ES-A-C500/C500N/C500Z

Colt™ Series C500, C500N, C500Z

AMES FIRE & WATERWORKS

Reduced Pressure Detector Assemblies
Sizes: 2½" – 10" (65 – 250mm)

Features

- Extremely Compact Design
- 70% Lighter than Traditional Designs
- 304 (Schedule 40) Stainless Steel Housing & Sleeve
- Groove Fittings Allow Integral Pipeline Adjustment
- Patented Link Check Provides Lowest Pressure Loss
- Unmatched Ease of Serviceability
- Replaceable Check Disc Rubber
- Available with Grooved Butterfly Valve Shutoffs
- Bottom Mounted Cast Stainless Steel Relief Valve
- Metered Bypass to Detect Leakage or Theft of Water from the Fire Sprinkler System

WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

The Colt C500, C500N, C500Z Reduced Pressure Detector Assemblies are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for health-hazard non-potable service applications such as irrigation, fire line, or industrial processing. The Colt C500, C500N, C500Z are used to monitor unauthorized use of water from the fire protection system.

Specifications

The Colt C500, C500N, C500Z Reduced Pressure Detector Assemblies shall consist of two independent Link Check modules, a differential pressure relief valve located between and below the two modules, two drip tight shutoff valves, and required test cocks. Link Check modules and relief valve shall be contained within a sleeve accessible single housing constructed from 304 (Schedule 40) stainless steel pipe with groove end connections. Link Checks shall have reversible elastomer discs and in operation produce drip tight closure against the reverse flow of liquid caused by backpressure or backsiphonage. The bypass assembly consists of a meter registering either gallon or cubic measurements, a reduced pressure zone assembly and required test cocks. Assembly shall be Colt C500, C500N, C500Z as manufactured by the Ames Company.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

Ames Fire & Waterworks product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Ames Fire & Waterworks. Ames Fire & Waterworks reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Ames Fire & Waterworks products previously or subsequently sold.

Configurations

- Horizontal
- "Z" pattern horizontal
- "N" pattern horizontal

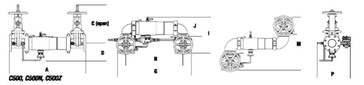
Materials

- Housing & Sleeve: 304 (Schedule 40) Stainless Steel
- Elastomers: EPDM, Silicone and Buna 'N'
- Link Checks: Noryl®, Stainless Steel
- Check Discs: Reversible Silicone or EPDM
- Test Cocks: Bronze Body Nickel Plated
- Pins & Fasteners: 300 Series Stainless Steel
- Springs: Stainless Steel

Pressure — Temperature

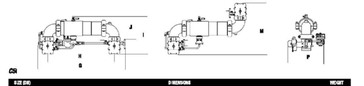
Temperature Range: 33°F – 140°F (0.5°C – 60°C)
Maximum Working Pressure: 175psi (12.1 bar)

Dimensions — Weights



C500, C500N, C500Z

SIZE (DN)	A C500		B		C		D		J		M		P		CVSO		WEIGHT	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
2½	65	30¾	781	18¾	476	6⅛	165	26⅞	728	21⅞	546	16⅛	389	9⅞	223	21⅛	540	139	63
3	80	31⅞	806	18¾	476	6⅞	172	30¼	768	25¼	595	17⅞	454	9⅞	253	23	584	145	66
4	100	33¾	857	22⅝	578	7	178	33	838	22⅝	597	18⅛	470	9⅞	252	26¼	667	199	90
6	150	43¼	1100	29¼	743	8⅝	218	44⅝	1137	32¼	845	25⅝	651	13⅞	352	37¼	919	1,0	483
8	200	49⅝	1264	37¼	950	9¼	248	54¼	1375	40¼	1018	27¼	697	15⅛	386	36¼	937	2,19	1,000
10																		437	259



CSO

SIZE (DN)	G		H		J		M		P		CSO/WR	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
2½	6⅛	156	30¼	768	23	584	17⅛	394	6⅛	241	19⅛	532	15¼	402	81	37
3	8⅛	206	34	864	24	610	18¼	414	10⅞	276	21¼	540	16⅞	410	94	39
4	10⅞	276	36⅞	936	25¼	646	17⅞	452	10⅞	279	23¼	597	18⅛	422	101	46
6	15⅞	406	41⅞	1181	35¼	896	22⅞	581	13⅞	343	27¼	692	19	485	174	79

Noryl® is a registered trademark of SABIC Innovative Plastics™.

AMES COLT SERIES C500 REDUCED PRESSURE DETECTOR ASSEMBLY
6" HORIZONTAL OSY

ES-LF009

For Health Hazard Applications

Job Name _____ Contractor _____
Job Location _____ Approval _____
Engineer _____ Contractor's P.O. No. _____
Approval _____ Representative _____

LEAD FREE

Series LF009
Reduced Pressure Zone Assemblies

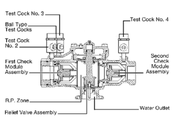
Sizes: ¼" – 2" (8 – 50mm)

Series LF009 Reduced Pressure Zone Assemblies are designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements. This series can be used in a variety of installations, including the prevention of health hazard cross-connections in piping systems or 'in' containment at the service line entrance. The LF009 features Lead Free* construction to comply with Lead Free* installation requirements.

This series features two in-line, independent check valves, captured springs and replaceable check seats with an intermediate relief valve. Its compact modular design facilitates easy maintenance and serviceability access. Sizes ¼" – 1" (8 – 25mm) shutoffs have tee handles.

Features

- Single access cover one modular check construction for ease of maintenance
- Top entry all internals immediately accessible
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- Lead Free* cast copper silicon alloy body construction for durability ¼" – 2" (8 – 50mm)
- Fused epoxy coated cast iron body 2½" and 3" (65 and 80mm)
- Flat valve seat access — screwdriver slotted ¼" – 2" (8 – 50mm)
- Large body passages provides low pressure drop
- Compact, space saving design
- No special tools required for servicing



Now Available
WattsBox Insulated Enclosures.
For more information, send for literature ES-WB.

Specifications

A Reduced Pressure Zone Assembly shall be installed at each potential health hazard location to prevent backflow due to backsiphonage and/or backpressure. The assembly shall consist of an internal pressure differential relief valve located in a zone between two positive seating check modules with captured springs and silicone seat discs. Seats and seat discs shall be replaceable in both check modules and the relief valve. The body shall be bronze with stainless steel springs and stainless line bushs. Service of all internal components shall be through a single access cover secured with stainless steel bolts. Body and shutoffs shall be constructed using Lead Free* cast copper silicon alloy materials. Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall also include two resilient seated isolation valves, two resilient seated test cocks and an air gap drain fitting. The assembly shall meet the requirements of USC, ASSE Std. 1013, AWWA Std. C511, CSA B64.4. Shall be a Watts Series LF009.

NOTICE

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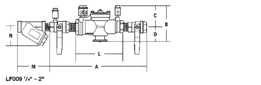
*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

With product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Industrial Series. Watts reserves the right to change or modify product design, construction, specifications, or materials with out prior notice and without incurring any obligation to make such changes and modifications on WATTS products previously or subsequently sold.

WATTS®

1" WATTS SERIES LF009 REDUCED PRESSURE ASSEMBLY

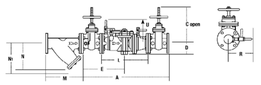
Dimensions and Weight: ¼" – 2" (8 – 50mm) LF009

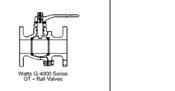


LF009 ¼" – 2"

SIZE (DN)	DIMENSIONS (APPROX.)																		WEIGHT	
	A		B		C		D		H		L		M							
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
¼	10	254	4¾	121	2¾	70	3¼	83	7⅞	200	5⅞	149	6⅞	175	2⅞	73	2⅞	73	2	0.9
⅜	10	19	250	4¾	117	2¾	68	3¼	32	5⅛	142	2¾	62	2⅛	54	3	2	0.9
½	13	19	250	4¾	117	2¾	68	3¼	32	5⅛	142	2¾	70	2¾	57	3	2	0.9
¾	20	33¼	223	5	127	3⅛	80	3⅞	38	6⅝	171	3⅞	85	2¾	73	4	3	1
1	25	14	356	5½	140	3	76	4⅛	64	8⅛	241	3⅞	95	3	76	4	3	1
1¼	32	17⅞	441	6	152	3⅛	80	3⅞	64	11⅞	289	4⅞	113	3⅛	79	5	3	1
1½	40	19⅞	505	6½	165	3⅞	95	4⅞	64	13⅞	340	4⅞	121	4	102	5	3	1
2	50	21⅞	543	7⅞	197	4⅞	114	5⅞	83	13⅞	343	5⅞	151	5	127	6	3	1

Dimensions and Weight: 2½" and 3" (65 and 80mm) LF009





Watts G-4000 Series
Q7 – Ball Valves

STRAINER SIZE		DIMENSIONS (APPROX.)						WEIGHT	
		A		B		B1			
in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
2½	65	10	254	4¼	165	8⅛	248	31	12.7
3	80	10¼	257	7	178	10	254	34	13.4

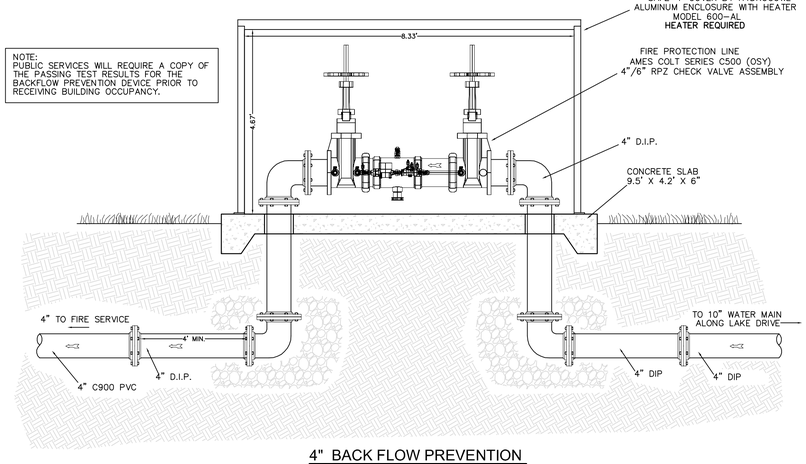
†Clearance for servicing

MODEL	SIZE (in.)	DIMENSIONS (APPROX.)																		WEIGHT	
		A		C		J		L		R		S		U							
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
LF009	¼	6⅝	168	3¼	83	4¼	114	—	—	1⅞	48	—	—	—	—	1¾	44	2⅞	73	2	0.9
LF009DS	¼	6⅝	168	3¼	83	4¼	114	16¼	416	1⅞	48	4¾	121	1¾	44	1¾	44	2⅞	73	2	0.9
LF009NS	¼	6⅝	168	3¼	83	4¼	114	16¼	416	1⅞	48	4¾	121	1¾	44	1¾	44	2⅞	73	2	0.9
LF009QT-UB	¼	6⅝	168	3¼	83	4¼	114	16¼	416	1⅞	48	4¾	121	1¾	44	1¾	44	2⅞	73	2	0.9
LF009-7	2	18	—	9	—	11	—	—	—	1⅞	48	—	—	5½	140	3½	89	5¼	133	18	8.2
LF009-7DS	2	18	—	9	—	11	—	—	—	1⅞	48	—	—	5½	140	3½	89	5¼	133	18	8.2
LF009-7NS	2	18	—	9	—	11	—	—	—	1⅞	48	—	—	5½	140	3½	89	5¼	133	18	8.2
LF009QT-UB	2	18	343	9¼	235	11¼	324	21¼	540	1⅞	48	6⅞	175	5½	140	3½	89	5¼	133	19	8.6
LF009QT-UB	3	20	343	9¼	235	11¼	324	21¼	540	1⅞	48	6⅞	175	5½	140	3½	89	5¼	133	19	8.6

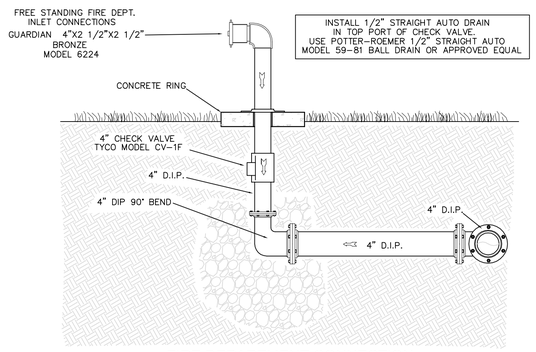
1" WATTS SERIES LF009 REDUCED PRESSURE ASSEMBLY

ALL WATER LINE MATERIALS, INSTALLATION, TESTING AND DISINFECTION SHALL COMPLY WITH THE TOWN OF KILL DEVIL HILLS STANDARD SPECIFICATIONS. SUBMITTALS REQUIRED FOR ALL MATERIALS WITH WRITTEN APPROVAL BY ENGINEER AND TOWN OF KILL DEVIL HILLS IS REQUIRED

NOTE:
PUBLIC SERVICES WILL REQUIRE A COPY OF THE PASSING TEST RESULTS FOR THE BACKFLOW PREVENTION DEVICE PRIOR TO RECEIVING BUILDING OCCUPANCY.

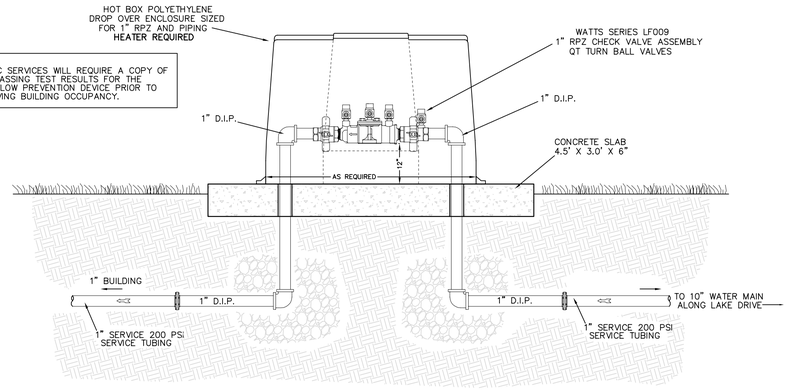


4" BACK FLOW PREVENTION
NOT TO SCALE



FIRE DEPARTMENT CONNECTION
NOT TO SCALE

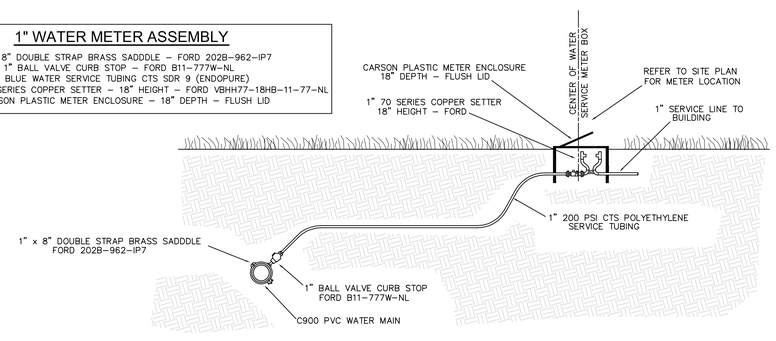
NOTE:
PUBLIC SERVICES WILL REQUIRE A COPY OF THE PASSING TEST RESULTS FOR THE BACKFLOW PREVENTION DEVICE PRIOR TO RECEIVING BUILDING OCCUPANCY.



1" BACK FLOW PREVENTION
NOT TO SCALE

1" WATER METER ASSEMBLY

1" x 8" DOUBLE STRAP BRASS SADDDLE – FORD 202B-962-IP7
1" BALL VALVE CURB STOP – FORD B11-777W-NL
1" BLUE WATER SERVICE TUBING CTS SDR 9 (ENDOPURE)
1" 70 SERIES COPPER SETTER – 18" HEIGHT – FORD VBHH77-18HB-11-77-NL
CARSON PLASTIC METER ENCLOSURE – 18" DEPTH – FLUSH LID



1" WATER SERVICE CONNECTION DETAIL
NOT TO SCALE

KILL DEVIL HILLS TESTING STANDARDS

TEST AND CLEANUP
Section A.1.Testing and inspections.

(a) The Town shall monitor all testing and inspect all lines as construction progresses. All testing shall be completed before connecting to existing water lines. The Contractor or developer shall notify the Town twenty-four (24) hours in advance when he/she will be ready for inspection and testing and shall pretest before notifying the Town.
(b) After the pipe has been laid and backfilled as specified, all newly laid pipe, or any valve section thereof; shall be subjected to a pressure of not less than one hundred fifty (150) psi. Air or air-water methods of applying pressure are prohibited. The duration of the pressure test shall be at least four (4) hours, for which time the Contractor shall fill the line slowly, expelling air at the high points, and bring it up to required pressure.
(c) The only lines not required to be pressure tested are short (not longer than 25' unless approved by the Engineer) connection sections used to tie new mains into existing lines.
(d) The Town shall inspect the entire line and appurtenances for leaks and movement. Any leaks or defects shall be repaired and the test repeated until acceptable.
(e) A leakage test shall be conducted after a pressure test has been satisfactorily completed. The average pressure range shall be one hundred fifty (150) psi and be held for four (4) hours, provided that the Engineer may, at his discretion, allow this time to be reduced to (2) hours. The lines shall be filled as for the pressure test or the Contractor shall continue to maintain the pressure from the test. A source of makeup water shall be provided that can be measured. The test will be made to determine the leakage, or the amount of water required to maintain test pressure.
(f) The allowable leakage is less than the value computed by the formula:

$$L = \frac{ND\sqrt{P}}{7{,}400}$$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
N = NUMBER OF JOINTS IN LENGTH OF PIPE TESTED
D = NOMINAL DIAMETER OF PIPE (INCHES)
P = AVERAGE TEST PRESSURE IN PSIG

Should any test of pipe disclose leakage greater than that specified above, the Contractor shall locate and repair defective joints until the leakage is within the specified allowance.

(g) The Contractor shall maintain pressure on the line and close each valve progressively, starting from the far end of the system and vent extreme ends of the line. Allowable pressure drop shall be less than ten (10) psi in five (5) minutes with test pump off

KILL DEVIL HILLS VALVE AND VALVE BOX STANDARDS

Section A.1.Valves.

(a) Resilient wedge gate valves. All resilient wedge gate valves shall conform in all respects to latest AWWA Specification C500 and shall be American Flow Control, Mueller "O" ring or M&H, or approved equal. Resilient wedge gate valves shall be vertical, shall open counterclockwise, and shall be of the non-rising stem type with mechanical joint ends and two (2) inch square operating nut. Resilient wedge valves shall be iron body, double disc, parallel seat, fully bronze mounted. Resilient wedge valves shall be designed for a working pressure of two hundred (200) psi
(c) Valve boxes. Valve boxes shall have the following characteristics:
  (1) Valve boxes shall be of close-grained, gray cast iron, in three (3) pieces consisting of
(a) a lower base piece which shall be flanged at the bottom to fit around the stuffing gland and rest on the valve bonnet.
(b) an upper part which shall also be flanged on the lower end, of such size so as to telescope over the lower part and the upper end being constructed in the form of a socket to receive the cover.
(c) The centerpiece shall be minimum five (5) inches inside diameter.
  (2) The valve box shall be Dewey Brothers, Inc., VBX-TE-3B or approved equal.
  (3) The cover shall have cast on the upper surface in raised letters the word "WATER." Valve boxes shall be painted prior to shipment with a coat of protective asphaltum paint and contain a cement collar.

KILL DEVIL HILLS WATERLINE MATERIAL STANDARDS

PART A. MATERIALS

Section C.1. Generally.
All water system and water line materials used shall conform to the specifications set out in this division and any changes shall be submitted in writing to and approved by the Town.

Section C.2. Pipe standards.

(a) PVC: Except for 2" diameter pipe, PVC pipe shall conform to all requirements of AWWA Specification C900, latest edition, and AWWA C905, latest edition, for sizes larger than 12". PVC pipe and fittings shall be pressure rated at one hundred fifty (150) psi (pounds per square inch) with a standard dimension ratio (SDR) of eighteen (18) for both barrel and bell dimensions. 2" diameter pipe shall comply with ASTN standard D2241, SDR 21. Pipe shall bear the National Sanitation Foundation seal of approval and shall comply with the requirements for Type 1, Grade 1 (PVC 1120) of the ASTM resin Specification D-1784.
  (1) Joints. PVC pipe shall have push-on joints, incorporating a rubber ring bell joint which shall be an integral and homogeneous part of the pipe barrel. Solvent-welded joints shall not be used.
  (2) Fittings shall be the same as for ductile iron pipe as set forth below.

(b) Ductile Iron: Ductile Iron Pipe shall be furnished in 18 or 20 foot laying lengths, with push-on type joints, except where mechanical joint or pipe is called for on the Drawings. Ductile iron pipe shall conform to the requirements of AWWA C151. Flanged ductile iron pipe shall comply with the requirements of AWWA C115.
  (1) Thickness Class of the pipe shall be Pressure Class 350 as required by the pipe size, bedding type and depth. The pipe shall be round and gaged throughout its entire length. Ungaged pipe will not be accepted.
  (2) Lining – All pipe shall be single coat cement lined and sealed coated in accordance with AWWA C104.
  (3) Joints shall be either mechanical, push on, or flanged conforming to AWWA C111 (ANSI A21.11) or AWWA C115 (ANSI A21.15) as applicable. All flanges and glands for pipes and fittings shall be made of ductile iron.
  (4) Fittings shall be manufactured in accordance with AWWA C110 (ANSI A21.10) or AWWA C153 (ANSI A21.53), and shall be ductile iron. The minimum acceptable pressure rating shall be 350 psi. All fittings shall be lined in the same manner as ductile iron pipe.
  (5) Coating shall be provided on the exterior of all ductile iron pipe, joints and fittings as required by AWWA C110, C111, C115, C151, or C153 as applicable. All pipes, joints and fittings shall be examined before and after laying to determine if the coating has been damaged. Any damaged areas and all joints shall be coated with approximately 1 mil of a bituminous coating, such as Koppers No. 50 or Intertol No. 49.
  (6) Polyethylene Wrap, where indicated on Drawings, shall conform to the requirements of AWWA C105.
  (7) Retainer Glands, or other joint restraint devices, shall be cast from high strength ductile iron. Restraint devices shall be rated to perform their restraining function at the full rated pressure of the pipe itself. Devices used on mechanical joint pipe shall be compatible with mechanical joint connectors meeting requirements of AWWA C111. Acceptable types:
(a) For PVC pipe, Unifiange Series 1300 or EBAA Iron Sales, Inc., Series 500 or 1500;
(b) Ductile Iron Pipe shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. The gland shall be compatible with mechanical joints meeting the requirements of AWWA C111. Acceptable types shall be Mega-Lug, Series 1100 for mechanical joint pipe and Series 1700 for push-on joint pipe.

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ENGINEERING AND SURVEYING
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P.O. BOX 2852
PHONE: 252-255-8026
EMAIL: mrobinson@bbxengineering.com

TOWN REVIEW
DETAIL SHEET 3

NORTH CAROLINA PROFESSIONAL SEAL 18994 ENGINEER MICHAEL W. ROBINSON

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJECT:
SWELL BREWING
KILL DEVIL HILLS DARE COUNTY NORTH CAROLINA
1802 S. Virginia Dare Trail

DATE:	SCALE:
07-07-20	1"=20'
DESIGNED: MWR	DRAWN: MWR

SHEET: D-3 OF 3
CAD FILE:
PROJECT NO: 110717

NORTH CAROLINA PROFESSIONAL SEAL 18994 ENGINEER MICHAEL W. ROBINSON 07-07-20