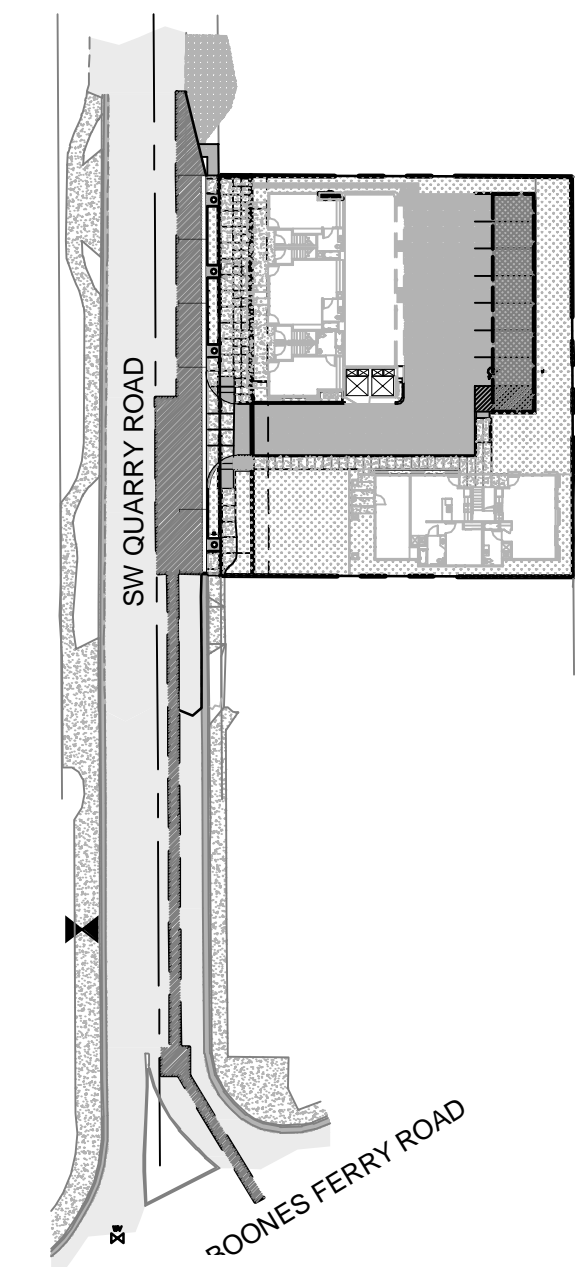


Construction Drawings for

QUARRY ROAD - MULTIFAMILY

city of lake oswego, oregon

TAX MAP T2N R1E - SECTION 8CB
TAX LOT 1100



LOCATION MAP
NOT TO SCALE



EXISTING SITE AREAS

TOTAL EXTG SITE AREA - AFTER 10' DEDICATION = 12,517 SF (0.287 AC)
TOTAL SITE PERVIOUS AREA = 9,303 SF (0.213 AC) TOTAL
IMPERVIOUS AREA = 3,214 SF (0.074 AC)

PROPOSED SITE PERVIOUS/IMPERVIOUS AREAS

QUARRY ROAD ROW
IMPERVIOUS AREA = 2,557 SF (0.06 AC)
PERVIOUS AREA = 222 SF (0.005 AC)

ON-SITE AREAS
IMPERVIOUS AREA = 7,822 SF (0.179 AC)
PERVIOUS AREA (LANDSCAPE) = 3,822 SF (0.88 AC)
PERVIOUS AREA (AC) = 873 SF (0.82 AC)

* REFERENCE SITE STORMWATER REPORT FOR POST DEVELOPED BASIN EXHIBIT

CUT AND FILL QUANTITIES

1,800 YDS STRIPPINGS HAUL OFF (ASSUMES 1.0' CUT DEPTH)
1,700 YDS STRIPPINGS USED ON-SITE (FRONT, BACK AND SIDEYARDS)
800 YDS FILL GENERATED FROM ON-SITE EXCAVATION
2,500 YDS CUT, 2,500 YDS FILL (BALANCED SITE AFTER STRIPPINGS HAUL OFF)

LOCATES (48 HOURS NOTICE REQUIRED PRIOR TO EXCAVATION)

THE CONTRACTOR MUST COMPLY WITH THE REGULATIONS OF O.R.S. 757.541 TO 757.571 IN LOCATION AND PROTECTION OF UNDERGROUND UTILITIES. 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.



DEVELOPMENT TEAM

APPLICANT/OWNER

BLUE DOG PROPERTIES
333 S. STATE STREET
SUITE V#452
LAKE OSWEGO, OREGON 97034
ATTN: ROB MATHEWS
PH. (503)936-3212
ATTN: TRACY PETERSON
PH:(503)726-9929

CIVIL ENGINEER

KITTREDGE ENGINEERS
6565 SW 207TH AVENUE
ALOHA, OR 97078
ATTN: CHRIS KITTREDGE, PE
PH:(503)708-3942

SURVEYOR

ANDY PARIS AND ASSOCIATES, INC.
16057 BOONES FERRY ROAD
LAKE OSWEGO, OREGON 97035
ATTN: MATHEW CLARK
PH:(503)636-3341

PROJECT PLANNER

VAN LOO 2 ASSOCIATES, LLC
30495 SW BUCKHAVEN RD.
HILLBORO, OREGON 97123
ATTN: KIRSTIN VANLOO
PH:(503)956-4180

ARCHITECT

VALEANT ARCHITECTURE, LLC
2318 SW MARKET ST. DR.
PORTLAND, OREGON 97201
ATTN: MARY VALEANT
PH:(503)241-2727

GEOTECH ENGINEER

GEOPACIFIC ENGINEERING, INC.
14835 SW 72ND AVE.
TIGARD, OREGON 97224
ATTN:BEN COOK
PH:(503)598-8445

SANITARY, STORM, WATER UTILITIES

CITY OF LAKE OSWEGO
MAINTENANCE CENTER
17601 PILKINGTON RD
LAKE OSWEGO, OREGON 97035
PH:(503)635-0280 PH:(503)635-0238
EMERGENCY

LEGAL DESCRIPTION/ADDRESS

TAX MAP T2N R1E; SECTION 8CB, TAX LOT 1100
15948 SW QUARRY ROAD, LAKE OSWEGO, OR, 97035

PROPOSED USE

10 UNIT MULTIFAMILY APARTMENTS

SITE ZONING

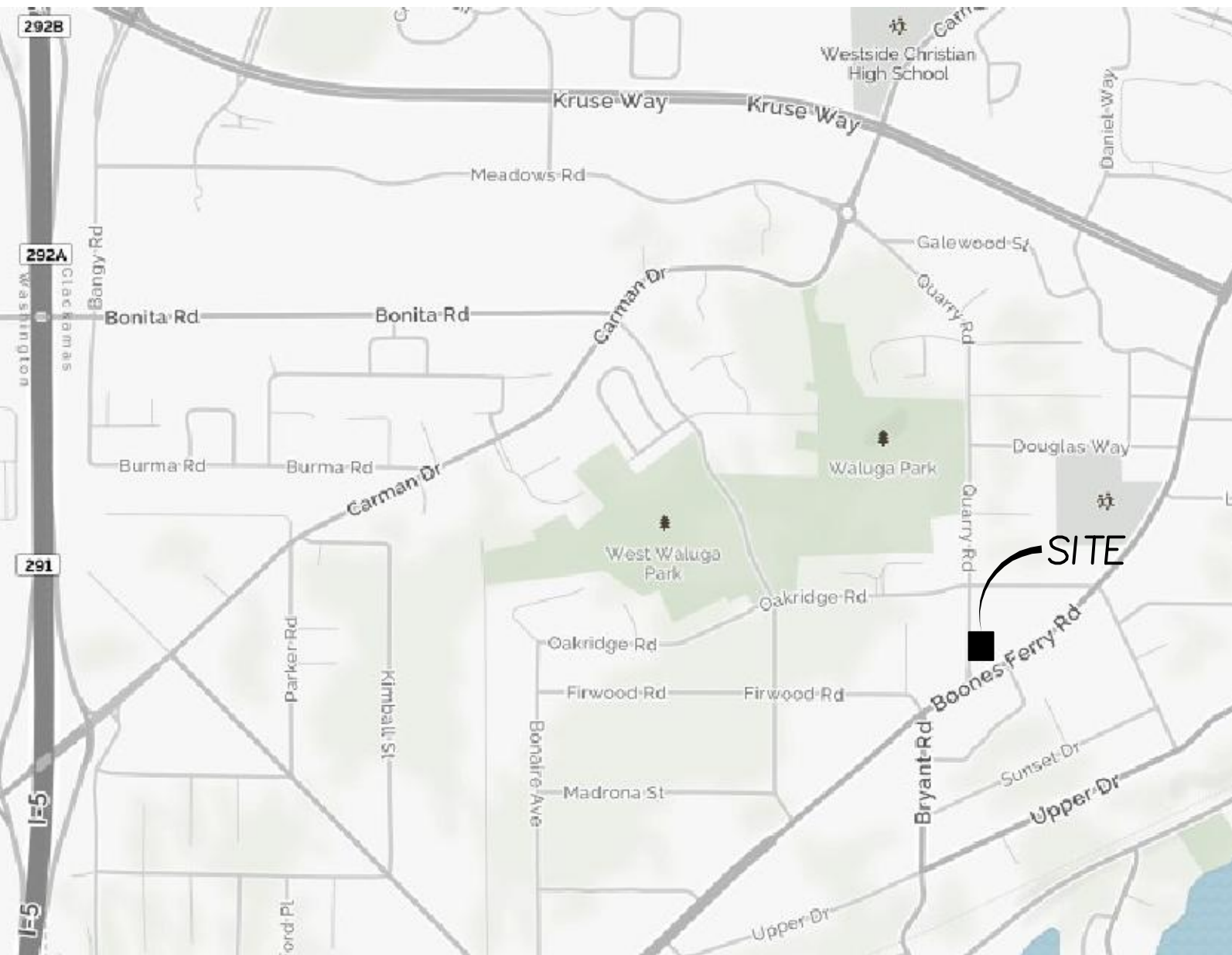
GC - GENERAL COMMERCIAL ZONE WITHIN THE LAKE
GROVE VILLAGE OVERALY DISTRICT

SITE AREA

0.32 ACRES = 13,767 S.F.

VERTICAL DATUM:

ELEVATION DATUM IS CITY OF LAKE OSWEGO, BASED ON
BENCHMARK NO. 6K-3, WITH AN ELEVATION OF 215.323 FEET.



VICINITY MAP
NOT TO SCALE

SHEET INDEX

- C100. COVER SHEET
- C101. GENERAL CONSTRUCTION NOTES
- C102. EXISTING CONDITIONS, EROSION CONTROL AND DEMOLITION PLAN
- C103. EXISTING CONDITIONS, EROSION CONTROL AND DEMOLITION PLAN
- C104. EXISTING TREE INVENTORY, PROTECTION AND REMOVAL PLAN
- C105. PROPOSED GRADING PLAN
- C106. PROPOSED GRADING PLAN DETAIL
- C107. SITE PLAN AND TYPICAL SECTIONS
- C108. ONSITE STORM SEWER PLAN
- C109. OFFSITE STORM SEWER PLAN AND PROFILE
- C110. OFFSITE STORM SEWER PLAN AND PROFILE
- C111. ONSITE SANITARY SEWER PLAN
- C112. ONSITE WATERLINE PLAN
- C113. STORMTECH INFILTRATION SYSTEM DETAILS
- C114. STORMTECH INFILTRATION SYSTEM DETAILS
- C115. CITY OF LAKE OSWEGO DETAILS
- C116. CITY OF LAKE OSWEGO DETAILS
- C117. CITY OF LAKE OSWEGO AND GENERAL DETAILS
- C118. CITY OF LAKE OSWEGO EROSION CONTROL DETAILS

LANDSCAPE

- L1 LANDSCAPE PLAN
- L2 IRRIGATION PLAN
- L3 LANDSCAPE/IRRIGATION DETAILS
- L4 IRRIGATION DETAILS
- L5 IRRIGATION DETAILS
- L6 IRRIGATION PLAN

LIGHTING

- EL1 STREET LIGHTING PLAN

REVISION	DATE	MODIFICATION

KITTREDGE ENGINEERS, LLC

6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

COVER SHEET

QUARRY ROAD - MULTIFAMILY

BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C100
OF 19

GENERAL NOTES

- CONTRACTOR SHALL NOTIFY CITY OF LAKE OSWEGO ENGINEERING DEPARTMENT (AT 503-635-0270) TWO BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK ON GRADING, PUBLIC IMPROVEMENTS, OR STORM WATER TREATMENT FACILITIES.
- ALL CONSTRUCTION WORK AND MATERIALS SHALL CONFORM TO APPLICABLE CITY OF LAKE OSWEGO STANDARDS CONSTRUCTION SPECIFICATIONS, CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION STANDARDS, UNIFORM PLUMBING CODE (UPC) AND UNIFORM BUILDING CODE (UBC). CONTRACTOR AND SUBCONTRACTOR(S) SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS AND CITY OF LAKE OSWEGO STANDARD CONSTRUCTION SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
- APPLICANT(S) IS RESPONSIBLE FOR ALL COSTS OF CONSTRUCTION.
- CITY OF LAKE OSWEGO BUILDING DEPARTMENT PERMITS ARE REQUIRED FOR PRIVATELY MAINTAINED SEWER, INLETS, INLET LEADS, AND SERVICE LATERALS CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAY OR PUBLIC EASEMENT. ALL WORK APPROVED UNDER PLUMBING PERMITS SHALL BE PRIVATELY OWNED AND MAINTAINED.
- ATTENTION EXCAVATORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY 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 THESE RULES, YOU MAY CONTACT THE CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING EXCAVATION. CALL (503) 246-6699
- ALL TRENCH LINES AND EXCAVATIONS SHALL BE PROPERLY SHORED AND BRACED TO PREVENT CAVING. UNUSUALLY DEEP EXCAVATIONS MAY REQUIRE EXTRA SHORING AND BRACING. ALL SHEETING, SHORING, AND BRACING OF TRENCHES SHALL CONFORM TO OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION (OSHA) REGULATIONS AND CITY OF LAKE OSWEGO STANDARD SPECIFICATIONS.
- CONTRACTOR IS TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION
- SITE EROSION CONTROL PLAN AND BMP'S MEETING CWS STANDARDS TO BE IN PLACE AND APPROVED PRIOR TO CONSTRUCTION
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION. A COPY OF THE REQUIRED PERMITS AND ATTACHMENTS SHALL BE AT THE WORK SITE AND AVAILABLE DURING CONSTRUCTION.
- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
- ANY INSPECTION OR CONSTRUCTION OBSERVATION BY THE CITY, COUNTY, STATE, OR OTHER JURISDICTIONAL AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS, AND PROJECT CONTRACT DOCUMENTS.
- CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING STRUCTURES AND UTILITIES NOT SHOWN TO BE REMOVED. CONTRACTOR SHALL REPLACE OR REPAIR ANY EXISTING STRUCTURES (SIDEWALKS, CURB, FENCE, STREET TREES, ETC.) DAMAGED DURING CONSTRUCTION, IN ACCORDANCE WITH CITY STANDARDS.
- NO TRENCHES OR PITS WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. ALL TRENCHES AND PITS SHALL BE COVERED WITH STEEL PLATES OR FILLED IN AT NIGHT.
- ANY ALTERATIONS OR VARIATIONS FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL BE APPROVED THE THE ENGINEER AND APPLICABLE REGULATORY AGENCY REPRESENTATIVE.
- ANY PRIVATE UTILITIES TO BE INSTALLED WITHIN CITY OF LAKE OSWEGO RIGHT-OF-WAY THAT IS NOT SHOWN ON THE APPROVED CONSTRUCTION PLANS (POWER, TELECOMMUNICATIONS, GAS, IRRIGATION, ETC.) SHALL HAVE PLANS SUBMITTED FOR A RIGHT-OF-WAY PERMIT PRIOR TO CONSTRUCTION OF UTILITY. ANY PRIVATE OR FRANCHISE UTILITIES INSTALLED WITHOUT A RIGHT OF WAY PERMIT IS SUBJECT TO REMOVAL.

PROJECT RECORD DRAWINGS

- CONTRACTOR TO KEEP AN ACCURATE AND CURRENT SET OF REDLINED AS-BUILT DRAWINGS ON-SITE FOR THE DURATION OF THE PROJECT. REDLINED AS-BUILT DRAWINGS SHALL ACCURATELY RECORD ALL CHANGES MADE DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO ELEVATIONS, SLOPES LENGTHS AND HORIZONTAL LOCATION. REDLINED AS-BUILT DRAWINGS WILL ALSO SHOW SIZE AND LOCATION OF PRIVATE FRANCHISE UTILITIES, LANDSCAPE PIPING AND SLEEVEING AND SITE LIGHTING ELECTRICAL RUNS.
- REDLINED AS-BUILT DRAWINGS WILL IDENTIFY AND DESCRIBE UNEXPECTED VARIATIONS OF SUBSURFACE CONDITIONS AND LOCATIONS OF ANY UTILITIES ENCOUNTERED.
- CONTRACTOR SHALL PROVIDE OWNER OR OWNERS REPRESENTATIVE WITH REDLINED COPY OF PLANS SHOWING CONSTRUCTED AS-BUILT ELEVATIONS, LOCATIONS AND PLAN DEVIATIONS. REDLINED AS-BUILT DRAWINGS TO BE SUBMITTED TO OWNERS REPRESENTATIVE ONE WEEK PRIOR TO REQUESTING WALK THROUGH AND/OR ACCEPTANCE OF SUBSTANTIAL COMPLETION.
- AS-BUILTS REQUIRED FOR THE CITY OF SHERWOOD WILL REQUIRE A POST CONSTRUCTION SURVEY.

SANITARY SEWER NOTES - GENERAL

- SANITARY SEWER PIPE MATERIAL SHALL BE AS NOTED ON PLANS AND CONFORM TO THE REQUIREMENTS BELOW.
- SANITARY SEWER MATERIALS AND TESTING SHALL MEET CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION SPECIFICATIONS AND THE CITY OF LAKE OSWEGO'S ENGINEERING DESIGN MANUAL.
- ALL SANITARY SERVICE STUB OUTS SHALL EXTEND A MINIMUM OF THREE FEET (3') BEYOND EASEMENT OR RIGHT-OF-WAY LINE AND BE MARKED WITH A PRESSURE TREATED 2 X 4. THE TOP 12" SHALL BE PAINTED GREEN AND LABELED "SS" FOR FUTURE LOCATION. THE 2 X 4 SHALL BE MARKED WITH DETECTABLE UNDERGROUND MAGNETIC TAPE GREEN IN COLOR AND BE MARKED "CAUTION SEWER BURIED BELOW". THE MAGNETIC TAPE SHALL BE PLACED FROM THE MAIN PIPELINE TO THE END OF THE SIDE LATERAL WITH 18" OF SEPARATION BETWEEN THE TAPE AND PIPE. THE SERVICE LATERAL SHALL ALSO HAVE TRACER WIRE INSTALLED. THE TRACER WIRE SHALL BE 12-GAGE STRANDED COPPER WIRE WITH GREEN HMW-PE INSULATION. TRACER WIRE SHALL RUN TO THE TOP OF THE 2 X 4 MARKER.STORM SERVICE STUB OUTS TO BE A MINIMUM OF 4-INCH DIAMETER PIPE AND HAVE A MINIMUM SLOPE OF 2%.
- ALL SANITARY SEWER LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR AND HAVE A MANDREL PASSED THROUGH TO CHECK DEFLECTION. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HR NOTICE IS REQUIRED. CITY WITNESSED VIDEO INSPECTION SHALL OCCUR AFTER THE PLACEMENT OF ASPHALT. CITY STRONGLY ENCOURAGES VIDEO INSPECTION BY THE DEVELOPER AND/OR CONTRACTOR PRIOR TO ASPHALT PLACEMENT. SHOULD CONTRACTOR OR DEVELOPER HAVE QUESTIONS REGARDING SPECIFIC SECTIONS OF PRE-ASPHALT VIDEO, CITY INSPECTOR SHALL PROVIDE A RECOMMENDATION UPON THE ACCEPTABILITY OF THE SECTION IN QUESTION.
- ALL SANITARY SEWER LINES SHALL BE AIR TESTED. ALL MANHOLES SHALL BE HYDROSTATICALLY TESTED OR VACUUM TESTED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HOUR NOTICE IS REQUIRED.

STORM SEWER NOTES - GENERAL

- STORM SEWER PIPE SHALL BE AS NOTED ON PLANS AND CONFORM TO THE REQUIREMENTS BELOW.
- STORM SEWER MATERIALS AND TESTING SHALL MEET CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION SPECIFICATIONS AND THE CITY OF LAKE OSWEGO'S ENGINEERING DESIGN MANUAL.
- ALL STORM SERVICE STUB OUTS SHALL EXTEND A MINIMUM OF THREE FEET (3') BEYOND EASEMENT OR RIGHT-OF-WAY LINE AND BE MARKED WITH A PRESSURE TREATED 2" X 4". THE TOP 12" SHALL BE PAINTED WHITE AND LABELED "ST" FOR FUTURE LOCATION. THE 2" X 4" SHALL BE MARKED WITH DETECTABLE UNDERGROUND MAGNETIC TAPE GREEN IN COLOR AND BE MARKED "CAUTION STORM DRAIN BURIED BELOW". THE MAGNETIC TAPE SHALL BE PLACED FROM THE MAIN PIPELINE TO THE END OF THE SIDE LATERAL WITH 18" OF SEPARATION BETWEEN THE TAPE AND PIPE. THE SERVICE LATERAL SHALL ALSO HAVE TRACER WIRE INSTALLED. THE TRACER WIRE SHALL BE 12-GAGE STRANDED COPPER WIRE WITH WHITE HMW-PE INSULATION. TRACER WIRE SHALL RUN TO THE TOP OF THE 2 X 4 MARKER. STORM SERVICE STUB OUTS TO BE A MINIMUM OF 4-INCH DIAMETER PIPE AND HAVE A MINIMUM SLOPE OF 2%.
- ALL STORM SEWER LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HOUR NOTICE IS REQUIRED. CITY WITNESSED VIDEO INSPECTION SHALL OCCUR AFTER THE PLACEMENT OF ASPHALT. CITY STRONGLY ENCOURAGES VIDEO INSPECTION BY THE DEVELOPER AND/OR CONTRACTOR PRIOR TO ASPHALT PLACEMENT. SHOULD CONTRACTOR OR DEVELOPER HAVE QUESTIONS REGARDING SPECIFIC SECTIONS OF PRE-ASPHALT VIDEO, CITY INSPECTOR SHALL PROVIDE A RECOMMENDATION UPON THE ACCEPTABILITY OF THE SECTION IN QUESTION.
- ALL STORM SEWER LINES SHALL HAVE A MANDREL PASSED THROUGH TO CHECK DEFLECTION. THIS WILL BE WITNESSED BY THE CITY. MINIMUM 48 HOUR NOTICE IS REQUIRED.

WATER SYSTEM NOTES - GENERAL

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND STANDARDS, THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, A.W.W.A. STANDARDS, A.P.W.A. STANDARDS, AND CITY OF LAKE OSWEGO ENGINEERING DESIGN AND DETAILS MANUAL.
- ALL PIPE SHALL HAVE MINIMUM COVER OF THREE- FEET BELOW THE FUTURE FINISHED GRADES IN EASEMENTS AND STREET RIGHT-OF-WAYS.
- ALL VALVES SHALL BE PER CITY OF LAKE OSWEGO WATER SYSTEM STANDARDS AND CITY CODES, STANDARD DETAILS, AND DRAWINGS.
- ALL FIRE HYDRANTS SHALL BE PER CITY WATER SYSTEM STANDARDS AND CITY CODES, STANDARD DETAILS, AND DRAWINGS.
- ALL TEES, ELBOWS, BENDS, AND BLOW-OFF LOCATIONS SHALL, UNLESS OTHERWISE NOTED, HAVE A POURED-IN-PLACE CONCRETE THRUST BLOCK PER CITY OF LAKE OSWEGO STANDARDS.
- ALL SANITARY SEWER LINES WITHIN 10 FEET Laterally OR 18 INCHES VERTICALLY OF A WATER MAIN SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE WITH WATERTIGHT JOINTS.
- ANY CROSSING OF WATER MAIN BY SANITARY SEWER SHALL BE MADE AT APPROXIMATELY 90 DEGREES AND HAVE 18 INCHES OF VERTICAL CLEARANCE OR SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON WATER PIPE WITH WATERTIGHT JOINTS FOR A DISTANCE OF 9 FEET FROM BOTH SIDES OF THE WATER LINE AND ENCASED IN CONCRETE.
- JOINT DEFLECTION ALLOWED ONLY WITH THE APPROVAL OF THE PROJECT ENGINEER AND INSPECTOR AND BE PER CITY OF LAKE OSWEGO STANDARDS.
- OREGON STATE HEALTH DIVISION BACTERIOLOGICAL TESTS SHALL BE TAKEN BY THE CITY OF LAKE OSWEGO.
- HYDROSTATIC TESTS SHALL CONFORM WITH ALL APPLICABLE CODES AND BE MONITORED BY THE INSPECTOR OR PROJECT ENGINEER.
- DISINFECTION: PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE, AFTER PERFORMING HYDROSTATIC TESTING. DISINFECTION SHALL CONFORM WITH ALL APPLICABLE CODES. DISCHARGING OF THE HIGHLY CHLORINATED WATER USED FOR DISINFECTION SHALL NOT BE DISCHARGED INTO SURFACE WATERS. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- PRIOR TO TAPPING INTO EXISTING WATER MAINS, THE CONTRACTOR WILL CONTACT THE CITY OF LAKE OSWEGO WATER DEPARTMENT INSPECTOR.
- OPERATION OF WATER VALVES BY CONTRACTOR IS PROHIBITED.
- CONTRACTOR SHALL NOT BACKFILL TRENCH UNTIL WATER LINE INSPECTION IS APPROVED.
- CONTACT CITY OF LAKE OSWEGO PUBLIC WORKS, A MINIMUM OF 48 HOURS IN ADVANCE TO SCHEDULE WATER LINE INSPECTIONS.

ENGINEER'S NOTE TO THE CONTRACTOR:

- EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO VERIFY AND TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS, DEPTHS, LOCATIONS AND DIMENSIONS OF EXISTING UTILITIES AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

EROSION CONTROL NOTES

- OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE IMPLEMENTATION OF THESE ESC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED. THE DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE AFTER THE PROJECT IS APPROVED UNTIL ALL LOTS ARE SOLD.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CONSTRUCTION LIMITS SHALL BE PERMITTED. THE MARKINGS SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS OR VIOLATE APPLICABLE WATER STANDARDS.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING CONSTRUCTION PERIOD, THE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
- THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- AT NO TIME SHALL THE SEDIMENT BE ALLOWED TO ACCUMULATE MORE THAN ½ THE BARRIER HEIGHT. ALL CATCHBASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED GRAVEL CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
- PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
- SEEDING SHALL BE COMPLETED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
- IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED BY OCTOBER 1ST THROUGH APRIL 30TH, THE WET WEATER EROSION PREVENTION MEASURES WILL BE IN EFFECT. SEE THE EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (CHAPTER 4) FOR REQUIREMENTS.
- THE DEVELOPER SHALL REMOVE ESC MEASURES WHEN VEGETATION IS FULLY ESTABLISHED.

ROADS

- MATERIAL IN SOFT SPOTS WITHIN THE ROADWAY SHALL BE REMOVED TO THE DEPTH REQUIRED TO PROVIDE A FIRM FOUNDATION AND SHALL BE REPLACED WITH PIT RUN CRUSHED ROCK. THE ENTIRE SUBGRADE SHALL BE THOROUGHLY COMPACTED TO A RELATIVE DENSITY OF 95% OF AASHTO T-180 (ASTM 1557). 4" ROCK IS THE MAXIMUM ALLOWABLE ROCK SIZE.
- WET WEATHER CONSTRUCTION AND OTHER UNFORESEEN CONDITIONS MAY REQUIRE THAT GEOTEXTILE FABRIC BE PLACED ON THE SUBGRADE. IN THIS EVENT, THE CONTRACTOR IS TO CONSULT WITH THE ENGINEER AND WORK TO THE WRITTEN RECOMMENDATIONS OF THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF LAKE OSWEGO FOR INSPECTIONS (1) WHEN THE SUBGRADE IS COMPLETE, (2) 24 HOURS PRIOR TO PLACEMENT OF ROCK BASE MATERIAL AND (3) 24 HOURS PRIOR TO FINAL PAVING FOR AN INSPECTION OF THE WORK, AND AT PROOF-ROLL FOR CURB AND GUTTER AND FINAL PROOF-ROLL PRIOR TO PAVING.
- THE ROADWAY MUST BE PROOF-ROLLED UNDER INSPECTION OF THE ENGINEER AND THE CITY OF LAKE OSWEGO WHEN THE SUBGRADE IS COMPLETE AND WHEN THE TOP ROCK IS INSTALLED PRIOR TO PAVING.
- THE ASPHALT CONCRETE PAVEMENT SHALL BE PROVIDED FROM A MIX FORMULA AS SPECIFIED BY 2008 ODOT/APWA OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 00745 FOR 1/2" DENSE MIX ASPHALT. THE CONTRACTOR SHALL PROVIDE THE PAVEMENT WITH CERTIFICATE OF COMPLIANCE FROM THE ASPHALT PAVEMENT PLANT UNLESS OTHERWISE INDICATED.

EXCAVATION AND GRADING NOTES

- NOTIFY ENGINEER TWO BUSINESS DAYS BEFORE COMMENCING WORK.
- CONTRACTOR SHALL REMOVE ALL TREES (MARKED), SHRUBS, RUBBISH, AND MAN MADE STRUCTURES INCLUDING BUT NOT LIMITED TO CONCRETE SLABS, WALLS, VAULTS, FOOTINGS, ASPHALTIC PAVED SURFACES, GRAVELED AREAS, SHEDS OR OTHER FREE STANDING BUILDINGS (CONSTRUCTED OF WOOD, CONCRETE, METAL, ETC.)BUILDING FOUNDATIONS, FENCES, RAILING, MACHINERY, ETC. WITHIN THE CLEARING LIMITS. THE ITEMS LISTED ABOVE SHALL BE DISPOSED OF OFF-SITE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONFIRM THE NUMBER OF STRUCTURES TO BE REMOVED.
- ALL BURIED STRUCTURES (I.E. TANKS, LEACH LINES, DRAIN TILE AND PIPES) NOT DESIGNED TO REMAIN ON-SITE SHALL BE REMOVED AND THE RESULTING EXCAVATIONS SHALL BE PROPERLY BACKFILLED AND COMPACTED PRIOR TO ANY GRADING OR FILLING OPERATIONS. THIS IS TO INCLUDE STUMPS AND ROOT BALLS OF TREES TO BE REMOVED FROM THE SITE.
- ALL UNSUITABLE MATERIAL (SOIL, DEBRIS, VEGETATIONS) REMOVED DURING THE CLEARING AND GRUBBING OPERATIONS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A SUITABLE LOCATION APPROVED BY THE ENGINEER AND THE CITY OF SHERWOOD.
- EXCAVATORS MUST COMPLY WITH ALL PROVISIONS OF ORS 757.541 TO 757.571 INCLUDING NOTIFICATION OF ALL OWNERS OF UNDERGROUND FACILITIES AT LEAST 48 BUSINESS DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS BEFORE COMMENCING EXCAVATION.
- TREES NOT DESIGNATED TO BE REMOVED SHALL BE PROTECTED AT ALL TIMES.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE TRAFFIC CONTROL ALONG THE EXISTING ROADS AS REQUIRED BY THE CITY OF SHERWOOD.
- CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS, IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR IS TO INFORM THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION.
- THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS ON THE JOB SET AT ALL TIMES.
- THE CONTRACTOR SHALL DETERMINE THE TYPE OF EQUIPMENT AND METHOD TO USE TO ACHIEVE REQUIRED COMPACTION. THE CONTRACTOR SHALL ARRANGE FOR A GEOTECHNICAL ENGINEER TO TEST AND CERTIFY SOIL COMPACTION. THE CITY OF ENTERPRISE AND THE ENGINEER SHALL RECEIVE COPIES OF ALL GEOTECHNICAL INSPECTION AND TEST REPORTS.
- PIPE BEDDING SHALL CONFORM TO THE GRANULAR BEDDING AND BACKFILL REQUIREMENTS OF THE CITY OF SHERWOOD. BEDDING SHALL BE 3/4"-0" CRUSHED ROCK.
- TRENCH BACKFILL WITHIN THE RIGHT-OF-WAY SHALL BE CLEAN, WELL GRADED 3/4"-0" CRUSHED ROCK COMPACTED TO 92% ASTM D 1557 AT 2' BELOW FINISHED SUBGRADE AND 95% ASTM D 1557 AT WITHIN 2' OF FINISHED OF FINISHED SUBGRADE.
- THE CONTRACTOR SHALL PROVIDE PROTECTION TO ADJOINING PROPERTY FROM EXCAVATION AND FILL ACTIVITIES AND FROM SEDIMENTATION DUE TO RUNOFF. THIS MAYBE ACCOMPLISHED BY THE INSTALLATION OF APPROPRIATE DRAINAGE DITCHES NEAR THE PROPERTY BOUNDARIES AND BY KEEPING GRADING ACTIVITIES AT LEAST 2 FEET AWAY FROM PROPERTY BOUNDARIES, AS REQUIRED BY THE CURRENT EDITION IBC, APPENDIX J.

PIPE TRENCHES ADJACENT TO FOOTINGS

ALL TRENCHES DEEPER THAN THE FOOTING OF ANY BUILDING OR STRUCTURE AND PARALLELING THE SAME MUST BE AT LEAST 45 DEGREES (0.79 RAD) THEREFROM, UNLESS PERMISSION IS OTHERWISE GRANTED BY THE AUTHORITY HAVING JURISDICTION.

THE WEIGHT OF A STRUCTURE IS NOT SIMPLY IMPOSED VERTICALLY, DIRECTLY BELOW THE BASE PAD OF ITS FOOTING. WEIGHT LOADING RADIATES FROM THE BASE PAD THE PROPORTION OF THE LOAD BEING VARIABLE FROM MAXIMUM IN THE VERTICAL PLANE TO MINIMUM AT A POINT RADIATION 45 DEGREES FROM THE VERTICAL.

CONSEQUENTLY, PIPING INSTALLED WITHIN THIS 45-DEGREE ARC WOULD CARRY SOME PORTION OF THE LOAD IMPOSED AT THE FOOTING PAD. THIS COULD RESULT IN EVENTUAL PIPE FAILURE, BUILDING SETTLEMENT, OR BOTH.

THE AUTHORITY HAVING JURISDICTION MAY GRANT PERMISSION TO HAVE THE DITCH CLOSER THAN THE 45-DEGREE (0.79 RAD) ANGLE FROM THE BOTTOM OF THE BUILDING FOUNDATION, PROVIDED THE SOIL IS EXTREMELY STABLE SUCH AS SANDSTONE. THE INSTALLATION OF REGULATIONS. SAND FILL OR MACHINE COMPACTION UP TO THE ANGLE OF REPOSE MAY BE PERMITTED BY THE AUTHORITY HAVING JURISDICTION. SEE FIGURE BELOW FOR A DRAWING OF CORRECT AND INCORRECT TRENCHES.

REVISION	DATE	MODIFICATION

KITTRIDGE ENGINEERS, LLC

6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

GENERAL CONSTRUCTION NOTES

QUARRY ROAD – MULTIFAMILY

BLUE DOG PROPERTIES

333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726-9929

REGISTERED PROFESSIONAL
ENGINEER
53,750

OREGON
JAN 12 2013
CHRIS P. KITTRIDGE
RENEWAL 06/30/19

DATE: 10/1/2018

DRAWN BY: CPK

PROJ. MGR: CPK

CHECKED BY: CPK

PROJECT NUMBER
MAT.001

CASE FILE NUMBER
—

SHEET NUMBER

C101

OF 19

TOPOGRAPHIC/SITE SURVEY

FOR:
BLUE PALOUSE PROPERTIES
BEING A PORTION OF LOT 12
"LAKE VIEW VILLAS FIRST ADDITION"
(PLAT NO. 420)
IN THE SW 1/4 SECTION 8,
T.2S., R.1E., W.M.
CITY OF LAKE OSWEGO
CLACKAMAS COUNTY, OREGON

TAX MAP 2 1E 08CB
TAX LOT 1100

MARCH 08, 2016

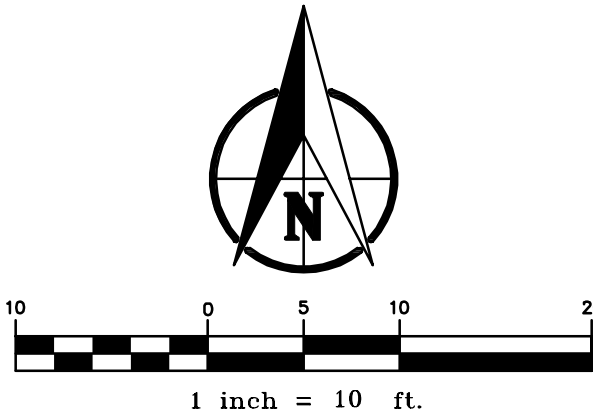
DEMOLITION GENERAL NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO VISIT SITE PRIOR TO PREBID MEETING TO FAMILIARIZE HIMSELF WITH DEMOLITION, GRADING, ETC., AND IMPROVEMENTS TO REMAIN.
2. CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY AND ALL ITEMS NOT OTHERWISE LISTED HEREIN THAT CONFLICT WITH THE CONSTRUCTION OF THE PROJECT. CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY TO DETERMINE IF ANY ITEMS NOT SHOWN ON THE PLANS MUST BE REMOVED. FAILURE TO DO SO DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY AND COST FOR REMOVING ITEMS REQUIRED.
3. CONTRACTOR IS RESPONSIBLE FOR REVIEWING (IF APPLICABLE) ALL KNOWN ENVIRONMENTAL INVESTIGATION STUDIES AND REPORTS PRIOR TO BIDDING. REPORTS ARE INCLUDED IN THE PROJECT SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENVIRONMENTAL ENGINEER ON EXACT AREAS OF CONTAMINATION, IF ANY.
4. THE CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF ANY AIRBORNE DUST NUISANCE, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM FAILURE TO FOLLOW WASHINGTON COUNTY GUIDELINES.
5. ALL EXISTING REMAINING UTILITIES AND REMAINING IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE LOCAL AGENCY AND THE ENGINEER, AT THE CONTRACTOR'S SOLE EXPENSE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT PRIOR DAMAGES.
6. IF ARCHAEOLOGICAL MATERIALS ARE UNCOVERED DURING GRADING, TRENCHING, OR OTHER EXCAVATION, EARTHWORK WITHIN 100 FEET OF THESE MATERIALS SHALL BE STOPPED UNTIL A PROFESSIONAL ARCHAEOLOGIST WHO IS CERTIFIED BY THE SOCIETY OF PROFESSIONAL ARCHAEOLOGY (SOPA) HAS HAD AN OPPORTUNITY TO EVALUATE THE SIGNIFICANCE OF THE FIND AND SUGGEST APPROPRIATE MITIGATION MEASURE, IF THEY ARE DEEMED NECESSARY.

LEGEND

- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLD
- CATCH BASIN
- SIGN
- MAILBOX
- UTILITY POLE
- GUY ANCHOR
- LIGHT POLE
- ELECTRIC METER
- GAS METER
- WATER METER
- IRRIGATION CONTROL BOX
- WATER VALVE
- FENCE AS NOTED
- UNDERGROUND GAS LINE
- UNDERGROUND SEWER LINE
- UNDERGROUND WATER LINE
- OVERHEAD UTILITY LINE
- EXISTING FIRE HYDRANT
- DECIDUOUS TREE
- CONIFEROUS TREE
- DECIDUOUS TREE TO REMOVE
- CONIFEROUS TREE TO REMOVE
- EXISTING SIDEWALK
- EXISTING AC PAVEMENT
- ARBORIST TREE TAG NUMBER

- PERIMETER SILTFENCE
- INTERIOR SILTFENCE



DEMOLITION NOTES:

1. EXISTING HOUSE AND SURROUNDING AC PAVEMENT, SIDEWALK, CONCRETE AND DECKING TO BE REMOVED AND HAULED OFF SITE.
2. EXISTING GARAGE AND SURROUNDING CONCRETE TO BE REMOVED AND HAULED OFF SITE.
3. EXISTING GARAGE TO BE REMOVED AND HAULED OFF SITE.
4. EXISTING WATER SERVICE TO BE ABANDONED, CONTRACTOR TO COORDINATE WITH CITY OF LAKE OSWEGO WATER.
5. EXISTING CONCRETE WALK TO BE REMOVED AND HAULED OFF SITE.
6. EXISTING CHAINLINK FENCING TO BE REMOVED AND REPLACED WITH 6" GOOD NEIGHBOR CEDAR FENCING. COORDINATE REMOVAL AND REPLACEMENT WITH ADJACENT NEIGHBOR(S).
7. SAWCUT AC PAVEMENT, SEE RELEVANT STREET PLAN AND PROFILE SHEETS FOR INFORMATION.
8. REMOVE ALL EXTG. ELECTRIC METERS, GAS METERS, CONDITIONING UNITS, ROOF DRAINS, CLEANOUTS AND ANY OTHER MISC. UTILITY ITEMS AND RISERS ASSOCIATED WITH THE DEMOLITION OF EXISTING STRUCTURES. CONTRACTOR TO COORDINATE WITH VARIOUS DRY UTILITY PROVIDERS AS NECESSARY DURING DEMOLITION AND REMOVAL.
9. POWER POLE TO BE REMOVED AND OVERHEAD UTILITIES UNDER GROUNDED, CONTRACTOR TO COORDINATE WITH PGE. SEE STREET LIGHTING SHEET FOR LIGHT RELOCATION.
10. EXISTING MAILBOX TO BE REMOVED.
11. EXISTING HEDGE TO BE REMOVED.
12. EXISTING WATER FEATURE TO BE REMOVED.
13. SPEED SIGN TO BE REMOVED AND RELOCATED, SEE SITE PLAN FOR PROPOSED LOCATION.
14. RELOCATE NO PARKING SIGN IF NEEDED.
15. CONSTRUCTION ENTRANCE TO BE RELOCATED TO PROPOSED ENTRY DRIVE LOCATION AFTER INITIAL DEMO, STRIPPING AND GRADING..

CONTRACTOR TO PROTECT ALL EXTG. PUBLIC MANHOLES, CATCHBASINS, CLEANOUTS, WATER METERS AND VALVES UNLESS SPECIFICALLY CALLED OUT FOR REMOVAL. AFTER CONSTRUCTION CONTRACTOR TO ADJUST REFERENCED ITEMS TO MATCH FINAL STREET AND LOT GRADES.

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

REVISION	DATE	MODIFICATION

NOTES:

1. ELEVATION DATUM IS CITY OF LAKE OSWEGO, BASED ON BENCHMARK NO. 6K-3, WITH AN ELEVATION OF 215.323 FEET.
2. THE BOUNDARIES AS SHOWN ON THIS MAP ARE BASED ON RECORD DATA AND FOUND MONUMENTS. THIS MAP DOES NOT REPRESENT A SURVEY TO BE RECORDED, BUT WAS DONE FOR SITE/TOPO INFORMATION ONLY.
3. THIS SURVEY IS MADE FOR THE ORIGINAL PURCHASER OF THE SURVEY ONLY. ANDY PARIS & ASSOCIATES, INC. ASSUMES NO LIABILITY FOR INFORMATION SHOWN HEREON TO ANY OTHER INSTITUTIONS OR SUBSEQUENT PURCHASERS OF THE PROPERTY.
4. SURVEY IS VALID ONLY IF PRINT HAS SEAL AND SIGNATURE OF SURVEYOR.
5. THE LOCATION AND OR EXISTENCE OF UTILITY SERVICE LINES AS SHOWN ON THIS MAP ARE BASED ON FIELD OBSERVATION ONLY. THERE MAY EXIST ADDITIONAL SERVICE LINES NOT SHOWN ON THIS SURVEY.
6. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
7. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.

EXISTING TREE NOTE:

SEE "TREE PROTECTION PLAN", SHEET C104, FOR INFORMATION REGARDING TREES TO REMAIN, ALONG WITH PROPOSED TREE PROTECTION FENCING.

SEE SHEET C104 FOR TREE TAG INFO

SEE SHEET C103 FOR CONTINUATION

KITTREDGE ENGINEERS, LLC

6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

EXISTING CONDITIONS, EROSION CONTROL
AND DEMOLITION PLAN

QUARRY ROAD - MULTIFAMILY

BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929

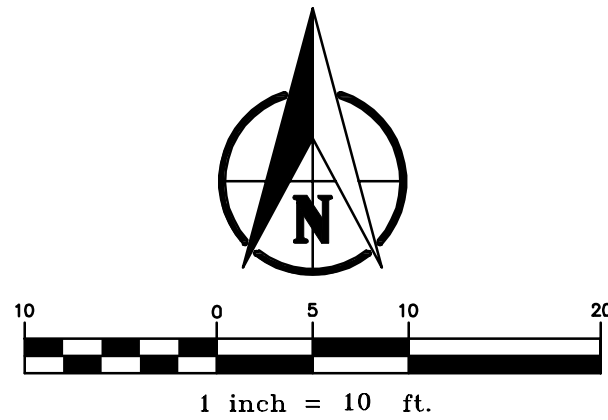


DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C102
OF 19

SEE SHEET C102 FOR CONTINUATION

LOT 1200



TOPOGRAPHIC/SITE SURVEY

FOR:
BLUE PALOUSE PROPERTIES
BEING A PORTION OF LOT 12
"LAKE VIEW VILLAS FIRST ADDITION"
(PLAT NO. 420)
IN THE SW 1/4 SECTION 8, T.2S., R.1E., W.M.
CITY OF LAKE OSWEGO
CLACKAMAS COUNTY, OREGON

TAX MAP 2 1E 08CB
TAX LOT 1100

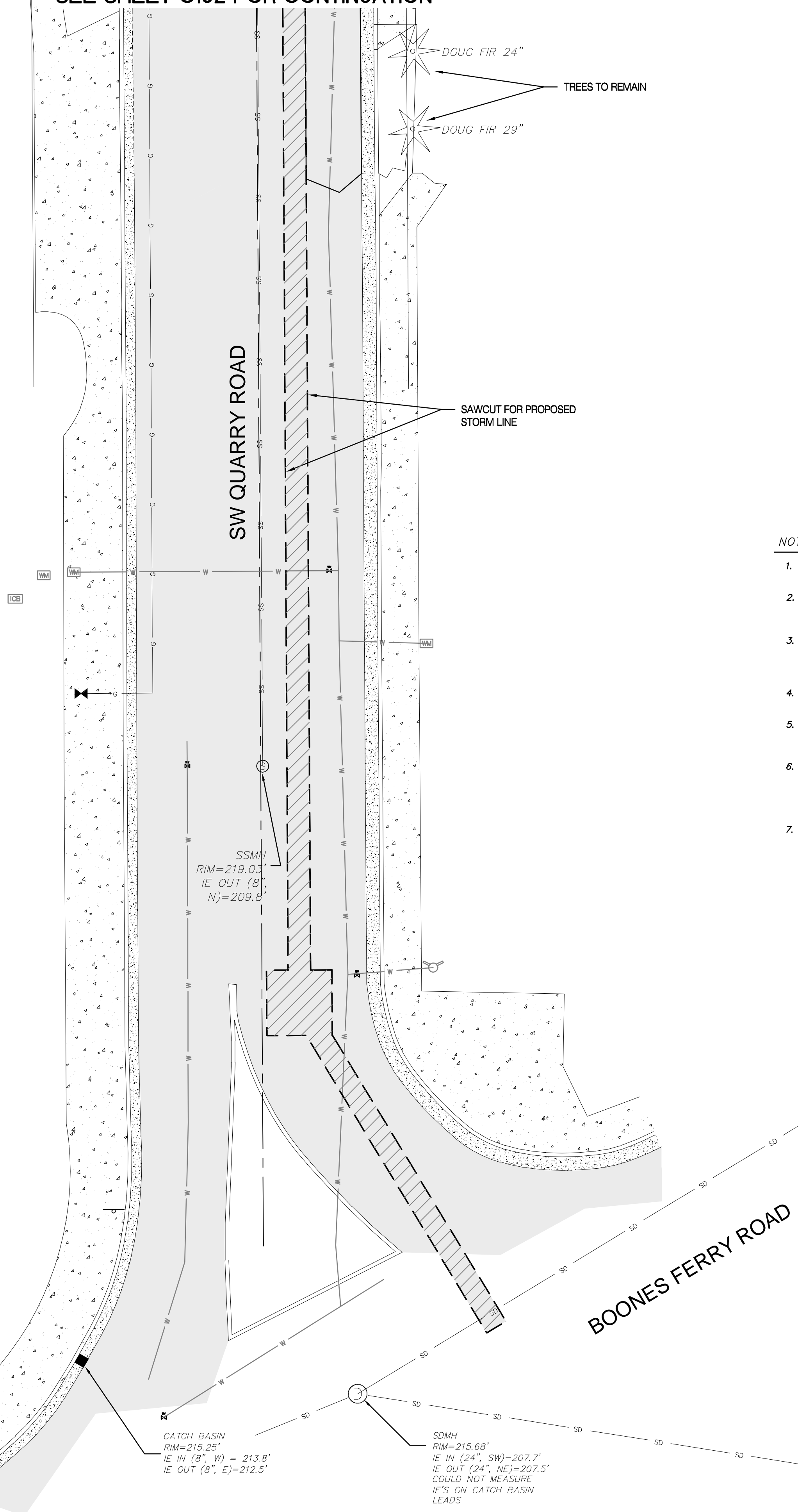
MARCH 08, 2016

NOTES:

- ELEVATION DATUM IS CITY OF LAKE OSWEGO, BASED ON BENCHMARK NO. 6K-3, WITH AN ELEVATION OF 215.323 FEET.
- THE BOUNDARIES AS SHOWN ON THIS MAP ARE BASED ON RECORD DATA AND FOUND MONUMENTS. THIS MAP DOES NOT REPRESENT A SURVEY TO BE RECORDED, BUT WAS DONE FOR SITE/TOPO INFORMATION ONLY.
- THIS SURVEY IS MADE FOR THE ORIGINAL PURCHASER OF THE SURVEY ONLY. ANDY PARIS & ASSOCIATES, INC. ASSUMES NO LIABILITY FOR INFORMATION SHOWN HEREON TO ANY OTHER INSTITUTIONS OR SUBSEQUENT PURCHASERS OF THE PROPERTY.
- SURVEY IS VALID ONLY IF PRINT HAS SEAL AND SIGNATURE OF SURVEYOR.
- THE LOCATION AND OR EXISTENCE OF UTILITY SERVICE LINES AS SHOWN ON THIS MAP ARE BASED ON FIELD OBSERVATION ONLY. THERE MAY EXIST ADDITIONAL SERVICE LINES NOT SHOWN ON THIS SURVEY.
- SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.

LEGEND

- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLD
- CATCH BASIN
- SIGN
- MAILBOX
- UTILITY POLE
- GUY ANCHOR
- LIGHT POLE
- ELECTRIC METER
- GAS METER
- WATER METER
- IRRIGATION CONTROL BOX
- WATER VALVE
- FENCE AS NOTED
- UNDERGROUND GAS LINE
- UNDERGROUND SEWER LINE
- UNDERGROUND WATER LINE
- OVERHEAD UTILITY LINE
- EXISTING FIRE HYDRANT
- CONIFEROUS TREE
- EXISTING SIDEWALK
- EXISTING AC PAVEMENT



CONTRACTOR TO PROTECT ALL EXTG. PUBLIC MANHOLES, CATCHBASINS, CLEANOUTS, WATER METERS AND VALVES UNLESS SPECIFICALLY CALLED OUT FOR REMOVAL. AFTER CONSTRUCTION CONTRACTOR TO ADJUST REFERENCED ITEMS TO MATCH FINAL STREET AND LOT GRADES.

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

REVISION	DATE	MODIFICATION

KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

EXISTING CONDITIONS, EROSION CONTROL
AND DEMOLITION PLAN
QUARRY ROAD – MULTIFAMILY

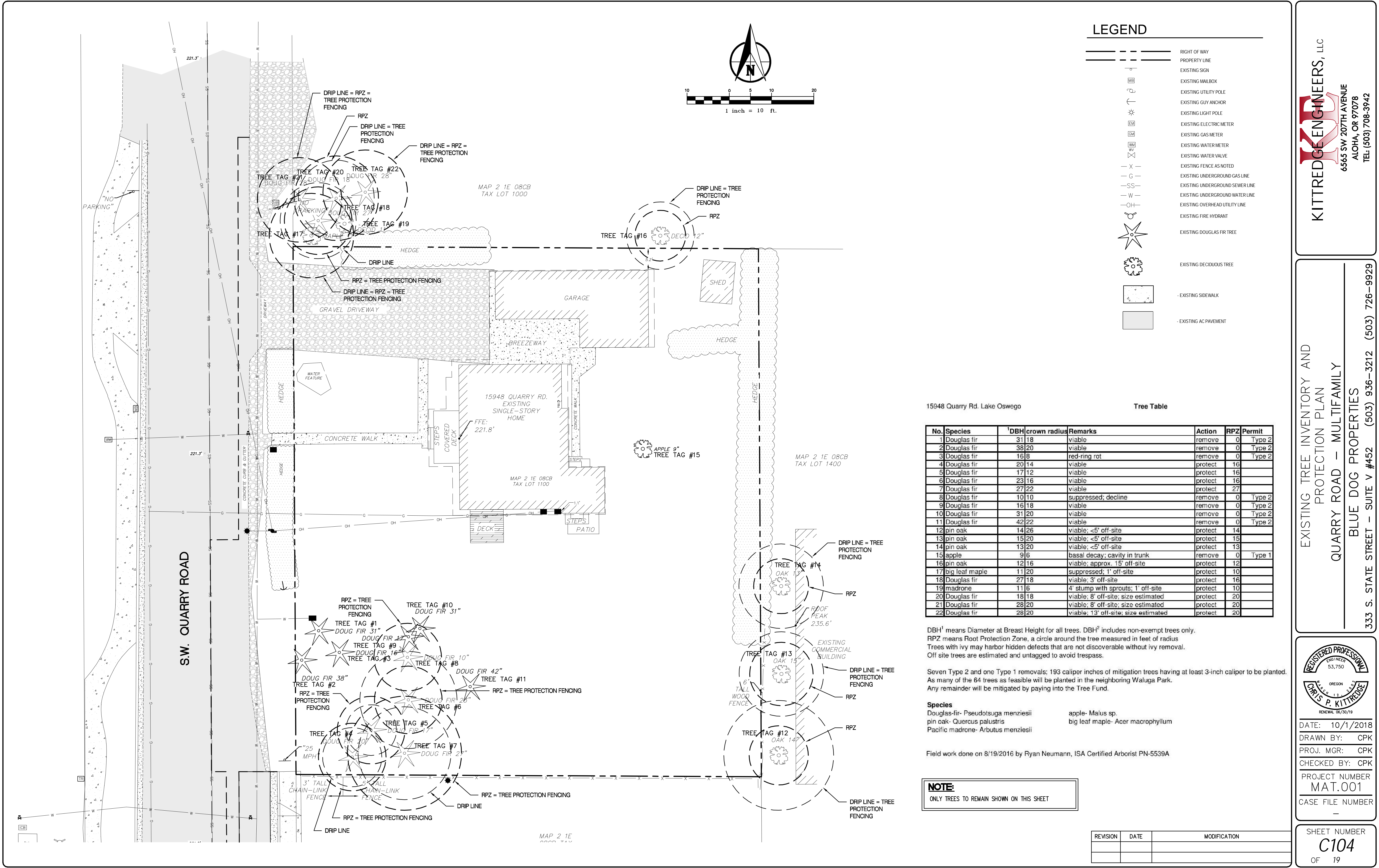
BLUE DOG PROPERTIES

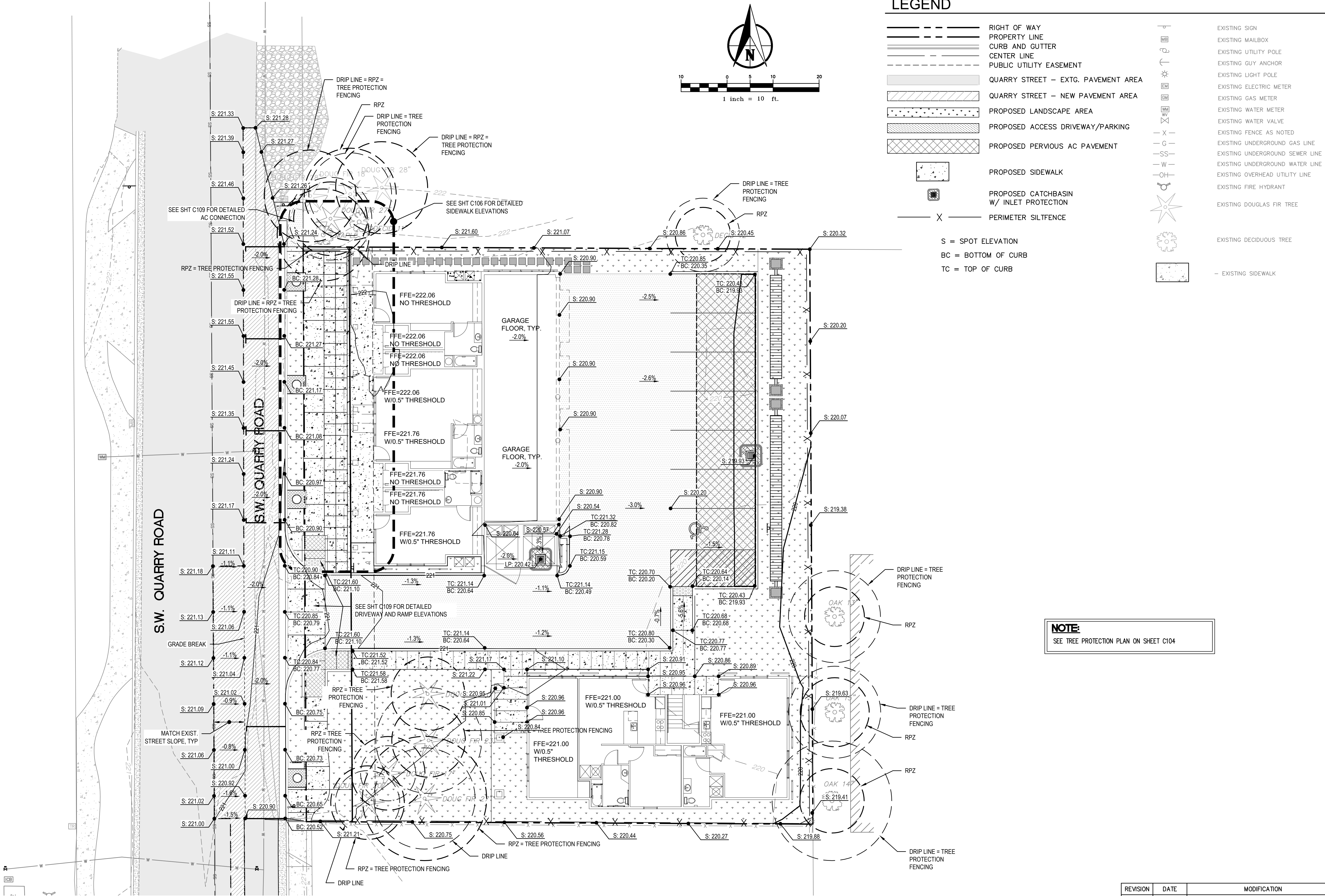
333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726-9929



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
—

SHEET NUMBER
C103
OF 19





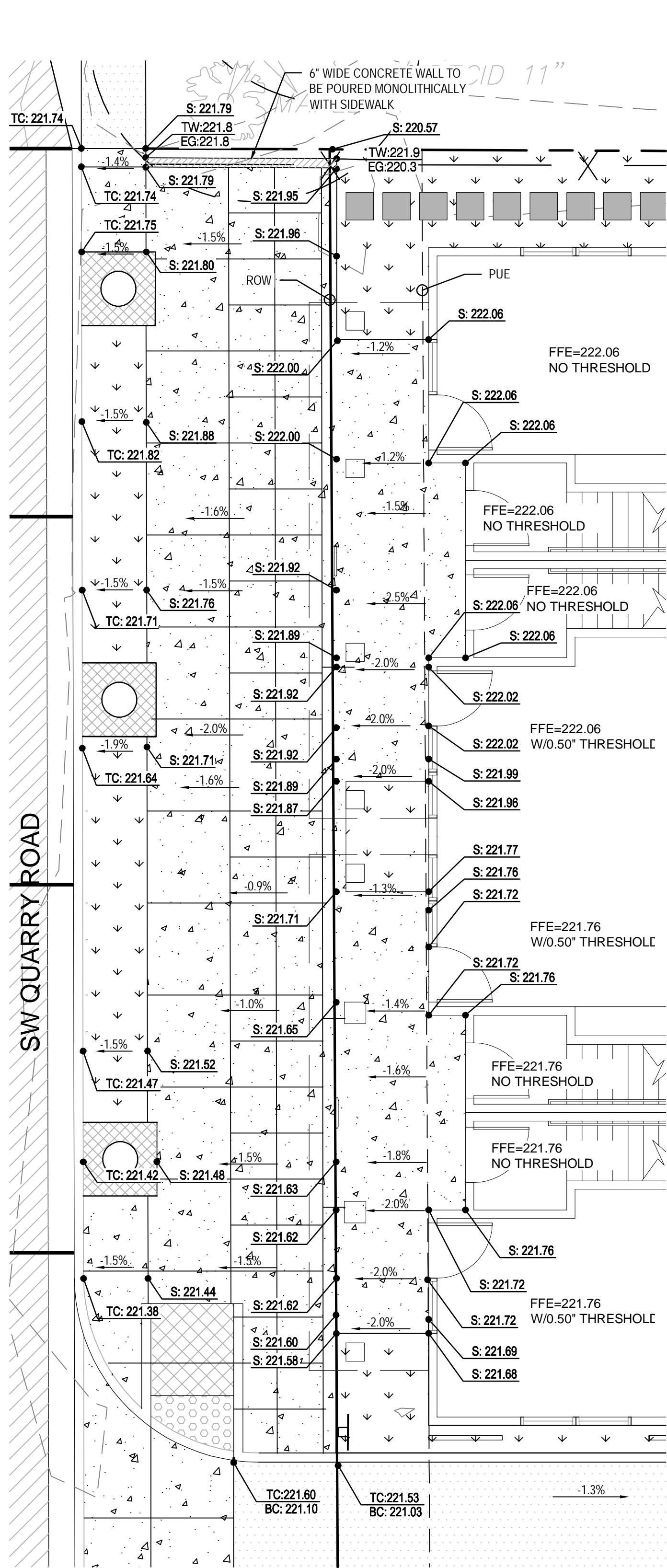
KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

PROPOSED GRADING PLAN
QUARRY ROAD – MULTIFAMILY
BLUE DOG PROPERTIES
333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726-9929

REGISTERED PROFESSIONAL ENGINEER
OREGON
CHRIS P. KITTREDGE
RENEWAL: 06/30/19
DATE: 9/26/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER

SHEET NUMBER
0105
OF 19

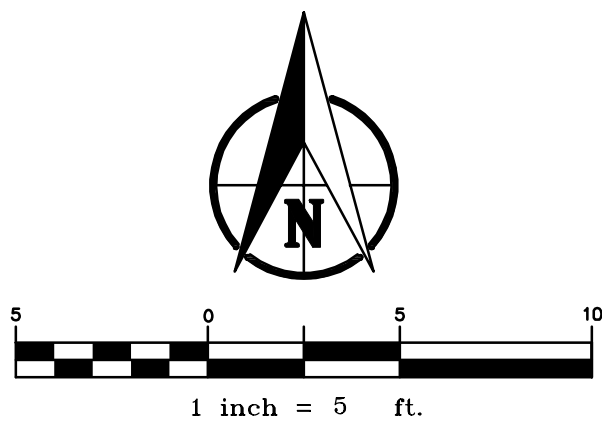
REVISION	DATE	MODIFICATION



* SEE SHEETS C105 AND C109 FOR SIDEWALK AND HANDICAP RAMP GRADING SOUTH OF THIS DETAIL.

**SW QUARRY ROAD
SIDEWALK FRONTAGE GRADING DETAIL**

SCALE: 1" = 5'



LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- CURB AND GUTTER
- CENTER LINE
- PUBLIC UTILITY EASEMENT
- QUARRY STREET - NEW PAVEMENT AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED ACCESS DRIVEWAY/PARKING
- PROPOSED SIDEWALK

- S = SPOT ELEVATION
- BC = BOTTOM OF CURB
- TC = TOP OF CURB
- TW = TOP OF WALL
- EG = EXISTING GROUND

- EXISTING SIGN
- EXISTING MAILBOX
- EXISTING UTILITY POLE
- EXISTING GUY ANCHOR
- EXISTING LIGHT POLE
- EXISTING ELECTRIC METER
- EXISTING GAS METER
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FENCE AS NOTED
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND SEWER LINE
- EXISTING UNDERGROUND WATER LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING FIRE HYDRANT
- EXISTING DECIDUOUS TREE
- EXISTING SIDEWALK

KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

SW QUARRY ROAD - SIDEWALK
FRONTAGE GRADING DETAIL
QUARRY ROAD - MULTIFAMILY
BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C106
OF 19

REVISION	DATE	MODIFICATION

1	CONSTRUCT HANDICAP RAMP, SEE SHEETS C105, 106, AND C109 FOR DETAILS.	10	PAINT CURB RED WITH 4" LETTERING STATING "FIRE LANE - NO PARKING" PER UFC, SEE DETAIL ON SHEET C117.
2	CONSTRUCT 6" VERTICAL CURB, SEE DETAIL S2-01 ON SHEET C115.	11	CONSTRUCT COMMERCIAL DRIVEWAY, SEE DETAIL S4-03 ON SHEET C115.
3	CONSTRUCT STANDARD CURB AND GUTTER, SEE DETAIL S2-02 ON SHEET C115.	12	INSTALL STOP SIGN, SEE DETAILS T150 AND T250 ON SHEET C117.
4	CONSTRUCT LANDSCAPE AREA, SEE LANDSCAPE PLANS.	13	CONSTRUCT TRASH ENCLOSURE, SEE ARCHITECTURAL PLANS.
5	CONSTRUCT CONCRETE SIDEWALK, SEE DETAIL S3-01 ON SHEET C115.	14	CONSTRUCT PERVIOUS PAVEMENT, SEE DETAIL THIS SHEET.
6	CONSTRUCT HANDICAP PARKING STALL, SEE DETAILS ON SHEET C117.	15	6" WIDE MONOLITHICALLY POURED WALL, SEE SHEET C106.
7	BEGIN NEW CURB AND GUTTER, CONTRACTOR TO MATCH EXISTING CURB, GUTTER AND SIDEWALK.	16	HANDICAP SPACE SIGNAGE, SEE SHEET C117.

1. THE CONTRACTOR IS RESPONSIBLE TO REPLACE ANY SURVEY MONUMENTS THAT ARE DISTURBED DUE TO CONSTRUCTION.
2. STRIPING TO BE PAINTED WITH (2) COATS OF TRAFFIC WHITE IN SINGLE 4" WIDE LINES EXCEPT WHERE NOTED.
3. CONTRACTOR TO PROVIDE EXPANSION JOINTS @ 25' O.C. MAXIMUM AND AT CURVES, TANGENTS AND CORNERS.

	RIGHT OF WAY		EXISTING SIGN
	PROPERTY LINE		EXISTING MAILBOX
	CURB AND GUTTER		EXISTING UTILITY POLE
	CENTER LINE		EXISTING GUY ANCHOR
	PUBLIC UTILITY EASEMENT		EXISTING LIGHT POLE
	QUARRY STREET – EXTG. PAVEMENT AREA		EXISTING ELECTRIC METER
	QUARRY STREET – NEW PAVEMENT AREA		EXISTING GAS METER
	PROPOSED LANDSCAPE AREA		EXISTING WATER METER
	PROPOSED ACCESS DRIVEWAY/PARKING		EXISTING WATER VALVE
	PROPOSED PERVIOUS AC PAVEMENT		EXISTING FENCE AS NOTED
	PROPOSED SIDEWALK		EXISTING UNDERGROUND GAS LINE
	PROPOSED CATCHBASIN		EXISTING UNDERGROUND SEWER LINE
			EXISTING UNDERGROUND WATER LINE
			EXISTING OVERHEAD UTILITY LINE
			EXISTING FIRE HYDRANT
			EXISTING DOUGLAS FIR TREE
			EXISTING DECIDUOUS TREE
			— EXISTING SIDEWALK

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

REVISION	DATE	MODIFICATION

PRIVATE STORM DRAIN BENDS

- 1 6" WYE W/ 2-6"x4" REDUCERS
IE = 217.73
- 2 8" WYE W/ 1-8"x4" REDUCER
IE = 217.20
- 3 8" WYE W/ 1-8"x6" REDUCER
IE = 216.84
- 4 6" WYE W/ 2-6"x4" REDUCERS
IE = 217.75
- 5 8" WYE W/ 1-8"x6" REDUCER
IE = 216.46
- 6 8" WYE W/ 1-8"x4" REDUCER
IE = 216.41
- 7 8" WYE W/ 1-8"x6" REDUCER
IE = 216.17
- 8 8" WYE W/ 1-8"x4" REDUCER
IE = 216.08

PRIVATE STORM DRAIN DATA

SDCO-02A
RIM = 221.08
8" IE = 215.50

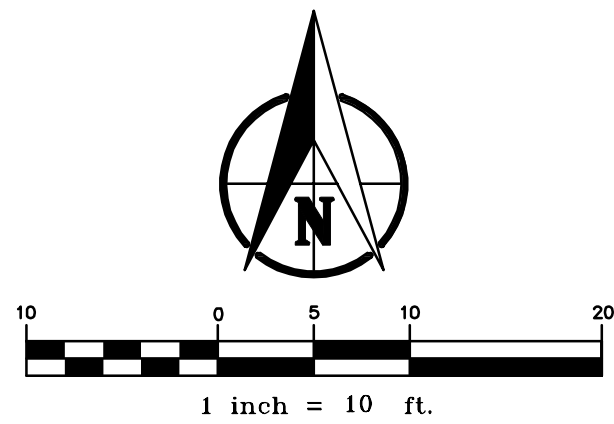
SDAD-03A - LYNCH CB
SEE DETAIL C111
RIM = 219.93
8" IE = 218.26

SDCO-02B
RIM = 220.17
8" IE = 216.40

SDCO-03A
RIM = 220.19
8" IE = 217.23

PRIVATE STORM DRAIN BENDS

- 1 8" 45° BEND
- 2 6" 45° BEND
- 3 4" 45° BEND
- 4 8" 45° BEND



LEGEND

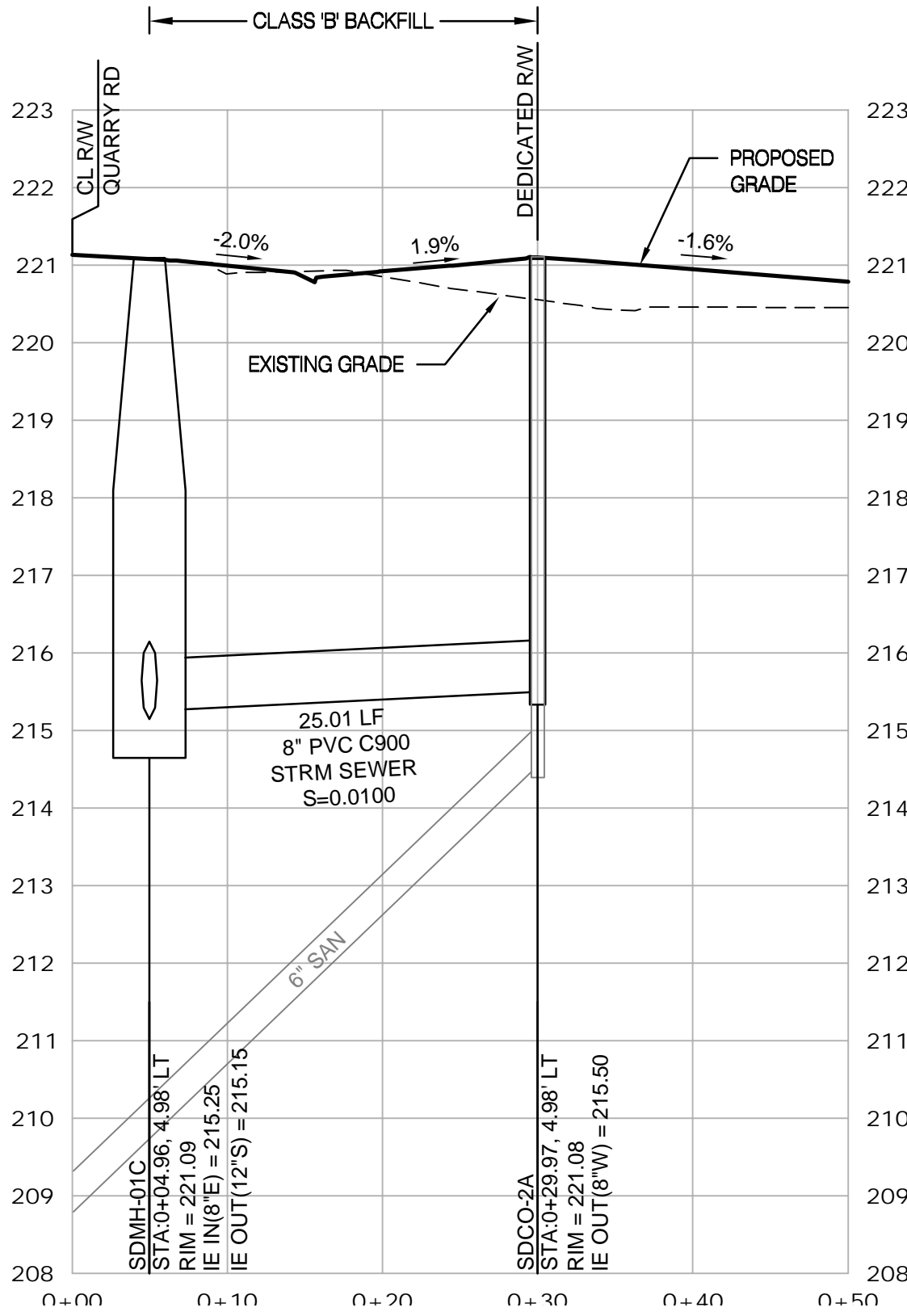
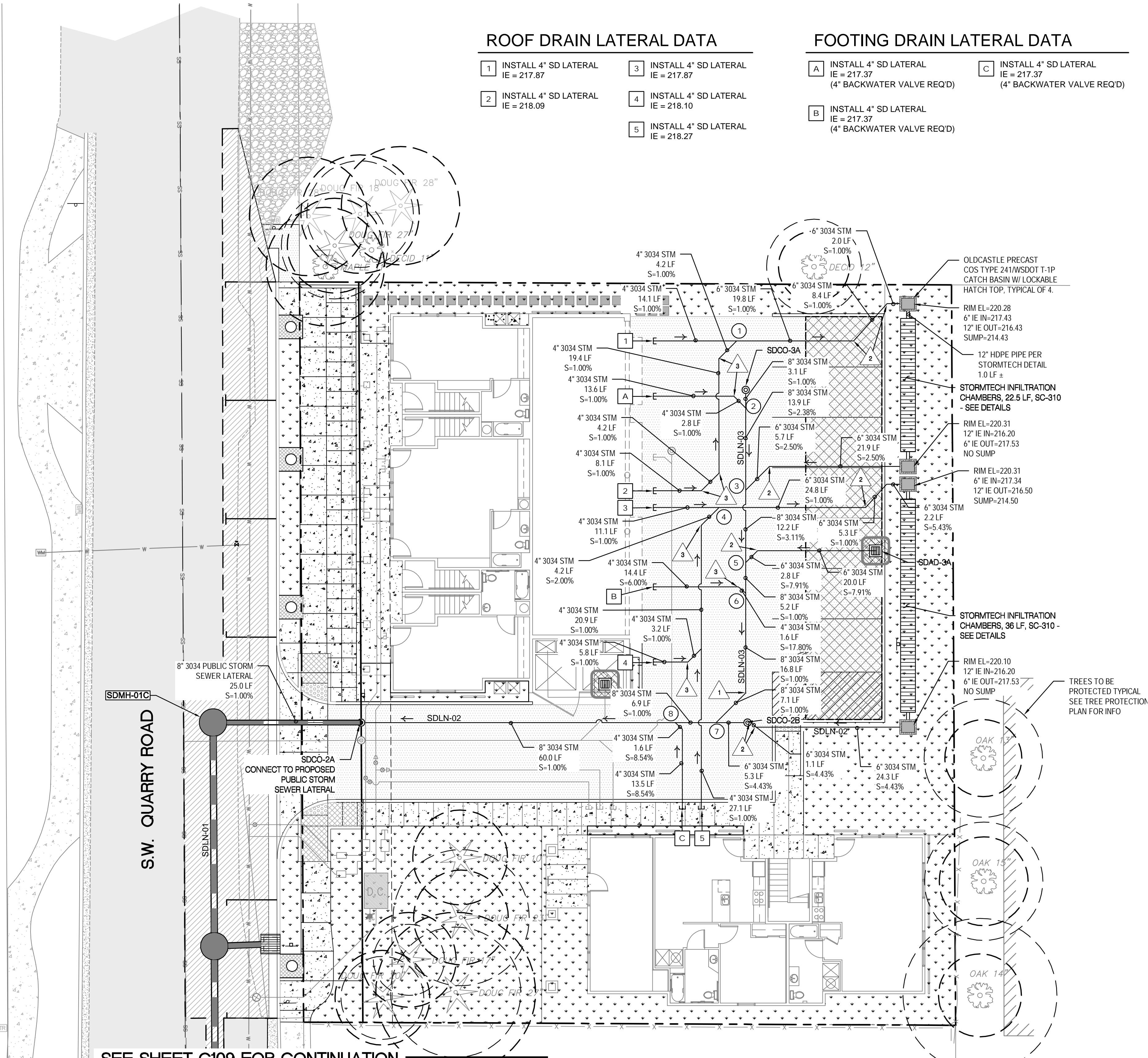
- RIGHT OF WAY
PROPERTY LINE
CURB AND GUTTER
CENTER LINE
PUBLIC UTILITY EASEMENT
- QUARRY STREET - EXTG. PAVEMENT AREA
QUARRY STREET - NEW PAVEMENT AREA
PROPOSED LANDSCAPE AREA
PROPOSED ACCESS DRIVEWAY/PARKING
PROPOSED PERVIOUS AC PAVEMENT
- PROPOSED SIDEWALK
PROPOSED PUBLIC STORM LINE
PROPOSED STORM MANHOLE
PROPOSED AREA DRAIN
PROPOSED PRIVATE SANITARY SEWER
PROPOSED PRIVATE WATER LINE
PROPOSED PRIVATE STORM SEWER
PROPOSED CLEANOUT
PIPE FLOW DIRECTION
- EXISTING SIGN
EXISTING MAILBOX
EXISTING UTILITY POLE
EXISTING GUY ANCHOR
EXISTING LIGHT POLE
EXISTING ELECTRIC METER
EXISTING GAS METER
EXISTING WATER METER
EXISTING WATER VALVE
EXISTING FENCE AS NOTED
EXISTING UNDERGROUND GAS LINE
EXISTING UNDERGROUND WATER LINE
EXISTING OVERHEAD UTILITY LINE
EXISTING FIRE HYDRANT
EXISTING DOUGLAS FIR TREE
EXISTING DECIDUOUS TREE
EXISTING SIDEWALK

ROOF DRAIN LATERAL DATA

- 1 INSTALL 4" SD LATERAL
IE = 217.87
- 2 INSTALL 4" SD LATERAL
IE = 218.09
- 3 INSTALL 4" SD LATERAL
IE = 217.87
- 4 INSTALL 4" SD LATERAL
IE = 218.10
- 5 INSTALL 4" SD LATERAL
IE = 218.27

FOOTING DRAIN LATERAL DATA

- A INSTALL 4" SD LATERAL
IE = 217.37
(4" BACKWATER VALVE REQ'D)
- B INSTALL 4" SD LATERAL
IE = 217.37
(4" BACKWATER VALVE REQ'D)
- C INSTALL 4" SD LATERAL
IE = 217.37
(4" BACKWATER VALVE REQ'D)



ENTRANCE / SDLN-02 - PROFILE VIEW

HORIZONTAL SCALE: 1" = 10' VERTICAL SCALE: 1" = 2'

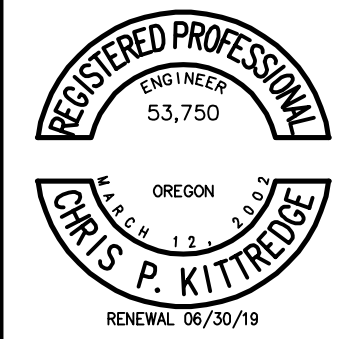
REVISION	DATE	MODIFICATION

SEE SHEET C109 FOR CONTINUATION

KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

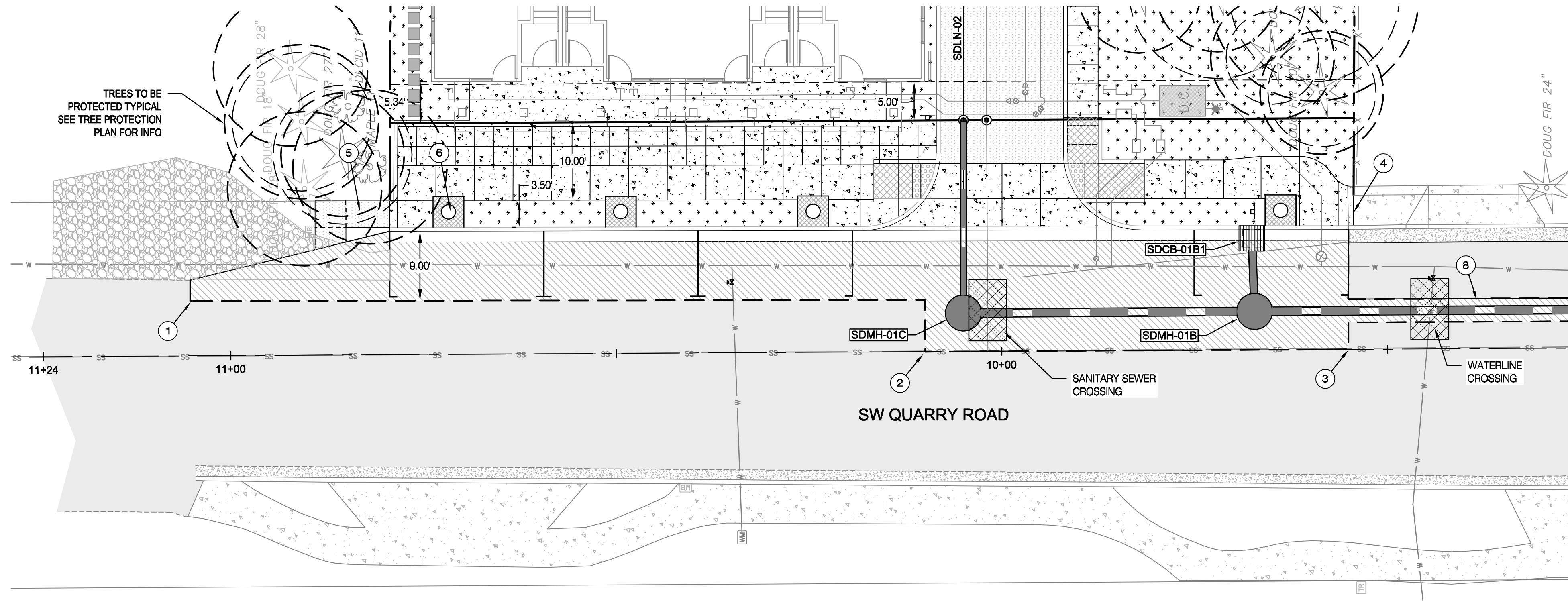
ONSITE STORM SEWER PLAN
QUARRY ROAD - MULTIFAMILY
BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929



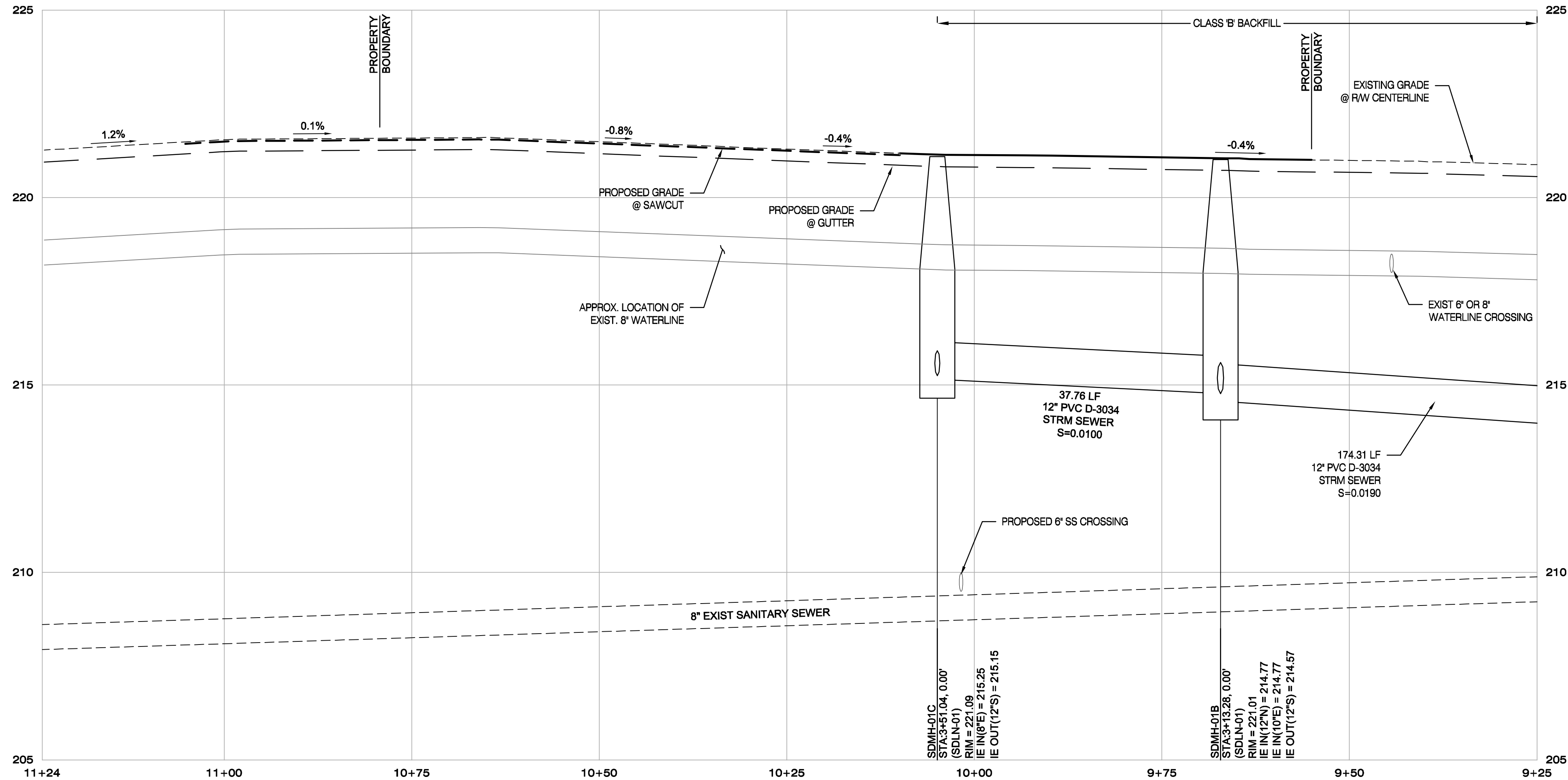
DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C108
OF 19



QUARRY ROAD / SDLN-01 - PLAN VIEW

HORIZONTAL SCALE: 1" = 10'



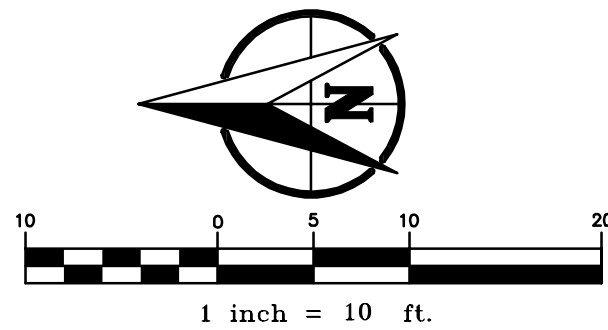
QUARRY ROAD / SDLN-01 - PROFILE VIEW

HORIZONTAL SCALE: 1" = 10' VERTICAL SCALE: 1" = 2'

LEGEND

- PROPOSED STORM LINE & MANHOLE
- PROPOSED SANITARY LINE
- PROPOSED WATERLINE & VALVE
- PROPERTY BOUNDARY
- PROPERTY LINE
- SAWCUT
- EASEMENT
- CURB & GUTTER
- PROPOSED PAVEMENT
- PROPOSED SIDEWALK WITH SITE PERMIT
- PROPOSED LANDSCAPE AREA
- EXISTING AC PAVEMENT

S = SPOT ELEVATION
BC = BOTTOM OF CURB
TC = TOP OF CURB



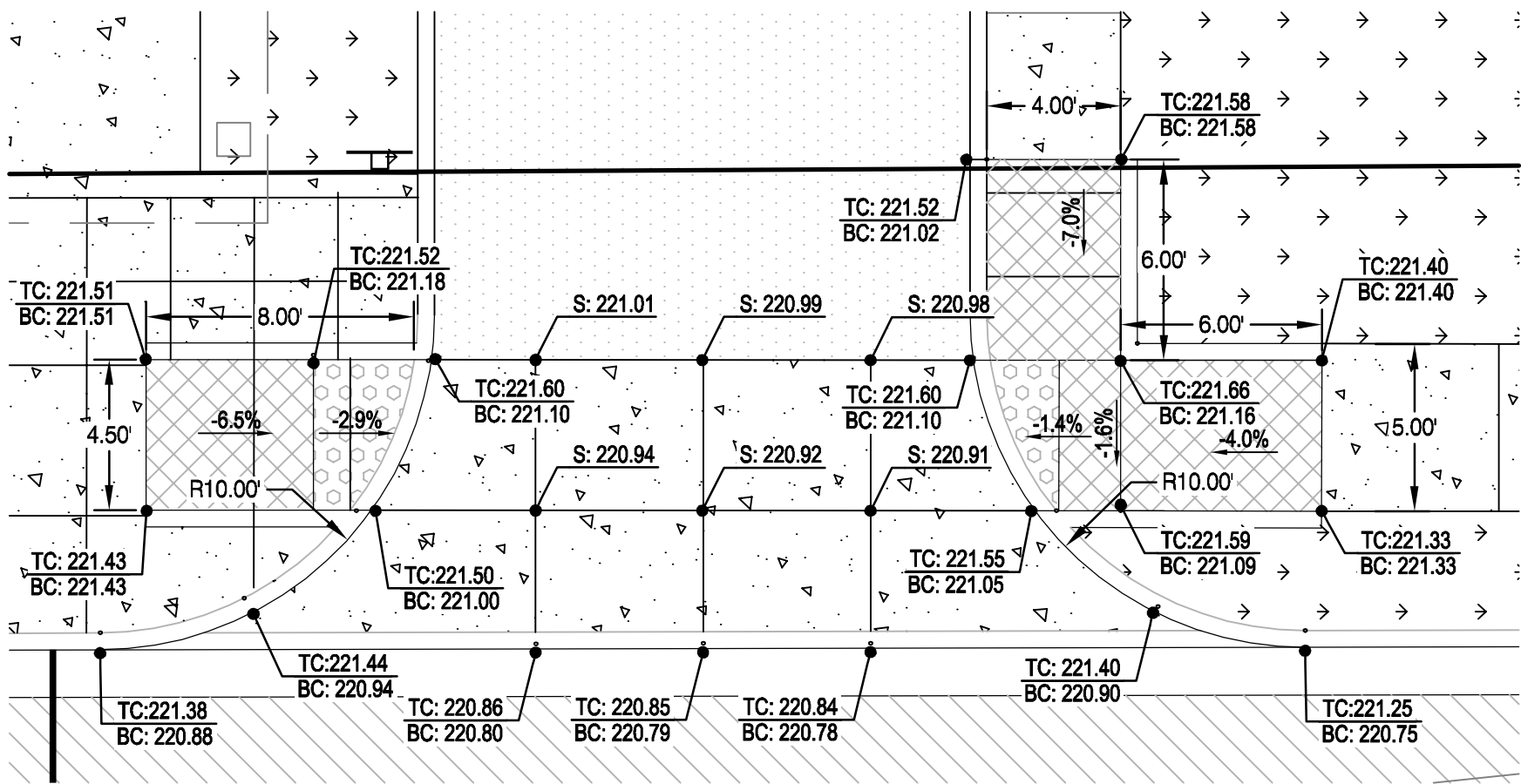
NOTE:
CONTRACTOR SHALL FIELD VERIFY THE SIZE,
LOCATION AND DEPTH OF EXISTING UTILITIES
PRIOR TO CONSTRUCTION

CONSTRUCTION NOTES

- STA 11+05.21, END SAWCUT, ANGLE POINT.
- STA 10+09.95, END $\frac{1}{2}$ STREET SAWCUT, ANGLE POINT.
- STA 9+55.06, BEGIN $\frac{1}{2}$ STREET SAWCUT.
- MATCH EXISTING CURB, GUTTER AND SIDEWALK.
- CONTRACTOR TO INSTALL 3.5' TEMPORARY AC PATHWAY, SEE DETAIL THIS SHEET.
- 4'x4' TREE WELL PER CC DETAIL L100, TYP.
- 16' COMMERCIAL DRIVEWAY, SEE DETAIL THIS SHEET.
- TRENCH CUT, SEE DETAIL S6-03 ON SHEET C115.

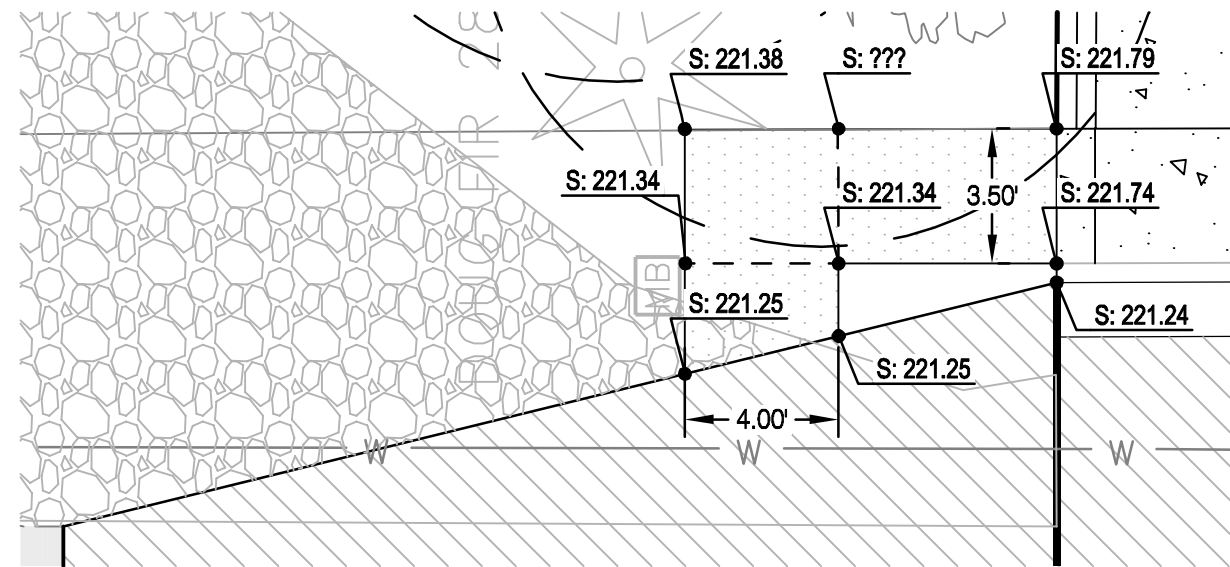
PUBLIC CATCH BASIN DATA

TAG	TYPE	STATION	TC ELEV	IE IN	IE OUT	SLOPE	PIPE
SDCB-01B1	CG-2	9+67.14 15.60' RT QUARRY	221.23	-	217.31	0.2677	9.49 LF 10" PVC C900



COMMERCIAL DWY DETAIL

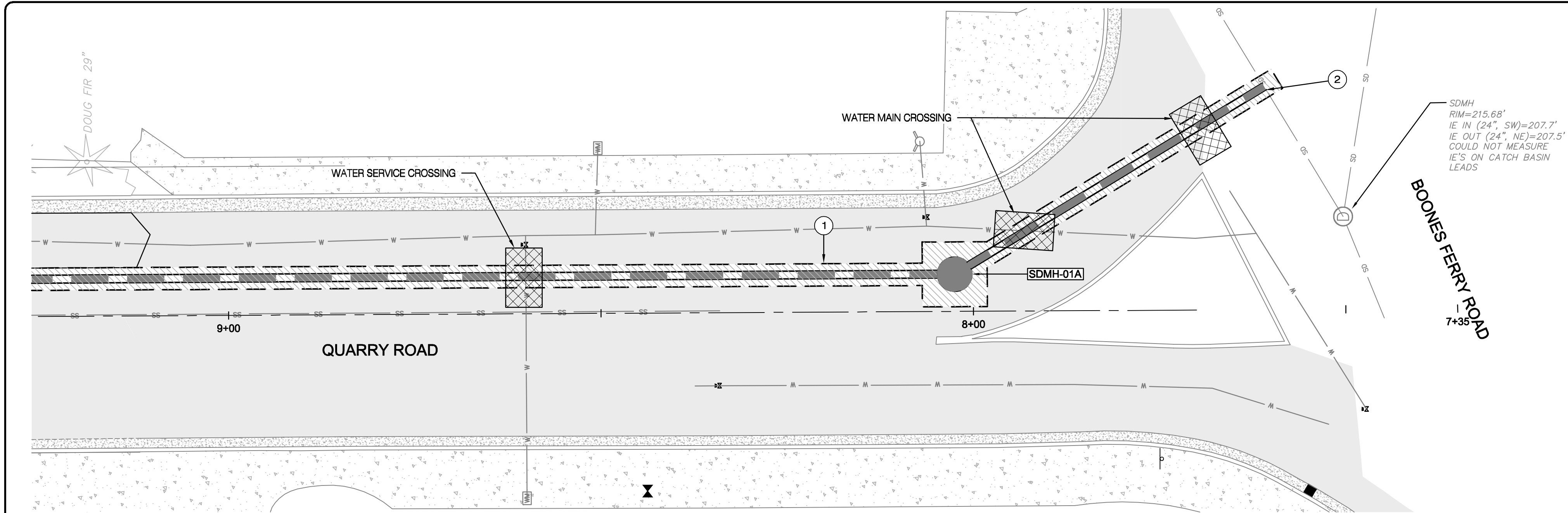
HORIZONTAL SCALE: 1" = 5'



TEMP AC RAMP DETAIL

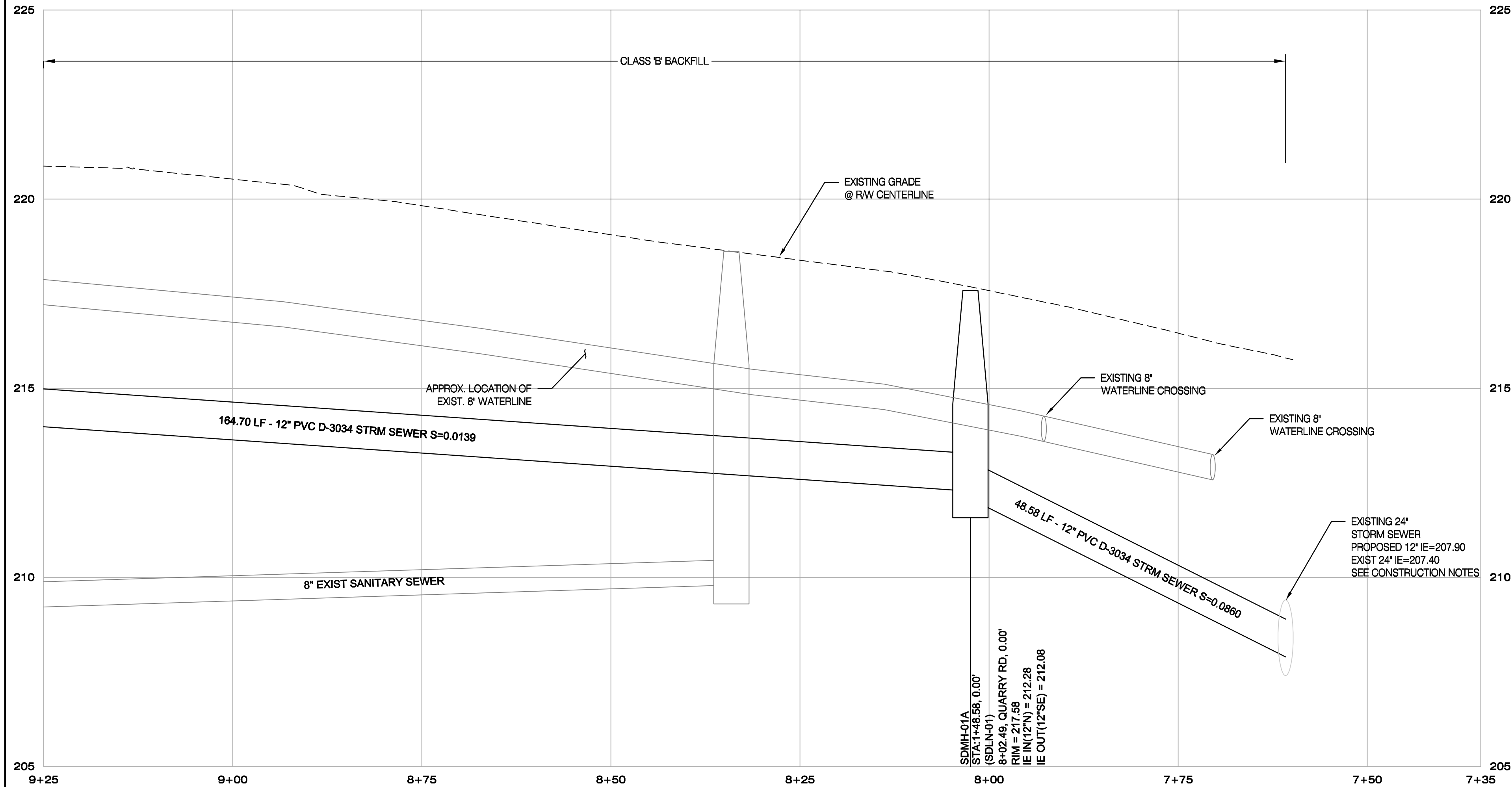
HORIZONTAL SCALE: 1" = 5'

REVISION	DATE	MODIFICATION



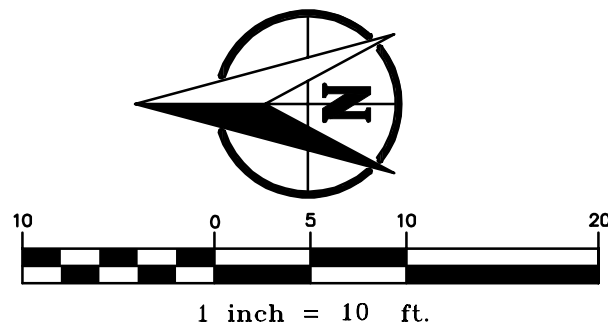
QUARRY RD / SDLN-01 - PLAN VIEW

HORIZONTAL SCALE: 1" = 10'



QUARRY RD / SDLN-01 - PROFILE VIEW

HORIZONTAL SCALE: 1" = 10' VERTICAL SCALE: 1" = 2'



LEGEND

- PROPOSED STORM LINE & MANHOLE
- SAWCUT
- PROPOSED PAVEMENT
- EXISTING AC PAVEMENT

CONSTRUCTION NOTES

- SAWCUT, TYP., SEE DETAIL S6-03 ON SHEET C115.
- CONTRACTOR TO TEE PROPOSED 12" STORM SEWER INTO EXISTING 24" STORM SEWER. CONTRACTOR TO CONSULT WITH ENGINEER AND THE CITY OF LAKE OSWEGO ABOUT CONNECTION TYPE. 12" IE=207.90

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION

REVISION	DATE	MODIFICATION

KITTRIDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

OFFSITE STORM SEWER PLAN AND PROFILE

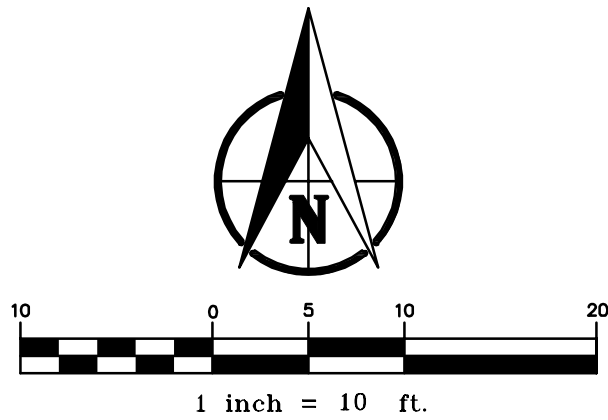
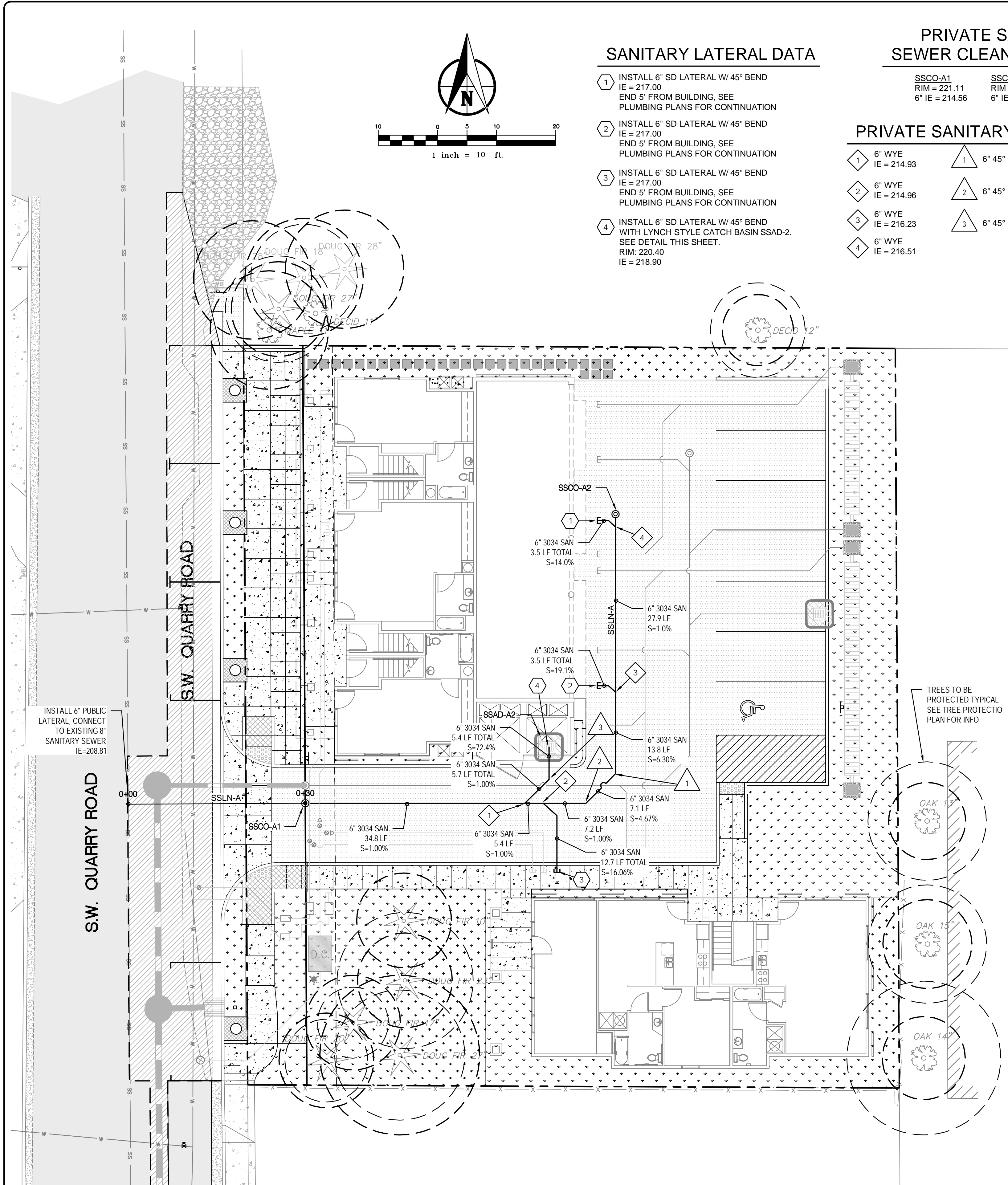
QUARRY ROAD - MULTIFAMILY
BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C110
OF 19



SANITARY LATERAL DATA

- 1. INSTALL 6" SD LATERAL W/ 45° BEND
IE = 217.00
END 5' FROM BUILDING, SEE
PLUMBING PLANS FOR CONTINUATION
- 2. INSTALL 6" SD LATERAL W/ 45° BEND
IE = 217.00
END 5' FROM BUILDING, SEE
PLUMBING PLANS FOR CONTINUATION
- 3. INSTALL 6" SD LATERAL W/ 45° BEND
IE = 217.00
END 5' FROM BUILDING, SEE
PLUMBING PLANS FOR CONTINUATION
- 4. INSTALL 6" SD LATERAL W/ 45° BEND
WITH LYNCH STYLE CATCH BASIN SSAD-2.
SEE DETAIL THIS SHEET.
RIM: 220.40
IE = 218.90

PRIVATE SANITARY
SEWER CLEANOUT DATA

SSCO-A1
RIM = 221.11
6" IE = 214.56

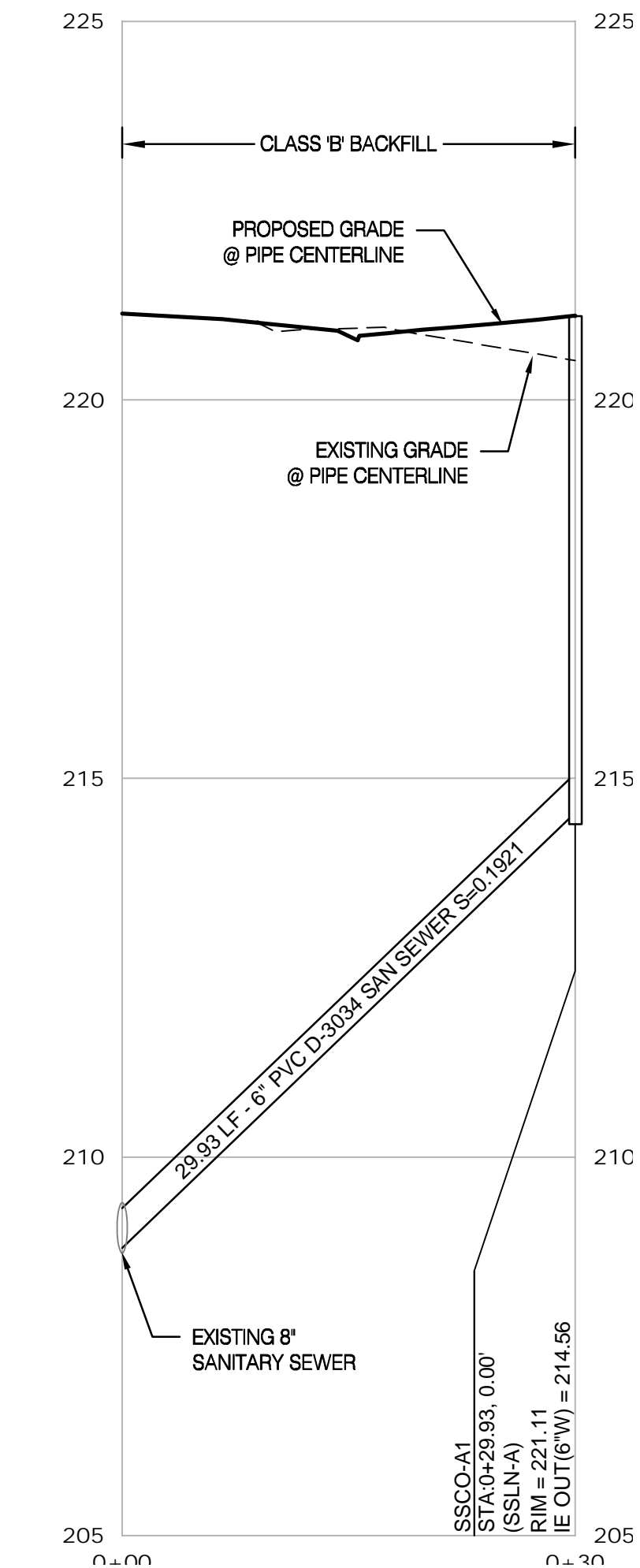
SSCO-A2
RIM = 220.33
6" IE = 216.53

PRIVATE SANITARY SEWER BENDS

- 1. 6" WYE
IE = 214.93
- 2. 6" WYE
IE = 214.96
- 3. 6" WYE
IE = 216.23
- 4. 6" WYE
IE = 216.51
- 1. 6" 45° BEND (IE:215.36)
- 2. 6" 45° BEND (IE:215.03)
- 3. 6" 45° BEND (IE:214.99)

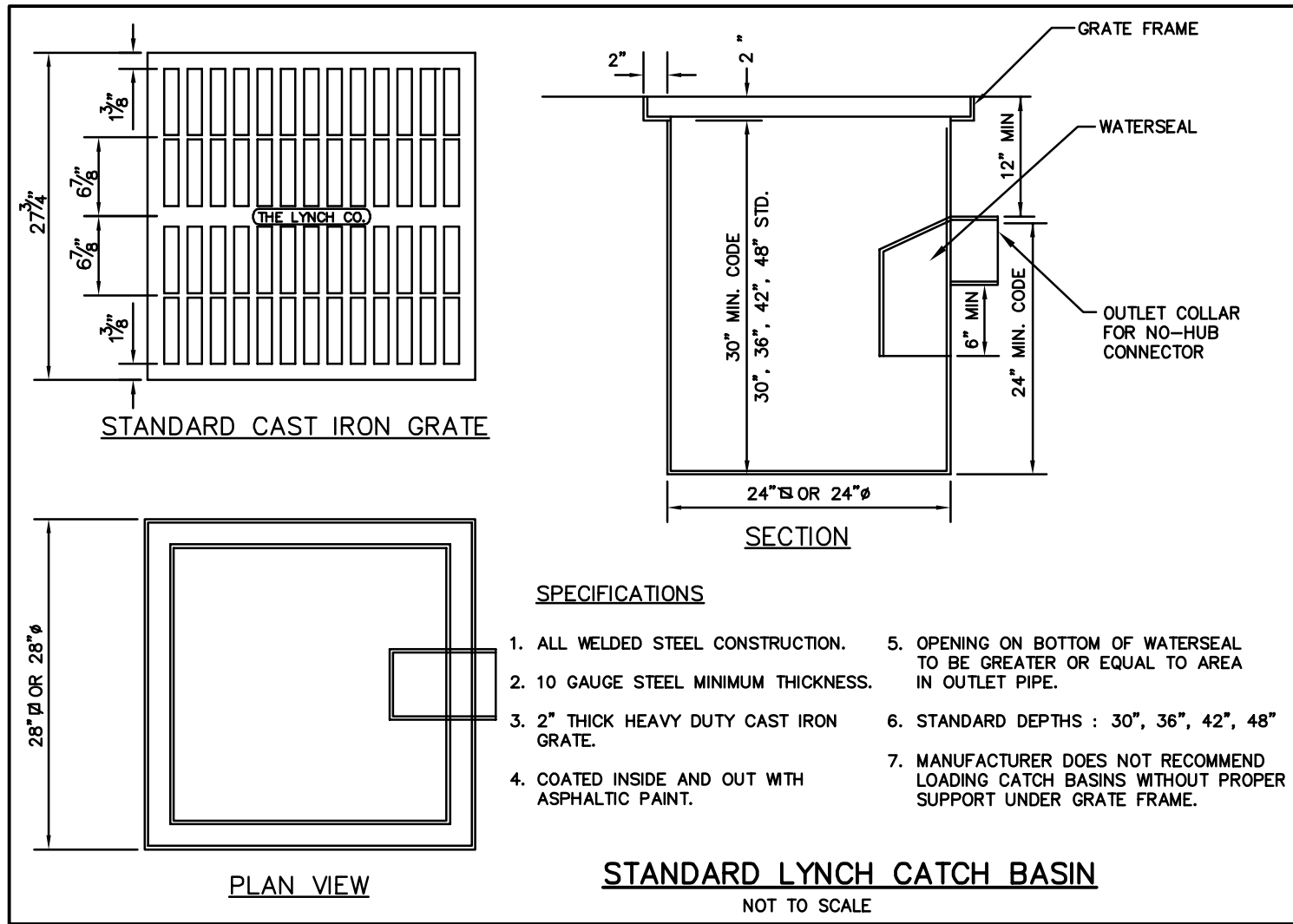
LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- CURB AND GUTTER
- CENTER LINE
- QUARRY STREET - EXTG. PAVEMENT AREA
- QUARRY STREET - NEW PAVEMENT AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED ACCESS DRIVEWAY/PARKING
- PROPOSED SIDEWALK
- PROPOSED CATCHBASIN
- EXISTING SIGN
- EXISTING MAILBOX
- EXISTING UTILITY POLE
- EXISTING GUY ANCHOR
- EXISTING LIGHT POLE
- EXISTING ELECTRIC METER
- EXISTING GAS METER
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FENCE AS NOTED
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND SEWER LINE
- EXISTING UNDERGROUND WATER LINE
- EXISTING OVERHEAD UTILITY LINE
- EXISTING FIRE HYDRANT
- EXISTING DOUGLAS FIR TREE
- EXISTING DECIDUOUS TREE
- EXISTING SIDEWALK



SSLN-A - PROFILE VIEW

HORIZONTAL SCALE: 1" = 10' VERTICAL SCALE: 1" = 2'



SPECIFICATIONS

- 1. ALL WELDED STEEL CONSTRUCTION.
- 2. 10 GAUGE STEEL MINIMUM THICKNESS.
- 3. 2" THICK HEAVY DUTY CAST IRON GRATE.
- 4. COATED INSIDE AND OUT WITH ASPHALTIC PAINT.
- 5. OPENING ON BOTTOM OF WATERSEAL TO BE GREATER OR EQUAL TO AREA IN OUTLET PIPE.
- 6. STANDARD DEPTHS : 30", 36", 42", 48"
- 7. MANUFACTURER DOES NOT RECOMMEND LOADING CATCH BASINS WITHOUT PROPER SUPPORT UNDER GRATE FRAME.

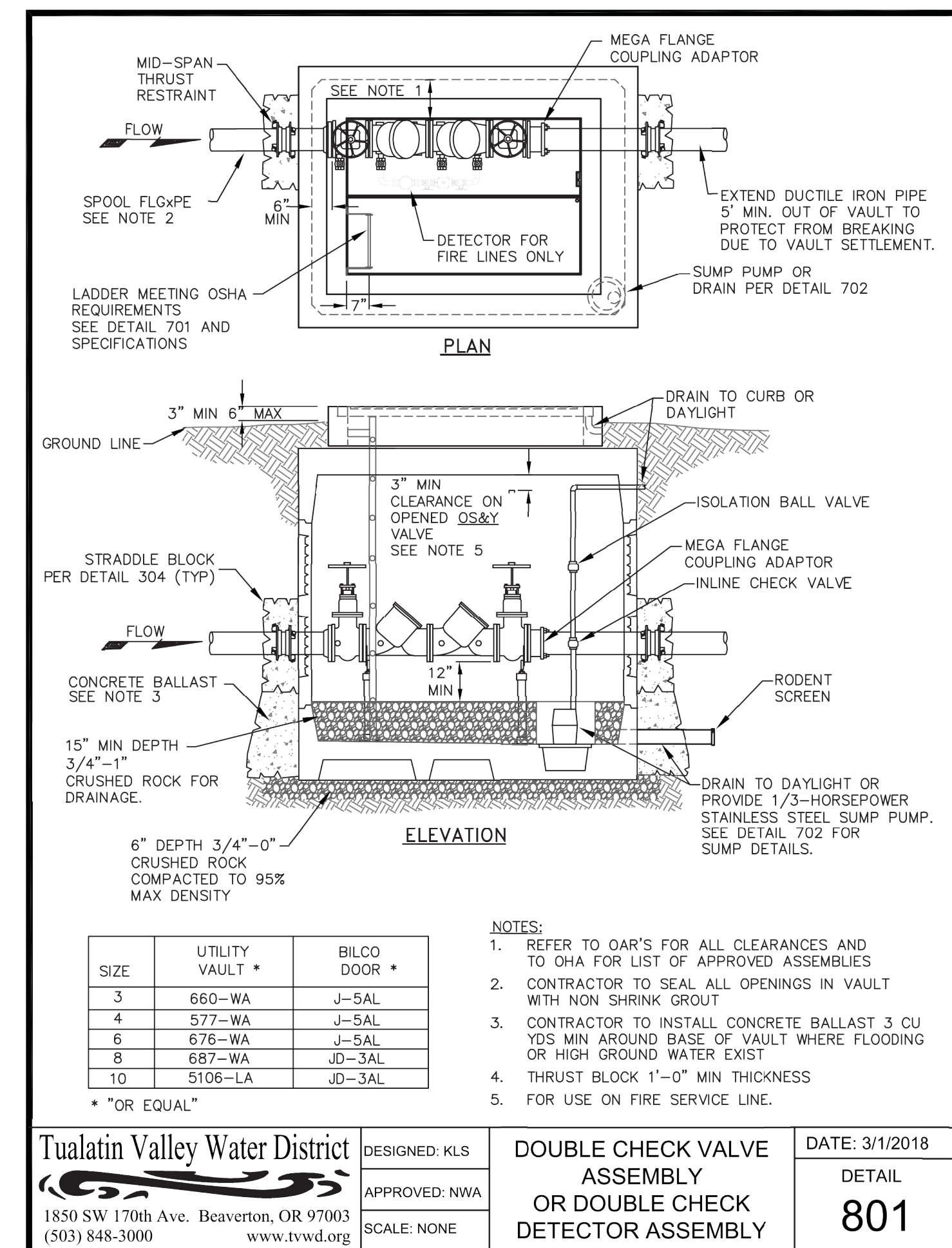
STANDARD LYNCH CATCH BASIN
NOT TO SCALE

REVISION	DATE	MODIFICATION

- 1) INSTALL 1" IRRIGATION SERVICE TAP @ EXISTING 8" DIP WATERLINE PER CLO DETAIL W1-01A.
- 2) INSTALL 1" IRRIGATION METER PER CLO DETAIL W1-01A.
- 3) INSTALL 1" IRRIGATION BACKFLOW ASSEMBLY.
- 4) INSTALL 2" DOMESTIC SERVICE TAP @ EXISTING 8" DIP WATERLINE PER CLO DETAIL W1-01D.
- 5) INSTALL 2" DOMESTIC METER PER CLO DETAIL W1-01D.
- 6) INSTALL 2" DOMESTIC BACKFLOW ASSEMBLY.
- 7) SEE LANDSCAPE PLANS FOR IRRIGATION LINE CONTINUATION.
- 8) INSTALL 2"x2" DOMESTIC TEE W/2-2" GATE VALVES.
- 9) 1" DOMESTIC WATER STUB, END 5' FROM BUILDING FACE, SEE PLUMBING PLANS FOR CONTINUATION.
- 10) INSTALL 3" FIRE LINE SERVICE TAP AND 3 GATE VALVE @ EXISTING 8" DIP WATERLINE.
- 11) INSTALL 3" DOUBLE CHECK DETECTOR ASSEMBLY, SEE DETAIL THIS SHEET.
- 12) INSTALL 3" TEE W/ 2-3" GATE VALVES.
- 13) 2" FIRE LINE STUB, END 5' FROM BUILDING FACE, SEE PLUMBING PLANS FOR CONTINUATION.
- 14) INSTALL 3"x2" REDUCER AFTER GATE VALVE.



	RIGHT OF WAY		EXISTING SIGN
	PROPERTY LINE		EXISTING MAILBOX
	CURB AND GUTTER		EXISTING UTILITY POLE
	CENTER LINE		EXISTING GUY ANCHOR
	QUARRY STREET – EXTG. PAVEMENT AREA		EXISTING LIGHT POLE
	QUARRY STREET – NEW PAVEMENT AREA		EXISTING ELECTRIC METER
	PROPOSED LANDSCAPE AREA		EXISTING GAS METER
	PROPOSED ACCESS DRIVEWAY/PARKING		EXISTING WATER METER
			EXISTING WATER VALVE
	PROPOSED SIDEWALK		EXISTING FENCE AS NOTED
			EXISTING UNDERGROUND GAS LINE
	PROPOSED CATCHBASIN		EXISTING UNDERGROUND SEWER LINE
			EXISTING UNDERGROUND WATER LINE
			EXISTING OVERHEAD UTILITY LINE
			EXISTING FIRE HYDRANT
			EXISTING DOUGLAS FIR TREE
			EXISTING DECIDUOUS TREE
			— EXISTING SIDEWALK



KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

UN-SITE WATERLINE PLAIN
QUARRY ROAD – MULTIFAMILY
BLUE DOG PROPERTIES
STREET – SUITE V #452 (503) 936-3212

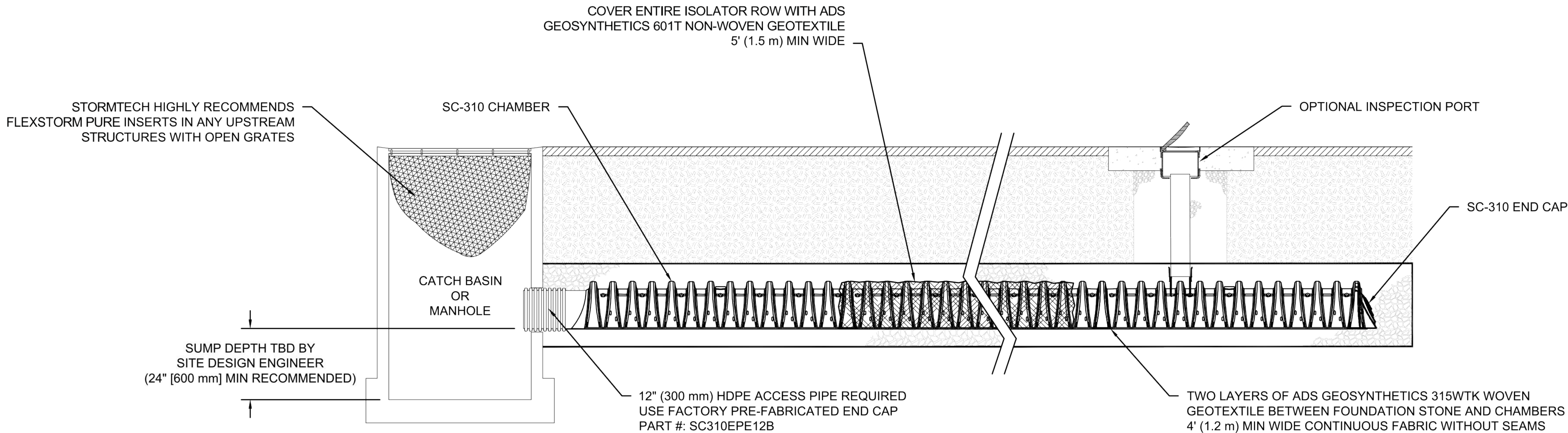
Plotted: Sep 29, 2018 - 3:37pm, P:\Lake Oswego - Quarry Road\Engineering\Set\C112 Onsite Waterline Plan.dwg



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER

SHEET NUMBER
C112
OF 19

REVISION	DATE	MODIFICATION



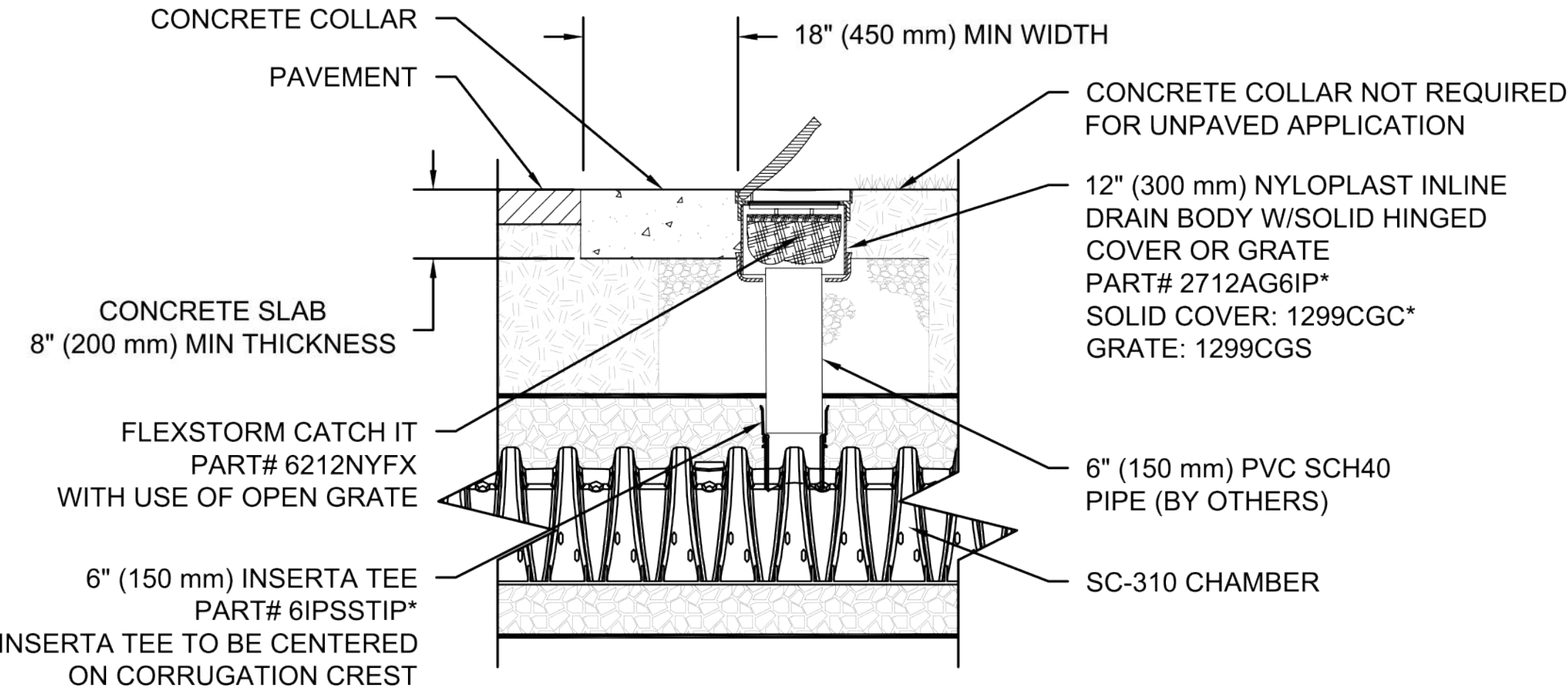
SC-310 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SC-310 6" INSPECTION PORT DETAIL
NTS

* THE PART# 2712AG6IPKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION



4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473



70 INWOOD ROAD, SUITE 3 | ROCKY HILL, CT 06067
860-529-8188 | 888-892-2894 | WWW.STORMTECH.COM

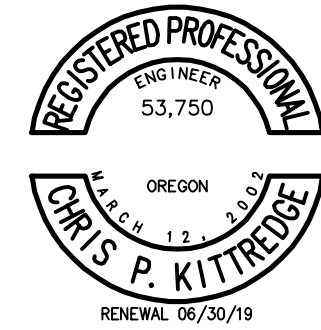
ISOLATOR ROW DETAILS			
SC-310			
DATE:	08/05/16	DRAWN:	JLM
PROJECT #:		CHECKED:	JLM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

STORMTECH INFILTRATION SYSTEM
DETAILS

QUARRY ROAD – MULTIFAMILY
BLUE DOG PROPERTIES

333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726-9929



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
—

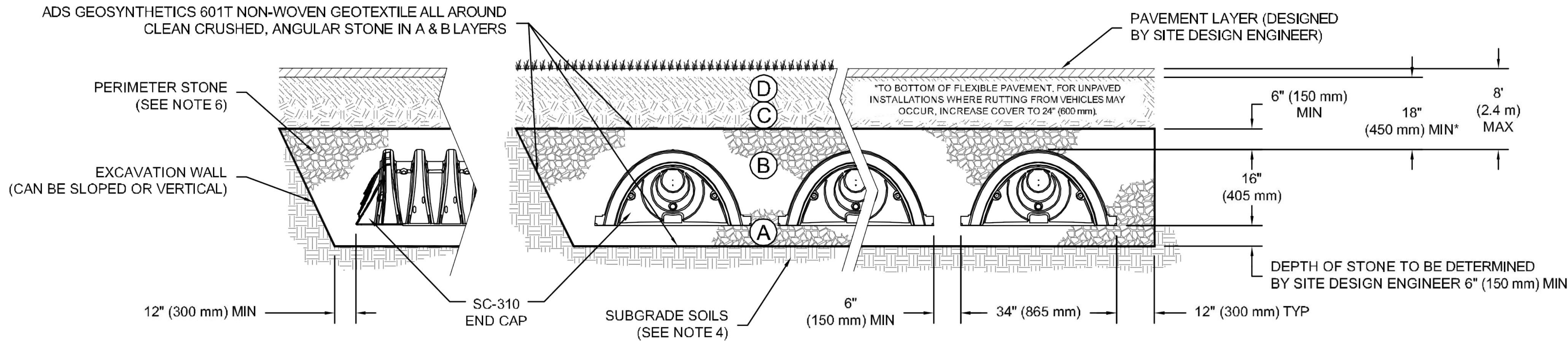
SHEET NUMBER
C113
OF 19

KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2894 | WWW.STORMTECH.COM

ADS
ADVANCED DRAINAGE SYSTEMS, INC.

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

SHEET
1 OF 1

DESCRIPTION

SC-310

STANDARD CROSS SECTION

REV

DRW

CHK

JLM

JLM

UPDATE

DATE

11/18/14

DRAWN

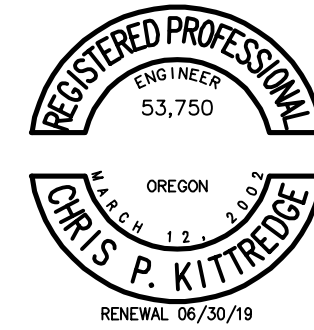
JLM

CHECKED

JLM

PROJECT #

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.



DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
-

SHEET NUMBER
C114
OF 19

STORMTECH INFILTRATION SYTEM

DETAILS

QUARRY ROAD - MULTIFAMILY

BLUE DOG PROPERTIES

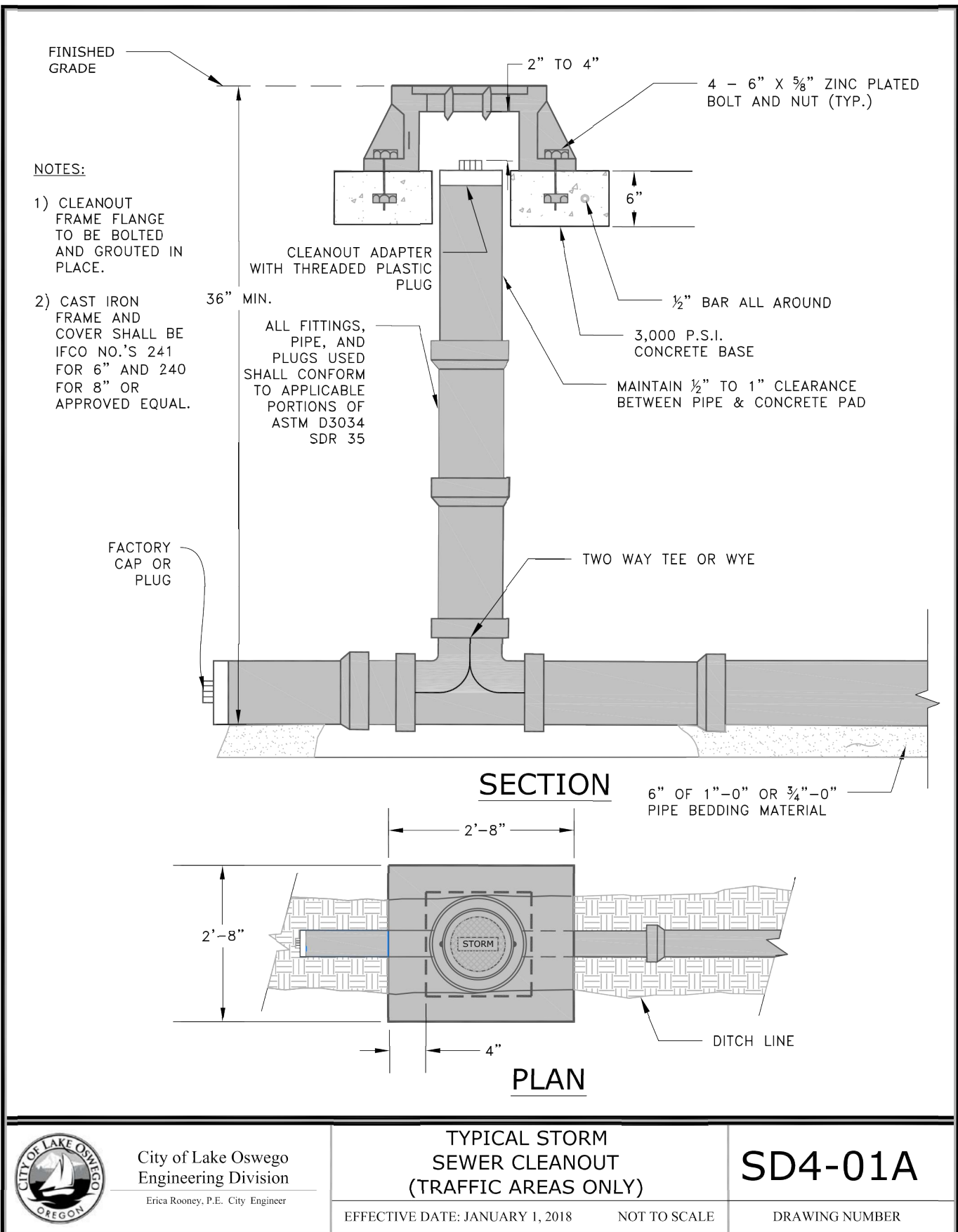
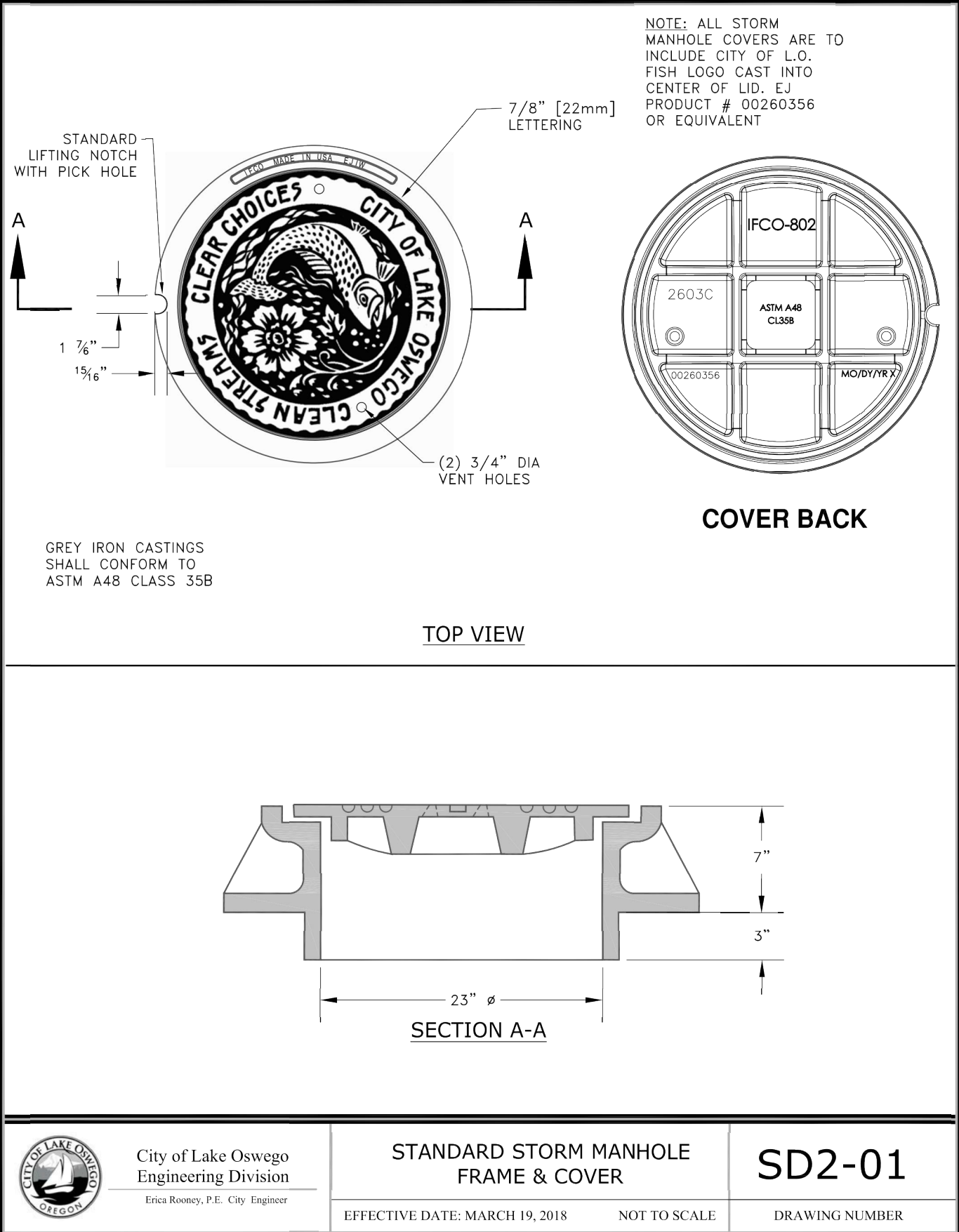
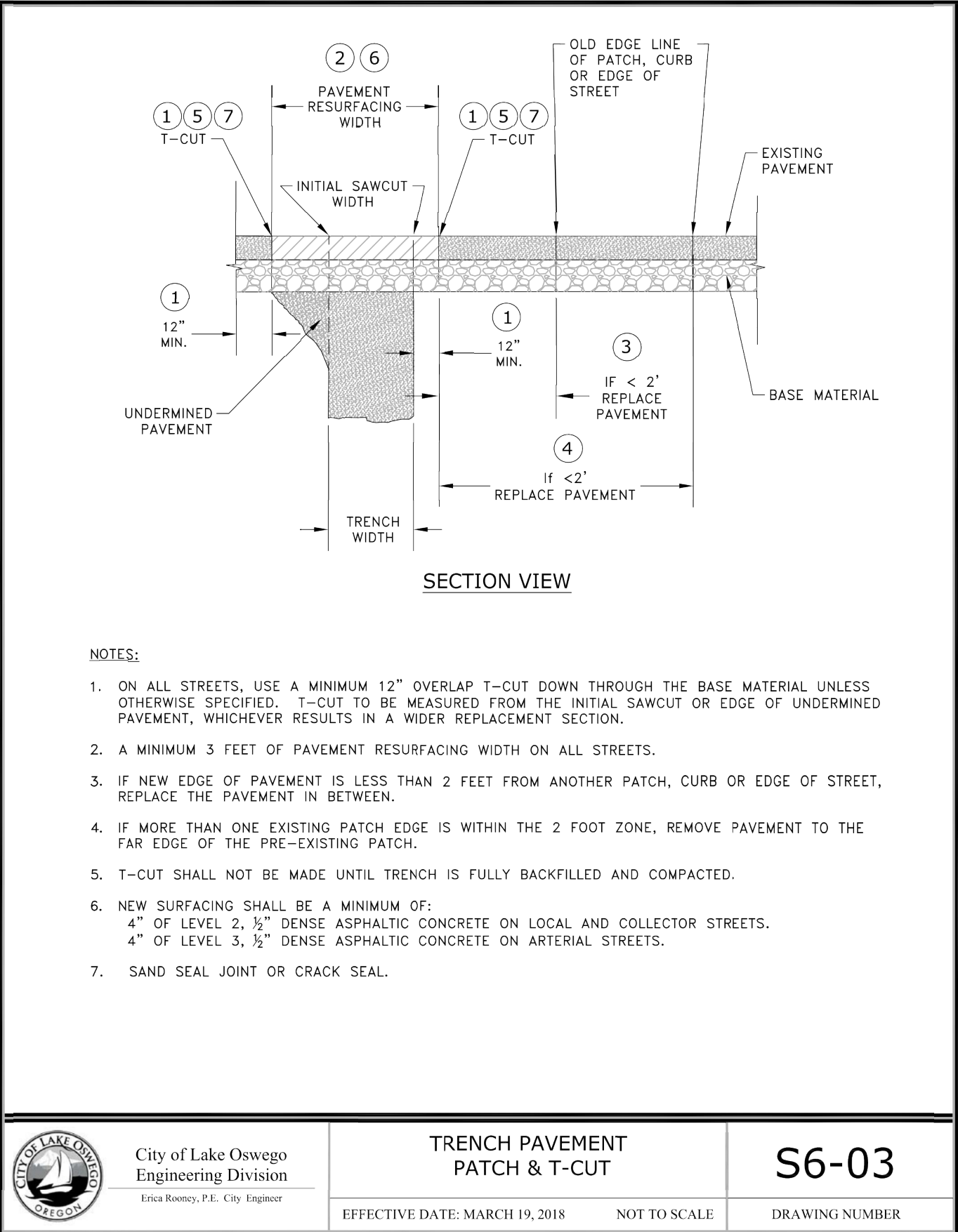
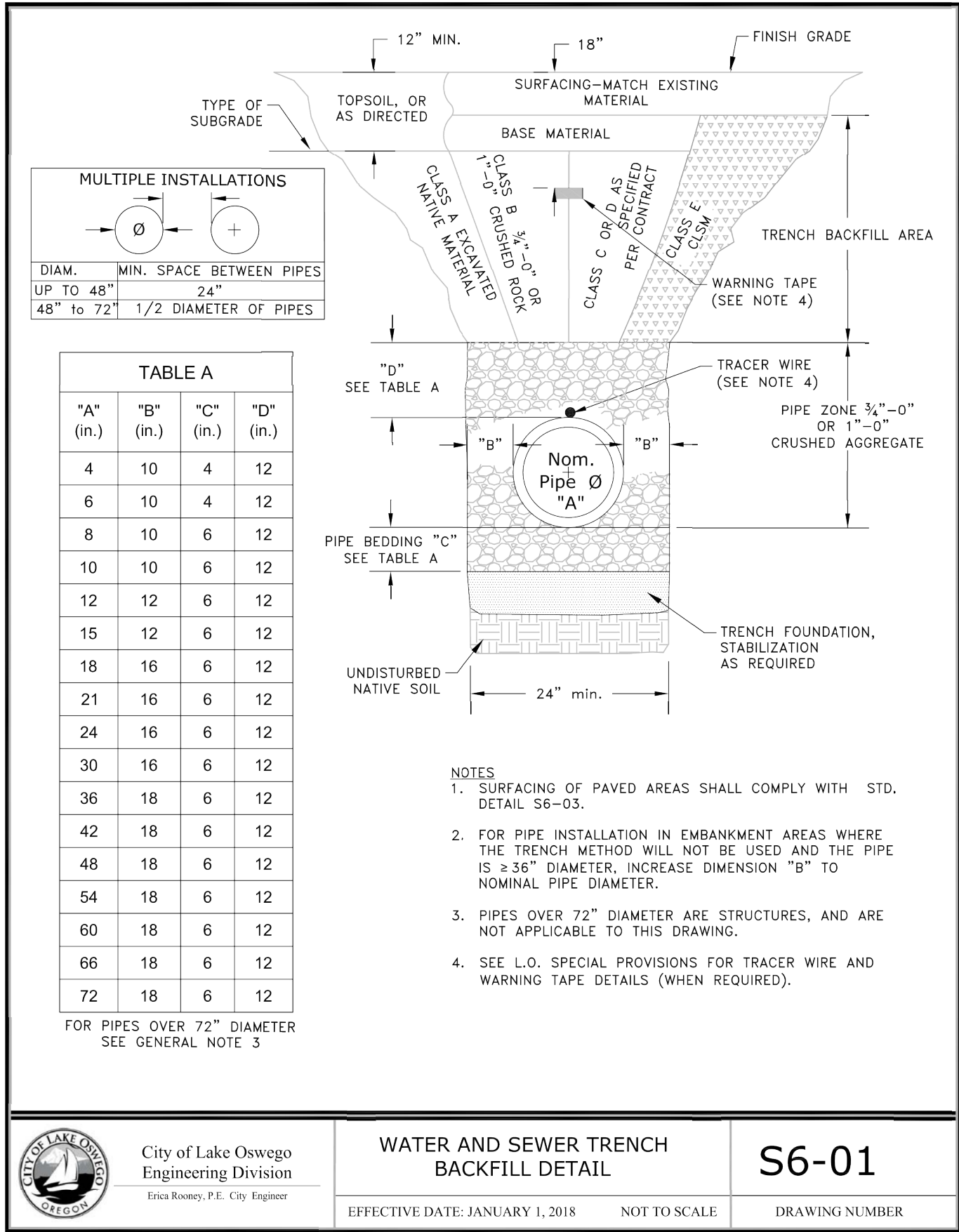
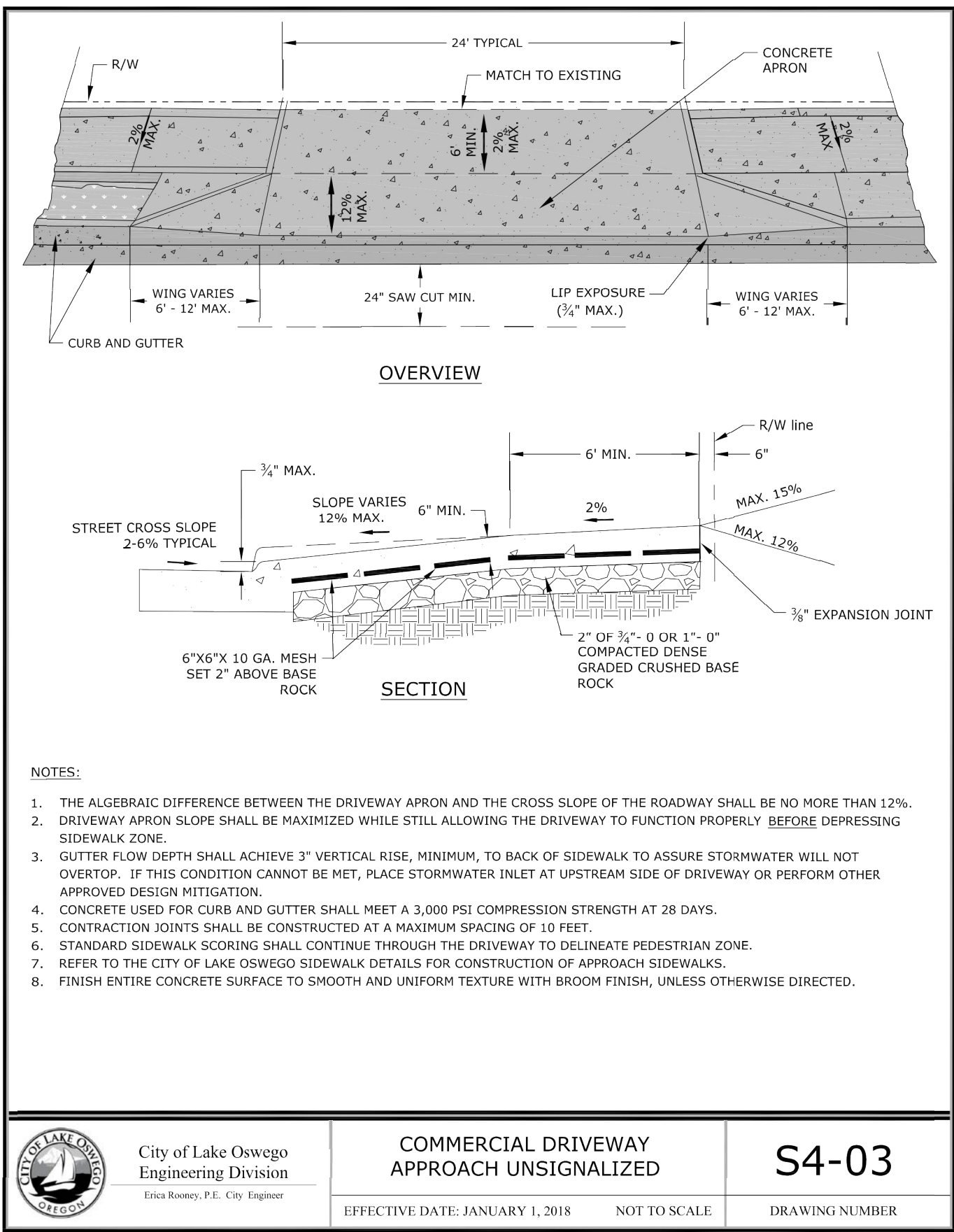
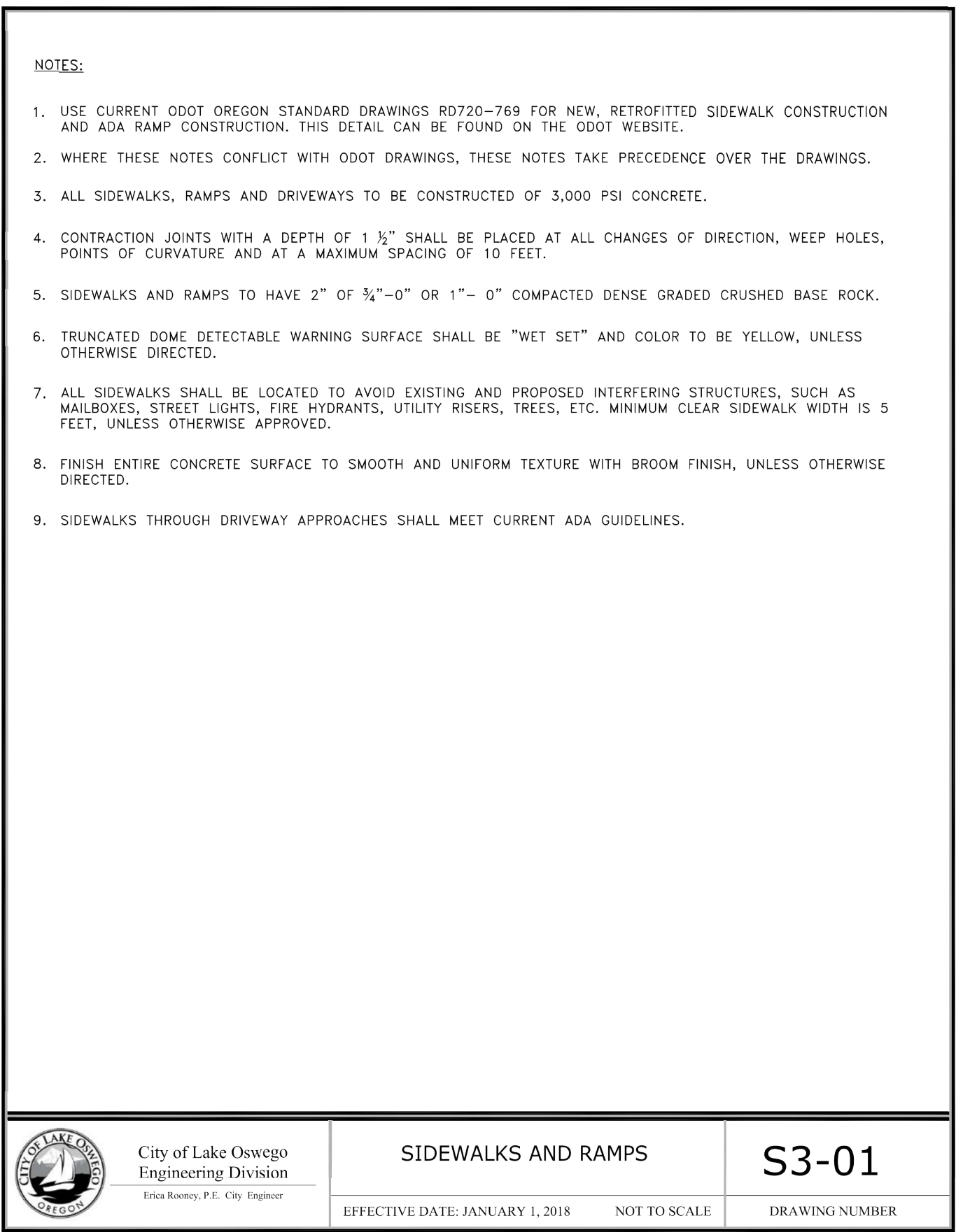
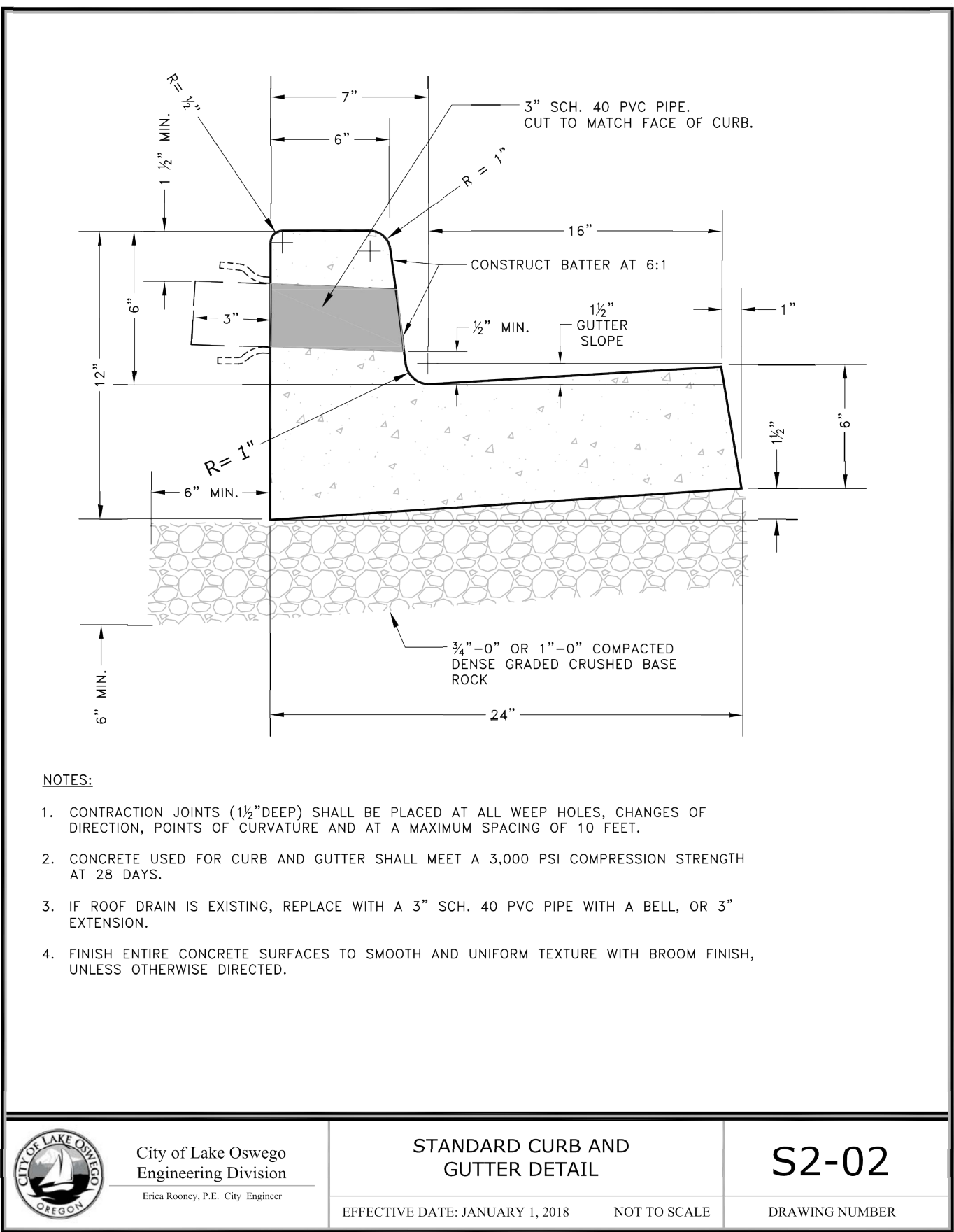
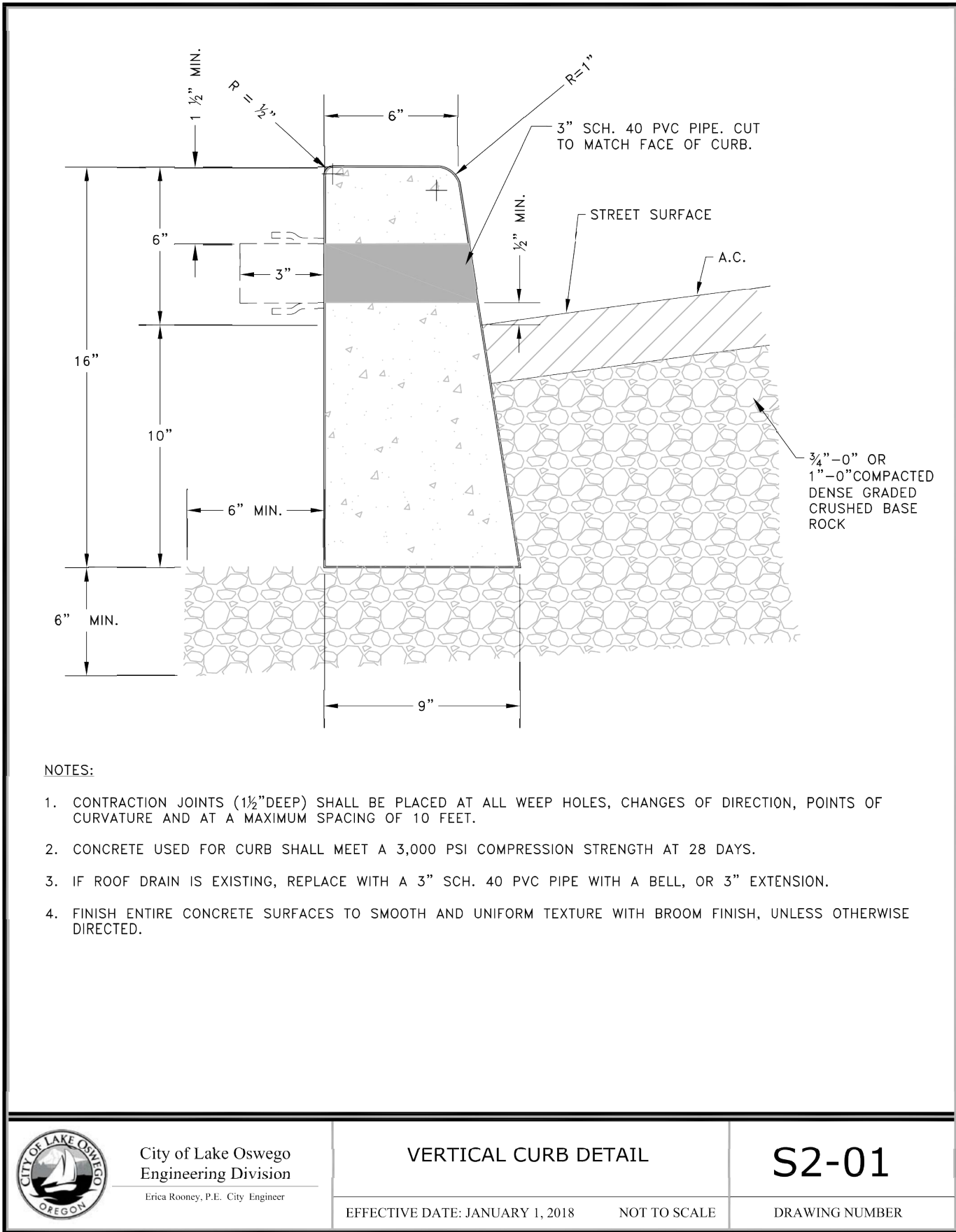
333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929

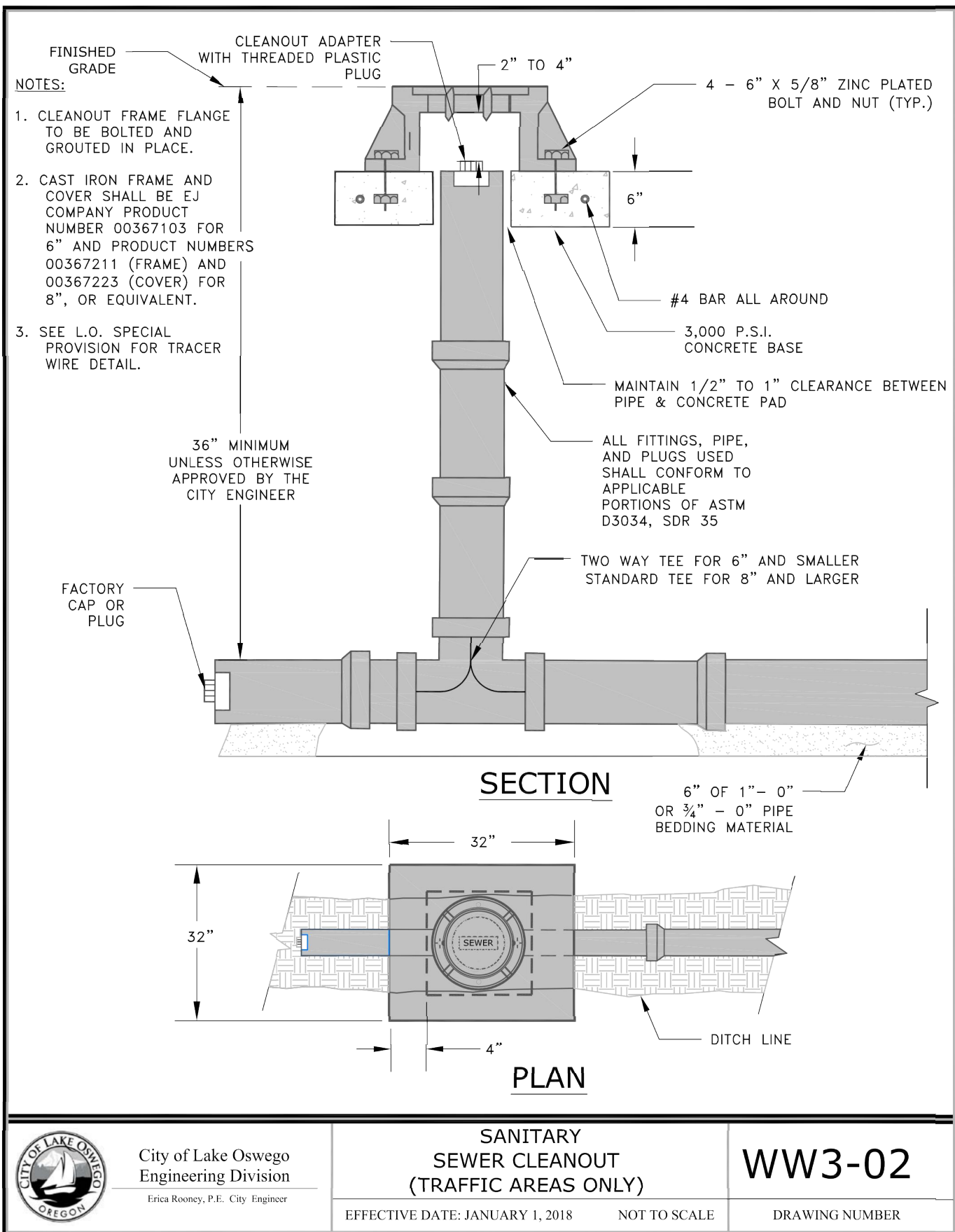
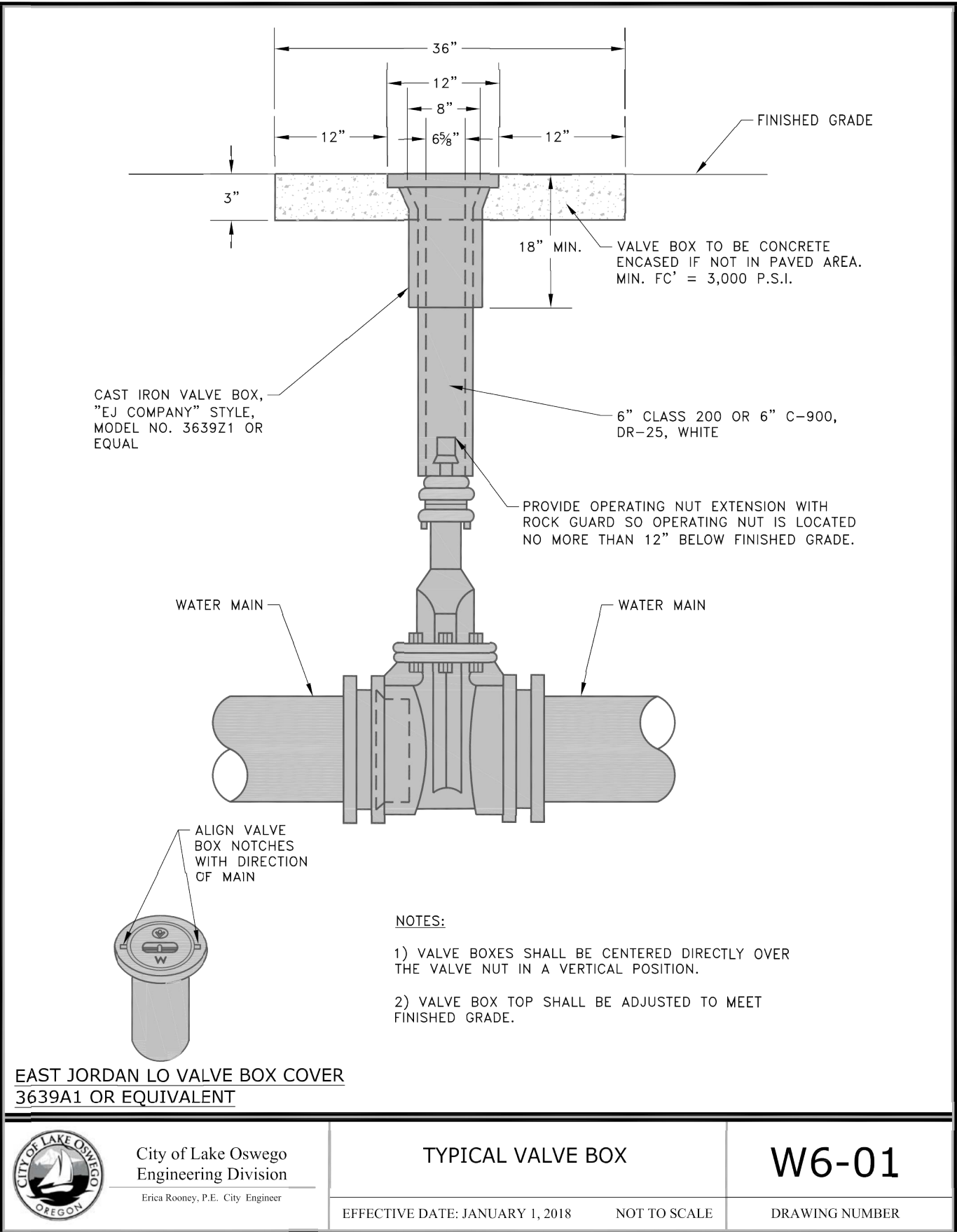
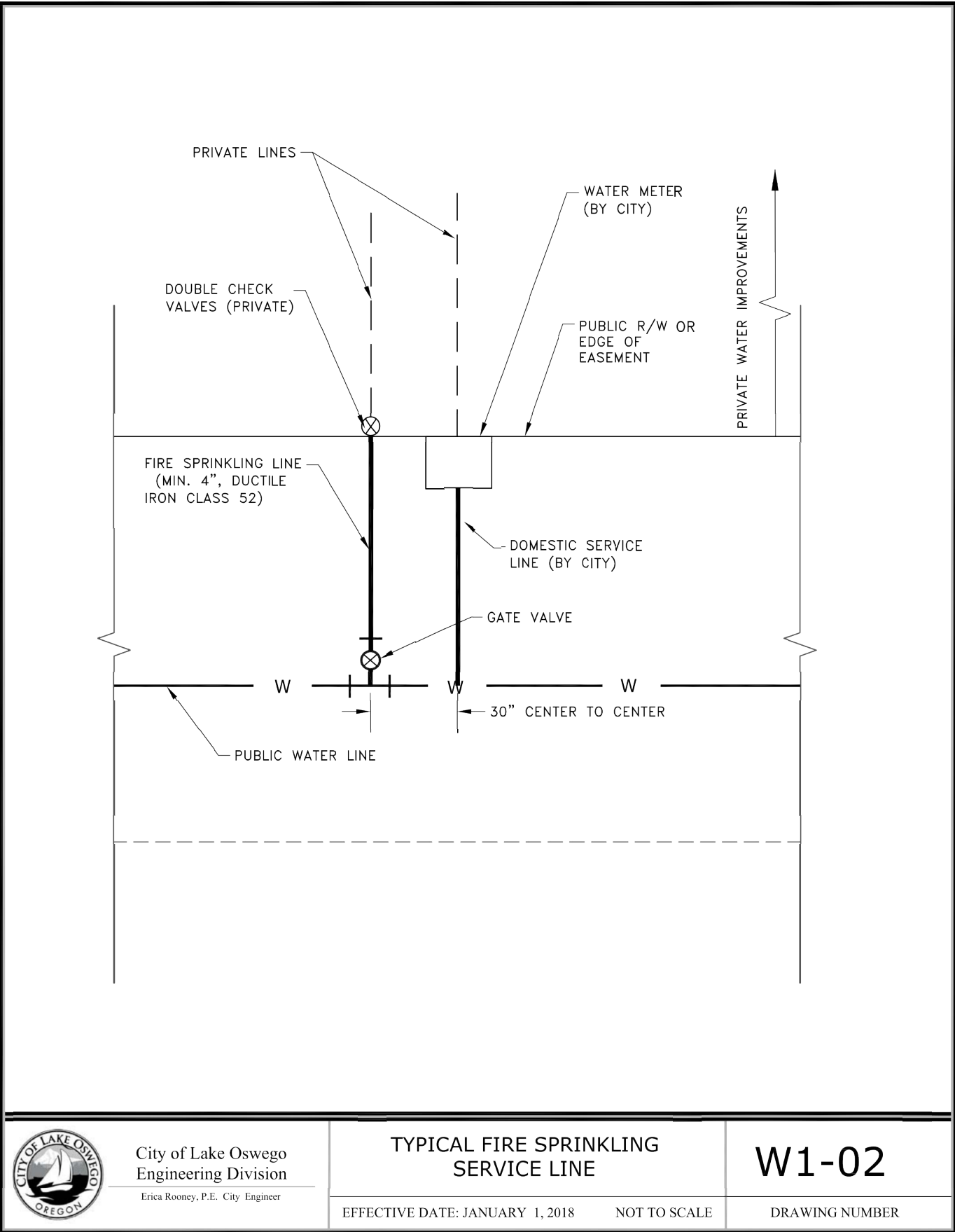
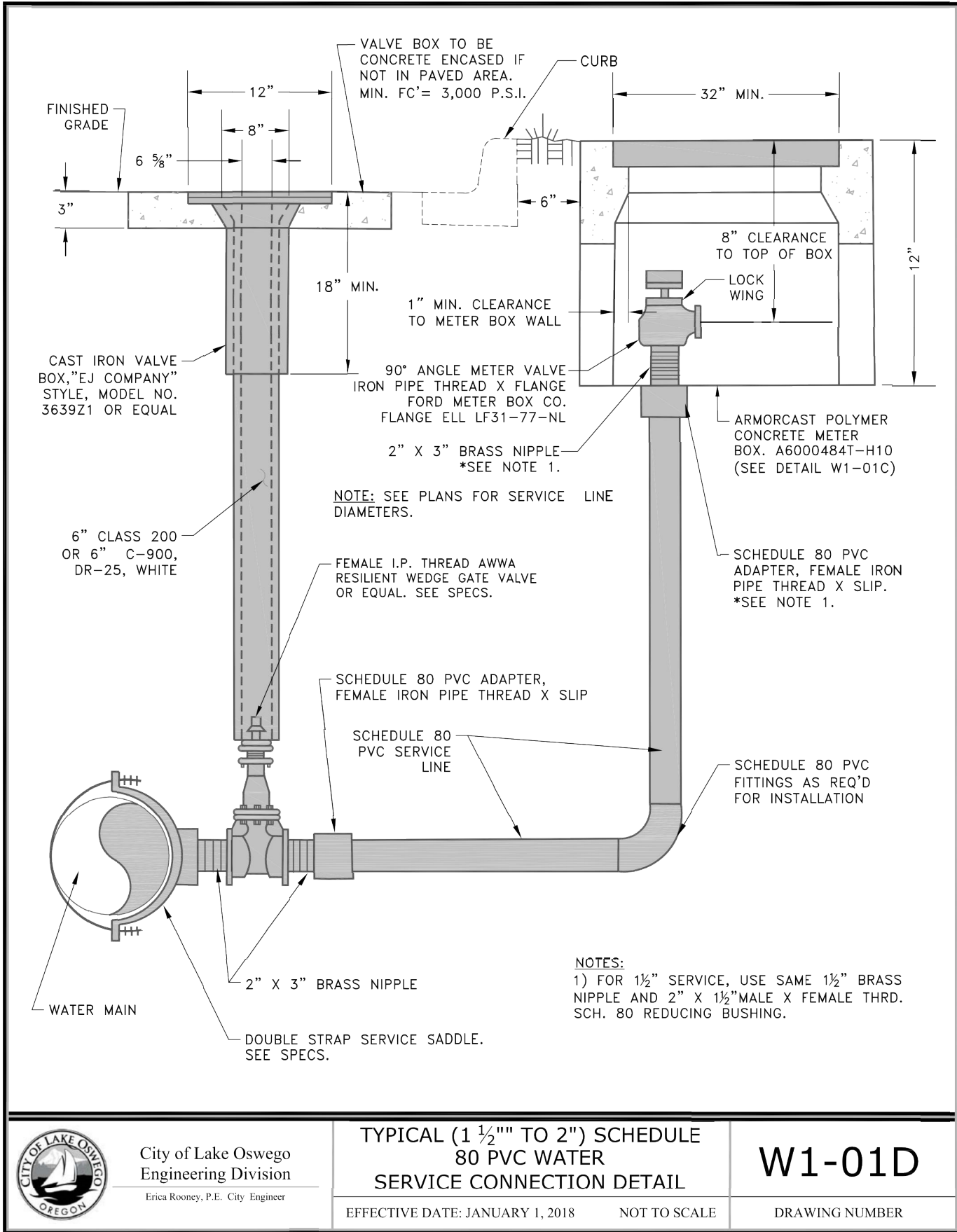
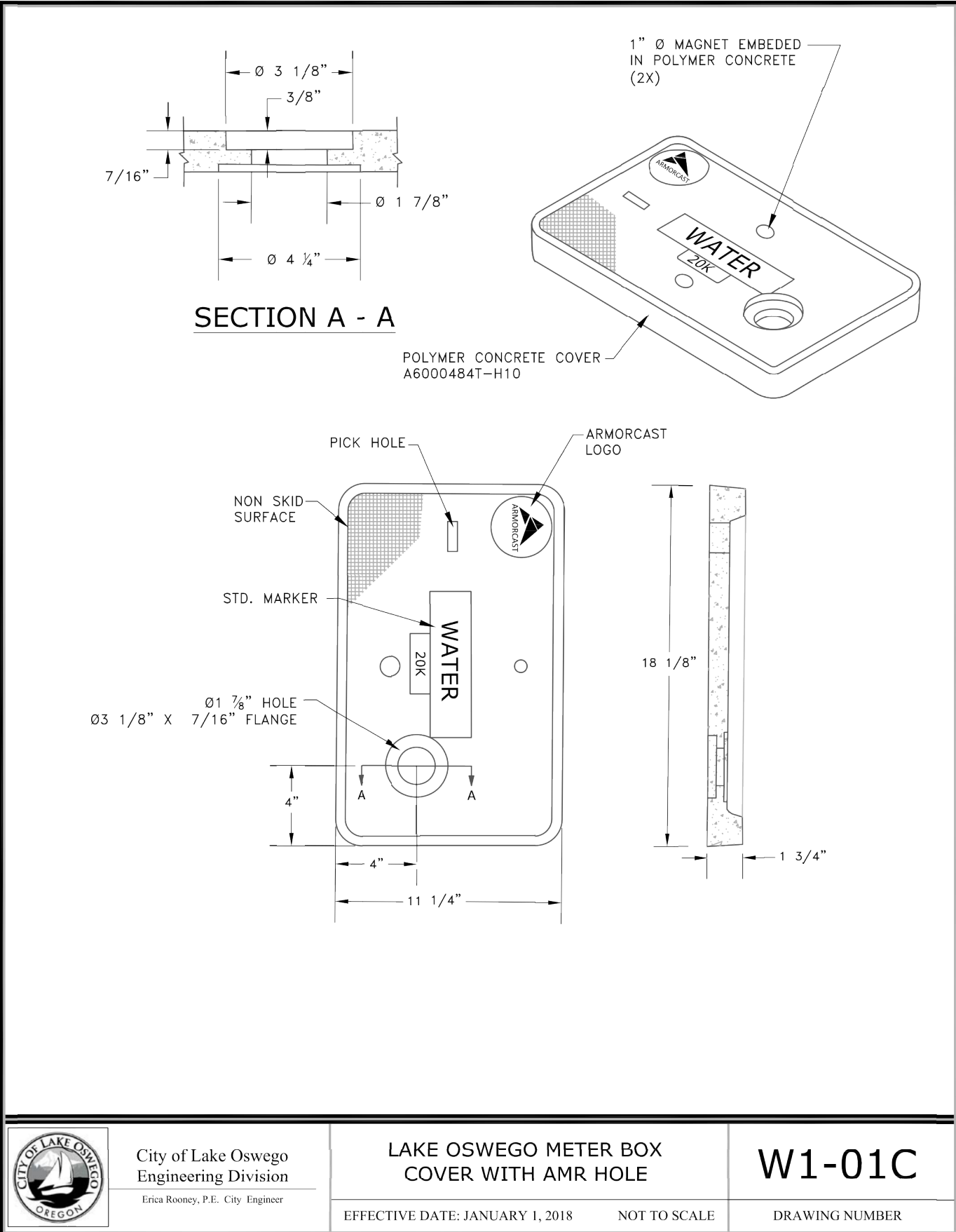
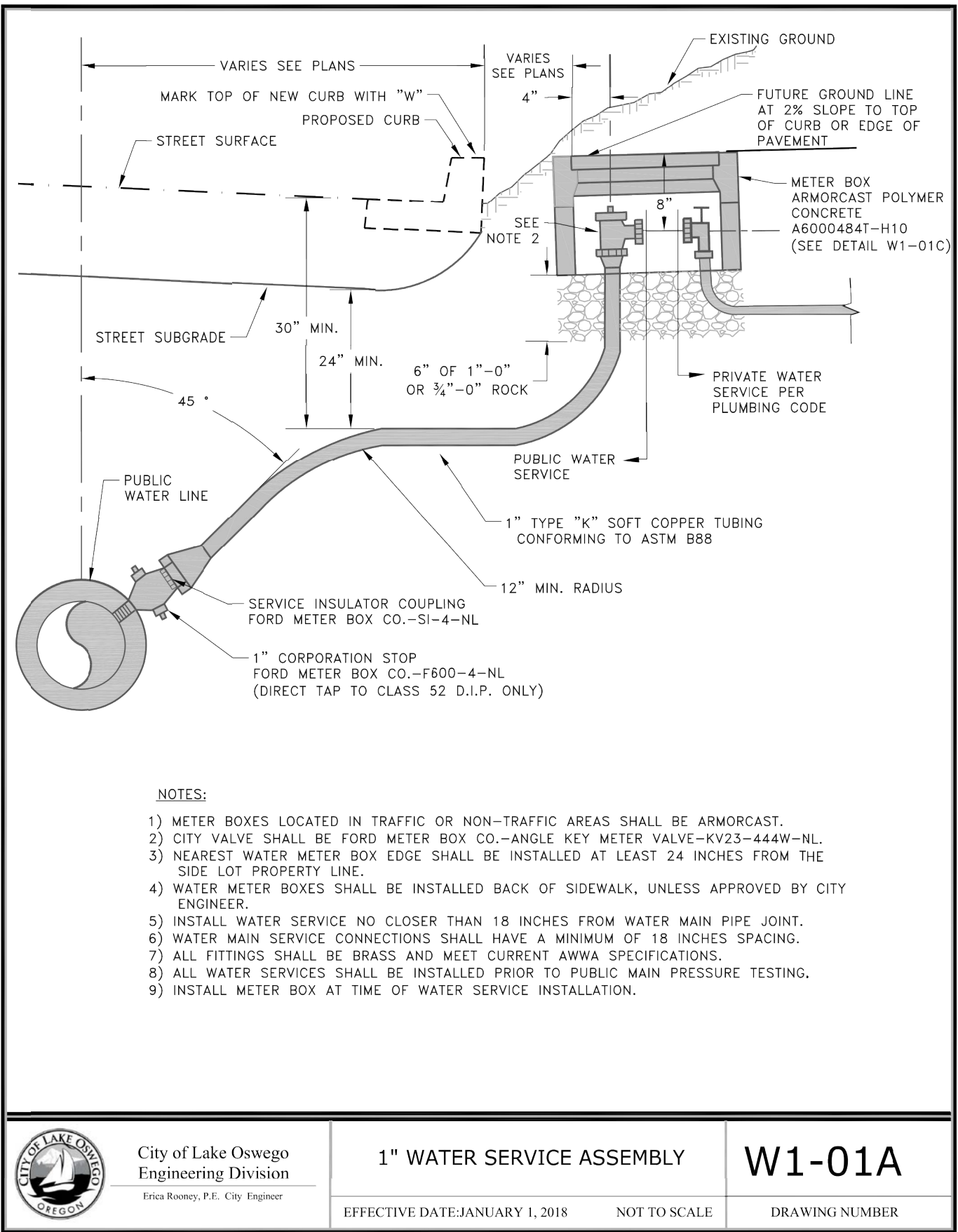
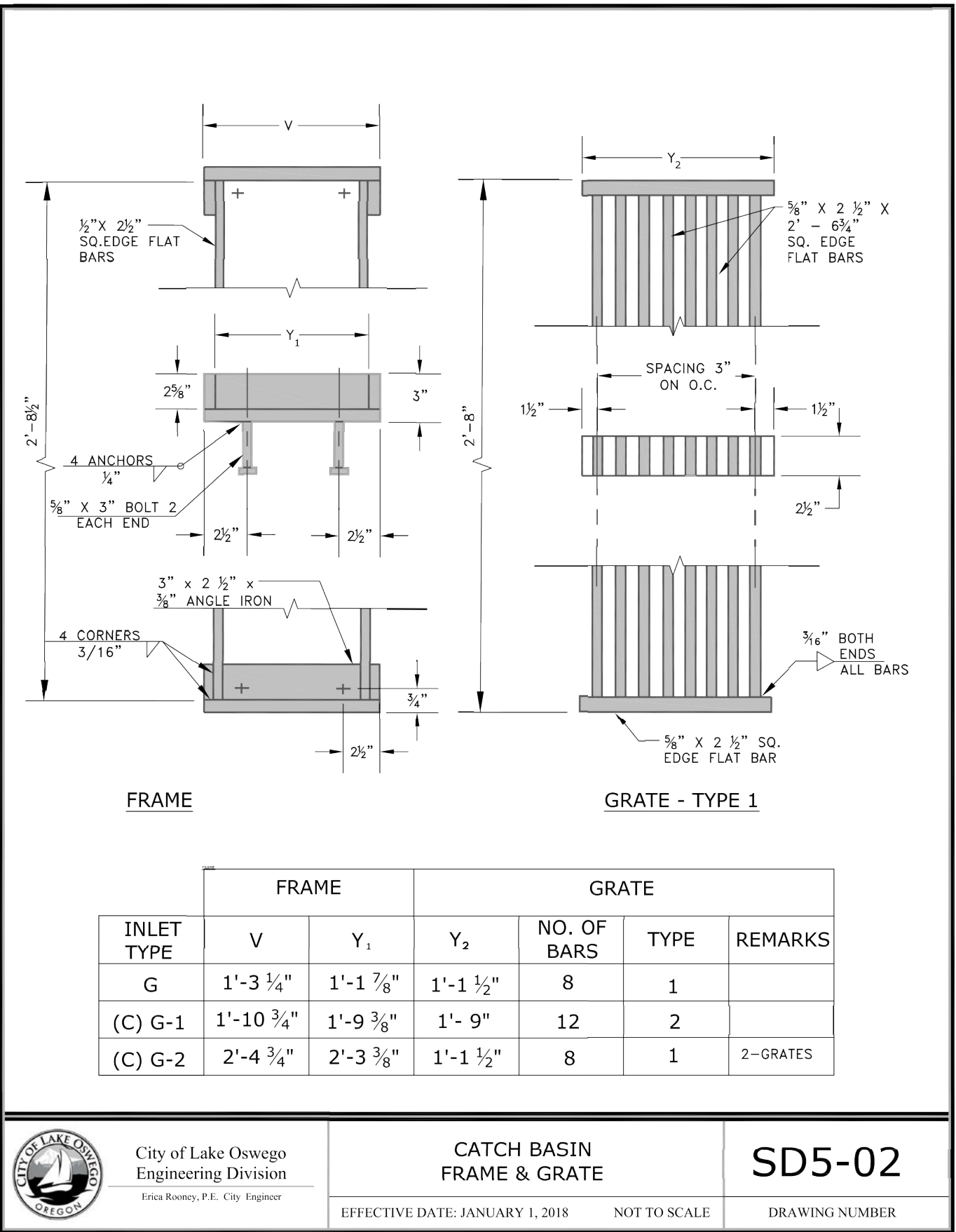
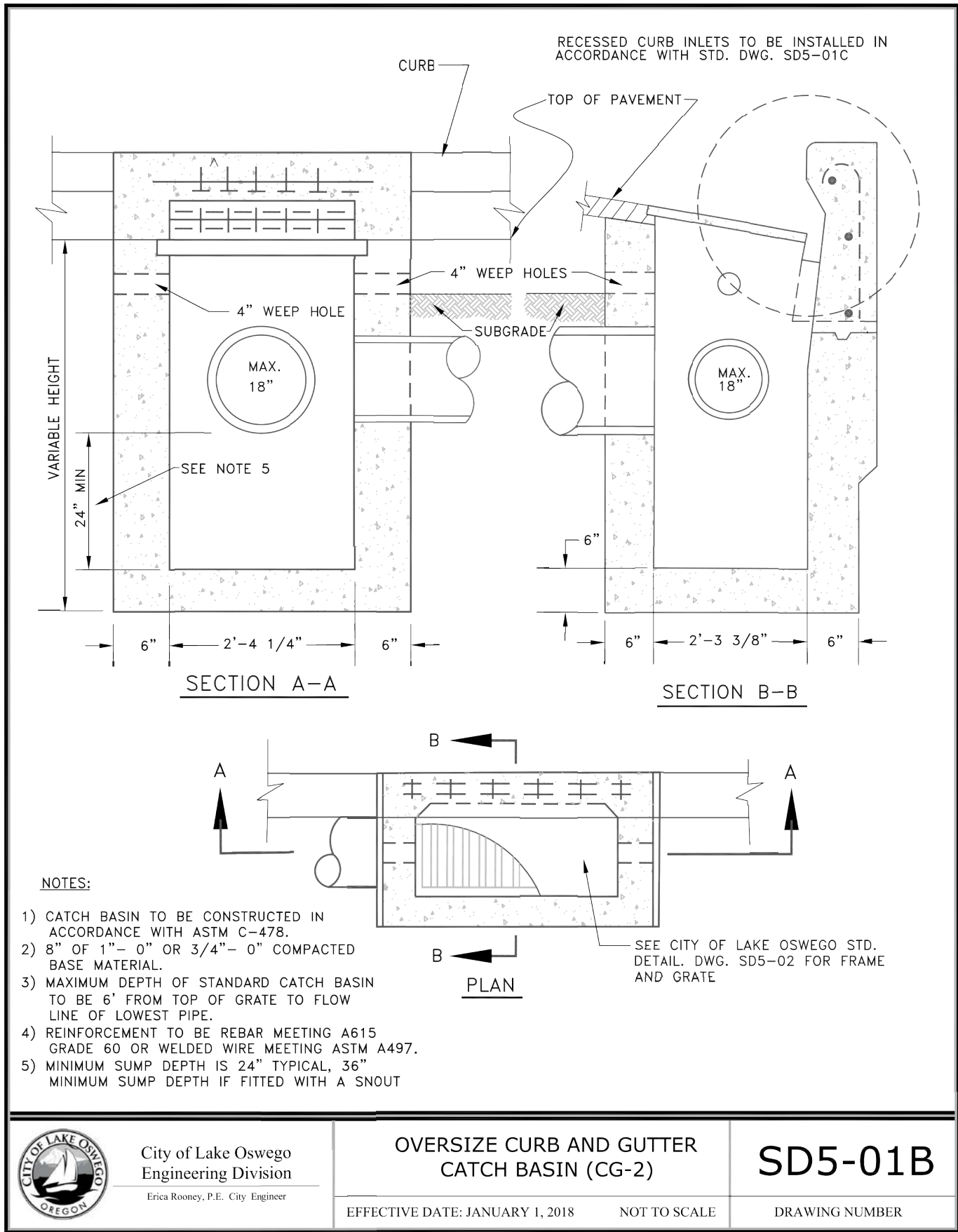
KITTREDGE ENGINEERS, LLC

6565 SW 207TH AVENUE

ALOHA, OR 97078

TEL: (503) 708-3942





REVISION	DATE	MODIFICATION

KITTRIDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

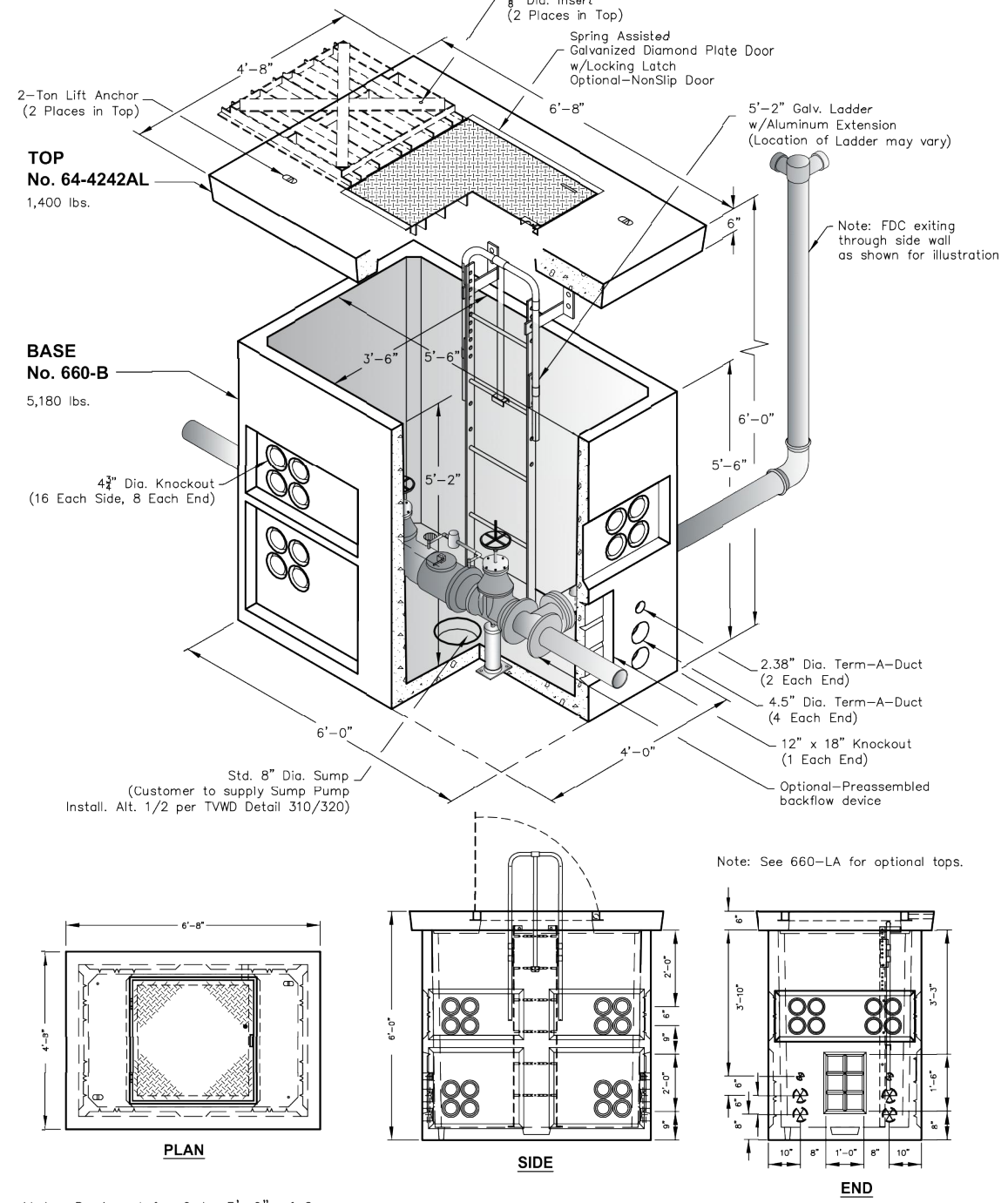
CITY OF LAKE OSWEGO DETAILS
QUARRY ROAD - MULTIFAMILY
BLUE DOG PROPERTIES
333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929

REGISTERED PROFESSIONAL ENGINEER
OREGON
CHRIS P. KITTRIDGE
RENEWAL 06/30/19

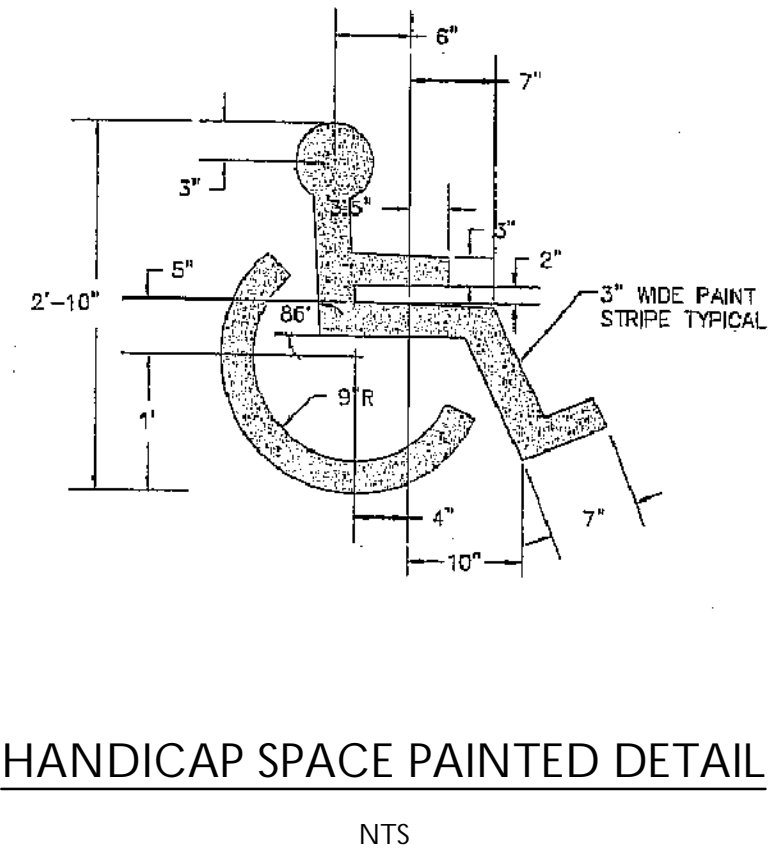
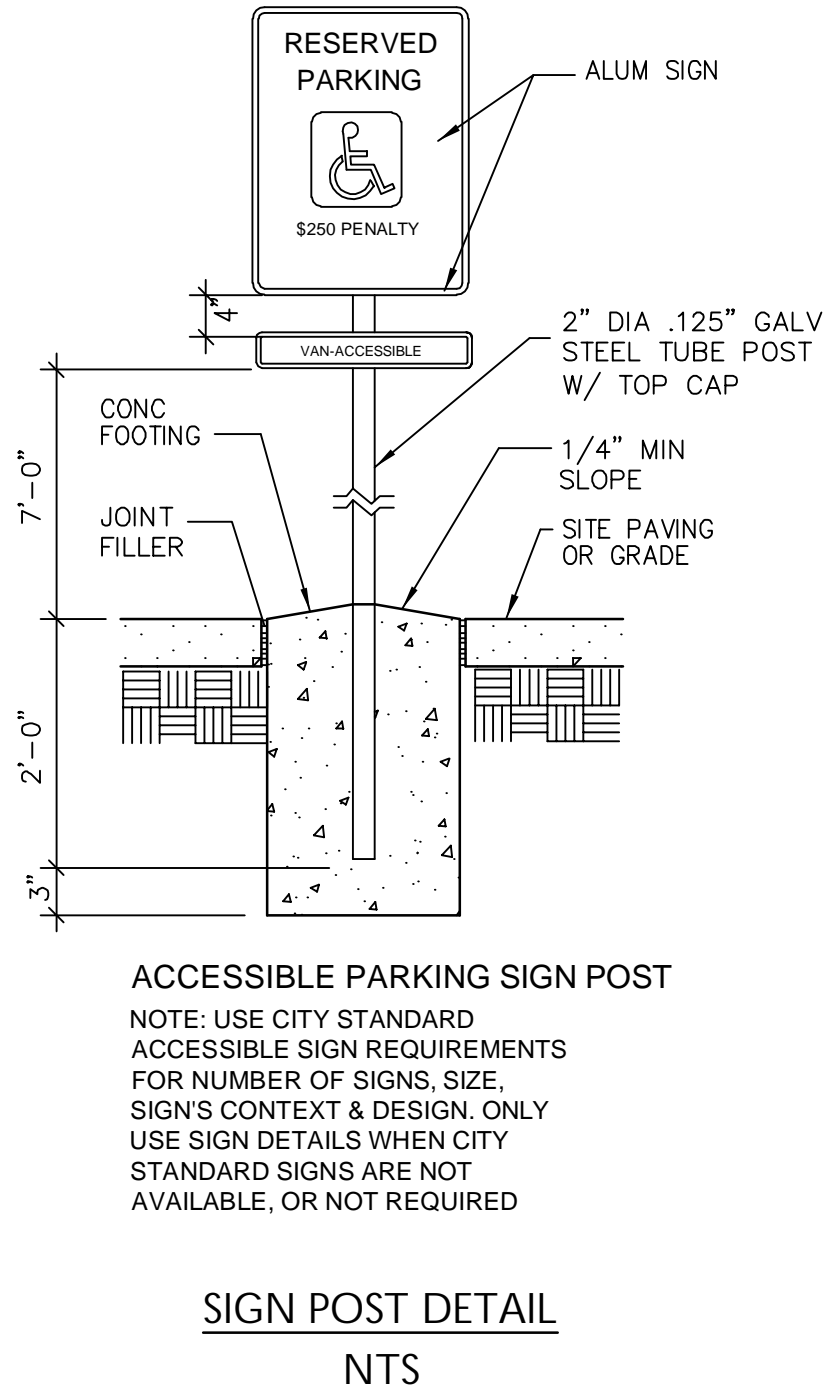
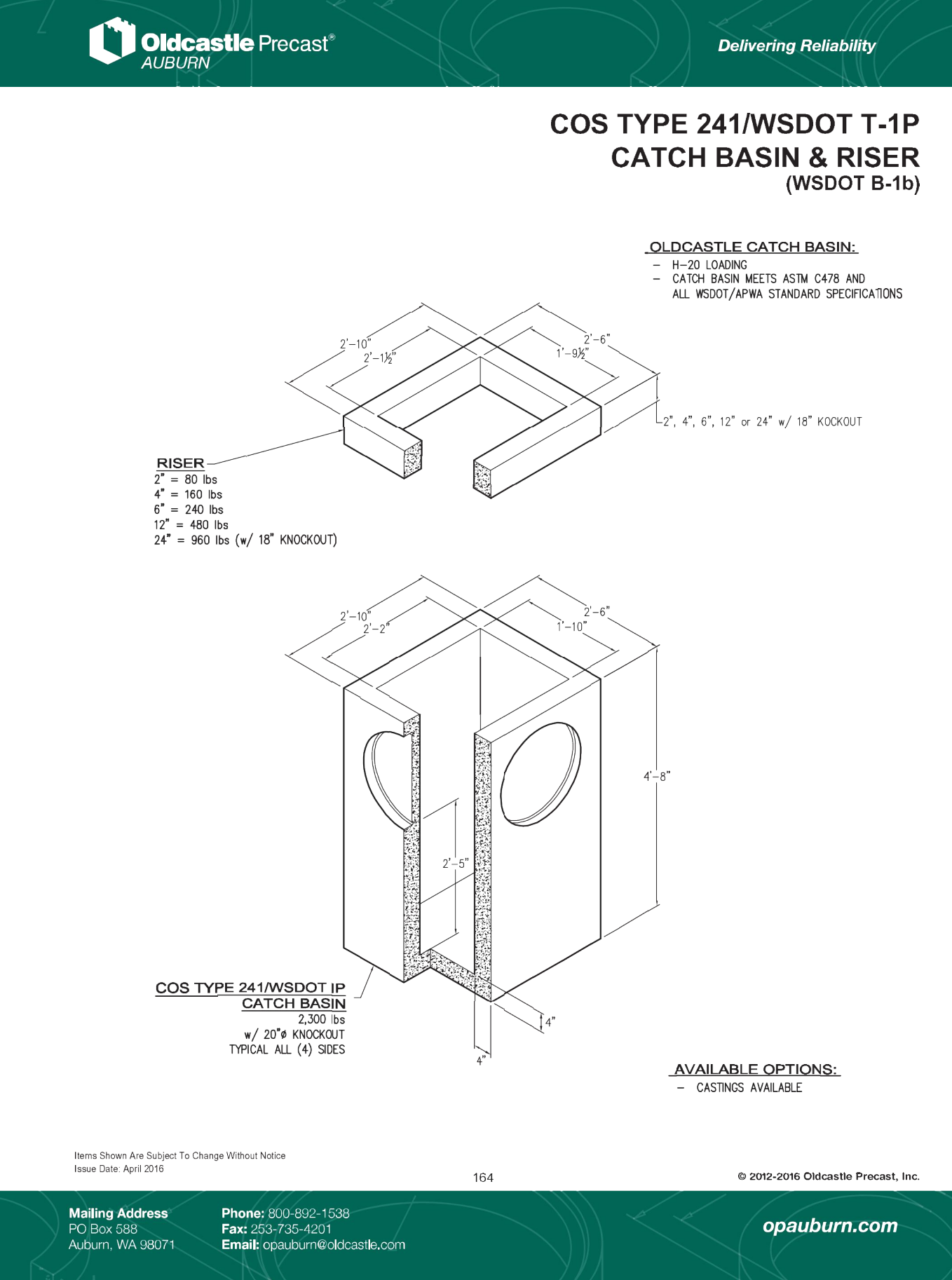
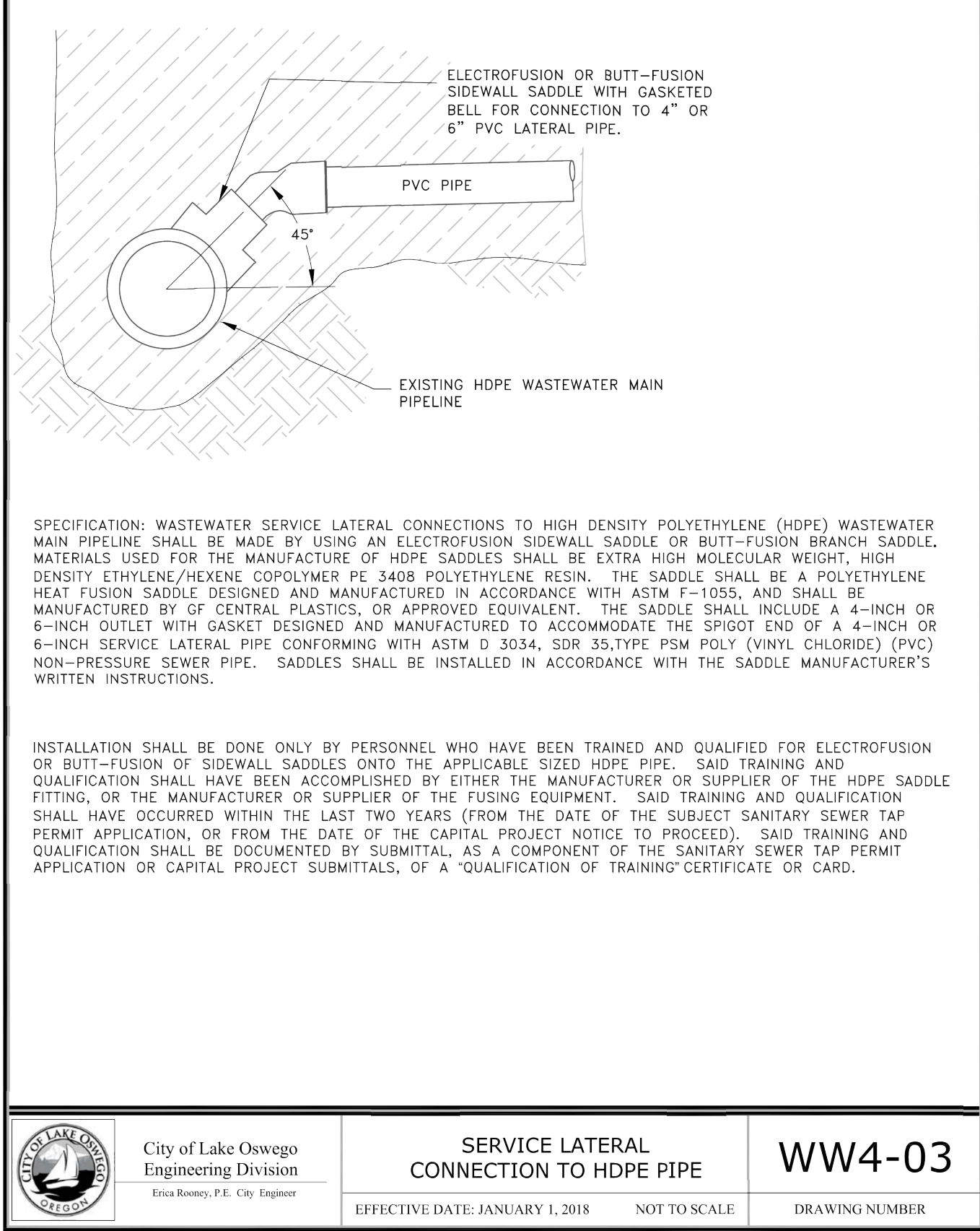
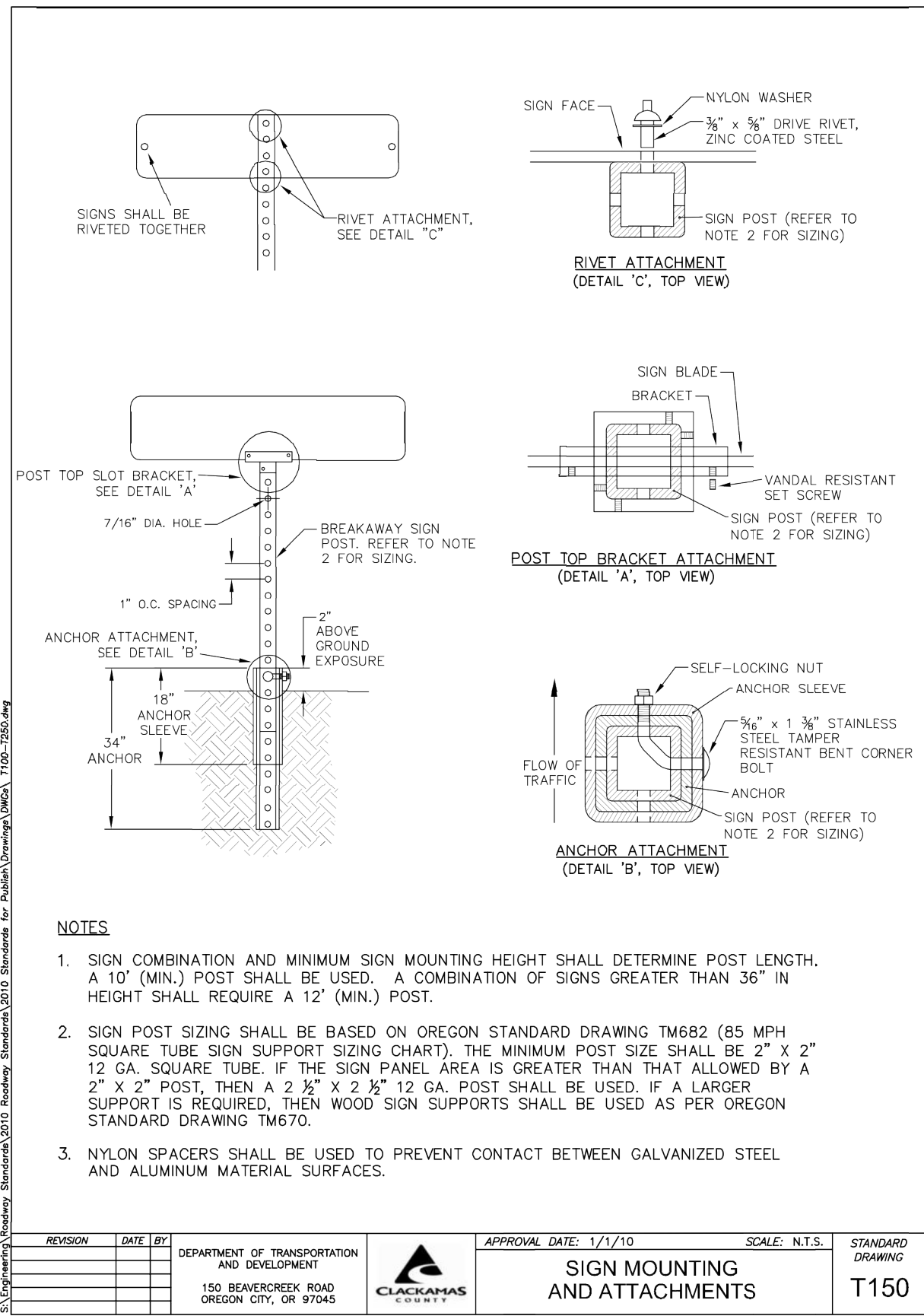
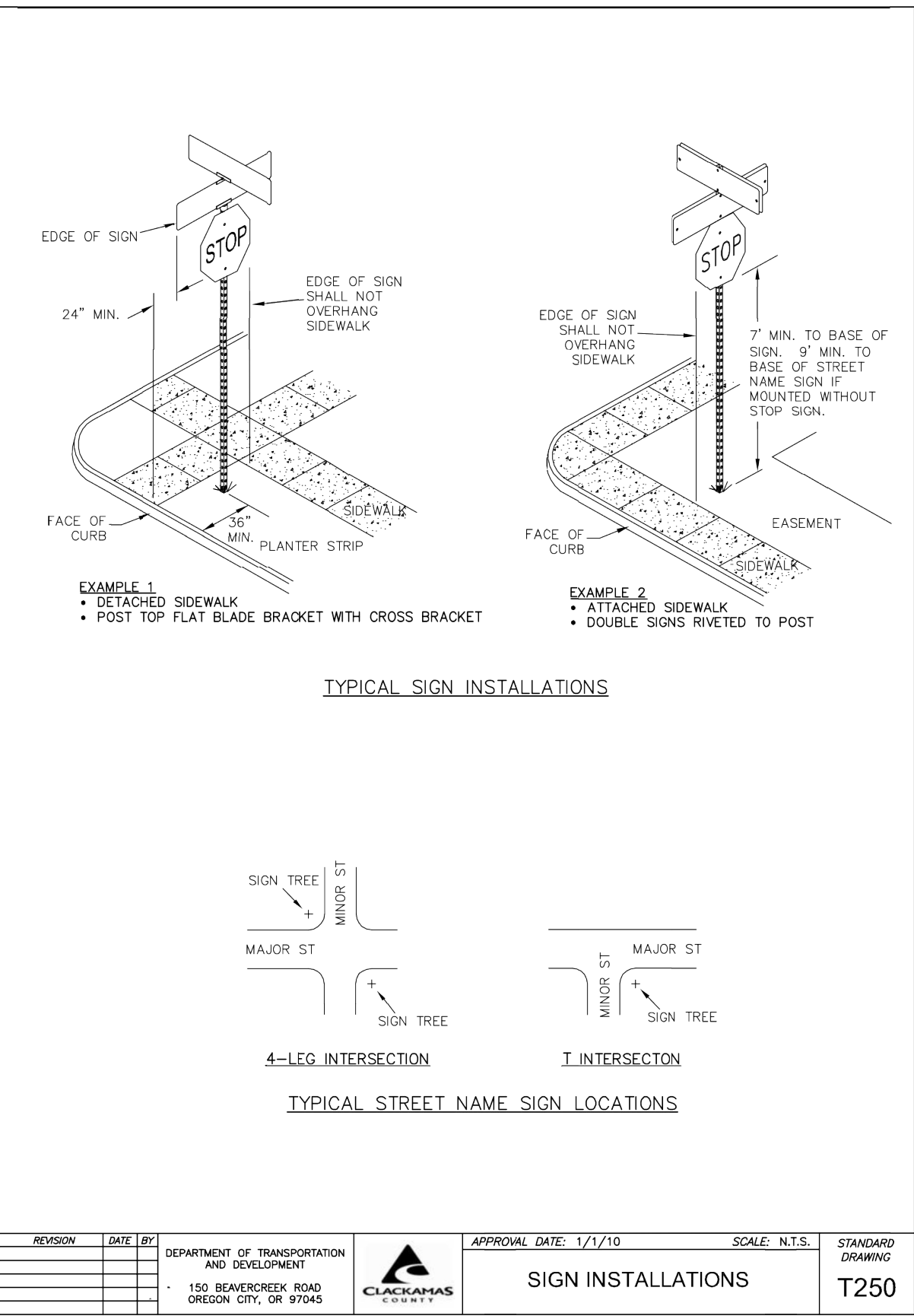
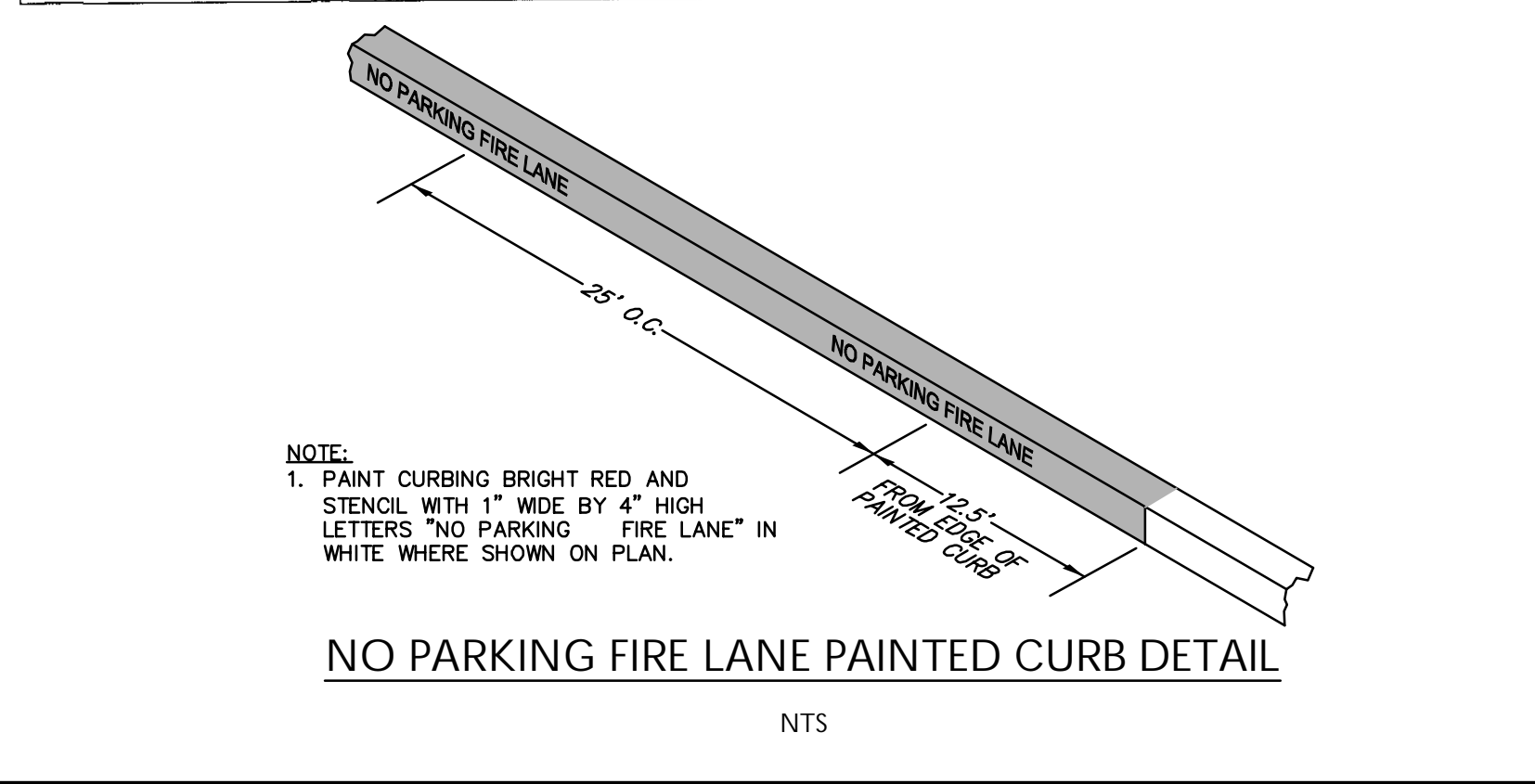
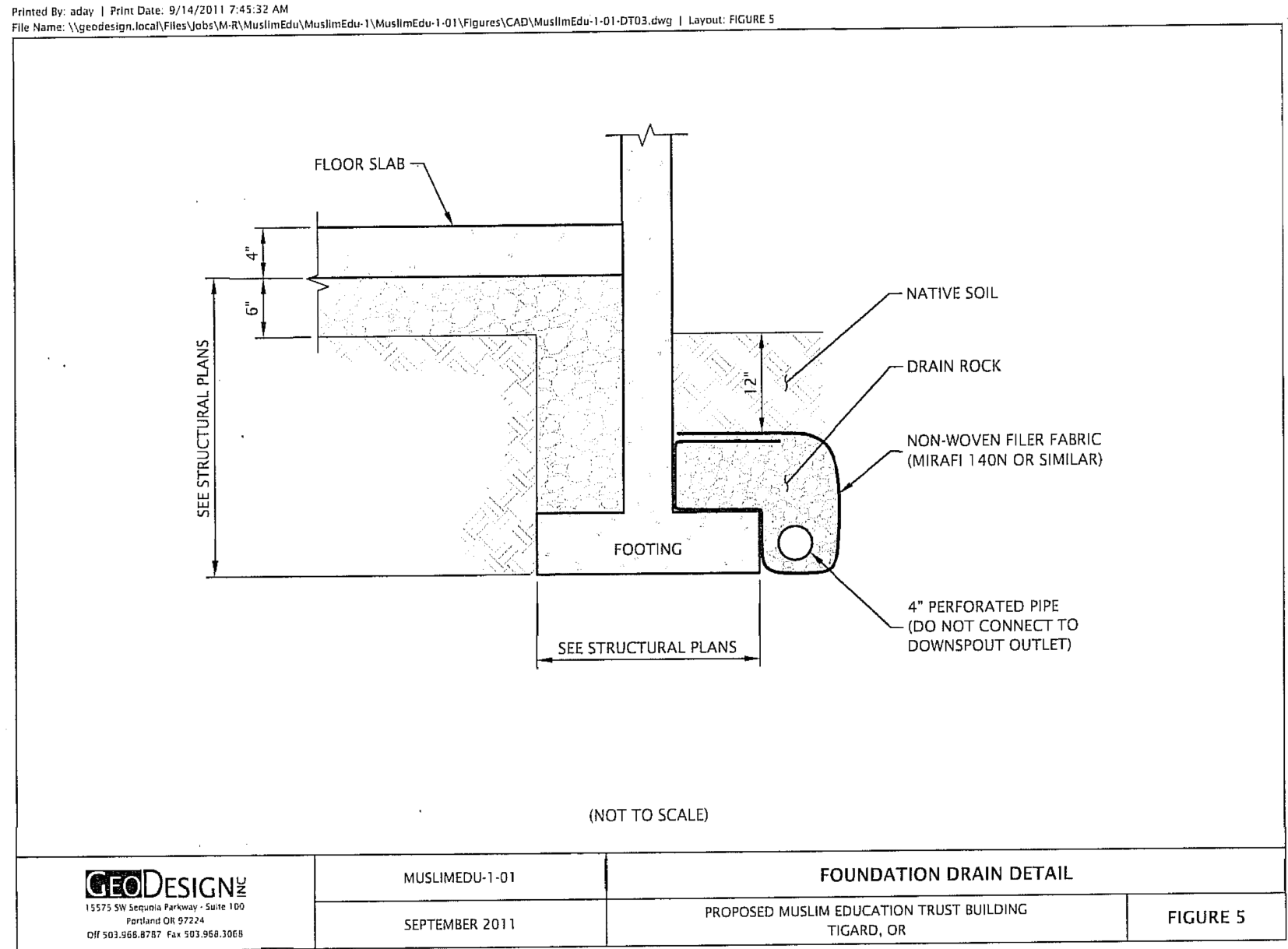
DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER

SHEET NUMBER
C116
OF 19

660-WA



 PO Box 323, Wilsonville, Oregon 97070-0323 Tel: (503) 682-2844 Fax: (503) 682-2857 oldcastleprecast.com/wilsonville	660-WA File Name: 020-660-WA Issue Date: 2016	660-WA DCV / DCDV BACKFLOW DEVICE VAULT
	2.0	

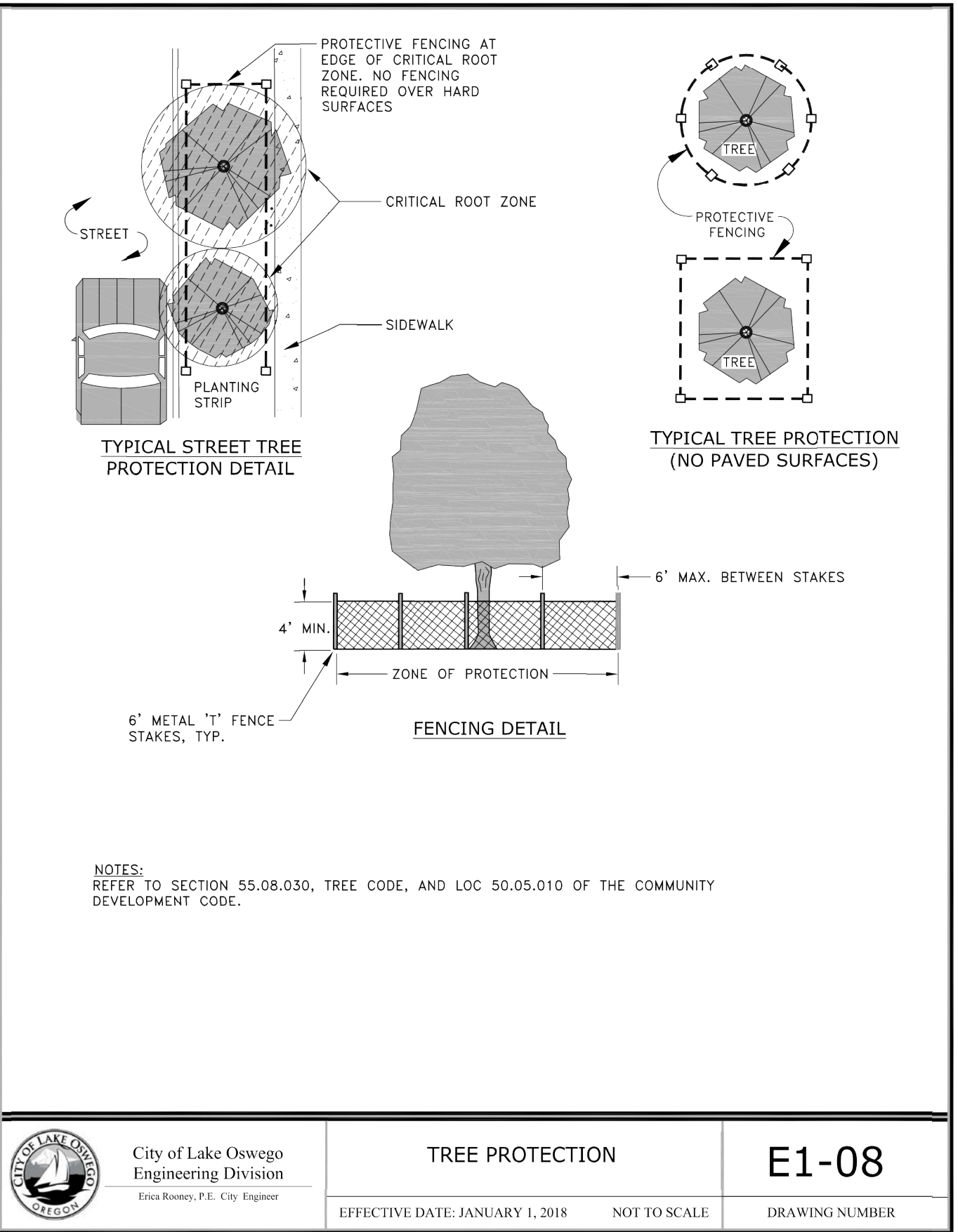
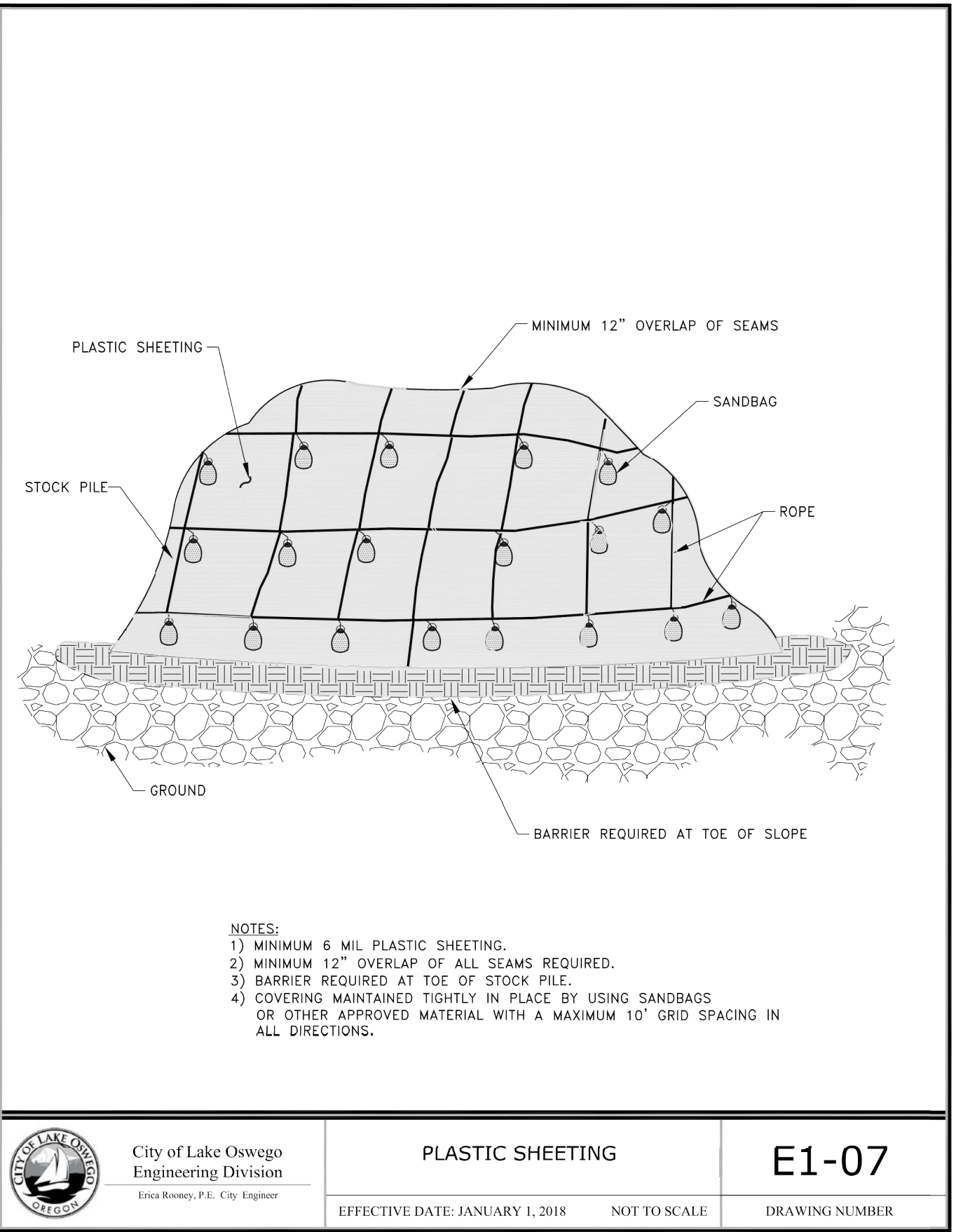
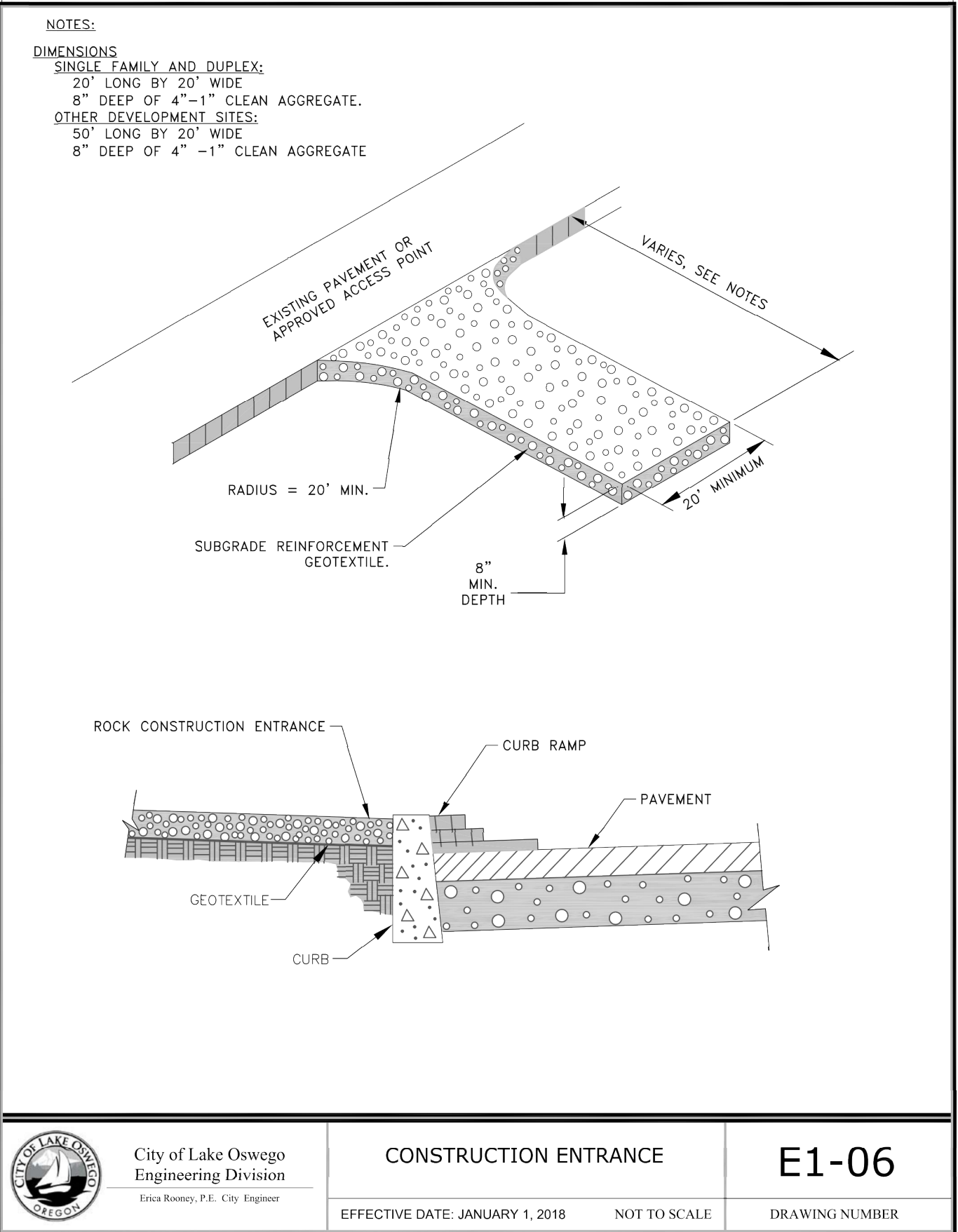
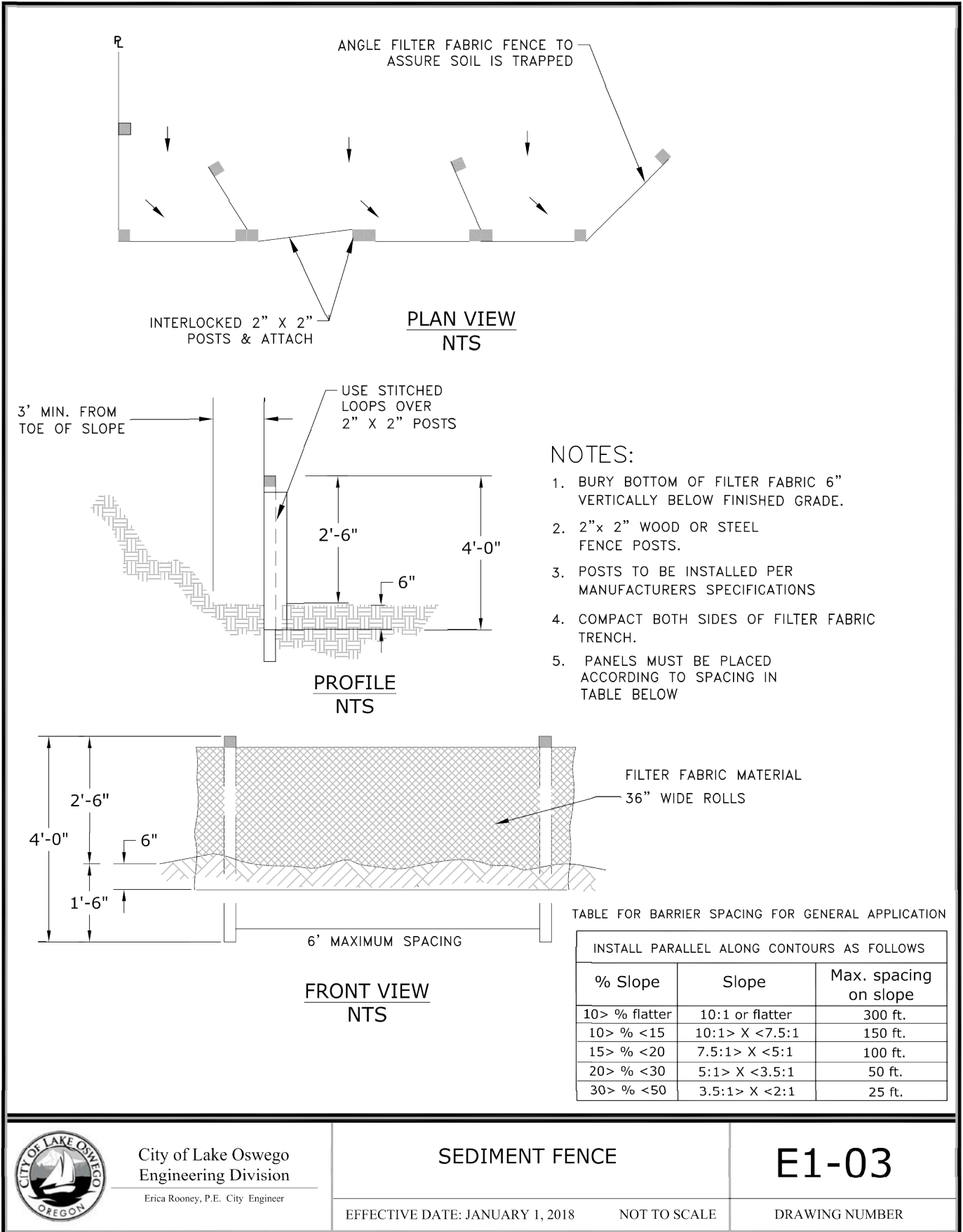
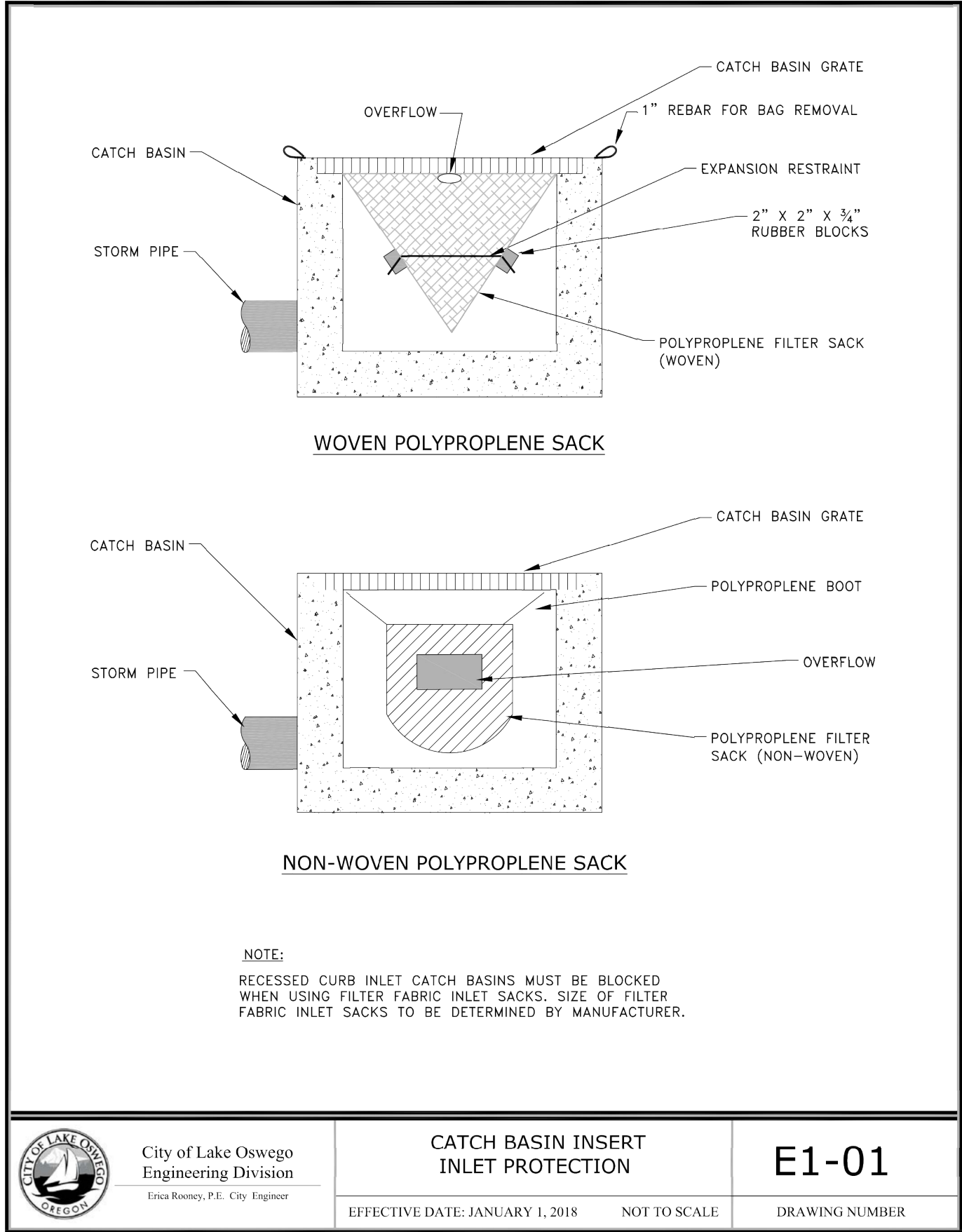


KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97078
TEL: (503) 708-3942

CITY OF LAKE OSWEGO AND
GENERAL DETAILS
QUARRY ROAD - MULTIFAMILY
BLUE DOG PROPERTIES
333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726-9929

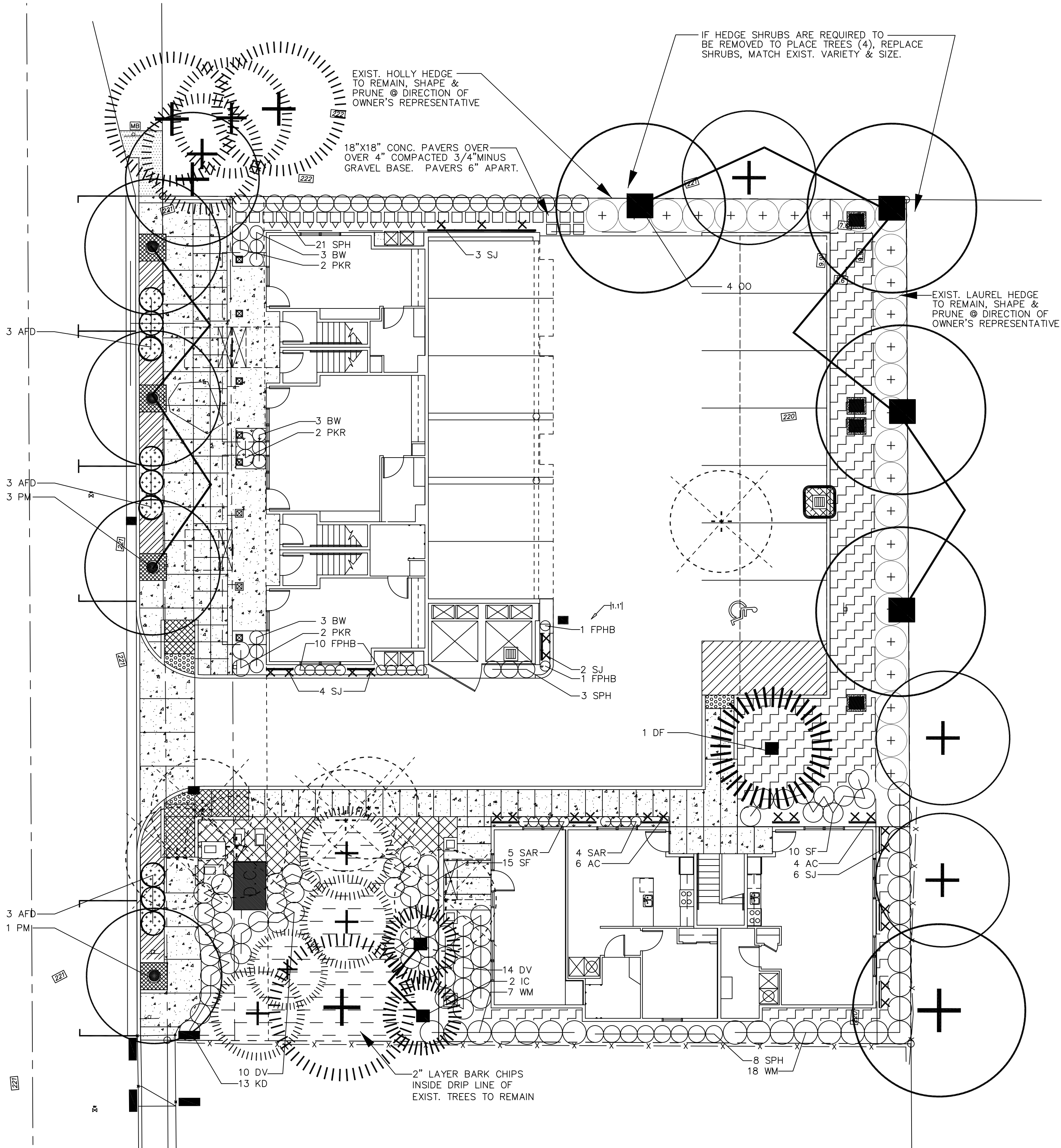
REGISTERED PROFESSIONAL
ENGINEER
53,750
OREGON
CHRIS P. KITTREDGE
RENEWAL 06/30/19
DATE: 10/1/2018
DRAWN BY: CPK
PROJ. MGR: CPK
CHECKED BY: CPK
PROJECT NUMBER
MAT.001
CASE FILE NUMBER

SHEET NUMBER
C117
OF 19

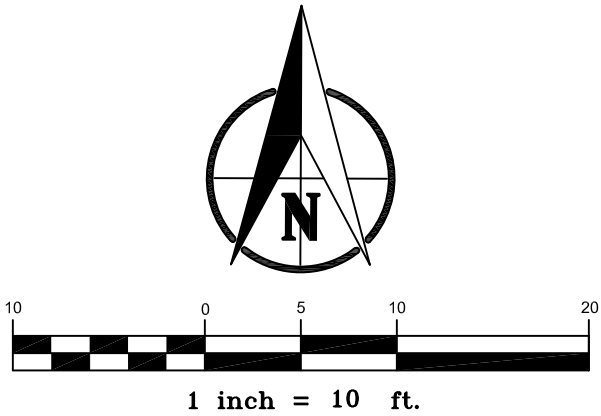


REVISION	DATE	MODIFICATION

S.W. QUARRY ROAD



LANDSCAPE PLAN
SCALE 1"=10'-0"



LANDSCAPE LEGEND

SYMBOL	COMMON NAME BOTANICAL NAME	SIZE/COND.	SPACING
TREES			
DF	Douglas Fir <i>Pseudotsuga menziesii</i>	8'-10'	as shown
IC	Incense Cedar <i>Calocedrus decurrens</i>	8'-10'	12' o.c.
OO	Oregon Oak <i>Quercus garryana</i>	2.5" Cal.	30' o.c.
PM	Paperbark Maple <i>Acer griseum</i>	2" Cal.	as shown
SHRUBS			
BW	Dwarf Common Boxwood <i>Buxus sempervirens 'Suffruticosa'</i>	24"-30"	2' o.c.
DV	David Viburnum <i>Viburnum davidii</i>	3 Gal.	3' o.c.
FPHB	Fire Power Heavenly Bamboo <i>Nandina domestica 'Fire Power'</i>	3 Gal.	1.5' o.c.
KD	Kelsey Dogwood <i>Cornus sericea 'Kelseyii'</i>	3 Gal.	3' o.c.
PKR	Pink Knockout Rose <i>Rosa Radcon PPAF</i>	2 Gal.	2.5' o.c.
SAR	Himalayan Sweet Box <i>Sarcococca hookeriana</i> var. 'Humilis'	5 Gal.	3' o.c.
SF	Scarletta Fetterbush <i>Leucothoe fontanesiana 'Zebld'</i>	5 Gal.	3' o.c.
SPH	Sky Pencil Holly <i>Ilex crenata 'Sky Pencil'</i>	30"-36"	2.5' o.c.
WM	Pacific Wax Myrtle <i>Myrica californica</i>	36"-48"	3.5' o.c.

GROUND COVER			
	Japanese Spurge <i>Pachysandra terminalis</i>	4" Pot	12" o.c.
	Big Blue Lily Turf <i>Liriope muscari 'Big Blue'</i>	4" Pot	12" o.c.
	Kinnikinnick <i>Arctostylos uva-ursi 'Massachusetts'</i>	1 Gal.	30" o.c.
	2" Layer Bark Chips		

VINES (VERTICAL LANDSCAPE)			
AC	Armand Clematis <i>Clematis armandii 'Snowdrift'</i>	2 Gal. stk.	3' o.c.
SJ	Star Jasmine <i>Trachelospermum jasminoides</i>	2 Gal. stk.	3' o.c.

STORM WATER PLANTERS			
AFD	Artic Fire Dogwood <i>Cornus sericea 'Artic Fire'</i>	24"-30"	3.5' o.c.
	Variegated Japanese Sedge <i>Carex morrowii 'Aurea-Marginata'</i>	1 Gal.	12" o.c.
	Carmen's Grey Rush <i>Juncus patens 'Carmen's Grey'</i>	1 Gal.	12" o.c.

LANDSCAPE SYMBOLS LEGEND

- Existing Shrub to Remain
- Existing Deciduous Tree to Remain
- Existing Conifer Tree to Remain
- Existing Tree to be Removed

TREE MITIGATION

- 2.5" Caliper Deciduous Mitigation Tree
4 Total
- 8'-10' Conifer Mitigation Tree
3 Total

TOTAL TREES REMOVED = 7
TOTAL TREES MITIGATED = 7

- NOTES
- Installation must fully comply with all City of Lake Oswego landscape code requirements and any conditions of approval.
 - Provide specified root barriers whenever edge of root ball is within 5' of sidewalk, curb, and retaining walls. Install as specified and detailed. Do not undermine sidewalk, curb or utilities.
 - Submit representative sample of all proposed plant material for use on project for review/ approval by owner's representative prior to installation. Provide samples at project site.
 - Layout and stake all landscape tree and shrub plantings for review/approval by owner's representative prior to planting.
 - IMPORTED TOPSOIL REQUIRED – REFER TO LANDSCAPE SPECIFICATIONS. Topsoil testing required for both Imported Topsoil and On Site Topsoil as specified.
 - Receive approval of sub grade prior to topsoil placement. Deposit Imported Topsoil in all new landscape areas except where there is exist. topsoil and within drip zone of existing tree to remain as follows: 18" in all landscape planting beds or more as required to meet finish civil grades.
 - Receive approval of final finish landscape grade prior to any planting.
 - Receive approval of installed irrigation system prior to any planting.
 - Repair/restore damage to any existing landscape caused by construction to pre damage condition and satisfaction of owner.
 - When trees/shrubs are planted as a group, trees/shrubs in group must be consistent in size and form.
 - 18"x18" Concrete Pavers – Vancouver Bay series, Charcoal color by Mutual Materials.

CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT
3944 S.W. 34TH PLACE • PORTLAND, OREGON 97221 • 503/222-9881
(E-MAIL): CHRIS@FRESHLEYLANDSCAPEARCHITECT.COM

REVISION	DATE	MODIFICATION

LANDSCAPE PLAN
LAKE OSWEGO – MULTI FAMILY RESIDENCE
BLUE DOG PROPERTIES
333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726 9929

REGISTERED
74
CHRISTOPHER J. FRESHLEY
OREGON
LANDSCAPE ARCHITECT

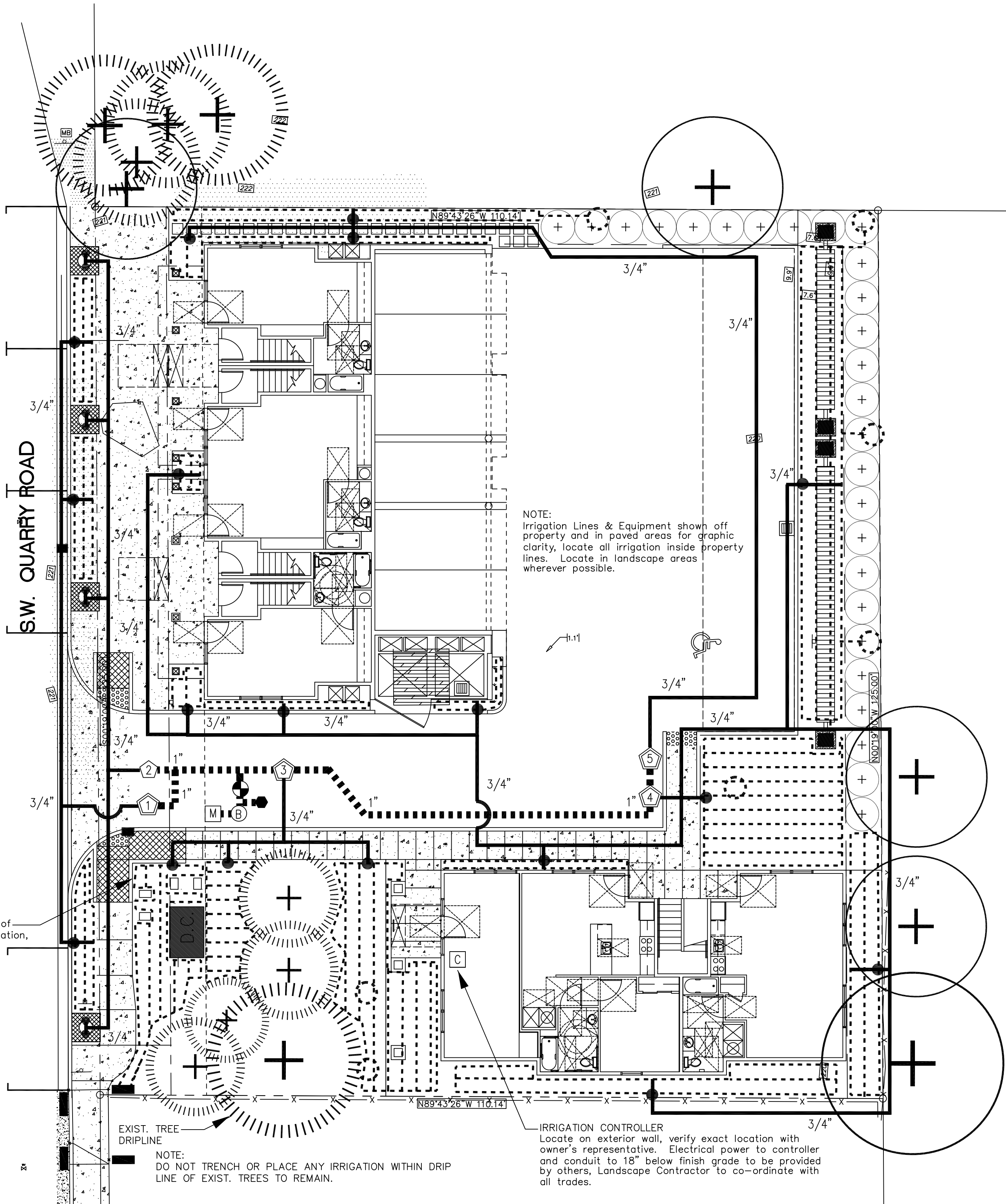
DATE: 9/28/2018
DRAWN BY: CF
PROJ. MGR: CF
CHECKED BY: CF
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
N/A

SHEET NUMBER
11
OF

KITTEDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL: (503) 708-3942

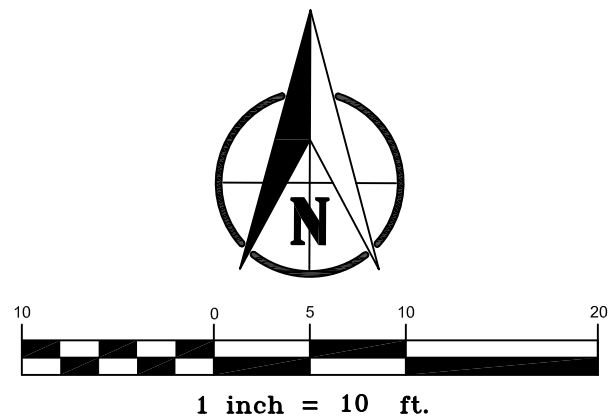
S.W. QUARRY ROAD

Approximate point of connection for irrigation, Field verify.



IRRIGATION PLAN

SCALE 1"=10'-0"



IRRIGATION LEGEND

GENERAL EQUIPMENT LEGEND

- Drip Watering Ring around Tree
- Rainbird Landscape Dripline XFS-06-12 Subsurface Dripline, bury 4" inches deep from finish grade. Spacing between Dripline @ 24" on center.
- Connection from Class 200 PVC pipe to Landscape Dripline.
- Tree Root Watering System - Rain Bird RWS-1402 (36") - 2 per tree well, .50 gpm.
- Class 200 PVC pipe for lateral lines, bury minimum 12 inches.
- Sch. 40 PVC pipe for Main Lines, bury minimum 18 inches.
- Irrigation Water Meter, 3/4" size.
- Rain Bird Model ESP-LX 6 station outdoor Irrigation Controller
- Febco Model 850 3/4" Double Check Backflow Assembly
- Isolation Ball Valve - Size same size as mainline.
- Rainbird Model PED Electric Remote Control Valve and Valve Number
- Rainbird Model XCZ-PRB-100-COM Drip Irrigation Control Zone Kit and Valve Number.
- Quick Coupler - Rain Bird Model 33-DLRC with Valve Key, Hose Swivel and Locking Cover Key.

CONTROL VALVE KEY

Control Valve Number	1	2	3	4	5
Gallons Per Minute	2	4	5	8	2
Control Valve Size	1"	1"	1"	1"	1"
D=Drip, R=Root Watering System	D	R	D	D	D

GENERAL NOTES

- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO ANY IRRIGATION WORK.
- No irrigation work within drip line of existing trees to remain.
- This plan is schematic. Place all piping, valves, equipment, etc. shown in paved areas in planting beds wherever possible.
- Place sleeving where required prior to asphalt/concrete work. Co-ordinate with other trades. Schedule 40 PVC pipe for sleeves under parking, driveways, and public sidewalks. Class 200 PVC pipe for all others. Size 2 times diameter of pipe. Provide separate schedule 40 pipe for control wire.
- Verify the correlation between ground measurements and drawings prior to any work. Notify the Owner's representative of any discrepancies immediately.
- Make field adjustments as required. The contractor shall not wilfully install the irrigation system as per drawing when it is obvious in the field that conditions vary from the drawings.
- Verify the water pressure at the point of connection, submit test results to the owner's representative for approval prior to any work.
- The entire installation of the irrigation system shall fully comply with all local and state laws and ordinances.
- The Contractor shall be responsible for all permits and arrange for all necessary inspections and will pay fees associated with this project.

CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT

3944 S.W. 36TH PLACE • PORTLAND, OREGON 97221 • 503/222-9881
(E-MAIL): CHRIS@FRESHLEYLANDSCAPEARCHITECT.COM

REVISION	DATE	MODIFICATION

KITTEDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL: (503) 708-3942

IRRIGATION PLAN
LAKE OSWEGO - MULTI FAMILY RESIDENCE

BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726 9929



DATE: 9/28/2018

DRAWN BY: CF

PROJ. MGR: CF

CHECKED BY: CF

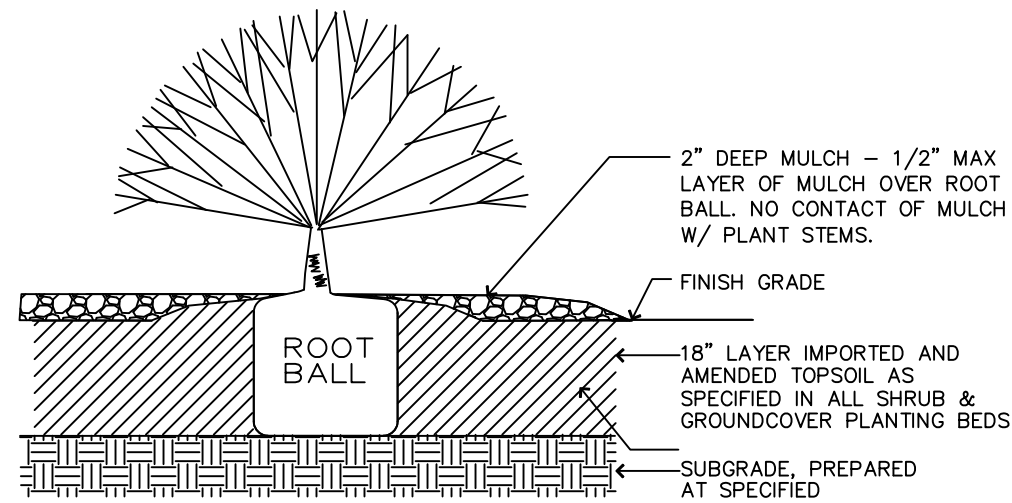
PROJECT NUMBER
MAT.001

CASE FILE NUMBER
N/A

SHEET NUMBER

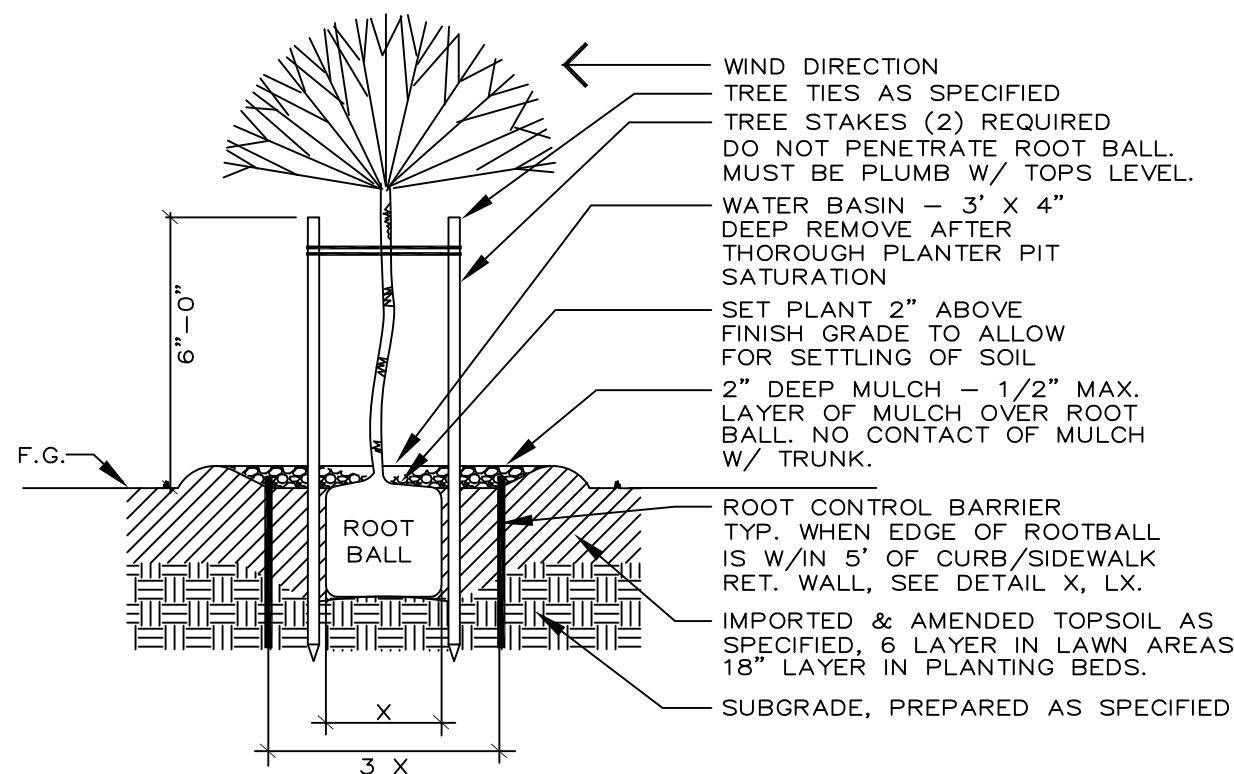
L2

OF

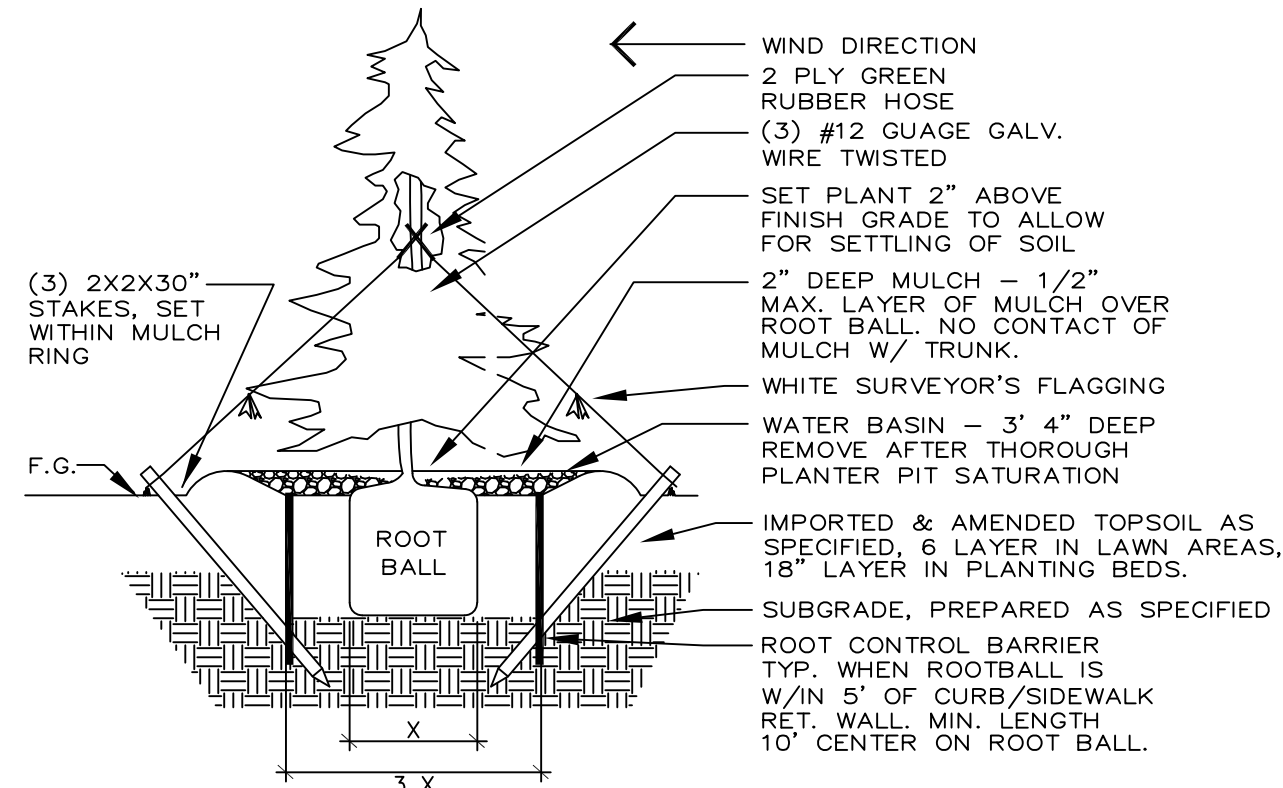


NOTE: TOP OF SHRUB ROOT BALL TO BE FLUSH WITH OR 1/2" ABOVE FINISH SOIL GRADE.

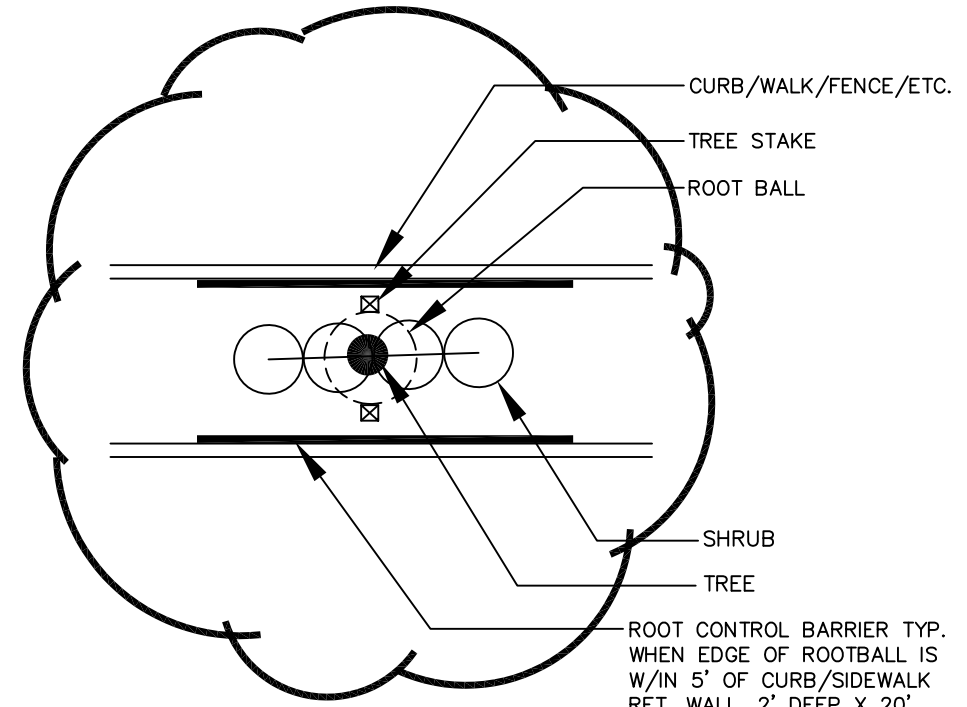
1 SHRUB/GROUNDCOVER PLANTING
SCALE: NTS



2 DECIDUOUS TREE PLANTING
SCALE: NTS

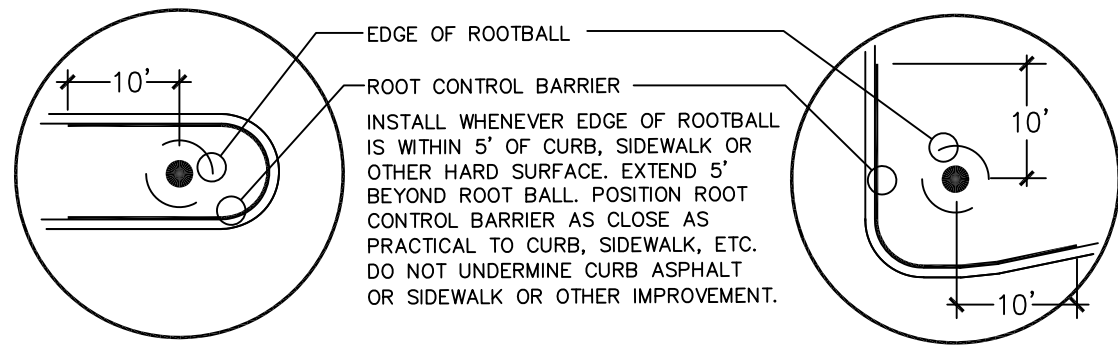


3 CONIFER TREE PLANTING
SCALE: NTS

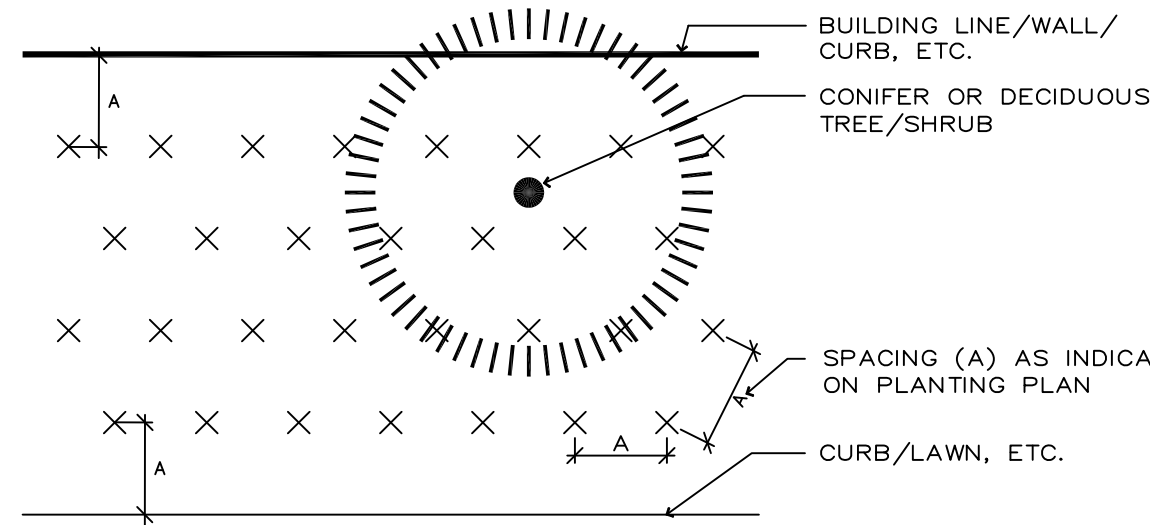


NOTE - WHERE TREES ARE INDICATED IN SHRUB BED OR HEDGE, MAINTAIN SHRUB SPACING INDICATED. OFFSET TREE STAKES AS REQUIRED.

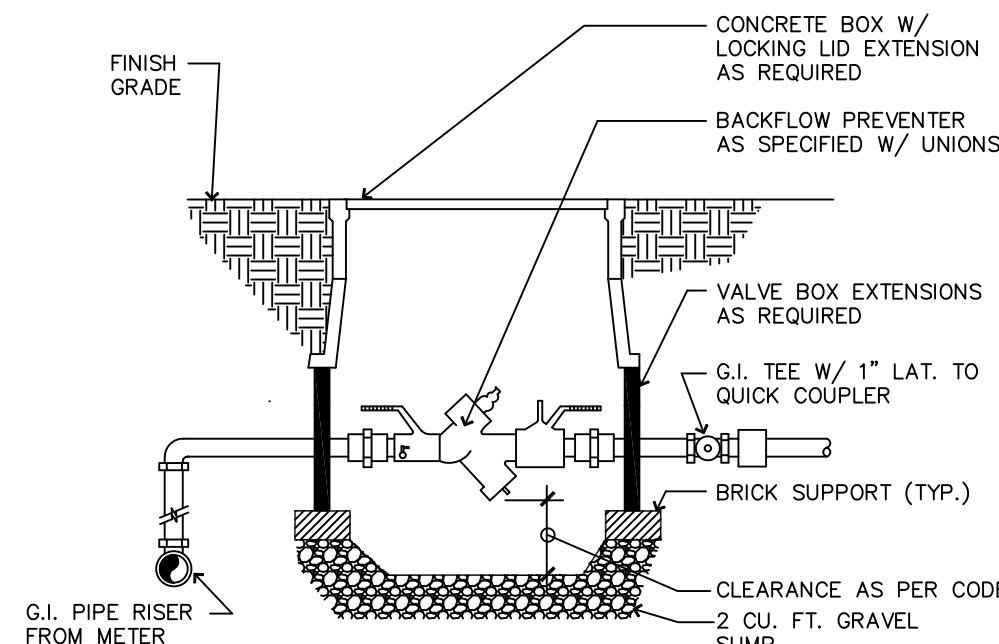
4 TREE STAKING DETAIL
SCALE: NTS



5 ROOT CONTROL BARRIER
SCALE: NTS

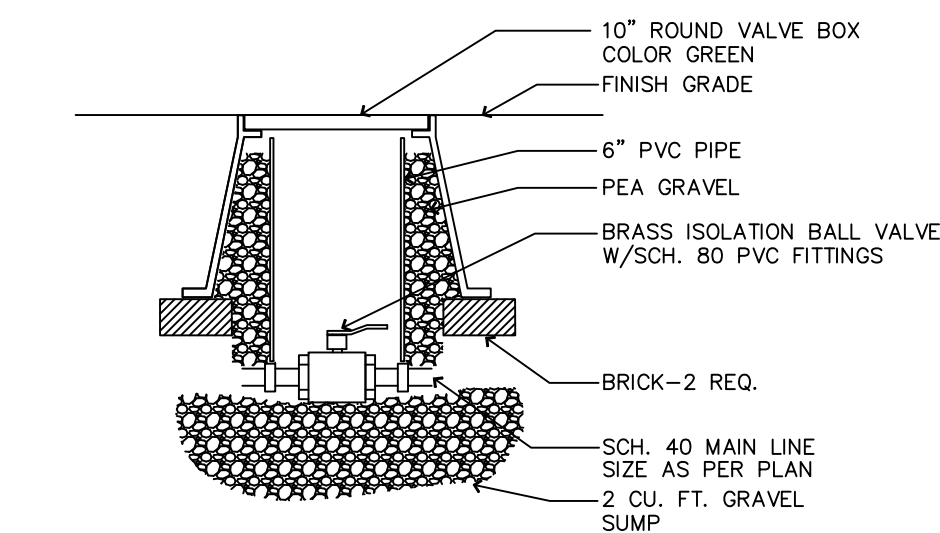


6 GROUNDCOVER PLANTING
SCALE: NTS

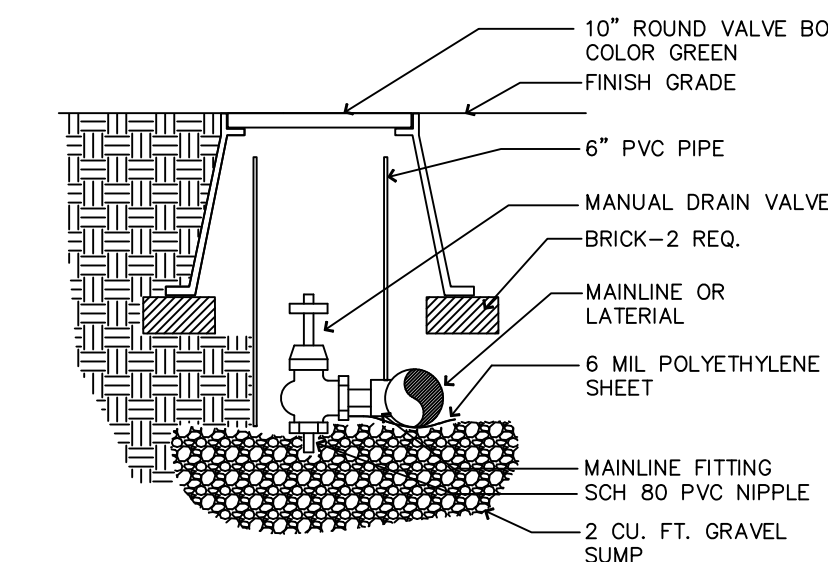


NOTE: THIS INSTALLATION DETAIL MUST COMPLY WITH ALL LOCAL AND STATE CODES. LANDSCAPE CONTRACTOR MUST VERIFY CORRECT INSTALLATION WITH LOCAL WATER JURISDICTION.

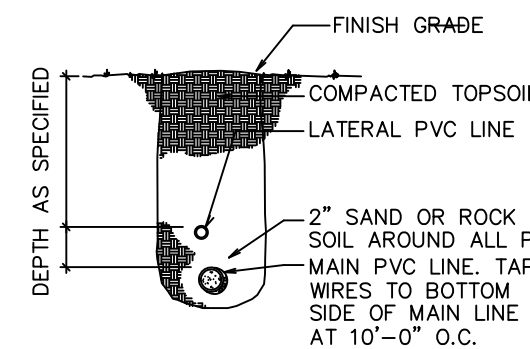
7 BACKFLOW PREVENTION DEVICE
SCALE: NTS



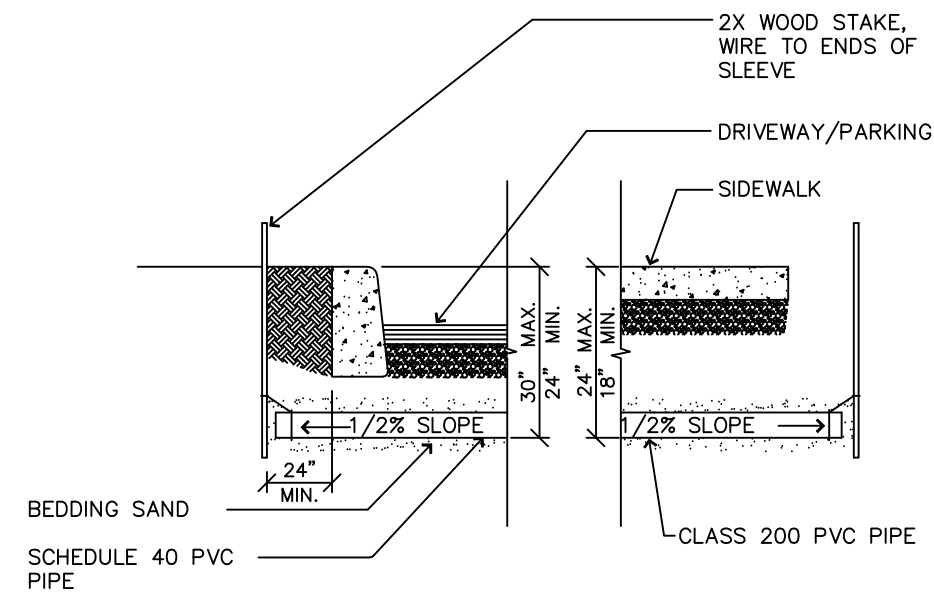
8 ISOLATION BRASS BALL VALVE
SCALE: NTS



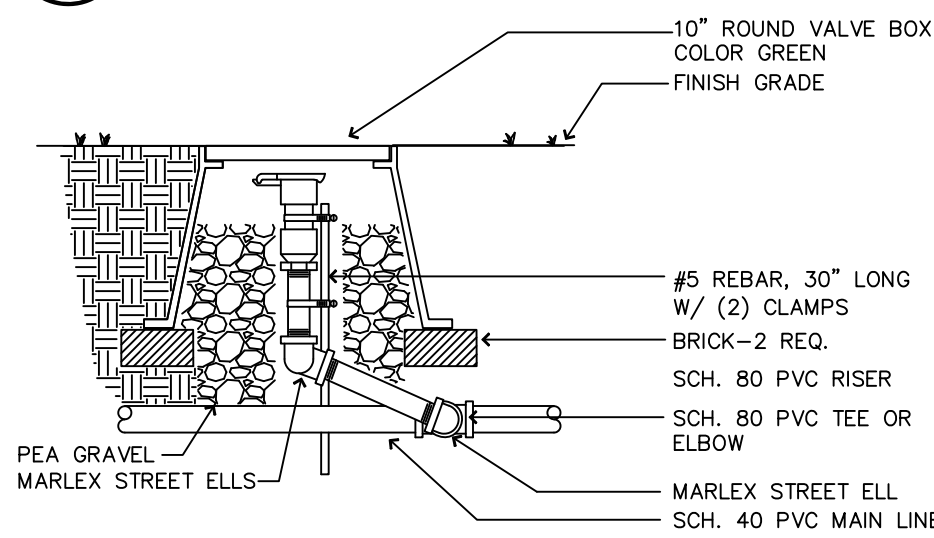
9 MANUAL DRAIN VALVE
SCALE: NTS



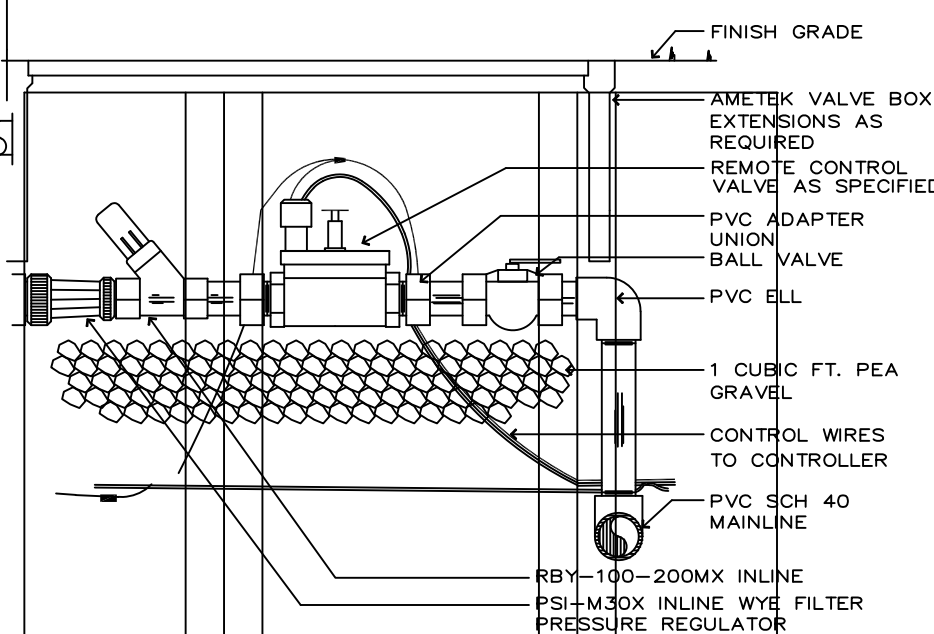
10 TRENCH SECTION
SCALE: NTS



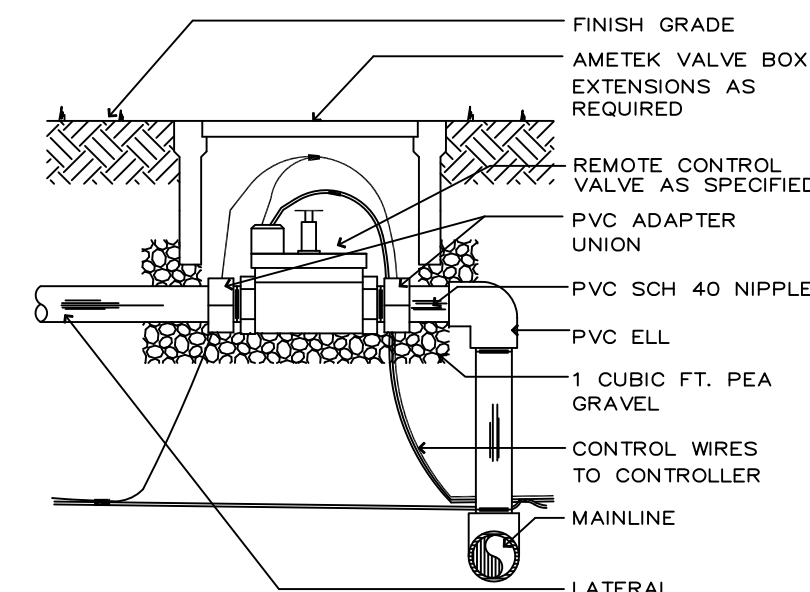
11 SLEEVE
SCALE: NTS



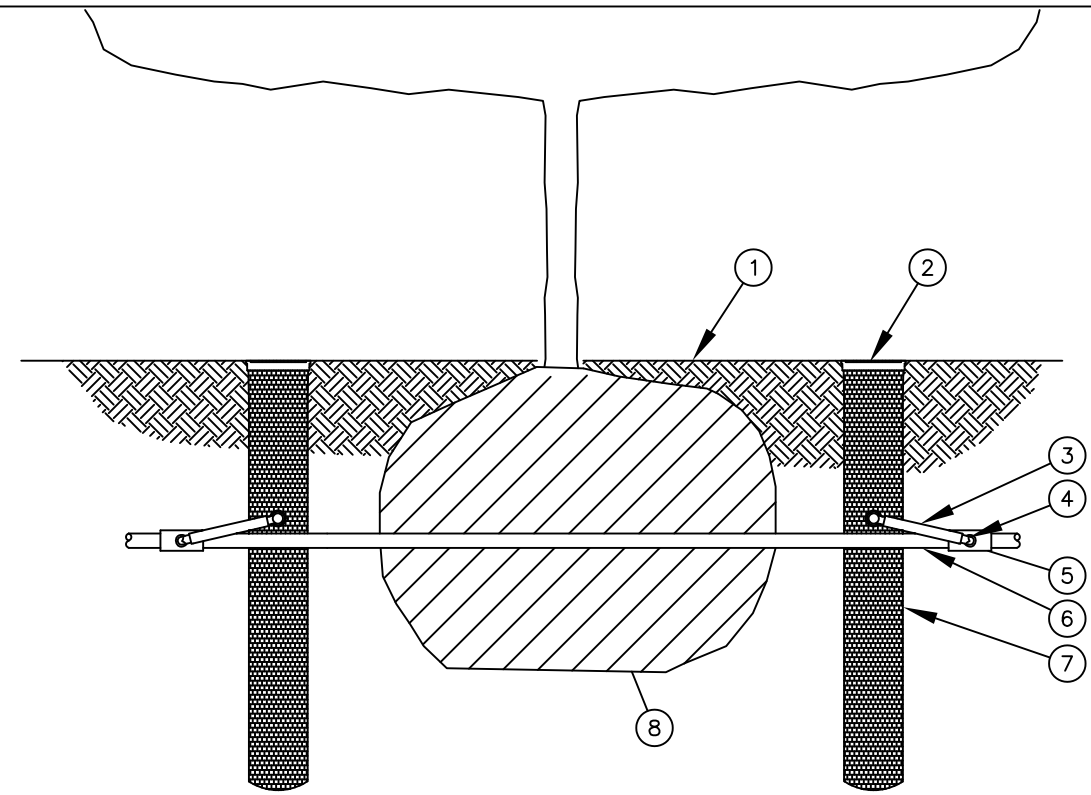
12 QUICK COUPLER
SCALE: NTS



13 SCALE: N.T.S. 1./02212EM/810288G/02810012

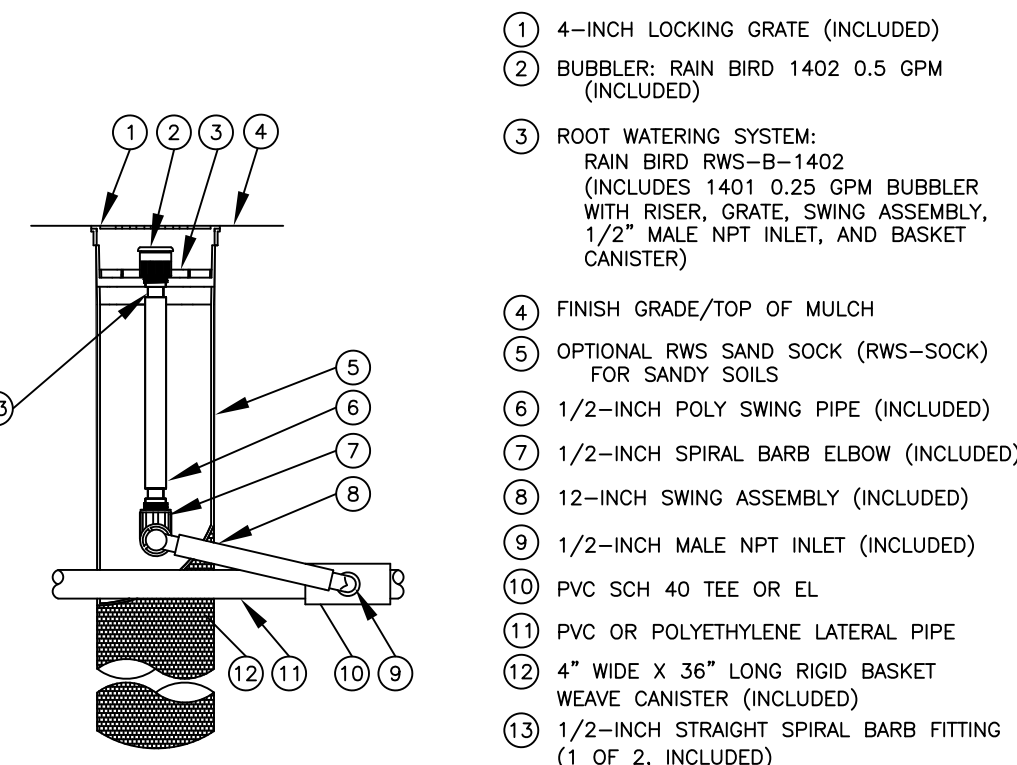


14 ELECTRIC VALVE ASSEMBLY
SCALE: NTS



NOTES:
1. POSITION 2 UNITS EVENLY SPACED AROUND PLANT. FOR NEW TREES PLACE NEAR ROOT BALL.
2. INSTALL PRODUCT WITH TOP EVEN WITH GROUND SURFACE.
3. RWS SERIES AVAILABLE IN THE FOLLOWING MODELS:
RWS (NO BUBBLER/EMITTER INCLUDED) RWS-B-C-1401 (0.25 GPM, CHECK VALVE) ASSEMBLY RWS-B-X-1401 (0.25 GPM, 18" SWING)
RWS-B-C-1402 (0.5 GPM, CHECK VALVE) RWS-B-1402 (0.5 GPM)
RWS-B-C-1404 (1.0 GPM, CHECK VALVE) RWS-B-1408 (2.0 GPM, CHECK VALVE)
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.

15 ROOT WATERING SYSTEM TREE INSTALLATION
SCALE: NTS



NOTES:
1. 4" GRATE IS ALSO AVAILABLE IN PURPLE (RWS-GRATE-P).
2. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE OR TOP OF MULCH.
3. SAND SOCK (RWS-SOCK) IS 34" IN LENGTH TO COVER MESH BASKET AREA.
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.

16 ROOT WATERING SYSTEM RWS SYSTEM
SCALE: NTS

GALLONS PER MINUTE	PIPE SIZE + CLASS
0 - 10 GALLONS	3/4" CLASS 200
11 - 15 GALLONS	1" CLASS 200
16 - 25 GALLONS	1 1/4" CLASS 200
26 - 40 GALLONS	1 1/2" CLASS 200
41 - 55 GALLONS	2" CLASS 200
56 - 85 GALLONS	2 1/2" CLASS 200
86 - 125 GALLONS	3" CLASS 200

17 PIPE SIZE SCHEDULE - Lateral Lines
SCALE: NTS

GALLONS PER MINUTE	PIPE SIZE + CLASS
0 - 8 GALLONS	3/4" SCH. 40
9 - 13 GALLONS	1" SCH. 40
14 - 20 GALLONS	1 1/4" SCH. 40
21 - 30 GALLONS	1 1/2" SCH. 40
31 - 50 GALLONS	2" SCH. 40
51 - 70 GALLONS	2 1/2" SCH. 40
71 - 110 GALLONS	3" SCH. 40

18 PIPE SIZE SCHEDULE - Supply Lines
SCALE: NTS

CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT

3944 S.W. 36TH PLACE • PORTLAND, OREGON 97221 • 503/222-9881
(E-MAIL): CHRIS@FRESHLEYLANDSCAPEARCHITECT.COM

REVISION	DATE	MODIFICATION

KITTRIDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL (503) 708-3942

LANDSCAPE/IRRIGATION DETAILS

LAKE OSWEGO - MULTI FAMILY RESIDENCE

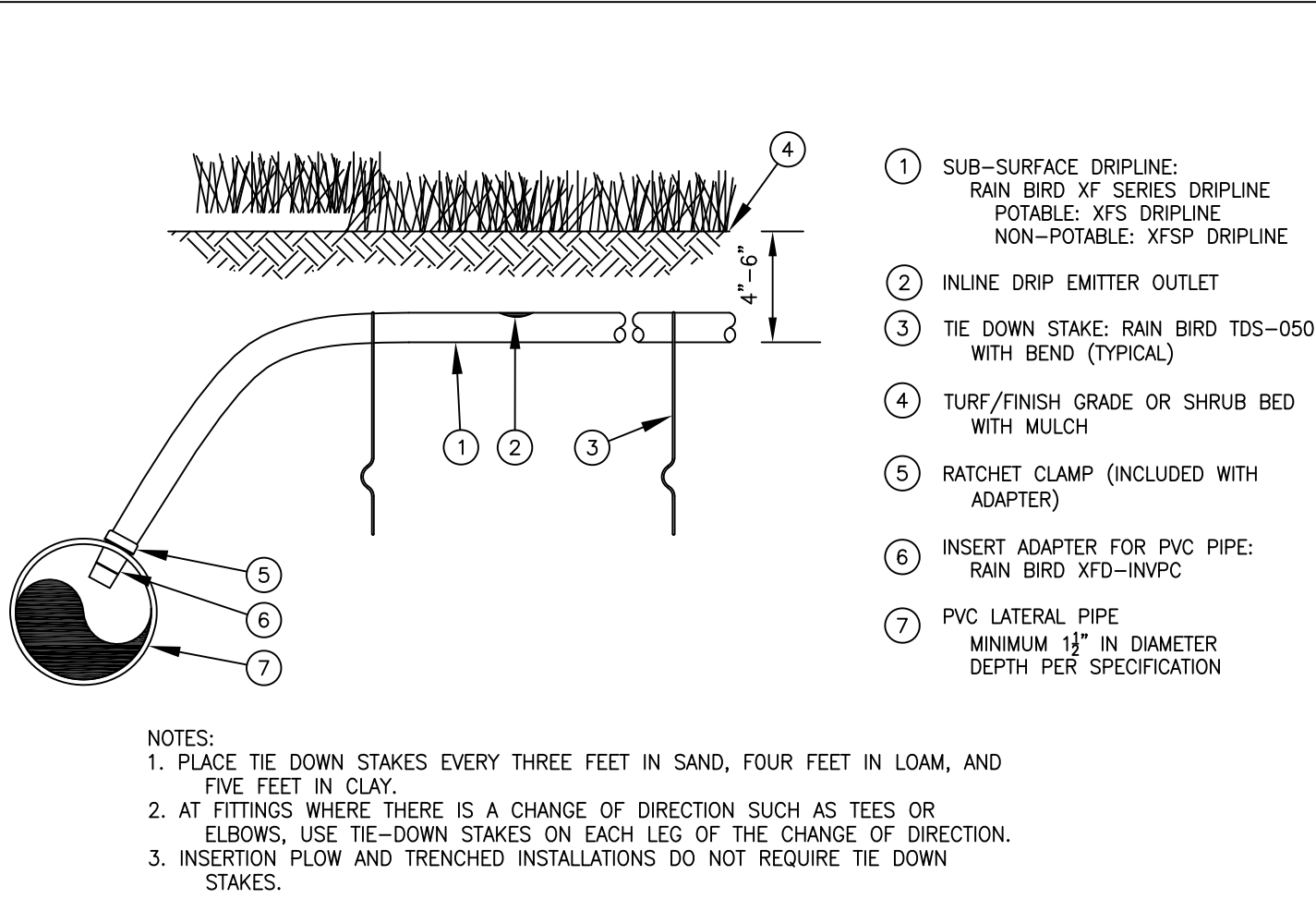
BLUE DOG PROPERTIES

333 S. STATE STREET - SUITE V #452 (503) 936-3212 (503) 726 9929

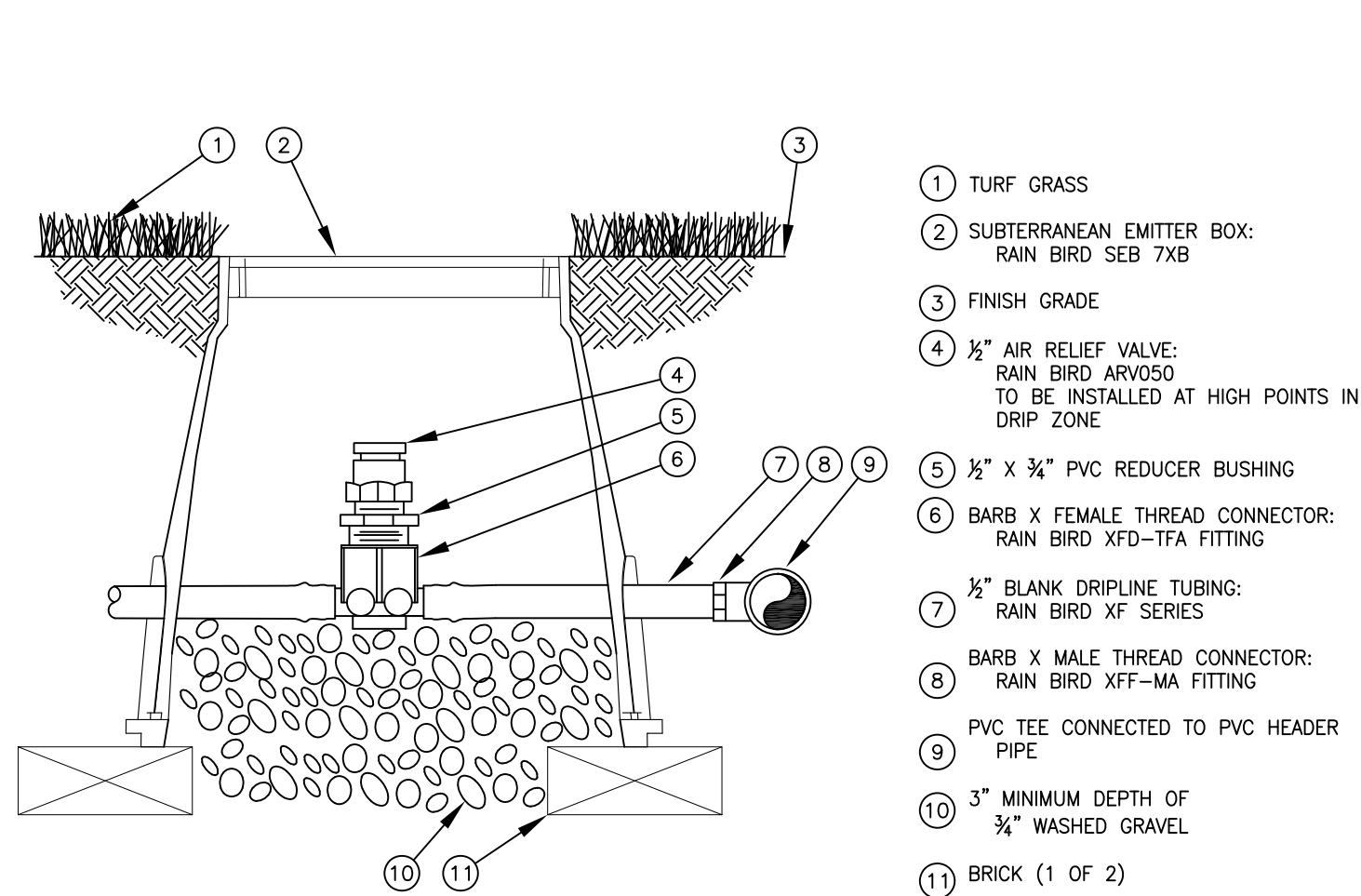
REGISTERED
74
CHRISTOPHER J. FRESHLEY
OREGON
LANDSCAPE ARCHITECT

DATE: 9/28/2018
DRAWN BY: CF
PROJ. MGR: CF
CHECKED BY: CF
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
N/A

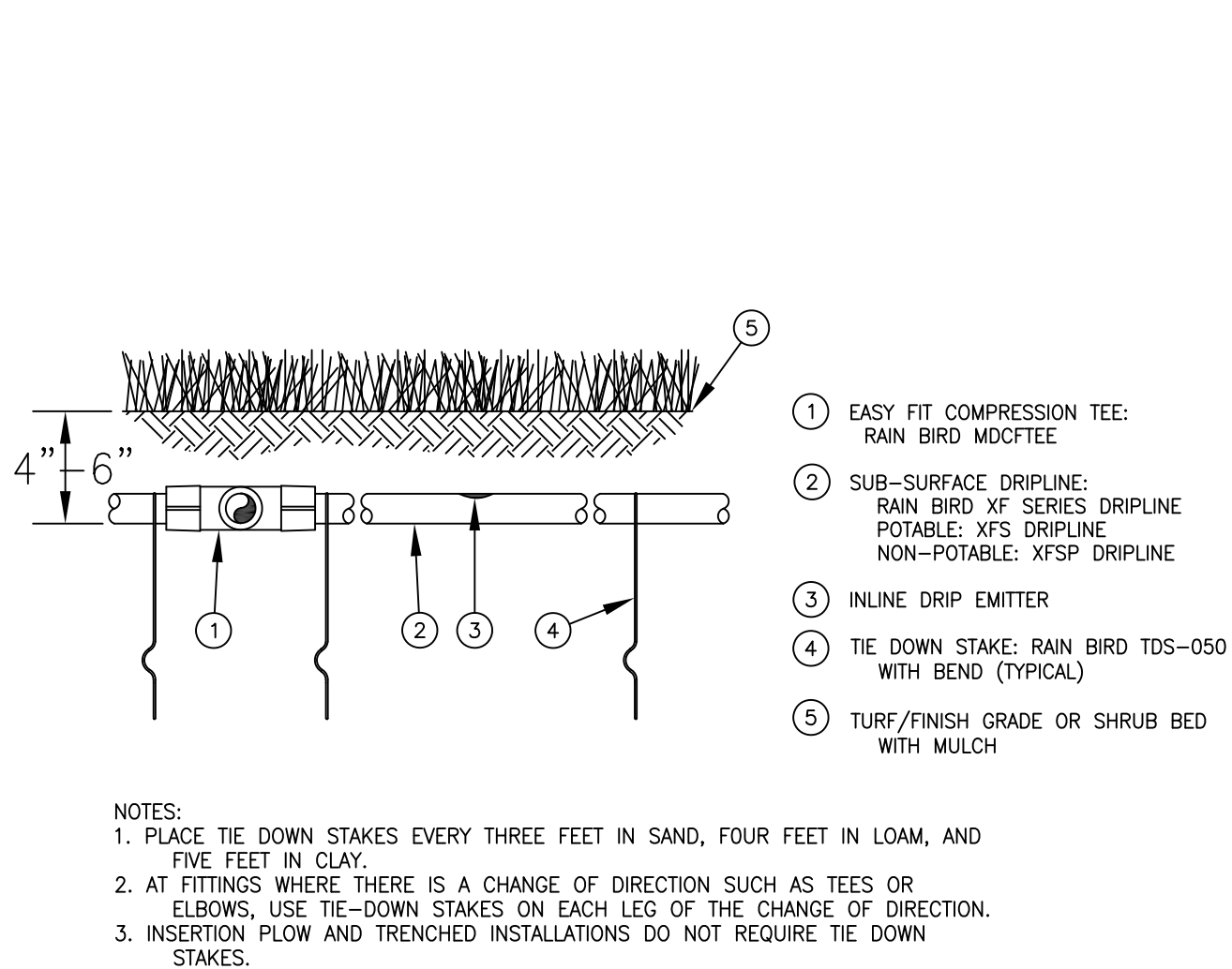
SHEET NUMBER
13
OF



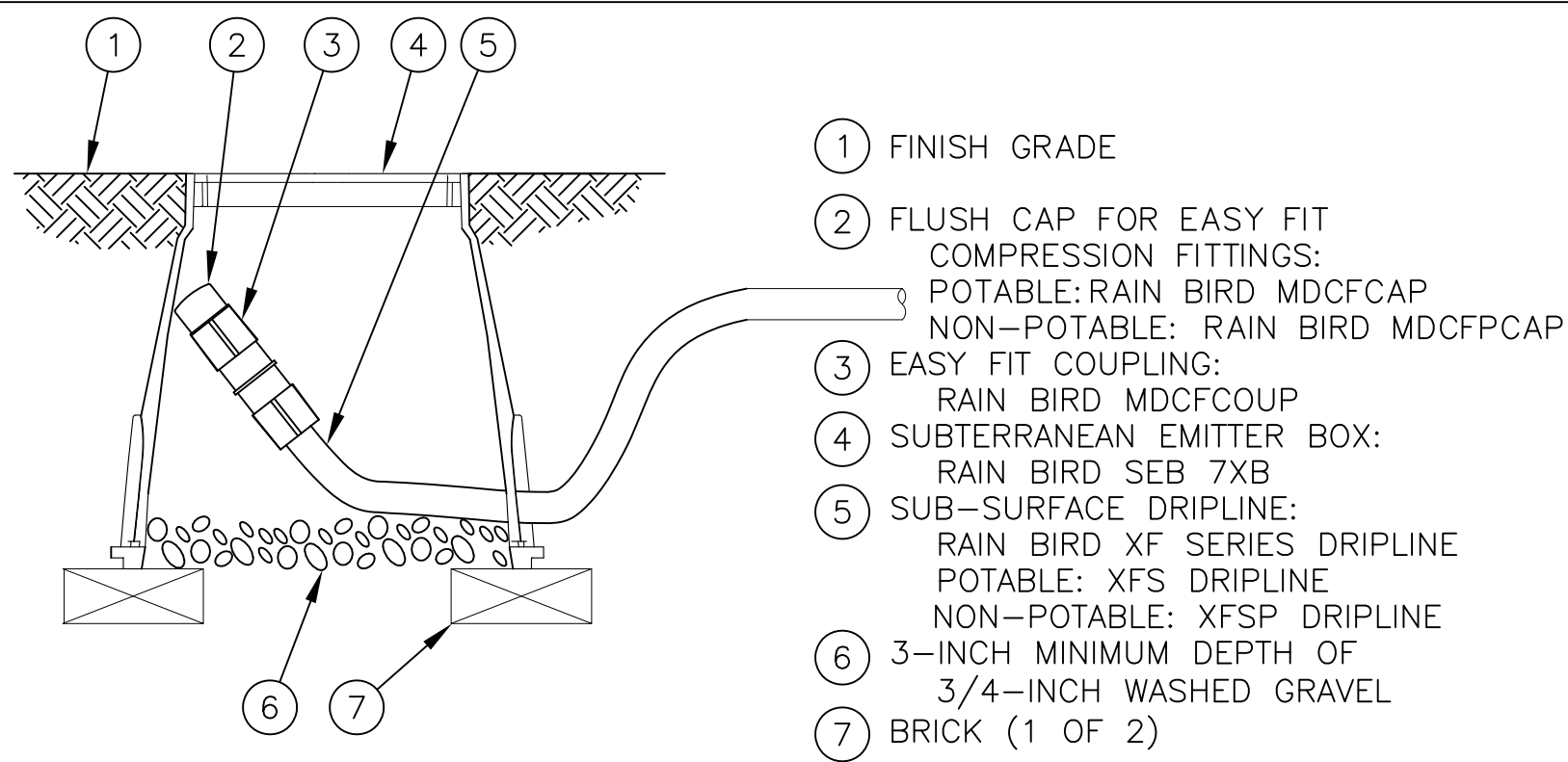
1 XFS SUB-SURFACE DRIPLINE INSERT NTS ADAPTER FOR 1.5" OR LARGER PVC



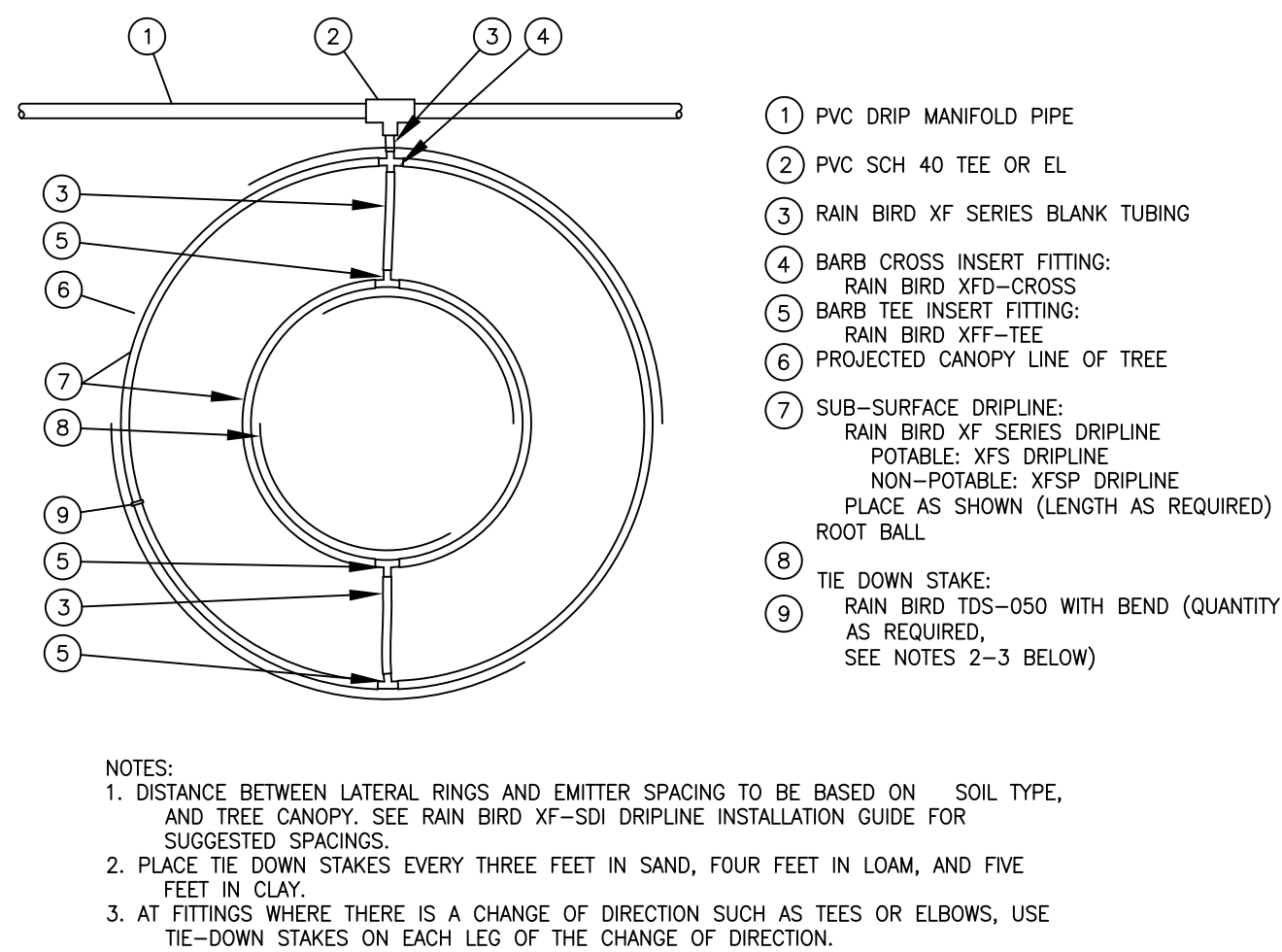
2 XFS SUB-SURFACE DRIPLINE NTS 1/2" AIR RELIEF VALVE IN XFS DRIPLINE



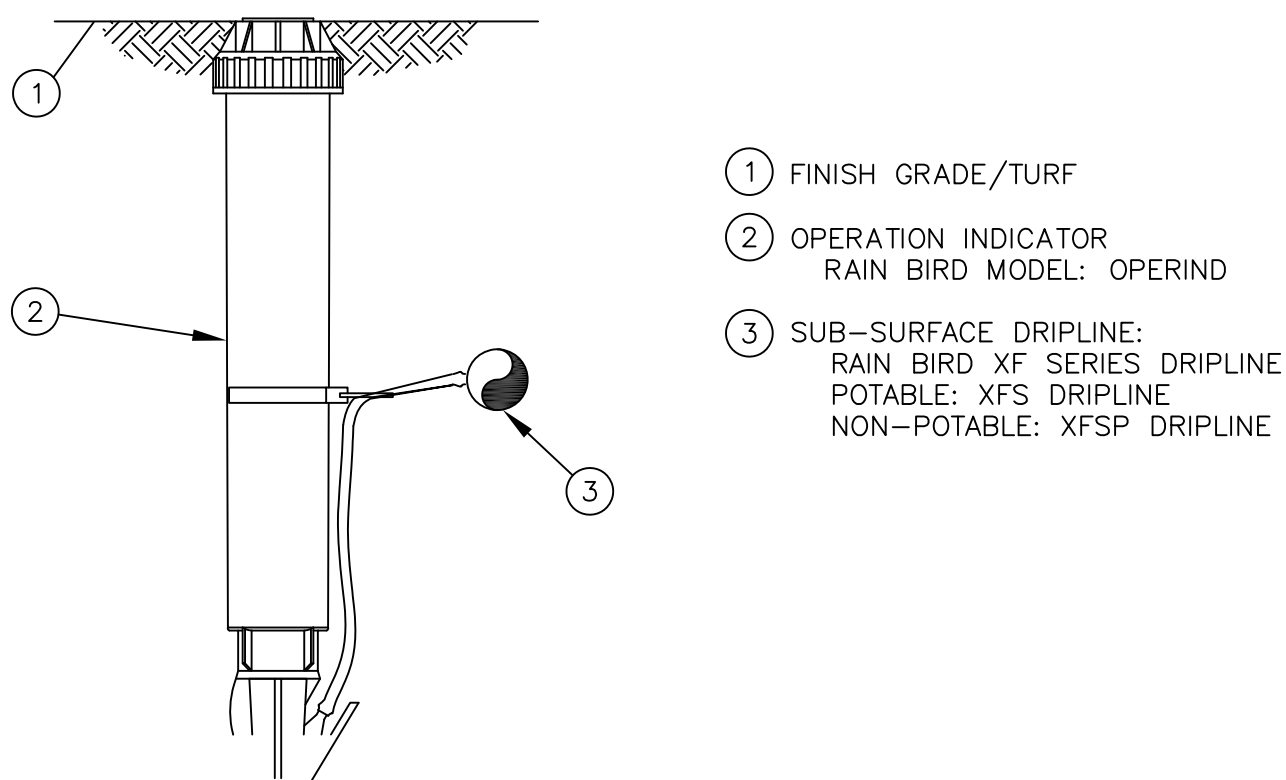
3 XFS SUB-SURFACE DRIPLINE BURIAL NTS



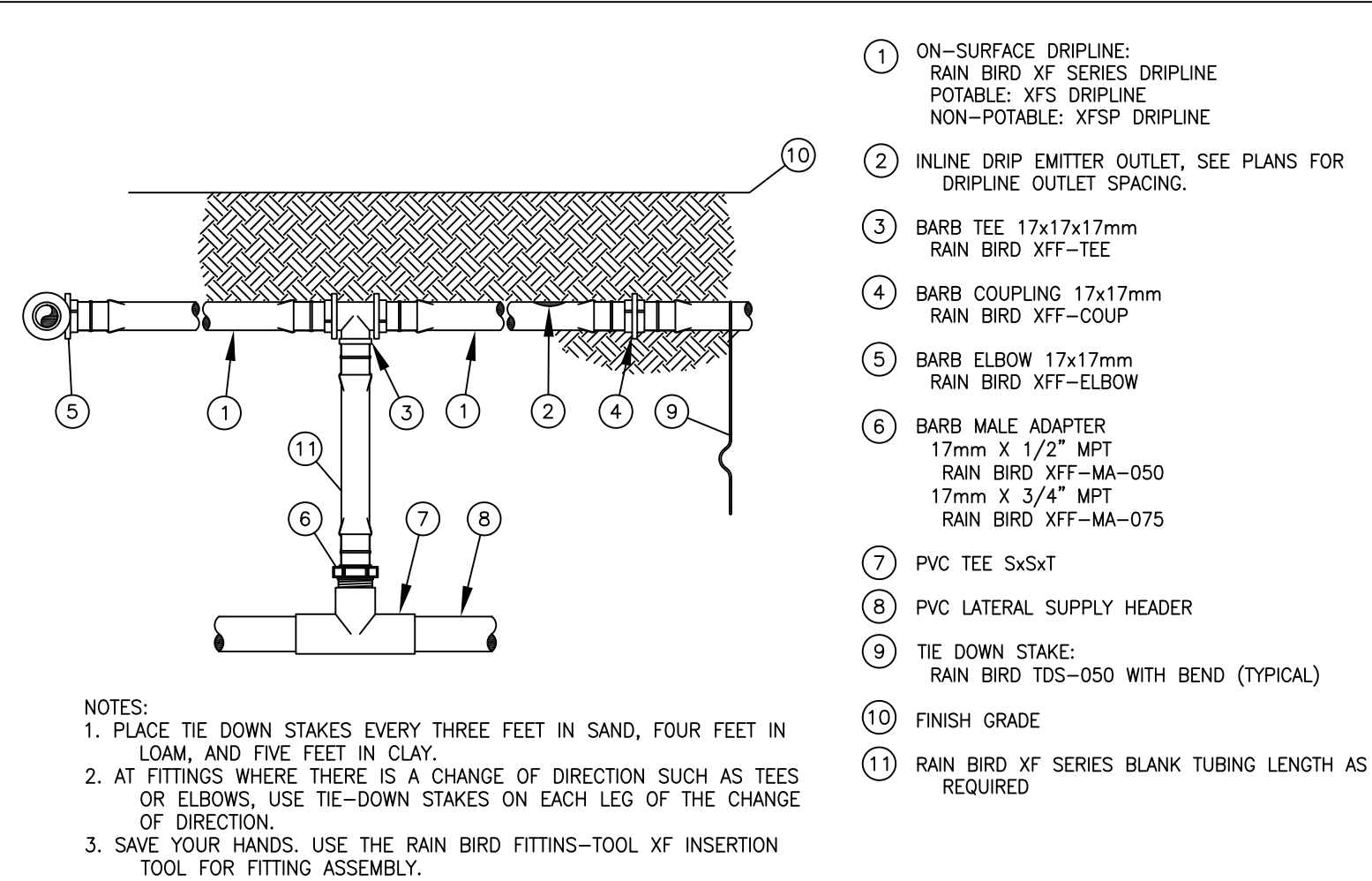
4 XFS SUB-SURFACE DRIPLINE FLUSH POINT NTS W/ EASY FIT COMPRESSION FITTINGS



5 XFS SUB-SURFACE DRIPLINE AROUND TREE NTS



6 XFCV ON-SURFACE DRIPLINE NTS OPERATION INDICATOR



7 XFS SUB-SURFACE DRIPLINE RISER ASSEMBLY NTS

CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT

3944 S.W. 36TH PLACE • PORTLAND, OREGON 97221 • 503/222-9881
(E-MAIL): CHRIS@FRESHLEYLANDSCAPEARCHITECT.COM

REVISION	DATE	MODIFICATION

KITTRIDGE ENGINEERS, LLC

6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL: (503) 708-3942

IRRIGATION DETAILS

LAKE OSWEGO – MULTI FAMILY RESIDENCE

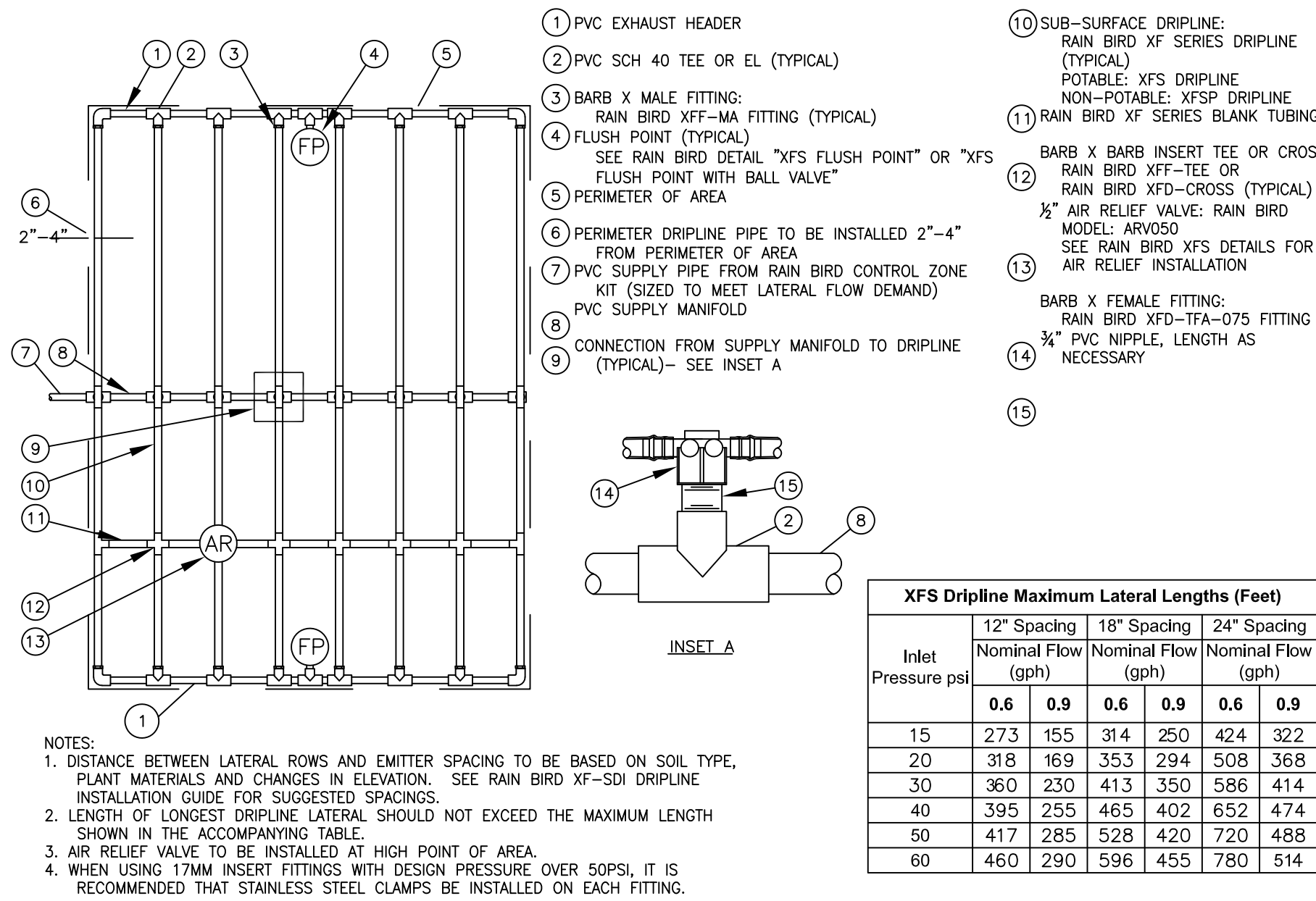
BLUE DOG PROPERTIES

333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726 9929

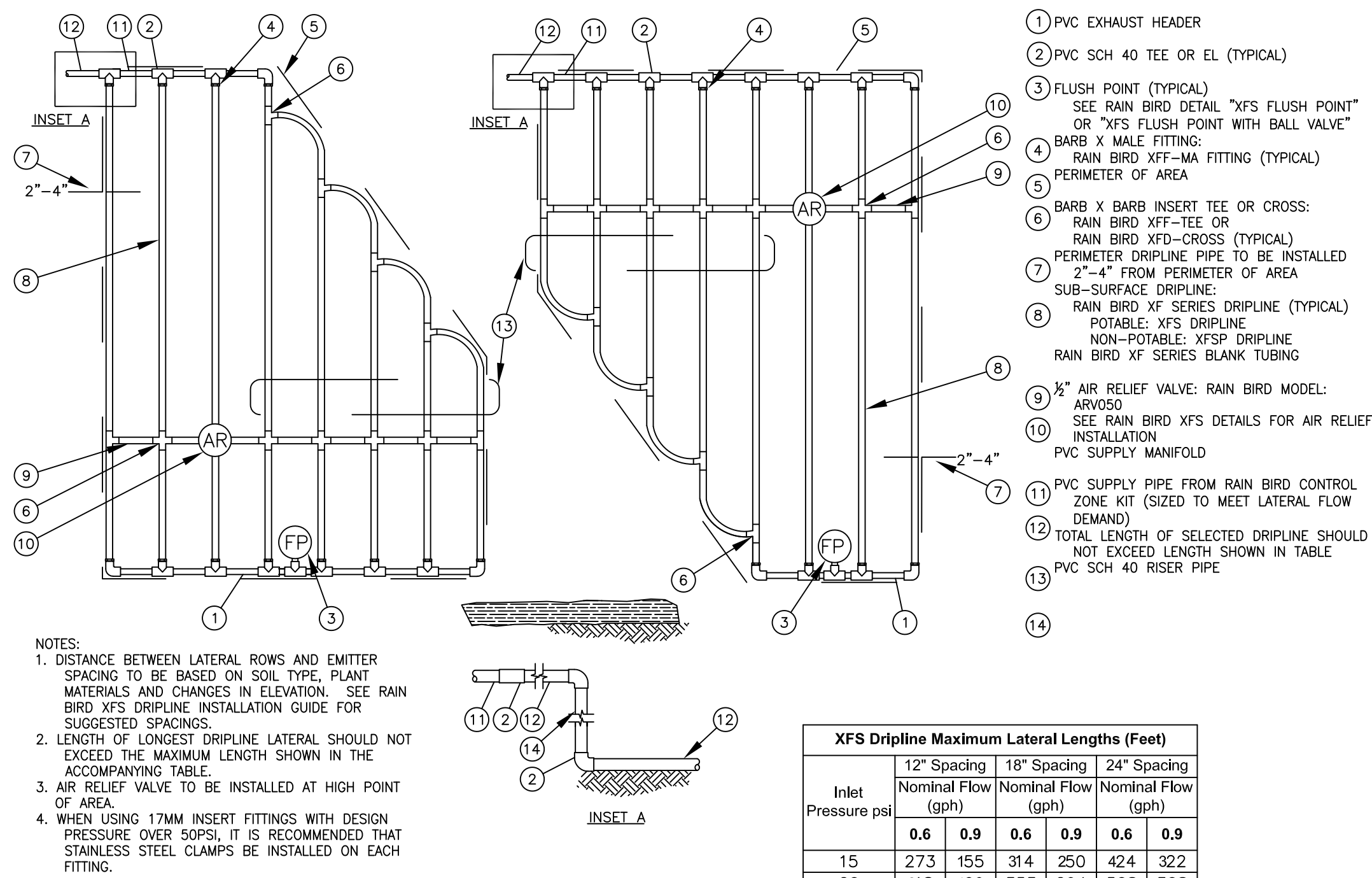


DATE: 9/28/2018
DRAWN BY: CF
PROJ. MGR: CF
CHECKED BY: CF
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
N/A

SHEET NUMBER
L4
OF

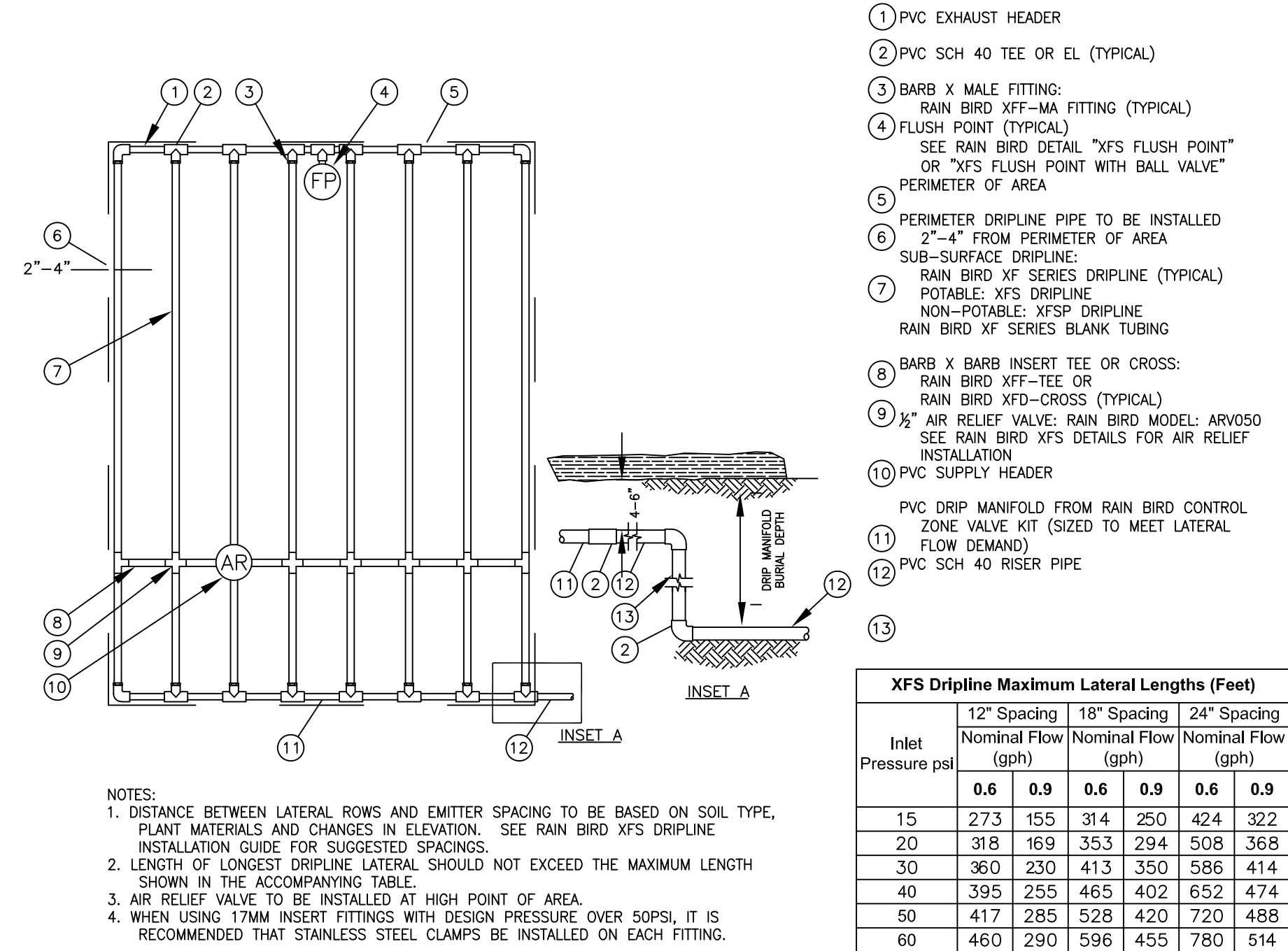


1 XFS SUB-SURFACE DRIPLINE
NTS CENTER FEED LAYOUT



2 XFS SUB-SURFACE DRIPLINE
NTS END FEED LAYOUT

2 XFS SUB-SURFACE DRIPLINE
NTS END FEED LAYOUT



3 XFS SUB-SURFACE DRIPLINE
NTS IRREGULAR SHAPED LAYOUT

CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT

REVISION	DATE	MODIFICATION

REGISTERED
74
CHRISTOPHER J. FRESHLEY
OREGON
LANDSCAPE ARCHITECT

DATE: 9/28/2018
DRAWN BY: CF
PROJ. MGR: CF
CHECKED BY: CF
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
N/A

SHEET NUMBER
15
OF

IRRIGATION DETAILS
LAKE OSWEGO – MULTI FAMILY RESIDENCE
BLUE DOG PROPERTIES
333 S. STATE STREET – SUITE V #452 (503) 936-3212 (503) 726 9929

KITTREDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL: (503) 708-3942

SECTION 02750 IRRIGATION

- PART 1 – GENERAL
- 1.01 SCOPE: Furnish labor, material, equipment and services necessary for installation of new irrigation system as shown on drawings and specified herein.
- 1.02 RELATED WORK IN OTHER SECTIONS:
- A. Section 02950 – LANDSCAPING
- 1.03 RELATED WORK BY OTHERS:
- A. Provisions for electrical service to controller locations. Landscape Contractor to coordinate with appropriate trades.
- 1.04 QUALITY ASSURANCE:
- A. Supervision: Provide at least one person who shall be present at all times during execution of this portion of work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and work performed under this section.
- B. Restrictions: Conform to the "Uniform Plumbing Code" as adopted and modified by the state of Oregon and all legally constituted authorities having jurisdiction.
- C. Materials and Equipment: New materials and equipment of brands as indicated on drawings and specified herein.
- 1.05 DESIGN AND PLAN:
- A. Layout of irrigation system is schematic.
- B. Follow as closely as possible.
- 1.06 VERIFICATION OF EXISTING CONDITIONS:
- A. Before proceeding with the installation of any section of the irrigation system, Field verify all existing conditions including all utilities and easements.
- 1.07 VERIFICATION OF DIMENSIONS:
- A. Before proceeding with the installation of any section of the irrigation system, check and verify correlation between ground measurements and Drawings.
- B. Advise Architect of discrepancies before proceeding.
- 1.08 VERIFICATION OF WATER PRESSURE:
- A. Verify water pressure at point of connection.
- B. Submit pressure test results to Architect for approval prior to any work.
- 1.09 PROTECTION OF UNFINISHED WORK:
- A. Protect work at all times.
- B. Keep rock, dirt, gravel, debris and foreign materials from entering piping, valves and other irrigation equipment.
- 1.10 ENVIRONMENTAL CONDITIONS:
- A. No solvent welding of PVC pipe in freezing weather.
- B. Solvent welding of PVC pipe under cover only during rainy weather.
- 1.11 UTILITIES:
- A. Be responsible for location of underground utilities and easements.
- B. Protect active utilities. If encountered, notify persons owning same.
- 1.12 STORAGE:
- A. Store on job site only as approved.
- B. Be responsible for security and protection.
- C. Store no PVC pipe nor fittings in direct sunlight.
- 1.13 EQUIPMENT FOR OPERATION:
- A. Provide Owner with the following operation equipment.
- B. Turn over to Owner at time of Final Inspection.
1. (2) Keys for irrigation controllers.
2. (2) snap-lock unlocking tools-for valve box covers.
3. (2) quick coupling valve coupler.
4. (2) hose wivel.
5. (2) lock cap key, Rain Bird 2049.
6. (2) valve operating key, 30–inch handle length.
- 1.14 RECORD DRAWINGS:
- A. Maintain current with work progress, one red pencil marked print showing all deviations from drawings occurring during installation.
- B. Show locations of stubouts, manual drains, pipe lines or other subsurface features as installed.
- C. Show dimension reference from subsurface features to permanent structural or surface elements.
- D. Submit reproducible print at end of project.
- E. Place 1 reduced size laminated print inside controller door.
- 1.15 SUBMITTALS:
- A. Submit to Architect within 30 days after award of contract. Product data including but not limited to:
1. Irrigation Controller, control valves, pipe, fittings, heads, control wire, wire splices, valve boxes, solvent cement, drain valves, gate valves, all drip irrigation equipment and all other products necessary for a complete system.
2. Static water pressure at point of connection.
- B. Submit to Architect at time of inspection for final approval.
1. As-Built irrigation print.
2. Copy of guarantees, warranties or affidavits applicable to equipment or materials beyond Contractor's 1-year guarantee period.
3. Manufacturers catalog cuts describing all equipment and materials used.
4. Names, addresses and phone numbers of manufacturers and local suppliers of equipment.
5. Written operating and maintenance instructions for all electrical or mechanical equipment used.
- C. Submit three (3) complete copies of the above submittals in hard cover binder.
- 1.16 GUARANTEE:
- A. Guarantee the new and existing irrigation system, or any part thereof, against defective material or workmanship for one (1) year from the date of acceptance.
- B. Repair any settling of backfilled trenches occurring during a one (1) year period after final acceptance.
- C. Include restoration of planting, paving or other improvements of any kind associated with corrections.
- D. Make corrections without expense to Owner.
- PART 2 – PRODUCTS
- 2.01 GENERAL:
- A. New materials and equipment.
- B. Brands and Types as specified herein.
- C. Substitutions or equals only by written approval of the Architect.
- 2.02 PIPE AND FITTINGS:
- A. PVC Pipe Main Line: PVC pipe, Polyvinyl Chloride Plastic; PVC 1120, Sch.40, Type 1, normal impact, I.P.S., NSF approved plain and/or bell end; color white; meeting requirements ASTM D2241 and D1784.
- B. PVC Pipe Laterals: PVC pipe, Polyvinyl Chloride Plastic; PVC 1120, Class 200, Type 1, normal impact, I.P.S., NSF approved plain and/or bell end; color white; meeting requirements ASTM D2241 and D1784.
- C. PVC Pipe Fittings: PVC 1120, Schedule 40, Type I, normal impact, I.P.S., NSF approved; meeting requirements of ASTM D 2466–74.
- D. Galvanized Pipe and Fittings: Standard weight pipe, hot dipped galvanized and threaded. Threaded cast iron or galvanized malleable fittings.
- E. PVC Riser: PVC 1120, Type I, normal impact I.P.S., NSF approved Schedule 80 PVC, conform to PS 21–70. Cut to required lengths threaded both ends, color dark grey.
- 2.03 DRIP IRRIGATION:
- A. Furnish all valves, tubing and other equipment as per plans, details and Rain Bird recommendations for a complete system.

- 2.04 SLEEVES:
- A. Under parking and driveway paving and through retaining walls – Schedule 40 PVC
- B. All other: Class 200
- C. Sleeve size shall be two sizes larger than pipe installed in sleeve.
- D. Extend sleeves 12 inches minimum beyond walk or pavement edge.
- 2.05 PVC SOLVENT CEMENT:
- A. NSF approved solvent for PVC to 4" pipe size.
- B. Meeting requirements of ASTM D 2564–73a, #705.
- 2.06 PVC PRIMER AND CLEANER: Weld-on P–70 or equal.
- 2.07 ISOLATION BALL VALVE: Watts series WBV forged brass ball valve, standard port, 400 WOG.
- 2.08 MANUAL DRAIN VALVE: Brass globe valve, 1/2" size with cross–type wheel.
- 2.09 QUICK–COUPLING VALVE:
- A. One piece, double slot, 3/4" inlet with vinyl cover and lock top.
- B. Rain Bird Model 33–DLRC.
- 2.10 QUICK–COUPLING VALVE KEY: Rain Bird or equal.
- 2.11 LOCK CAP KEY: Rain Bird.
- 2.12 HOSE SWIVEL: Rain Bird.
- 2.13 LOCKING LID AND KEY:
- A. Rainbird.
- 2.14 VALVE BOX: "Ametek" Economy, Standard and Jumbo sized boxes, extensions and locking covers where applicable.
- 2.15 DRAINAGE ROCK: 1–1/2 inch minus clean, washed round rock.
- 2.16 REMOTE CONTROL VALVES:
- A. Refer to drawing.
- 2.17 BACKFLOW PREVENTION DEVICE:
- A. Refer to drawing.
- 2.18 IRRIGATION CONTROLLER:
- A. Refer to drawing.
- 2.19 CONTROL WIRE: Type UF bearing U/L label for direct underground burial, NEC Class II circuits. AWG sizes, Refer to sizing chart, follow manufacturer's recommendations
- 2.20 ELECTRIC CONNECTORS: 3M DBY splice connectors.
- PART 3 – EXECUTION
- 3.01 GENERAL:
- A. Install materials and equipment in strict accordance with manufacturer's written specification and recommendations.
- B. Comply with local and state codes.
- C. Maintain job premises clean and free from accumulations of debris or disorder at all times. Remove equipment and surplus materials from each area of work as completed.
- D. Leave no work in condition that would jeopardize other persons or property.
- E. Conduct mainline pressure test prior to backfilling in presence of Owner's Representative. Test at 100 static pressure. Test is acceptable if no more than 5psi loss after 1 hour.
- 3.02 TRENCH EXCAVATION:
- A. Straight or "snaked" slightly.
- B. Slope bottom uniformly, 1/2% minimum grade to drain.
- C. Trench depth 12 inches minimum (lateral lines), 18 inches minimum (supply lines), & 24 inches maximum depth; bottoms free from sharp rock or objects that may damage pipe.
- D. Trench width sufficient to allow proper tamping of backfill around pipe.
- E. Keep topsoil separate from subsoils. Replace in order of removal.
- 3.03 TRENCH BACKFILL:
- A. Do no backfilling until approval of pressure test.
- B. Use excavated soil or specified backfill sand bedding materials.
- C. Material free from rock and/or debris that may damage pipe or prevent proper compaction.
- D. Place 6–inch maximum lifts and compact thoroughly.
- E. Place mainline backfill only when pipe is filled with water; 25 PSI pressure minimum.
- 3.04 INSTALLATION OF PIPE:
- A. Sizes, type as specified.
1. Lay with support beneath entire lengths.
2. Slope all pipe to gravity drain.
3. Snake PVC piping to allow for expansion and contraction.
4. Combine runs in common trench where feasible with 3–inch minimum separation.
5. Flush lines prior to installation of valves and irrigation heads.
- B. Cutting and Joining:
1. Cut pipe square, debur and remove all surface contaminants or moisture.
2. Chamfer all cut ends.
3. Apply primer and solvent cement in accordance with manufacturers recommendations.
4. Make threaded joints leak resistant, with freedom of movement.
5. Use teflon thread sealant for threaded joints.
6. Clean out threads and use tape or compound joint sealants for all galvanized pipe connections. Leave no more than two (2) threads showing at joints.
- 3.05 INSTALLATION OF SLEEVING:
- A. Sleeve water lines & control wires under walks & paving.
- B. Position sleeves so pipe can be easily removed.
- C. Install new sleeves prior to asphalt/concrete work. Coordinate with other trades.
- 3.06 INSTALLATION OF VALVES:
- A. Types, sizes and locations as shown on drawings and equipment legend.
1. Install in accordance with details for each type.
2. Install manual drain valves at locations to completely drain all main lines.
3. Install minimum one manual drain per zone.
- 3.07 INSTALLATION OF DRIP IRRIGATION:
- A. Type and locations as indicated on drawings: Install in accordance with plans, details and Rain Bird recommendations for a complete system.
- B. Adjust and balance:
1. Adjust and balance each system zone.
2. Provide additional emitters as required to provide coverage for each plant.
- 3.08 INSTALLATION OF CONTROLLER:
- A. Power to controller provided by others, landscape contractor to coordinate.
- B. Install at per all local and state codes and regulations and manufacturer's recommendations.
- 3.9 INSTALLATION OF CONTROL WIRE:
- A. For wire sizes, refer to wire sizing chart published by manufacturer of control valves.
- B. Use specified electrical connectors at all splices. Place all splices in valve boxes, and note locations on as–built record drawings.
- C. Bundle wire together with electrical tape at 10–foot intervals. Provide 12–inch expansion coils every 100 feet where runs exceed this length.
- D. Place wire at bottom of pipe runs to provide protection.
- E. Provide one extra wire running continuously to each control valve similar to common for use if wire fails, color to be different. Label as "extra wire" at controller.

END OF SECTION 02750

SECTION 02950 LANDSCAPING

- PART 1 – GENERAL
- 1.01 SCOPE OF WORK: Supply and installation of imported topsoil, soil preparation, establishment of fine finish grading; installation of landscape construction details; supply and installation of trees, shrubs and groundcovers; tree staking; mulching of planting bed areas; and maintenance.
- 1.02 USE OF HERBICIDES: Applications of Herbicides only by applicator licensed under Oregon herbicide laws.
- 1.03 PLANT MATERIALS: Provide in accordance with species, sizes, and quantities indicated on the Drawings.
- 1.04 GUARANTEE AND REPLACEMENT:
- A. Guarantee plant materials and related workmanship of installation, beginning after written acceptance or work, for one year or one full growing season, whichever is longer.
1. Replace plant material not surviving or in poor condition during guarantee period.
2. Correct deficiencies in soil or drainage conditions when attributable to plant losses, prior to replacement.
3. Perform all replacement work in accordance with original specifications at no additional cost to Owner.
4. Damage or loss of plant materials due to vandalism, freezing, or acts of neglect by others, is exempt from Contractor's replacement responsibility.
- B. Perform replacement work when requested by Owner within fourteen (14) days after notification.
1. Plant replacements subject to seasonal limitations may be performed at a later date when, in the judgement of the Landscape Architect, survival of replacements is jeopardized by weather or other conditions.
2. Advise Owner or Owner's Representative in writing when replacement work is performed. Include specific instructions for immediate care of same.
- C. Final Acceptance: Final Acceptance will be acknowledged, in writing, by the Owner when all landscape work is complete and acceptable. All areas shall be weed free and clean. All landscape deficiencies shall have been corrected, all related submittals provided, plants are in place, healthy, and in good condition and everything meets the requirements of the contract documents.
- 1.05 SUBMITTALS:
- A. Soil testing:
1. Submit 1 representative sample of IMPORTED TOPSOIL to: A & L Agricultural Laboratories – Portland, Oregon. Test for all micro and macro chemical elements and organic content and make recommendation for fertilizers and amendments to soil to produce a soil capable of supporting vigorous and healthy plant growth.
2. Submit test results to Architect for review prior to any work. Amend all topsoil in accordance with soils laboratory recommendations. Topsoil testing and amendments shall be done at contractors expense.
3. Submit test results indicating compliance with IMPORTED TOPSOIL sand, silt and clay percentage requirements as per IMPORTED TOPSOIL specification.
- B. Submit 1 quart sample of textural soil amendment.
- C. Submit product data for Root Barriers.
- D. Submit list of all plant materials, sizes suppliers, etc.:
- NOTE: A representative sample of all plant material to be used on project to be delivered on site for review/approval by Architect prior to any installation.
- E. Submit product data for fertilizers, amendments, etc.; as per SOILS TEST.
- NOTE: Submit after completion of Soils Test.
- F. Submit product data for tree staking materials.
- G. Submit product data for Erosion Control Netting.
- 1.06 QUALITY ASSURANCE:
- A. Installer Qualifications: Engage an experienced installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment. Sub-contract the landscape planting and irrigation work to the same experienced Landscape Contractor. The Landscape Contractor must have a current Landscape Contractor's license from the State of Oregon.
- B. Installer's Field Supervision: Require installer to maintain an experienced full–time supervisor on the Project site during all times that landscaping is in progress.
- C. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Landscape Architect's satisfaction, based on evaluation of agency–submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the work.
- D. Environmental Conditions:
1. Install materials when environmental conditions are not detrimental to performance of good quality work and good condition of materials being installed.
2. Planting shall not be permitted when during the period of installation:
- a. Air temperatures are lower than 35 degrees.
- b. Air temperatures are above 90 degrees.
- c. Soils are saturated or soggy.
- d. Soils are frozen or dry.
- e. Wind velocity is 30 mph and greater.
- 1.07 PROJECT CONDITIONS:
- A. Utilities: Determine location of above grade and underground utilities and perform work in a manner which will avoid damage. Hand excavate as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.
- B. Excavation: When conditions are discovered that could be detrimental to plant growth such as rubble fill, adverse drainage conditions, or obstructions, notify Architect before planting.
- C. Examine site conditions and notify Owner if found to be adverse to performing work and to health and vigor of plants. Proceeding with work indicated the Contractor has accepted all conditions, consequences and must meet all contract requirements.
- D. Adverse Conditions: When conditions detrimental to plant installation and growth are encountered, such as rubble, contaminated soils, adverse drainage conditions, and obstructions, notify Owner before proceeding with further work.
- PART 2 – PRODUCTS
- 2.01 FERTILIZERS:
- A. Guarantee analysis of mineral or formulated Products as specified.
1. Comply with applicable state fertilizer laws.
2. Deliver to job in original, unopened containers, each bearing manufacturer's label of content.
3. Uniform composition, dry and free–flowing.
- B. Brands and Analysis: Fertilizers and amendments listed below are for bidding purposes only. Actual fertilizers and amendments may vary based upon the results of the soils test.
1. Calcium Carbonate Limestone (agricultural limestone)
2. Dolomite Limestone
3. Calcium Sulfate (gypsum)
4. Bloodmeal
5. Organic 10N–10P–5K
6. Laundry Borax (10% Borax)
- 2.02 TEXTURAL SOIL AMENDMENTS:
- A. Compost: Composted yard debris medium to coarse grind as available from Grimms Fuel, (503) 636–3623 or approved equal. Color dark brown to black.
- 2.03 MULCH MATERIAL:
- A. Same as Textured Soil Amendment. Bark mulch not acceptable.
1. Compost: Composted yard debris medium grind as available from Grimms Fuel, (503) 636–3623, or approved equal.
- 2.04 BARK CHIPS (UNDER EXIST. TREES):
- A. Medium size Douglas Fir bark nuggets as available from S&H Landscape, Tualatin, Oregon or equal.
- 2.05 WOOD TREE STAKES:
- A. Sound wood, 2 x 2, Douglas Fir; 8–foot lengths, non–treated.
- B. Installed as shown on Tree Planting Detail.
- C. Tree ties:
1. "Chain Lock" system or approved equal.
2. Install as shown on Tree Planting Detail.
- 2.06 TREES, SHRUBS AND GROUNDCOVERS:
- A. General, species, variety, quantity and size.
1. As indicated on the plans.
2. Nomenclature – conform to names given in Standardized Plant Names, 1942 edition or that accepted in localized nursery trade.
3. Meet requirements of American Standard for Nursery Stock, 1973 edition A.N.S.I. Z60.1
- 2.07 IMPORTED TOPSOIL:
- A. Topsoil shall be a sandy loam topsoil with a combined silt and clay content less than 35% and medium to very fine sand 45%–55% which shall be percentages by weight of those particles passing a 2mm screen. The remaining percentages shall be particles larger than medium to very fine sand (coarse or very coarse sand or gravel sized particles). All particles shall pass a 1/2" screen. The topsoil shall be free from subsoil, debris, turf, weeds, mushrooms, or any other objectionable material.
- 2.08 STORMWATER FACILITY GROWING MEDIUM:
- A. Must comply with City of Lake Oswego Material Specification.
- 2.09 WATER:
- A. Metered domestic service for Contractor's use is provided on site.
- B. Be responsible for conveying any application equipment required to perform the work.
- 2.10 ROOT BARRIERS:
- A. As manufactured by Deep Root Corp. 24" depth.
- 2.11 EROSION CONTROL NETTING (IF REQUIRED):
- A. Jute biodegradable netting with manufacturer's staples.

- PART 3 – EXECUTION
- 3.01 GENERAL:
- A. Scheduling and Coordination: Coordinate work schedule with Owner's Project Representative where cooperation with other trades or contracts is required. Be responsible for timely performance of work.
- 3.02 WEED ERADICATION AND CONTROL:
- A. Remove grass, noxious weed growth and roots by herbicide application. (Johnson grass, Crabgrass, Morning Glory, Horsetail, Canadian Thistle, Nutgrass, Quackgrass, etc.)
- B. Kill achieved by working soil permissible for annual types only.
- C. Allow time for herbicides to achieve effective kill prior to cultivating.
- 3.03 EXAMINATION:
- A. Verify that prepared sub–grade and all planting areas are ready to receive work.
- B. Saturate soil to test drainage.
- C. Verify that required underground utilities are available, in proper location, and ready for use.
- D. Verify that the irrigation system is completed and operational, prior to installation of plant materials.
- 3.04 SOIL PREPARATION/TOPSOIL PLACEMENT:
- A. General: Remove large (1" and larger) stones, concrete, asphalt, or debris encountered or generated by this work from job site. Subgrade is defined as grade prior to topsoil placement & is free of rock, concrete, asphalt, etc. Crossrip subgrade to 8"–12" depth at 18" on center each way or rototill subgrade to 8"–12" depth prior to placement of topsoil.
- B. Place imported Topsoil during dry weather and on dry unfrozen sub–grade.
- C. Deposit imported Topsoil to minimum depth as follows: 18 inch layer in all planting beds.
- D. Deposit 3 to 4 inch lift of imported Topsoil over cross–ripped or rototilled subgrade and rototill into sub grade until thoroughly mixed.
- E. Deposit balance of imported Topsoil to specified depth or additional as required to meet finish grade as per Civil Grading Plan.
- F. Initial Soil Preparation – Apply soils testing laboratory recommended fertilizers and soil amendments to all landscape areas at rate specified. Fertilizers and soil amendments and rates indicated below are for bidding purposes only. Rototill the following proportions of materials, evenly mixed to a 6–8 inch depth over each 1000 sq. ft. of planting area.
1. All Landscape Areas:
- a. 3" Layer textural soil amendment.
- b. 10 lbs. Organic 10N–10P–5K.
- c. 15 lbs. Bloodmeal.
- d. .9 oz. Laundry Borax
- e. 50 lbs. Calcium Carbonate Limestone.
- f. 50 lbs. Dolomitic Limestone (Ag65 or equal)
- g. 25 lbs. Calcium Sulfate (gypsum).
2. Backfill soil mixture– For all tree and shrub plantings.
- a. To each cubic yard of excavated planting bed soil, thoroughly mix the following ingredients for backfill.
1. 1/3 cubic yards by volume specified Textural Soil Amendments
2. Fertilizers as per Soils laboratory test.
- 3.05 PLANTING TREES, SHRUBS AND GROUNDCOVERS:
- A. Test tree and shrub planting holes for adequate drainage. Fill hole with water. If water does not drain away in 1/2 hour, do not plant and notify Architect immediately.
- B. All planting holes shall be excavated three times the diameter of the shrub or groundcover root ball or root system.
- C. Plant upright and face to give best appearance or relationship to plants and structures.
- D. Loosen and remove twine binding and burlap from around top of each ball. Pull no burlap from under balls.
- E. Cut off cleanly all broken or frayed roots.
- F. Place and compact backfill soil mixture carefully to avoid injury to roots, and fill all voids.
- G. When hole is nearly filled, completely soak and allow water to soak away.
1. Fill holes to finish grade and prepare for other work indicated.
- 3.06 FINISH GRADES:
- A. Establish slopes in accordance with Civil grading plan.
1. Fine grade to uniform slopes, free of low spots or irregularities. Allow no ponding of water.
2. Slope grades away from all building structures.
3. Slope grades to area drains and catch basins as per Civil grading plan.
4. Allow no ponding of water.
4. Verify with Civil Engineer that finish grades meet Civil grading plan prior to planting.
- B. Grade planting bed soil 3" below bordering pavement or curb elevations prior to application of mulch. Finish grade of mulch to be 1" below top of adjacent hard surface.
- 3.07 PLANTING BED MULCH:
- A. Mulch all shrub planting beds with a 2" minimum layer.
- B. Apply evenly to all visible areas, within two (2) days after planting.
- 3.08 BARK CHIPS UNDER EXISTING TREES:
- A. Install 2" layer of specified bark chips within drip line of existing trees to remain as shown on plans.
- 3.09 INSTALLATION OF ROOT BARRIER:
- A. Install Root Barrier when edge of the root ball is within 5' of any curb/sidewalk or other hard surface. Install as per manufacturer instructions and center 20" length on root ball with 10" on each side. Do not undermine curb, asphalt or utilities.
- 3.10 INSTALLATION OF EROSION CONTROL NETTING:
- A. Install erosion control netting on all slopes 3:1 and greater. Refer to Civil Grading Plan. Install as per manufacturer's recommendations.
- 3.11 CONTRACT PERIOD MAINTENANCE:
- A. Begin immediately after planting of any type and continue for sixty (60) days after final written acceptance by Owner.
- B. Plantings:
1. Irrigate as required to establish plant materials.
2. Reset plants to proper grade or alignment.
3. Maintain bed areas weed–free.
4. Miscellaneous pruning as required.
5. Any action necessary to promote new plant establishment.
6. Replacement of immediate transplant losses.
7. Adjustment of tree staking.

END OF SECTION 02950
CHRISTOPHER FRESHLEY
LANDSCAPE ARCHITECT

3944 S.W. 36TH PLACE • PORTLAND, OREGON 97221 • 503/222-9881
(E-MAIL): CHRIS@FRESHLEYLANDSCAPEARCHITECT.COM

REVISION	DATE	MODIFICATION

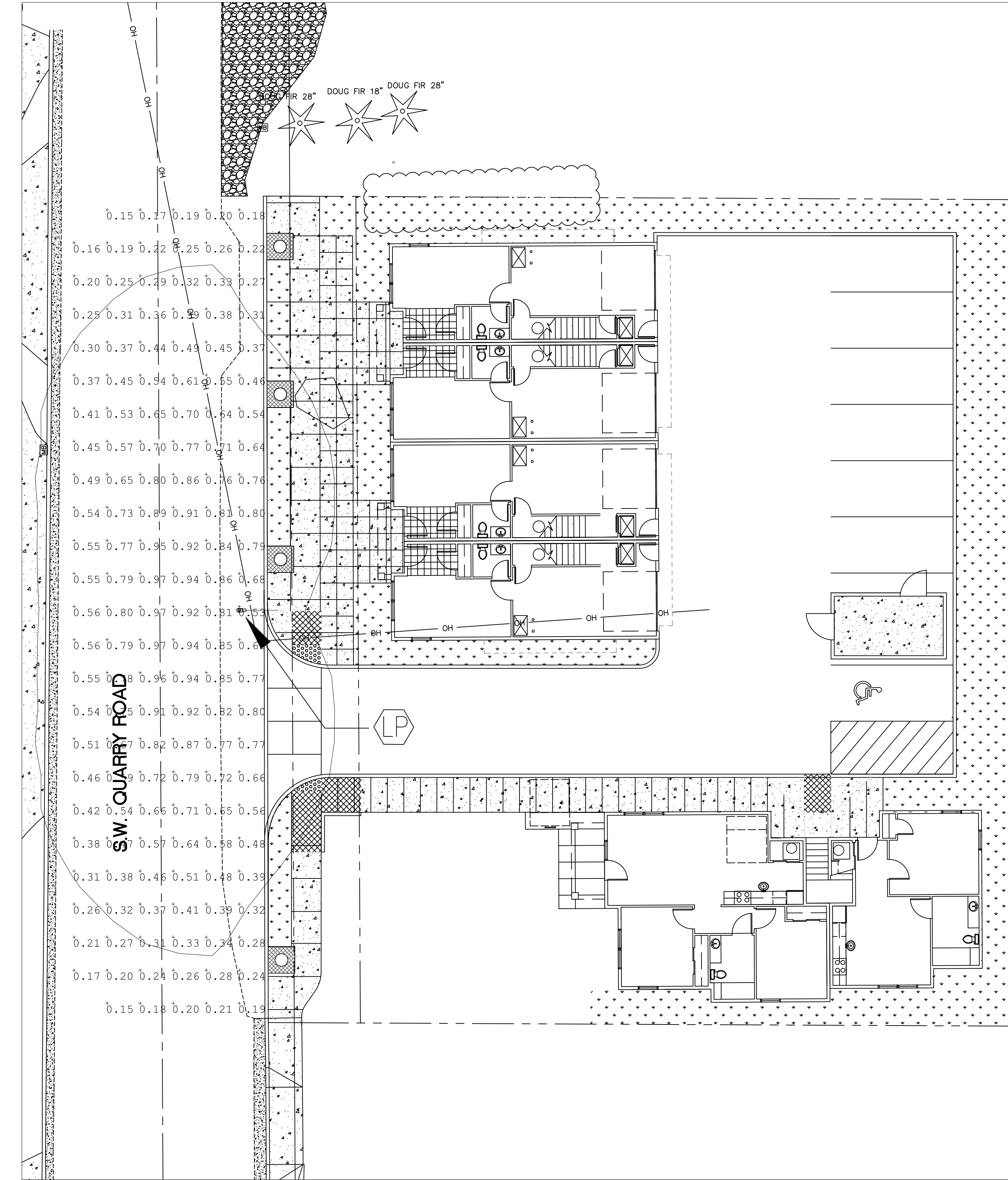
KITTEDGE ENGINEERS, LLC
6565 SW 207TH AVENUE
ALOHA, OR 97007
TEL: (503) 708-3942

IRRIGATION PLAN
LAKE OSWEGO – MULTI FAMILY RESIDENCE
BLUE DOG PROPERTIES
333 S. STATE STREET – SUITE V #452 (503) 936–3212 (503) 726 9929

REGISTERED
74
CHRISTOPHER J. FRESHLEY
OREGON
LANDSCAPE ARCHITECT

DATE: 9/28/2018
DRAWN BY: CF
PROJ. MGR: CF
CHECKED BY: CF
PROJECT NUMBER
MAT.001
CASE FILE NUMBER
N/A

SHEET NUMBER
L6
OF



LP = EXISTING 42W LEOTEK LUMINAIRE MOUNTED ON RELOCATED PGE POLE.
REUSE THE 6-FOOT STEEL MAST ARM AS WELL.

LIGHT LEVEL REQUIREMENTS					
ROADWAY	CLASSIFICATION		LIGHT LEVEL	AVG/MIN	MAX/MIN
QUARRY ROAD	NEIGHBORHOOD COLLECTOR	TARGET	0.4 FC	4:1 AVG/MIN	20:1 MAX/MIN
		ACHIEVED	0.54 FC	3.60:1 AVG/MIN	6.47:1 MAX/MIN

NUMERIC SUMMARY							
PROJECT: QUARRY ROAD							
LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
QUARRY ROAD	ILLUMINANCE	FC	0.54	0.97	0.15	3.60	6.47

Street Lighting Design
Scale: 1" = 10'-0"

Northstar Electrical Contractors
9130 S.W. Pioneer Court, Suite A
Wilsonville, Oregon 97070
Phone 503-612-0840
Fax 503-612-0891
Email adam.suminski@NorthStarElect.com



QUARRY ROAD
LAKE OSWEGO, OR

REV DATE	NO.	REV DESCRIPTION
5.16.17	1	CITY REDLINES

Title: Street Lighting
Designed by: Adam Suminski
Checked by: Jesse Culp
Date: March 1, 2017