## GENERAL NOTES

1.) ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING: OREGON STATE HIGHWAY DEPT. STD. SPECIFICATIONS (O.S.H.D.); OREGON ADMINISTRATIVE RULES-CHAPTER 333-DIVISION 61-PUBLIC WATER SYSTEMS; OREGON HEALTH DIVISION; AMERICAN PUBLIC WORKS ASSOCIATION-OREGON CHAPTER 2015 (APWA); AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM); 2017 OREGON PLUMBING SPECIALITY CODE.

2.) CONTRACTOR RESPONSIBLE FOR UNDERGROUND UTILITY LOCATE PRIOR TO ANY EXCAVATION. TELEPHONE, POWER, T.V., GAS UTILITIES SHALL BE LOCATED AND INSTALLED AS PER APPROVED PLANS BY THE RESPECTIVE UTILITY COMPANIES. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANY PRIOR TO ANY UTILITY INSTALLATION

3.) PIPE BEDDING, PIPE ZONE, AND TRENCH BACKFILL SHALL BE APPROVED CLEAN 3/4"-0" CRUSHED AGGREGATE - FREE OF ORGANICS COMPACTED TO 95% IN ACCORDANCE WITH AASHTO T-99. SELECT NATIVE WILL BE APPROVED FOR TRENCH BACKFILL MATERIAL AND SHALL CONFORM TO O.S.H.D SPECIFICATIONS AND BE APPROVED BY ENGINEER PRIOR TO INSTALLATION.

4.) ALL POLY VINYL CHLORIDE (PVC) SEWER FORCE MAIN SHALL BE AWWA C-900 PVC DR 18 FOR 4" OR GREAT, AND SCHEDULE 40 PVC FOR 3" OR SMALLER, AS PER THE SPECIFICATIONS. PAINT 4" CONTINUOUS GREEN STRIPE ON TOP OF FORCE MAIN PIPE. 5.) ALL GRAVITY SEWER PIPE SHALL BE RUBBER GASKETED PVC PIPE-ASTM D3024 SDR-35 MIN., GREEN IN COLOR, MEETING THE REQUIREMENTS OF SEWER

SERVICE LATERALS SHALL BE SET @ A MINIMUM SLOPE OF 2%, 1% WHERE APPROVED BY ENGINEER, AND SHALL BE A MINIMUM OF 4 FT. DEEP TO INVERT @ R.O.W.

6.) ALL THRUST BLOCKING SHALL BE CAST AGAINST UNDISTURBED SOIL. CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS. STEEL REINFORCING ANCHORS SHALL BE NO. 6 GRADE 40 OR 60 DEFORMED BAR CONFORMING TO ASTM A-615. 7.) ALL FOREIGN MATERIALS SHALL BE FLUSHED FROM NEW PIPE LINES AT A VELOCITY OF 2.5 FT/SEC. FLUSHING OF LINES SHALL BE PERFORMED PRIOR TO

DISINFECTION OF LINES. MAIN LINES SHALL BE FLUSHED PRIOR TO SERVICE CONNECTION. TESTS TO BE WITNESSED BY CRESCENT SANITARY DISTRICT REPRESENTATIVE.

8.) ALL NEW PVC SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH APWA SECTION 303. TESTS SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY THE ENGINEER OR A CRESCENT SANITARY DISTRICT REPRESENTATIVE.

9.) THE SEWER LINE SHALL BE MARKED WITH AN APPROVED LOCATOR TAPE PLACED 12" BELOW GROUND FINISH GRADE. TAPE SHALL BE COLOR COATED GREEN FOR SEWER. THE SEWER LINE SHALL HAVE A LOCATOR WIRE (14 GA. MIN. WITH GREEN INSULATION AND SOLID CORE) IN ADDITION TO THE LOCATOR TAPE, PLACED ON TOP OF THE PIPE AND BE CONTINUOUS BETWEEN MANHOLES. WIRE IS TO EXTEND 18" ABOVE THE GROUND, COILED UNDER THE LID. WIRE SHALL RUN UP THE OUTSIDE OF THE VALVE BOX EXTENSION AND INSIDE THE COVER LID. A CONTINUITY TEST SHALL BE CONDUCTED ON THE LOCATOR WIRE BY THE CRESCENT SANITARY DISTRICT

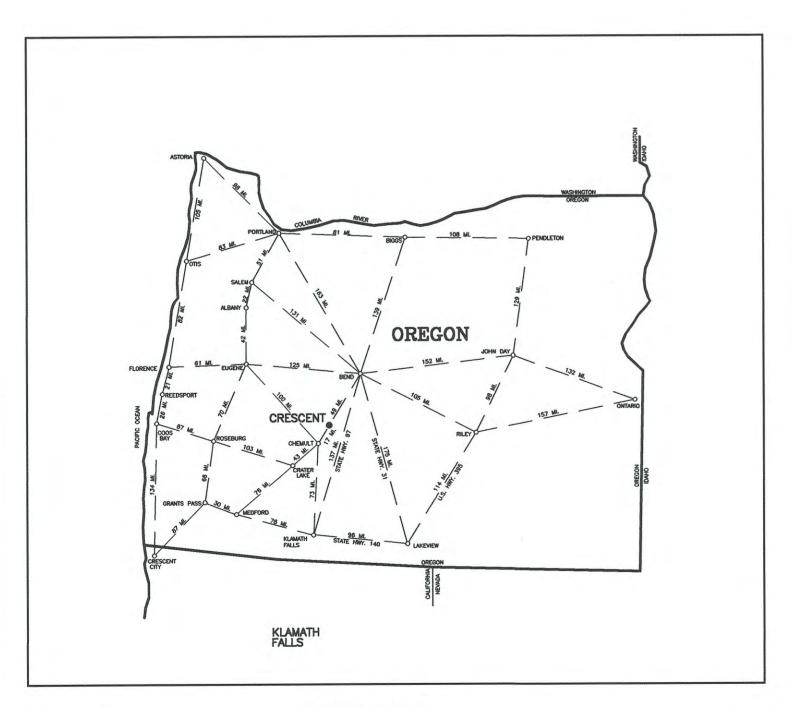
10.) TRENCHING AND PIPE WORK WILL BE WARRANTED FOR A PERIOD OF TWO YEARS. ALL OTHER WORK AND MATERIALS SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR AFTER THE DATE OF COMPLETION.

11.) OWNER WILL COORDINATE WITH MIDSTATE ELECTRIC FOR PUMP STATION SERVICES.

12.) TRAFFIC CONTROL PLAN, COUNTY ROADS - CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLANS FOR WORK ON KLAMATH COUNTY CONTROLLED ROADS AND STREETS FOR APPROVAL BY ENGINEERING AND KLAMATH COUNTY. PLAN MUST INCLUDE THE FOLLOWING: ROADS AND STREETS MAY BE BLOCKED OFF DURING THE WORKDAY, HOWEVER, THE CONTRACTOR MUST ALLOW LOCAL TRAFFIC TO HOMES, ETC. CONTACT OWNERS ONE WEEK BEFORE SCHEDULED WORK OF CLOSURES AND PROVISIONS FOR ACCESSING THEIR PROPERTY. ALL TRENCHES MUST BE SECURED AT THE END OF THE WORK DAY. KEEP TRENCHES BACKFILLED. OPEN TRENCHES SHALL BE LIMITED TO 100 FEET. STEEL PLATED MAY BE USED FOR CROSSING AS TEMPORARY COVER AS OUTLINED IN ODOT SPECIFICATION 00405,46(e). STAGING OF MATERIAL IN THE RIGHT-OF-WAY IS ALLOWED FOR SHORT PERIODS (LESS THAN ONE WEEK) AND MUST NOT IMPEDE TRAFFIC.

13.) MANHOLES IN GRAVEL ROADS - USE SAME DETAILS (RD356, RD 360) FOR A MANHOLE IN PAVEMENT FOR MANHOLES IN GRAVEL ROADS. SET MANHOLE COVER 1" BELOW GRAVEL ROAD SURFACE. 14.)ALL STRUCTURES (MANHOLES, LIFT STATIONS, AIR RELIEF VALVES) LOCATED IN THE RIGHT-OF-WAY OF U.S. HIGHWAY 97 WILL BE MARKED WITH LOCATOR

POSTS, COLORED GREEN, AS PER OREGON STANDARD DRAWING RD334, SHEET C4.3. 15.) AIR RELIEF VALVES LOCATED IN THE RIGHT-OF-WAY OF U.S. HIGHWAY 97 WILL BE LOCATED AS CLOSE THE RIGHT-OF-WAY LINE AS POSSIBLE AND MARKED WITH LOCATOR POSTS.



AREA MAP

# 06/06/2019 06/12/2019 07/01/2019 RC **CRESCENT SANITARY DISTRICT** 07/11/2019 WASTEWATER COLLECTION SYSTEM LOCATED IN: SECTIONS 30 & 31, TOWNSHIP 24 SOUTH, RANGE 9 EAST, W.M. ENGINEERING YING, INC. SECTION 36, TOWNSHIP 24 SOUTH, RANGE 8 EAST, W.M. KLAMATH COUNTY, STATE OF OREGON OWNER R CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733 **PROJECT ENGINEER** ANDERSON ENGINEERING & SURVEYING, INC. P.O. BOX 28 ~ 17681 HWY 395 ~ LAKEVIEW, OR 97630 BUS (541) 947-4407 ~ FAX (541) 947-2321 DISTRICT www.andersonengineering.com SANITARY 265 PROJECT LOCATION S ISTRICT S NOL D DATE: 11/08/2017 SCALE: AS SHOWN DWG. BY: R.C. FILE: 2017-063 VICINITY MAP JOB NO .: 2017-063 SHEET

TITLE	SHEET
COVER SHEET	C0.0
EROSION CONTROL NOTES	C0.1
PLAN & PROFILE SHEET KEY VIEW	C0.4
SERVICE CONNECTION SHEET KEY VIEW	C0.5
PLAN & PROFILE - SIXTH STREET	C1.0
PLAN & PROFILE - FIFTH STREET	C1.1
PLAN & PROFILE - FOURTH STREET	C1.2
PLAN & PROFILE - FOURTH STREET	C1.3
PLAN & PROFILE - MAIN STREET	C1.4
PLAN & PROFILE - MAIN STREET	C1.5
PLAN & PROFILE - MAIN STREET	C1.6
PLAN & PROFILE - MAIN STREET	C1.7
PLAN & PROFILE - U.S. HIGHWAY 97	C1.8
PLAN & PROFILE - U.S. HIGHWAY 97	C1.9
PLAN & PROFILE - JONES STREET	C1.10
PLAN & PROFILE - HILL STREET	C1.11
PLAN & PROFILE - HILL STREET & WARD STREET	C1.12
PLAN & PROFILE - RAILROAD	C1.13
PLAN & PROFILE - RAILROAD	C1.14
PLAN & PROFILE - RAILROAD & U.S. HIGHWAY 97	C1.15
PLAN & PROFILE - U.S. HIGHWAY 97	C1.16
PLAN & PROFILE - U.S. HIGHWAY 97	C1.17
PLAN & PROFILE - U.S. HIGHWAY 97	C1.18
PLAN & PROFILE - RIDDLE ROAD	C1.19
PLAN & PROFILE - U.S. HIGHWAY 97	C1.20
PLAN & PROFILE - U.S. HIGHWAY 97	C1.21
PLAN & PROFILE - U.S. HIGHWAY 97	C1.22
PLAN & PROFILE - PINNEY ROAD	C1.23
PLAN & PROFILE - KAEHN ROAD	C1.24
PLAN & PROFILE - KAEHN ROAD	C1.25
PLAN & PROFILE - BONNER LANE	C1.26
PLAN & PROFILE - STEVENS STREET	C1.27
PLAN & PROFILE - OZMAR LANE & DIXON STREET	C1.28
PLAN & PROFILE - POTTER STREET	C1.29
PLAN & PROFILE - BIG PINES RV & SANDERS	C1.30
PLAN & PROFILE - SANDERS	C1.31
PLAN & PROFILE - SANDERS	C1.32
PLAN & PROFILE - SANDERS	C1.33
PLAN & PROFILE - U.S. HIGHWAY 97 BORES	C1.34
SERVICE CONNECTIONS	C2.0
SERVICE CONNECTIONS	C2.1
SERVICE CONNECTIONS	C2.2
SERVICE CONNECTIONS	C2.3
SERVICE CONNECTIONS	C2.4
SERVICE CONNECTIONS	C2.5
SERVICE CONNECTIONS	C2.6
SERVICE CONNECTIONS	C2.7
SERVICE CONNECTIONS	C2.8
SERVICE CONNECTIONS	C2.9
SERVICE CONNECTIONS	C2.10
SERVICE CONNECTIONS	C2.11
SERVICE CONNECTIONS	C2.12
SERVICE CONNECTIONS	C2.13
ELEVATION TABLES	C3.0
LIFT STATION DETAILS	C3.1
DETAILS	C3.2
GRINDER PUMP DETAILS	C3.3
ODOT STANDARD DETAILS	C4.0
ODOT STANDARD DETAILS	C4.1
ODOT STANDARD DETAILS	C4.2
ODOT STANDARD DETAILS	C4.3



REVISIONS

### **GENERAL EROSION CONTROL NOTES:**

- PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION.
- IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS.
- PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS, RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED.
- MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE.
- INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE.
- CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME. TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS.
- CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY.
- ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK.
- APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS.
- 10. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS.
- PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES.
- 12. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. 3. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E.,
- CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS.
- 4. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS.
- 5. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES.
- 16. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL.
- 7. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE.
- 18. IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- 9. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED, THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR.
- 20. AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS.
- 21. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND BARE GROUND ACTIVITIES DURING WET WEATHER.
- 22. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL.
- 23. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL.
- 24. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT.
- 25. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME
- 26. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS.
- 7. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE.
- 28, PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE.
- 29. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED. ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS.

### **EROSION CONTROL INSPECTION AND MAINTENANCE:**

- 1. ALL INSPECTIONS (SITE CONDITIONS AND FREQUENCIES) SHALL CONFORM TO THE 'INSPECTION FREQUENCY TABLE' ON THIS SHEET.
- 2. NEWLY SEEDED AREAS SHALL BE INSPECTED FREQUENTLY TO ENSURE THE GRASS IS GROWING. PROVIDE TEMPORARY IRRIGATION AS REQ'D TO GERMINATE & ESTABLISH SEED. SEE SEEDING REQ'MTS FOR ADDITIONAL INFORMATION TYP.
- 3. IF SEEDED AREAS ARE DAMAGED DUE TO RUNOFF, ADDITIONAL BMP'S MAY BE NEEDED, RE-SEED DAMAGED AREAS IMMEDIATELY. SEE SEEDING REQ'MTS FOR ADDITIONAL INFORMATION TYP.
- 4. REFER TO CURRENT OREGON/APWA STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

### CONCRETE MANAGEMENT:

CONCRETE TRUCKS AND TRANSFER CHUTES SHALL BE WASHED-OUT ON-SITE UTILIZING A CONCRETE WASHOUT TO COLLECT ALL WASH WATER AND CONCRETE WASTE. THE WASHOUT AREA WILL BE LOCATED AWAY FROM STORM DRAINS, OPEN DITCHES OR WATER BODIES, SIGNS WILL BE POSTED THROUGHOUT THE JOBSITE, DIRECTING CREWS AND CONCRETE TRUCKS TO CONCRETE WASHOUTS. UPON COMPLETION OF THE CONCRETE WORK, THE CONTRACTOR SHALL BREAK UP, REMOVE, AND HAUL AWAY OR REUSE ON SITE SOLID CONCRETE THAT HAS ACCUMULATED IN THE WASHOUT

#### CONSTRUCTION SPECIFICATIONS: MATERIAL USE

- INSTALL STORM DRAIN PROTECTION AT ANY DOWN-GRADIENT INLETS THAT MAY BE IMPACTED BY THE ACTIVITY. SEE THE BMP ON "STORM DRAIN INLET PROTECTION.
- DO NOT PLACE CONCRETE DURING RAIN (PRECIPITATION THAT IS SUFFICIENT TO CAUSE LOCAL RUNOFF) OR WITHIN 18 HOURS OF FORECASTED RAIN.
- PLACE STOPPERS ON CONCRETE TRUCK CHUTES DURING TRAVEL ONSITE TO MANAGE POTENTIAL DRIBBLING OF CONCRETE MATERIAL.
- MINIMIZE AMOUNT OF CURING COMPOUND AND FORM OIL USED AND DO NOT OVERSPRAY ONTO A NON-TARGET SURFACE. SANDBLASTING: USE SHROUDS WHERE NECESSARY TO CONTAIN
- WASTE FROM SANDBLASTING. CONDUCT WORK IN ACCORDANCE WITH APPLICABLE AIR QUALITY STANDARDS. COLLECTED DEBRIS FOR PROPER DISPOSAL ASAP AND PRIOR TO RAIN EVENTS.
- MINIMIZE THE AMOUNT OF WATER USED DURING CORING/DRILLING OR SAW CUTTING, DURING WET CORING OR SAW CUTTING, USE A SHOVEL OR WET VACUUM TO LIFT THE COOLING WATER I SLURRY FROM THE PAVEMENT, ADDITIONALLY, IF WET VACUUMING IS NOT ADEQUATE TO CAPTURE WASTEWATER FROM THE ACTIVITY, SAND BAG BARRIERS OR OTHER CONTAINMENT SHALL BE USED.
- IF CONCRETE RESIDUE REMAINS AFTER DRYING, THE AREA SHALL BE SWEPT UP AND RESIDUE REMOVED TO AVOID CONTACT WITH STORM WATER OR ENTERING A STORM DRAIN OR WATER BODY VIA THE WIND.
- THE SWEEPINGS SHALL BE COLLECTED AND RETURNED TO THE AGGREGATE STOCKPILE OR DISPOSED IN THE TRASH AND NOT WASHED INTO THE STREET OR STORM DRAIN.
- WASHING OF FRESH CONCRETE SHALL BE AVOIDED, UNLESS RUNOFF CAN BE DRAINED TO A BERM OR LEVEL AREA, AWAY FROM STORM DRAIN INLETS AND CHANNELS.
- ACID WASHING OF CONCRETE SHALL BE MINIMIZED. WHERE REQUIRED, ACID WASH SHALL BE DIRECTED INTO A COLLECTION AREA LINED WITH VISQUEEN. RESIDUALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF AS HAZARDOUS WASTE.
- HANDLING OF WET CONCRETE, SUCH AS MOVING A PUMPER CHUTE OR TRANSPORTING MATERIAL IN A WHEELBARROW FROM THE DELIVERY TRUCK, MUST BE PERFORMED IN A CONTROLLED MANNER TO PREVENT DRIPS AND SPILLS OUTSIDE THE TARGET POUR AREA. MINIMIZE WATER
- CONCRETE DRIPS, SPILLS, OVER POURS, AND EQUIPMENT RINSE WATER LANDING ON RAIN-EXPOSED OUTSIDE OF ANY BMP DEVICE MUST BE COLLECTED AND HAVE THE SURFACE CLEANED AND WASTE DISPOSED OF PROPERLY PRIOR TO THE END OF THE WORKDAY OR BEFORE THE NEXT RAIN EVENT, CONCRETE-LADEN EQUIPMENT IMPLEMENTS (E.G., CRANE BUCKETS) MUST BE STORED ON TOP OF HEAVY MIL PLASTIC UNTIL DRY. USED FORMS THAT ARE NOT IMMEDIATELY PLACED INTO A HAUL TRUCK WHEN REMOVED FROM FOUNDATIONS MUST ALSO BE TEMPORARILY STAGED OVER PLASTIC SHEETING OR AN EQUIVALENT UNTIL RINSED, WIPED, OR DRIED OR UNTIL HAULED OFFSITE

### WASTE MANAGEMENT

 DO NOT DISCHARGE CONCRETE RESIDUE OR PARTICULATE MATTER INTO A STORM DRAIN INLET OR WATERCOURSE. EXCESS CONCRETE SHALL NOT BE DUMPED ON-SITE. THE FOLLOWING OPTIONS SHALL BE USED FOR CONCRETE TRUCK CHUTE AND/OR PUMP AND HOSE WASHOUT:

CONCRETE WASHOUTS: WASHOUT STATIONS CAN BE A PLASTIC LINED TEMPORARY PIT OR BERM OR AREA DESIGNED WITH SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS PLUS ENOUGH CAPACITY FOR RAINWATER THE DESIGNATED AREA SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS, OR WATERCOURSES. NEW WASHOUTS SHALL BE CONSTRUCTED AS NEEDED TO PROVIDE SUFFICIENT. WASHOUT CAPACITY ON-SITE. WASTES OTHER THAN CONCRETE (I.E., TRASH, PAINT WASTES ETC.) SHALL NOT BE DISPOSED OF IN THE WASHOUT.

 WASHOUT IN TRENCH: MANUALLY RINSE THE CONCRETE TRUCK CHUTE INTO THE TRENCH ITSELF.

 BUCKET WASHOUT: MANUALLY RINSE THE CHUTE INTO A WHEELBARROW, PLASTIC BUCKET OR PAIL, AND THEN EMPTY THE BUCKET INTO THE CONCRETE TRUCK BARREL OR ON TOP OF THE PLACED CONCRETE.

#### **INSPECTION AND MAINTENANCE:** RESPONSIBLE PERSONNEL SHALL ENSURE THAT ALL CONCRETE

- TRUCK DRIVERS ARE INSTRUCTED ABOUT PROJECT PRACTICES WHEN THE TRUCKS ARRIVE ON SITE. CLEAN OUT DESIGNATED WASHOUT AREAS AS NEEDED DRAT A MINIMUM WHEN THE WASHOUT IS 75 PERCENT FULL TO MAINTAIN
- SUFFICIENT CAPACITY THROUGHOUT THE PROJECT DURATION. ANY DESIGNATED ONSITE WASHOUT AREAS SHALL BE CLEANED OUT AND ALL DEBRIS REMOVED UPON PROJECT COMPLETION. DISPOSE OF CONCRETE WASTE ACCORDING TO THE BMP ON "SOLID WASTE MANAGEMENT." INSPECT ROUTINELY, WHEN APPLICABLE ACTIVITIES ARE UNDERWAY TO ENSURE THAT CONCRETE WASHOUT DOES NOT OVERFLOW AND THAT FREEBOARD IS ADEQUATE TO CONTAIN CONCRETE AND RAIN.

### **DUST CONTROL NOTES:**

THE GENERAL CONTRACTOR SHALL PROVIDE EXTRA MEASURES FOR DUST CONTROL, DUST CONTROL MEASURES MUST BE IMPLEMENTED TO PREVENT THE SOIL AND ATTACHED POLLUTANTS FROM LEAVING THE SITE. EXTRA MEASURES SHALL BE TAKEN WHERE EXPOSED SOIL IS LIKELY TO BE TRANSPORTED INTO OPEN BODIES OF WATER.

ACCEPTABLE DUST CONTROL MEASURES ARE AS FOLLOWS: WATERING

 VEGETATION SPRAY-ON ADHESIVES

- IF VEGETATION IS THE METHOD TO BE USED: THE GENERAL CONTRACTOR SHALL NOT CLEAR AND GRUB AREA'S NOT DIRECTLY AFFECTED BY THE CURRENT CONSTRUCTION. LEAVE ALL EXISTING VEGETATION IN PLACE AS TO PREVENT EROSION OF THE EXISTING SOIL BY WIND.

IF SPRAY-ON ADHESIVE IS THE METHOD TO BE USED:

T <u>YPE OF EMULSION</u> ANIONIC ASPHALT EMULSION	DILUTION 7:1	NOZZLE TYPE COARSE SPRAY	GAL/ACRE 1,200
LATEX EMULSION	12.5:1	FINE SPRAY	325
RESIN-IN-WATER	4:1	FINE SPRAY	300

### **DEWATERING &** PONDED WATER MANAGEMENT:

DEWATERING AND PONDED WATER MANAGEMENT APPLIES TO AREAS WHERE STORM WATER HAS COLLECTED IN LOW SPOTS, TRENCHES OR OTHER DEPRESSIONS AND NEEDS TO BE REMOVED TO PROCEED WITH CONSTRUCTION ACTIVITIES OR FOR VECTOR CONTROL. ALL DEWATERING DISCHARGE ACTIVITIES MUST BE CONDUCTED IN ACCORDANCE WITH LOCAL AGENCY (I.E., LOCAL SEWERAGE AGENCY OR OTHER APPLICABLE AGENCY) PERMIT REQUIREMENTS

#### CONSTRUCTION SPECIFICATIONS: PONDED STORM WATER SHALL BE SETTLED OR FILTERED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGE. WATER FROM TRENCH OR EXCAVATION DEWATERING SHALL BE

TESTED IF REQUIRED BY APPLICABLE PERMITS AND DISCHARGED IN ACCORDANCE WITH PERMIT PROVISIONS FOR CLEAN PONDED STORM WATER, DEWATERING DISCHARGES (WITHOUT PERMIT REQUIREMENTS), AND AUTHORIZEDNON-STORM WATER DISCHARGES, USE ONE OF THE FOLLOWING METHODS FOR DISCHARGE I DISPOSAL AS ALLOWABLE BY LOCAL REQUIREMENTS I AGENCIES AND APPROVED BY THE PROJECT SUPERINTENDENT. WATER SHALL BE CLEAN AND FREE OF SIGNIFICANT SEDIMENT, SURFACTANTS, OR OTHER POLLUTANTS.

 REDUCE SEDIMENT DISCHARGE BY PUMPING WATER FROM THE TOP OF PONDED AREAS USING A FLOATING OR RAISED HOSE. USE WATER WHERE POSSIBLE FOR CONSTRUCTION ACTIVITIES SUCH AS COMPACTION AND DUST CONTROL AND LANDSCAPE IRRIGATION. IF USED FOR THESE APPLICATIONS, ENSURE THAT THE WATER WILL INFILTRATE AND NOT RUN-OFF FROM THE LAND TO STORM DRAIN SYSTEMS, TO CREEK BEDS (EVEN IF DRY) OR TO RECEIVING WATERS. INFILTRATE TO AN APPROPRIATE LANDSCAPED, VEGETATED OR SOIL AREA. NOTE: INFILTRATION MAY BE PROHIBITED IN ACCORDANCE WITH LOCAL REQUIREMENTS.

 DISCHARGE TO AN ON-SITE TEMPORARY SEDIMENT POND. DISCHARGE TO THE STORM DRAIN SYSTEM. WATER FROM DEWATERING MUST NOT CONTAIN SIGNIFICANT SEDIMENTS OR OTHER POLLUTANTS AND DISCHARGE MUST BE IN ACCORDANCE WITH LOCAL PERMITS. IF A PERMIT IS REQUIRED, PROVIDE TEMPORARY ONSITE STORAGE (BAKER TANKS, ETC.) OF WATER REMOVED FROM TRENCHES, EXCAVATIONS, ETC., UNTIL A PERMIT TO DISCHARGE IS OBTAINED. • IF A PERMIT IS OBTAINED FOR DISCHARGE TO A STORM DRAIN OR SANITARY SEWER SYSTEM, CONDUCT ALL DEWATERING DISCHARGE

### ACTIVITIES IN ACCORDANCE WITH PERMIT REQUIREMENTS. INSPECTION AND MAINTENANCE INSPECT PUMPS, HOSES AND ALL EQUIPMENT BEFORE USE. MONITOR DEWATERING OPERATIONS TO ENSURE IT DOES NOT CAUSE OFFSITE

DISCHARGE OR EROSION. INSPECT ROUTINELY, WHEN APPLICABLE ACTIVITIES ARE UNDER WAY.

### **VEHICLE & EQUIPMENT FUELING, MAINTENANCE, & STORAGE MANAGEMENT:**

VEHICLES AND HEAVY MACHINERY ARE A POTENTIAL SOURCE OF POLLUTANTS SUCH AS PETROLEUM PRODUCTS, ANTIFREEZE, AND EXHAUST AND WASTE OIL CONTAINING HEAVY METALS. POLLUTANTS MAY ENTER STORM WATER RUNOFF BY MEANS OF DIRECT CONTACT WITH MACHINE PORTS AND BY CONTACT WITH SPILLS ON SURFACES AND THE GROUND. THE FOLLOWING CONTROL MEASURES CAN HELP PREVENT CONTACT OF THESE POTENTIAL POLLUTANTS WITH STORM WATER AND GROUND SURFACES.

### CONSTRUCTION SPECIFICATIONS

FUELING - ON SITE VEHICLE AND EQUIPMENT FUELING SHOULD ONLY BE USED WHERE IT IS IMPRACTICAL TO SEND VEHICLES AND EQUIPMENT OFFSITE FOR FUELING. WHEN FUELING MUST OCCUR ON SITE, THE CONTRACTOR SHALL SELECT AND DESIGNATE AN AREA TO BE USED, SUBJECT TO APPROVAL, VEHICLE AND EQUIPMENT FUELING (INCLUDING FUELING OF HANDHELD EQUIPMENT) SHALL BE CONDUCTED IN ACCORDANCE WITH THE FOLLOWING

 AWAY FROM STORM DRAIN INLETS, DRAINAGE FACILITIES, OR WATERCOURSES ON A PAVED SURFACE WHERE PRACTICAL.

WITHIN A BERM OR AREA TO PREVENT RUN-ON, RUNOFF, AND TO CONTAIN SPILLS. STORE PORTABLE FUEL CONTAINERS FOR HAND HELD EQUIPMENT IN A TUB OR EQUIVALENT DEVICE TO AVOID SPILLS AND LEAKS. USE SECONDARY CONTAINMENT TECHNIQUES FOR FUELING OF HANDHELD OR PORTABLE EQUIPMENT, SUCH AS DRAIN PANS OR DROP CLOTHS TO CATCH SPILLS OR LEAKS. ALL FUELING SHALL BE CONDUCTED WITH THE FUELING OPERATOR IN

ATTENDANCE AT ALL TIMES. USE VAPOR RECOVERY NOZZLES TO HELP CONTROL DRIPS AND REDUCE AIR POLLUTION AND NOZZLES EQUIPPED WITH AUTOMATIC SHUTOFF FEATURES TO PREVENT OVERTOPPING FUEL TANK. SIGNAGE THAT FUEL TANKS SHOULD NOT BE 'TOPPED OFF.N. AN ADEQUATE SUPPLY OF SPILL CLEAN UP MATERIALS SHALL BE READILY ACCESSIBLE TO ALL FUELING ACTIVITIES.

MAINTENANCE - MAINTENANCE OF LARGE EQUIPMENT SHALL BE CONDUCTED WITHIN DESIGNATED MAINTENANCE YARDS IN ORDER TO ENABLE CAREFUL MANAGEMENT. DURING MINOR ROUTINE MAINTENANCE, DRIP PANS SHALL BE PLACED UNDER VEHICLES AND EQUIPMENT. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND SHALL RECEIVE PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE.

### ONLY NECESSARY MAINTENANCE REQUIRED FOR THE PROPER FUNCTIONING OF HANDHELD EQUIPMENT AND PORTABLE

GENERATORS/COMPRESSORS IS ALLOWED ONSITE. DROP CLOTHES, TRAYS OR AN EQUIVALENT METHOD SHALL BE USED UNDERNEATH HANDHELD AND PORTABLE EQUIPMENT TO AVOID LEAKING FLUIDS, FUELS, OILS, OR GREASE ONTO THE GROUND. DO NOT OVERSPRAY AEROSOLS TO THE GROUND OR OTHER RAIN-EXPOSED SURFACES. CLEAN UP SPILLS IMMEDIATELY AND DISPOSE OF WASTE PROPERLY.

FUEL AND VEHICLE STORAGE - FUEL STORAGE SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS AND IN ACCORDANCE WITH THE BMP FOR "HAZARDOUS MATERIALS AND WASTE MANAGEMENT." VEHICLES AND EQUIPMENT SHALL BE STORED IN DESIGNATED, BERM OR VEHICLE STORAGE AREAS (SUCH AS DEDICATED STORAGE AREAS OR FUELING AND MAINTENANCE AREAS) WHEN POSSIBLE, OR OFF OF PAVED AREAS TO THE EXTENT PRACTICAL. DURING LONG PERIODS (TYPICALLY MORE THAN ONE MONTH) OF STORAGE AND WHEN OTHERWISE NECESSARY DRIP PANS SHALL BE PLACED UNDER VEHICLES AND EQUIPMENT THAT ARE PRONE TO LEAKAGE. PLASTIC TARPS SHALL BE PLACED OVER EXPOSED EQUIPMENT WHEN NOT IN USE FOR LONG PERIODS (>3 MOS.) TO PREVENT CONTACT WITH STORMWATER. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND SHALL RECEIVE

## PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE.

INSPECTION AND MAINTENANCE: CHECK TO ENSURE ADEQUATE SUPPLY OF SPILL CLEANUP MATERIALS IS AVAILABLE. PERFORM ROUTINE INSPECTIONS OF DESIGNATED MAINTENANCE,

CLEANING, AND FUELING AREAS. REPORT ALL SPILLS IMMEDIATELY TO THE PROJECT SUPERINTENDENT. SERVICE SUMPS REGULARLY.

### **PAVING OPERATIONS MANAGEMENT:**

IN ORDER TO REDUCE THE POTENTIAL FOR THE TRANSPORT OF POLLUTANTS IN STORM WATER RUNOFF FROM PAVING OPERATIONS, PAVING SHALL NOT TAKE PLACE WITHIN 72 HOURS OF A PREDICTED SIGNIFICANT (>0.10") STORM EVENT. IF PAVING DOES OCCUR WITHIN 72 HOURS OF A SIGNIFICANT STORM EVENT, CATCH BASIN FILTERS OR OTHER APPROPRIATE BMPS SHALL BE UTILIZED TO TRAP HYDROCARBONS.

- CONSTRUCTION SPECIFICATIONS: PROTECT STORM DRAIN INLETS NEAR WORK AND DOWN GRADIENT OF WORK AREAS DURING SAW CUTTING, PAVING, OR GRINDING OPERATIONS.
- SAW-CUT SLURRY SHALL BE SHOVELED, VACUUMED AND REMOVED FROM SITE. PAVING MATERIALS AND MACHINERY SHALL BE STORED AWAY FROM
- STORM DRAINS AND WATER BODIES AND SECONDARY CONTAINMENT WILL BE USED TO CATCH DRIPS, LEAKS OR SPILLS WHERE APPLICABLE. IF ONSITE MIXING IS PLANNED THEN AN AREA SHALL BE DESIGNED FOR CONDUCTING THE MIXING. THIS AREA SHALL BE PAVED OR MADE
- IMPERVIOUS (E.G., PLASTIC OR WOOD SHEETING) AND BE LOCATED AWAY FROM STORM DRAIN INLETS OR WATERCOURSES. MINIMIZE OVERSPRAY OF TACKIFYING EMULSIONS OR PLACEMENT OF
- OTHER PAVING MATERIALS BEYOND THE LIMITS OF THE AREA TO BE USE DRY METHODS TO CLEAN EQUIPMENT AND CONDUCT CLEANING IN ACCORDANCE WITH THE BMP ON "VEHICLE AND EQUIPMENT
- CLEANING. MATERIAL USE AND STOCKPILES SHALL BE MANAGED IN ACCORDANCE WITH BMPS ON "MATERIAL USEB AND "STOCKPILE MANAGEMENT." COLLECT AND REMOVE ALL BROKEN ASPHALT AND CONCRETE OR
- EXCESS MATERIALS, RECYCLE WHEN FEASIBLE AND DISPOSE OF MATERIALS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- DO NOT APPLY ASPHALT, CONCRETE PAVING, SEAL COAT, TACK COAT, SLURRY SEAL OR FOG SEAL IF RAIN IS EXPECTED DURING THE APPLICATION OR CURING PERIOD.
- AVOID IF POSSIBLE, TRANSFERRING, LOADING, OR UNLOADING PAVING MATERIALS NEAR STORM DRAIN INLETS OR WATERCOURSES. IF NOT POSSIBLE, USE BMP ON STORM DRAIN INLET PROTECTION.
- INSPECTION AND MAINTENANCE: INSPECT AND MAINTAIN EQUIPMENT AND MACHINERY ROUTINELY TO MINIMIZE LEAKS AND DRIPS INSPECT INLET PROTECTION MEASURES ROUTINELY.

### SPILL PREVENTION

AND CONTROL PROCEDURES:

- CONSTRUCTION SPECIFICATIONS: THE CONTRACTOR SHALL PREPARE A SITE/PROJECT SPECIFIC SPILL RESPONSE PLAN THAT IDENTIFIES THE TYPE AND LOCATION OF PRODUCTS OR WASTES ON THE SITE WITH SPILL POTENTIAL, THE LOCATION OF SPILL CLEANUP MATERIALS, STORM DRAINS OR SENSITIVE AREAS THAT REQUIRE IMMEDIATE RESPONSE, PERSONNEL RESPONSIBLE FOR SPILL RESPONSE AND NOTIFICATIONS, AND SPILL
- CLEANUP PROCEDURES. AVOIDING SPILLS AND LEAKS IS PREFERABLE TO CLEANING THEM UP AFTER THEY OCCUR. HEAVY EQUIPMENT (E.G., BULLDOZERS AND OTHER GRADING EQUIPMENT) AND VEHICLES SHOULD BE INSPECTED DAILY (OR AS OFTEN AS POSSIBLE) FOR LEAKS AND SHOULD BE REPAIRED AS NECESSARY. USE SECONDARY CONTAINMENT AND DRIP PANS FOR VEHICLE FUELING, MAINTENANCE, AND STORAGE (SEE BMP FOR "VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND
- STORAGE." DESPITE PRECAUTIONS, SPILLS MAY STILL OCCUR AT THE SITE. SPILLS (OF LIQUID OR DRY MATERIALS) SHOULD NEVER BE CLEANED UP BY HOSING OFF THE AREA. IN THE EVENT THAT SPILLS OCCUR THEY SHOULD BE CONTROLLED AS FOLLOWS:
- ANY FUEL PRODUCTS, LUBRICATING FLUIDS, GREASE OR OTHER PRODUCTS AND/OR WASTE RELEASED FROM VEHICLES, EQUIPMENT, OR OPERATIONS SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE, FEDERAL AND LOCAL LAWS.
- IF THE SPILL HAS OCCURRED DURING A RAIN EVENT, THE AREA WILL BE COVERED AS QUICKLY AS POSSIBLE. THE SPILL WILL BE CLEANED UP AS SOON AS POSSIBLE DURING OR AFTER CESSATION OF RAIN.
- SPILL CLEANUP MATERIALS WILL BE STORED NEAR POTENTIAL SPILL AREAS (E.G., PAINTING, VEHICLE MAINTENANCE AREAS).
- MINOR SPILLS TYPICALLY INVOLVE SMALL QUANTITIES OF OIL, GASOLINE, PAINT, ETC. THAT CAN BE CONTROLLED BY THE FIRST RESPONDER AT THE DISCOVERY OF THE SPILL.
- 2. CONTAIN THE SPILL IMMEDIATELY.
- 3. RECOVER SPILLED MATERIALS (IF POSSIBLE).
- 4. CLEAN THE CONTAMINATED AREA AND DISPOSE OF CONTAMINATED MATERIALS.

### MEDIUM-SIZED SPILLS: MEDIUM-SIZED SPILLS STILL CAN BE CONTROLLED BY THE FIRST RESPONDER ALONG WITH THE AID OF OTHER PERSONNEL SUCH AS

LABORERS, FOREMEN, ETC. THIS RESPONSE MAY REQUIRE THE CESSATION OF OTHER ACTIVITIES. SPILLS SHOULD BE CLEANED UP IMMEDIATELY, AS FOLLOWS: 1. NOTIFY THE PROJECT FOREMAN IMMEDIATELY. THE

- FOREMAN/SUPERINTENDENT IS RESPONSIBLE FOR ANY NECESSARY NOTIFICATIONS (FIRE DEPARTMENT ETC.).
- 2. CONTAIN THE SPREAD OF THE SPILL (USING SAND BAGS OR OTHER BARRIERS) IMMEDIATELY.
- 3. IF THE SPILL HAS OCCURRED ON A PAVED OR IMPERMEABLE SURFACE, CLEAN IT UP USING DRY METHODS (ABSORBENT MATERIALS, AT LITTER, AND/OR RAGS). CONTAIN THE SPILL BY ENCIRCLING IT WITH ABSORBENT MATERIALS.
- 4. IF THE SPILL HAS OCCURRED ON AN UNPAVED OR PERMEABLE SURFACE, IMMEDIATELY CONTAIN THE SPILL BY CONSTRUCTING AN EARTHEN DIKE. DIG UP AND PROPERLY DISPOSE OF CONTAMINATED
- IF THE SPILL HAS OCCURRED DURING A RAIN EVENT, COVER/CONTAIN THE AREA IF POSSIBLE.

SIGNIFICANT/HAZARDOUS SPILLS: FOR LARGE SPILLS OR SPILLS INVOLVING HAZARDOUS MATERIALS THAT CANNOT BE CONTROLLED BY PROJECT PERSONNEL, THE FOLLOWING STEPS SHOULD BE TAKEN: THE FOREMAN SHOULD NOTIFY THE PROJECT SUPERINTENDENT

- IMMEDIATELY AND FOLLOW UP WITH A WRITTEN INCIDENT REPORT. 2. THE PROJECT SUPERINTENDENT WILL NOTIFY LOCAL EMERGENCY RESPONSE PERSONNEL BY DIALING 911. IN ADDITION. THE PROJECT SUPERINTENDENT WILL NOTIFY THE APPROPRIATE COUNTY OFFICIALS.
- IT IS THE PROJECT SUPERINTENDENT'S RESPONSIBILITY TO HAVE ALL OF THE EMERGENCY PHONE NUMBERS AT THE CONSTRUCTION SITE. 3. THE PROJECT SUPERINTENDENT WILL ALSO NOTIFY THE OREGON DEQ.
- 4. FOR SPILLS OF FEDERAL REPORTABLE QUANTITY (AS ESTABLISHED UNDER40 CFR PARTS 110, 117, OR302), THE PROJECT SUPERINTENDENT WILL NOTIFY THE NATIONAL RESPONSE CENTER BY TELEPHONE AT (800) 424-8802 WITHIN 24 HOURS. WITHIN 14 DAYS, THE PROJECT SUPERINTENDENT WILL SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO EPA REGION 10, INCLUDING THE DATE AND CIRCUMSTANCES OF THE INCIDENT AND STEPS TAKEN TO PREVENT ANOTHER RELEASE.
- RETAIN THE SERVICES OF A SPILL CLEANUP CONTRACTOR OR HAZMAT TEAM IMMEDIATELY. CONSTRUCTION PERSONNEL SHOULD NOT ATTEMPT TO CLEAN UP THE SPILL UNTIL THE APPROPRIATE AND QUALIFIED STAFF HAS ARRIVED AT THE SITE.
- 6. OTHER AGENCIES THAT MAY NEED TO BE CONTACTED INCLUDE THE LOCAL FIRE DEPARTMENT, OREGON DEPARTMENT OF TRANSPORTATION, ETC.
- **INSPECTION AND MAINTENANCE:** INSPECT WORK AND MATERIAL STORAGE AREAS ROUTINELY FOR ADEQUATE CONTAINMENT TO AVOID UNCONTROLLED RELEASES.

### STOCKPILE MANAGEMENT

STOCKPILE MANAGEMENT PROCEDURES AND TO REDUCE OR ELIMINATE AIR AND STORM W STOCKPILES OF SOIL, SAND, AND PAVING MAT CEMENT CONCRETE (PCC) RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGR PRE-MIXED AGGREGATE, ASPHALT BINDER (S ASPHALT) AND PRESSURE TREATED WOOD.

#### ALL STOCKPILES: IF FEASIBLE, LOCATE STOCKPILES A MININ INLETS DRAINAGE COURSES OR WATER

- KEEP STOCKPILES ORGANIZED AND SURF PROTECT STORM DRAIN INLETS, DRAINAG WATERS FROM STOCKPILES, USING DRA
- PERIMETER SEDIMENT CONTROLS AS AP IMPLEMENT DUST CONTROL PRACTICES /
- WIND FROSION OF STOCKPILED MATERIA TEMPORARY STOCKPILES NOT REMOVED WORKDAY MUST BE MANAGED IN ACCOR ALL CASES PROTECTED PRIOR TO RAINF.

#### STOCKPILES OF SOIL. PORTLAND CEMENT. RUBBLE.ASPHALT CONCRETE. ASPHALT COI BASE. OR AGGREGATE SUB-BASE: PROTECT STOCKPILES WITH A PERIMETE

- AS BERMS, SEDIMENT FENCES, FIBER RO STRAW BALE BARRIERS YEAR ROUND. STOCKPILES SHOULD ADDITIONALLY BE NECESSARY DURING SIGNIFICANT FOREC INCHES), PROLONGED PERIODS OF RAIN,
- EROSION. SOIL STOCKPILES MAY BE RETURNED TO FORECAST.
- TOPSOIL STOCKPILES SHOULD BE LOWN AND FLAT AND BE USED WITHIN 6 MONTH ORGANISMS AND MICROBES. STOCKPILE SHOULD BE RESEEDED WITH A SPECIES DEPENDENT TO AVOID THE DEVELOPME IN THE STOCKPILE. IN ADDITION, TOPSOIL PERIODICALLY TO KEEP ORGANISMS ALL AND DURING EXTREMELY HOT WEATHER

#### STOCKPILES OF "COLD MIX" OR OTHER POL RANSPORTED IN STORM WATER CCEMENT, MENDMENTS STOCKPILES SHALL BE PLACED ON PLAS

- MATERIAL AT ALL TIMES. STOCKPILES SHALL BE COVERED WITH P MATERIAL PRIOR TO THE ONSET OF SIGN
- BAGGED MATERIALS: BAGGED MATERIALS SHALL BE PLACED C UNDER COVER (PLASTIC SHEETING, INDO ONSET OF SIGNIFICANT RAIN (>0.10 INCH
- STOCKPILES/STORAGE OF PRESSURE TR CHROMIUM, AND ARSENIC OR AMMONIAC ARSENATE
- "STOCKPILES OF TREATED WOOD SHALL OR COMPARABLE MATERIAL PRIOR TO TH (>0.25 INCHES).

### INSPECTION AND MAINTENANCE: INSPECT STOCKPILES REGULA.RL Y AND COVERS, AND PERIMETER CONTROLS AS

### FINAL EROSION

### CONTROL SITE PREPARATIO ALL DISTURBED SOIL AREAS, INCLUDING R.C.

SEEDED PER THE FOLLOWING NOTES. SEED OF A NATIVE GRASS BLEND MATCHING SUR MIXTURE TO BE SUBMITTED FOR REVIEW PRI

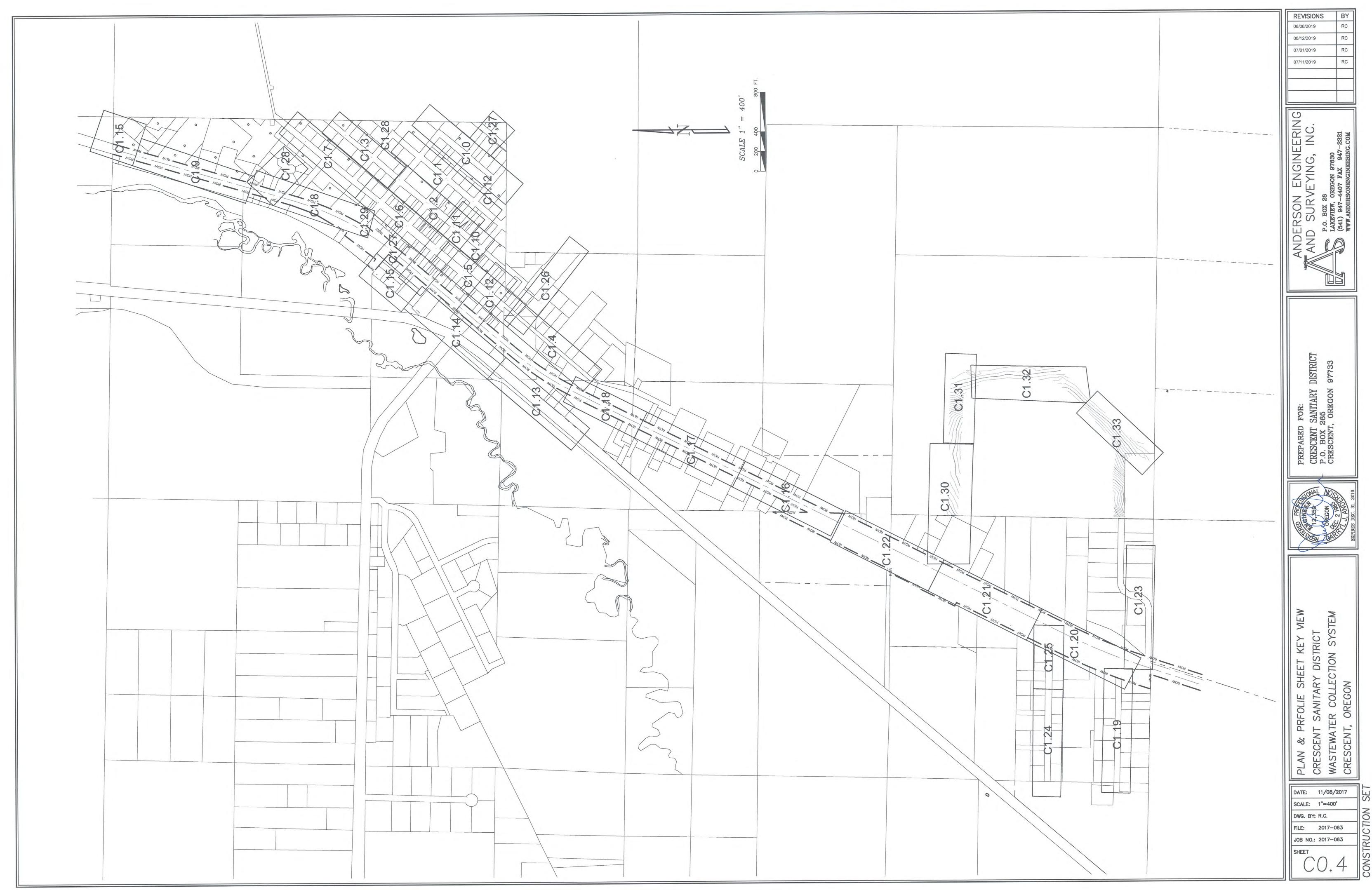
- 1. ALL FINAL GRADE PREPARATION AND PL COORDINATED WITH THE PROJECT LAND TIME OF CONSTRUCTION.
- 2 BRING ALL PLANTERBED/SEEDBED AREA ALL ROCKS AND DEBRIS, AND SMOOTH S LARGER THAN 2 INCHES.
- 3. DIVERT CONCENTRATED FLOWS AWAY FI AREAS.
- 4. FOR OPTIMUM PLANTING/SEEDING COND AND STOCKPILE MATERIAL UNTIL FINAL SPREAD TOP SOIL OVER NEW GRADES. FOR ADDITIONAL INFORMATION RELATED
- 5. ROUGHEN THE SOIL BY HARROWING, TRA FURROWING.
- 6. THE SEEDBED SHOULD BE FIRM BUT NOT INCHES OF SOIL SHOULD BE LOOSE, MO AND STONES. VERIFY TOPSOIL REQ'MTS CONSTRUCTION.
- 7. HARROWING, TRACKING OR FURROWING HORIZONTALLY ACROSS THE FACE OF T ALONG THE SLOPE CONTOUR.
- 8. APPLY SEED AT THE RATES SPECIFIED B CALIBRATED SEED SPREADERS, CYCLO DRILLS, OR HYDROSEEDER SO THAT SEE THE SITE. SEE SEEDING REQ'MTS FOR A
- 9. BROADCAST SEED SHOULD BE INCORPO RAKING OR CHAIN DRAGGING AND THEN PROVIDE GOOD SEED-SOIL CONTACT, SE ADDITIONAL INFORMATION TYP.
- 10. TO PREVENT SEED FROM BEING WASHE INSTALLATION OF ALL REQUIRED SURFAC MEASURES.
- 11. DOUBLE THE RATE OF SEED APPLICATION SINGLE APPLICATION. SEE SEEDING REQ INFORMATION TYP.

#### SPECIAL EROSION CONTROL CONTRACTOR SHALL IMPLEMENT AN EROSI TO CONTAIN ALL SEDIMENT ON-SITE AND RE ENTERS THE RIGHT-OF-WAY DURING THE CO SPECIAL ATTENTION SHALL BE TAKEN AT AL BASINS AND STORM DRAIN CHANNELS AS TO TRANSFER INTO THE EXISTING STORM DRAIL ROCK SURFACE SHALL BE PROVIDED AT ALL ENTRANCES. ALL CONSTRUCTION SHALL BE DEVELOPMENT LIMITS OF THIS PHASE.

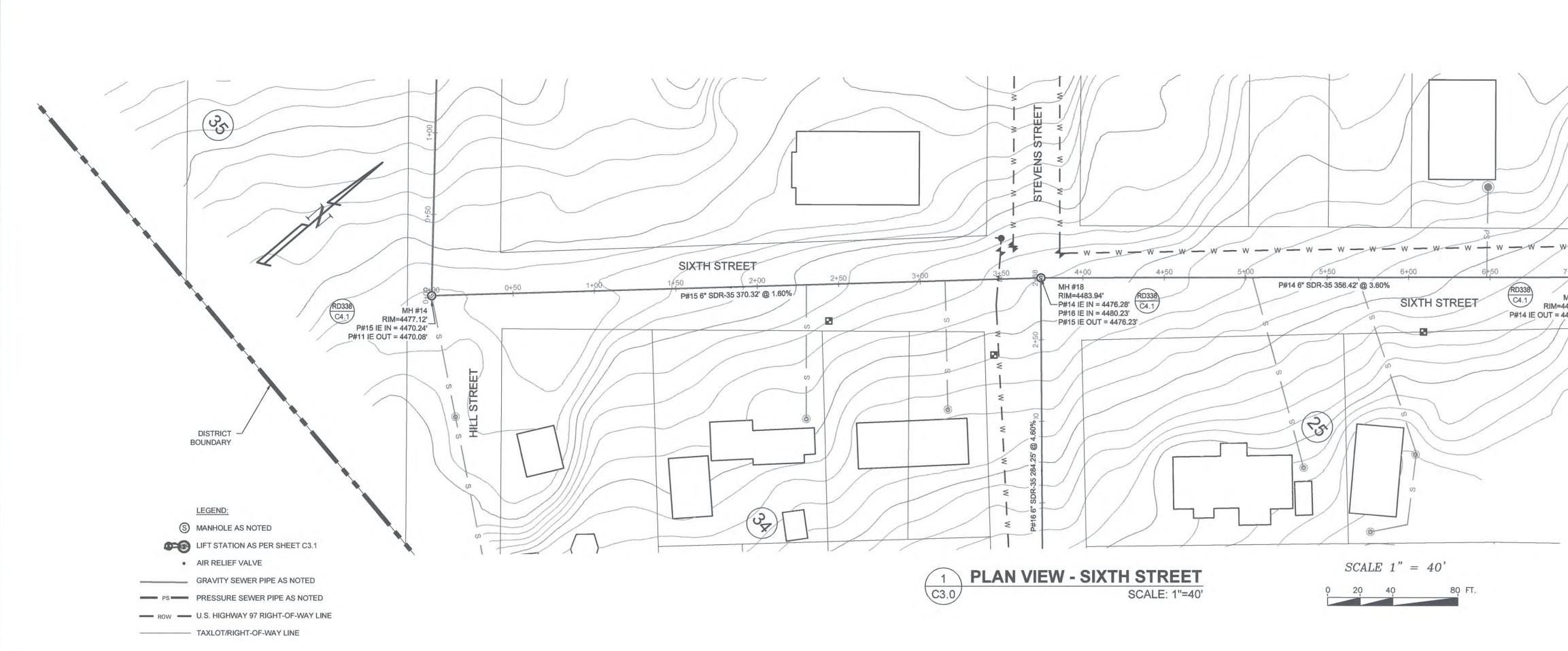
CONTRACTOR SHALL SUBMIT EROSION CONT ENGINEER FOR APPROVAL IN THE EVENT CO ALTERATION FROM THIS PLAN, ANY PLAN RE THE DESIGN ENGINEER. ALL EROSION CONT DESIGNED, INSTALLED AND MAINTAINED DUP CONSTRUCTION PER ODOT/APWA STANDARI

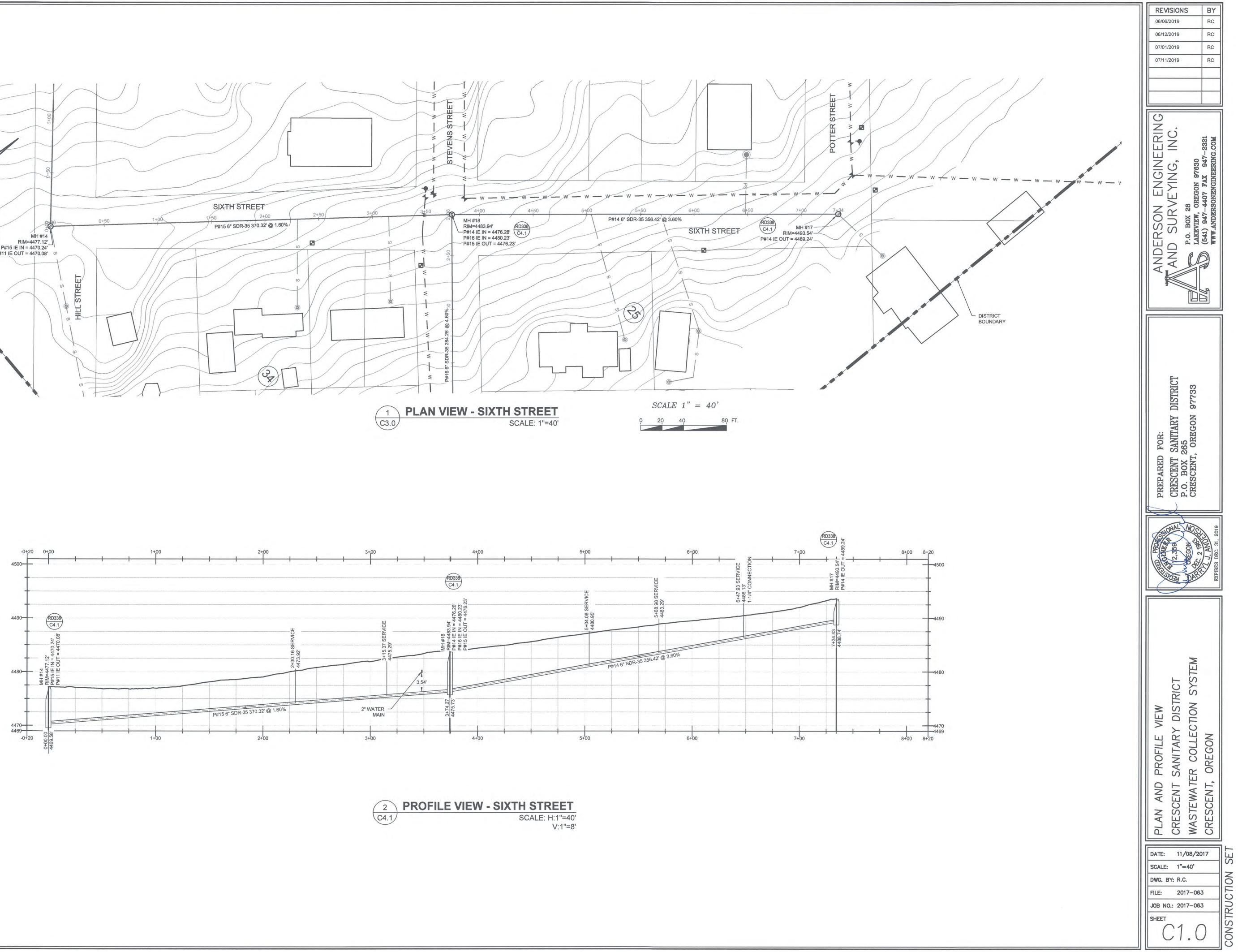
IN ADDITION TO THE NOTES REFERENCED O MATERIALS SHALL CONFORM TO 2015 OREG DEPARTMENT OF ENVIRONMENTAL QUALITY

ND PRACTICES ARE DESIGNED	REVISIONS         BY           06/06/2019         RC           06/12/2019         RC
WATER POLLUTION FROM IATERIALS SUCH AS PORTLAND LT CONCRETE (AC), ASPHALT GREGATE SUB-BASE OR (SO CALLED "COLD MIX"	07/01/2019 RC 07/11/2019 RC
NIMUM OF 50 FEET AWAY FROM ER BODIES. IRROUNDING AREAS CLEAN. IAGE COURSES, AND RECEIVING AIN INLET PROTECTION AND APPROPRIATE. S AS APPROPRIATE TO PREVENT RIAL. ED OR USED BY THE END OF ONE	NC. NC.
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ROLLS, SAND/GRAVEL BAGS, OR E COVERED OR STABILIZED AS	VEYIN VEYIN oregon 97 4407 fax esonengine
ECASTED STORM EVENTS(> 0.25 IN, AND TO PROTECT FROM WIND	ON URV URV 947-44 947-44
TO THE EXCAVATION IF RAIN IS /N HEIGHT (IDEALLY <1 METER} THS TO PROMOTE HEALTHY SOIL LES NOT USED WITHIN 6 MONTHS S THAT IS MYCORRHIZAL IENT OF ANAEROBIC CONDITIONS DIL STOCKPILES CAN BE TURNED	NDERSON AND SURV P.O. BOX 28 LAKEVIEW, 0 (541) 947-4 WWW.ANDERS
LIVE FOR LARGER STOCKPILES ER.	A A A A
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D ON PALLETS AT ALL TIMES AND DOORS, ETC.) PRIOR TO THE CHES). TREATED WOOD WITH COPPER,	
ACAL COPPER, ZINC, AND LL BE COVERED WITH PLASTIC THE ONSET OF SIGNIFICANT RAIN	
	DISTRICT 97733
ID REPAIR AND/OR REPLACE AS NEEDED.	
ON:	FOR: SANITARY 265 OREGON
R.O.W., SHALL BE TREATED AND ED COMPOSITION SHALL CONSIST RROUNDING AREA. GRASS SEED PRIOR TO APPLICATION.	ARED F SENT S SOX 26 CENT,
PLANTING/SEEDING SHALL BE NDSCAPER AND ENGINEER AT	PREP/ CRESC P.O. 1 CRESC
EAS TO FINAL GRADE, REMOVE I SURFACE UNDULATIONS	
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DL NOTE: SION CONTROL PLAN AS REQUIRED REMOVE ANY SEDIMENT THAT COURSE OF CONSTRUCTION. ALL EXISTING STORM DRAIN CATCH TO ELIMINATE ANY SEDIMENT AIN SYSTEM. AN ALL WEATHER LL CONSTRUCTION SITE	N CON ENT SA WATER ENT, OF
BE MAINTAINED WITHIN THE DNTROL PLAN REVISIONS TO THE CONSTRUCTION PHASING REQUIRES REVISIONS SHALL BE APPROVED BY NTROL SYSTEMS SHALL BE	EROSION CRESCEN WASTEW CRESCEN
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ON THIS PLAN SET, ALL WORK AND GON/APWA AND OREGON TY STANDARD SPECIFICATIONS.	DWG. BY: R.C.
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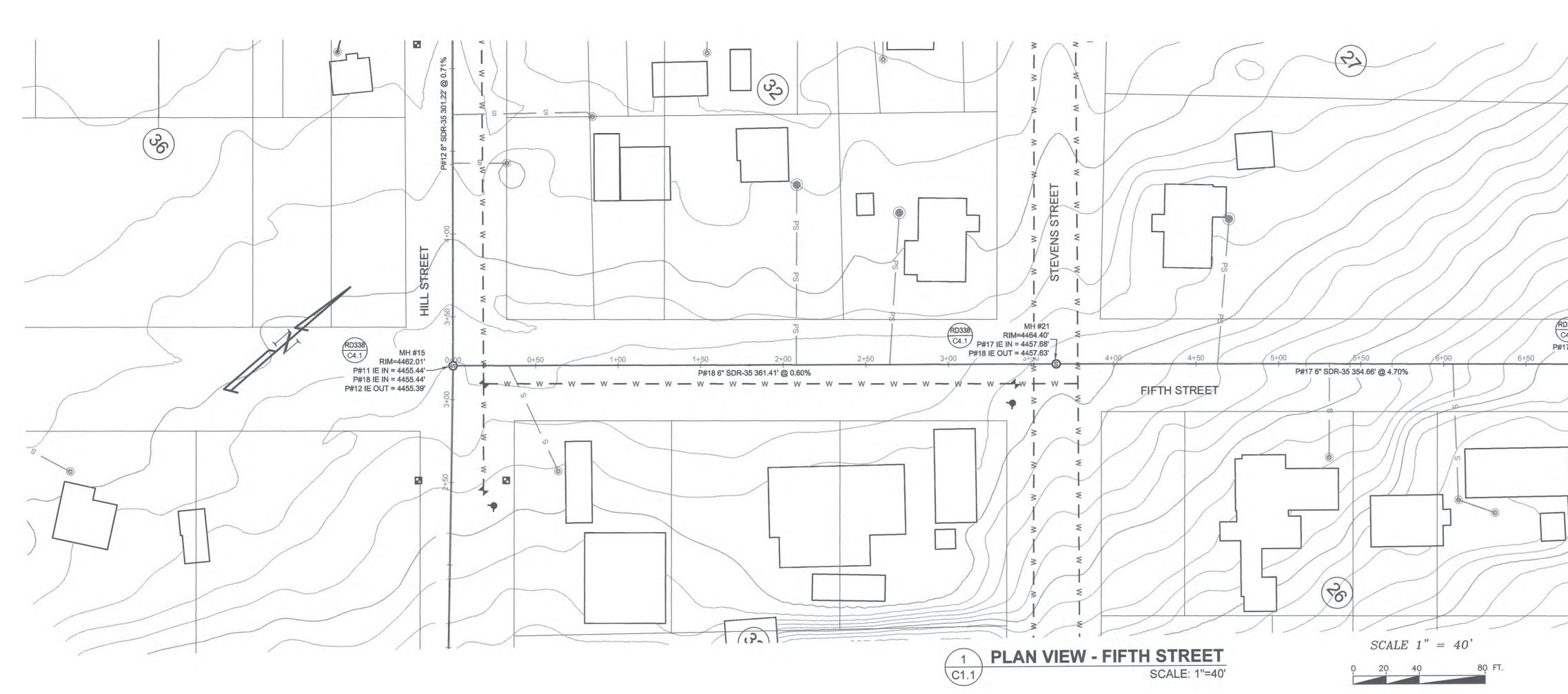


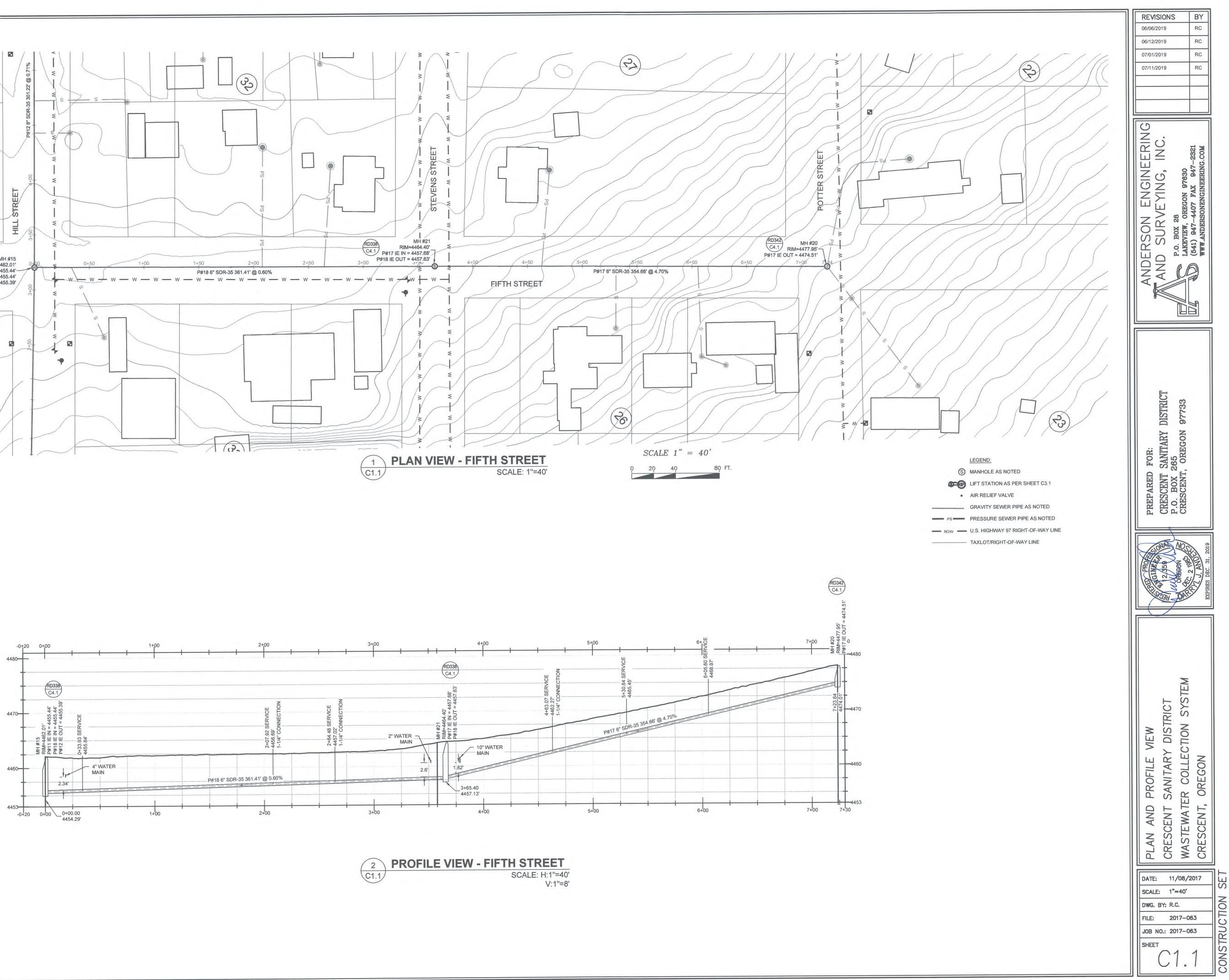


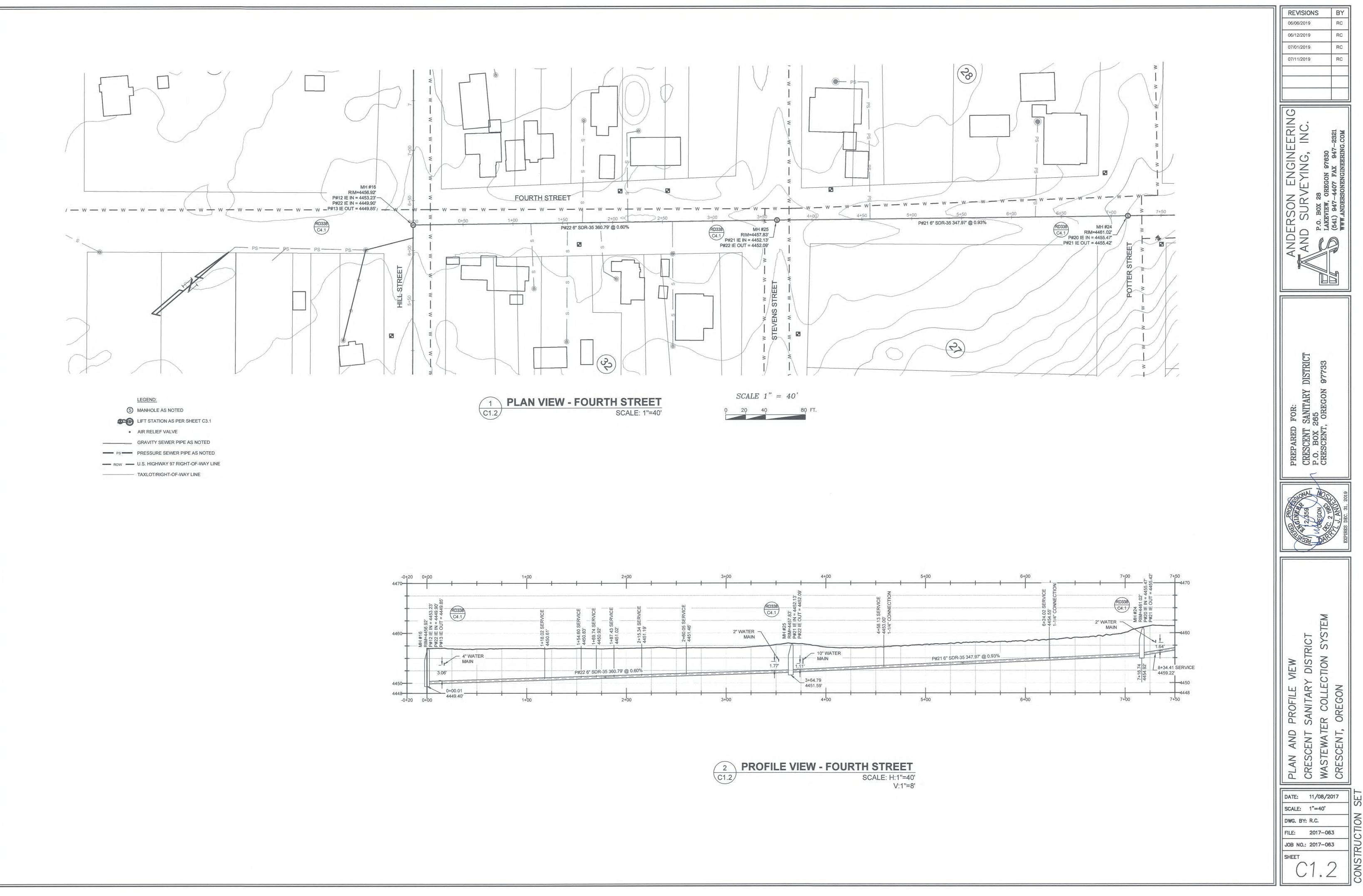


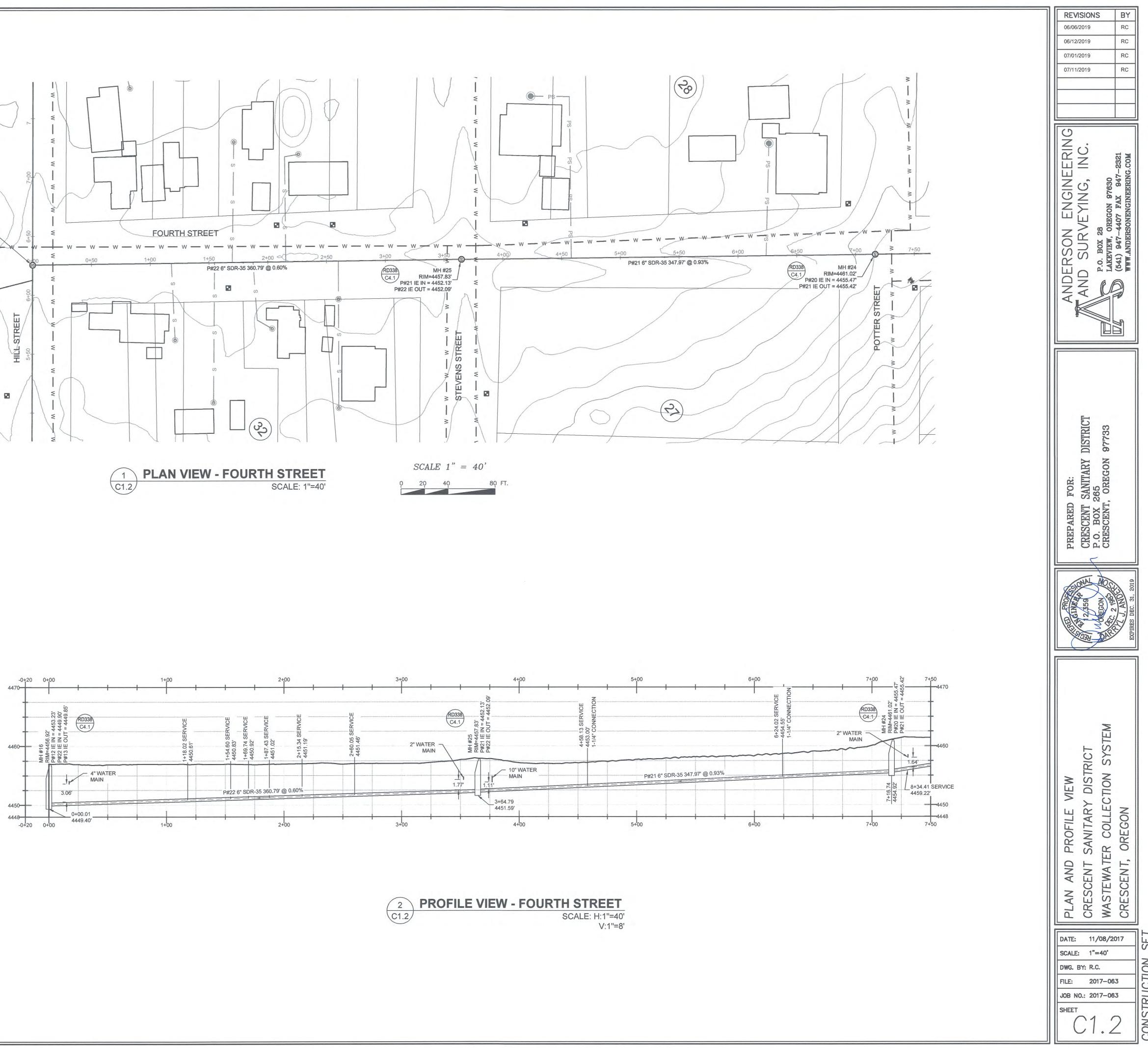


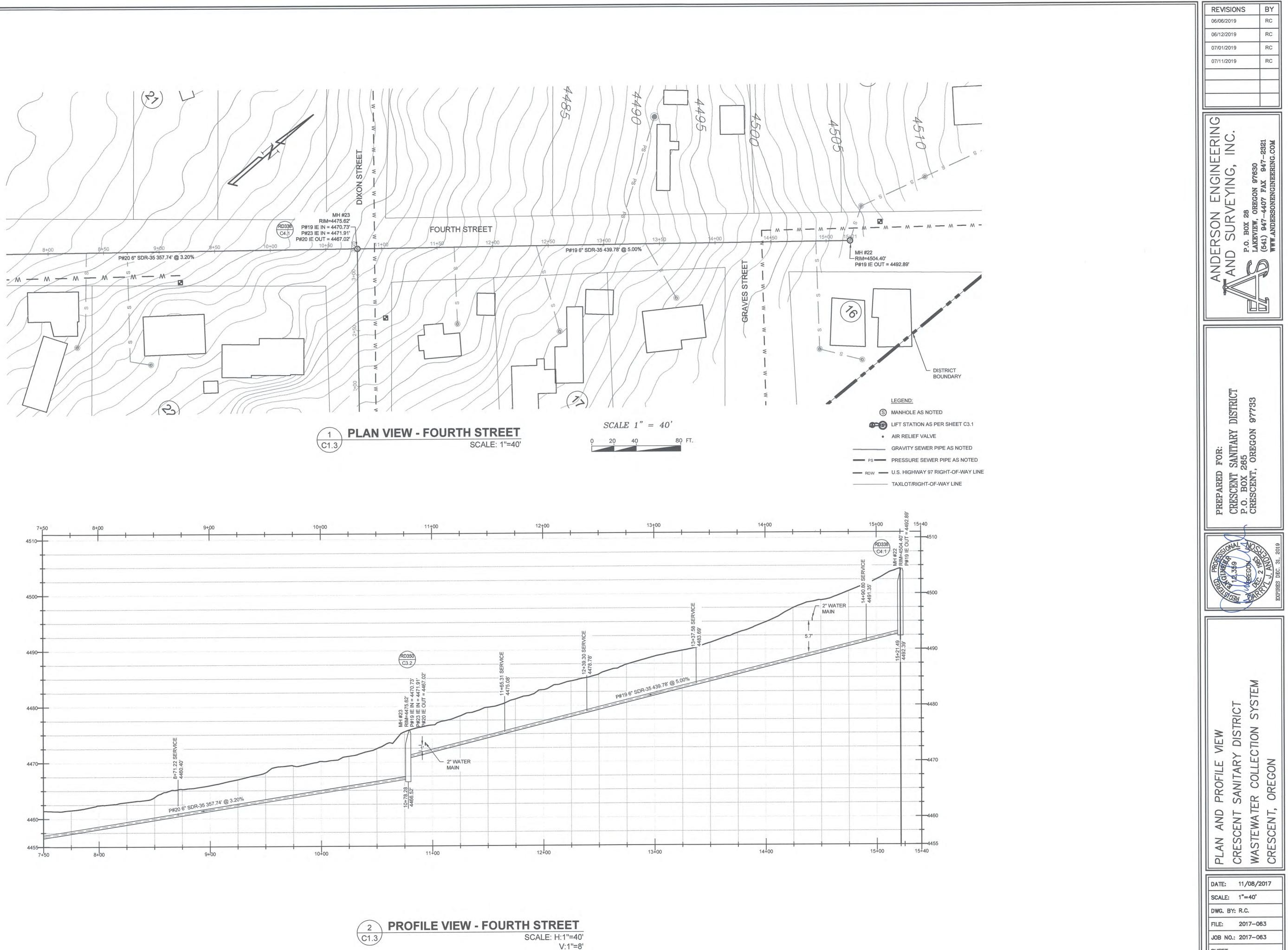


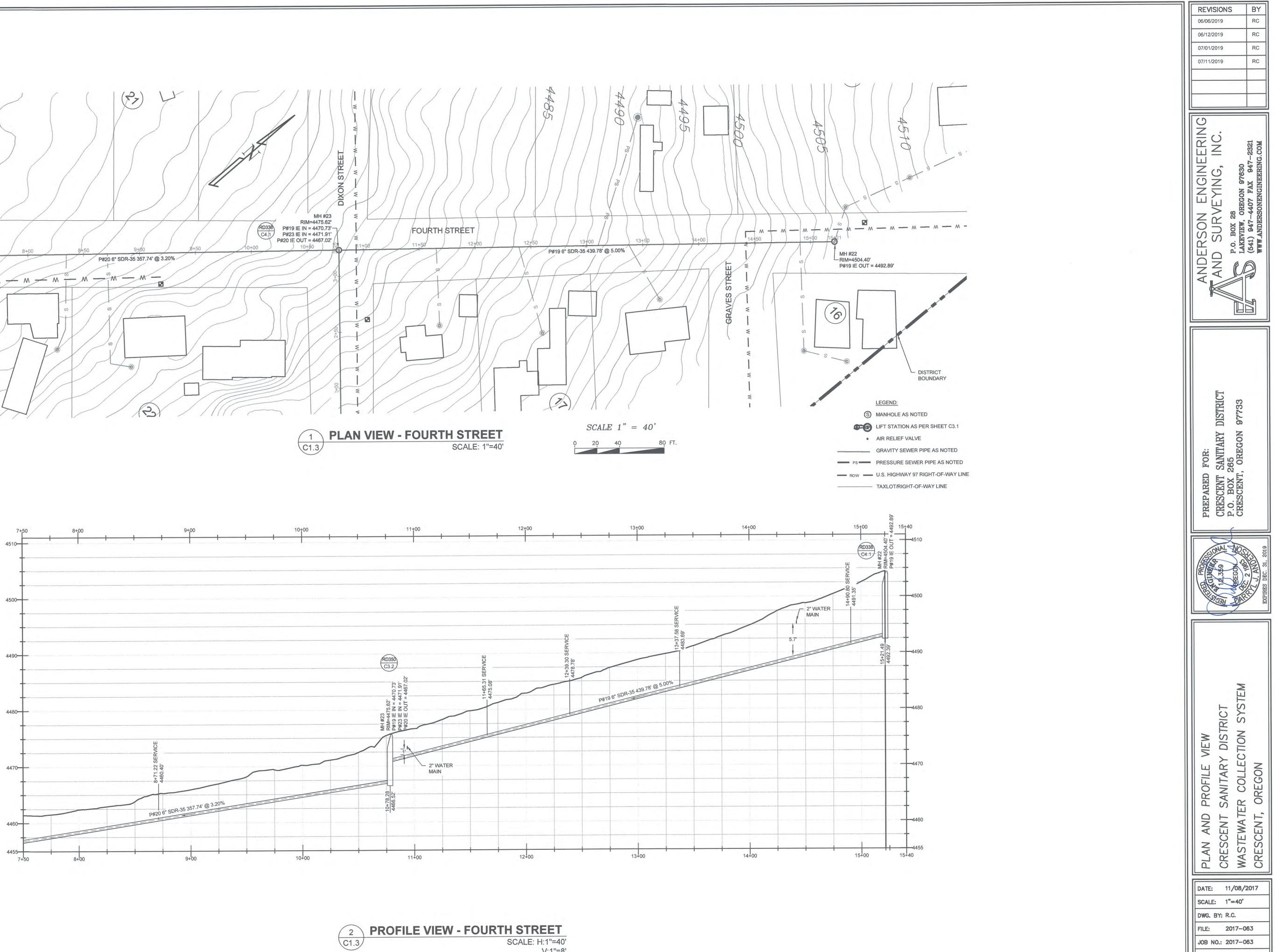












SCALE: H:1"=40' V:1"=8'

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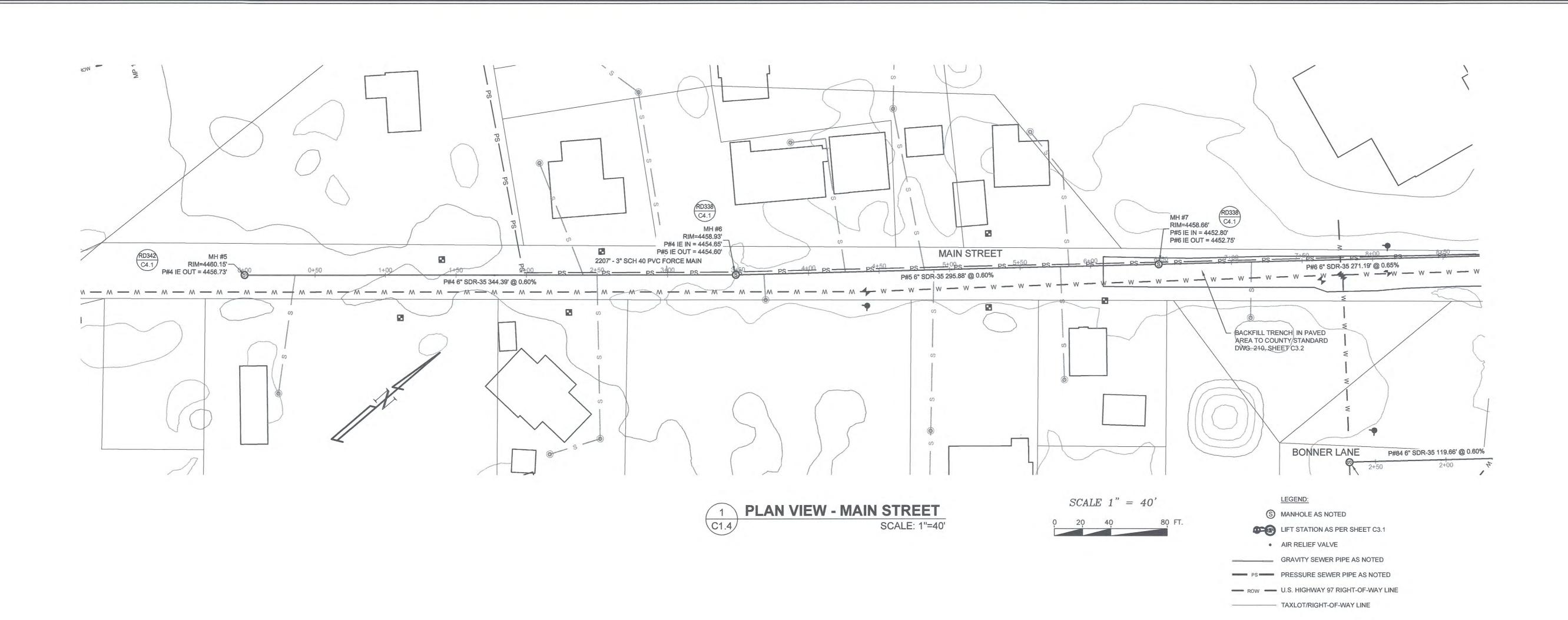
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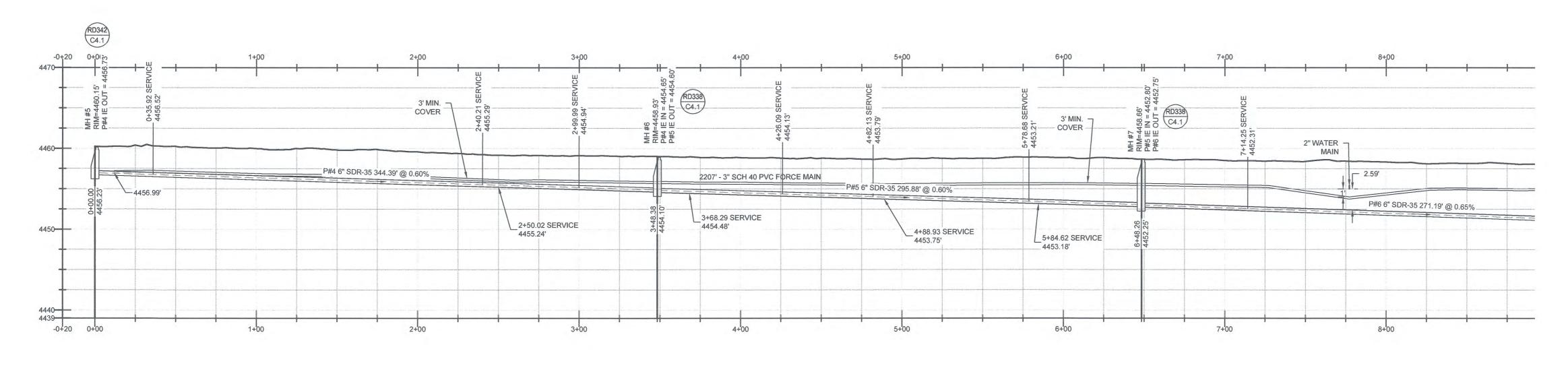
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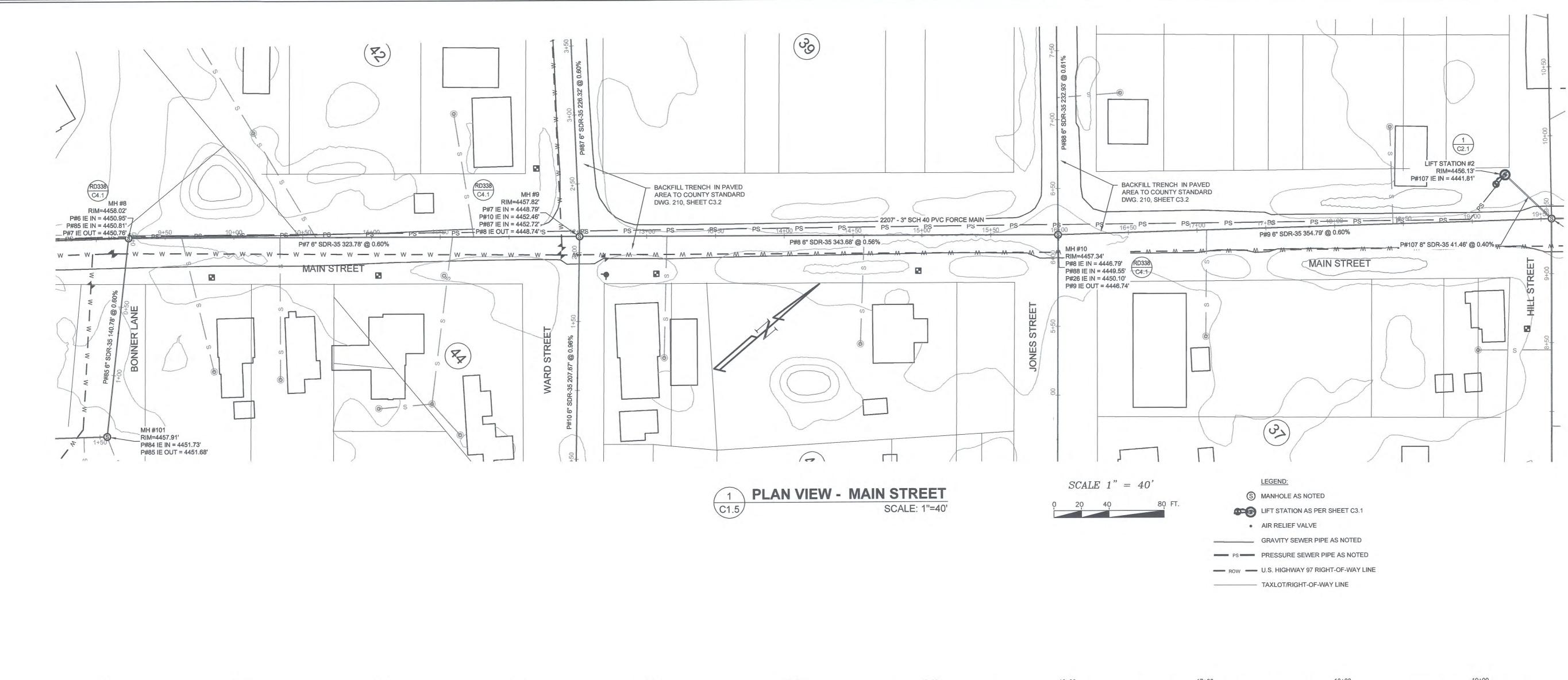
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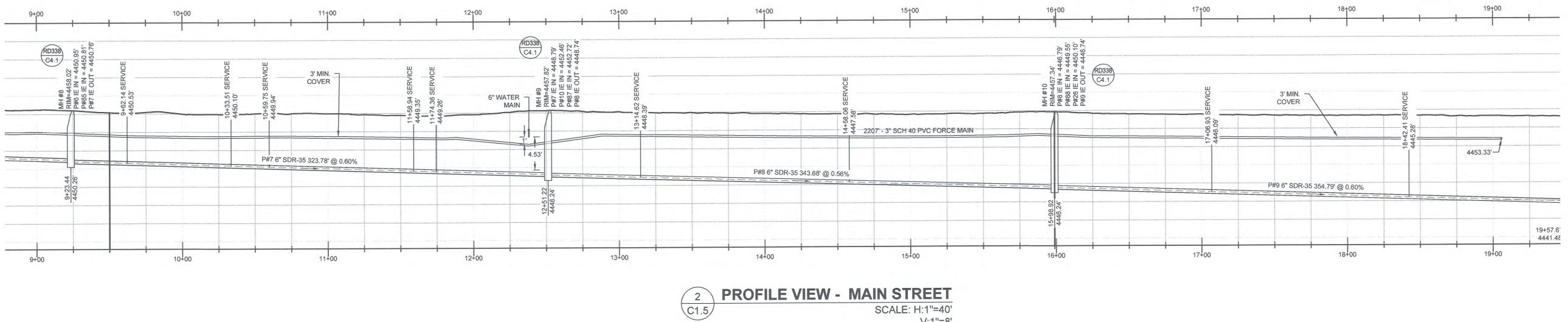




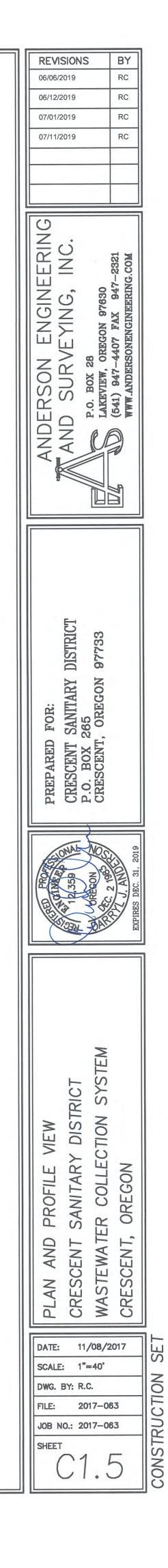


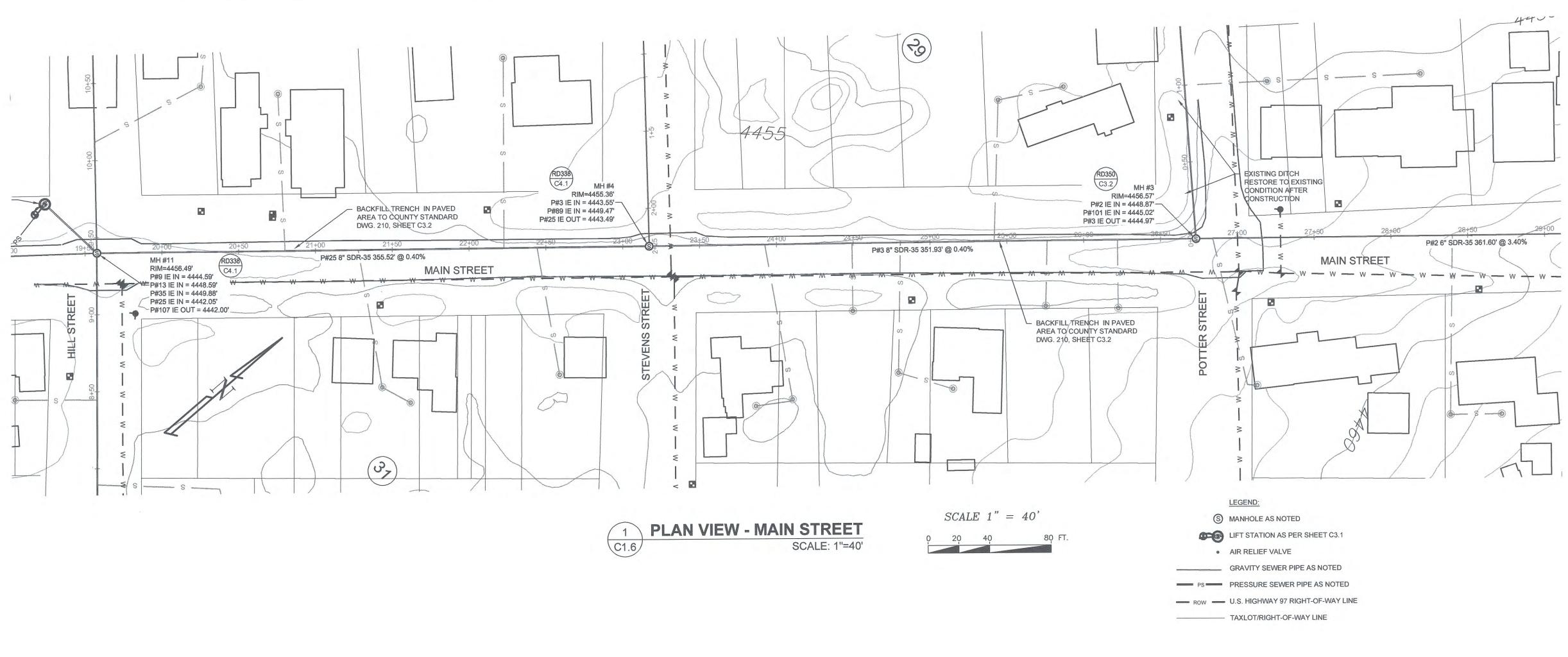
DATE: 11/08/20 SCALE: 1°=40' DWG. BY: R.C. FILE: 2017-06: JOB NO.: 2017-06: SHEET C 1 . Z	PLAN AND PROFILE VIEW CRESCENT SANITARY DISTRICT WASTEWATER COLLECTION SYSTEM	ES 12.359 FROM	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	INEERING G, INC.	REVISIONS           06/06/2019           06/12/2019           07/01/2019           07/11/2019
3	CRESCENT, OREGON	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	BY RC RC RC RC
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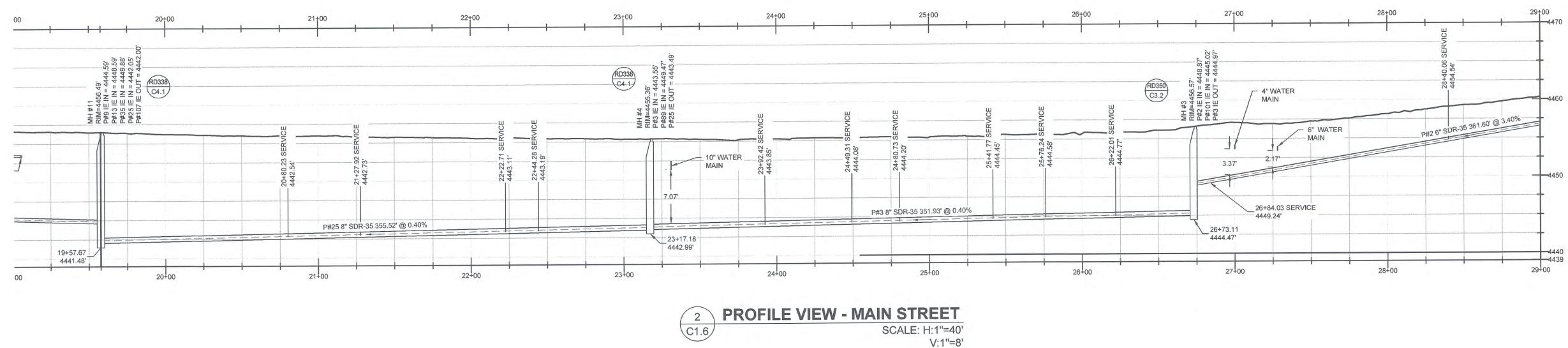




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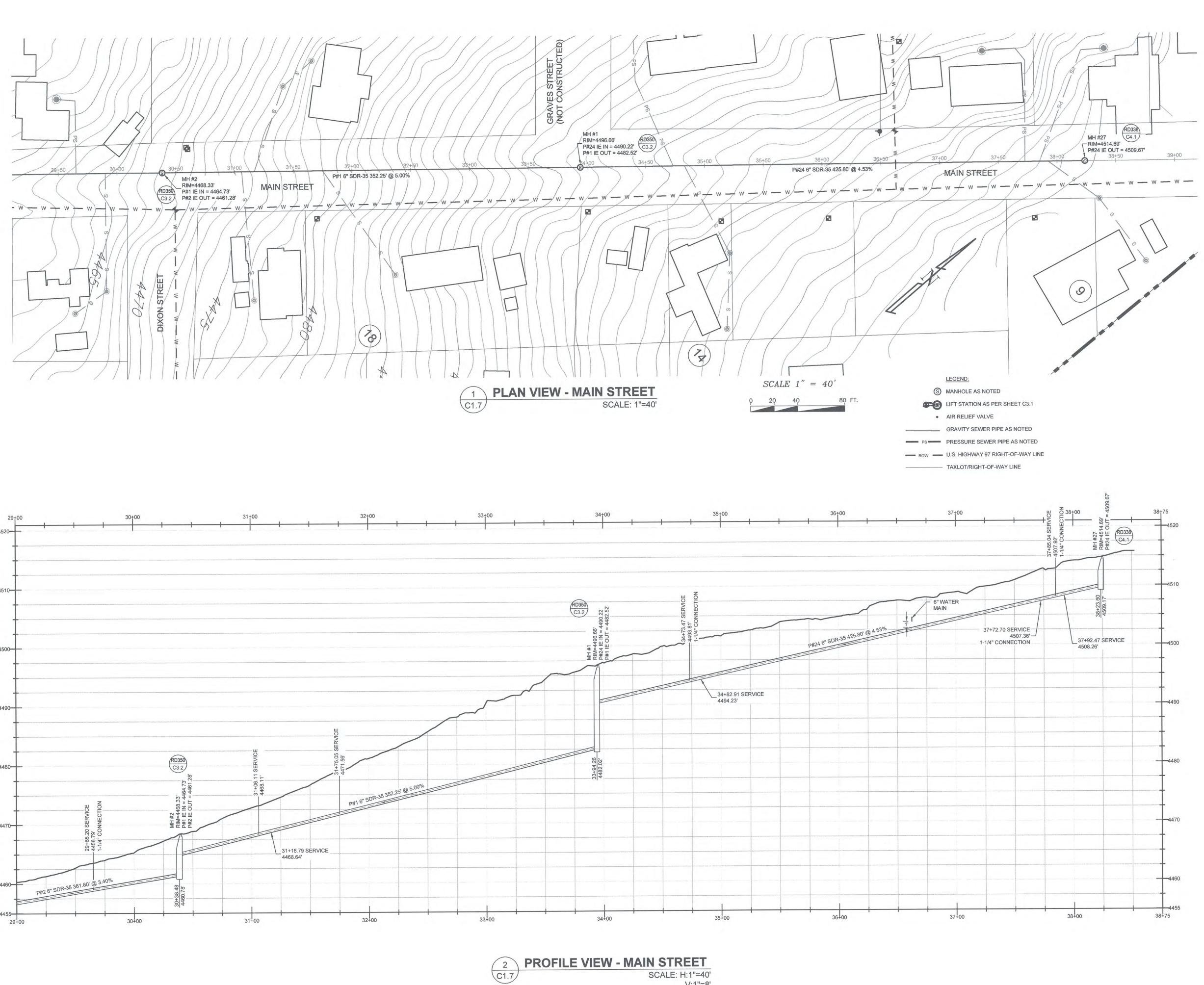


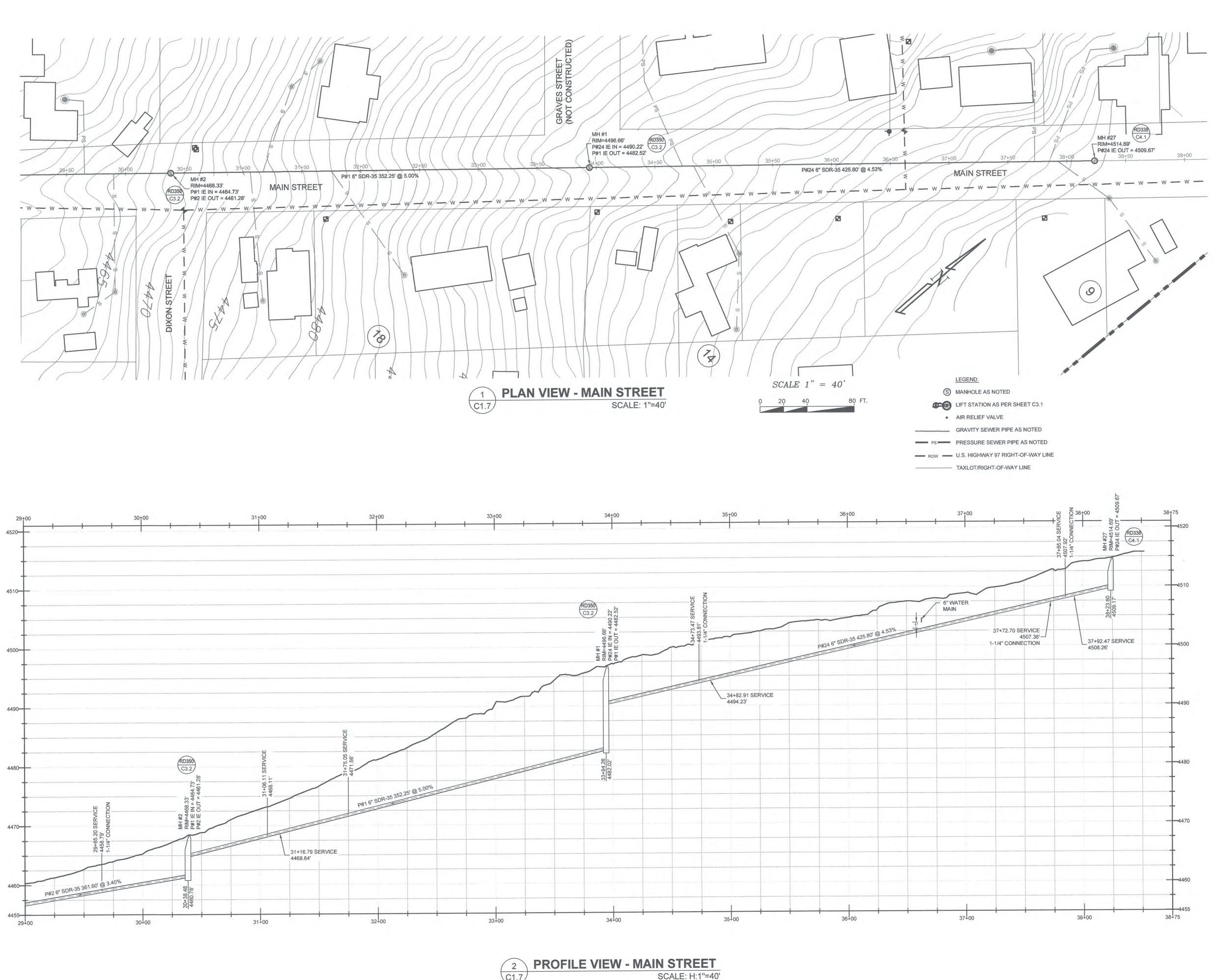




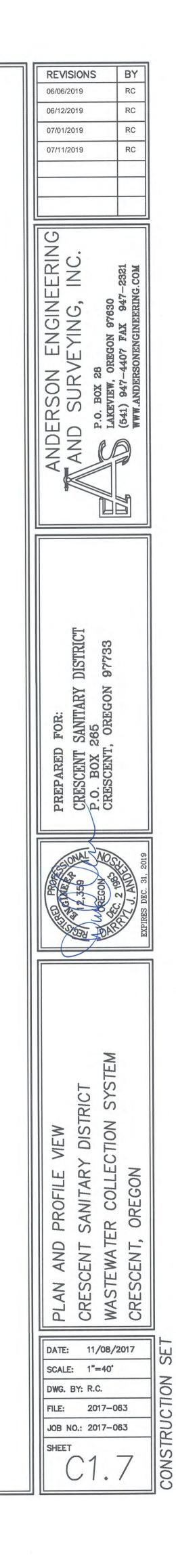


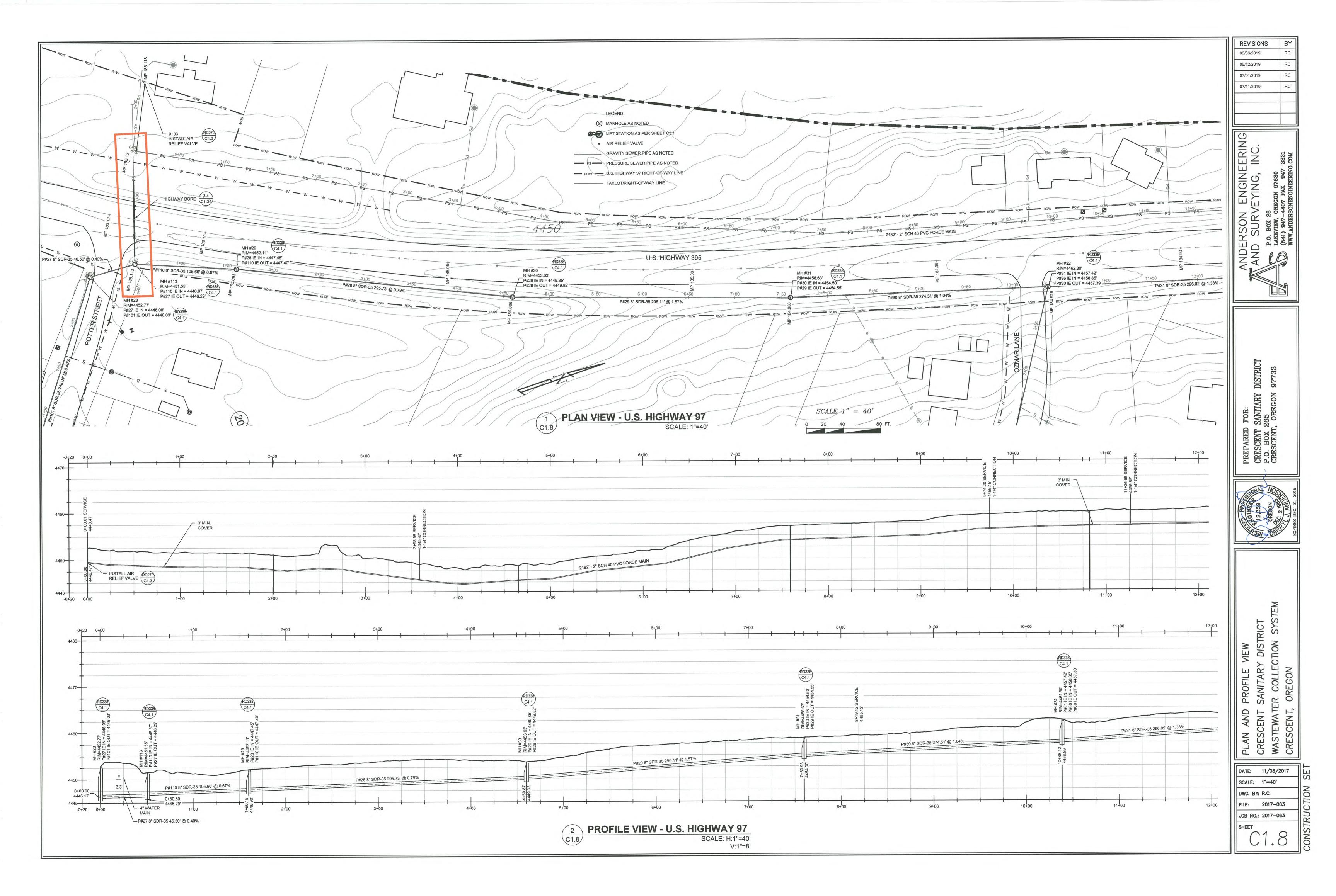
AND PROFILE VIEW ENT SANITARY DISTRICT WATER COLLECTION SYSTEM ENT, OREGON ENT, OREGON							F
CRESCENT, OREGON	SCALE: 1"=40" DWG. BY: R.C. FILE: 2017-0 JOB NO.: 2017-0	U О Ш	PROPERTING PROPERTING	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	NDE	REVISIONS           06/06/2019           06/12/2019           07/01/2019           07/11/2019	
	063	CRESCENT, OREGON	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	BY RC RC RC RC	,)

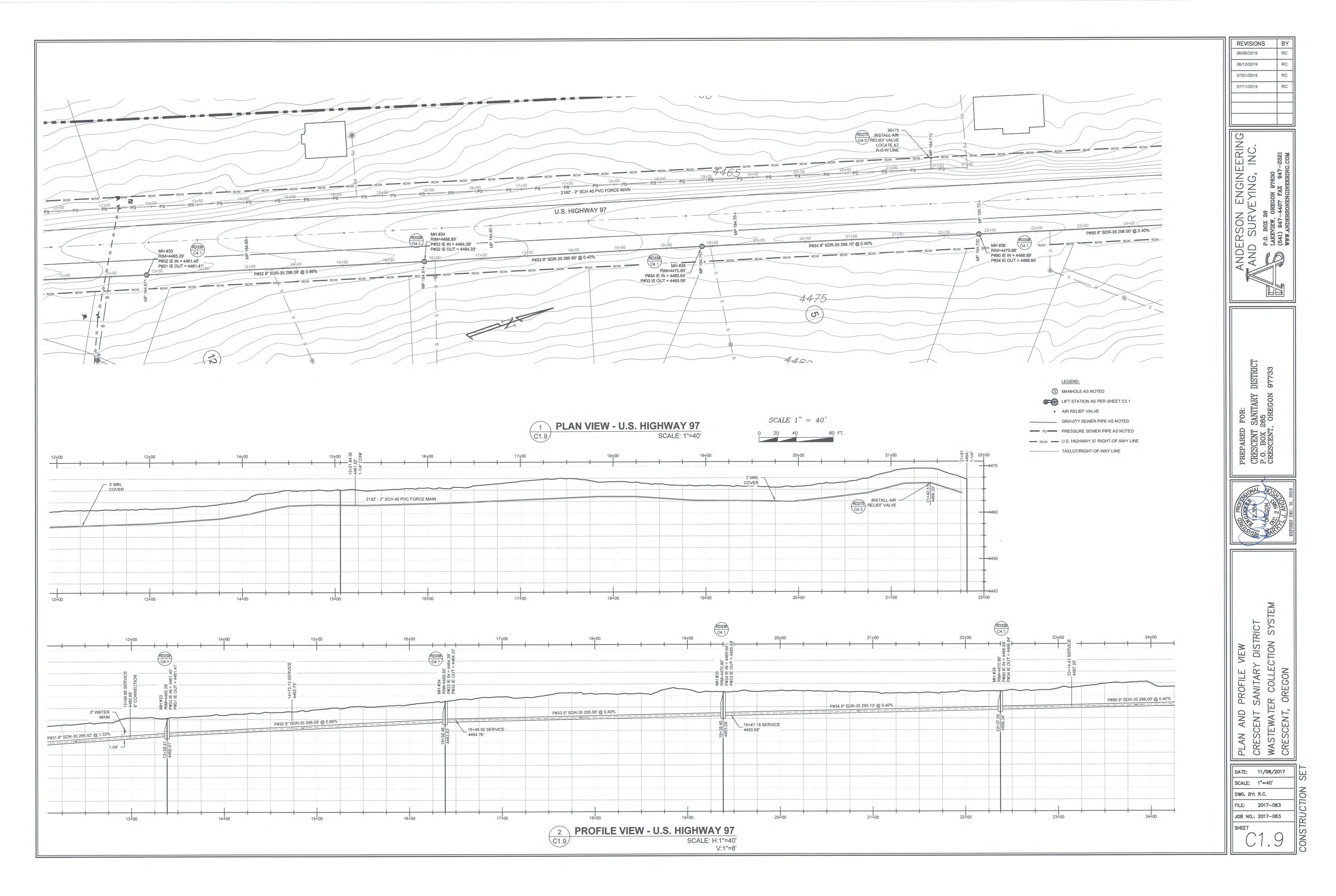


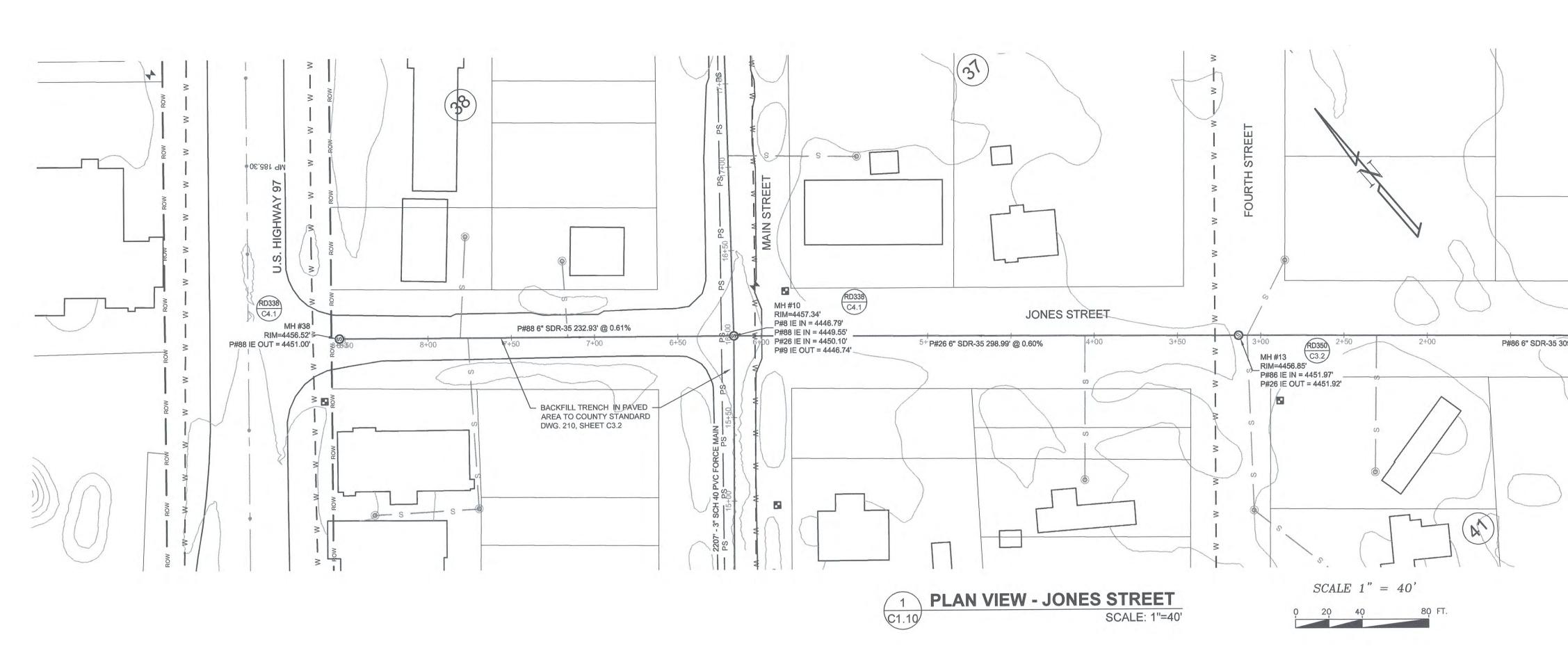


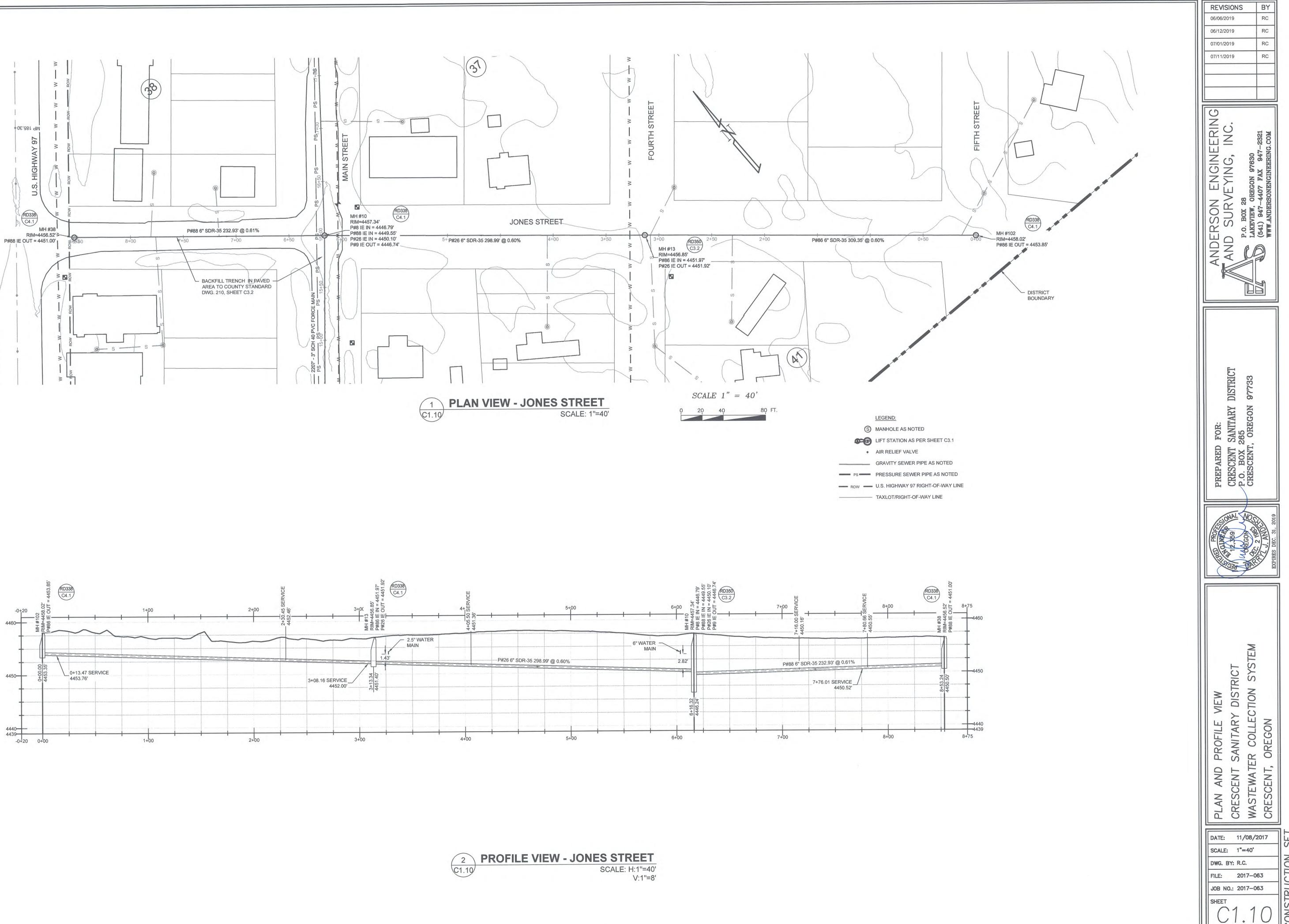
SCALE: H:1"=40' V:1"=8'



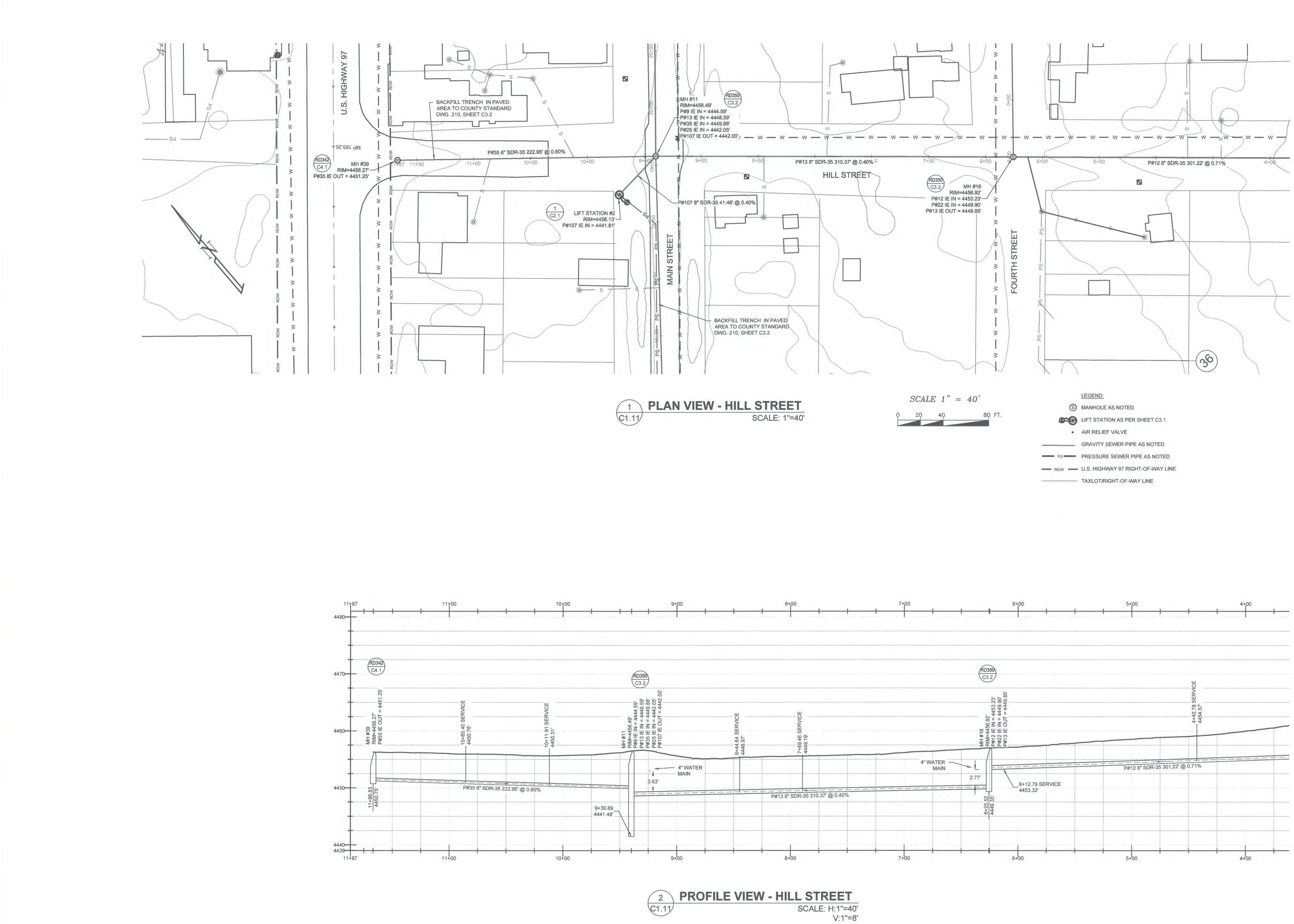


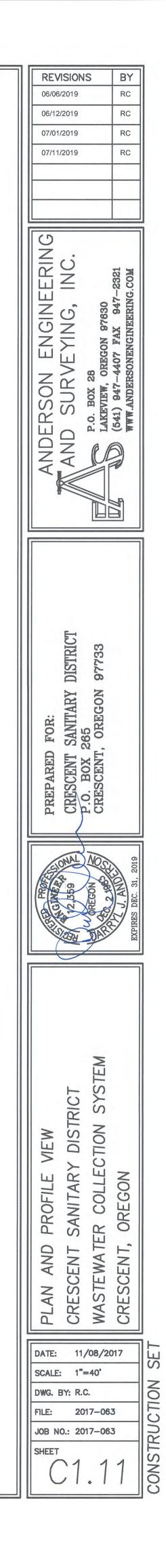


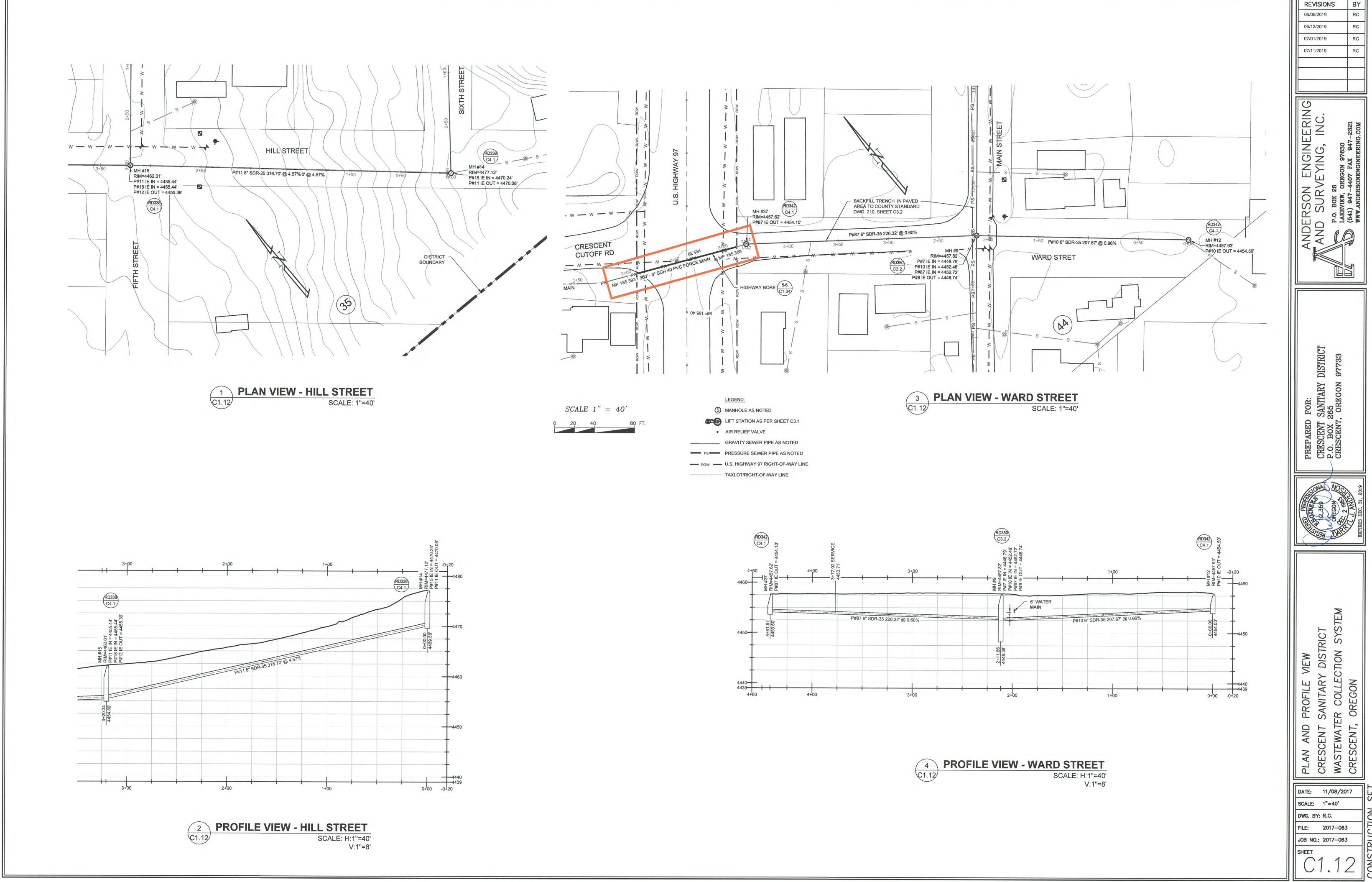


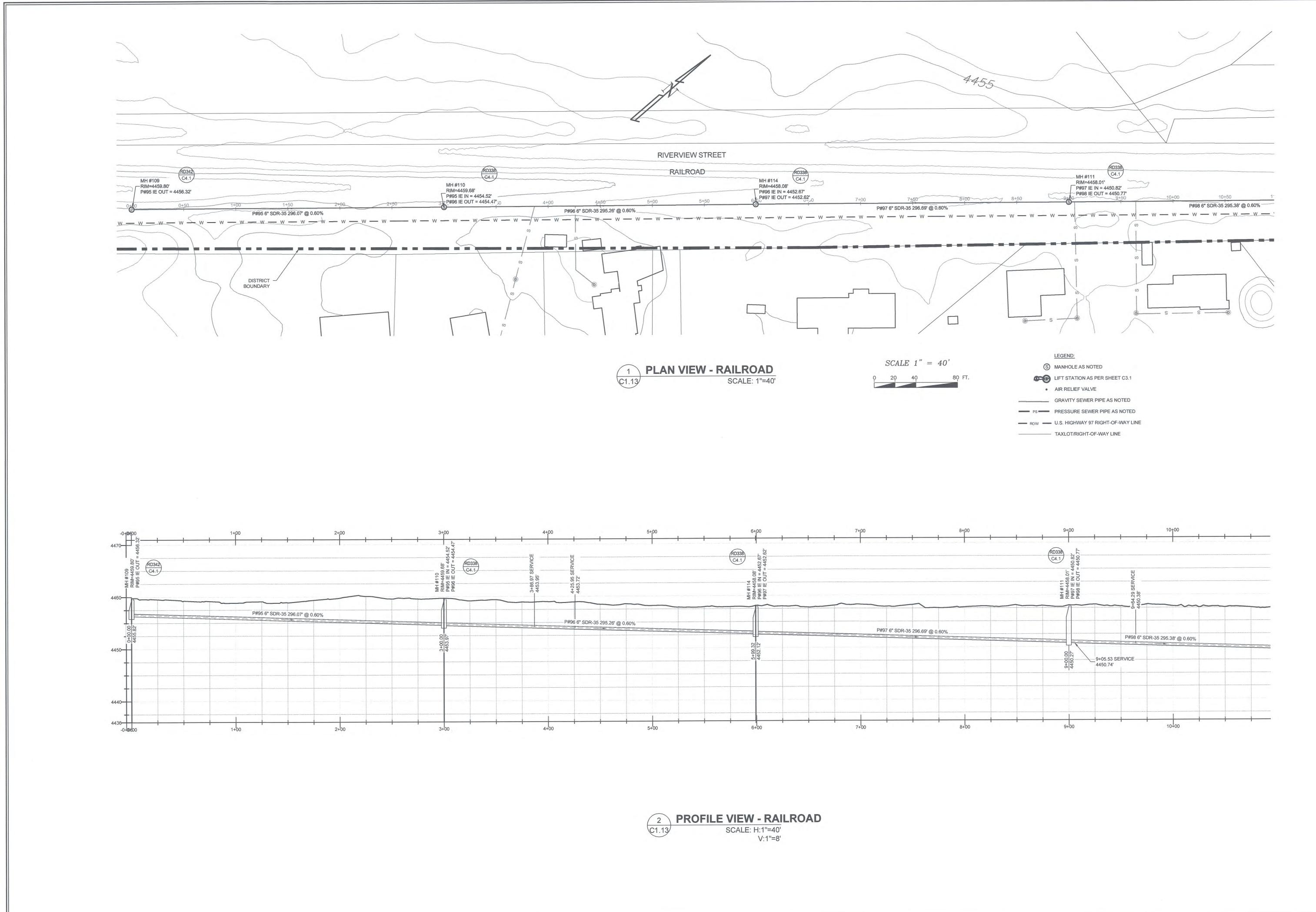


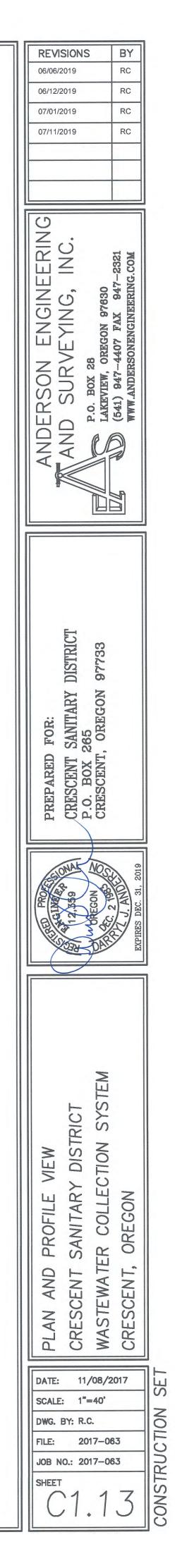




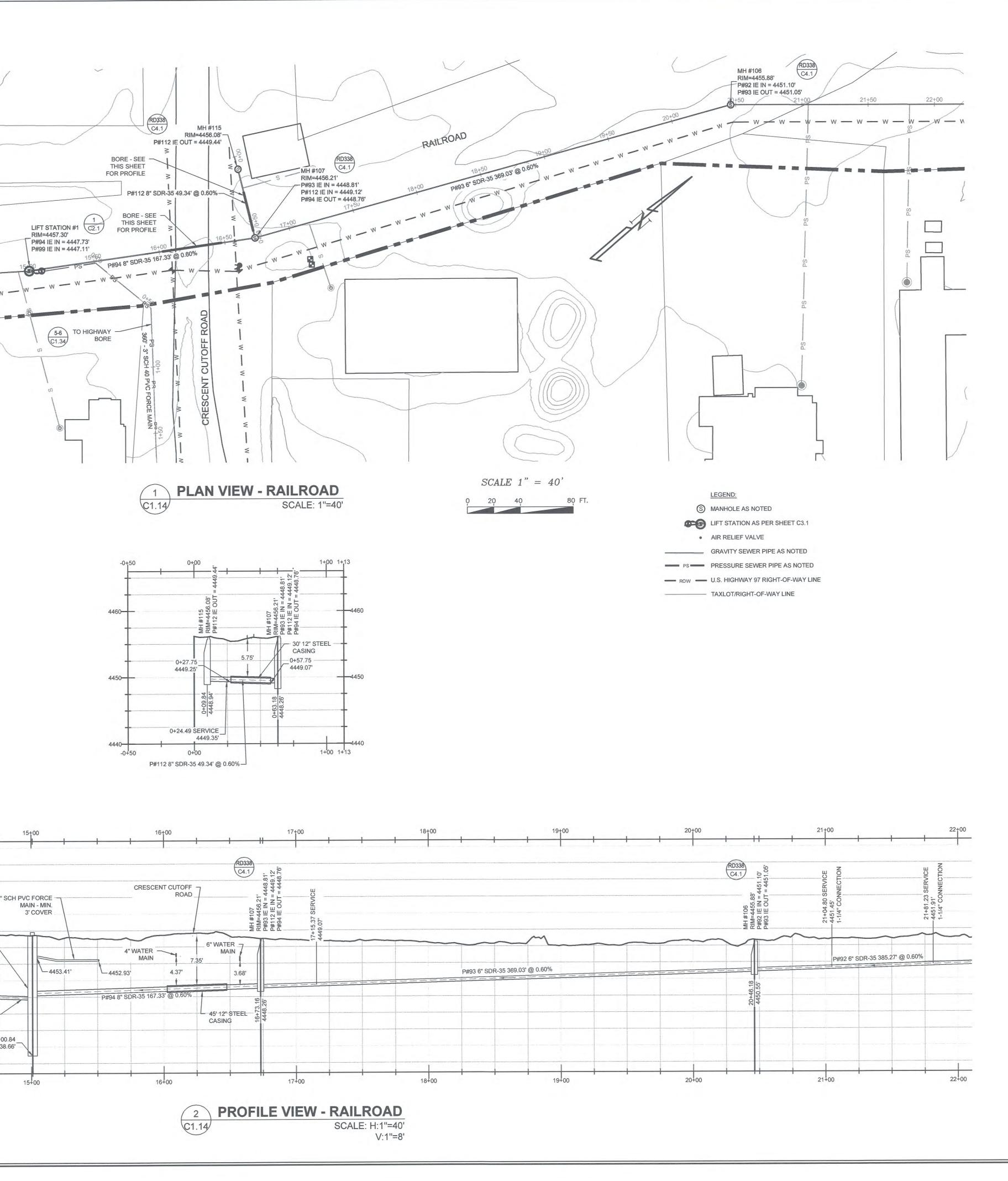


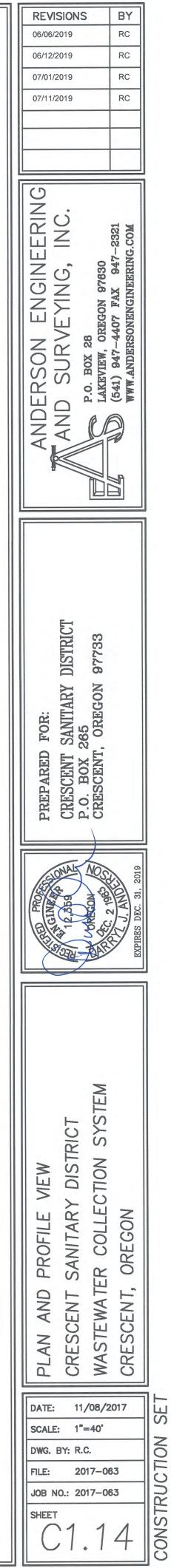




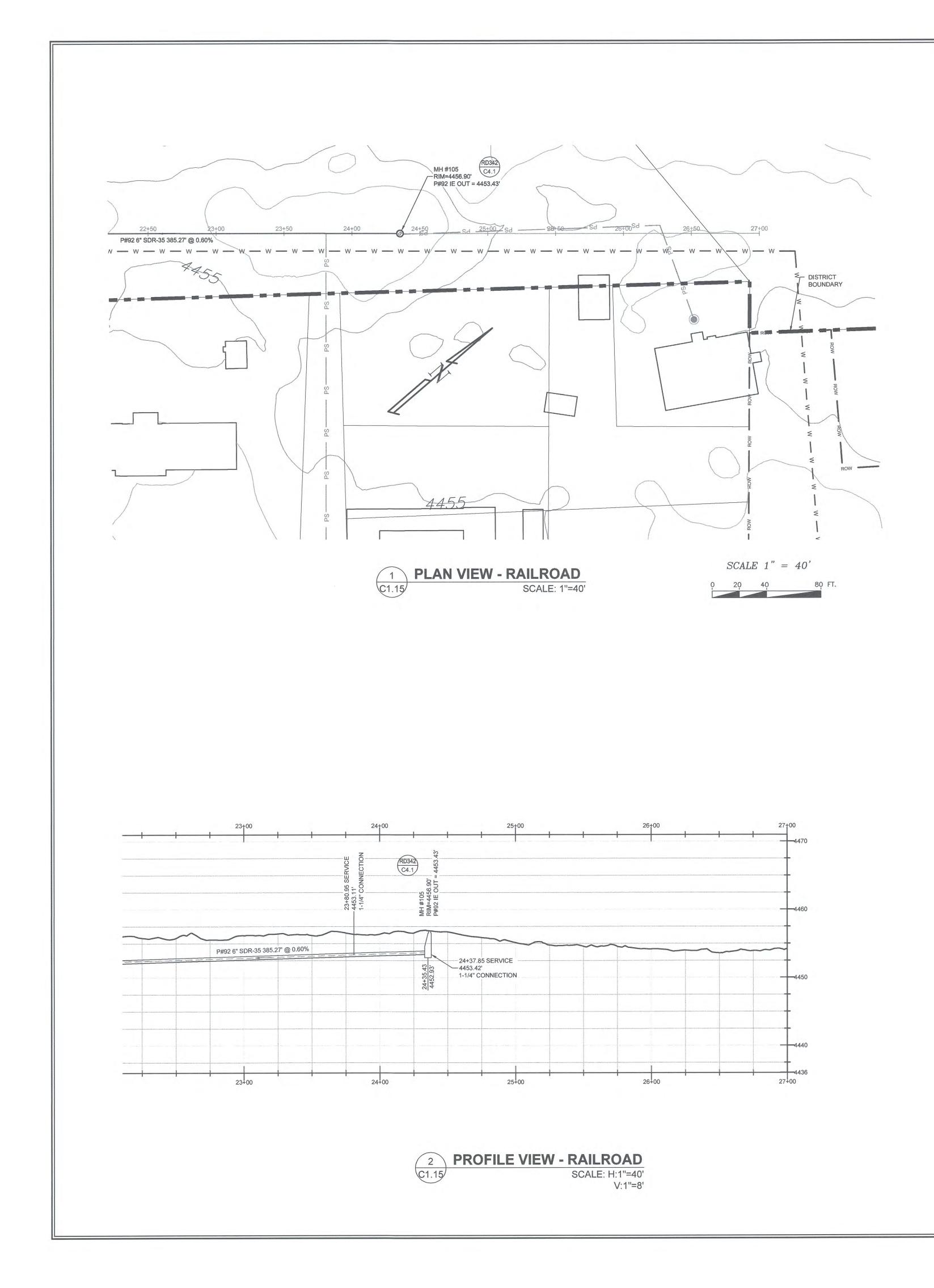


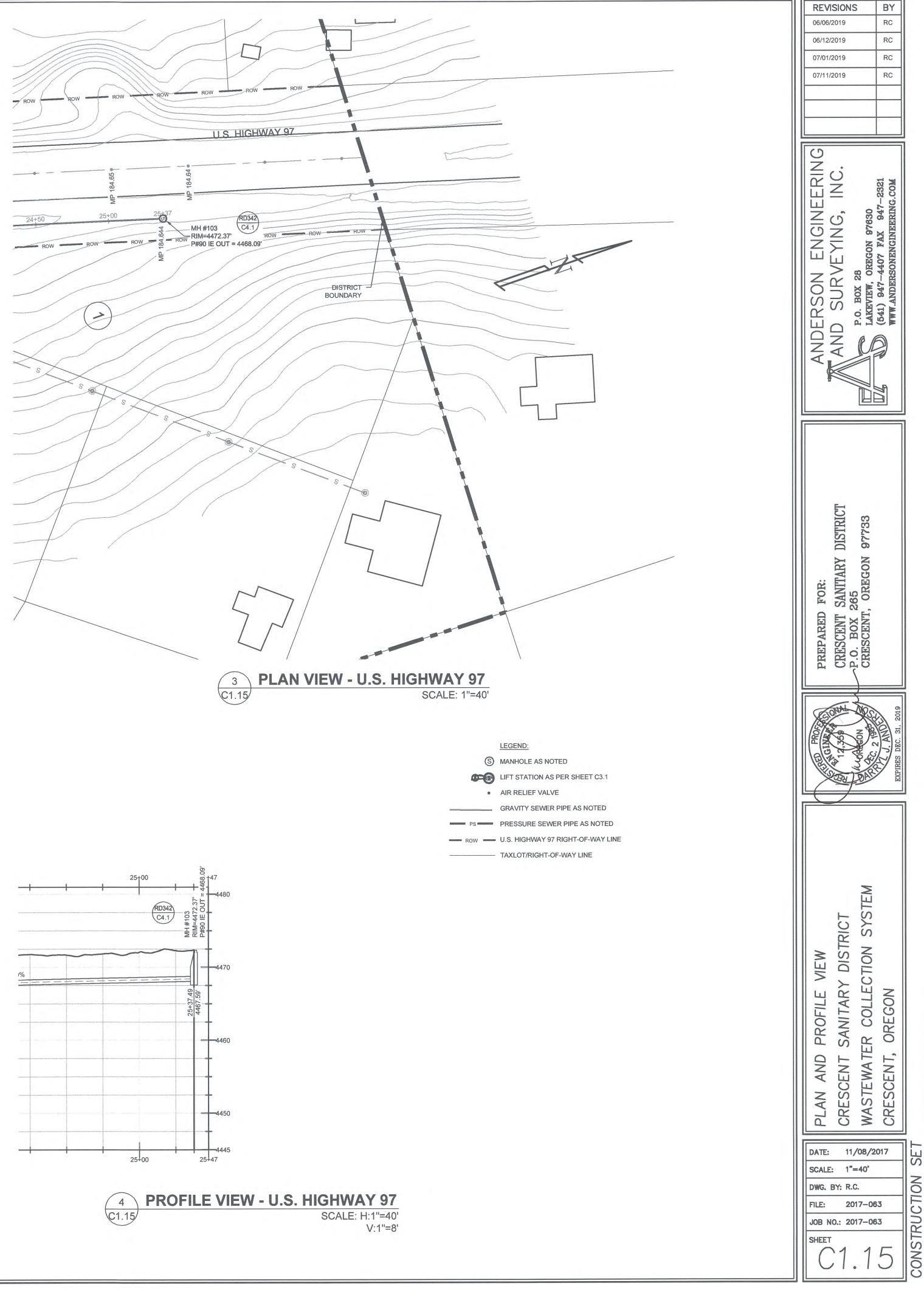
1+00 $11+50P#98 6" SDR-35 295.38W W W W W$		13+00 P#99 6" SDR- - w - w - w - w	RIVERVIEW STREET RAILROAD 13+50 14+00 -35 296.47' @ 0.60%	14+50 W - V
	12+00	13+00	14+00	
	MH #112 MH #12 MH			LIFT STATION #1 RIM=4457.30' 4 IE IN = 4447.73' 9 IE IN = 4447.11'
	MH #112 MH #112 RIM=4457.45' P#99 IE OUT = 4448.97' P#99 IE OUT = 4448.92'			RIM=4457.30'
100 1 P#98 6" SDR-35 295.3	MH #112 MH #112 MH #112 MH #112 RIM=4457.45' P#38 E IN = 4448.97' P#39 E OUT = 4448.97' P#39 E OUT = 4448.97'		1 (1) (2.1) P#94 P#95 P#95 P#95 P#95 P#95 P#95	RIM=4457.30' 4 IE IN = 4447.73' 9 IE IN = 4447.11'
P#98 6" SDR-35 295 3	MH #112 MH #112 MH #112 RIM=4457.45' P#38 IE IN = 4448.97' P#39 IE OUT = 4448.97' P#39 IE OUT = 4448.97'		1 (1) (2.1) P#94 P#95 P#95 P#95 P#95 P#95 P#95	RIM=4457.30' 4 IE IN = 4447.73' 9 IE IN = 4447.11'

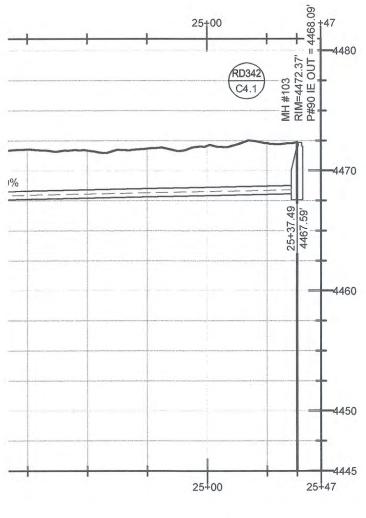


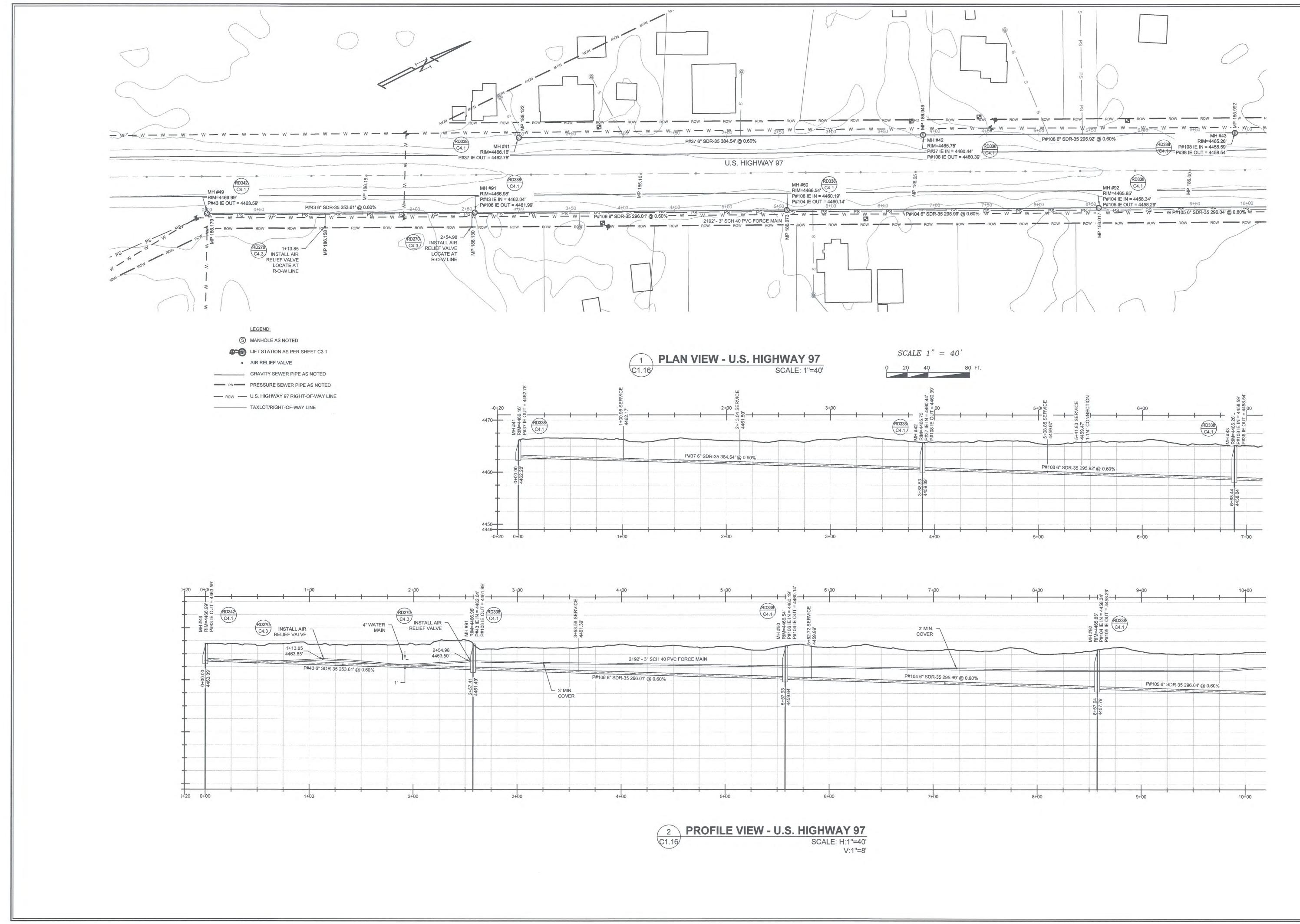


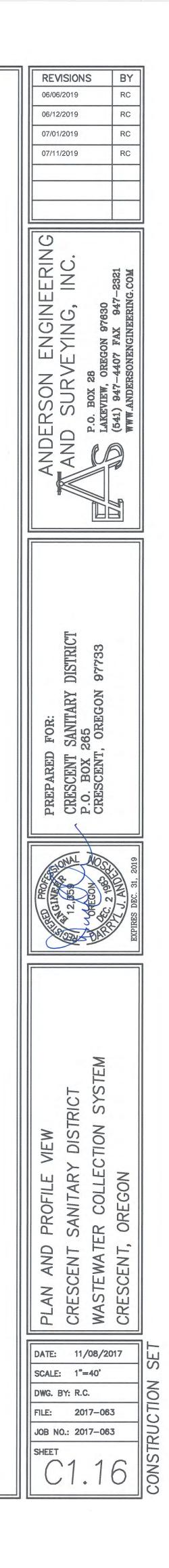
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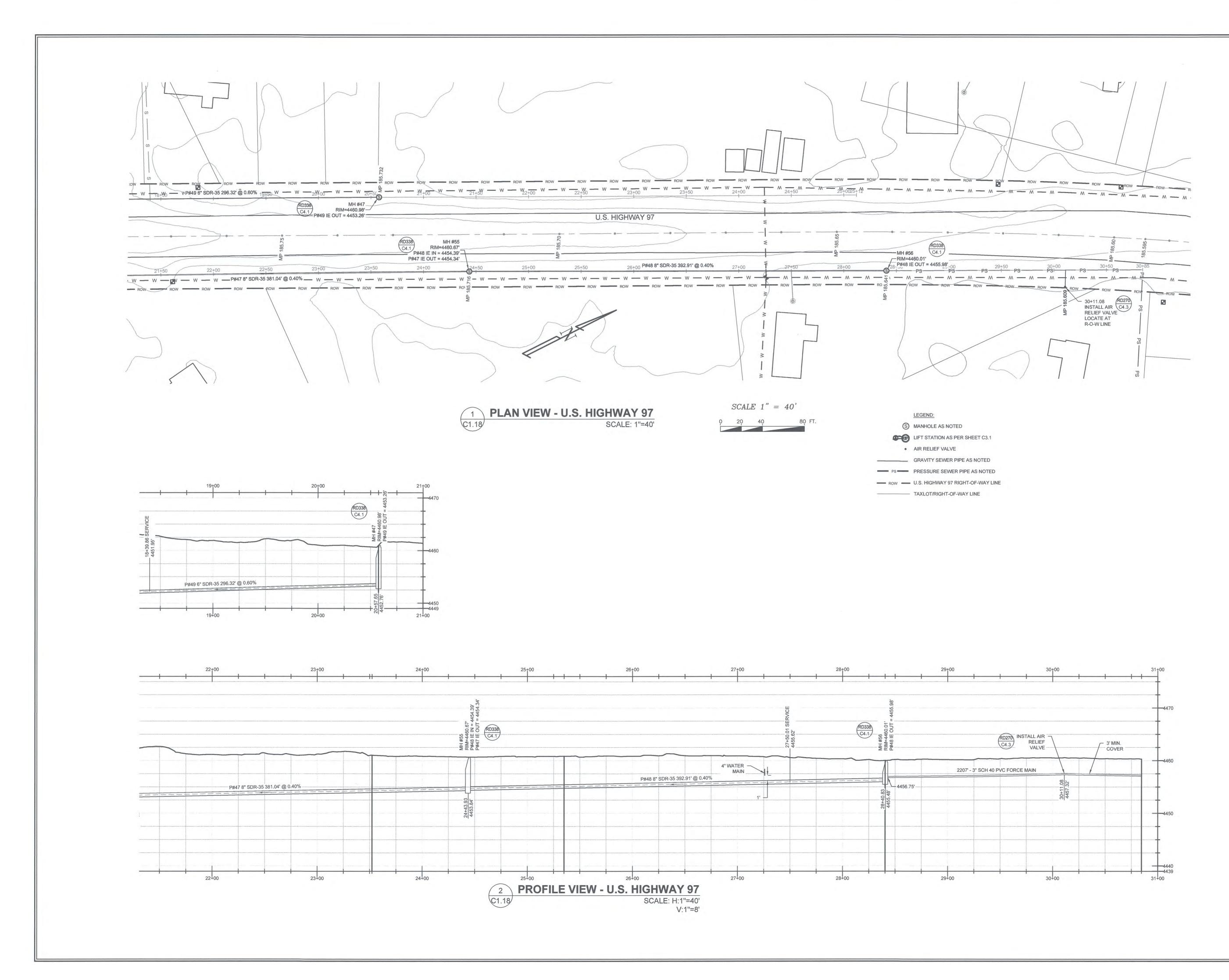


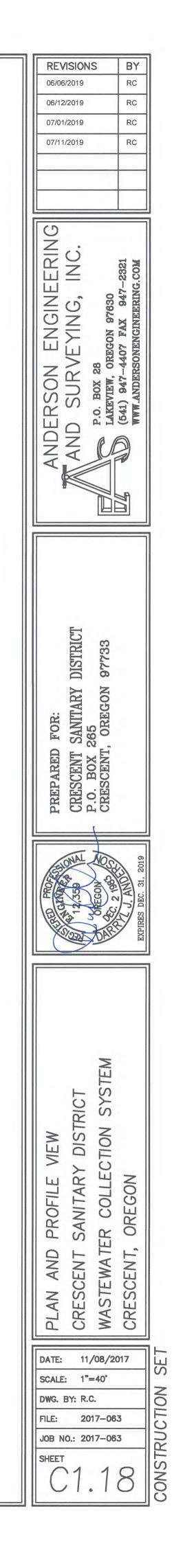


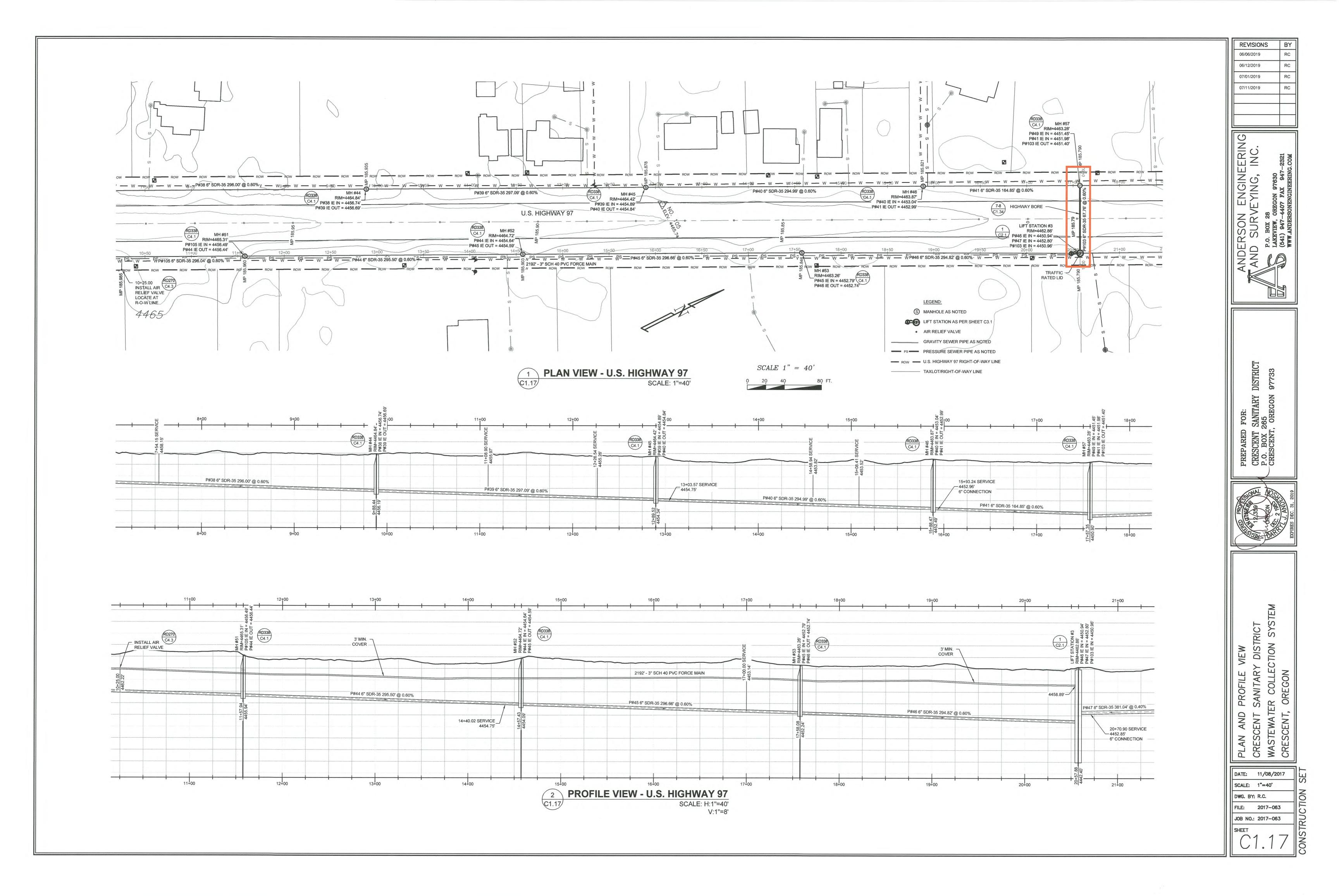


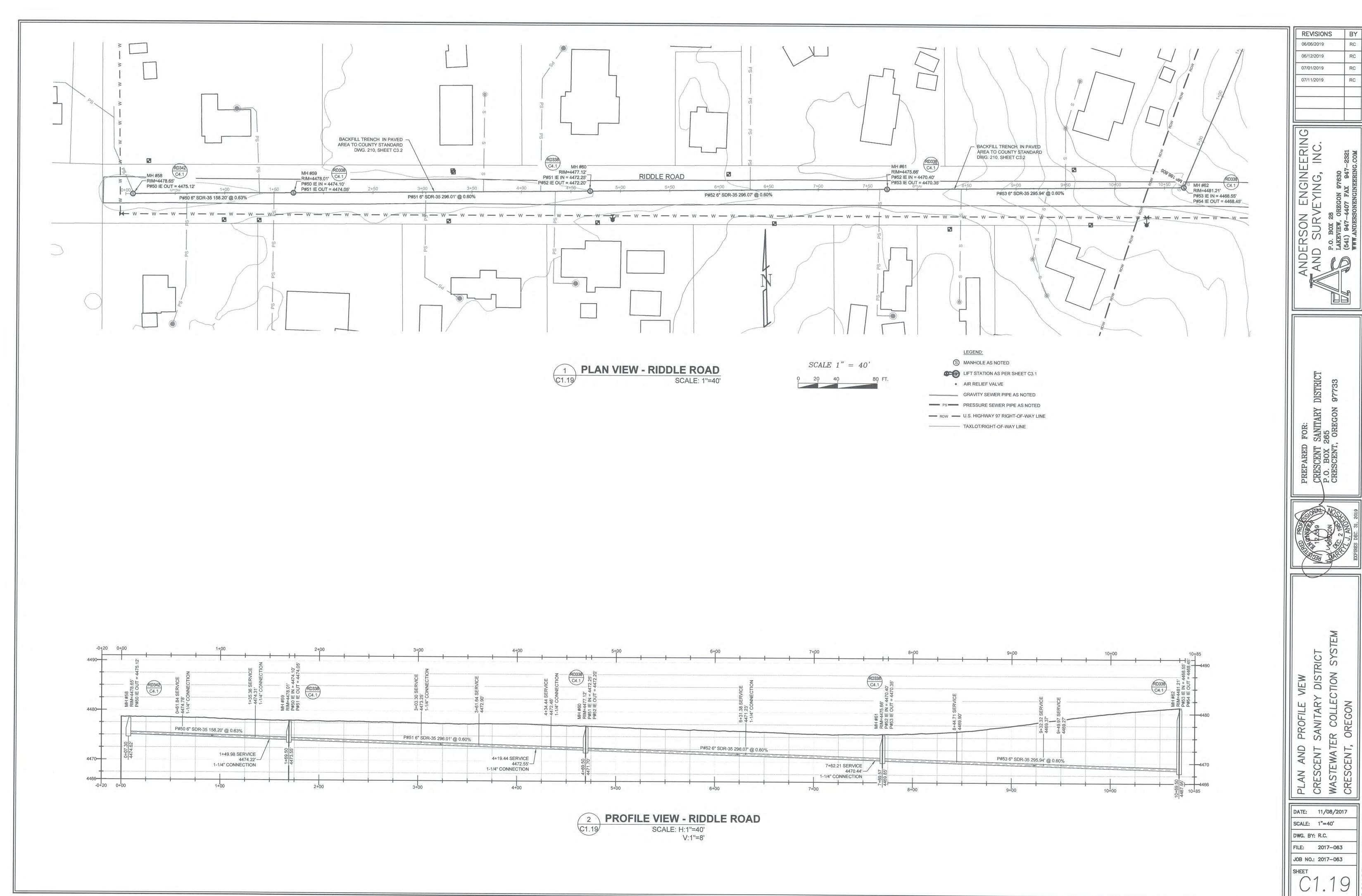




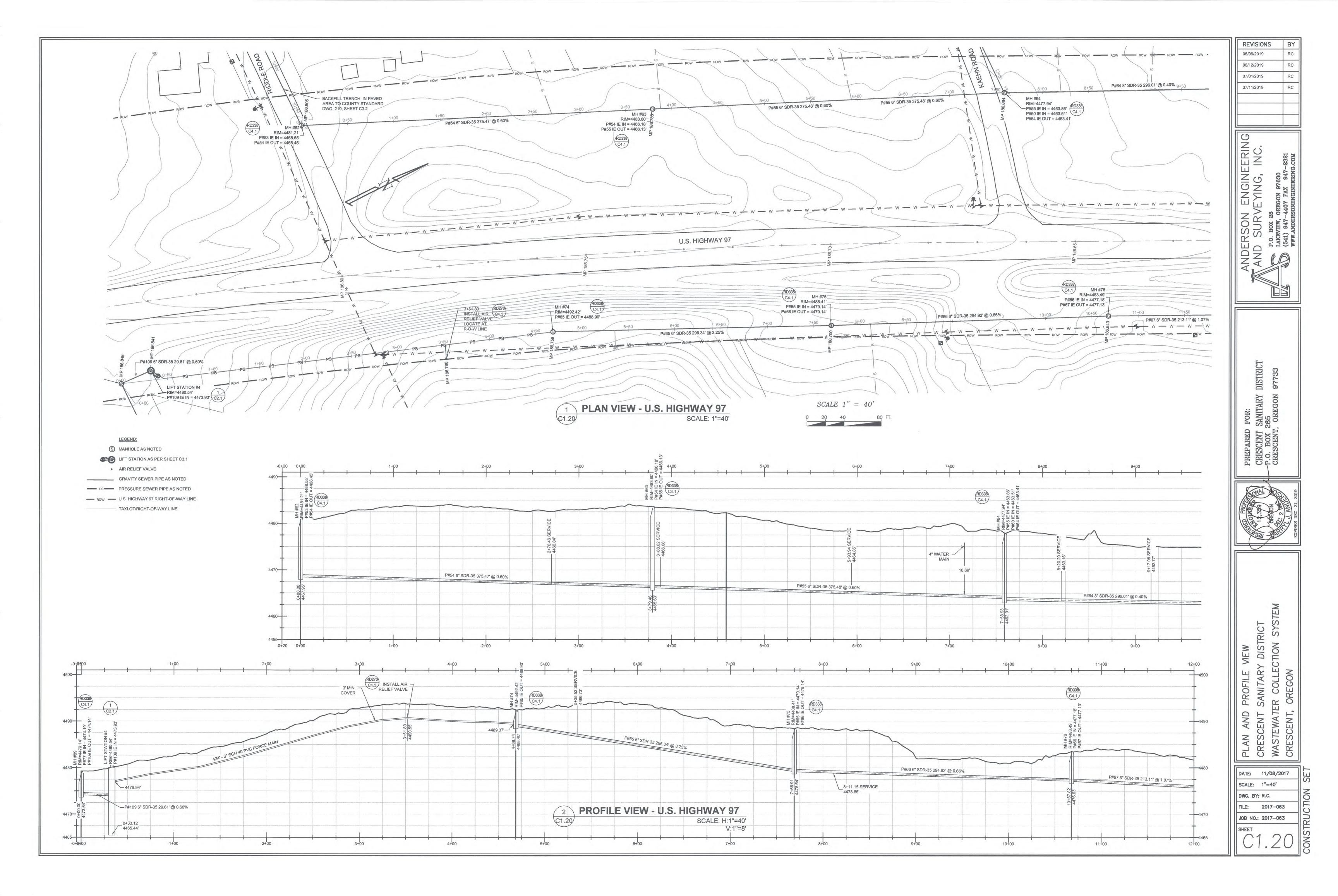


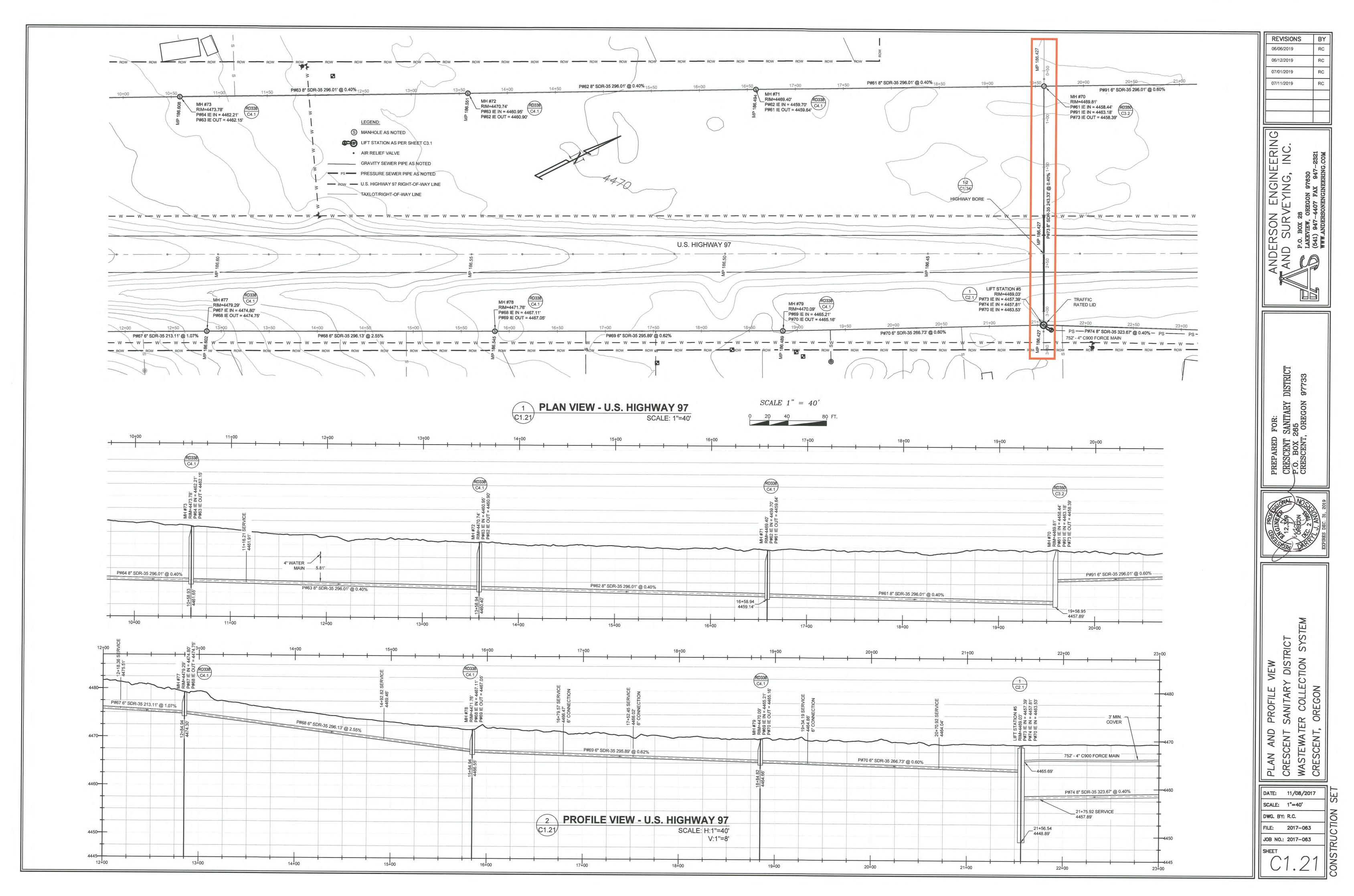


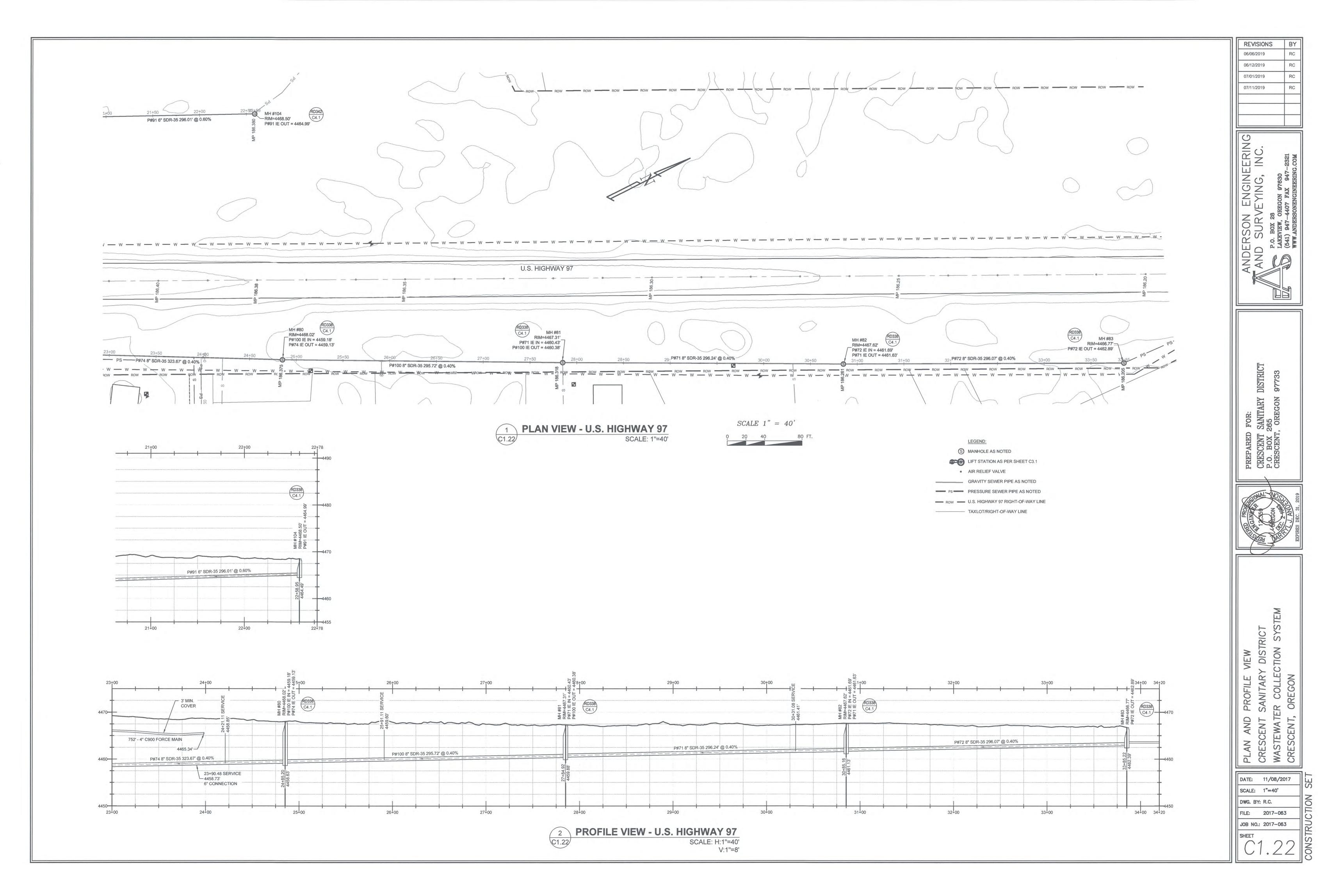


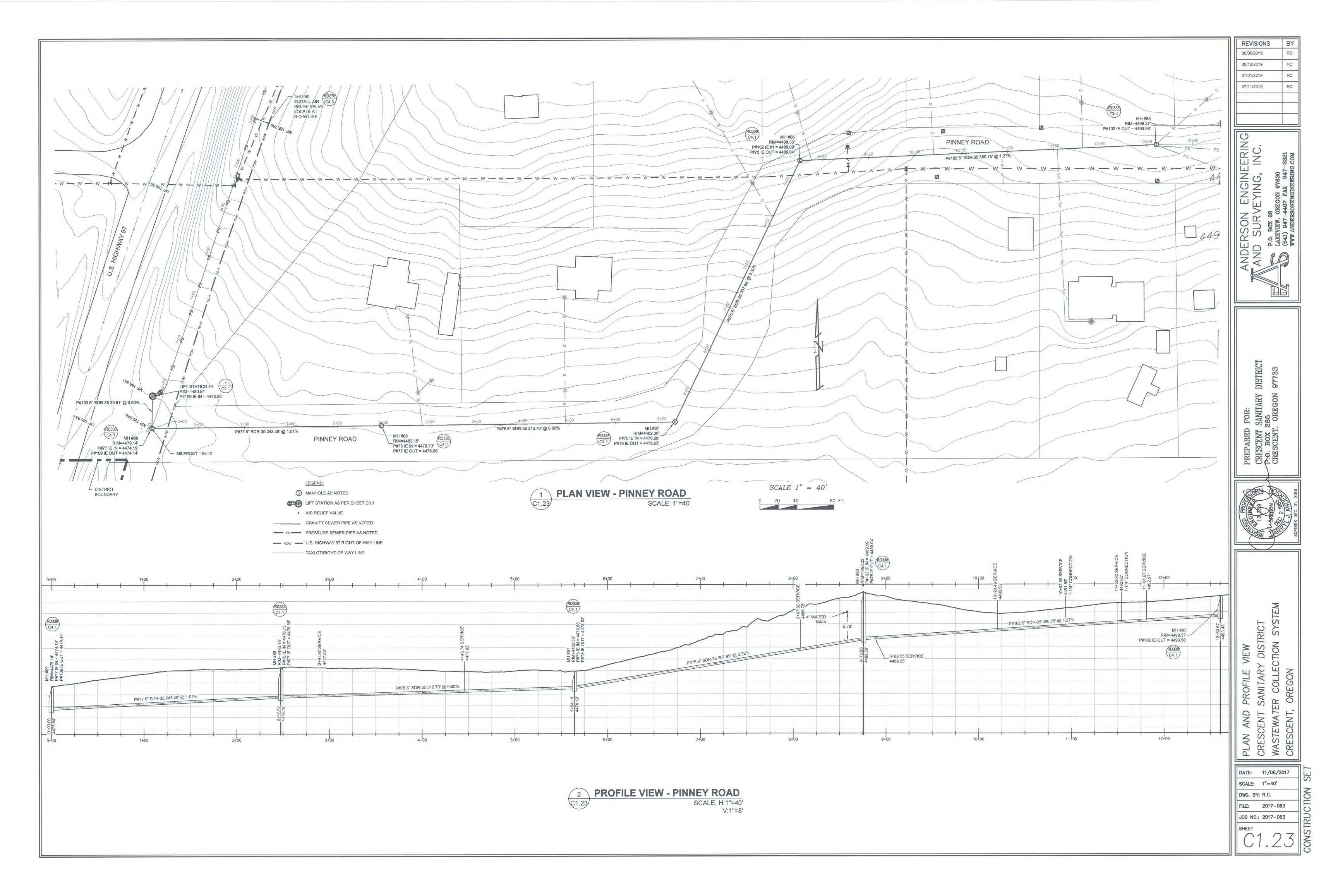


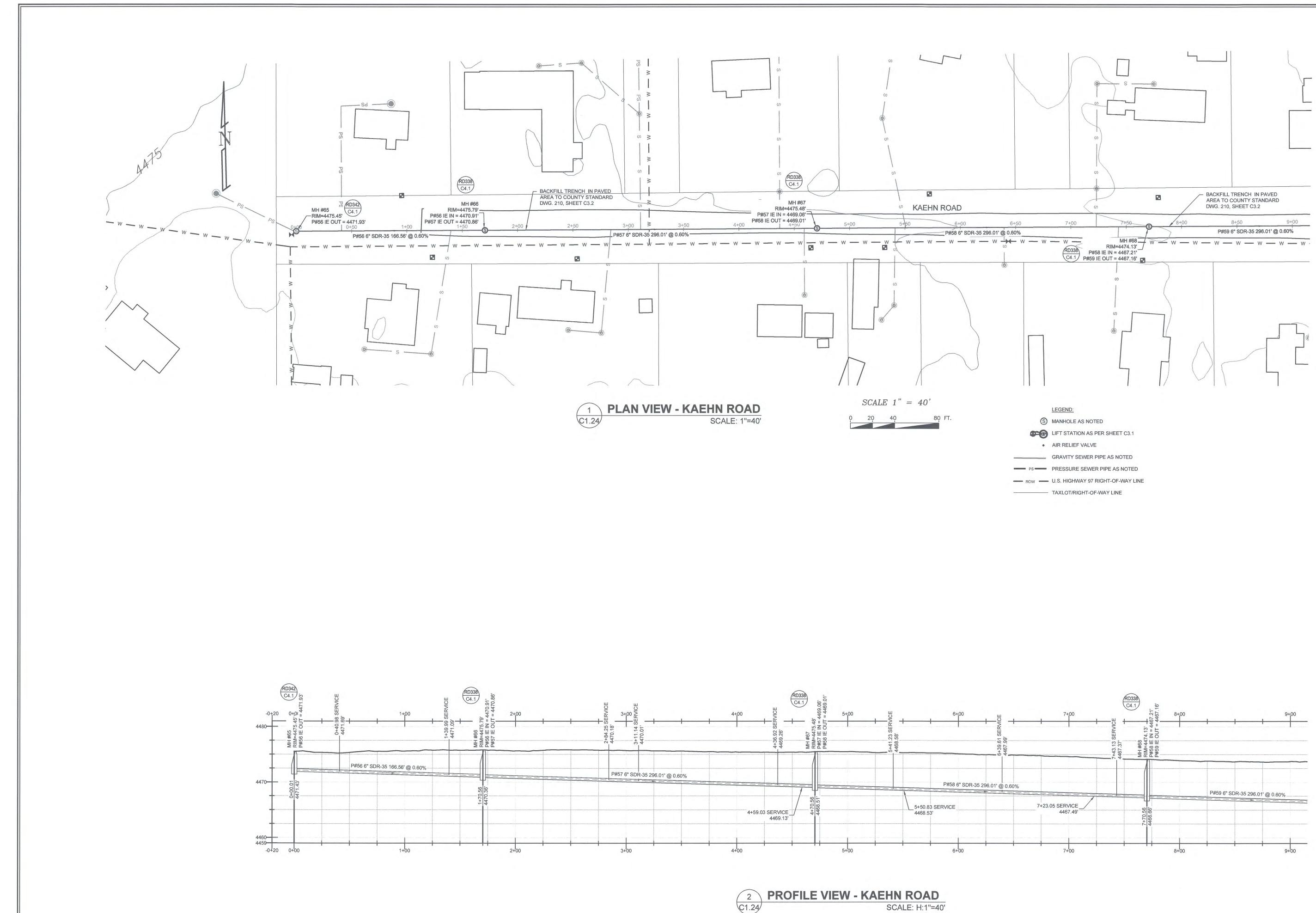
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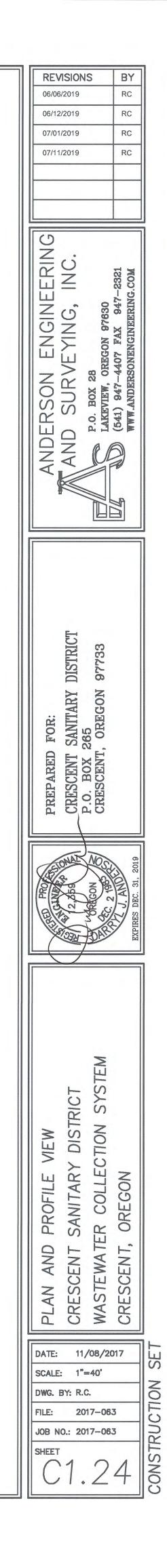


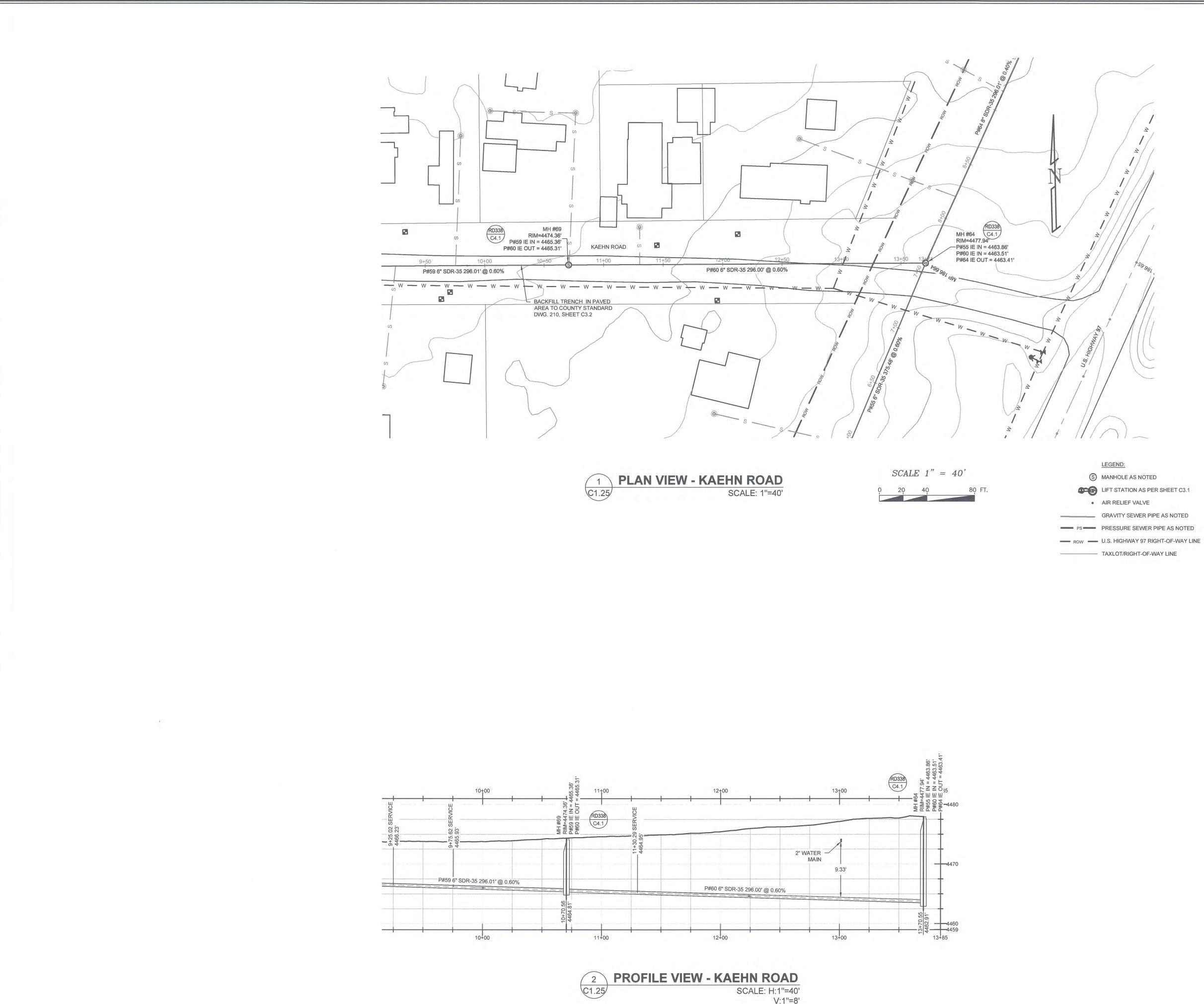






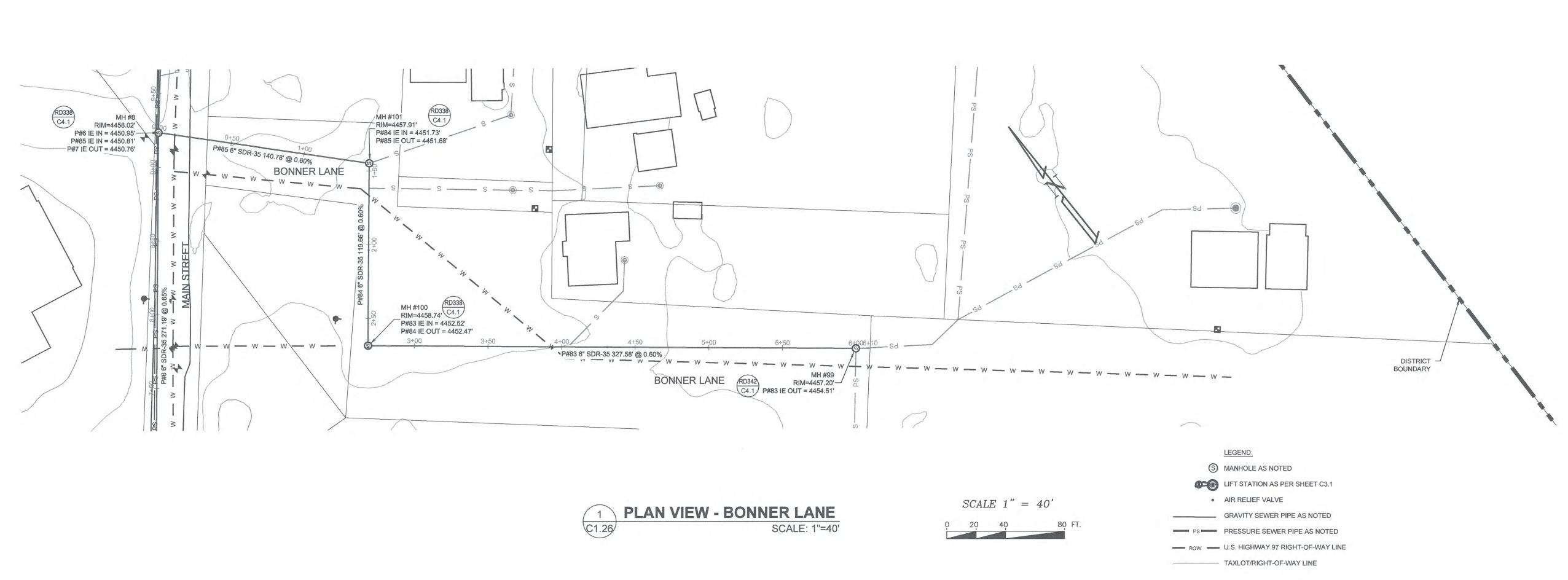
2 PROFILE VIEW - KAEHN ROAD SCALE: H:1"=40 SCALE: H:1"=40' V:1"=8'

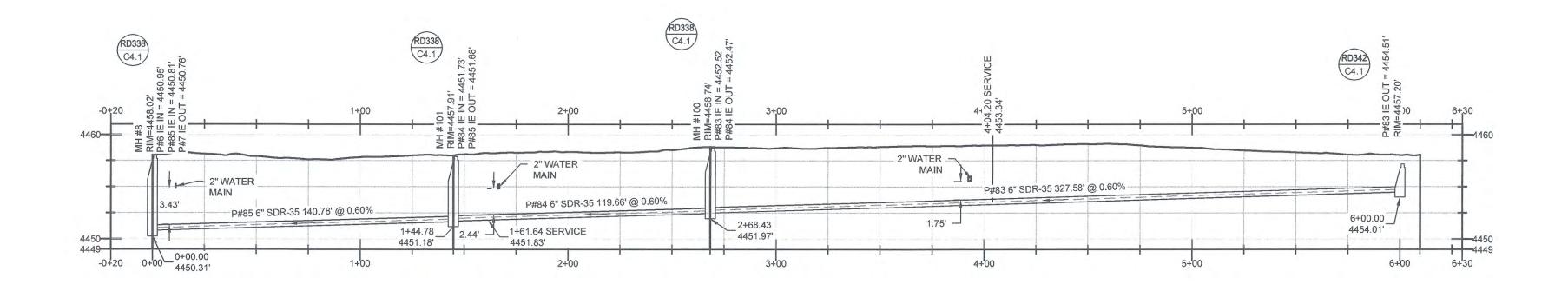




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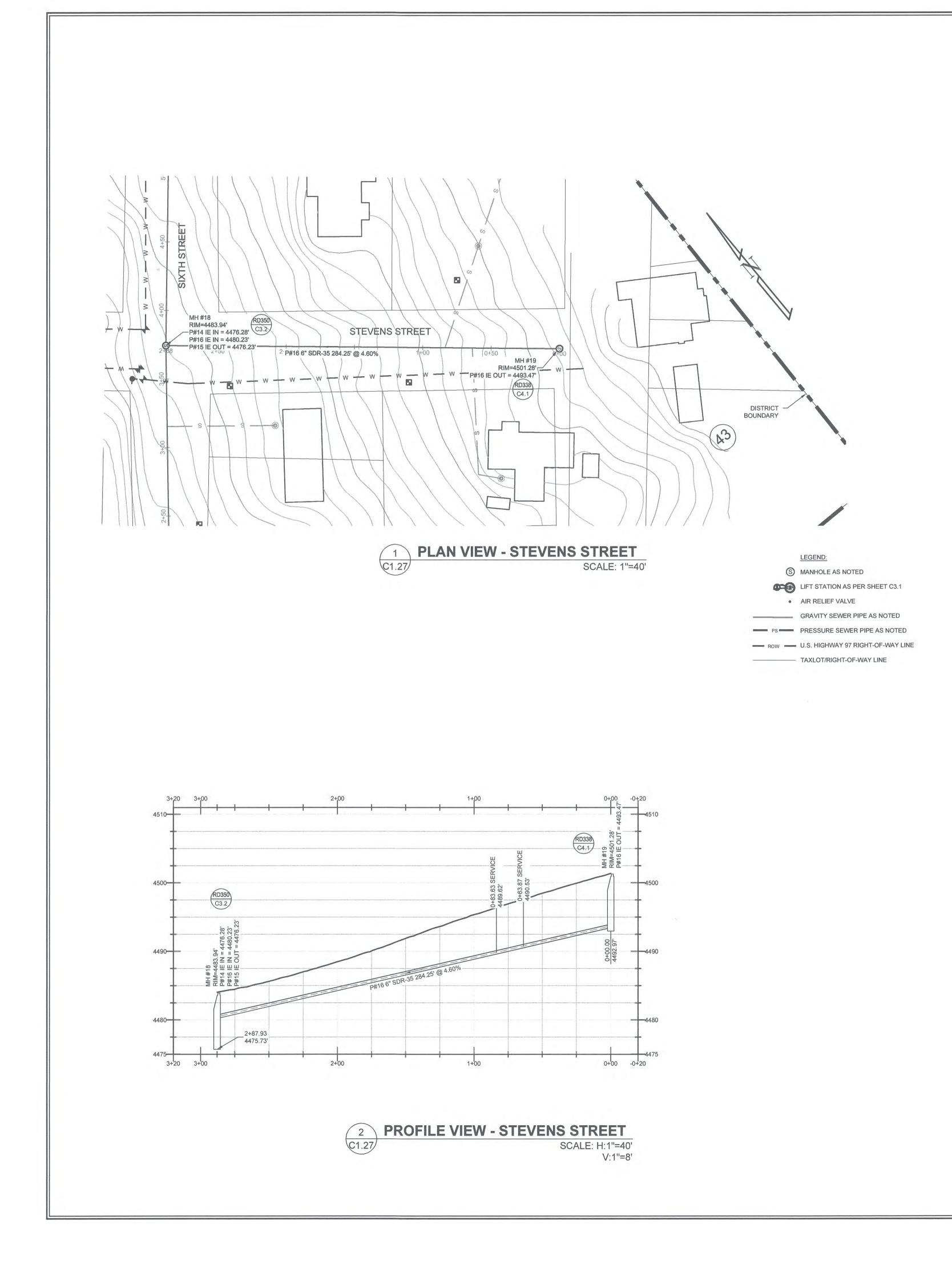
DATE: 11/08/20 DATE: 11/08/20 SCALE: 1*=40' DWG. BY: R.C. FILE: 2017-06: JOB NO.: 2017-06: SHEET C1.2	PROPERTIES PROPERTIES AND PROPERTIES	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	SON ENGI URVEYIN( Box 28 Atew, oregon 976	REVISIONS           06/06/2019           06/12/2019           07/01/2019           07/11/2019
3	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	BY RC RC RC
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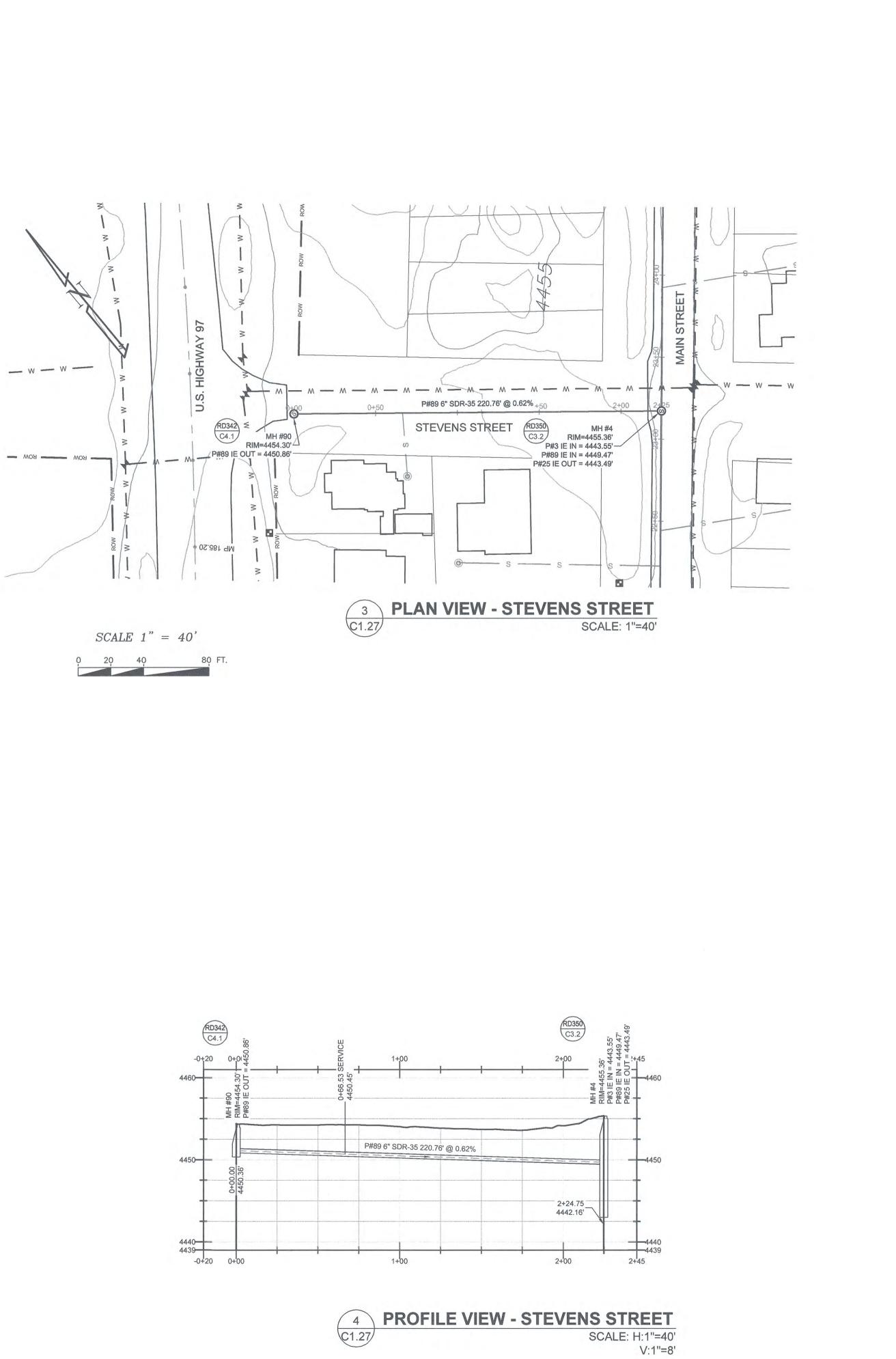


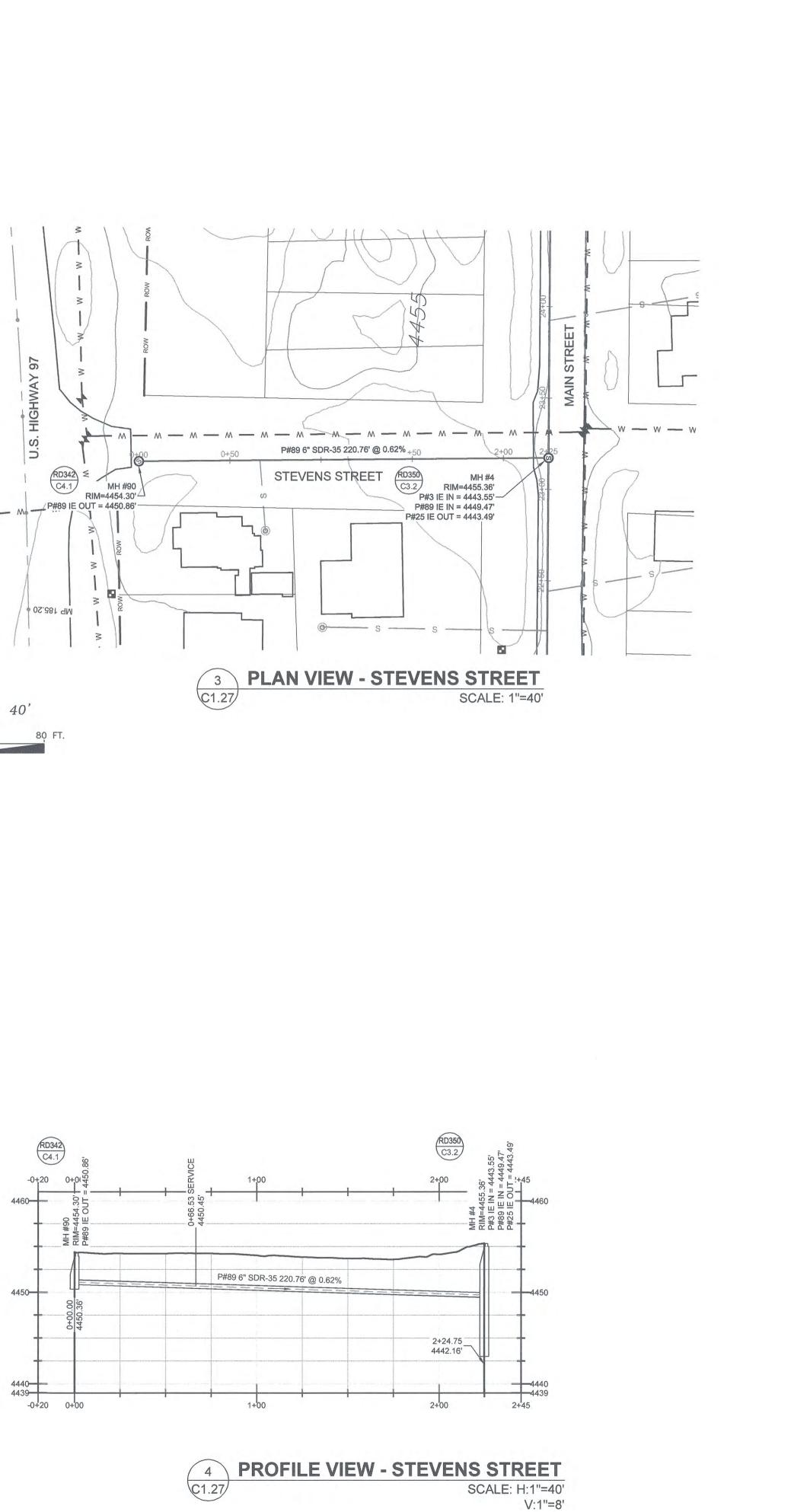


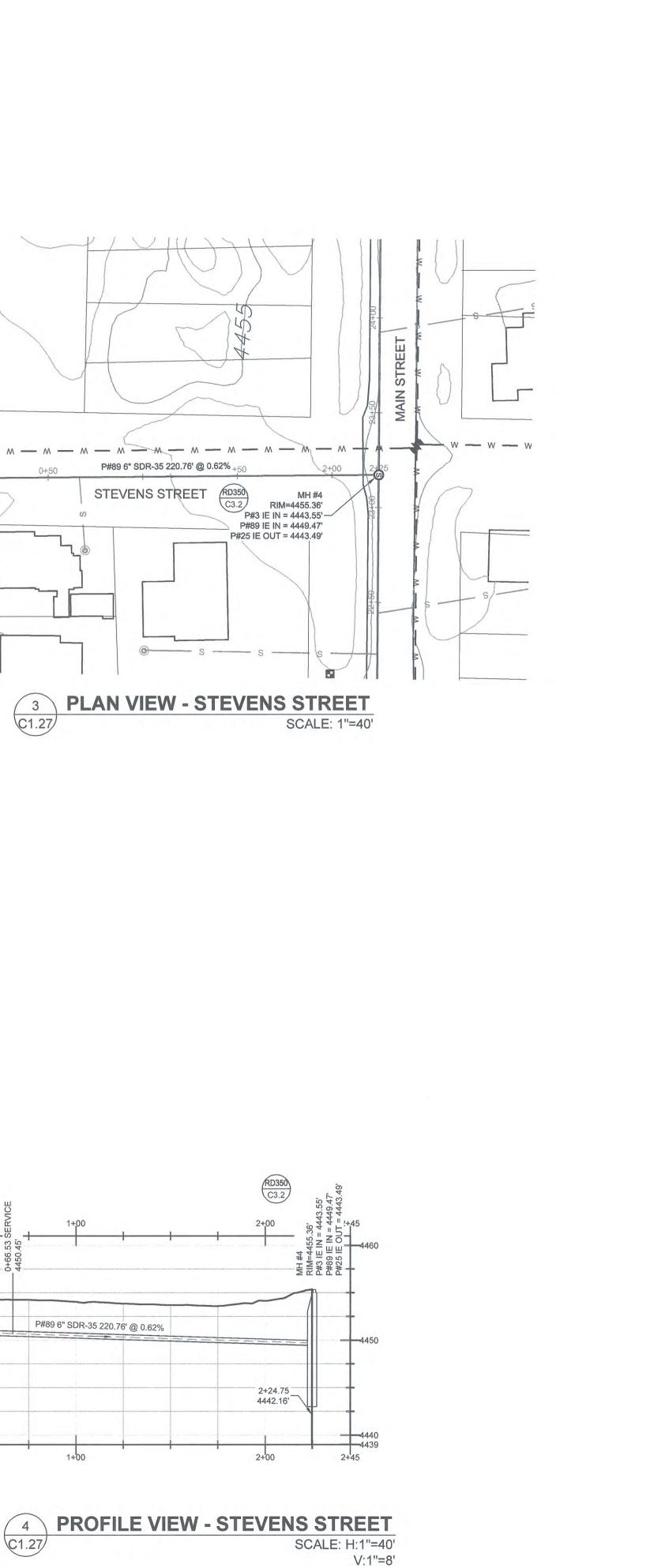


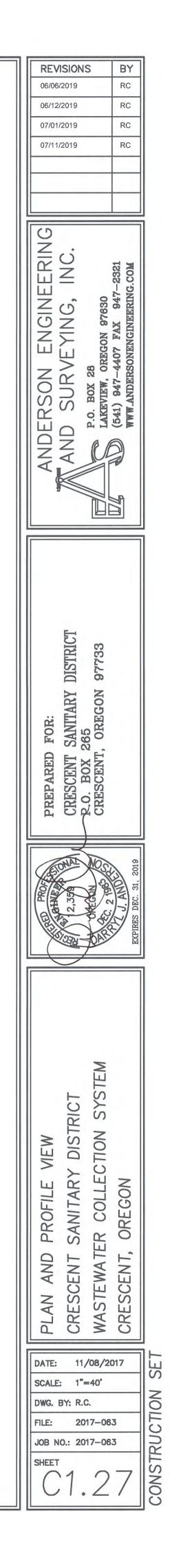
SCALE: 1"=40" DWG. BY: R.C. FILE: 2017-06 JOB NO.: 2017-06 SHEET C1.2	PLAN AND PROFILE VIEW CRESCENT SANITARY DISTRICT WASTEWATER COLLECTION SYSTEM	E TI2, 609 E	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	ANDERSON ENGINEERING AND SURVEYING, INC. P.O. BOX 28 LAKEVIEW, OREGON 97630	07/11/2019	REVISIONS           06/06/2019           06/12/2019           07/01/2019
	CRESCENT, OREGON	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	RC	BY RC RC RC
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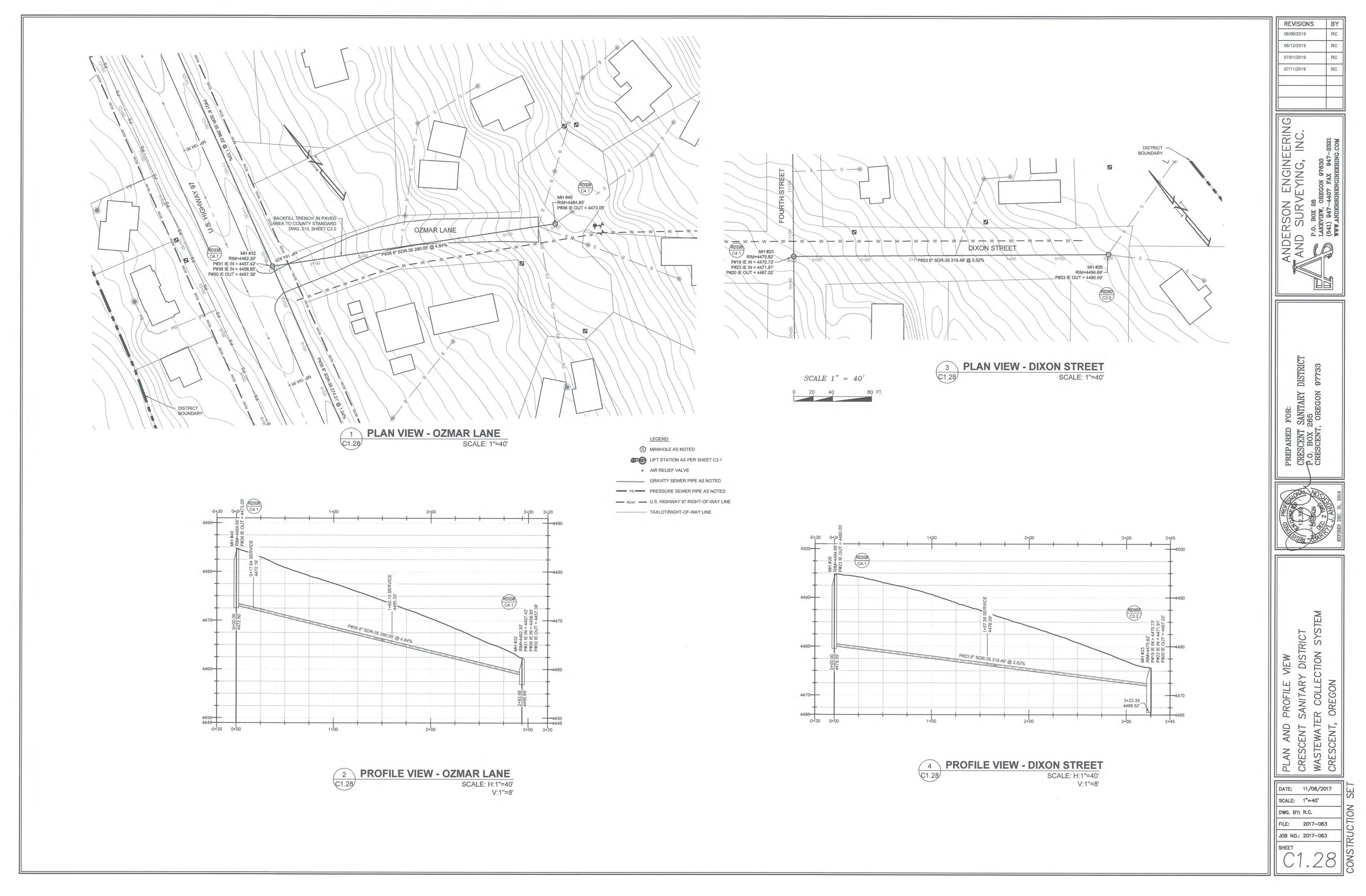


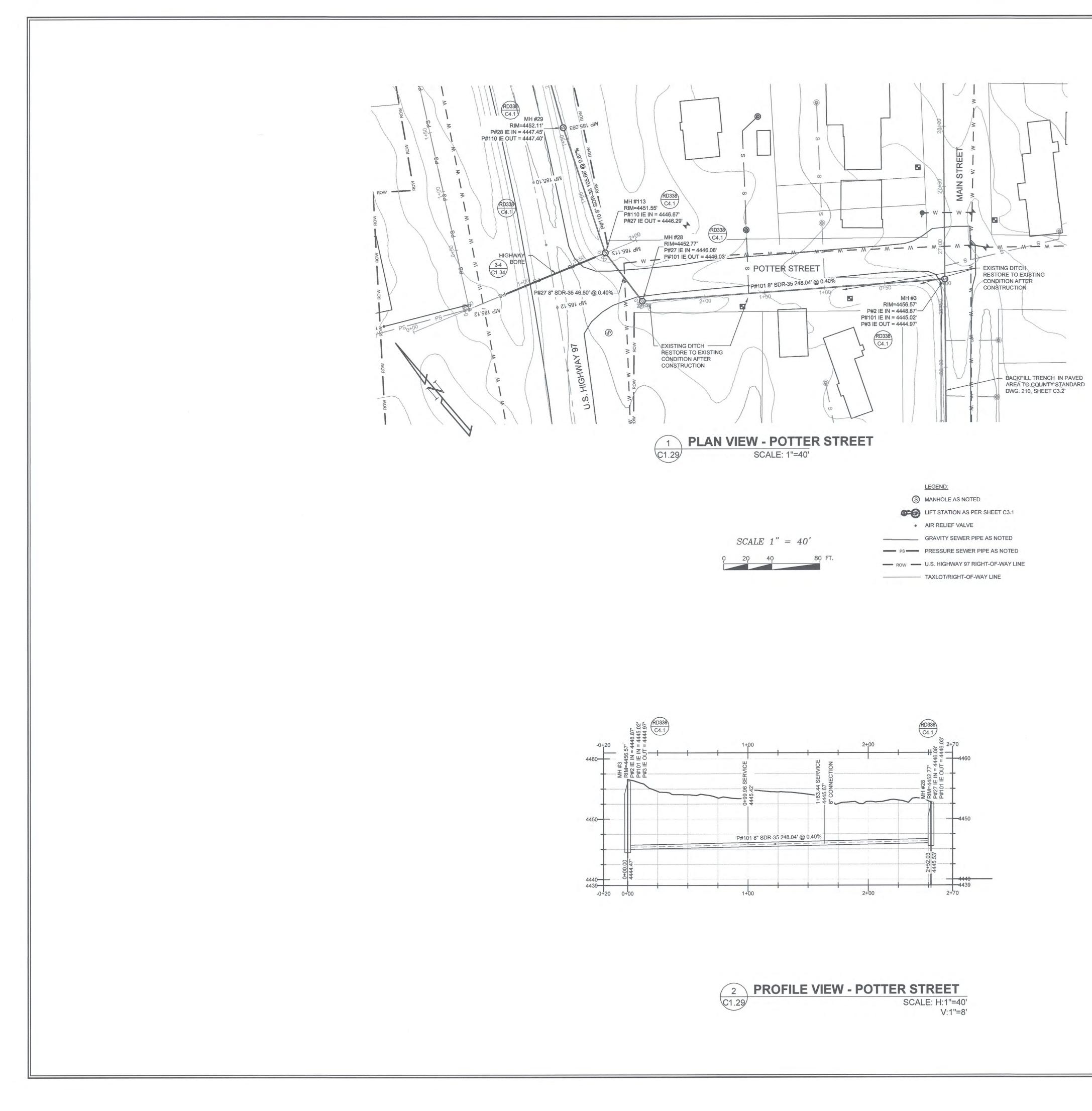




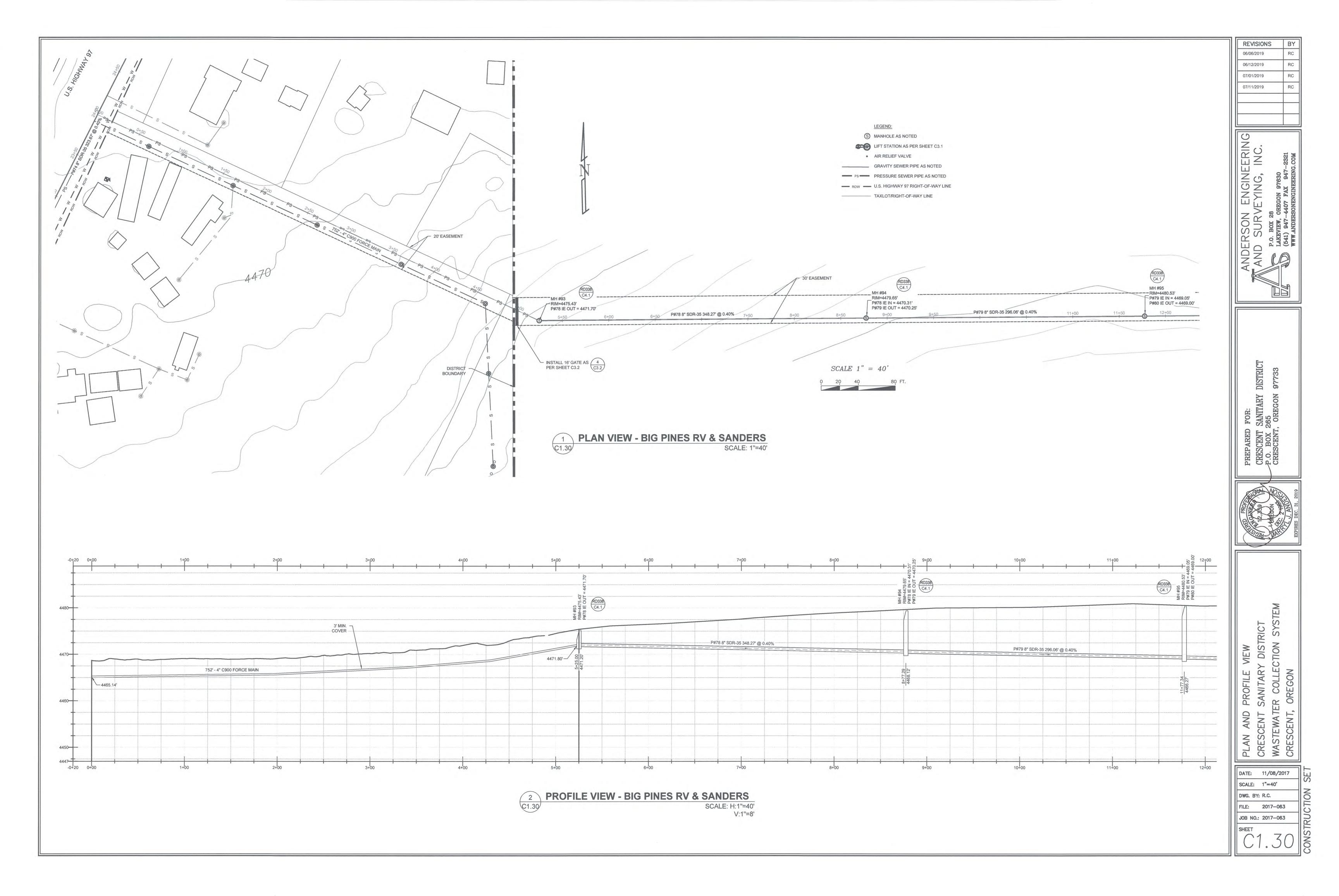


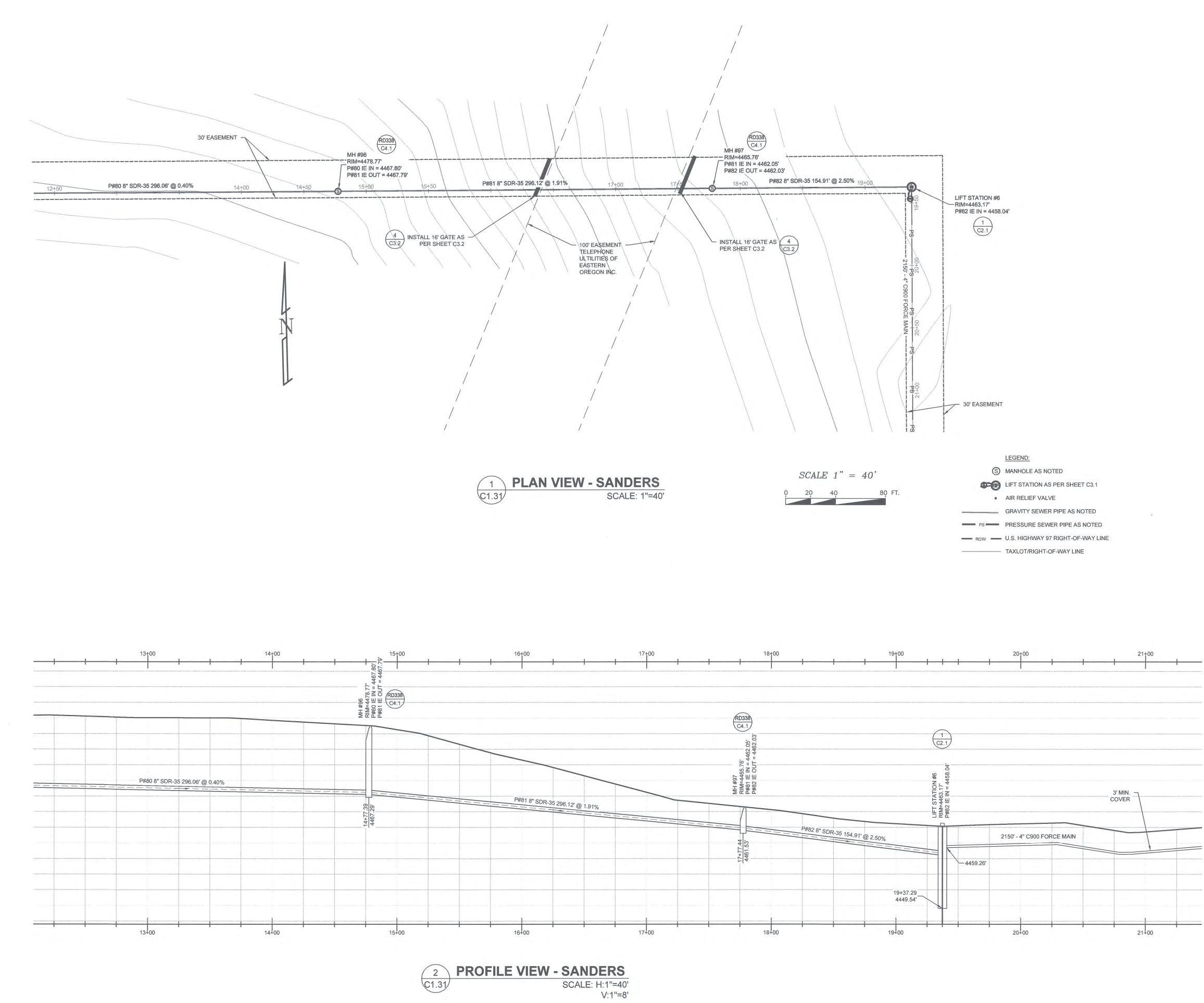






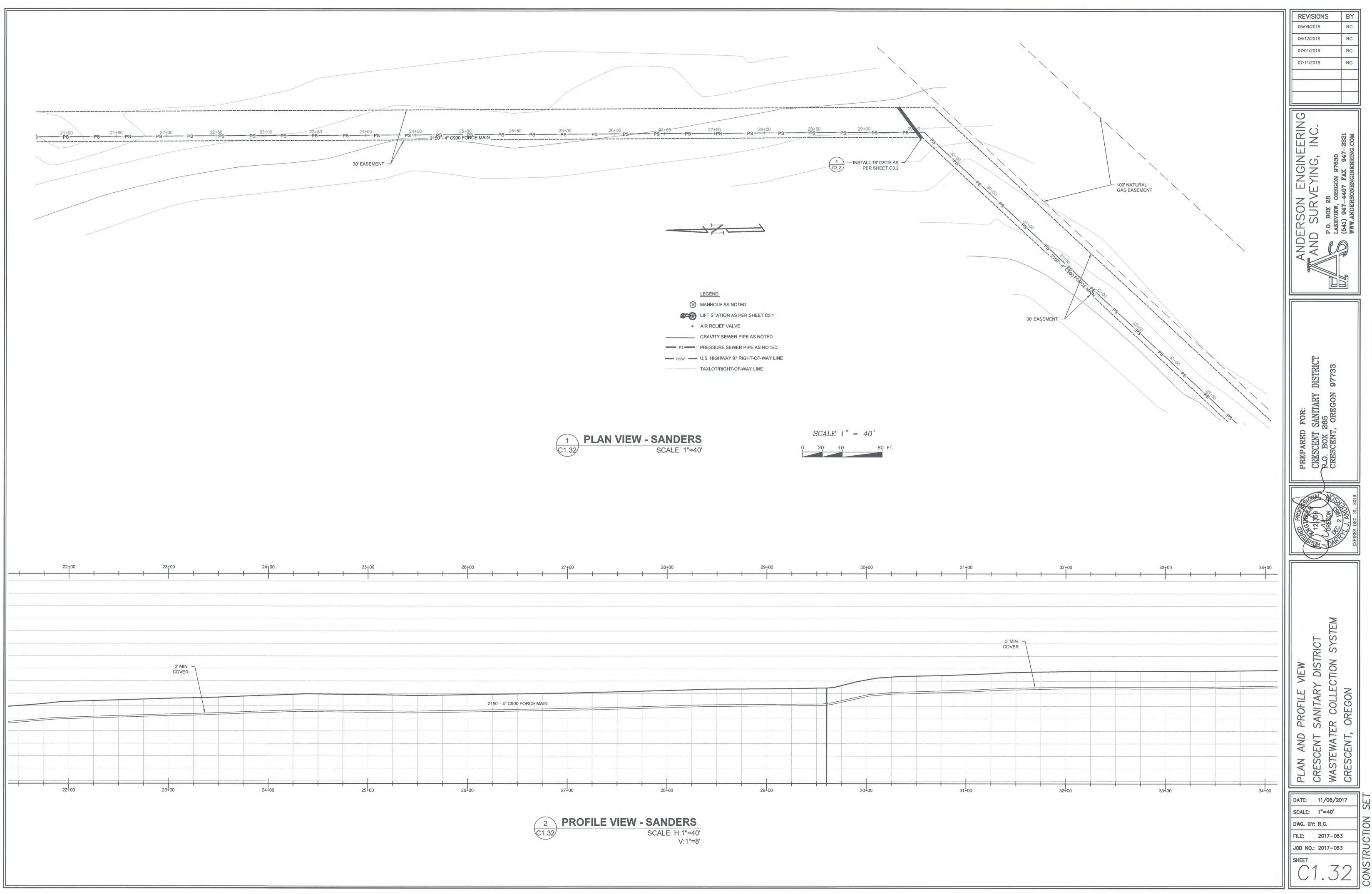
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SCALE: 1"=40" DWG. BY: R.C. FILE: 2017-06 JOB NO.: 2017-06 SHEET C1.2	PLAN AND PROFILE VIEW CRESCENT SANITARY DISTRICT WASTEWATER COLLECTION SYSTEM	PROF PROF PROF PROF 12,559 PROF PROF PROF PROF PROF PROF PROF PROF	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	ANDERSON ENGINEERING AND SURVEYING, INC. P.O. BOX 28 LAKEVIEW, OREGON 97630	07/11/2019	06/06/2019 06/12/2019 07/01/2019	REVISIONS
3	CRESCENT, OREGON	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	RC	RC RC RC	BY
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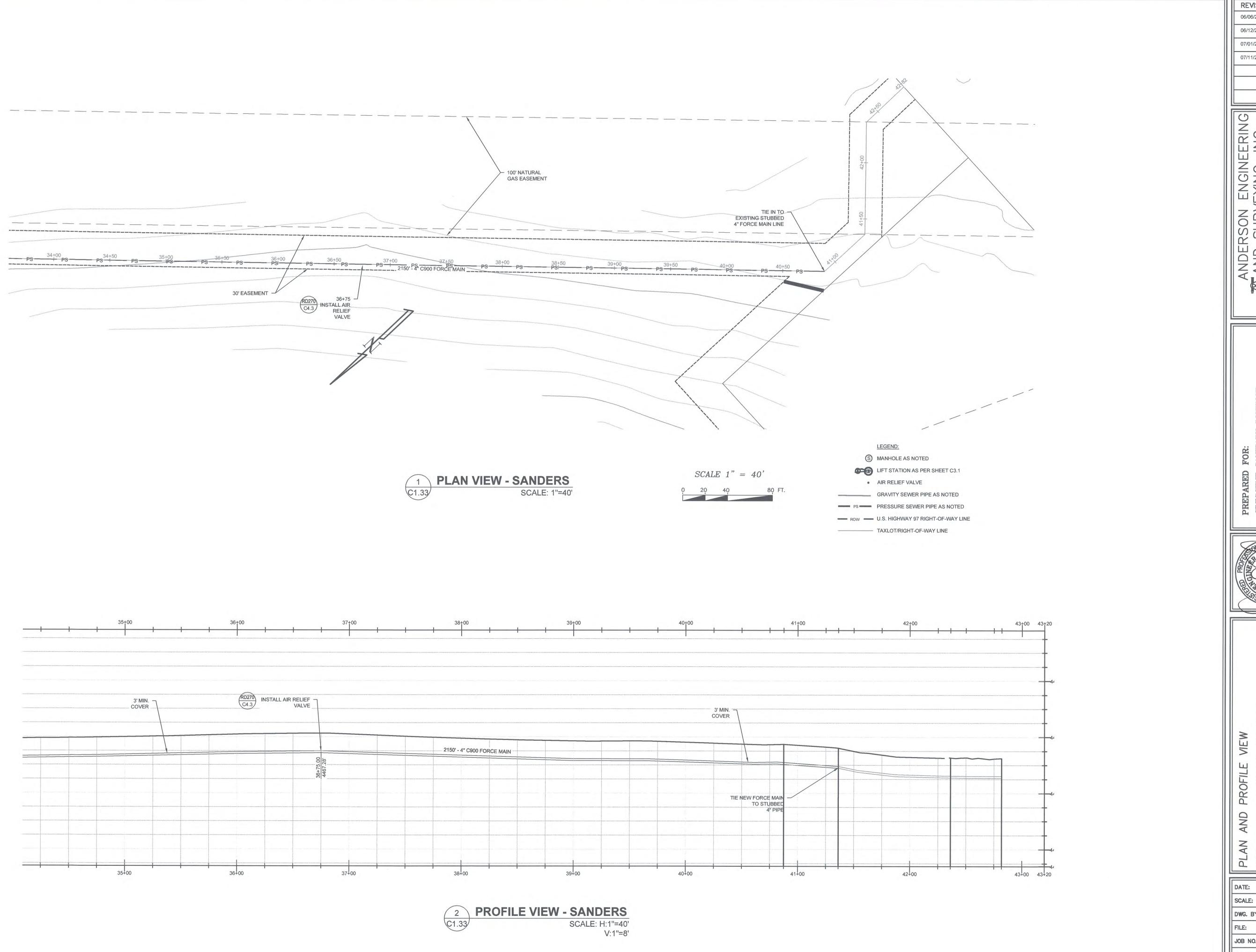


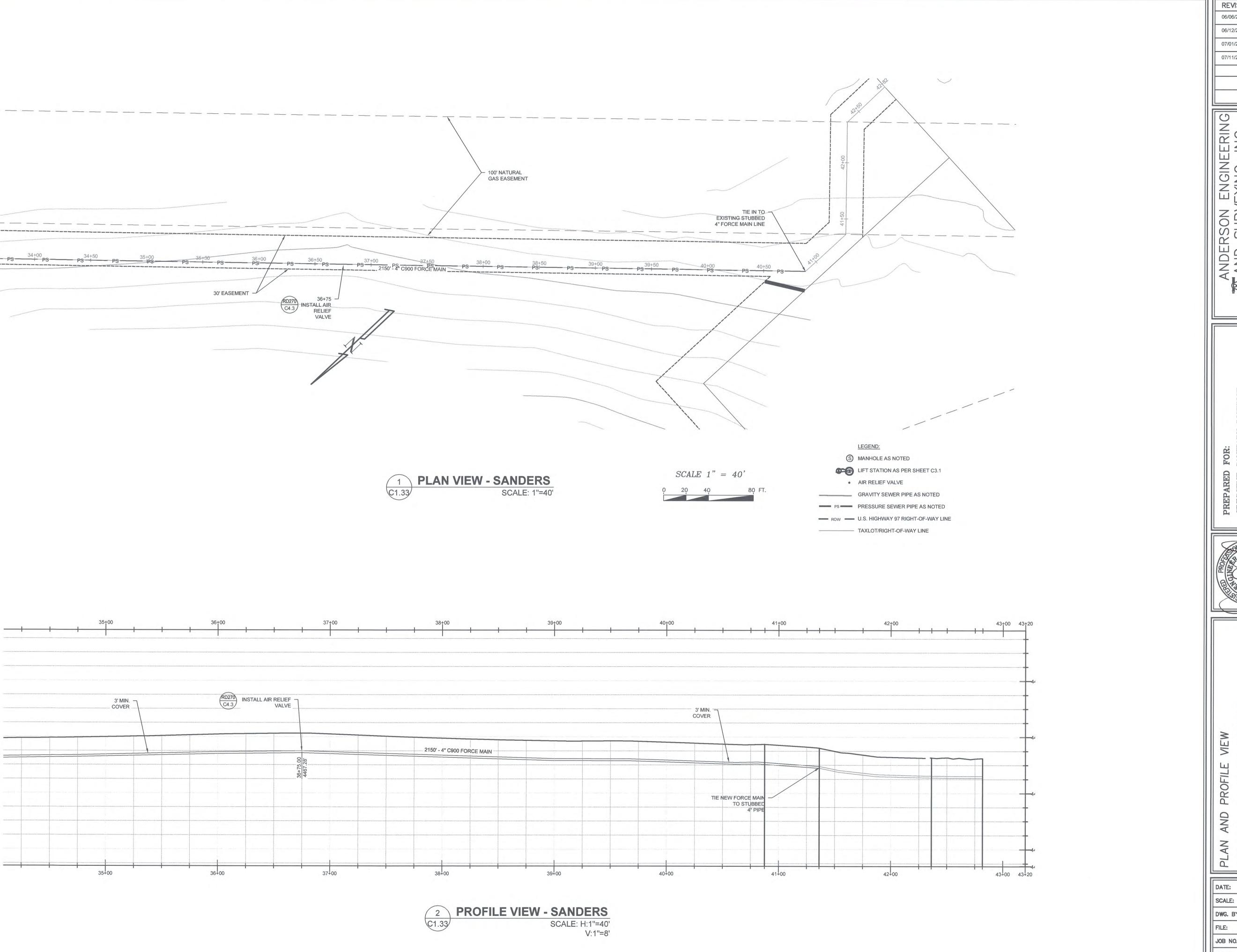
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DATE: 11/08/2017 SCALE: 1"=40' DWG. BY: R.C. FILE: 2017-063 JOB NO.: 2017-063 SHEET C1.31	PLAN AND PROFILE VIEW CRESCENT SANITARY DISTRICT WASTEWATER COLLECTION SYSTEM CRESCENT, OREGON	EE TO DECON	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	ANDERSON ENGINEERING AND SURVEYING, INC. P.O. BOX 28 LAKEVIEW, OREGON 97630 (541) 947-4407 FAX 947-2321 WWW ANDERSONENCINEERING COM	REVISIONS         BY           06/06/2019         RC           06/12/2019         RC           07/01/2019         RC           07/11/2019         RC
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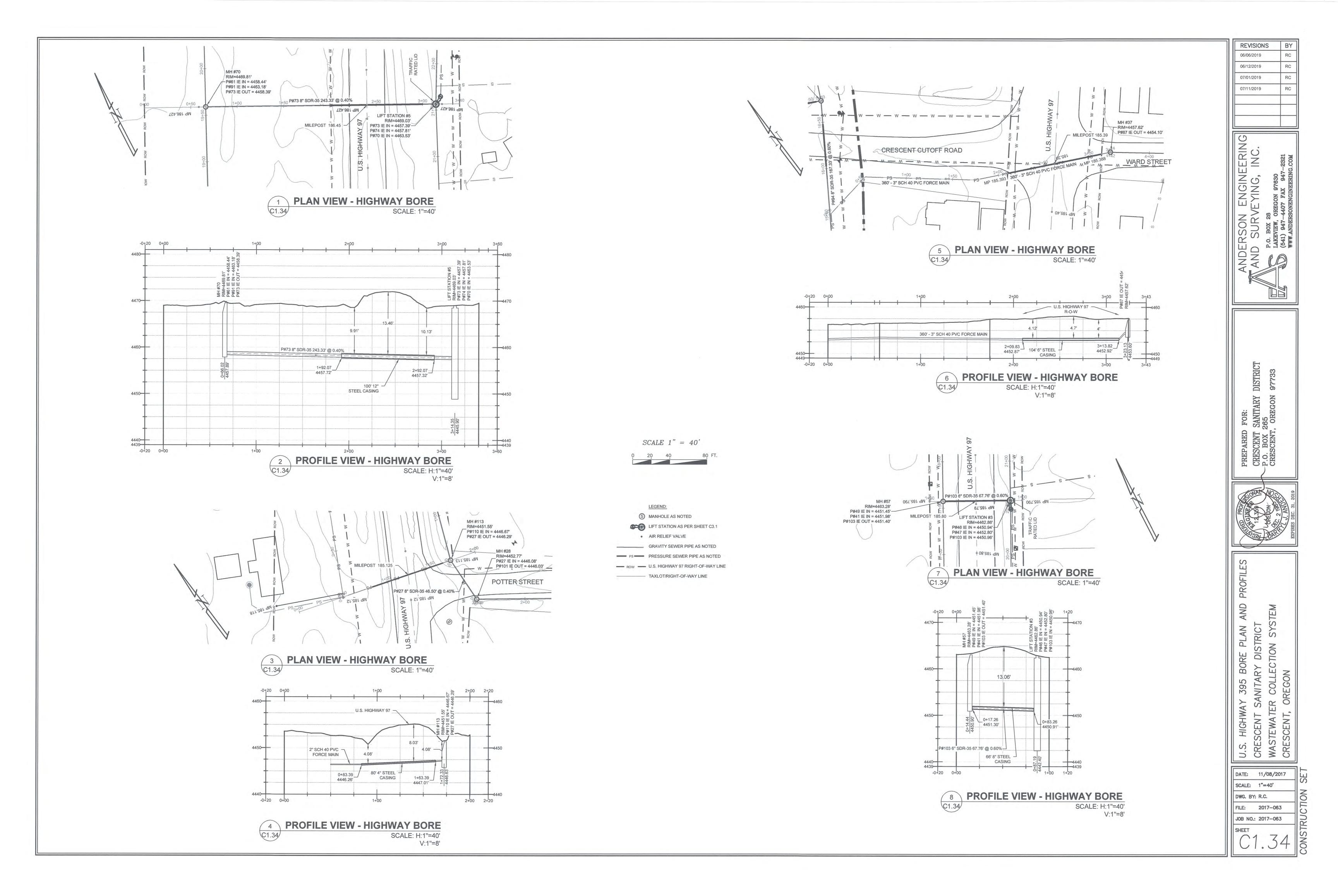


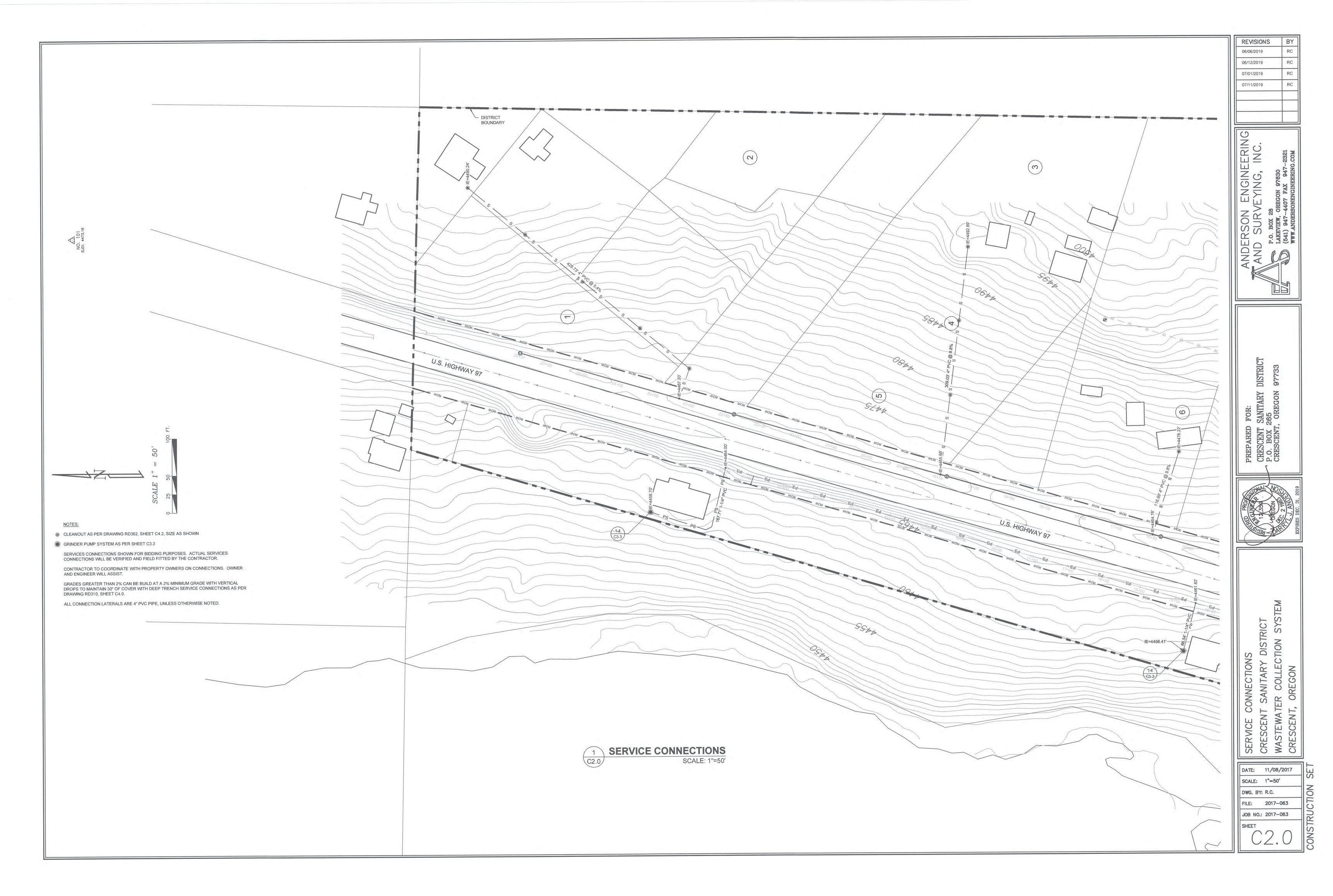
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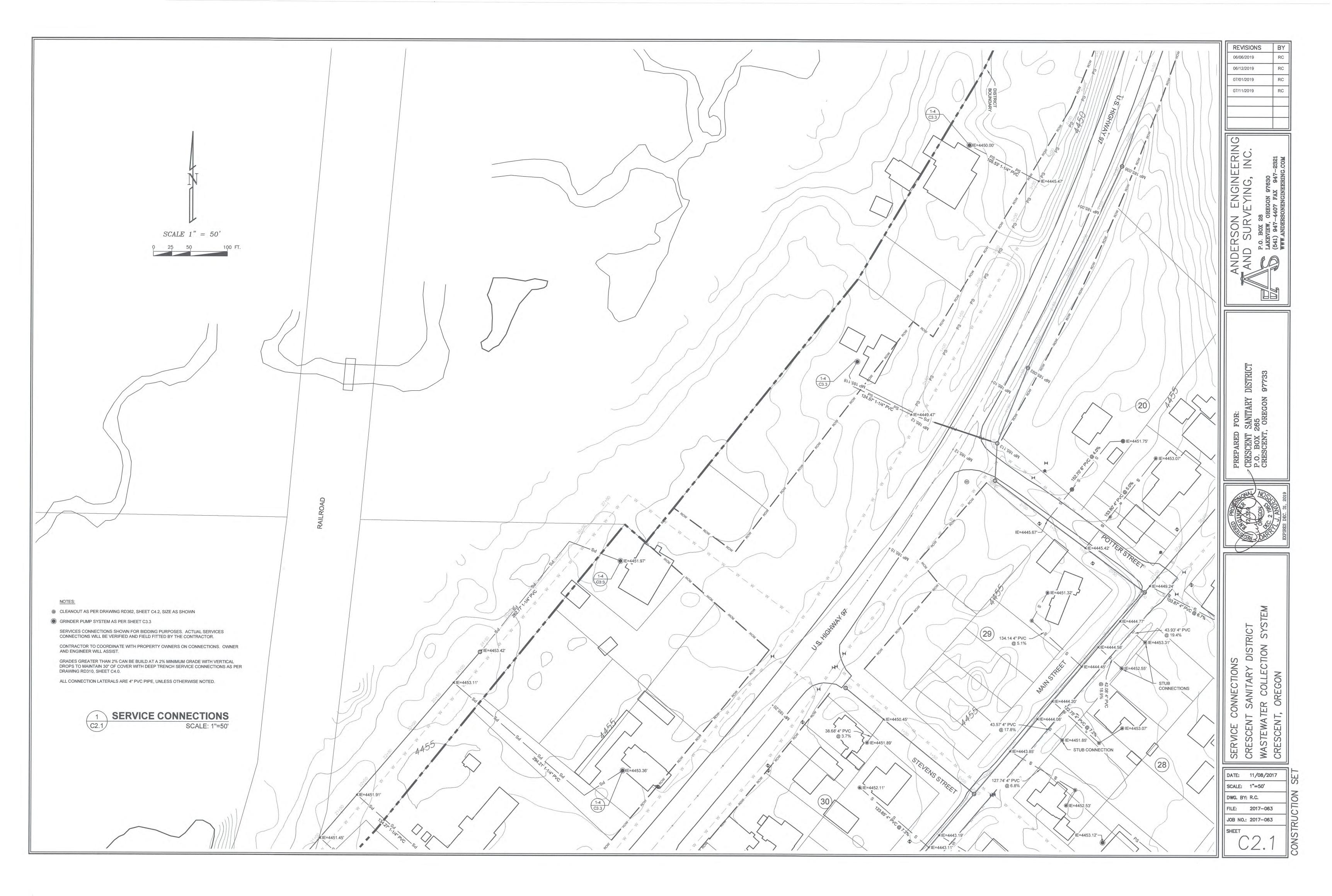


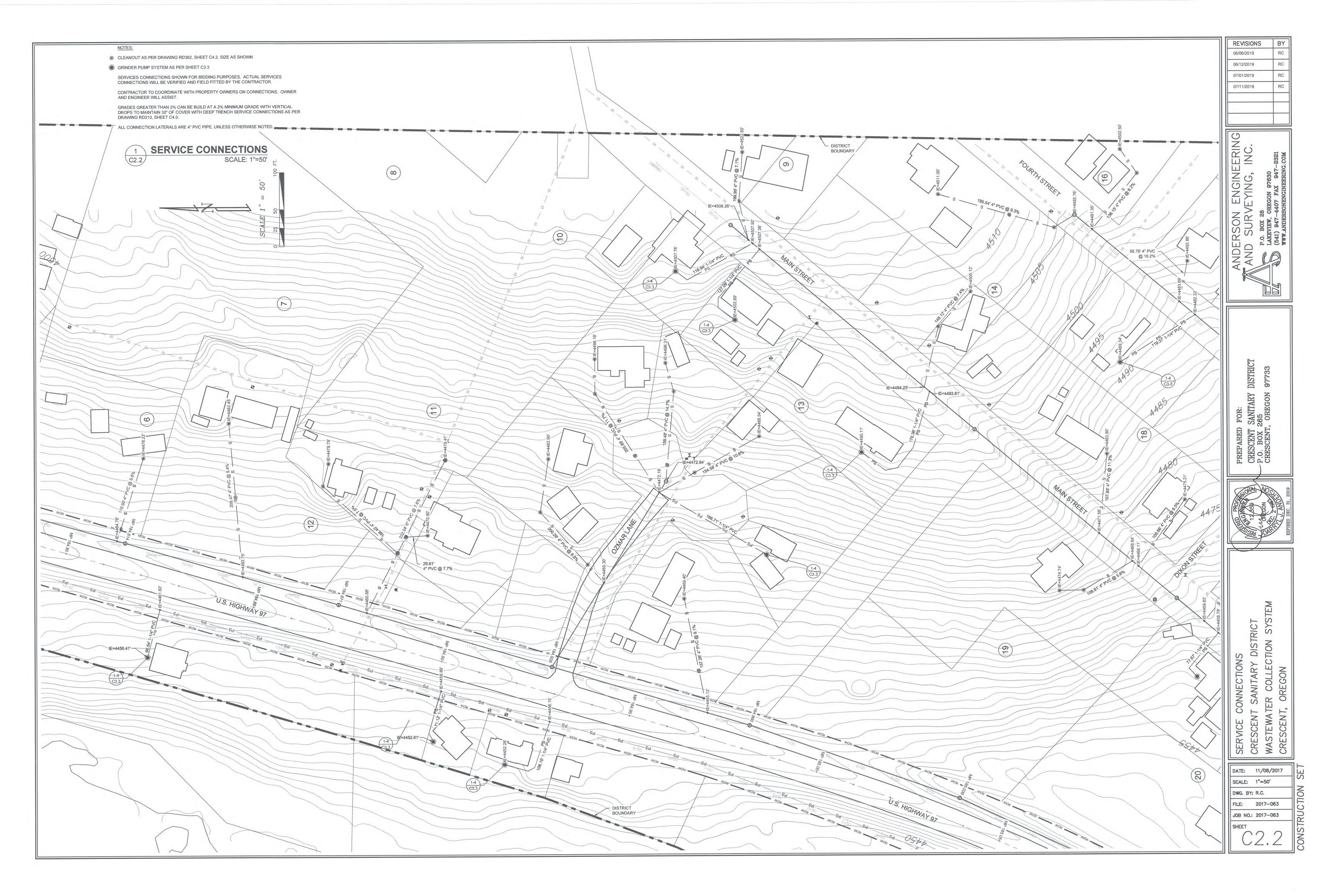


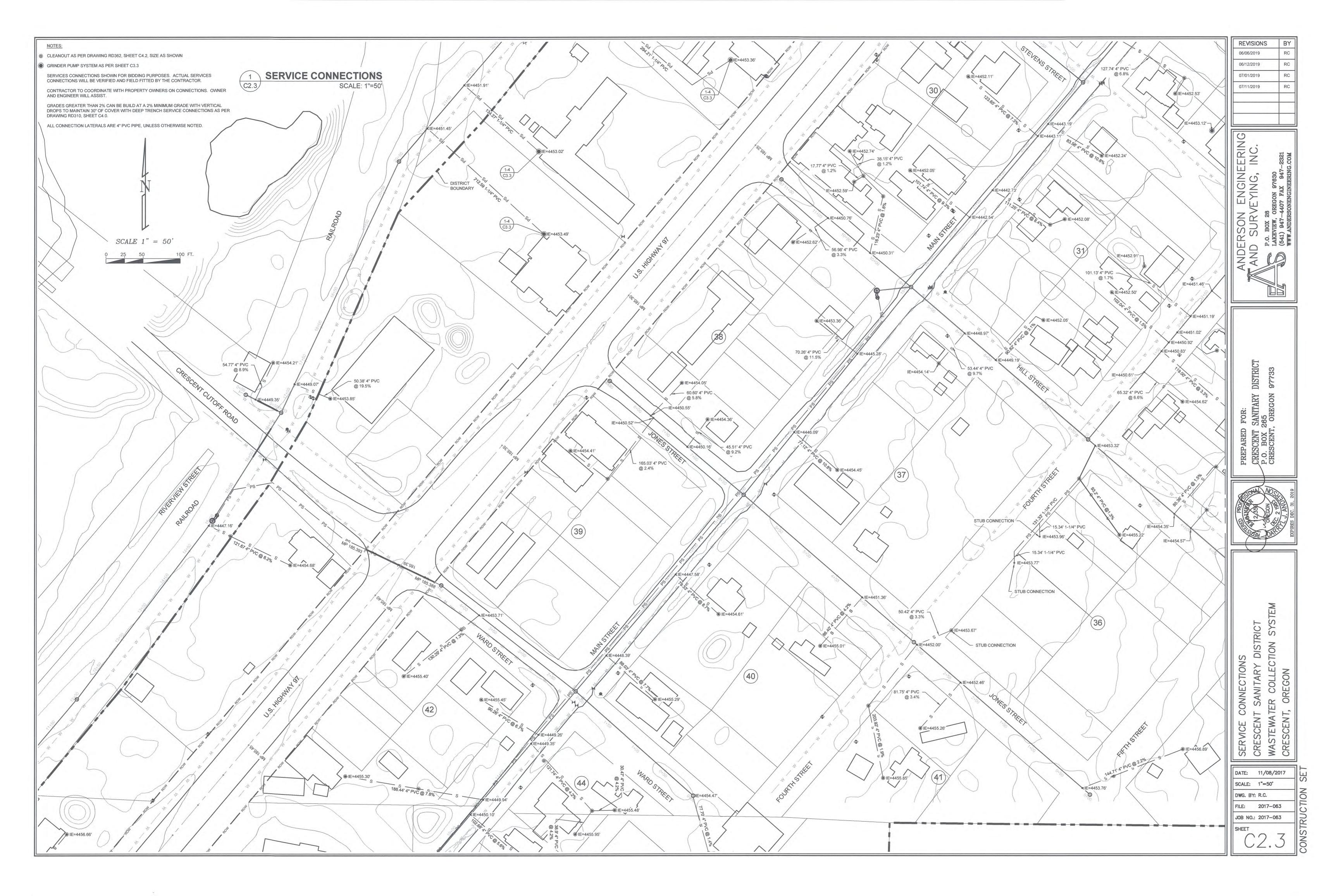
DATE: 11/08/201 DATE: 11/08/201 SCALE: 1"=40' DWG. BY: R.C. FILE: 2017-063 SHEET C1.3	HILL CONTRACTOR OF	PREPARED FOR: CRESCENT SANITARY DISTRICT P.O. BOX 265 CRESCENT, OREGON 97733	NGI VINC	REVISIONS           06/06/2019           06/12/2019           07/01/2019           07/11/2019
CU CRESCENT, OREGON	EXPIRES DEC. 31, 2019		WWW.ANDERSONENGINEERING.COM	BY RC RC RC RC
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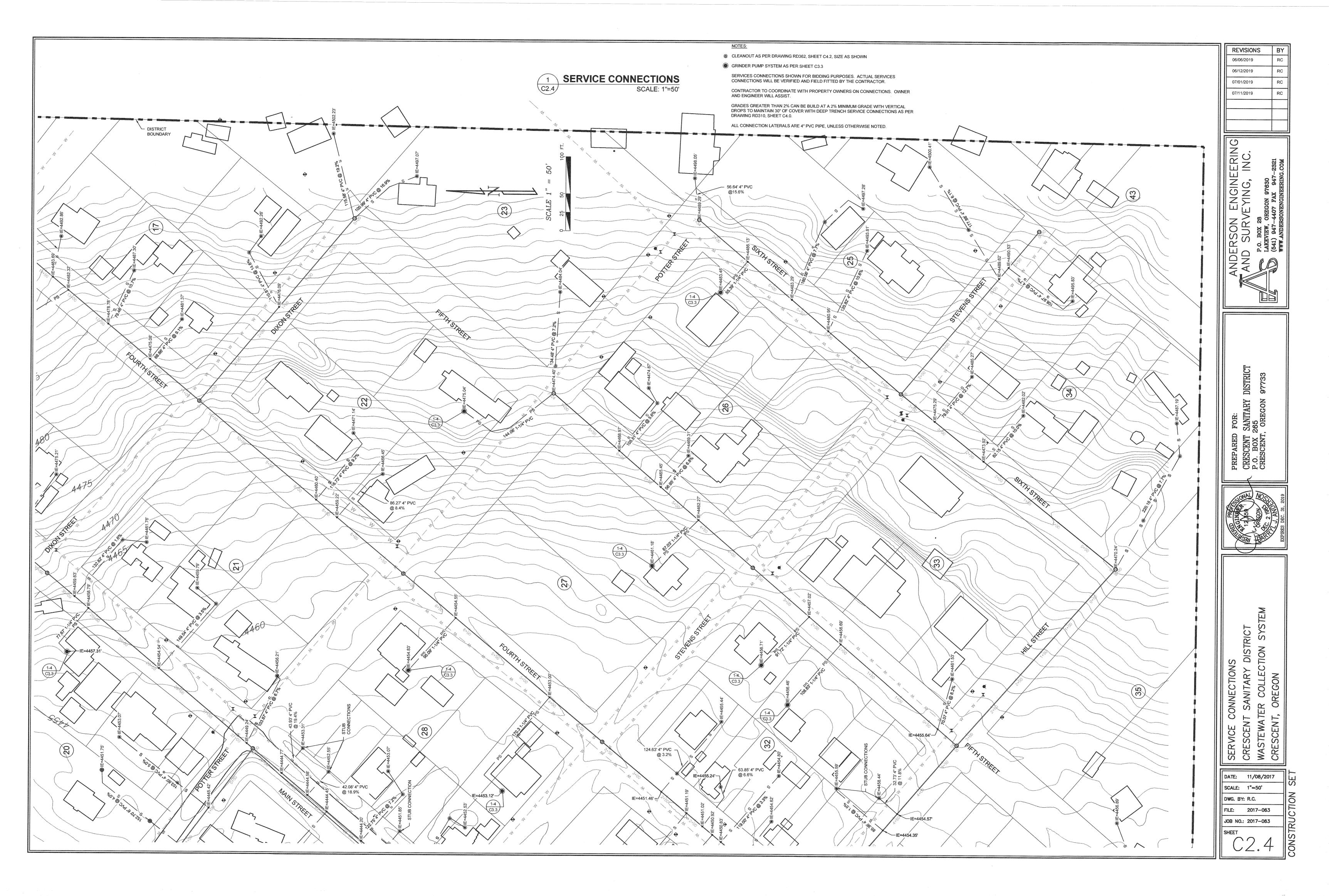


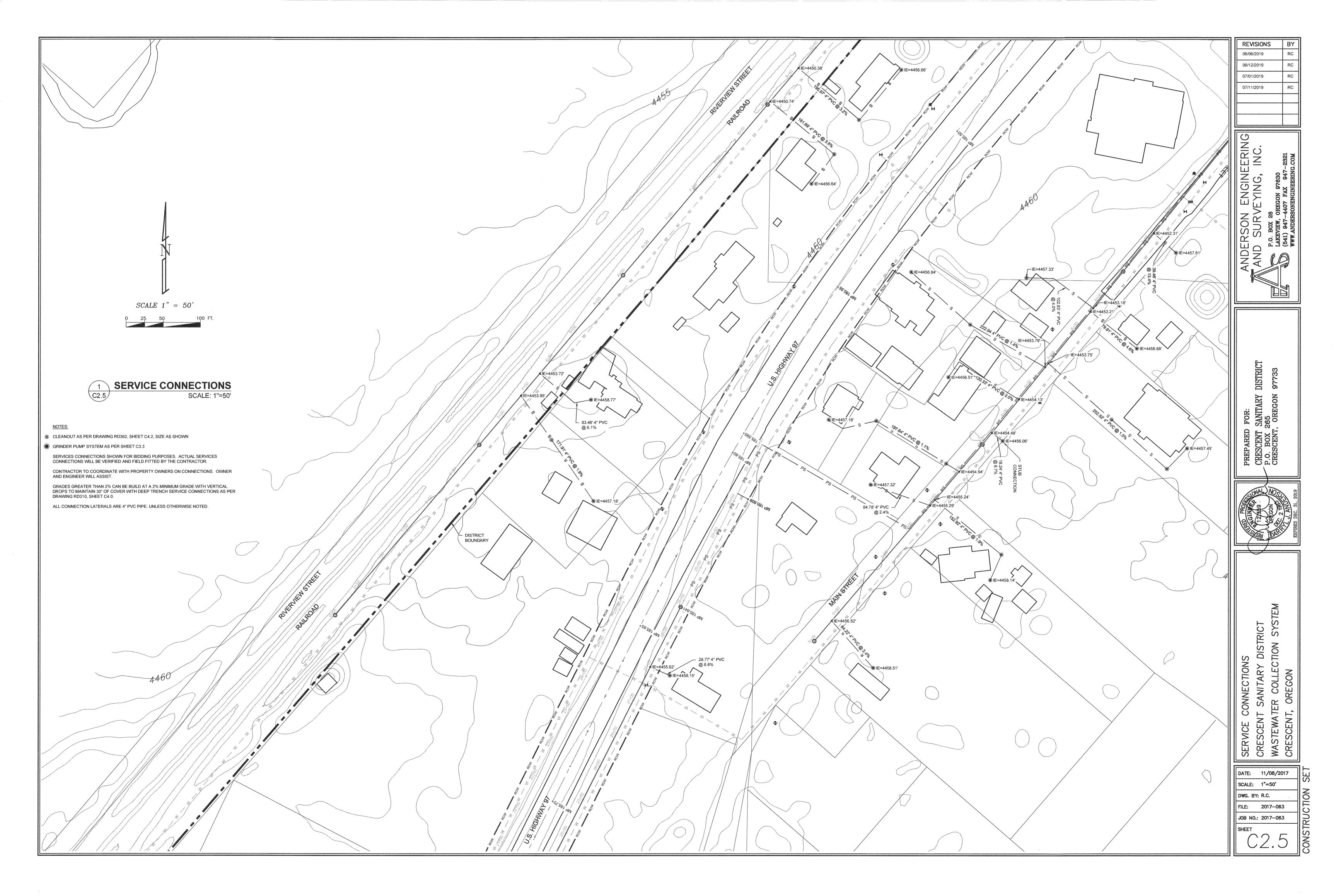


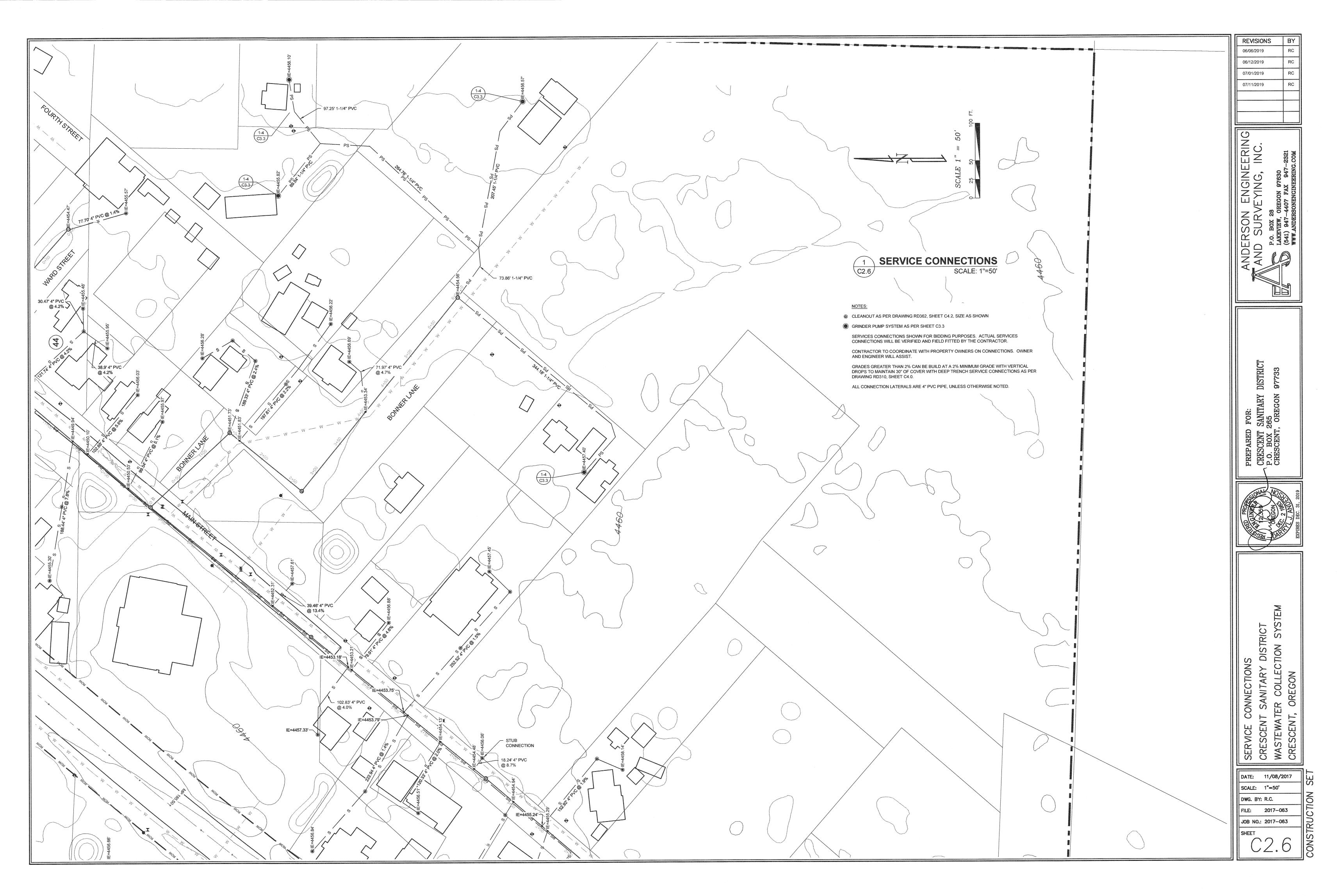


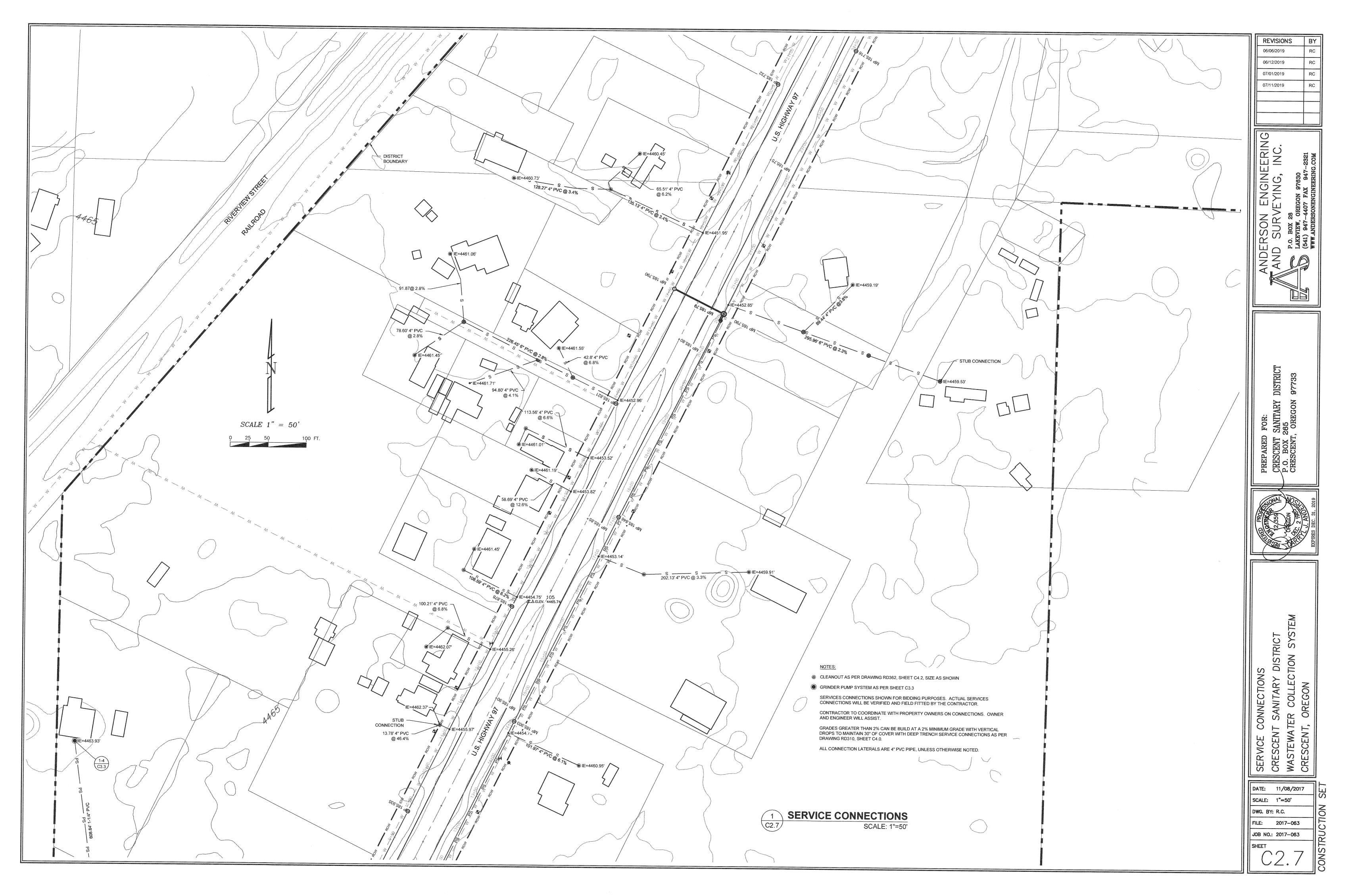


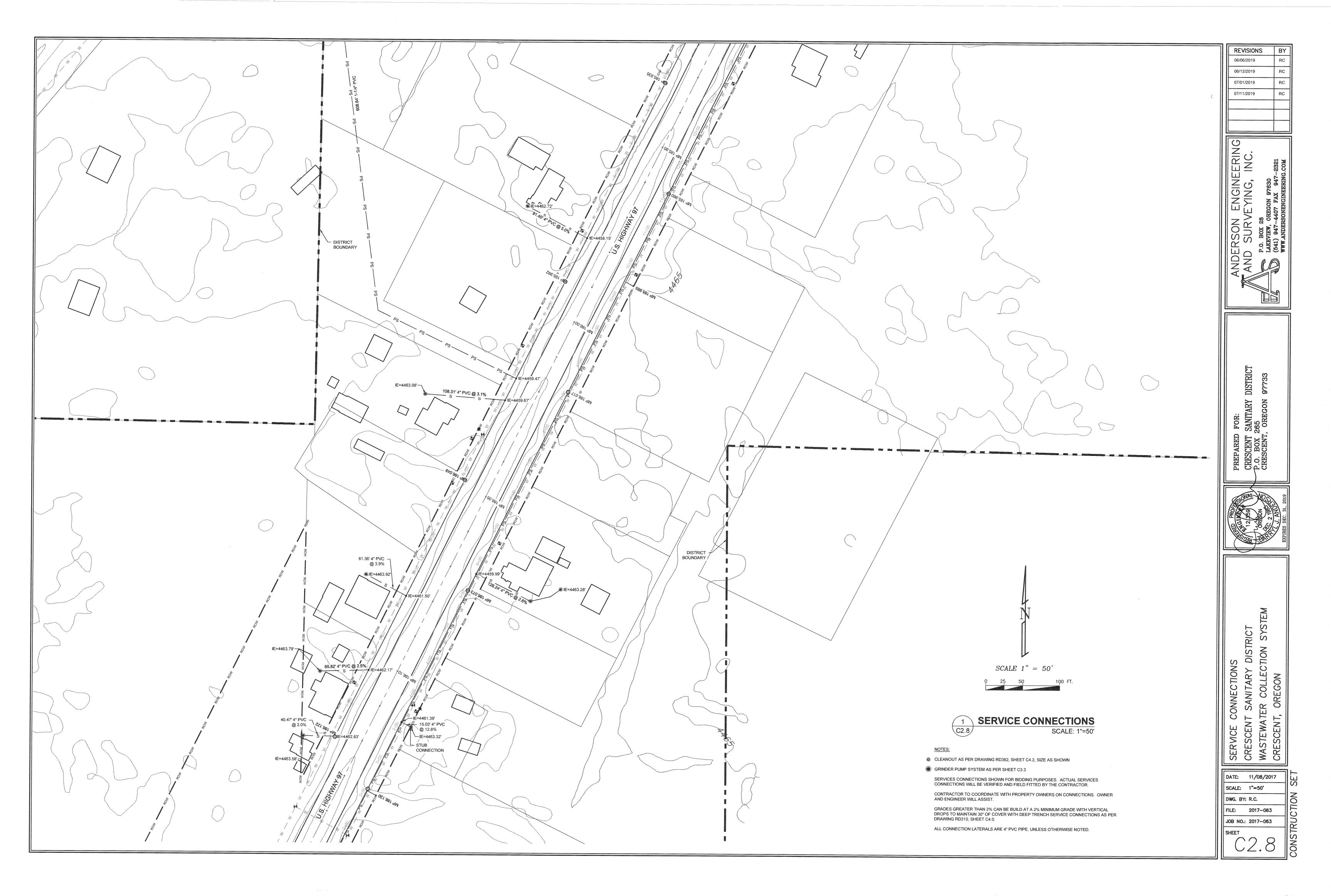


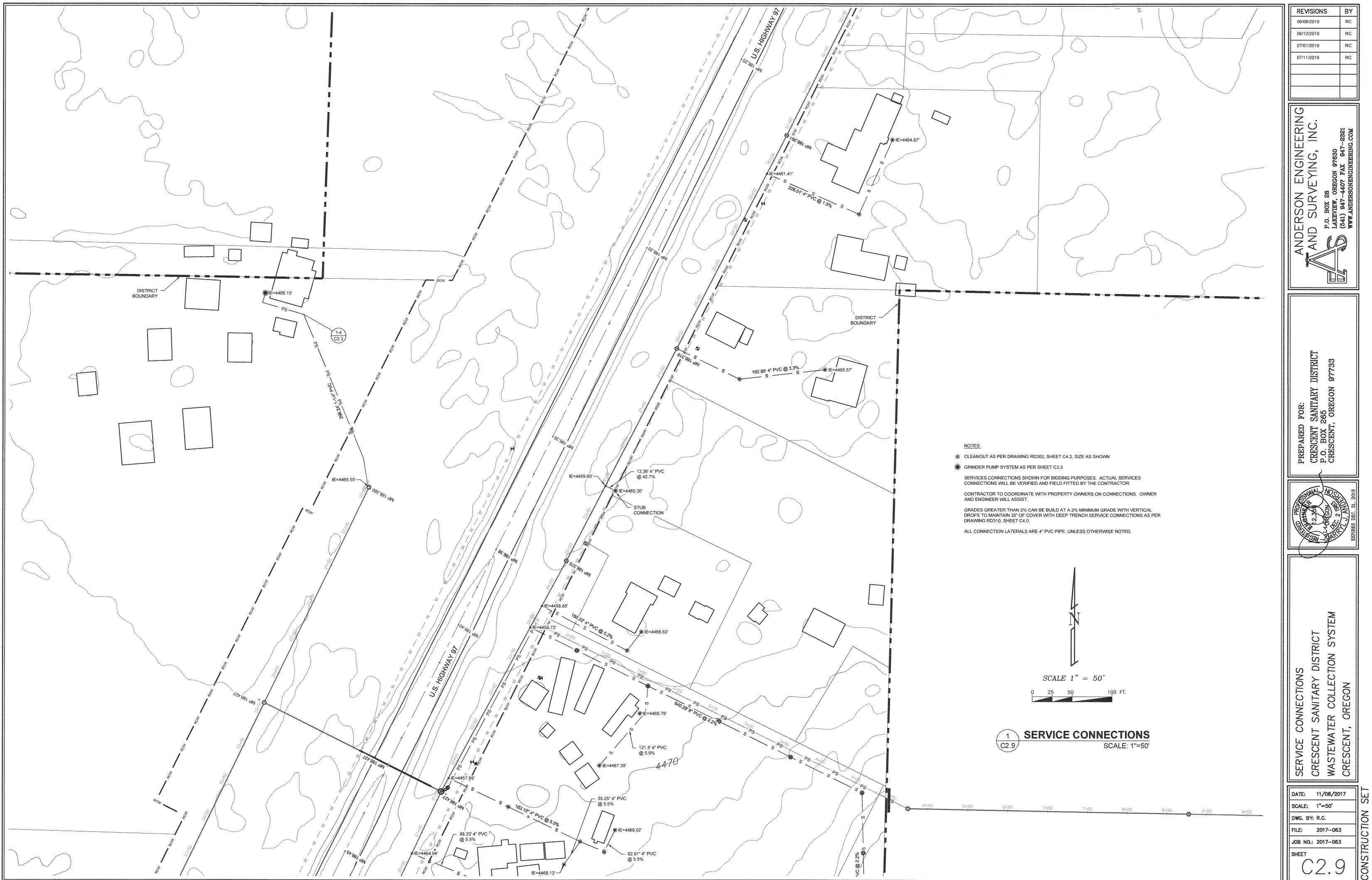


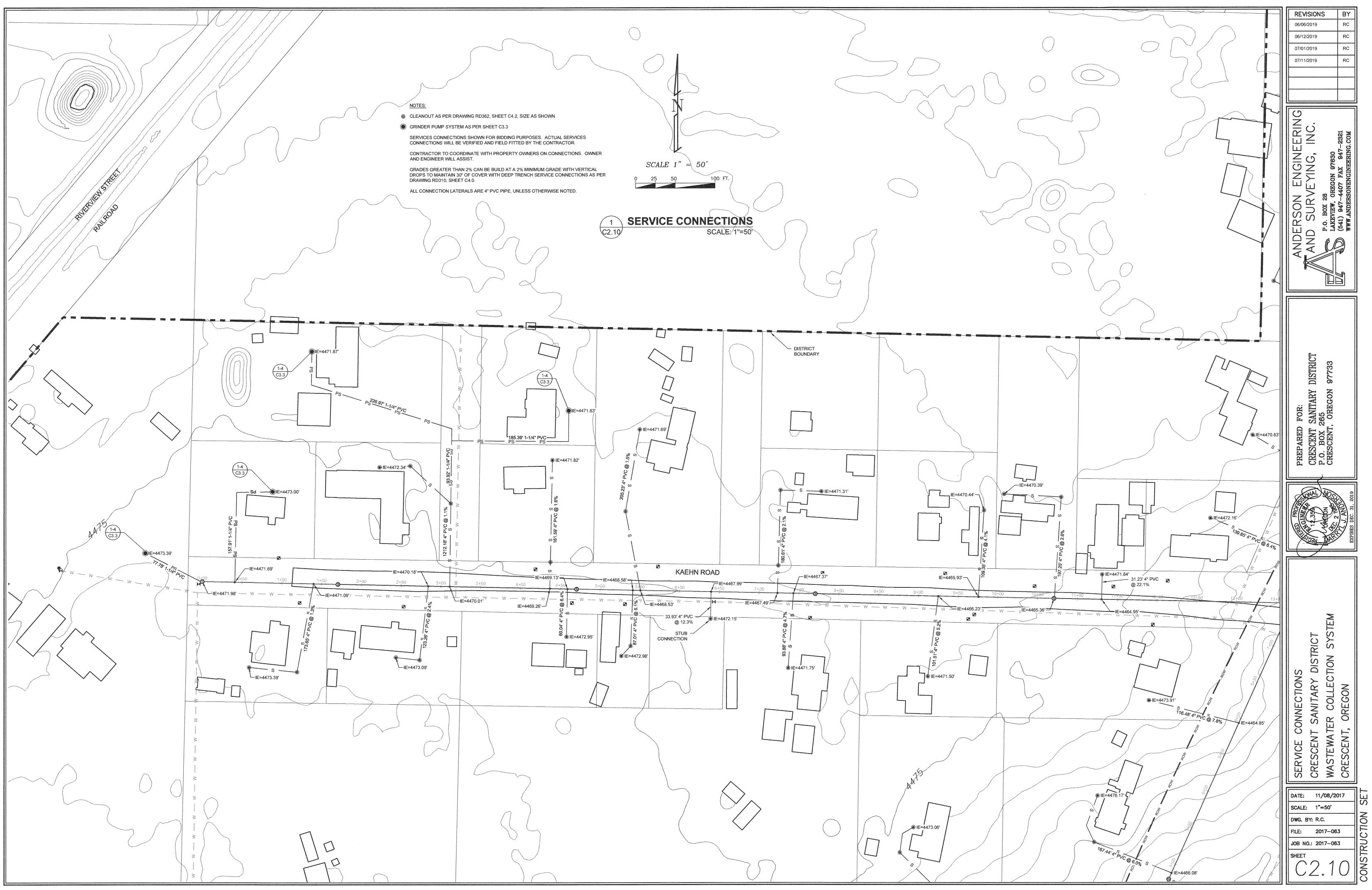


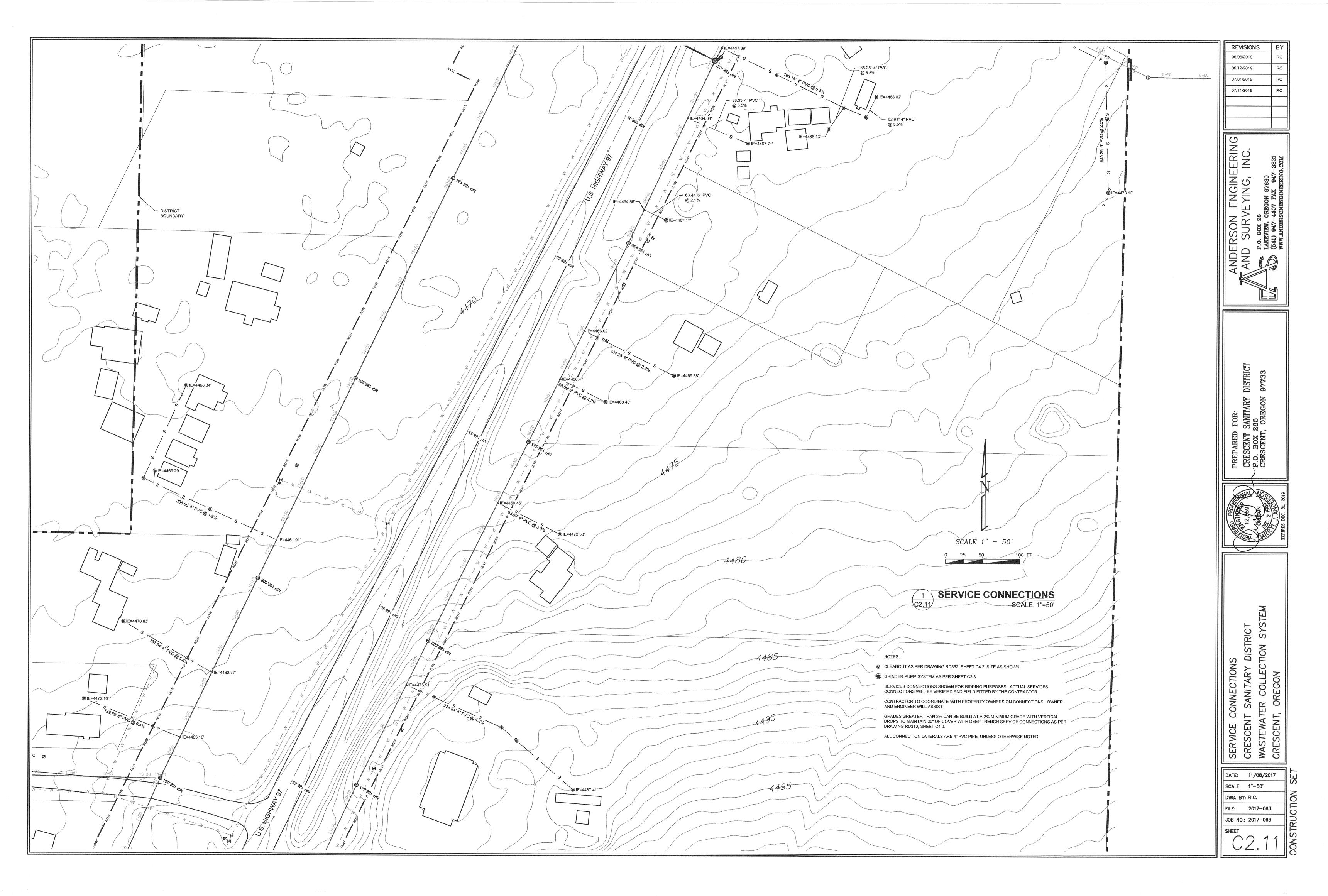


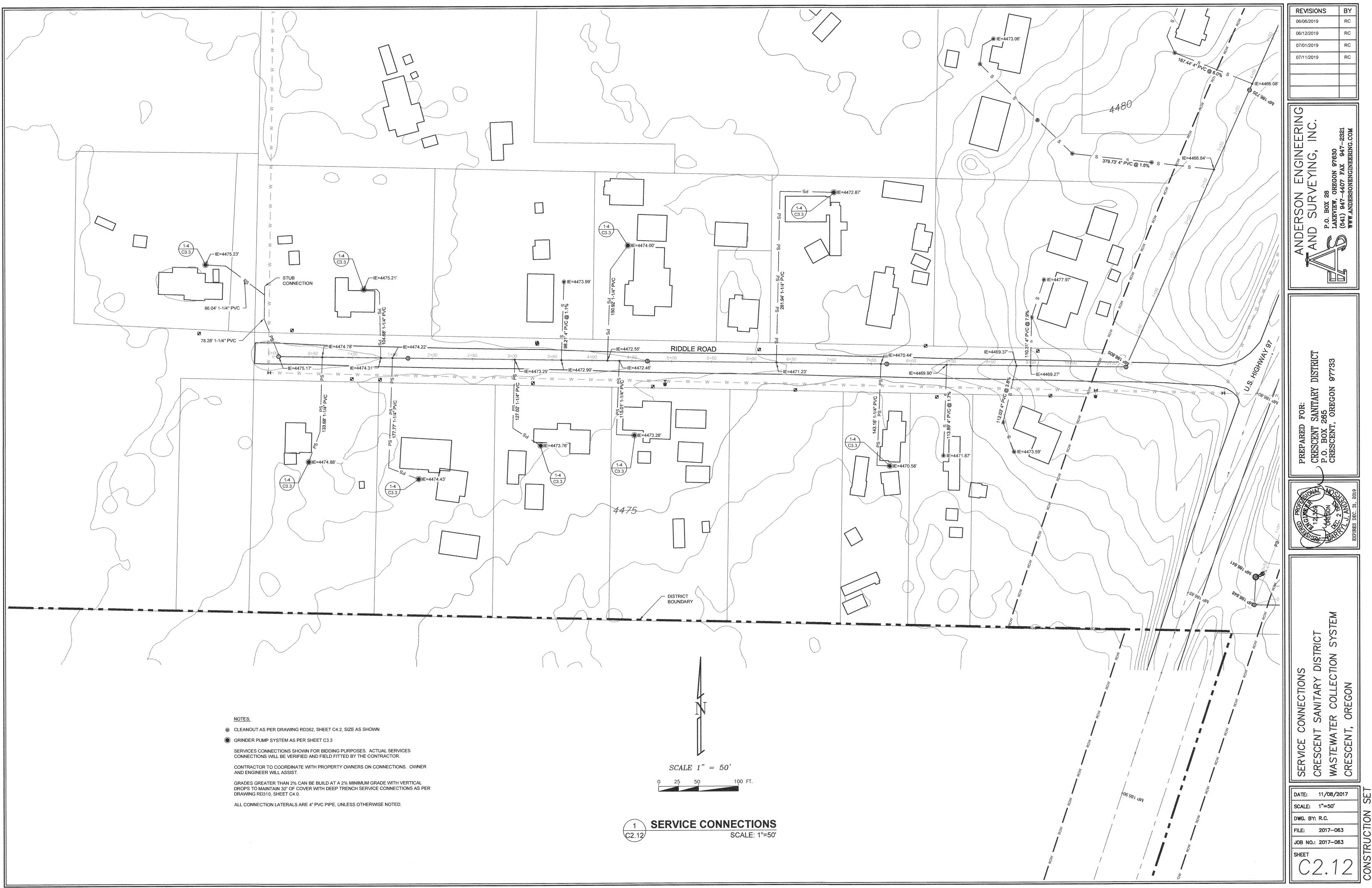


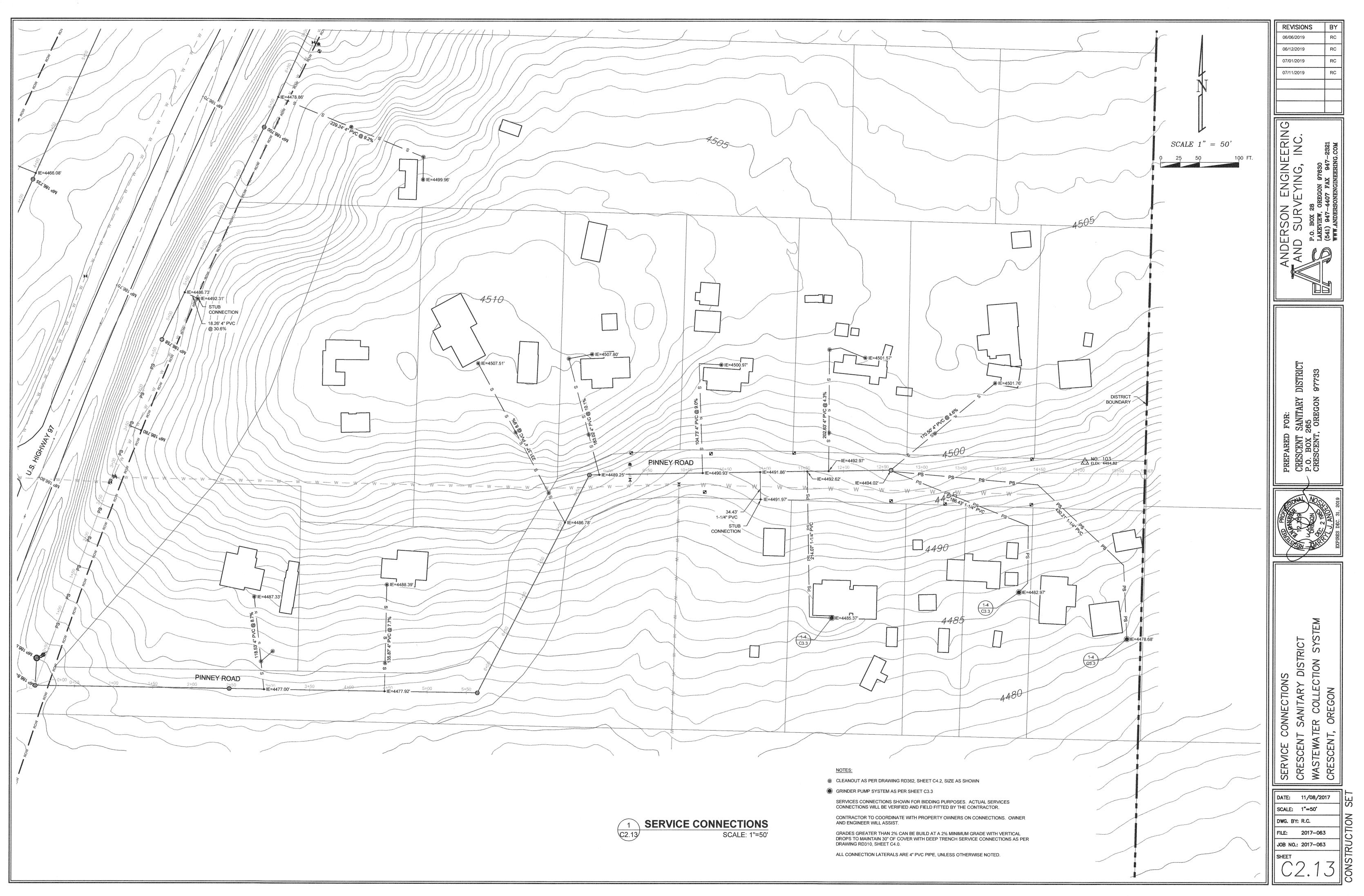












Structure Table					
Structure Name	Structure Details				
LIFT STATION #1	RIM = 4457.30 P#94 IE IN = 4447.73 P#99 IE IN = 4447.11				
LIFT STATION #2	RIM = 4456.13 P#107 IE IN = 4441.81				
LIFT STATION #3	RIM = 4462.86 P#46 IE IN = 4450.94 P#47 IE IN = 4452.80 P#103 IE IN = 4450.96				
LIFT STATION #4	RIM = 4480.54 P#109 IE IN = 4473.93				
LIFT STATION #5	RIM = 4469.03 P#73 IE IN = 4457.39 P#74 IE IN = 4457.81 P#70 IE IN = 4463.53				
LIFT STATION #6	RIM = 4463.17 P#82 IE IN = 4458.04				
MH #1	RIM = 4496.66 P#24 IE IN = 4490.22 P#1 IE OUT = 4482.52				
MH #2	RIM = 4468.33 P#1 IE IN = 4464.73 P#2 IE OUT = 4461.28				
MH #3	RIM = 4456.57 P#2 IE IN = 4448.87 P#101 IE IN = 4445.02 P#3 IE OUT = 4444.97				
MH #4	P#3 IE OUT = 4444.97 RIM = 4455.36 P#3 IE IN = 4443.55 P#89 IE IN = 4449.47 P#25 IE OUT = 4443.49				
MH #5	RIM = 4460.15 P#4 IE OUT = 4456.73				
MH #6	RIM = 4458.93 P#4 IE IN = 4454.65 P#5 IE OUT = 4454.60				
MH #7	RIM = 4458.66 P#5 IE IN = 4452.80 P#6 IE OUT = 4452.75				
MH #8	RIM = 4458.02 P#6 IE IN = 4450.95 P#85 IE IN = 4450.81 P#7 IE OUT = 4450.76				
MH #9	RIM = 4457.82 P#7 IE IN = 4448.79 P#10 IE IN = 4452.46 P#87 IE IN = 4452.72 P#8 IE OUT = 4448.74				
MH #10	RIM = 4457.34 P#8 IE IN = 4446.79 P#88 IE IN = 4449.55 P#26 IE IN = 4450.10 P#9 IE OUT = 4446.74				
MH #11	RIM = 4456.49 P#9 IE IN = 4444.59 P#13 IE IN = 4448.59 P#35 IE IN = 4449.88 P#25 IE IN = 4442.05 P#107 IE OUT = 4442.00				
MH #12	RIM = 4457.93 P#10 IE OUT = 4454.50				
MH #13	RIM = 4456.85 P#86 IE IN = 4451.97 P#26 IE OUT = 4451.92				
MH #14	RIM = 4477.12 P#15 IE IN = 4470.24 P#11 IE OUT = 4470.08				

Structure Table					
Structure Name	Structure Details				
MH #15	RIM = 4462.01 P#11 IE IN = 4455.44 P#18 IE IN = 4455.44 P#12 IE OUT = 4455.39				
MH #16	RIM = 4456.92 P#12 IE IN = 4453.23 P#22 IE IN = 4449.90 P#13 IE OUT = 4449.85 RIM = 4493.54 P#14 IE OUT = 4489.24 RIM = 4483.94 P#14 IE IN = 4476.28 P#16 IE IN = 4476.23 RIM = 4501.28 P#16 IE OUT = 4493.47				
MH #17					
MH #18					
MH #19					
MH #20	RIM = 4477.95 P#17 IE OUT = 4474.51				
MH #21	RIM = 4464.40 P#17 IE IN = 4457.68 P#18 IE OUT = 4457.63				
MH #22	RIM = 4504.40 P#19 IE OUT = 4492.89				
MH #23	RIM = 4475.62 P#19 IE IN = 4470.73 P#23 IE IN = 4471.91 P#20 IE OUT = 4467.02 RIM = 4461.02 P#20 IE IN = 4455.47 P#21 IE OUT = 4455.42 RIM = 4457.83 P#21 IE IN = 4452.13 P#22 IE OUT = 4452.09				
MH #24					
MH #25					
MH #26	RIM = 4494.69 P#23 IE OUT = 4480.05				
MH #27	RIM = 4514.69 P#24 IE OUT = 4509.67 RIM = 4452.77 P#27 IE IN = 4446.08 P#101 IE OUT = 4446.03				
MH #28					
MH #29	RIM = 4452.11 P#28 IE IN = 4447.45 P#110 IE OUT = 4447.40				
MH #30	RIM = 4453.63 P#29 IE IN = 4449.85 P#28 IE OUT = 4449.82				
MH #31	RIM = 4458.63 P#30 IE IN = 4454.50 P#29 IE OUT = 4454.55				
MH #32	RIM = 4462.30 P#31 IE IN = 4457.42 P#36 IE IN = 4458.85 P#30 IE OUT = 4457.39				
MH #33	RIM = 4465.29 P#32 IE IN = 4461.45 P#31 IE OUT = 4461.41				
MH #34	RIM = 4468.85 P#33 IE IN = 4464.39 P#32 IE OUT = 4464.33				

Sti	ructure Table				
Structure Name	Structure Details				
MH #35	RIM = 4470.80 P#34 IE IN = 4465.64 P#33 IE OUT = 4465.59				
MH #36	RIM = 4470.88 P#90 IE IN = 4466.89 P#34 IE OUT = 4466.84				
MH #37	RIM = 4457.62 P#87 IE OUT = 4454.10				
MH #38	RIM = 4456.52 P#88 IE OUT = 4451.00				
MH #39	RIM = 4456.27 P#35 IE OUT = 4451.25				
MH #40	RIM = 4484.65 P#36 IE OUT = 4473.05				
MH #41	RIM = 4466.16 P#37 IE OUT = 4462.78				
MH #42	RIM = 4465.75 P#37 IE IN = 4460.44 P#108 IE OUT = 4460.39				
MH #43	RIM = 4465.26 P#108 IE IN = 4458.59 P#38 IE OUT = 4458.54				
MH #44	RIM = 4464.84 P#38 IE IN = 4456.74 P#39 IE OUT = 4456.69				
MH #45	RIM = 4464.42 P#39 IE IN = 4454.89 P#40 IE OUT = 4454.84				
MH #46	RIM = 4463.87 P#40 IE IN = 4453.04 P#41 IE OUT = 4452.99				
MH #47	RIM = 4460.98 P#49 IE OUT = 4453.26				
MH #49	RIM = 4466.99 P#43 IE OUT = 4463.59				
MH #50	RIM = 4466.54 P#106 IE IN = 4460.19 P#104 IE OUT = 4460.14				
MH #51	RIM = 4465.31 P#105 IE IN = 4456.49 P#44 IE OUT = 4456.44				
MH #52	RIM = 4464.72 P#44 IE IN = 4454.64 P#45 IE OUT = 4454.59				
MH #53	RIM = 4463.26 P#45 IE IN = 4452.79 P#46 IE OUT = 4452.74				
MH #55	RIM = 4460.67 P#48 IE IN = 4454.39 P#47 IE OUT = 4454.34				
MH #56	RIM = 4460.01 P#48 IE OUT = 4455.98				

<u> </u>
Structure Name
MH #57
MH #58
MH #59
MH #60
MH #61
MH #62
MH #63
MH #64
MH #65
MH #66
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MH #68
MH #69
MH #70
MH #71
MH #72
MH #73
MH #74
MH #75
MH #76

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ucture Table
Structure Details
RIM = 4463.28 P#49 IE IN = 4451.45
P#41 IE IN = 4451.98 P#103 IE OUT = 4451.40
RIM = 4478.65 P#50 IE OUT = 4475.12
RIM = 4478.01
P#50 IE IN = 4474.10 P#51 IE OUT = 4474.05
RIM = 4477.12 P#51 IE IN = 4472.25
P#52 IE OUT = 4472.20
RIM = 4475.66
P#52 IE IN = 4470.40 P#53 IE OUT = 4470.35
RIM = 4481.21
P#53 IE IN = 4468.55 P#54 IE OUT = 4468.45
RIM = 4483.60 P#54 IE IN = 4466.18
P#55 IE OUT = 4466.13
RIM = 4477.94 P#55 IE IN = 4463.86
P#60 IE IN = 4463.51
P#64 IE OUT = 4463.41
RIM = 4475.45 P#56 IE OUT = 4471.93
RIM = 4475.79
P#56 IE IN = 4470.91 P#57 IE OUT = 4470.86
RIM = 4475.48
P#57 IE IN = 4469.06
P#58 IE OUT = 4469.01
RIM = 4474.13 P#58 IE IN = 4467.21
P#59 IE OUT = 4467.16
RIM = 4474.36
P#59 IE IN = 4465.36 P#60 IE OUT = 4465.31
RIM = 4469.81
P#61 IE IN = 4458.44 P#91 IE IN = 4463.18
P#91 IE IN = 4463.18 P#73 IE OUT = 4458.39
RIM = 4469.40
P#62 IE IN = 4459.70 P#61 IE OUT = 4459.64
RIM = 4470.74
P#63 IE IN = 4460.95
P#62 IE OUT = 4460.90
RIM = 4473.78 P#64 IE IN = 4462.21
P#63 IE OUT = 4462.15
RIM = 4492.42
P#65 IE OUT = 4488.90
RIM = 4488.41 P#65 IE IN = 4479.14
P#66 IE OUT = 4479.14
RIM = 4483.49
P#66 IE IN = 4477.18 P#67 IE OUT = 4477.13

Structure Table Structure Name Structure De RIM = 4479 P#67 IE IN = 44 P#68 IE OUT = 4	taile				
RIM = 4479 MH #77 P#67 IE IN = 44	1.01.01				
8 i	0.29				
RIM = 4471	P#67 IE IN = 4474.80 P#68 IE OUT = 4474.75 RIM = 4471.76				
MH #78 P#68 IE IN = 4 P#69 IE OUT = 4	4467.05				
MH #79 P#69 IE IN = 44	RIM = 4470.09 P#69 IE IN = 4465.21 P#70 IE OUT = 4465.16 RIM = 4468.02 P#100 IE IN = 4459.18 P#74 IE OUT = 4459.13 RIM = 4467.31 P#71 IE IN = 4460.43 P#100 IE OUT = 4460.38				
MH #80 P#100 IE IN = 4					
MH #81 P#71 IE IN = 44					
MH #82 P#72 IE IN = 44	RIM = 4467.62 P#72 IE IN = 4461.69 P#71 IE OUT = 4461.63				
MH #83 RIM = 4466 P#72 IE OUT = 4					
MH #85 RIM = 4498 P#102 IE OUT =					
RIM = 4499 MH #86 P#102 IE IN = 4 P#75 IE OUT = 4	489.09				
RIM = 4482 MH #87 P#75 IE IN = 44 P#76 IE OUT = 4	78.68				
RIM = 4483 P#76 IE IN = 44 P#77 IE OUT = 4	76.73				
RIM = 4479 P#77 IE IN = 44 P#109 IE OUT =	74.19				
MH #90 RIM = 4454 P#89 IE OUT = 4					
RIM = 4466 P#43 IE IN = 44 P#106 IE OUT = 4	62.04				
RIM = 4465 P#104 IE IN = 4 P#105 IE OUT = 4	458.34				
MH #93 RIM = 4475 P#78 IE OUT = 4					
RIM = 4479 P#78 IE IN = 44 P#79 IE OUT = 4	70.31				
RIM = 4480 P#79 IE IN = 44 P#80 IE OUT = 4	69.05				
RIM = 4478 P#80 IE IN = 44 P#81 IE OUT = 4	67.80				
RIM = 4465 MH #97 P#81 IE IN = 44 P#82 IE OUT = 4	62.05				

Structure Table				
Structure Name	Structure Details			
MH #99	RIM = 4457.20 P#83 IE OUT = 4454.51			
MH #100	RIM = 4458.74 P#83 IE IN = 4452.52 P#84 IE OUT = 4452.47			
MH #101	RIM = 4457.91 P#84 IE IN = 4451.73 P#85 IE OUT = 4451.68			
MH #102	RIM = 4458.02 P#86 IE OUT = 4453.85			
MH #103	RIM = 4472.37 P#90 IE OUT = 4468.09			
MH #104	RIM = 4468.50 P#91 IE OUT = 4464.99			
MH #105	RIM = 4456.90 P#92 IE OUT = 4453.43			
MH #106	RIM = 4455.88 P#92 IE IN = 4451.10 P#93 IE OUT = 4451.05			
MH #107	RIM = 4456.21 P#93 IE IN = 4448.81 P#112 IE IN = 4449.12 P#94 IE OUT = 4448.76			
MH #109	RIM = 4459.80 P#95 IE OUT = 4456.32			
MH #110	RIM = 4459.68 P#95 IE IN = 4454.52 P#96 IE OUT = 4454.47			
<b>MH</b> #111	RIM = 4458.01 P#97 IE IN = 4450.82 P#98 IE OUT = 4450.77			
MH #112	RIM = 4457.45 P#98 IE IN = 4448.97 P#99 IE OUT = 4448.92			
MH #113	RIM = 4451.55 P#110 IE IN = 4446.67 P#27 IE OUT = 4446.29			
MH #114	RIM = 4458.08 P#96 IE IN = 4452.67 P#97 IE OUT = 4452.62			

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Pipe Table						
Pipe Name	Size	Length	Slope	IE In	IÈ Out	
P#1	6	355.78	5.00%	4482.52'	4464.73'	
P#2	6	365.37	3.40%	4461.28'	4448.87'	
P#3	8	355.92	0.40%	4444.97'	4443.55'	
P#4	6	348.38	0.60%	4456.73'	4454.65'	
P#5	6	299.88	0.60%	4454.60'	4452.80'	
P#6	6	275.18	0.65%	4452.75'	4450.95'	
P#7	6	327.77	0.60%	4450.76'	4448.79'	
P#8	6	347.67	0.56%	4448.74'	4446.79'	
P#9	6	358.78	0.60%	4446.74'	4444.59'	
P#10	6	211.66	0.96%	4454.50'	4452.46'	
P#11	8	320.34	4.57%	4470.08'	4455.44'	
P#12	8	305.21	0.71%	4455.39'	4453.23'	
P#13	8	314.37	0.40%	4449.85'	4448.59'	
P#14	6	360.17	3.60%	4489.24'	4476.28'	
P#15	6	374.26	1.60%	4476.23'	4470.24'	
P#16	6	287.93	4.60%	4493.47'	4480.23'	
P#17	6	358.24	4.70%	4474.51'	4457.68'	
P#18	6	365.40	0.60%	4457.63'	4455.44'	
P#19	6	443.20	5.00%	4492.89'	4470.73'	
P#20	6	361.54	3.20%	4467.02'	4455.47'	

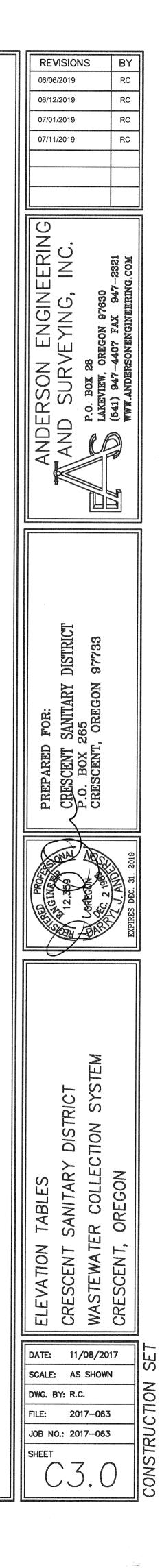
Pipe Table						
Pipe Name	Size	Length	Slope	IE In	IE Out	
P#62	8	300.00	0.40%	4460.90'	4459.70'	
P#63	8	300.00	0.40%	4462.15'	4460.95'	
P#64	8	300.00	0.40%	4463.41'	4462.21'	
P#65	6	300.17	3.25%	4488.90'	4479.14'	
P#66	6	298.91	0.66%	4479.14'	4477.18'	
P#67	6	217.09	1.07%	4477.13'	4474.80'	
P#68	6	300.02	2.55%	4474.75'	4467.11'	
P#69	6	299.88	0.62%	4467.05'	4465.21'	
P#70	6	271.72	0.60%	4465.16'	4463.53'	
P#71	8	300.24	0.40%	4460.43'	4461.63'	
P#72	8	300.06	0.40%	4461.69'	4462.89'	
P#73	8	248.33	0.40%	4458.39'	4457.39'	
P#74	8	328.67	0.40%	4459.13'	4457.81'	
P#75	6	311.80	3.32%	4489.04'	4478.68'	
P#76	6	316.69	0.60%	4478.63'	4476.73'	
P#77	6	247.47	1.01%	4476.68'	4474.19'	
P#78	8	352.26	0.40%	4471.70'	4470.31'	
P#79	8	300.05	0.40%	4470.25'	4469.05'	
P#80	8	300.05	0.40%	4469.00'	4467.80'	
P#81	8	300.05	1.91%	4467.79'	4462.05'	

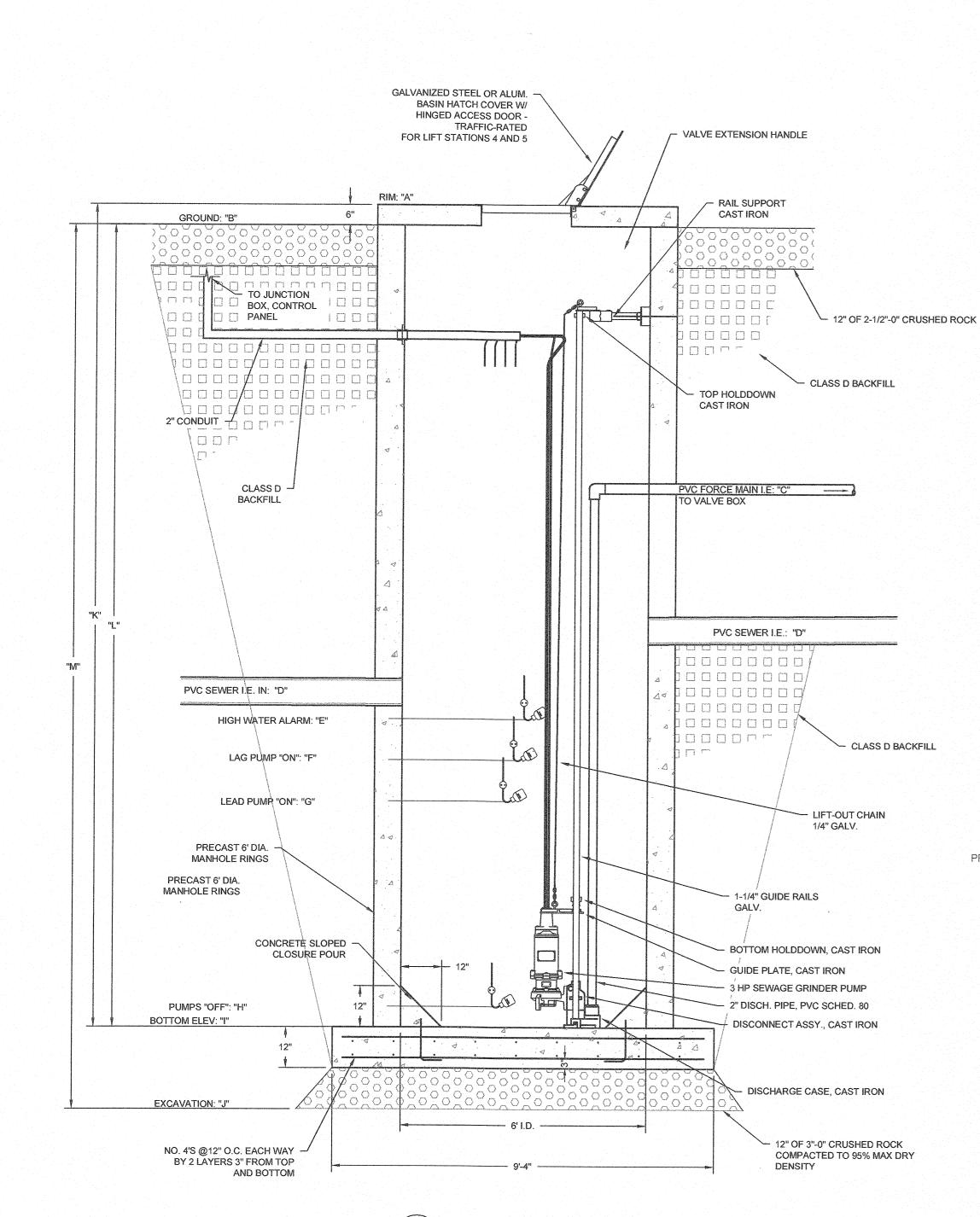
Pipe Table							
Pipe Name	Size	Length	Slope	IE In	IE Out		
P#21	6	351.95	0.93%	4455.42'	4452.13'		
P#22	6	364.78	0.60%	4452.09'	4449.90'		
P#23	6	323.35	2.52%	4480.05'	4471.91'		
P#24	6	429.34	4.53%	4509.67'	4490.22'		
P#25	8	359.51	0.40%	4443.49'	4442.05'		
P#26	6	302.98	0.60%	4451.92'	4450.10'		
P#27	8	50.50	0.40%	4446.29'	4446.08'		
P#28	8	299.72	0.79%	4449.82'	4447.45'		
P#29	8	300.06	1.57%	4454.55'	4449.85'		
P#30	8	278.49	1.04%	4457.39'	4454.50'		
P#31	8	299.99	1.33%	4461.41'	4457.42'		
P#32	8	300.06	0.96%	4464.33'	4461.45'		
P#33	8	299.94	0.40%	4465.59'	4464.39'		
P#34	8	299.09	0.40%	4466.84'	4465.64'		
P#35	6	226.94	0.60%	4451.25'	4449.88'		
P#36	6	293.68	4.84%	4473.05'	4458.85'		
P#37	6	388.53	0.60%	4462.78'	4460.44'		
P#38	6	299.99	0.60%	4458.54'	4456.74'		
P#39	6	301.08	0.60%	4456.69'	4454.89'		
P#40	6	298.98	0.60%	4454.84'	4453.04'		

	Pipe	Table		
Size	Length	Slope	IE In	IE Out
8	159.85	2.50%	4462.03'	4458.04'
6	331.57	0.60%	4454.51'	4452.52'
6	123.66	0.60%	4452.47'	4451.73'
6	144.78	0.60%	4451.68'	4450.81'
6	313.34	0.60%	4453.85'	4451.97'
6	230.31	0.60%	4454.10'	4452.72'
6	236.92	0.61%	4451.00'	4449.55'
6	224.75	0.62%	4450.86'	4449.47'
8	300.00	0.40%	4468.09'	4466.89'
6	300.00	0.60%	4464.99'	4463.18'
6	389.26	0.60%	4453.43'	4451.10'
6	373.02	0.60%	4451.05'	4448.81'
8	172.32	0.60%	4448.76'	4447.73'
6	300.06	0.60%	4456.32'	4454.52'
6	299.25	0.60%	4454.47'	4452.67'
6	300.68	0.60%	4452.62'	4450.82'
6	299.38	0.60%	4450.77'	4448.97'
6	301.46	0.60%	4448.92'	4447.11'
8	299.72	0.40%	4460.38'	4459.18'
8	252.03	0.40%	4446.03'	4445.02'
	8 6 6 6 6 6 8 6 6 8 6 8 6 6 6 6 6 6 8 8 8 8 8	Size         Length           8         159.85           6         331.57           6         123.66           6         144.78           6         313.34           6         230.31           6         236.92           6         224.75           8         300.00           6         300.00           6         373.02           8         172.32           6         300.06           6         299.25           6         300.68           6         299.38           6         301.46           8         299.72	8         159.85         2.50%           6         331.57         0.60%           6         123.66         0.60%           6         144.78         0.60%           6         313.34         0.60%           6         313.34         0.60%           6         230.31         0.60%           6         236.92         0.61%           6         224.75         0.62%           8         300.00         0.40%           6         3289.26         0.60%           6         373.02         0.60%           6         373.02         0.60%           6         300.06         0.60%           6         300.06         0.60%           6         300.06         0.60%           6         300.06         0.60%           6         300.68         0.60%           6         299.25         0.60%           6         300.68         0.60%           6         299.38         0.60%           6         301.46         0.60%           8         299.72         0.40%	Size         Length         Slope         IE In           8         159.85         2.50%         4462.03'           6         331.57         0.60%         4454.51'           6         123.66         0.60%         4452.47'           6         144.78         0.60%         4453.85'           6         313.34         0.60%         4453.85'           6         230.31         0.60%         4451.00'           6         236.92         0.61%         4450.86'           6         236.92         0.61%         4450.86'           6         236.92         0.61%         4450.86'           6         236.92         0.61%         4450.86'           6         224.75         0.62%         4450.86'           6         300.00         0.40%         4468.09'           6         300.00         0.60%         4453.43'           6         373.02         0.60%         4451.05'           8         172.32         0.60%         44451.05'           8         172.32         0.60%         44451.05'           6         300.06         0.60%         44450.32'           6         300

	enetikpalen kasal oktober oktob	Pipe	Table	******	ki ni ki ni ki ki kan kan mana kan kan kan kan kan kan kan kan kan
Pipe Name	Size	Length	Slope	IE In	IE Out
P#41	6	168.84	0.60%	4452.99'	4451.98'
P#43	6	257.60	0.60%	4463.59'	4462.04'
P#44	6	299.49	0.60%	4456.44'	4454.64'
P#45	6	300.65	0.60%	4454.59'	4452.79'
P#46	6	299.81	0.60%	4452.74'	4450.94'
P#47	8	386.03	0.40%	4454.34'	4452.80'
P#48	8	396.90	0.40%	4455.98'	4454.39'
P#49	6	300.31	0.60%	4453.26'	4451.45'
P#50	6	162.20	0.63%	4475.12'	4474.10'
P#51	6	300.00	0.60%	4474.05'	4472.25'
P#52	6	300.07	0.60%	4472.20'	4470.40'
P#53	6	299.93	0.60%	4470.35'	4468.55'
P#54	6	379.46	0.60%	4468.45'	4466.18'
P#55	6	379.47	0.60%	4466.13'	4463.86'
P#56	6	170.55	0.60%	4471.93'	4470.91'
P#57	6	300.00	0.60%	4470.86'	4469.06'
P#58	6	300.00	0.60%	4469.01'	4467.21'
P#59	6	300.00	0.60%	4467.16'	4465.36'
P#60	6	299.99	0.60%	4465.31'	4463.51'
P#61	8	300.00	0.40%	4459.64'	4458.44'
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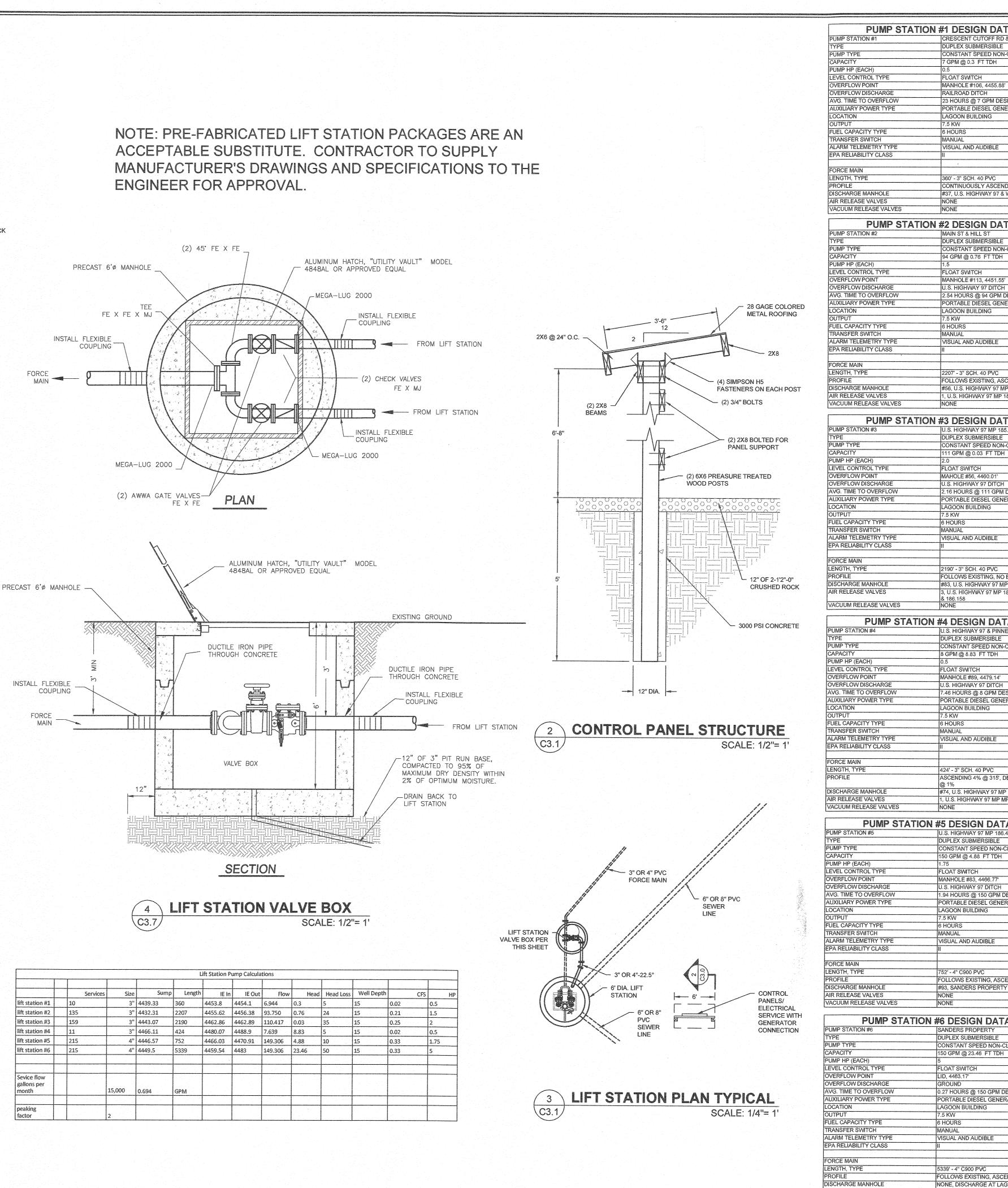
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		Pipe	Table		
Pipe Name	Size	Length	Slope	IE In	IE Out
P#102	6	384.71	1.27%	4493.98'	4489.09'
P#103	6	72.75	0.60%	4451.40'	4450.96'
P#104	6	299.98	0.60%	4460.14'	4458.34'
P#105	6	300.03	0.60%	4458.29'	4456.49'
P#106	6	300.00	0.60%	4461.99'	4460.19'
P#107	8	46.34	0.40%	4442.00'	4441.81'
P#108	6	299.91	0.60%	4460.39'	4458.59'
P#109	6	34.61	0.60%	4474.14'	4473.93'
P#110	8	109.65	0.67%	4447.40'	4446.67'





1 6' DIA. LIFT STATION TYPICAL C3.1 SCALE: 1/2"= 1'

				and a second second Second second			LIFT S	TATION ELE	VATIONS						
STATION	RIM	GROUND	SIZE OUT	IE OUT	SIZE	IE IN	HIGH ALARM	LAG PUMP "ON"	LEAD PUMP "ON	PUMPS "OFF"	BOTTOM	EXCAVATION	DEPTH FROM RIM	DEPTH FROM GROUND	EXCAVATION DEPTH
	"A"	"B"		"C"		"D"	"E"	"F"	G"	"H"	**g**	"j"	"K"	"L"	"M"
LIFT STATION #1	4457.30	4456.80	3"	4453.80	6"	4447.11	4446.78	4445.78	4444.78	4439.78	4439.28	4437.28	18.02	17.52	19.52
					8"	4447.73								<b>.</b>	
LIFT STATION #2	4456.13	4455.63	3"	4452.63	8"	4440.14	4439.81	4438.81	4437.81	4432.81	4432.31	4430.31	23.82	23.32	25.32
LIFT STATION #3	4462.86	4462.86	3"	4459.86	6"	4450.94	4450.61	4449.61	4448.61	4443.61	4443.11	4441.11	19.75	19.75	21.75
					8"	4452.8						han anna comango an sana ca		·	
					6"	4450.96									
LIFT STATION #4	4480.54	4480.04	3"	4477.04	6"	4473.94	4473.61	4472.61	4471.61	4466.61	4466.11	4464.11	14.43	13.93	15.93
LIFT STATION #5	4469.03	4469.03	4"	4466.03	8 <sup>n</sup>	4457.39	4457.06	4456.06	4455.06	4450.06	4449.56	4447.56	19.47	19.47	21.47
					8 <sup>n</sup>	4457.81					***************************************				
					6"	4463.53									
LIFT STATION #6	4463.17	4462.67	4"	4459.67	8 <sup>11</sup>	4457.33	4457.00	4456.00	4455.00	4450.00	4449.50	4447.50	13.67	13.17	15.17



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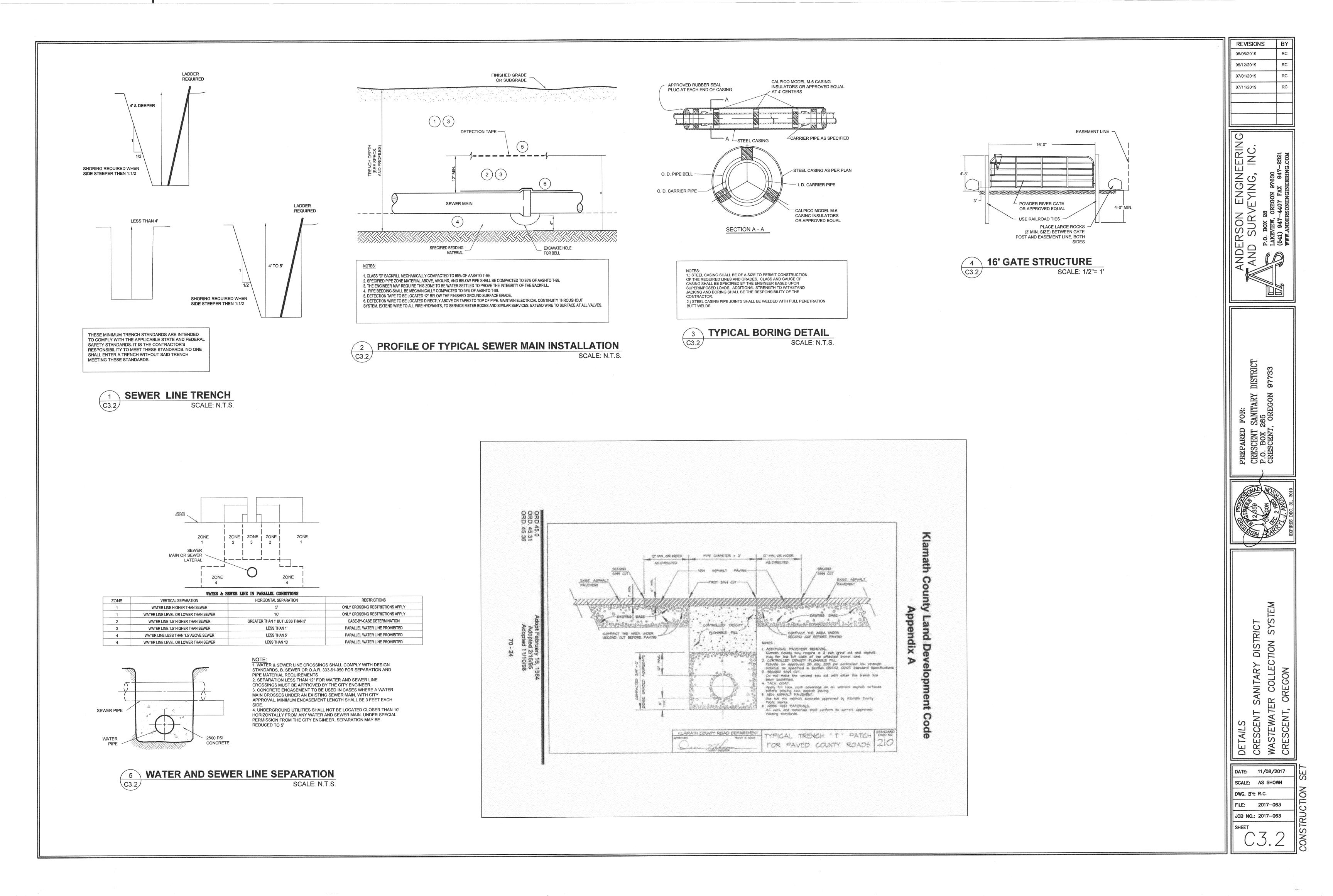
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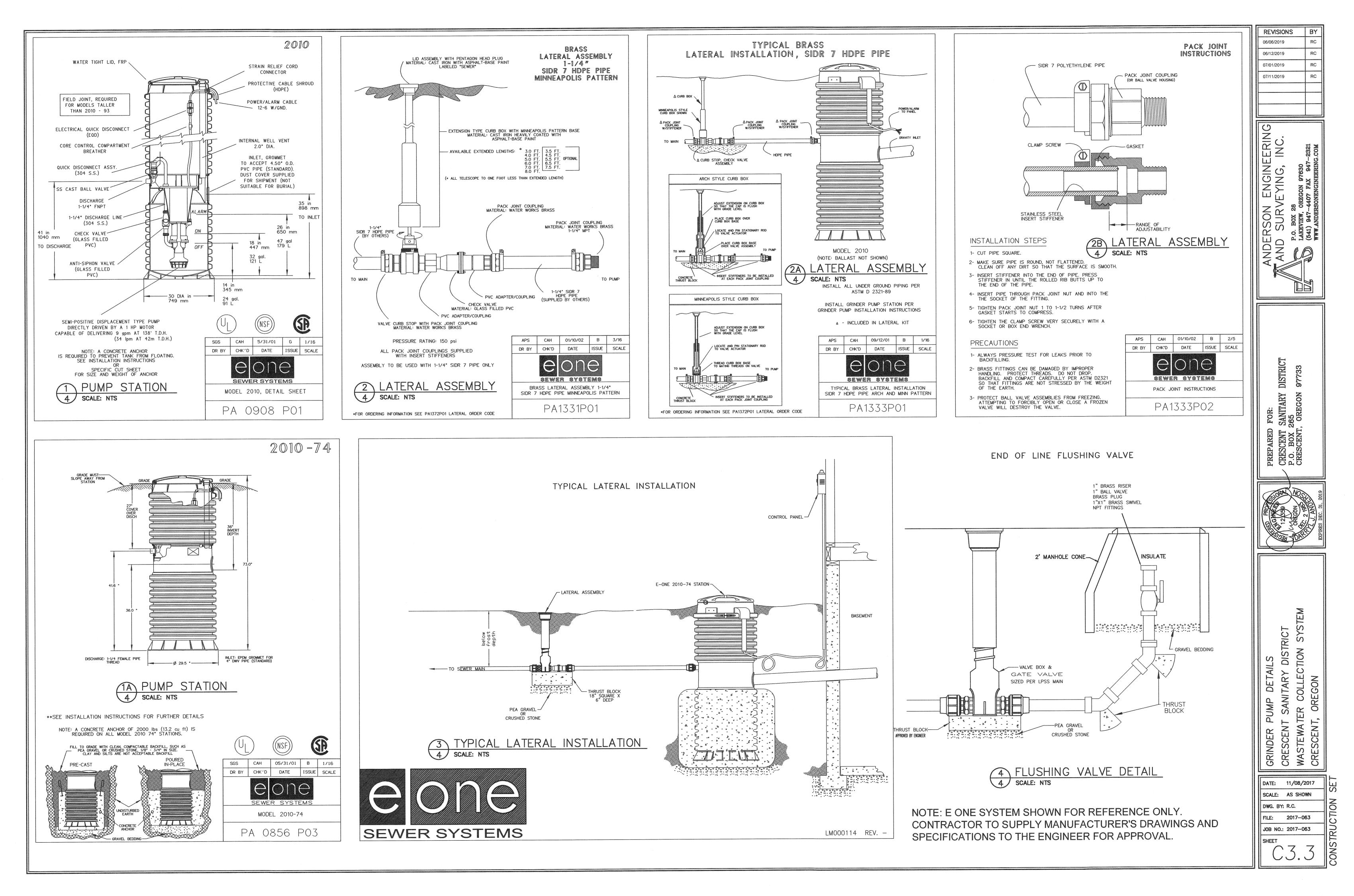
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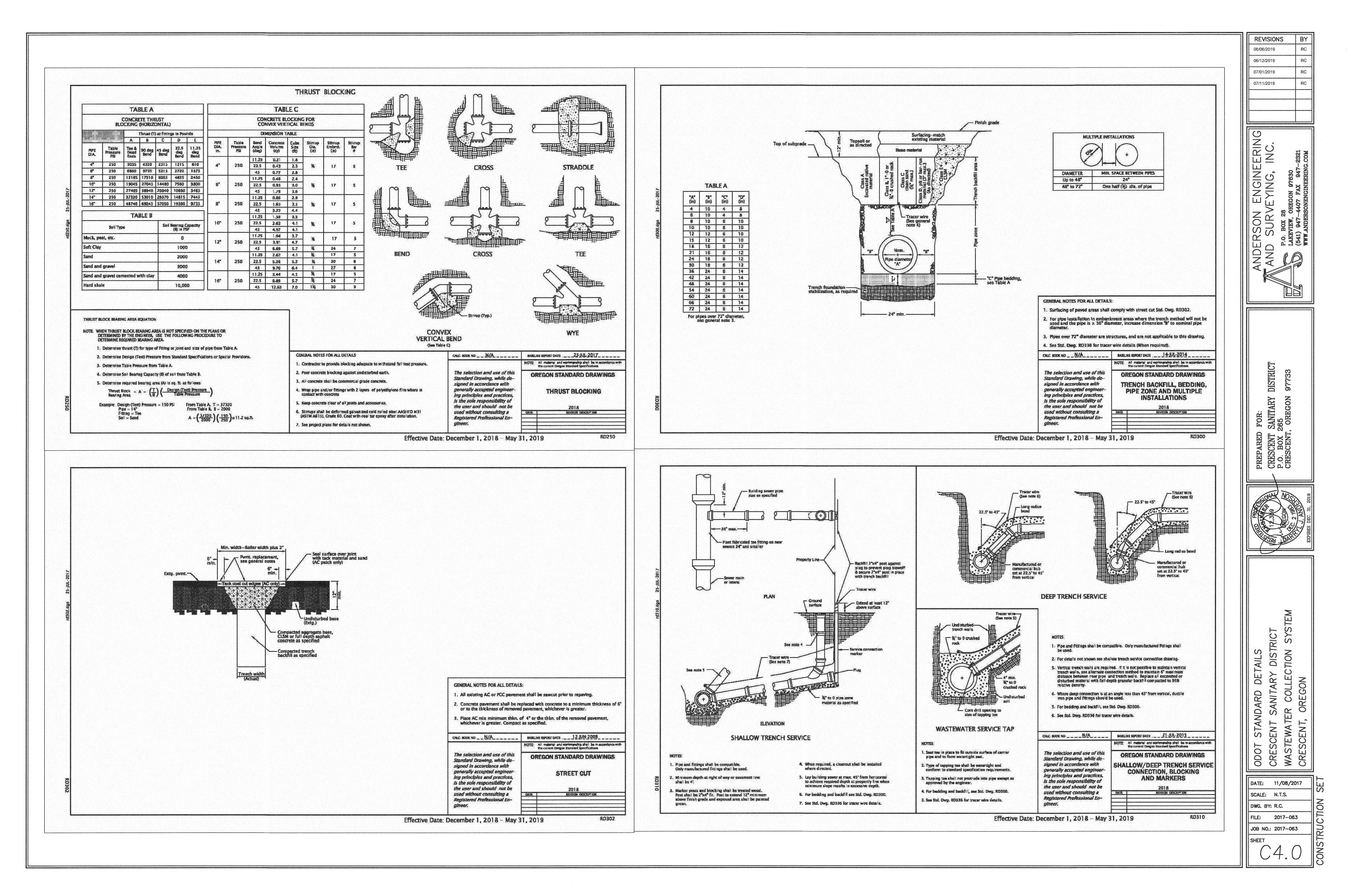
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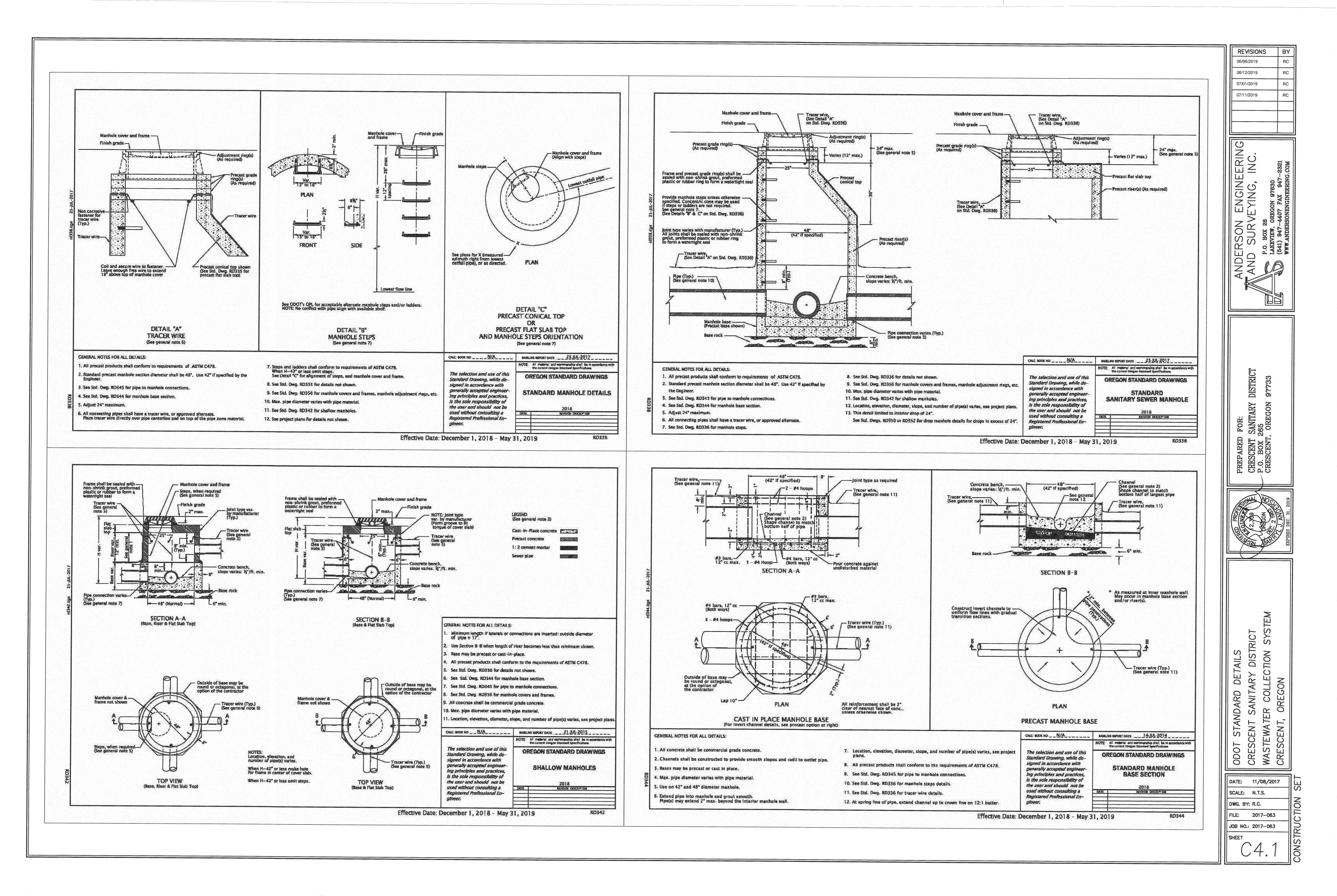
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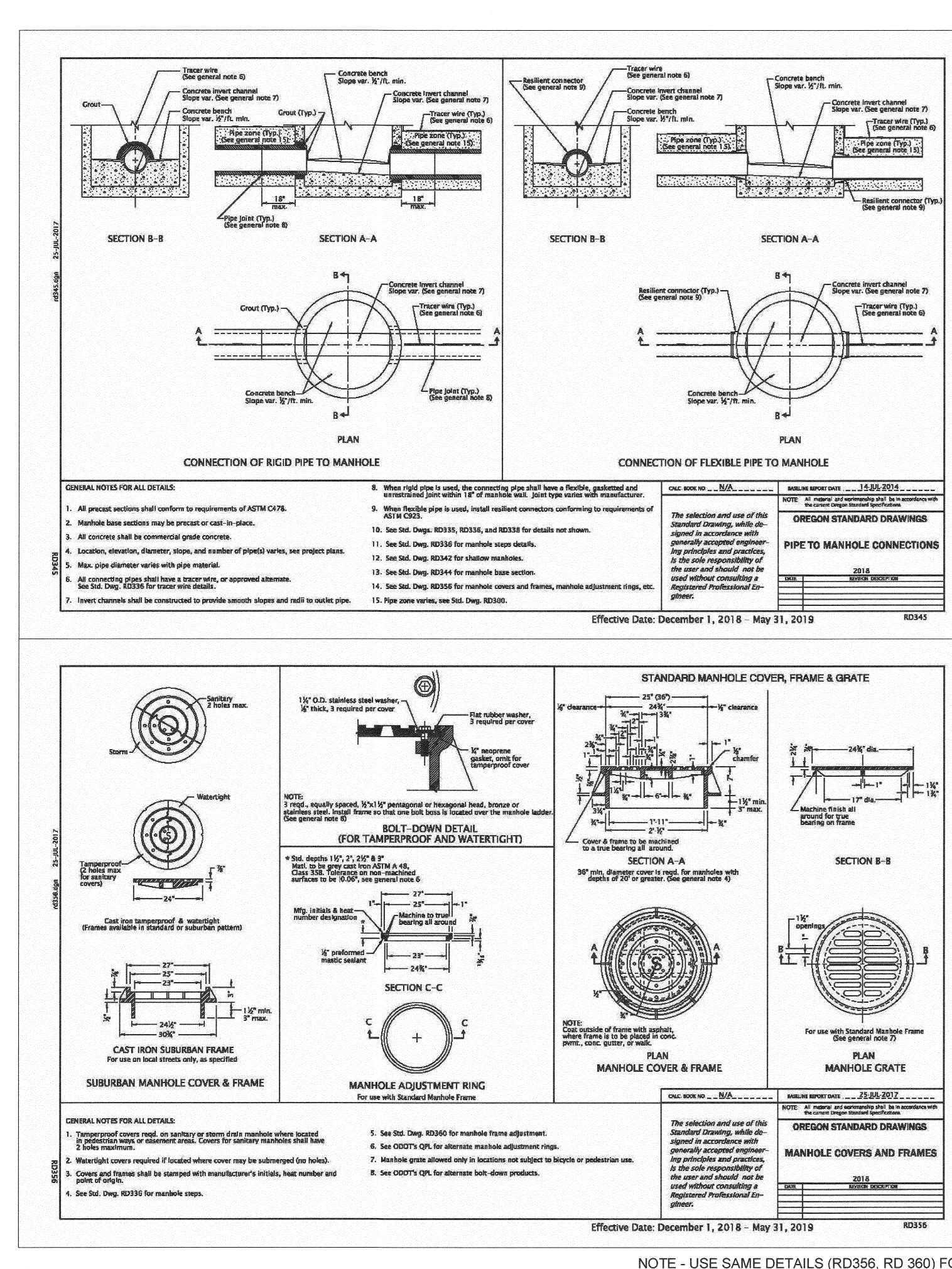


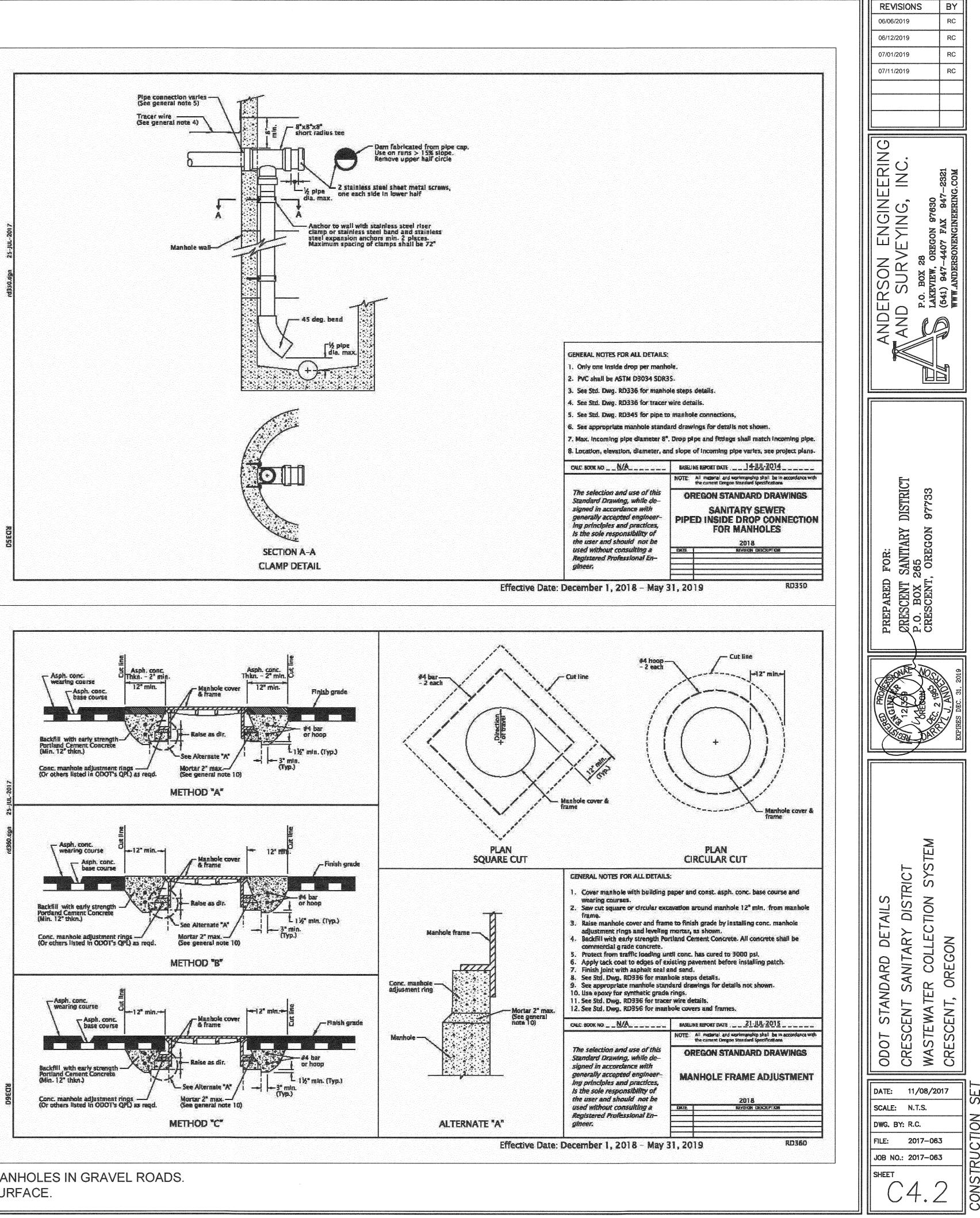


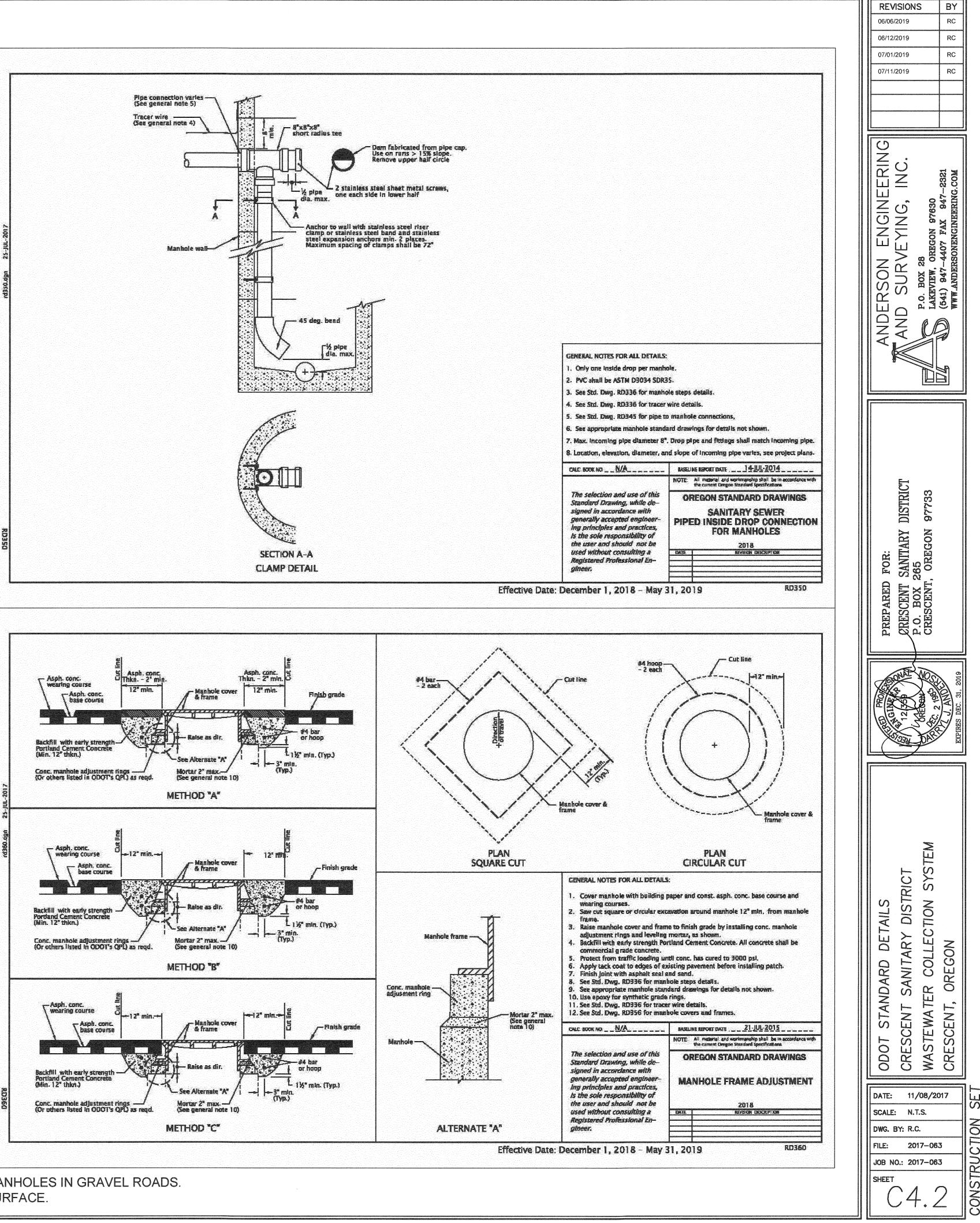
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NOTE - USE SAME DETAILS (RD356, RD 360) FOR MANHOLES IN GRAVEL ROADS. SET MANHOLE COVER 1" BELOW GRAVEL ROAD SURFACE.

