

SE FLAVEL STREET EAST OF SE 152ND AVENUE SANITARY AND STORM IMPROVEMENTS
HAWTHORNE MEADOWS SUBDIVISION - PHASE 1

GENERAL NOTES

- 1. ERRORS AND OMISSIONS ARE THE RESPONSIBILITY OF THE "ENGINEER OF RECORD". IF ERRORS OR OMISSIONS ARE FOUND AFTER THE PERMIT HAS BEEN ISSUED, THE PERMITTEE OR ITS CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD (BEAU BRAMAN OF HHPR AT 503-221-1131) TO HAVE THE CORRECTIONS MADE. ALL CHANGES WILL REQUIRE THE APPROVAL OF THE CITY ENGINEER PRIOR TO THE WORK BEGINNING.
- 2. ALL CONSTRUCTION SHALL CONFORM TO 2010 CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS (SCS). CONTRACTOR AND/OR SUBCONTRACTOR SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS AND CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
- 3. ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM FROM BENCH MARK NO. 3505, LOCATED AT SE BELMORE STREET AND SE 152ND AVENUE.
- 4. ATTENTION EXCAVATORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING [503.232.1987]. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL [811 OR 1-800-332-2344].
- 5. CONTRACTOR SHALL MAINTAIN FLOWS IN THE EXISTING SYSTEM AT ALL TIMES.
- 6. ALL SEWER TRENCH LINES AND EXCAVATIONS SHALL BE PROPERLY SHORED AND BRACED TO PREVENT CAVING AS REQUIRED BY OREGON OCCUPATIONAL SAFETY AND HEALTH (OSHA) AND SECTION 00405.41(F) OF THE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS.
- 7. EXCAVATED SEWER TRENCH SPOIL MATERIAL SHALL BE DISPOSED OF AT A PROPER LANDFILL, OR APPLICANT SHALL OBTAIN A FILL PERMIT FROM THE BUREAU OF DEVELOPMENT SERVICES BEFORE BEING DISPOSED OF ON-SITE. A COPY OF THE GRADING PERMIT AND PLAN SHALL BE PROVIDED TO THE BUREAU OF ENVIRONMENTAL SERVICES FOR CONSTRUCTION INSPECTION AT THE PRE-CONSTRUCTION MEETING. ANY WORK OUTSIDE THE PUBLIC RIGHT OF WAY, INCLUDING CUTS, FILLS, GRADING AND CLEARING MAY REQUIRE PERMITS FROM BUREAU OF DEVELOPMENT SERVICES.
- 8. UNANTICIPATED CONTAMINATION ENCOUNTERED DURING CONSTRUCTION IN CITY RIGHT OF WAY.
A) THE APPLICANT IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PROPER CHARACTERIZATION, IDENTIFICATION ANALYSIS, MANAGEMENT AND DISPOSAL OF CONTAMINATED MEDIA ENCOUNTERED WITHIN THE CITY RIGHT-OF-WAY OR ON CITY PROPERTY. THE APPLICANT IS ALSO RESPONSIBLE FOR ALL RESULTANT DELAYS.
B) THE APPLICANT WILL PROVIDE THE CITY (ENGINEER AND INSPECTORS) WITH COPIES OF ALL DISPOSAL PERMITS FROM THE PERMITTED DISPOSAL FACILITY, ANALYTICAL RESULTS USED TO GAIN ACCEPTANCE OF THE CONTAMINATED MEDIA AND DISPOSAL RECEIPTS/DAILY WEIGH SLIPS. DAILY WEIGH SLIPS AMOUNTS SHALL BE CHECKED AGAINST INSPECTOR'S DAILY REPORTS. THE APPLICANT MUST USE AN OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY - APPROVED DISPOSAL FACILITY FOR DISPOSAL OF THE CONTAMINATED MEDIA.
- 9. FOUNDATION STABILIZATION MAY BE NECESSARY AS PER CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS AND APPROVED BY BES.
- 10. MAINTAIN MINIMUM OF 36" COVER OVER ALL PIPE IN UNPAVED EASEMENT AREAS.
- 11. THE CONTRACTOR SHALL INSTALL MARKER BALLS ON ALL STORM AND SANITARY SEWER MAINLINE PIPE AND LATERALS. SEE SPECIFICATION SECTION 00446.
- 12. MARK ENDS OF ALL STUB OUTS AND LATERALS W/ CONTINUOUS PRESSURE TREATED 2" X 4" TOP 12" TO BE PAINTED WHITE AND STENCILED WITH BLACK "ST" FOR STORM OR PAINTED GREEN AND STENCILED BLACK "SS" FOR SANITARY AND WITH PIPE SIZE, MATERIAL TYPE, AND PIPE DEPTH. BURY 2" X 4" TO I.E. OF STUB OR LATERAL.
- 13. CITY OF PORTLAND MAINTENANCE OF HOUSE BRANCHES END AT THE CURB LINE IN RIGHTS-OF-WAY AND AT THE END OF THE TEE IN EASEMENTS.
- 14. INSTALL LATERAL CURB MARKERS ON ALL NEW LATERALS PER SPECIFICATION 00446.11.
- 15. BUREAU OF DEVELOPMENT SERVICES (BDS) PLUMBING DIVISION APPROVALS AND PERMITS ARE REQUIRED FOR PRIVATELY MAINTAINED SEWER, INLETS, INLET LEADS & SERVICE LATERALS CONSTRUCTED OUTSIDE OF PUBLIC RIGHT OF WAY OR SEWER EASEMENT. ALL WORK APPROVED UNDER PLUMBING PERMITS SHALL BE PRIVATELY OWNED AND MAINTAINED.
- 16. STREET RESTORATION SHALL BE PER THE REQUIREMENTS OF THE PBOT STREET OPENING PERMIT.

PIPE TESTING REQUIREMENTS

- 17. ALL STORM AND SANITARY SEWERS WILL BE AIR TESTED AND SHALL BE SUBJECT TO OTHER TESTING REQUIREMENTS AS OUTLINED IN THE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS.
- 18. SEWER SHALL BE VIDEO INSPECTED (TVD) AT THE SOLE EXPENSE OF THE APPLICANT/CONTRACTOR.
- 19. MANDREL TESTING IS REQUIRED ON ALL HDPE AND PVC PIPE. A 30-DAY WAITING PERIOD IS REQUIRED ON ALL MANDREL TESTING.

PRECONSTRUCTION REQUIREMENTS

- 20. A TEMPORARY TRAFFIC CONTROL PLAN (TTCP) IS REQUIRED BEFORE ANY WORK CAN COMMENCE WITHIN THE PUBLIC RIGHT OF WAY. THE TTCP IS PART OF THE TEMPORARY USE OF THE RIGHT OF WAY PERMIT. THE APPLICATION CAN BE FOUND AT:
HTTP://WWW.PORTLANDOREGON.GOV/TRANSPORTATION/ARTICLE/174124
- 21. A COPY (EITHER ELECTRONIC OR PAPER) OF THE APPROVED TTCP SHALL BE PROVIDED TO THE INSPECTOR BEFORE ANY STREET OR SIDEWALK CLOSURES. CONTACT BEN BALDWIN AT TRI-MET 14 DAYS PRIOR TO STARTING CONSTRUCTION AT 503-962-2140.
- 22. SITE EROSION CONTROL PLANS TO BE APPROVED AND CONTROLS IN PLACE PRIOR TO GRADING AND WORKING IN THE RIGHT OF WAY. APPLICANT/CONTRACTOR TO PUT UP ALL REQUIRED EROSION CONTROL SIGNAGE PRIOR TO GROUND DISTURBANCE. A CD WITH ALL REQUIRED EROSION CONTROL SIGNS WILL BE PROVIDED AT PRE-CONSTRUCTION MEETING.
- 23. LOCATIONS OF EXISTING STRUCTURES AND UTILITIES ARE FOR INFORMATION PURPOSES ONLY. APPLICANT/CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH (ELEVATION) OF EXISTING UTILITIES AND OTHER FIELD CONDITIONS PRIOR TO CONSTRUCTION.

- 24. PRECONSTRUCTION MEETING REQUIRED. APPLICANT/CONTRACTOR TO CONTACT BES A MINIMUM OF 4 BUSINESS DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION TO SCHEDULE MEETING. FOLLOW INSTRUCTIONS OF "PERMIT ISSUANCE" EMAIL TO SCHEDULE A MEETING.

ADDITIONAL NOTES

- 25. ALL COST OF SANITARY SEWER CONSTRUCTION BORNE BY ALL LOTS IN HAWTHORNE MEADOWS - PHASE 1.
- 26. PUBLIC STREET IMPROVEMENTS, INLETS, AND INLET LEADS TO BE CONSTRUCTED UNDER PORTLAND OFFICE OF TRANSPORTATION PERMIT JOB NO. TH0269.

STORMWATER NARRATIVE

CATEGORY 3 STORMWATER MANAGEMENT IS ACHIEVED BY PROVIDING TREATMENT AND FLOW CONTROL THROUGH FLOW THRU FACILITIES ON BOTH PRIVATE AND PUBLIC PROPERTY BEFORE BEING PIPED TO THE EXISTING STORMWATER ONLY SYSTEM IN SE 152ND AVENUE, THEREFORE MEETING THE 2014 PORTLAND STORMWATER MANAGEMENT MANUAL REQUIREMENTS.

PUBLIC: STORMWATER RUNOFF MANAGEMENT FOR THE PUBLIC ROADWAY WILL BE PROVIDED BY STREET SIDE FLOW THRU STORMWATER FACILITIES. THE FLOW THRU STORMWATER PLANTERS WILL PROVIDE BOTH FLOW CONTROL AND WATER QUALITY TREATMENT. THE PRIVATE STORMWATER RUNOFF WILL BE MANAGED ON THE PROPERTIES BEFORE BEING PIPED TO THE PUBLIC STORMWATER SYSTEM IN THE ROADWAY. IN BOTH THE PUBLIC AND PRIVATE CASES, AFTER INFILTRATING WITHIN THE STORMWATER PLANTER, STORMWATER WILL BE PIPED TO THE EXISTING STORMWATER ONLY SYSTEM IN SE 152ND AVENUE.

FOR THE PUBLIC IMPERVIOUS AREA, STORMWATER RUNOFF FLOWS FROM THE STREET CENTERLINE TO THE GUTTERS ON EITHER EDGE OF THE STREET AND THEN INTO STORMWATER FLOW THRU FACILITIES, FOCUSED AT THE LOW POINTS OF THE ROAD. THE STORMWATER FLOW THRU FACILITIES PROVIDE BOTH STORMWATER TREATMENT AND FLOW CONTROL. THERE IS PERFORATED PIPE RUNNING THE LENGTH OF ALL THE STORMWATER FACILITIES. AFTER INFILTRATING THROUGH THE GROWING MEDIUM AND DRAIN ROCK, THE STORMWATER RUNOFF WILL ENTER THE PERFORATED PIPE AND BE HARD PIPED INTO THE PUBLIC STORMWATER CONVEYANCE SYSTEM WITHIN THE STREET. THE STORMWATER FACILITIES ARE ARRANGED SUCH THAT OVERFLOWING WATER WILL DRAIN INTO ADJACENT FACILITIES TO MAXIMIZE STORMWATER TREATMENT AND FLOW CONTROL. AT BOTH ENDS OF THE PROPOSED ROADWAY ARE CATCH BASINS DESIGNED TO CATCH ANY RUNOFF THAT MIGHT OVERFLOW THE FACILITIES DURING THE LARGE STORM EVENTS. THE CATCH BASINS ARE PIPED INTO THE STORMWATER CONVEYANCE SYSTEM. THE NEW STORMWATER SYSTEM CONNECTS TO THE EXISTING SYSTEM BY TYING INTO AN EXISTING STORM MANHOLE IN 152ND AVENUE. TABLE 1 SHOWS A SUMMARY OF THE SIZES OF THE PUBLIC BASINS AND FACILITIES. TABLE 2 SHOWS THE PRE-CONSTRUCTION AND POST-CONSTRUCTION FACILITIES FOR THE PUBLIC BASINS.

PRIVATE: RUNOFF FROM THE HOUSE ROOFS AND DRIVEWAYS (PRIVATE BASINS) WILL BE PIPED INTO FACILITIES ON PRIVATE PROPERTY TO PROVIDE THE REQUIRED TREATMENT AND FLOW CONTROL. THE RUNOFF WILL THEN BE PIPED TO THE PROPOSED CONVEYANCE SYSTEM. THE PRIVATE STORMWATER FACILITIES WERE SIZED BASED ON THE AVERAGE LOT SIZE AND THE AVERAGE IMPERVIOUS AREA USING THE SIMPLIFIED METHOD SIZING FACTOR OF 0.09.

PUBLIC IMPERVIOUS AREA MANAGED: 24,945 SF

PUBLIC STORMWATER FACILITIES: 2,725 SF

PRIVATE IMPERVIOUS AREA MANAGED: 35,840 SF

PRIVATE STORMWATER FACILITIES: 3,848 SF

NOTICE TO EXCAVATORS:

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.

Call the Oregon One-Call Center
DIAL 811 or 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS
M-F 7am-6pm 503-226-4211 Ext.4313
AFTER HOURS 503-226-4211
PGE 503-464-7777
CENTURYLINK 1-800-573-1311
CITY BUREAU OF MAINTENANCE 503-823-1700
CITY WATER 503-823-4874
VERIZON 1-800-483-1000

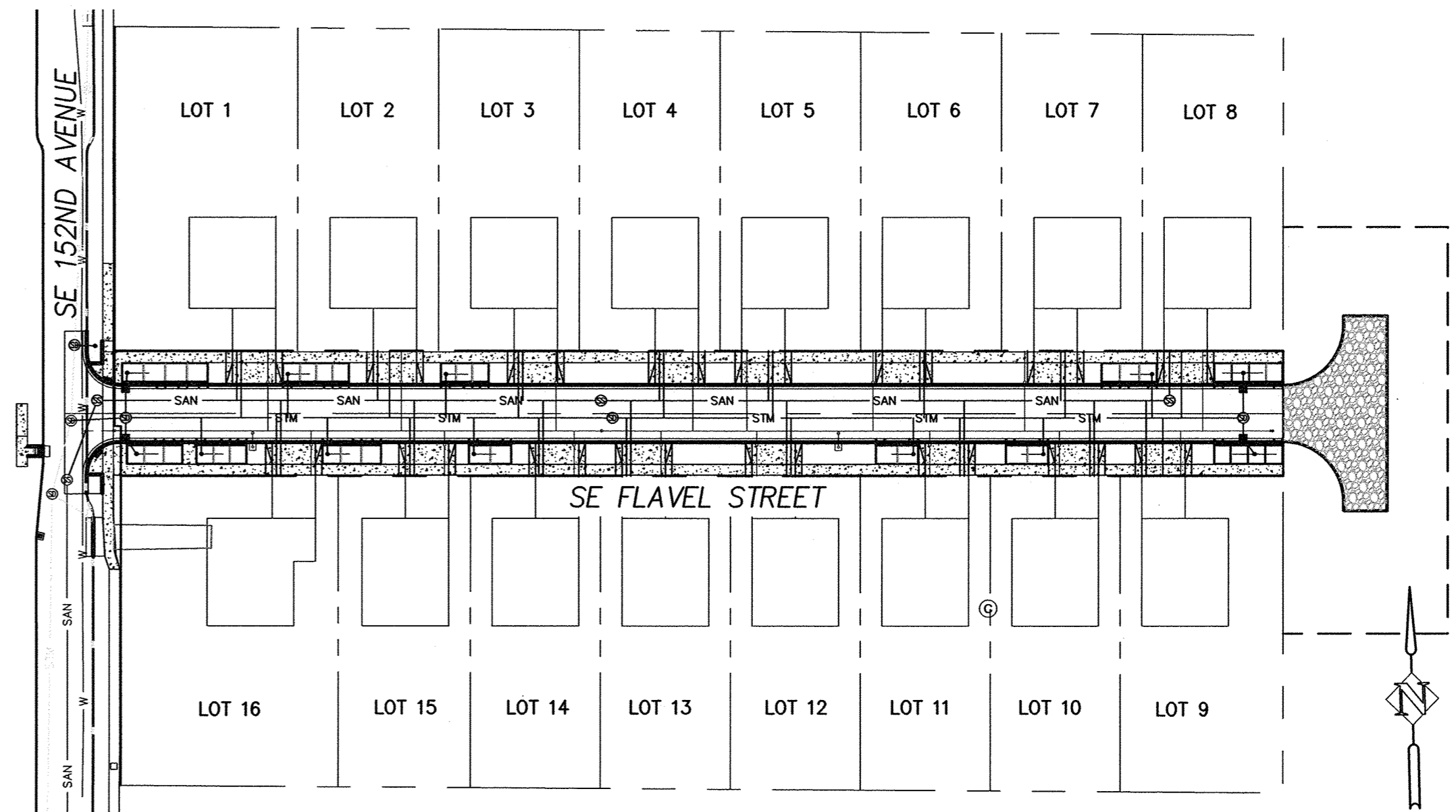
LEGEND

PROPOSED

- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- BLOW OFF
- CHANNEL INLET
- G2 INLET
- CLEANOUT
- STREET TREE
- STREET LIGHT
- STREET SIGN
- CONCRETE
- ASPHALT PAVEMENT
- LOT LINE
- ROW
- SANITARY LINE
- WATER LINE
- STORM LINE
- EASEMENT
- CURB

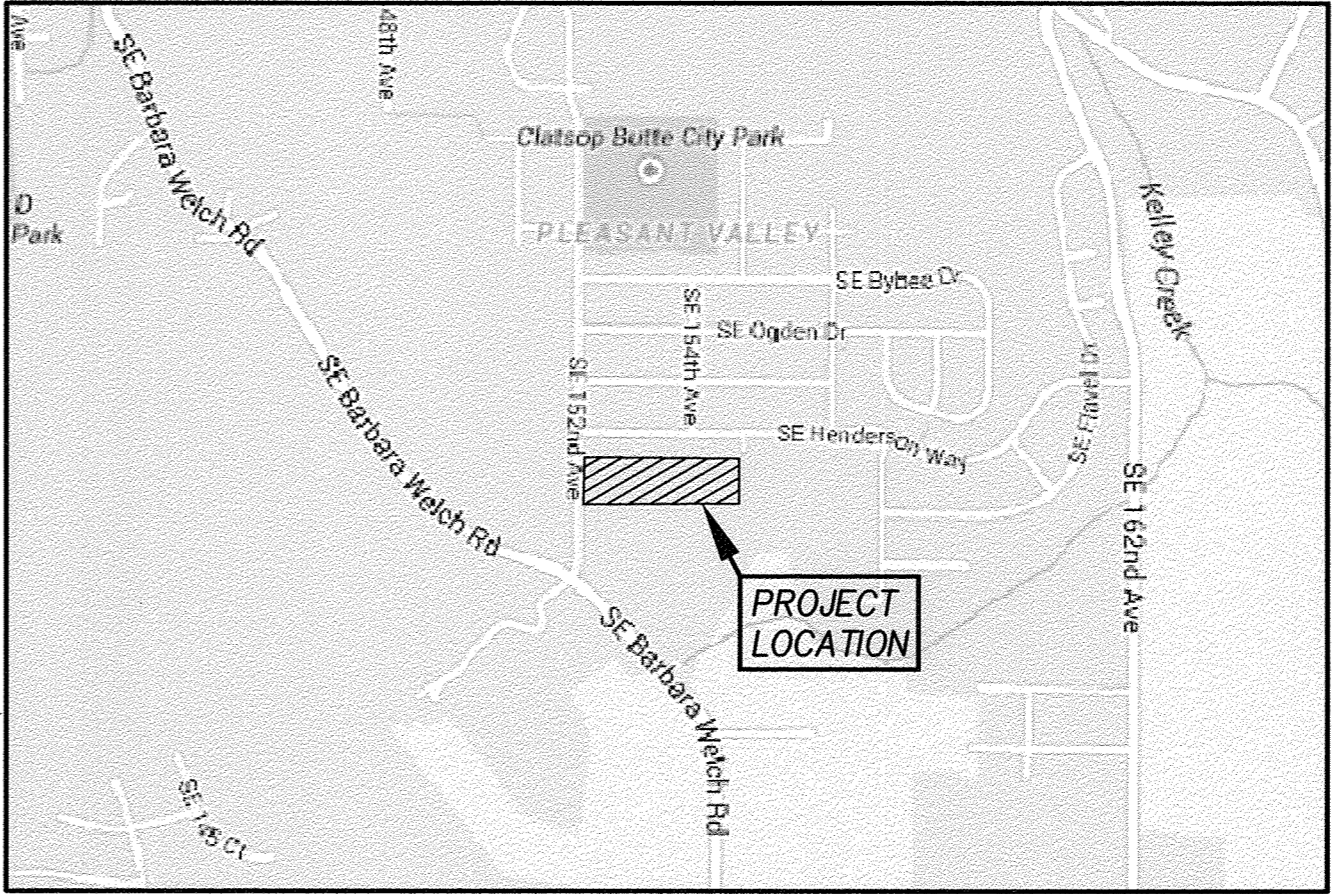
EXISTING

- TREE
- WATER VALVE
- POWER POLE
- MANHOLE
- CLEAN OUT
- CATCH BASIN
- INLET
- FIRE HYDRANT
- WATER LINE
- GAS LINE
- ELECTRIC LINE
- SANITARY LINE
- STORM LINE
- ROW CENTERLINE



SITE MAP

SCALE: 1" = 60'

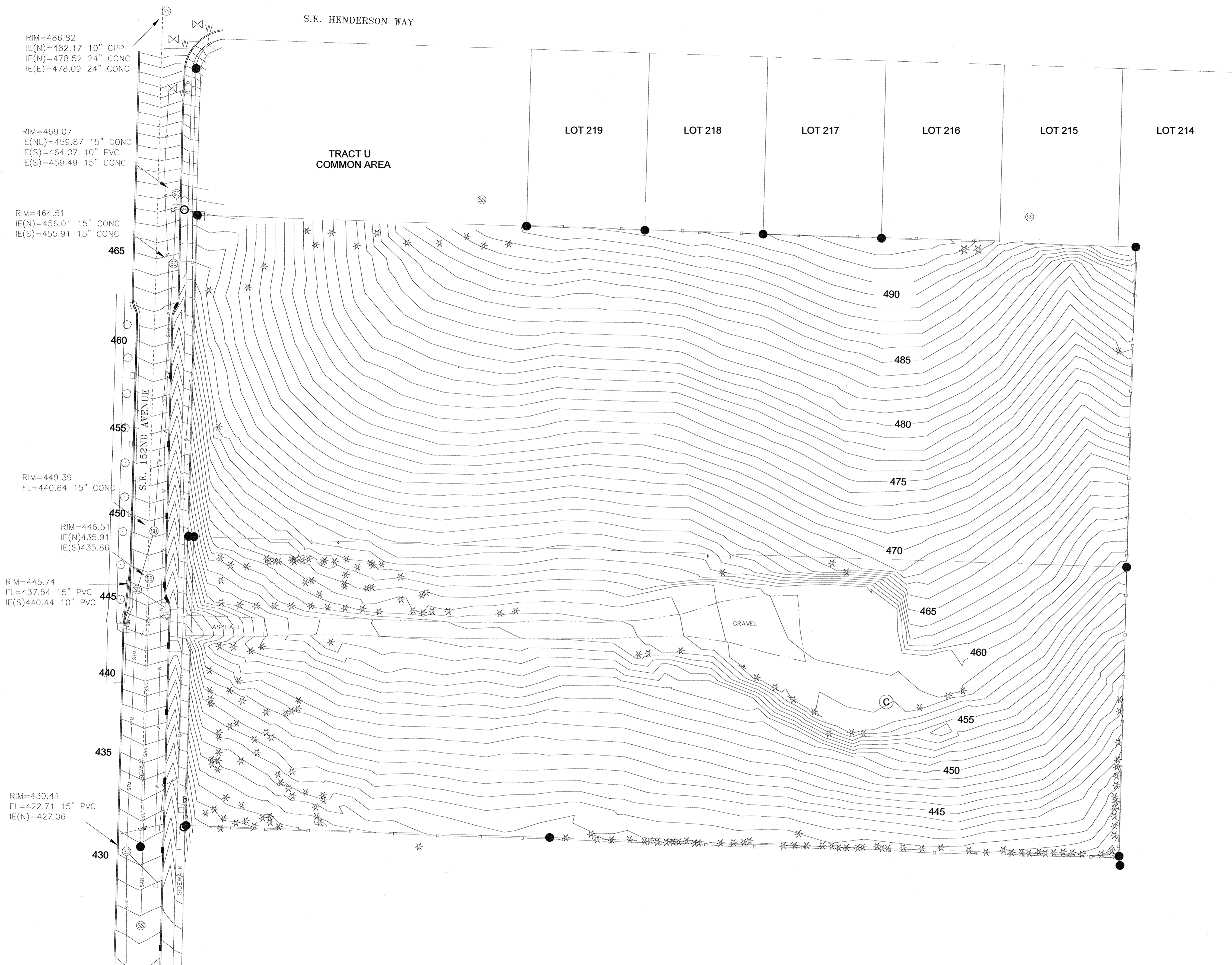


VICINITY MAP



















NTS

FILE: JTS01 - 1 - BES - COVER.DWG Layout1 9/5/2017 3:53:20 PM - NATHANS

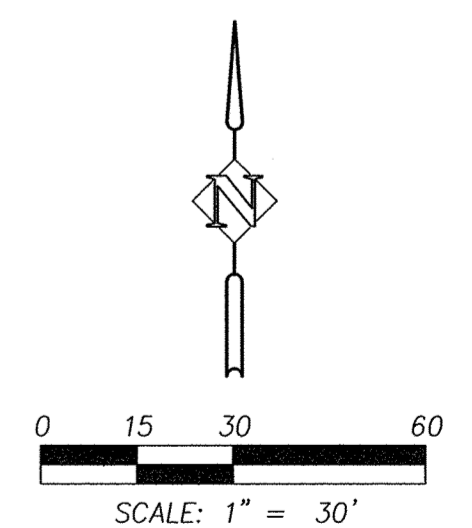
Table with project details, approvals, and contact information. Includes sections for Revisions, Final Map Data, Approvals, Bureau of Environmental Services, Harper Houf Peterson Righellis Inc., and project location details.

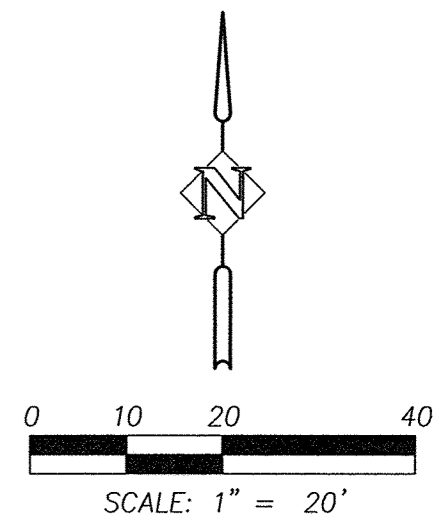


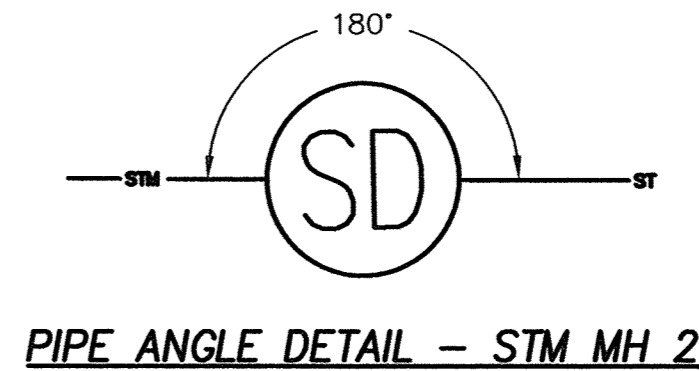
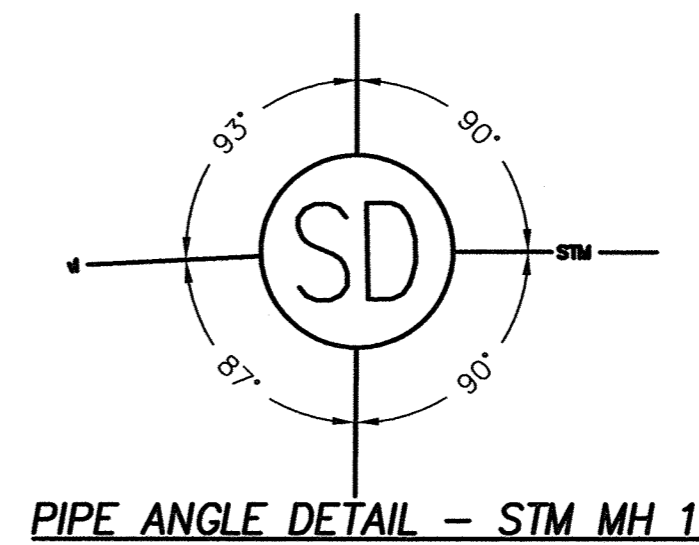
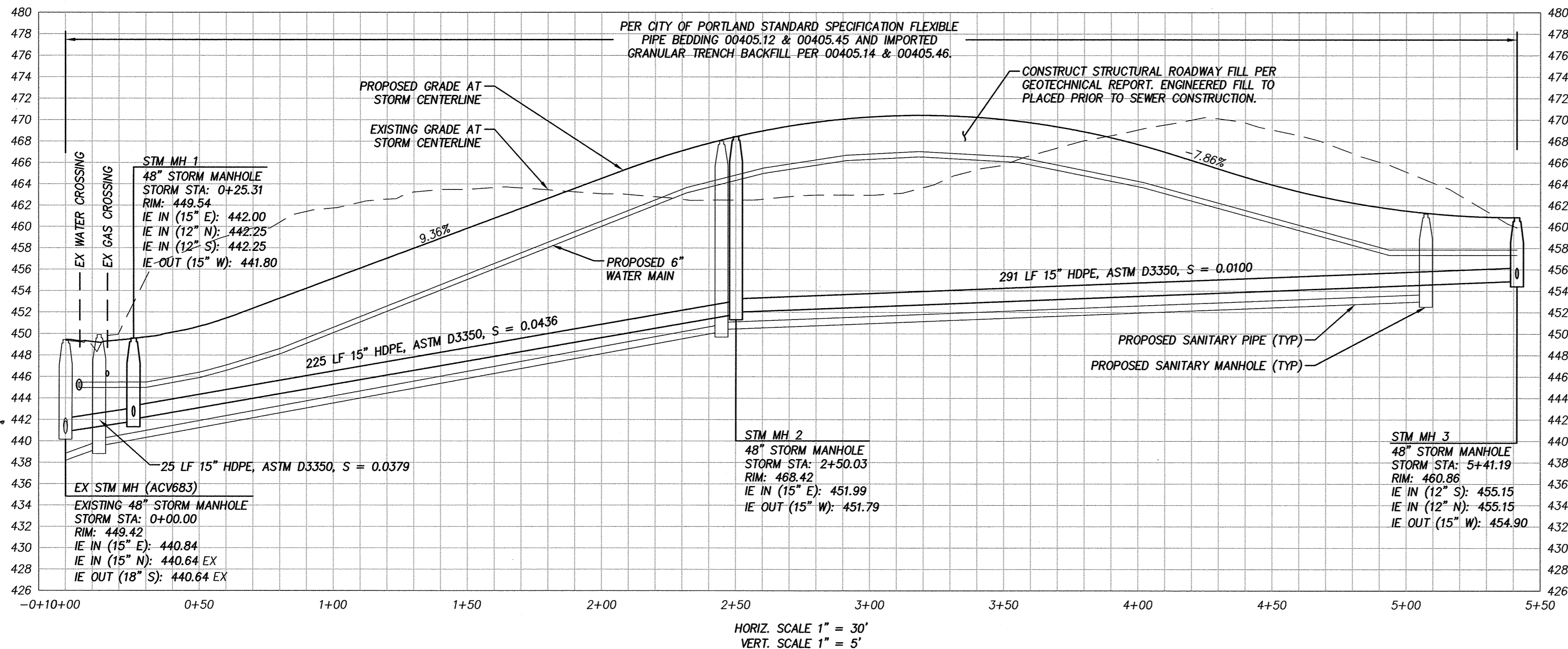
LEGEND

- |   |   |                  |
|---|---|------------------|
|      | = | PROPERTY PIN     |
|      | = | POWER POLE       |
|      | = | GUY ANCHOR       |
|      | = | GAS RISER        |
|      | = | WATER VALVE      |
|      | = | SANITARY MANHOLE |
|      | = | STORM MANHOLE    |
|      | = | CLEAN OUT        |
|      | = | CATCH BASIN      |
|      | = | CURB INLET       |
|      | = | FIRE HYDRANT     |
|  W   | = | WATER LINE       |
|  G   | = | GAS LINE         |
|  UGP | = | ELECTRIC LINE    |
|  SAN | = | SANITARY LINE    |
|  STM | = | STORM LINE       |
|    | = | TREE             |
|    |   |                  |

ELEVATION DATUM:  
CITY OF PORTLAND  
BENCH MARK 3505  
AT SW CORNER OF SE BELMORE  
AND SE 152ND.

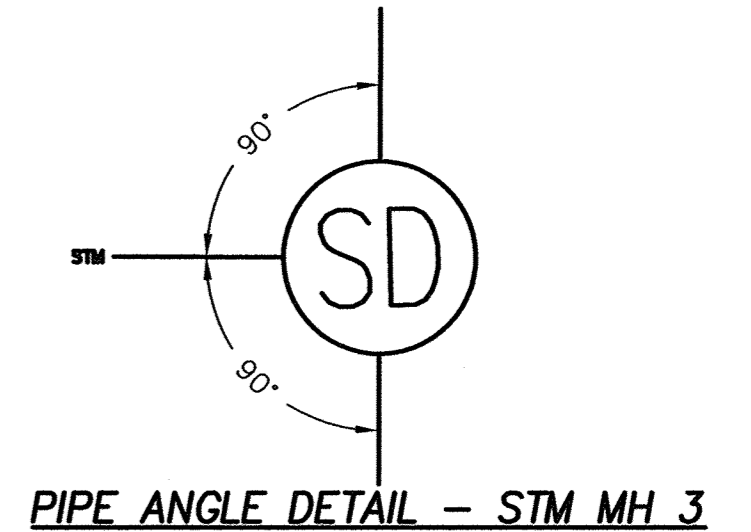
[illegible]





### CONSTRUCTION NOTES

1. CONSTRUCT 48" MANHOLE. SEE STD. DRGS. P-150 & P-151. SEE PIPE ANGLE DETAIL THIS SHEET.
2. CONSTRUCT 6" STORM LATERAL. SEE STD. DRG. P-262.
3. CONNECT TO EXISTING STORM MANHOLE. ADJUST RIM TO FINISH GRADE. STORM STA: 0+00.00  
STREET CL STA: 00+02.91  
RE-CHANNEL BOTTOM
4. CONTRACTOR TO POT HOLE EXISTING WATER AND GAS ON SE 152ND AVENUE PRIOR TO CONSTRUCTION TO CONFIRM CLEARANCE AND MEET SEPERATION REQUIREMENTS.



### STORM FACILITY LATERAL TABLE

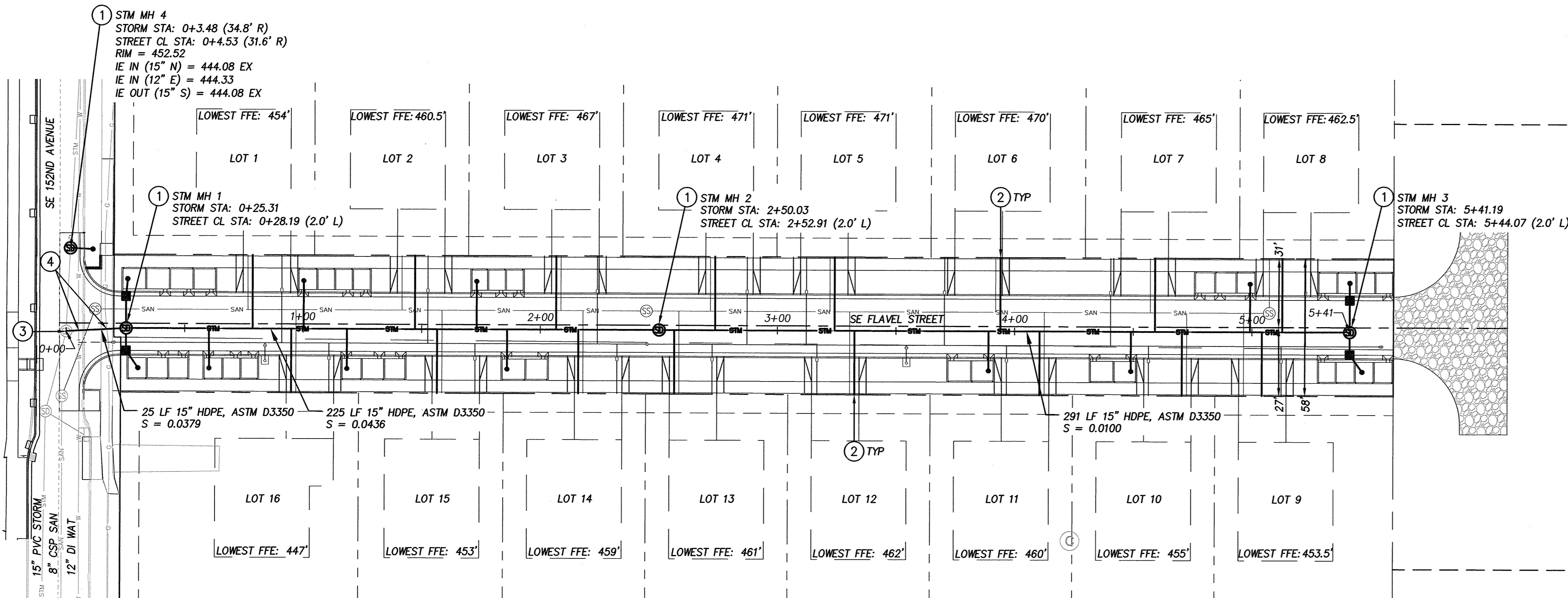
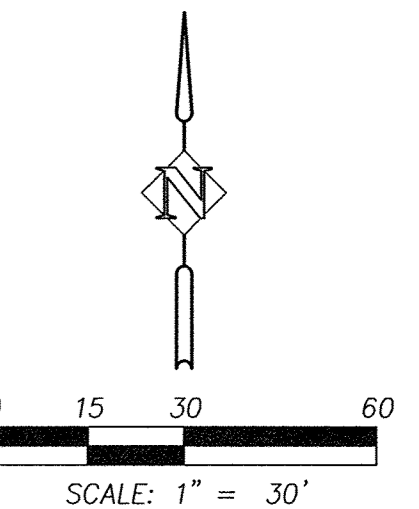
SERVICE LATERALS SHALL BE 6" HDPE, ASTM D3350 PIPE. INSTALL AT 2% MINIMUM SLOPE. FLEXIBLE PIPE BEDDING PER 00405.12 & 00405.45 AND BACKFILL PER 00405.14 & 00405.46.

LOT #	STATION	IE OF MAIN	IE OF LAT @ MAIN	IE @ CLEANOUT	PIPE LENGTH	SLOPE TO MAIN
2	1+00.15	445.26	445.64	450.24	20.25'	0.2273
3	1+73.15	448.45	448.82	457.54	20.25'	0.4306
7	4+99.15	454.48	454.86	457.80	20.25'	0.1454
10	4+48.97	453.98	454.35	460.38	16.75'	0.3597
11	3+88.97	453.38	453.75	464.62	16.75'	0.6487
14	1+85.97	449.00	449.38	458.82	16.75'	0.5636
15	1+18.47	446.06	446.44	452.07	16.75'	0.3363
16	0+60.29	443.53	443.90	446.51	16.75'	0.1558

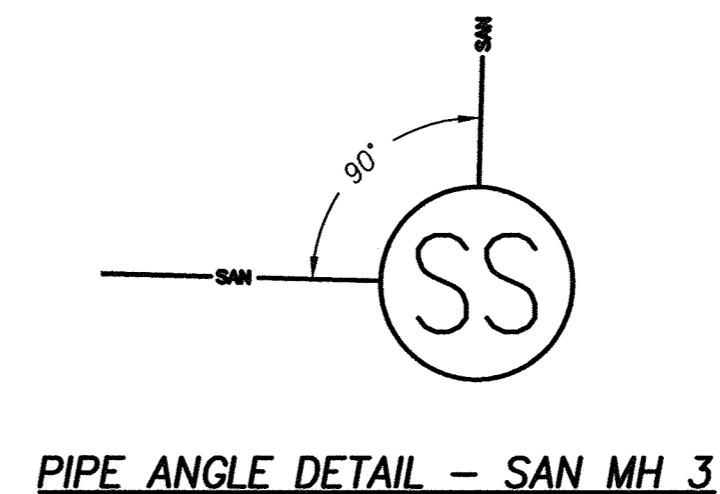
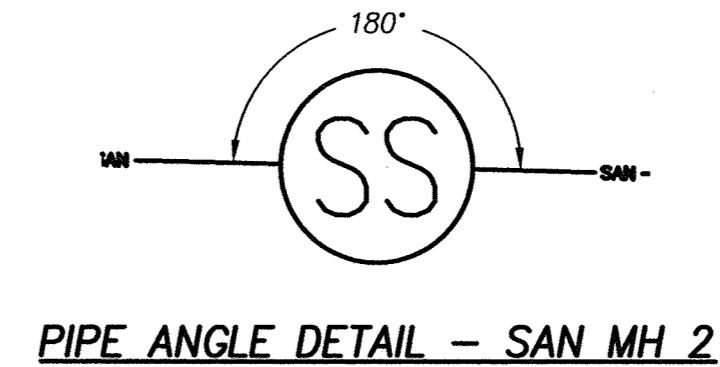
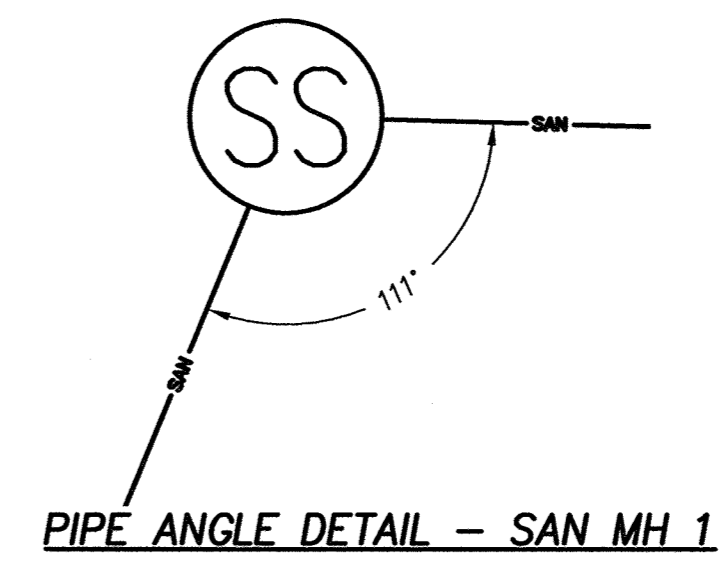
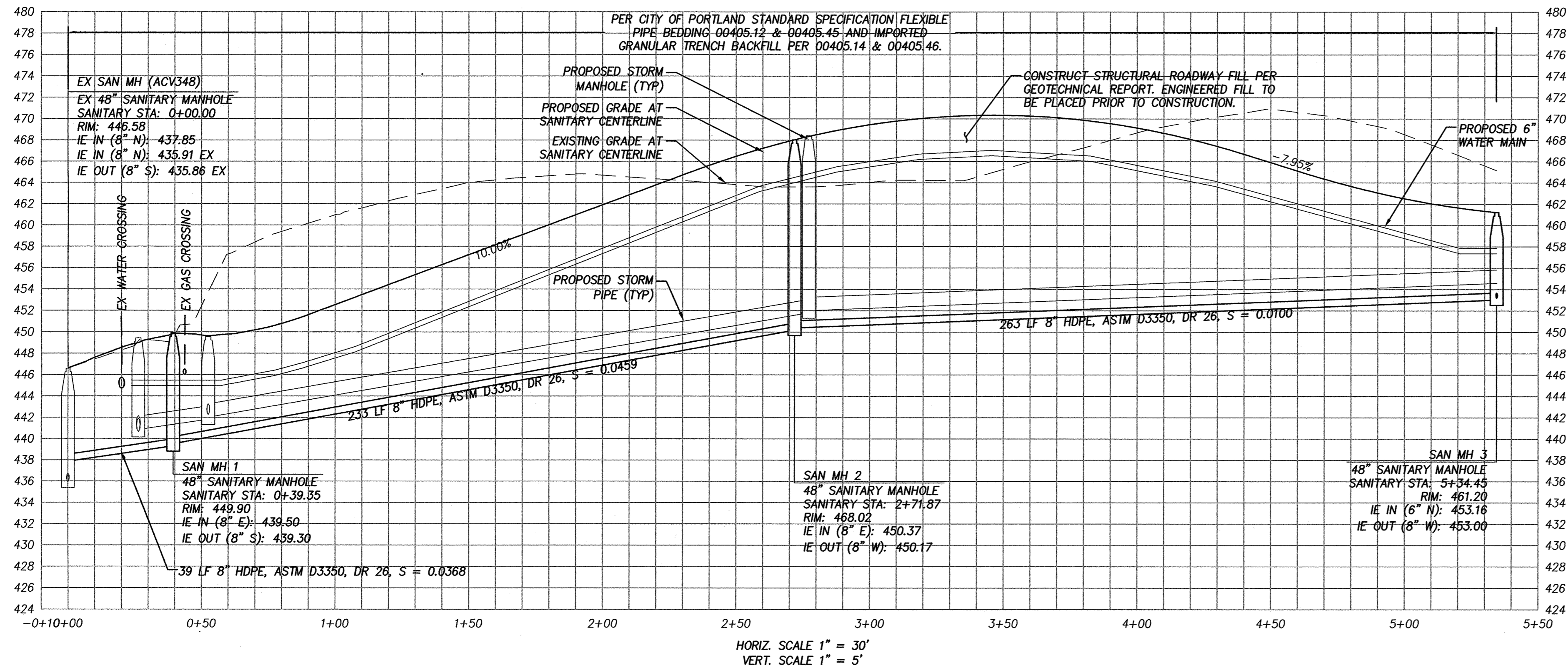
### STORM DRAIN SERVICE LATERAL TABLE

SERVICE LATERALS SHALL BE 6" HDPE, ASTM D3350 PIPE. INSTALL AT 2% MINIMUM SLOPE. FLEXIBLE PIPE BEDDING PER 00405.12 & 00405.45 AND BACKFILL PER 00405.14 & 00405.46.

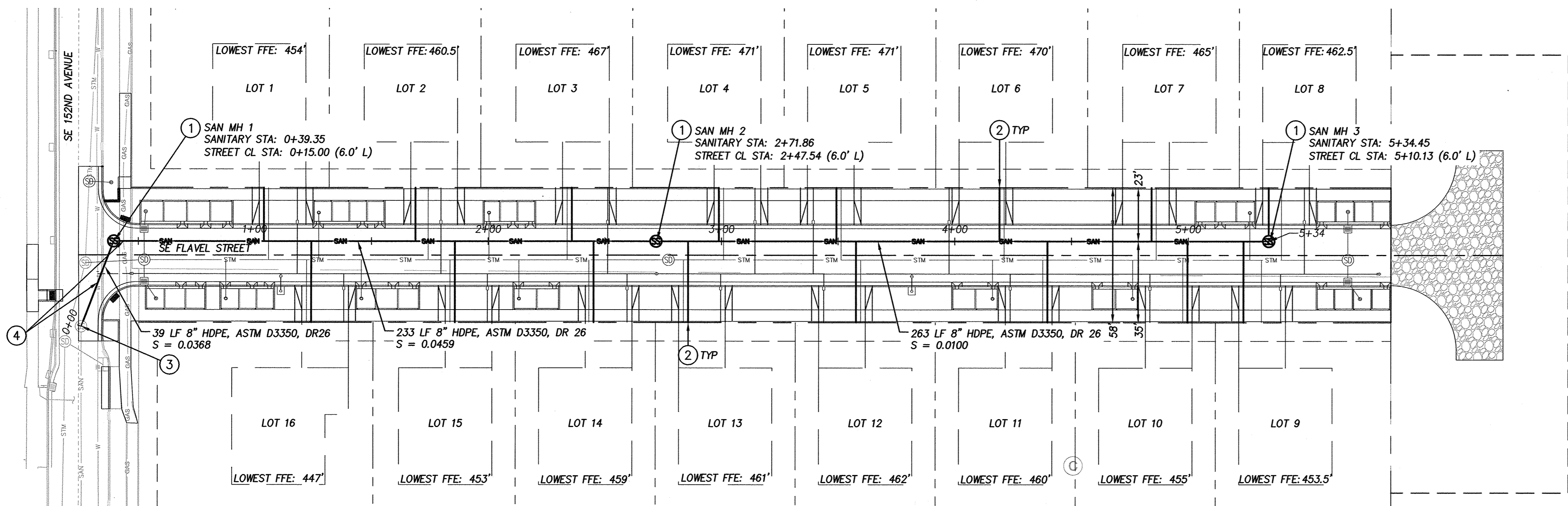
LOT #	STATION	IE OF MAIN	IE OF LAT @ MAIN	IE @ R.O.W.	PIPE LENGTH WITHIN R.O.W.	SLOPE TO R.O.W.
1	0+78.65	444.33	444.70	449.00	31'	0.1387
2	1+47.12	447.31	447.69	455.50	31'	0.2521
3	2+06.62	449.91	450.28	462.00	31'	0.3781
4	2+73.69	452.23	452.60	466.00	31'	0.4322
5	3+24.09	452.73	453.11	466.00	31'	0.4159
6	3+93.93	453.43	453.80	465.00	31'	0.3612
7	4+59.09	454.08	454.46	460.00	31'	0.1789
8	5+12.74	454.62	454.99	457.50	31'	0.0809
9	5+04.17	454.53	454.91	457.00	27'	0.0775
10	4+70.47	454.19	454.57	459.00	27'	0.1641
11	4+10.47	453.59	453.97	463.00	27'	0.3345
12	3+32.47	452.81	453.19	466.00	27'	0.4745
13	2+56.44	452.05	452.43	465.00	27'	0.4656
14	2+15.97	450.31	450.69	462.00	27'	0.4190
15	1+56.47	447.72	448.09	456.00	27'	0.2928
16	0+94.97	445.04	445.41	450.00	27'	0.1699



DESIGNED BY BJB		D.E. APPROVAL 		APPROVAL: 		BUREAU OF ENVIRONMENTAL SERVICES NICK FISH WILLIAM F. RYAN, P.E.		COMMISSIONER CHIEF ENGINEER		Harper Houf Peterson Righellis Inc. ENGINEERS • PLANNERS LANDSCAPE ARCHITECTS • SURVEYORS 205 SE Spokane Street, Suite 200, Portland, OR 97202 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171		REGISTERED PROFESSIONAL ENGINEER 77,944 OREGON JAN. 3, 2011 BEAU J. BRAMAN EXPIRES: 12/31/2017		SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS HAWTHORNE MEADOWS SUBDIVISION - PHASE 1 15 - 195679 LU STORM SEWER PLAN AND PROFILE		BES JOB NO. EP204 SHEET NO. 4 OF 9											
CONSTRUCTED BY		PROJECT COMPLETED		MAP CORRECTED BY		CHECKED BY		DESIGNED BY		D.E. APPROVAL		APPROVAL:		BUREAU OF ENVIRONMENTAL SERVICES		COMMISSIONER		Harper Houf Peterson Righellis Inc.		REGISTERED PROFESSIONAL ENGINEER		SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS		BES JOB NO.			
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE	
NO.		DATE		DESCRIPTION		APPD.		NO.		DATE		DESCRIPTION		APPD.		NO.		DATE									

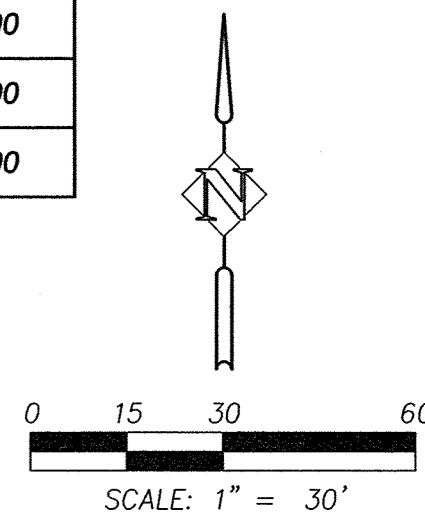


- CONSTRUCTION NOTES**
1. CONSTRUCT 48" MANHOLE. SEE STD. DRGS. P-150 & P-151. SEE PIPE ANGLE DETAIL THIS SHEET.
  2. CONSTRUCT 6" SANITARY LATERAL. SEE STD. DRG. P-262.
  3. CONNECT TO EXISTING SANITARY MANHOLE. ADJUST RIM TO FINISH GRADE. SANITARY STA: 0+00.00  
STREET CL STA: 00+01.01  
SEE ODOT STD DWG RD339 FOR CONNECTION DETAIL.  
RE-CHANNEL BOTTOM
  4. CONTRACTOR TO POTHOLE EXISTING WATER AND GAS ON SE 152ND AVENUE PRIOR TO CONSTRUCTION TO CONFIRM CLEARANCE AND MEET SEPERATION REQUIREMENTS.

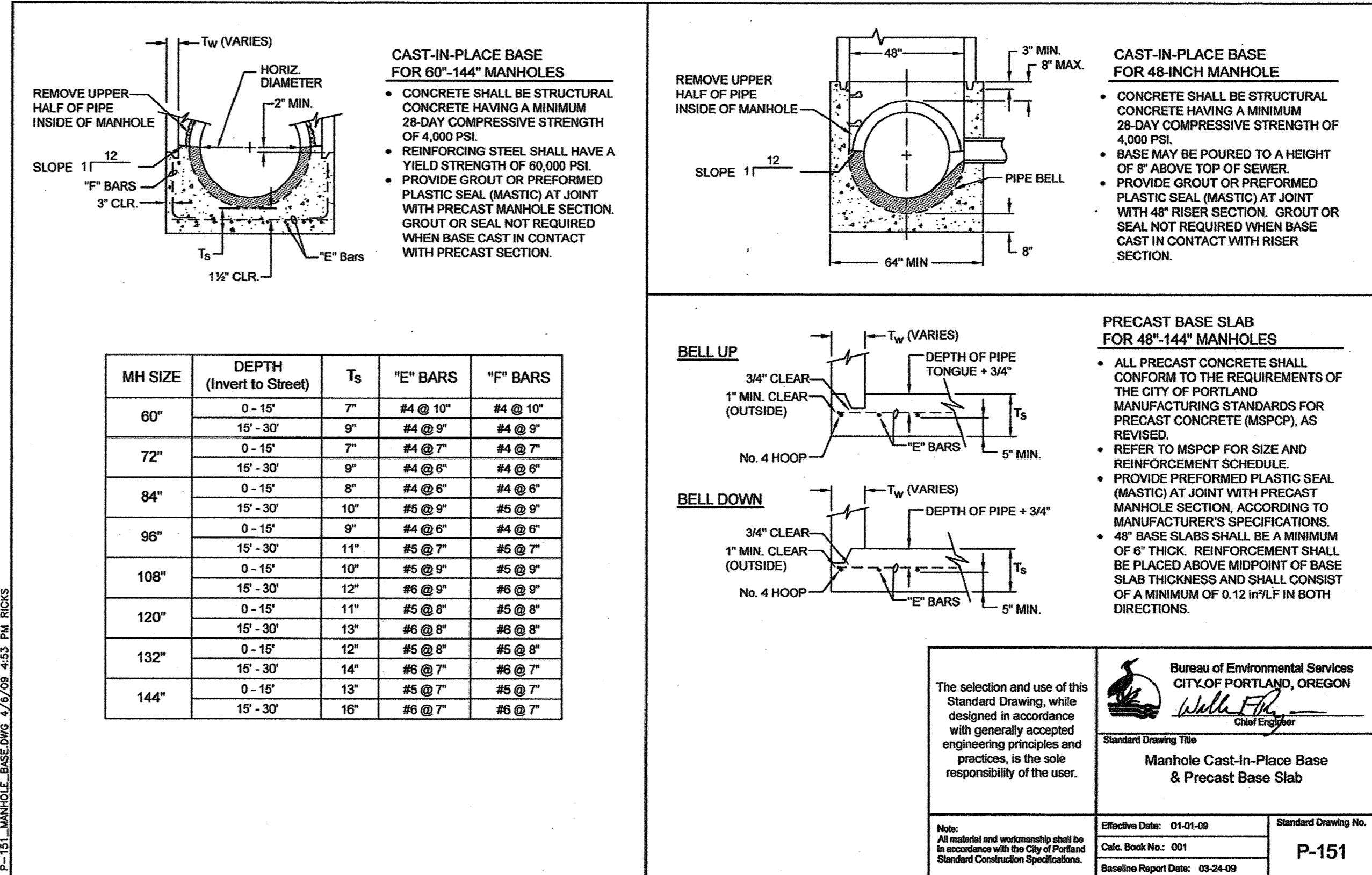
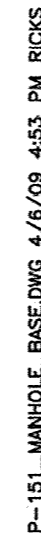


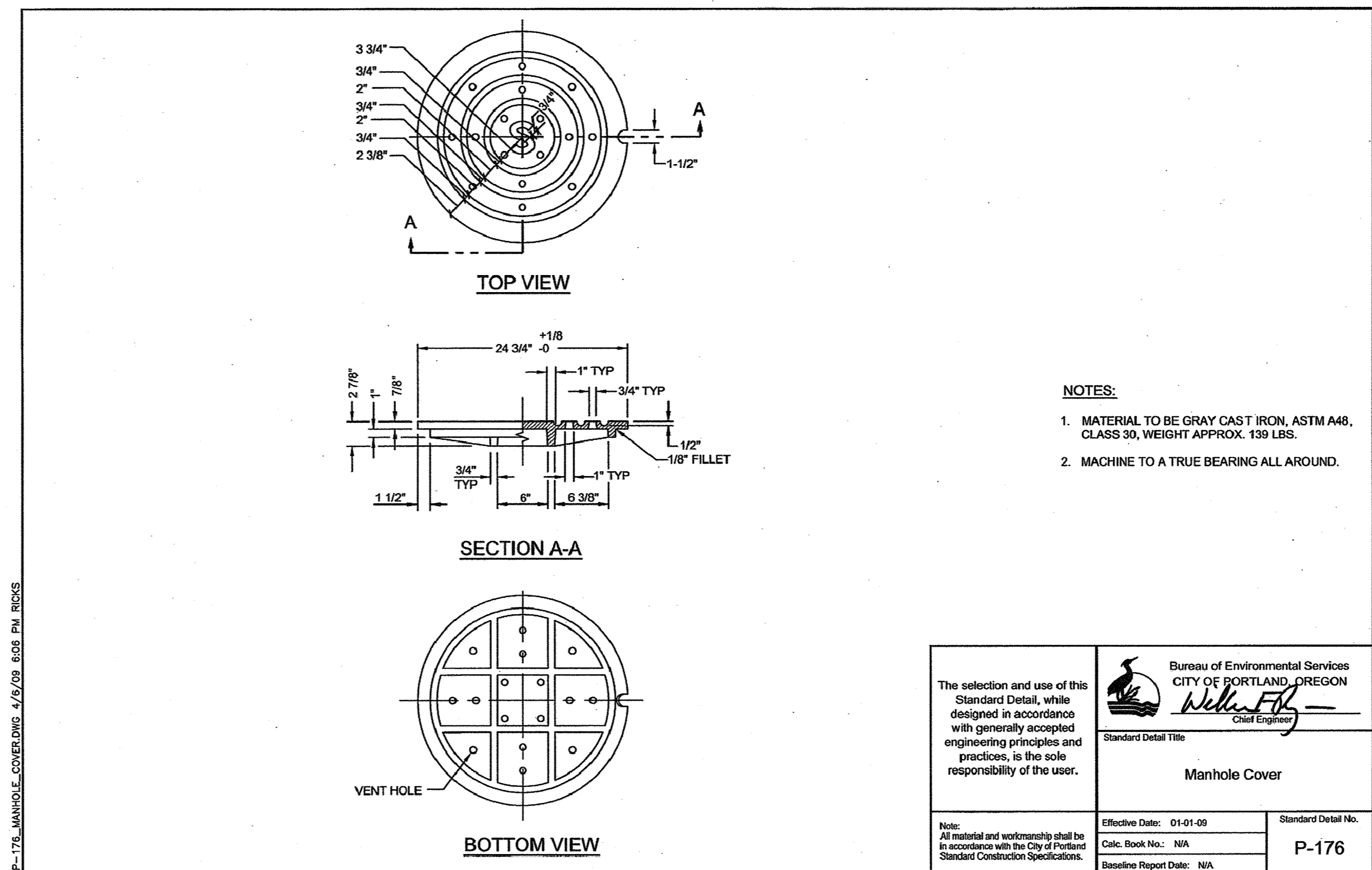
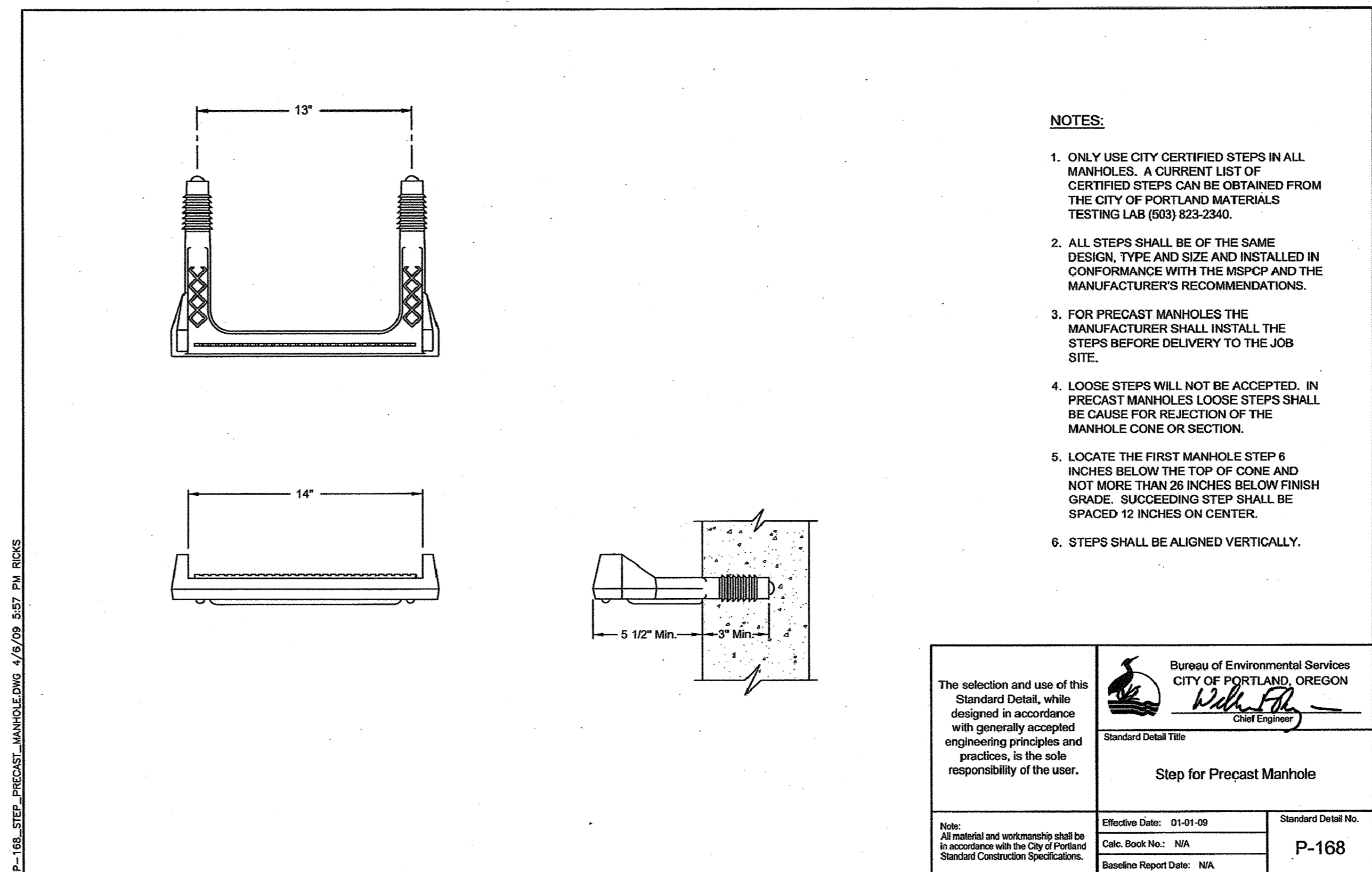
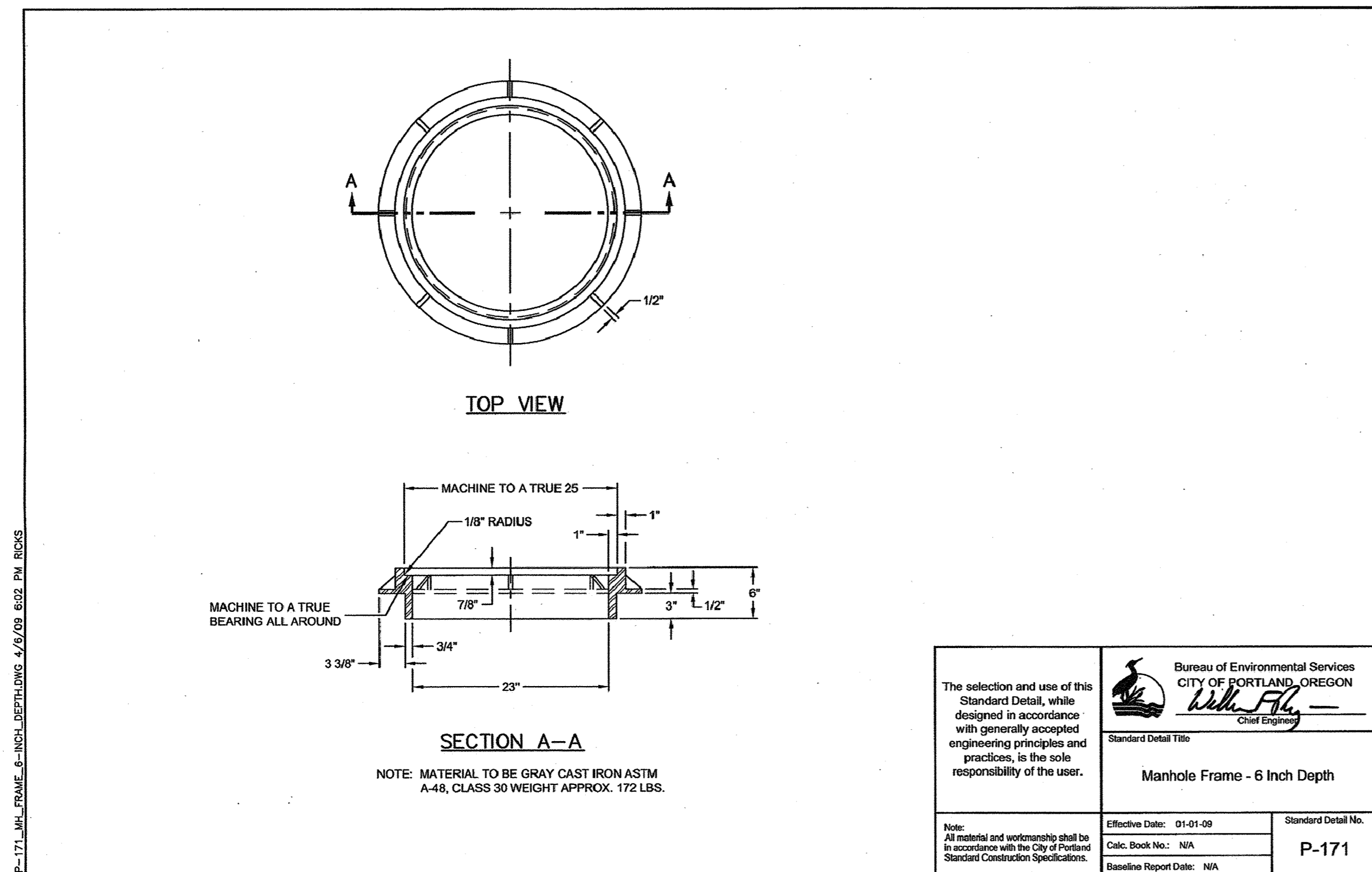
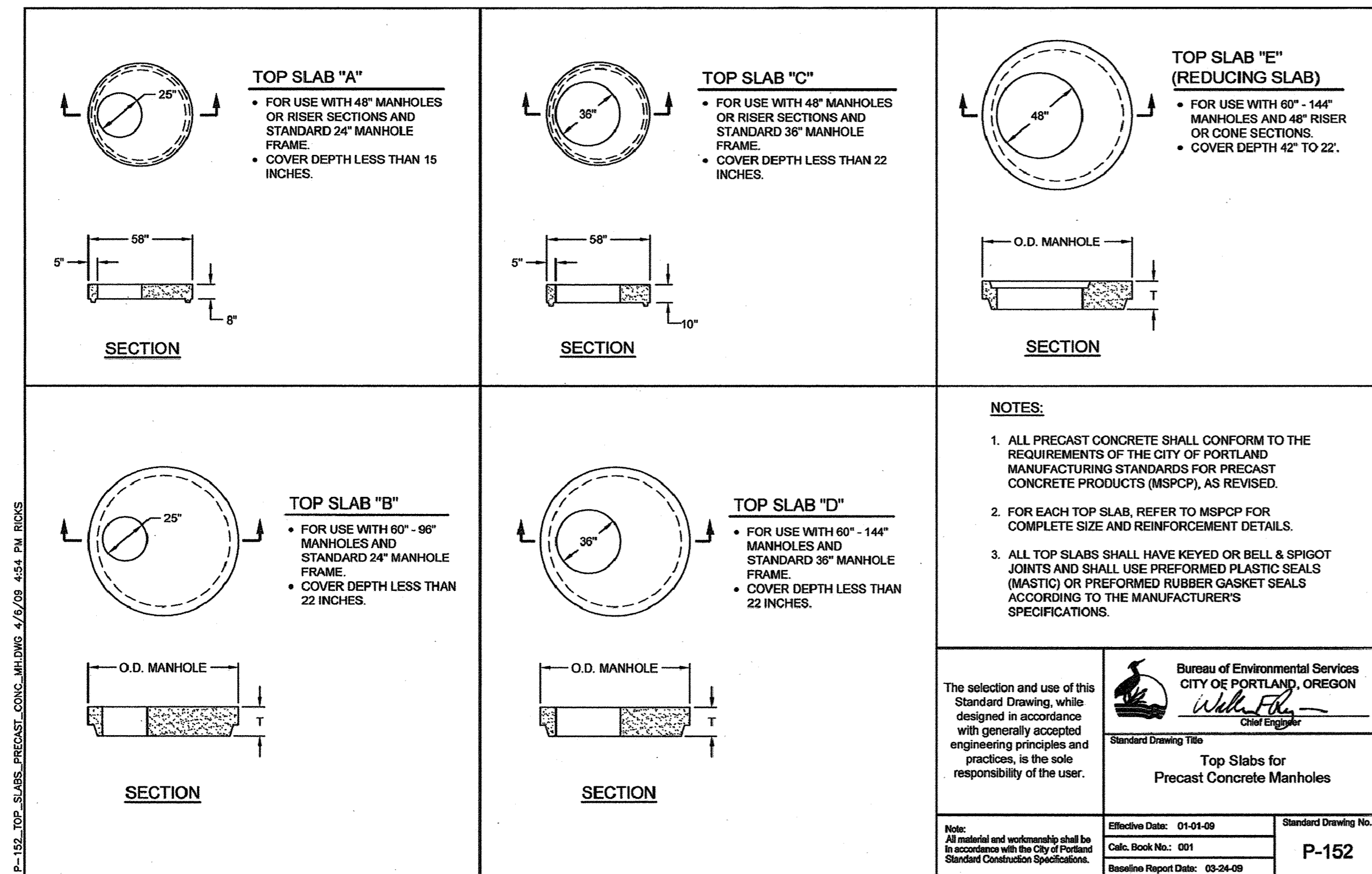
SANITARY SERVICE LATERAL TABLE						
SERVICE LATERALS SHALL BE HDPE PIPE. FLEXIBLE PIPE BEDDING PER 00405.12 & 00405.45 AND BACKFILL PER 00405.14 & 00405.46.						
LOT #	STATION	IE OF MAIN	IE OF LAT @ MAIN	IE @ R.O.W.	PIPE LENGTH WITHIN R.O.W.	SLOPE TO R.O.W.
1	1+03.84	442.46	442.54	449.00	23'	0.2809
2	1+68.84	445.44	445.53	455.50	23'	0.4335
3	2+35.82	448.52	448.60	462.00	23'	0.5826
4	2+98.86	450.64	450.72	466.00	23'	0.6643
5	3+49.28	451.14	451.23	466.00	23'	0.6422
6	4+19.12	451.84	451.93	465.00	23'	0.5683
7	4+84.28	452.49	452.58	460.00	23'	0.3226
8	5+34.44	453.00	453.08	457.50	23'	0.1922
9	5+23.66	452.89	452.97	453.67	35'	0.0200
10	4+99.67	452.65	452.73	453.43	35'	0.0200
11	4+39.66	452.05	452.13	452.83	35'	0.0200
12	3+57.66	451.23	451.31	452.01	35'	0.0200
13	2+85.63	450.51	450.59	451.29	35'	0.0200
14	2+45.16	448.95	449.03	449.73	35'	0.0200
15	1+85.75	446.22	446.30	447.00	35'	0.0200
16	1+24.17	443.39	443.48	444.18	35'	0.0200

NOTE: LOTS 9, 10, & 16 WILL NEED PRIVATE GRINDER PUMPS FOR DAYLIGHT FLOOR CONSTRUCTION








DESIGNED BY BJB	D.E. APPROVAL <i>[Signature]</i>	APPROVAL:  <i>William F. Ryan</i> 9/18/17 BES CHIEF ENGINEER REG. PROF. ENGR. 16301PE	BUREAU OF ENVIRONMENTAL SERVICES  NICK FISH COMMISSIONER WILLIAM F. RYAN, P.E. CHIEF ENGINEER		REGISTERED PROFESSIONAL ENGINEER 77,944 OREGON JAN. 3, 2011 BEAU J. BRAMAN EXPIRES: 12/31/2017	SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS HAWTHORNE MEADOWS SUBDIVISION - PHASE 1 15 - 195679 LU SANITARY SEWER PLAN AND PROFILE	BES JOB NO. EP204
PROJECT COMPLETED	CONST. APPROVAL <i>[Signature]</i>						SHEET NO.
MAP CORRECTED BY							
CHECKED BY BMH							5 OF 9
CONSTRUCTED BY							
NO. DATE DESCRIPTION	APPD.						
REVISIONS		FINAL MAP DATA					

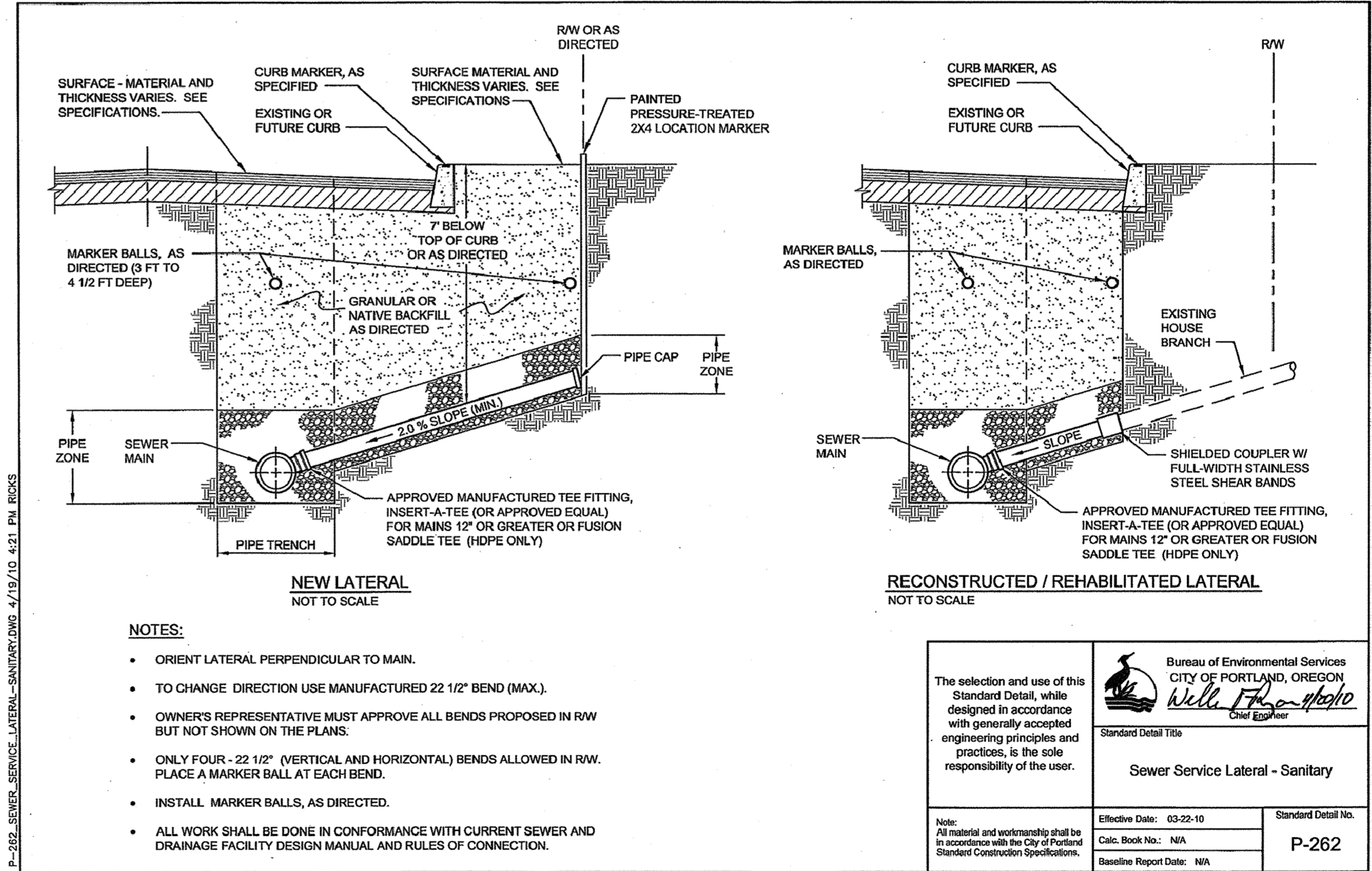
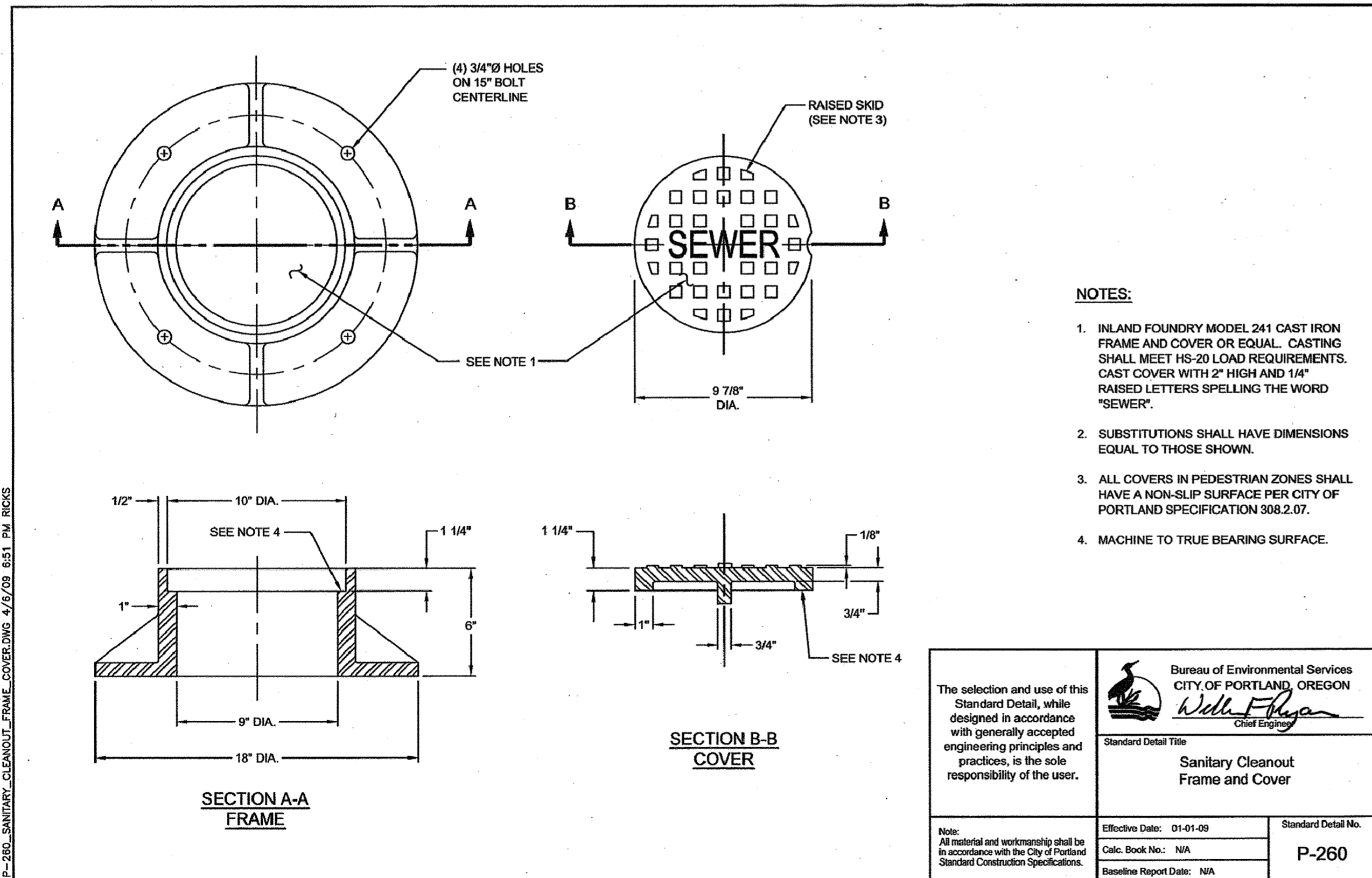
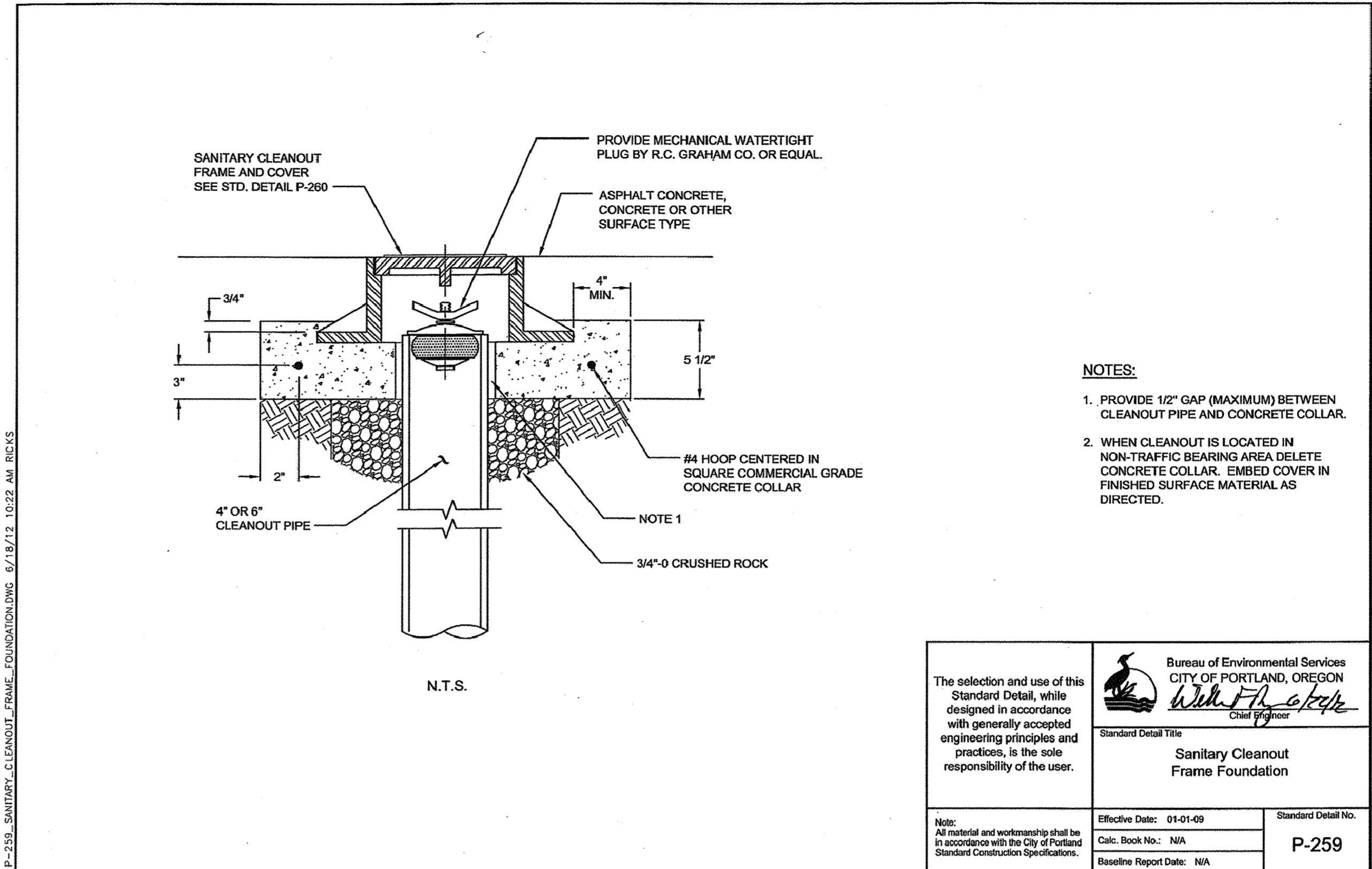
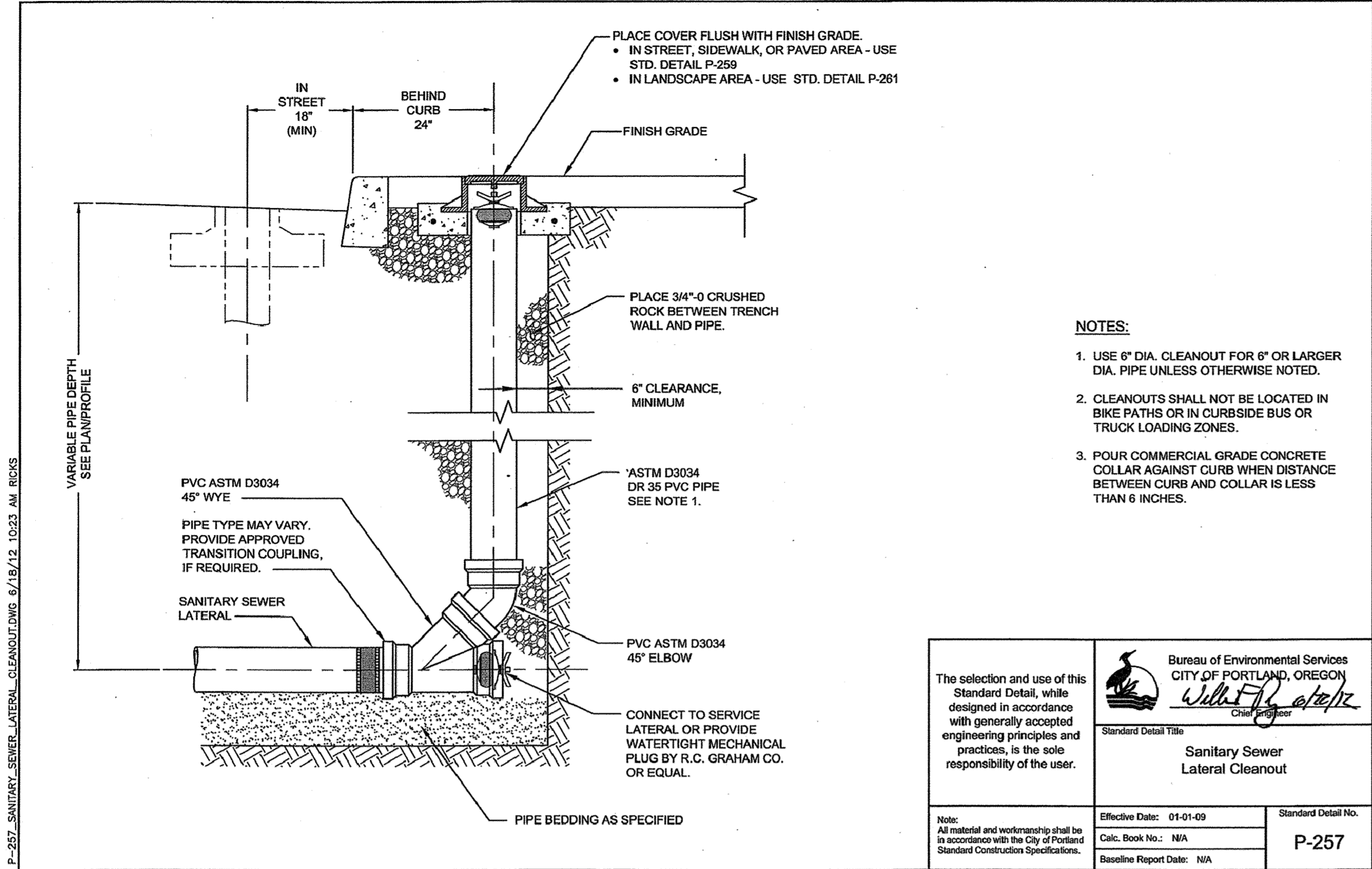


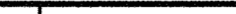











FILE: JTS01 - 7 - BES - BES DETAILS.DWG Layout1 9/5/2017 4:03:11 PM - NATHANS

				DESIGNED BY BJB		D.E. APPROVAL 				APPROVAL:   BES CHIEF ENGINEER REG. PROF. ENGR. 16301PE		BUREAU OF ENVIRONMENTAL SERVICES  NICK FISH COMMISSIONER  WILLIAM F. RYAN, P.E. CHIEF ENGINEER		 <b>Harper Houf Peterson Righellis Inc.</b>  ENGINEERS • PLANNERS LANDSCAPE ARCHITECTS • SURVEYORS 205 SE Spokane Street, Suite 200, Portland, OR 97202 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171		  EXPIRES: 12/31/2017		SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS HAWTHORNE MEADOWS SUBDIVISION - PHASE 1  15 - 195679 LU  BES DETAILS		BES JOB NO. EP204	
CONSTRUCTED BY _____				CAD BY GHD		CONST. APPROVAL ---														SHEET NO.	
PROJECT COMPLETED _____				CHECKED BY BMH																7 OF 9	
MAP CORRECTED BY _____																					
CHECKED BY _____																					
NO. DATE DESCRIPTION APPD.				FINAL MAP DATA																	
REVISIONS																					

FILE: JTS01 - 8 - BES - BES DETAILS.DWG Layout: 9/5/2017 4:04:22 PM - NATHANS



						DESIGNED BY BJB		D.E. APPROVAL 			APPROVAL:   BES CHIEF ENGINEER REG. PROF. ENGR. 16301PE	BUREAU OF ENVIRONMENTAL SERVICES  NICK FISH COMMISSIONER  WILLIAM F. RYAN, P.E. CHIEF ENGINEER	 <b>Harper Houf Peterson Righellis Inc.</b>  ENGINEERS • PLANNERS LANDSCAPE ARCHITECTS • SURVEYORS 205 SE Spokane Street, Suite 200, Portland, OR 97202 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171	 REGISTERED PROFESSIONAL ENGINEER 77,941 BEAU J. BRAMAN JAN. 3, 2011 OREGON EXPIRES: 12/31/2017	SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS HAWTHORNE MEADOWS SUBDIVISION - PHASE 1 15 - 195679 LU BES DETAILS	BES JOB NO. EP204 SHEET NO. 8 OF 9	
						PROJECT COMPLETED		CONST. APPROVAL ---									
						MAP CORRECTED BY											
						CHECKED BY BMH											
NO.		DATE		DESCRIPTION		APPD.		FINAL MAP DATA									
REVISIONS																	

				DESIGNED BY BJB		D.E. APPROVAL 		 APPROVAL:   BES CHIEF ENGINEER      REG. PROF. ENGR. 16301PE	BUREAU OF ENVIRONMENTAL SERVICES  NICK FISH      COMMISSIONER  WILLIAM F. RYAN, P.E.      CHIEF ENGINEER		 <b>Harper Houf Peterson Righellis Inc.</b> ENGINEERS • PLANNERS LANDSCAPE ARCHITECTS • SURVEYORS 205 SE Spokane Street, Suite 200, Portland, OR 97202 phone: 503.221.1131 www.hhpr.com fax: 503.221.1171		 EXPIRES: 12/31/2017		SE FLAVEL STREET E/O SE 152ND AVENUE SEWER IMPROVEMENTS HAWTHORNE MEADOWS SUBDIVISION - PHASE 1 15 - 195679 LU BES DETAILS		BES JOB NO. EP204	
CONSTRUCTED BY _____				CAD BY _____		CONST. APPROVAL ----											SHEET NO.	
PROJECT COMPLETED _____				GHD													9 OF 9	
MAP CORRECTED BY _____				CHECKED BY BMH														
CHECKED BY _____																		
NO.      DATE      DESCRIPTION      APPD.																		
REVISIONS				FINAL MAP DATA														



## \*BIOBAGS MUST BE REMOVED AT END OF JOB

MAY BE USED SHORT TERM  
W/ UTILITY WORK AND W/  
PHASING OF DEVELOPMENT

**CATCH BASIN**

NTS

FIBER ROLL

**AREA DRAIN**

NTS

MAXIMUM 3 MONTH  
USE WITH  
ALL IN STREET  
APPLICATIONS

FACE OF  
CURB

**CURBSIDE  
SEDIMENT  
ATTENUATOR**

NTS

**NOTE**  
USE INSERT SACKS  
ALONG W/BIOBAGS TO  
PROTECT INLETS.

MAXIMUM  
3 MONTH USE—  
FOR ROADWAY  
APPLICATIONS ONLY\*

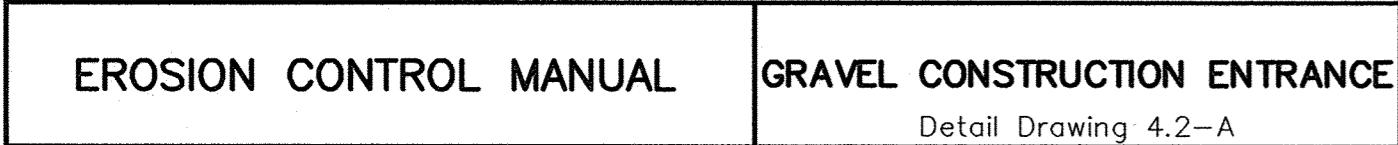
**PLAN**

**SECTION A-A  
DITCH INLET**

NTS

**FILTRATION BAGS, SOCKS,  
& ROLLS FOR TEMPORARY  
INLET PROTECTION**  
Detail Drawing 4.3-B

EROSION CONTROL MANUAL



**EROSION CONTROL MANUAL**

**TEMPORARY SEDIMENT FENCE**

Detail Drawing 4.3-A

DRAWING NOT TO SCALE

**SIDE VIEW**

FILTER FABRIC MATERIAL  
36" WIDE ROLLS

4'-0" 2'-0" 2'-0" 6"

3" MIN. TO TOE OF SLOPE

USE STITCHED LOOPS OVER 2"x2" POSTS

4'-0" 2'-0" 2'-0" 6" MINIMUM BURY

**SIDE VIEW**

FILTER FABRIC

FLOW DIRECTION ARROW (TYP)

WRAP POSTS

INTERLOCKED 2"x2" POSTS W/ ATTACHED FABRIC

ANGLE ENDS OF FILTER FABRIC FENCE TO ASSURE SOIL/SEDIMENT IS TRAPPED

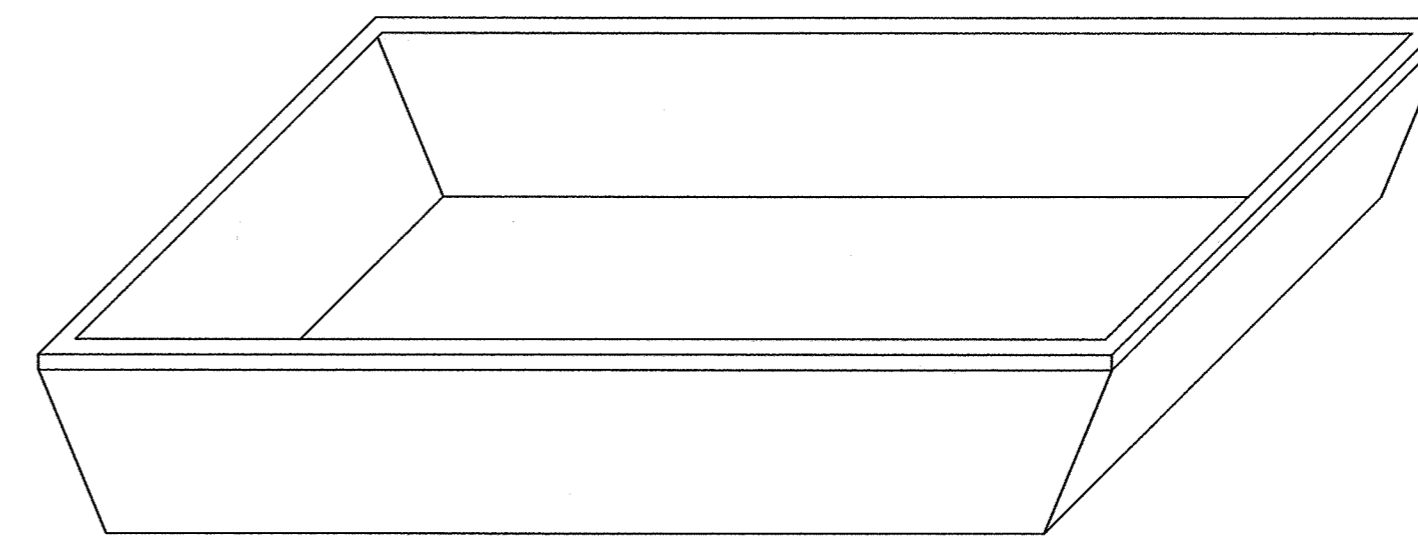
**PLAN VIEW**

WINGS TO BREAK UP LENGTH OF SLOPE

AT CORNER, OR PROPERTY LINE

**NOTES:**

1. TREE PROTECTION SHALL BE A MINIMUM OF 6'-0" ORANGE PLASTIC MESH AND BE SECURED TO THE GROUND WITH 8'-0" METAL POSTS OR 6'-0" HIGH CHAIN LINK FENCE SUPPORTED BY CONCRETE BLOCKS.
2. TREE PROTECTION FENCING SHALL BE ERECTED OUTSIDE OF THE DRIP LINE ZONE PRIOR TO ANY CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY. CONTRACTOR TO MAINTAIN TREE PROTECTION FENCING IN PLACE DURING CONSTRUCTION.



- NOTES:
1. COLLECT AND RETAIN ALL THE CONCRETE WASHOUT WATER AND SOLIDS IN A LEAK PROOF BASIN.
  2. INSPECT FREQUENTLY. DO NOT OVERFILL BASIN.
  3. RECYCLE MATERIALS.
    - A. WASHWATER RECYCLING: WASHWATER SHOULD BE PASSED THROUGH A FILTER AND TREATMENT SYSTEM TO REMOVE SOLIDS AND REDUCE PH. WASHWATER MAY BE REUSED FOR CONCRETE WASHOUT WATER. DISPOSAL OF WASHWATER SHALL BE AT AN APPROVED DISPOSAL FACILITY. DO NOT DRAIN TO STORM OR SANITARY SYSTEM.
    - B. SOLIDS RECYCLING: COURSE AGGREGATE MATERIALS THAT ARE SEPARATED FROM WASHWATER MAY BE RETURNED TO READY MIX PLANT. COORDINATE WITH READY MIX PLANT PRIOR TO CONSTRUCTION.
    - C. HARDENED CONCRETE RECYCLING: ALLOW CONCRETE WASHOUT TO HARDEN IN BASIN. THE HARDENED CONCRETE MAY BE DELIVERED TO RECYCLING PLANTS.

Diagram illustrating the required support for an orange construction fence. The fence is shown as a vertical line. The support system consists of metal support posts driven into the undisturbed subgrade or supported by concrete blocks. The posts are spaced at 20' or as required to provide support. The fence height is indicated as 4'-0". The minimum depth of the support system is indicated as 2'-0" MIN.

Labels in the diagram include:

- ORANGE CONSTRUCTION FENCE
- METAL SUPPORT POST, DRIVEN INTO UNDISTURBED SUBGRADE OR SUPPORTED BY CONCRETE BLOCKS
- 20' SPACING OR AS REQUIRED TO PROVIDE SUPPORT
- 4'-0"
- 2'-0" MIN

BES JOB NO.  
EP204

SHEET NO.  
EC 2

[illegible]