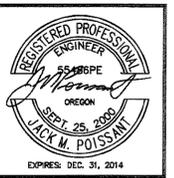


SHERWOOD TOWN CENTER

CONSTRUCTION PLANS

CITY OF SHERWOOD CITY PLANNING CASE FILE: SP 12-05/CUP 12-02 (C.O.S. JOB 4151)



13910 SW GALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
AKS JOB: 3048



DEVELOPER

LANGER GRAMOR, LLC.
CONTACT: MATT GRADY
19767 S.W. 72ND AVENUE SUITE 100
TUALATIN, OR 97062

CIVIL ENGINEER

AKS ENGINEERING & FORESTRY, LLC
CONTACT: ALEX HURLEY
13910 SW GALBREATH DRIVE, SUITE 100
SHERWOOD, OR 97140
PH: 503-925-8799
FAX: 503-925-8969

OWNER

LANGER FAMILY, LLC.
CONTACT: MATT LANGER
15705 SW TUALATIN-SHERWOOD RD
SHERWOOD, OR 97140

PROJECT LOCATION:

SOUTHWEST OF THE INTERSECTION OF TUALATIN SHERWOOD ROAD AND LANGER FARMS PARKWAY

PROPERTY DESCRIPTION:

TAX LOT 300 WASHINGTON COUNTY MAP NUMBER 2S 1 29D LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF SHERWOOD, WASHINGTON COUNTY, OREGON.

SITE SIZE:

19.75 ACRES±

EXISTING LAND USE:

VACANT FARMED FIELD

PROJECT PURPOSE:

RETAIL SITE DEVELOPMENT

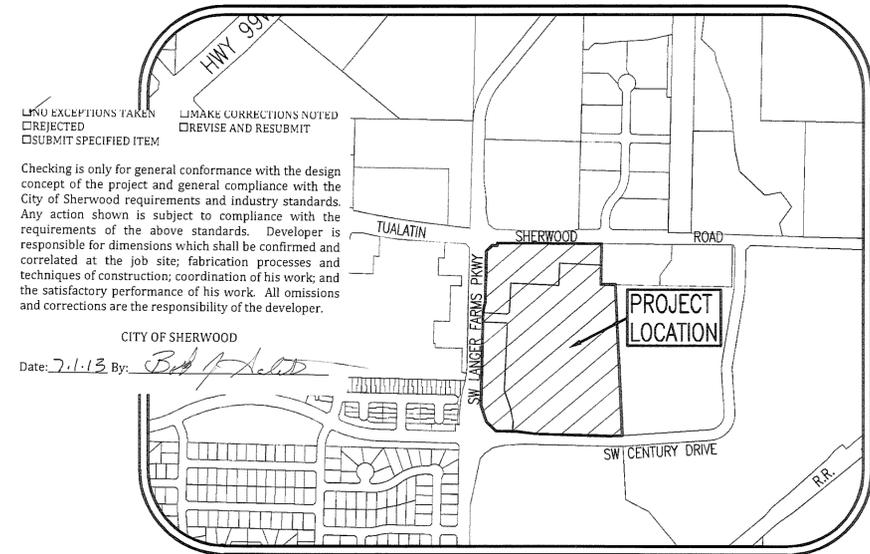
HORIZONTAL DATUM:

OREGON STATE PLANE, NORTH ZONE 3601 (NAD83), AS DERIVED FROM STATIC OBSERVATIONS FROM CORN STATIONS JIME AND NMBG USING TRIMBLE BUSINESS OFFICE.

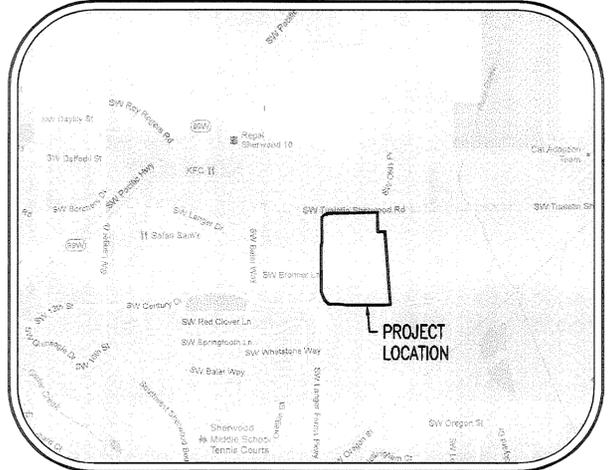
VERTICAL DATUM:

ELEVATIONS SHOWN ON THE DRAWINGS ARE BASED FROM WASHINGTON COUNTY BENCHMARK NO. 103, ELEVATION 171.38 FEET (NGVD 1929 DATUM), CONSISTING OF A BRASS DISK IN CONCRETE AT THE SW CORNER OF THE INTERSECTION OF SW TUALATIN-SHERWOOD ROAD AND THE RAILROAD CROSSING, APPROXIMATELY 1.1 MILES EAST OF SIX CORNERS.

LEGEND			
	EXISTING	PROPOSED	
DECIDUOUS TREE			
CONIFEROUS TREE			
FIRE HYDRANT			
WATER BLOWOFF			
WATER METER			
WATER VALVE			
DOUBLE CHECK VALVE			
AIR RELEASE VALVE			
SANITARY SEWER CLEAN OUT			
SANITARY SEWER MANHOLE			
SIGN			
STREET LIGHT			
MAILBOX			
			STORM SEWER CLEAN OUT STORM SEWER CATCH BASIN STORM SEWER MANHOLE GAS METER GAS VALVE GUY WIRE ANCHOR POWER POLE POWER VAULT POWER JUNCTION BOX POWER PEDESTAL COMMUNICATIONS VAULT COMMUNICATIONS JUNCTION BOX COMMUNICATIONS RISER
			RIGHT-OF-WAY LINE BOUNDARY LINE PROPERTY LINE CENTERLINE DITCH CURB EDGE OF PAVEMENT EASEMENT FENCE LINE GRAVEL EDGE POWER LINE OVERHEAD WIRE COMMUNICATIONS LINE FIBER OPTIC LINE GAS LINE STORM SEWER LINE SANITARY SEWER LINE WATER LINE



SITE MAP
SCALE: 1"=500'



VICINITY MAP
NOT TO SCALE

SEE LANGER FARMS/SENTINEL SELF STORAGE ANNEX EROSION AND SEDIMENT CONTROL PLANS FOR DEQ 1200C PERMIT INFORMATION COVERING THIS PROJECT

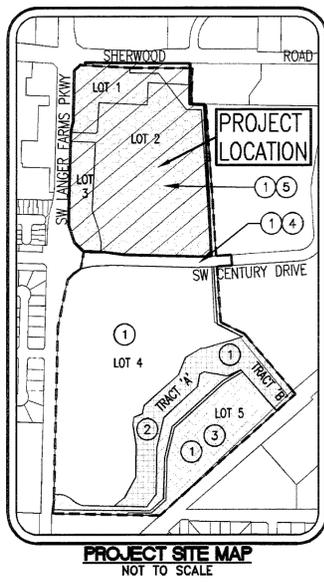
STREET AND DISPOSAL CONTACTS

STREETS	STREETS	GARBAGE/RECYCLING
WASHINGTON COUNTY OPERATIONS 1400 SW WALNUT STREET HILLSBORO, OR 97123-5625 PH: 503-846-7623	CITY OF SHERWOOD, PUBLIC WORKS 22560 SW PINE ST SHERWOOD, OR 97140 PH: 503-925-2310	PRIDE DISPOSAL 13980 SW TUALATIN SHERWOOD RD. SHERWOOD, OR 97140 PH: 503-625-6177

UTILITY RESPONSIBILITY MATRIX FOR THIS PROJECT

UTILITY	GOVERNING AGENCY/CONTACTS	CONTRACTOR RESPONSIBILITY	OTHER'S RESPONSIBILITY
GAS	NW NATURAL CONTACT: LANCE CHEELEY 220 NW 2ND AVENUE PORTLAND, OR 97209 PH: 503-226-4211	-COORDINATE CONSTRUCTION ACTIVITIES WITH GAS COMPANY TO ENSURE INSTALLATION OF GAS LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT -CONTRACTOR TO CONNECT THE OUTLET OF METER TO BUILDING PIPING INLET -ON-SITE CONTRACTOR TO PROVIDE TRENCHING AND BACKFILLING IN CONFORMANCE WITH NORTHWEST NATURAL REQUIREMENTS. SAND BACKFILL 6" BELOW AND ABOVE GAS PIPING -CONTRACTOR IS RESPONSIBLE FOR INSTALLING PIPE BOLLARD PROTECTION AT THE METER.	-SERVICE FROM THE POINT OF CONNECTION AT THE EXISTING LINE UP TO AND INCLUDING SETTING OF METER WILL BE BY THE GAS COMPANY -EXCEPT TRENCHING AND BACKFILLING; ANY RELOCATION OF EXISTING GAS LINE WILL BE DONE BY THE GAS COMPANY
COMMUNICATIONS	FRONTIER CONTACT: TAM NGUYEN 4155 SW CEDAR HILLS BLVD BEAVERTON, OR 97005 PH: 503-641-4463 COMCAST CABLE CONTACT: CHAD VAUGHN 10831 SW CASCADE AVENUE TIGARD, OR 97223 PH: 503-596-3754	-COORDINATE CONSTRUCTION ACTIVITIES WITH COMMUNICATION COMPANIES TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT -PROVIDE AND INSTALL PULL BOXES AS PER COMMUNICATION COMPANY REQUIREMENTS -PROVIDE AND INSTALL APPROPRIATE PULL ROPES, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE EX. PEDESTAL UP TO THE BUILDING	-COMMUNICATION COMPANIES WILL PROVIDE AND INSTALL ALL COMMUNICATION CABLES FROM THE POINT OF CONNECTION UP TO THE BUILDING -ANY RELOCATION OF EXISTING COMMUNICATION LINES WILL BE DONE BY COMMUNICATION COMPANY
POWER	PORTLAND GENERAL ELECTRIC CONTACT: BRIAN BUSWELL 3700 SE 17TH AVENUE PORTLAND, OR 97202 PH: 503-570-4434	-COORDINATE SWITCH OVER TO NEW SERVICE WITH PORTLAND GENERAL ELECTRIC -COORDINATE CONSTRUCTION ACTIVITIES WITH PACIFIC POWER -PROVIDE ON-SITE TRENCHING, CORRECT SIZE CONDUIT, AND ANY RELATED MATERIALS -INSTALL TRANSFORMER VAULT, CURRENT TRANSFORMER (CT) CABINET AND PAD, AND ASSOCIATED CONDUITS WITH PULL CORDS -REMOVE EX. CONDUIT AND WIRING -COORDINATE RELOCATION OF EX. POWER POLES WITH ELECTRIC COMPANY	-ELECTRIC COMPANY TO PROVIDE AND INSTALL TRANSFORMER -ELECTRIC COMPANY WILL PROVIDE AND INSTALL PRIMARY CABLE FOR ALL UNDERGROUND LINES UP TO THE TRANSFORMER AND SECONDARY CABLE TO THE CT CABINET
UTILITIES	CITY OF SHERWOOD PUBLIC WORKS 22560 SW PINE ST SHERWOOD, OR 97140 PH: 503-925-2310	-PROVIDE AND INSTALL ALL WATER MAINS AND ASSOCIATED APPURTENANCES PER THE PLANS AND CITY OF SHERWOOD STANDARDS AND SPECIFICATIONS -PERFORM TESTING, FLUSHING, AND CHLORINATION OF ALL PRIVATE WATER MAINS.	-CITY OF SHERWOOD (C.O.S.) WILL INSTALL METERS ON WATER LINES -C.O.S. WILL PERFORM INSPECTION AND TESTING OF PUBLIC WATER MAINS -CONTRACTOR MUST COORDINATE WITH C.O.S. FOR WATER CONNECTIONS -CONTRACTOR WILL PERFORM FLUSHING AND CHLORINATION OF PUBLIC WATER MAINS
SANITARY AND STORM SEWER	CITY OF SHERWOOD PUBLIC WORKS 22560 SW PINE ST SHERWOOD, OR 97140 PH: 503-925-2310	-PROVIDE AND INSTALL ALL SANITARY SEWER AND STORM SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS AND CLEAN WATER SERVICES STANDARDS AND SPECIFICATIONS AS APPLICABLE. -FLUSH AND CLEAN ALL LINES, MANHOLES AND INLETS. -CONDUCT DEFLECTION TEST OF ALL FLEXIBLE PIPES BY PULLING AN APPROVED MANDREL -AIR TEST SANITARY LINES FOR LEAKAGE.	-OWNERS REPRESENTATIVE WILL CONDUCT INSPECTION OF CONSTRUCTED SEWER STRUCTURES AND PIPES PRIOR TO BACKFILL

NOTE: THE UTILITY MATRIX IS PROVIDED FOR INFORMATIONAL PURPOSES. CONTRACTOR SHALL PROVIDE ALL CONDUITS, APPURTENANCES, TRENCHING, BACKFILL, AND OTHER INCIDENTALS NECESSARY TO MEET OR EXCEED UTILITY COMPANY REQUIREMENTS AND THE PROJECT SPECIFICATIONS.



- PROJECT SITE MAP:**
- LANGER FARMS/SENTINEL STORAGE ANNEX EROSION AND SEDIMENT CONTROL PLANS
 - EROSION CONTROL PERMIT ENCOMPASSING ALL PROJECTS SHOWN BELOW
 - THIS PERMIT MUST BE OBTAINED AND WORK PERFORMED PRIOR TO PROCEEDING WITH ANY PROJECT.
 - LANGER FARMS REGIONAL PUBLIC STORMWATER FACILITIES (C.O.S. JOB# 4151)
 - PUBLIC STORM SEWER IMPROVEMENTS SOUTH OF SW CENTURY DRIVE
 - PUBLIC STORMWATER FACILITY
 - LANDSCAPING PLANS FOR VEGETATED CORRIDOR AND STORMWATER FACILITY
 - THIS PROJECT TO BE COMPLETED PRIOR TO:
 - ACCEPTANCE OF SW CENTURY DRIVE IMPROVEMENTS
 - OCCUPANCY OF SHERWOOD TOWN CENTER
 - OCCUPANCY OF SENTINEL SELF STORAGE ANNEX
 - SENTINEL SELF STORAGE ANNEX (C.O.S. JOB# 4149)
 - PRIVATE SITE DEVELOPMENTS
 - PRIVATE SITE ACCESS
 - SW CENTURY DRIVE EXTENSION (C.O.S. JOB# 4151)
 - PUBLIC STREET EXTENSION OF SW CENTURY DRIVE
 - PUBLIC IMPROVEMENTS WITHIN SW CENTURY DRIVE RIGHT-OF-WAY
 - PUBLIC STORM SEWER IMPROVEMENTS NORTH OF SW CENTURY DRIVE
 - THIS PROJECT TO BE COMPLETED PRIOR TO OCCUPANCY OF SHERWOOD TOWN CENTER
 - SHERWOOD TOWN CENTER (C.O.S. JOB# 4151)
 - PRIVATE SITE DEVELOPMENTS

SHEET INDEX

C000 COVER SHEET	C200 STORMWATER PLAN
C001 ANCHOR (LOT 2) PRIVATE CIVIL ENGINEERING NOTES	C201 STORMWATER CALLOUTS
C002 LOTS 1 & 3 PRIVATE CIVIL ENGINEERING NOTES	C202 NORTHWEST FUTURE STORMWATER PLAN (BID ALTERNATE)
C003 EXISTING CONDITIONS PLAN	
C070 OVERALL GRADING PLAN	C300 WATER AND SANITARY SEWER PLAN
C071 GRADING PLAN	C301 WATER AND SANITARY SEWER CALLOUTS
C072 GRADING PLAN	C302 NORTHWEST FUTURE WATER AND SANITARY SEWER PLAN (BID ALTERNATE)
C073 GRADING PLAN	
C074 GRADING PLAN	C400-C403 CITY OF SHERWOOD STANDARD PLANS AND DETAILS
C075 DETAIL GRADING PLAN	C500-C504 PRIVATE STANDARDS AND DETAILS
C076 DRIVEWAY DETAIL PLAN	C600-C613 PRIVATE ANCHOR PARCEL STANDARD DETAILS
C077 NORTHWEST FUTURE GRADING PLAN (BID ALTERNATE)	
C078 RETAINING WALL PLAN AND PROFILE	
C079 RETAINING WALL CROSS SECTIONS	
C080 TYPICAL MSE WALL SECTIONS, NOTES AND DETAILS	
C081 SITE CROSS SECTIONS	
C100 SITE DIMENSIONING PLAN	
C101 SURFACING PLAN	
C102 NORTHWEST FUTURE SURFACING PLAN (BID ALTERNATE)	
C103 SIGNING AND STRIPING PLAN	
C104 NORTHWEST FUTURE SIGNING AND STRIPING PLAN (BID ALTERNATE)	

NOTICE TO EXCAVATORS:
ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH ON OUR 952-001-0010 THROUGH OUR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING 503-232-1987.



SHERWOOD TOWN CENTER
 SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
 SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

PROJECT NO.
11364

DATE:
06/21/2013

DRAWN BY:
CL

CHECKED BY:
JMF

REVISIONS

C
000

GENERAL CIVIL NOTES

- CONTRACTOR SHALL PROCURE, AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY OF SHERWOOD, WASHINGTON COUNTY, AND DEQ.
- OWNER TO PAY ALL PROJECT PERMIT COSTS. THE CONTRACTOR SHALL COORDINATE WITH THE GOVERNING JURISDICTION TO DETERMINE APPROPRIATE FEES AND PROVIDE THE OWNER WITH 48 HOURS NOTICE PRIOR TO THE REQUIRED PAYMENT OF FEES OR COSTS.
- 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. THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (800) 332-2344.
- CONTRACTOR TO NOTIFY CITY, COUNTY, AND ALL UTILITY COMPANIES A MINIMUM OF 48 BUSINESS HOURS PRIOR TO START OF CONSTRUCTION, AND COMPLY WITH ALL OTHER NOTIFICATION REQUIREMENTS OF AGENCIES WITH JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION. WHERE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION, THE CONTRACTOR SHALL SUBMIT A SUITABLE MAINTENANCE BOND PRIOR TO FINAL PAYMENT.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING ITEMS TO THE OWNER'S REPRESENTATIVE.
 - LIST OF SUBCONTRACTORS
 - PROJECT SCHEDULE
 - TRAFFIC CONTROL PLAN
 - EMERGENCY CONTACT NAME AND PHONE NUMBER
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DOCUMENTS AND PLANS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS/PLANS RELATIVE TO THE SPECIFICATIONS, TESTING, COMPACTION, APPLICABLE CODES, ETC., IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DOCUMENTS/PLANS IN FULL COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES.
- THE FOLLOWING DOCUMENT(S) ARE INCORPORATED INTO THE PROJECT BY REFERENCE HEREIN: INITIAL GEOTECHNICAL ENGINEERING REPORT DATED MAY 22, 2012 BY TERRACON, "REPORT OF GEOTECHNICAL ENGINEERING SERVICES" DATED JUNE 28, 2012 BY GEODESIGN, INC. AND "REPORT OF RETAINING WALL DESIGN SERVICES" DATED APRIL 4, 2013 BY GEODESIGN, INC. PRIOR TO STARTING CONSTRUCTION CONTRACTOR SHALL REVIEW THE LATEST EDITIONS OF THESE DOCUMENTS INCLUDING ANY AMENDMENTS OR SUPPLEMENTS. CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS LISTED IN THE REPORT.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE APPROVED PLANS AND THE APPLICABLE PROVISIONS OF THE APPROVING AGENCIES' CONSTRUCTION STANDARDS, THE MOST RECENT EDITION OF THE UNIFORM PLUMBING CODE, THE MOST RECENT EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), APWA STANDARDS, OREGON HEALTH DIVISION (OHD), AND THE DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) WHEREIN EACH HAS JURISDICTION.
- CONTRACTOR SHALL AT ALL TIMES ABIDE BY APPLICABLE SAFETY RULES OF OSHA, IN PARTICULAR THOSE REGULATIONS PERTAINING TO ADEQUATE SHORING AND TRENCH PROTECTION FOR WORKMEN.
- CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE WITHIN THE HOURS PERMITTED BY THE CITY OF SHERWOOD.
- THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.
- ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL REVIEW AND COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE SITE PLAN AND LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND ARCHITECT OF ANY DISCREPANCIES.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT UTILITY CONNECTION LOCATIONS.
- ANY INSPECTION BY THE CITY, COUNTY, AKS, OWNER'S REPRESENTATIVE, OR OTHER AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE CONTRACT DOCUMENTS, APPLICABLE CODES, AND AGENCY REQUIREMENTS.
- IF THE CONTRACTOR DEVIATES FROM THE APPROVED PLANS, INCLUDING THESE NOTES, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS.
- THE ENGINEER HAS NOT BEEN RETAINED OR COMPENSATED TO PROVIDE DESIGN AND CONSTRUCTION REVIEW SERVICES RELATING TO THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PERFORM HIS WORK.
- CONTRACTOR SHALL MAINTAIN A COPY OF THE PERMIT WITH ALL ATTACHMENTS AND ONE (1) COMPLETE SET OF APPROVED PLANS ON THE CONSTRUCTION SITE AT ALL TIMES WHEREIN HE WILL RECORD ALL APPROVED DEVIATIONS IN CONSTRUCTION FROM THE APPROVED DRAWINGS, AS WELL AS LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES ENCOUNTERED. THESE FIELD RECORD DRAWINGS SHALL BE KEPT UP TO DATE AT ALL TIMES AND SHALL BE AVAILABLE FOR INSPECTION BY THE CITY OR OWNER'S REPRESENTATIVE UPON REQUEST.
- UPON COMPLETION OF CONSTRUCTION OF ALL NEW FACILITIES, CONTRACTOR SHALL SUBMIT A CLEAN SET OF FIELD RECORD DRAWINGS CONTAINING ALL AS-BUILT INFORMATION TO THE OWNER'S REPRESENTATIVE. ALL INFORMATION SHOWN ON THE CONTRACTOR'S FIELD RECORD DRAWINGS SHALL BE SUBJECT TO VERIFICATION. IF SIGNIFICANT ERRORS OR DEVIATIONS ARE NOTED, AN AS-BUILT SURVEY PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL LAND SURVEYOR SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL CONFORM TO THE DEQ STORMWATER PERMIT NO. 12000 REQUIREMENTS FOR THE PROJECT.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH DEQ'S EROSION AND SEDIMENT CONTROL MANUAL (CURRENT EDITION), THE 12000 PERMIT, AND EROSION CONTROL STANDARDS OF THE CITY.
- ELEVATIONS SHOWN ON THE DRAWINGS ARE BASED FROM WASHINGTON COUNTY BENCHMARK NO. 103, ELEVATION 171.38 FEET (NGVD 1929 DATUM), CONSISTING OF A BRASS DISK IN CONCRETE AT THE SW CORNER OF THE INTERSECTION OF SW TUALATIN-SHERWOOD ROAD AND THE RAILROAD CROSSING, APPROXIMATELY 1.1 MILES EAST OF SIX CORNERS. SURVEYING FOR DESIGN WAS COMPLETED BY CES NW AND HDI DESIGN GROUP. AKS ENGINEERING & FORESTRY CAN PROVIDE CONSTRUCTION STAKING ON THIS PROJECT IF DESIRED.
- ALL ON-SITE POLLUTANTS OTHER THAN SEDIMENT DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER.
- PROPERTIES AND WATERWAYS DOWNSTREAM OF THE SITE SHALL BE PROTECTED FROM EROSION FROM THE PROJECT SITE.
- THE CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A REGISTERED CIVIL ENGINEER AND/OR LAND SURVEYOR LICENSED IN THE STATE OF OREGON TO ESTABLISH CONSTRUCTION CONTROL AND PERFORM INITIAL CONSTRUCTION SURVEYS TO ESTABLISH THE LINES AND GRADES OF IMPROVEMENTS AS INDICATED ON THE DRAWINGS. STAKING FOR BUILDINGS, STRUCTURES, CURBS, GROUND DRAINAGE PIPES/STRUCTURES AND OTHER CRITICAL IMPROVEMENTS SHALL BE COMPLETED USING EQUIPMENT ACCURATE TO 0.04 FEET HORIZONTALLY AND 0.02 FEET VERTICALLY, OR BETTER.
- SEE ARCHITECTURAL DRAWINGS FOR SITE LIGHTING, SITE DIMENSIONING, AND CONTINUATION OF ALL UTILITIES.
- CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES PER CITY AND COUNTY REQUIREMENTS IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) INCLUDING OREGON AMENDMENTS. ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
- PRIOR TO ANY WORK IN THE EXISTING PUBLIC RIGHT-OF-WAY, CONTRACTOR SHALL SUBMIT FINAL TRAFFIC CONTROL PLAN TO THE CITY AND/OR COUNTY FOR REVIEW AND ISSUANCE OF A LANE CLOSURE OR WORK IN RIGHT-OF-WAY PERMIT.
- PRIOR TO FINAL ACCEPTANCE AND PAYMENT, THE CONTRACTOR SHALL CLEAN THE PROJECT SITE AND ADJACENT AREAS OF ANY DEBRIS, DISCARDED MATERIAL, OR OTHER ITEMS DEPOSITED BY THE CONTRACTOR'S PERSONNEL DURING THE PERFORMANCE OF THE WORK.

- THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED. FAILURE TO OBTAIN NECESSARY INSPECTIONS AND APPROVAL(S) SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS ARISING FROM UNINSPECTED WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY INSPECTIONS OR NECESSARY OBSERVATIONS FOR ALL WORK PERFORMED INCLUDING ANY RE-TESTING THAT MAY BE REQUIRED TO MEET SPECIFICATION. THE CONTRACTOR SHALL PERFORM PRE-TESTS PRIOR TO SCHEDULING TESTS THAT MUST BE WITNESSED. TESTING MUST BE PERFORMED BY AN APPROVED THIRD PARTY INDEPENDENT TESTING LABORATORY RETAINED BY THE CONTRACTOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR SCHEDULING TESTING. ALL TESTING MUST BE COMPLETED PRIOR TO PERFORMING SUBSEQUENT WORK. A COPY OF ALL TESTING RESULTS MUST BE PROVIDED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY UPON COMPLETION OF THE TEST.
- TESTING SHALL CONFORM TO THE PROJECT SPECIFICATIONS. THE FOLLOWING TESTING IS THE MINIMUM REQUIRED FOR THE PROJECT.

<u>BUILDING SUBGRADE AREAS</u>	
CUT AREAS	1 COMPACTION TEST/2,500 S.F.
FILL AREAS	1 COMPACTION TEST/2,500 S.F./8 INCH LIFT
<u>PAVING/OTHER CONSTRUCTION AREAS EXCLUSIVE OF BUILDING SUBGRADE</u>	
CUT AREAS	1 COMPACTION TEST/10,000 S.F.
FILL AREAS	1 COMPACTION TEST/10,000 S.F./8 INCH LIFT
<u>BASE/ROCK</u>	1 COMPACTION TEST/10,000 S.F./LIFT (4 TESTS MINIMUM PER BUILDING PAD)
<u>ASPHALT</u>	CORING AND DENSITY TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION 02740. MINIMUM 5 CORES/DAYS/PLACEMENT/MIX TYPE.
<u>TRENCH BACKFILL</u>	1 TEST/200 FOOT TRENCH FOR THE FIRST AND EVERY OTHER 8 INCH LIFT
<u>WATER PRESSURE</u>	WITNESSED BY CITY OR OWNER'S REP.
<u>WATER BACTERIAL</u>	PER OREGON HEALTH DIVISION REQUIREMENTS
<u>WATER CHLORINE</u>	RESIDUAL TEST PER CITY REQUIREMENTS
<u>SEWER AIR TEST</u>	PER CITY/APWA REQUIREMENTS. WITNESSED BY OWNER'S REP.
<u>SEWER MANHOLE</u>	65% OF ACTUAL PIPE DIAMETER. WITNESSED BY OWNER'S REP.
<u>STORM MANHOLE</u>	65% OF ACTUAL PIPE DIAMETER. WITNESSED BY OWNER'S REP.
<u>CONCRETE SLUMP, AIR AND CYLINDERS</u>	
	4 SETS OF CYLINDERS/100 C.Y. OF CONCRETE POURED PER DAY. SLUMP AND AIR TESTS REQUIRED ON SAME LOAD AS CYLINDERS.
- IN ADDITION TO IN-PLACE DENSITY TESTING, THE SUBGRADE AND BASE/ROCK SHALL BE PROOF-ROLLED WITH A LOADED 10-YARD OUMP TRUCK PROVIDED BY THE CONTRACTOR. BASE/ROCK PROOF ROLL SHALL TAKE PLACE IMMEDIATELY PRIOR TO (WITHIN 24 HOURS OF) PAVING, AND SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE. LOCATION AND PATTERN OF PROOF ROLL TO BE AS DIRECTED BY OWNER'S REPRESENTATIVE OR APPROVING AGENCY.
- ALL ENGINEERED FILLS REQUIRE THE APPROVED INDEPENDENT TESTING LABORATORY RETAINED BY THE CONTRACTOR TO PROVIDE WRITTEN CERTIFICATION STAMPED BY AN OREGON REGISTERED PROFESSIONAL ENGINEER STATING THAT THE SUBGRADE WAS PREPARED AND ALL ENGINEERED FILLS WERE PLACED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS AND CONTRACT DOCUMENTS.
- THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. WE DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- ANY UTILITIES LOCATED IN THE FIELD THAT THE CONTRACTOR DISRUPTS OR DAMAGES SHALL BE PROMPTLY REPAIRED TO NEW CONDITION. IF REQUIRED, INSTALL SUITABLE TEMPORARY SERVICE UNTIL REPAIR CAN BE COMPLETED. THE COST OF THE REPAIR OR TEMPORARY SERVICE SHALL BE BORNE BY THE CONTRACTOR.
- NOTIFY THE OWNER IMMEDIATELY OF ALL UTILITIES EXPOSED. UNIDENTIFIED UTILITIES SHALL NOT BE DISRUPTED OR CUT UNTIL OWNER HAS APPROVED THE CUT OR DISRUPTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MARKING ALL EXISTING SURVEY MONUMENTS OF RECORD (INCLUDING BUT NOT LIMITED TO PROPERTY AND STREET MONUMENTS) PRIOR TO CONSTRUCTION. IF ANY SURVEY MONUMENTS ARE REMOVED, DISTURBED OR DESTROYED DURING CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A REGISTERED PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF OREGON TO REFERENCE AND REPLACE ALL SUCH MONUMENTS PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT. THE MONUMENTS SHALL BE REPLACED WITHIN A MAXIMUM OF 90 DAYS, AND THE COUNTY SURVEYOR SHALL BE NOTIFIED IN WRITING AS REQUIRED BY PER ORS 209.150.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHERE NEW FACILITIES CROSS. ALL UTILITY CROSSEINGS MARKED OR SHOWN ON THE DRAWINGS SHALL BE POT-HOLED USING HAND TOOLS OR OTHER NON-INVASIVE METHODS PRIOR TO EXCAVATING OR BORING. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY GRADE OR ALIGNMENT MODIFICATIONS WITHOUT DELAYING THE WORK. IF GRADE OR ALIGNMENT MODIFICATION IS NECESSARY, CONTRACTOR SHALL NOTIFY THE ENGINEER, AND THE ENGINEER OR THE OWNER'S REPRESENTATIVE SHALL OBTAIN APPROVAL FROM THE CITY PRIOR TO CONSTRUCTION.
- ALL FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING UTILITIES AND OTHER FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION.
- UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PILE THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES.
- IF SPRINGS OR GROUNDWATER ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF THE CONDITIONS FOUND AND COORDINATE THE ACTIVITIES IN A MANNER THAT WILL ALLOW TIME TO REVIEW THE SITUATION AND PREPARE A PLAN TO PROPERLY MITIGATE THE WATER ENCOUNTERED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING CONSTRUCTION ACTIVITIES TO ENSURE THAT PUBLIC STREETS AND RIGHT-OF-WAYS ARE KEPT CLEAN OF MUD, DUST OR DEBRIS. DUST ABATEMENT SHALL BE MAINTAINED BY ADEQUATE WATERING OF THE SITE BY THE CONTRACTOR.
- PRIVATE GRADING, ROCKING AND PAVING TO CONFORM TO OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION (OSSC/0001/APWA) AND IBC, CURRENT EDITIONS.
- STRIP WORK LIMITS, REMOVING ALL ORGANIC MATTER, WHICH CANNOT BE COMPACTED INTO A STABLE MASS, ALL DEBRIS, NOT CONSIDERED TOP SOIL, ASSOCIATED WITH CLEARING, STRIPPING OR GRADING SHALL BE REMOVED AND DISPOSED OF OFF-SITE. TOP SOIL SHALL BE STOCKPILED AS SHOWN ON THE APPROVED 1200C PLANS ACROSS ENTIRE DRIVE.
- IMMEDIATELY FOLLOWING STRIPPING AND GRADING OPERATIONS, COMPACT SUBGRADE TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR). SUBGRADE MUST BE INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AND WRITTEN COMPACTON TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BEFORE PLACING EMBANKMENTS, ENGINEERED FILLS OR FINE GRADING FOR BASE ROCK.
- ALL FILLS SHALL BE ENGINEERED, PLACED, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES. ENGINEERED FILLS SHALL BE CONSTRUCTED WITH MAXIMUM 8" LIFTS (LOOSE MEASURE) OVER APPROVED SUBGRADE. EACH LIFT SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR).
- AREAS TO RECEIVE ENGINEERED OR STRUCTURAL FILL SHALL BE PREPARED BY REMOVING ALL ORGANIC AND UNSUITABLE MATERIALS AND PROOF ROLLING. MATERIAL IN SOFT SPOTS WITHIN AREAS TO BE IMPROVED SHALL BE REMOVED TO THE DEPTH REQUIRED (AS DIRECTED BY THE OWNER'S REPRESENTATIVE) TO PROVIDE A FIRM FOUNDATION AND SHALL BE REPLACED WITH SUITABLE COMPACTED BACKFILL.

- GRANULAR BASE/ROCK SHALL CONFORM TO THE REQUIREMENTS OF OSSC (0001/APWA) 02630.10 (DENSE GRADED BASE AGGREGATE). COMPACT BASE/ROCK TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR). WRITTEN BASE/ROCK COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE BEFORE PLACING ASPHALT PAVEMENT.
- A.C. PAVEMENT SHALL BE LEVEL 3, 1/2" DENSE GRADED MIX CONFORMING TO OSSC (0001/APWA) 02744 HOT MIXED ASPHALT CONCRETE (HMAC) PAVEMENT. A.C. PAVEMENT SHALL BE COMPACTED TO AN AVERAGE OF 93% OF MAXIMUM DENSITY AS DETERMINED BY THE RICE STANDARD METHOD. WRITTEN A.C. PAVEMENT COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE BEFORE FINAL PAYMENT.
- THE FINAL LIFT OF A.C. PAVEMENT SHALL NOT BE PLACED UNTIL AFTER THE BUILDING IS FULLY ENCLOSED AND WEATHERPROOF, UNLESS OTHERWISE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, STRAIGHT GRADES SHALL BE RUN BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN.
- ALL EXISTING OR CONSTRUCTED MANHOLES, CLEANOUTS, MONUMENT BOXES, GAS VALVES, WATER VALVES AND SIMILAR STRUCTURES SHALL BE ADJUSTED TO MATCH FINISH GRADE OF THE PAVEMENT, SIDEWALK, LANDSCAPED AREA OR MEDIAN STRIP WHEREIN THEY LIE. VERIFY THAT ALL VALVE BOXES AND RISERS ARE CLEAN AND CENTERED OVER THE OPERATING JUT.
- FINISHED RIM ELEVATIONS OF MANHOLES SHOWN WITHIN PAVEMENT ARE APPROXIMATE AND SHALL MATCH FINAL FINISHED PAVEMENT GRADES. RIM ELEVATIONS OUTSIDE OF PAVEMENT SHALL BE SET THREE (3) INCHES ABOVE FINISHED GRADE, UNLESS OTHERWISE DIRECTED OR SHOWN ON THE DRAWINGS.
- NO CUT OR FILL SLOPES SHALL BE CONSTRUCTED STEEPER THAN 3 FT. HORIZONTAL TO 1 FT. VERTICAL (3H:1V) UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE GEOTECHNICAL ENGINEER FOR THE PROJECT.
- ALL EXPOSED SLOPES AND DISTURBED AREAS, WHICH ARE NOT SCHEDULED TO BE LANDSCAPED, SHALL RECEIVE FOUR (4) INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS WITH GRASS MIX IN ACCORDANCE WITH LANDSCAPE PLAN UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, ELEVATIONS IDENTIFIED ARE FOR THE EXPOSED PORTION OF THE WALL. WALL FOOTING/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED AND ARE TO BE DETERMINED BY THE CONTRACTOR AND PROJECT GEOTECHNICAL ENGINEER.
- ALL PLANTER AREAS AND OPEN SPACE SHALL BE BACKFILLED WITH APPROVED TOPSOIL IN CONFORMANCE WITH THE LANDSCAPE PLAN FOR THE PROJECT. STRIPPING MATERIALS SHALL NOT BE USED FOR BACKFILL, UNLESS APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL SEED AND MULCH ALL EXPOSED SLOPES AND DISTURBED AREAS, WHICH ARE NOT SCHEDULED TO BE LANDSCAPED IN ACCORDANCE WITH THE LANDSCAPE PLAN.
- THE CONTRACTOR IS RESPONSIBLE TO ASSURE THAT 1.0% MINIMUM SLOPE ON ALL NEW CONCRETE AND ASPHALT SURFACES IS MAINTAINED TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT ADA COMPLIANCE, PUBLIC SAFETY, OR PROJECT COST MUST BE IDENTIFIED IN WRITING TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITHOUT OWNER'S REPRESENTATIVE AUTHORIZATION AND REVIEW OF THE DISCREPANCY IS AT THE CONTRACTOR'S OWN COST RISK.
- 8-INCHES NOMINAL CURB EXPOSURE USED FOR DESIGN OF ALL PARKING LOT GRADES, UNLESS OTHERWISE SHOWN OR INDICATED ON THE DRAWINGS.
- CONTRACTOR SHALL CONSTRUCT HANDICAP ACCESS RAMP WHERE SHOWN IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
- SIDEWALKS SHALL BE A MINIMUM OF 4-INCHES THICK. ALL CURBS AND SIDEWALKS SHALL BE CONSTRUCTED USING THE CONCRETE STRENGTH SPECIFIED ON THE APPLICABLE DETAIL, AND SHALL BE CURED WITH TYPE 1 OR TYPE 10 CLEAR CURING COMPOUND.
- PRIOR TO INSTALLATION OF CURB, GUTTER, ADA RAMPS, OR SIDEWALK THE OWNER'S REPRESENTATIVE AND/OR INSPECTOR SHALL BE CONTACTED TO INSPECT STRING LINE, FORMWORK, ETC.
- WHERE TRENCH EXCAVATION REMOVALS OF PCC CURBS AND/OR SIDEWALKS, THE CURBS AND/OR SIDEWALKS SHALL BE SAWCUT AND REMOVED AT A TOOLED JOINT UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE CITY OR OWNER'S REPRESENTATIVE. THE SAWCUT LINES SHOWN ON THE DRAWINGS ARE SCHEMATIC AND NOT INTENDED TO SHOW THE EXACT ALIGNMENT OF SUCH CUTS.
- THE CONTRACTOR SHALL HAVE APPROPRIATE EQUIPMENT ON SITE TO PRODUCE A FIRM, SMOOTH, UNDISTURBED SUBGRADE AT THE TRENCH BOTTOM, TRUE TO GRADE. THE BOTTOM OF THE TRENCH EXCAVATION SHALL BE SMOOTH, FREE OF LOOSE MATERIALS OR TOOTH GROOVES FOR THE ENTIRE WIDTH OF THE TRENCH PRIOR TO PLACING THE GRANULAR BEDDING MATERIAL.
- ALL PIPES SHALL BE BEDDED WITH MINIMUM 6-INCHES OF 3/4"-0 CRUSHED ROCK BEDDING AND BACKFILLED WITH COMPACTED 3/4"-0 CRUSHED ROCK IN THE PIPE ZONE (CRUSHED ROCK SHALL EXTEND A MINIMUM OF 12-INCHES OVER THE TOP OF THE PIPE IN ALL CASES). CRUSHED ROCK TRENCH BACKFILL SHALL BE USED UNDER ALL IMPROVED AREAS, INCLUDING PAVEMENT, SIDEWALKS, FOUNDATION SLABS, BUILDINGS, ETC.
- GRANULAR TRENCH BEDDING AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF OSSC (0001/APWA) 02630.10 (DENSE GRADED BASE AGGREGATE). 3/4"-0 COMPACT GRANULAR BACKFILL OUTSIDE OF BUILDING PAD OR GREATER THAN 2 FT. BELOW SUBGRADE TO 92% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR). COMPACT GRANULAR BACKFILL INSIDE OF BUILDING PAD OR WITHIN 2 FT. BELOW SUBGRADE TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR).
- ALL PIPED UTILITIES ABANDONED IN PLACE SHALL HAVE ALL OPENINGS CLOSED WITH CONCRETE PLUGS WITH A MINIMUM LENGTH EQUAL TO 2 TIMES THE DIAMETER OF THE ABANDONED PIPE.
- THE END OF ALL PRIVATE UTILITY SERVICE LINES SHALL BE MARKED WITH A 2-X-4 PAINTED WHITE AND WIRED TO PIPE STOP. THE PIPE DEPTH SHALL BE WRITTEN ON THE POST IN 2" BLOCK LETTERS.
- ALL NON-METALLIC WATER, SANITARY AND STORM SEWER PIPING SHALL HAVE AN ELECTRICALLY CONDUCTIVE INSULATED 12 GAUGE COPPER TRACER WIRE THE FULL LENGTH OF THE INSTALLED PIPE USING BLUE WIRE FOR WATER AND GREEN WIRE FOR STORM AND SANITARY PIPING. TRACER WIRE SHALL BE EXTENDED UP INTO ALL VALVE BOXES, CATCH BASINS, MANHOLES AND LATERAL CLEANOUT BOXES. TRACER WIRE PENETRATIONS INTO MANHOLES SHALL BE WITHIN 18 INCHES OF THE RIM ELEVATION AND ADJACENT TO MANHOLE STEPS. THE TRACER WIRE SHALL BE TIED TO THE TOP MANHOLE STEP OR OTHERWISE SUPPORTED TO ALLOW RETRIEVAL FROM THE OUTSIDE OF THE MANHOLE.
- NO TRENCHES IN SIDEWALKS, ROADS, OR DRIVEWAYS SHALL BE LEFT IN AN OPEN CONDITION OVERNIGHT. ALL SUCH TRENCHES SHALL BE CLOSED BEFORE THE END OF EACH WORKDAY AND NORMAL TRAFFIC AND PEDESTRIAN FLOWS RESTORED.
- CITY FORCES TO OPERATE ALL VALVES, INCLUDING FIRE HYDRANTS, ON EXISTING PUBLIC MAINS, NO EXCEPTIONS.
- NO CONNECTION TO EXISTING WATER LINES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE CITY.
- ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH APWA STANDARDS, OREGON ADMINISTRATIVE RULES (OAR), THE OREGON PLUMBING SPECIALTY CODE (OPSC), AND CITY OF SHERWOOD STANDARDS.
- ALL PRIVATE WATER MAINS SHALL BE MINIMUM CLASS 50 DUCTILE IRON OR C-900 PVC (DR 18). ALL FITTINGS 4-INCHES THROUGH 24-INCHES SHALL BE DUCTILE IRON FITTINGS IN CONFORMANCE WITH APWA C-153 OR APWA C-110. THE MINIMUM WORKING PRESSURE FOR ALL MJ CAST IRON OR DUCTILE IRON FITTINGS 24-INCHES THROUGH 24-INCH IN DIAMETER SHALL BE 350 PSI FOR MJ FITTINGS AND 250 PSI FOR FLANGED FITTINGS.
- ALL WATER MAINS TO BE INSTALLED WITH A MINIMUM 36 INCH COVER TO FINISH GRADE UNLESS OTHERWISE NOTED OR DIRECTED. WATER SERVICE LINES SHALL BE INSTALLED WITH A MINIMUM 30-INCH COVER. DEEPER DEPTHS MAY BE REQUIRED TO AVOID OBSTRUCTIONS AND CONFLICTS.
- THRUST RESTRAINT SHALL BE PROVIDED ON ALL BONDS, TEES AND OTHER DIRECTION CHANGES PER LOCAL JURISDICTION REQUIREMENTS AND AS SPECIFIED OR SHOWN ON THE DRAWINGS. ALL RESTRAINED MECHANICAL JOINT FITTINGS SHALL INCLUDE THE REQUIRED NUMBER OF PUSH-ON PIPE JOINT RESTRAINTS TO OBTAIN THE NECESSARY PIPE RESTRAINED LENGTH.
- ALL VALVES SHALL BE FLANGE CONNECTED TO ADJACENT TEES OR CROSSES, UNLESS OTHERWISE SHOWN OR APPROVED BY THE ENGINEER.
- WATER SERVICE PIPE 3-INCH AND SMALLER ON THE PRIVATE SIDE OF THE METER SHALL BE SCHEDULED 80 PVC, UNLESS OTHERWISE SHOWN. PRIVATE WATER SERVICE PIPING SHALL BE HYDROSTATICALLY PRESSURE TESTED TO A MINIMUM OF 150# OF THE MAXIMUM STATIC PRESSURE AT THE SITE. ALL MATERIALS AND WORKMANSHIP FOR ALL PRIVATE WATER LINES SHALL BE INSTALLED IN CONFORMANCE WITH UNIFORM PLUMBING CODE REQUIREMENTS. ALL WATER SERVICE PIPE ON THE PRIVATE SIDE OF THE METER SHALL BE INSTALLED BY A LICENSED PLUMBER IN ACCORDANCE WITH OPSC REQUIREMENTS.

- DOMESTIC, IRRIGATION AND FIRE BACKFLOW PREVENTION DEVICES AND VAULTS SHALL CONFORM TO CITY OF SHERWOOD REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING BACKFLOW DEVICE TESTING AND CERTIFIED PRIOR TO FINAL ACCEPTANCE OF THE WORK. BACKFLOW ASSEMBLIES DIRECTLY BEHIND WATER METERS INCLUDING THE FIRE BACKFLOW DEVICE WILL BE TESTED BY THE CITY, ANY OTHERS ARE TO BE TESTED BY CONTRACTOR.
 - CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AND MATERIALS (INCLUDING PLUGS, BLOWOFFS, VALVES, SERVICE TAPS, ETC.) REQUIRED TO FLUSH, TEST AND DISINFECT WATERLINES PER PUBLIC AGENCY REQUIREMENTS PRIOR TO PLACING INTO SERVICE.
 - WHERE SANITARY SEWER LINES CROSS ABOVE OR WITHIN 18-INCHES VERTICAL SEPARATION BELOW A WATERLINE, SEWER MAINS AND/OR SERVICE LATERALS SHALL BE REPLACED WITH A 12 FOOT LENGTH OF C-900 PVC PIPE (DR 18) CENTERED AT THE CROSSING IN ACCORDANCE WITH OAR 333. CONNECT TO EXISTING SEWER LINES WITH APPROVED RUBBER COUPLINGS.
 - A MINIMUM OF TEN FEET (10') HORIZONTAL SEPARATION, MEASURED FROM EDGE-TO-EDGE, IS REQUIRED BETWEEN WATER LINE AND SANITARY SEWER LINES AND MANHOLES. ALL CONSTRUCTION SHALL CONFORM TO DEQ AND OAR 333 REQUIREMENTS FOR SEPARATION.
 - PRIVATE FIRE SERVICE MAINS SHALL COMPLY WITH NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 24. INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES 2007 EDITION (OFC, CHAPTER 47).
 - ALL BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION RETARDING MATERIAL, AND THEN WRAPPED IN PLASTIC AFTER INSTALLATION AND PRIOR TO BACKFILL.
 - ALL UNDERGROUND FIRE LINES SHALL BE PRESSURIZED TO 200 PSI, OR 50 PSI ABOVE THE MAXIMUM STATIC PRESSURE. THE PRESSURE TEST SHALL BE MAINTAINED FOR A MINIMUM OF 2 HOURS PRIOR TO THE SCHEDULED INSPECTION TIME.
 - A MINIMUM OF 3 FEET OF WORKING CLEARANCE SHALL BE MAINTAINED AROUND FIRE PROTECTION EQUIPMENT (I.E. FIRE HYDRANTS, FDC'S, ETC)
 - A MATERIAL DATA SUBMITTAL PACKAGE SHALL BE SUBMITTED TO TUALATIN VALLEY FIRE AND RESCUE CONTAINING MANUFACTURER'S TECHNICAL DATA SHEETS FOR ALL UNDERGROUND COMPONENTS IN ACCORDANCE WITH NFPA 24.
 - A COPY OF THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING IN COMPLIANCE WITH NFPA 24 SHALL BE SUBMITTED TO THE FIRE MARSHALL'S OFFICE FOR REVIEW.
 - SANITARY SEWER PIPE SHALL BE SOLID WALL PVC IN CONFORMANCE WITH ASTM D3034, SDR 35. MINIMUM STIFFNESS SHALL BE 48 PSI PER ASTM D-2412 AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212. ALL OTHER APPURTENANCES AND INSTALLATION TO CONFORM TO THE CITY SPECIFICATIONS. ALL MATERIALS AND WORKMANSHIP FOR ALL PRIVATE SANITARY SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH OPSC REQUIREMENTS.
 - CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND FACILITIES TO TEST SANITARY SEWER PIPE AND APPURTENANCES FOR LEAKAGE IN ACCORDANCE WITH TESTING SCHEDULE IN THE PROJECT SPECIFICATIONS STATED ABOVE OR THE CITY'S CONSTRUCTION STANDARDS, WHICHEVER ARE MORE STRINGENT. SANITARY SEWER PIPE AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTS SHALL INCLUDE AN AIR TEST OF ALL SEWER LATERALS.
 - BEFORE TESTING AND FINAL ACCEPTANCE, FLUSH AND CLEAN ALL SANITARY SEWERS, AND REMOVE ALL FOREIGN MATERIAL FROM THE MANLINES AND MANHOLES AND DISPOSE OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLOUSED DOWN THE SANITARY SEWER FOR DISPOSAL.
 - CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE SANITARY SEWER PIPES BY PULLING AN APPROVED MANHOLE THROUGH THE COMPLETED PIPELINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANHOLE SHALL BE 95% OF THE INITIAL PIPE DIAMETER. TEST SHALL BE CONDUCTED NOT LESS THAN 30 DAYS AFTER THE TRENCH BACKFILLING AND COMPACTION HAS BEEN COMPLETED, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 - STORM SEWER PIPE MATERIALS TO CONFORM TO THE CONSTRUCTION DRAWINGS AND CITY REQUIREMENTS. STORM SEWER PIPE MUST BE INSTALLED WITH WATERIGHT JOINTS. CONTRACTOR SHALL USE UNIFORM PIPE MATERIAL ON EACH PIPE RUN BETWEEN STRUCTURES UNLESS OTHERWISE DIRECTED OR APPROVED. JOINTED HOPE PIPE SHALL NOT BE USED FOR SLOPES EXCEEDING TEN PERCENT (10%). ALL MATERIALS AND WORKMANSHIP FOR ALL PRIVATE STORM DRAINS SHALL BE INSTALLED IN CONFORMANCE WITH OPSC REQUIREMENTS.
- | STORM PIPE COVER DEPTH (MEASURED FROM FINISH GRADE TO TOP OF PIPE) | STORM PIPE MATERIAL |
|--|---|
| LESS THAN 2 FEET | CLASS 52 DUCTILE IRON PIPE (4"); CLASS 50 DUCTILE IRON PIPE (6" TO 12"); CLASS 51 DUCTILE IRON PIPE (14" TO 18") WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS. |
| 2 FEET OR MORE | CLASS III, ASTM C-14 NON-REINFORCED CONCRETE PIPE ASTM 150 TYPE II CEMENT; OR PVC PIPE CONFORMING TO APWA C900 DR 18 (6" TO 12") OR APWA C-905 (14" TO 18") WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS. 21" TO 30" PIPE SHALL BE CLASS IV, ASTM C-76 REINFORCED CONCRETE PIPE WITH BELL AND SPIGOT JOINTS AND RUBBER GASKET WITH ASTM 150 TYPE II CEMENT. NOTE: PVC C900 AND C905 ARE NOT AN APPROVED PIPE MATERIAL FOR THE ANCHOR PARCEL. |
| 2.5 FEET OR MORE | PVC PIPE CONFORMING TO ASTM D-3034 SOLID WALL PVC SDR 35 WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS (6" TO 18"); OR HOPE ADS N-12 18" ST. HANCOR SURE-LOK F477 PIPE SHALL BE INSTALLED FOR PIPE SLOPES LESS THAN 6% (6" TO 30") AND HOPE ADS N-12 18" ST. HANCOR BLUE SEAL PIPE SHALL BE INSTALLED FOR PIPE SLOPES GREATER THAN OR EQUAL TO 6% (6" TO 30"). HOPE PIPE IF USED SHALL CONFORM TO AASHTO M-252 (8" TO 10") OR AASHTO M-294 (12" TO 30"). |
- CONTRACTOR SHALL DESIGNATE THE PIPE MATERIAL ACTUALLY INSTALLED ON THE FIELD RECORD DRAWINGS AND PROVIDE THIS INFORMATION FOR INCLUSION ON THE AS-BUILT DRAWINGS.
 - STORM DRAIN INLETS SHALL BE SET SQUARE WITH BUILDINGS OR WITH THE EDGE OF THE PARKING LOT WHEREIN THEY LIE. STORM DRAIN INLET STRUCTURES AND PAVING SHALL BE ADJUSTED SO WATER FLOWS INTO THE STRUCTURE WITHOUT PONDING WATER.
 - UNLESS OTHERWISE APPROVED BY THE ENGINEER, ALL STORM DRAIN CONNECTIONS SHALL BE BY MANUFACTURED TEES OR SADDLES.
 - DEFLECT STORM SEWER PIPE INTO CATCH BASIN AND MANHOLES AS REQUIRED. MAXIMUM JOINT DEFLECTION SHALL NOT EXCEED 5 DEGREES OR MANUFACTURERS REQUIREMENTS, WHICHEVER IS LESS.
 - UNLESS OTHERWISE SHOWN OR DIRECTED, INSTALL STORM SEWER PIPE IN ACCORDANCE WITH MANUFACTURER INSTALLATION GUIDELINES.
 - BEFORE TESTING AND FINAL ACCEPTANCE, FLUSH AND CLEAN ALL STORM DRAINS, AND REMOVE ALL FOREIGN MATERIAL FROM THE MANLINES, MANHOLES AND CATCH BASINS AND DISPOSE OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLOUSED DOWN THE SANITARY SEWER FOR DISPOSAL.
 - CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE STORM SEWER PIPES BY PULLING AN APPROVED MANHOLE THROUGH THE COMPLETED PIPELINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANHOLE SHALL BE 95% OF THE INITIAL PIPE DIAMETER. TEST SHALL BE CONDUCTED NOT MORE THAN 30 DAYS AFTER THE TRENCH BACKFILLING AND COMPACTION HAS BEEN COMPLETED.
 - PARKING LOT LIGHTS SHALL BE INSTALLED AFTER ALL OTHER EARTHWORK AND PUBLIC UTILITY INSTALLATIONS ARE COMPLETED AND AFTER ROUGH GRADING OF THE PROPERTY IS ACCOMPLISHED TO PREVENT DAMAGE TO THE POLES.
 - CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO OWNER.
 - CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY REPRESENTATIVE AT LEAST 48 HOURS

- PRIOR TO CONNECTING TO ANY EXISTING LINE.
- LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
 - REFER TO PLANS PREPARED BY MKE FOR SITE LIGHTING ELECTRICAL PLAN.
 - ELECTRICAL TRANSFORMERS TO BE LOCATED ON CONCRETE TRANSFORMER PADS. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY PROVIDER FOR DETAILS.
 - CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
 - CONTRACTOR SHALL REFER TO ARCHITECT/PLUMBING PLANS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE, AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH CITY UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
 - CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANIES, CITY, AND OWNER'S REPRESENTATIVE.
 - INSTALLATION OF THE GAS SERVICE AND METER TO BE COMPLETED BY UTILITY PROVIDER. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH GAS COMPANY REGARDING THE SIZE AND INSTALLATION OF GAS SERVICE LINE.
 - CONTRACTOR IS TO PROVIDE TRENCHING, CONDUIT, AND BACKFILL FOR ALL UNDERGROUND UTILITIES REQUIRED BY THE UTILITY PROVIDERS TO SERVE THE PROPOSED DEVELOPMENT.
 - ALL NEW FRANCHISE AND PRIVATE UTILITIES (POWER, CABLE TV, TELEPHONE, GAS, DATA, COMMUNICATION, CONTROL, ALARMS, ETC.) SHALL BE INSTALLED UNDERGROUND IN CONFORMANCE WITH UTILITY SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
 - CONTRACTOR SHALL COORDINATE WITH POWER, TELEPHONE AND CABLE TV COMPANIES FOR LOCATION OR RELOCATION OF VAULTS, PEDESTALS, ETC. ALL ABOVE-GRADE FACILITIES SHALL BE PLACED IN A LOCATION OUTSIDE THE PROPOSED SIDEWALK LOCATION.
 - POWER, TELEPHONE AND TV TRENCHING AND CONDUITS SHALL BE INSTALLED PER UTILITY COMPANY REQUIREMENTS WITH PULL WIRE. CONTRACTOR SHALL VERIFY WITH UTILITY COMPANY FOR SIZE, LOCATION AND TYPE OF CONDUIT BEFORE CONSTRUCTION, AND SHALL INSURE THAT TRENCHES ARE ADEQUATELY PREPARED FOR INSTALLATION PER UTILITY COMPANY REQUIREMENTS. ALL CHANGES IN DIRECTION OF UTILITY CONDUIT RUNS SHALL HAVE LONG RADII STEEL BENDS.
 - ALL FRANCHISE UTILITY STRUCTURES (VAULTS, PEDESTALS, LIGHT POLES, ETC.) SHALL BE SET A MINIMUM OF 1 FOOT FROM ANY PROPERTY CORNER OR SURVEY MONUMENT.

AMERICANS WITH DISABILITIES ACT (ADA) NOTES

- CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS ON THE PROJECT. THE ADA COMPONENTS MUST COMPLY WITH ALL LOCAL, STATE, AND FEDERAL ACCESSIBILITY RULES, CODES, AND REGULATIONS.
- FINISHED SURFACES ALONG THE ACCESSIBLE PATH OF TRAVEL FROM PARKING STALLS, PUBLIC TRANSPORTATION, AND PEDESTRIAN ACCESSWAYS TO THE POINT(S) OF ACCESSIBLE BUILDING INGRESS AND EGRESS SHALL COMPLY WITH ADA CODE REQUIREMENTS.
- PARKING SPACE AND ASLE SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.
- CURB RAMP SLOPE SHALL NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET.
- LANDINGS SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.
- PATH OF TRAVEL ALONG ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM OF 36 INCH UNOBSTRUCTED WIDTH OF TRAVEL. THE SLOPE SHALL BE NO GREATER THAN 1:20 (5.0% OR 5/8" PER FOOT) IN THE DIRECTION OF TRAVEL AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%) FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED INCLUDING HANDRAILS. THE RAMP SHALL HAVE ACCESSIBLE HAND RAILS AND LANDINGS ON EACH END WITH A SLOPE IN ANY DIRECTION NOT EXCEEDING 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%).
- DOORWAYS SHALL HAVE A LANDING AREA ON THE EXTERIOR SIDE UP THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ACCESSIBILITY STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS AND APPROVED BY THE OWNER'S REPRESENTATIVE.

THE "REPORT OF GEOTECHNICAL ENGINEERING SERVICES" PREPARED BY GEODESIGN, INC. FOR LANGER GRAMOR, LLC., DATED 6/26/2012 (GEODESIGN PROJECT NUMBER: LANGER G-1-01), APPLIES TO THE BUILDING PADS ONLY (PADS A, B, C, D, E, AND F) ON LOTS 1 AND 3. CONTRACTOR SHALL CONFORM TO GEODESIGN'S RECOMMENDATIONS FOR CONSTRUCTION OF THE LOTS 1 AND 3 BUILDING PADS.

APPROVED
CONSTRUCTION PLANS
(See cover sheet approval for any conditions)
City of Sherwood
Engineering Division
Date: 7/1/13



13910 SW GALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE 503-925-8799
AKS JOB: 3048



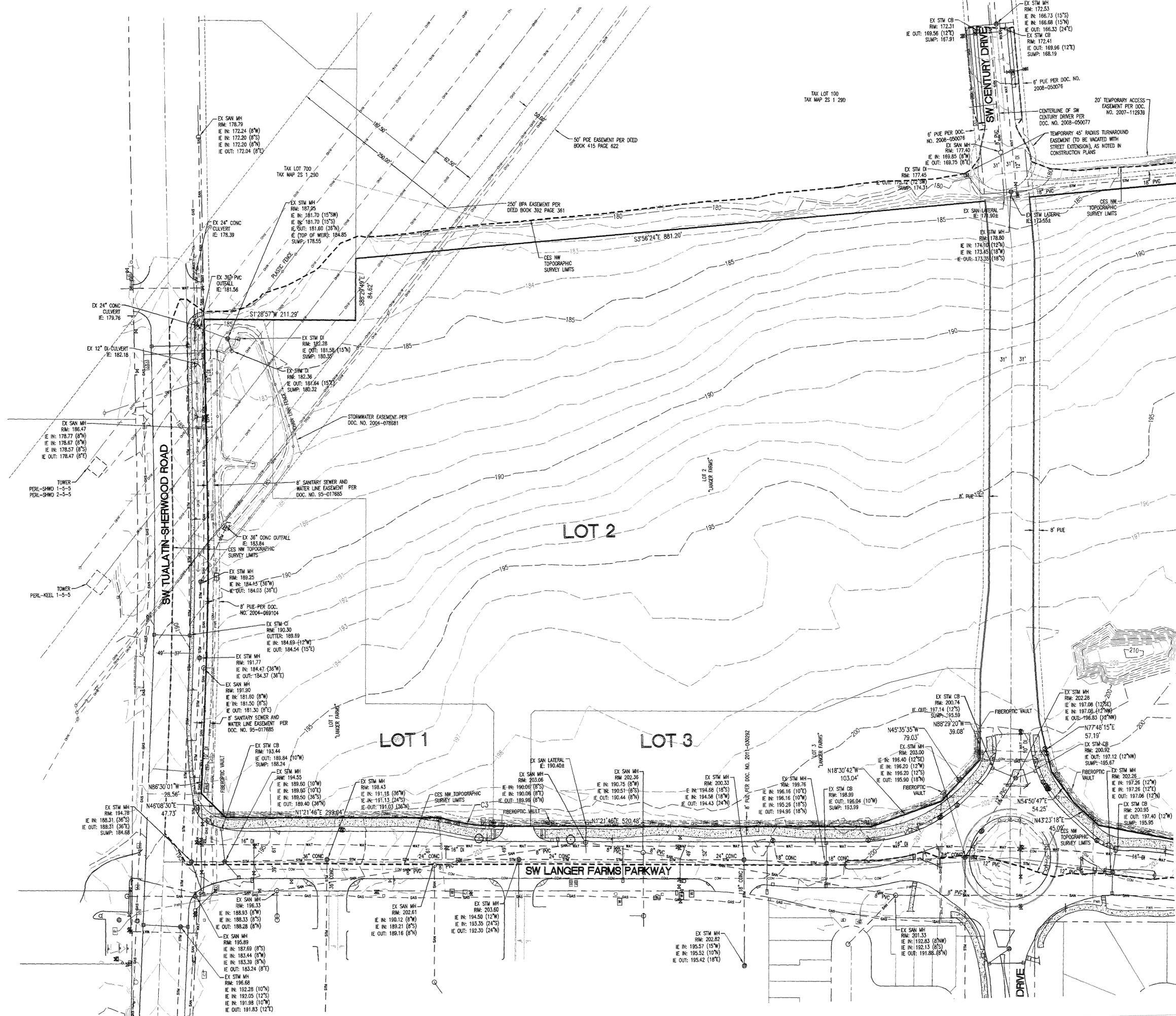
SHERWOOD TOWN CENTER
 SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
 SHERWOOD, OREGON
 LANGER GRAMOR LLC
 PERMIT SET

PROJECT NO.
11364
DATE: 06/21/2013
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LOTS 1 AND 3

SHERWOOD TOWN CENTER
 SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
 SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET



APPROVED CONSTRUCTION PLANS
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 City of Sherwood
 Engineering Division
 Date: 7/1/13

- NOTES:**
1. INFORMATION SHOWN IS BASED ON DIGITAL INFORMATION PROVIDED BY OTHERS (INCLUDING CES NW AND HDJ DESIGN GROUP). AKS ENGINEERING & FORESTRY MAKES NO GUARANTEE THAT THE UTILITIES SHOWN REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 2. PORTIONS OF SITE TOPOGRAPHY ARE PER A SURVEY BY CES NW (CES NW JOB NO. 2723) AND ARE LABELED. THE REMAINING TOPOGRAPHIC DATA IS PER DRAWINGS PROVIDED ON 12/05/11 BY HDJ. THERE IS A PORTION OF LANGER FARMS PARKWAY WHERE ADDITIONAL DRY UTILITIES WERE TIED BY AKS LOCATED SOUTHERLY OF THIS PLAN SHEET.
 3. VERTICAL DATUM: ELEVATIONS ARE BASED ON WASHINGTON COUNTY BENCHMARK NO. 103, A BRASS DISK IN CONCRETE AT THE SW CORNER OF THE INTERSECTION OF SW TUALATIN-SHERWOOD ROAD AND THE RAILROAD CROSSING, APPROXIMATELY 1.1 MILE EAST OF SIX CORNERS. WITH A NGVD 29 ELEVATION OF 171.38 FEET.
 4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
 5. CONTOUR INTERVAL IS 1 FOOT.
 6. ALL TREES SHOWN ARE APPROXIMATE LOCATION AND HAVE NOT BEEN VERIFIED AT THIS TIME.

SCALE 1" = 60 FEET

EXISTING CONDITIONS PLAN

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SHERWOOD TOWN CENTER
 SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
 SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

CALLOUT LEGEND #

1. LIMITS OF AC GRIND AND OVERLAY.
2. LIMITS OF 2' WIDE FULL DEPTH REPAIR FROM EDGE OF CONCRETE GUTTER.
3. SAWCUT AND REMOVE EXISTING SIDEWALK AT NEAREST EXPANSION JOINT.
4. COMMERCIAL DRIVEWAY STRUCTURAL SECTION PER C.O.S. DETAIL RD-42.
5. TACTILE WARNING PAD PER C.O.S. DETAIL RD-43
6. 6" REMOVABLE BOLLARD, MATCH BOLLARDS IN EXISTING DRIVEWAY
7. CONCRETE SIDEWALK STRUCTURAL SECTION PER C.O.S. DETAIL RD-26
8. REMOVE EXISTING STREET TREE

NOTE:

1. SEE SHEETS C400-403 FOR C.O.S. STANDARD DETAILS
2. PROPOSED DRIVEWAY TO MATCH EXISTING DRIVEWAY DIMENSIONS AND DESIGN.
3. CONTRACTOR CAN SAVE EXISTING DRIVEWAY APPROACH WHERE POSSIBLE. REMOVE EXISTING DRIVEWAY AT EXPANSION JOINTS.
4. CONTRACTOR TO RESTRIPE ANY PAVEMENT STRIPING DISTURBED DURING CONSTRUCTION.
5. CONTRACTOR SHALL OBTAIN A CITY RIGHT-OF-WAY PERMIT PRIOR TO BEGINNING PUBLIC INFRASTRUCTURE WORK.

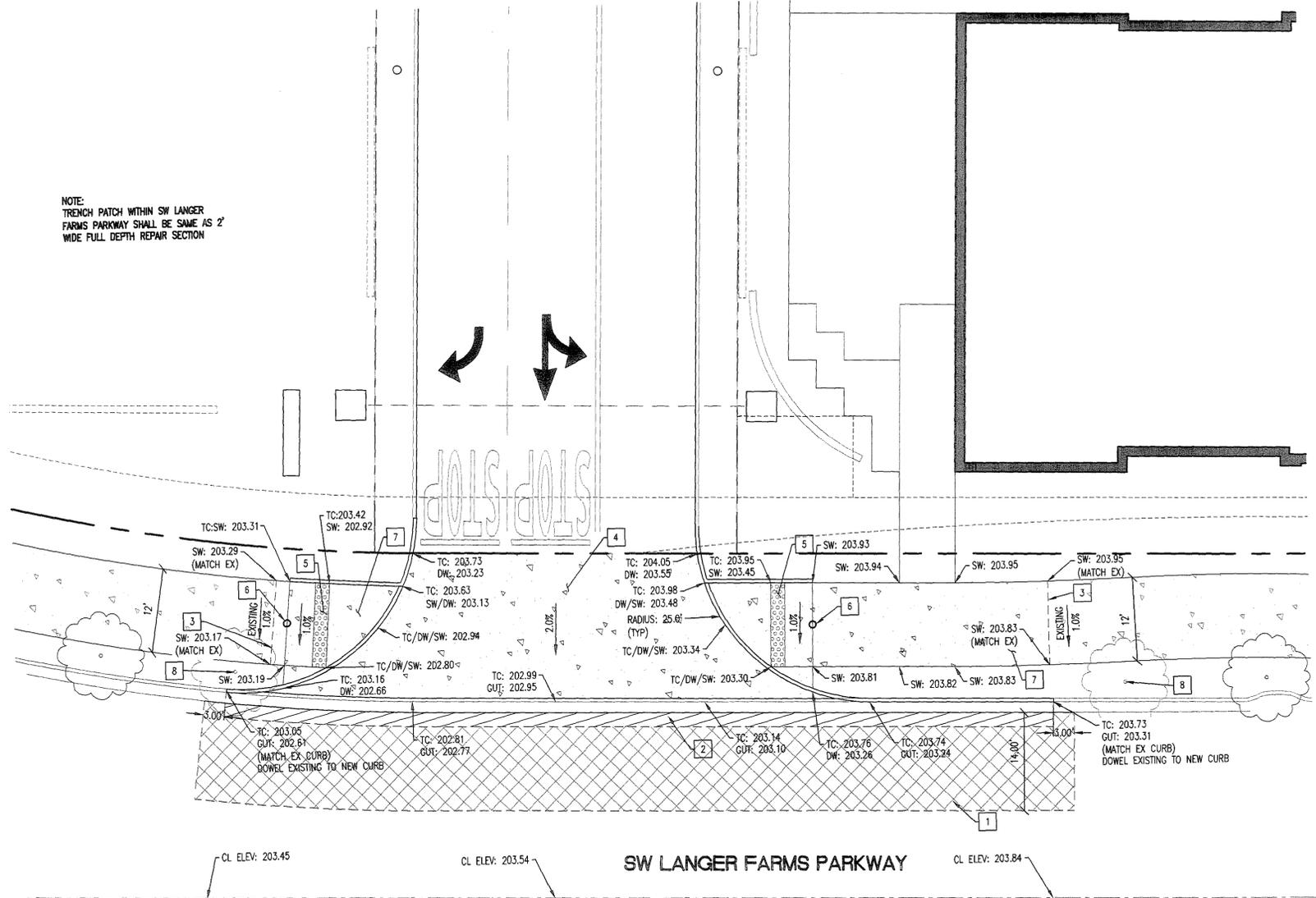
2" GRIND AND OVERLAY W/ LEVEL 3, 1/2" DENSE GRADED HMAC. RESTRIPE MEDIAN TO MATCH EXISTING W/ THERMOPLASTIC YELLOW W/ REFLECTIVE BEADS

2' WIDE FULL DEPTH REPAIR
 2" LEVEL 3, 1/2" DENSE GRADED HMAC*
 OVER 5" LEVEL 3, 3/4" DENSE GRADED HMAC
 (PLACED IN TWO LIFTS)
 OVER 14" 3/4"-0 CRUSHED ROCK

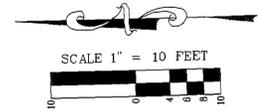
*GRIND TOP 2" AC OFF 2' WIDE ZONE W/ FINAL GRIND AND OVERLAY.

- NOTE:**
1. ASPHALT CEMENT TO BE PG 70-22 PERFORMANCE GRADED ASPHALT.
 2. CITY INSPECTOR SHALL INSPECT 2' WIDE ZONE PRIOR TO PLACING ASPHALT
 3. FINAL 2" LIFT TO BE ONE SEAMLESS LAYER ACROSS GRIND AND OVERLAY AND FULL DEPTH REPAIR ZONES

NOTE:
 TRENCH PATCH WITHIN SW LANGER FARMS PARKWAY SHALL BE SAME AS 2' WIDE FULL DEPTH REPAIR SECTION



1 DRIVEWAY DETAIL PLAN



CITY OF SHERWOOD STANDARD NOTES:

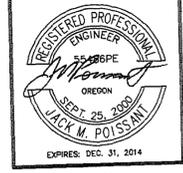
1. CONTRACTOR SHALL NOTIFY CITY OF SHERWOOD ENGINEERING DEPARTMENT AT 503-925-2303 TWO (2) BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK ON GRADING OR PUBLIC IMPROVEMENTS.
2. ALL PUBLIC CONSTRUCTION SHALL CONFORM TO CITY OF SHERWOOD STANDARD CONSTRUCTION SPECIFICATIONS. CONTRACTOR AND SUBCONTRACTOR(S) SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS AND CITY OF SHERWOOD STANDARD CONSTRUCTION SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.

APPROVED
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 (See cover sheet approval for any conditions)
City of Sherwood
Engineering Division
 Date: 7/11/13

PROJECT NO. 11364
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DRAWN BY: CL
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DRIVEWAY DETAIL PLAN



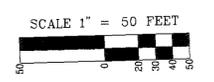
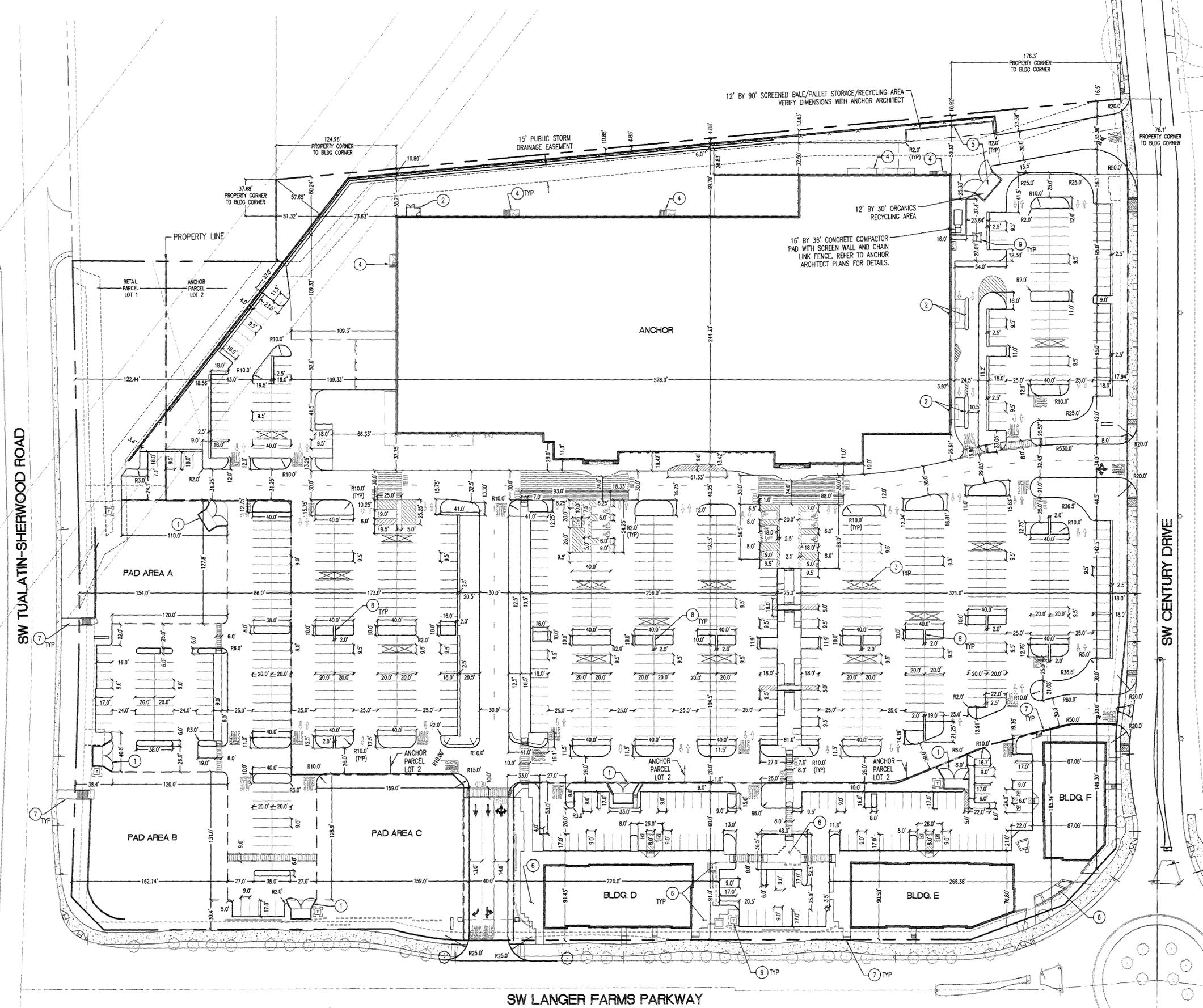
13910 SW CALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
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SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

- CALLOUT LEGEND #**
- SEE ARCHITECTURAL PLANS PREPARED BY TILAND SCHMIDT FOR TRASH ENCLOSURE DETAILS.
 - SEE ANCHOR ARCHITECTURAL PLANS FOR DETAILS.
 - CART CORRAL (TYPICAL) SEE DETAIL SHEET C612 FOR CART CORRAL DETAIL.
 - EXIT PORCH. SEE ANCHOR ARCHITECTURAL PLANS FOR EXACT SIZE, LOCATION FOR STOOPS, STAIRS AND/OR RAMPS THAT MAY BE REQUIRED. RAMP PAVEMENT FLUSH WITH TOP OF STOOP.
 - SEE ANCHOR ARCHITECTURAL PLANS FOR BALE/PALLET AND ORGANIC WASTE ENCLOSURE WALLS/FENCE AND GATE DETAILS.
 - SEE ARCHITECTURAL PLANS PREPARED BY TILAND SCHMIDT FOR PLAZAS, INCLUDING WALLS, PLANTERS, BENCHES, FINISHES, ETC.
 - SEE ARCHITECTURAL PLANS PREPARED BY TILAND SCHMIDT FOR SIDEWALK, STEPS, RAMPS, STAIRS, AND HANDRAIL DETAILS.
 - LANDSCAPE ISLAND SCUPPER (CURB BREAK), SEE DETAIL SHEET C611.
 - CONCRETE TRANSFORMER PAD. CONTRACTOR TO COORDINATE WITH PGE.

NOTE:
CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.



SITE DIMENSIONING PLAN

PROJECT NO.
11364

DATE:
06/17/2013

DRAWN BY:
CI

CHECKED BY:
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SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
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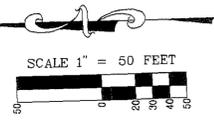
SITE CALLOUT LEGEND

- 30"x30" STOP SIGNAGE AND MARKING.
- OPEN ARROW PAVEMENT MARKINGS PER PLAN. (FOR ALL INTERIOR MARKINGS)
- SOLID ARROW PAVEMENT MARKINGS AT ALL DRIVEWAY LOCATIONS PER PLAN.
- 8'-0" WIDE PEDESTRIAN CROSSWALK. EDGE LINES PAINTED SWSL/8" WITH INSIDE STRIPING PAINTED SWSL/6" AT 2'-0" O.C. PERPENDICULAR TO EDGE LINES. SEE DETAIL SHEET C602.
- PEDESTRIAN CROSSWALK WITH 6" WIDE PAINTED WHITE STRIPING PARALLEL TO DIRECTION OF TRAFFIC AT 2'-0" O.C. AND (1)-8" WHITE STRIPE PERPENDICULAR ON BOTH ENDS UNLESS NOTED OTHERWISE. SEE SITE DIMENSION PLAN FOR DIMENSIONS. SEE DETAIL SHEET C602.
- "YIELD" PAINTED WHITE ON PAVEMENT (TYPICAL). SEE DETAIL SHEET C602.
- FIRE LANE MARKING, 6" WIDE FIRE LANE STRIPING PAINTED TRAFFIC RED W/ "NO PARKING FIRE LANE" PAINTED WITH 4" HIGH WHITE LETTERING AT 25' O.C. SEE DETAIL SHEET C602. VERIFY SPECIFICS WITH TYP&R SAFETY REQUIREMENTS.
- ACCESSIBLE PARKING SPACES AND PAINTED ISLANDS (TYPICAL). SEE DETAIL SHEETS C603 AND C604 FOR ACCESSIBLE PARKING SPACE SIZE, SIGN AND SYMBOL ("VAN"-INDICATES VAN ACCESSIBLE SPACE).
- 6" PIPE BOLLARD, TYPICAL UNLESS NOTED OTHERWISE. SEE DETAIL SHEET C611.
- "NO TRUCKS" SIGN. SEE DETAIL SHEETS C605 AND C606.
- "TRUCK ENTRANCE" SIGN. SEE DETAIL SHEETS C605 AND C606.
- 4" WIDE x 130' LONG YELLOW PAINTED TRUCK ALIGNMENT STRIPES. COORDINATE STRIPING WITH ANCHOR CONTRACTOR.
- BOLLARDS BY ANCHOR ARCHITECT
- PYLON SIGN (SEE TILAND-SCHMIDT ARCHITECTURE PLANS)
- MONUMENT SIGN (SEE TILAND-SCHMIDT ARCHITECTURE PLANS)
- LOADING AND DROP-OFF AREA. PAINT 4" SINGLE YELLOW STRIPED LINES AT 45' AT 2'-0" O.C.
- 4" SINGLE TRAFFIC WHITE LANE STRIPE. 6' STRIPE WITH 18" GAP
- RELOCATE EXISTING DIRECTION ARROW SIGN TO EXISTING LIGHT POLE.
- 4" DOUBLE TRAFFIC YELLOW LANE STRIPE.
- 4" SINGLE TRAFFIC WHITE LANE STRIPE.
- STRIPED ISLAND AREAS. EDGE LINES 6" SINGLE YELLOW STRIPED LINE WITH INSIDE 4" SINGLE YELLOW STRIPED LINES AT 45' AT 2'-0" O.C. COORDINATE STRIPING WITH ANCHOR CONTRACTOR.
- CART CROSSOVER STRIPING. SEE DETAIL SHEET C604
- INSTALL 36"x36" STOP SIGNAGE AND MARKING. SEE DETAIL SHEETS C605 AND C606.
- INSTALL "RIGHT-TURN ONLY" SIGNAGE. SEE DETAILS SHEET C605.
- PEDESTRIAN CROSSING SIGN W11-2 AND W1-7P AT PEDESTRIAN CROSSWALKS AS NOTED ON PLANS (TYPICAL)
- LIGHT POLE BASE (TYP). REFER TO PLANS PREPARED BY MKE FOR LIGHT POLE BASE, LOCATION, INFORMATION, AND ELECTRICAL PLAN.
- PAINTED ISLAND WITH 4" SINGLE YELLOW STRIPED LINES AT 2'-0" O.C., SEE DETAIL SHEET C603.
- "TRUCK EXIT" SIGN. SEE DETAIL SHEETS C605 AND C606.
- ASSOCIATE PARKING STALLS SHALL BE 4" WHITE STRIPING.
- CONCRETE PEDESTRIAN CROSSING. SEE DETAIL SHEET C502.

NOTES:

- SEE DETAIL SHEETS FOR SIGNING AND STRIPING DETAILS
- 4" YELLOW PARKING SPACE STRIPING PER DETAIL AND DIMENSION PER "SITE DIMENSION PLAN", UNLESS OTHERWISE SHOWN.
- SEE SURFACING PLAN FOR ARCHITECTURAL CONCRETE LOCATIONS.
- SWSL IS SINGLE WHITE STRIPED LINE

APPROVED CONSTRUCTION PLANS
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City of Sherwood Engineering Division
Date: 06/21/2013



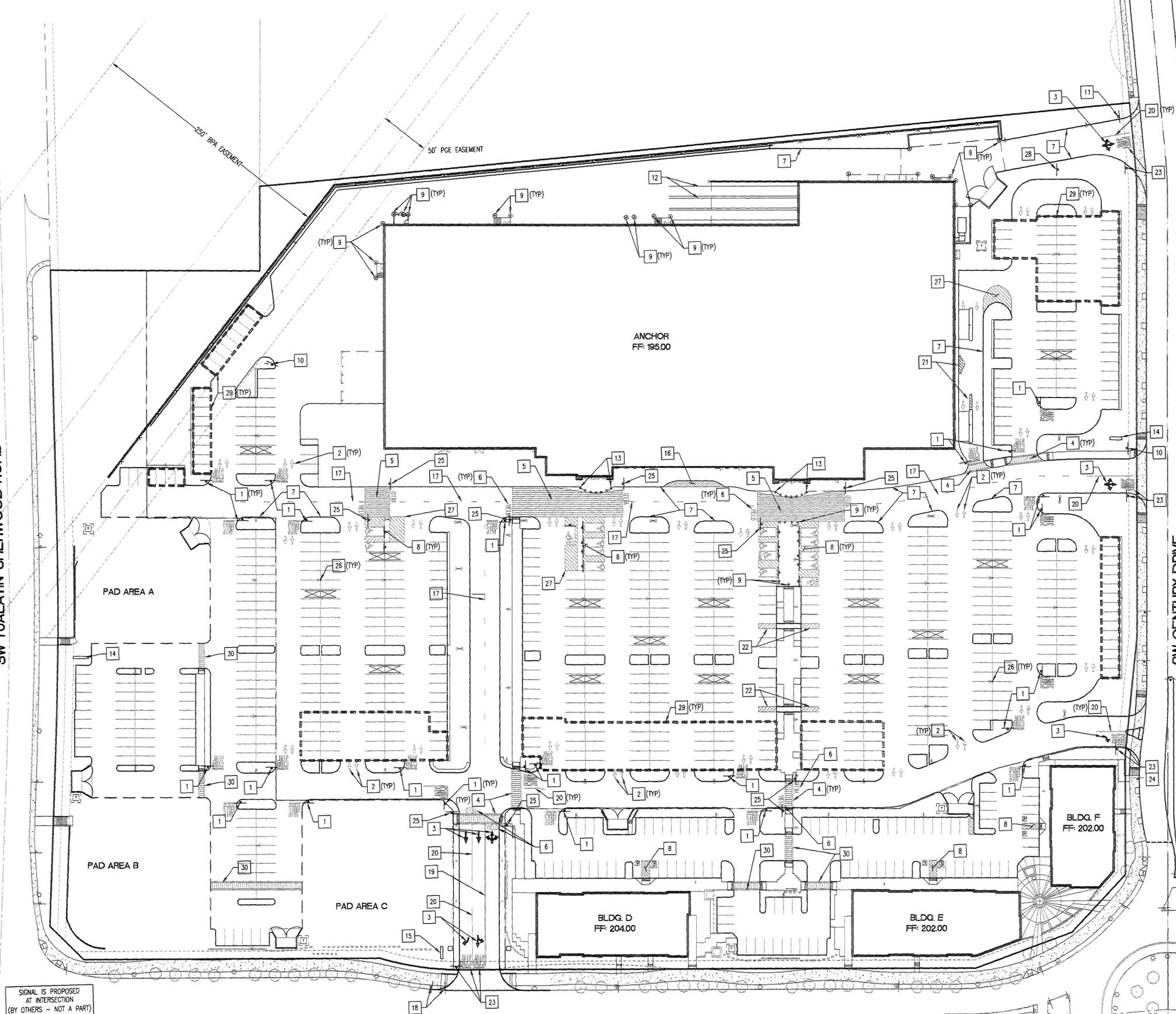
SIGNING AND STRIPING PLAN

PROJECT NO.
11364

DATE: 06/21/2013
DRAWN BY: CJ
CHECKED BY: JMF

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103



SIGNAL IS PROPOSED AT INTERSECTION (BY OTHERS - NOT A PART)

SW LANGER FARMS PARKWAY

SW TUALATIN-SHERWOOD ROAD

SW CENTURY DRIVE



13910 SW GALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
AKS JOB: 3048



SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

COMMON TRENCH: GAS AND TELEPHONE CONDUITS PER LOCAL UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE AND VERIFY EXACT SIZE, MATERIAL TYPE AND NUMBER OF CONDUITS WITH LOCAL UTILITY COMPANY AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

EX SAN MH
RIM: 177.40
IE IN: 169.85 (8"W)
IE OUT: 169.75 (8"E)

EX SAN LATERAL
IE: 171.904

POWER CONDUIT(S) PER PGE REQUIREMENTS. CONTRACTOR SHALL COORDINATE AND VERIFY EXACT SIZE, MATERIAL TYPE AND NUMBER OF CONDUITS PRIOR TO INSTALLATION.

PROPOSED GAS METER COORDINATE WITH NW NATURAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING PIPE BOLLARD PROTECTION AT METER AND SHALL COORDINATE CONNECTION OF METER.

CT CABINET AND PULL BOX COORDINATE LOCATION WITH ANCHOR CONTRACTOR

PROPOSED TRANSFORMER (TYPICAL)

ANCHOR GREASE INTERCEPTOR BY ANCHOR CONTRACTOR COORDINATE WITH ANCHOR CONTRACTOR AS REQUIRED

ANCHOR
FF: 195.00

NOTES:

- REFER TO CENTURY DRIVE IMPROVEMENT PLANS FOR PUBLIC WATER, SANITARY SEWER AND STORM DRAIN STUB LOCATIONS.
- PRIOR TO STARTING CONSTRUCTION, CONTRACTOR SHALL POTHOLE EXISTING UTILITY STUBS AND VERIFY EXACT SIZE, ALIGNMENT, LOCATION, DEPTH AND MATERIAL TYPE.
- SITE CONTRACTOR TO COORDINATE WITH OWNER AND ANCHOR CONTRACTOR AT LEAST FIVE DAYS PRIOR TO INSTALLATION OF UTILITY SERVICE CONNECTIONS TO THE ANCHOR BUILDING TO CONFIRM ALL FINAL UTILITY SERVICE CONNECTION LOCATIONS PRIOR TO INSTALLATION.

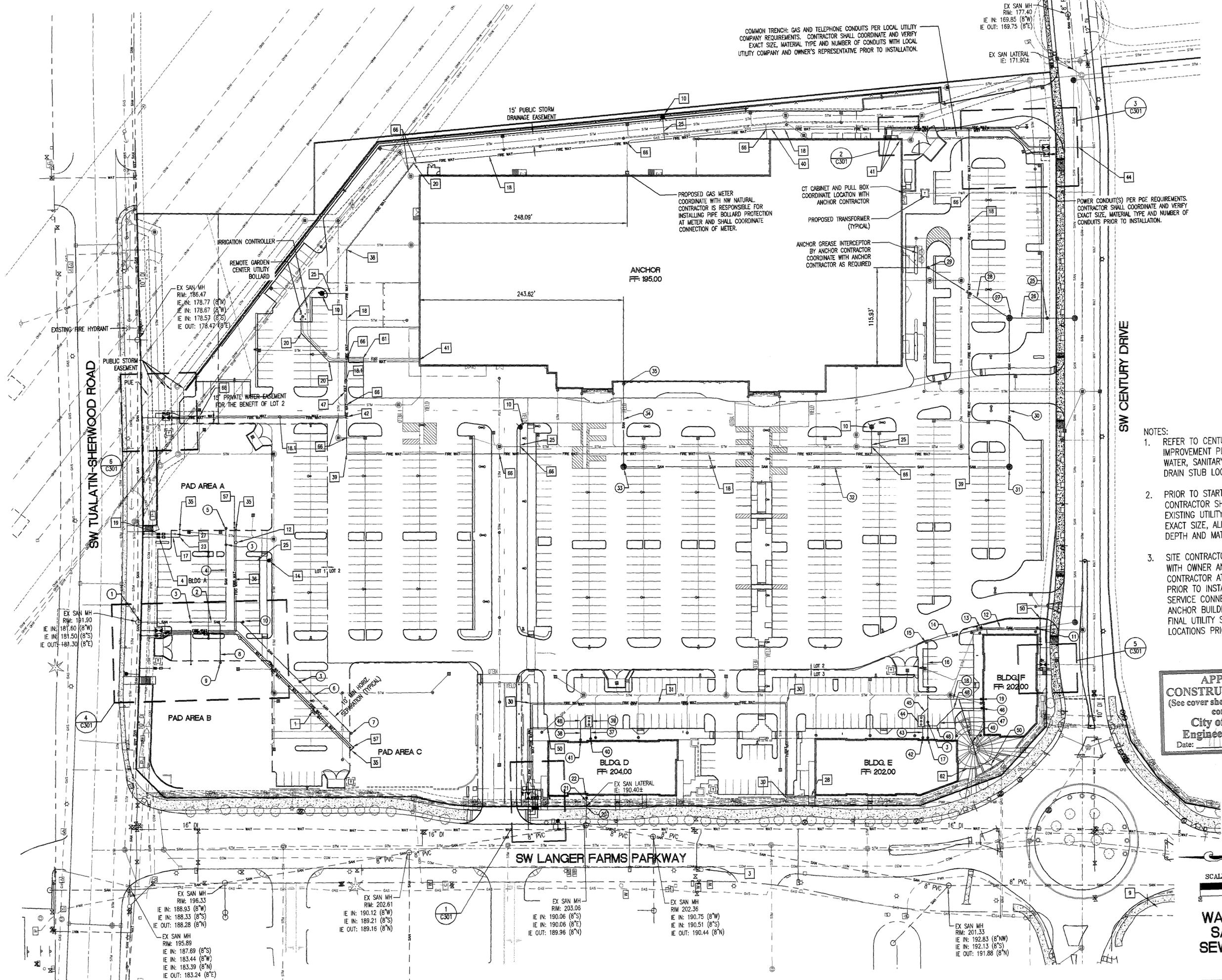
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City of Sherwood
Engineering Division
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SCALE 1" = 50 FEET
WATER AND SANITARY SEWER PLAN

C
300



SW TUALATIN-SHERWOOD ROAD

SW CENTURY DRIVE

SW LANGER FARMS PARKWAY

EX SAN MH
RIM: 181.90
IE IN: 181.60 (8"W)
IE IN: 181.50 (8"S)
IE OUT: 181.30 (8"E)

EX SAN MH
RIM: 186.47
IE IN: 178.77 (8"W)
IE IN: 178.67 (8"W)
IE IN: 178.57 (8"S)
IE OUT: 178.47 (8"E)

PAD AREA A

PAD AREA B

PAD AREA C

BLDG D
FF: 204.00

BLDG E
FF: 202.00

BLDG F
FF: 202.00

EX SAN MH
RIM: 195.89
IE IN: 187.69 (8"S)
IE IN: 183.44 (8"W)
IE IN: 183.39 (8"N)
IE OUT: 183.24 (8"E)

EX SAN MH
RIM: 202.61
IE IN: 190.12 (8"W)
IE IN: 189.21 (8"S)
IE OUT: 189.16 (8"N)

EX SAN MH
RIM: 203.05
IE IN: 190.06 (8"S)
IE IN: 190.06 (8"E)
IE OUT: 189.96 (8"N)

EX SAN MH
RIM: 202.35
IE IN: 190.75 (8"W)
IE IN: 190.51 (8"S)
IE OUT: 190.44 (8"N)

EX SAN MH
RIM: 201.33
IE IN: 192.83 (8"W)
IE IN: 192.13 (8"S)
IE OUT: 191.88 (8"N)

WATER KEYED NOTES

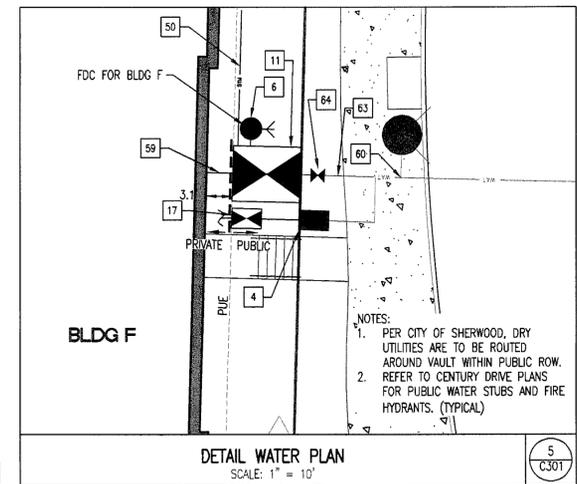
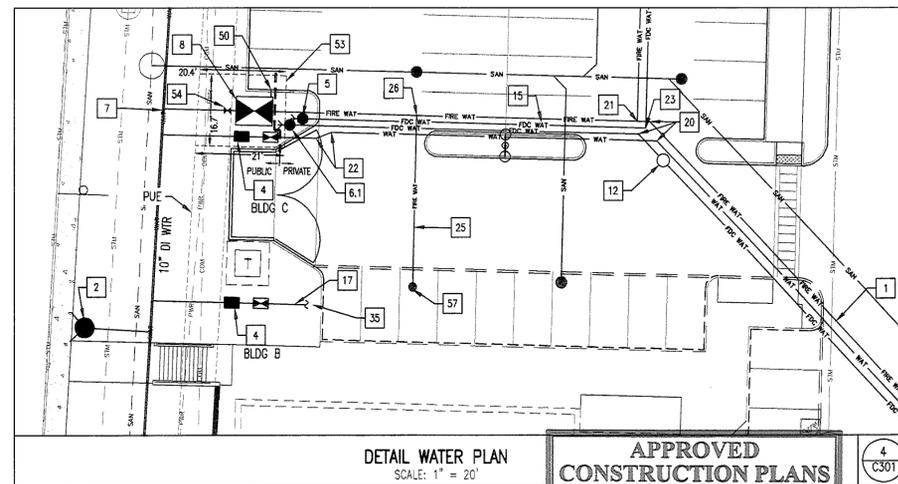
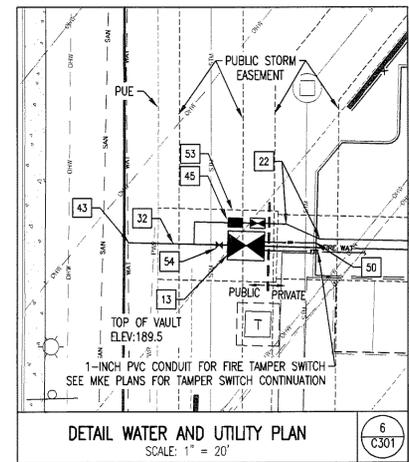
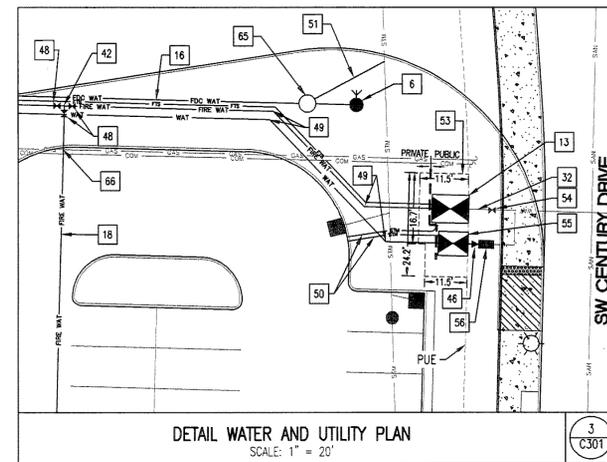
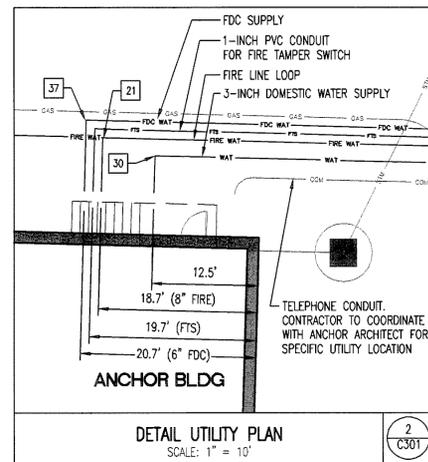
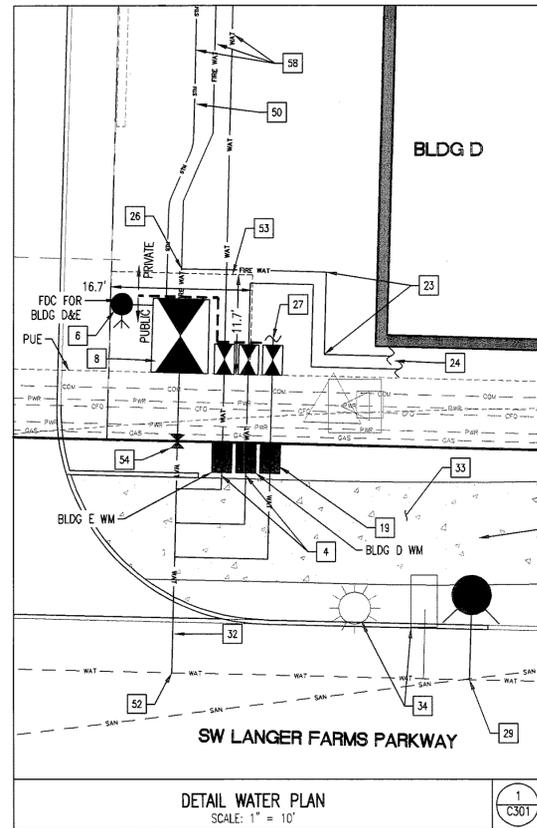
- COMMON TRENCH:
8" PVC C900 FIRE LINE
4" PVC C900 FDC LINE
2" SCH 80 PVC DOMESTIC WATER
- CONTRACTOR SHALL COORDINATE WITH CITY FOR INSTALLATION OF NEW PUBLIC FIRE HYDRANT. CONTRACTOR TO INSTALL 10"x6" TAPPING TEE, 6" GATE VALVE (GV) AND THRUST BLOCK (TB) PER CITY STANDARDS. PERMIT, TRENCH EXCAVATION, BACKFILL, CHLORINATION, TESTING AND SURFACE RESTORATION BY CONTRACTOR.
- EXISTING FIRE HYDRANT ON LANGER FARMS (FLOW TEST)
STATIC PRESSURE: 76 PSI
RESIDUAL PRESSURE: 48 PSI
PROJECTED AVAILABLE HYD. FLOW: 3,123 GPM
- CONTRACTOR SHALL COORDINATE WITH CITY TO INSTALL 2" SERVICE, 1-1/2" DOMESTIC WATER METER (WM), AND METER BOX PER CITY STANDARDS. CONTRACTOR TO INSTALL 2" DOUBLE CHECK (DC) ASSEMBLY PER CITY STANDARDS.
- FIRE DEPARTMENT CONNECTION (FDC) FOR FUTURE BLDG A.
- FIRE DEPARTMENT CONNECTION (FDC)
- 10"x8" TAPPING TEE, 8" GV, AND TB PER C.O.S. STANDARDS. COORDINATION, PERMITTING, EXCAVATION, BACKFILL, TESTING, CHLORINATION AND SURFACE RESTORATION BY CONTRACTOR.
- 8" DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) AND VAULT PER CITY STANDARDS. SEE DETAILS ON SHEET C402 AND C403. (NOTE: DCDA BY BLDG D HAS FDC AT VAULT)
- EXISTING FIRE HYDRANT ON LANGER FARMS (FLOW TEST)
STATIC PRESSURE: 77 PSI
RESIDUAL PRESSURE: 68 PSI
- 8"x6" TEE, 6" GV, TB AND PRIVATE FH.
- 6" DCDA AND VAULT PER CITY STANDARDS. SEE DETAILS ON SHEET C402 AND C403.
- FDC DRAIN (SEE DETAIL ON C501)
- 8" DOUBLE CHECK DETECTOR ASSEMBLY AND VAULT PER CITY STANDARDS. SEE DETAILS ON SHEETS C402 AND C403. EXTEND D.I. PIPE 5' OUT OF VAULT INTO PRIVATE SIDE OF VAULT, THEN TRANSITION TO PVC PIPE AS SHOWN ON DETAIL W-78 ON SHEET 403. REFER TO MKE PLANS FOR TAMPER SWITCH CONDUIT REQUIREMENTS.
- 8"x6" TEE, 6" GV, TB AND PRIVATE FH.
- COMMON TRENCH
8" PVC C900 FIRE LINE
(2) 4" PVC C900 FDC LINE
2" SCH 80 PVC DOMESTIC WATER
- COMMON TRENCH
8" PVC C900 FIRE LINE
6" PVC C900 FDC LINE
3" SCH. 80 PVC DOMESTIC WATER
1" SCH 40 PVC CONDUIT FOR FIRE TAMPER SWITCH
- 2" SCH 80 PVC DOMESTIC WATER SERVICE
- 8" PVC C900 PRIVATE FIRE LINE LOOP
- COMMON TRENCH
8" PVC C900 PRIVATE FIRE LINE
2" PVC SCH. 40 PVC IRRIGATION
- CONTRACTOR SHALL COORDINATE WITH CITY TO INSTALL NEW 2" SERVICE, METER BOX, AND 1-1/2" WM FOR IRRIGATION. CONTRACTOR TO INSTALL 2" DC ASSEMBLY IN TRAFFIC RATED BOX PER CITY STANDARDS.
- 45" BEND AND TB
- 8"x8" TEE WITH TB
- 2" 22-1/2" BEND AND TB
- 90" BEND AND TB
- COMMON TRENCH (SEE MECHANICAL PLANS FOR CONTINUATION)
2" SCH 80 PVC DOMESTIC
6" PVC C900 FIRE LINE
- 6" PVC C900 FIRE LINE
- 8"x6" TEE WITH TB
- 2" SCH 40 PVC IRRIGATION MAIN. SEE LANDSCAPE PLANS FOR CONTINUATION.
- COMMON TRENCH (SEE MECHANICAL PLANS FOR CONTINUATION)
2" SCH 80 PVC DOMESTIC WATER LINE
8" PVC C900 FIRE LINE
- 16"x6" TAPPING TEE, 6" GV, TB AND NEW PUBLIC FH PER CITY STANDARDS.
- 90" BEND WITH TB

SANITARY SEWER KEYED NOTES

- CONNECT TO EXISTING 8" SS STUB WITH NEW 8" PVC SANITARY SEWER. IE 181.5±
- 8" PVC SS
L=125'
S=7.0%
- SS CLEANOUT (CO) EVERY 100 FT MAX PER UPC (TYPICAL)
- 6" PVC SS
L=110'
S=1.0% MIN
- SS CO
6" IE=190.27
- 6" PVC SS
L=188'
S=4.36%
- SS CO
6" IE=198.54
- 6" PVC SS
L=48'
S=9.4%
- SS CO
6" IE=191.00
- SS CO
8" IE=190.25
- CONNECT TO 8" PVC SS STUB
INSTALL SS CO
IE=190.46
- 8" PVC SS
L=70'
S=3.0%
- SS CO
8" IE=192.56
- 8" PVC SS
L=70'
S=2.74%
- SS CO
8" IE=194.50
- 8" PVC SS
L=113'
S=1.26%
- 2" SCH 40 PVC IRRIGATION MAIN
- 8" GATE VALVES WITH TRAFFIC RATED ROADWAY GATE VALVE BOX ON PRIVATE FIRE MAIN FOR ANCHOR.
- 45" BEND W/ RESTRAINED JOINTS.
- 2" SCH 40 PVC SUMP PUMP FORCE MAIN WITH ASCENDING SLOPE. DAYLIGHT TO FACE OF CURB.
- 6" PVC STM
L=19'
S=1.0%
- 16"x8" TAPPING TEE, 8" GV AND TB PER C.O.S. STANDARDS. COORDINATION, PERMITTING, EXCAVATION, BACKFILL, TESTING, CHLORINATION AND SURFACE RESTORATION BY CONTRACTOR.
- WATER EASEMENT TO THE CITY OF SHERWOOD.
- 8" GATE VALVE PER C.O.S. STANDARDS.
- CONTRACTOR SHALL INSTALL 3" DC ASSEMBLY AND VAULT FOR DOMESTIC WATER PER CITY STANDARDS.
- CONTRACTOR SHALL COORDINATE WITH CITY FORCES TO INSTALL 2" COMPOUND WATER METER, OR APPROVED EQUAL, 2" SERVICE AND METER BOX FOR DOMESTIC WATER PER CITY STANDARDS.
- TEMPORARY 2-INCH BLOW-OFF ASSEMBLY
- COMMON TRENCH
8" PVC C900 FIRE LINE
2" SCH. 80 PVC DOMESTIC WATER
2" SCH 40 PVC SUMP PUMP FORCE MAIN
- 6" PVC C900 FIRE SERVICE TO BLDG. SEE MECHANICAL PLANS FOR CONTINUATION.
- CONNECT TO EXISTING 8" WATER STUB (SEE CENTURY DRIVE PLANS) AND INSTALL 8"x6" REDUCER.
- COMMON TRENCH
(2) 1" SCH. 40 PVC CONDUITS FOR IRRIGATION CONTROLLER
(1) 2" SCH. 40 PVC IRRIGATION LINE
(1) 2" SCH. 40 PVC CONDUIT AND (2) 1" SCH. 40 PVC CONDUITS FOR UTILITY BOLLARD
- 2" SCH 80 WATER SERVICE FOR FOUNTAIN FROM BLDG E.
- 6" CL 52 DI WATER
- 6" GATE VALVE PER C.O.S. STANDARDS
- FDC DRAIN (SEE DETAIL ON SHEET C612)
- DEFLECT FIRE LINE TO ALLOW FOR A MINIMUM 6" CLEARANCE BELOW STORM LINE.
- 6" PVC SS
L=113'
S=4.1%
- SS CO
6" IE=185.15
COORDINATE BUILDING CONNECTION WITH ANCHOR ARCHITECT.
- 6" PVC
L=177'
S=0.8%
- 48" SSMH RIM:194.54
6" IE IN=182.13 (N)
6" IE OUT=181.93 (E)
- 6" PVC SS
L=188'
S=0.8%
- 48" SSMH RIM:194.39
6" IE IN=186.01 (E)
6" IE OUT=185.81 (S)
- 6" PVC SS
L=99'
S=1.0%
- SS CO AT BLDG
6" IE=187.00
- SS CO
8" IE=190.25
- NOT USED
- 4" PVC "GRAY" WASTE LINE
L=15'
S=2.0%
- 4" PVC "GRAY" WASTE LINE
L=40'
S=2.0%
- 2000 GALLON CAPACITY GREASE INTERCEPTOR WITH TRAFFIC RATED LID AND COVER.
OLD CASTLE MODEL 612-GA-2000, OR APPROVED EQUAL.
4" IE IN: 200.41
4" IE OUT: 200.33
- SS CO AT BLDG
4" IE: 200.69
- SS CO AT BLDG
4" IE: 199.53
- SS CO AT BLDG
4" IE: 198.67
- 4" PVC "GRAY" WASTE LINE
L=13'
S=2.0% (MIN)
- 2000 GALLON CAPACITY GREASE INTERCEPTOR WITH TRAFFIC RATED LID AND COVER.
OLD CASTLE MODEL 612-GA-2000, OR APPROVED EQUAL.
(2) 4" IE IN: 197.12
4" IE OUT: 197.20
- 4" PVC "GRAY" WASTE LINE
L=12'
S=2.0% MIN
- 4" CO AT BLDG
6" IE: 197.50
- 4" PVC "GRAY" WASTE LINE
L=77'
S=1.0%
- 45" BEND
- 4" PVC SS
L=84'
S=2.0%
IE @ FOUNTAIN EQUIP. VAULT=197.65
- 48" SS MH
RIM=192.2
6" IE IN=180.48 N
6" IE IN=180.48 W
8" IE OUT=180.28 E

NOTES:

- PIPE LENGTHS SHOWN ARE FOR INFORMATIONAL PURPOSES AND ARE NOT TO BE RELIED UPON FOR BIDDING OR CONSTRUCTION PURPOSES. CONTRACTOR TO VERIFY ALL PIPE LENGTHS.
- TB=THRUST BLOCK OR JOINT RESTRAINT PER DETAILS.
- SITE CONTRACTOR TO COORDINATE WITH OWNER AND ANCHOR CONTRACTOR AT LEAST FIVE DAYS PRIOR TO INSTALLATION OF UTILITY SERVICE CONNECTIONS TO THE ANCHOR BUILDING TO CONFIRM ALL FINAL UTILITY SERVICE CONNECTION LOCATIONS PRIOR TO INSTALLATION.



APPROVED CONSTRUCTION PLANS
(See cover sheet approval for any conditions)
City of Sherwood Engineering Division
Date: 06/12/2013

WATER AND SANITARY SEWER CALLOUTS



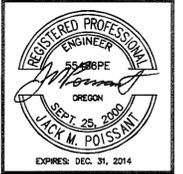
13910 SW CALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
AKS JOB: 3048



SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

PROJECT NO.
11364
DATE: 06/12/2013
DRAWN BY: CL
CHECKED BY: JMP
REVISIONS

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13910 SW CALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
AKS JOB: 3048

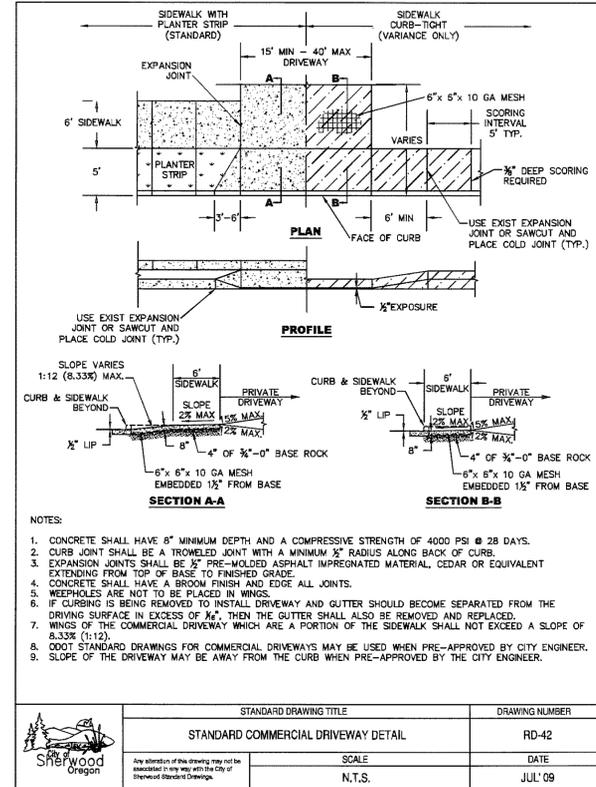


SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
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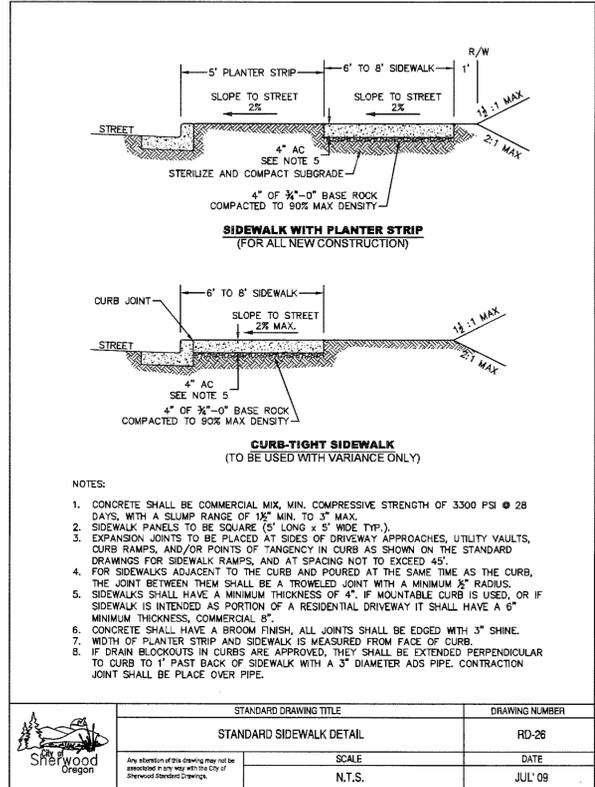
PROJECT NO.
11364

DATE: 06/21/2013
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CHECKED BY: JMF
REVISIONS

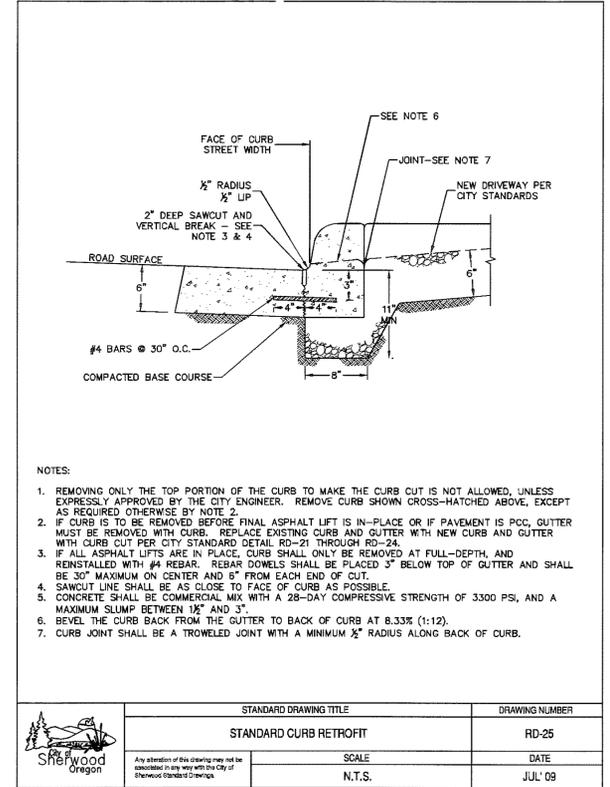
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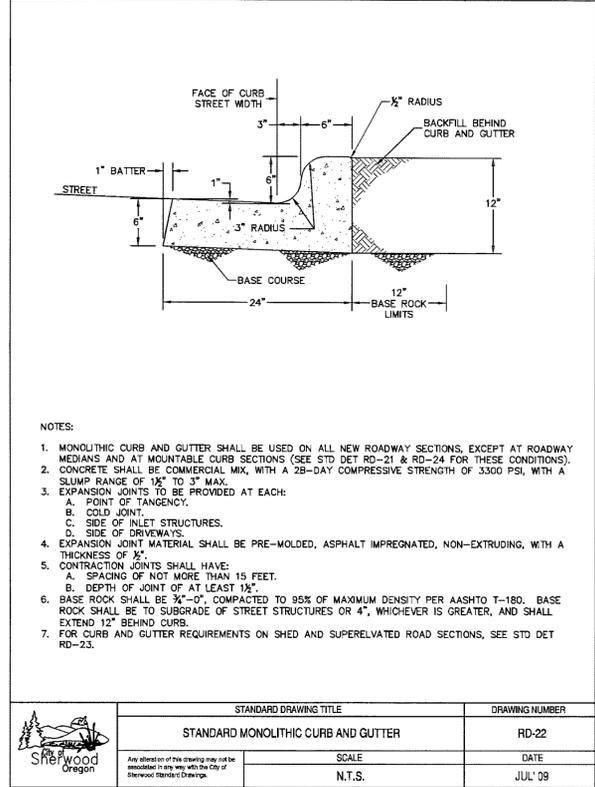
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STANDARD COMMERCIAL DRIVEWAY DETAIL	RD-42
SCALE	DATE
N.T.S.	JUL '09



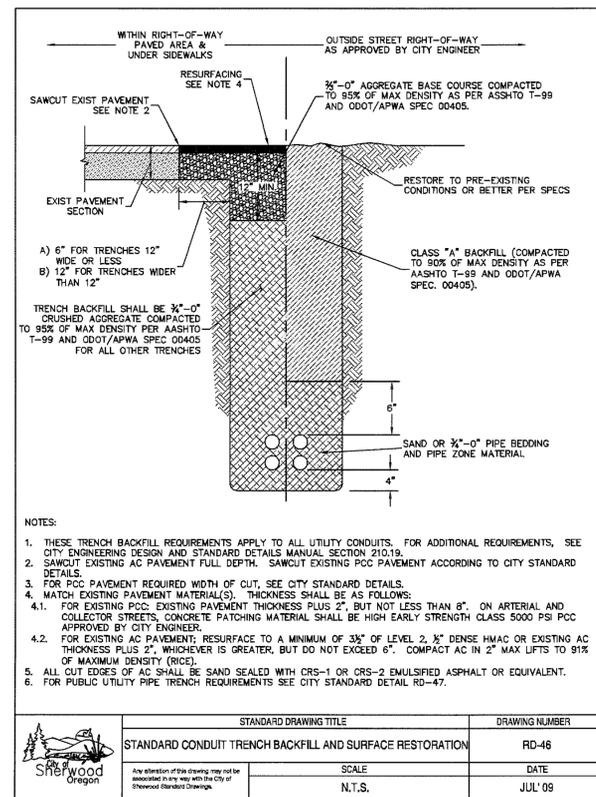
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STANDARD SIDEWALK DETAIL	RD-26
SCALE	DATE
N.T.S.	JUL '09



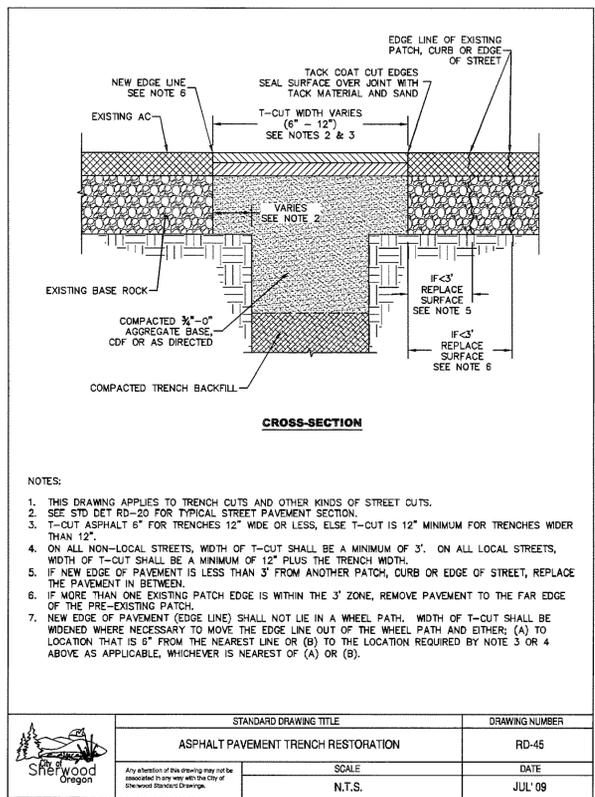
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STANDARD CURB RETROFIT	RD-25
SCALE	DATE
N.T.S.	JUL '09



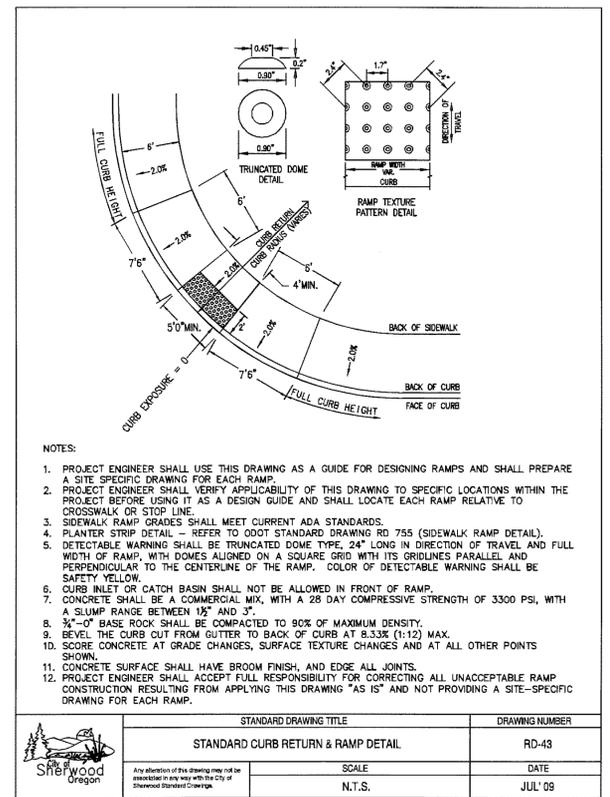
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STANDARD MONOLITHIC CURB AND GUTTER	RD-22
SCALE	DATE
N.T.S.	JUL '09



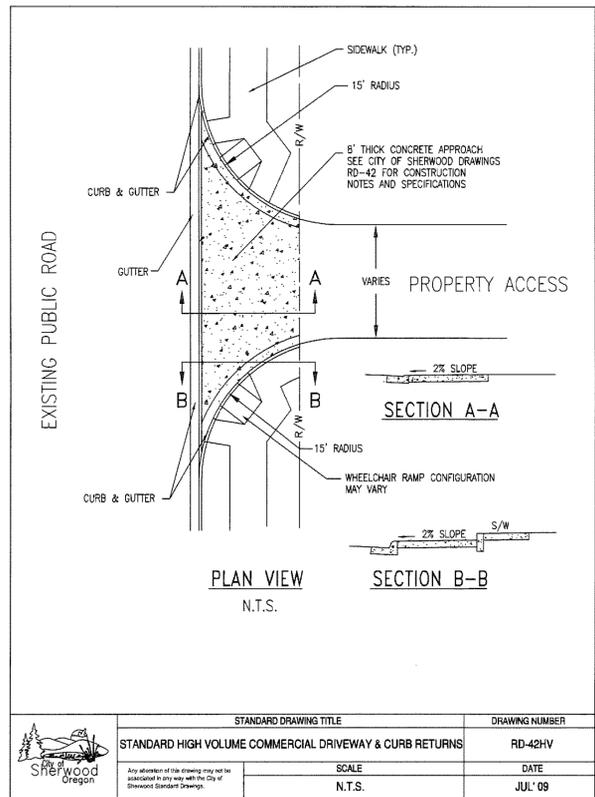
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STANDARD CONDUIT TRENCH BACKFILL AND SURFACE RESTORATION	RD-46
SCALE	DATE
N.T.S.	JUL '09



STANDARD DRAWING TITLE	DRAWING NUMBER
ASPHALT PAVEMENT TRENCH RESTORATION	RD-45
SCALE	DATE
N.T.S.	JUL '09



STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD CURB RETURN & RAMP DETAIL	RD-43
SCALE	DATE
N.T.S.	JUL '09

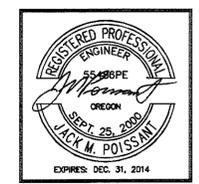
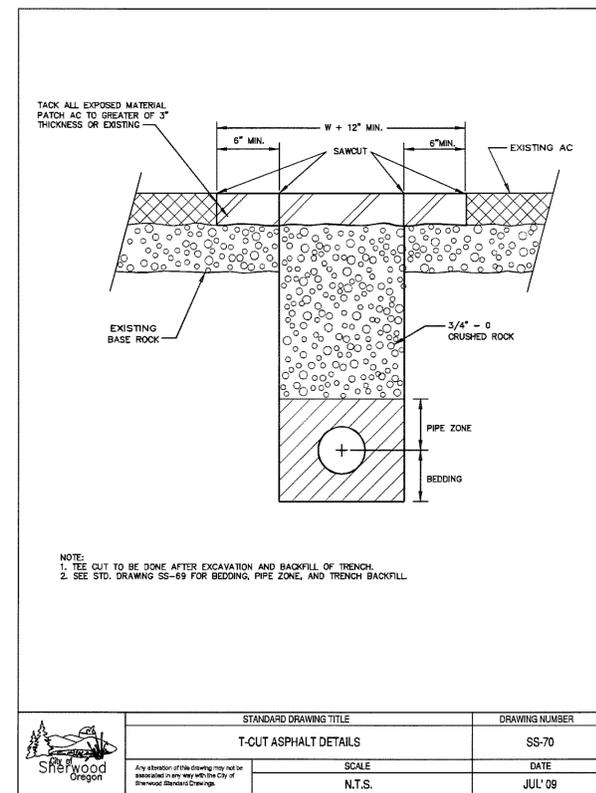
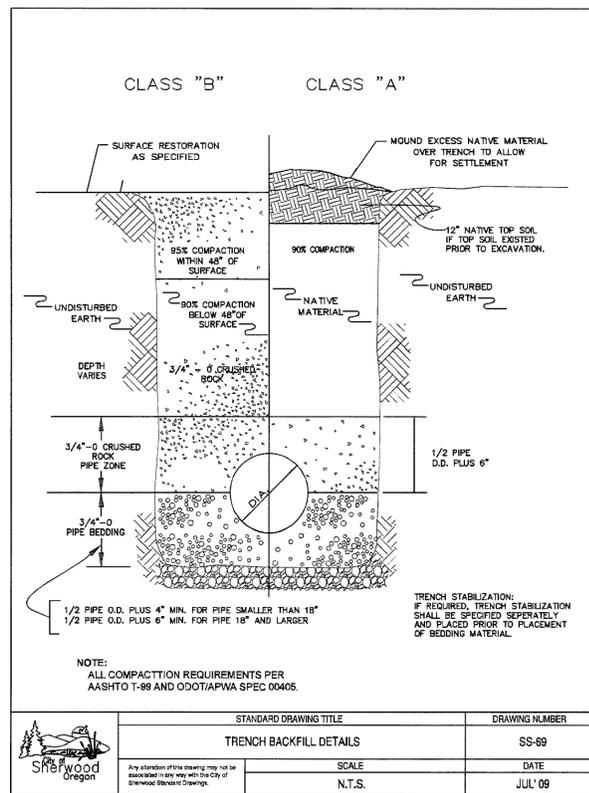
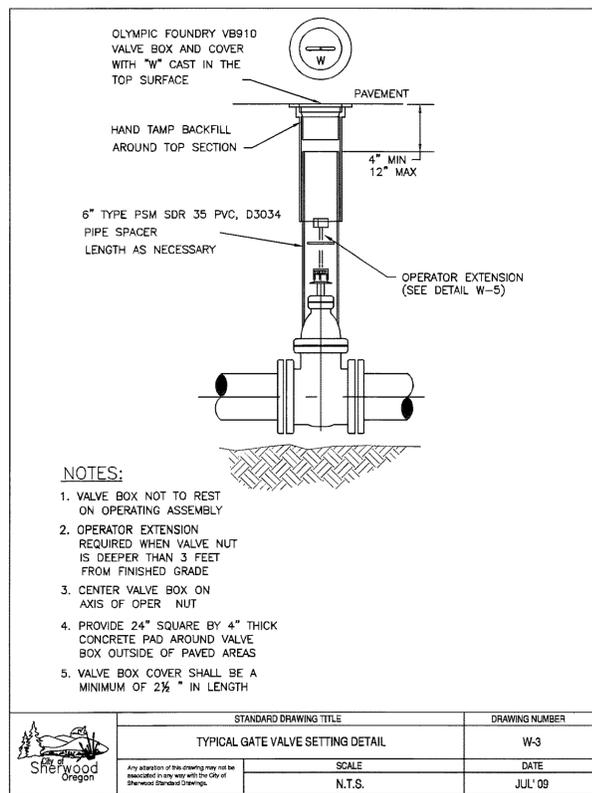
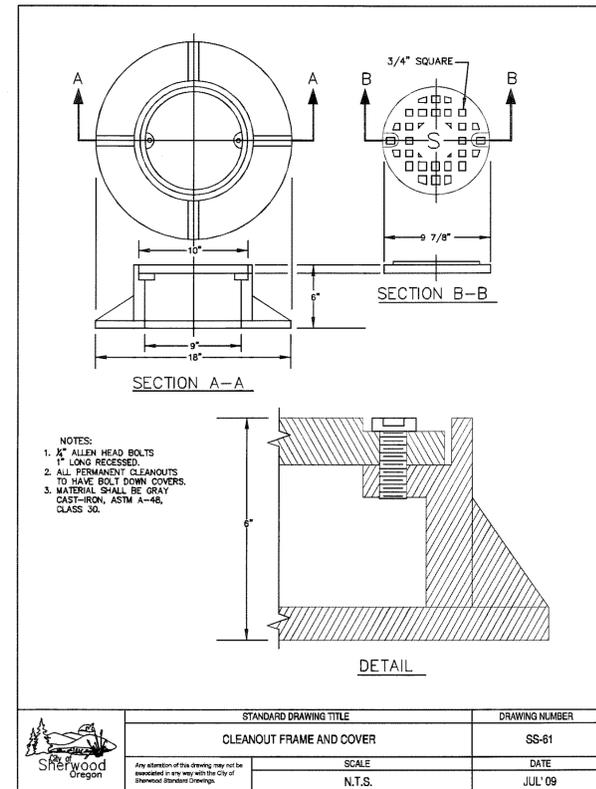
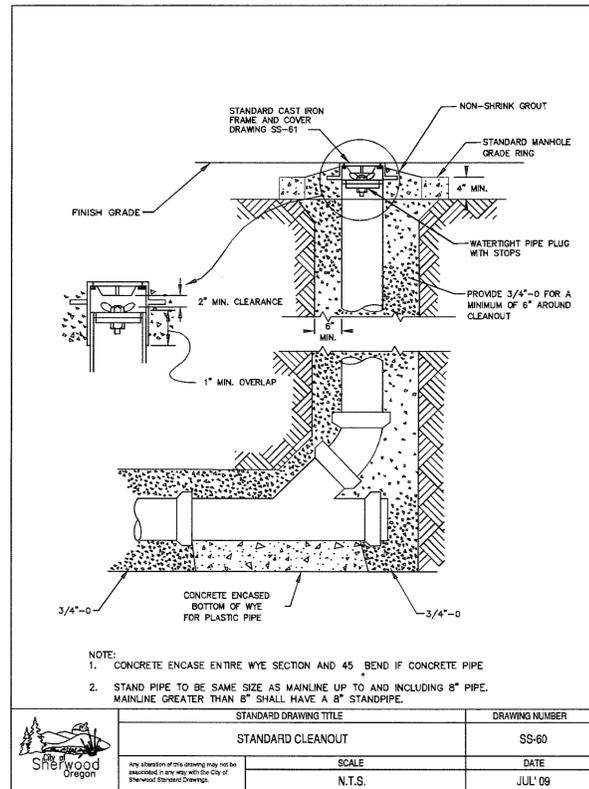
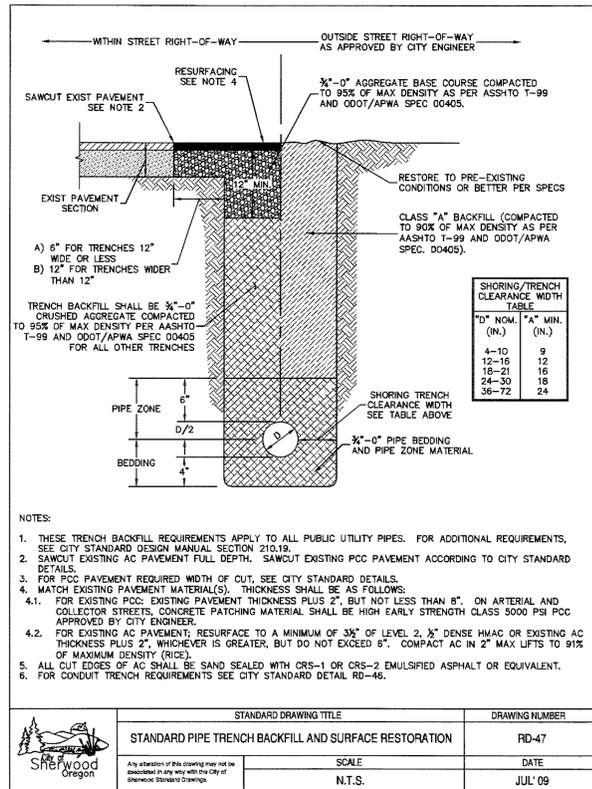


STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD HIGH VOLUME COMMERCIAL DRIVEWAY & CURB RETURNS	RD-42HV
SCALE	DATE
N.T.S.	JUL '09

APPROVED
CONSTRUCTION PLANS
(See cover sheet approval for any conditions)
City of Sherwood
Engineering Division
Date: _____

DETAILS APPLY TO ALL IMPROVEMENTS
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AND UTILITY SERVICES WHERE THE
CITY HAS JURISDICTION

CITY OF SHERWOOD
STANDARD PUBLIC
PLANS AND DETAILS



SHERWOOD TOWN CENTER
 SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
 SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

PROJECT NO. 11364
 DATE: 06/21/2013
 DRAWN BY: CL
 CHECKED BY: JMF

REVISIONS

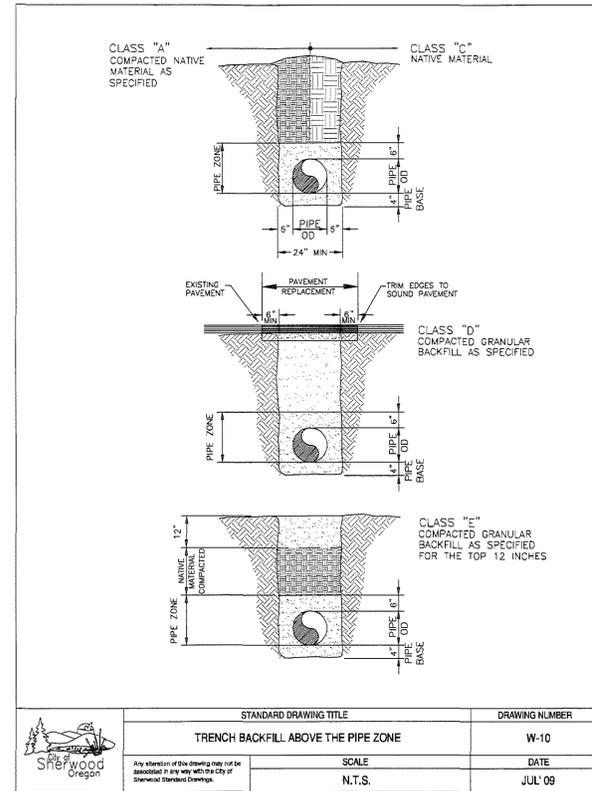
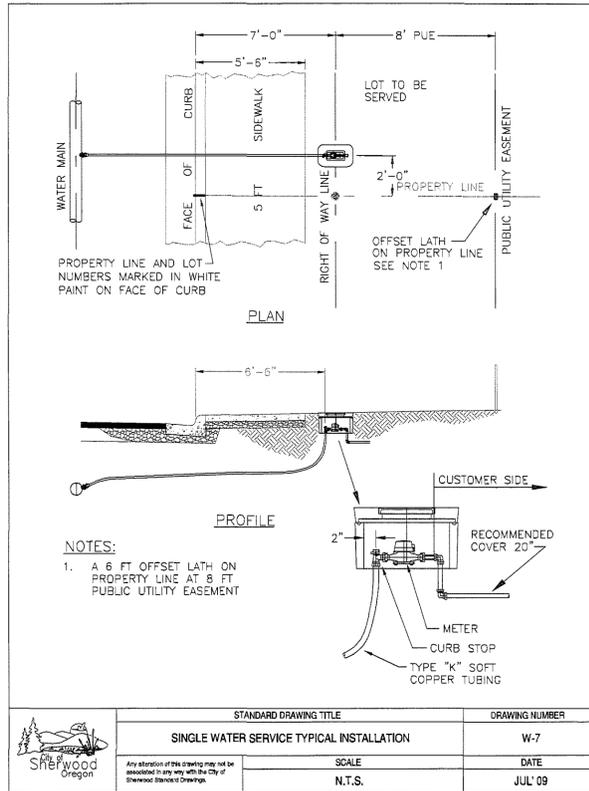
APPROVED CONSTRUCTION PLANS
 (See cover sheet approval for any conditions)
City of Sherwood Engineering Division
 Date: 7/1/09

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CITY OF SHERWOOD
STANDARD PUBLIC
PLANS AND DETAILS

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(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQ FT

FITTING SIZE	BEARING AREA OF THRUST BLOCKS IN SQ FT					VOLUME OF THRUST BLOCK IN CU YDS (VERTICAL)		
	TEE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	FITTING SIZE	BEND ANGLE	
4	1.3	1.8	1.0	1.0	1.0	4	45°	0.2
6	2.8	4.0	2.2	1.1	1.0	6	22.5°	0.4
8	5.0	7.1	3.8	2.0	1.0	8	11.25°	0.6
12	11.3	16.0	8.7	4.4	2.2	12		1.3
16	20.1	28.4	15.4	7.8	3.9	16		2.3
20	31.1	44.4	24.0	12.3	6.2			
24	45.2	64.0	34.6	17.7	8.9			

VALUES BASED ON 200 PSF WATER PRESSURE AND 2000 PSF SOIL BEARING CAPACITY

BEND

TEE

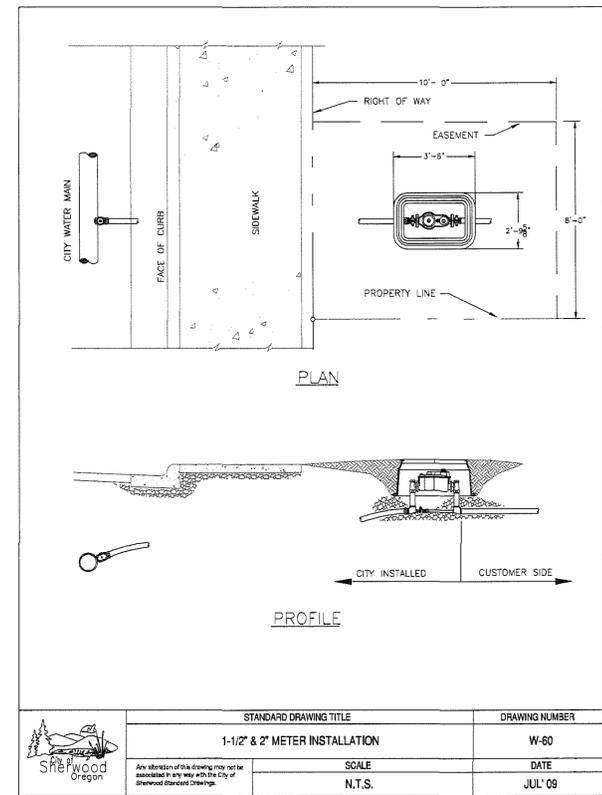
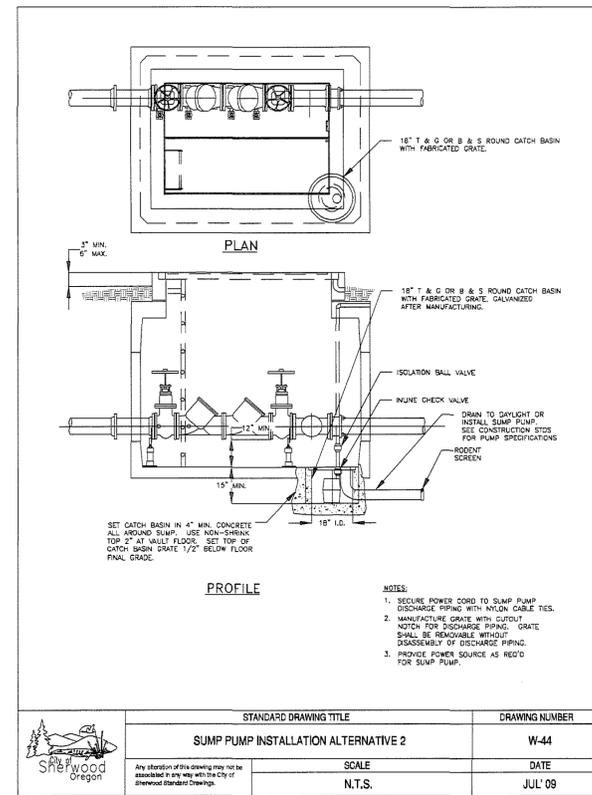
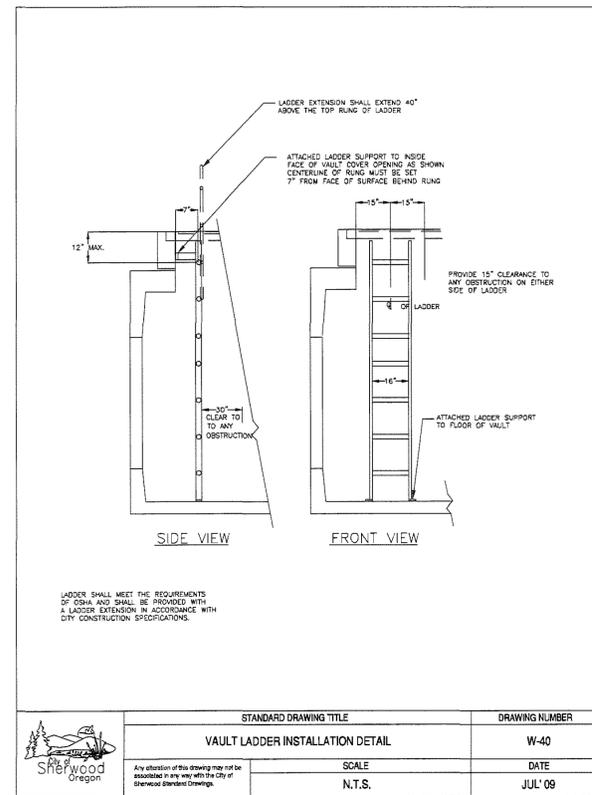
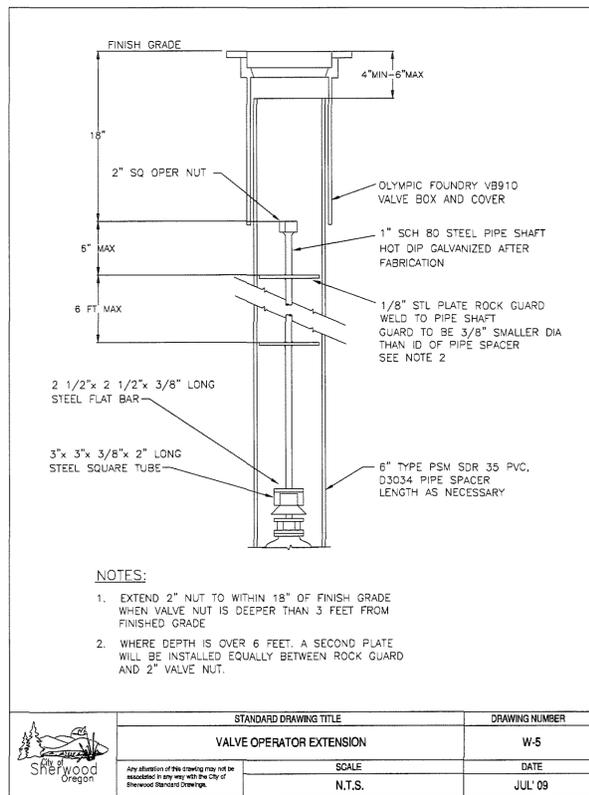
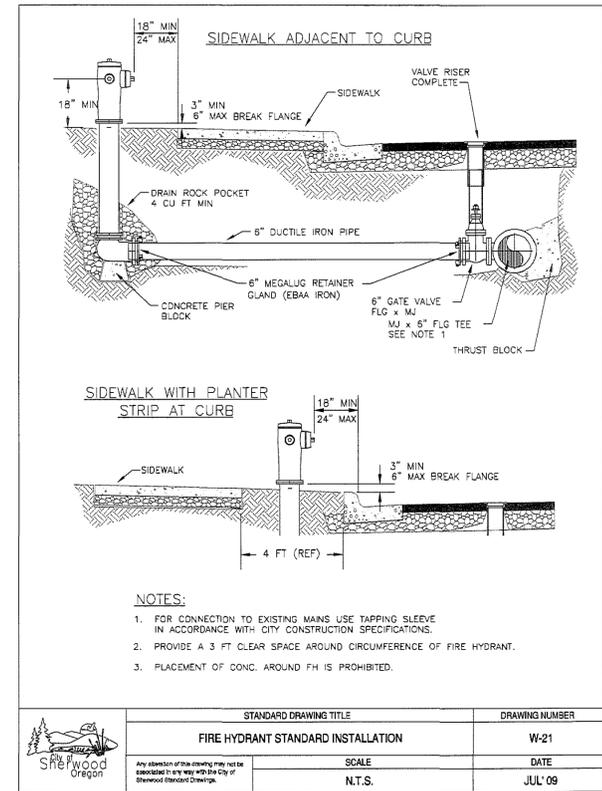
VERTICAL BEND

FITTING SIZE	ROD SIZE	EMBEDMENT
4"-12"	#6	30"
14"-16"	#8	36"

NOTES:

- THRUST BLOCKING AT ALL TEES, BENDS AND ENDS OF PIPING
- CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH
- ALL CONCRETE TO BE CLASS 3000
- INSTALL 12 MIL TOTAL THICKNESS POLYTHENE SHEET AROUND FITTING. SECURE SHEET ENDS TO PREVENT INFILTRATION OF DIRT BETWEEN SHEET AND PIPE FITTING PRIOR TO POURING THRUST BLOCKING
- PROTECT MECHANICAL JOINT FOLLOWERS AND BOLTS FROM CONCRETE WITH TEMPORARY FORMS AND POLYTHENE SHEETING SEE NOTE 3

STANDARD DRAWING TITLE	DRAWING NUMBER
THRUST BLOCKING DETAILS	W-12
SCALE	DATE
N.T.S.	JUL'09



APPROVED CONSTRUCTION PLANS
(See cover sheet approval for any conditions)
City of Sherwood Engineering Division
Date: _____

- NOTES:**
- SUMP PUMP POWER SHALL BE INSTALLED IN SCHEDULE 40 RIGID CONDUIT WITH MIN. 30" COVER PER NEC REQUIREMENTS.
 - 2" SCHEDULE 40 PVC SUMP PUMP FORCE MAIN SHALL HAVE ASCENDING SLOPE AND DISCHARGE TO FACE OF CURB WHERE INDICATED. PROVIDE 30" MINIMUM COVER.
 - VAULT SUMP PUMP SHALL BE GRUNDFOSS MODEL KP250, 1/3 HP STAINLESS STEEL SUMP PUMP, WITH A FREE FLOATING LIQUID LEVEL SWITCH WITH NORMALLY OPEN CONTACT THAT CLOSURES ON RISING LIQUID LEVEL. PUMP SHALL BE EQUIPPED WITH A 1-1/4" DISCHARGE AND MISCELLANEOUS PIPING FOR DISCHARGE INCLUDING AN INLINE CHECK VALVE AND ISOLATION GATE VALVE (SIZE EQUAL TO THE DISCHARGE LINE SIZE) DOWNSTREAM OF THE CHECK VALVE. PROVIDE POWER SOURCE AT A VOLTAGE COMPATIBLE WITH THE SUMP PUMP MOTOR. CONDUIT FOR POWER SHALL BE A MINIMUM OF 24-INCHES FROM ANY OTHER PIPE PENETRATION.

DETAILS APPLY TO ALL IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY AND UTILITY SERVICES WHERE THE CITY HAS JURISDICTION

CITY OF SHERWOOD STANDARD PUBLIC PLANS AND DETAILS



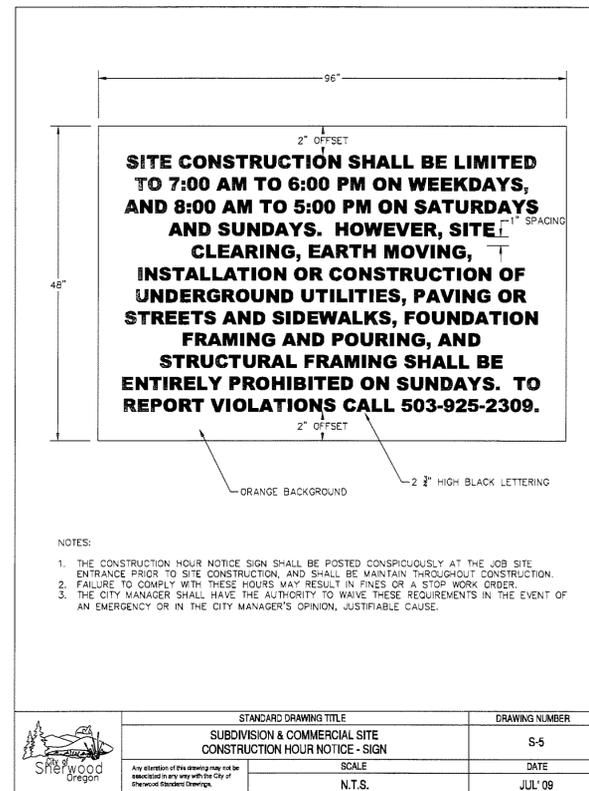
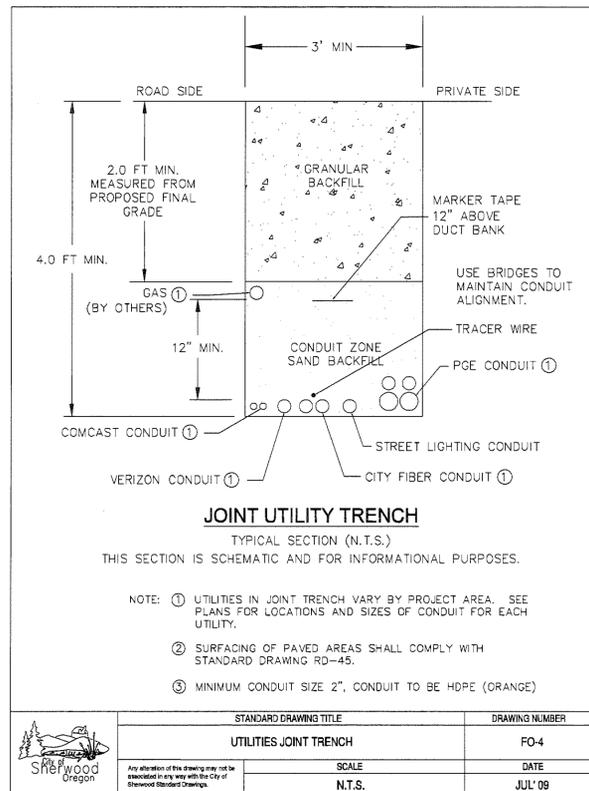
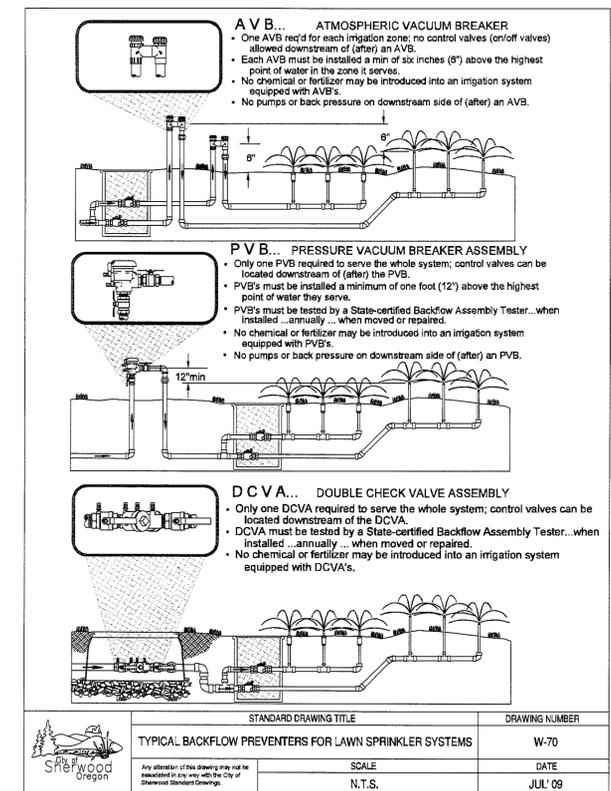
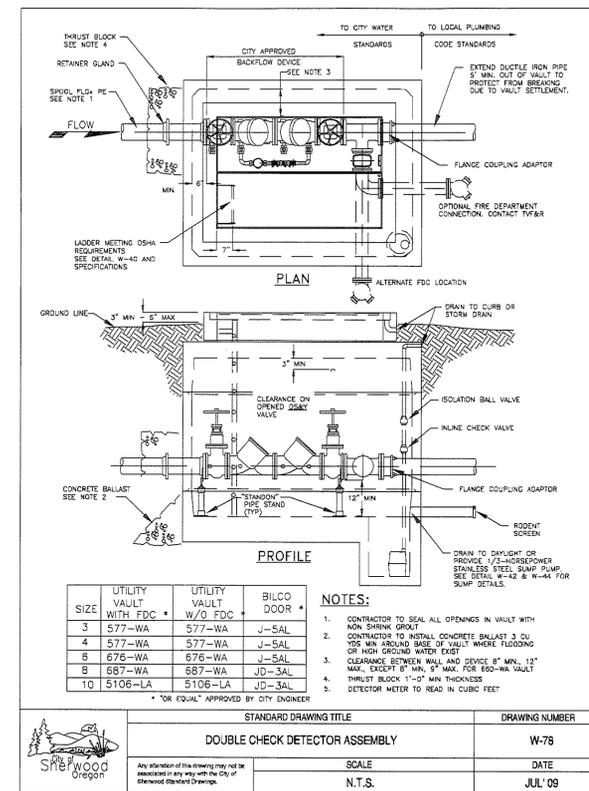
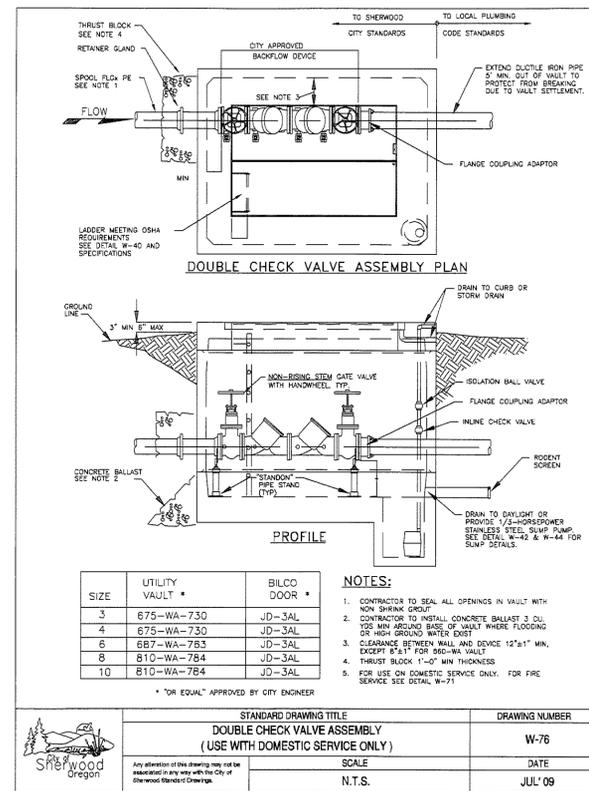
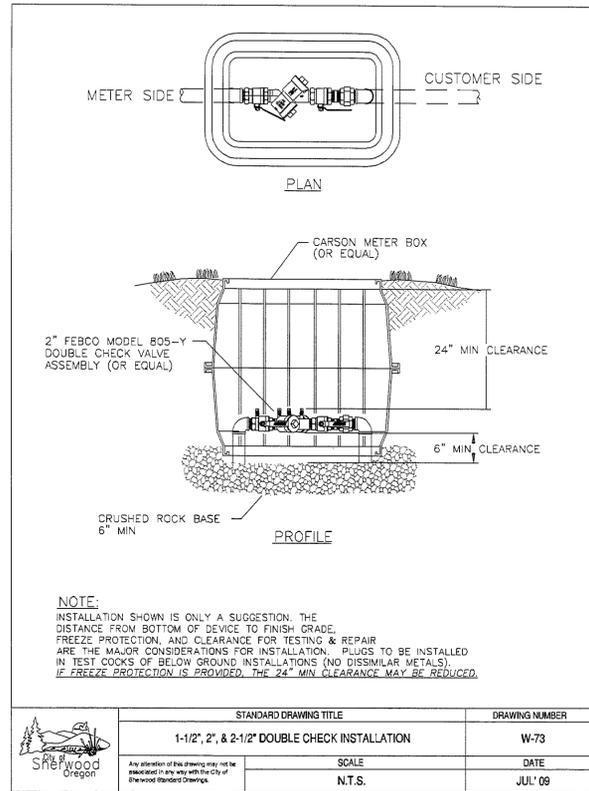
13910 SW GALBREATH DRIVE, STE 100
SHERWOOD, OR 97140
PHONE: 503-925-8799
AKS JOB: 3048



SHERWOOD TOWN CENTER
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
PERMIT SET

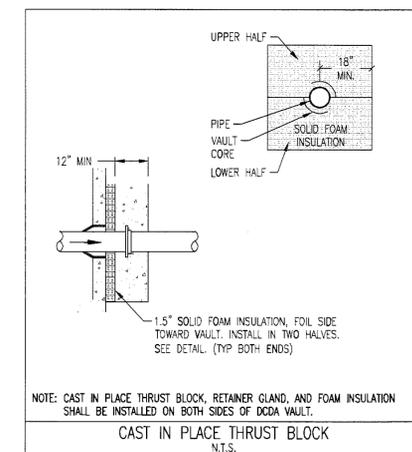
PROJECT NO. 11364
DATE: 06/21/09
DRAWN BY: CL
CHECKED BY: JHP
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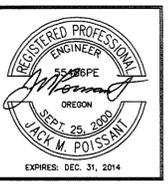
SUPPLEMENTAL NOTES FOR CITY DETAILS W-76 AND W-78:

1. THE DCDA ASSEMBLY FOR THE ANCHOR PARCEL REQUIRES A TAMPER SWITCH TO BE INSTALLED. CONTRACTOR TO COORDINATE WITH CITY AND INSTALL TAMPER SWITCH AS REQUIRED. REFER TO MKE PLANS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. SET VAULT ON 6-INCH MIN. OF COMPACTED GRANULAR BASE ROCK.
3. SET TOP OF VAULT 1-INCH ABOVE FINISHED GRADE OUTSIDE PAVED AREAS.
4. CONTRACTOR SHALL HAVE DCDA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. CAST-IN-PLACE THRUST BLOCK WITH RETAINER GLAND CENTERED IN CONCRETE (PER NOTE 4 ABOVE) SHALL BE INSTALLED ON BOTH SIDES OF THE VAULT. SEE DETAIL THIS SHEET FOR ADDITIONAL CLARIFICATIONS AND REQUIREMENTS.
6. ANCHOR BACKFLOW DEVICE FOR FIRE VAULTS SHALL BE 8-INCH WILKINS 350 ADA OR APPROVED EQUAL.
7. SUMP PUMP POWER SHALL BE INSTALLED IN SCHEDULE 40 RIGID CONDUIT WITH 30-INCH MINIMUM COVER PER NEC REQUIREMENTS. REFER TO MKE DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
8. 2-INCH SCHEDULE 40 PVC SUMP PUMP FORCE MAIN SHALL HAVE ASCENDING SLOPE AND DISCHARGE TO FACE OF CURB WHERE INDICATED. PROVIDE 30-INCHES MINIMUM COVER.
9. ANCHOR BACKFLOW DEVICE FOR DOMESTIC VAULT SHALL BE 3-INCH WILKINS 350 DOUBLE CHECK OR APPROVED EQUAL.



DETAILS APPLY TO ALL IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY AND UTILITY SERVICES WHERE THE CITY HAS JURISDICTION

CITY OF SHERWOOD
STANDARD PUBLIC
PLANS AND DETAILS



AKS
ENGINEERING & FORESTRY
13910 SW GALBREATH DRIVE, STE 100
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SHERWOOD TOWN CENTER
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