

5/14/2018

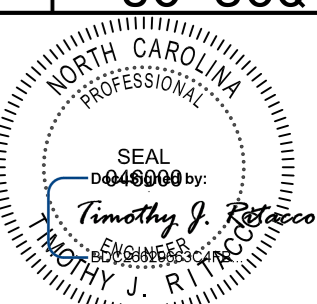
PROJECT TYPICAL DETAILS



STATE A10
REGISTERED PROFESSIONAL ENGINEER
PHYSICAL ADDRESS: 915 EAST 29TH STREET
Raleigh, NC 27609
PHONE: 919.881.8888
NC CEN No. F-0209

PROJECT REFERENCE NO. **R-3825B** SHEET NO. **UC-300**

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
8/14/2018 1:43:20 PM EDT
UTILITY CONSTRUCTION PLANS ONLY



WATER & SEWER

AQUA

Aqua North Carolina, Inc.

DRWING NO. 10
REVISION DATE 05/2012

TYPICAL CONFLICT RESOLUTION DETAIL BY DEFLECTION

SIZE	LENGTH IN FEET REQUIRED FOR PIPE RESTRAINED JOINTS			
	A	B	C	D
4"	18'	18'	18'	18'
6"	24'	24'	24'	24'
8"	30'	30'	30'	30'
10"	36'	36'	36'	36'
12"	42'	42'	42'	42'
14"	48'	48'	48'	48'
16"	54'	54'	54'	54'
18"	60'	60'	60'	60'
20"	66'	66'	66'	66'
24"	84'	84'	84'	84'

WATER & SEWER

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DRWING NO. 11
REVISION DATE 08/2018

RESTRAINED JOINT DETAIL

PIPE SIZE	MIN. BEARING AREA EACH DIRECTION OF THRUST IN SQUARE FEET (based on soil supporting value of 2000 psf @ 200 psig test pressure)			
	TEES & DEAD ENDS	90° ELBOWS	45° ELBOW & CROSSES	22-1/2° ELBOWS
6"	4	6	3	2
8"	7	10	5	3
12"	15	21	11	6

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DRWING NO. 12
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TYPICAL THRUST BLOCK

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GATE VALVE AND EXTENSION

SEWER

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DRWING NO. 14
REVISION DATE 08/2018

AIR RELEASE VALVE DETAIL

MH DEPTH	A	B	C	D	E	F
UP TO 12"	48"	8"	24.5"	15"	AS REQ'D	8"
12" TO 18"	60"	8"	24.5"	15"	AS REQ'D	10"
18" AND DEEPER	72"	8"	24.5"	15"	AS REQ'D	14"

SEWER

AQUA

Aqua North Carolina, Inc.

DRWING NO. 16
REVISION DATE 05/2012

STANDARD MANHOLE DETAIL

05/14/2018