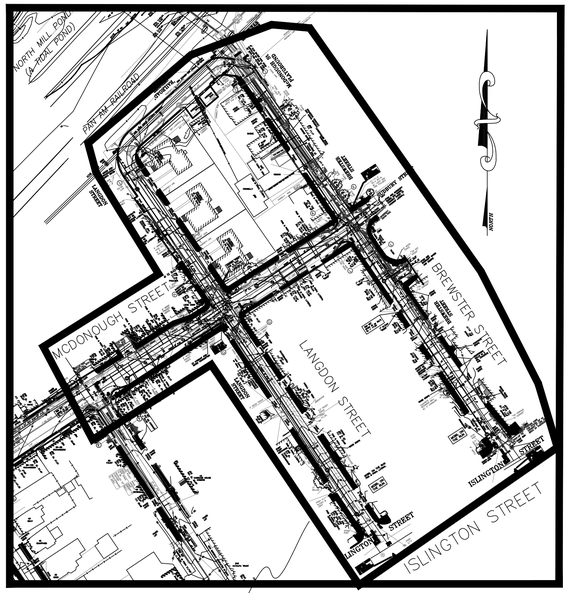
PROJECT 7146
MCDONOUGH STREET AREA RECONSTRUCTION

PHASE III(B)



PHASE 3 AREA

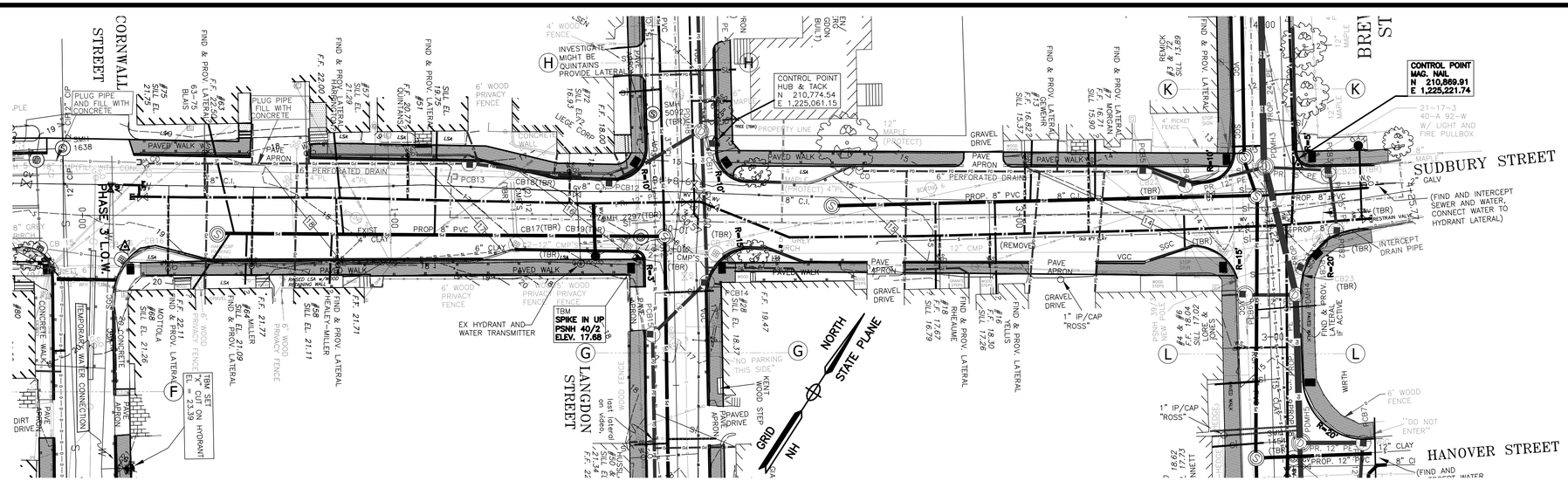
DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH, NH

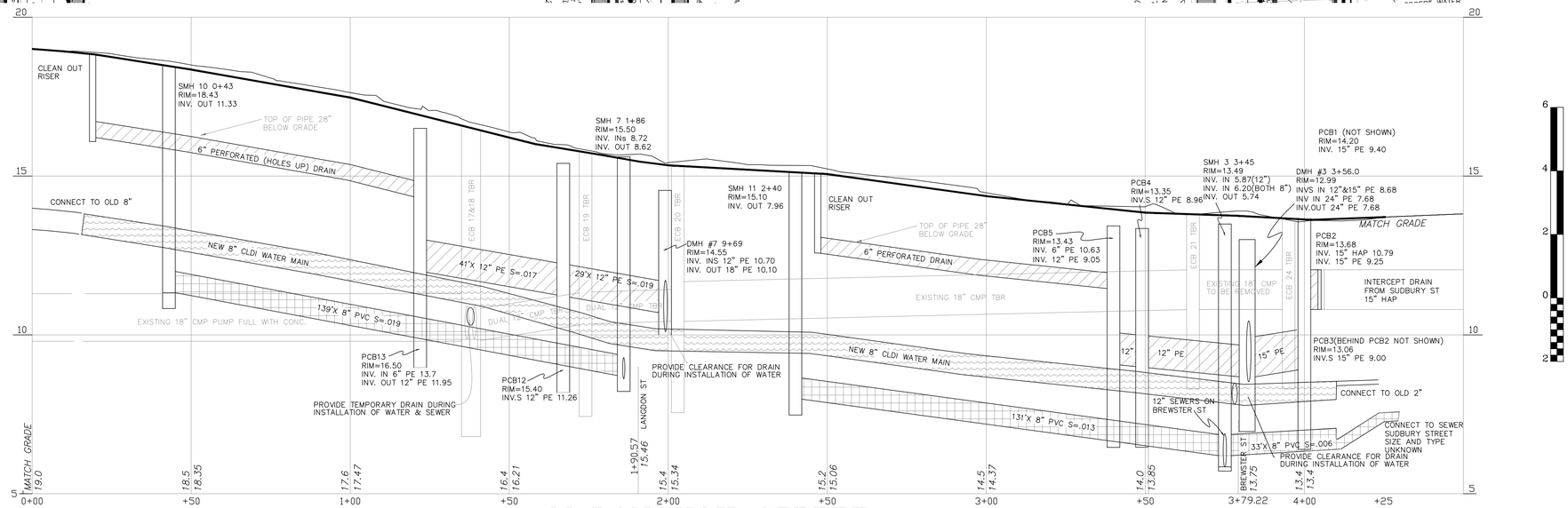
SPRING 2017
BID 38-17

INDEX:

CONTACT NUMBERS:

PUBLIC WORKS: 427–1530
WATER DEPARTMENT 427–1552
POLICE DETAILS: 610–7412
PROJECT FLAGGING: 603–622–9302
GAS EMERGENCY: 866–900–4115
EMERGENCY: 911





McDONOUGH STREET

GRAPHIC SCALE 20 0 20 40 60

LEGEND:

	BRICK
	MATCHLINE
	PLASTIC FENCE
	WOODEN FENCE
	CHAIN LINK FENCE
	WIRE FENCE
FM	FORCE MAIN
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
UE	UNDERGROUND ELECTRIC
UU	UNDERGROUND UTILITY
OHW	OVERHEAD ELECTRIC/WIRES
PD	PROPOSED DRAIN LINE
PS	PROPOSED SEWER LINE
PW	PROPOSED WATER LINE

100	CONTOUR
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/GUY)
	UTILITY POLE
	WATER SHUTOFF/CURB STOP
	GAS SHUTOFF
GV	GATE VALVE
HYD	HYDRANT
	SIGN
	MONITORING WELL
	BOLLARD
CB	EXISTING CATCH BASIN
	PROPOSED CATCH BASIN
T	TELEPHONE MANHOLE
S	SEWER MANHOLE
D	DRAIN MANHOLE
M	MANHOLE (UNIDENTIFIED)

AB	ALARM BELL
AC	ASBESTOS CEMENT
AS	AUTO SPRINKLER
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
COP	COPPER PIPE
DI	DUCTILE IRON
DYL	DOUBLE YELLOW LINE
EL.	ELEVATION
FF	FINISHED FLOOR
INV.	INVERT
LSA	LANDSCAPED AREA
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SWL	SINGLE WHITE LINE
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VC	VITRIFIED CLAY PIPE
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB

CITY OF PORTSMOUTH, N.H. SETTLED 1623 INCORPORATED 1849

DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH, NH

NO.	DESCRIPTION	DATE
1	Revise for 2017 Bid	1/11/17

REVISIONS

STREET PLAN OF MCDONOUGH STREET PHASE 3B

PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_1"=20' 3/17/16

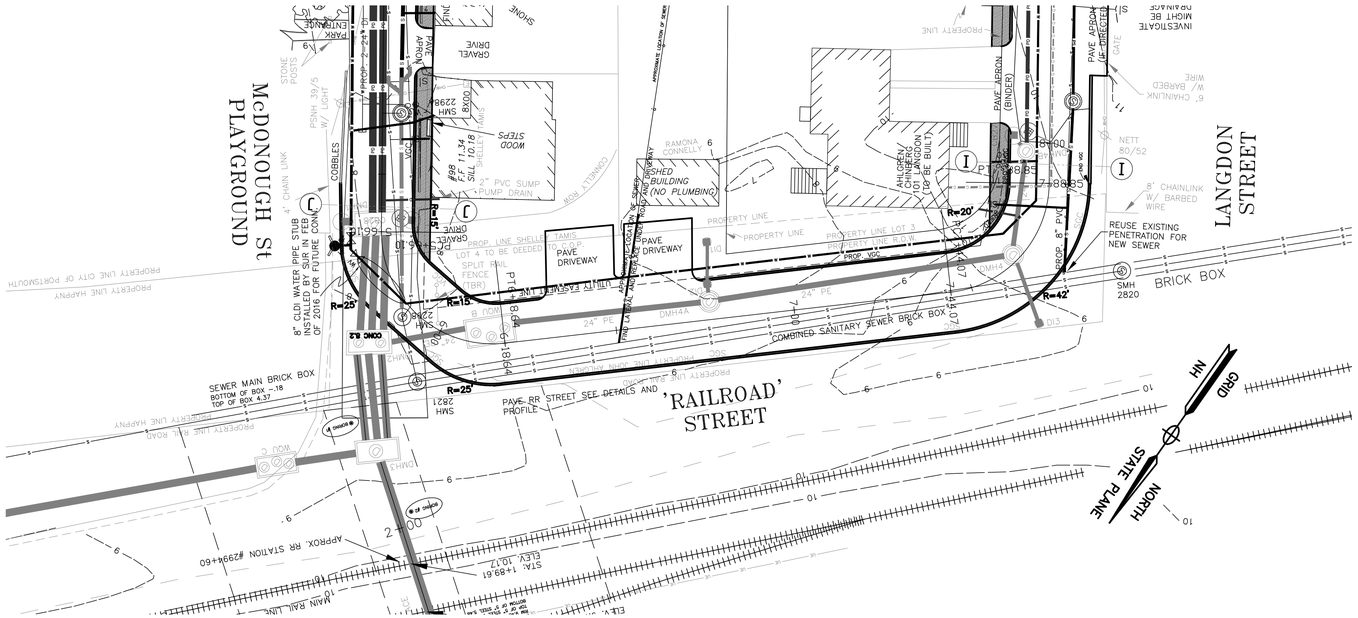
DEPARTMENT OF
PUBLIC WORKS
CITY OF PORTSMOUTH, NH

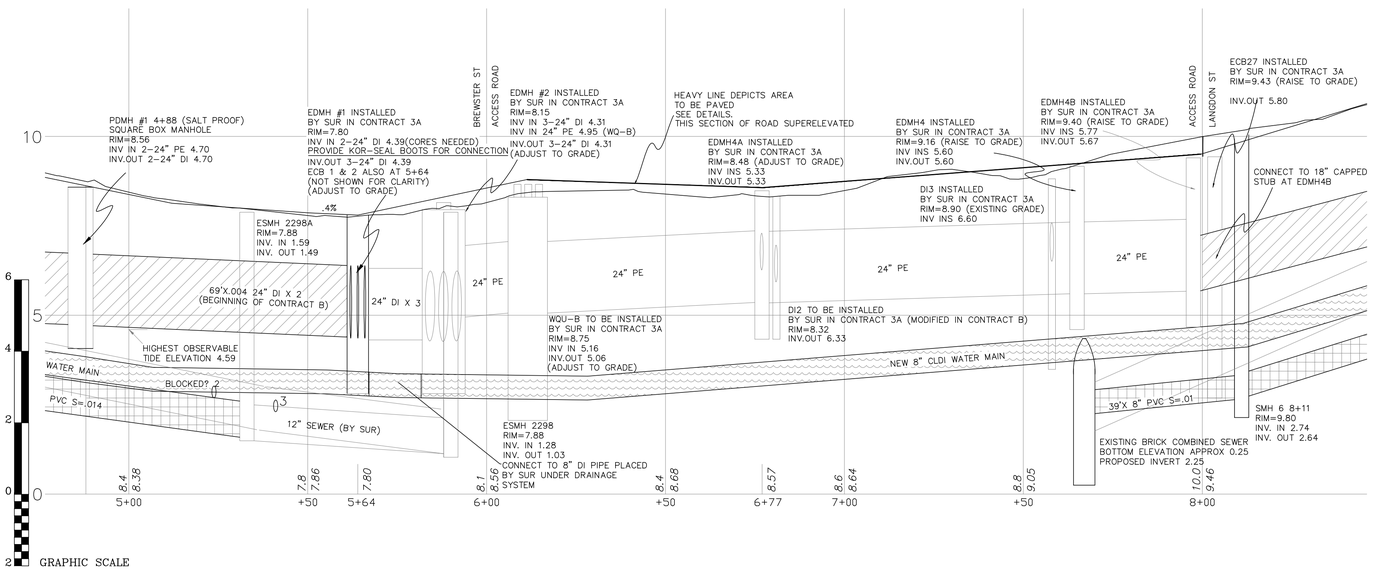
NO.	DESCRIPTION	DATE
2	Revise for 2017 Bid	1/11/17
1	CORRECT SCALE	6/20/16

REVISIONS

PLAN AND PROFILE
OF
BREWSTER STREET
PHASE 3B
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_1"=20' *3/17/16*





EX CATCH BASIN TABLE

CB 15
RIM 19.11
INV. IN 16.71 (E) (6" CMP)
INV. IN 12.66 (NE) (12" PVC)
INV. OUT 10.21 (N) (12" CMP)

CB 16
RIM 19.14
INV. OUT 16.71 (W)(12" CMP)

CB 17
RIM 16.95
INV. IN 10.36 (E) (2)(12" CMP)
INV. OUT 9.85 (N) (2)(12" CMP)

CB 18
RIM 16.29
INV. IN (S) 9.84 (2)(12" CMP)
INV. OUT 9.78 (W)(18" CMP)

CB 19
RIM 15.94
INV. IN (E) 10.39 (2)(12" CMP)
INV. OUT (W) 10.34 (2)(12" CMP)

CB 20
RIM 15.58
INV. IN (E) 10.46 (15" CMP)
INV. OUT (W) 10.43 (2)(12" CMP)

CB 21
RIM 14.02
INV. IN (NE) 10.93 15"AH
INV. IN (NW) 10.91 12"CMP
INV. OUT (SW) 10.84 15" AH

CB 22
RIM 13.42
INV. OUT (SE) 11.02 12" CMP

CB 23 RIM 14.18
INV. IN (NW) 11.13 12" AH

CB 24
RIM 13.67
INV. IN (SW) 10.81 15" AH
INV. IN (NW) 10.86 15" AH
INV. OUT (NE) 10.85 15" AH

CB 25
RIM 13.06
INV. OUT (SE) 10.76 15" AH

CB 26
RIM 15.51
INV. OUT (W) 12.60 6" CIP

CB 27
RIM 9.40
INV. 5.67 6" VC
SUMP 2.81

CB 28
RIM 7.54
INV. IN (NW) 5.03 10" PVC

CB 29
RIM 25.77
INV. IN (SW) 22.17 6" CIP
INV. OUT (SE) 21.77 6" CIP

EX DRAIN MANHOLE TABLE

DMH 5
RIM 18.76
INV. IN (E)9.87 (18" CMP)
INV. IN (S) 10.0±
INV. OUT (W) 9.86 (24" CMP)

DMH 6
RIM 10.87
RECESSED
TOP OF WATER 1.78
NOTE: DMH HAS SMH COVER

DMH 7
RIM 25.76
INV. OUT (W) 22.01 (6" CIP)
INV. IN (S) 22.36 (4" PVC)

DMH 8
RIM 10.76
INV OUT 1.67

OUTFALL AT POND
48" RCP
TOP 4.73
INV OUT 0.53

ELECTRIC MANHOLE TABLE

EMH 1
RIM 9.48
TOP OF 5" STEEL 5.96
BOTTOM OF BOX 5.48

PR SEWER MANHOLE TABLE

SMH 1 4+32 (BREWSTER)
RIM=9.98
INV. IN 3.01
INV. OUT 2.91

SMH 2 3+57.50(BREWSTER)
RIM=12.92
INV. IN 5.46
INV. OUT 5.33

SMH 3 3+45(BREWSTER)
RIM=13.49
INV. IN 5.87(12")
INV. IN 6.20(BOTH 8")
INV. OUT 5.74

SMH 4 2+61.50(BREWSTER)
RIM=15.50
INVS. IN 7.38
INV. OUT 7.25

SMH 5 0+22.80(BREWSTER)
RIM=25.24
INV. IN 14.20
INV. OUT 14.00

SMH 6 8+11(LANGDON)
RIM=9.80
INV. IN 2.74
INV. OUT 2.64

SMH 7 10+03 (LANGDON)
RIM=15.50
INV. INs 8.72
INV. OUT 8.62

SMH 8 12+31 (LANGDON)
RIM=21.50
INV. INs 15.40
INV. OUT 15.30

SMH 9 12+97 (LANGDON)
RIM=25.80
INV. OUT 18.72

SMH 10 0+43 (McDONOUGH)
RIM=18.43
INV. OUT 11.33

SMH 11 2+40 (McDONOUGH)
RIM=15.10
INV. OUT 7.96

PR DRAIN MANHOLE TABLE

PDMH #1 4+88 (SALT PROOF INTERIOR)
6'x6' ID CONCRETE SQUARE MANHOLE
RIM=8.56
INV IN 2-24" PE 4.70
INV.OUT 2-24" DI 4.70

PDMH #2 4+29 (SALT PROOF INTERIOR)
6'x6' ID CONCRETE SQUARE MANHOLE
RIM=10.02
INV IN 24" PE 4.99
INV.OUT 2-24" PE 4.99

WQU A 4+14.5 (VORTECHS 11000 SALT PROOF)
RIM=VARIES FROM 10.34 TO 10.66
INV IN 24" PE 5.13
INV.OUT 24" PE 5.03

PDMH #3 3+55.0 (5' DIAM.)
RIM=12.99
INV IN 12" PE 8.68
INV IN 24" PE 7.68
INV.OUT 24" PE 6.13

PDMH #4 3+12
RIM=14.21
INV IN 12" PE 10.04
INV IN 24" PE 9.54
INV.OUT 24" PE 9.54

PDMH #5 2+65
RIM=15.19
INV IN 12" PE 10.89
INV IN 21" PE 10.64
INV.OUT 24" PE 10.39

PDMH #6 1+82
RIM=16.90
INV IN 21" PE 12.90
INV.OUT 24" PE 12.65

PDMH #7 0+11.4
RIM=25.55 (ADJUST AS NEC.)
INV IN 12" PE 18.00
INV IN 18" PE 18.00
INV.OUT 18" PE 17.90

PDMH #8 9+69
RIM=14.47
INV. INS 12" PE 10.70
INV.OUT 18" PE 10.10

PR CATCH BASIN TABLE

PCB1
RIM=14.20
INV. 15" PE 9.40

PCB2
RIM=13.68
INV. 15" HAP 10.79
INV. 15" PE 9.25

PCB3
RIM=13.06
INV.S 15" PE 9.00

PCB4
RIM=13.35
INV.S 12" PE 8.96

PCB5
RIM=13.43
INV. 6" PE 10.63
INV. 12" PE 9.05

PCB6
RIM=14.35
INV OUT 12" PE 10.24

PCB7
RIM=15.70 (ADJUST TO EX. GRADES)
INV OUT 12" PE 11.00

PCB8
RIM=15.70 (ADJUST TO EX. GRADES
INV OUT 12" PE 11.10

PCB9
RIM=25.50
INV IN 18" PE 18.10
INV OUT 18" PE 18.05

PCB10
RIM=25.75
INV OUT 12" PE 18.20

PCB11 9+72
RIM=14.54
INV.OUT 12" PE 10.80

PCB12
RIM=15.40
INV.S 12" PE 11.26

PCB13
RIM=16.50
INV. IN 6" PE 13.7
INV. OUT 12" PE 11.95

PCB14 10+17 (3' SUMP)
RIM=15.92
INV.IN 12" PE 11.69
INV.OUT 12" PE 11.69

PCB15 10+33
RIM=16.46
INV.IN 12" PE 11.98
INV.OUT 12" PE 11.98

PCB 16 12+20
RIM=20.70
INV.IN 6" PE 16.96
INV.S 12" PE 16.46

PCB 17 12+20
RIM=20.70
INV.OUT 12" PE 16.66

EX SEWER MANHOLE TABLE

SMH #1638
RIM 18.54'
(S) 12" C.I. 12.93'
(N) 12" C.I. 12.74'

SMH #2297
RIM 15.92'
(W) 6" PVC 12.19'
(N) 6" PVC 12.14'

SMH #5092
RIM 14.53'
(N) 12" C.I. 10.25'
(S) 10" C.I. 10.22'

SMH #2820
RIM 9.40'
BOTTOM OF BOX 0.30'
TOP OF BOX 4.40'

SMH#2821
RIM 8.42'
BOTTOM OF BOX -0.18'
TOP OF BOX 4.37'

SMH #2298
RIM 7.88
(NW) 15" PVC 1.28
(NE) 12"PVC 1.18
(S) 10" PVC 4.42'
(SE) 15" PVC 1.03'
(SW) 12"PVC 1.39'

SMH #1454
RIM 15.75'
(SW) 15" VC 7.45'
(SE) 15"PVC 9.49'
(NE) 10" VC 7.45

SMH #2805
RIM 24.89
(NW) 15" PVC 15.10'
(SW) 6" PVC 16.07'
(SE) 15" PVC 15.27"
(SE) 12" PVC 18.45"

SMH #1445
RIM 25.89'
(NW) 12" PVC 16.26'
(NE) 8" VC 16.35'

SMH #1639
RIM 21.94
INV. IN 16.13 (6" PVC)
INV. OUT 16.03 (6" CLAY)

20 0 20 40 60
GRAPHIC SCALE

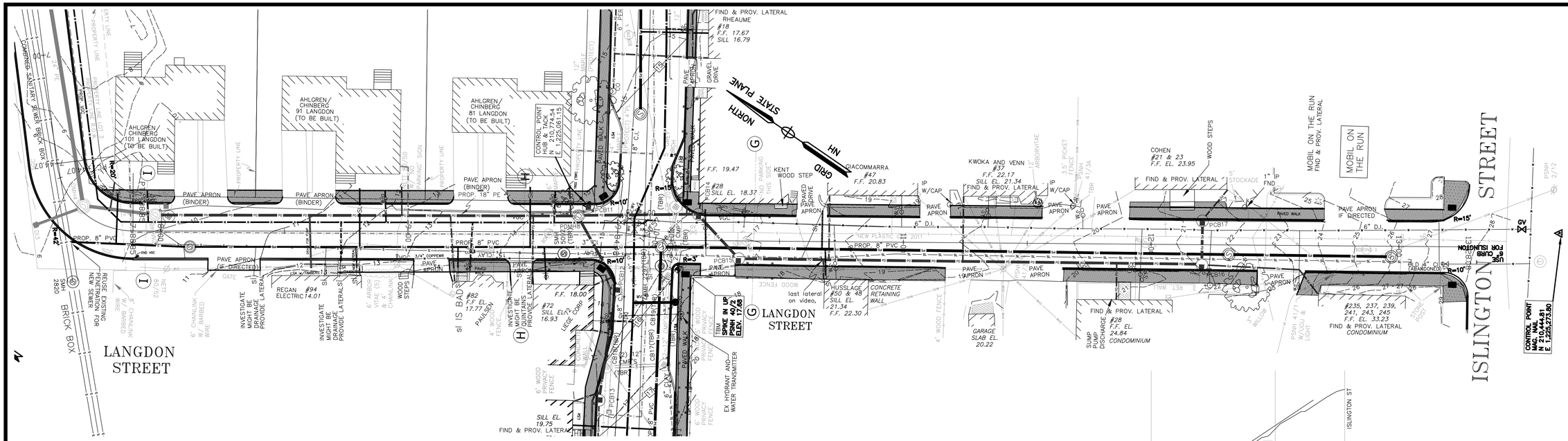
DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH, NH

NO.	DESCRIPTION	DATE
2	Revise for 2017 Bid	1/11/17
1	CORRECT SCALE	6/20/16

REVISIONS

STREET PLAN OF RAILROAD STREET AREA PHASE 3B
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_1"=20' 3/17/16



CITY OF PORTSMOUTH, N.H. INCORPORATED 1653 ESTD 1623

DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH, NH

NO.	DESCRIPTION	DATE
	REVISIONS	
2	Revise for 2017 Bid	1/11/16
1	CORRECT SCALE	6/20/16

PLAN AND PROFILE
OF
LANGDON STREET
PHASE 3B
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_1"=20' 3/17/16

STANDARD MANHOLE NOTES:

1. IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH, AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES) FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE, AND TO PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE.

3. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.

4. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.

5. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO AN ELEVATION OF 1" ABOVE THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN US MADE AND PROVIDE A 30-INCH CLEAR OPENING. LETTER "S" OR WORD "SEWER", IN 3-INCH LETTERS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.

7. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67.

100% PASSING 1 INCH SCREEN
0-10% PASSING #4 SIEVE
90-100% PASSING 3/4 INCH SCREEN
0- 5% PASSING #8 SIEVE
20- 55% PASSING 3/8 INCH SCREEN

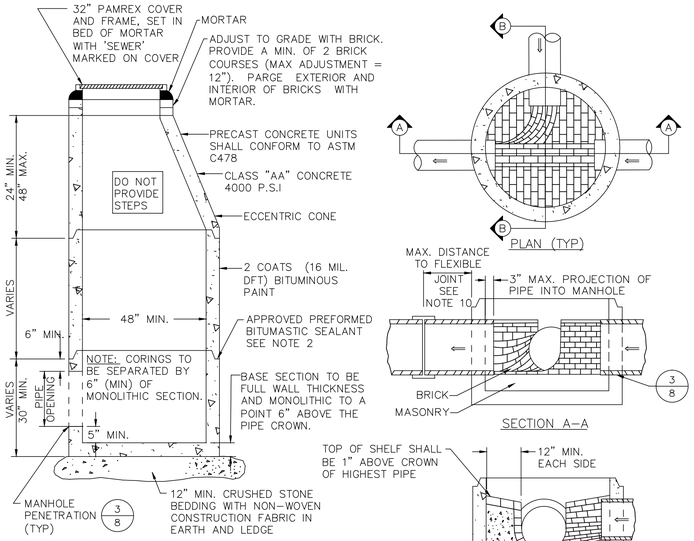
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.

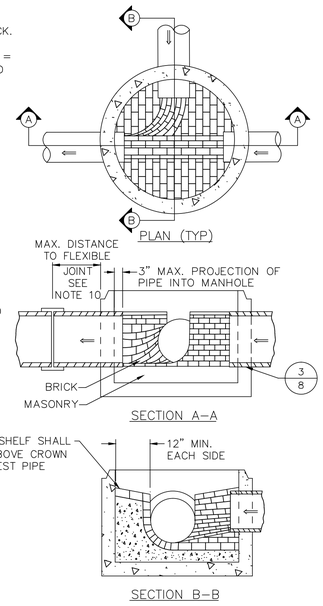
8. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHENMANHOLE IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED.

9. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:

RCP AND CI PIPE - ALL SIZES - 48"
AC AND VC PIPE - UP THROUGH 12" DIA. - 18"
AC AND VC PIPE - LARGER THAN 12" DIA. - 36"
DI PIPE - NONE REQUIRED
PVC (ASTM 3034) - UP THROUGH 15" DIA. - NONE REQUIRED
PVC (ASTM F679) - LARGER THAN 15" DIA. - 48"/60"
PVC (ASTM F789) - ALL SIZES - 48"/60"
ABS (ASTM D2680) - ALL SIZES - SAME AS VC ABOVE.

10. SPECIFICATIONS: ADDITIONAL CONSTRUCTION SPECIFICATIONS ARE INCLUDED IN THE PROJECT MANUAL. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.





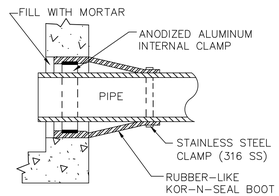
SEWER MANHOLE
NOT TO SCALE

JOINTING AND SEALING NOTES

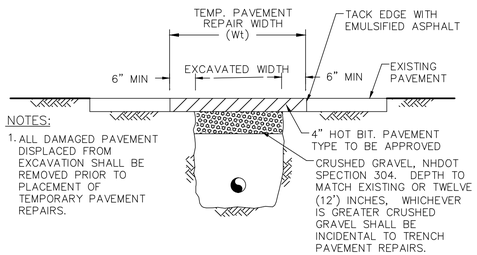
1. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND UPON AN ELASTOMERIC SEALANT FOR WATERTIGHTNESS.

2. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY. APPROVED BITUMASTIC SEALANTS: RAM-NEK, E Z, KENT SEAL NO.2

3. ALL GASKETS, SEALANTS, MORTAR, ETC., SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



KOR-N-SEAL JOINT SLEEVE
(OR EQUAL)



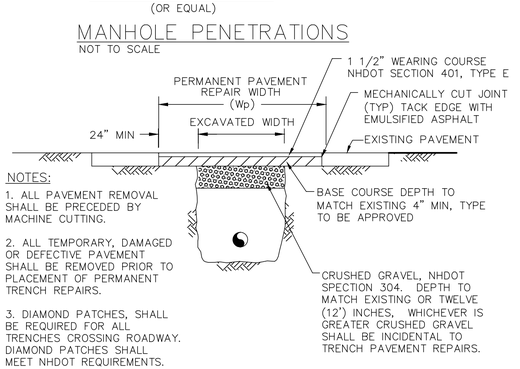
NOTES:
1. ALL DAMAGED PAVEMENT DISPLACED FROM EXCAVATION SHALL BE REMOVED PRIOR TO PLACEMENT OF TEMPORARY PAVEMENT REPAIRS.

TEMPORARY TRENCH PAVEMENT REPAIR
NOT TO SCALE

MINIMUM TRENCH PAVEMENT WIDTHS

PIPE I.D.	Wt (INCHES)	Wp (INCHES)
1-21 INCHES	72	108
24-30 INCHES	84	120
> 30 INCHES	96	132

NOTE:
THE DIMENSIONS SHOWN SHALL BE CONSIDERED MINIMUM PAVEMENT PAYMENT WIDTHS FOR 0-10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'-0" FOR TRENCHES 10' TO 15' AND BY 8'-0" FOR TRENCHES 15' TO 20' IN DEPTH.



NOTES:
1. ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

PERMANENT TRENCH PAVEMENT REPAIR
NOT TO SCALE

GRAVITY SEWER TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.

2. BEDDING: SEE NOTE 7 OF STANDARD MANHOLE NOTES. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.

3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. NO STONE LARGER THAN 2" SHOULD BE IN CONTACT WITH THE PIPE.

4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER, FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.

5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY AND LOCAL REGULATION.

6. WOOD SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

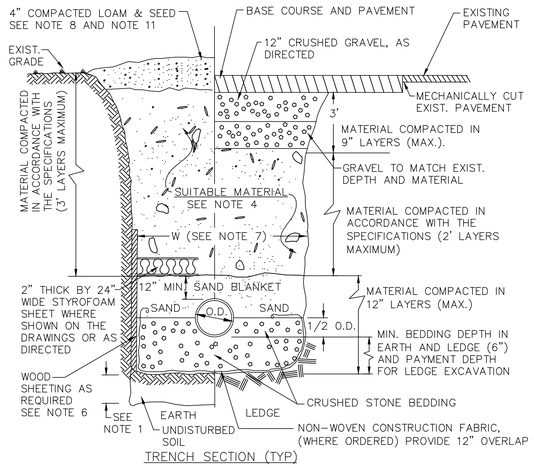
7. W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH.

8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS OF SECTION 520, (NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

11. GRAVEL DRIVEWAY AND SHOULDER RESTORATION: CRUSHED GRAVEL IN DRIVEWAYS AND ROAD SHOULDERS SHALL MATCH EXISTING WITH A MINIMUM OF 12". GRAVEL REPLACEMENT SHALL BE SUBSIDIARY TO SEWER CONSTRUCTION AND WILL NOT BE MEASURED FOR PAYMENT.



TRENCH SECTION (TYP)

TRENCH DETAIL- GRAVITY SEWER
NOT TO SCALE

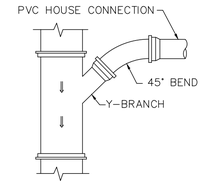
NOTES:
1. ALL SEWER SERVICE EXTENSIONS SHALL BE 6", CONTRACTOR SHALL VERIFY EXISTING SEWER SERVICE LOCATION AND ELEVATION BY EXCAVATION OF TEST PITS OR OTHER MEANS PRIOR TO THE CONSTRUCTION OF SEWER MAIN.

2. SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.

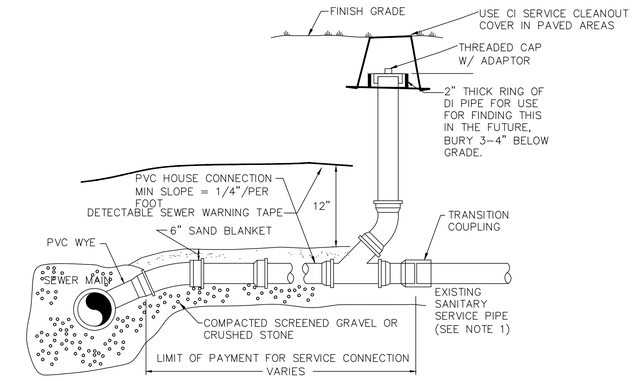
3. VARIOUS SIZE TRANSITION COUPLINGS SHALL BE STORED ON SITE FOR CONNECTION TO EXISTING SERVICES.

4. CLEANOUTS SHALL BE INSTALLED AT EACH LIVE SEWER SERVICE CONNECTION, AS SHOWN ON THIS PLAN. REBAR SHALL BE PLACED AT SIDE OF CLEANOUT.

5. CLEANOUT SHALL BE USED TO PLUG AND TEST ALL NEW LATERALS WITH MINIMAL INTERRUPTION TO OPERATION OF HOMEOWNER SANITARY SYSTEM. CLEANOUTS SHALL BE INCIDENTAL TO SERVICE CONNECTIONS AND SHALL NOT BE CONSIDERED FOR PAYMENT.



PLAN



SECTION VIEW

TYPICAL SERVICE CONNECTION
NOT TO SCALE

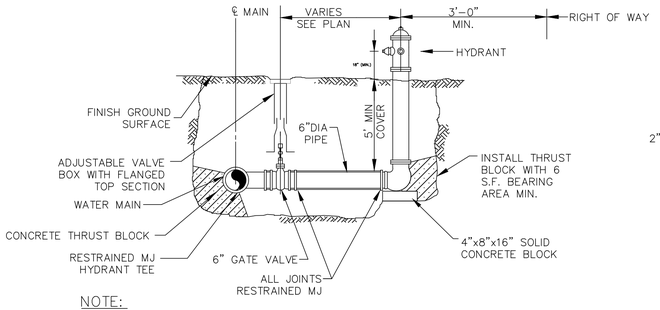
NO.	DESCRIPTION	DATE

REVISIONS

DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH

SEWER DETAILS
OF
McDONOUGH STREET AREA PHASE 1
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_NONE 3/17/16

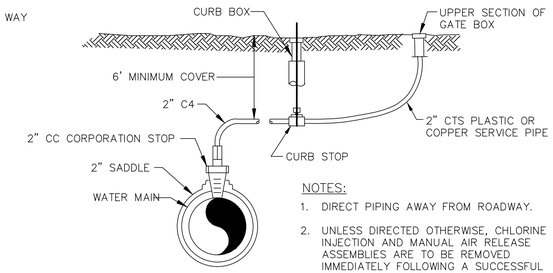


NOTE:

1. HYDRANTS SHALL BE DELIVERED FROM FACTORY W/O DRAIN HOLES.
2. HYDRANT ASSEMBLY INCLUDES MJ HYDRANT TEE.
3. HYDRANT SHALL BE KENNEDY K-81A GUARDIAN, PER CITY OF PORTSMOUTH STANDARDS.
4. LOCATE HYDRANTS A MINIMUM OF 18" BEHIND CURBING UNLESS OTHERWISE DIRECTED. REVIEW HYDRANT LOCATIONS WITH PROJECT REPRESENTATIVE PRIOR TO WATER MAIN INSTALLATIONS.

TYPICAL HYDRANT ASSEMBLY SECTION

NOT TO SCALE



NOTES:

1. DIRECT PIPING AWAY FROM ROADWAY.
2. UNLESS DIRECTED OTHERWISE, CHLORINE INJECTION AND MANUAL AIR RELEASE ASSEMBLIES ARE TO BE REMOVED IMMEDIATELY FOLLOWING A SUCCESSFUL BACTERIA TEST. REMOVE THE CORPORATION STOP AND PLUG WITH 2" CC BRASS PLUG.

TEMPORARY BLOW-OFF TAP ASSEMBLY

NOT TO SCALE

STANDARD TRENCH NOTES

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.

2. BEDDING AND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER (SECTION 02228). BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE, PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.

3. BACKFILL MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF ENGINEER IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE LINE, FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.

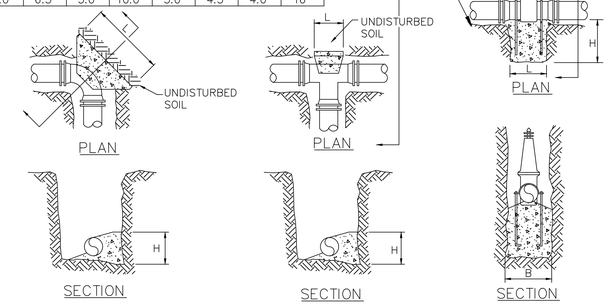
4. MINIMUM COVER: NOT LESS THAN 5 FEET, 7 MAX, EXCEPT TO AVOID SUBSURFACE STRUCTURES.

6. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

7. DRIVEWAYS: CRUSHED GRAVEL IN DRIVEWAYS SHALL MATCH EXISTING WITH A MINIMUM OF 6". EXISTING GRAVEL SHALL BE REMOVED AND REPLACED AND SHALL NOT BE MEASURED FOR PAYMENT.

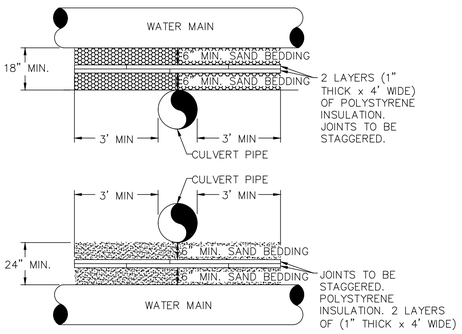
MINIMUM CONCRETE ANCHOR DIMENSIONS								
BENDS, TEES AND LINE VALVES AT 250 PSI								
PIPE SIZE INCHES	TEE OR PLUG FT.		ALL BENDS FT.		ALL LINE VALVES FT.			PIPE SIZE INCHES
	H	L	H	L	H	L	B	
6	1.5	3.0	2.0	3.5	1.5	3.0	2.5	6
8	2.0	4.0	2.5	5.0	2.0	4.0	3.0	8
10	2.5	5.0	3.0	6.0	3.0	4.0	3.0	10
12	3.0	6.0	3.0	8.0	3.0	5.0	4.0	12
16	3.0	6.5	3.0	10.0	3.0	4.5	4.0	16

BASIS: SOIL BEARING CAPACITY OF 2000 PSF AND 5 FEET COVER IN GRANULAR SOIL. HEIGHT OF BLOCK MUST BE LESS THAN 1/2 DEPTH OF TRENCH. 6 MIL THICK POLYETHYLENE SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT. USE FOR HORIZONTAL OR DOWNWARD THRUST ONLY.



CONCRETE ANCHORS

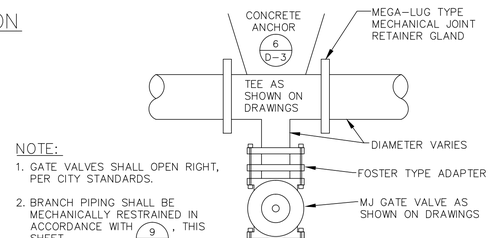
NOT TO SCALE



INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.

CULVERT CROSSING DETAIL

NOT TO SCALE

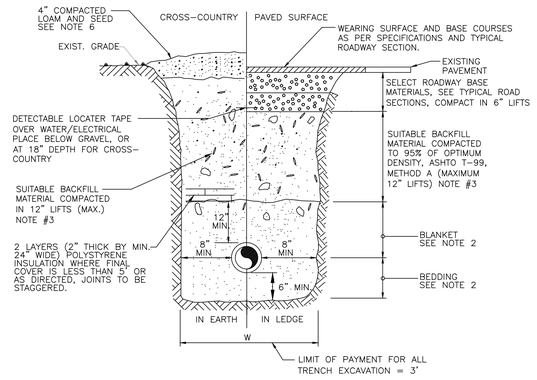


NOTE:

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH 9/D-3, THIS SHEET

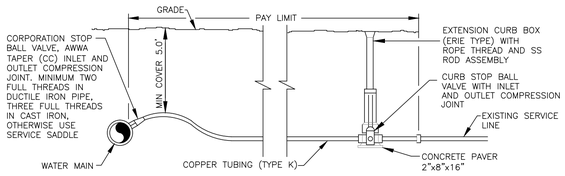
TEE & GATE VALVE ASSEMBLY DETAIL (TYP.)

NOT TO SCALE



TYPICAL TRENCH DETAIL

NOT TO SCALE

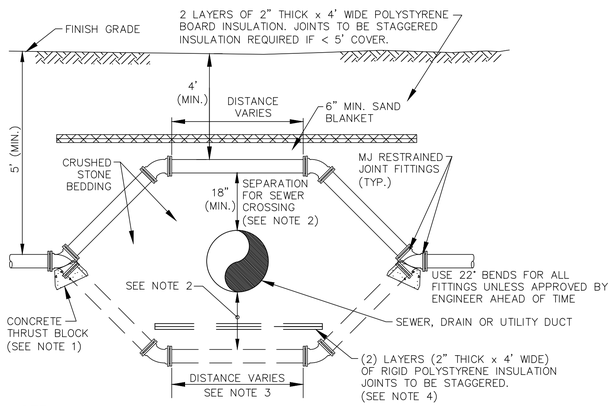


NOTES:

1. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
2. TAPS TO BE MADE AT APPROX. 2:00 AND 10:00.
3. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
4. IF SERVICE IS INSTALLED WITH LESS THAN 5' COVER, INSULATE OVER LINE.
5. REMOVE EXISTING CURB STOP AND REPLACE.
6. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER (NO COUPLING WITHOUT APPROVAL OF ENGINEER) AFTER PRESSURE TESTING AND DISINFECTION.
7. CURB BOX SHALL BE SET IN THE SIDEWALK NEAR THE HOUSE SIDE UNLESS DIRECTED OTHERWISE.
8. 2" SERVICE CONNECTIONS SHALL USE A STAINLESS STEEL SERVICE SADDLE.

TYPICAL SERVICE CONNECTION

NOT TO SCALE



NOTE:

1. INSTALL (4) FOUR 22° MJ BENDS WITH RESTRAINED JOINT FITTINGS.
2. VERTICAL SEPARATION DEPTH BETWEEN WATER AND SEWER SHALL BE AT LEAST 18", WITH WATER ABOVE SEWER, PER NHDES ENV-Wq 704.12. VERTICAL SEPARATION OF LESS THAN 18" ALLOWED ONLY WITH WAIVER FROM NHDES. PROVIDE 12" SEPARATION FOR DRAIN OR OTHER UTILITY CROSSINGS.
3. CENTER CROSSING PIPE BETWEEN BELLS. SEWER PIPE JOINT SHALL BE A MINIMUM OF OF 6 FT. HORIZONTALLY FROM THE WATER MAIN.
4. PROVIDE INSULATION IF DRAIN CROSSES OVER WATER MAIN.

WATER MAIN CONFLICT – CROSSING DETAIL

NOT TO SCALE

DEPARTMENT OF
PUBLIC WORKS
CITY OF PORTSMOUTH

NO.	DESCRIPTION	DATE

REVISIONS

WATER DETAILS
OF
McDONOUGH STREET AREA PHASE 3B
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_NONE 3/17/16

STANDARD CB & MANHOLE NOTES:

1. BARRELS AND TOP SECTIONS SHALL BE PRECAST REINFORCED CONCRETE.

2. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.

3. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST POSSIBLE TANGENT TO THE CENTER LINE OF THE PIPES. SHELVES SHALL BE CONSTRUCTED TO AN ELEVATION OF 1/2 THE PIPE DIA. AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL.

4. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. LETTER "D" OR WORD "DRAIN", IN 3-INCH LETTERS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.

5. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67.

100% PASSING 1 INCH SCREEN
0-10% PASSING #4 SIEVE

90-100% PASSING 3/4 INCH SCREEN
0- 5% PASSING #8 SIEVE

20- 55% PASSING 3/8 INCH SCREEN

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.

6. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 5 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED.

TRENCH NOTES - STORM DRAIN

1. BEDDING

BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS. NORMAL PIPE BEDDING IS CRUSHED STONE TO THE HAUNCH OF THE PIPE AND SAND BEDDING 6" ABOVE THE CROWN. IF THE TOP OF THE PIPE IS LESS THAN 30" FROM FINISH GRADE, BED PIPE COMPLETELY IN STONE UP TO 6" ABOVE PIPE CROWN. UNDERDRAIN TO HAVE 4" MIN' OF STONE OVER PIPE OR AS NECESSARY TO BE IN CONTACT WITH GRAVEL LAYER OF SELECTS ABOVE.

2. COMPACTION:

ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COZMPACTED TO NOT LESS THAN 95 PERCENT OF AASHTO T99, METHOD C.

3. SUITABLE MATERIAL:

IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6 INCHES IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN SEEDED AREAS, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, ROCKS UNDER 12", FROZEN EARTH OR CLAY, IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE WILL BE PRESERVED.

4. BASE COURSE AND PAVEMENT:

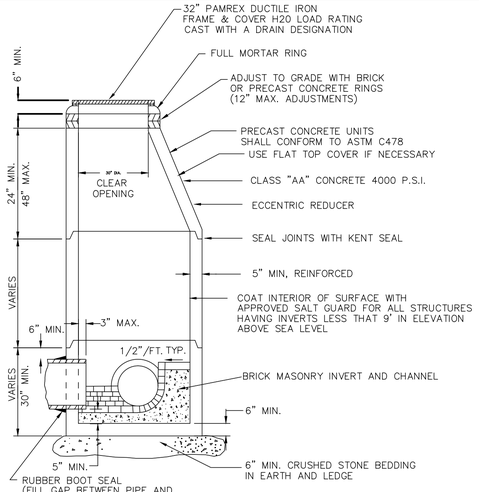
SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.

5. DRAINAGE PIPE:

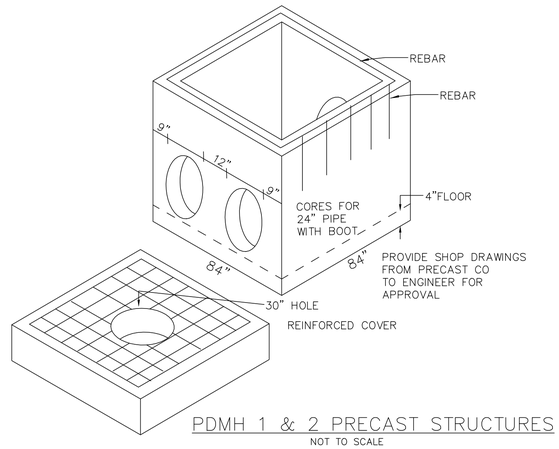
PIPE MATERIALS SHALL BE POLYETHYLENE (SEE SPECIFICATIONS)

6. W=MAXIMUM ALLOWABLE TRENCH WIDTH:

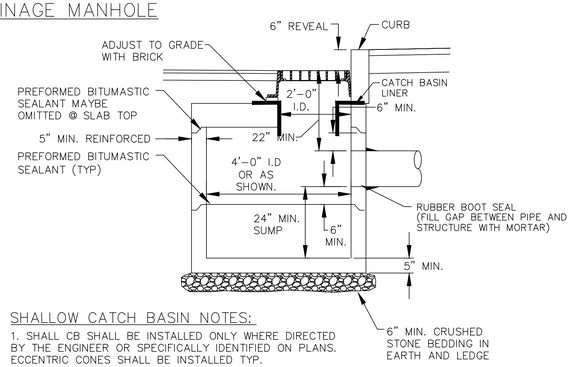
W SHALL BE THE MAXIMUM PAYMENT WIDTH FOR ROCK EXCAVATION (TRENCH) AND FOR ORDERED EXCAVATION BELOW GRADE.



TYPICAL DRAINAGE MANHOLE
NOT TO SCALE



PDMH 1 & 2 PRECAST STRUCTURES
NOT TO SCALE



SHALLOW CATCH BASIN NOTES:

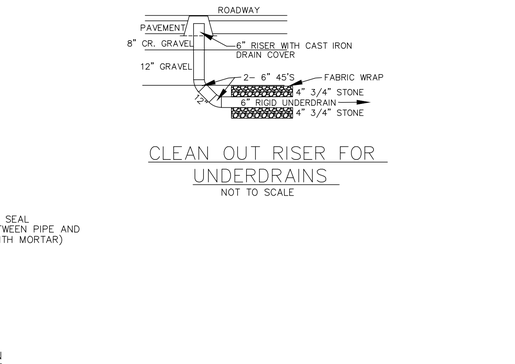
1. SHALL CB SHALL BE INSTALLED ONLY WHERE DIRECTED BY THE ENGINEER OR SPECIFICALLY IDENTIFIED ON PLANS. ECCENTRIC CONES SHALL BE INSTALLED TYP.

2. ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H-20 LOAD. DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

3. A REINFORCED CONCRETE SLAB COVER HAVING A CONCENTRIC OPENING AND CAPABLE OF HANDLING H-20 LOADS MAY BE USED.

4. SLAB TOP SHALL HAVE 24" ROUND OPENING.

1 / D-3 SHALLOW CATCH BASIN DETAIL
NOT TO SCALE



CLEAN OUT RISER FOR UNDERDRAINS
NOT TO SCALE

NOTES:

1. METAL-ERA INLET BASKET AVAILABLE FROM METAL-ERA, INC.
N4 W22450 BLUEMOUND ROAD
WAUKESHA, WI 53186
1-800-558-2162

2. INSTALL APPROPRIATE METAL BASKET.

3. A. GEOTEXTILE FABRIC SHALL BE POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYENYLIDENE CHLORIDE MEETING THE FOLLOWING:
a. GRAB STRENGTH: 45# MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
b. MULEN BURST STRENGTH: 60 PSI MIN. (ASTM D771)
B. FABRIC SHALL HAVE AN OPENING NO GREATER THAN A #20 SIEVE AND A MIN. PERMEABILITY OF 120 GPM/SQ. FT.

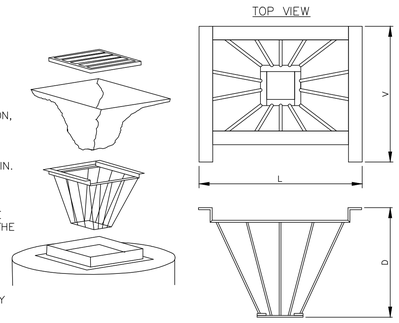
4. FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND EXTEND AT LEAST 6 INCHES PAST THE FRAME. GRATE INLET SHALL BE PLACED OVER THE BASKET/FRAME AND WILL ANCHOR THE FABRIC.

5. INSPECT BASKET DAILY OR MORE FREQUENTLY DURING STORM EVENTS.

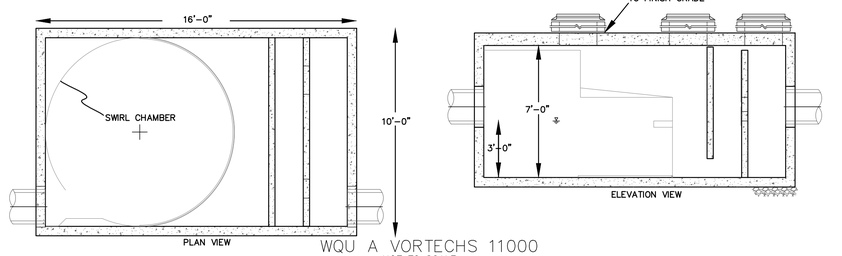
6. SEDIMENT SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE FREQUENTLY TO PREVENT CLOGGING.

7. USE OF METAL-ERA INLET BASKET DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF MAINTAINING OTHER EROSION CONTROL MEASURES AS MAY BE REQUIRED OR FROM STABILIZING DISTURBED AREAS AS SOON AS PRACTICAL.

8. REMOVE FABRIC & BASKET ONCE ALL DISTURBED AREAS ARE STABILIZED & VEGETATIVE GROWTH OR PERMANENT EROSION CONTROL MEASURES ARE ESTABLISHED.



TEMPORARY CATCH BASIN INLET FILTER
NOT TO SCALE



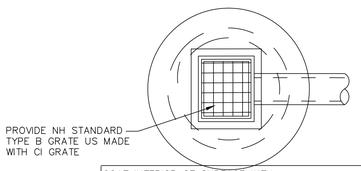
WQU A VORTECHS 11000
NOT TO SCALE

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. VORTECHS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO H520 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. INLET PIPE(S) MUST BE PERPEDICULAR TO THE VAULT AND AT THE CORNER TO INTRODUCE THE FLOW TANGENTIALLY TO THE SWIRL CHAMBER. DUAL INLETS NOT TO HAVE OPPOSING TANGENTIAL FLOW DIRECTIONS.
7. OUTLET PIPE(S) MUST BE DOWN STREAM OF THE FLOW CONTROL BAFFLE AND MAY BE LOCATED ON THE SIDE OR END OF THE VAULT. THE FLOW CONTROL WALL MAY BE TURNED TO ACCOMODATE OUTLET PIPE KNOCKOUTS ON THE SIDE OF THE VAULT.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTSENTRY HS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

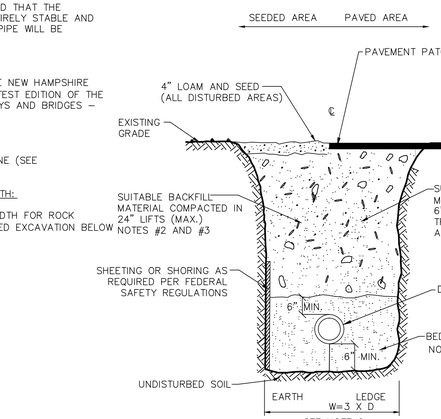
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			WQU A
WATER QUALITY FLOW RATE (CFS)			15.2 CFS
PEAK FLOW RATE (CFS)			30 CFS
RETURN PERIOD OF PEAK FLOW (YRS)			2 YR
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	5.13	PE	24"
OUTLET PIPE	5.08	PE	24
RIM ELEVATION			10.34
ANTI-FLOTATION BALLAST	WIDTH		HEIGHT
	*		*
NOTES/SPECIAL REQUIREMENTS:			
STRUCTURE NEEDS TO BE SALT GUARDED SUBJECT TO OCCASIONAL TIDAL INFLUX			
* PER ENGINEER OF RECORD			

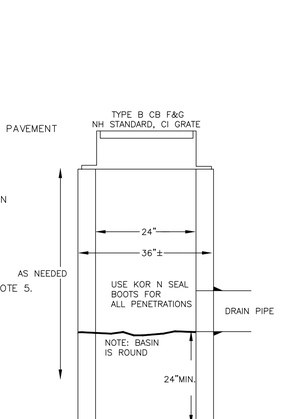


NOTE:
ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H - 20 LOAD. DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

CATCH BASIN
NOT TO SCALE



TRENCH DETAIL - STORM DRAIN
NOT TO SCALE



DI CATCH BASIN
NOT TO SCALE

Vortechs
THIS PRODUCT MAY BE PROTECTED BY THE FOLLOWING U.S. PATENT: 5,759,423; RELATED FOREIGN PATENTS.

CONTECH ENGINEERED SOLUTIONS LLC
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CITY OF PORTSMOUTH N.H. INCORPORATED 1849 ESTABLISHED 1623

DEPARTMENT OF PUBLIC WORKS
CITY OF PORTSMOUTH

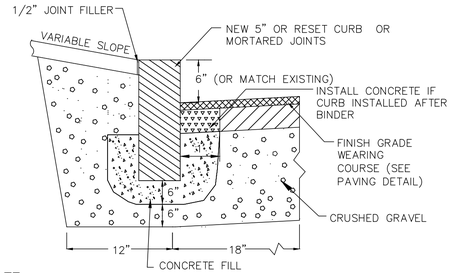
NO.	DESCRIPTION	DATE

REVISIONS

DRAINAGE DETAILS OF McDONOUGH STREET AREA PHASE 3B

PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_NONE 3/17/16



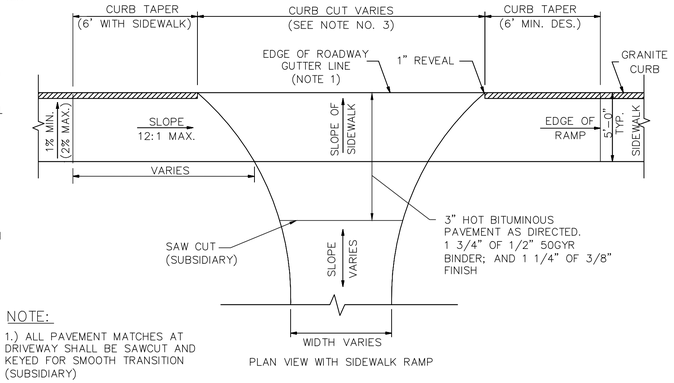
NOTE:

1. DAMAGED OR IMPACTED CURB IS TO BE REPLACED AT THE CONTRACTORS OWN EXPENSIVE, UNLESS OTHERWISE NOTED ON PLAN.

2. CLASS B CONCRETE FILL SHALL BE PLACED IN VOIDS IN FRONT, BEHIND, AND BELOW CURBING PRIOR TO INSTALLATION OF GRAVEL BACKING AND FINISH GRADE WEARING COURSE PAVEMENT.

VERTICAL CURB – RESET OR NEW

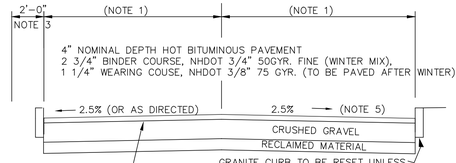
NOT TO SCALE



NOTE:

1.) ALL PAVEMENT MATCHES AT DRIVEWAY SHALL BE SAWCUT AND KEYED FOR SMOOTH TRANSITION (SUBSIDIARY)

PLAN VIEW WITH SIDEWALK RAMP



NOTES

1. RECONSTRUCT ROADWAY IN ACCORDANCE TO PLAN UNLESS DIRECTED OTHERWISE.

2. EXISTING DRIVEWAYS ARE TO BE SAWCUT PRIOR TO PAVING. MATCH EXISTING DRIVEWAY ELEVATIONS UNLESS OTHERWISE DIRECTED, SUBSIDIARY.

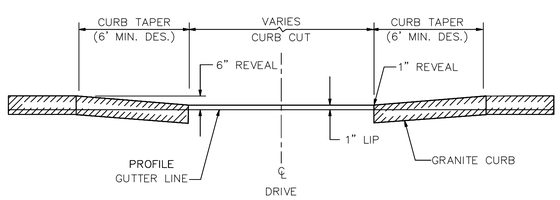
3. PROVIDE 2 FOOT WIDE GRAVELED SHOULDER WHERE CURBING IS NOT PRESENT, SUBSIDIARY.

4. LOAM, SEED & MULCH ROADSIDE SLOPES, SUBSIDIARY.

5. UNIFORMLY GRADE ROADWAY PRIOR AND PROVIDE A POSITIVE GRADIENT TO THE EXISTING DRAINAGE STRUCTURES, MIN. CROSS SLOPE=2%, MIN. GUTTER SLOPE=0.5%. THIS ROAD MAY BE SUPER-ELEVATED, SEE PLAN FOR CONTOURS AND PROFILE FOR CL GRADE.

PAVEMENT RECONSTRUCTION & FULL WIDTH PAVING DETAIL

NOT TO SCALE



DRIVEWAY APRON/CURB CUT

NOT TO SCALE

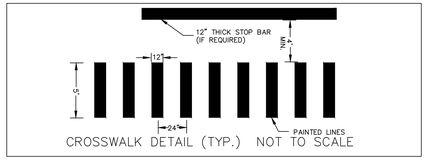
DRIVEWAY NOTES

1. PAVEMENT & GRAVEL DEPTHS FOR RESIDENTIAL DRIVES SHALL BE 8" CRUSHED GRAVEL WITH 3.0" H.B.P. (HAND METHOD) IN TWO LIFTS 2" OF BINDER AND 1" OF TOP.

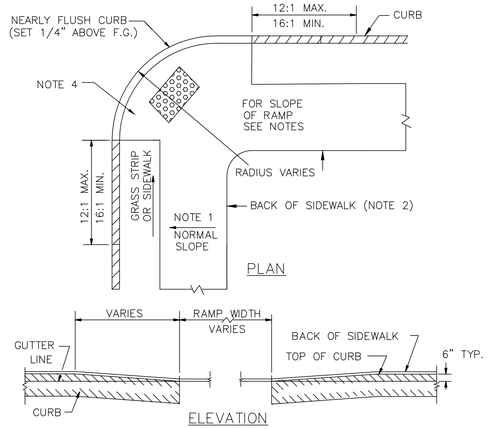
2. CURBING CAN BE FLARED TO FIT DRIVE RADII IF APPROPRIATE OR ENDED AS DETAILED ABOVE.

3. DRIVEWAY CURB CUTS SHALL MATCH EXISTING APRON WIDTHS UNLESS OTHERWISE DIRECTED.

4. FOR UNPAVED DRIVES, THE PAVED APRON NORMALLY ENDS AT THE RADIUS TANGENT POINT OR BACK OF SIDEWALK, WHICHEVER IS GREATER.



CROSSWALK DETAIL (TYP.) NOT TO SCALE



GENERAL NOTES

1. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS-SLOPE IS 2%.

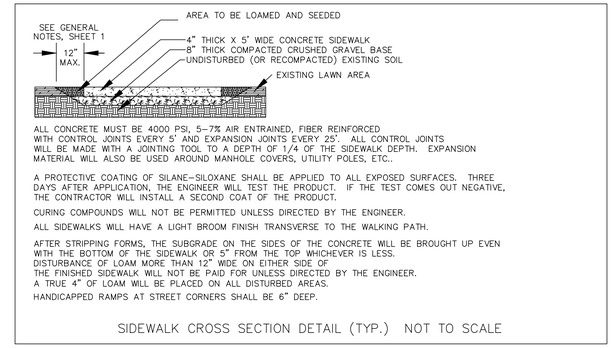
2. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. REFER TO CROSS SECTION PLANS (TO BE PROVIDED) FOR ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK.

3. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE LIMITS SHOWN ON THE DRAWINGS.

4. CORNER RAMPS ARE TO BE CONSTRUCTED WITH REINFORCED CONCRETE 6" DEPTH. TRUNCATED DOME PANEL SHALL BE 2'X3' ARMORTILE BRAND (no equal allowed). COLOR TO BE BRICK RED.

CORNER SIDEWALK RAMP

NOT TO SCALE



ALL CONCRETE MUST BE 4000 PSI, 5–7% AIR ENTRAINED, FIBER REINFORCED WITH CONTROL JOINTS EVERY 5' AND EXPANSION JOINTS EVERY 25'. ALL CONTROL JOINTS WILL BE MADE WITH A JOINTING TOOL TO A DEPTH OF 1/4 OF THE SIDEWALK DEPTH. EXPANSION MATERIAL WILL ALSO BE USED AROUND MANHOLE COVERS, UTILITY POLES, ETC..

A PROTECTIVE COATING OF SILANE–SILOXANE SHALL BE APPLIED TO ALL EXPOSED SURFACES. THREE DAYS AFTER APPLICATION, THE ENGINEER WILL TEST THE PRODUCT. IF THE TEST COMES OUT NEGATIVE, THE CONTRACTOR WILL INSTALL A SECOND COAT OF THE PRODUCT.

CURING COMPOUNDS WILL NOT BE PERMITTED UNLESS DIRECTED BY THE ENGINEER.

ALL SIDEWALKS WILL HAVE A LIGHT BROOM FINISH TRANSVERSE TO THE WALKING PATH.

AFTER STRIPPING FORMS, THE SUBGRADE ON THE SIDES OF THE CONCRETE WILL BE BROUGHT UP EVEN WITH THE BOTTOM OF THE SIDEWALK OR 5" FROM THE TOP WHICHEVER IS LESS. DISTURBANCE OF LOAM MORE THAN 12" WIDE ON EITHER SIDE OF THE FINISHED SIDEWALK WILL NOT BE PAID FOR UNLESS DIRECTED BY THE ENGINEER. A TRUE 4" OF LOAM WILL BE PLACED ON ALL DISTURBED AREAS.

HANDICAPPED RAMPS AT STREET CORNERS SHALL BE 6" DEEP.

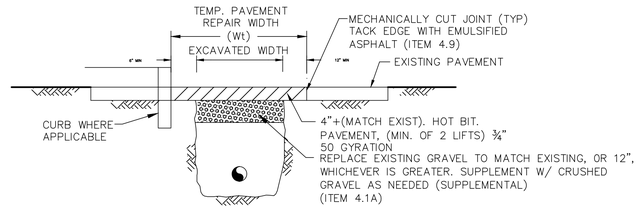
SIDEWALK CROSS SECTION DETAIL (TYP.) NOT TO SCALE

MINIMUM TRENCH PAVEMENT WIDTHS

PIPE I.D.	Wt (INCHES)	Wp (INCHES)
1–21 INCHES	84	108
24–30 INCHES	96	120
> 30 INCHES	108	132

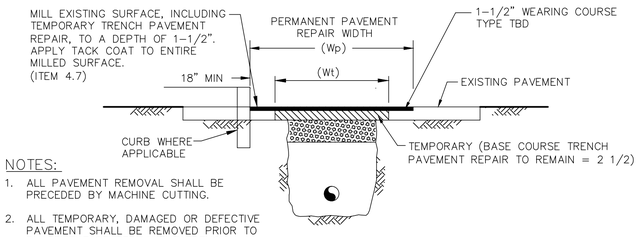
NOTE:

THE DIMENSIONS SHOWN SHALL BE CONSIDERED MAXIMUM PAVEMENT PAYMENT WIDTHS FOR 0–10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'–0" FOR TRENCHES 10' TO 15' AND BY 8'–0" FOR TRENCHES 15' TO 20' IN DEPTH.



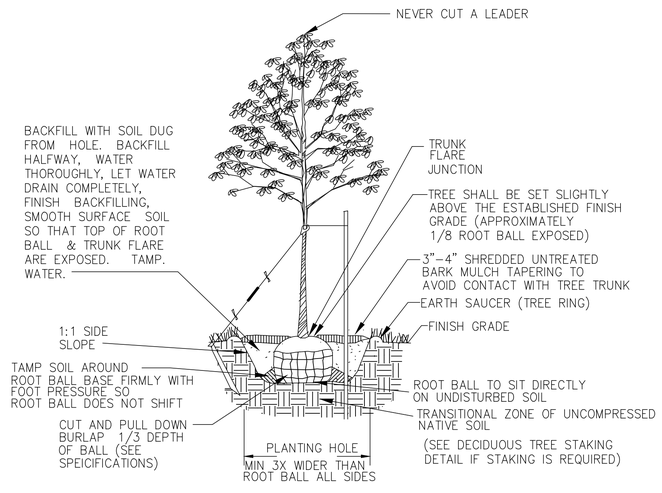
TEMPORARY TRENCH PAVEMENT REPAIR

NOT TO SCALE



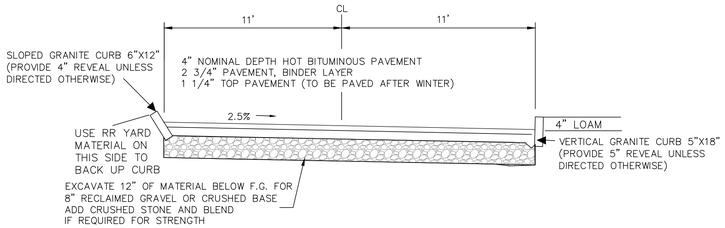
NOTES:

1. ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. SEE TABLE IN "TEMPORARY TRENCH PAVEMENT REPAIRS" FOR MINIMUM TRENCH WIDTHS.



DECIDUOUS TREE PLANTING DETAIL

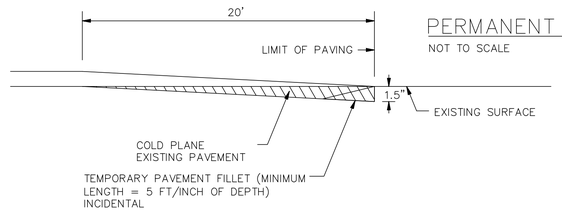
N.T.S.



RAILROAD STREET PAVEMENT X-SECTION

NOT TO SCALE

DEPARTMENT OF
PUBLIC WORKS
CITY OF PORTSMOUTH



NOTE:

THE LENGTH OF THE TAPER MAY BE ADJUSTED AS ORDERED TO PROVIDE FOR VARYING FIELD CONDITIONS OR CHANGES IN SINGLE COURSE DEPTH.

PERMANENT TRENCH PAVEMENT REPAIR

NOT TO SCALE

OVERLAY PAVEMENT MATCH

8 / D-4 NOT TO SCALE

NO.	DESCRIPTION	DATE
1	Revise for 2017 Bid	1/11/17

REVISIONS

ROADWAY DETAILS OF McDONOUGH STREET AREA PHASE 3B

PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_NONE 3/17/16

GENERAL NOTES:

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY AMBIT ENGINEERING. EXISTING UTILITIES THAT ARE SHOWN ON THE PLANS WERE GATHERED FROM AVAILABLE STRUCTURES THAT WERE VISIBLE, RECORD DRAWINGS OF THE VARIOUS UTILITY COMPANIES CAMERA INSPECTIONS AND OBSERVATIONS MADE. THERE IS NO GUARANTEE THAT THE UTILITIES SHOWN ARE EXACTLY AS PORTRAYED OR THAT OTHER UTILITIES THAT ARE NOT SHOWN DON'T EXIST. ALL THE STRUCTURES SHOWN HAVE MULTIPLE SERVICES AND MAY HAVE OLD CONNECTIONS THAT MAY HAVE NOT BEEN PROPERLY ABANDONED. THE BIDDER SHOULD ASSUME THAT EXTREME CAUTION AND HAND EXCAVATION MAY BE REQUIRED IN THESE OLDER PORTIONS OF THE CITY. NO EXTRA PAYMENTS WILL BE MADE FOR EXPLORATION OF DEFUNCT UTILITIES LEFT IN THE GROUND.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR (IF DAMAGED) OF THE EXISTING UTILITY INFRASTRUCTURE WITHIN THE BOUNDS OF THE PROJECT ONCE CONSTRUCTION HAS BEGUN. NOTIFY DIG SAFE AT LEAST 72 HOURS PRIOR TO THE BEGINNING OF EXCAVATION WORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF CONFLICTS EXIST BETWEEN THE EXISTING AND PROPOSED UTILITIES.

3. ALL CONFLICTS WITH GAS LINES SHALL BE COORDINATED WITH UNITIL, THE GAS COMPANY, AND SHALL BE SUBSIDIARY. THE GAS COMPANY WAS NOTIFIED OF OBVIOUS CONFLICTS PREVIOUSLY AND WAS TO LOCATE THEIR MAINS AND SERVICES IN ACCORDANCE TO THE PROPOSED LAYOUT ON THIS PLAN. THE CITY MAKES NO GUARANTIES THAT THE ACTUAL AS BUILT LOCATIONS OF THE GAS LINES ARE AS SHOWN ON THESE PLANS.

4. THE CONTRACTOR SHALL MAINTAIN ONE PASSABLE LANE AND SAFE PASSAGE FOR RESIDENTS TO AND FROM THEIR BUSINESSES AND DWELLINGS IN THE NEIGHBORHOOD. WORK THAT REQUIRES THE COMPLETE SHUT DOWN OF THE STREET HAS TO BE APPROVED BY THE ENGINEER PRIOR TO THE WORK COMMENCING.

5. THE STREETS IN THE PROJECT AREA WILL BE PASSABLE AND SAFE IN THE OPINION OF THE ENGINEER PRIOR TO WORK TERMINATING AT THE END OF THE DAY.

6. THE USE OF STEEL PLATES IN LIEU OF BACKFILLING WILL NOT BE ALLOWED UNLESS APPROVED BY THE DIRECTOR OF PUBLIC WORKS AHEAD OF TIME.

7. THESE PLANS HAVE BEEN CREATED TO BE USED TOGETHER WITH THE CONTRACT AND SPECIFICATIONS TO CREATE ONE COMPLETE BID AND CONSTRUCTION DOCUMENT.

8. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO BE USED ON THIS PROJECT. THE CONTRACTOR SHALL NOT PURCHASE ANY MATERIALS UNTIL THEY HAVE BEEN APPROVED FOR USE BY THE DEPARTMENT.

9. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL SURPLUS EARTHEN MATERIALS, PIPE, UNUSED CURBING, LEDGE, OLD OR UNUSED SEWER AND DRAINAGE STRUCTURES ETC.

10. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL PROPERTY RESTORATION BOTH PUBLIC AND PRIVATE FOR DAMAGE DONE BY THE CONTRACTOR. RESTORATION WILL COMPLETED WITH NO COST TO THE CITY.

11. TEMPORARY OR PERMANENT PAVING WILL BE RESTORED TO EXISTING LINE AND GRADE UNLESS DIRECTED BY THE ENGINEER.

12. OVERHEAD WIRES ARE SHOWN ON THE DRAWINGS BUT THE CITY MAKES NO WARRANTY TO THEIR COMPLETENESS OR THAT THEIR HEIGHT IS SUFFICIENT TO COMPLETE THE WORK. POLES THAT NEED TO BE HELD UP BY THE UTILITY COMPANY WILL BE PAID FOR BY THE CONTRACTOR WITH NO ADDITIONAL COST PASSED ON TO THE CITY.

13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REINSTALLATION OF TRAFFIC AND CONSTRUCTION SIGNS AS NEEDED TO ACCOMPLISH THE WORK. CITY SIGNS (STOP, NO PARKING, ONE WAY, ETC) NEED TO BE REINSTALLED AT THE END OF EACH WORKDAY.

14. AS BUILT RED-LINE DRAWINGS NEED TO BE FURNISHED BY THE CONTRACTOR PRIOR TO FINAL PAYMENT.

CONSTRUCTION SEQUENCE:

1. PROVIDE A SCHEDULE, SEQUENCE OF INSTALLATION, AND MATERIAL SUBMITTALS TO THE DEPARTMENT FOR REVIEW. MARK OUT AND CALL IN DIG SAFE. PREPARE FOR A PRECONSTRUCTION MEETING TO BE HELD WITH THE NEIGHBORHOOD. THE PERSON IN RESPONSIBLE CHARGE FOR THE PROJECT SHOULD PLAN ON ATTENDING THE MEETING.

2. THIS PROJECT HAS BEEN DESIGNED TO BE CONSTRUCTED USING A TEMPORARY WATER MAIN SYSTEM. THE CITY GENERALLY EXPECTS THAT THE CONNECTIONS TO INDIVIDUAL HOMES WILL BE MADE UNDERGROUND AND NOT TO SILLCOCKS. HOOK UP, FLUSH AND CHLORINATE THE SYSTEM. THE DEPARTMENT WILL DETERMINE THE BEST WATER SOURCE. AFTER A CHEMICAL TEST IS TAKEN BY THE CITY AND THE WATER IS PROVED TO BE ACCEPTABLE, TIE INS TO THE TEMPORARY SYSTEM CAN TAKE PLACE.

3. DISPOSE OF SURPLUS AND UNSUITABLE MATERIALS AS THE WORK PROGRESSES. STOCKPILES WILL NOT BE ALLOWED ON SITE UNLESS APPROVED BY THE ENGINEER AHEAD OF TIME. EXCAVATED MATERIALS WILL BE LOADED INTO TRUCKS AND TAKEN AWAY AS WORK PROGRESSES IN ORDER TO KEEP THE ROAD PASSABLE.

4. INSTALL TEMPORARY EROSION CONTROL DEVICES.

5. CONTRACTOR IS TO MAINTAIN DRY AND STABLE TRENCH CONDITIONS AT ALL TIMES. A DE-WATERING PLAN MUST BE PROVIDED AND APPROVED BY THE ENGINEER.

6. INSTALL EITHER CRUSHED GRAVEL OR RECLAIM MATERIAL OVER TRENCHES AT NIGHT. THE ROAD SHALL BE FLAT AND COMPACTED FIRM EACH NIGHT.

7. VACUUM TESTING OF MANHOLES SHOULD OCCUR BEFORE BACKFILLING. MANHOLES WILL NOT BE PAID FOR UNTIL TESTED.

8. RESTORE ROAD DRAINAGE AT NIGHT PRIOR TO LEAVING.

9. IT IS THE INTENT OF THIS PROJECT TO HAVE ALL THE UTILITIES INSTALLED, THE ROAD BINDER PAVED, MANHOLES AND VALVE BOXES UP TO GRADE AND THE SIDEWALKS AND LOAM ALL INSTALLED PRIOR TO WINTER. THE FOLLOWING MAY, FINAL PAVING AND CLEANUP WILL COMMENCE WHEN TEMPERATURES ALLOW. ASSUME THAT ALL MANHOLE FRAMES AND COVERS WILL NEED TO BE SET TWICE, ONCE FOR BINDER GRADE AND AGAIN FOR FINISH GRADE.

WATER SYSTEM NOTES:

1. ALL WATER SERVICES SHALL BE AT LEAST 1" COPPER UNLESS THE EXISTING SERVICE IS LARGER.

2. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY UNTIL THE OWNER HAS SIGNED A MEMORANDUM OF UNDERSTANDING WITH THE CITY.

3. THE CONTRACTOR SHALL PHASE THE CONSTRUCTION OF THE WATER TO MINIMIZE DISRUPTION TO THE EXISTING SYSTEM. THE SYSTEM SHALL NOT BE IMPACTED OR SHUT DOWN WITHOUT PROPER NOTICE AND ANY DAMAGE CAUSED BY A SHUTDOWN WILL BE PAID FOR BY THE CONTRACTOR. MAINTENANCE OF THE WATER FLOW IS SUBSIDIARY TO THE WORK.

4. WATER SHUT DOWN NOTICES SHALL BE 3 WEEK DAYS IN ADVANCE OF THE SHUTDOWN.

5. THE WATER MAINS SHALL CONSTRUCTED OF 8" CEMENT LINED DUCTILE IRON EXCEPT FOR TIE INS AND HYDRANT STUBS.

6. WATER SERVICE CURB STOPS SHALL BE SET 1/4" OF AN INCH BELOW GRADE IN THE SIDEWALK SURFACE IF POSSIBLE.

7. ALL EXISTING PIPES ABANDONED IN PLACE SHALL BE PLUGGED AT ALL OPEN AREAS.

8. THE SYSTEM WILL BE TESTED FOR LEAKS, CONTAMINATION AND FLAWS PRIOR TO ACCEPTANCE BY THE CITY.

9. ALL EXISTING WATER GATE BOXES SHALL BE SET TO FINAL GRADE DURING THE ROAD WORK OPERATION.

10. ALL GATE VALVES SHALL BE RESTRAINED WITH MECHANICAL JOINTS AND SHALL OPEN RIGHT (CLOCKWISE).

11. ALL TEES, BENDS GATES AND CAPS SHALL BE USED WITH MECHANICAL RESTRAINT JOINTS AND REINFORCED WITH THRUST BLOCKING.

12. MAINTAIN A MINIMUM DISTANCE OF 10' BETWEEN THE SEWER AND THE WATER SYSTEM EXCEPT FOR CROSSINGS WHICH SHALL BE CONSTRUCTED PER THE CURRENT STATE APPROVED RULES.

13. ALL PORTIONS OF THE NEW DUCTILE IRON WATER MAIN SYSTEM SHALL BE PROTECTED USING PLASTIC WRAPPINGS AND BRASS CONDUCTIVITY WEDGES. SEE SPECIFICATIONS.

14. ADD FITTINGS AS NECESSARY TO ENSURE THAT VALVES ARE INSTALLED NEARLY LEVEL.

ROAD WORK NOTES:

1. THE INTENT OF THE PROJECT IS TO RECLAIM THE EXISTING ASPHALT. THIS PRODUCT IS TO BE USED AS ROAD COVER DURING THE INSTALLATION OF THE UTILITY WORK. RECLAIMING THE PAVEMENT IS SUBSIDIARY TO THE PROJECT AND IS NOT A PAY ITEM. IF THE RECLAIMED ASPHALT IS APPROPRIATE (NOT CONTAMINATED WITH SILTS AND CLAYS) FOR REUSE SUBSEQUENT TO THE PIPE WORK, IT WILL BE PAID FOR UNDER RECLAIM AND REHANDLE ITEM. IF THE MATERIAL IS UNSUITABLE, IT WILL BE DISPOSED OF BY THE CONTRACTOR. IF ONLY A PORTION OF THE MATERIAL IS SUITABLE, THE PAY FOR THE ITEM WILL BE PRORATED IN THE SAME RATIO OF REUSED VS SPOILED.

2. CURBSTONES SHALL BE REMOVED AND ANY PIECES 4' OR LONGER SHALL BE RETAINED FOR FUTURE REUSE ONSITE.

3. EXISTING SIDEWALKS SHALL BE REMOVED AND A GRAVEL WALKING SURFACE WILL NEED TO BE MAINTAINED FOR THE DURATION OF THE PROJECT. THIS SURFACE SHALL BE MAINTAINED AT A LEVEL HIGHER THAN THE ROAD TO PREVENT PUDDLES IN THE WALKING SURFACE AND TO PROTECT BASEMENTS FROM SURFACE FLOW THAT COULD CAUSE FLOODING.

4. AFTER UTILITY CONSTRUCTION IS COMPLETE, BOX OUT AND REMOVE THE EXISTING SOILS IN ACCORDANCE TO THE PLAN AND CROSS SECTION AND REPLACE THE SOILS WITH GRAVELS AND/OR RECLAIM IF APPROVED FOR REUSE.

5. THE INTENT IS THAT SIDEWALK GRADES WILL REMAIN MORE OR LESS AT THERE EXISTING LEVEL AND THE ROAD WILL BE LOWERED SLIGHTLY TO ACHIEVE A 6" FINISH CURB REVEAL. THE PROFILE GRADES SHOWN ARE AN ATTEMPT TO DISPLAY THIS GOAL. ACTUAL FIELD CONDITIONS MAY DICTATE MINOR DIVERGENCE FROM THE PLAN GRADES.

6. ALL SIDEWALKS ON THIS PROJECT ARE TO BE PORTLAND CEMENT, 4000 PSI CLASS AA, SEE STATE AND LOCAL SPECIFICATIONS. WALKWAYS TO HOUSES WILL MATCH EXISTING UNLESS DIRECTED. USE HANWORK ASPHALT, CONCRETE SIDEWALK OR BRICK SIDEWALK ITEMS AS APPROPRIATE.

7. ALL EXISTING CURBSTONES LONGER THAN 4' WILL BE REUSED FIRST. ADDITIONAL GRANITE WILL BE PURCHASED TO MAKE UP THE DIFFERENCE.

8. ALL DRIVEWAYS WILL RECEIVE TWO COATS OF ASPHALT, BINDER AND TOP. THE BITUMINOUS ASPHALT SHALL BE 3" THICK IN DRIVEWAYS. DO NOT REMOVE OR PAVE DRIVEWAYS BEYOND THE PROPERTY LINE UNLESS DIRECTED BY THE ENGINEER.

9. THE ROAD PAVING WILL BE PLACED AT A TOTAL OF AT LEAST 4" THICK. DO NOT EXCEED 4" UNLESS DIRECTED TO DO SO. MIX DESIGNS FOR ALL PAVEMENTS WILL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THE CONTRACT AND THE NHDOT STANDARD SPECIFICATIONS AND ALL MIX DESIGNS WILL BE APPROVED BY THE DEPARTMENT AT LEAST 48 HOURS PRIOR. ANY PAVEMENT PLACING OF 100 TONS OR MORE WILL NEED TO BE COORDINATED FOR PAVEMENT TESTING AND INSPECTION.

10. ALL SIDEWALKS WILL BE CONSTRUCTED TO ADA STANDARDS AND CROSS SLOPES SHALL NOT EXCEED 2%.

11. ALL SIGNS REMOVED DURING THE PROJECT WILL BE REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST. PUBLIC WORKS MAY PRODUCE NEW SIGNS AND POSTS AT THEIR DISCRETION PRIOR TO INSTALLATION.

12. PAVEMENT WILL NOT BE PLACED AT SURFACE TEMPERATURES COLDER THAN 40 DEGREES F FOR BINDER OR 50 DEGREES F FOR SURFACE MIXES. IF PAVING IS ALLOWED, IT IS THE CONTRACTORS RESPONSIBILITY TO COMPACT THE ASPHALT PROPERLY BEFORE IT SETS.

13. CONCRETE SIDEWALKS WILL NOT BE POURED IF FREEZING TEMPERATURES ARE EXPECTED WITHIN 24 HOURS. ALL SIDEWALKS WILL BE COVERED WITH PLASTIC FILM FOR 3 DAYS AFTER PLACEMENT. PLASTIC WILL BE SECURED AS NOT TO BLOW OFF OR GET TRIPPED ON.

14. PUBLIC SAFETY IS A PRIORITY. THE CONTRACTOR WILL SUPPLY THE PROPER HAZARD WARNINGS AS ADVISED. IT IS THE DUTY OF THE CONTRACTOR'S SAFETY COORDINATOR TO PREVENT PERSONAL INJURY OR DAMAGES TO THE RESIDENTS.

DEPARTMENT OF
PUBLIC WORKS
CITY OF PORTSMOUTH

SANITARY SEWER SYSTEM NOTES:

1. ALL SEWER LATERALS SHALL BE 6" PVC UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PRIOR TO THE CONSTRUCTION OF THE NEW SEWER MAIN, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO FIND THE EXACT LOCATION, SIZE, TYPE AND ELEVATION OF EACH SEWER LATERAL. SEWER LATERALS SHALL BE INSTALLED TO THE CAST IRON (OR OTHER) COMING THROUGH THE FOUNDATION UNLESS THAT POINT IS MORE THAN 3' BEYOND THE BACK OF THE SIDEWALK OR PROPERTY LINE. IF THE POINT OF CONNECTION IS NOT CLEAR, THE ENGINEER WILL DECIDE. ALL SEWER LATERALS SHALL HAVE A MINIMUM PITCH OF 2%.

2. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY UNTIL THE OWNER HAS SIGNED A MEMORANDUM OF UNDERSTANDING WITH THE CITY.

3. THE CONTRACTOR SHALL PHASE THE CONSTRUCTION OF THE SEWER TO MINIMIZE DISRUPTION TO THE EXISTING SYSTEM. THE SYSTEM SHALL NOT BE SURCHARGED AND ANY DAMAGE CAUSED BY A SURCHARGE WILL BE PAID FOR BY THE CONTRACTOR. MAINTENANCE OF THE SEWER FLOWS IS SUBSIDIARY TO THE WORK.

4. EXISTING SERVICES THAT ARE DETERMINED TO BE YARD, FOUNDATION OR ROOF DRAINS SHALL BE CONNECTED TO THE DRAINAGE SYSTEM AFTER BEING TESTED.

5. SEWER CONSTRUCTION WILL BE FROM THE LOWEST POINT UPWARD UNLESS APPROVED BY THE ENGINEER.

6. SEWER MANHOLE COVERS SHALL BE SET 1/4" OF AN INCH BELOW GRADE. THE SEWER MANHOLE COVERS HAVE THE CITY SEAL AND WILL BE PURCHASED FROM THE CITY AT THE CITY'S COST AND THEN BILLED TO THE PROJECT WITH NO MARKUP.

7. ALL EXISTING STRUCTURES ABANDONED IN PLACE SHALL BE REMOVED TO 3' BELOW GRADE AND FILLED WITH COMPACTED GRAVEL. PIPES SHALL BE PLUGGED AT ALL OPEN AREAS AND ANY PIPE LARGER THAN 12" SHALL BE FILLED WITH PUMPED FLOWABLE FILL.

8. ALL SERVICES SHALL BE PROVIDED WITH A CLEANOUT FOR TESTING. WHENEVER POSSIBLE, THIS SHOULD BE LOCATED BEHIND THE SIDEWALK FOR FUTURE USE. CLEANOUTS THAT ARE IN THE SIDEWALK WILL HAVE PERMANENT CAST IRON COVERS SET TO SIDEWALK GRADE. COVERS IN GRASSED AREAS SHALL BE CUT TO 2" BELOW GRADE AND WITNESSED WITH A PIECE OF 5/8" REBAR. ALL SERVICE CONNECTIONS SHALL BE TIED OFF AT THE WYE TO THE MAIN, AT ANY BENDS IN THE LINE AND AT THE CLEANOUT AND THEIR LOCATIONS SHALL BE GIVEN TO THE CITY.

9. THE SEWER SYSTEM WILL BE CLEANED, TESTED FOR LEAKS AND FLAWS AND TELEVISED PRIOR TO ACCEPTANCE BY THE CITY.

STORM DRAINAGE SYSTEM NOTES:

1. ALL DRAIN LATERALS SHALL BE 6" PE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PRIOR TO THE CONSTRUCTION OF THE NEW DRAIN MAIN, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO FIND THE EXACT LOCATION, SIZE, TYPE AND ELEVATION OF EACH DRAIN LATERAL. DRAIN LATERALS SHALL BE INSTALLED TO THE FOUNDATION UNLESS THAT POINT IS MORE THAN 3' BEYOND THE BACK OF THE SIDEWALK OR PROPERTY LINE. IF THE POINT OF CONNECTION IS NOT CLEAR, THE ENGINEER WILL DECIDE. ALL DRAIN LATERALS SHALL HAVE A MINIMUM PITCH OF 2%.

2. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY UNTIL THE OWNER HAS SIGNED A MEMORANDUM OF UNDERSTANDING WITH THE CITY.

3. THE CONTRACTOR SHALL PHASE THE CONSTRUCTION OF THE DRAIN TO MINIMIZE DISRUPTION TO THE EXISTING SYSTEM. THE SYSTEM SHALL NOT BE SURCHARGED AND ANY DAMAGE CAUSED BY A SURCHARGE WILL BE PAID FOR BY THE CONTRACTOR. MAINTENANCE OF THE DRAINAGE FLOWS IS SUBSIDIARY TO THE WORK.

4. EXISTING SERVICES THAT ARE DETERMINED TO BE YARD, FOUNDATION OR ROOF DRAINS SHALL BE CONNECTED TO THE DRAINAGE SYSTEM AFTER BEING TESTED.

5. DRAINAGE CONSTRUCTION WILL BE FROM THE LOWEST POINT UPWARD UNLESS APPROVED BY THE ENGINEER.

6. DRAIN MANHOLE COVERS AND CATCH BASIN GRATES SHALL BE SET 1/4" OF AN INCH BELOW GRADE.

7. ALL EXISTING STRUCTURES ABANDONED IN PLACE SHALL BE REMOVED TO 3' BELOW GRADE AND FILLED WITH COMPACTED GRAVEL. PIPES SHALL BE PLUGGED AT ALL OPEN AREAS AND ANY PIPE LARGER THAN 12" SHALL BE FILLED WITH PUMPED FLOWABLE FILL.

8. ALL SERVICE COVERS IN GRASSED AREAS SHALL BE CUT TO 2" BELOW GRADE AND WITNESSED WITH A PIECE OF 5/8" REBAR. ALL SERVICE CONNECTIONS SHALL BE TIED OFF AT THE TEE TO THE MAIN, AT ANY BENDS IN THE LINE AND AT THE TERMINATION POINT AND THEIR LOCATIONS SHALL BE GIVEN TO THE CITY.

9. THE SYSTEM SHALL BE CLEANED PRIOR TO ACCEPTANCE. THIS CLEANING SHALL INCLUDE ALL STRUCTURES IN THE RAILYARD THAT WERE PREVIOUSLY CONSTRUCTED (AND CLEANED) BY THE PHASE 3A CONTRACTOR.

10. THERE MAY BE MORE DRAINAGE LATERALS NEEDED THAN IS SHOWN ON THESE PLANS. THE ENGINEER WILL HAVE FINAL DETERMINATION.

NO.	DESCRIPTION	DATE
1	Revise for 2017 Bid	1/11/17

REVISIONS

CONSTRUCTION NOTES
OF
McDONOUGH STREET AREA
PHASE 3B
PORTSMOUTH, NEW HAMPSHIRE

DRAWING_SCALE_NONE 3/17/16