

GENERAL NOTES:

- 1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY NORTHEAST CIVIL SOLUTIONS INC. OF SCARBOROUGH, MAINE, DATED NOVEMBER 20, 2015 AND REVISED AUGUST 2, 2016, TITLED "CANAL PLAZA, PORTLAND, MAINE", PREPARED FOR EAST BROWN COW DEVELOPMENT, 100 COMMERCIAL STREET, PORTLAND MAINE. BEARINGS ARE BASED ON NAD 83 WEST ZONE. ELEVATIONS AND CONTOURS ARE BASED ON NAD 1927 DATUM.
2. BORINGS AND GEOTECHNICAL DATA BY S.W. COLE ENGINEERING INC., 286 PORTLAND ROAD, GRAY, MAINE 04039 (207) 657-2866, DATED FEBRUARY 25, 2016.
3. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATION TO OR DEVIATION FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF LANDSCAPED AREAS, ACCESS, SIZE, LOCATION, AND SURFACING OF PARKING AREAS, AND LOCATION AND SIZE OF BUILDINGS.
4. THE UTILITY LOCATIONS SHOWN IN PLAN ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. CONTACT THE ENGINEER IMMEDIATELY UPON DISCOVERING ANY CONFLICTS WITH EXISTING AND PROPOSED UTILITY LOCATIONS. NOT ALL EXISTING UTILITIES ARE SHOWN ON PLANS.
5. CLEAN AND/OR FLUSH ALL MANHOLES, CATCH BASINS, AND ASSOCIATED PIPING AFTER THE WORK HAS BEEN COMPLETED.
6. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES AND CITY. CONTACTS ARE LISTED IN SPECIFICATIONS. NOTIFY UTILITY COMPANIES WITHIN 48 HOURS OF WORK ACTIVITY ADJACENT TO THOSE UTILITIES.
7. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 811, PRIOR TO EXCAVATION.
8. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, SIDEWALKS, ETC.). RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, AND LAWNS DAMAGED BY CONSTRUCTION ACTIVITIES OUTSIDE OF LIMITS OF WORK INDICATED ON THE PLANS SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER. ANY CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO CITY OF PORTLAND AND MAINE DOT SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
9. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR.
10. EXISTING FACILITIES (I.E. TREES, POLES, LIGHT POSTS, CATCH BASINS, ETC.) SHALL BE REMOVED AND PROTECTED DURING CONSTRUCTION. OWNER AND/OR CITY RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES FOR WORK WITHIN RIGHT-OF-WAY. CONTRACTOR TO DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF OWNER AT CONTRACTOR'S EXPENSE.
11. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
12. ALL WORK WITHIN THE RIGHT OF WAY OF CITY STREETS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL SUBMIT A PROPOSED TRAFFIC CONTROL PLAN TO THE TRAFFIC ENGINEER AT LEAST 7 DAYS BEFORE BEGINNING CONSTRUCTION IN ANY STREET. THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO APPROVAL BY THE TRAFFIC ENGINEER, WHO MAY ATTACH SPECIAL CONDITIONS TO, OR REQUIRE MODIFICATIONS OF, THE TRAFFIC CONTROL PLAN. WORK SHALL NOT BEGIN UNTIL THE PLAN IS APPROVED BY THE TRAFFIC ENGINEER.
13. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT CITY OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY CITY AND/OR LAND OWNER.
14. COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LANDOWNERS AT LEAST TWO DAYS (48 HOURS) PRIOR TO DISRUPTION. ALL UTILITY COORDINATION IS RESPONSIBILITY OF CONTRACTOR.
15. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
16. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
17. THE CONTRACTOR SHALL OBTAIN A CITY STREET OPENING PERMIT BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR WILL ALSO BE REQUIRED TO HAVE A CURRENT EXCAVATOR'S LICENSE IN THE CITY.
18. ALL WORK IN THE PUBLIC R.O.W. SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLES VI, VII, AND IX OF CHAPTER 25-STREETS, SIDEWALKS, AND OTHER PUBLIC PLACES OF THE CITY OF PORTLAND CODE OF ORDINANCES.
19. ALL SEWER CONSTRUCTION IN THE PUBLIC WAY SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLE II OF CHAPTER 24-SEWERS OF THE CITY OF PORTLAND CODE OF ORDINANCES.
20. UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "RECORD" DRAWINGS THAT REFLECT ANY AND ALL MODIFICATIONS TO THE DESIGN SHALL BE SUBMITTED TO THE OWNER.
21. WORK IS IN CLOSE PROXIMITY TO EXISTING UTILITIES. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
22. FOR TEST PIT LOCATIONS SHOWN ON PLANS, FIELD VERIFY EXISTING UTILITY ELEVATIONS PRIOR TO NEW UTILITY INSTALLATION. NOTIFY ENGINEER OF ANY CONFLICTS.
23. CONTACT CITY OF PORTLAND ARBORIST AND ENGINEER PRIOR TO CUTTING ROOTS, TRIMMING BRANCHES, OR DISTURBING TREES WITHIN THE R.O.W. THAT NOT HAVE BEEN NOTED FOR REMOVAL ON THE PLANS.
24. IF CONTRACTOR PROPOSES TO TEMPORARILY STOCKPILE ANY SURPLUS SOIL AND ROCK IN THE CITY OF PORTLAND, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR EACH STOCKPILE LOCATION FROM THE ENGINEER. IF CONTRACTOR PROPOSES TO PERMANENTLY STOCKPILE ANY SURPLUS SOIL AND ROCK ON PROPERTY IN THE CITY OF PORTLAND, THE CONTRACTOR MUST OBTAIN ANY SITE PLAN PERMITS REQUIRED FROM THE CITY PLANNING AUTHORITY OR ANY FILL PERMITS REQUIRED FROM MDEP OR U.S. ARMY CORPS OF ENGINEERS. BOTH TEMPORARY AND PERMANENT STOCKPILE LOCATIONS SHALL MEET THE APPLICABLE SETBACK REQUIREMENTS IN THE CITY LAND USE CODE AND SHALL RECEIVE PROPER STABILIZATION AND EROSION & SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH APPROVED SOIL EROSION & WATER POLLUTION CONTROL PLAN.
25. CAPPED PIPE STUB LOCATIONS SHALL BE MARKED WITH EMBEDDED STAKE AND A MINIMUM OF THREE TIES SHOULD BE RECORDED. EMBEDDED STAKE SHALL BE 2x4 WITH PK NAIL DRIVEN IN TOP. LENGTH AS REQUIRED TO SPAN FROM TOP OF PIPE TO 6" BELOW GRADE LOCATION AND ELEVATION OF PIPE STUB SHALL BE PROVIDED TO THE OWNER AS PART OF THE RECORD DRAWING SUBMITTAL. WARNING TAPE AND WIRE SHALL BE INSTALLED OVER PIPE STUBS IN ACCORDANCE WITH SPECIFICATIONS.
26. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, DEVELOPMENT REVIEW COORDINATOR, PUBLIC SERVICES REPRESENTATIVE, AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE TO THE ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
27. EXISTING PAVEMENT SHALL BE SAWCUT AND BUTTED TO THE NEW PAVEMENT. NO FEATHERING OF PAVEMENT WILL BE PERMITTED.
28. ELECTRONIC DRAWING FILES CAN BE PROVIDED TO CONTRACTOR FOR LAYOUT PURPOSES UPON REQUEST. CONTACT LAUREN SWETT AT WOODARD & CURRAN (207-774-2112).

SYMBOLS

Table with columns: DESCRIPTION, EXISTING, PROPOSED. Lists symbols for various utilities and structures like Sanitary Sewer Manhole, Storm Drain Manhole, Catch Basin, Drain Basin, Electrical Manhole, etc.

LINE TYPES

Table with columns: DESCRIPTION, EXISTING, PROPOSED. Lists line types for Contour (1' Interval), Sanitary Sewer, Storm Drain, Underdrain, Water Main, etc.

ABBREVIATIONS

Table with columns: A.G., BC, BIT, BW, B/W, CB, CI, CMP, CONC, DI, DIA., DMH, DTL, E, EL, E.O.P., EXIST., FF, FT, G, GS, GALV., GRAN., HDPE, HYD, INV., LF, MAX., MDOT, MIN., MON, etc. and their corresponding descriptions.

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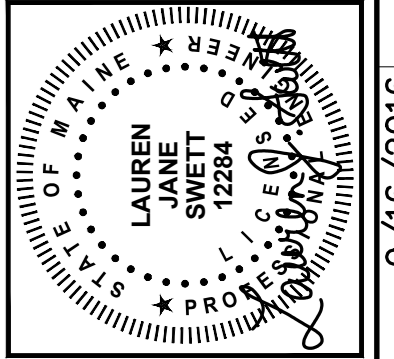


Table with columns: RELY, DESCRIPTION, DATE. Includes fields for Checked By, Designed By, Drawn By, and Job Number.

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

CANALSSTUDIO ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311 DATE: SEPTEMBER 2016 SCALE: AS NOTED SHEET: 1 OF 10

G-001

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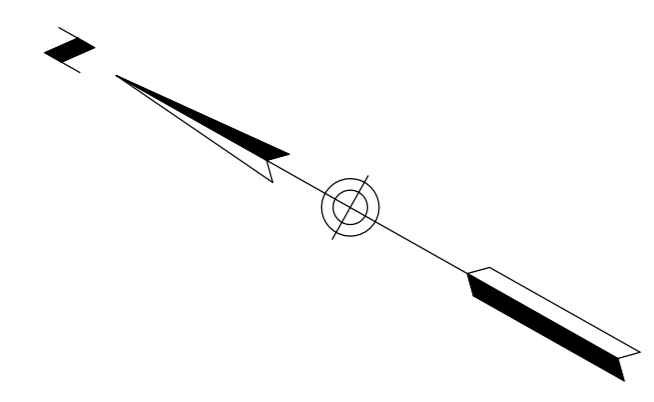
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NICKELODEON CINEMA

SPRING MIDDLE ARTERIAL

UNION STREET

ONE PORTLAND SQUARE

TWO CITY CENTER

SATELLITE #1  
3 CANAL PLAZA

6 STORY  
BRICK BUILDING

10 STORY  
BRICK BUILDING

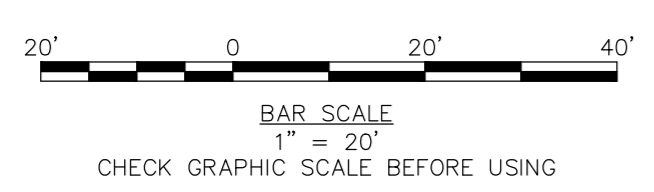
1 CANAL PLAZA

4 STORY  
BRICK BUILDING

SATELLITE #2  
2 CANAL PLAZA

PLAN REFERENCES:

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY NORTHEAST CIVIL SOLUTIONS INC. OF SCARBOROUGH, MAINE, DATED NOVEMBER 20, 2015 AND REVISED AUGUST 2, 2016, TITLED "CANAL PLAZA, PORTLAND, MAINE", PREPARED FOR EAST BROWN COW DEVELOPMENT, 100 COMMERCIAL STREET, PORTLAND MAINE.
2. BEARINGS ARE BASED ON NAD 83 WEST ZONE.
3. ELEVATIONS AND CONTOURS ARE BASED ON NAD 1927 DATUM.
4. BORINGS AND GEOTECHNICAL DATA BY S.W. COLE ENGINEERING INC., 286 PORTLAND ROAD, GRAY, MAINE 04039 (207) 657-2866, DATED FEBRUARY 25, 2016.

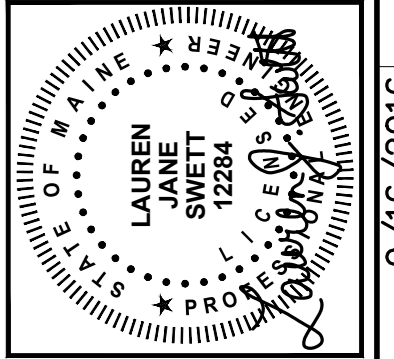


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REVISION	DESCRIPTION	DATE

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DESIGNED BY: LJS  
DRAWN BY: JBC

EXISTING CONDITIONS PLAN

CANALSTUDIO

ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 20"  
SHEET: 2 OF 10

**C-100**

9/16/2016

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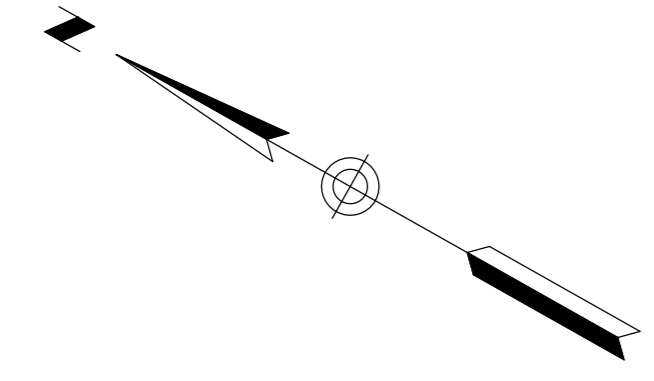
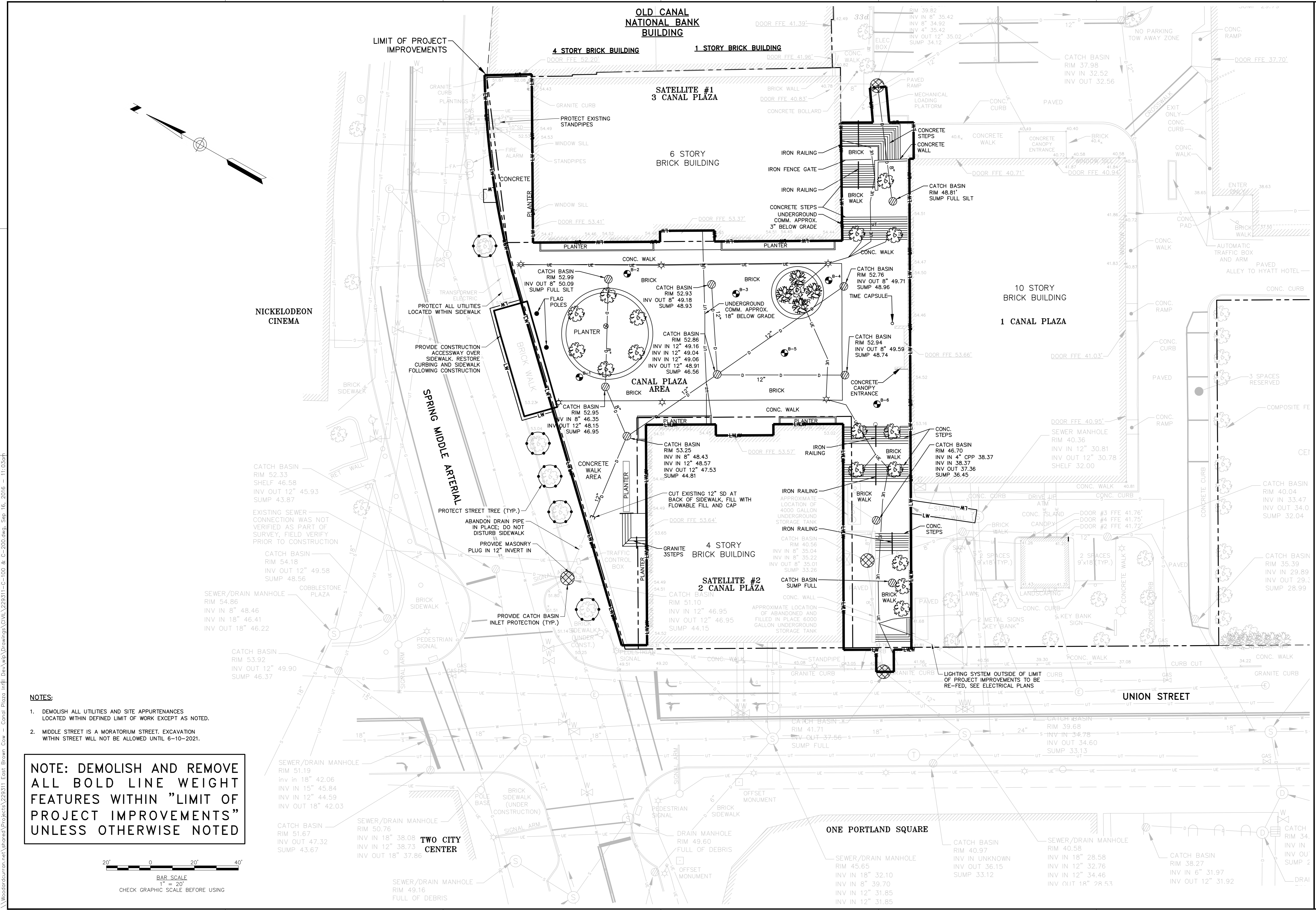
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NICKELODEON CINEMA

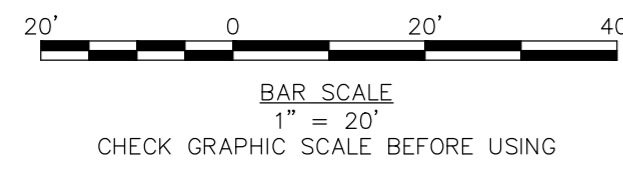
SPRING MIDDLE AERIAL

UNION STREET

ONE PORTLAND SQUARE

- NOTES:**
- DEMOLISH ALL UTILITIES AND SITE APPURTENANCES LOCATED WITHIN DEFINED LIMIT OF WORK EXCEPT AS NOTED.
  - MIDDLE STREET IS A MORATORIUM STREET. EXCAVATION WITHIN STREET WILL NOT BE ALLOWED UNTIL 6-10-2021.

**NOTE: DEMOLISH AND REMOVE ALL BOLD LINE WEIGHT FEATURES WITHIN "LIMIT OF PROJECT IMPROVEMENTS" UNLESS OTHERWISE NOTED**



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9/16/2016

REVISION	DESCRIPTION	DATE

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DESIGNED BY: LJS  
DRAWN BY: JBC

**SITE DEMOLITION PLAN**

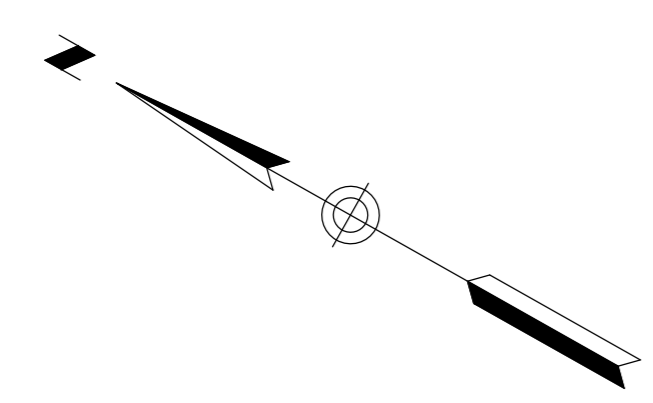
CANALSSTUDIO

ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 20'  
SHEET: 3 OF 10

**C-200**

1 2 3 4 5 6



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OLD CANAL NATIONAL BANK BUILDING

4 STORY BRICK BUILDING

1 STORY BRICK BUILDING

SATELLITE #1  
3 CANAL PLAZA  
6 STORY BRICK BUILDING

3 STORY BRICK PARKING GARAGE

NICKELODEON CINEMA

SPRING MIDDLE ARTERIAL

PROPOSED BUILDING  
FFE 53.30

CANAL PLAZA AREA

1 CANAL PLAZA  
10 STORY BRICK BUILDING

SATELLITE #2  
2 CANAL PLAZA  
4 STORY BRICK BUILDING

UNION STREET

TWO CITY CENTER

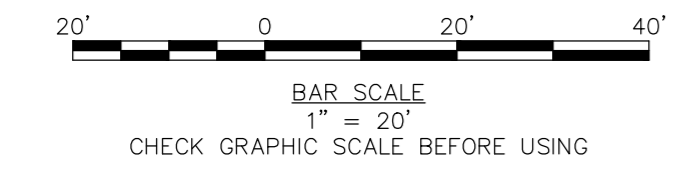
ONE PORTLAND SQUARE

**PLAN REFERENCES:**

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- 2. BEARINGS ARE BASED ON NAD 83 WEST ZONE.
- 3. ELEVATIONS AND CONTOURS ARE BASED ON NAD 1927 DATUM.

**ZONING NOTES:**

- 1. SUBJECT PARCEL IS LOCATED WITHIN THE DOWNTOWN BUSINESS ZONE B3, AND THE PEDESTRIAN ACTIVITIES DISTRICT.



GRANITE VENEER RETAINING WALL, SEE LANDSCAPE PLANS

TREE PLANTING BEDS, SEE LANDSCAPE PLANS

GRANITE STEPS, (TYP.) SEE LANDSCAPE PLANS

GRANITE PAVERS (TYP.) SEE LANDSCAPE PLANS

8" AREA DRAIN (TYP.)

24" DRAIN BASIN (TYP.)

TREE PLANTING BEDS, SEE LANDSCAPE PLANS

OPENING IN GRANITE PAVERS FOR TREE (TYP.)

WOOD BENCH, SEE LANDSCAPE PLANS

APPROX. LIMITS OF SAND-BASED STRUCTURAL SOIL AT TREE (TYP.), SEE DETAIL

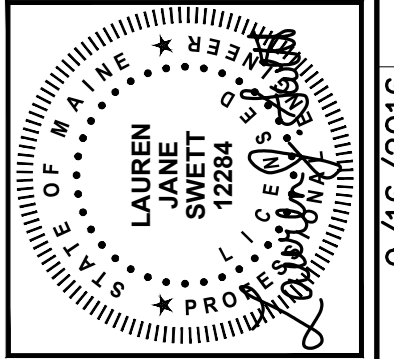
STONE BENCH, SEE LANDSCAPE PLANS

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REV.	DESCRIPTION	DATE

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2/23/11-0200A.dwg

DESIGNED BY: LJS  
DRAWN BY: JBC

SITE PLAN

CANALSTUDIO

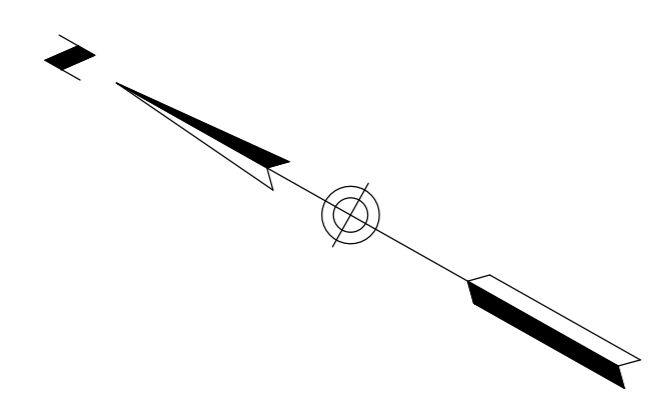
ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 20'  
SHEET: 4 OF 10

C-201

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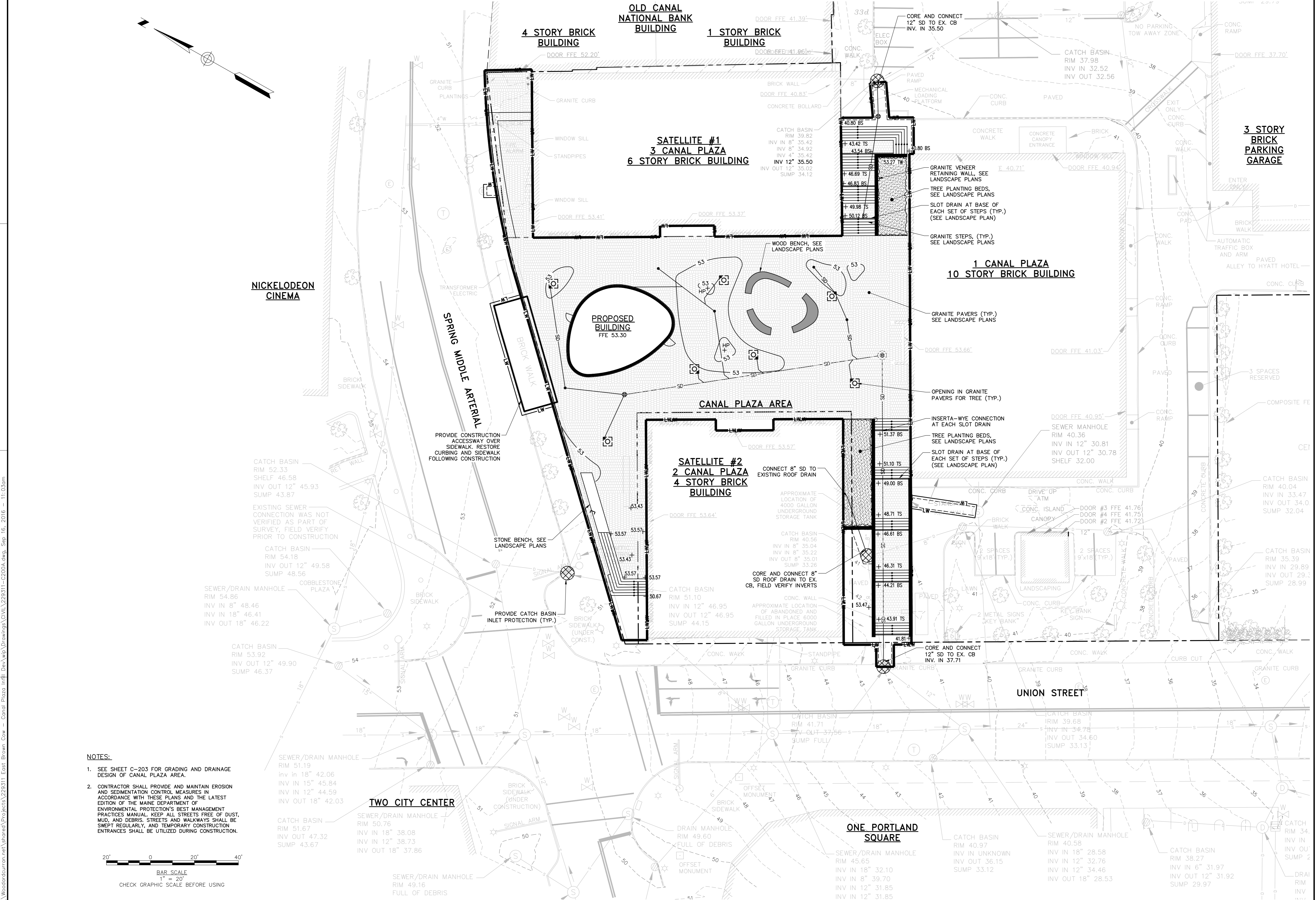
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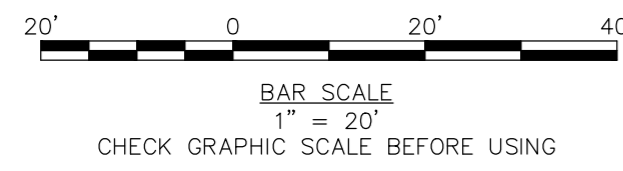
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- NOTES:**
- SEE SHEET C-203 FOR GRADING AND DRAINAGE DESIGN OF CANAL PLAZA AREA.
  - CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THESE PLANS AND THE LATEST EDITION OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BEST MANAGEMENT PRACTICES MANUAL. KEEP ALL STREETS FREE OF DUST, MUD, AND DEBRIS. STREETS AND WALKWAYS SHALL BE SWEEP REGULARLY, AND TEMPORARY CONSTRUCTION ENTRANCES SHALL BE UTILIZED DURING CONSTRUCTION.



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PROJ. 22311-0200A

9/16/2016

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DESIGNED BY: LJS  
DRAWN BY: JBC

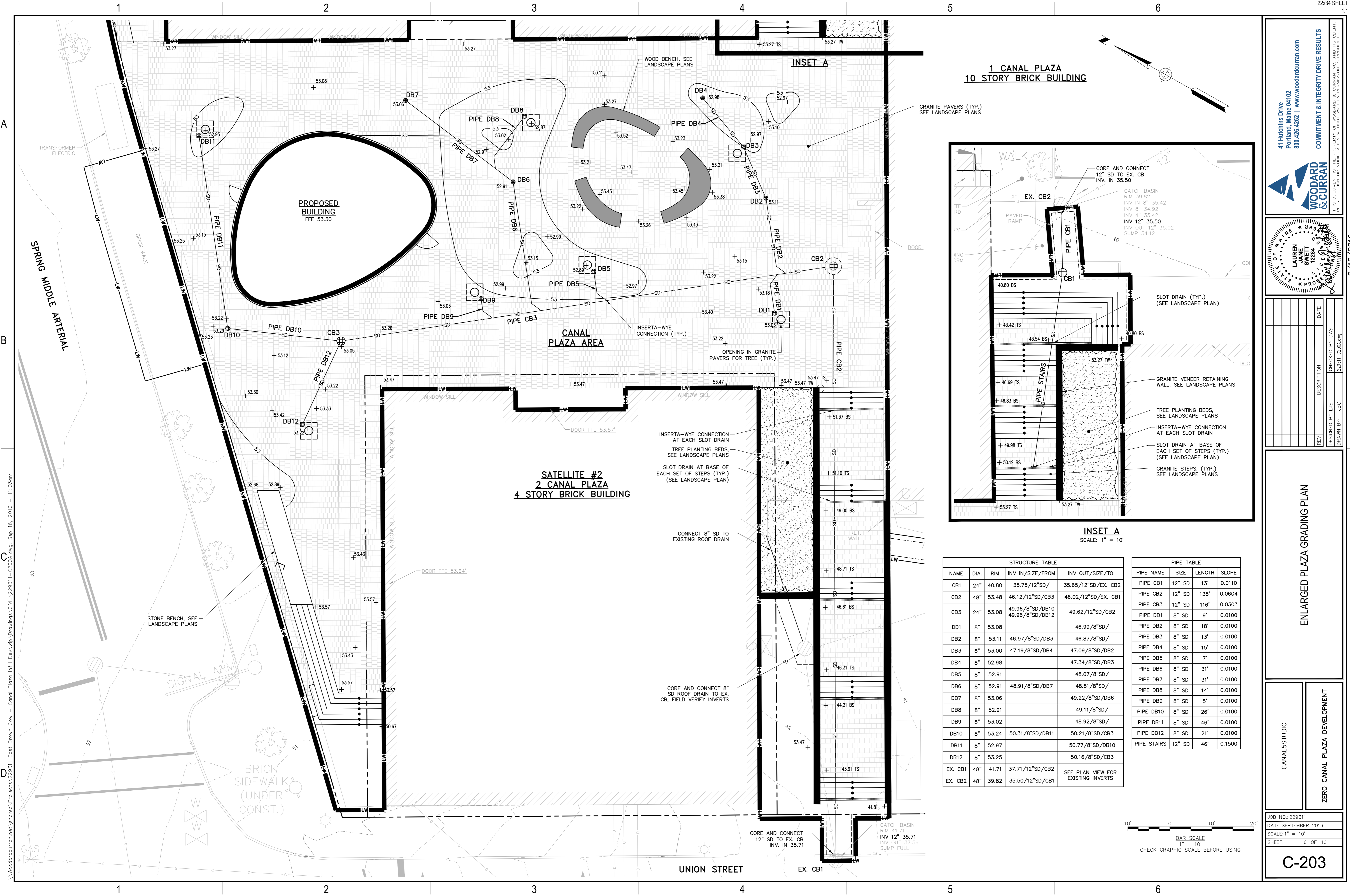
**GRADING, DRAINAGE, AND EROSION CONTROL PLAN**

CANALSTUDIO

ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 20'  
SHEET: 5 OF 10

**C-202**



STRUCTURE TABLE	
NAME	DIA. RIM INV IN/SIZE/FROM INV OUT/SIZE/TO
CB1	24" 40.80 35.75/12"SD/ 35.65/12"SD/EX. CB2
CB2	48" 53.48 46.12/12"SD/CB3 46.02/12"SD/EX. CB1
CB3	24" 53.08 49.96/8"SD/DB10 49.96/8"SD/DB12 49.62/12"SD/CB2
DB1	8" 53.08 46.99/8"SD/
DB2	8" 53.11 46.97/8"SD/DB3 46.87/8"SD/
DB3	8" 53.00 47.19/8"SD/DB4 47.09/8"SD/DB2
DB4	8" 52.98 47.34/8"SD/DB3
DB5	8" 52.91 48.07/8"SD/
DB6	8" 52.91 48.91/8"SD/DB7 48.81/8"SD/
DB7	8" 53.06 49.22/8"SD/DB6
DB8	8" 52.91 49.11/8"SD/
DB9	8" 53.02 48.92/8"SD/
DB10	8" 53.24 50.31/8"SD/DB11 50.21/8"SD/CB3
DB11	8" 52.97 50.77/8"SD/DB10
DB12	8" 53.25 50.16/8"SD/CB3
EX. CB1	48" 41.71 37.71/12"SD/CB2 SEE PLAN VIEW FOR EXISTING INVERTS
EX. CB2	48" 39.82 35.50/12"SD/CB1

PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
PIPE CB1	12" SD	13'	0.0110
PIPE CB2	12" SD	138'	0.0604
PIPE CB3	12" SD	116'	0.0303
PIPE DB1	8" SD	9'	0.0100
PIPE DB2	8" SD	18'	0.0100
PIPE DB3	8" SD	13'	0.0100
PIPE DB4	8" SD	15'	0.0100
PIPE DB5	8" SD	7'	0.0100
PIPE DB6	8" SD	31'	0.0100
PIPE DB7	8" SD	31'	0.0100
PIPE DB8	8" SD	14'	0.0100
PIPE DB9	8" SD	5'	0.0100
PIPE DB10	8" SD	26'	0.0100
PIPE DB11	8" SD	46'	0.0100
PIPE DB12	8" SD	21'	0.0100
PIPE STAIRS	12" SD	46'	0.1500

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LAUREN JANE SNYDER  
12284  
22311-0200A.DWG

9/16/2016

REV	DESCRIPTION	DATE

CHECKED BY: DAS  
DESIGNED BY: LJS  
DRAWN BY: JBC

**ENLARGED PLAZA GRADING PLAN**

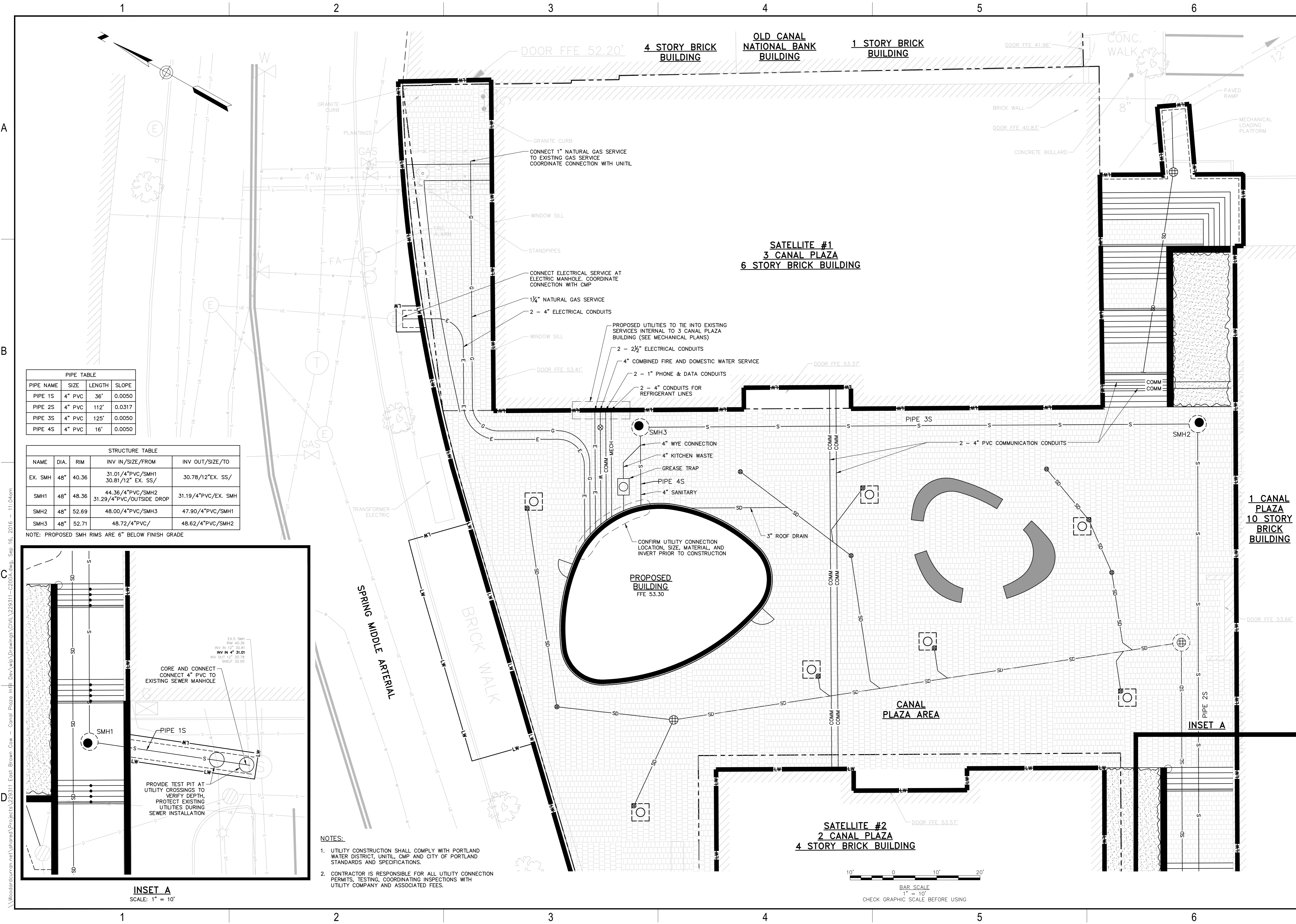
CANALSTUDIO

ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 10'  
SHEET: 6 OF 10

**C-203**

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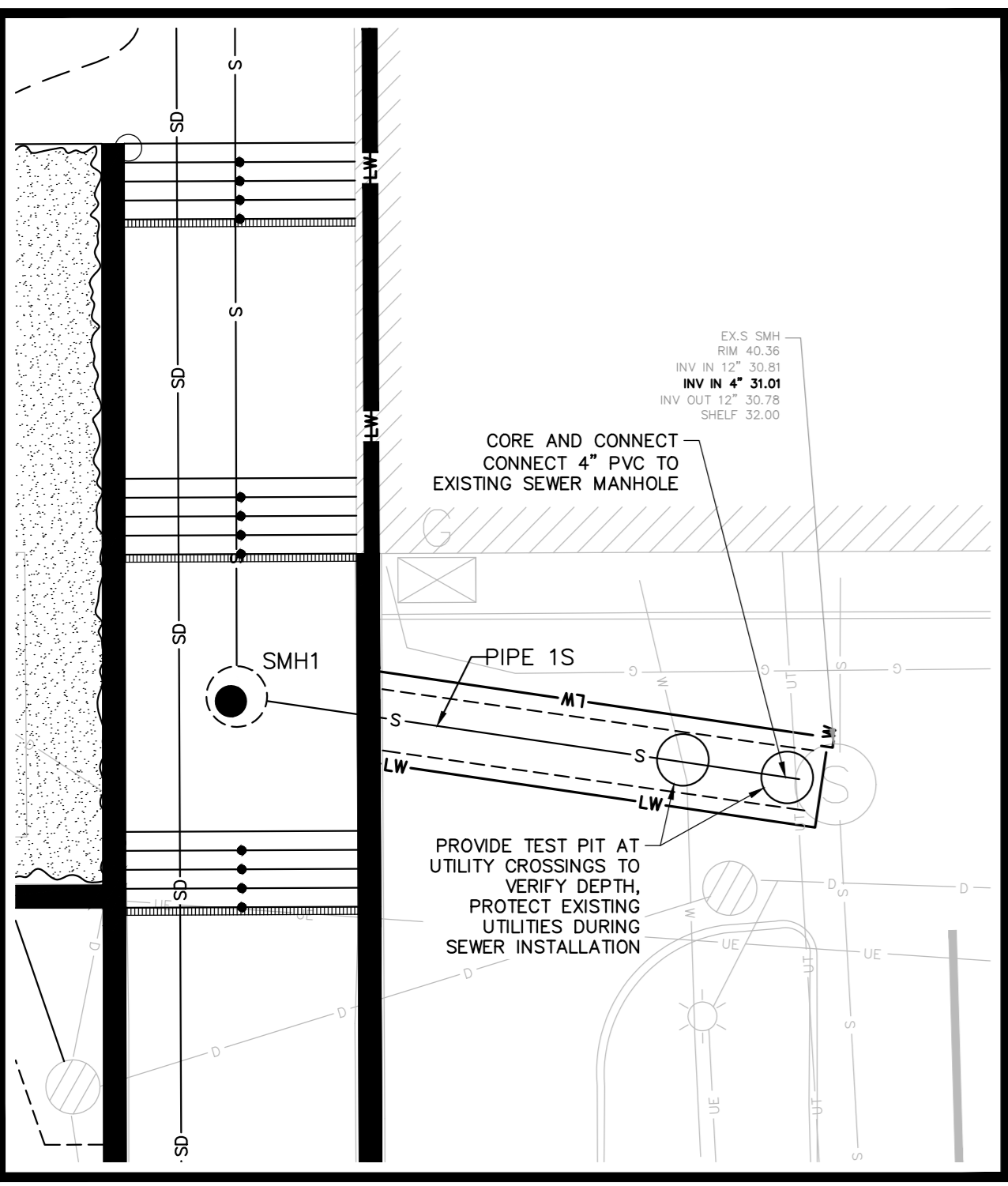
**PIPE TABLE**

PIPE NAME	SIZE	LENGTH	SLOPE
PIPE 1S	4" PVC	36'	0.0050
PIPE 2S	4" PVC	112'	0.0317
PIPE 3S	4" PVC	125'	0.0050
PIPE 4S	4" PVC	16'	0.0050

**STRUCTURE TABLE**

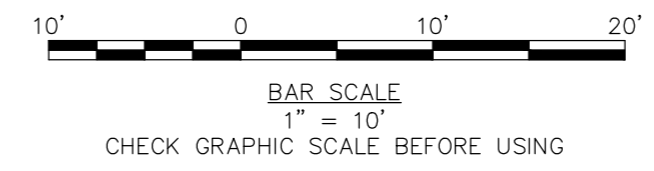
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO
EX. SMH	48"	40.36	31.01/4"PVC/SMH1 30.81/12" EX. SS/	30.78/12" EX. SS/
SMH1	48"	48.36	44.36/4"PVC/SMH2 31.29/4"PVC/OUTSIDE DROP	31.19/4"PVC/EX. SMH
SMH2	48"	52.69	48.00/4"PVC/SMH3	47.90/4"PVC/SMH1
SMH3	48"	52.71	48.72/4"PVC/	48.62/4"PVC/SMH2

NOTE: PROPOSED SMH RIMS ARE 6" BELOW FINISH GRADE



**INSET A**  
SCALE: 1" = 10'

- NOTES:**
- UTILITY CONSTRUCTION SHALL COMPLY WITH PORTLAND WATER DISTRICT, UNITIL, CMP AND CITY OF PORTLAND STANDARDS AND SPECIFICATIONS.
  - CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY CONNECTION PERMITS, TESTING, COORDINATING INSPECTIONS WITH UTILITY COMPANY AND ASSOCIATED FEES.

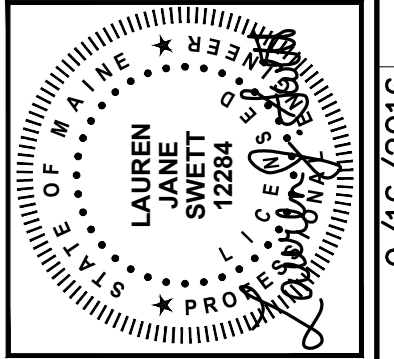


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REV.	DESCRIPTION	DATE

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DESIGNED BY: LJS  
DRAWN BY: JBC

22311-C204.dwg  
9/16/2016

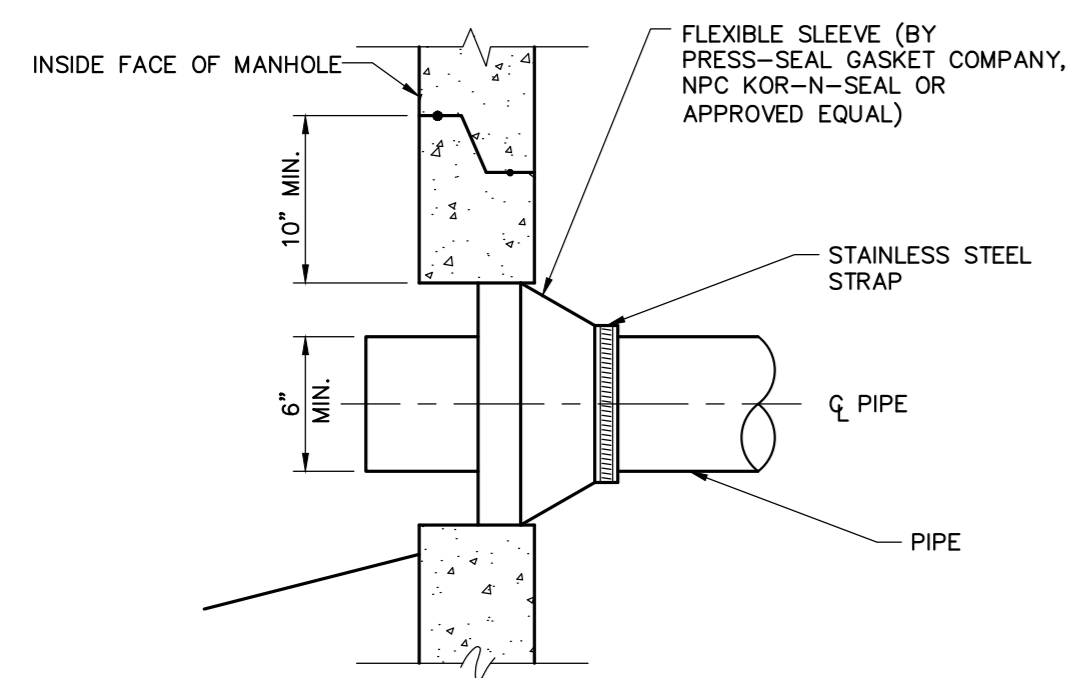
**UTILITY PLAN**

CANALSTUDIO

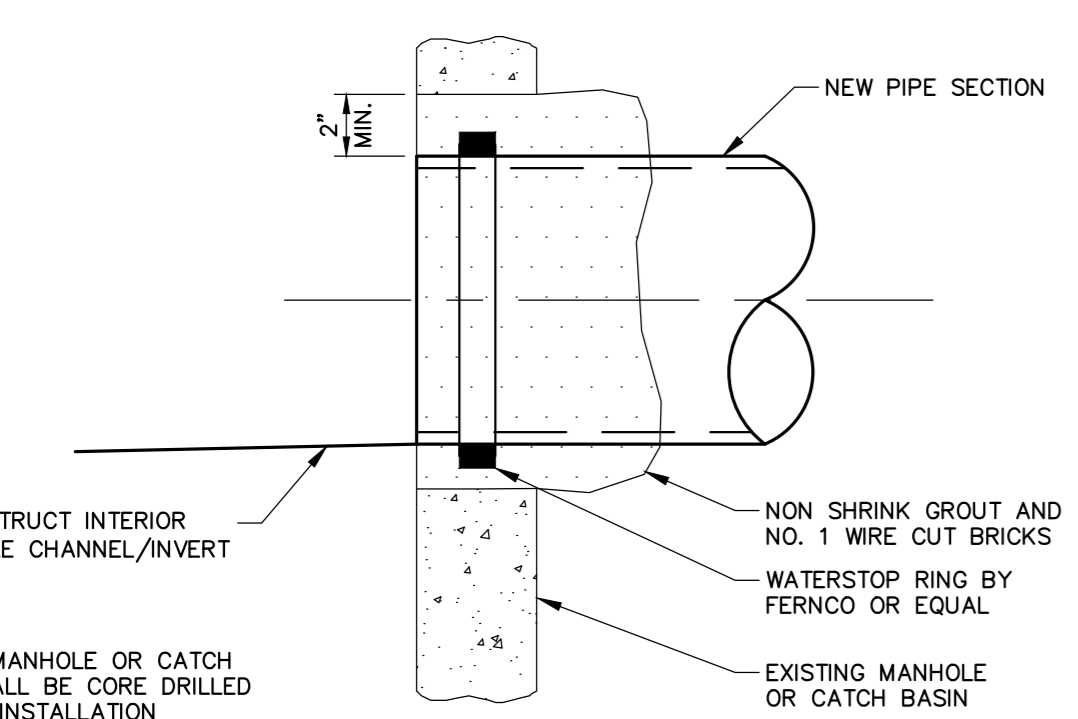
**ZERO CANAL PLAZA DEVELOPMENT**

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: 1" = 10'  
SHEET: 7 OF 10

**C-204**



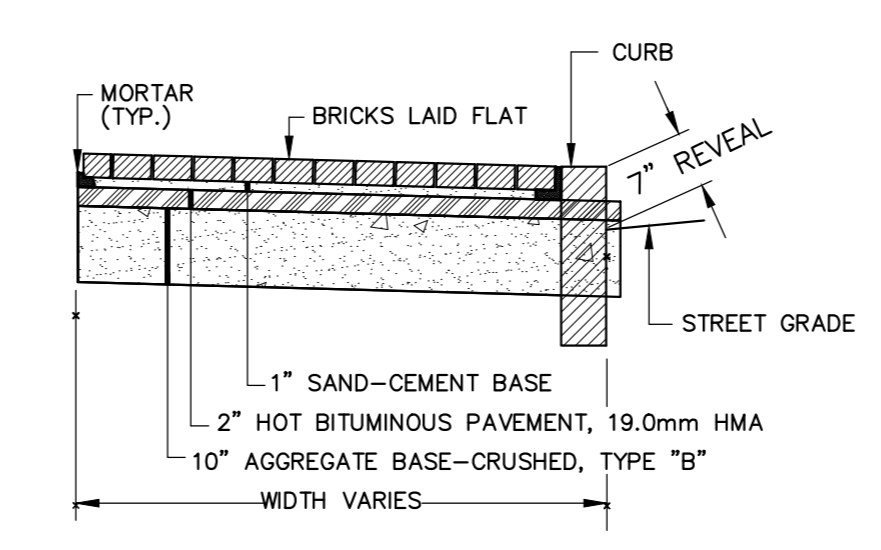
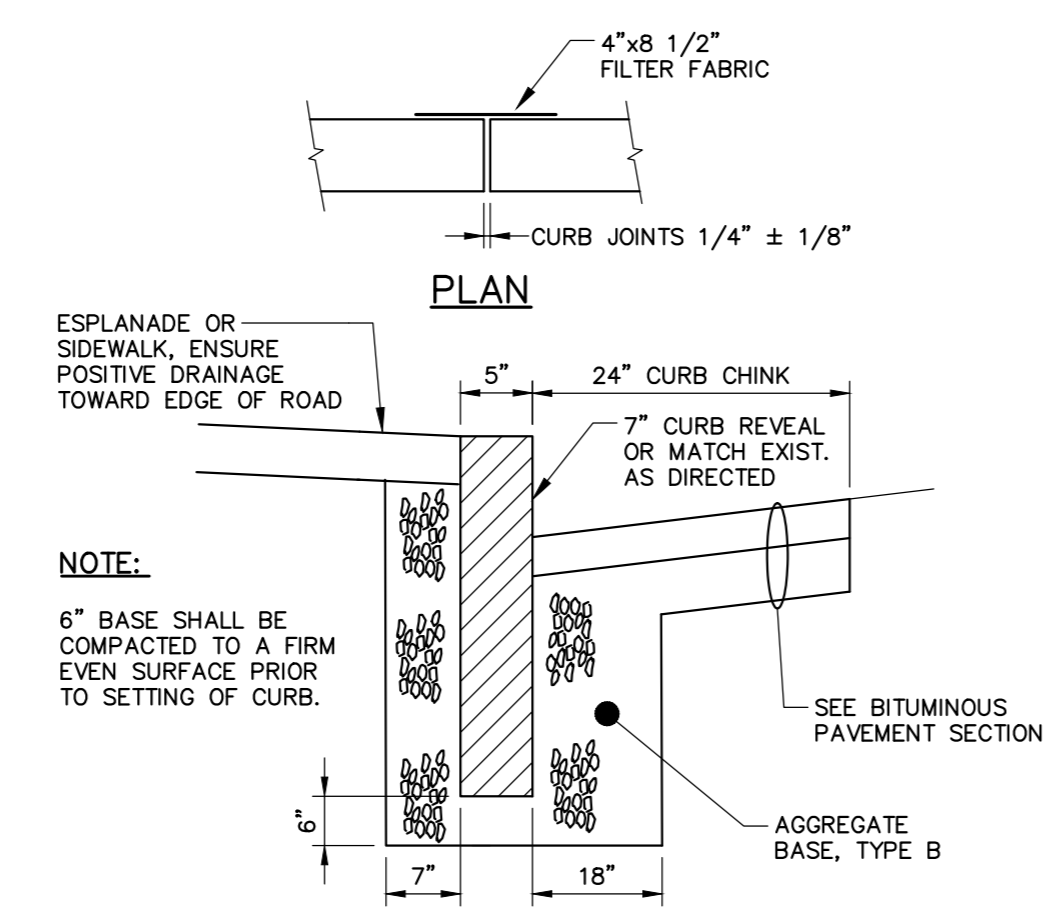
**NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL**  
N.T.S.



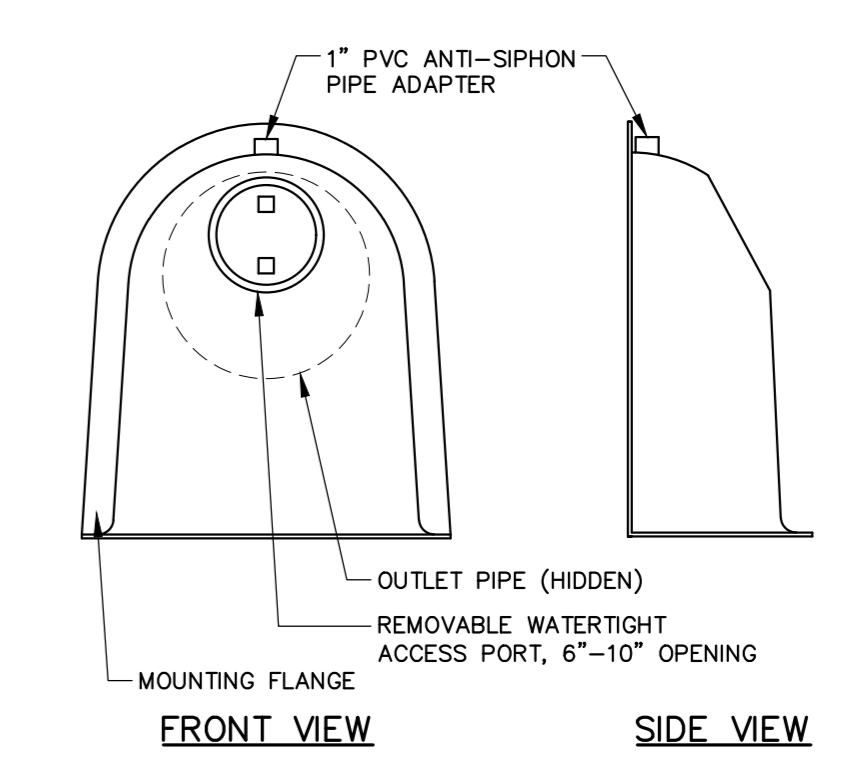
**NEW PIPE TO EXISTING STRUCTURE**  
N.T.S.

**GENERAL NOTES FOR MANHOLES AND CATCH BASINS**

1. ALL CONCRETE SHALL BE CLASS "A" AND HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
3. ALL MANHOLES SHALL HAVE A BITUMINOUS WATERPROOFING APPLIED TO THE EXTERIOR SURFACE. IF CONSTRUCTED OF BRICK MASONRY, SURFACE SHALL BE PLASTERED WITH A SMOOTH MORTAR FINISH 3/8" THICK. AFTER THE MORTAR HAS SET, THE SURFACE SHALL BE WATERPROOFED AS REQUIRED BY SUPPLEMENTAL SPECIFICATIONS SECTION 604.
4. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35. ALL PARTS OF CASTINGS, EXCEPT FINISHED SURFACE, SHALL RECEIVE A COAT OF COAL TAR PITCH VARNISH OR ASPHALTUM PAINT WHICH SHALL BE SMOOTH AND TOUGH BUT NOT BRITTLE.
5. MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
6. CONTRACTOR SHALL SUBMIT ANTI-FLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
7. ALL PRECAST MANHOLES AND CATCH BASINS SHALL BE IDENTIFIED BY STATION, OFFSET, AND STRUCTURE ID PAINTED ON THE SIDE OF THE STRUCTURE BY THE MANUFACTURER.
8. STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. WHEN THE FLOW CHANGES DIRECTION IN A MANHOLE, THE CHANNEL ALIGNMENT SHALL FOLLOW A SMOOTH RADIUS. CHANNELS SHALL BE FORMED TO ACCEPT ALL INLET PIPES.
11. ON STORM AND SEWER MANHOLES, THE SHELF AND CHANNEL SHALL BE FORMED BY BRICK SET IN CEMENT MORTAR OR BY FACTORY PRE-CAST CONCRETE. SUCH PRE-CAST CONCRETE SHALL BE EPOXY COATED AND THE SHELF SHALL HAVE A PERMANENT NON-SKID SURFACE.



**BRICK SIDEWALK DETAIL**  
N.T.S.



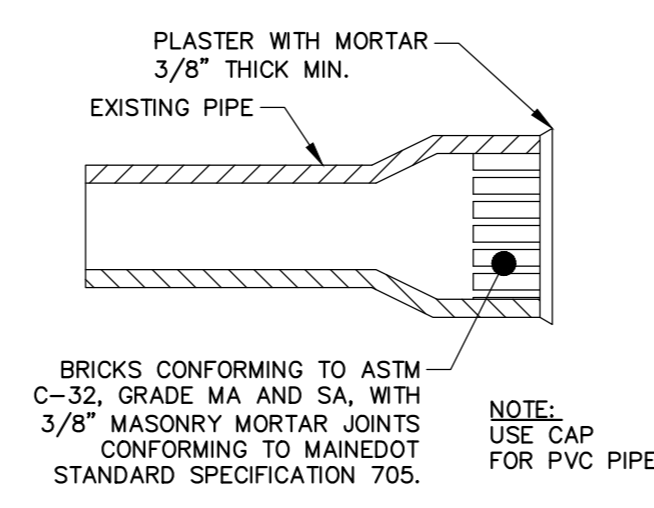
- NOTES:**
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. OR PRE-APPROVED EQUAL.
  2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
  3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW.
  4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
  5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
  6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
  7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
  8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER.
  9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE: INSTALLATION INSTRUCTIONS, PVC ANTI-SIPHON VENT PIPE AND ADAPTER, OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING, 3/8" STAINLESS STEEL BOLTS, AND ANCHOR SHIELDS.

**SNOUT OIL-WATER-DEBRIS SEPARATOR DETAIL**  
N.T.S.

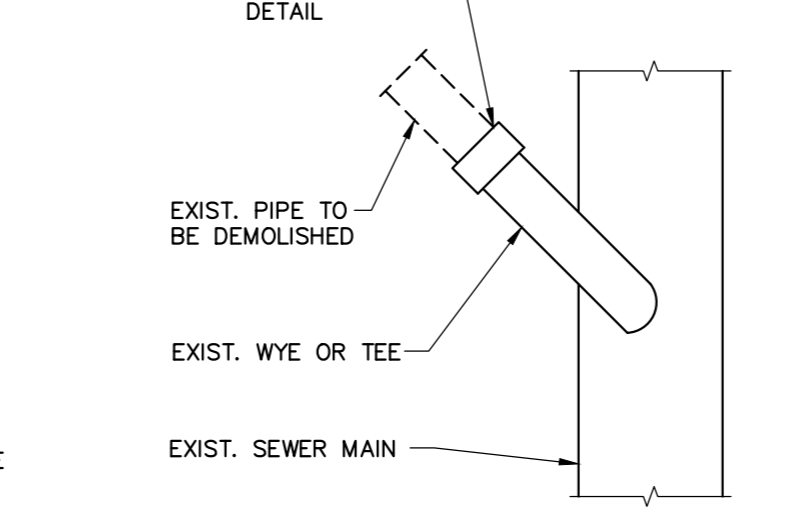
**CURB TYPE 1 ON CURVES**

TYPE	RADIUS OF CURVE	LENGTH	STONE IS CUT OR CAST
1	0' TO 60' INCL.	4' MIN.	ARC TO FIT CURVE
	OVER 60' TO 160'	4' TO 6'	STRAIGHT PIECES

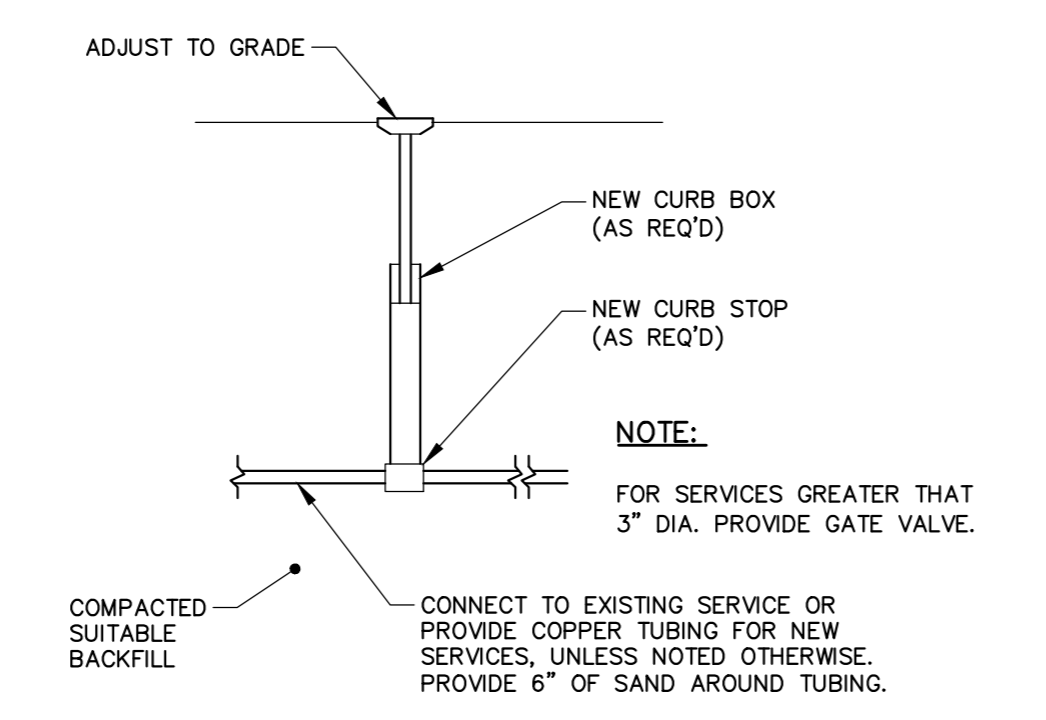
**TYPICAL NEW AND RESET CURB INSTALLATION**  
N.T.S.



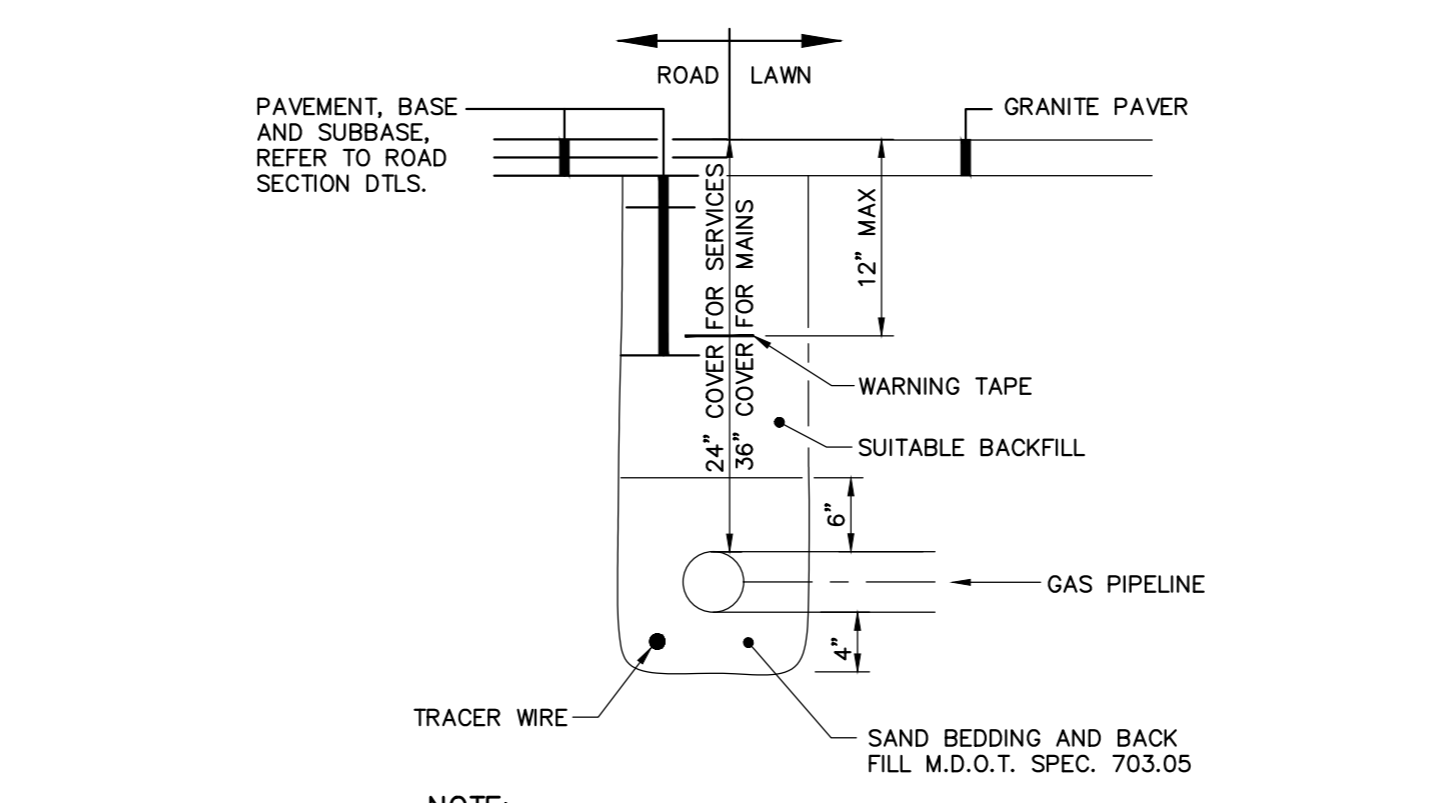
**MASONRY PLUG DETAIL**  
N.T.S.



**MASONRY PLUG @ MAIN**  
N.T.S.



**TYPICAL WATER SERVICE DETAIL**  
N.T.S.



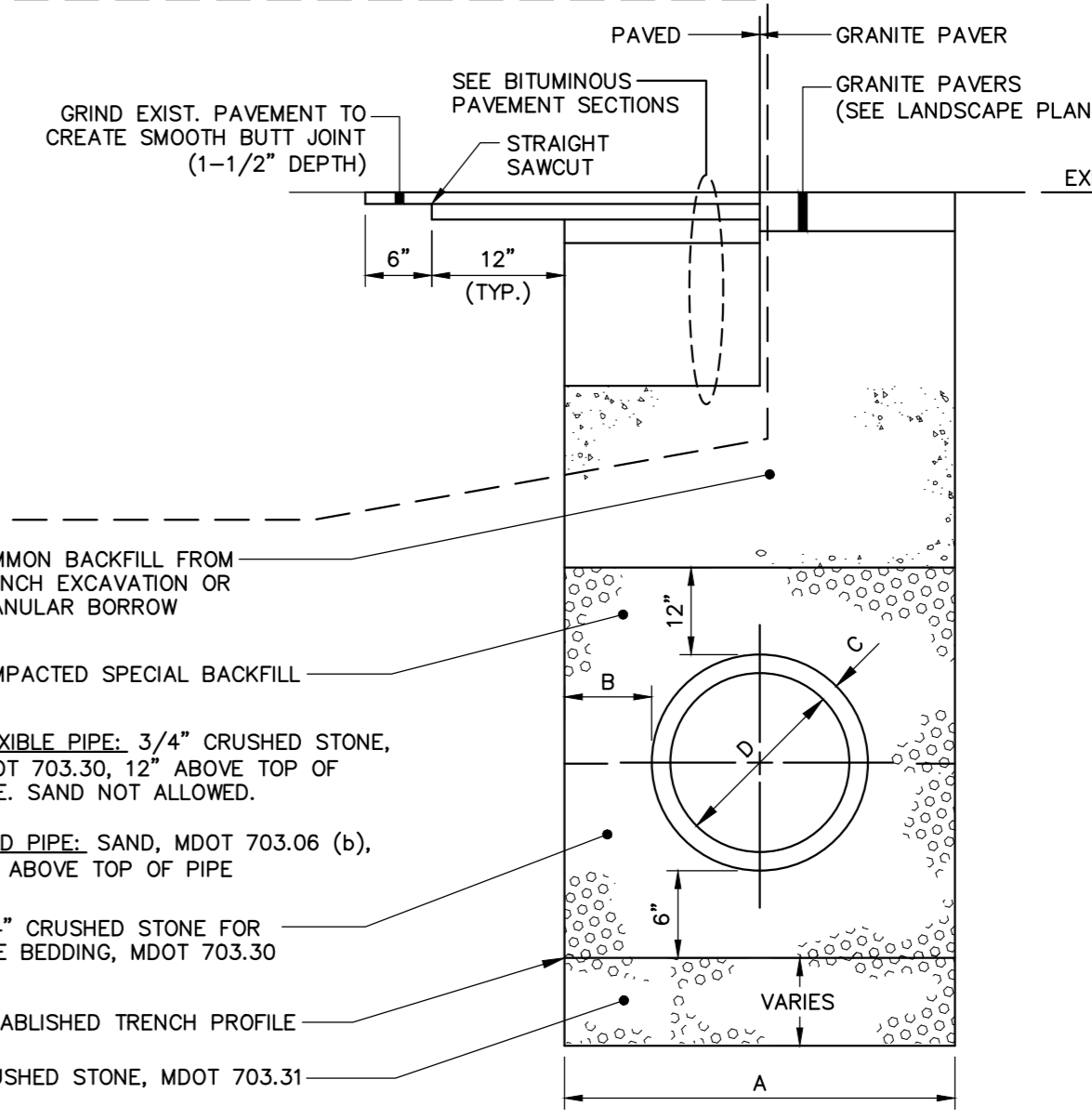
**NATURAL GAS PIPE BITUMINOUS PAVEMENT SECTIONS**  
N.T.S.

**PIPE INSTALLATION DETAIL - NOTES**

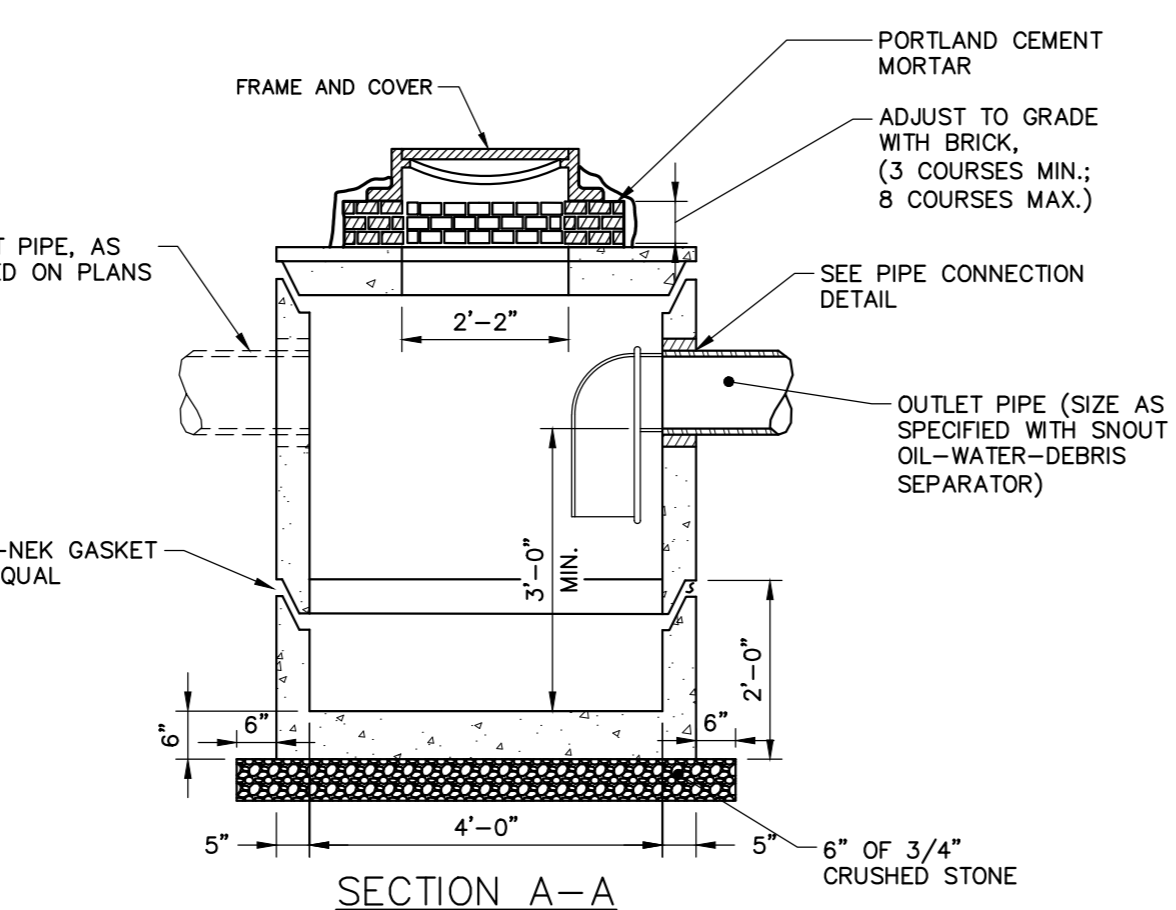
1. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
2. DIMENSION "B" SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE, BUT IN ALL CASES "B" SHALL BE AT LEAST 9".
3. DIMENSION "A" SHALL BE BASED ON PIPE DIAMETER, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, "D" (INCHES)	MAX. TRENCH WIDTH, "A" (FEET)
6	4.0
8	4.0
10	4.0
12	4.0
15	4.0
18	5.0
21	5.0
24	5.5
27	6.0
30	6.0
36	7.0
42	8.0
48	8.0

**NOTES:**  
ANY ALTERNATE TRENCHING SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES.



**PIPE INSTALLATION DETAIL**  
N.T.S.



**PRECAST CONCRETE DRAIN BASIN**  
N.T.S.

**UNION STREET BITUMINOUS PAVEMENT SECTIONS**  
N.T.S.

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DESCRIPTION: \_\_\_\_\_  
REV: \_\_\_\_\_

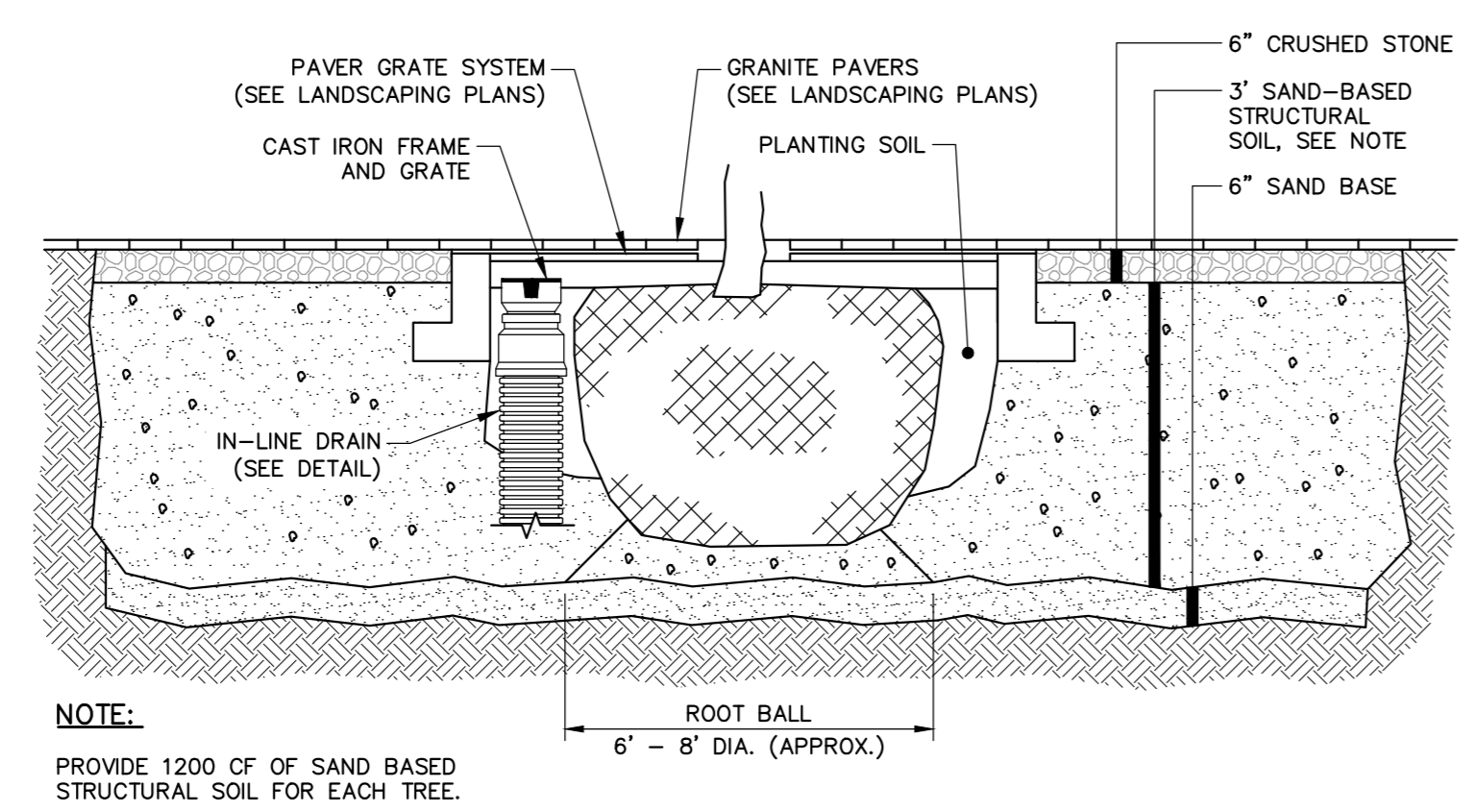
CIVIL DETAILS - 1

CANALSTUDIO  
ZERO CANAL PLAZA DEVELOPMENT

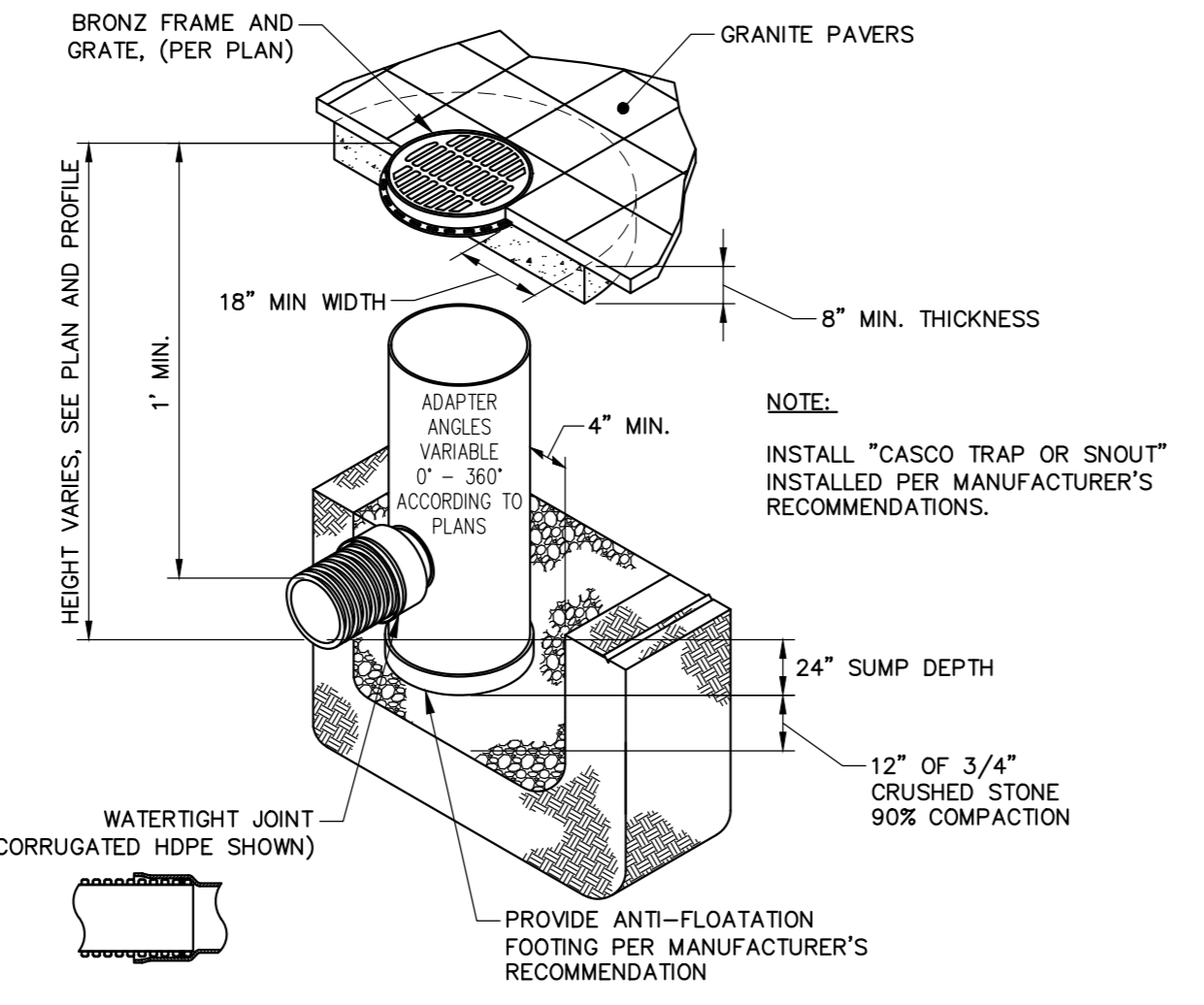
JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: AS NOTED  
SHEET: 8 OF 10

C-300

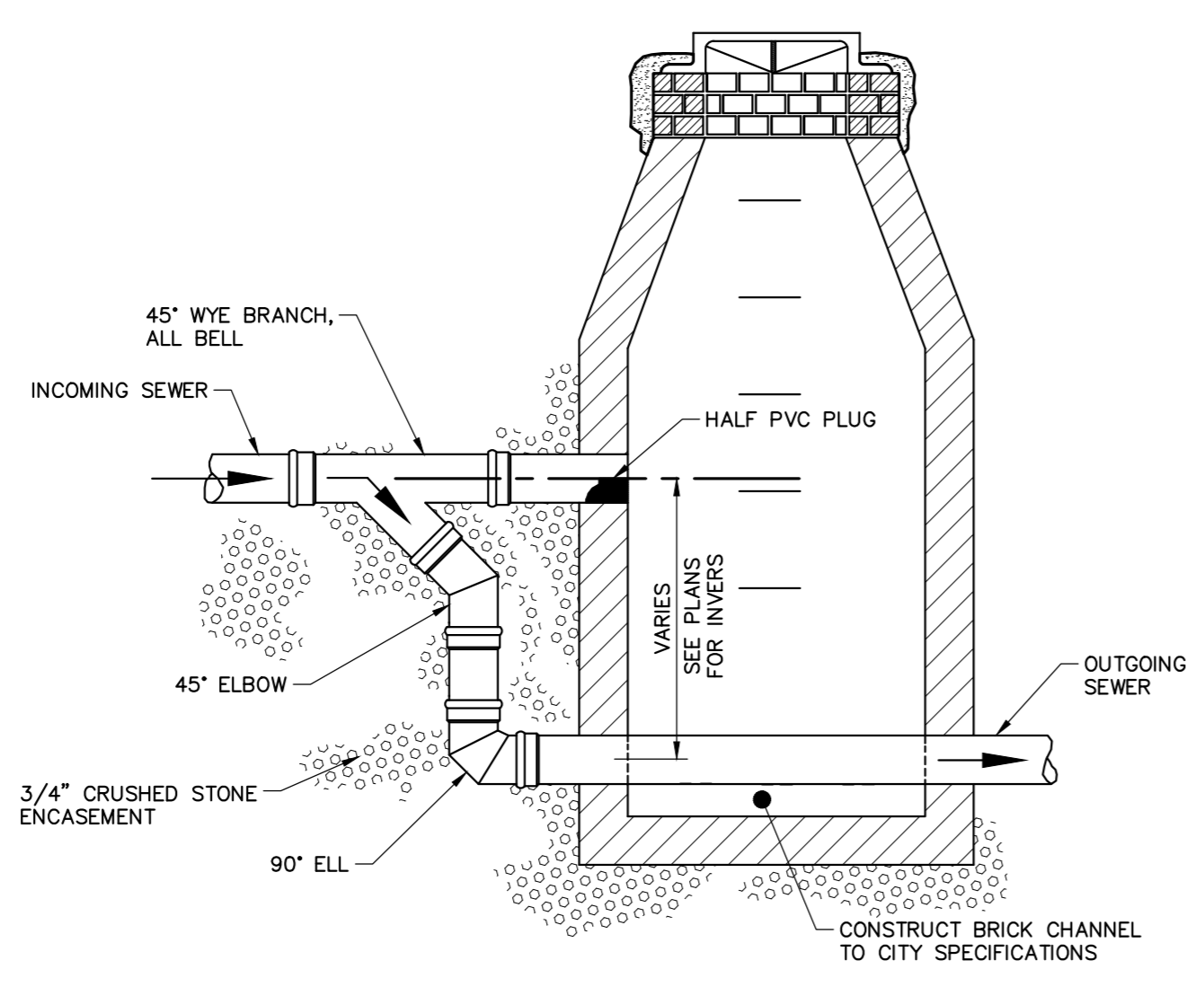




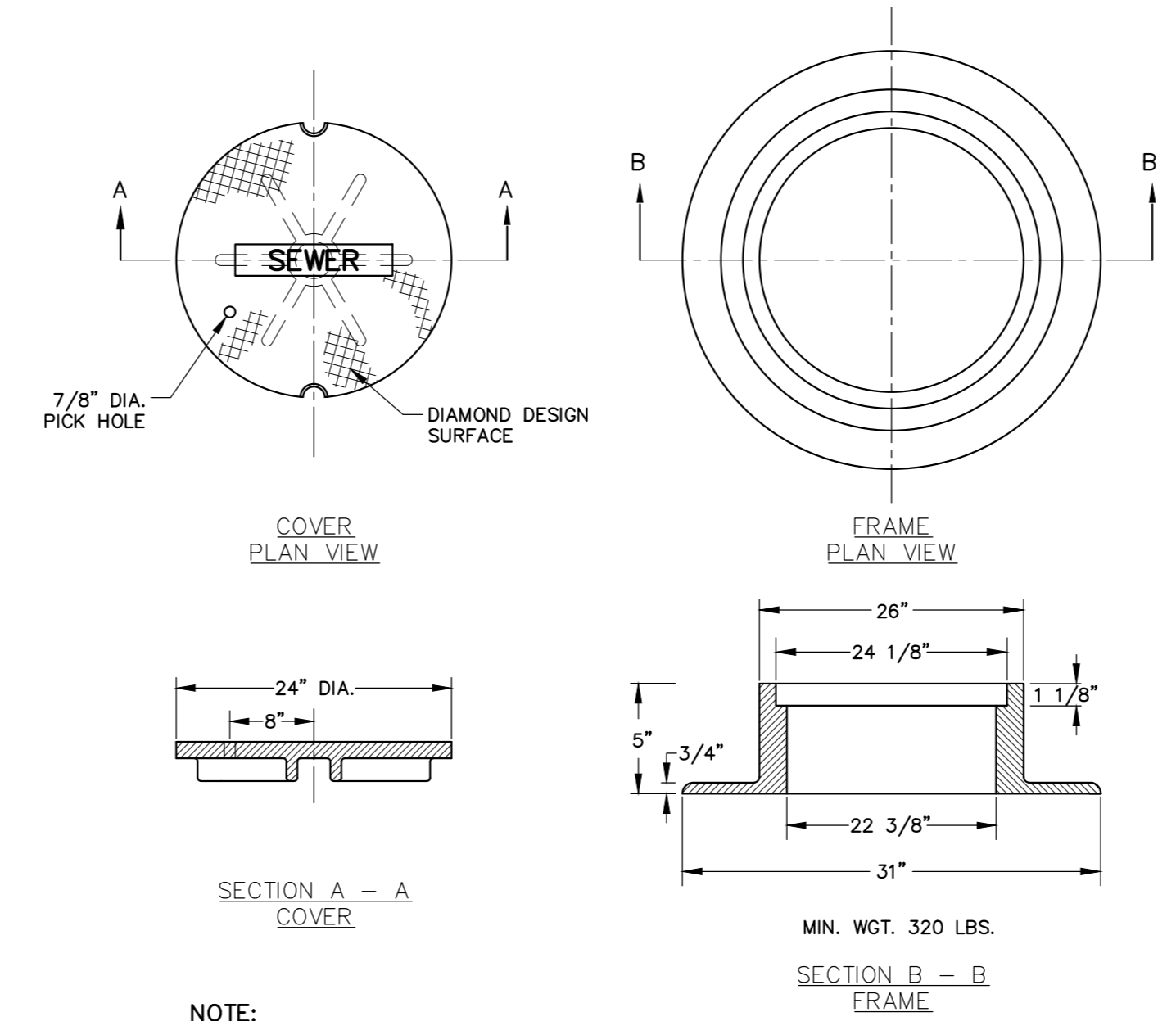
**TREE DRAIN AND SAND BASED STRUCTURAL SOIL DETAIL**  
N.T.S.



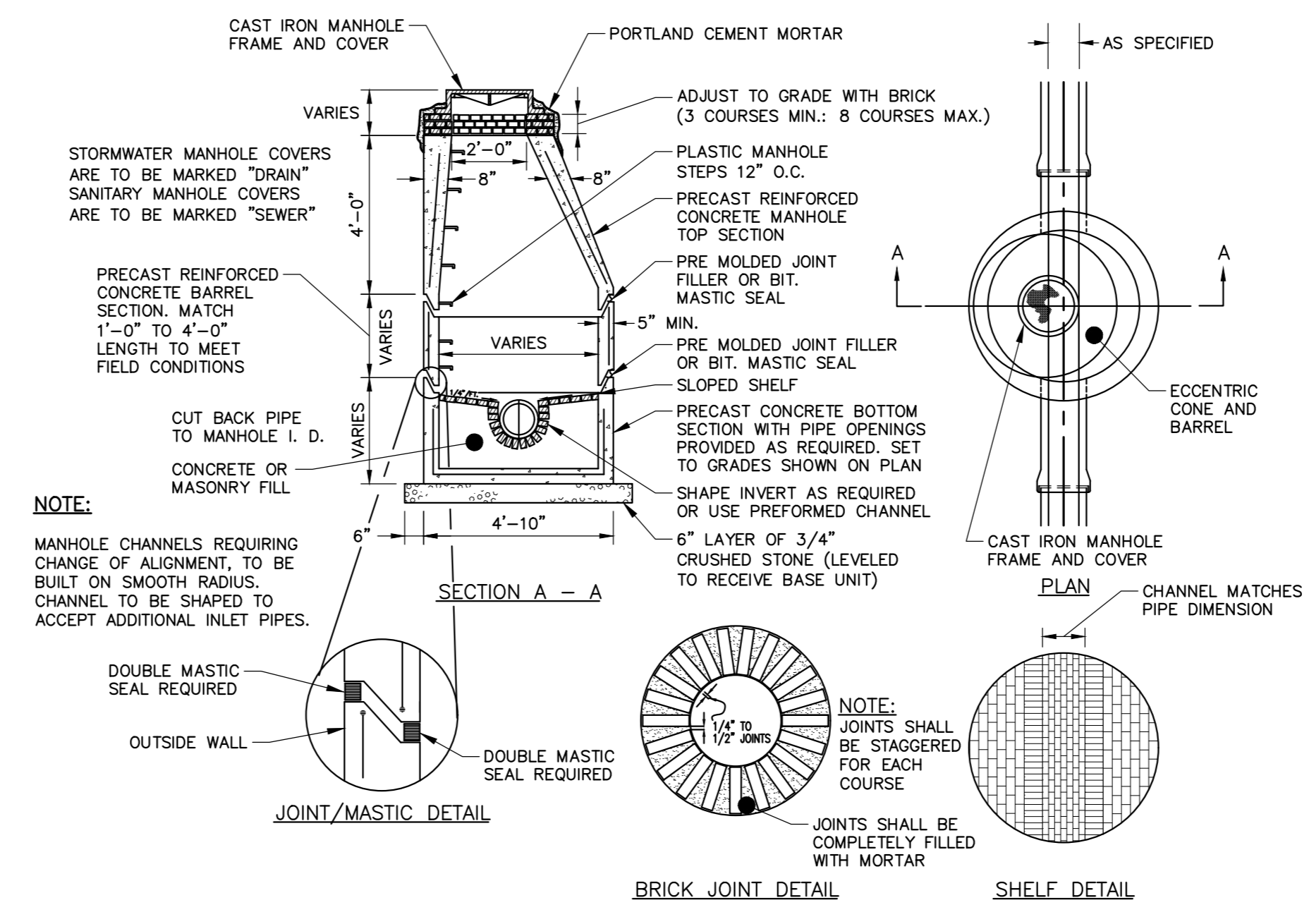
**24" DRAIN BASIN DETAIL**  
N.T.S.



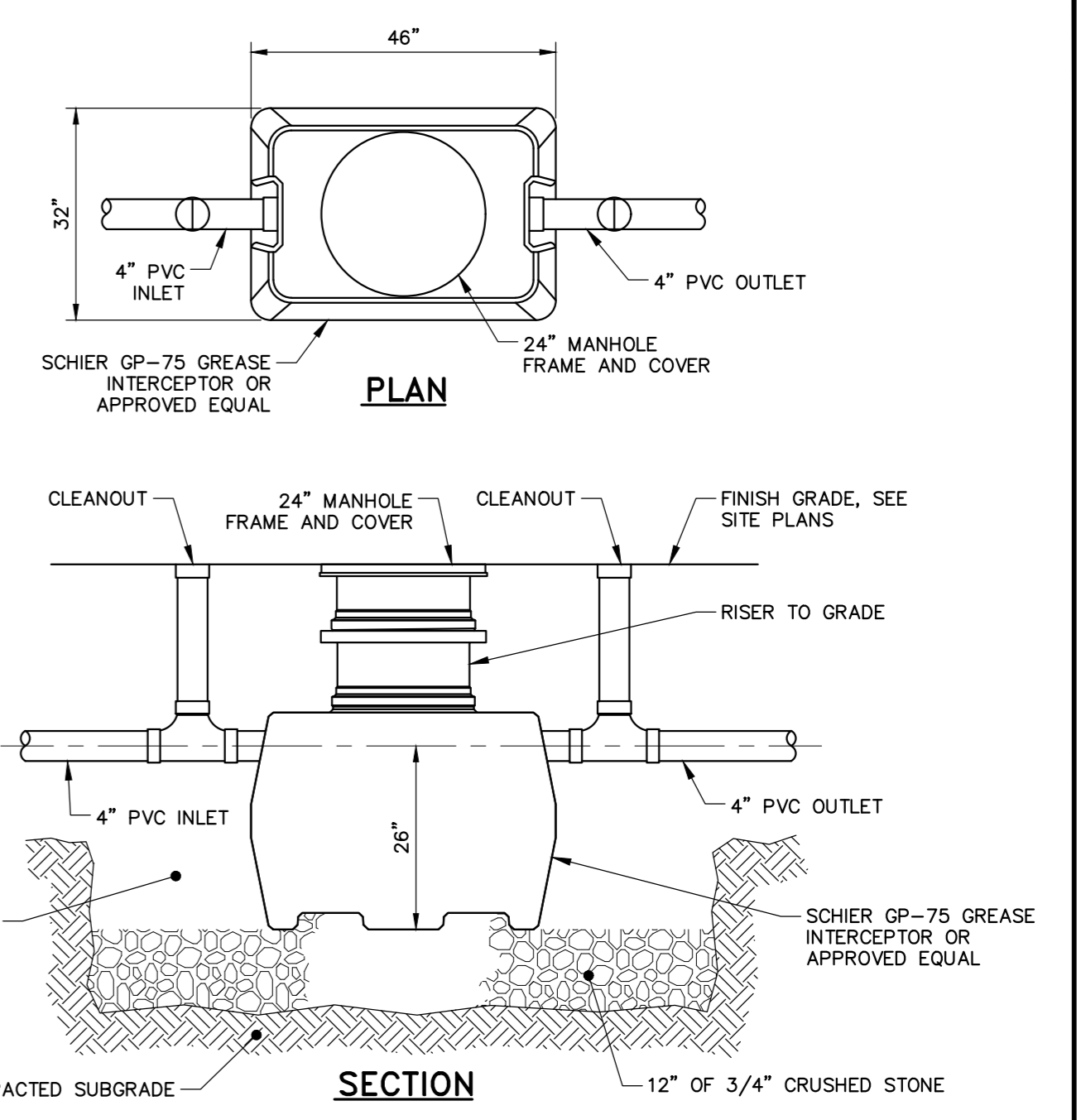
**TYPICAL OUTSIDE DROP MANHOLE DETAIL**  
N.T.S.



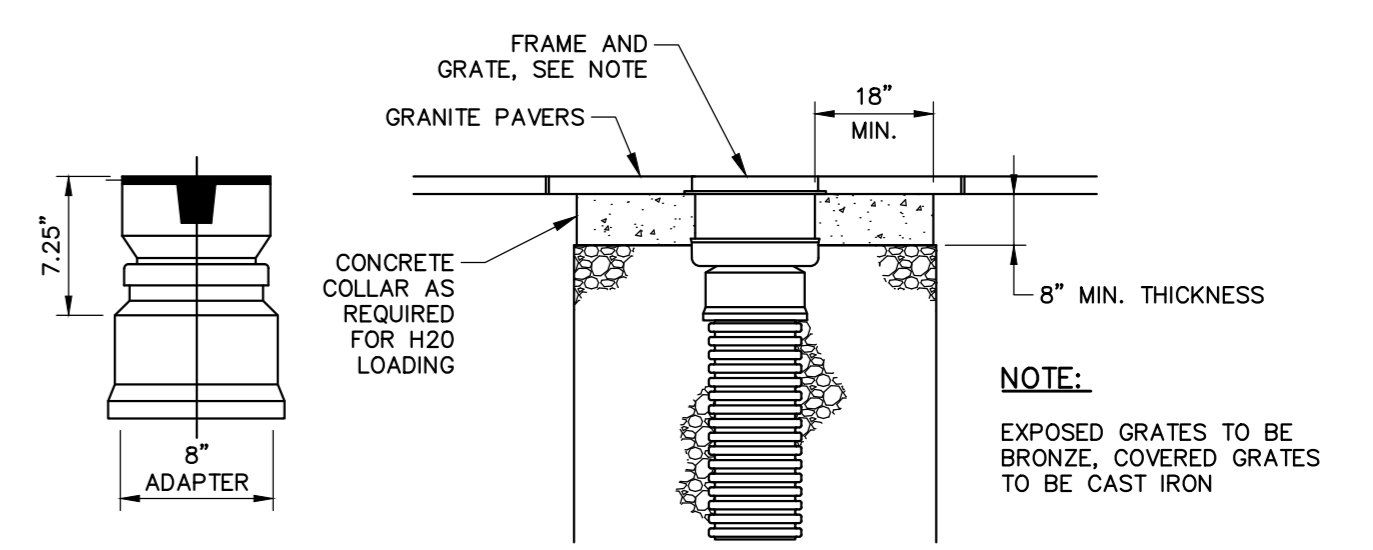
**CAST IRON MANHOLE FRAME AND COVER**  
N.T.S.



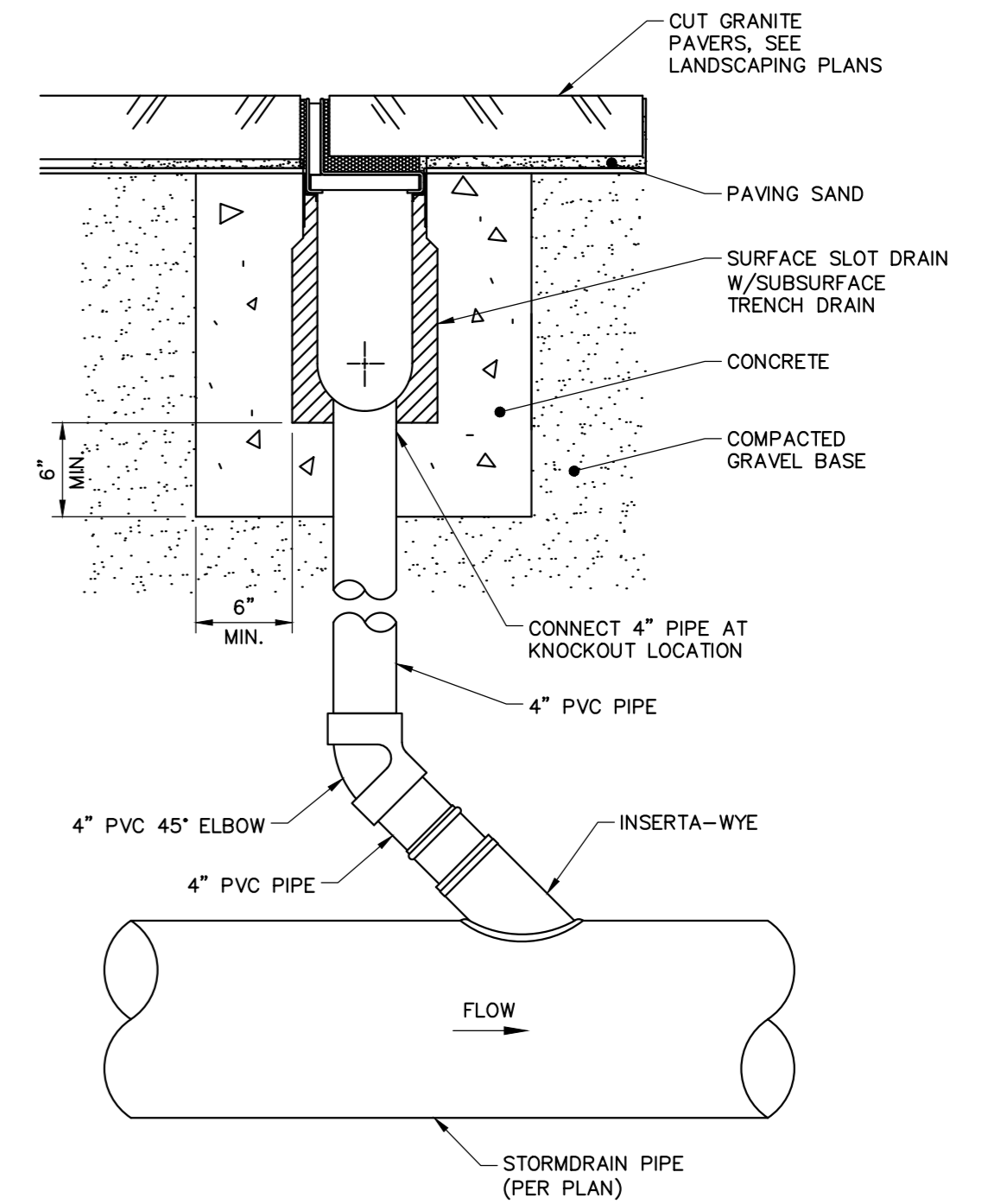
**PRECAST CONCRETE MANHOLE**  
N.T.S.



**EXTERNAL GREASE TRAP DETAIL**  
N.T.S.



**IN-LINE DRAIN IN GRANITE PAVERS**  
N.T.S.

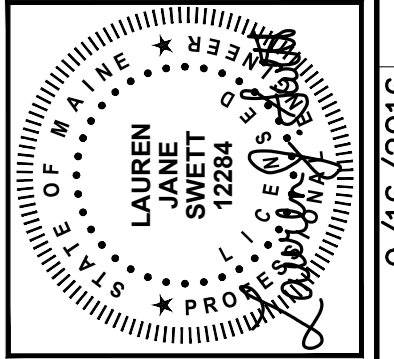


**PAVER SLOT DRAIN DETAIL**  
N.T.S.

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9/16/2016

CIVIL DETAILS - 2

CANALSSTUDIO  
ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: AS NOTED  
SHEET: 9 OF 10

**C-301**

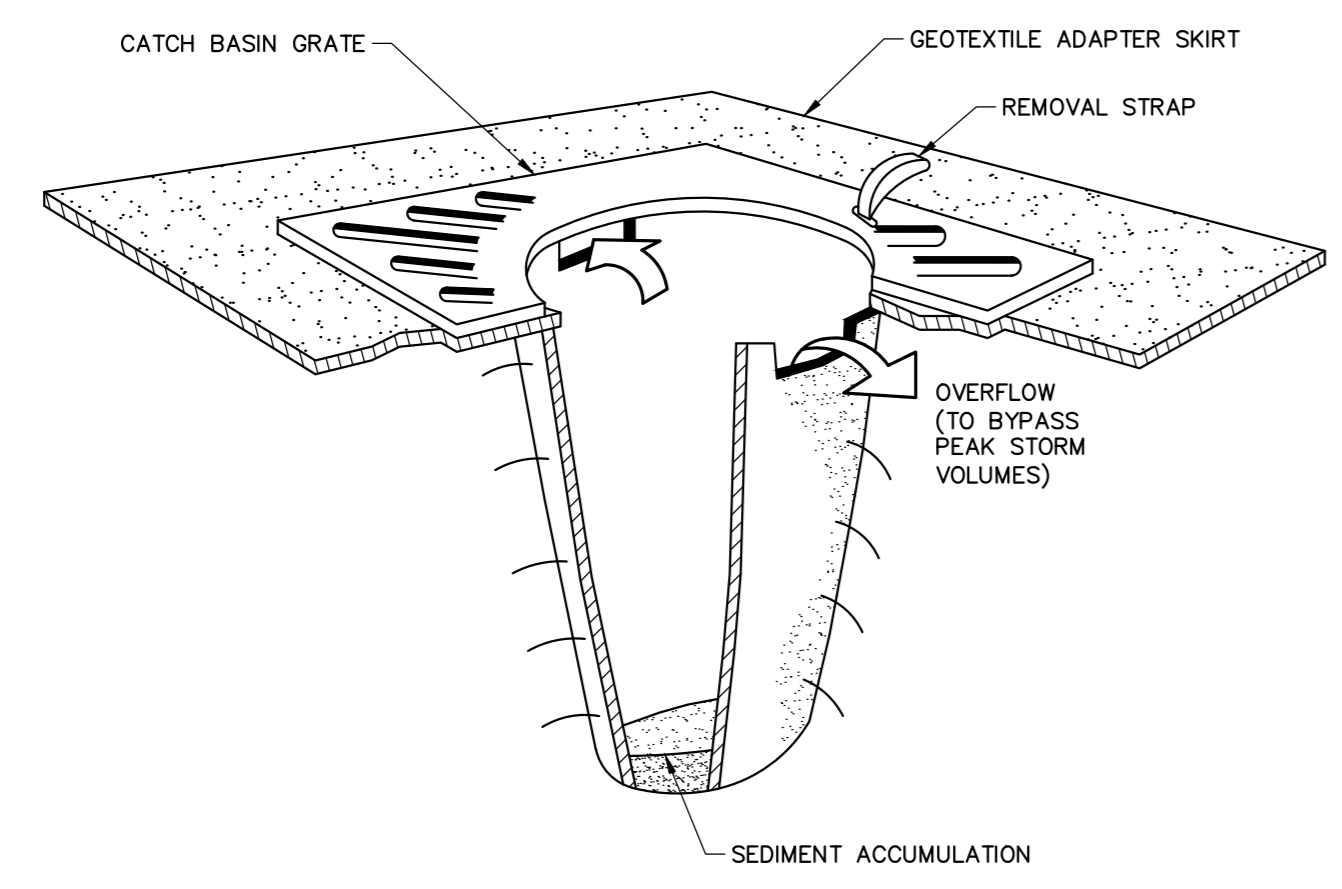
\\woodardcurran.net\shared\Projects\229311\Est. Brown Cow - Canal Plaza\Drawings\Civil\229311-000A.dwg, Sep. 16, 2016 - 11:04am

**EROSION AND SEDIMENT CONTROL NOTES**

**Temporary Erosion Control**

Contractor shall prepare and submit a soil erosion and water pollution control plan to engineer in accordance with section 656.

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up-slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsock, Siltsover Inlet Filter, or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 1	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events or every 7 days, apply 100-150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31	On all areas of exposed soil prior to precipitation or every 7 days, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower. Erosion control blanket may be used as a substitute for winter mulch.
	Nov. 1 to April 14	On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures daily, and maintain and repair as necessary.



**NOTES:**

CATCH BASIN PROTECTION TO BE "SILTSACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).

INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.

INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

**TEMPORARY INLET PROTECTION**

N.T.S.

**Permanent Erosion Control:**

Measure	Dates For Use	Timing, Activity, and Location
Pavement - Base Course - Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

**Inspections:**

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of rivulets.
Sediment Barrier	Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.

**EROSION AND SEDIMENTATION CONTROL NOTES**

TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, HYDRAULIC MULCH, HAY AND STRAW MULCH, EROSION CONTROL BLANKET, TURF REINFORCED MATTING, RIPRAP AND TEMPORARY SEEDING. TEMPORARY SEDIMENT CONTROL MEASURES INCLUDE THE USE OF SILT FENCE, EROSION CONTROL MIX BERMS, PLUNGE POOLS, CHECK DAMS, SEDIMENT TRAPS, CATCHBASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE THE USE OF RIPRAP AT EXPOSED STORMDRAIN AND CULVERT INLETS AND OUTLETS, ARMORED SWALES AND SLOPES AND PERMANENT VEGETATION.

**GENERAL**

- A. THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT, IF APPLICABLE.
- B. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK PUBLISHED BY THE MAINE DEP UNLESS OTHERWISE NOTED IN THESE PLANS.
- C. ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.
- D. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
- E. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE SITE WHENEVER POSSIBLE WHILE ALLOWING PROPER SITE DEVELOPMENT.
- F. CONSTRUCTION STAGING SHALL BE CONDUCTED IN A WAY TO MINIMIZE THE POTENTIAL FOR STORMWATER RUN-ON TO DISTURBED AREAS.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:
  - i. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS THAT 90% OF THE DISTURBED AREA IS COVERED WITH REASONABLY THICK UNIFORM STAND OF PERMANENT GRASS SPECIES, FREE FROM SIZABLE THIN OR BARE SPOTS.
  - ii. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THAT COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE OFF.
  - iii. FOR MULCHED AREAS, PERMANENT STABILIZATION MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
  - iv. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE. STONE MUST BE SIZED APPROPRIATELY AND IN ACCORDANCE WITH SECTION E-8 OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
  - v. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.
  - vi. FOR OPEN CHANNELS, LEVEL SPREADERS, ENGINEERED BUFFERS OR OTHER DESIGNED STORMWATER CONVEYANCE STRUCTURE, PERMANENT STABILIZATION MEANS THE CHANNELIZED AREA(S) IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH APPROVED RIPRAP, OR WITH OTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE SHALL BE NO EVIDENCE OF SLUMPING, UNDERCUTTING OR DOWNCUTTING OF THE DESIGNED CHANNEL.
- H. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD OR THROUGH THE USE OF PERMANENT MULCH OR RIPRAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED, OVERLY-COMPACTED SUBSOIL WITH TOPSOIL OR COMPOST AND LIGHTLY TILL 2-3" OF SOIL AMENDMENTS INTO THE TOP 8" OF SOIL.
- I. PERMANENT SEEDING SPECIFICATION: IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOCK WINTER RYE OR MULCHED AT SPECIFIED RATES. SEE WINTER SEEDING AND MULCHING SPECIFICATIONS FOR STABILIZATION AFTER NOVEMBER 1.
  - i. APPLY TOPSOIL TO A DEPTH OF 4 INCHES. IN COMPACTED AREAS TILL 2-3" OF COMPOST INTO UPPER 8" OF DISTURBED SOIL AND THEN APPLY 4 INCHES OF TOPSOIL.
  - ii. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 33 LBS PER 1000 SQUARE FEET AND GRANULAR, COMMERCIAL-GRADE FERTILIZER 10-10-10 AT A RATE OF 18 LBS PER 1000 SQUARE FEET.
  - iii. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2.5 BALES PER 1000 SQUARE FEET AND ANCHOR AS NECESSARY.
- J. PROTECT ALL SEEDED AREAS WITH MULCH OR EROSION CONTROL BLANKET IN AREAS OF SHEET OR CONCENTRATED FLOWS. MULCH ALL AREAS SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. SCHEDULE SEEDING OR SODDING TO AVOID FAILURE DUE TO SUMMER DROUGHT AND FALL FROST. NEWLY SEEDED AREAS SHOULD BE PROTECTED FROM VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE OR SURFACE EROSION IS EVIDENT.
- K. DITCH LININGS AND RIPRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF THE CULVERT.
- L. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (WETLANDS AND WATER RESOURCES). EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN ST50BN OR APPROVED EQUAL. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- M. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURE UPON STABILIZATION OF PROJECT AREA & COST SHALL BE INCIDENTAL TO CONTRACT.

**WINTER CONDITIONS**

- A. WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 1. IF AREAS WITHIN THE CONSTRUCTION AREA ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15 THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS.

**GOOD HOUSEKEEPING AND POLLUTION PREVENTION**

- A. SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER RUNOFF AND APPROPRIATE SPILL PREVENTION, CONTAINMENT AND RESPONSE PLANNING AND IMPLEMENTATION.
- B. DURING CONSTRUCTION, PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUND OR SURFACE WATERS MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO INFILTRATION AREAS. AN "INFILTRATION AREA" IS ANY ARE OF THE SITE THAT BY DESIGN, OR AS A RESULTS OF SOIL AND TOPOGRAPHY, ACCUMULATES RUNOFF THAT INFILTRATES IN THE SOIL. DIKES, BERMS, SUMPS AND OTHER FORMS OF TEMPORARY SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
- C. LOCATE ALL MATERIAL STOCKPILES WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.
- D. TAKE ALL REASONABLE MEASURES TO MINIMIZE DUST RESULTING FROM THE PROJECT. OIL MAY NOT BE USED FOR DUST CONTROL.
- E. LOCATE ALL LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.
- F. TRENCH OR FOUNDATION DE-WATERING MUST BE SPREAD THROUGH SUFFICIENT NATURAL BUFFERS THAT HAVE CAPACITY TO INFILTRATE THE PUMPED WATER OR SHOULD BE PUMPED TO DESIGNED CONSTRUCTION DEWATERING DEVICES AS DESCRIBED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK.
- G. SEDIMENTS AND SOIL MATERIALS SHOULD BE SWEEPED FROM PAVED SURFACES AT THE END OF EACH WORKDAY OR PRIOR TO RAIN EVENTS, WHENEVER POSSIBLE.

**INSPECTION AND MAINTENANCE**

- A. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT, THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK OR ANY MUNICIPAL REQUIREMENTS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF ADDITIONAL BMPs OR MODIFICATIONS TO BMPs ARE NECESSARY, THE MODIFICATIONS MUST BE IMPLEMENTED WITH 7 CALENDAR DAYS OR PRIOR TO ANY PRECIPITATION EVENT. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
- B. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT BY THE CONTRACTOR, SUMMARIZING THE SCOPE OF THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO THE OPERATION OF EROSION AND SEDIMENT CONTROL BMPs, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE CONSTRUCTION AREA. THE INSPECTION LOG SHOULD BE DELIVERED TO THE PROPERTY OWNER OR RESPONSIBLE CONTRACTING ENTITY UPON COMPLETION OF THE PROJECT.

**DEWATERING**

- A. ANY DEWATERING FLOW DIRECTED TO THE CITY'S COMBINED SEWER SYSTEM SHALL BE REVIEWED AND APPROVED BY THE DEPARTMENT OF PUBLIC SERVICES AND/OR THE PORTLAND WATER DISTRICT PRIOR TO COMMENCING DEWATERING ACTIVITIES.

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**WOODARD & CURRAN**

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LAUREN JANE SNIET 12284

PROJECT NO. 229311

DATE: 09/16/2016

REVISION	DESCRIPTION	DATE

CHECKED BY: DAS  
229311-100A.dwg

DESIGNED BY: LUS  
DRAWN BY: JBC

**CIVIL DETAILS - 3**

CANALSTUDIO

ZERO CANAL PLAZA DEVELOPMENT

JOB NO.: 229311  
DATE: SEPTEMBER 2016  
SCALE: AS NOTED  
SHEET: 10 OF 10

**C-302**

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