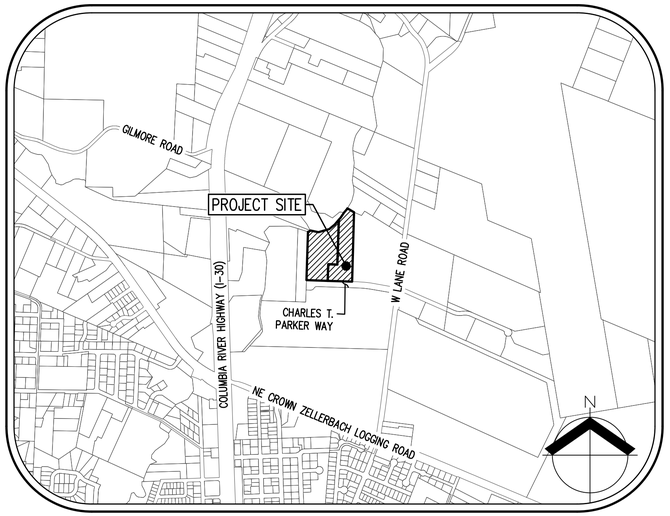
OMIC R&D RETROFIT- BUILDING 2

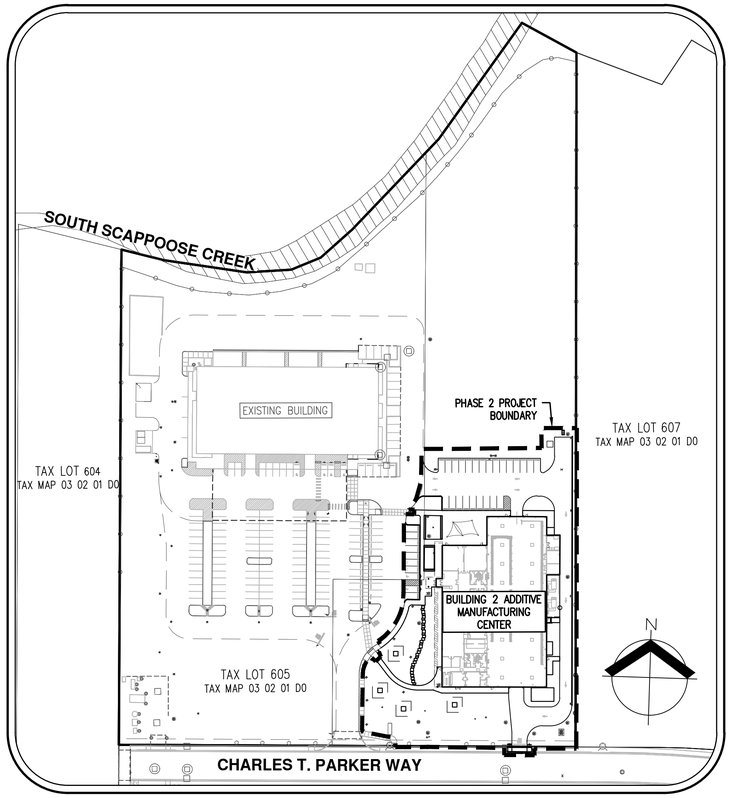
CONSTRUCTION DOCUMENTS

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE



VICINITY MAP
NOT TO SCALE



SITE MAP
1" = 100'

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	MB	MB

	EXISTING	PROPOSED
STORM DRAIN CLEAN OUT		
STORM DRAIN CATCH BASIN		
STORM DRAIN AREA DRAIN		
STORM DRAIN MANHOLE		
GAS METER		
GAS VALVE		
GUY WIRE ANCHOR		
UTILITY POLE		
POWER VAULT	P	P
POWER JUNCTION BOX		
POWER PEDESTAL		
COMMUNICATIONS VAULT	C	C
COMMUNICATIONS JUNCTION BOX		
COMMUNICATIONS RISER		

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE	xxx xxx xxx	
GRAVEL EDGE		
POWER LINE	PWR PWR	PWR PWR
OVERHEAD WIRE	OHW	OHW OHW
COMMUNICATIONS LINE	COM COM	COM COM
FIBER OPTIC LINE	CFO CFO	CFO CFO
GAS LINE	GAS GAS	GAS GAS GAS
STORM DRAIN LINE	STM STM	STM STM
SANITARY SEWER LINE	SAN SAN	SAN SAN
WATER LINE	WAT WAT	WAT WAT

PROJECT LOCATION: LOCATED IN THE SOUTHEAST QUARTER OF SECTION 01, TOWNSHIP 3 NORTH, RANGE 2 WEST, WILLAMETTE MERIDIAN, COLUMBIA COUNTY, OR. (COLUMBIA COUNTY TAX MAP 03 02 01 D0 TAX LOT 605).

PROJECT PURPOSE: CONSTRUCTION OF NEW MANUFACTURING CENTER ALONG WITH CONSTRUCTION OF A NEW DRIVEWAY ACCESS, PARKING LOT, UTILITIES AND LANDSCAPING.

TOTAL SITE AREA: ±10.2 ACRES
DISTURBED AREA: ±2.2 ACRES

DATUM: VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK NO. RD0562. LOCATED AT THE SOUTH PART OF SCAPPOOSE, COLUMBIA COUNTY, ABOUT 100 FEET WEST OF THE COLUMBIA RIVER HIGHWAY, AT THE EAST ENTRANCE TO THE SCAPPOOSE HIGH SCHOOL, IN THE NORTH END OF THE LOWEST STEP. ELEVATION = 64.83 FEET (NAVD 88).

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

811 Know what's **below.** **Call** before you dig.

PROJECT RECORD DRAWING

CONTRACTOR SHALL PROVIDE THE OWNER'S REPRESENTATIVE WITH A REDLINED COPY OF THESE CONSTRUCTION PLANS SHOWING AS-BUILT ELEVATIONS, LOCATIONS, AND PLAN DEVIATIONS. REDLINED AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE ONE WEEK PRIOR TO REQUESTING WALK-THROUGH AND/OR ACCEPTANCE OF SUBSTANTIAL COMPLETION.

I, THE UNDERSIGNED, STATE I HAVE CHECKED AND VERIFIED THAT THESE REDLINED AS-BUILT DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

SIGNATURE (CONTRACTOR) _____ DATE _____

SHEET INDEX

C000 COVER SHEET WITH SITE, VICINITY MAPS, AND LEGEND
C001 GENERAL CONSTRUCTION NOTES
C002 GENERAL CONSTRUCTION NOTES
C003 EXISTING CONDITIONS PLAN
C050 EROSION AND SEDIMENT CONTROL COVER SHEET
C051 CLEARING AND DEMOLITION ESC PLAN
C052 SITE, VERTICAL, AND STREET CONSTRUCTION ESC PLAN
C053 EROSION AND SEDIMENT CONTROL DETAILS
C070 GRADING PLAN
C071 GRADING ENLARGEMENTS PLAN
C100 SITE PLAN
C101 PUBLIC IMPROVEMENTS PLAN
C200 STORMWATER DRAINAGE PLAN
C300 COMPOSITE UTILITY PLAN
C500 DETAILS
C501 DETAILS
C502 DETAILS
C503 DETAILS
C504 DETAILS
L100 LANDSCAPE PLAN
L101 LANDSCAPE NOTES AND DETAILS
L200 IRRIGATION PLAN
L201 IRRIGATION DETAILS AND NOTES

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER — OREGON — SEPT. 14, 1979 — CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
COVER SHEET WITH SITE, VICINITY MAPS, AND LEGEND

SHEET NO:

C000

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROCURE, PAY ALL COSTS FOR, AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY OF SCAPPOOSE AND COLUMBIA COUNTY. CONTRACTOR SHALL COORDINATE AND PAY ALL FEES AND COSTS ASSOCIATED WITH CONNECTING TO EXISTING WATER, SANITARY SEWER AND STORM SEWER FACILITIES, INCLUDING SERVICES AND INSPECTIONS BY THE GOVERNING JURISDICTIONS. COSTS SHALL INCLUDE AS APPLICABLE BUT NOT BE LIMITED TO FEES FOR CONNECTION, TAPPING, INSPECTION, TESTING, CHLORINATION, SYSTEM DEVELOPMENT CHARGES, WATER METERS, BACKFLOW CERTIFICATIONS, OR OTHER SIMILAR OR RELATED COSTS.
2. 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.
3. CONTRACTOR TO NOTIFY CITY, COUNTY, ODOT 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.
4. 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.
5. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING ITEMS TO THE OWNER'S REPRESENTATIVE.
   A. LIST OF SUBCONTRACTORS
   B. PROJECT SCHEDULE
   C. TRAFFIC CONTROL PLAN
   D. EMERGENCY CONTACT NAME AND PHONE NUMBER
6. 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 OR THE APPLICABLE CODES, 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.
7. 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 (OPSC), 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.
8. 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.
9. CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE WITHIN THE HOURS PERMITTED BY THE GOVERNING JURISDICTION.
10. 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.
11. 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.
12. CONTRACTOR SHALL REFER TO ARCHITECTURAL BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF BUILDING ENTRY/EXIT LOCATIONS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT UTILITY CONNECTION LOCATIONS.
13. 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.
14. 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.
15. 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.
16. CONTRACTOR SHALL MAINTAIN ONE (1) COMPLETE SET OF APPROVED PLANS ON THE CONSTRUCTION SITE AT ALL TIMES WHEREON 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.
17. 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.
18. CONTRACTOR SHALL CONFORM TO DEQ STORMWATER PERMIT NO. 1200C FOR CONSTRUCTION ACTIVITIES WHERE 1 ACRE OR MORE ARE DISTURBED.
19. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH DEQ'S EROSION AND SEDIMENT CONTROL MANUAL, CURRENT EDITION, AND EROSION CONTROL STANDARDS OF THE LOCAL JURISDICTION.
20. VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK NO. RD0562. LOCATED AT THE SOUTH PART OF SCAPPOOSE, COLUMBIA COUNTY, ABOUT 100 FEET WEST OF THE COLUMBIA RIVER HIGHWAY, AT THE EAST ENTRANCE TO THE SCAPPOOSE HIGH SCHOOL, IN THE NORTH END OF THE LOWEST STEP. ELEVATION = 64.83 FEET (NAVD 88).
21. THE CONTRACTOR SHALL COORDINATE WITH THE SURVEYOR RETAINED BY THE OWNER OR 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, GRAVITY 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. USE OF GPS EQUIPMENT FOR CONSTRUCTION STAKING OF THESE IMPROVEMENTS IS PROHIBITED.
22. SEE ARCHITECTURAL & M.E.P. DRAWINGS FOR SITE LIGHTING, AND CONTINUATION OF ALL UTILITIES.
23. PRIOR TO ANY WORK IN THE EXISTING PUBLIC RIGHT-OF-WAY, CONTRACTOR SHALL SUBMIT FINAL TRAFFIC CONTROL PLAN TO THE CITY, COUNTY AND/OR ODOT FOR REVIEW AND ISSUANCE OF A LANE CLOSURE OR WORK IN RIGHT-OF-WAY PERMIT.
24. CONTRACTOR SHALL CONDUCT CONSTRUCTION ACTIVITIES IN SUCH A MANNER AS TO INSURE MINIMUM INTERFERENCE WITH THE CONTINUED USE OF THE FACILITY BY EMPLOYEES, SUPPLIERS, AND CUSTOMERS. CONTRACTOR SHALL CONTACT AND DISCUSS PLANNED CONSTRUCTION ACTIVITIES AND TIMING WITH THE OWNER AT LEAST 48 HOURS PRIOR TO STARTING WORK. CONTRACTOR SHALL COOPERATE AND ACCOMMODATE OWNER'S REQUESTS TO THE MAXIMUM EXTENT POSSIBLE.
25. CONSTRUCTION ACTIVITIES, EQUIPMENT, VEHICLES, AND MATERIALS SHALL BE PLACED IN AREAS MINIMIZING INCONVENIENCE TO THE FACILITIES NORMAL BUSINESS OPERATIONS AND SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO THE START OF WORK.
26. 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.
27. 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 INSPECTION(S) AND APPROVAL(S) SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS ARISING FROM UNINSPECTED WORK.
28. 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.
29. THE FOLLOWING TESTING IS THE MINIMUM REQUIRED FOR THE PROJECT.

SUBGRADE	1 TEST/4000 S.F./LIFT (4 TESTS MINIMUM)
ENGINEERED FILLS	1 TEST/4000 S.F./LIFT (4 TESTS MINIMUM)
BASEROCK	1 TEST/4000 S.F./LIFT (4 TESTS MINIMUM)
ASPHALT	1 TEST/6000 S.F./LIFT (4 TESTS MINIMUM)
TRENCH BACKFILL	1 TEST/200 FOOT TRENCH/LIFT (4 TESTS MINIMUM)
TRENCH AC RESTORATION	1 TEST/200 FOOT TRENCH/LIFT (4 TESTS MINIMUM)
WATER PRESSURE	WITNESSED BY CITY OR OWNER'S REP.
WATER BACTERIAL	PER OREGON HEALTH DIVISION REQUIREMENTS
WATER CHLORINE	RESIDUAL TEST PER CITY REQUIREMENTS
SEWER AIR TEST	PER CITY/APWA REQUIREMENTS. WITNESSED BY OWNER'S REP.
SEWER MANDREL	95% OF ACTUAL PIPE DIAMETER. WITNESSED BY OWNER'S REP.
SEWER MANHOLE	1 VACUUM TEST PER MANHOLE (CITY/APWA STANDARDS). WITNESSED BY OWNER'S REP.
STORM MANDREL	95% OF ACTUAL PIPE DIAMETER. WITNESSED BY OWNER'S REP.
CONCRETE SLUMP	1 SET OF CYLINDERS/100 C.Y. OF CONCRETE POURED PER DAY. SLUMP AND AIR TESTS REQUIRED ON SAME LOAD AS CYLINDERS.

30. IN ADDITION TO IN-PLACE DENSITY TESTING, THE SUBGRADE AND BASEROCK SHALL BE PROOF-ROLLED WITH A LOADED 10-YARD DUMP TRUCK PROVIDED BY THE CONTRACTOR. BASEROCK 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.
31. ALL ENGINEERED FILLS REQUIRE AN 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.
32. 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.
33. ANY UTILITIES LOCATED IN THE FIELD THAT THE CONTRACTOR DISRUPTS OR DAMAGES SHALL BE PROMPTLY REPAIRED TO NEW CONDITION. IF REQUIRED, CONTRACTOR SHALL INSTALL SUITABLE TEMPORARY SERVICE UNTIL REPAIR CAN BE COMPLETED. THE COST OF THE REPAIR OR TEMPORARY SERVICE SHALL BE BORNE BY THE CONTRACTOR.
34. NOTIFY THE OWNER AND OWNER'S REPRESENTATIVE IMMEDIATELY OF ALL UTILITIES EXPOSED. UNIDENTIFIED UTILITIES SHALL NOT BE DISRUPTED OR CUT UNTIL OWNER OR OWNER'S REPRESENTATIVE HAS APPROVED THE CUT OR DISRUPTION.
35. 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.
36. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHERE NEW FACILITIES CROSS. ALL UTILITY CROSSINGS SHOWN ON THE DRAWINGS SHALL BE POTHOLED 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.
37. 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.
38. 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 HAVE ALL OPENINGS CLOSED WITH CONCRETE PLUGS WITH A MINIMUM LENGTH EQUAL TO 2 TIMES THE DIAMETER OF THE ABANDONED PIPE.
39. CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS, MAILBOXES, FENCES, LANDSCAPING, ETC., AS REQUIRED TO AVOID DAMAGE DURING CONSTRUCTION AND REPLACE THEM TO EXISTING OR BETTER CONDITION.
40. 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.
41. ANY SEPTIC TANKS ENCOUNTERED IN CONFLICT WITH PLANS DURING CONSTRUCTION SHALL BE PUMPED OUT AND ABANDONED OR REMOVED IN ACCORDANCE WITH COUNTY SANITARIAN REQUIREMENTS.
42. ANY WELLS ENCOUNTERED SHALL BE ABANDONED PER STATE OF OREGON WATER RESOURCES DEPARTMENT REQUIREMENTS.
43. ANY FUEL TANKS ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF PER STATE OF OREGON DEQ REQUIREMENTS. BACKFILL WITH COMPACTED GRANULAR MATERIAL.
44. CONTRACTOR SHALL COORDINATE AND PAY ALL COSTS ASSOCIATED WITH REMOVING OR ABANDONING ANY SEPTIC TANKS, WELLS (INCLUDING BOREHOLE PIEZOMETERS), AND FUEL TANKS ENCOUNTERED AS PER REGULATING AGENCY REQUIREMENTS. WHEN SHOWN ON THE DRAWINGS, THESE STRUCTURES SHALL BE REMOVED OR ABANDONED AT THE CONTRACTOR'S EXPENSE. WHEN NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY UPON DISCOVERY OF ANY SEPTIC TANKS, WELLS, OR FUEL TANKS, AND OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A DETAILED COST BREAKDOWN OF ALL WORK RELATED TO REMOVING OR ABANDONING SAID STRUCTURES. THE CONTRACTOR WILL BE REIMBURSED ON A TIME & MATERIALS BASIS OR AT A NEGOTIATED PRICE AS AGREED.
45. 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.
46. PRIVATE GRADING, ROCKING AND PAVING TO CONFORM TO OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION (OSSC/ODOT/APWA) AND IBC, CURRENT EDITIONS.
47. CLEAR AND GRUB WITHIN WORK LIMITS ALL SURFACE VEGETATION, TREES, STUMPS, BRUSH, ROOTS, ETC. DO NOT DAMAGE OR REMOVE TREES EXCEPT AS APPROVED BY THE OWNER'S REPRESENTATIVE OR AS SHOWN ON THE DRAWINGS. PROTECT ALL ROOTS TWO INCHES IN DIAMETER OR LARGER.
48. STRIP WORK LIMITS, REMOVING ALL ORGANIC MATTER, WHICH CANNOT BE COMPACTED INTO A STABLE MASS. ALL TREES, BRUSH, AND DEBRIS ASSOCIATED WITH CLEARING, STRIPPING OR GRADING SHALL BE REMOVED AND DISPOSED OF OFF-SITE.
49. IMMEDIATELY FOLLOWING STRIPPING AND GRADING OPERATIONS, COMPACT SUBGRADE TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR). SUBGRADE MUST BE INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AND WRITTEN COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BEFORE PLACING EMBANKMENTS, ENGINEERED FILLS OR FINE GRADING FOR BASE ROCK.
50. ALL FILLS SHALL BE ENGINEERED EXCEPT FOR FILLS LESS THAN 18-INCHES IN DEPTH WHICH ARE LOCATED OUTSIDE THE PUBLIC RIGHT-OF-WAY, BUILDING PADS, PARKING LOTS OR OTHER AREAS TO BE IMPROVED. 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 ASTM D1557 TEST METHOD (MODIFIED PROCTOR).
51. 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.
52. GRANULAR BASEROCK SHALL CONFORM TO THE REQUIREMENTS OF OSSC (ODOT/APWA) 02630.10 (DENSE GRADED BASE AGGREGATE). COMPACT BASEROCK TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR). WRITTEN BASEROCK COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE BEFORE PLACING AC PAVEMENT.
53. A.C. PAVEMENT SHALL BE 1/2" DENSE GRADED MIX CONFORMING TO OSSC (ODOT/APWA) 00744 HOT MIXED ASPHALT CONCRETE (HMAC) PAVEMENT. A.C. PAVEMENT SHALL BE LEVEL 2 HMAC PER OSSC (ODOT/APWA) 00744.13. A.C. PAVEMENT SHALL BE COMPACTED TO A MINIMUM OF 91% OF MAXIMUM DENSITY AS DETERMINED BY THE RICE STANDARD METHOD. WRITTEN AC PAVEMENT COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY MUST BE RECEIVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE BEFORE FINAL PAYMENT.
54. FOR PARKING LOTS OR PRIVATE ACCESS DRIVES, THE FINAL LIFT OF AC PAVEMENT SHALL NOT BE PLACED UNTIL AFTER THE BUILDING IS FULLY ENCLOSED AND WEATHERPROOF, UNLESS OTHERWISE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
55. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, STRAIGHT GRADES SHALL BE RUN BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN.
56. FINISH PAVEMENT GRADES AT TRANSITION TO EXISTING PAVEMENT SHALL MATCH EXISTING PAVEMENT GRADES OR BE FEATHERED PAST JOINTS WITH EXISTING PAVEMENT AS REQUIRED TO PROVIDE A SMOOTH, FREE DRAINING SURFACE.
57. 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 NUT.
58. 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 3" ABOVE FINISHED GRADE, UNLESS OTHERWISE DIRECTED OR SHOWN ON THE DRAWINGS.
59. NO CUT OR FILL SLOPES SHALL BE CONSTRUCTED STEEPER THAN 2 FT. HORIZONTAL TO 1 FT. VERTICAL (2H:1V) UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE GEOTECHNICAL ENGINEER FOR THE PROJECT.
60. 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.
61. CONTRACTOR SHALL SEED AND MULCH ALL EXPOSED SLOPES AND DISTURBED AREAS, WHICH ARE NOT SCHEDULED TO BE LANDSCAPED.
62. THE CONTRACTOR IS RESPONSIBLE TO ENSURE 1.0% MINIMUM SLOPE ON ALL NEW CONCRETE AND ASPHALT SURFACES 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.
63. 6-INCHES NOMINAL CURB EXPOSURE USED FOR DESIGN OF ALL PARKING LOT GRADES, UNLESS OTHERWISE SHOWN OR INDICATED ON THE DRAWINGS.
64. WHERE NEW CURBING CONNECTS TO EXISTING CURBING OR IS INSTALLED ALONG EXISTING STREETS OR PAVEMENT, THE GUTTER GRADE SHALL MATCH THE EXISTING STREET GRADES SO AS TO ALLOW DRAINAGE FROM THE STREET TO THE GUTTER AND THROUGH ANY TRANSITIONS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY GRADE DISCREPANCIES OR PROBLEMS PRIOR TO CURB PLACEMENT.
65. CONTRACTOR SHALL CONSTRUCT HANDICAP ACCESS RAMPS WHERE SHOWN IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
66. SIDEWALKS SHALL BE A MINIMUM OF 4-INCHES THICK AND STANDARD DRIVEWAYS SHALL BE A MINIMUM OF 6-INCHES THICK. COMMERCIAL USE DRIVEWAYS SHALL BE MINIMUM 8-INCHES THICK. ALL CURBS, SIDEWALKS AND DRIVEWAYS SHALL BE CONSTRUCTED USING 3300-PSI CONCRETE, AND SHALL BE CURED WITH TYPE 1 OR TYPE 1D CLEAR CURING COMPOUND.
67. PRIOR TO INSTALLATION OF CURB, GUTTER, ADA RAMPS, OR SIDEWALK THE OWNER'S REPRESENTATIVE AND/OR CITY INSPECTOR SHALL BE CONTACTED TO INSPECT STRING LINE, BASEROCK, AND FORMWORK.
68. WHERE TRENCH EXCAVATION REQUIRES REMOVAL 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 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.
69. ALL TAPPING OF EXISTING MUNICIPAL SANITARY SEWER, STORM DRAIN MAINS, AND MANHOLES MUST BE DONE BY CITY/CONTRACTOR FORCES.
70. 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.
71. 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 AREAS TO BE IMPROVED, INCLUDING PAVEMENT, SIDEWALKS, FOUNDATION SLABS, BUILDINGS, ETC.

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

72. GRANULAR TRENCH BEDDING AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF OSSC (ODOT/APWA) 02630.10 (DENSE GRADED BASE AGGREGATE), 3/4"-0. COMPACT GRANULAR BACKFILL TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557 TEST METHOD (MODIFIED PROCTOR).
73. CONTRACTOR SHALL ARRANGE TO ABANDON EXISTING SANITARY AND WATER SERVICES NOT SCHEDULED TO REMAIN IN SERVICE IN ACCORDANCE WITH APPROVING AGENCY REQUIREMENTS.
74. THE END OF ALL UTILITY SERVICE LINES SHALL BE MARKED WITH A 2-X-4 PAINTED WHITE AND WIRED TO PIPE STUB. THE PIPE DEPTH SHALL BE WRITTEN ON THE POST IN 2" BLOCK LETTERS.
75. 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.
76. 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.
77. CITY FORCES TO OPERATE ALL VALVES, INCLUDING FIRE HYDRANTS, ON EXISTING PUBLIC MAINS.
78. NO CONNECTION TO EXISTING WATER LINES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE CITY.
79. ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA STANDARDS, OREGON ADMINISTRATIVE RULES (OAR), THE OREGON PLUMBING SPECIALTY CODE (OPSC), AND LOCAL APPROVING JURISDICTION STANDARDS.
80. ALL WATER MAINS SHALL BE CLASS 52 DUCTILE IRON OR C-900 PVC (DR 18). ALL FITTINGS 4-INCHES THROUGH 24-INCHES IN DIAMETER SHALL BE DUCTILE IRON FITTINGS IN CONFORMANCE WITH AWWA C-153 OR AWWA C-110. THE MINIMUM WORKING PRESSURE FOR ALL MJ CAST IRON OR DUCTILE IRON FITTINGS 4-INCHES THROUGH 24-INCH IN DIAMETER SHALL BE 350 PSI FOR MJ FITTINGS AND 250 PSI FOR FLANGED FITTINGS.
81. 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 AS SHOWN ON THE DRAWINGS OR TO AVOID OBSTRUCTIONS AND CONFLICTS.
82. THRUST RESTRAINT SHALL BE PROVIDED ON ALL BENDS, 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.
83. ALL VALVES SHALL BE FLANGE CONNECTED TO ADJACENT TEES OR CROSSES, UNLESS OTHERWISE SHOWN OR APPROVED BY THE ENGINEER.
84. WATER SERVICE PIPE ON THE PUBLIC SIDE OF THE METER SHALL CONFORM TO APPROVING AGENCY CONSTRUCTION STANDARDS.
85. WATER SERVICE PIPE 3-INCH AND SMALLER ON THE PRIVATE SIDE OF THE METER SHALL BE SCHEDULE 80 PVC. WATER SERVICE PIPE 4-INCHES AND LARGER ON THE PRIVATE SIDE OF THE METER SHALL BE ASTM D2241 DR 21 (200 PSI) OR AWWA C900 PVC PIPE (DR 18), WITH RUBBER GASKETS CONFORMING TO ASTM F477. 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 PRIVATE WATER LINES SHALL BE INSTALLED IN CONFORMANCE WITH OPSC REQUIREMENTS BY A LICENSED PLUMBER.
86. DOMESTIC, IRRIGATION AND FIRE BACKFLOW PREVENTION DEVICES AND VAULTS SHALL CONFORM TO REQUIREMENTS OF PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING BACKFLOW DEVICES TESTED AND CERTIFIED PRIOR TO FINAL ACCEPTANCE OF THE WORK.
87. 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.
88. THE WORK SHALL BE PERFORMED IN A MANNER DESIGNATED TO MAINTAIN WATER SERVICE TO BUILDINGS SUPPLIED FROM THE EXISTING WATERLINES. IN NO CASE SHALL SERVICE TO ANY MAIN LINE OR BUILDING BE INTERRUPTED FOR MORE THAN FOUR (4) HOURS IN ANY ONE-DAY. CONTRACTOR SHALL NOTIFY THE CITY AND ALL AFFECTED RESIDENTS AND BUSINESSES A MINIMUM OF 24 BUSINESS HOURS (1 BUSINESS DAY) BEFORE ANY INTERRUPTION OF SERVICE.
89. PRIVATE WATER LINES SHALL HAVE A MINIMUM OF 12-INCHES CLEAR ABOVE THE TOP OF PRIVATE SANITARY SEWER LINES AND A MINIMUM OF 12-INCHES OF HORIZONTAL SEPARATION IN ACCORDANCE WITH CURRENT OREGON PLUMBING SPECIALTY CODE (OPSC).
90. SANITARY SEWER PIPE SHALL BE SOLID WALL PVC IN CONFORMANCE WITH ASTM D3034, SDR 35. MINIMUM STIFFNESS SHALL BE 46 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 PRIVATE SANITARY SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH OPSC REQUIREMENTS.
91. ALL PRECAST MANHOLES SHALL BE PROVIDED WITH INTEGRAL RUBBER BOOTS. WHERE MANHOLES WITHOUT INTEGRAL RUBBER BOOTS ARE APPROVED BY THE OWNER'S REPRESENTATIVE AND AGENCY WITH JURISDICTION, A PIPE JOINT SHALL BE PROVIDED ON ALL MAINLINES WITHIN 1.5 FEET OF THE OUTSIDE FACE OF THE MANHOLE.
92. SANITARY SEWER MANHOLES SHALL BE WATER-TIGHT WITH O-RING OR MASTIC KEYLOCK JOINTS. ALL INTERIOR AND EXTERIOR JOINTS AND PIPE OPENINGS ARE TO BE GROUTED WITH NON-SHRINK GROUT. PIPE PENETRATIONS SHALL HAVE NEOPRENE RUBBER BOOTS.
93. OPENINGS FOR CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY CORE-DRILLING THE EXISTING MANHOLE STRUCTURE AND INSTALLING A RUBBER BOOT. CONNECTIONS SHALL BE WATERTIGHT AND SHALL PROVIDE A SMOOTH FLOW INTO AND THROUGH THE MANHOLE WITH NO PONDING. SMALL CHIPPING HAMMERS OR SIMILAR LIGHT TOOLS WHICH WILL NOT DAMAGE OR CRACK THE MANHOLE BASE MAY BE USED TO SHAPE CHANNELS, BUT MAY BE USED TO ENLARGE EXISTING OPENINGS ONLY IF AUTHORIZED IN WRITING BY THE OWNER'S REPRESENTATIVE. USE OF PNEUMATIC JACKHAMMERS SHALL BE PROHIBITED.
94. SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT PLUMBER TO INSTALL BACKFLOW PROTECTION FOR THE SANITARY SEWER SYSTEM IN ACCORDANCE WITH CHAPTER 7 OF THE OREGON PLUMBING SPECIALTY CODE, IF REQUIRED.
95. CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND FACILITIES TO TEST SANITARY SEWER PIPE AND APPURTENANCES FOR LEAKAGE IN ACCORDANCE WITH TESTING SCHEDULE 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 MAINS AND LATERALS AND VACUUM TESTING OF THE MANHOLES. MANHOLE TESTING SHALL BE PERFORMED AFTER COMPLETION OF AC PAVEMENT AND FINAL SURFACE RESTORATION.
96. MANHOLES CONSTRUCTED OVER EXISTING SANITARY SEWERS SHALL CONFORM TO THE REQUIREMENTS OF OSSC (ODOT/APWA) 490.41, MANHOLES OVER EXISTING SEWERS. THE EXISTING PIPE SHALL NOT BE BROKEN OUT UNTIL AFTER THE COMPLETION OF THE MANHOLE TEST.

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503 366 3050 F: 503 366 3055

REGISTERED PROFESSIONAL ENGINEER
50644PE
OREGON
SEPT. 14, 1999
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
GENERAL CONSTRUCTION NOTES

SHEET NO:
C001

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

GENERAL CONSTRUCTION NOTES

97. BEFORE MANDREL TESTING AND/OR TV INSPECTION, FLUSH AND CLEAN ALL SEWERS, AND REMOVE ALL FOREIGN MATERIAL FROM THE MAINLINES AND MANHOLES.

98. CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE SANITARY SEWER PIPES BY PULLING AN APPROVED MANDREL THROUGH THE COMPLETED PIPELINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANDREL 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 AND OWNER'S REPRESENTATIVE.

99. STORM SEWER PIPE MATERIALS TO CONFORM TO THE CONSTRUCTION DRAWINGS AND CITY REQUIREMENTS. STORM SEWER PIPE MUST BE INSTALLED WITH WATERTIGHT JOINTS. CONTRACTOR SHALL USE UNIFORM PIPE MATERIAL ON EACH PIPE RUN BETWEEN STRUCTURES UNLESS OTHERWISE DIRECTED OR APPROVED. JOINTED HDPE 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 (MUST BE CHANGED IF WORKING IN ANOTHER STATE) 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 3, ASTM C-14 NON-REINFORCED CONCRETE PIPE ASTM 150 TYPE II CEMENT; OR PVC PIPE CONFORMING TO AWWA C900 DR 18 (4" TO 12") OR AWWA 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 GASKETS WITH ASTM 150 TYPE II CEMENT.
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 (4" TO 18"); OR HDPE ADS N-12 IB WT, HANCOR BLUE SEAL PIPE. HDPE PIPE IF USED SHALL CONFORM TO AASHTO M-252 (8" TO 10") OR AASHTO M-294 (12" TO 30").

100. CONTRACTOR SHALL DESIGNATE THE PIPE MATERIAL ACTUALLY INSTALLED ON THE FIELD RECORD DRAWINGS AND PROVIDE THIS INFORMATION FOR INCLUSION ON THE AS-BUILT DRAWINGS.

101. STORM DRAIN INLETS SHALL BE SET SQUARE WITH BUILDINGS OR WITH THE EDGE OF THE PARKING LOT OR STREET WHEREIN THEY LIE. STORM DRAIN INLET STRUCTURES AND PAVING SHALL BE ADJUSTED SO WATER FLOWS INTO THE STRUCTURE WITHOUT PONDING WATER.

102. UNLESS OTHERWISE APPROVED BY THE ENGINEER, ALL STORM DRAIN CONNECTIONS SHALL BE BY MANUFACTURED TEES, WYES OR SADDLES.

103. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, ALL STORM PIPE INLETS & OUTFALLS SHALL BE BEVELED FLUSH TO MATCH THE SLOPE WHEREIN THEY LIE.

104. DEFLECT STORM SEWER PIPE INTO CATCH BASINS AND MANHOLES AS REQUIRED. MAXIMUM JOINT DEFLECTION SHALL NOT EXCEED 5 DEGREES OR MANUFACTURERS RECOMMENDATIONS, WHICHEVER IS LESS.

105. UNLESS OTHERWISE SHOWN OR DIRECTED, INSTALL STORM SEWER PIPE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

106. BEFORE MANDREL TESTING OR FINAL ACCEPTANCE, FLUSH AND CLEAN ALL STORM DRAINS, AND REMOVE ALL FOREIGN MATERIAL FROM THE PIPES, MANHOLES AND CATCH BASINS.

107. CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE STORM SEWER PIPES BY PULLING AN APPROVED MANDREL THROUGH THE COMPLETED PIPELINE FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANDREL 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.

108. STREET LIGHTS SHALL BE INSTALLED AFTER ALL OTHER EARTHWORK AND PUBLIC UTILITY INSTALLATIONS ARE COMPLETED AND AFTER ROUGH GRADING IS ACCOMPLISHED TO PREVENT DAMAGE TO THE POLES.

109. STREET LIGHT POLES SHALL BE SET TO A DEPTH AS SPECIFIED BY THE MANUFACTURER, BUT NOT LESS THAN 5 FEET.

110. STREET LIGHT POLES SHALL BE INSTALLED WITHIN ONE DEGREE (1°) OF PLUMB.

111. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND PAY ALL COSTS FOR PROCUREMENT, INSTALLATION, WIRING, HOOK UP AND ACTIVATION OF STREET LIGHTS.

112. ALL NEW FRANCHISE AND PRIVATE UTILITIES (POWER, CABLE TV, TELEPHONE, GAS, DATA, COMMUNICATION, ALARMS, ETC.) SHALL BE INSTALLED UNDERGROUND IN CONFORMANCE WITH UTILITY SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS. INSTALLATION OF SUCH UTILITIES OR ASSOCIATED CONDUITS IN A COMMON TRENCH WITH WATER, SANITARY SEWER, OR STORM SEWER IS PROHIBITED.

113. 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.

114. 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 ENSURE THAT TRENCHES ARE ADEQUATELY PREPARED FOR INSTALLATION PER UTILITY COMPANY REQUIREMENTS. ALL CHANGES IN DIRECTION OF UTILITY CONDUIT RUNS SHALL HAVE LONG RADIUS STEEL BENDS.

115. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH FRANCHISE UTILITIES FOR REMOVAL OR RELOCATION OF POWER POLES, VAULTS, PEDESTALS, MANHOLES, ETC. TO AVOID CONFLICT WITH CITY UTILITY STRUCTURES, FIRE HYDRANTS, METERS, SEWER OR STORM LATERALS, ETC.

116. 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

117. 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.

118. 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.

119. PARKING SPACE AND AISLE SLOPE SHALL NOT EXCEED 1:48 (1/4"PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

120. CURB RAMP SLOPE SHALL NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET.

121. LANDINGS SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL HAVE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4"PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

122. 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%).

123. DOORWAYS SHALL HAVE A LANDING AREA ON THE EXTERIOR SIDE OF 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.

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:

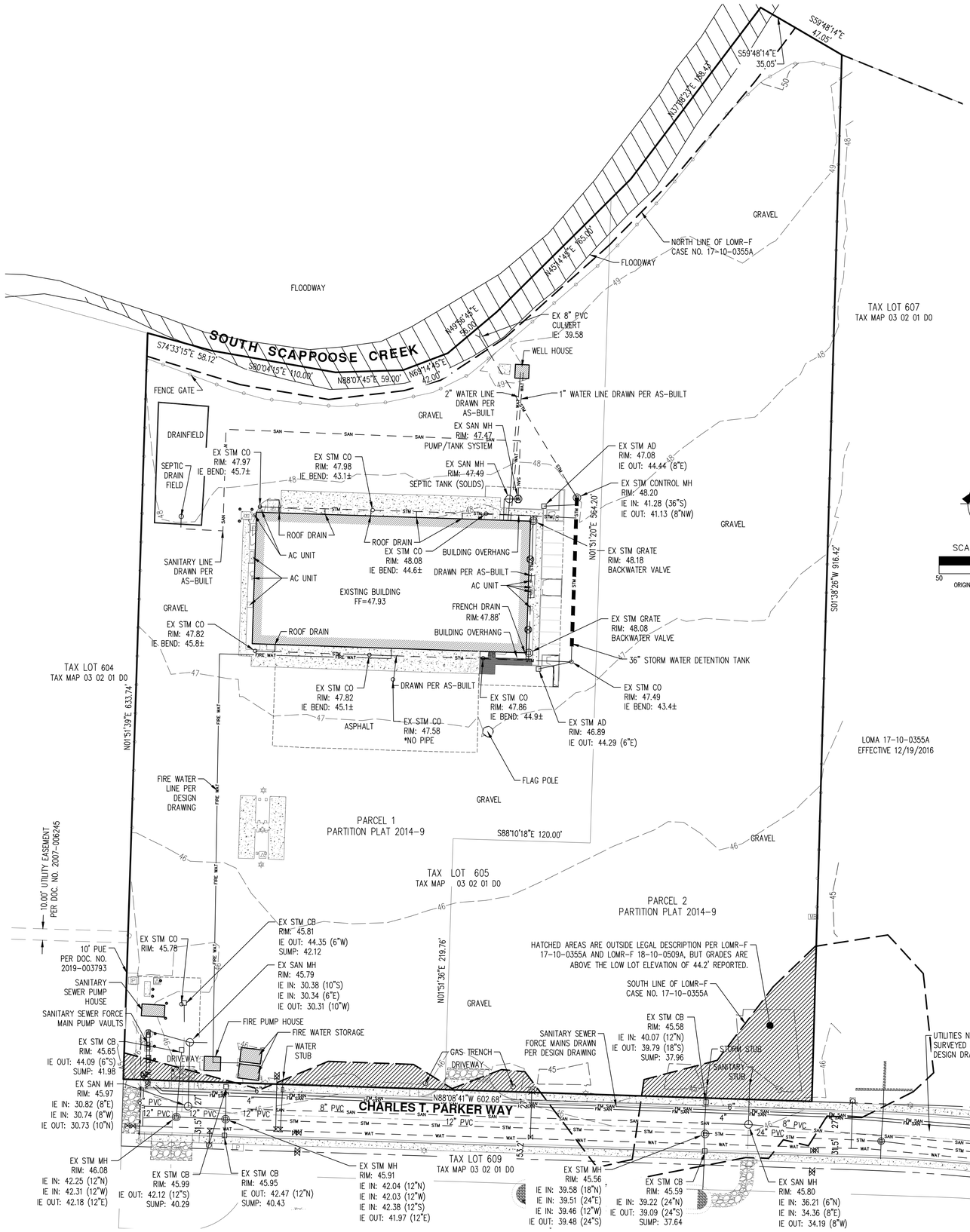
GENERAL CONSTRUCTION NOTES

SHEET NO:

C002

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE



LEGEND

EXISTING		EXISTING	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	P
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	C
MAILBOX	MB	COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	
		SEWER FORCE MAIN VAULT	

EXISTING	
RIGHT-OF-WAY LINE	
BOUNDARY LINE	
PROPERTY LINE	
CENTERLINE	
DITCH	
CURB	
EDGE OF PAVEMENT	
EASEMENT	
FENCE LINE	
GRAVEL EDGE	
POWER LINE	PWR
OVERHEAD WIRE	OHW
COMMUNICATIONS LINE	COM
FIBER OPTIC LINE	CFO
GAS LINE	GAS
STORM DRAIN LINE	STM
SANITARY SEWER LINE	SAN
WATER LINE	WAT

NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 19116603, 19116606, 19116608, 1911612. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED APRIL 15 – MAY 10, 2019.
3. VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK NO. RD0562. LOCATED AT THE SOUTH PART OF SCAPPOOSE, COLUMBIA COUNTY, ABOUT 100 FEET WEST OF THE COLUMBIA RIVER HIGHWAY, AT THE EAST ENTRANCE TO THE SCAPPOOSE HIGH SCHOOL, IN THE NORTH END OF THE LOWEST STEP. ELEVATION = 64.83 FEET (NAVD 88).
4. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
5. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
6. CONTOUR INTERVAL IS 1 FOOT.
7. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
8. SOUTH SCAPPOOSE CREEK FLOODWAY IS SHOWN PER NATIONAL FLOOD HAZARD LAYER (NFHL) GIS DATA OF FLOOD INSURANCE RATE MAP NUMBER 41009C0463D, REVISED NOVEMBER 26, 2010. LOMR-F CASE NUMBER 17-10-0355A BOUNDARY IS SHOWN PER LEGAL DESCRIPTION.
9. EASEMENTS ARE SHOWN PER TICOR TITLE OWNERSHIP AND ENCUMBRANCES REPORT ORDER NO. 360420005598, WITH EFFECTIVE DATE AUGUST 20, 2020.
10. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY. BOUNDARIES AS SHOWN ARE BASED ON INFORMATION FROM PARTITION PLAT NUMBER 2014-09, PARTITION PLAT NUMBER 2018-10 AND RIGHT-OF-WAY DEDICATION DOCUMENT 2020-001537.
11. ADDITIONAL UTILITY LOCATIONS ARE SHOWN PER RECORD DRAWINGS RECEIVED. SEE AKS SURVEYOR WITH REGARDS TO SOURCES AND POTENTIAL ACCURACY OF THESE REFERENCED DOCUMENTS.

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/22

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	CH
CHECKED BY:	SG
CAD FILE:	N/A
DATE:	MAY. 13, 2019

REVISIONS

△	DATE	DESCRIPTION

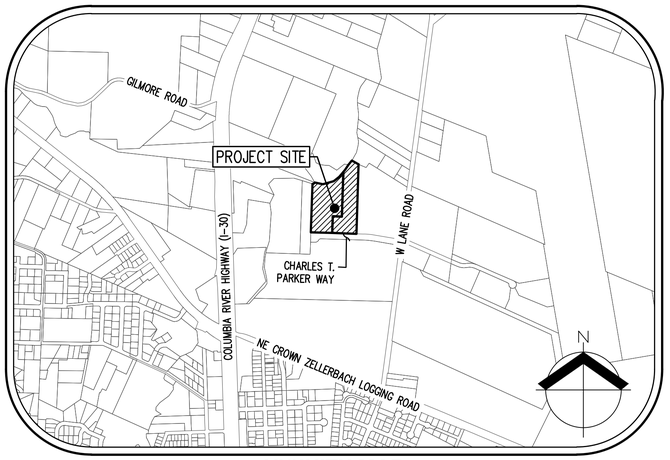
CONTENTS:
EXISTING CONDITIONS PLAN

SHEET NO:

C003

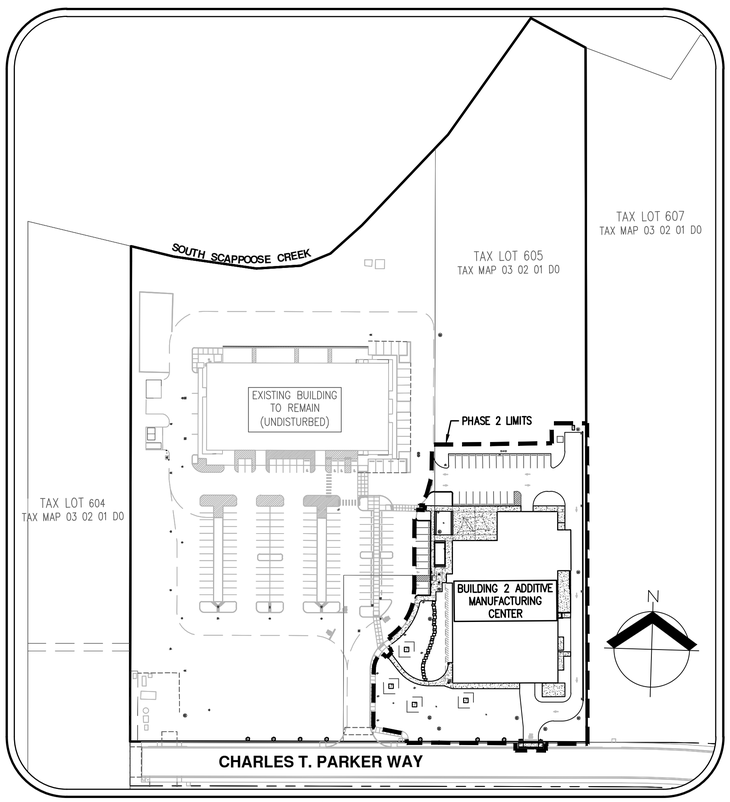
OMIC RESEARCH & DEVELOPMENT RETROFIT

1200C EROSION AND SEDIMENT CONTROL PLAN



VICINITY MAP

NOT TO SCALE



SITE MAP

1" = 100'

PERMITTEE'S SITE INSPECTOR: ANDREW GJEFLE

COMPANY/AGENCY: POINT ENVIRONMENTAL LLC
PHONE: 503.732.6103
E-MAIL: ANDREWG@POINTENV.COM
DESCRIPTION OF EXPERIENCE: CESCL ID #98627 AND ODOT CESCM #50949 THREE YEARS OF EXPERIENCE AS EROSION AND SEDIMENT CONTROL INSPECTOR.
NOTE: WHEN CONTRACT IS ISSUED, EROSION AND SEDIMENT CONTROL INSPECTION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

OWNER

COMPANY: OREGON MANUFACTURING INNOVATION CENTER R&D
CONTACT: CRAIG CAMPBELL
ADDRESS: 33701 CHARLES T. PARKER WAY
SCAPPOOSE, OR 97056

ARCHITECT

COMPANY: AKAAN ARCHITECTURE + DESIGN
CONTACT: AL PETERSON
ADDRESS: 101 ST HELENS STREET
ST HELENS, OR 97051

CIVIL ENGINEERING /SURVEYING

COMPANY: AKS ENGINEERING & FORESTRY
CONTACT: CHUCK GREGORY, P.E.
ADDRESS: 12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PHONE: 503.563.6151
FAX: 503.563.6152

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS

THE SITE IS CURRENTLY PARTIALLY DEVELOPED WITH AN EXISTING OMIC RESEARCH AND DEVELOPMENT BUILDING WITH SIDEWALK WRAPPING THE BUILDING AND A SMALL ASPHALT CONCRETE PARKING AREA ON A GRAVEL LOT. SEE DEQ FILE #126743 FOR PREVIOUS PHASE 1200C PLANS AND APPLICATION.

DEVELOPED CONDITIONS

THE PROPOSED DEVELOPMENT CONSISTS OF A NEW BUILDING WITH A NEW PARKING LOT, UTILITIES, WALKWAYS, AND LANDSCAPING.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

* CLEARING AND GRADING	(06/2022 – 09/2022)
* UTILITY INSTALLATION	(08/2022 – 11/2022)
* PAVING CONSTRUCTION	(11/2022 – 03/2023)
* FINAL STABILIZATION/LANDSCAPING	(03/2023 – 04/2023)

TOTAL ON-SITE AREA = ±10.2 ACRES
TOTAL DISTURBED AREA = ±2.2 ACRES

SITE SOIL CLASSIFICATION:

13 – CLOQUATO SILT LOAM, HYDROLOGICAL SOIL GROUP B

51 – SIFTON LOAM, HYDROLOGICAL SOIL GROUP B

RECEIVING WATER BODIES:

THE SURFACE RUNOFF FROM THE SITE WILL FLOW FROM THE NEW CATCH BASINS INTO THE NEW STORM MAIN, THEN ENTERS THE EXISTING CITY STORM DRAINAGE SYSTEM IN CHARLES T PARKER WAY. STORM WATER EVENTUALLY ENTERS THE OLD QUARRY LAKE ON THE ROCK QUARRY SITE.

PROJECT LOCATION:

33701 CHARLES T PARKER WAY
SCAPPOOSE, OR 97056

LATITUDE = 45°46'01"N, LONGITUDE = 122°52'21"W

PROPERTY DESCRIPTION:

TAX LOT 605 (COLUMBIA COUNTY TAX MAP 03N02W04D0) LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 1, TOWNSHIP 2 NORTH, RANGE 2 WEST, WILLAMETTE MERIDIAN, CITY OF SCAPPOOSE, COLUMBIA COUNTY, OREGON.

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

811 Know what's **below.** **Call** before you dig.

SHEET INDEX

1200C EROSION AND SEDIMENT CONTROL PLANS

C050 EROSION AND SEDIMENT CONTROL COVER SHEET
C051 CLEARING AND DEMOLITION ESC PLAN
C052 SITE, VERTICAL, AND STREET CONSTRUCTION ESC PLAN
C053 EROSION AND SEDIMENT CONTROL DETAILS

STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES:

1. INCLUDE A LIST OF ALL PERSONNEL (BY NAME AND POSITION) THAT ARE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF STORMWATER CONTROL MEASURES (E.G. ESCP DEVELOPER, BMP INSTALLER (SEE SECTION 4.10), AS WELL AS THEIR INDIVIDUAL RESPONSIBILITIES. (SECTION 4.4.C.II)
2. VISUAL MONITORING INSPECTION REPORTS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SECTION 6.5.)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SECTION 6.5.Q)
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. (SECTION 4.7)
5. THE PERMIT REGISTRANT MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SECTIONS 4 AND 4.11)
6. THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SECTION 4.8)
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SECTION 4.9)
8. SEQUENCE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SECTION 2.2.2)
9. CREATE SMOOTH SURFACES BETWEEN SOIL SURFACE AND EROSION AND SEDIMENT CONTROLS TO PREVENT STORMWATER FROM BYPASSING CONTROLS AND PONDING. (SECTION 2.2.3)
10. 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. (SECTION 2.2.1)
11. 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. (SECTION 2.2.5)
12. MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SECTION 2.2.4)
13. INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SECTION 2.1.3)
14. CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SECTION 2.1.1 AND 2.2.16)
15. 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. (SECTION 2.2.6 AND 2.2.13)
16. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SECTION 2.2.14)
17. 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.(SECTIONS 2.2.20 AND 2.2.21)
18. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SECTION 2.3.7)
19. KEEP WASTE CONTAINER LIDS CLOSED WHEN NOT IN USE AND CLOSE LIDS AT THE END OF THE BUSINESS DAY FOR THOSE CONTAINERS THAT ARE ACTIVELY USED THROUGHOUT THE DAY. FOR WASTE CONTAINERS THAT DO NOT HAVE LIDS, PROVIDE EITHER (1) COVER (E.G., AT TARP, PLASTIC SHEETING, TEMPORARY ROOF) TO PREVENT EXPOSURE OF WASTES TO PRECIPITATION, OR (2) A SIMILARLY EFFECTIVE MEANS DESIGNED TO PREVENT THE DISCHARGE OF POLLUTANTS (E.G. SECONDARY CONTAINMENT). (SECTION 2.3.7)
20. 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. (SECTION 2.2.7)
21. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SECTION 2.2.7.F)
22. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SECTION 1.5 AND 2.3.9)
23. ENSURE THAT STEEP SLOPE AREAS WHERE CONSTRUCTION ACTIVITIES ARE NOT OCCURRING ARE NOT DISTURBED. (SECTION 2.2.10)
24. PREVENT SOIL COMPACTION IN AREAS WHERE POST-CONSTRUCTION INFILTRATION FACILITIES ARE TO BE INSTALLED. (SECTION 2.2.12)
25. 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. (SECTION 2.2.15 AND 2.3)
26. PROVIDE PLANS FOR SEDIMENTATION BASINS THAT HAVE BEEN DESIGNED PER SECTION 2.2.17 AND STAMPED BY AN OREGON PROFESSIONAL ENGINEER. (SEE SECTION 2.2.17.A)
27. IF ENGINEERED SOILS ARE USED ON SITE, A SEDIMENTATION BASIN/IMPOUNMENT MUST BE INSTALLED. (SEE SECTIONS 2.2.17 AND 2.2.18)
28. PROVIDE A DEWATERING PLAN FOR ACCUMULATED WATER FROM PRECIPITATION AND UNCONTAMINATED GROUNDWATER SEEPAGE DUE TO SHALLOW EXCAVATION ACTIVITIES. (SEE SECTION 2.4)
29. 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. (SECTION 2.3)
30. USE WATER, SOIL-BINDING AGENT, OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SECTION 2.2.9)
31. 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. (SECTION 2.3.5)
32. 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 ENVIRONMENTAL MANAGEMENT PLAN APPROVAL FROM DEQ BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SECTION 1.2.9)
33. 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. (SECTION 2.2)
34. 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. (SECTION 2.2.8)
35. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SECTION 2.1.5.B)
36. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SECTION 2.1.5.C)
37. 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. (SECTION 2.1.5.D)
38. 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 DEPARMTMENT OF STATE LANDS REQUIRED TIMEFRAME. (SECTION 2.2.19.A)
39. 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. (SECTION 2.2.19)
40. DOCUMENT ANY PORTION(S) OF THE SITE WHERE LAND DISTURBING ACTIVITIES HAS PERMANENTLY CEASED OR WILL BE TEMPORARILY INACTIVE FOR 14 OR MORE CALENDAR DAYS. (SECTION 6.5.F)
41. 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. (SECTION 2.2.20)
42. 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 NEEDED FOR LONG TERM USE FOLLOWING TERMINATION OF THE PERMIT COVERAGE. (SECTION 2.2.21)

PHASE 1 WORK APPROVED UNDER DEQ FILE #126743

PHASE 2 DEQ FILE #_____

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S

CONTRACTOR TO NOTIFY LISTED ENGINEER AND INSPECTOR PRIOR TO INSTALLING ESC MEASURES

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET AND SITE CONSTRUCTION	FINAL STABILIZATION
EROSION PREVENTION					
PRESERVE NATURAL VEGETATION	X	X	X	X	X
GROUND COVER					X
HYDRAULIC APPLICATIONS					
PLASTIC SHEETING	X	X	X	X	
MATTING					
STRAW/MULCH COVER		X	X		
ROCK COVER					
DUST CONTROL	X	X	X	X	
TEMPORARY/PERMANENT SEEDING					X
BUFFER ZONE					
OTHER:					
SEDIMENT CONTROL					
SEDIMENT FENCE (PERIMETER)	X	X	X	X	
SEDIMENT FENCE (INTERIOR)					
STRAW WATTLES	X	X	X	X	
FILTER BERM					
INLET PROTECTION	X	X	X	X	X
DEWATERING					
SEDIMENT TRAP					
NATURAL BUFFER ENCROACHMENT					
COMPOST SOCK/ BERM					
RUN OFF CONTROL					
CONSTRUCTION ENTRANCE	X	X	X	X	
PIPE SLOPE DRAIN					
OUTLET PROTECTION					
SURFACE ROUGHENING					
CHECK DAMS					
OTHER:					
POLLUTION PREVENTION					
PROPER SIGNAGE	X	X	X	X	X
HAZARDOUS WASTE MANAGEMENT	X	X	X	X	X
SPILL KIT ON-SITE	X	X	X	X	X
CONCRETE WASHOUT AREA		X	X	X	
OTHER:					

* SIGNIFIES ADDITIONAL BMP'S REQUIRED FOR WORK WITHIN 50' OF WATER OF THE STATE

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

NOTE: THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.
AKS ENGINEERING AND FORESTRY, LLC SHALL BE RETAINED TO PERFORM EROSION CONTROL INSPECTION SERVICES OR THE OWNER MUST TRANSFER THE 1200C PERMIT INSPECTION DESIGNATION WITH EROSION DEQ PRIOR TO BEGINNING CONSTRUCTION.

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	ON INITIAL DATE THAT LAND DISTURBANCE ACTIVITIES COMMENCE WITHIN 24 HOURS OF ANY STORM EVENT, INCLUDING RUNOFF FROM SNOW MELT, THAT RESULTS IN DISCHARGE FROM THE SITE. AT LEAST ONCE EVERY FOURTEEN (14) DAYS, REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURRING.
2. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	THE INSPECTOR MAY REDUCE THE FREQUENCY OF INSPECTIONS IN ANY AREA OF THE SITE WHERE THE STABILIZATION STEPS IN SECTION 2.2.20 HAVE BEEN COMPLETED TO TWICE PER MONTH FOR THE FIRST MONTH, NO LESS THAN 14 CALENDAR DAYS APART, THEN ONCE PER MONTH.
3. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF SAFE, ACCESSIBLE AND PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT DISCHARGE POINT OR DOWNSTREAM LOCATION OF THE RECEIVING WATER BODY.
4. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE SUSPENDED AND RUNOFF IS UNLIKELY DUE TO FROZEN CONDITIONS.	VISUAL MONITORING INSPECTIONS MAY BE TEMPORARILY SUSPENDED. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.
5. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE CONDUCTED AND RUNOFF IS UNLIKELY DUE TO FROZEN CONDITIONS.	VISUAL MONITORING INSPECTIONS MAY BE REDUCED TO ONCE A MONTH. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ's GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP's WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER — OREGON — SEPT. 14, 1994 — CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

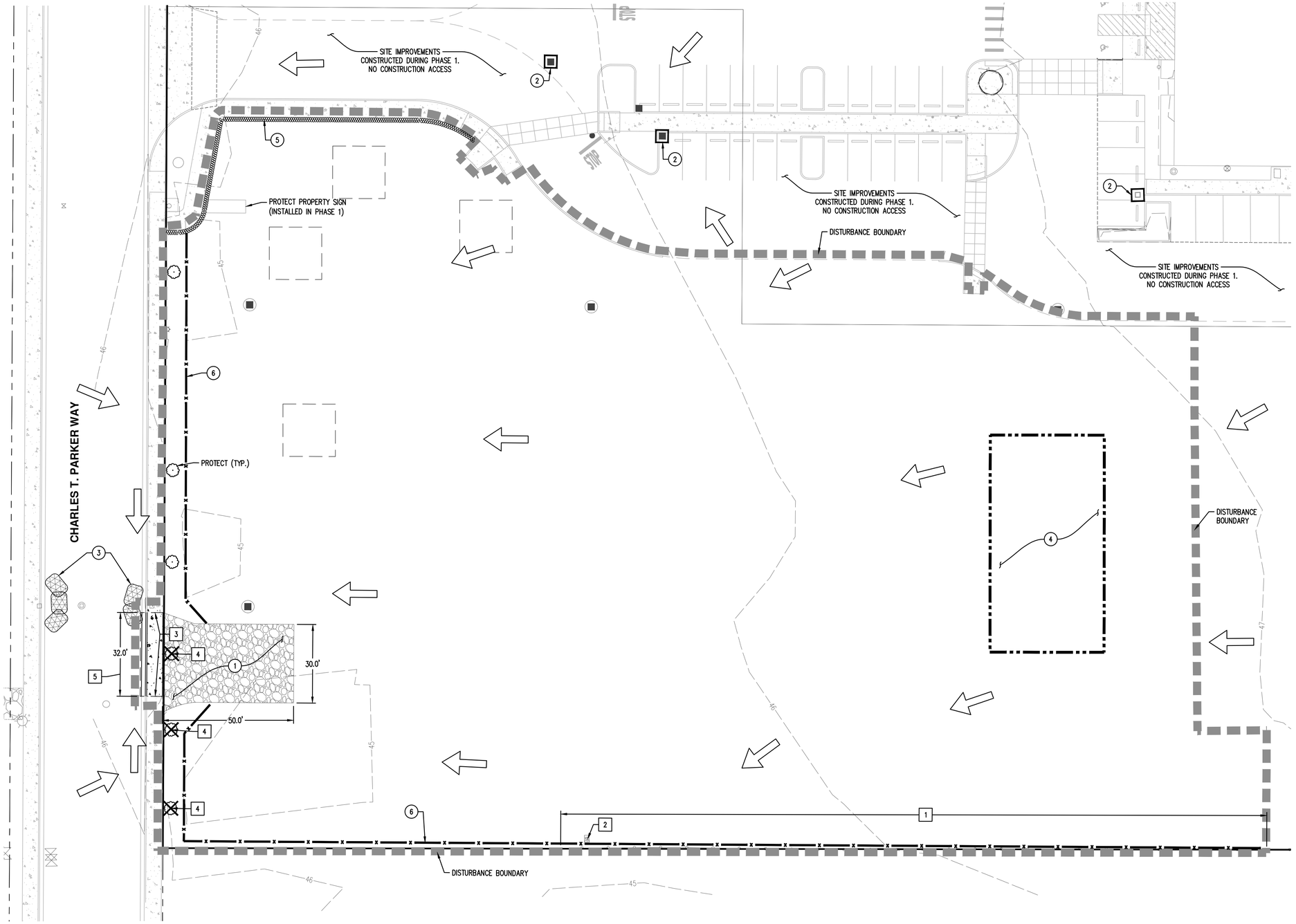
REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
EROSION AND SEDIMENT CONTROL COVER SHEET

SHEET NO:

C050



AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

EROSION CONTROL LEGEND

- 46 — EXISTING GRADE CONTOUR (1 FT)
- 45 — EXISTING GRADE CONTOUR (5 FT)
- LIMITS OF DISTURBANCE BOUNDARY
- STOCKPILE LIMITS
- STRAW WATTLES
- SEDIMENT FENCE
- SAWCUT LIMITS
- DIRECTION OF PRE-DEVELOPMENT RUNOFF
- INLET PROTECTION
- BIO-FILTER BAG
- CONSTRUCTION ENTRANCE

TOTAL DISTURBED AREA: ±2.2 AC

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

WET WEATHER CONSTRUCTION:

THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCTOBER 1ST AND MAY 31ST.

SCALE: 1" = 20 FEET
20 0 4 10 20
ORIGINAL PAGE SIZE: 22" x 34"

NOTE:
BUILDING FACILITIES SHALL REMAIN IN USE DURING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO EXISTING BUILDING ACTIVE DURING CONSTRUCTION TO MAXIMUM EXTENT PRACTICABLE (DOMESTIC WATER, FIRE WATER, POWER, COMMUNICATION, SEWER, GAS). CONTRACTOR SHALL MINIMIZE THE SERVICES INTERRUPTIONS AND COORDINATE WITH OWNER FOR NECESSARY TEMPORARY SHUT DOWNS. CONTRACTOR SHALL NOTIFY OWNER AND FIRE MARSHALL FOR FIRE WATER SHUT DOWN.

[#] KEYED DEMOLITION NOTES:

1. PROTECT EXISTING FENCE DURING CONSTRUCTION
2. REMOVE EXISTING MAILBOX. CONTRACTOR SHALL COORDINATE WITH OWNER FOR NEW LOCATION.
3. SAWCUT AT NEAREST SCORE JOINT AND REMOVE CONCRETE SIDEWALK PANEL
4. RELOCATE EXISTING TREE. SEE LANDSCAPE PLANS FOR NEW LOCATION.
5. SAWCUT 1' FROM EXISTING GUTTER AND REMOVE CURB, GUTTER, AND SIDEWALK.

(#) KEYED EROSION AND SEDIMENT CONTROL NOTES:

1. USE EXISTING GRAVEL AS CONSTRUCTION ENTRANCE. IF TRACKING BECOMES AN ISSUE, INSTALL GRAVEL CONSTRUCTION ENTRANCE PER DETAIL 1/C053
2. INSTALL SILT SACK INLET PROTECTION PER DETAIL 2/C053
3. INSTALL BIO-FILTER BAG INLET PROTECTION PER DETAIL 3/C053
4. APPROXIMATE SOIL STOCKPILING AND STAGING AREA. CONTRACTOR SHALL ADJUST LOCATION AS NEEDED DURING CONSTRUCTION. COVER STOCKPILE WITH PLASTIC SHEETING PER DETAIL 7/C053.
5. INSTALL STRAW WATTLES PER DETAIL 5/C053
6. INSTALL SEDIMENT FENCE PER DETAIL 6/C053

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
CLEARING AND DEMOLITION ESC PLAN

SHEET NO:

C051

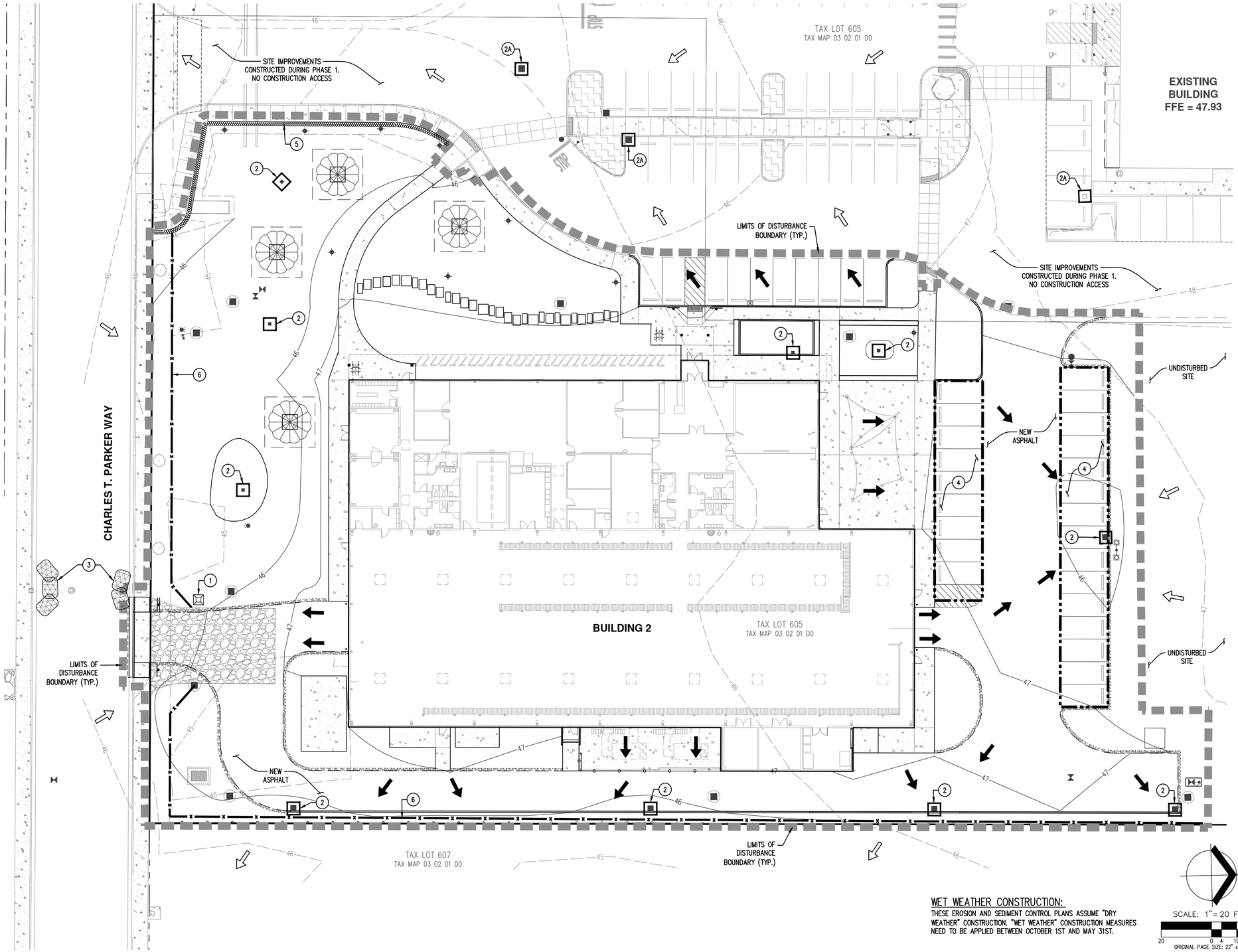
(#) KEYED EROSION AND SEDIMENT CONTROL NOTES:

1. INSTALL CONCRETE TRUCK WASHOUT PER DETAIL 4/C053
2. INSTALL SILT SACK INLET PROTECTION PER DETAIL 2/C053
2A. MAINTAIN SILT SACK INLET PROTECTION PER DETAIL 2/C053
3. MAINTAIN BIO-FILTER BAG INLET PROTECTION PER DETAIL 3/C053
4. APPROXIMATE SOIL STOCKPILING AND STAGING AREA. CONTRACTOR SHALL ADJUST LOCATION AS NEEDED DURING CONSTRUCTION. COVER STOCKPILE WITH PLASTIC SHEETING PER DETAIL 7/C053
5. MAINTAIN STRAW WATTLES PER DETAIL 5/C053
6. MAINTAIN SEDIMENT FENCE PER DETAIL 6/C053

NOTE:
ALL SITE WORK, VERTICAL WORK, AND STREET WORK WILL OCCUR AT THE SAME TIME FOLLOWING THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THIS PAGE.

EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESE PLANS.
3. LONG TERM SLOPE STABILIZATION MEASURES "INCLUDING MATTING" SHALL BE IN PLACE OVER ALL EXPOSED SOILS BY OCTOBER 1.
4. THE STORMWATER FACILITY SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORMWATER SYSTEM FUNCTIONING AND SITE PAVING.
5. INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.



WET WEATHER CONSTRUCTION:

THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCTOBER 1ST AND MAY 31ST.

SCALE: 1" = 20 FEET
20 0 4 10 20
ORIGINAL PAGE SIZE: 22" x 34"

GRADING, BUILDING/SITE AND UTILITY EROSION AND SEDIMENT CONSTRUCTION NOTES:

1. SEED USED FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
   - A. VEGETATED CORRIDOR AREAS REQUIRE NATIVE SEED MIXES. SEE RESTORATION PLAN FOR APPROPRIATE SEED MIX.
   - B. DWARF GRASS MIX (MIN. 100 LB./AC.)
     1. DWARF PERENNIAL RYEGRASS (80% BY WEIGHT)
     2. CREEPING RED FESCUE (20% BY WEIGHT)
   - C. STANDARD HEIGHT GRASS MIX (MIN. 100LB./AC.)
     1. ANNUAL RYEGRASS (40% BY WEIGHT)
     2. TURF-TYPE FESCUE (60% BY WEIGHT)
2. SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
3. LONG TERM STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA SEEDING WITH APPROVED MIX AND APPLICATION RATE.
4. TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
5. STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. DURING "WET WEATHER" PERIODS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
6. EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.
7. AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.
8. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. ACTIVE INLETS TO STORMWATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
10. SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.
11. AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
12. SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORMWATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
13. AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORMWATER SYSTEM.
14. USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
15. COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORMWATER SYSTEM.

EROSION CONTROL LEGEND

- 46 — EXISTING GRADE CONTOUR (1 FT)
- 45 — EXISTING GRADE CONTOUR (5 FT)
- 46 — FINISH GRADE CONTOUR (1 FT)
- 45 — FINISH GRADE CONTOUR (5 FT)
- LIMITS OF DISTURBANCE BOUNDARY
- STOCKPILE LIMITS
- STRAW WATTLES
- SEDIMENT FENCE
- DIRECTION OF PRE-DEVELOPMENT RUNOFF
- DIRECTION OF POST-DEVELOPMENT RUNOFF
- EXISTING AND NEW INLET PROTECTION
- CONCRETE WASHOUT
- BIO-FILTER BAG
- CONSTRUCTION ENTRANCE

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER — OREGON — SEPT. 14, 1979 — CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

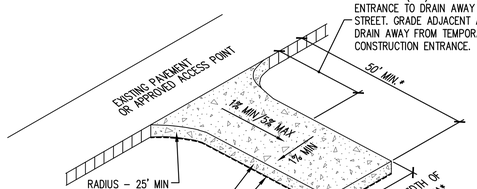
CONTENTS:
SITE, VERTICAL, AND STREET CONSTRUCTION ESC PLAN

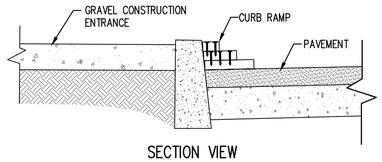
SHEET NO:

C052

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

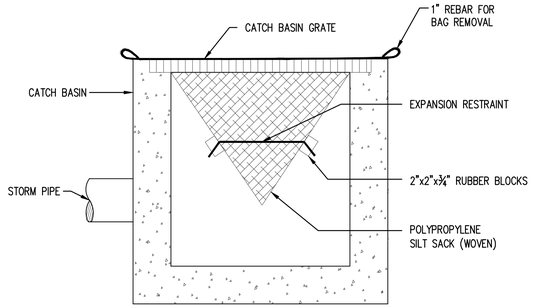




SECTION VIEW

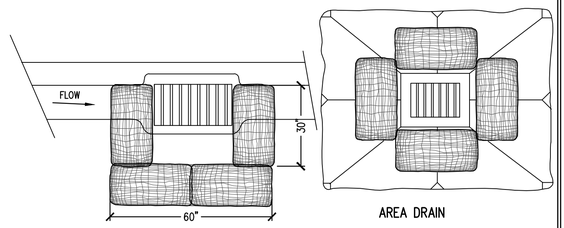
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS OR ADJACENT PROPERTIES. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
6. ALL TRUCKS TRANSPORTING SATURATED SOILS SHALL BE WELL SEALED. WATER DRIPPAGE FROM TRUCKS MUST BE REDUCED TO ONE GALLON PER HOUR PRIOR TO LEAVING SITE.
7. THE AREA OF THE CONSTRUCTION ENTRANCE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROOTS, AND OTHER NON-COMPACTABLE MATERIAL.
8. SUBGRADE SHALL BE COMPACTED AND PROOFROLLED PRIOR TO PLACEMENT OF GRANULAR MATERIAL. FAILURE TO PASS PROOFROLL WILL REQUIRE USE OF WET WEATHER SECTION.
9. FAILURE OR PUMPING OF THE DRY WEATHER SECTION WILL REQUIRE REMOVAL OF THE GRANULAR MATERIAL AND INSTALLATION OF THE WET WEATHER SECTION.

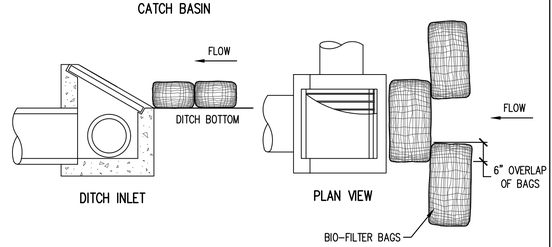
GRAVEL CONSTRUCTION ENTRANCE
NTS
1



NOTES:
1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS.
2. SIZE OF FILTER FABRIC INLET SACKS TO MATCH CATCH BASIN AS DETERMINED BY MANUFACTURER.
3. SILT SACK SHALL BE EMPTIED AS NECESSARY.
4. CONTRACTOR SHALL REMOVE AND HAUL OFF SITE FOR DISPOSAL UPON PROJECT COMPLETION.

INLET PROTECTION (SILT SACK)
NTS
2

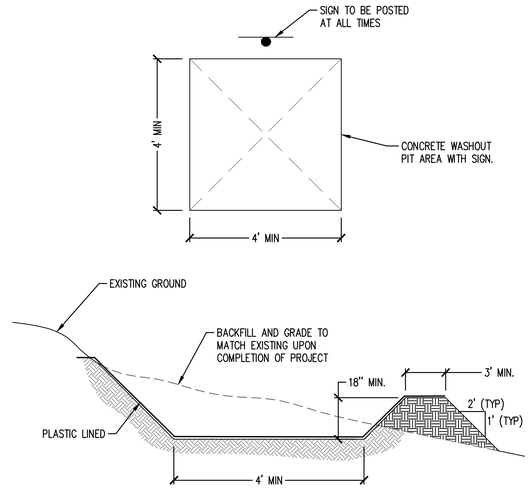




NOTES:
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2"x3' WOOD STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN, 4 BAGS SHALL BE USED AND OVERLAPPED BY 6" MINIMUM.
4. BIO-FILTER BAGS MUST BE REMOVED AND HAULED OFF-SITE FOR DISPOSAL BY THE CONTRACTOR UPON PROJECT STABILIZATION.
5. BIO-FILTER BAGS MAY BE USED SHORT TERM WITH UTILITY WORK AND WITH PHASING OF DEVELOPMENT.

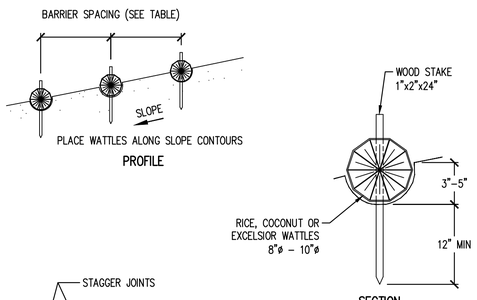
MAINTENANCE NOTES:
1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UPHILL AREA AS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN 2-INCHES OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND BIO-FILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

INLET PROTECTION (BIO-FILTER BAG)
NTS
3



NOTES:
1. REMOVE AND LEGALLY DISPOSE OF WASTE MATERIAL WHEN IT ACCUMULATES TO 2/3 OF WET STORAGE CAPACITY OF PIT.
2. CONCRETE WASHOUT AREA TO BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE.
3. UPON COMPLETION OF CONSTRUCTION ACTIVITIES REQUIRING CONCRETE WASHOUT, THE WASHOUT SHALL BE REMOVED AND THE AREA RESTORED TO FINISH GRADE AND EXISTING CONDITION.
4. CONTRACTOR SHALL TAKE PRECAUTIONS SO AS TO NOT OVERFLOW PIT.
5. CONTRACTOR MAY SUBSTITUTE WASHOUT WITH EQUIVALENT ECO-PAN

CONCRETE TRUCK WASHOUT
NTS
4

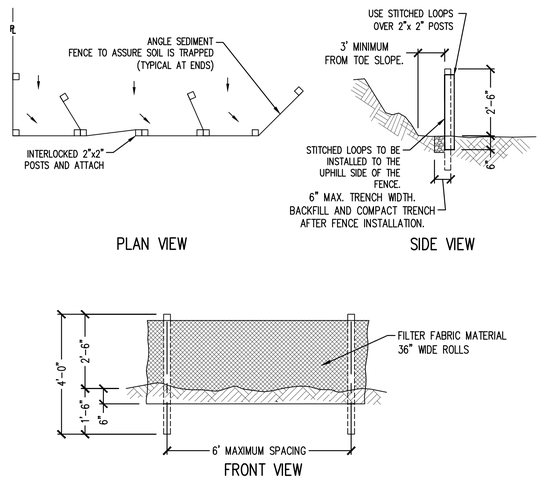


BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL TO TO CONTOURS AS FOLLOWS	
SLOPE RATIO	MAXIMUM SPACING ON SLOPE BETWEEN WATTLES
10:1 OR FLATTER	50' O.C.
10:1 TO 5:1	25' O.C.
5:1 TO 2:1	10' O.C.
2:1 OR STEEPER	5' O.C.

NOTES:
1. ALL MATERIAL SHALL CONFORM TO OSSC, CURRENT EDITION.
2. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP-HILL AREA IS PERMANENTLY STABILIZED.
3. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE ABOVE THE TOP OF THE STRAW WATTLE.
4. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.
5. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES DUE TO STEEP SLOPES OR HIGHLY EROSIVE SOILS.
6. CONTRACTOR SHALL REMOVE AND HAUL OFF SITE FOR DISPOSAL UPON PROJECT COMPLETION.

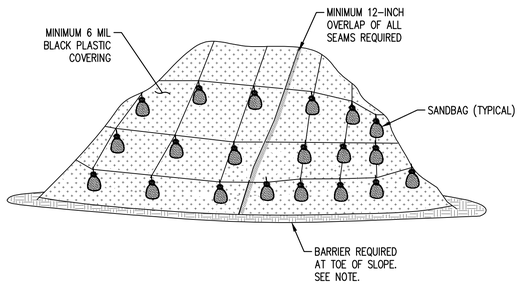
STRAW WATTLES
NTS
5



NOTES:
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2" x 2" FIR, PINE OR STEEL FENCE POSTS. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
3. SEDIMENT FENCE SHALL BE CONSTRUCTED OF CONTINUOUS FILTER FABRIC TO MINIMIZE USE OF JOINTS.
4. WHEN A JOINT IS REQUIRED, FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO A POST.

MAINTENANCE NOTES:
1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UPHILL AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN 10 INCHES OF SEDIMENT BE ALLOWED TO ACCUMULATE UPHILL OF SEDIMENT FENCES.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.
4. SEDIMENT FENCE MUST BE ADEQUATELY SUPPORTED AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.
5. FENCE SHALL NOT BE STAPLED TO EXISTING TREES.
6. CONTRACTOR SHALL REMOVE AND HAUL OFF SITE FOR DISPOSAL UPON PROJECT COMPLETION.

SEDIMENT FENCE
NTS
6



NOTES:
1. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.
2. BARRIER SHALL CONSIST OF SOIL BERM, SILT FENCE, STRAW WATTLE, GRASS LINED DITCH, SANDBAGS, OR OTHER APPROVED MATERIAL.
3. STOCKPILE(S) MUST BE LOCATED IN AREAS THAT WILL NOT IMPOUND OR BLOCK STORMWATER RUNOFF.
4. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FOR FULL LENGTH.
5. PLASTIC SHEETING REQUIRED FOR ALL TEMPORARY STOCKPILED MATERIAL.

PLASTIC SHEETING
NTS
7

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

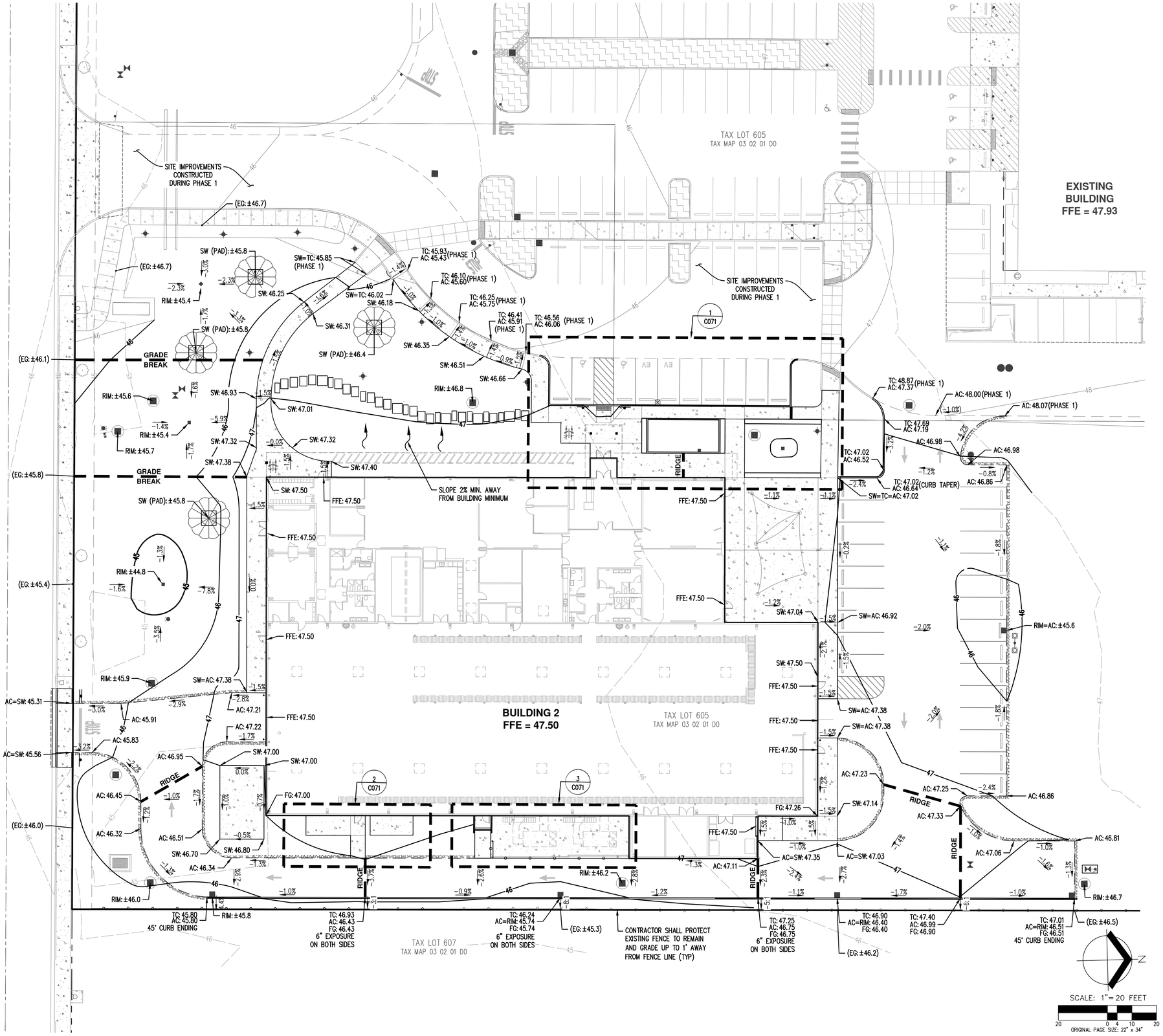
REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
EROSION AND SEDIMENT CONTROL DETAILS

SHEET NO:

C053



AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

NOTES:

- ALL CURBS TO HAVE 6-INCH EXPOSURE UNLESS OTHERWISE SHOWN.
- SLOPES ARE APPROXIMATE. IF DISCREPANCIES EXIST, SPOT ELEVATIONS CONTROL.
- REFER TO STORMWATER DRAINAGE PLAN FOR STORMWATER INFORMATION
- FINISHED GRADE AT LANDSCAPING SET MIN 6" BELOW FINISHED FLOOR ELEVATION. SLOPE TO DRAIN AWAY FROM THE BUILDING MINIMUM 2% WITHOUT PONDING WATER. AREA DRAINS MAY BE REQUIRED AROUND THE BUILDING IF NOT.
- PRIOR TO CONSTRUCTION AND ORDERING PIPE MATERIALS, CONTRACTOR SHALL POTHOLE EXISTING UTILITIES TO VERIFY EXACT LOCATION, ALIGNMENT, DEPTH, AND SIZE. CONTACT ENGINEER IF ADJUSTMENT IS REQUIRED.

GRADING LEGEND

EXISTING GROUND CONTOUR (1 FT) (PRIOR TO PHASE 1 GRADING)	46
EXISTING GROUND CONTOUR (5 FT) (PRIOR TO PHASE 1 GRADING)	45
EXISTING GROUND CONTOUR (1 FT) (AFTER PHASE 1 GRADING IS COMPLETED)	46
EXISTING GROUND CONTOUR (5 FT) (AFTER PHASE 1 GRADING IS COMPLETED)	45
FINISHED GRADE CONTOUR (1 FT)	46
FINISHED GRADE CONTOUR (5 FT)	45
DOWNWARD DIRECTION FLOW ARROW	X.X%
MATCH EXISTING ELEVATION	(XX: ±XXX.X)
FINISHED GRADE	FG: XXX.XX
ASPHALT ELEVATION	AC: XXX.XX
SIDEWALK ELEVATION	SW: XXX.XX
TOP OF CURB ELEVATION	TC: XXX.XX
FINISHED FLOOR ELEVATION	FFE: ±XXX.X
RIM ELEVATION	RIM: ±XXX.X
TOP OF STAIRS ELEVATION	TS: XXX.XX
BOTTOM OF STAIRS ELEVATION	BS: XXX.XX
EDGE OF CONCRETE ELEVATION	EC: XXX.XX

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1979
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

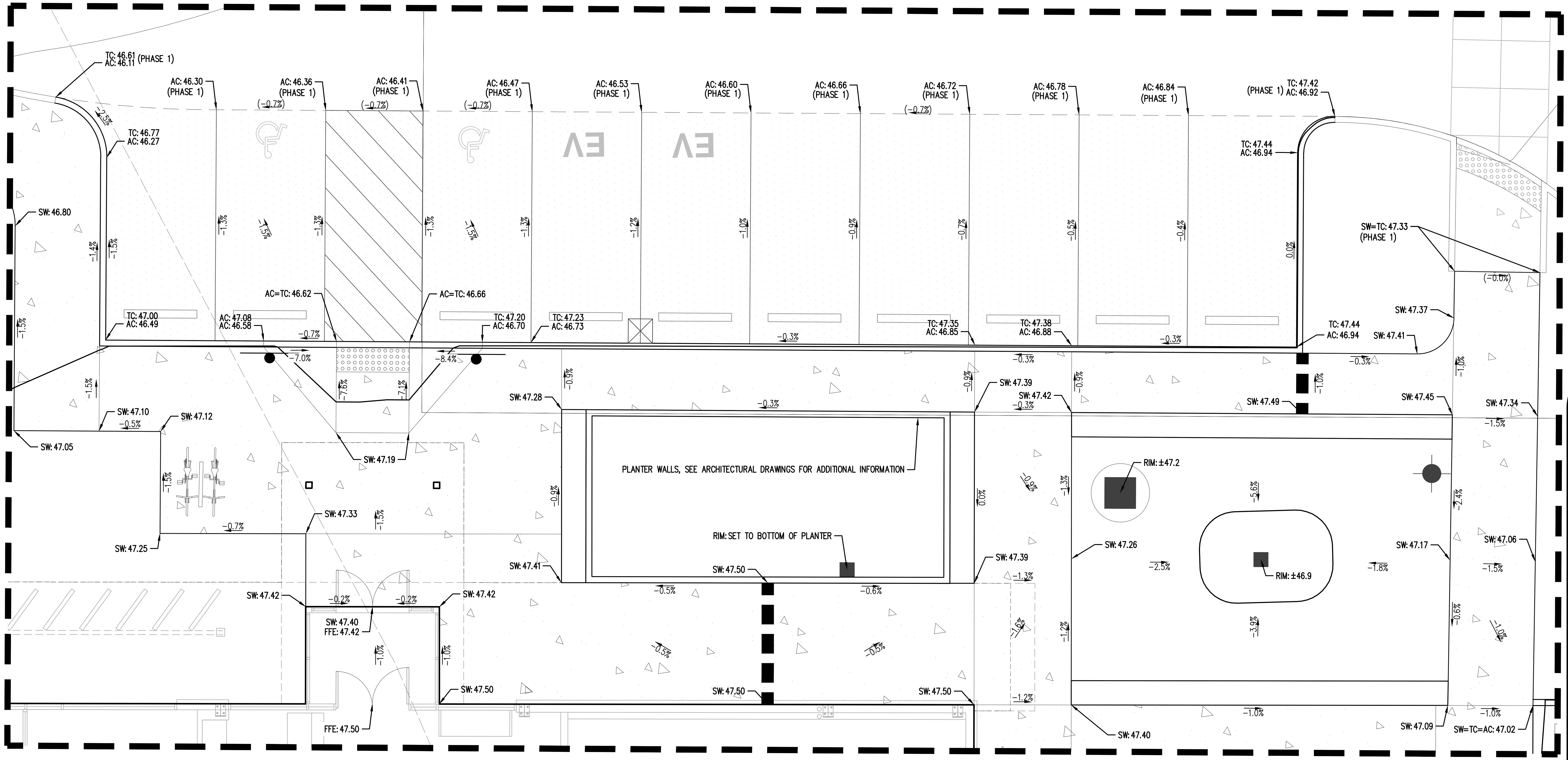
CONTENTS:
GRADING PLAN

SHEET NO:

C070

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE



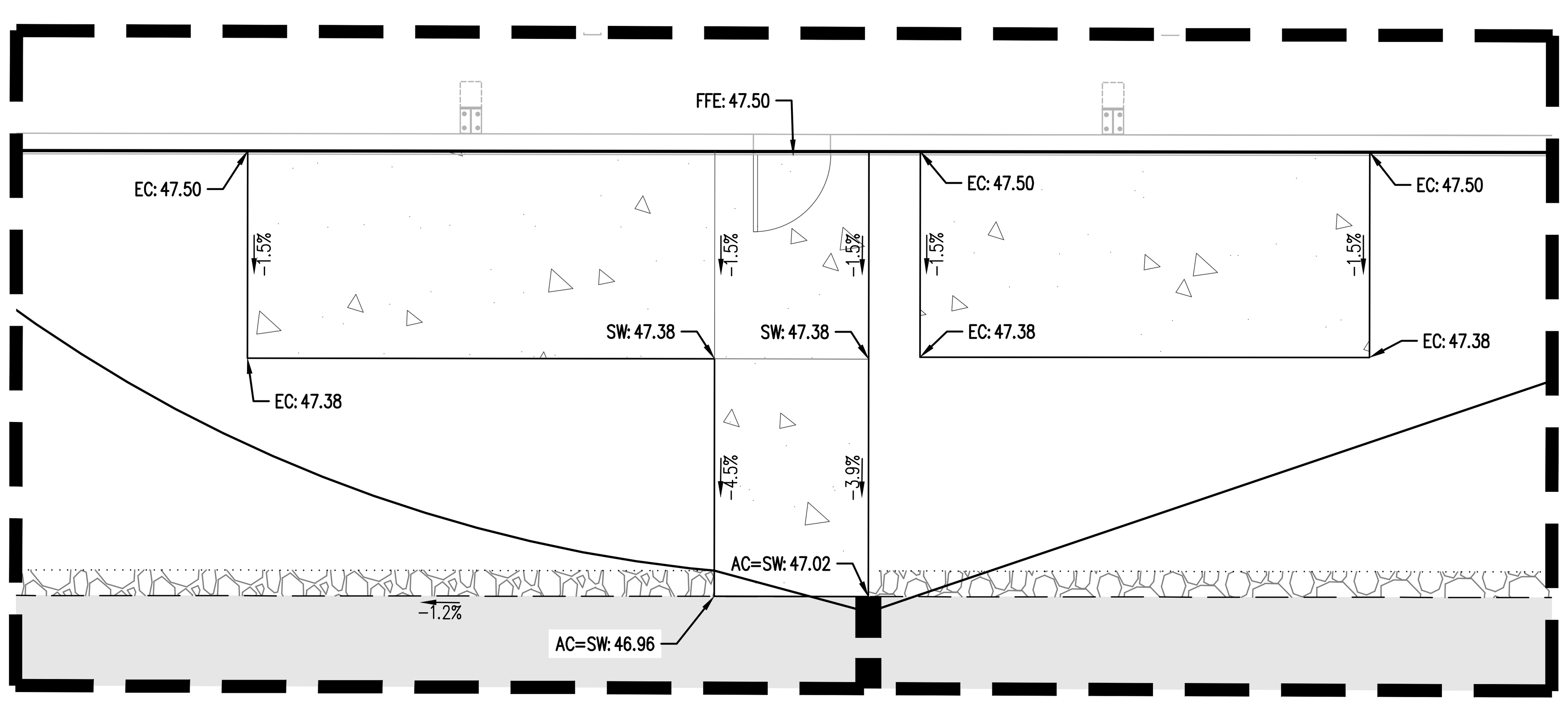
ADA GRADING DETAIL (1 / C071)
SCALE: 1" = 5'

NOTES:

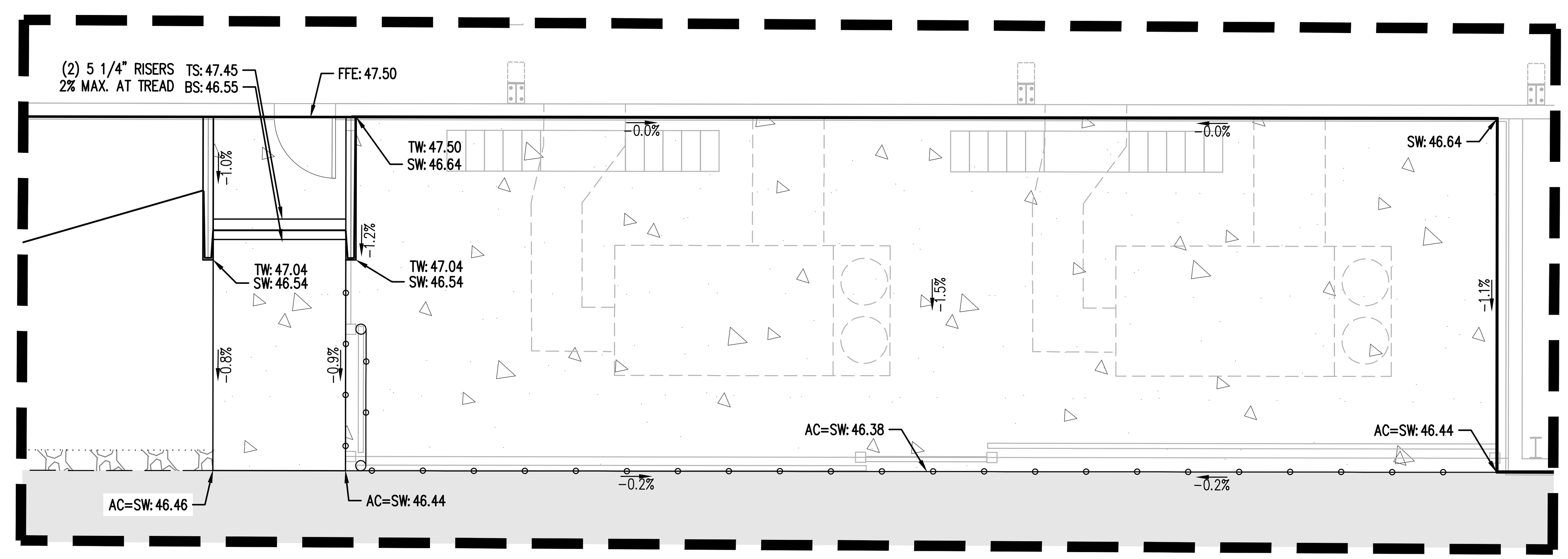
- ALL CURBS TO HAVE 6-INCH EXPOSURE UNLESS OTHERWISE SHOWN.
- SLOPES ARE APPROXIMATE. IF DISCREPANCIES EXIST, SPOT ELEVATIONS CONTROL.
- REFER TO STORMWATER DRAINAGE PLAN FOR STORMWATER INFORMATION
- FINISHED GRADE AT LANDSCAPING SET MIN 6" BELOW FINISHED FLOOR ELEVATION. SLOPE TO DRAIN AWAY FROM THE BUILDING MINIMUM 2% WITHOUT PONDING WATER. AREA DRAINS MAY BE REQUIRED AROUND THE BUILDING IF NOT.
- PRIOR TO CONSTRUCTION AND ORDERING PIPE MATERIALS, CONTRACTOR SHALL POTHOLE EXISTING UTILITIES TO VERIFY EXACT LOCATION, ALIGNMENT, DEPTH, AND SIZE. CONTACT ENGINEER IF ADJUSTMENT IS REQUIRED.

GRADING LEGEND

EXISTING GROUND CONTOUR (1 FT) (PRIOR TO PHASE 1 GRADING)	46
EXISTING GROUND CONTOUR (5 FT) (PRIOR TO PHASE 1 GRADING)	45
EXISTING GROUND CONTOUR (1 FT) (AFTER PHASE 1 GRADING IS COMPLETED)	46
EXISTING GROUND CONTOUR (5 FT) (AFTER PHASE 1 GRADING IS COMPLETED)	45
FINISHED GRADE CONTOUR (1 FT)	46
FINISHED GRADE CONTOUR (5 FT)	45
DOWNWARD DIRECTION FLOW ARROW	X.X%
MATCH EXISTING ELEVATION	(XX: ±XXX.X)
FINISHED GRADE	FG: XXX.XX
ASPHALT ELEVATION	AC: XXX.XX
SIDEWALK ELEVATION	SW: XXX.XX
TOP OF CURB ELEVATION	TC: XXX.XX
FINISHED FLOOR ELEVATION	FFE: ±XXX.X
RIM ELEVATION	RIM: ±XXX.X
TOP OF STAIRS ELEVATION	TS: XXX.XX
BOTTOM OF STAIRS ELEVATION	BS: XXX.XX
EDGE OF CONCRETE ELEVATION	EC: XXX.XX



SOUTH ACCESS GRADING DETAIL (2 / C071)
SCALE: 1" = 5'



NORTH STAIRCASE GRADING DETAIL (3 / C071)
SCALE: 1" = 5'

AKAAN
architecture + design llc

101 ST HELENS ST
ST HELENS, OR 97051
T: 503 366 3050 F: 503 366 3055

REGISTERED PROFESSIONAL ENGINEER
50644PE
OREGON
SEPT. 14, 1999
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS: GRADING ENLARGEMENTS PLAN

SHEET NO:

C071

(#) KEYED SITE NOTES:

1. CONSTRUCT HEAVY DUTY AC PAVEMENT SECTION PER DETAIL 1/C500
2. CONSTRUCT LIGHT DUTY AC PAVEMENT SECTION PER DETAIL 1/C500
3. CONSTRUCT 6" CURB PER DETAIL 2/C500
4. FIRE LANE PAINTED CURB PER DETAIL 2A/C500
5. INSTALL WHEEL STOP PER DETAIL 4/C500

5A. INSTALL WHEEL STOP PER DETAIL 4/C500. INSTALL WHEEL STOP TO AVOID CATCH BASIN

6. CONSTRUCT MONOLITHIC CURB AND SIDEWALK PER DETAIL 3/C500

6A. CONSTRUCT SIDEWALK WITH THICKENED EDGE PER DETAIL 9/C500. SIDEWALK TO BE FLUSH WITH EDGE OF PAVEMENT.

7. CONSTRUCT SIDEWALK PER DETAIL 5/C500

7A. CONSTRUCT SIDEWALK WITH THICKENED EDGE PER DETAIL 5A/C500

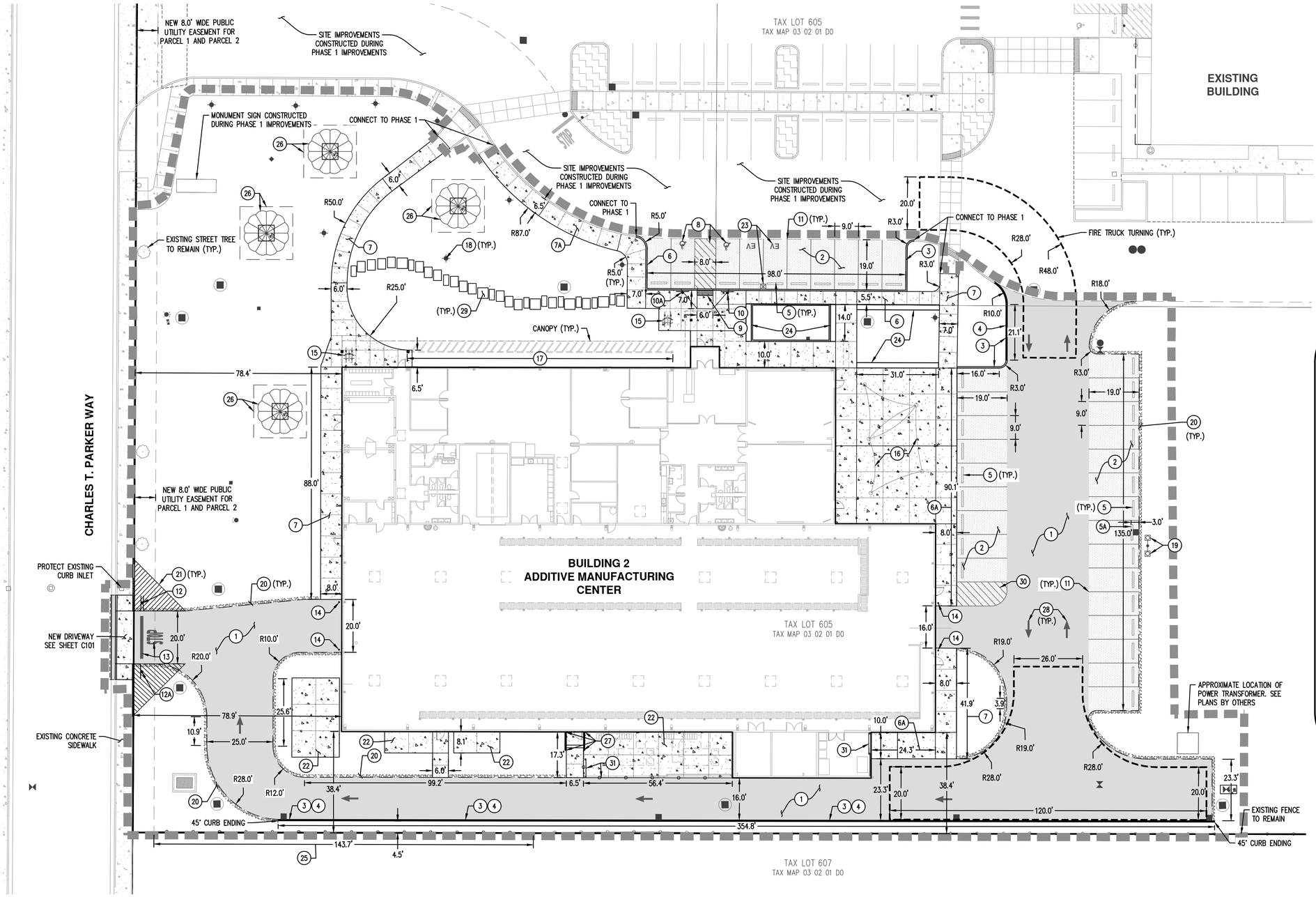
8. STRIPE ACCESSIBLE PARKING SPACES PER DETAILS 3/C501 & 4/C501
9. CONSTRUCT ACCESSIBLE RAMP WITH DETECTABLE WARNING SURFACE PER DETAILS 1/C501 & 2/C501
10. INSTALL ACCESSIBLE PARKING SIGN AND POST PER DETAIL 5/C501. FILL GAPS WITH NON SHRINK GROUT

10A. INSTALL VAN ACCESSIBLE PARKING SIGN AND POST PER DETAIL 5/C501. FILL GAPS WITH NON SHRINK GROUT

11. INSTALL 4" WHITE STRIPE
12. INSTALL "STOP" AND "DO NOT ENTER" SIGNS AND POST PER DETAIL 6/C501

12A. INSTALL "DO NOT ENTER" SIGN AND POST PER DETAIL SIMILAR TO 6/C501.

13. STOP LINE AND TEXT PAVEMENT MARKING PER DETAIL 7/C501
14. INSTALL 6" BOLLARD(S) PER DETAIL 6/C500. COORDINATE WITH ARCHITECT AND OMIC FOR EXACT LOCATION(S).
15. NEW BIKE PARKING, SEE PLANS BY OTHERS FOR DETAILS AND EXACT LOCATION
16. OUTDOOR SHADE SAILS, SEE PLANS BY OTHERS
17. MOTORIZED SUNSHADE, SEE PLANS BY OTHERS
18. APPROXIMATE LOCATION(S) OF PEDESTRIAN BOLLARD LIGHTS. SEE ELECTRICAL PLANS
19. OVERHEAD PARKING LIGHTS. SEE ELECTRICAL PLANS FOR DETAILS AND CONDUIT LAYOUT.
20. REUSE SALVAGED GRAVEL FROM NEW LANDSCAPE AREAS AT GRADING TRANSITIONS PER DETAIL 1A/C500
21. 20' X 20' CLEAR VISION TRIANGLE
22. EQUIPMENT PAD. SEE PLANS BY OTHERS FOR DETAILS AND DIMENSIONS.
23. ELECTRIC VEHICLE PAVEMENT MARKING. SEE PLANS BY OTHERS FOR PAVEMENT MARKING, ELECTRICAL CONDUIT(S), AND CHARGING STATION.
24. 3D-PRINTED BENCHES. SEE PLANS BY OTHERS FOR DETAILS.
25. EXTEND CHAIN LINK SECURITY FENCE TO MATCH EXISTING
26. SOLAR FLOWER PAD AND CLEARANCE AREA AS SHOWN. SEE PLANS BY OTHERS FOR CONDUIT(S) LOCATION. CONCRETE PAD PER MANUFACTURER RECOMMENDATIONS.
27. CONSTRUCT STAIRS PER DETAILS 7/C500 & 8/C500. EXTEND NORTHERN WALL A MINIMUM OF 6" BELOW MECHANICAL CONCRETE PAD. TOP OF WALL TO BE FLUSH WITH SIDEWALK ELEVATION AND RAILING TO EXTEND TO BUILDING FACE. CONTRACTOR SHALL PROVIDE SUBMITTAL TO ENGINEER AND ARCHITECT PRIOR TO CONSTRUCTION.
28. INSTALL DIRECTIONAL ARROW MARKING PER DETAIL 8/C501
29. LANDSCAPE PATH, SEE LANDSCAPING PLANS FOR DETAILS.
30. INSTALL DIAGONAL STRIPING SIMILAR TO DETAIL 3/C501
31. INSTALL FENCE AND ROLLER GATE. SEE PLANS BY ARCHITECT FOR DETAILS



NOTE:

- VERIFY ALL BUILDING DIMENSIONS WITH BUILDING PLANS PRIOR TO CONSTRUCTION
- SCORE PATTERN AS SHOWN ON PLAN. CONTRACTOR SHALL SUBMIT JOINT LAYOUT FOR REVIEW AND APPROVAL TO ARCHITECT AND ENGINEER OF RECORD PRIOR TO PLACING CONCRETE.

PARKING SUMMARY

PHASE 1	
EXISTING STANDARD SPACES:	137
EXISTING ACCESSIBLE SPACES:	5
TOTAL EXISTING PARKING SPACES:	142
PHASE 2	
NEW STANDARD SPACES:	32
NEW ACCESSIBLE SPACES:	2
TOTAL NEW PARKING SPACES:	34
TOTAL STANDARD SPACES PROVIDED:	169
TOTAL ACCESSIBLE SPACES PROVIDED:	7
TOTAL PROVIDED PARKING SPACES:	176
TOTAL REQUIRED ACCESSIBLE SPACES:	6 (1 VAN ACCESSIBLE SPACE)
EXISTING BIKE PARKING SPACES:	4
NEW BIKE PARKING SPACES:	4
TOTAL BIKE PARKING SPACES:	8

LEGEND

- HEAVT DUTY AC PAVEMENT – PER DETAIL 1/C500
- LIGHT DUTY AC PAVEMENT – PER DETAIL 1/C500
- NEW CONCRETE
- EXISTING CONCRETE
- REUSED GRAVEL
- FIRE LANE PAINTED CURB PER DETAIL 2A/C500
- FIRE TRUCK TURNING MOVEMENT

SCALE: 1"=20 FEET
ORIGINAL PAGE SIZE: 22" x 34"

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER — OREGON — SEPT. 14, 1979 — CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

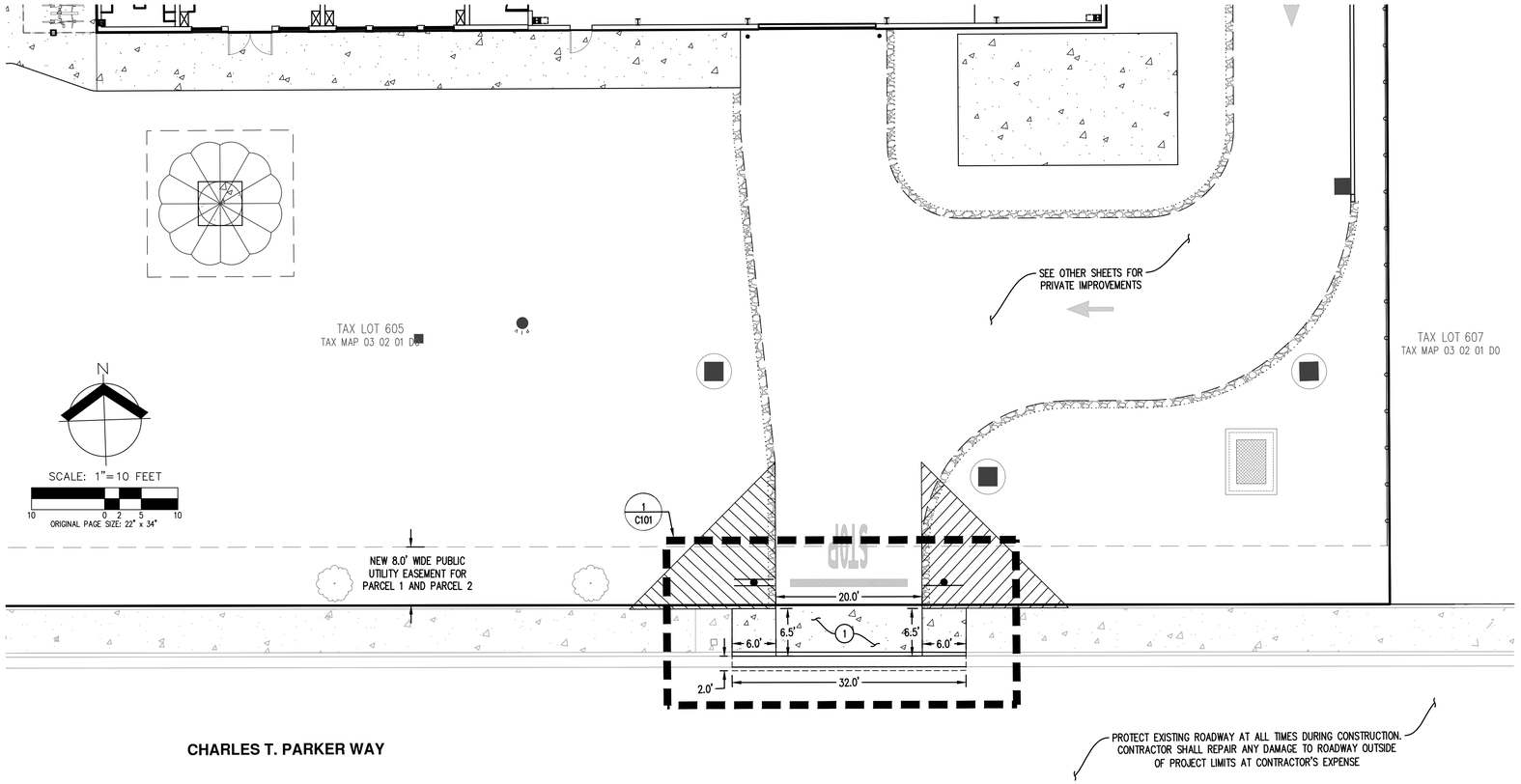
△	DATE	DESCRIPTION

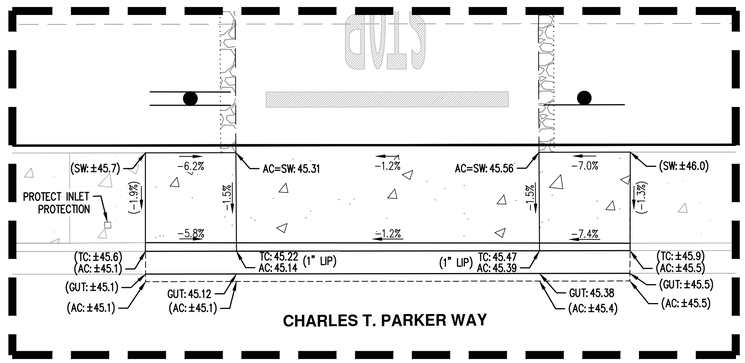
CONTENTS:
SITE PLAN

SHEET NO:
C100

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE





PUBLIC DRIVEWAY GRADING DETAIL 1 / C101
SCALE: 1" = 5'

N

KEYED SITE NOTES:

1. CONSTRUCT COMMERCIAL DRIVEWAY APPROACH PER CITY OF SCAPPOOSE STANDARD DRAWING NO. 511/C504

DRIVEWAY LEGEND

DOWNWARD DIRECTION FLOW ARROW	X.X% →
MATCH EXISTING ELEVATION	(XX: XXX.XX)
ASPHALT ELEVATION	AC: XXX.XX
GUTTER ELEVATION	GUT: XXX.XX
TOP OF CURB ELEVATION	TC: XXX.XX
SIDEWALK ELEVATION	SW: XXX.XX

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1979
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

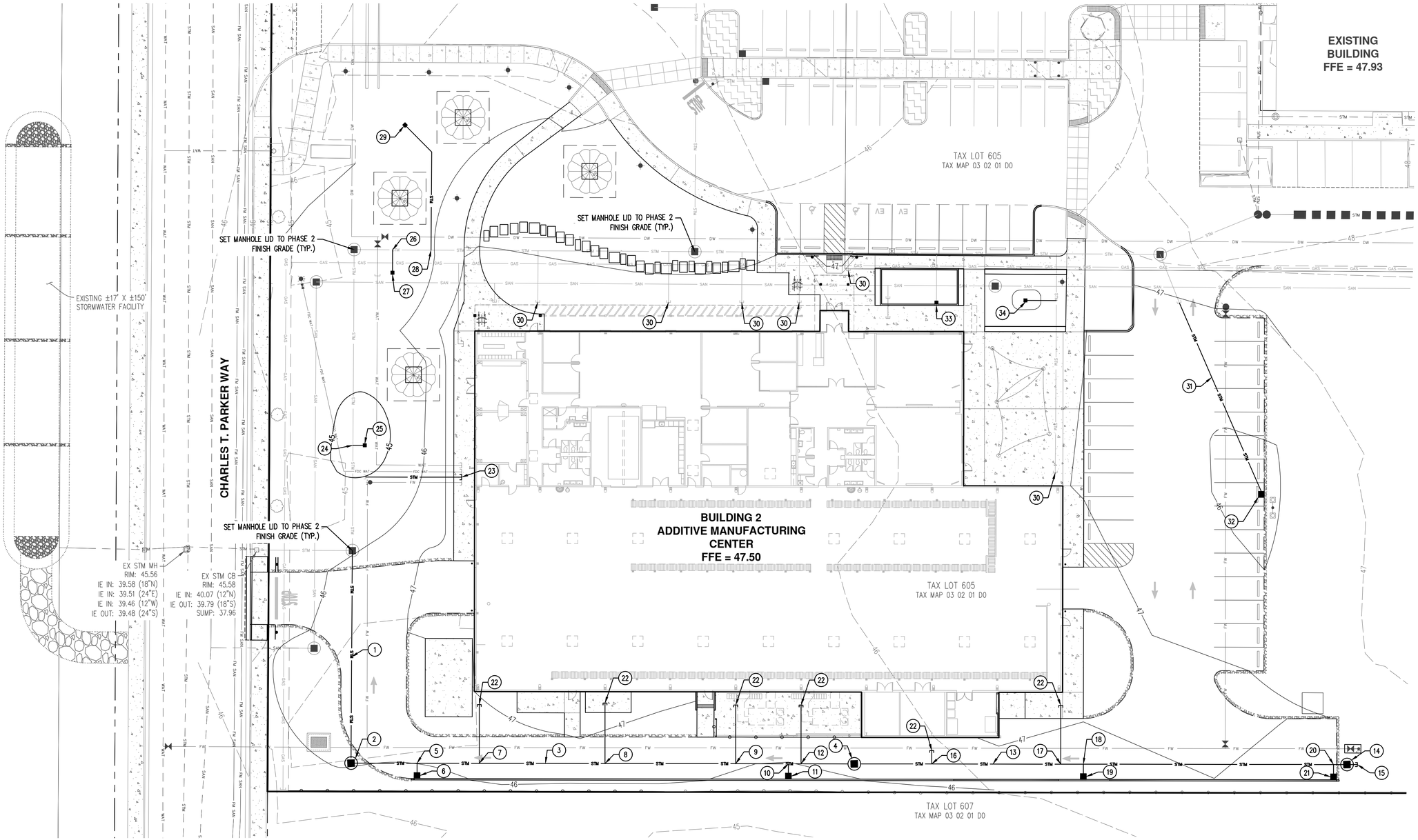
CONTENTS: PUBLIC IMPROVEMENTS PLAN

SHEET NO:

C101

(#) KEYED STORM DRAINAGE NOTES:

1. CONNECT TO EXISTING MANHOLE AND INSTALL 12" D3034 PVC PIPE
   LENGTH: ±81.3 LF SLOPE: 0.005 FT/FT
   IE IN (12"E): 40.22
2. INSTALL 48" STORM DRAIN FLAT-TOP MANHOLE PER DETAIL 6/C502
   RIM: ±46.0 (SET TO FG) IE IN (12"N): 40.63
   IE OUT (12"W): 40.63
3. INSTALL 12" D3034 PVC PIPE
   LENGTH: ±192.5 LF SLOPE: 0.005 FT/FT
4. INSTALL 48" STORM DRAIN SHALLOW FLAT-TOP MANHOLE SIMILAR TO CWS DRAWING 040/C502. ADD SUMP PER DETAIL 6/C502.
   RIM: ±46.1 (SET TO FG) IE IN (12"N): 41.59
   IE OUT (12"S): 41.59
5. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
   IE (12"): 40.75 IE (6"): 41.00
   LENGTH: ±4.7 LF SLOPE: 0.020 FT/FT MIN.
6. INSTALL 6" PVC D3034 PIPE AND STANDARD LYNCH STYLE CATCH BASIN PER DETAIL 5/C502
   RIM: ±45.8 (SET TO FG) IE OUT (6"W): 42.8
7. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
   IE (12"): 40.87 IE (6"): 41.12
   LENGTH: ±22.5 LF SLOPE: 0.020 FT/FT MIN.
8. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
   IE (12"): 41.11 IE (6"): 41.36
   LENGTH: ±22.5 LF SLOPE: 0.020 FT/FT MIN.
9. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
   IE (12"): 41.36 IE (6"): 41.61
   LENGTH: ±22.3 LF SLOPE: 0.020 FT/FT MIN.
10. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 41.46 IE (6"): 41.71
    LENGTH: ±4.7 LF SLOPE: 0.020 FT/FT MIN.
11. INSTALL STANDARD LYNCH STYLE CATCH BASIN PER DETAIL 5/C502.
    RIM: ±45.3 (SET TO FG) IE OUT (6"W): 42.3
12. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 41.49 IE (6"): 41.74
    LENGTH: ±22.3 LF SLOPE: 0.020 FT/FT MIN.
13. INSTALL 12" D3034 PVC PIPE
    LENGTH: ±188.50 LF SLOPE: 0.005 FT/FT
14. INSTALL 48" STORM DRAIN SHALLOW FLAT-TOP MANHOLE SIMILAR TO CWS DRAWING 040/C502. ADD SUMP PER DETAIL 6/C502.
    RIM: ±46.7 (SET TO FG) IE IN (12"N): 42.55
    IE OUT (12"S): 42.55
15. INSTALL 12" D3034 PVC PIPE AND PROVIDE STUB FOR FUTURE PHASE EXPANSION.
    LENGTH: ±4.0 LF SLOPE: 0.005 FT/FT
16. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 41.74 IE (6"): 41.99
    LENGTH: ±5.2 LF SLOPE: 0.020 FT/FT MIN.
17. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 41.98 IE (6"): 42.23
    LENGTH: ±22.5 LF SLOPE: 0.020 FT/FT MIN.
18. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 42.03 IE (6"): 42.28
    LENGTH: ±4.7 LF SLOPE: 0.020 FT/FT MIN.
19. INSTALL STANDARD LYNCH STYLE CATCH BASIN PER DETAIL 5/C502.
    RIM: ±46.4 (SET TO FG) IE (6"W): 43.4
20. INSTALL 12" X 6" "WYE" AND 6" D3034 PVC PIPE
    IE (12"): 42.51 IE (6"): 42.76
    LENGTH: ±4.7 LF SLOPE: 0.020 FT/FT MIN.
21. INSTALL STANDARD LYNCH STYLE CATCH BASIN PER DETAIL 5/C502.
    RIM: ±46.5 (SET TO FG) IE (6"): 43.5
22. CONNECT TO BUILDING ROOF DRAIN SYSTEM. CONTRACTOR TO VERIFY LOCATION OF DOWNSPOUT WITH ARCHITECT AND MEP.
    IE STUB (6"): ±44.5
23. CONNECT TO PHASE 1 STORM STUB. INSTALL 6" D3034 PVC PIPE AND CONNECT TO BUILDING ROOF DRAIN SYSTEM. CONTRACTOR TO VERIFY LOCATION OF DOWNSPOUT WITH ARCHITECT AND MEP.
    IE STUB (6"): ±42.0 LENGTH: ±36.6 LF
    SLOPE: 0.020 FT/FT MIN.
24. INSTALL 18" X 6" INSERTA-TEE AND 6" D3034 PVC PIPE
    IE (18"): 40.38 IE (6"): 40.88
    LENGTH: ±4.5 LF SLOPE: 0.020 FT/FT MIN.
25. INSTALL BABY BOX CATCH BASIN PER DETAIL 3/C502
    RIM: ±44.8 (SET TO FG) IE (6"): 41.70
26. INSTALL 18" X 6" INSERTA-TEE AND 6" D3034 PVC PIPE
    IE (18"): 40.74 IE (6"): 41.24
    LENGTH: ±8.7 LF SLOPE: 0.133 FT/FT
27. INSTALL BABY BOX CATCH BASIN PER DETAIL 3/C502
    RIM: ±45.4 (SET TO FG) IE (6"): 42.40
28. INSTALL 18" X 6" INSERTA-TEE AND 6" D3034 PVC PIPE WITH BEND
    IE (18"): 40.80 IE (6"): 41.30
    LENGTH: ±52.1 LF SLOPE: 0.023 FT/FT
29. INSTALL BABY BOX CATCH BASIN PER DETAIL 3/C502
    RIM: ±45.4 (SET TO FG) IE (6"): 42.5
30. CONNECT PHASE 1 STORM STUBS TO BUILDING ROOF DRAIN SYSTEM. CONTRACTOR TO VERIFY LOCATION OF DOWNSPOUT WITH ARCHITECT AND MEP.
31. CONNECT TO EXISTING STUB WITH 8" X 6" REDUCER AND INSTALL 6" D3034 PVC PIPE
    LENGTH: ±78.6 LF SLOPE: 0.005 FT/FT
    IE IN (6"NE): 42.28
32. INSTALL STANDARD LYNCH STYLE CATCH BASIN PER DETAIL 5/C502
    RIM: ±45.6 (SET TO FG) IE (6"): 42.67
33. INSTALL BABY BOX CATCH BASIN PER DETAIL 3/C502. FULLY COVER CATCH BASIN GRATE WITH 4"-6" ROUND RIVER ROCK. COORDINATE WITH ARCHITECT FOR DOWNSPOUT LOCATION TO CATCH BASIN.
    RIM: SET TO BOTTOM OF PLANTER IE (6"): 44.00
34. INSTALL BABY BOX CATCH BASIN PER DETAIL 3/C502 AND INSTALL 6" D3034 PVC AND CONNECT STORM LINE FROM PHASE 1.
    RIM: ±46.9 (SET TO FG) IE (6"): 43.40
    LENGTH: ±11.8 LF SLOPE: 0.020 FT/FT MIN.



SCALE: 1"=20 FEET
20 0 4 10 20
ORIGINAL PAGE SIZE: 22" x 34"

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

NOTES:

- COORDINATE WITH MECHANICAL/PLUMBING/BUILDING PLANS FOR CONTINUATION OF ALL UTILITIES WITHIN 5-FT OF THE BUILDING
- REFER TO GRADING PLAN(S) FOR SPOT ELEVATIONS AND GRADING INFORMATION
- CONTRACTOR SHALL PROVIDE PRIVATE UTILITY LOCATE SERVICES AND SHALL POTHOLE AND VERIFY ELEVATIONS AND CROSSING SEPARATIONS WITH ALL UTILITIES (POWER, GAS, TELEPHONE, FIRE WATER, ETC.) PRIOR TO STARTING CONSTRUCTION.

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1979
CHARLES EDWARD GREGSON
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
STORMWATER DRAINAGE PLAN

SHEET NO:

C200

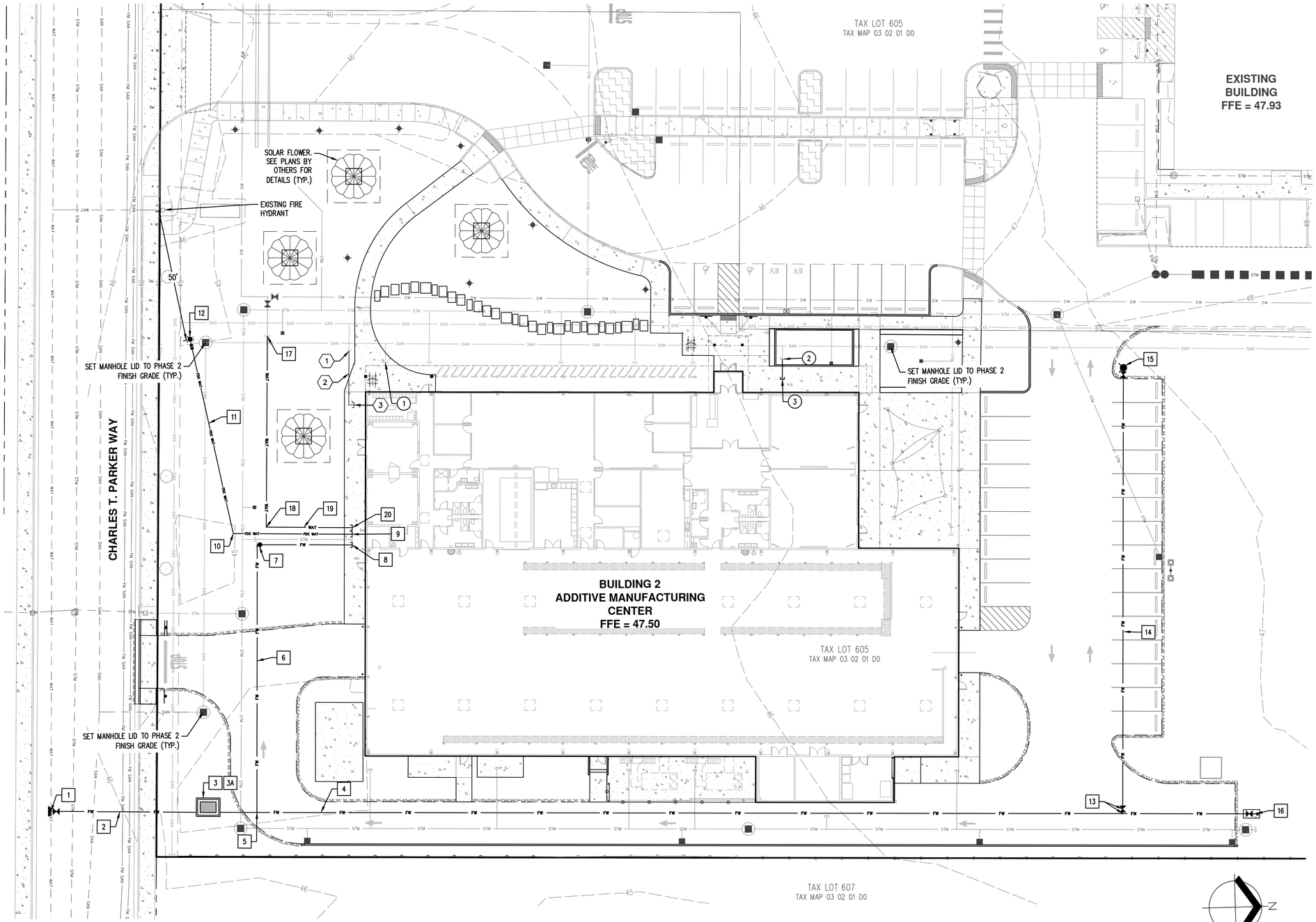
NOTES:

- COMMUNICATION AND POWER CONDUITS SHOWN ARE CONCEPTUAL ALIGNMENTS ONLY AND HAVE NOT BEEN FULLY COORDINATED WITH THE UTILITY PROVIDERS. CONTRACTOR SHALL VERIFY AND COORDINATE FINAL ALIGNMENT WITH SERVICE PROVIDERS PRIOR TO INSTALLATION
- MAINTAIN A MINIMUM OF 12" HORIZONTAL AND VERTICAL SEPARATION BETWEEN PRIVATE DOMESTIC WATER SERVICES AND ALL PRIVATE SANITARY SEWER LINES PER OREGON SPECIALTY PLUMBING CODE (OSPC).

NOTE:
THE SEWER LINE FROM PHASE 1 WHICH SERVES THE EXISTING OMIC BUILDING FROM THE ADJOINING PROPERTY IS ALLOWED, IN CONSIDERATION OF OPSC 311.1., DUE TO THE DEED RESTRICTION RECORDED ON JULY 6, 2020, WHICH STATES THAT BOTH PROPERTIES CAN BE TREATED AS ONE.

(#) FRANCHISE KEYED NOTES:

1. CONNECT TO EXISTING GAS SERVICE FROM PHASE 1. COORDINATE WITH NW NATURAL FOR EXACT LOCATION AND NOTIFY ENGINEER IF IN CONFLICT.
2. COORDINATE WITH NW NATURAL (SID STAFFORD AT SID.STAFFORD@NWNATURAL.COM OR 503.220.2394) FOR INSTALLATION AND TRENCHING OF 2" GAS SERVICE. COORDINATE WITH MEP FOR BUILDING CONNECTION. SEE PLANS BY OTHERS FOR CONTINUATION THROUGH BUILDING.
3. PROVIDE STUB FOR BUILDING CONNECTION. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT CONNECTION LOCATION.



(#) WATER KEYED NOTES:

1. HOT TAP EXISTING 12" WATER MAIN PER DETAILS 302/C504 AND 408/C504 WITH 12" X 8" TAPPING ASSEMBLY
2. INSTALL ±55.1 LF OF 8" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE
3. INSTALL 8" DOUBLE CHECK DETECTOR ASSEMBLY (WITHOUT FDC) AND 8" SIEMENS MAG 8000 FLOW METER PER CITY OF SCAPPOOSE STANDARD DRAWINGS NO. 416A 416C, 416D, 416F, AND DETAIL 1/C503.

3A. CONTRACTOR SHALL INSTALL FLOW METER UPSTREAM OF DCDA PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL RESTRAIN A MINIMUM OF FIVE TIMES THE PIPE DIAMETER UPSTREAM AND THREE TIMES THE PIPE DIAMETER DOWNSTREAM OF FLOW METER.

4. INSTALL ±392.8 LF OF 8" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE
5. INSTALL 8" X 6" ALL RESTRAINED JOINT TEE
6. INSTALL ±101.4 LF OF 6" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE
7. INSTALL 90° RESTRAINED JOINT MJ X FLANGE AND FLANGE X MJ POST-INDICATOR VALVE PER DETAIL 3/C503. ROTATE NORTH TO FACE THE SIDEWALK. COORDINATE WITH ELECTRICAL CONTRACTOR AND FIRE SPRINKLER CONTRACTOR FOR TAMPER SWITCHES. SET VALVE SUCH THAT TOP OF POST IS 3" ABOVE FINISHED GRADE. COORDINATE SIGNAGE WITH SCAPPOOSE RFPD (CONTACT FIRE MARSHALL JEFF PRICHER 503.543.5026).
8. INSTALL ±36.0 LF OF 6" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE AND CONNECT TO FIRE WATER SERVICE FROM BUILDING. SEE PLANS BY OTHERS FOR BUILDING CONNECTION. VERIFY EXACT LOCATION WITH MEP
9. CONNECT TO BUILDING FIRE WATER SERVICE AND INSTALL ±45.3 LF OF 4" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE. VERIFY EXACT LOCATION WITH MEP.
10. INSTALL MJ X MG 90° AND 22.5° BENDS WITH ALL RESTRAINED JOINT FITTINGS
11. INSTALL ±76.5 LF OF 4" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE
12. INSTALL FIRE DEPARTMENT CONNECTION (FDC) WITH BALL DRIP ASSEMBLY PER DETAIL 2/C503. COORDINATE SIGNAGE WITH SCAPPOOSE RFPD (CONTACT FIRE MARSHALL JEFF PRICHER 503.543.5026)
13. INSTALL 8" X 6" ALL RESTRAINED JOINT MJ x FLG TEE WITH FLG x MJ GATE VALVE
14. INSTALL ±169.0 LF OF 6" CLASS 52 ALL RESTRAINED JOINT DUCTILE IRON PIPE
15. INSTALL NEW FIRE HYDRANT ASSEMBLY PER DETAIL 4/C503. ROTATE FIRE HYDRANT TO FACE SOUTH DRIVE AISLE.
16. INSTALL TEMPORARY BLOW OFF PER DETAIL 5/C503 FOR FUTURE CONNECTION.
17. CONNECT TO EXISTING 3" DOMESTIC WATER SERVICE STUB FROM PHASE 1 AND INSTALL ±72.3 LF OF 3" SCH 80 PVC PIPE
18. INSTALL 90° BEND
19. INSTALL ±33.0 LF OF 3" SCH 80 PVC PIPE
20. CONNECT TO DOMESTIC WATER SERVICE FROM BUILDING. SEE PLANS BY OTHERS FOR CONTINUATION THROUGH BUILDING. VERIFY EXACT LOCATION WITH MEP.

(#) SANITARY SEWER KEYED NOTES:

1. CONNECT TO SANITARY FROM BUILDING. CONTRACTOR TO VERIFY ELEVATION PRIOR TO CONSTRUCTION. SEE PLUMBING PLAN FOR CONTINUATION.
   IE (6"): ±42.8
2. CONNECT TO EXISTING SANITARY STUB AND INSTALL NEW 6" SANITARY SEWER SERVICE. CONTRACTOR TO VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF IN CONFLICT.
   IE (6"): ±39.9 LENGTH: ±7.6 LF SLOPE: 0.020 FT/FT MIN.
3. CONNECT TO SANITARY FROM BUILDING. CONTRACTOR TO VERIFY ELEVATION PRIOR TO CONSTRUCTION. SEE PLUMBING PLAN FOR CONTINUATION.
   IE (6"): ±42.5

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1979
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2 Additive Manufacturing Center

33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:

COMPOSITE UTILITY PLAN

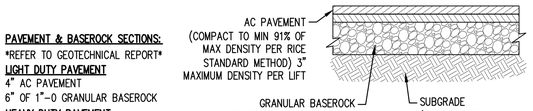
SHEET NO:

C300

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

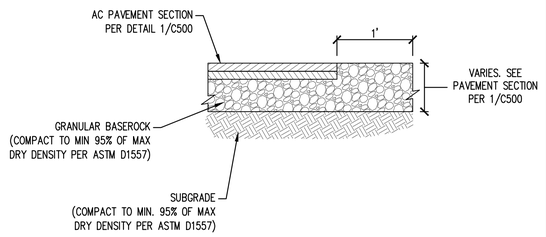
AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055



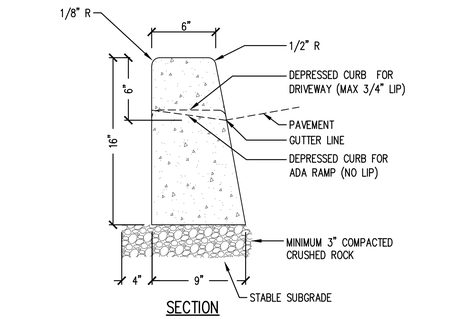
PAVEMENT & BASEROCK SECTIONS:
REFER TO GEOTECHNICAL REPORT
LIGHT DUTY PAVEMENT
4" AC PAVEMENT
6" OF 1"-0 GRANULAR BASEROCK
HEAVY DUTY PAVEMENT
5" AC PAVEMENT
6" OF 1"-0 GRANULAR BASEROCK

NOTES:
1. SEE PLANS FOR LOCATION OF LIGHT AND HEAVY DUTY PAVEMENT.
2. DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. IF SUBGRADE PASSES PROOF-ROLL BUT FAILS DENSITY TESTING, INSTALL MIN. 4.5 OZ NON-WOVEN GEOTEXTILE FABRIC ON SUBGRADE PRIOR TO PLACEMENT OF BASEROCK. FAILURE OF PROOF-ROLL WILL REQUIRE OVEREXCAVATION OR REPAIR AS DIRECTED BY PROJECT GEOTECHNICAL ENGINEER OR OWNER'S REPRESENTATIVE.
3. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO FIRM AND UNYIELDING SOIL AND BACKFILLED WITH COMPACTED BASEROCK OVER MIN. 8.0-OZ. NON-WOVEN FABRIC AS REQUIRED TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF SUBGRADE SOILS. TYPICAL MINIMUM OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER TIRED EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
4. PASSING PROOF-ROLL ON BASEROCK IS ALSO REQUIRED IMMEDIATELY PRIOR TO PAVING.
5. CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS IN GEOTECHNICAL REPORT.
6. THE EXISTING BASE ROCK SECTIONS MAY NOT CONFORM TO THE REQUIRED PAVEMENT AND BASE ROCK SECTIONS UPON COMPLETION OF GRADING. CONTRACTOR SHALL POTHOLE WITHIN THE AREA SHOWN AND VERIFY ROCK SECTION THICKNESS. IF THE EXISTING BASE ROCK SECTION DOES NOT MEET THE REQUIRED THICKNESS THEN IT SHALL BE REPLACED AND COMPACTED TO MEET THE MINIMUM BASE ROCK AND PAVEMENT SECTIONS.

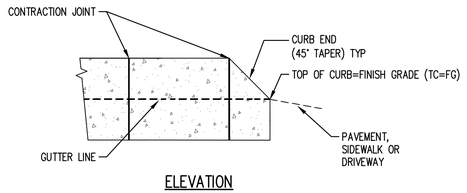
AC PAVEMENT SECTIONS
NTS — 1



GRAVEL SHOULDER SECTION
NTS — 1A



SECTION



ELEVATION

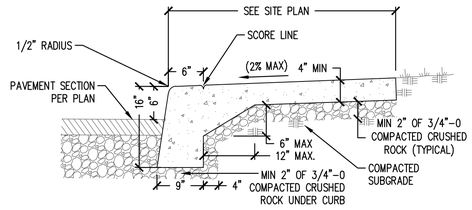
NOTES:
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. CONTRACTION JOINTS ARE REQUIRED AT 15-FT INTERVALS AND AT INLET STRUCTURES AND WHEELCHAIR RAMPS. DEPTH OF JOINTS SHALL BE AT LEAST 1-1/2".
3. CONSTRUCT EXPANSION JOINTS (MIN. 1/2" THICK PREMOLDED BITUMINOUS MATERIAL) AT MAXIMUM 200 FEET SPACING AND AT SIDES OF DRIVEWAY APPROACHES AND POINTS OF TANGENCY.
4. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING.

TYPE C CURB
NTS — 2

FIRE LANE CURB PAINTING
WHERE SHOWN ON PLAN

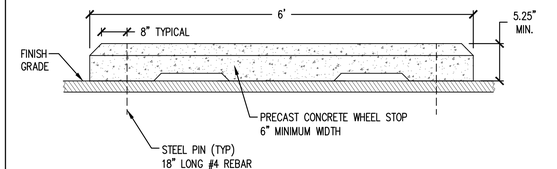
NOTES:
1. RAISED CURBS ON PRIVATE PROPERTY SHALL BE PAINTED BRIGHT RED WITH WHITE LETTERS. THE STROKE SHALL BE 1 INCH WITH LETTERS 6 INCHES HIGH TO READ: NO PARKING -FIRE LANE. CURB HEIGHTS LESS THAN 6 INCHES MAY HAVE REDUCED LETTER SIZES FOR THE VERTICAL SIGNAGE ON THE CURB, BUT SHALL NOT BE LESS THAN 4 INCHES. LETTERING SHALL BE PAINTED AT AN INTERVAL OF EVERY 25 FEET.
2. PROPERTY OWNERS SHALL NOT DESIGNATE AND/OR IDENTIFY ANY ACCESS ROAD ON THEIR PROPERTY AS A FIRE LANE WITHOUT PRIOR APPROVAL FROM THE FIRE CODE OFFICIAL. ALL SIGNS AND CURB MARKINGS ARE TO BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.

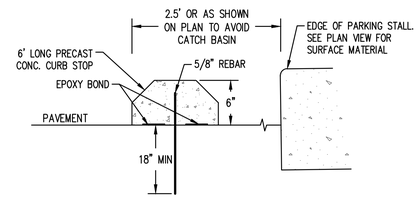
FIRE LANE CURB PAINTING DETAIL
NTS — 2A



NOTES:
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. CONTRACTION JOINTS ARE REQUIRED AT 5-FT INTERVALS WITH EXPANSION JOINT (MIN. 1/2" THICK PREMOLDED BITUMINOUS MATERIAL) SPACING NOT TO EXCEED 45 FEET AND PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, AND WHEELCHAIR RAMPS.
3. SIDEWALKS 10-FT. AND WIDER SHALL HAVE LONGITUDINAL CONTRACTION JOINT(S) AT 5-FT ON CENTER.
4. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MINIMUM.
5. SUBMIT JOINT LAYOUT TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PLACING CONCRETE.
6. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING.

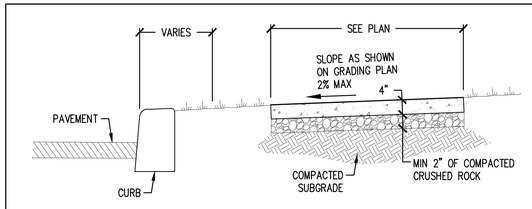
MONOLITHIC CURB AND SIDEWALK
NTS — 3





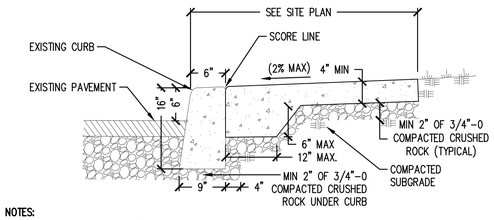
NOTES:
1. CONCRETE SHALL BE MIN. 3300 PSI @ 28 DAYS.
2. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR PLACEMENT OF WHEEL STOPS.

WHEEL STOP
NTS — 4



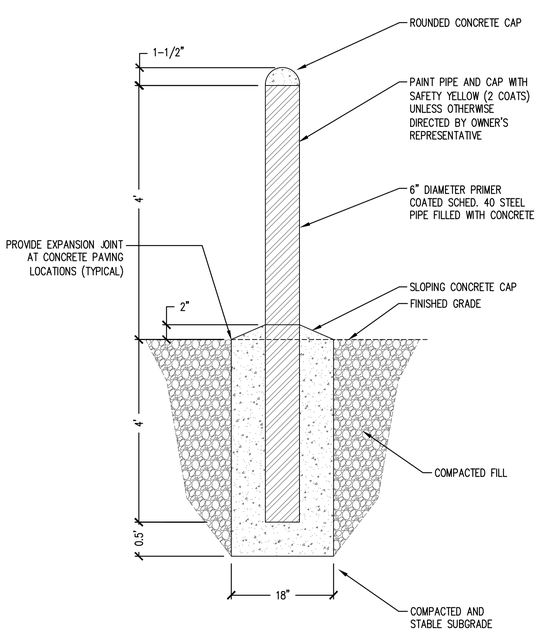
NOTES:
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. CONTRACTION JOINTS ARE REQUIRED AT 5-FT INTERVALS WITH EXPANSION JOINT (MIN. 1/2" THICK PREMOLDED BITUMINOUS MATERIAL) SPACING NOT TO EXCEED 45 FEET AND PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, AND WHEELCHAIR RAMPS.
3. SIDEWALKS 10-FT. AND WIDER SHALL HAVE LONGITUDINAL CONTRACTION JOINT(S) AT 5-FT ON CENTER.
4. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MINIMUM.
5. SUBMIT JOINT LAYOUT TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PLACING CONCRETE.
6. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING.

PRIVATE SIDEWALK
NTS — 5



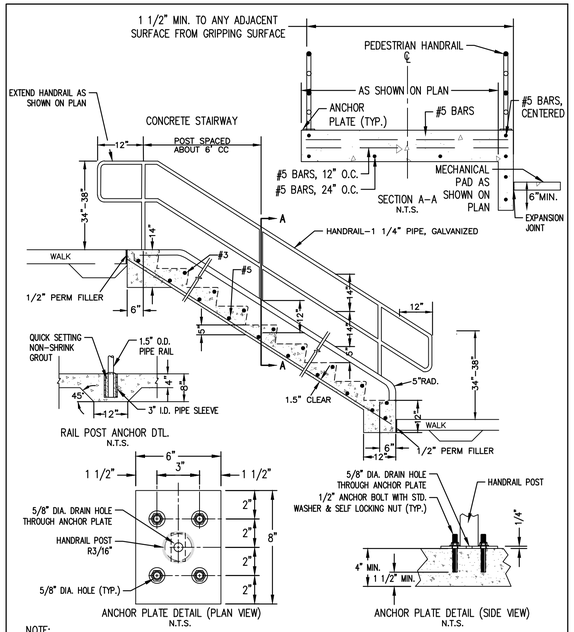
NOTES:
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. CONTRACTION JOINTS ARE REQUIRED AT 5-FT INTERVALS WITH EXPANSION JOINT (MIN. 1/2" THICK PREMOLDED BITUMINOUS MATERIAL) SPACING NOT TO EXCEED 45 FEET AND PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, AND WHEELCHAIR RAMPS.
3. SIDEWALKS 10-FT. AND WIDER SHALL HAVE LONGITUDINAL CONTRACTION JOINT(S) AT 5-FT ON CENTER.
4. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MINIMUM.
5. SUBMIT JOINT LAYOUT FOR REVIEW AND APPROVAL PRIOR TO PLACING CONCRETE.
6. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING.

SIDEWALK CONNECTING TO EXISTING CURB
NTS — 5A



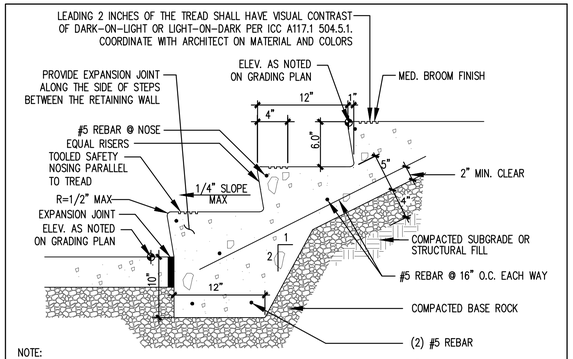
NOTES:
1. CONCRETE SHALL BE MIN. 3300 PSI @ 28 DAYS.
2. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE INSTALLING.

6-INCH BOLLARD
NTS — 6



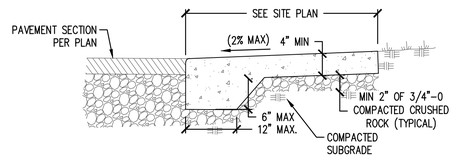
NOTE:
1. STAIR TREADS AND RISERS SHALL COMPLY WITH SECTIONS 1009.4.1 THROUGH 1009.4.5 OF THE 2010 OREGON FIRE CODE
2. ALL STAIR TREADS SHALL BE CONSTRUCTED TO DRAIN. PONDING OF WATER SHALL NOT BE ALLOWED.
3. STAIR RISER HEIGHTS SHALL BE 7 INCHES MAX AND 4 INCHES MIN. MEASURED VERTICALLY BETWEEN THE LEADING EDGES OF ADJACENT TREADS.
4. RECTANGULAR TREAD DEPTH SHALL BE A MINIMUM OF 11 INCHES.

CONCRETE STAIR DETAIL
NTS — 7



NOTE:
1. OPEN AND SIDES OF STAIRWAYS, LANDINGS AND RAMPS WHICH ARE MORE THAN 30" ABOVE GRADE SHALL BE PROTECTED BY GUARDRAILS PER UNIFORM BUILDING CODE REQUIREMENTS.
2. THE TOP OF HANDRAILS SHALL NOT BE LESS THAN 34" IN HEIGHT.
3. THE HAND RAIL PORTION OF HANDRAILS SHALL NOT BE LESS THAN 1.25" OR MORE THAN 2" IN DIAMETER, CODE ALL PARTS TO FIT. WELD AND GRIND SMOOTH, HOT GALV AFTER FABRICATION.
4. MAXIMUM VERTICAL RISE BETWEEN LANDINGS WILL BE 12 FEET. NUMBER OF STEPS VARIES. ROUND EDGES OF STEPS AND ALL OTHER EXPOSED EDGES TO 1/2" RAD.

CONCRETE STAIR DETAIL
NTS — 8



SIDEWALK CONNECTING TO ASPHALT PAVEMENT
NTS — 9

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1976
CHARLES EDWARD GREEN
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

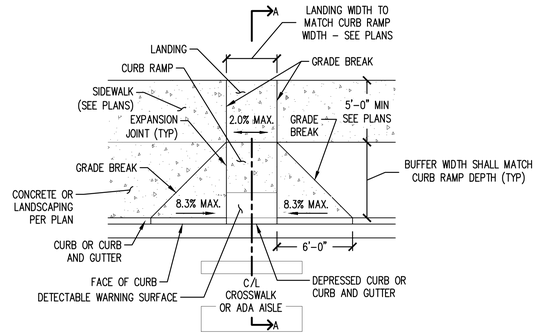
SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

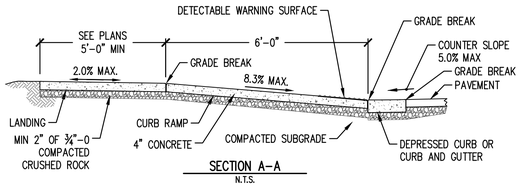
REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
DETAILS

SHEET NO:
C500



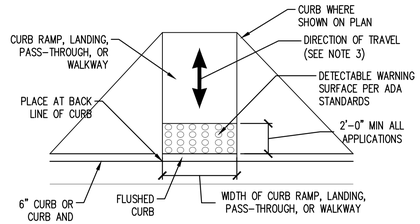


SECTION A–A
N.T.S.

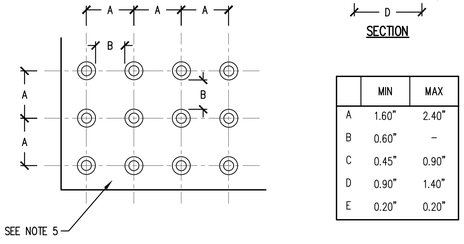
NOTES:
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. WHERE "GRADE BREAK" IS CALLED OUT, THE ENTIRE LENGTH OF THE GRADE BREAK BETWEEN THE TWO ADJACENT SURFACE PLANS SHALL BE FLUSH.
3. DO NOT PLACE GRATES, JUNCTION BOXES, ACCESS COVERS, OR OTHER APPURTENANCES IN FRONT OF THE CURB RAMP OR ON ANY PART OF THE CURB RAMP OR LANDING.
4. BROOM FINISH CURB RAMP, LANDING, AND FLARES.
5. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2.0% IN ANY DIRECTION.

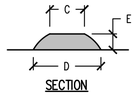
ACCESSIBLE RAMP – PERPENDICULAR TYPE A
NTS

1



DETECTABLE WARNING SURFACE DETAIL





SECTION

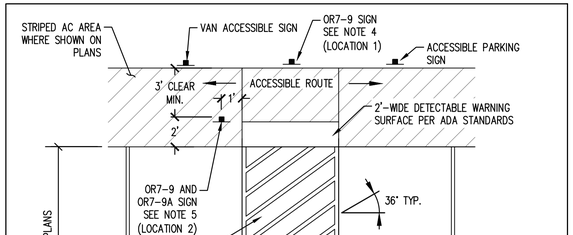
	MIN	MAX
A	1.60"	2.40"
B	0.60"	–
C	0.45"	0.90"
D	0.90"	1.40"
E	0.20"	0.20"

TRUNCATED DOMES DETAILS

NOTES:
1. THE DETECTABLE WARNING SURFACE (DWS) SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP (EXCLUSIVE OF FLARES) OR THE LANDING.
2. THE EDGE OF THE DWS, SHALL BE PLACED ALONG THE BACK OF THE CURB LINE.
3. THE ROWS OF TRUNCATED DOMES IN A DWS SHALL BE PARALLEL WITH THE DIRECTION OF TRAVEL.
4. IF A CURB IS NOT PRESENT, PLACE THE DWS AT THE EDGE OF PAVEMENT.
5. DWS SHALL CONTRAST VISUALLY WITH THE ADJOINING SURFACES, EITHER LIGHT–ON–DARK OR DARK–ON–LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. CONTRACTOR SHALL PROVIDE 2–FOOT ARMOR–TILE TRUNCATED DOMES EMBEDDED INTO THE CONCRETE OR SIMILAR MATERIAL IN ACCORDANCE WITH OWNER AND LOCAL ADA REQUIREMENTS.

DETECTABLE WARNING SURFACES
NTS

2

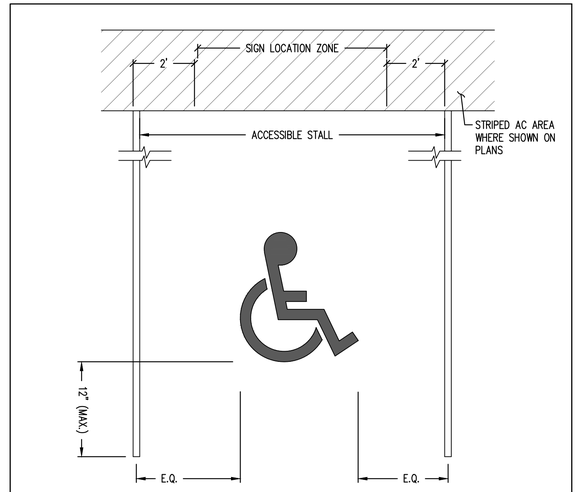


STRIPE ANGLE ORIENTATION FOR FIELD LAYOUT
NTS

NOTES:
1. SLOPES OF ACCESSIBLE PARKING SPACES AND PARKING ACCESS AISLES SHALL NOT EXCEED 1:50 (2.0%) MAX. IN ANY DIRECTION.
2. WHERE FIVE OR MORE PARKING SPACES ARE DESIGNATED ACCESSIBLE, ANY SPACE THAT IS DESIGNATED AS VAN ACCESSIBLE SHALL BE RESERVED FOR WHEELCHAIR USERS.
3. FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, AT LEAST ONE SHALL BE A VAN–ACCESSIBLE PARKING SPACE.
4. OR7–9 SIGN REQUIRED ONLY WHEN ACCESS AISLE "NO PARKING" STRIPING MAY NOT BE VISIBLE REGULARLY DUE TO SNOW, SAND, OR OTHER CONDITIONS.
5. IF THE OR7–9 SIGN IS REQUIRED AND CANNOT BE PLACED AT THE BACK OF THE ACCESSIBLE ROUTE (LOCATION 1) AN OR7–9A ARROW SIGN COMBINED WITH OR7–9 SHALL BE INSTALLED BEHIND THE CURB (LOCATION 2) TO IDENTIFY THE ACCESSIBLE ROUTE.
6. OR7–9 AND OR7–9A SIGNS (WHEN REQUIRED) ARE TO BE INSTALLED IN EITHER LOCATION 1 OR LOCATION 2. REFER TO NOTES 4 AND 5.

ACCESSIBLE RAMP STRIPING DETAIL
NTS

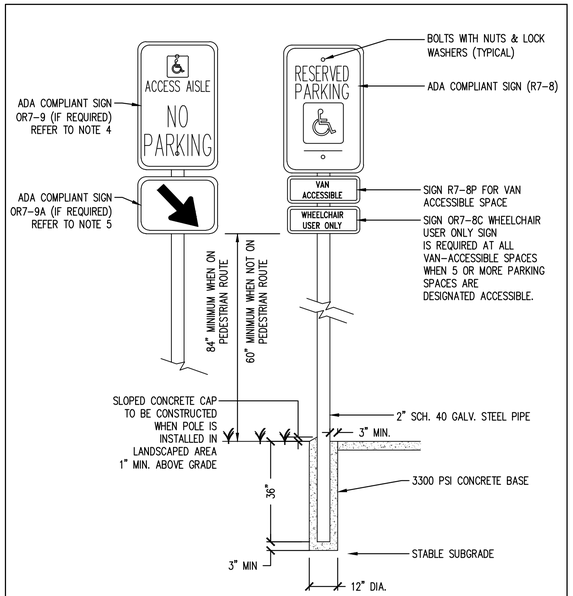
3



NOTES:
1. PAINT WHEELCHAIR SYMBOL WHITE UNLESS A DIFFERENT COLOR IS REQUIRED TO CONFORM TO LOCAL AND/OR STATE REQUIREMENTS.
2. SYMBOL SHALL BE CENTERED IN THE STALL.

ACCESSIBLE PARKING SPACE PAINTING DETAIL
NTS

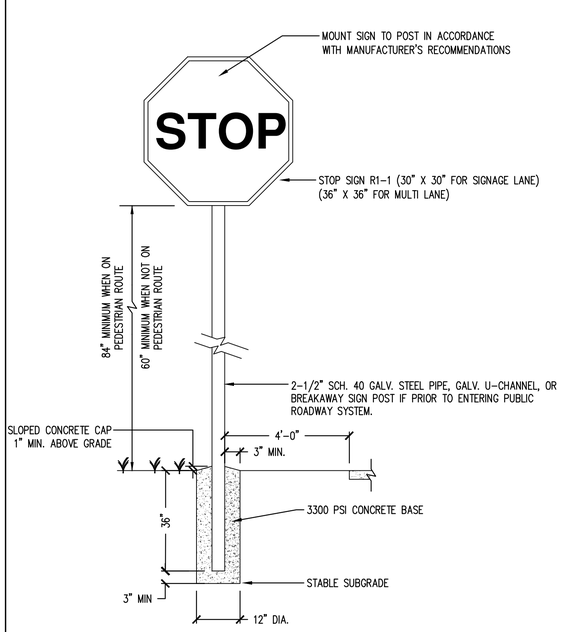
4



NOTES:
1. ADA REGULATIONS CONTINUALLY CHANGE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR SIGN MOUNTING, TYPE OF SIGNS, AND PENALTIES ARE CORRECTLY DETAILED.
2. ALL LETTER AND SYMBOL SIZES SHALL BE IN ACCORDANCE WITH THE LATEST ADA STANDARDS.
3. STANDARD 2" WELDED STEEL PIPE HOT DIP GALVANIZED AFTER FABRICATION CONFORMING TO ASTM A120 & A123.
4. OR7–9 SIGN REQUIRED ONLY WHEN ACCESS AISLE "NO PARKING" STRIPING MAY NOT BE VISIBLE REGULARLY DUE TO SNOW, SAND, OR OTHER CONDITIONS.
5. IF THE OR7–9 SIGN IS REQUIRED AND CANNOT BE PLACED AT THE BACK OF THE ACCESSIBLE ROUTE AN OR7–9A ARROW SIGN COMBINED WITH OR7–9 SHALL BE INSTALLED BEHIND THE CURB TO IDENTIFY THE ACCESSIBLE ROUTE.

ACCESSIBLE PARKING SIGNAGE
NTS

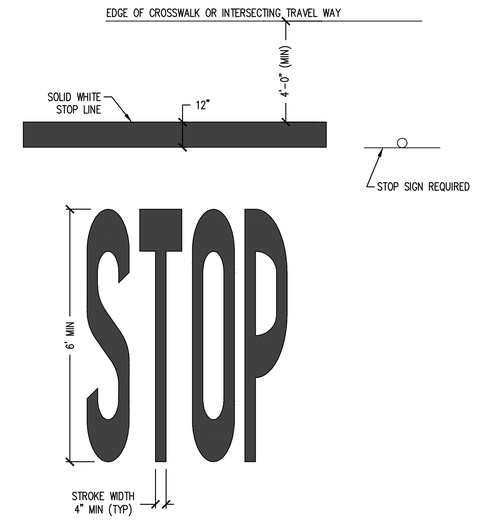
5



NOTES:
1. STOP SIGN SHALL COMPLY WITH USDOT, FHA MUTCD, ODOT, LOCAL CODES AND AS SPECIFIED. MOUNT SIGN IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. STANDARD 2–1/2" WELDED STEEL PIPE HOT DIP GALVANIZED AFTER FABRICATION CONFORMING TO ASTM A120 & A123.

STOP SIGN DETAIL
NTS

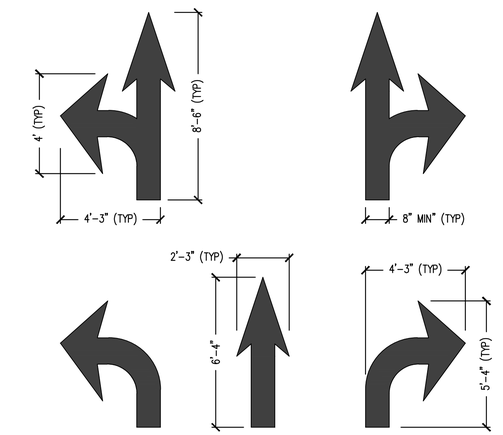
6



NOTES:
1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 3B.16 AND 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. WORDS AND STOP LINE ARE TO BE PAINTED WHITE.
3. THE PAINT SHALL BE A NON–BLEEDING, QUICK DRYING, ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC BEARING SURFACES AND SHALL MEET ODOT QPL 00860 AND MIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION.
4. CONTRACTOR SHALL APPLY TWO (2) COATS OF PAINT AT MANUFACTURER'S RECOMMENDED RATE WITHOUT THE ADDITION OF THINNER, WITH A MAXIMUM APPLICATION RATE OF 125 SQUARE FEET PER GALLON. APPLY WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. AT SIDEWALK CURBS AND CROSSWALKS, A STRAIGHTEDGE SHALL BE USED TO ENSURE A UNIFORM, CLEAN AND STRAIGHT STRIPE.

STOP LINE AND TEXT PAVEMENT MARKING
NTS

7



NOTES:
1. APPLY IN ACCORDANCE WITH SECTIONS 3B.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. ARROWS TO BE PAINTED WHITE.
3. THE PAINT SHALL BE A NON–BLEEDING, QUICK DRYING, ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC BEARING SURFACES AND SHALL MEET ODOT QPL 008600 AND MIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION.
4. CONTRACTOR SHALL APPLY TWO (2) COATS OF PAINT AT MANUFACTURER'S RECOMMENDED RATE WITHOUT THE ADDITION OF THINNER, WITH A MAXIMUM APPLICATION RATE OF 125 SQUARE FEET PER GALLON. APPLY WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. AT SIDEWALK CURBS AND CROSSWALKS, A STRAIGHTEDGE SHALL BE USED TO ENSURE A UNIFORM, CLEAN AND STRAIGHT STRIPE.

DIRECTIONAL ARROW PAVEMENT MARKINGS
NTS

8

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS–ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

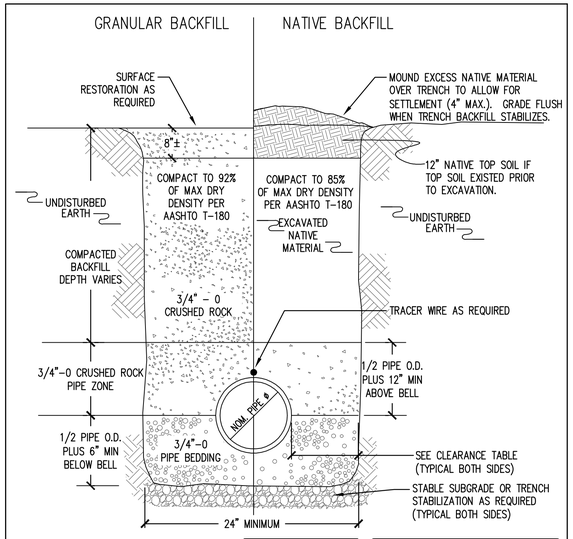
△	DATE	DESCRIPTION

CONTENTS:

DETAILS

SHEET NO:

C501

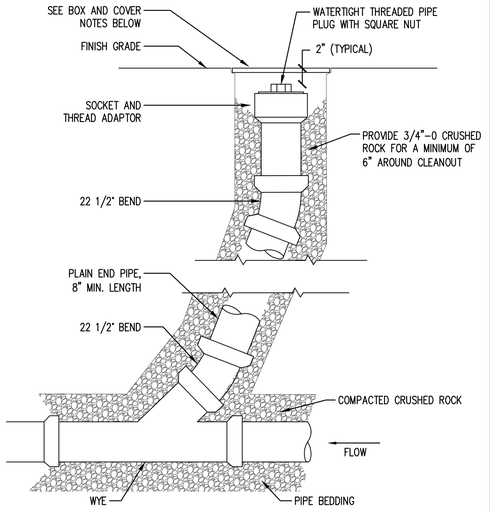


CLEARANCE TABLE	
NOM. PIPE DIAMETER	MIN/MAX CLEARANCE
≤10"	10"/18"
12"-16"	12"/18"
18"-21"	16"/24"
24"-30"	18"/30"
>30"	24"/36"

MULTIPLE PIPE INSTALLATIONS	
DIAMETER UP TO 21"	SPACE BETWEEN PIPES 8" MIN / 12" MAX

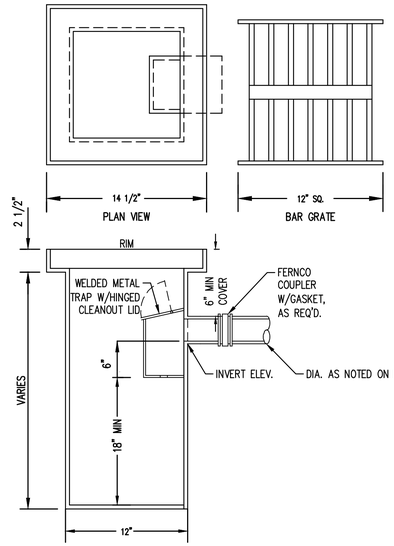
NOTES:
1. GRANULAR BACKFILL REQUIRED UNDER ALL EXISTING OR FUTURE IMPROVED AREAS INCLUDING SIDEWALKS.
2. WHERE NEW PIPING IS IN SAME ALIGNMENT AS EXISTING PIPING, THE PIPE EMBEDMENT SHALL EXTEND TO A MINIMUM OF 6" BELOW THE NEW PIPING OR 6" BELOW EXISTING PIPING, WHICHEVER IS DEEPER.
3. FOR FLEXIBLE PIPE, BOTTOM OF TRENCH SHORING SHALL BE ABOVE SPRINGLINE AND UNDER THE PIPE HAUNCHES.

TRENCH BACKFILL
NTS
1



NOTES:
1. CLEANOUT RISER SHALL BE SAME SIZE (6" MAX RISER DIAMETER) AND MATERIAL AS LATERAL PIPE.
2. CLEANOUT PIPE SHALL BE LEFT 18" ABOVE EXISTING GRADE UNTIL ALL CURBS ARE INSTALLED AND PRIVATE UTILITY TRENCHES ARE BACKFILLED. CLEANOUTS SHALL THEN BE SET FLUSH WITH FINISH GRADE.
3. TRAFFIC AREA CLEANOUT SHALL BE 8"X4" CAST IRON FRAME AND COVER, OLYMPIC M1007 OR APPROVED EQUAL.
5. NON-TRAFFIC AREA CLEANOUT: CARSON MODEL 910 T-COVER OR APPROVED EQUAL (GREEN FOR SEWER, GRAY FOR STORM)
6. ALL STORM SEWER LIDS TO READ "STORM" OR "C/O".
7. ALL SANITARY SEWER LIDS TO READ "SEWER"

CLEANOUT
NTS
2



BASIN: WELDED 10GA MILD STEEL, COATED ALL SURFACES WITH ASPHALTIC PAINT.

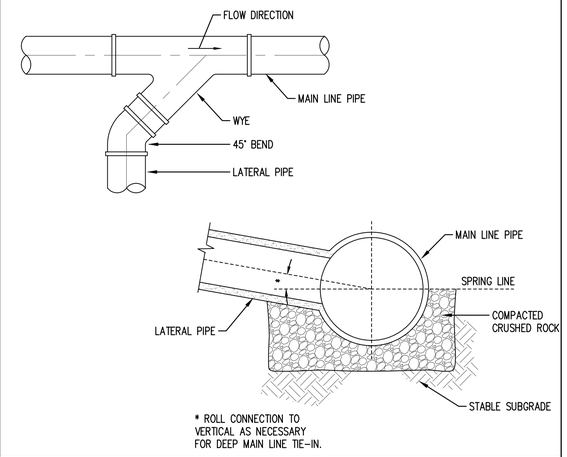
OUTLET STUB: SIZE AS SHOWN ON PLAN

GRATE:
OTHERWISE: WELDED STEEL DROP-IN BAR GRATE
- ☐ ASTM A 36
- ☐ END BARS: 1/2" X 2"
- ☐ CROSS BARS: 1/2" X 2" @ 2" O.C.
- ☐ BIKE STRAP: 1/8" X 1"

AS MANUFACTURED BY:

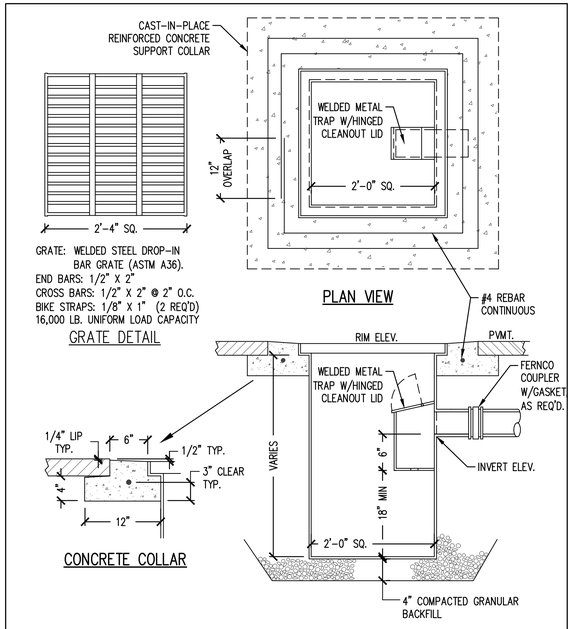
GRATEMASTER, INC.
P.O. BOX 1040
10780 NW 324TH AVE.
NORTH PLAINS, OR
503-647-2050
FAX 503-647-2425
(OR APPROVED EQUAL)

CATCH BASIN (BABY BOX)
NTS
3



* ROLL CONNECTION TO VERTICAL AS NECESSARY FOR DEEP MAIN LINE TIE-IN.

TYPICAL GRAVITY LATERAL CONNECTION
NTS
4



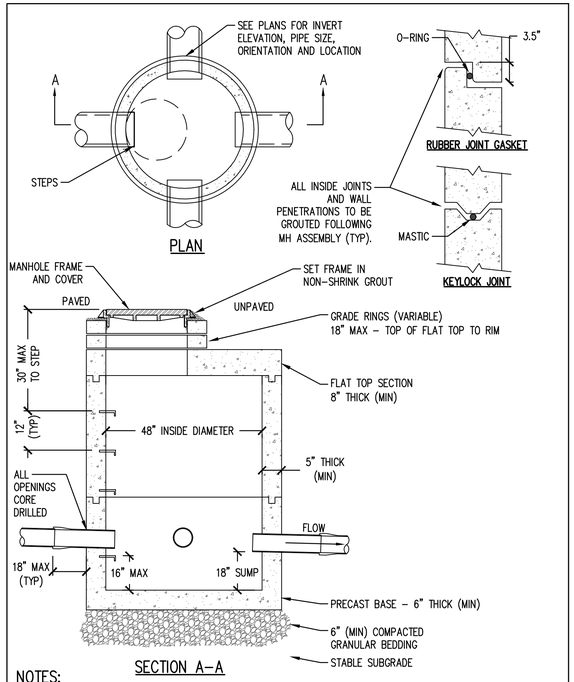
GRATE: WELDED STEEL DROP-IN BAR GRATE (ASTM A36).
END BARS: 1/2" X 2"
CROSS BARS: 1/2" X 2" @ 2" O.C.
BIKE STRAPS: 1/8" X 1" (2 REQ'D)
16,000 LB. UNIFORM LOAD CAPACITY

GRATE DETAIL

CONCRETE COLLAR

NOTES:
1. SEE CONSTRUCTION DRAWINGS FOR PIPE SIZE, LOCATION AND INVERT ELEVATION.
2. OUTLET: SIZE AS REQ'D. FOR INDICATED PIPE SIZE.
3. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS.
4. CONSTRUCT BASIN OF WELDED 1/4" STEEL. COAT ALL SURFACES WITH ASPHALTIC PAINT.

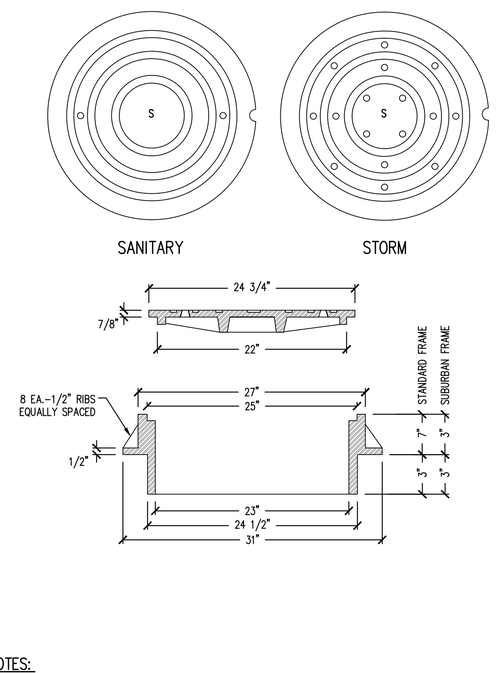
STANDARD CATCH BASIN (LYNCH STYLE)
NTS
5



SECTION A-A

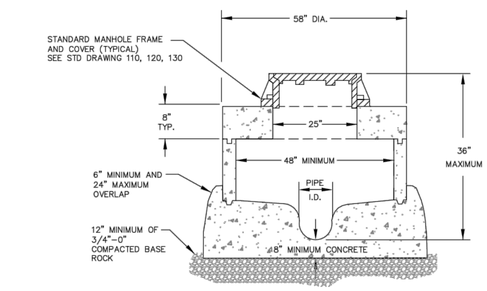
NOTES:
1. PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478.
2. WATERTIGHT O-RING OR MASTIC KEYLOCK JOINTS REQUIRED.
3. STEPS TO BE FACTORY INSTALLED POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD.

48" STORM DRAIN FLAT-TOP MANHOLE
NTS
6



NOTES:
1. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
2. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
3. NOTCH LID FOR LIFTING HOOK.

MANHOLE FRAME AND COVER
NTS
7



NOTES:
1. ALL JOINTS AND RUBBER GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-433.
2. ALL MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STANDARD MANHOLE, SEE STD DRAWING NO. 010.
3. CENTER OPENING FLATOP REQUIRED.
4. NO STEPS ALLOWED IN SHALLOW FLATTOP MANHOLE.
5. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND A SLUMP OF 2" TO 4".
6. SEE DRAWING 030 FOR WATERTIGHT MANHOLE CONNECTIONS.
7. ALL MANHOLE FLAT TOPS SHALL CONFORM TO ASTM C-478 AND ARE DESIGNED TO MEET H-20 TRAFFIC LOADING.

SHALLOW FLAT TOP MANHOLE
DRAWING NO. 040
REVISED 10-31-19
CleanWater Services

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREGORY
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

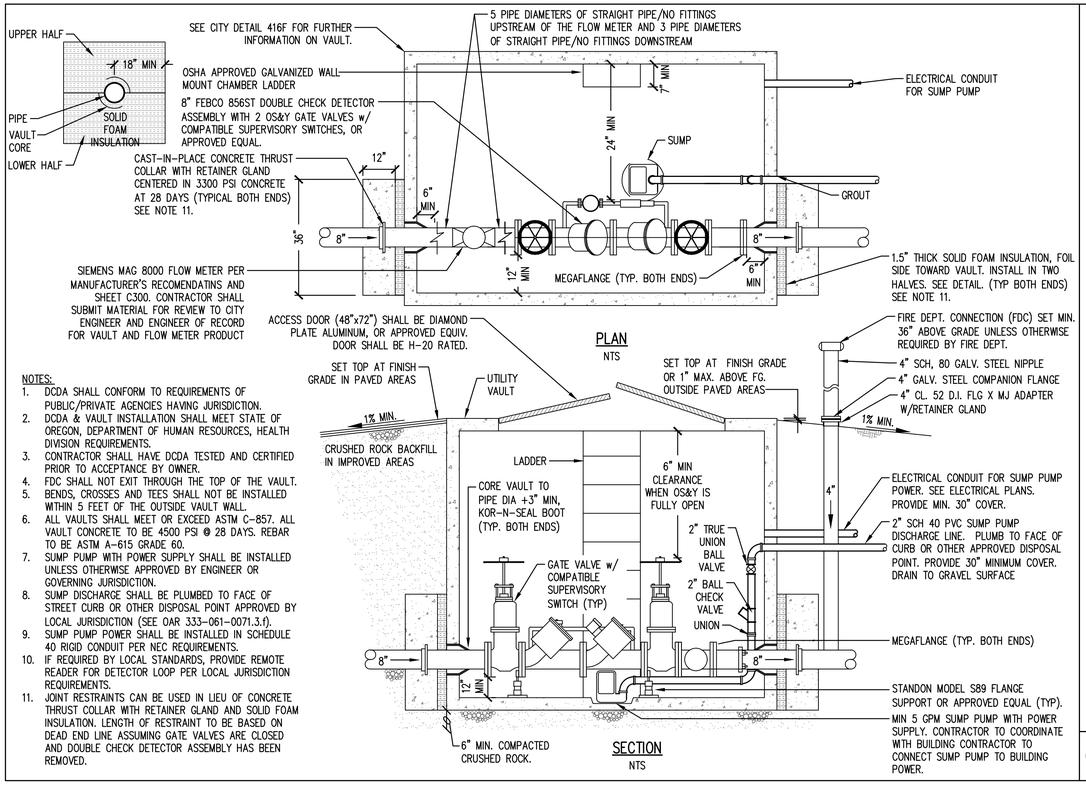
△	DATE	DESCRIPTION

CONTENTS:

DETAILS

SHEET NO:

C502

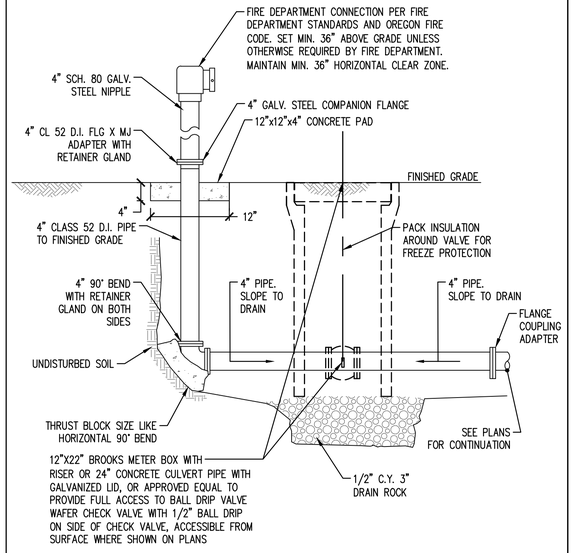


NOTES:

1. DCDA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
2. DCDA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, HEALTH DIVISION REQUIREMENTS.
3. CONTRACTOR SHALL HAVE DCDA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
4. FDC SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
5. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
6. ALL VAULTS SHALL MEET OR EXCEED ASTM C-857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A-615 GRADE 60.
7. SUMP PUMP WITH POWER SUPPLY SHALL BE INSTALLED UNLESS OTHERWISE APPROVED BY ENGINEER OR GOVERNING JURISDICTION.
8. SUMP DISCHARGE SHALL BE PLUMBED TO FACE OF STREET CURB OR OTHER DISPOSAL POINT APPROVED BY LOCAL JURISDICTION (SEE OAR 333-061-0071.3.f).
9. SUMP PUMP POWER SHALL BE INSTALLED IN SCHEDULE 40 RIGID CONDUIT PER NEC REQUIREMENTS.
10. IF REQUIRED BY LOCAL STANDARDS, PROVIDE REMOTE READER FOR DETECTOR LOOP PER LOCAL JURISDICTION REQUIREMENTS.
11. JOINT RESTRAINTS CAN BE USED IN LIEU OF CONCRETE THRUST COLLAR WITH RETAINER GLAND AND SOLID FOAM INSULATION. LENGTH OF RESTRAINT TO BE BASED ON DEAD END LINE ASSUMING GATE VALVES ARE CLOSED AND DOUBLE CHECK DETECTOR ASSEMBLY HAS BEEN REMOVED.

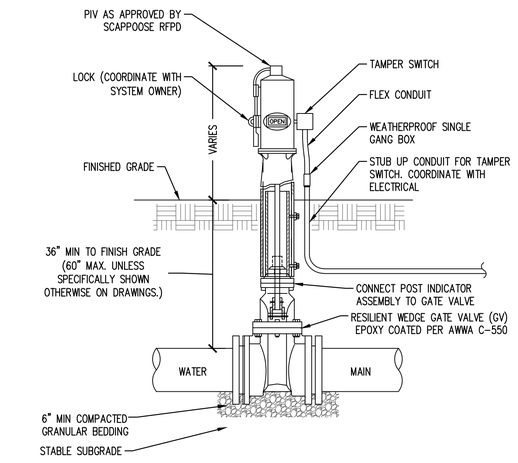
8" DOUBLE CHECK DETECTOR (DCDA) ASSEMBLY WITHOUT FDC
NTS

1



FDC LINE DETAIL
NTS

2

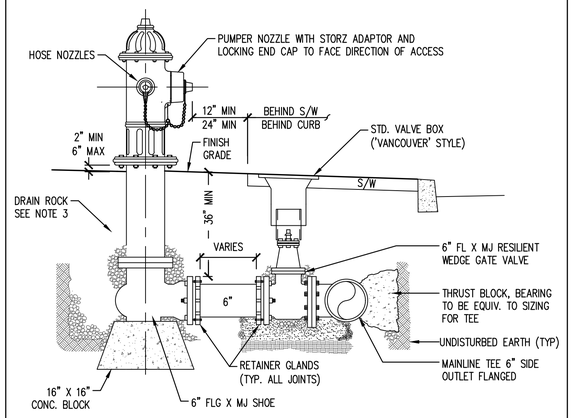


NOTES:

1. ADJUST ALL PIV'S TO FINISHED GRADE WHEN FINAL GRADING IS COMPLETE.
2. COORDINATE INSTALLATION AND VERIFY ALL COMPONENTS AND REQUIREMENTS WITH ELECTRICAL PLANS.

POST INDICATOR VALVE
NTS

3

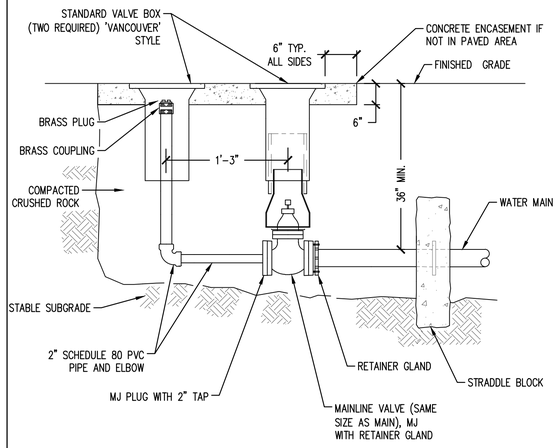


NOTES:

1. HYDRANT TO BE MODEL & COLOR ACCEPTABLE TO APPROVING AGENCY STANDARDS.
2. ALL FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
3. 1-1/2" TO 3/4" CLEAN DRAIN ROCK SHALL BE PLACED A MIN. OF 6" ABOVE AND AROUND DRAIN OUTLET.
4. ALL HYDRANTS SHALL BE SET PLUMB.
5. THERE SHALL BE A MINIMUM OF 36" HORIZONTAL CLEARANCE AROUND HYDRANT.
6. WHERE PLANTER STRIPS EXIST, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. FOR HYDRANT LEADS LONGER THAN 30', AN ADDITIONAL GATE VALVE SHALL BE PROVIDED WITHIN 3' OF THE HYDRANT.

PRIVATE FIRE HYDRANT ASSEMBLY
NTS

4



MJ = MECHANICAL JOINT
FLG = FLANGE

NOTES:

1. REQUIRED ON ALL LINES WHICH MAY BE EXTENDED IN FUTURE.
2. ALL CONCRETE TO BE 3300 PSI @ 28 DAYS.

PRIVATE TEMPORARY 2" BLOWOFF ASSEMBLY
NTS

5

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1978
CHARLES EDWARD GREEN
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP. ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	TMI
CHECKED BY:	SN
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:

DETAILS

SHEET NO:

C503

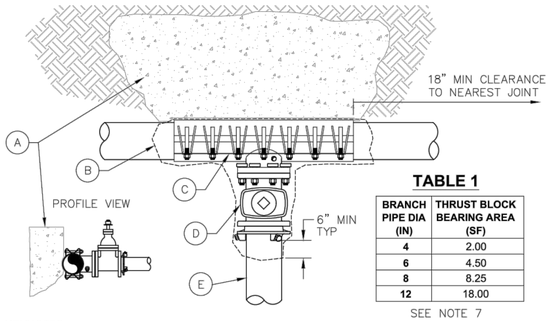


TABLE 1

BRANCH PIPE DIA (IN)	THRUST BLOCK BEARING AREA (SF)
4	2.00
6	4.50
8	8.25
12	18.00

KEYNOTES:

A. CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH. THRUST BLOCK SIZE SHALL BE PER TABLE 1 AND SHALL NOT BE LESS THAN ONE FOOT IN ANY DIMENSION. CONCRETE SHALL BE MINIMUM 3500 PSI. BRANCH PIPE SHALL NOT BE PRESSURIZED FOR 5 DAYS.
B. WRAP TAPPING SADDLE AND VALVE WITH 3 LAYERS OF POLYTHEYLENE ENCASEMENT PRIOR TO POURING THRUST BLOCK AND BACKFILLING. EXTEND POLYETHYLENE 6" MINIMUM BEYOND SADDLE AND VALVE AND SECURE TO PIPE WITH POLYETHYLENE PIPE WRAP TAPE. SEE DETAIL 301.
C. STAINLESS STEEL TAPPING SADDLE WITH GASKET AND FLANGED CONNECTION.
D. LINE–SIZE GATE VALVE (FLG X MJ) PER DETAIL 402.
E. JOINTS ON BRANCH PIPE SHALL BE RESTRAINED.

NOTES:

1. BEFORE INSTALLING TAPPING SADDLE, CONTRACTOR SHALL THOROUGHLY CLEAN PIPE TO REMOVE ALL DIRT, ROCKS, AND OTHER FOREIGN MATERIAL FROM PIPE WHERE SADDLE WILL BE INSTALLED.
2. SADDLE BOLTS SHALL BE TORQUED TO MANUFACTURER'S SPECIFICATIONS. BOLTS SHALL CONFORM TO ANSI/AWWA C111/A21.11.
3. CONTRACTOR SHALL ENSURE THAT GASKET IS PROPERLY ALIGNED AND FREE OF FOREIGN MATERIAL PRIOR TO TIGHTENING SADDLE.
4. SADDLE LOCATION AND INSTALLATION SHALL BE APPROVED BY DISTRICT INSPECTOR PRIOR TO TAPPING.
5. CONTRACTOR SHALL AIR TEST SADDLE TO 40 PSI PRIOR TO TAPPING.
6. CONTRACTOR SHALL FLUSH AND PRESSURE TEST VALVE FOR PRIOR TO BACKFILLING.
7. ENGINEER SHALL PROVIDE CALCULATION AND SIZING IF TEST PRESSURE EXCEEDS 150 PSI. SAFETY FACTOR SHALL BE 1.5.

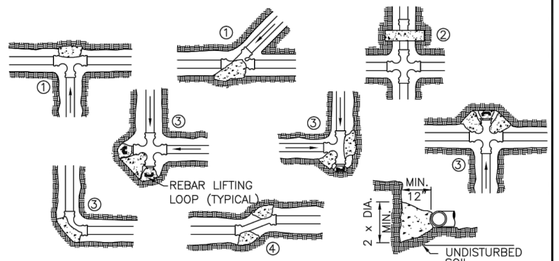
TUALATIN VALLEY WATER DISTRICT	DESIGNED: MBA APPROVED: NWA SCALE: NONE	TAPPING SADDLE	DATE: 9/2020 DETAIL 302

FITTING SIZE (Inches)	TEE,& WYE ①	STRADDLE BLOCK ②	90° BEND ③ PLUGGED CROSS TEE PLUGGED–RUNS	45° BEND ④	22 1/2° BEND ④	11 1/4° BEND ④
2	*	*	*	*	*	*
4	1.7	2.1	2.4	1.3	*	*
6	3.7	4.9	5.3	2.9	1.5	*
8	6.7	8.7	9.5	5.1	2.7	1.3
10	10.5	13.6	14.8	8	4.1	2
12	15.1	19.6	21.3	11.6	5.9	2.9
16	26.8	34.8	37.9	20.5	10.4	5.2
18	33.9	44	47.9	25.9	12.8	6.7
LARGER	* *	* *	* *	* *	* *	* *
BEARING AREA OF THRUST BLOCKS (sq. ft.)						

1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS: AVG. PRESSURE = 100 PSI x 2 (safety factor); 1500 PSF SOIL BEARING CAPACITY; NORMAL DISTRBUTION DESIGN VELOCITY NOT TO EXCEED 5 F/S.
2. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
3. ALL THRUST BLOCKS SHALL BE FORMED TO ELIMINATE ANY CONCRETE AROUND FITTING BOLTS.
4. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
5. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
6. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
7. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
8. VERTICAL THRUST DETAILS – SEE DWG. #409
9. STRADDLE BLOCK DETAILS – SEE DWG. #410.

* BLOCK TO UNDISTURBED TRENCH WALLS

* * THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.



DRAWN	DRAWN
DIV.	DEPT
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVENUE, PO BOX "P", CITY OF SCAPPOOSE, OR. 97056
HORIZONTAL THRUST BLOCKING

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 408

CITY OF SCAPPOOSE
CROSS CONNECTION PROGRAM

BACKFLOW ASSEMBLY AND VAULT INSTALLATION STANDARDS

* DOUBLE CHECK VALVE ASSEMBLY
* DOUBLE CHECK DETECTOR ASSEMBLY
* REDUCED PRESSURE (R.P.) ASSEMBLY

CONTACTS

DEPARTMENT	NAME	PHONE NO.
CITY ENGINEER	EUGENE SMITH	503–543–7184
FIELD SERVICES	TERRY ANDREWS	503–543–7184
BUILDING OFFICIAL	DON SALLEE	503–543–7184
FIRE DEPARTMENT	MIKE GREISEN	503–543–5026

DRAWN	DRAWN
DIV.	DEPT
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVENUE, PO BOX "P", CITY OF SCAPPOOSE, OR. 97056
BACKFLOW ASSEMBLY

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 416A

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 14, 1979
CHARLES EDWARD GREGSON
RENEWS: JUNE 30, 2023

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP. ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE: AS NOTED
DRAWN BY: TMI
CHECKED BY: SN
CAD FILE: 7245
DATE: 09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:

DETAILS

SHEET NO:

C504

CITY OF SCAPPOOSE
REQUIREMENTS FOR BACKFLOW PREVENTION ASSEMBLY INSTALLATIONS ON 1 1/2" AND LARGER DOMESTIC SERVICES, IRRIGATION SERVICES AND FIRELINE SERVICES

AN APPROVED BACKFLOW PREVENTION ASSEMBLY IS REQUIRED ON ALL 1 1/2" AND LARGER DOMESTIC METER SIZE SERVICES, PLUS ALL DEDICATED IRRIGATION AND ALL FIRELINE SYSTEMS. AN ASSEMBLY WILL BE APPROVED BY THE CITY OF SCAPPOOSE ONLY IF THE STATE OF OREGON HEALTH DIVISION HAS APPROVED ITS USE AS A BLACKFLOW ASSEMBLY, AND THE ASSEMBLY IS TESTABLE. THE ASSEMBLY SHALL BE INSTALLED AT THE PROPERTY LINE. WHEN IT IS NOT POSSIBLE TO LOCATE THE ASSEMBLY AT THE PROPERY LINE, THE PROPOSED LOCATION MUST BE APPROVED BY THE FIELD SERVICES SUPERVISOR BEFORE INSTALATION. A WATER SERVICE SHALL NOT BE TURNED ON UNTIL ALL REQUIRED BACKFLOW PREVENTION ASSEMBLIES ARE INSTALLED, INSPECTED, TESTED, AND REGISTERED WITH THE CITY OF SCAPPOOSE (SEE NOTE 8 BELOW). COST OF ALL INSTALLATIONS, INCLUDING ALL COST OF INITIAL INSPECTION AND TESTING FEES, SHALL BE THE RESPONSIBILITY OF THE CUSTOMER. THE COSTOMER WILL BE RESPONSIBLE FOR ALL MAINTENANCE AND TESTING OF THE ASSEMBLY AND VAULT WHEN USED.

CONSTRUCTION AND DESIGN STANDARDS FOR WATER FACILITIES

1. ALL PIPE WILL BE INSTALLED TO THE CITY OF SCAPPOOSE PUBLIC WORKS STANDARDS.
2. THE CITY OF SCAPPOOSE WILL BE FURNISHED WITH THREE SETS OF PLANS AND SPECIFICATIONS. THE PLANS WILL BE DRAWN AT A SCALE OF 1"=20' FOR PLAN CHECK. ONE SET OF REVISED PLANS WILL BE RETURNED TO THE ENGINEER FOR REVISIONS.
3. THE CONTRACTOR WILL KEEP ONE SET OF APPROVED PLANS AT THE CONSTRUCTION SITE.
4. THE ENGINEER WILL FURNISH THE CITY OF SCAPPOOSE 48–HOUR NOTICE PRIOR TO CONSTRUCTION.
5. WATER FACILITIES WILL BE INSTALLED IN THE PRESENCE OF THE CITY OF SCAPPOOSE INSPECTOR. THE INSPECTOR SHALL HAVE ACCESS TO THE CONSTRUCTION SITE AT ALL TIMES.
6. NEW MAINS ARE TO BE PRESSURE TESTED AND DISINFECTED BY THE CONTRACTOR AND PROVEN TO BE BACTERIOLOGICALLY SAFE PRIOR TO PLACING NEW MAINS IN SERVICE AND PRIOR TO CONNECTION TO CITY FACILITIES.
7. UPON COMPLETION OF THE WATER FACILITY, THE ENGINEER WILL NOTIFY THE CITY OF SCAPPOOSE 48 HOURS IN ADVANCE OF DESIRED, FINAL INSPECTION.
8. CONTRACTOR MUST COORDINATE BACKFLOW ASSEMBLY TEST WITH THE FIELD SERVICES SUPERVISOR. (TELEPHONE NO. 503–543–7184) TO RECEIVE SERVICE TO PROPERTY. METER STOPS AND VALVES TO REMAIN LOCKED & OFF UNTIL THAT TIME OF COORD–INATION AND APPROVED TEST.

DRAWN	DRAWN
DIV.	DEPT
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVENUE, PO BOX "P", CITY OF SCAPPOOSE, OR. 97056
BACKFLOW ASSEMBLY

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 416C

DOUBLE CHECK VALVE (DETECTOR) ASSEMBLY
BACKFLOW ASSEMBLY INSTALLATION STANDARD

TO ENSURE PROPER OPERATION AND ACCESSIBLITY OF ALL BACKFLOW PREVENTION ASSEMBLIES, THE FOLLOWING REQUIREMENTS SHALL APPLY TO INSTALLATION OF THESE ASSEMBLIES UNLESS SPECIFICALLY APPROVED BY THE FIELD SERVICES SUPERVISOR. THE CITY OF SCAPPOOSE PUBLIC WORKS STANDARDS AND CHAPTER 5 OF THE CITY CODE WILL TAKE PRECEDENCE IN DESIGN AND INSTALLATION.

1. NO PART OF THE BACKFLOW PREVENTION ASSEMBLY SHALL BE SUBMERGED IN WATER OR INSTALLED IN A LOCATION SUBJECT TO FLOODING. IF INSTALLED IN A VAULT OR CHAMBER, ADEQUATE DRAINAGE SHALL BE PROVIDED ONTO OWNER'S PROPERTY BY EITHER DRAINAGE TO DAYLIGHT OR BY SUMP PUMP TO DAYLIGHT WITH HIGH WATER ALARM SYSTEM. TEST COCKS SHALL BE PLUGGED. THE PLUGS SHALL NOT BE OF DISSIMILAR METALS.
2. THE ASSEMBLY MUST BE PROTECTED FROM FREEZING AND OTHER SEVERE WEATHER CONDITIONS.
3. ONLY ASSEMBLIES APPROVED FOR VERTICAL INSTALLATION MAY BE INSTALLED VERTICALLY.
4. THE ASSEMBLY SHALL BE READILY ACCESSIBLE WITH ADEQUATE ROOM FOR MAINTENANCE AND TESTING. ASSEMBLIES 2 INCHES AND SMALLER SHALL HAVE AT LEAST A 12–INCH CLEARANCE BELOW AND ON BOTH SIDES OF THE ASSEMBLY; AND IF LOCATED IN A VAULT, THE TOP OF THE ASSEMBLY SHALL BE BETWEEN 18 AND 24 INCHES BELOW GRADE.

   ALL ASSEMBLIES LARGER THAN 2 INCHES SHALL HAVE A 12–INCH CLEARANCE ON THE BACKSIDE, A 24–INCH CLEARANCE ON THE TEST–COCK SIDE, AND 12 INCH BELOW THE ASSEMBLY. ADEQUATE CLEARANCE (3 INCHES MIN.) MUST BE MAINTAINIED ABOVE O.S. & Y. GATE–VALVE STEM. HEADROOM OF 6'–0" IS REQ'D IN VAULTS. ACCESS TO THE ASSEMBLIES AND TO ANY VAULT OR CHAMBER SHALL REMAIN CLEAR AT ALL TIMES. AN OR/OSHA APPROVED CHAMBER LADDER THAT EXTENDS 3 FT. ABOVE SURFACE OF VAULT SHALL BE INSTALLED.
5. NO POST INDICATING VALVES ARE ALLOWED TO BE INSTALLED DIRECTLY ON DOUBLE CHECK DETECTOR ASSEMBLIES.
6. ONLY APPROVED DOUBLE CHECK DETECTOR ASSEMBLIES ARE TO BE USED FOR SYSTEM CONTAINMENT ON FIRE LINE SERVICES IN THE CITY OF SCAPPOOSE THE METER ON BYPASS ASSEMBLY SHALL READ IN CUBIC FEET.
7. IF A FIRE LINE FLOW, OR TAMPER SWITCH IS INSTALLED, IT MUST BE CONNECTED TO A MONITORED FIRE DETECTION SYSTEM APPROVED BY THE FIRE MARSHAL. NO INSTAL–LATION WILL MODIFY THE BACKFLOW ASSEMBLY OR INTERFERE WITH ITS OPERATION OR MAINTENANCE.
8. ALL BACKFLOW ASSEMBLIES SHALL BE INSTALLED AT THE SERVICE CONNECTION TO THE PREMISES PER OREGON ADMINISTRATIVE RULES 333–61–070, CROSS CONNECTION CONTROL REQUIREMENTS, UNLESS SPECIFICALLY APPROVED BY THE FIELD SERVICES SUPERVISOR. (SERVICE CONNECTION – A LOCATION WHERE THE PUBLIC WATER FACILITIES END AT OR NEAR THE PROPERTY LINE)
9. ALL PIPE BETWEEN MAIN AND ASSEMBLY SHALL BE RESTRAINED. USE "MEGALUG" RETAINER GLANDS ON MJ FITTINGS AND "FIELD–LOK" TYPE GASKETS ON BELL JOINTS. UNI–FLANGE ADAPTERS MAY BE USED IN VAULTS.
10. APPROVED BACKFLOW ASSEMBLY MAY NOT BE MODIFIED IN ANY WAY FROM WHICH IT WAS MANUFACTURED, TESTED AND APPROVED.

DRAWN	DRAWN
DIV.	DEPT
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVE., PO BOX "P", SCAPPOOSE, OREGON
DOUBLE CHECK VALVE (DETECTOR) BACKFLOW ASSEMBLY

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 416D

REDUCED PRESSURE (R.P.) PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.)
INSTALLATION STANDARD

ASSEMBLIES INSTALLED MORE THAN 5 FEET ABOVE FLOOR LEVEL MUST HAVE A SUITABLE PLATFORM FOR USE BY TESTING OR MAINTENANCE PERSONNEL.

5. THE ASSEMBLY MUST BE PROTECTED FROM FREEZING AND OTHER SEVERE WEATHER CONDITIONS.
6. VERTICAL INSTALLATION IS PROHIBITED.
7. THE PROPERTY OWNER ASSUMES ALL RESPONSIBILITY FOR LEAKS AND DAMAGE. THE OWNER SHALL ALSO KEEP THE VAULT REASONABLY FREE OF SILT AND DEBRIS.
8. VARIANCES FROM THESE REGULATIONS WILL BE EVALUTED ON A CASE–BY–CASE BASIS. ANY DEVIATIONS MUST HAVE PRIOR WRITTEN APPROVAL OF THE WATER DIVISION MANAGER PRIOR TO INSTALLATION.

VAULT SIZING CHART FOR DOUBLE CHECK & R.P. BACKFLOW ASSEMBLIES

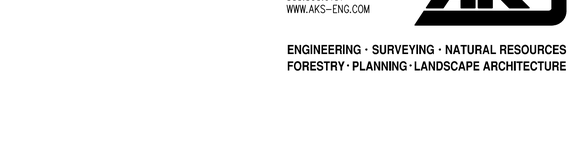
SIZE	UTILITY VAULT FOR BACKFLOW ASSEMBLY	
	VAULT	LID
3"	577–LA	LID 577–TL2–332P
4"	577–LA	LID 577–TL2–332P
6"	676–LA	LID 676–TL2–332P
8"	~~687–LA~~	~~LID 687–TL2–332P~~
10"	5106–LA	LID 5106–TL2–332P

VAULT FOR 8" DCDA TO BE OLDCASTLE 5106–LA VAULT WITH 5106–TL2–332P LID TO ACCOMMODATE SIEMENS MAG 8000 IN–LINE FLOW METER.
CONTRACTOR SHALL GUARANTEE TO RESTRAIN FIRE WATER LINE FIVE TIMES THE PIPE DIAMETER UPSTREAM AND THREE TIMES THE PIPE DIAMETER DOWNSTREAM OF FLOW METER.

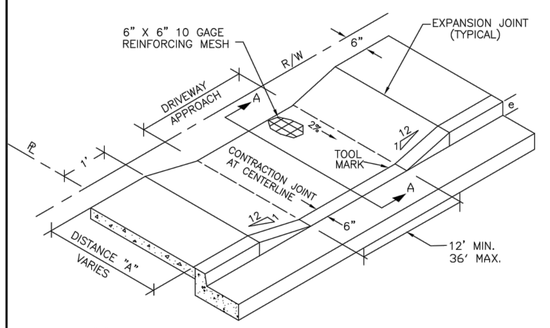
DRAWN	DRAWN
DIV.	DEPT
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVE., PO BOX "P", SCAPPOOSE, OREGON
BACKFLOW ASSEMBLY

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 416F



SECTION A–A



1. DISTANCE "A" VARIES WITH STREET FUNCTIONAL CLASSIFICATION.
2. EXPANSION JOINTS SHALL BE 1/2" WIDE AND CONSIST OF APPROVED PRE–FORMED FILLER.
3. CONTRACTION JOINTS SHALL BE 1/8" TO 1/4" WIDE. DEPTH OF THE JOINT SHALL BE A MINIMUM OF 1/3 THE THICKNESS OF THE CONCRETE.
4. ALL SURFACES SHALL BE LIGHTLY BROOMED AND EDGED IN A WORKMANLIKE MANNER.
5. SAW CUT EXISTING CURBS WHERE THEY ARE TO BE REMOVED, IF LESS THAN 3' TO EXISTING JOINT REMOVE TO JOINT. EXISTING A/C IN FRONT OF THE APPROACH SHALL BE SAW CUT AND REPLACED WITH HOT MIX.
6. CONCRETE SHALL BE 3000 PSI AT 28 DAYS.
7. SEE STANDARD DRAWING NUMBERS 518 AND 519 FOR CURB EXPOSURE DIMENSION 'e'.

DRAWN	MRM
DIV.	TRANSPORTATION
REV.	DATE / APPR.

COMMUNITY DEVELOPMENT
CITY OF SCAPPOOSE
34485 E. COLUMBIA AVE., PO BOX "P", SCAPPOOSE, OREGON
COMMERCIAL DRIVEWAY APPROACH

SCALE N.T.S. | DATE 2002 | APPR. | DWG. NO. 511

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN
architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3050 F: 503.366.3055

TAX LOT 605
TAX MAP 03 02 01 D0

CHARLES T. PARKER WAY

EXISTING PHASE 1 LANDSCAPE (TYP)

EXISTING PHASE 1 LANDSCAPE (TYP)

SUMMER SNOWFLAKE JAPANESE SNOWBALL (TYP)

EXISTING STREET TREE TO BE REMOVED AND REPLANTED IN SAME PLACE ONCE SITE GRADING IS COMPLETE

SPREADING RUSH

EASTERN REDBUD (TYP)

BIKE PARKING, BY OTHERS (TYP)

BENCH, BY OTHERS (TYP)

DAVID VIBURNUM (TYP)

LAWN (TYP)

LAWN (TYP)

SOLAR FLOWER, BY OTHERS (TYP)

ROSE GLOW BARBERRY (TYP)

JAPANESE SPURGE (TYP)

OCTOBER GLORY RED MAPLE (TYP)

LUYKENS LAUREL (TYP)

SHADE SAIL, REFER TO ARCHITECTURAL PLANS

BUILDING 2
ADDITIVE MANUFACTURING CENTER

EXISTING STREET TREE TO BE RELOCATED

GRAVEL EDGE, REFER TO CIVIL PLANS (TYP)

HAMELN FOUNTAIN GRASS (TYP)

LOWFAST COTONEASTER (TYP)

FLAMING SILVER JAPANESE PIERIS (TYP)

PJM COMPACT RHODODENDRON (TYP)

WEEPING NOOTKA FALSE CYPRESS (TYP)

APPROX. LIMITS OF DISTURBANCE (TYP)

EXISTING STREET TREE TO BE RELOCATED

KARL FOERSTER FEATHER REED GRASS (TYP)

TEXANUM JAPANESE PRIVET (TYP)

TAX LOT 607
TAX MAP 03 02 01 D0

SCALE: 1" = 20 FEET
20 0 4 10 20
ORIGINAL PAGE SIZE: 24" x 36"

GENERAL NOTES

1. REFER TO SHEET L101 FOR PLANT SCHEDULE AND LANDSCAPE NOTES.

REGISTERED LANDSCAPE ARCHITECT
1025
TIMOTHY E. BAUER
OREGON
11/01/19

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	ZTN/TEB
CHECKED BY:	TEB
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

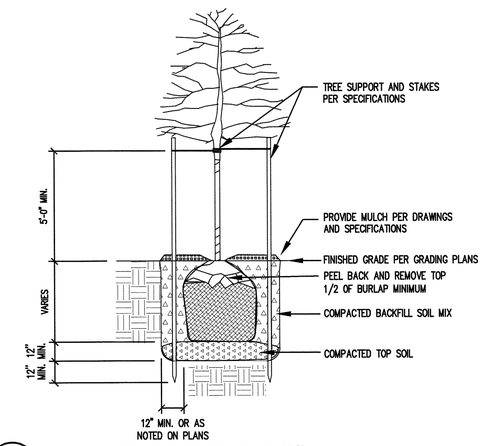
CONTENTS:
LANDSCAPE PLAN

SHEET NO:

L100

PLANT SCHEDULE

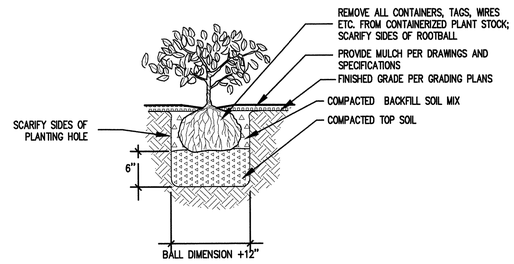
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	4	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2" CAL. B&B	AS SHOWN
	10	CERCIS CANADENSIS	EASTERN REDBUD	2" CAL. B&B	AS SHOWN
	2	CHAMAECYPARIS NOOTKATENSIS 'PENDULA'	WEEPING NOOTKA FALSE CYPRESS	6' HT. B&B	AS SHOWN
SHRUBS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE/CONTAINER**	**SPACING**
	67	BERBERIS THUNBERGII 'ROSE GLOW'	ROSE GLOW JAPANESE BARBERRY	2 GAL CONT.	36" o.c.
	109	LIGUSTRUM JAPONICUM 'TEXANUM'	TEXANUM JAPANESE PRIVET	2 GAL CONT.	48" o.c.
	40	PIERIS JAPONICA 'FLAMING SILVER'	FLAMING SILVER PIERIS	2 GAL CONT.	36" o.c.
	39	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	LUYKENS LAUREL	2 GAL CONT.	36" o.c.
	7	RHODODENDRON X 'P.J.M. COMPACT'	PJM COMPACT RHODODENDRON	2 GAL CONT.	36" o.c.
	49	VIBURNUM DAVIDII	DAVID VIBURNUM	2 GAL CONT.	36" o.c.
	21	VIBURNUM PLICATUM TOMENTOSUM 'SUMMER SNOWFLAKE'	SUMMER SNOWFLAKE JAPANESE SNOWBALL	3 GAL CONT.	60" o.c.
ORNAMENTAL GRASSES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE/CONTAINER**	**SPACING**
	41	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL CONT.	30" o.c.
	11	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL CONT.	30" o.c.
GROUND COVERS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE/CONTAINER**	**SPACING**
	179	COTONEASTER DAMMERI 'LOWFAST'	LOWFAST COTONEASTER	1 GAL CONT	42" o.c.
	±20,147 SF	LAWN – NORTHWEST SUPREME LAWN MIX – SUNMARK SEEDS (OR APPROVED EQUAL APPLICATION RATES) DASHER 3 PERENNIAL RYEGRASS (LOLIUM PERENNE VAR DASHER 3) 35% CUTTER II PERENNIAL RYEGRASS (LOLIUM PERENNE VAR CUTTER II) 35% GARNET CREEPING RED FESCUE (FESTUCA RUBRA VAR GARNET) 15% WINDWARD CHEWINGS FESCUE (FESTUCA RUBRA SPP FALLAX VAR WINWARD) 15% APPLY AT A RATE OF 8 LBS PER 1,000 SF OR AT RATE RECOMMENDED BY SUPPLIER. OBTAIN FROM SUNMARK SEEDS OR OTHER APPROVED SUPPLIER.			
	321	PACHYSANDRA TERMINALIS	JAPANESE SPURGE	1 GAL CONT	24" o.c.
HERBACEOUS PLANTS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE/CONTAINER**	**SPACING**
	162	JUNCUS PATENS	SPREADING RUSH	1 GAL CONT.	24" o.c.



1 L101 TYPICAL TREE PLANTING DETAIL

NTS

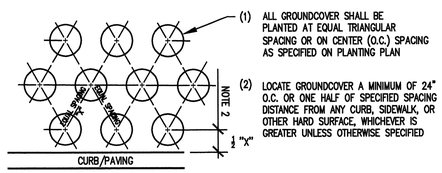
NOTES:
1. DRIVE STAKES OUTSIDE OF ROOTBALL. SINGLE STAKE TREES LESS THAN 6' TALL.
2. SET TREE 2" ABOVE FINISH GRADE TO ALLOW FOR SETTLING OF SOIL.
3. BACKFILL SOIL MIX FOR TREE PLANTING TO BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
4. REMOVE ALL WIRES, METAL BASKETS, TWINE, AND OTHER NON-COMPOSTABLE MATERIALS FROM TREE ROOTBALL PRIOR TO PLANTING.
6. CONTRACTOR SHALL WATER-SETTLE PLANTING HOLES TO REMOVE AIR POCKETS PRIOR TO SPREADING MULCH.



2 L101 TYPICAL SHRUB PLANTING DETAIL

NTS

NOTES:
1. BACKFILL SOIL MIX SHALL BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
2. REMOVE ALL CONTAINERS, METAL, TWINE, TAGS, AND OTHER NON-BIODEGRADABLE MATERIALS PRIOR TO PLANTING.
3. ALL CONTAINERIZED PLANT STOCK SHALL BE VIGOROUS, FREE OF DISEASE AND PESTS, EVENLY FORMED, AND BE FULLY ROOTED IN THE CONTAINER IN WHICH THEY ARE DELIVERED. ALL PLANTS SHALL FOLLOW ANSI Z60.1 STANDARDS FOR NURSERY STOCK FOR CONTAINER SIZE, HEIGHT, ETC.
4. CONTRACTOR SHALL WATER-SETTLE PLANTING HOLES TO REMOVE AIR POCKETS PRIOR TO SPREADING MULCH.
5. CARE SHALL BE TAKEN TO AVOID COVERING ROOT CROWN OR FOLIAGE OF PLANTS WITH BARK MULCH.



3 L101 TYPICAL GROUNDCOVER PLANTING DETAIL

NTS

NOTES:
1. BACKFILL SOIL MIX SHALL BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
2. REMOVE ALL CONTAINERS, METAL, TWINE, TAGS, AND OTHER NON-BIODEGRADABLE MATERIALS PRIOR TO PLANTING.
3. ALL CONTAINERIZED PLANT STOCK SHALL BE VIGOROUS, FREE OF DISEASE AND PESTS, EVENLY FORMED, AND BE FULLY ROOTED IN THE CONTAINER IN WHICH THEY ARE DELIVERED. ALL PLANTS SHALL FOLLOW ANSI Z60.1 STANDARDS FOR NURSERY STOCK FOR CONTAINER SIZE, HEIGHT, ETC.
4. CONTRACTOR SHALL WATER-SETTLE PLANTING HOLES TO REMOVE AIR POCKETS PRIOR TO SPREADING MULCH. DO NOT COVER FOLIAGE OR ROOT CROWN OF GROUNDCOVER PLANTS.

GENERAL LANDSCAPE NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT MATERIAL AND QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT OF THE DRAWINGS PREVAILS OVER QUANTITIES LISTED.
2. ALL LANDSCAPING SHALL CONFORM TO APPLICABLE CITY OF SCAPPOOSE DEVELOPMENT CODE AND TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1–2014 (OR CURRENT EDITION). ALL LANDSCAPING MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH ACCEPTED BEST PRACTICE INDUSTRY STANDARDS SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTORS BOARD (OLCB) AND THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION (AMERICANHORT).
3. REVISIONS OR SUBSTITUTIONS TO PLANTINGS, INCLUDING CHANGES TO LOCATION, QUANTITIES, SPECIES, SIZES, SPACING, ETC. DUE TO UNFORESEEN SITE CONDITIONS, PLANT AVAILABILITY, ETC. MAY BE MADE, WITH APPROVAL, WHERE ALLOWED BY CITY OF SCAPPOOSE LANDSCAPE DESIGN STANDARDS, PRIOR TO FINAL INSTALLATION.
4. MINOR FIELD ADJUSTMENTS TO PLANT LOCATIONS MAY BE NECESSARY TO AVOID CONFLICTS WITH UTILITIES, MECHANICAL EQUIPMENT, DRAINAGE PATTERNS, RIP–RAP, LIGHTS, ETC. PLANT MATERIAL SHALL NOT BE PLACE IN DIRECT STORMWATER FLOW PATTERNS.
   - 4.1. DO NOT DISTURB EXISTING TREES/SHRUBS WHERE INFILL PLANTS ARE PROPOSED. ADJUST NEW PLANTS AS NECESSARY.
   - 4.2. WHERE EXISTING VEGETATION IS REMOVED AND/OR REPLANTED (SUCH AS NEAR BUILDING ENTRANCES), CONTRACTOR SHALL PROTECT AND PRESERVE EXISTING IRRIGATION SYSTEMS, UTILITIES AND LIGHTS, MECHANICAL EQUIPMENT, DRAINAGE PATTERNS, HARDSCAPING, BUILDING ELEMENTS, ETC. WHERE ENCOUNTERED. REPAIR AT NO ADDITIONAL COST TO THE OWNER IF DAMAGED OR DISTURBED.
5. SOIL PREPARATION: ADEQUATE TOPSOIL SHALL BE PROVIDED FOR HEALTHY PLANT ESTABLISHMENT IN ALL PLANT AREAS. CONTRACTOR SHALL EXCAVATE NEW PLANTING BED AREAS, PROTECTING CURBS, SIDEWALKS, AND OTHER PAVEMENT AND IMPROVEMENTS, TO A DEPTH NECESSARY TO REMOVE GRAVELS AND OTHER UNSUITABLE SOILS AND REACH FREE–DRAINING SUBSOIL. REMOVE AND DISPOSE OF NON–USABLE CONTAMINATED SOIL AND DEBRIS FROM SITE IN A MANNER TO MEET APPLICABLE JURISDICTIONAL STANDARDS.
   - 5.1. IMPORTED TOPSOIL FROM OUTSIDE SOURCES IS ANTICIPATED TO BE NECESSARY TO MAKE UP REQUIRED AMOUNTS TO MEET GRADES AS INDICATED IN THE GRADING PLANS, HOWEVER EXISTING SOIL STOCKPILES ON SITE MAY BE USED IF THEY MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. TOPSOIL SHALL BE RICH DARK BROWN IN COLOR, HAVE SUFFICIENT ORGANIC CONTENT FOR PLANT GROWTH, BE FREE–DRAINING, AND FREE OF DEBRIS, ROCKS OVER 3/4" DIAMETER, CLAY LUMPS, CONTAMINANTS, ROOTS/WOODY PLANT MATERIAL, AND OTHER EXTRANEOUS MATERIAL HARMFUL TO PLANT GROWTH. SOIL SHALL BE IN FRIABLE (WORKABLE) CONDITION, NOT OVERLY SATURATED OR COMPACTED, WHEN PLANTING OCCURS.
   - 5.2. SOIL CONDITIONS IN NEW PLANTING AREAS SHALL NOT IMPEDE NORMAL AND HEALTHY PLANT GROWTH AND ESTABLISHMENT. SUBGRADE SHALL BE FREE–DRAINING AND FREE OF CONTAMINATES, DELETERIOUS MATERIAL, AND OTHER OBJECTS HARMFUL TO PLANT GROWTH. NEW PLANTING BEDS SHALL HAVE TOPSOIL INSTALLED TO A MINIMUM DEPTH OF 12" (OR AS NECESSARY TO REACH FREE DRAINING SUBSOIL) AND BE AMENDED WITH 2" OF COMPOST TILLED TO A MINIMUM DEPTH OF 8". FINISH GRADE AS INDICATED IN THE GRADING PLANS SHALL BE MAINTAINED.
   - 5.1. DO NOT DISTURB ROOT ZONES OF EXISTING PLANTS TO REMAIN, INCLUDING EXISTING TREE AND SHRUB PLANTING AREAS ON THE EAST SIDE OF THE BUILDING. INSTALLATION OF PLANT MATERIAL USED TO INFILL EXISTING PLANTING AREAS SHALL BE POCKET PLANTED AND MINIMIZE DISTURBANCE TO THE EXISTING PLANTING BED AND FINISH GRADE. FIELD ADJUSTMENTS MAY BE REQUIRED TO LIMIT DISTURBANCE AND PROTECT EXISTING PLANT MATERIAL. RESTORE AREA TO PRE–DISTURBED CONDITIONS AND MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING.
   - 5.2. REMOVE EXISTING GRAVEL AND CONTAMINATED/UNSUITABLE SOILS FOR PLANTINGS AROUND THROUGHOUT THE SITE (TREES, LAWN, AND OTHER PLANTINGS AND BARK AREA). REPLACE WITH TOPSOIL. LAWN AREAS SHALL HAVE A MINIMUM OF 8" OF TOPSOIL. BARK AREAS SHALL HAVE GRAVEL REMOVED AND SOIL REPLACED TO WITHIN 3" OF FINISH GRADE TO ALLOW FOR MULCH APPLICATION EXCEPT WHERE TREES ARE PLANTED AS NOTED. TREES SHALL HAVE A MINIMUM OF 12" OF TOPSOIL (OR AS NECESSARY TO REACH FREE–DRAINING SUBSOIL) COVERING A MINIMUM AREA OF 10' LONG BY 8' WIDE CENTERED ON EACH TREE. IF ADVERSE SOIL CONDITIONS (ROCKY SOIL, DELETERIOUS MATERIALS, CONTAMINATES, ETC.) ARE ENCOUNTERED, CONTRACTOR SHALL COORDINATE SOIL REMOVAL AND REPLACEMENT OF THE AFFECTED SOIL WITH THE OWNER'S REPRESENTATIVE.
6. MULCH: APPLY 3" DEEP WELL–AGED MEDIUM GRIND OR SHREDDED DARK HEMLOCK OR FIR BARK MULCH IN NEW PLANTING BEDS AND IN AREAS SHOWN AS BARK MULCH, TAKING CARE TO NOT COVER FOLIAGE OR BURY ROOT CROWNS OF PLANT MATERIAL.
   - 6.1. TREES IN LAWN AREAS SHALL HAVE A MINIMUM 3" DEEP X 4' DIAMETER MULCH RING CENTERED ON THE TREE FOR EASE OF MAINTENANCE AND SOIL MOISTURE RETENTION.
   - 6.2. ALL EXISTING PLANTING BEDS DIRECTLY ADJACENT TO THE BUILDING SHALL HAVE A FRESH APPLICATION OF MULCH APPLIED FOR A COHESIVE APPEARANCE WITH NEW LANDSCAPE BEDS.
7. REFER TO LANDSCAPE DETAILS AND IRRIGATION PLANS/DETAILS.

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS–ENG.COM

AKS

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN
architecture + design llc
101 ST HELENS ST.
ST HELENS, OR 97051
T: 503.366.3650 F: 503.366.3055

REGISTERED 1025 TIMOTHY E. BAUER OREGON 11/01/19 LANDSCAPE ARCHITECT

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	ZTN/TEB
CHECKED BY:	TEB
CAD FILE:	7245
DATE:	09/08/2021

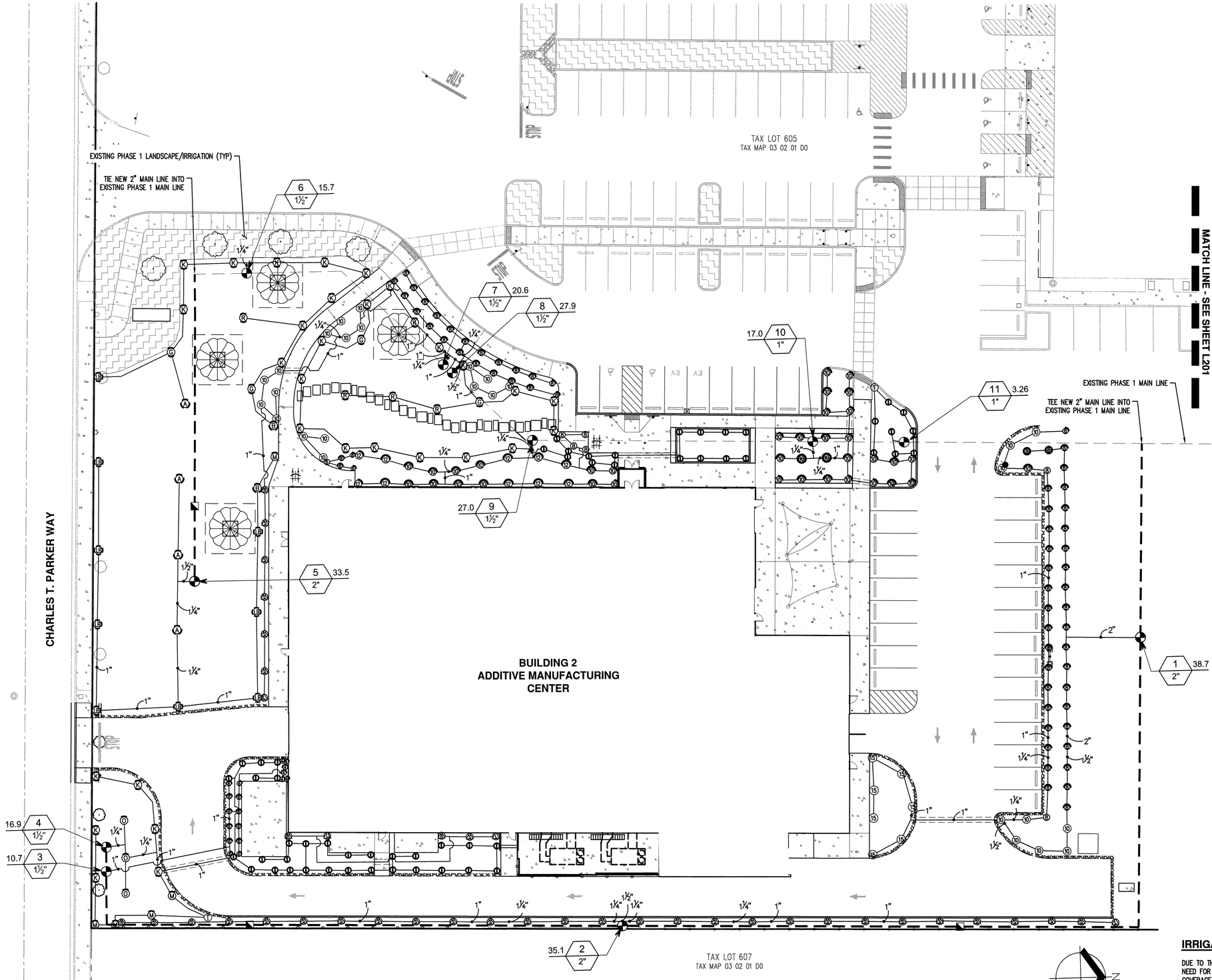
REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
LANDSCAPE NOTES AND DETAILS

SHEET NO:

L101



IRRIGATION CONNECTION

NEW PHASE 2 IRRIGATION SYSTEM SHALL BE TIED INTO PHASE 1 IRRIGATION SYSTEM AND CONTROLLER. ANY EXTRA ZONES NECESSARY SHALL BE ADDED TO EXISTING PHASE 1 IRRIGATION CONTROLLER. BEFORE BEGINNING INSTALLATION OF THE NEW IRRIGATION SYSTEM, CONTRACTOR SHALL COORDINATE A PRE-INSTALLATION MEETING WITH THE OWNER AND GENERAL CONTRACTOR TO TEST THE EXISTING SYSTEM FOR FUNCTIONALITY AND TO DETERMINE AREA OF SERVICE. CONTRACTOR SHALL ALSO TEST AND VERIFY AVAILABLE PRESSURE AND FLOW RATES. ADJUSTMENTS AND/OR REPAIRS TO THE IRRIGATION SYSTEMS MAY BE REQUIRED BASED ON THE FINDINGS OF THESE TESTS. AFTER COMPLETION OF IRRIGATION WORK, CONTRACTOR SHALL AGAIN TEST EXISTING AND NEW IRRIGATION SYSTEMS TO ENSURE FUNCTIONALITY.

SCALE: 1" = 20 FEET
20 0 4 10 20
ORIGINAL PAGE SIZE: 24" x 36"

IRRIGATION SYSTEM LAYOUT

DUE TO THE SCALE OF THESE DRAWINGS THE CONTRACTOR SHOULD BE AWARE OF THE POSSIBILITY THAT THE NEED FOR MINOR ADJUSTMENTS TO THE IRRIGATION SYSTEM MAY BE NECESSARY TO PROVIDE PROPER COVERAGE. THESE ADJUSTMENTS COULD INCLUDE NOZZLE CHANGES AND/OR ADDITION OR DELETION OF INDIVIDUAL HEADS TO COMPENSATE FOR CHANGES MADE ON THE SITE. FURTHERMORE, THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN SHRUB AREAS WHEREVER POSSIBLE. DO NOT PLACE IN PAVED AREAS. PROPOSED CONTROL VALVE LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL GROUP VALVES TOGETHER AND PLACE IN SHRUB BEDS WHERE POSSIBLE, AVOIDING DAMAGE TO TREE ROOTS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION. MAINLINES AND LATERAL LINES SHALL BE PLACED WHERE POSSIBLE TO MINIMIZE OVERALL LENGTH OF PIPE AND SITE DISTURBANCE.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
2Q 2H 4Q 4H 6Q 6H	HUNTER PROS-06-CV SHORT RADIUS NOZZLES SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
ES LCS RCS CS SS	HUNTER PROS-06-CV 5' STRIP SPRAY SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
Q T H F	HUNTER PROS-06-CV 8' RADIUS SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
Q T H F	HUNTER PROS-06-CV 10' RADIUS SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
Q T H TT TQ F	HUNTER PROS-06-CV 12' RADIUS SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
④ ⑥ ⑧ ⑩ ⑫ ⑮ ⑰	HUNTER PROS-06-CV ADJUSTABLE ARC SHRUB SPRAY, 6.0" POP-UP. WITH DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.
T	HUNTER MP CORNER PROS-06-PRS40-CV SHRUB ROTATOR, 6" POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS40 BODY.
M L O	HUNTER MP1000 PROS-06-PRS40-CV SHRUB ROTATOR, 6" POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC ON PRS40 BODY.
K G R	HUNTER MP2000 PROS-06-PRS40-CV SHRUB ROTATOR, 6" POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC ON PRS40 BODY.
B Y A	HUNTER MP3000 PROS-06-PRS40-CV SHRUB ROTATOR, 6" POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC ON PRS40 BODY.
LB	HUNTER MP3500 PROS-06-PRS40-CV SHRUB ROTATOR, 6.0" POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. LB=LIGHT BROWN, ADJUSTABLE ARC, 90-210, ON PRS40 BODY.
ADJ. 360	HUNTER MP800SR PROS-06-PRS40-CV SHRUB ROTATOR, 6.0" POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. OR = ORANGE ADJ ARC 90 TO 210.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G-BSP-DC 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH BSP THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH DC LATCHING SOLENOID FACTORY INSTALLED OPTION.
	HUNTER HQ-33DLRC QUICK COUPLER VALVE, YELLOW LOCKING RUBBER COVER, RED BRASS AND STAINLESS STEEL, WITH 3/4" NPT INLET, 2-PIECE BODY.
C	CONTROLLER - PHASE 2 IRRIGATION SHALL USE THE SAME CONTROLLER AS PHASE 1. REFER TO PHASE 1 IRRIGATION PLANS.
POC	IRRIGATION POINT OF CONNECTION (POC) - EXISTING WELL, REFER TO ENGINEERING PLANS, SPECIFICATIONS, AND PHASE 1 IRRIGATION PLANS.
	IRRIGATION LATERAL LINE: 3/4" PVC CLASS 200 UNLESS OTHERWISE SPECIFIED
	IRRIGATION MAINLINE: 2" PVC SCHEDULE 40
	PIPE SLEEVE: 6" PVC SCHEDULE 80

Valve Callout
Valve Number
Valve Flow
Valve Size

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503 366 3060 F: 503 366 3055

REGISTERED LANDSCAPE ARCHITECT
OREGON
TIMOTHY E. BAUER
11/01/19

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	ZTN/TEB
CHECKED BY:	TEB
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

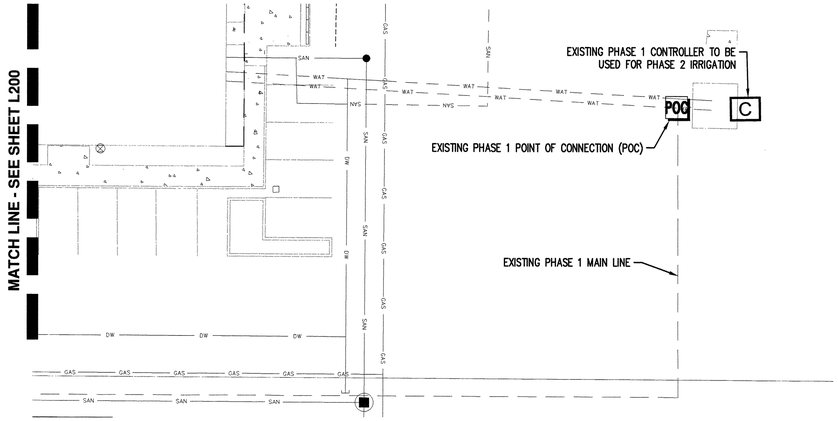
△	DATE	DESCRIPTION

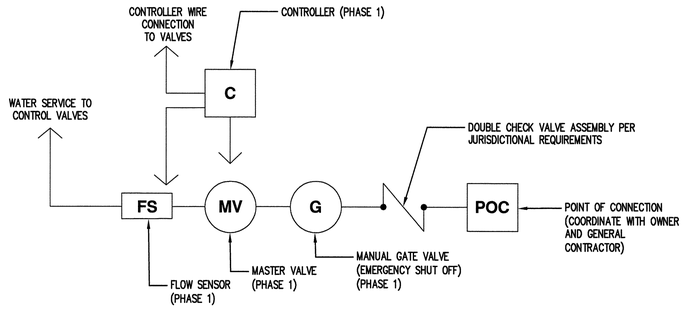
CONTENTS:
IRRIGATION PLAN

SHEET NO:
L200

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151
WWW.AKS-ENG.COM

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE





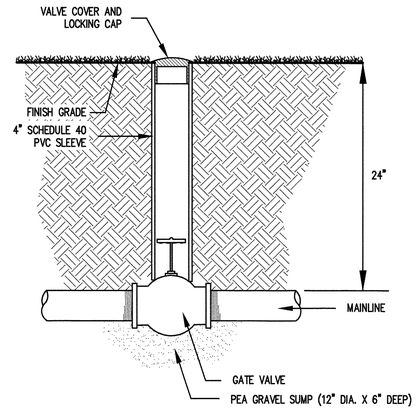
1 / L201 IRRIGATION CONNECTION DIAGRAM

NTS

NOTE:
1. DIAGRAM IS SCHEMATIC. FINAL LOCATIONS TO BE DETERMINED IN THE FIELD.

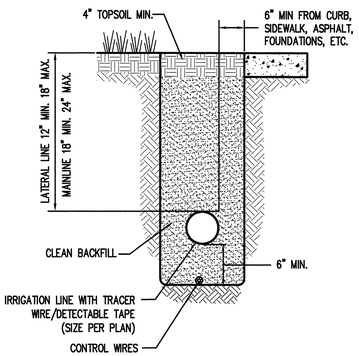
GENERAL IRRIGATION NOTES

1. THE ENTIRE IRRIGATION SYSTEM SHALL BE GUARANTEED TO BE COMPLETE AND PERFECT IN EVERY DETAIL FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY SUCH DEFECTS OCCURRING WITHIN THAT YEAR, AT NO COST TO THE OWNER, EXCEPT IN CASES OF GROSS NEGLECT OR VANDALISM.
2. EXISTING IRRIGATION MAY BE PRESENT ON SITE. COORDINATE WITH OWNER AND GENERAL CONTRACTOR AND SHALL PROTECT AND REPLACE AND/OR REPAIR WHERE NECESSARY TO ENSURE CONTINUOUS IRRIGATION CONTROL TO ALL AREAS AFFECTED BY WORK PERFORMED UNDER THIS SCOPE OF WORK. REFER ALSO TO SPECIFICATIONS AND IRRIGATION PLAN.
3. IRRIGATION WATER SOURCE SHALL COME FROM EXISTING WELL (PHASE 1 IRRIGATION CONTROLLER). COORDINATE WITH OWNER AND GENERAL CONTRACTOR FOR EXACT CONNECTION LOCATION SOURCE. IRRIGATION WORK SHALL NOT BLOCK OR OTHERWISE INTERFERE WITH OTHER SYSTEMS OR OPERATIONS LOCATED IN THE WELL PUMP HOUSE.
4. EXTENDED WARRANTIES FROM MANUFACTURERS SHALL BE THE OWNER'S RESPONSIBILITY AFTER THE ONE-YEAR WARRANTY FROM THE DATE OF ACCEPTANCE HAS EXPIRED.
5. ALL MATERIALS AND EQUIPMENT INCORPORATED INTO THE IRRIGATION SYSTEM SHALL BE NEW AND SHALL BE OF RECOGNIZED STANDARD QUALITY MANUFACTURED BY REPUTABLE MANUFACTURERS. WHERE SPECIFIED, PRODUCT MANUFACTURER SHALL NOT BE SUBSTITUTED WITHOUT APPROVAL FROM THE OWNER.
6. IRRIGATION SYSTEM TO BE INSTALLED BY AN IRRIGATION OR LANDSCAPE CONTRACTING FIRM LICENSED AND BONDED IN THE STATE OF OREGON AND EXPERIENCED IN PROJECTS OF SIMILAR SCOPE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, FEES, AND JURISDICTIONAL APPROVALS PRIOR TO INSTALLATION OF THE IRRIGATION SYSTEM.
7. THE IRRIGATION SYSTEM SHALL BE INSTALLED AFTER SOIL PREPARATION AND PRIOR TO PLANT MATERIAL INSTALLATION WITH THE EXECUTION OF TREE BUBBLERS WHICH SHALL BE INSTALLED WITH TREE PLANTINGS.
8. EXCAVATED MATERIAL FROM THE SITE MAY BE USED AS BACKFILL FOR ALL PIPING IF FREE FROM GRAVEL, ROOTS, ORGANIC MATTER, DEBRIS, AND OTHER MATERIALS.
9. GRAVEL FOR MANUAL DRAIN SUMPS AND UNDER CONTROL VALVES SHALL BE 3/4-INCH WASHED GRAVEL, MINIMUM DEPTH 4-INCHES.
10. THE CONTRACTOR SHALL PERFORM ALL EXCAVATIONS REQUIRED FOR THE INSTALLATION OF FACILITIES TO PROSECUTE WORK TO COMPLETION. WATERLINES FROM ZONE CONTROL VALVES TO SPRINKLER HEADS (LATERAL LINES) SHALL BE INSTALLED AT A DEPTH NOT LESS THAN 12-INCHES. ALL MAIN WATER SUPPLY LINES AND LINES TO ZONE CONTROL VALVES AND QUICK-COUPLING VALVES (MAIN LINES) SHALL BE INSTALLED AT A DEPTH NOT LESS THAN 18-INCHES BELOW GRADE (24-INCHES BELOW PAVING). MEASUREMENTS OF DEPTH ARE FROM TOP OF PIPE TO FINISHED GROUND SURFACE. ALL EXCAVATIONS SHALL BE HELD TO THE NARROWEST PRACTICABLE WIDTHS. EXCAVATED MATERIALS NOT DESIRABLE FOR BACKFILLING SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER. LINE LOCATIONS ARE DIAGRAMMATIC, RUN PARALLEL TO PAVING AND SIDEWALK WHERE POSSIBLE. EXCAVATED MATERIAL FROM SITE MAY BE USED AS BACKFILL FOR ALL PIPING IF FREE FROM GRAVEL, ROOTS, ORGANIC MATTER, DEBRIS, AND OTHER DELETERIOUS MATERIALS.
11. ALL PIPING SHALL BE PROPERLY GRADED SO THAT THE ENTIRE SYSTEM MAY BE COMPLETELY DRAINED. PROVIDE DRAIN PITS AT LOW POINTS OF LINES OR SYSTEMS. DRAIN PITS SHALL CONSIST OF AN EXCAVATION APPROXIMATELY 3' IN DEPTH BELOW THE LOW POINT OF THE LINE OR SYSTEM DRAINED WITH A MINIMUM VOLUME OF 8-CUBIC FEET OF ROCK OR GRAVEL.
12. PLASTIC PIPE: UNTHREADED PLASTIC PIPE AND PLASTIC FITTINGS SHALL BE JOINED BY SOLVENT CEMENTING. THREADED JOINTS SHALL BE MADE WITH TEFLON TAPE OR TEFLON SPRAY. ONLY STRAP WRENCHES SHALL BE USED FOR TIGHTENING THREADED PLASTIC JOINTS AND CARE SHALL BE TAKEN NOT TO OVER-TIGHTEN THESE FITTINGS. SOLVENT CEMENTING OF PVC PIPE SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SNAKE ALL PIPES IN TRENCHES.
13. ALL IRRIGATION MAINLINES SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL AND SHALL HAVE DETECTABLE MARKING TAPE.
14. BACKFLOW PREVENTION SHALL BE DOUBLE CHECK VALVE ASSEMBLY OF A TYPE APPROVED FOR USE MEETING LOCAL AND STATE REQUIREMENTS. CONFIRM LOCATION AND TEST EXISTING DOUBLE CHECK VALVE (IF PRESENT) OR INSTALL NEW DOUBLE CHECK VALVE MEETING JURISDICTIONAL STANDARDS.
15. ALL SPRINKLER HEADS AND QUICK-COUPLING VALVES SHALL BE SET PERPENDICULAR TO FINISH GRADES. SPRINKLER HEADS ADJACENT TO WALKS, CURBS, WALLS, AND OTHER PAVED AREAS SHALL BE SET TO GRADE AND A MINIMUM OF 6-INCHES FROM PAVING.
16. INSTALLED PIPE SHALL NOT CREATE WATER VELOCITY GREATER THAN 5 FEET PER SECOND.
17. CONTRACTOR TO FIELD VERIFY AVAILABLE STATIC WATER PRESSURE PRIOR TO CONSTRUCTION.
18. PRIOR TO THE INSTALLATION OF VALVES, ALL FITTINGS AND WATER LINES, INCLUDING SUPPLY MAINS FROM THE METER AND LATERALS TO SPRINKLER HEADS, SHALL BE THOROUGHLY FLUSHED FREE OF DIRT, SAND, OR OTHER FOREIGN MATTER. PIPE JOINTS SHALL NOT BE SUBJECTED TO HYDROSTATIC PRESSURE AFTER BEING INSTALLED. EACH ZONE SHALL BE TESTED TO 60 PSI PRESSURE. THE MAINLINE SHALL BE TESTED TO 80 PSI PRESSURE. AT THE TIME OF TESTING, CENTER LOADING OF THE SECTION OF PIPE SHALL BE DONE AS NECESSARY TO PREVENT ARCHING OR WHIPPING. TESTS AND SUBSEQUENT REPAIRS SHALL BE MADE UNTIL THE SYSTEM IS COMPLETELY WATERTIGHT. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL LEAKS HAVE BEEN REPAIRED. TESTING AND REPAIRS SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE. LATERAL LINES FROM THE SECTION CONTROL VALVES TO THE SPRINKLER HEADS SHALL BE TESTED UNDER PRESSURE FOR A MINIMUM OF 2-HOURS. THE MAIN LINE SHALL BE TESTED UNDER PRESSURE FOR A MINIMUM OF 4-HOURS. LOSSES FOR EACH TEST SHALL NOT EXCEED 10% OF THE MAXIMUM PRESSURE.
19. VALVE BOXES SHALL HAVE LOCKING, VANDAL RESISTANT LIDS AND BE GROUPED TOGETHER WHERE PRACTICABLE. VALVE BOX COVERS SHALL HAVE GREEN LIDS IN LAWN AREAS AND BROWN/TAN LIDS IN SHRUB BED AREAS. USE AN 18" VALVE BOX WHEN COMBINING VALVES. CONTRACTOR SHALL USE UNIONS ON BOTH SIDES OF CONTROL VALVES.
20. ALL VALVES WITH HANDLES SHALL BE SET AT SUFFICIENT DEPTH TO PROVIDE CLEARANCE BETWEEN THE TOP OF THE HANDLE AND THE COVER OR CAP OF THE BOX OR SLEEVE IN WHICH THEY ARE PLACED WHEN THE VALVE IS IN FULLY OPEN POSITION AND THE COVER OR CAP IS CLOSED. ALL VALVES SHALL BE INSTALLED WITH A UNION. ALL OTHER VALVES SHALL HAVE 3-INCHES MINIMUM CLEARANCE FROM BOTTOM OF COVER.
21. TOP OF IRRIGATION SLEEVES SHALL BE A MINIMUM OF 18-INCHES UNDER SURFACE OF ALL SIDEWALKS AND A MINIMUM OF 24-INCHES BELOW ALL VEHICULAR ACCESS WAYS.
22. CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT RECORD DRAWING OF ZONING, MAINLINE ROUTING, AND SLEEVING, AS WELL AS A LAMINATED ZONING DIAGRAM IN THE CONTROLLER CABINET.



2 / L201 IRRIGATION MANUAL GATE VALVE

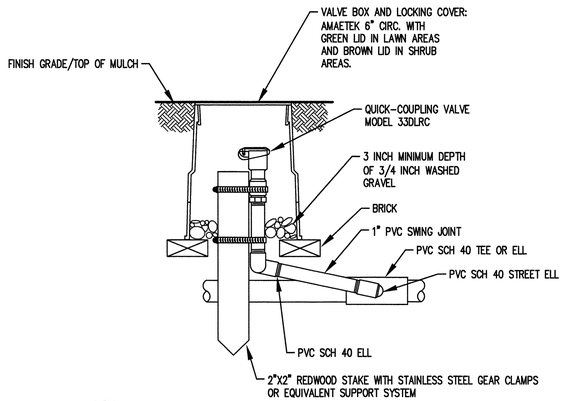
NTS



3 / L201 IRRIGATION LINE TRENCH DETAIL

NTS

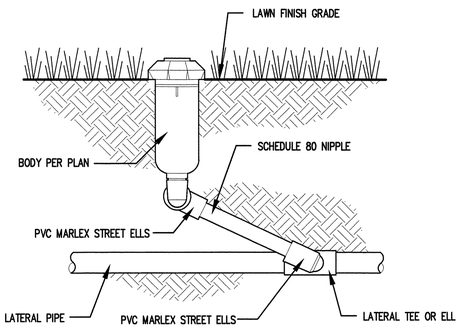
NOTE:
1. ALL LINES TO HAVE 14 GAUGE BLUE TRACER WIRE OR DETECTABLE TAPE (MAINLINE AND LATERALS).



4 / L201 QUICK COUPLING VALVE

NTS

NOTES:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.
2. PROVIDE 1" SWING JOINTS WITH ALL QUICK COUPLERS.



5 / L201 SPRAY HEAD SPRINKLER

NTS

AKAAN architecture + design llc
101 ST HELENS ST
ST HELENS, OR 97051
T: 503.366.3060 F: 503.366.3055

REGISTERED 1025 TIMOTHY E. BAUER OREGON 11/01/19 LANDSCAPE ARCHITECT

PROJECT TEAM:

CIVIL ENGINEER:
AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: 503.563.6151
F: 503.563.6152

STRUCTURAL ENGINEER:
PETERSON STRUCTURAL ENGINEERS
9400 SW Barnes Road, Suite 100
Portland, OR 97225
P. 503.292.1635

MEP ENGINEER:
MKE & Associates, Inc.
6915 SW Macadam Ave, Suite 200
Portland, OR 97219
P: 503.892.1188

OWNER:
OMIC R&D / OREGON TECH.
Procurement and Contract Services
27500 SW Parkway Avenue
Wilsonville, OR 97070

OWNER'S REPRESENTATIVE:
CRAIG CAMPBELL, Executive Director
OMIC R&D
33701 Charles T. Parker Way
Scappoose, Oregon 97056
503-983-0573

OMIC R&D - Building 2
Additive Manufacturing Center
33701 Charles T. Parker Way
Scappoose, Oregon 97056

SCALE:	AS NOTED
DRAWN BY:	ZTN/TEB
CHECKED BY:	TEB
CAD FILE:	7245
DATE:	09/08/2021

REVISIONS

△	DATE	DESCRIPTION

CONTENTS:
IRRIGATION DETAILS AND NOTES

SHEET NO:

L201