

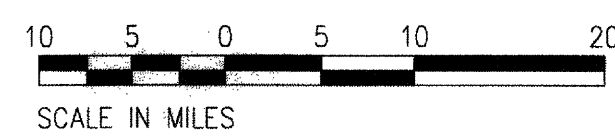
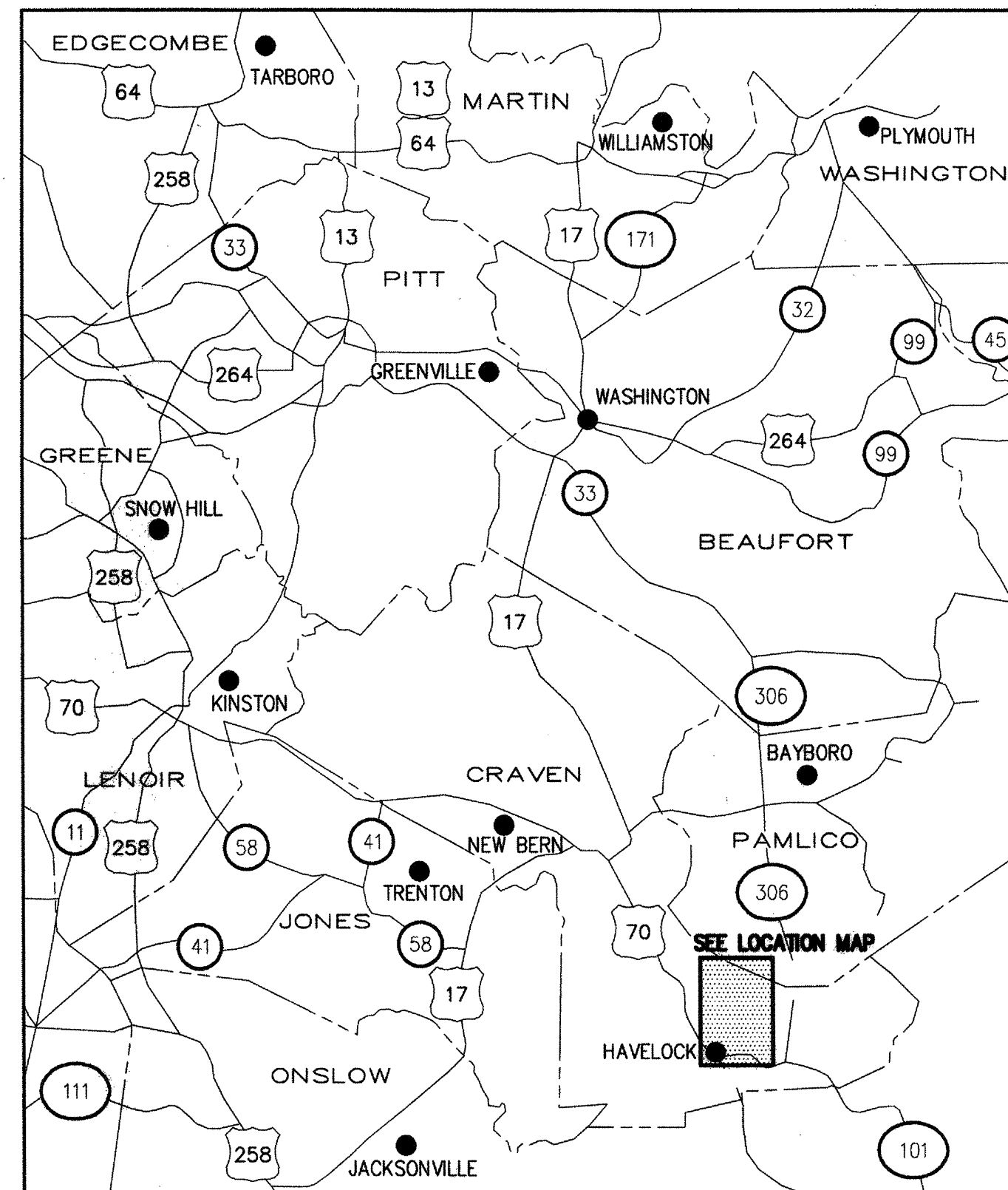
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NC B-4488

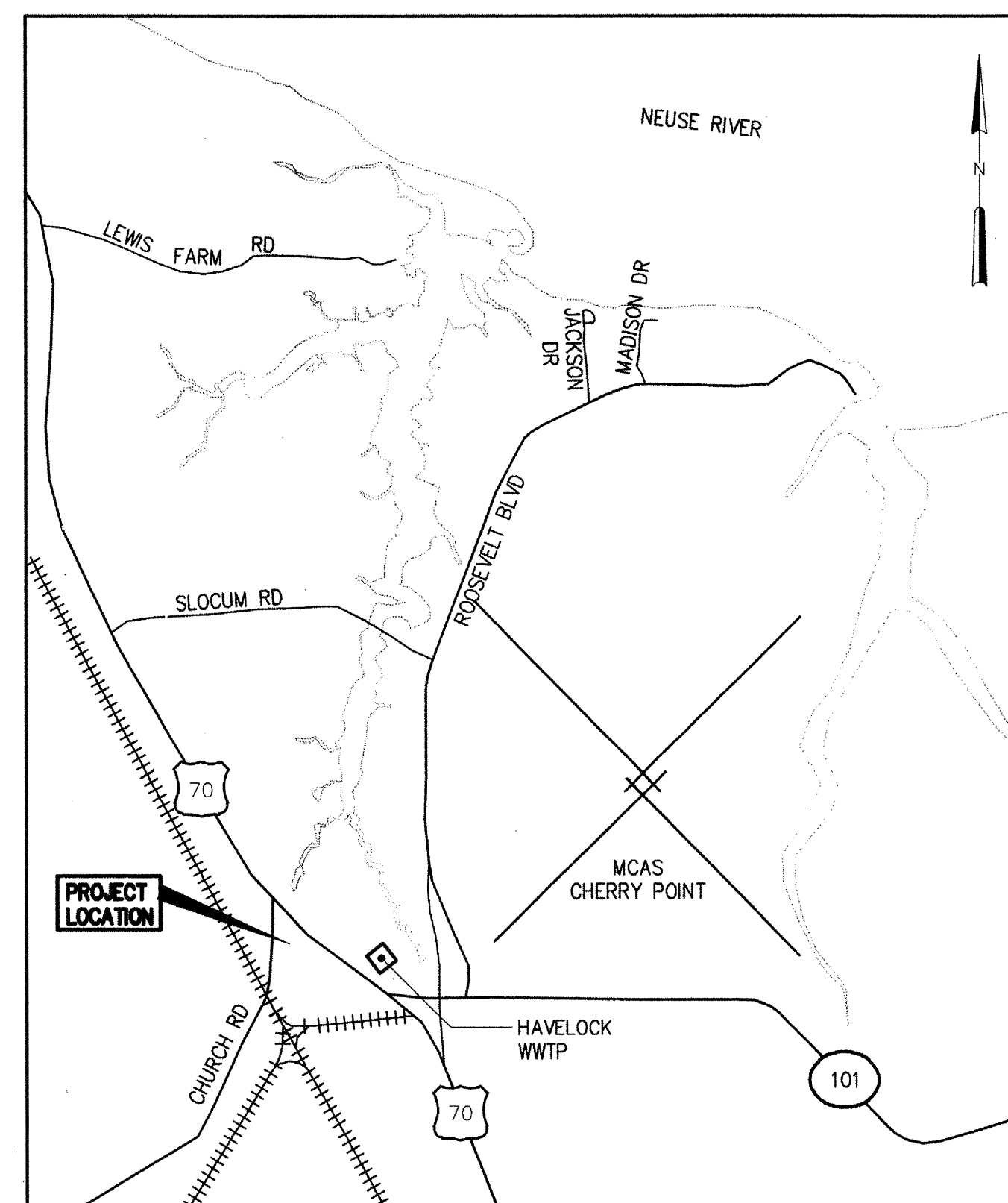
CRAVEN COUNTY

LOCATION: (SR 1763) CHURCH ROAD

TYPE OF WORK: WATERLINE RELOCATION



VICINITY MAP

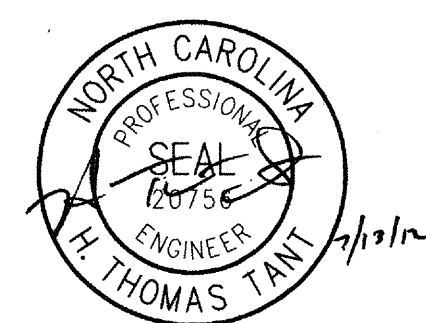


NOT TO SCALE

LOCATION MAP

INDEX OF SHEETS

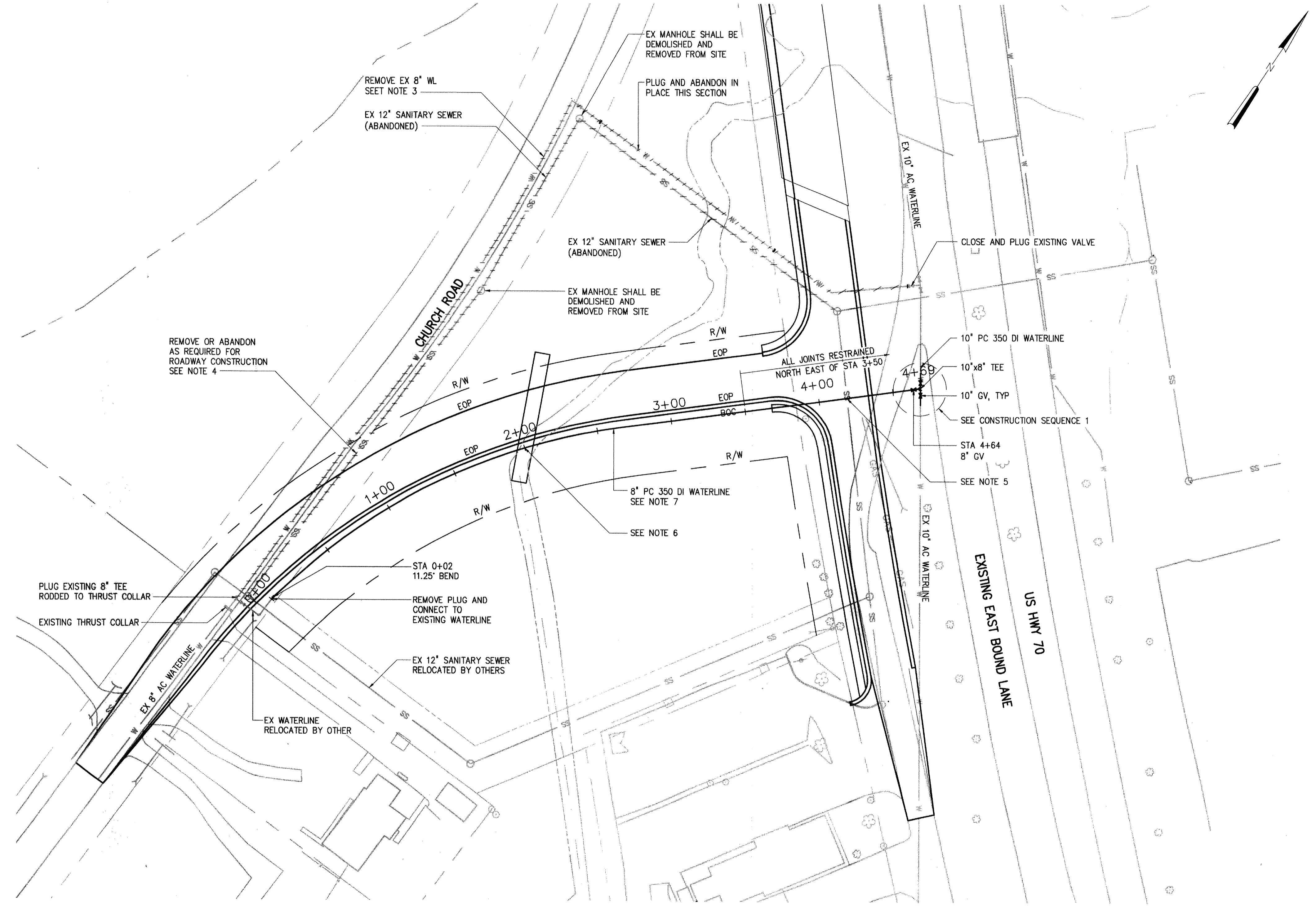
UC1	COVERSHEET
UC2	SUMMARY OF QUANTITIES
UC3	WATERLINE PLAN VIEW
UC4	WATERLINE DETAILS



HAZEN AND SAWYER
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4011 WestChase Blvd, Raleigh, North Carolina 27607
License Number: C-0381



DATE	JULY 2012
H & S JOB NUMBER	30906-015
CONTRACT NUMBER	-
DRAWING NUMBER	UC1

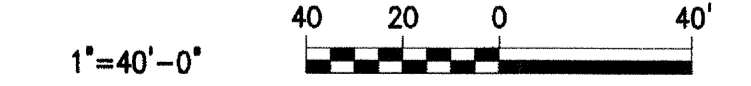


- NOTES:
1. PROVIDE 3' MINIMUM COVER FOR ALL WATERLINES UNLESS OTHERWISE NOTED.
 2. ALL WORK, MATERIALS, EROSION CONTROL MEASURES, AND SURFACE RESTORATION MUST, AT MINIMUM, CONFORM TO NCDOT'S MOST RECENT VERSION OF STANDARDS AND SPECIFICATIONS.
 3. WATERLINE REMOVED FROM SERVICE WITHIN THE ROAD RIGHT-OF-WAY SHALL BE DEMOLISHED AND REMOVED FROM SITE. WATERLINE REMOVED FROM SERVICE OUTSIDE ROAD RIGHT-OF-WAY SHALL BE PLUGGED AND ABANDONED IN PLACE. REMOVE 8" WATERLINE FROM SERVICE BEFORE UNDERCUTTING OR GRATING.
 4. WHERE GRAVITY SEWER IS ABANDONED IN PLACE, FILL WITH FLOWABLE FILL.
 5. 10" SANITARY SEWER TOP OF PIPE ELEVATION IS APPROXIMATELY -1.0' AT LOCATION OF WATERLINE CROSSING. THE ELEVATION OF THE WATERLINE SHALL BE A MINIMUM OF 18" ABOVE THE TOP OF THE SANITARY SEWER AT POINT OF CROSSING. THE SANITARY SEWER SHALL NOT BE DISTURBED DURING CONSTRUCTION.
 6. TOP OF CULVERT ELEVATION IS 4.4' AT WATERLINE CROSSING. GRADE ELEVATION AT CROSSING IS 8.7'. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 30" OF COVER FOR WATERLINE AT CULVERT CROSSING AND A MINIMUM SEPARATION OF 12" BETWEEN THE TOP OF CULVERT AND THE BOTTOM OF WATERLINE.
 7. PROPOSED 8" WATERLINE SHALL BE INSTALLED AFTER THE ROUGH GRADING OF LINE-Y. 8" WATERLINE MAY REMAIN OUT OF SERVICE UNTIL AFTER ROUGH GRADING IS COMPLETE.
 8. CONSTRUCTION EQUIPMENT SHALL MAINTAIN A MINIMUM CLEARANCE OF 10' FROM ALL POWERLINES UNLESS POWERLINES ARE DE-ENERGIZED.
 9. EXPOSED VALVES OR PIPING SHALL BE PLUGGED PRIOR TO TEMPORARY OR PERMANENT BACKFILL.

CONSTRUCTION SEQUENCE

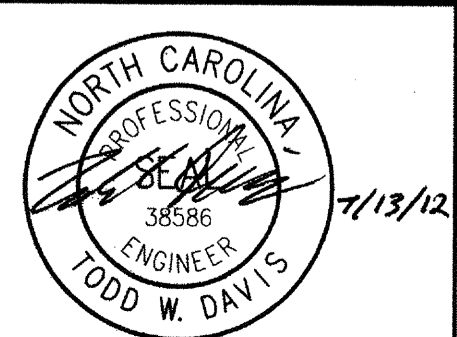
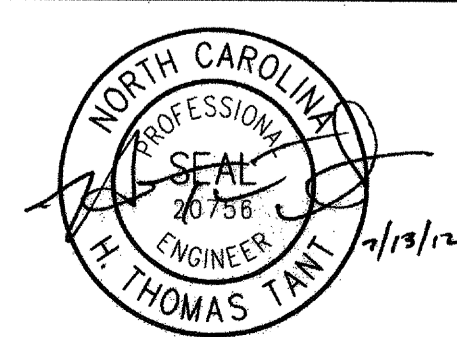
1. TO MAINTAIN SUFFICIENT WATER SUPPLY TO THE WEST SIDE OF THE CITY, THE SERVICE INTERRUPTION FOR THE CONNECTION OF THE 10" WATERLINE TO THE 8" VALVE AT STATION 4+64 SHALL BE COMPLETE PRIOR TO REMOVING THE EXISTING 8" WATERLINE FROM SERVICE. THE NEW 8" VALVE SHALL BE TEMPORARILY PLUGGED UNTIL LATER CONNECTION TO NEW 8" WATERLINE.
2. TO ABANDON THE 8" WATERLINE, INSTALL PLUG AT THE EXISTING 8" VALVE AT EXISTING HWY US 70 CONNECTION AND THE 8" TEE ALONG CHURCH ROAD. CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT MEANS OF RESTRAINT FOR THE 8" VALVE AND PLUG.
3. TEMPORARY SERVICE INTERRUPTIONS FOR THE 10" WATERLINE SHALL BE NO MORE THAN 4 HOURS IN DURATION AND MUST BE COMPLETED BETWEEN THE HOURS OF 10 AM AND 4 PM, OR 10 PM AND 4 AM AS REQUIRED BY CITY OF HAVELOCK OPERATIONS.

PLAN
1"=40'



NO.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	7/12	HTT
2	NCDOT COMMENTS	6/12	HTT
1	REGULATORY APPROVAL	5/12	HTT

DESIGNED	TWD
DRAWN	EWN
CHECKED	<i>[Signature]</i>
PROJ. ENGR.	HTT
APPROVED	<i>[Signature]</i>



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CITY OF HAVELOCK
HAVELOCK, NORTH CAROLINA

WATERLINE RELOCATION

STATE PROJECT REFERENCE NO. B-4488

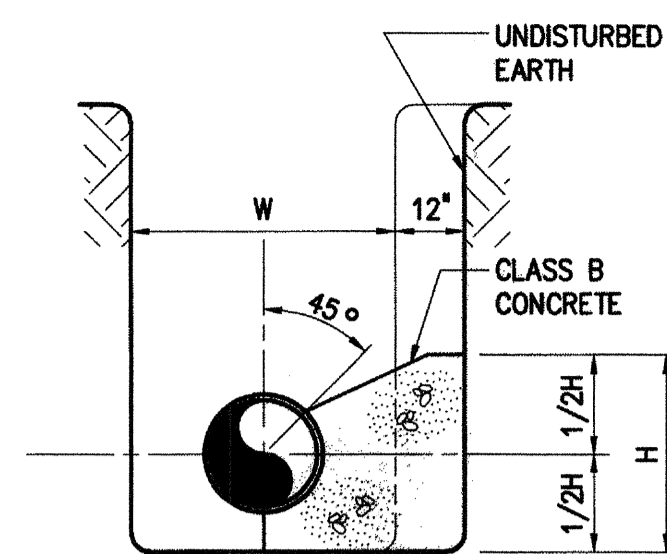
LOCATION: (SR 1763) CHURCH ROAD

TYPE OF WORK: WATERLINE RELOCATION

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE JULY 2012
H & S JOB NUMBER 30906-015	DRAWING NUMBER UC3

NOTES:

1. CONCRETE THRUST BLOCKS, ARCHES, ENCASEMENTS, FLOWABLE FILL, ETC. SHALL BE FORMED USING PLYWOOD OR SANDBAGS TO PROVIDE REQ'D SHAPE.

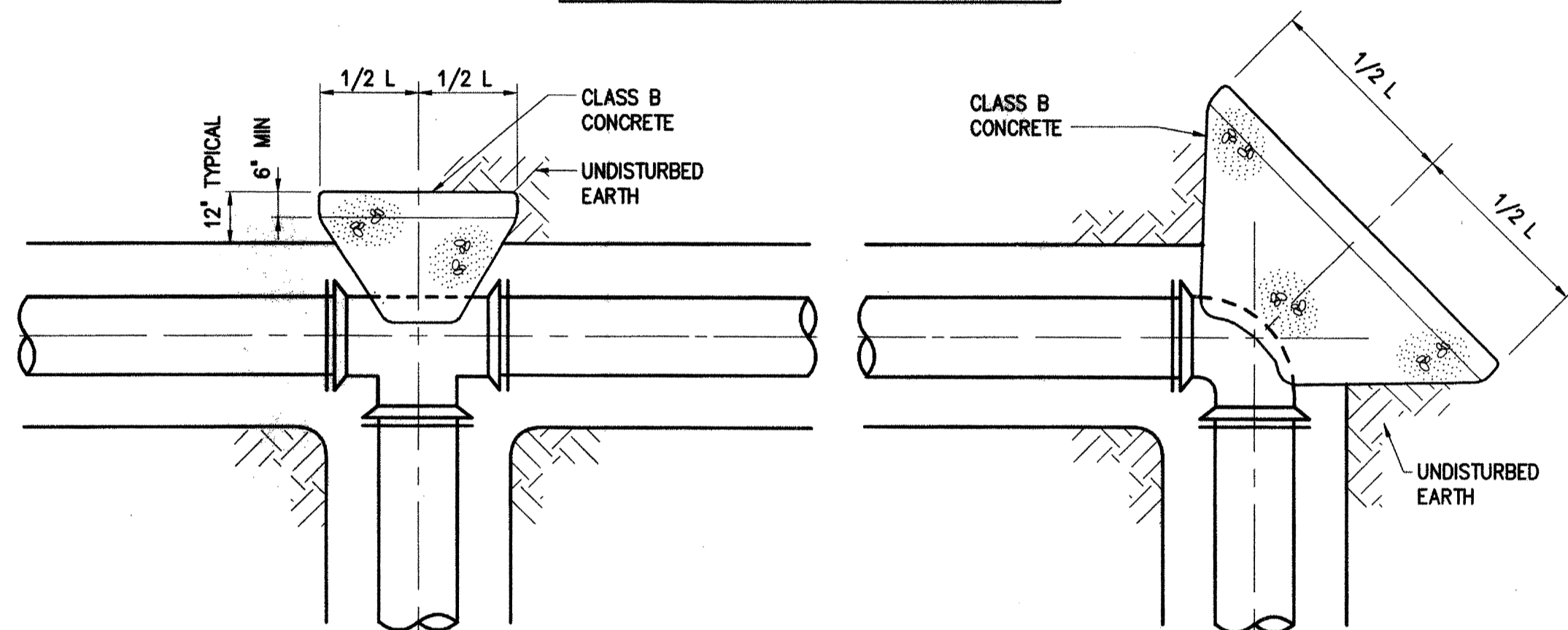


TYPICAL SECTION
TEE OR BEND

PIPE SIZE (IN)	CONCRETE THRUST BLOCK SCHEDULE*								DESIGN PRESSURE (PSI)
	90° TEE				BEND				
	H	L	H	L	H	L	H	L	
6	1.0	2.0	0.7	1.5	0.5	1.0	0.4	0.7	50
8	1.3	2.6	1.0	1.9	0.7	1.4	0.5	1.0	50
12	1.9	3.8	1.4	2.8	1.0	2.0	0.7	1.4	50
16	2.5	5.0	1.8	3.7	1.3	2.6	0.9	1.9	50
24	3.7	7.4	2.7	5.5	2.0	3.9	1.4	2.8	50
30	4.6	9.2	3.4	6.8	2.4	4.9	1.7	3.4	50
36	5.5	11.1	4.1	8.1	2.9	5.8	2.1	4.1	50
42	6.4	12.8	4.7	9.4	3.4	6.7	2.4	4.8	50
48	7.3	14.7	5.4	10.8	3.9	7.7	2.7	5.5	50
54	8.2	16.5	6.1	12.1	4.3	8.7	3.1	6.1	50

* BASED ON AVERAGE SOIL PASSIVE BEARING STRENGTH OF 2000 PSF USING SF OF 1.5. DIMENSIONS FOR BLOCKS IN FEET

CONCRETE THRUST BLOCKING SHALL BE USED ONLY AS APPROVED BY ENGINEER.

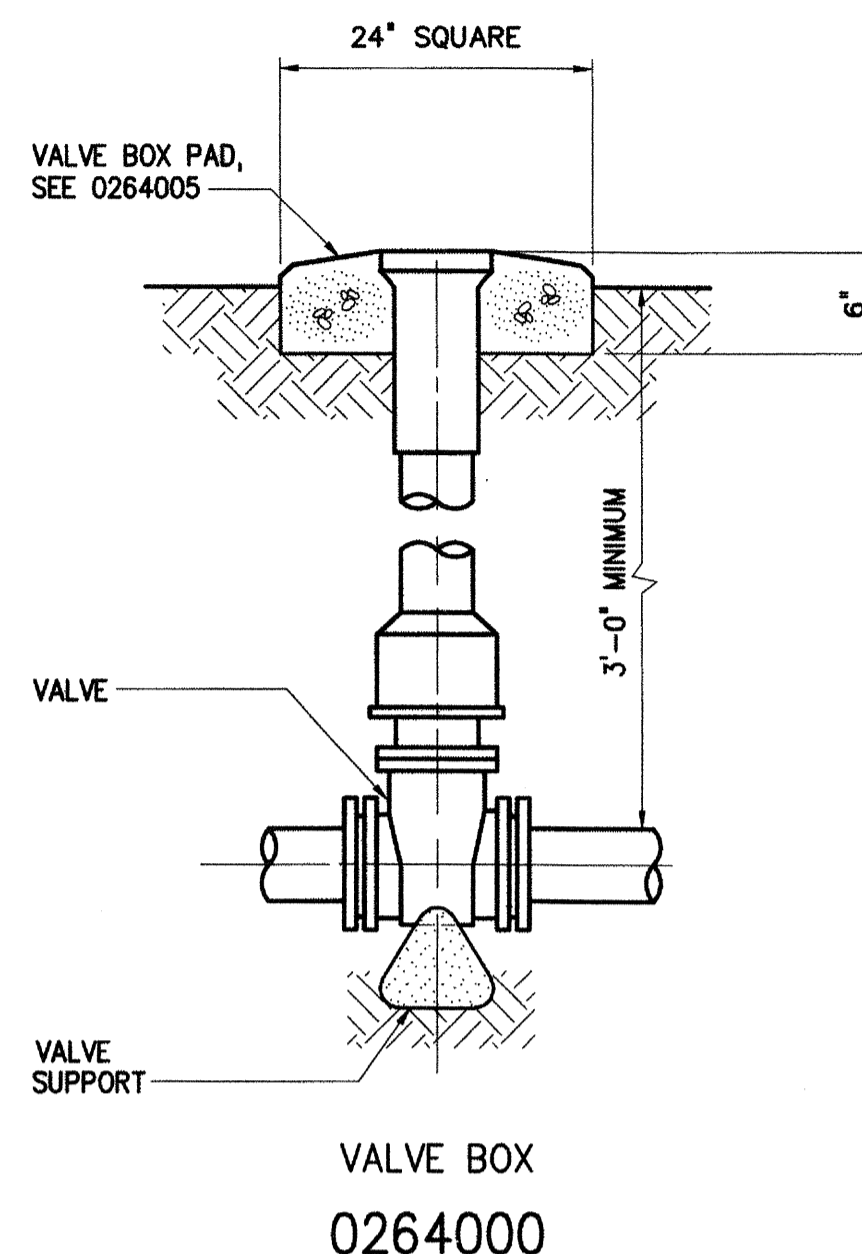


PLAN - TEE

THRUST BLOCKS
(SEE NOTE 1)

PLAN - BEND

0222108



VALVE BOX
0264000

3	ISSUED FOR CONSTRUCTION	7/12	HTT
2	NC DOT COMMENTS	6/12	HTT
1	REGULATORY APPROVAL	5/12	HTT
NO.	ISSUED FOR	DATE	BY

DESIGNED: H & S
 DRAWN: H & S
 CHECKED: [Signature]
 PROJ. ENGR.: HTT



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 WATERLINE RELOCATION

STATE PROJECT REFERENCE NO. B-4488
 LOCATION: (SR 1763) CHURCH ROAD
 TYPE OF WORK: WATERLINE RELOCATION

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.

DATE	JULY 2012
H & S JOB NUMBER	30906-015
CONTRACT NUMBER	
DRAWING NUMBER	UC4

