

SITE SPECIFIC FIRE NOTES (REVISED - FIELD REVISION #3):

FM1: BASED ON FIRE FLOW TEST PERFORMED BY THE FIRE MARSHALL ON APRIL 11, 2012 FOR FH#1 & FH#3 AND BASED ON THE WWA GIS INFORMATION FOR FH#2, THE EXISTING FIRE HYDRANTS ARE AS FOLLOWS:

FIRE HYDRANT #1:
CORNER OF ABNEY & WILLIAMSON ROAD
NORTH OF DEVELOPMENT
FARTHEST DISTANCE: 400'
WWA HYDRANT ID 22127 (HYD-004829)
STATIC: 85 PSI
RESIDUAL: 50 PSI
GPM AT 20 PSI: 1367 GPM

FIRE HYDRANT #3:
CORNER OF ABNEY & DARBY ROAD
NORTHWEST OF DEVELOPMENT
FARTHEST DISTANCE: 630'
WWA HYDRANT ID 21123 (HYD-005543)
STATIC: 82 PSI
RESIDUAL: 50 PSI
GPM AT 20 PSI: 1439 GPM

FIRE HYDRANT #2:
CORNER OF HILDEBRAND & WILLIAMSON ROAD
SOUTH OF DEVELOPMENT
FARTHEST DISTANCE: 1640'
WWA HYDRANT ID 12884 (HYD-002176)
STATIC: 70 PSI
RESIDUAL: 28 PSI AT 987 GPM
GPM AT 20 PSI: 1084 GPM

FM2: PROPOSED BUILDING IS ICC CONSTRUCTION TYPE II-B WHICH CORRELATES TO ISO CONSTRUCTION CLASS 3. REQUIRED FIRE FLOW FOR A 5,460 SF ISO CONSTRUCTION CLASS 3 BUILDING IS 1000GPM @ 20PSI.

FM3: NEW HYDRANT TO BE INSTALLED WITHIN 350' OF BUILDING TO MEET REQUIREMENT.

FIRE HYDRANT #4:
PROPOSED HYDRANT (WEST OF WILLIAMSON ROAD) - DEVELOPMENT SIDE
FARTHEST DISTANCE: 300' (WRAPPED AROUND NORTH OF BUILDING)

STATIC: 68 PSI
SEE FIRE FLOW CALCULATIONS FOR HYDRANT EVALUATION:
FLOW: 1,000 GPM; RESIDUAL: 39 PSI
GPM AT 20 PSI: 1,275 GPM

FM4: A "KNOX" KEY LOCKING BOX IS TO BE INSTALLED WITHIN 5 FEET OF THE MAIN ENTRANCE AND SHALL BE ACCESSIBLE TO EMERGENCY RESPONDERS.

FIELD REVISION #3 NOTES: (FR3-#)

1. ORIGINAL HYDRANT LOCATION IS MODIFIED BASED ON EXISTING CONDITIONS IN WILLIAMSON ROAD. A DUCT BANK IS ADJACENT TO THE 12-INCH WATERLINE. AN 8-INCH WATERLINE EXTENSION IS PLANNED FROM AN EXISTING SMALL LENGTH OF 6-INCH LINE TO PROVIDE HYDRANT ON WEST SIDE OF WILLIAMSON ROAD AS WELL AS FUTURE CONNECTIONS.

2. THE WWA IS TO PROVIDE CONNECTION TO EXISTING 6-INCH LINE WITH 6X6X6 TEE, 6X8 EXPANSION, AND INSTALLATION OF GATE VALVE. THIS WORK IS ANTICIPATED TO BE PERFORMED OVER THE WEEKEND OF NOVEMBER 17TH OR 18TH.

3. CONTRACTOR RESPONSIBILITIES BEGIN AT END OF ITEMS INSTALLED BY WWA. CONTRACTOR SHALL EXTEND 8-INCH LINE WITH C900 PIPE AND ASSOCIATED APPURTANCES. (185 LF ±) 8-INCH LINE SHALL TERMINATE WITH A "TEE, 8-INCH GATE VALVE, AND PLUG" BEYOND THE FIRE HYDRANT. THE WWA WILL PROVIDE THE 8-INCH GATE VALVE FOR TERMINATION.

4. WORK WITHIN PAVED SHOULDER WILL REQUIRE TRAFFIC CONTROL DEVICES FOR TEMPORARY SHOULDER CLOSURE.

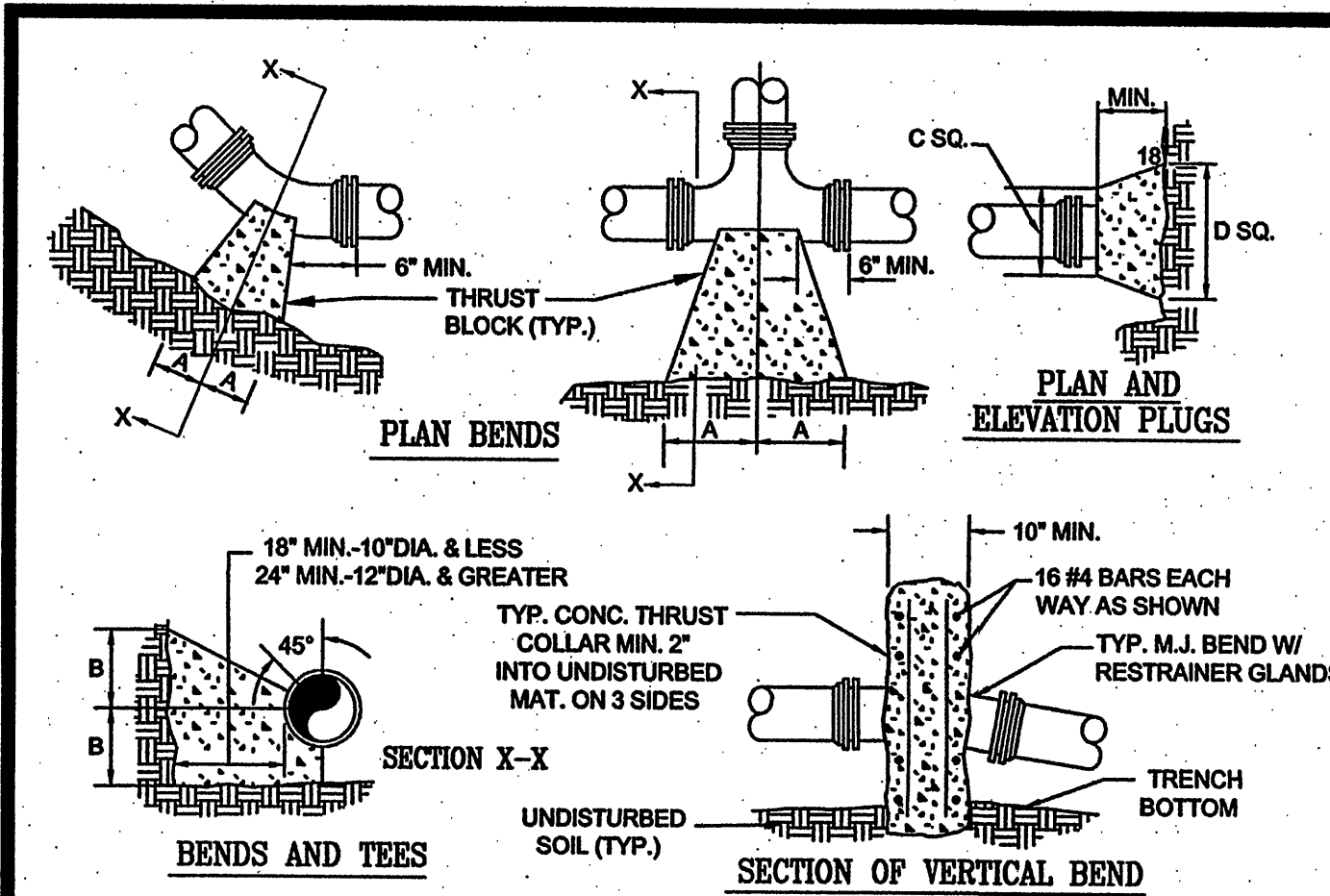
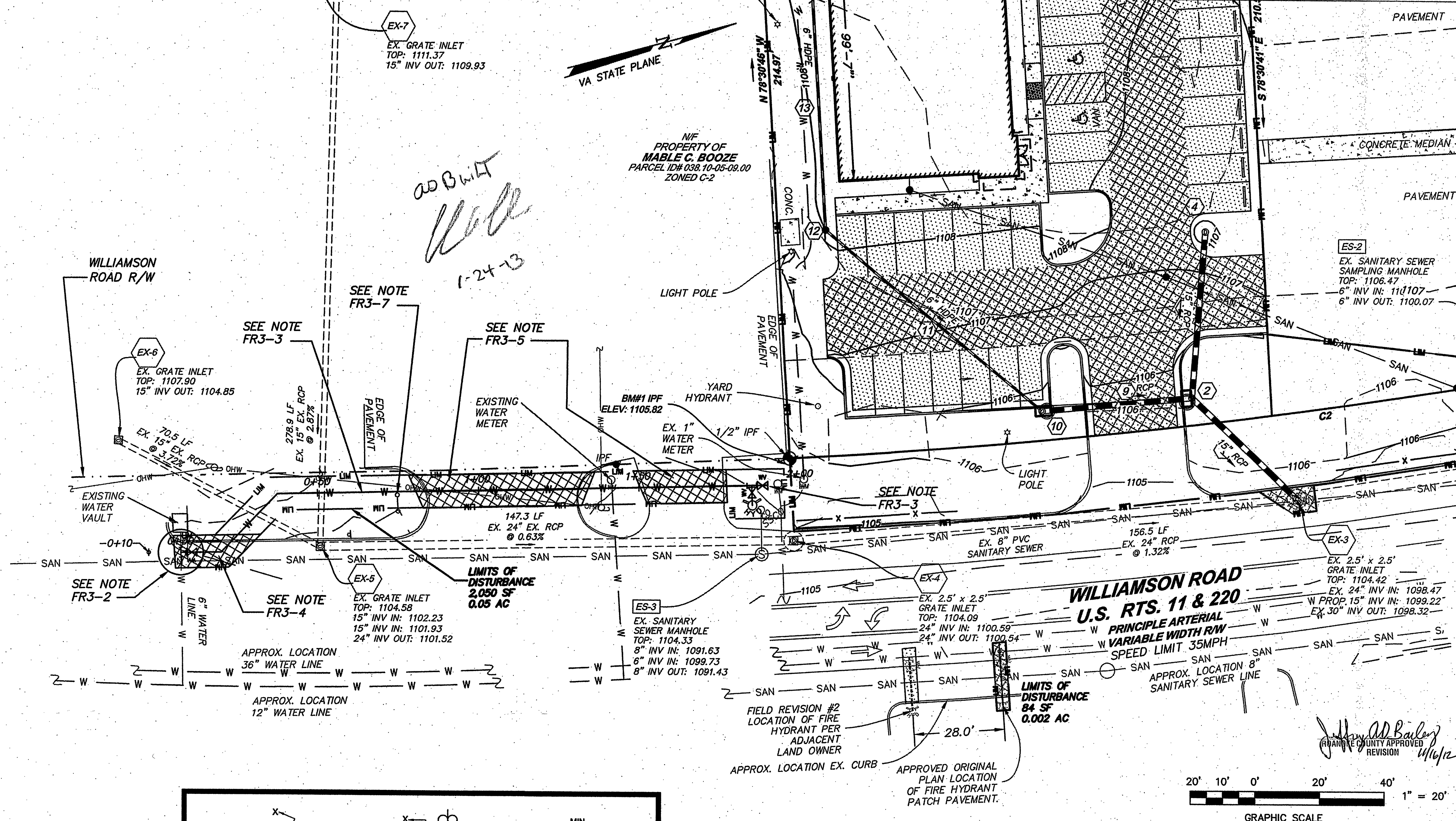
5. CONTRACTOR SHALL CROSS TWO (2) EXISTING ENTRANCES. SHOULD OPEN CUT OF ENTRANCE OCCUR, CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAVEL AT ALL TIMES. CONTRACTOR SHALL BE AWARE OF VDOT REQUIREMENTS FOR PAVEMENT PLACEMENT, ESPECIALLY TEMPERATURE REQUIREMENTS. PAVEMENT REMOVAL/REPLACEMENT SHALL BE IN ACCORDANCE WITH VDOT LUP-SP, INCLUDING BUT NOT LIMITED TO: NEAT VERTICAL SAW-CUTS, MATCH EXISTING PAVEMENT SECTIONS, PROVIDE PAVEMENT REPLACEMENT PER DETAILS.

ESTIMATED QUANTITIES: CURB RECONSTRUCTION: 45 LF
PAVEMENT REPLACEMENT: 860 SF

6. REFERENCE IS DIRECTED TO PLAN AND PROFILE FOR LOCATION OF ADJACENT UTILITIES. ALL UTILITIES SHALL BE PROTECTED. UTILITIES SUCH AS GAS, TELEPHONE, ELECTRIC, ETC ARE OF UNKNOWN, ESTIMATED DEPTHS.

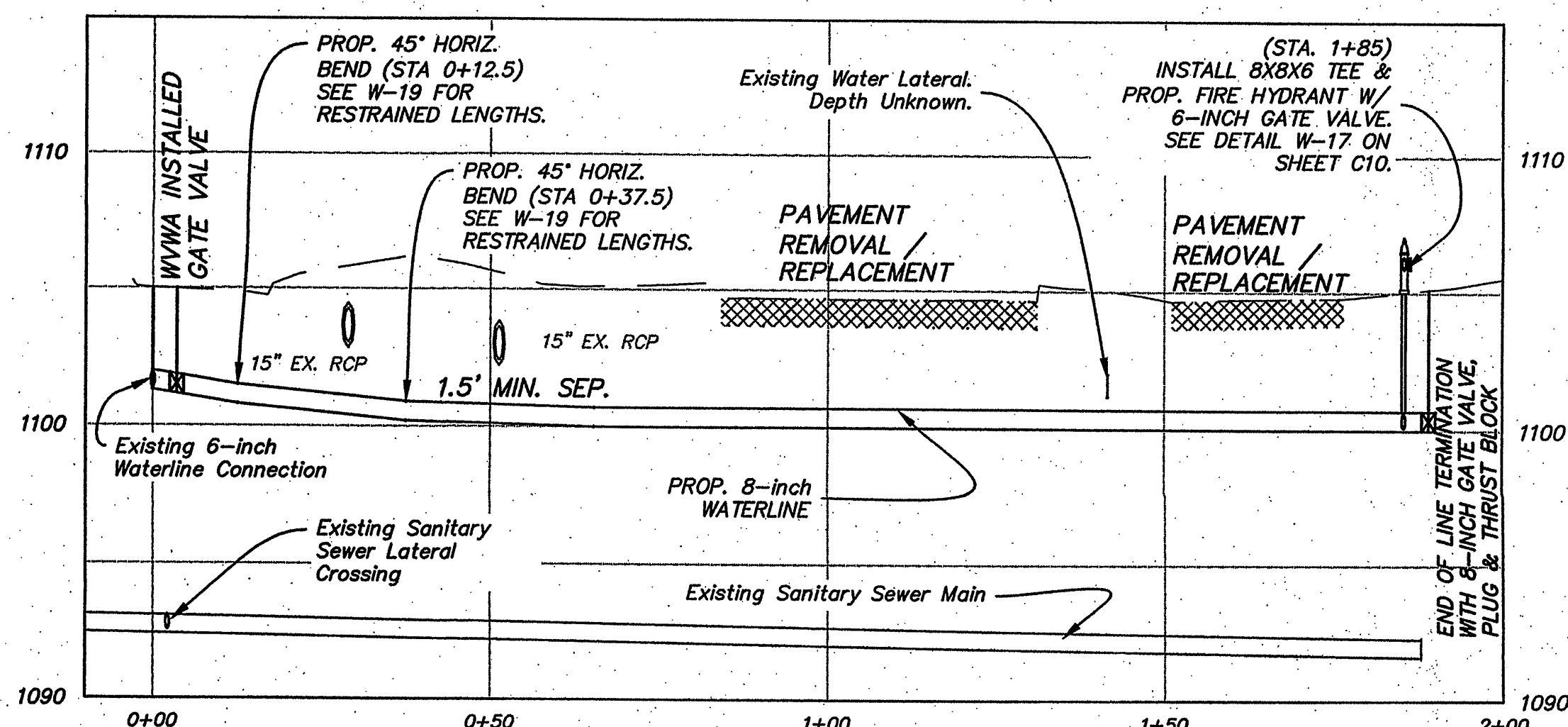
7. THE WATERLINE EXTENSION WILL REQUIRE RELOCATION/REPLACEMENT OF SIGNS AS NOTED ON THE PLANS. LOCATION OF UTILITY POLES ARE ALSO SHOWN. SPECIAL CARE SHALL BE UTILIZED AS OVERHEAD LINES EXIST IN WORK AREA.

8. CONTRACTOR SHALL REFER DETAILS G-11 & G-12 (SHOWN ON SHEET C11) FOR BEDDING WITHIN AND OUTSIDE OF PAVEMENT.



NOTES:
1. FOR VERT. BEND DOWN IN EXCESS OF 11" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WITH PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONC. SHALL BE 3000 PSI READY MIX CONC.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED JOINTS INSTALLED WITH A MINIMUM OF 4" OF COVER.
6. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINTS MUST BE USED. IF EQUAL OR GREATER THAN 100 PSI BOTH BLOCK AND RESTRAINED JOINTS ARE REQUIRED.

PRESSURE= 200psi BEARING= 2000psf FACTOR OF SAFETY= 1.5												
PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE	REDUCER	VERT. BEND	VERT. TEE	VERT. REDUCER	VERT. TEE	VERT. REDUCER	VERT. TEE
4"	8'	12'	8'	8'	8'	8'	8'	8'	8'	8'	8'	8'
6"	12'	18'	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'
8"	18'	24'	18'	18'	18'	18'	18'	18'	18'	18'	18'	18'
10"	24'	30'	24'	24'	24'	24'	24'	24'	24'	24'	24'	24'
12"	30'	36'	30'	30'	30'	30'	30'	30'	30'	30'	30'	30'
14"	36'	42'	36'	36'	36'	36'	36'	36'	36'	36'	36'	36'
16"	42'	48'	42'	42'	42'	42'	42'	42'	42'	42'	42'	42'
18"	48'	54'	48'	48'	48'	48'	48'	48'	48'	48'	48'	48'
20"	54'	60'	54'	54'	54'	54'	54'	54'	54'	54'	54'	54'
22"	60'	66'	60'	60'	60'	60'	60'	60'	60'	60'	60'	60'
24"	66'	72'	66'	66'	66'	66'	66'	66'	66'	66'	66'	66'
26"	72'	78'	72'	72'	72'	72'	72'	72'	72'	72'	72'	72'
28"	78'	84'	78'	78'	78'	78'	78'	78'	78'	78'	78'	78'
30"	84'	90'	84'	84'	84'	84'	84'	84'	84'	84'	84'	84'



WATERLINE-FIELD REV 3 PROFILE
1" = 20' Horizontal
1" = 5' Vertical

FACTOR OF SAFETY = 1.5												
PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE / PLUG	TEE	REDUCER	VERT. BEND	VERT. TEE	VERT. REDUCER	VERT. TEE
6"	D.I.	28'	12'	6'	3'	38'	34'	20'	23'	11'	5'	5'
8"	D.I.	37'	15'	7'	4'	51'	47'	21'	30'	15'	7'	7'
10"	D.I.	45'	19'	9'	4'	61'	57'	20'	37'	18'	9'	9'
12"	D.I.	53'	22'	11'	5'	73'	69'	38'	43'	21'	10'	10'
6"	PVC	30'	12'	6'	3'	56'	38'	29'	35'	17'	8'	8'
8"	PVC	40'	16'	8'	4'	74'	56'	31'	46'	22'	11'	11'
10"	PVC	47'	20'	9'	5'	89'	82'	30'	56'	27'	13'	13'
12"	PVC	56'	23'	11'	6'	106'	88'	56'	66'	32'	16'	16'

- ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
- REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
- IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK AND RESTRAINED JOINTS SHALL BE USED.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

THRUST RESTRAINT
OF PIPE JOINTS
DESIGN LENGTHS

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

THRUST BLOCK
REQUIREMENTS

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PAUL J. BROWN
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11-16-2012
PROFESSIONAL ENGINEER

Urgent Care Facility
Prepared For MedExpress
5610 Williamson Road
Tax No. 038.10-05-07.00 & 038.10-05-08.00
Hollins Magisterial District, Roanoke County, Virginia
SP 1200723

REVISIONS:
Per County, VDOT & WWA Comments
Per County, VDOT & WWA Comments
Grade Revisions per Actual Field Conditions
Fire Hydrant Relocation of 20' to 11-16-2012
Fire Hydrant Waterline Redesign
Address Field Revision Review Comments
PJB 2012-11-16

DESIGNED BY: SLR / PJB
DRAWN BY: SLR / PJB
CHECKED BY: SRB
SCALE: 1" = 20'
DATE: November 13, 2012

SHEET TITLE:
Waterline Extension
Fire Hydrant
Location Change

FR#3
1 OF 1
PROJECT NUMBER:
12-0012-02