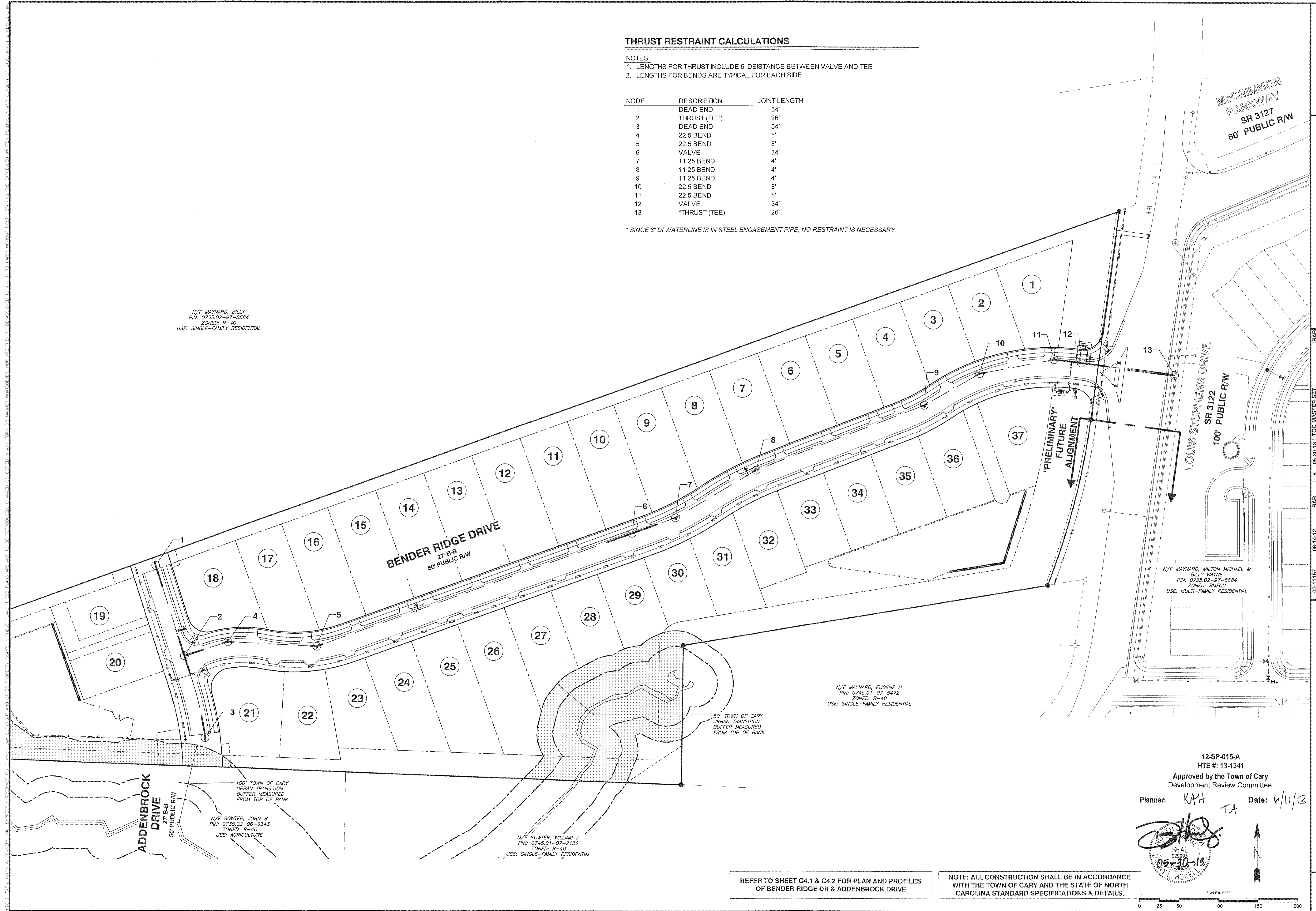


**THRUST RESTRAINT CALCULATIONS**

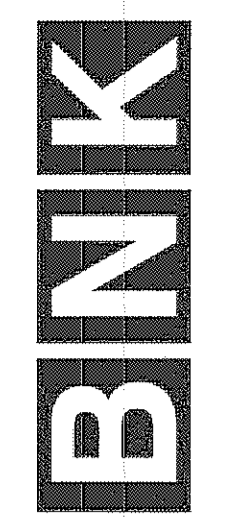
- NOTES:  
 1. LENGTHS FOR THRUST INCLUDE 5' DEISTANCE BETWEEN VALVE AND TEE  
 2. LENGTHS FOR BENDS ARE TYPICAL FOR EACH SIDE

NODE	DESCRIPTION	JOINT LENGTH
1	DEAD END	34'
2	THRUST (TEE)	28'
3	DEAD END	34'
4	22.5 BEND	8'
5	22.5 BEND	8'
6	VALVE	34'
7	11.25 BEND	4'
8	11.25 BEND	4'
9	11.25 BEND	4'
10	22.5 BEND	8'
11	22.5 BEND	8'
12	VALVE	34'
13	*THRUST (TEE)	28'

\* SINCE 8" DI WATERLINE IS IN STEEL ENCASEMENT PIPE, NO RESTRAINT IS NECESSARY



P:\2011-03\08\11152008 - 4\plans\08\Construction\Reference\Draw\11152008\_02.2. 3/26/2013 12:03:39 PM  
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**BASS, NIXON & KENNEDY, INC.**  
**CONSULTING ENGINEERS**  
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607  
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968  
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBLA (C-0267)

NO.	DATE	DESCRIPTION	BY
8	05-30-13	TOC MASTER SET	RAB
7	05-08-13	TOC MASTER SET - KB REVISION	RAB
6	01-28-13	TOC MASTER SET - REVISION	DLH
5	01-24-13	TOC MASTER SET	RAB
4	12-13-12	PER TOC COMMENTS	RAB

**THRUST RESTRAINT PLAN**

03-11157 JOB NO. DATE: 06-14-12 DRAWN BY: RAB

12-SP-015-A HTE #: 13-1341  
 Approved by the Town of Cary Development Review Committee  
 Planner: KAH Date: 6/11/13  
 TA

**SEAL**  
 029993  
 05-30-13  
 HOWELL

SCALE: 1" = 50'

**CEDAR BEND**  
**4925 LOUIS STEPHENS DRIVE**  
 TOWN OF CARY, WAKE COUNTY, NORTH CAROLINA

SHEET **C2.2**  
 9 OF 28

REFER TO SHEET C4.1 & C4.2 FOR PLAN AND PROFILES OF BENDER RIDGE DR & ADDENBROCK DRIVE

NOTE: ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF CARY AND THE STATE OF NORTH CAROLINA STANDARD SPECIFICATIONS & DETAILS.

TOWN OF CARY PROJECT NO. 12-SP-015-A