BE SAWED VERTICALLY TO PROVIDE A CLEAN NEAT SURFACE AND PACKED. THE MINIMUM DEPTH OF THE ASPHALT PATCH SHALL BE TWO (2) INCHES AFTER COMPACTION. THE FINISH GRADE OF THE ASPHALT PATCH SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT AFTER PROPER ROLLING.

EXISTING GRADE OF ASPHALT TYPICAL EACH SIDE

LEGEND:  
 ASPHALT OVERLAY  
 ASPHALT PATCH  
 CONCRETE CAP  
 SEWER BACKFILL MATERIAL  
 EXISTING ASPHALT  
 EXISTING BACKFILL OR BASE MATERIAL

NOTES:  
1. ALL BACKFILL SHALL BE COMPLETED BY MORE THAN ONE (1) INCHES OF MEASUREMENT SPREAD AND COMPACTED IN ALL DIRECTIONS TO THE TOP OF THE TRENCH TO WITHIN ONE (1) INCHES OF THE TOP OF THE BACKFILL TO THE TOP OF THE TRENCH. THE BACKFILL SHALL BE COMPACTED TO AT LEAST 100% OF THE STANDARD LABORATORY DRY DENSITY. THE TOP OF THE BACKFILL SHALL BE LOCATED IMMEDIATELY BENEATH ALL BASE AND PAVING MATERIALS. THE MANUAL LABORATORY DRY DENSITY SHALL BE DETERMINED FROM THE STANDARD PROCTOR TEST. A MECHANICAL COMPACTOR SHALL BE ON SITE PRIOR TO BEGINNING ANY EXCAVATIONS. IN NO CASE WILL BACKFILLING WITH SAND, USING JETTING AND/OR FLOODING TO ACHIEVE COMPACTION BE ALLOWED.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**THREE STAGE GREASE TRAP RECEPTOR**  
AUD DETAIL 5.5

TANK SIZES:  
500 GALLONS  
750 GALLONS  
1,000 GALLONS  
1,500 GALLONS  
2,000 GALLONS

NOTES:  
1. THERE SHALL BE A 2" DIFFERENCE IN THE INFLUENT AND EFFLUENT INVERT OF THE GREASE TRAP RECEPTOR.  
2. REINFORCING SHALL BE PROVIDED AS REQUIRED FOR TOP, SIDES AND BOTTOM OF CONCRETE TANK IN ACCORDANCE WITH ASTM C 309.  
3. TANK AND MANHOLE ASSEMBLY SHALL BE CERTIFIED AS DESIGNED FOR TEST PRESSURE, SURFACE OR H-20 LOADING.  
4. VALVE SHALL BE SET BEDDED WITH 457 STONE, 16" OF STONE WHEN PLACED ON HAND SURFACE, 12" OF STONE WHEN PLACED ON SANDY SURFACE.  
5. THE MINIMUM COMPRESSIVE STRENGTH OF CONCRETE PRODUCTS SHALL BE 4000 PSI.  
6. SWEET 90° BENDS ARE TO BE USED. THE ALARMS SHALL BE 1/2" OPTIC RATED.  
7. TANK MUST BE COATED WITH CONCRESEAL WITH A MINIMUM THICKNESS (INSIDE ONLY).  
8. MUST BE PUMPED OUT EVERY 60 DAYS.  
9. IF CLEANOUT INSTALLED WITHIN TANK IT MUST BE OPTIC RATED.  
10. MUST CONTACT SYSTEMS PROTECTION DIVISION 7 DAYS BEFORE INSTALLATION.  
11. ALL PIPING TO BE 4" UNLESS OTHERWISE NOTED.  
12. THE FINISHING TANK THIRD STAGE OF A GREASE TRAP.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**DOUBLE CHECK VALVE ASSEMBLY BELOW GROUND (2" AND SMALLER)**  
AUD DETAIL 5.2.1

NOTE: PIPE CUTOUT HOLES MUST BE LARGER THAN WATER LINE AND SEALED WITH EXPANSION FOAM OR SILICONE CAULK INSIDE AND OUTSIDE THE BOX TO PREVENT GASES AND WATER FROM ENTERING.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**DOUBLE CHECK VALVE FOUNDATION VARIATIONS (2" AND SMALLER)**  
AUD DETAIL 5.4

NOTE: OTHER TYPES OF INSTALLATION MAY BE NECESSARY DUE TO VARYING FIELD CONDITIONS. CONSULT WITH INSPECTOR BEFORE INSTALLING.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**DOUBLE CHECK VALVE ASSEMBLY VARIATIONS (2" AND SMALLER)**  
AUD DETAIL 5.3

NOTES:  
1. ASSEMBLY SHOULD BE CENTERED IN BOX TO ALLOW ACCESS FOR TESTING AND REPAIR.  
2. BOX SHALL NOT REST ON WATER LINE.  
3. ENTRY AND EXIT POINTS OF WATER LINE AND BOX MUST BE SEALED ON BOTH SIDES TO PREVENT ENTRY OF WATER AND DIRT. (REFER TO DETAIL 5.1)  
4. MINIMUM CLEARANCE TO BE MAINTAINED: 8" TO 18" FROM ASSEMBLY TO TOP OF BOX, 6" FROM BOTTOM OF ASSEMBLY TO TOP OF GRAVEL.

NO REVISION OR MODIFICATION OF THIS DETAIL SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM AUGUSTA UTILITIES DEPARTMENT. REVISED: JANUARY 2018

AUGUSTA UTILITIES DEPARTMENT  
452 WALKER STREET, SUITE 200  
AUGUSTA, GA 30901

Water Is Life  
AUGUSTA UTILITIES

**THE LAG GROUP**  
1981  
Architectural Engineers and Planners  
JOHN L. LAGORER & ASSOCIATES, P.C.  
AUGUSTA, GA • MT. PLEASANT, SC  
TEL (706) 724-3755 • TEL (843) 619-4656  
FAX (706) 724-3935  
WWW.THELAGROUP.COM

CLIENT: AUGUSTA, GA  
555 TELFAIR STREET, AUGUSTA, GA 30901

PROJECT LOCATION:  
2820 OLD HIGHWAY 1, HEPHIZIBAH, GEORGIA 30815

PROJECT #20

NO.	DATE	BY	DESCRIPTION
0	12/21/18	WTE	ISSUED FOR BID
1		DRWN	
2		CHK	

PROJECT NO. 3042.1604  
DRAWN BY: DRWN  
CHECKED BY: CHK  
DATE: 8/10/18  
SHEET TITLE: CONSTRUCTION DETAILS 6 OF 7

SCALE: 1" = 20'  
DRAWING NO. C-606  
REV. 0