PROJECT CLYDESDALE

CYL-HUB @ CLYDESDALE SITE

ISSUE FOR CONSTRUCTION

04/03/2026

TULSA COUNTY, OK

Project # KHA060057900

PROJECT INFORMATION

NO. OF BUILDINGS: 1
ZONING: IL-PUD INDUSTRIAL LIGHT, AG-PUD AGRICULTURE (RESERVE C)

THE AREAS OF THE SUBJECT PROPERTIES ARE AS FOLLOWS:

BLOCK 1, LOT 1 =	43.20 ACRES
BLOCK 1, LOT 2 =	8.44 ACRES
BLOCK 1, LOT 3 =	24.46 ACRES
BLOCK 1, LOT 4 =	33.28 ACRES
BLOCK 1, LOT 5 =	159.43 ACRES
RESERVE A =	131.35 ACRES
RESERVE B =	43.04 ACRES
RESERVE C =	62.72 ACRES
TOTAL=	505.92 ACRES

THE AREA OF THE LIMIT OF DISTURBANCE (LOD) ARE AS FOLLOWS:
LIMIT OF DISTURBANCE = ±4.64 ACRES

UTILITY NOTE

KIMLEY-HORN AND ASSOCIATES TAKES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN HEREIN. THE EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHER PARTIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY THE LOCATIONS AND INVERTS OF THE EXISTING UTILITIES WITHIN THE VICINITY OF CONSTRUCTION ACTIVITIES. IF A CONFLICT IS FOUND TO EXIST, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER, PROJECT ARCHITECT(S), AND THE OWNER IMMEDIATELY.

FEMA FLOOD HAZARD NOTE

THE SUBJECT PROPERTY LIES WITHIN OTHER FLOOD AREAS ZONE X, WHICH ARE AREAS DETERMINED TO BE WITHIN THE 0.2% ANNUAL CHANCE FLOODPLAIN; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR DRAINAGE AREAS LESS THAN 1 SQUARE MILE; **AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD** PER FLOOD INSURANCE RATE MAP NO. 05035C0450E, DATED MAY 03, 2011. THE BASE FLOOD ELEVATIONS VARIES FROM 611'± TO 631'±.

ENGINEERS STATEMENT

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATE AND CITY ORDINANCES AND STANDARDS. IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THESE PLANS, STATE AND CITY STANDARDS, THE STANDARDS SHALL APPLY.

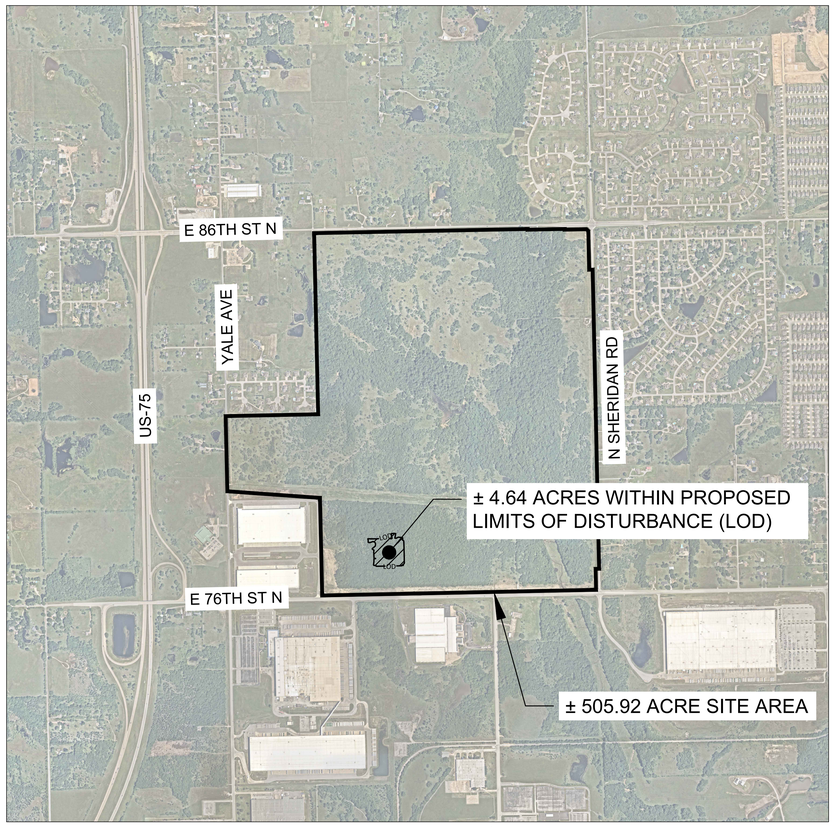
SURVEY NOTES

SURVEY PREPARED BY GEODECA, LLC, AND DATED 04/24/2024.

GEOTECHNICAL NOTES

ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SITE GEOTECHNICAL REPORT PREPARED BY TERRACON IN SEPTEMBER 2025.

GROUND IMPROVEMENT AREAS DEPICTED ARE BASED ON DISCUSSIONS WITH GEOTECHNICAL AND OWNER TEAMS. FINAL CONFIRMATION FOR IMPROVEMENT DESIGN SHALL BE DETERMINED BY GEOTECHNICAL ENGINEERS AND OWNERSHIP TEAM.



VICINITY MAP
SCALE: 1" = 2000'

NORTH

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C-2002	PAVING DETAILS
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L-9000	GENERAL NOTES & MATERIALS LEGEND
L-9100	HARDSCAPE PLAN
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L-9201	LANDSCAPE PLAN
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CONFIDENTIAL

THIS DOCUMENT CONTAINS TRADE SECRETS AND COMMERCIAL/FINANCIAL INFORMATION - EXEMPT FROM DISCLOSURE UNDER PUBLIC INFORMATION ACT

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CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER — DEMA RANDALL — OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS: CONFIDENTIAL
PROJ. NO.: 10438332

COVER SHEET
SCALE: AS SHOWN

SHEET NUMBER: G-0001
PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB

KH GENERAL NOTES

OVERALL:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, COUNTY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE COUNTY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
2. THE CONTRACTOR SHALL COMPLY WITH COUNTY "GENERAL NOTES" FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE COUNTY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OF SITE WORK OR IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE COUNTY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE COUNTY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
13. CONTRACTOR SHALL CALL OKLAHOMA 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS PRIVATE AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
20. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN THE CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
21. CONTRACTOR SHALL USE ALL NECESSARY CARE AND PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS AND APPROVALS, BEFORE CONSTRUCTION.
23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND COUNTY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
24. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
26. CONTRACTOR SHALL ARRANGE FOR REQUIRED COUNTY INSPECTIONS.
27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
28. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC....) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE COUNTY INSPECTOR.
29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
30. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.....) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSIONS, AND FROM THE SITE BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
32. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE COUNTY INSPECTOR AND COMPLY WITH COUNTY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING.
34. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
35. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND COUNTY SPECIFICATIONS.
36. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
40. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
41. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
42. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
43. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF OKLAHOMA, TO THE COUNTY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH COUNTY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE COUNTY.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
46. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
47. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
48. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
49. THE PLANS, SIGNS, AND OTHER DISTRACTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
50. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MUTCD STANDARDS.
51. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
52. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
53. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE COUNTY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE COUNTY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS FROM THE PLANS.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND COUNTY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

EROSION CONTROL:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE LOCATION AND NATURE OF THE WORK.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ODEQ FOR SITE DISCHARGE
3. THIS SITE IS CONSIDERED A HIGH PRIORITY SITE BY ODEQ AND THE CONTRACTOR SHALL IMPLEMENT ALL REQUIRED MEASURES REQUIRED FOR A HIGH PRIORITY SITE. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THIS PROJECT SHALL BE INSTALLED TO THE START OF LAND DISTURBANCE. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
5. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EXPECTED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
6. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
7. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
8. CONTRACTOR SHALL INSPECT EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
9. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL SEDIMENT LEAVING THE CONSTRUCTION FRONT, WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
10. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED PART OF THE PROJECT AND SHALL COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER AS REQUIRED BY THE PLANS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED AND SHOWN ON THE EROSION CONTROL PLAN.
11. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORMWATER QUALITY. IF NECESSARY, MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
12. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THE INSPECTIONS IN THE SWPPP BOOKLET IF APPLICABLE. ENSURE THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.
13. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL 23. PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED CONSTRUCTION ENTRANCE(S) AND THAT VEHICLES
14. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.
15. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS. THAT ARE CAUSED BY CONSTRUCTION, AS REQUESTED BY OWNER AND COUNTY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
16. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR BASIN.
17. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER ODEQ AND COUNTY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
18. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
19. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH WATER OPERATION SHALL NOT BE DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION.
20. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
22. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
23. UPON COMPLETION OF GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALKS, PAVEMENT, OR A UNIFORM PERENNIAL VEGETATIVE COVER.
24. AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

STORM WATER DISCHARGE AUTHORIZATION:

1. CONTRACTOR SHALL COMPLY WITH ALL ODEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ODEQ GENERAL PERMIT TO DISCHARGE.
3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO ODEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL SUBSEQUENT PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE COUNTY) RECEIVING DISCHARGE FROM THE SITE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING OF NOTICES, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE ODEQ AND EPA (E.G. NOI).
5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE SUBCONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE COUNTY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO ODEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED OVER ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

DEMOLITION:

1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KH DOES NOT WARRANT THAT THIS DEMOLITION PLAN WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT NO OTHER OBJECTS OR UTILITIES EXIST. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE EXISTENCE AND LOCATION OF THEIR FACILITIES. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, AND THEN PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER.
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
4. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
5. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
6. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
7. SURFACE PAVEMENT IDENTIFIED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

GRADING:

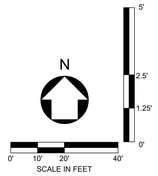
1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY AND ALL OTHER GRADING PERMITS FROM THE COUNTY.
3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB ELEVATION.
4. PROPOSED SPOT ELEVATIONS AND CONTOUR

ABBREVIATION WORD

A	
&	AND
@	AT
A	AREA
AGGR	AGGREGATE
APPD	APPROVED
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
ASPH	ASPHALT
AUTH	AUTHORIZED
AVE	AVENUE
AVG	AVERAGE
AZ	AZIMUTH
B	
B/	BOTTOM OF
BC	BOTTOM CHORD
BDY	BOUNDARY
BES	BEVELED END SECTION
BET.	BETWEEN
BFV	BUTTERFLY VALVE
BL	BASE LINE
BLDG	BUILDING
BM	BENCH MARK
BOT	BOTTOM
BP	BOOSTER PUMP
BPS	BOOSTER PUMP STATION
BPT	BOOSTER PUMP TANK
BRDG	BRIDGE
BRG	BEARING
BRK	BREAK
BS	BOTH SIDES
BV	BALL VALVE
BVC	BEGIN VERTICAL CURVE
C	
C to C	CENTER TO CENTER
CALC	CALCULATE
CAT.	CATALOG
CB	CATCH BASIN
CC	CUBIC CENTIMETER
CD	CORD
CEM	CEMENT
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CG	CENTER OF GRAVITY
CHAM	CHAMFER
CHAN	CHANNEL
CHD	CHORD
CHK	CHECK
CI	CURB INLET
CIP	CAST-IN-PLACE
CIR	CIRCLE
CIR	CIRCULAR
CIRC	CIRCUMFERENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CO	CLEANOUT
CO	COMPANY
COL	COLUMN
COMB.	COMBINATION
CONC	CONCRETE
COND	CONDITION
CONN	CONNECT
CONT	CONTINUOUS
CORP	CORPORATION
CR	CROSS
CTP	CHEMICAL TREATMENT PLANT
CTD	COATED
CTR	CENTER
CU	CUBIC
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU M	CUBIC METER
CU YD	CUBIC YARD
CUR	CURRENT
CV	CHECK VALVE
CW	CLOCKWISE
XSECT	CROSS SECTION
D	
DBC	DRAIN BASIN COVER
DBG	DRAIN BASIN GRATE
DEC	DECIMAL
DEG (OR °)	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DEV	DEVELOP
DFTG	DRAFTING
DI	DROP INLET
DI	DUCTILE IRON
DIA (OR ?)	DIAMETER
DIAG	DIAGONAL
DIM.	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIST	DISTANCE
DN	DOWN
DO	DITTO
DSGN	DESIGN
DWG	DRAWING
E	
E	EAST
EA	EACH
EF	EACH FACE
EFF	EFFECTIVE
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION
ELL	ELBOW
ENGR	ENGINEER
EQ	EQUAL
EQUIP. (OR EQ)	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
EST	ESTIMATE
EW	EACH WAY
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	
F to F	FACE TO FACE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FORWARD
FES	FLARED END SECTION
FF	FINISH
FH	FINISH FLOOR
FIG.	FIGURE
FIN.	FILTER
FL	FLANGE
FLD	FIELD
FLG	FIRE HYDRANT
FLT	FILLET
FM	FOUNDATION
FP	FRONT
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FR	FREQUENCY
FREQ	FORCEMAIN
FRP	FIBERGLASS REINFORCED
FT (OR ')	PLASTIC
FWD	FEET
FWV	FLOWLINE
	FIRE WATER VALVE
G	
G	GRAVITY
GAL	GALLON
GALV	GALVANIZE
GEN	GENERATOR
GH	GROUND HYDRANT
GL	GRADE LINE
GPS	GENERATOR PARALLELING SYSTEM SWITCHGEAR
GR	GRADE
GRD	GROUND
H	
HDPE	HIGH DENSITY POLYETHYLENE
HECP	HORIZONTAL ELLIPTICAL CONCRETE PIPE
HOR	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HW	HEADWALL
HYD	HYDRAULIC
I	
I	IRON
ID	INSIDE DIAMETER
IF	INSIDE FACE
IINT	INTERSECT
IN. (OR ")	INCH
INCL	INCLUDE
IND	INDUSTRIAL
INFO	INFORMATION
INV	INVERT
IPS	INCHES PER SECOND
J	
JB	JUNCTION BOX
JCT	JUNCTION
L	
LAT	LATITUDE
LB (OR #)	POUND
LT	LEFT
L.P.	LOW POINT
M	
M	METER
MAN.	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MCP	MODULAR COOLING PLANT
MDA	MAIN DISTRIBUTION AREA
MDC	MAIN DISTRIBUTION - CRITICAL
MECH	MECHANICAL
MED	MEDIAN
MET.	METAL
MFR	MANUFACTURE
MH	MANHOLE
MI	MILES
MIN	MINIMUM
MIN (OR ')	MINUTE
MISC	MISCELLANEOUS
MOD	MODEL
MPH	MILE PER HOUR
MULT	MULTIPLE
MUWT	MAKE UP WATER TANK
N	
N	NORTH
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO. (OR #)	NUMBER
NOM	NEUTRAL
NOR	NORMAL
NTS	NOT TO SCALE
O	
O/C	ON CENTER
O/S	OFFSET
OA	OVERALL
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OHP	OVERHEAD POWER
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OVF	OVERFLOW
P	
PCO	PRESSURE CLEANOUT
PCW	PROCESS CHILLED WATER
PE	PIPE END
PERM	PERMANENT
PERP	PERPENDICULAR
PF	PROFILE
PFD	PREFERRED
PL	PROPERTY LINE
PMPT	PUMP HOUSE TURBO
PREP	PREPARE
PRESS.	PRESSURE
PROC	PROCESS
PROD	PRODUCTION
PROJ	PROJECT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PV	PLUG VALVE
PV(IE/S)	POINT OF VERTICAL INTERSECTION (ELVA. STA)
PWR	POWER
R	
R	REDUCER
RR	RESTROOM
RECD	RECEIVED
REC	RECORD
REF	REFERENCE
REF L	REFERENCE LINE
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCING
REM	REMOVE
REQ	REQUIRE
REQD	REQUIRED
REV	REVISION(REVISED)
RJ	RESTRAINED JOINT
RRMP	RAILROAD MILE POST
RT	RIGHT
RH	RIGHT HAND
R/W	RIGHT OF WAY
S	
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SEC (OR ")	SECOND
SECT	SECTION
SHW	STRAIGHT HEADWALL
SIM	SIMILAR
SL	SEA LEVEL
SQ	SQUARE
SS	SANITARY SEWER
SSS	SECONDARY SUBSTATION SWITCHGEAR
STA	STATION
STD	STANDARD
SUR	SURFACE
SW	SIDEWALK
SY	SQUARE YARD
SYM	SYMBOL
T	
KIP	THOUSAND POUND
T/	TOP OF
TAN.	TANGENT
THK	THICK
TMH	TELECOMM MANHOLE
TOS	TOP OF STOOP/SLAB
TOT	TOTAL
TPR	TAPER
TYP	TYPICAL
U	
U	UNIT
UNO	UNLESS NOTED OTHERWISE
UG	UNDERGROUND
USS	UNIT SUBSTATION
UTC	gCUB PIPE CORRIDOR
V	
V	VALVE
VAR	VARIABLE
VERT	VERTICAL
VOL	VOLUME
W	
W	WEST
W	WIDTH
W/	WITH
WT	WEIGHT
Y	
YD	YARD
YH	YARD HYDRANT
YI	YARD INLET
YR	YEAR

GENERAL SYMBOLOGY

NORTH ARROW & SCALE



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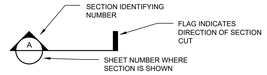
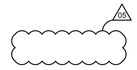


REVISION CLOUD AND DELTA SYMBOL



DETAIL VIEW TITLE

1 / -

DETAIL NAME

NOT TO SCALE

* EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-).
1) FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
2) SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET WHERE THEY ARE CUT OR CALLED OUT ON.

KEY NOTES

KEY NOTES

(#) A HEXAGON SYMBOLOGY TO BE USED

HATCHES

LIGHT DUTY ASPHALT	HEAVY DUTY ASPHALT
HEAVY DUTY CONCRETE - DUMPSTER PAD	CONCRETE SIDEWALK
EROSION CONTROL BLANKET	ROCK CHECK DAM
RIP RAP OUTLET PROTECTION	PERMANENT STABILIZATION

STRUCTURE/FITTING/APPURTENANCES NAMING CONVENTIONS

PHASE - SYSTEM - TYPE - NUMBER

xx - xx - xxx - xxxx

TYPE	DESCRIPTION
AI	AREA INLET
ARV	AIR RELEASE VALVE
BD	BEND
CB	CATCH BASIN
CC	CONCRETE COLLAR
CI	CURB INLET
CO	CLEANOUT
CR	CROSS
DI	DROP INLET
DR	DEWATERING RISER
EMH	ELECTRIC MANHOLE
FDC	FIRE DEPARTMENT CONNECTION
FES	FLARED END SECTION
FWV	FIRE WATER VALVE
GH	GROUND HYDRANT
GV	GAS VALVE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
MH	MANHOLE
PIV	POST INDICATOR VALVE
PV	PLUG VALVE
PRV	PRESSURE RELEASE VALVE
R	REDUCER
SG	SLUICE GATE
ST	PIPE STUB
T	TEE
TD	TRENCH DRAIN
TMH	TELECOM MANHOLE
WV	WATER VALVE

PIPE/PRESSURE PIPE NAMING CONVENTIONS

BUILDING CODE - SYSTEM - NUMBER

xx - xx - xxxx

SYSTEM	DESCRIPTION
TC	TELECOMMUNICATIONS
FW	FIRE WATER
ST	STORM WATER
EL	ELECTRICAL
NG	NATURAL GAS
PS	PROCESS SEWER
SS	SANITARY SEWER
DW	DOMESTIC WATER
PW	PROCESS WATER

EXISTING LEGEND

- PROPERTY LINE
- FENCE
- RAILROAD TRACK
- 980 EXISTING MAJOR CONTOUR
- 978 EXISTING MINOR CONTOUR
- STORM SEWER
- SANITARY SEWER
- PROCESS SEWER
- 4" G GAS LINE
- 4" W DOMESTIC WATER LINE
- 4" PW PROCESS WATER LINE
- 4" FW FIRE WATER LINE
- OH OVERHEAD ELECTRICAL
- ELECTRICAL DUCTBANK
- TELECOMMUNICATIONS DUCTBANK
- MANHOLE
- CURB INLET
- AREA INLET
- FLARED END SECTION
- TRENCH DRAIN
- CO CLEANOUT
- HPV HIGH POINT VALVE
- FIRE HYDRANT
- FDC FIRE DEPT. CONNECTION
- VALVE AND VALVE BOX
- PIV POST INDICATOR VALVE
- CHECK VALVE
- PIPE FITTINGS
- PIPE PLUG
- LIGHTPOLE
- POWER POLE
- POWER POLE W/ GUY WIRE
- POWER AND LIGHT POLE
- POWER POLE W/ TRANSFORMER
- TELEPHONE POLE
- GUY POLE
- GUY WIRE
- STREET SIGN
- RAILROAD SIGNAL
- BENCH MARK

PLAN LABELS

GENERAL

- EXISTING
- PROPOSED
- FUTURE
- AS-BUILT

SPOT/SLOPE ELEVATIONS

740.00

740.00

0.00%

0.00%

POINTS (SURFACE LABEL)

TP/FG-6

PROPOSED LEGEND

- PROPERTY LINE
- ROADWAY CENTERLINE (ALIGNMENT)
- CHAIN-LINK FENCE
- CATTLE FENCE
- PEDESTRIAN SWING GATE
- PEDESTRIAN TURNSTILE
- VEHICULAR SWING GATE
- VEHICULAR CANTILEVER GATE
- VEHICULAR CRASH RATED DROP ARM
- VEHICULAR DROP ARM
- VEHICULAR BI-FOLD SPEED GATE
- VEHICULAR GUARDRAIL
- FIXED SITE BOLLARD
- REMOVABLE SITE BOLLARD
- FIXED SITE BOLLARD WITH SITE SIGN
- SITE SIGN
- PAVEMENT MARKINGS
- SPEED HUMP
- EGRESS PAD WITH BOLLARDS
- SITE FURNISHINGS (TABLE, BENCH, TRASH)
- CURB & GUTTER
- SITE LIGHTING
- POWER POLE
- POWER POLE W/ GUY WIRE
- POWER AND LIGHT POLE
- POWER POLE W/ TRANSFORMER
- TELEPHONE POLE
- GUY POLE
- GUY WIRE
- 980 MAJOR CONTOUR
- 978 MINOR CONTOUR
- SD STORM SEWER
- SS SANITARY SEWER
- SS PROCESS SEWER
- 4" G G GAS LINE
- 4" W W DOMESTIC WATER LINE
- 4" PW PW PROCESS WATER LINE
- 4" FW FW FIRE WATER LINE
- OH OVERHEAD ELECTRICAL
- CONCRETE ENCASED ELECTRICAL DUCTBANK
- CONCRETE ENCASED ELECTRICAL DUCTBANK W/ 3" X 3" HANDHOLE
- ELECTRICAL TRENCH DUCT (TRAFFIC RATED)
- ELECTRICAL TRENCH DUCT W/ CONCRETE BUFFER (TRAFFIC RATED)
- TELECOMMUNICATIONS DUCTBANK
- TELECOMMUNICATIONS DUCTBANK W / PROTECTIVE CONCRETE ENCASEMENT.
- TELECOMMUNICATIONS TRENCH DUCT W / 6' X 8' TRENCH BOX
- TELECOMMUNICATIONS TRENCH DUCT W/ GRAVEL BUFFER
- TELECOMMUNICATIONS TRENCH DUCT W/ CONCRETE BUFFER (TRAFFIC RATED).
- TELECOMMUNICATIONS VAULT CV2 - 5' X 5'
- MANHOLE
- CURB INLET
- AREA INLET
- FLARED END SECTION
- TRENCH DRAIN
- CO SANITARY CLEANOUT
- FIRE HYDRANT
- FIRE DEPT. CONNECTION
- VALVE AND VALVE BOX
- POST INDICATOR VALVE
- CHECK VALVE
- PIPE FITTINGS
- PIPE PLUG
- DRAINAGE AREA BOUNDARY
- LOD LIMIT OF DISTURBANCE
- SF SILT FENCE
- TREES/SHRUBS

C:\ACCACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB03_Production-DWGS\CYL-HUB-G-0003 LEGEND AND ABBREVIATIONS 8/4/2025 8:06 PM

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER — DEVIN RANDALL — OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.:10438332

LEGEND AND ABBREVIATIONS
SCALE: N/A

SHEET NUMBER:
G-0003
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB

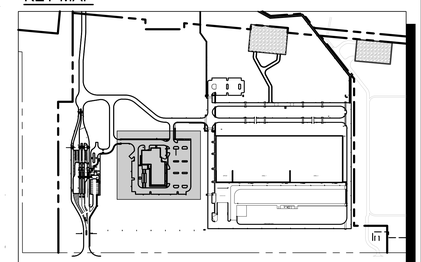
C:\ACCACCDocs\Kimley-Horn\060057900_CYLProject Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-1000 EXISTING CONDITIONS 7/14/2025 12:36 PM

N

0' 20' 40' 80'

SCALE IN FEET

KEY MAP



RESERVE A
60.2162 ACRES

BLOCK 1, LOT 4
35.7508 ACRES

PROPOSED HUB
BLOCK 1, LOT 1
43.20 ACRES

ZONED PUD-871

FFE = 657.50'

BLOCK 1, LOT 2
8.4367 ACRES

EXISTING HEADWALL

EXISTING HEADWALL

EXISTING HEADWALL

EXISTING HEADWALL

EXISTING HEADWALL

EXISTING PCES

EXISTING AREA INLET

EXISTING HEADWALL

EXISTING HEADWALL

LOD

WLM

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

CAUTION

EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEVIN RANDALL
OKLAHOMA
2026-04-03

REVISIONS			DRAWN:
NO.	DATE	DESCRIPTION	
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB	
			APPRV'D:

CYL-HUB

PROJECT ADDRESS:
CONFIDENTIAL

PROJ. NO.:10438332

EXISTING CONDITIONS

SCALE: AS SHOWN

SHEET NUMBER:
C-1000

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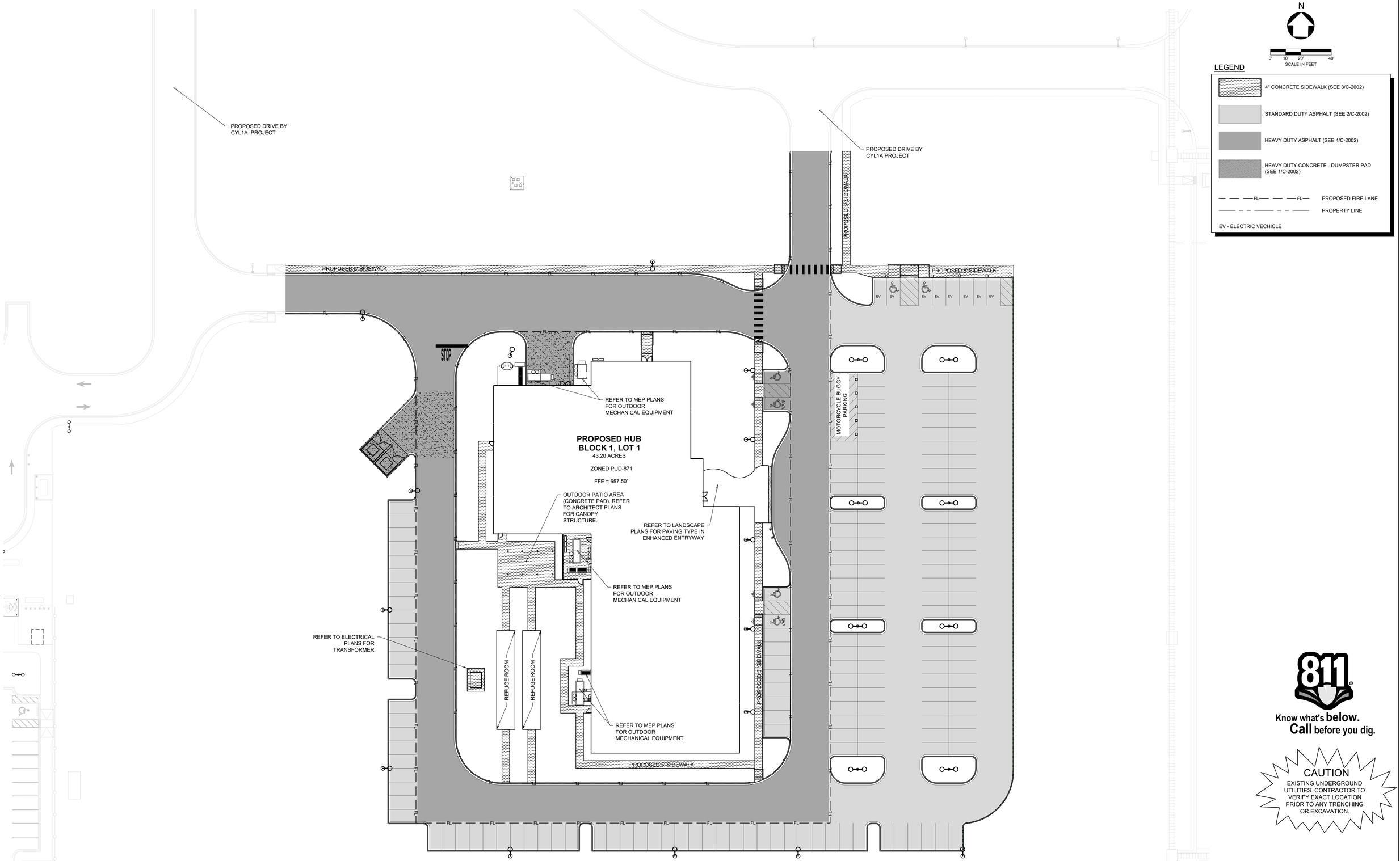

C:\ACCIACCDocs\Kimley-Horn\660057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-2000 PAVING PLAN 7/14/2025 1:04 PM

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEVIN RANDALL
OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.:10438332

PAVING PLAN
SCALE: AS SHOWN

SHEET NUMBER:
C-2000
PAPER SIZE: E (36"x48")
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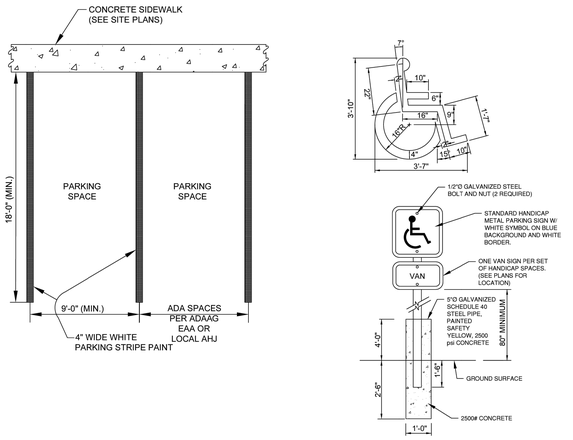
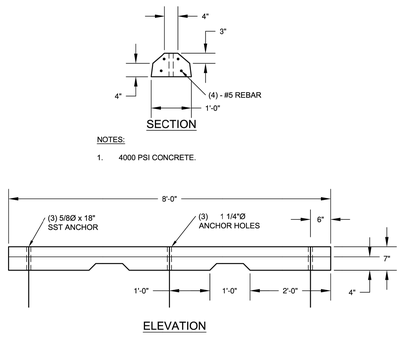


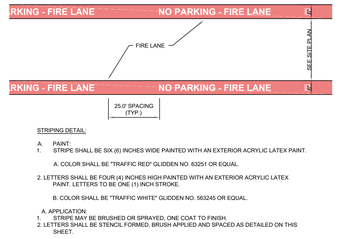
1 - NTS

VEHICLE SPACE MARKING



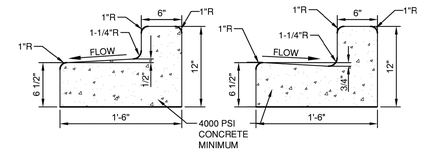
2 - NTS

CONCRETE WHEELSTOP



3 - NTS

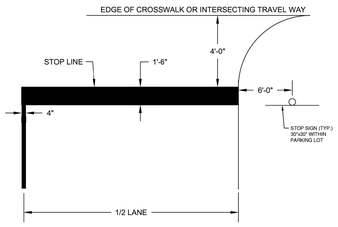
PAINTED FIRE LANE STRIPING



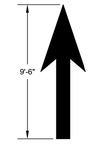
4 - NTS

STANDARD CURB AND GUTTER

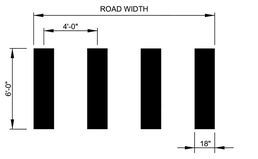
DETAILS SHOWN ARE FOR REFERENCE AND WILL REQUIRE LOCAL ADAPTATIONS PER AHJ



STOP BAR DETAIL



SOLID ARROW MARKING
TRAFFIC ARROW DETAIL



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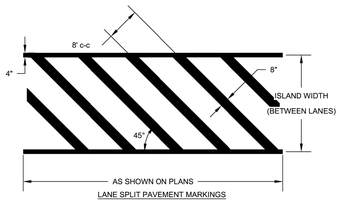
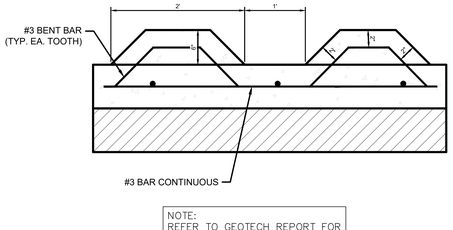


LANE SPLIT PAVEMENT MARKINGS



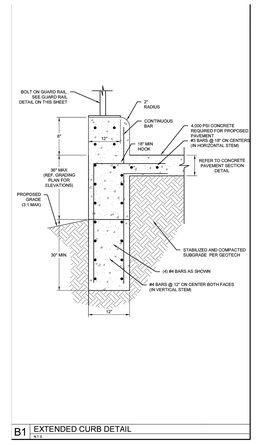
NOTE:
REFER TO GEOTECH REPORT FOR FURTHER INFORMATION.

6" SAWTOOTH CURB SECTION

SCALE: NONE

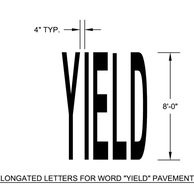
6 - NTS

6" SAWTOOTH CURB SECTION

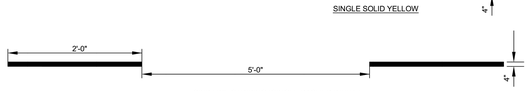


7 - NTS

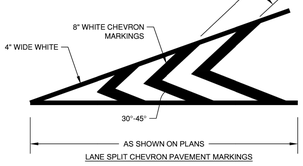
EXTENDED CURB DETAIL



ELONGATED LETTERS FOR WORD "YIELD" PAVEMENT MARKING



SKIP LINE STRIPING (SINGLE DASHED WHITE)



LANE SPLIT CHEVRON PAVEMENT MARKINGS

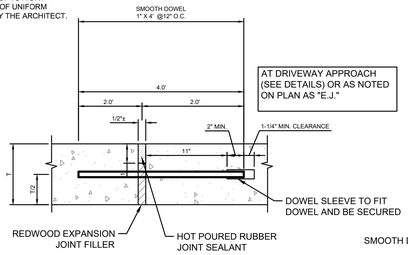
NOTES:

1. PLACE PAVEMENT STRIPING WHERE INDICATED ON THE PLANS AND PER MUTCD OR AHJ REGULATION.
2. PLACE STOP BARS AND CROSSWALKS AS ILLUSTRATED ON PLANS.
3. ALL PAVEMENT MARKINGS SHALL BE PAINTED RETROREFLECTIVE WHITE, UNLESS NOTED OTHERWISE.

STRIPING: PRIOR TO APPLICATION OF STRIPING PAINT, ASPHALT SURFACES SHOULD BE CLEANED OF MATERIAL THAT WOULD PREVENT ADHERENCE OF PAINT. PAINT SHALL BE APPLIED ONLY TO A DRY SURFACE USING EITHER TEMPLATE OF STRIPING MACHINE; STRIPES SHALL BE 4" WIDE OF UNIFORM WEIGHT WITH NO "SKIPS" OR BARE SPOTS. FINISHED STRIPING SHALL BE APPROVED BY THE ARCHITECT.

5 - NTS

PAVEMENT MARKING STANDARDS

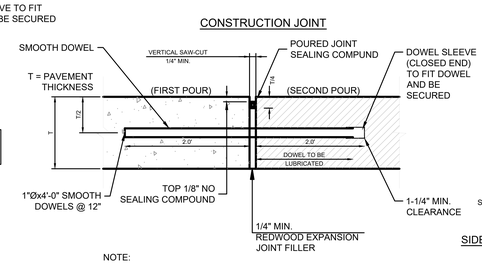


T=PAVEMENT THICKNESS

NOTE:
DOWEL SUPPORT SHALL BE OF A METHOD APPROVED BY ENGINEER

NOTE:
REFER TO GEOTECH REPORT FOR FURTHER INFORMATION.

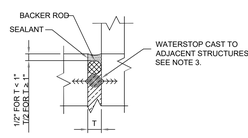
EXPANSION JOINT



NOTE:
1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE.
2. TO BE USED BETWEEN NEW AND RECENTLY COMPLETED POURS.
3. SEE EXPANSION JOINT DETAIL FOR SMOOTH DOWEL SIZE AND LENGTH

8 - NTS

JOINTS

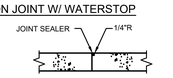


NOTES:

1. USE T=1" FOR NEW CONCRETE ADJACENT TO BUILDINGS OR EXISTING SAW-CUT PAVEMENT/CONCRETE.
2. PROVIDE 1/2" EXPANSION JOINT WHERE CONCRETE PAVING AND SIDEWALK ABUTS ADJACENT STRUCTURES AND DISSIMILAR SURFACES.
3. WATERSTOP TO BE USED AT ALL EXPANSION JOINTS IN THE LOADING DOCK PAVEMENT AREAS.
4. CONTRACTOR TO SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR REVIEW & APPROVAL.

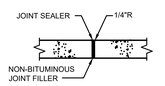
EXPANSION JOINT W/ WATERSTOP

SIDEWALK CONTRACTION JOINT



USE ONLY WHERE CONTRACTION JOINTS WOULD OCCUR

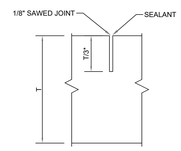
SIDEWALK CONSTRUCTION JOINT



MAXIMUM SPACING 40'. USE AT ABUTTING BUILDINGS, CURBS, WALLS AND OTHER STRUCTURES, AND AS SHOWN.

SIDEWALK EXPANSION JOINT

CONTROL JOINT



NOTES:

1. CONTROL JOINTS SHALL BE SPACED AT MAX. OF 15'-0" O/C EW UNLESS OTHERWISE NOTED ON PLANS.
2. JOINT DEPTH = 2 1/2" (MAX)
3. CONTRACTOR TO SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR REVIEW & APPROVAL.

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ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
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Seattle, WA 98101
Ph. (206) 461-6000

MEP:
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Seattle, WA 98101
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CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER — DEVIN RANDALL — OKLAHOMA
2026-04-03

REVISIONS			DRAWN:
NO.	DATE	DESCRIPTION	
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB	
			APPRV'D:

CYL-HUB

PROJECT ADDRESS:
CONFIDENTIAL

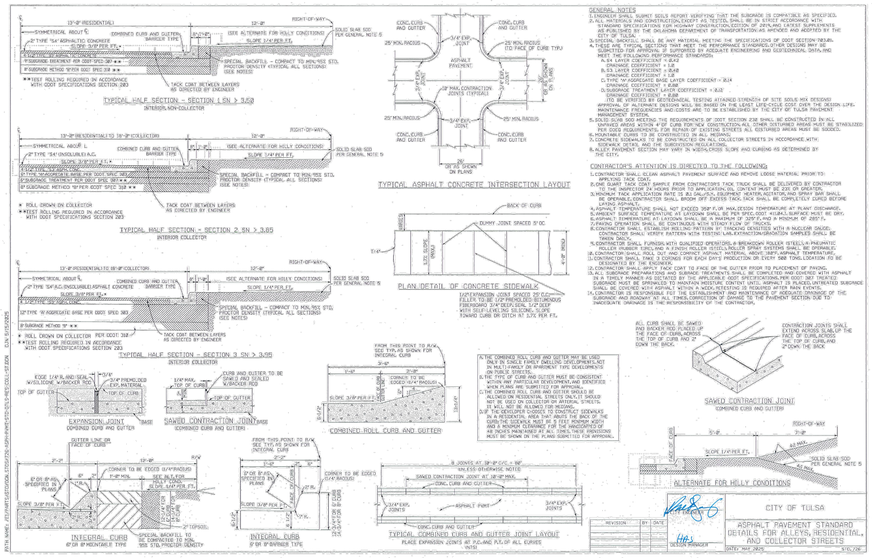
PROJ. NO.: 10438332

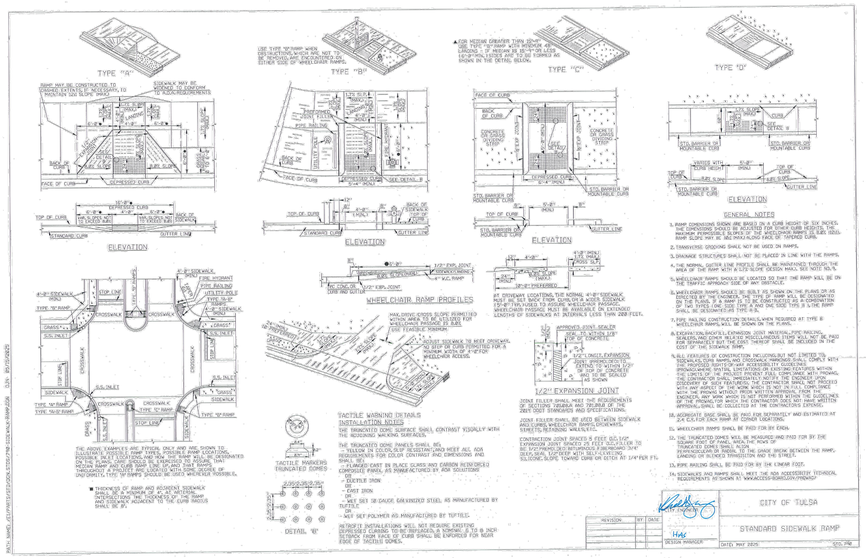
PAVING DETAILS

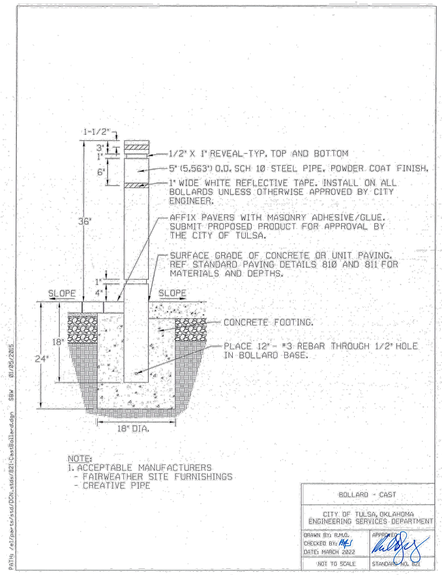
SCALE: AS SHOWN

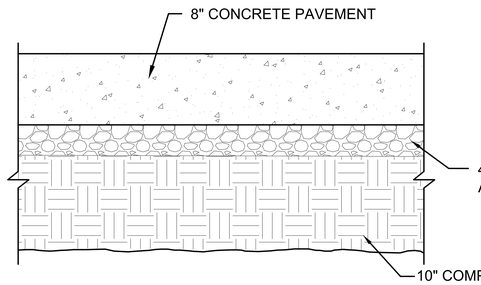
SHEET NUMBER:
C-2001

PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB





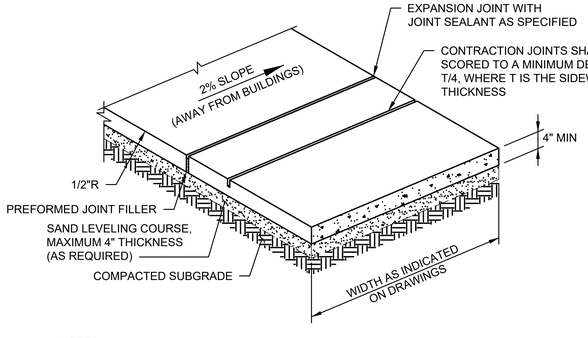




NOTES:

1. PREPARE SUBGRADE IN ACCRDANCE WITH THE GEOTECHNICAL REPORT, A MINIMUM OF 12 INCHES OF SUBGRADE SHALL BE SCARIFIED AND RECOMPACTED, FOLLOWED BY THE PROOFROLLING.

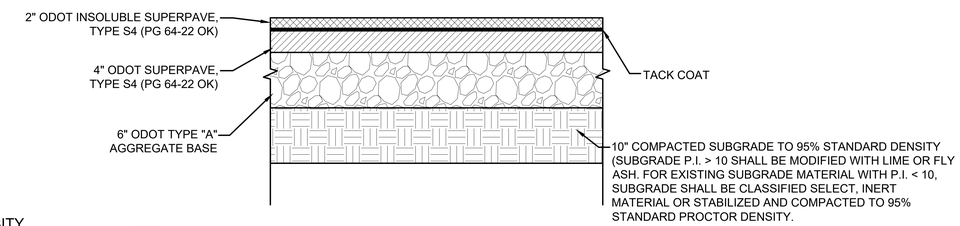
1 HEAVY-DUTY CONCRETE
NTS



NOTES:

1. REINFORCED CONCRETE SIDEWALKS SHALL BE 4,000 PSI WITH EPOXY COATED 6" X 6" WI 4 X WI 4 WELDED WIRE FABRIC, AT LOCATIONS INDICATED ON PLANS. REINFORCEMENT SHALL BE DISCONTINUED THROUGH ALL EXPANSION JOINTS.
2. JOINT SPACING SHALL BE EQUAL TO THE WIDTH OF THE SIDEWALK.
3. SEE CITY OF TULSA DETAIL 726 (THIS SHEET)

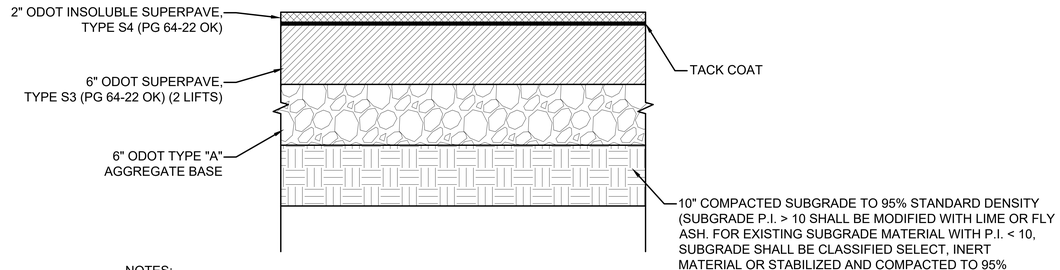
3 CONCRETE SIDEWALK
NTS



NOTES:

1. ALL PAVEMENT COURSES TO MEET MINIMUM REQUIREMENTS OF LOCAL JURISDICTIONAL STANDARD SPECIFICATIONS.
2. PAVEMENT SECTION PER THE GEOTECHNICAL ENGINEERING REPORT
3. THE FINAL PAVING SHALL BE EVEN WITH TOP OF GUTTER.

2 LIGHT DUTY ASPHALT
NTS



NOTES:

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2. PAVEMENT SECTION PER THE GEOTECHNICAL ENGINEERING REPORT
3. THE FINAL PAVING SHALL BE EVEN WITH TOP OF GUTTER.

4 HEAVY DUTY ASPHALT
NTS

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ARCHITECTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	STRUCTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	MEP: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000
CIVIL: Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868	CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION	LICENSED PROFESSIONAL ENGINEER DEVIN RANDALL OKLAHOMA 2026-04-03

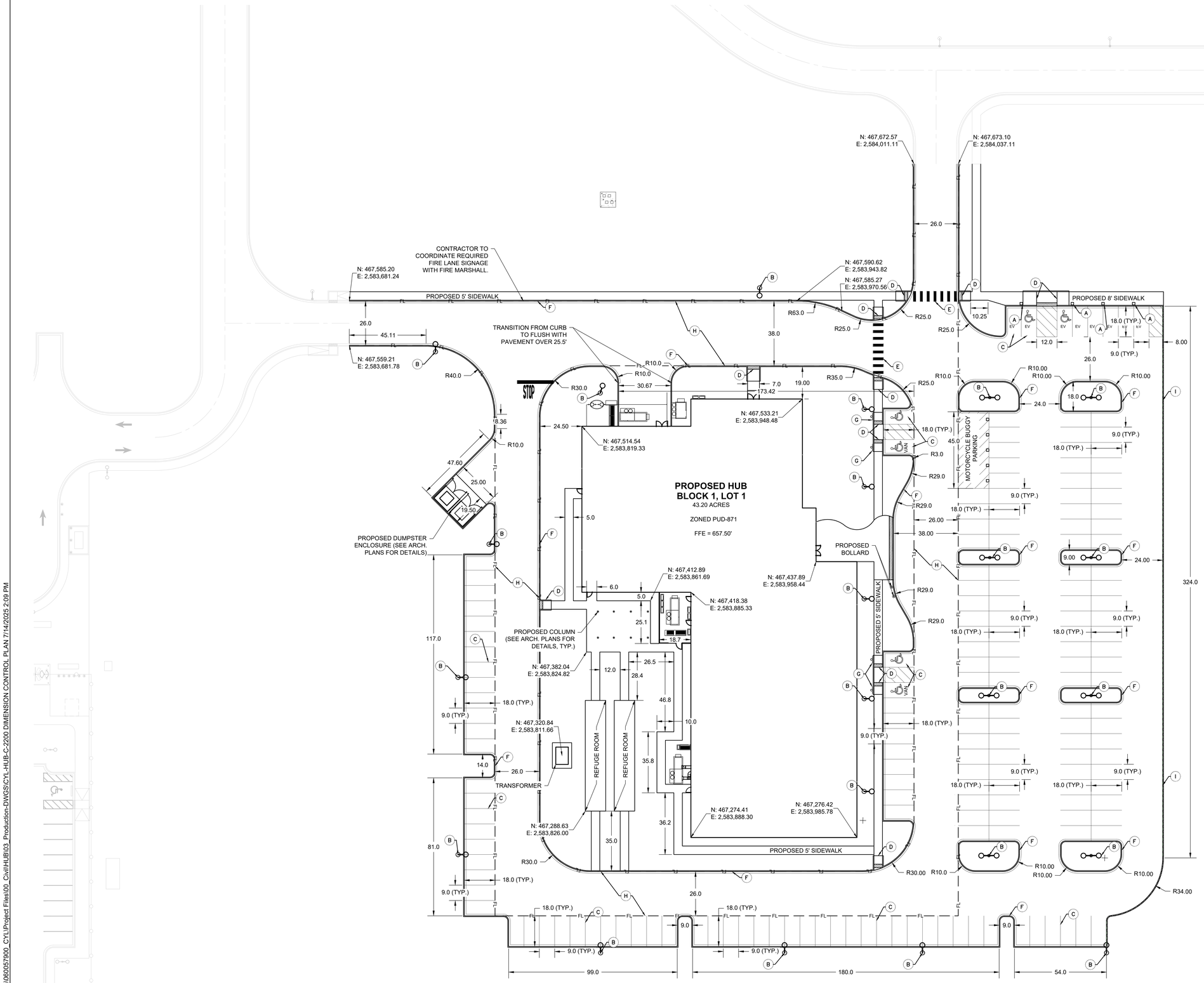
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.:10438332

PAVING DETAILS
SCALE: AS SHOWN

SHEET NUMBER:
C-2002
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB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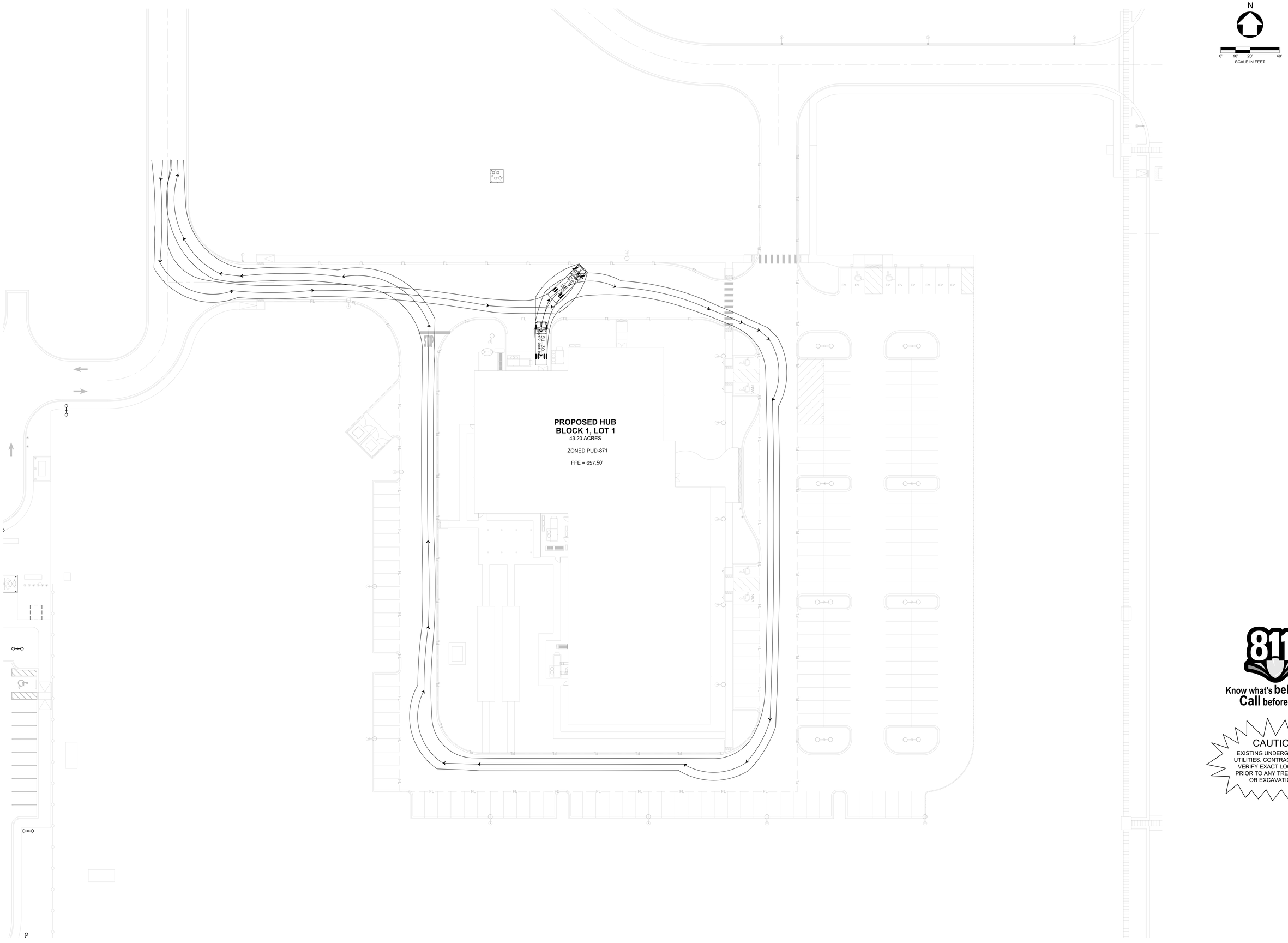
E: 2,584,011.11
N: 467,673.10
E: 2,584,037.11
N: 467,585.20
E: 2,583,681.24
CONTRACTOR TO COORDINATE REQUIRED FIRE LANE SIGNAGE WITH FIRE MARSHALL.
PROPOSED 5' SIDEWALK
N: 467,590.62
E: 2,583,943.82
N: 467,585.27
E: 2,583,970.56
PROPOSED 8' SIDEWALK
TRANSITION FROM CURB TO FLUSH WITH PAVEMENT OVER 25.5'
N: 467,559.21
E: 2,583,681.78
STOP
N: 467,533.21
E: 2,583,948.48
N: 467,514.54
E: 2,583,819.33
PROPOSED HUB
BLOCK 1, LOT 1
43.20 ACRES
ZONED PUD-871
FFE = 657.50'
PROPOSED DUMPSTER ENCLOSURE (SEE ARCH. PLANS FOR DETAILS)
PROPOSED BOLLARD
N: 467,412.89
E: 2,583,861.69
N: 467,418.38
E: 2,583,885.33
N: 467,437.89
E: 2,583,958.44
PROPOSED COLUMN (SEE ARCH. PLANS FOR DETAILS, TYP.)
PROPOSED 5' SIDEWALK
N: 467,382.04
E: 2,583,824.82
N: 467,320.84
E: 2,583,811.66
REFUGE ROOM
REFUGE ROOM
TRANSFORMER
N: 467,288.63
E: 2,583,826.00
N: 467,274.41
E: 2,583,888.30
N: 467,276.42
E: 2,583,985.78
PROPOSED 5' SIDEWALK
MOTORCYCLE BUGGY PARKING
VAN
VAN
VAN
VAN
EV
EV
EV



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

CAUTION
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ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
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CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
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Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

DEVIN RANDALL 29241 OKLAHOMA PROFESSIONAL ENGINEER
2026-04-03

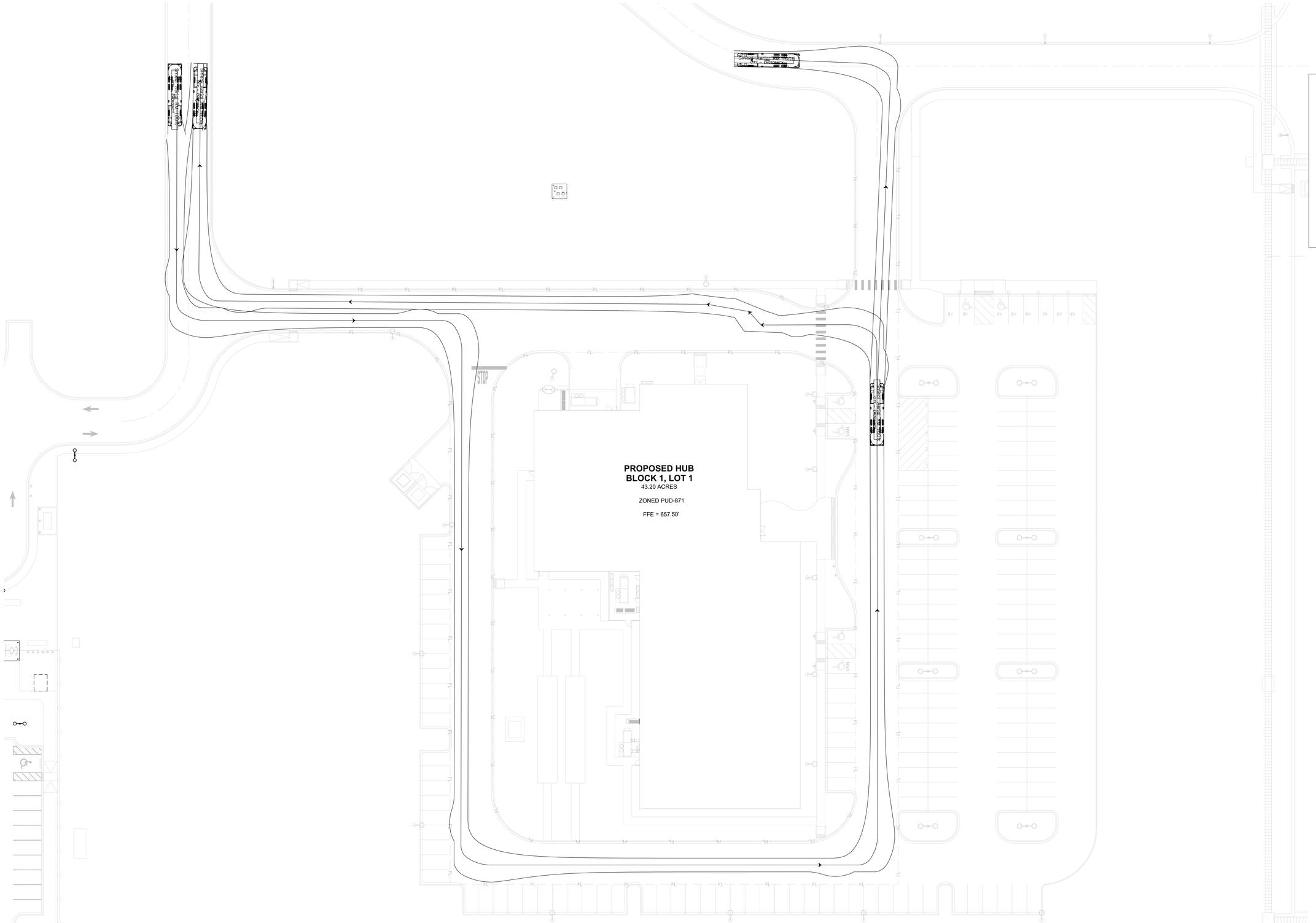
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

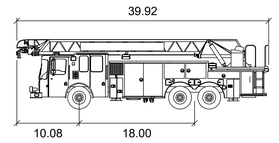
AUTOTURN PLAN
SCALE: AS SHOWN

SHEET NUMBER:
C-2300
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



N

0' 10' 20' 40'
SCALE IN FEET



Smeal Aerial RM 100ft

	feet
Width	: 8.33
Track	: 7.92
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

C:\ACC\ACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-2400 FIRE ACCESS PLAN 9/25/2025 7:36 PM

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEMA RANDALL
OKLAHOMA
2026-04-03

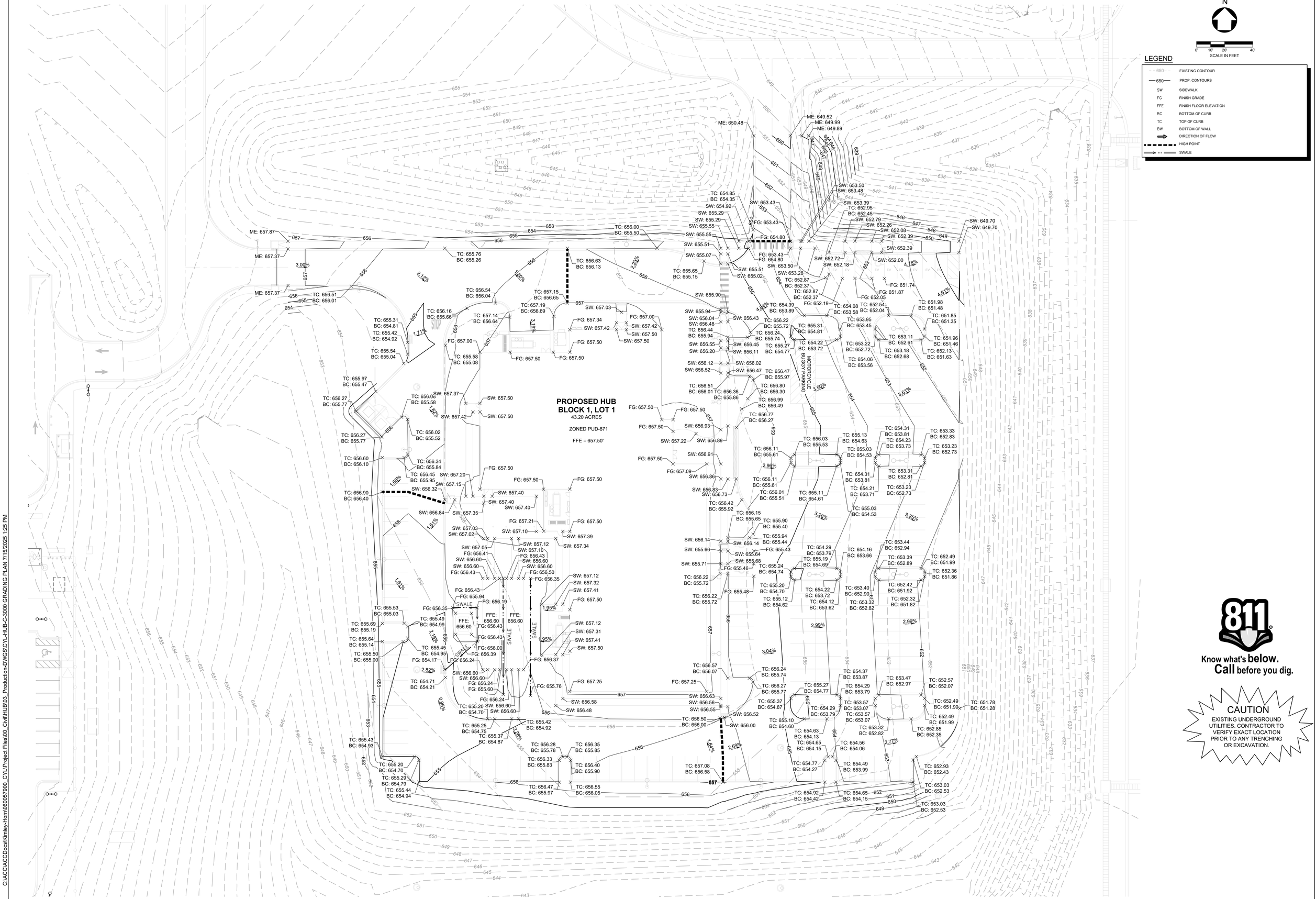
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

FIRE ACCESS PLAN
SCALE: AS SHOWN

SHEET NUMBER:
C-2400
PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB



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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

C:\ACCIACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-3000 GRADING PLAN 7/15/2025 1:25 PM

ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

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ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEWA RANDALL
OKLAHOMA
2026-04-03

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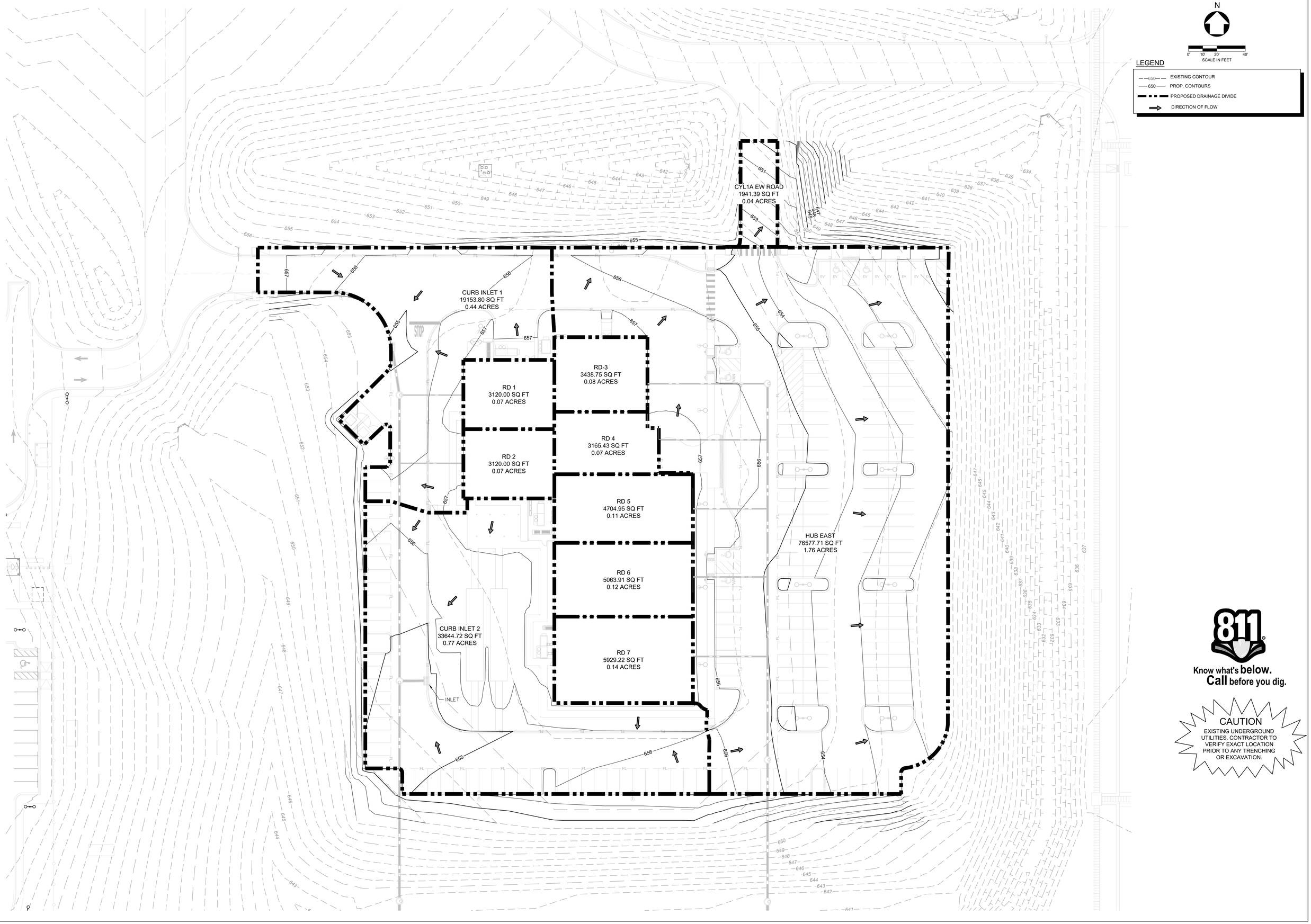
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.:10438332

GRADING PLAN
SCALE: AS SHOWN

SHEET NUMBER:
C-3000
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

C:\ACCVACCDocs\Kimley-Horn\0600057900_CYL\Project Files\00_Civil\HUB03_Production-DWGS\CYL-HUB-C-3200 DRAINAGE AREA MAP 7/31/2025 10:55 AM

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
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CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEAN RANDALL
OKLAHOMA
2026-04-03

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APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

DRAINAGE AREA MAP
SCALE: AS SHOWN

SHEET NUMBER:
C-3200
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB

N

0' 10' 20' 40'
SCALE IN FEET

KEY MAP

- PROPOSED RCP
- PROPOSED MANHOLE
- PROPOSED CURB INLET
- PROPOSED PREFABRICATED CONCRETE END SECTION (PCES)

PROPOSED 8" FIRE WATER
PROPOSED 8" DOMESTIC WATER
PROPOSED 6" SANITARY SEWER

HUB-ST-CI-001
INLET CI DESIGN 2
RIM: 654.83
INV OUT: 650.75 (15" S)

14+35

34 LF 15" CPP @ 1.00%

HUB-ST-MH-005
1 - STD. 4' DIA. STMH
RIM: 655.28
INV IN: 650.41 (15" N)
INV IN: 651.16 (6" E)
INV OUT: 650.41 (15" S)

10+00
45 LF 6" CPP @ 3.00%
10+45

HUB-ST-ST-012
6" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.26
INV OUT: 652.50 (6" W)

14+00

48 LF 15" CPP @ 1.00%

CYL-HUB-STRM-2.3
CYL-HUB-STRM-2.2

10+00
45 LF 6" CPP @ 4.07%
10+45

HUB-ST-ST-011
6" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.00
INV OUT: 652.50 (6" W)

HUB-ST-T-010
15" X 6" TEE
INV IN: 650.68 (6" E)
INV IN: 649.93 (15" N)
INV OUT: 649.93 (15" S)

PROPOSED 8" DOMESTIC WATER
PROPOSED 8" FIRE WATER

13+00
151 LF 15" CPP @ 1.02%

PROPOSED HUB BLOCK 1, LOT 1
43.20 ACRES

ZONED PUD-871

FFE = 657.50'

CYL-HUB-STRM-1.0

HUB-ST-ST-005
10" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.00
INV OUT: 652.50 (6" E)

14+96
14+50
84 LF 8" CPP @ 3.50%

HUB-ST-MH-002
1 - STD. 4' DIA. STMH
RIM: 655.40
INV IN: 649.55 (8" W)
INV OUT: 648.96 (15" S)

14+00
39 LF 15" CPP @ 1.00%

CYL-HUB-STRM-1.4

HUB-ST-ST-009
8" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.50
INV OUT: 652.50 (8" E)

10+76
10+50
76 LF 8" CPP @ 4.38%
10+00

HUB-ST-T-004
15" X 8" TEE
INV IN: 648.57 (15" N)
INV IN: 649.15 (8" W)
INV OUT: 648.57 (15" S)

13+50
48 LF 15" CPP @ 1.00%

HUB-ST-ST-008
8" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.23
INV OUT: 652.50 (8" E)

CYL-HUB-STRM-1.3

10+50
10+52
52 LF 8" CPP @ 7.32%
10+00

HUB-ST-T-003
15" X 8" TEE
INV IN: 648.09 (15" N)
INV IN: 648.67 (8" W)
INV OUT: 648.09 (15" S)

6" SAWTOOTH CURB.
SEE 6/C-2001 FOR
DETAIL.

13+00
48 LF 15" CPP @ 1.00%

CYL-HUB-STRM-1.2

10+50
10+52
52 LF 8" CPP @ 8.24%
10+00

HUB-ST-T-002
15" X 8" TEE
INV IN: 647.61 (15" N)
INV IN: 648.19 (8" W)
INV OUT: 647.61 (15" S)

PROPOSED TELECOM CONDUITS

HUB-ST-ST-007
8" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.23
INV OUT: 652.50 (8" E)

12+50
56 LF 15" CPP @ 1.00%

CYL-HUB-STRM-1.1

10+53
10+50
52 LF 8" CPP @ 9.31%
10+00

HUB-ST-T-001
15" X 8" TEE
INV IN: 647.05 (15" N)
INV IN: 647.63 (8" W)
INV OUT: 647.05 (15" S)

HUB-ST-ST-006
6" ROOF DRAIN
CONNECTION
SEE MEP PLANS FOR
BUILDING CONNECTION
RIM: 657.23
INV OUT: 652.50 (8" E)

12+00
73 LF 15" CPP @ 1.00%

CYL-HUB-STRM-2.1

12+00
10+00
HUB-ST-CI-002
INLET CI DESIGN 2(2A)
RIM: 654.32
INV OUT: 648.81 (15" W)

10+19
19 LF 15" CPP @ 2.32%

HUB-ST-MH-004
1 - STD. 4' DIA. STMH
RIM: 654.74
INV IN: 648.37 (15" N)
INV IN: 648.37 (15" E)
INV OUT: 648.37 (15" S)

PROPOSED 8" DOMESTIC WATER

11+50

HUB-ST-MH-001
1 - STD. 4' DIA. STMH
RIM: 655.18
INV IN: 646.32 (15" N)
INV OUT: 642.55 (15" S)

11+00
155 LF 15" CPP @ 5.66%

11+00
100 LF 15" CPP @ 6.03%

HUB-ST-MH-003
1 - STD. 4' DIA. STMH
RIM: 644.02
INV IN: 639.61 (15" N)
INV OUT: 634.66 (18" S)

10+50

HUB-ST-MH-006
1 - STD. 4' DIA. STMH
RIM: 641.78
INV IN: 636.53 (15" N)
INV OUT: 632.27 (18" S)

43 LF 18" CPP @ 1.50%

10+00
CLASS 3 (D50: 10") RIP RAP APRON
LENGTH: 7.5' DEPTH: 24"
PER DETAIL 1/C-3500

HUB-ST-PCES-002
INV IN: 634.00 (18" N)

10+00
CLASS 1 (D50: 5") RIP RAP APRON
LENGTH: 6', DEPTH: 18"
PER DETAIL 1/C-3500

HUB-ST-PCES-001
INV IN: 631.63 (18" N)

44 LF 18" CPP @ 1.50%

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

C:\ACC\ACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-3300 STORM SEWER PLAN 7/15/2025 1:36 PM

ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEVIN RANDALL
OKLAHOMA
2026-04-03

REVISIONS			DRAWN:
NO.	DATE	DESCRIPTION	
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB	
			APPRV'D:

CYL-HUB

PROJECT ADDRESS:
CONFIDENTIAL

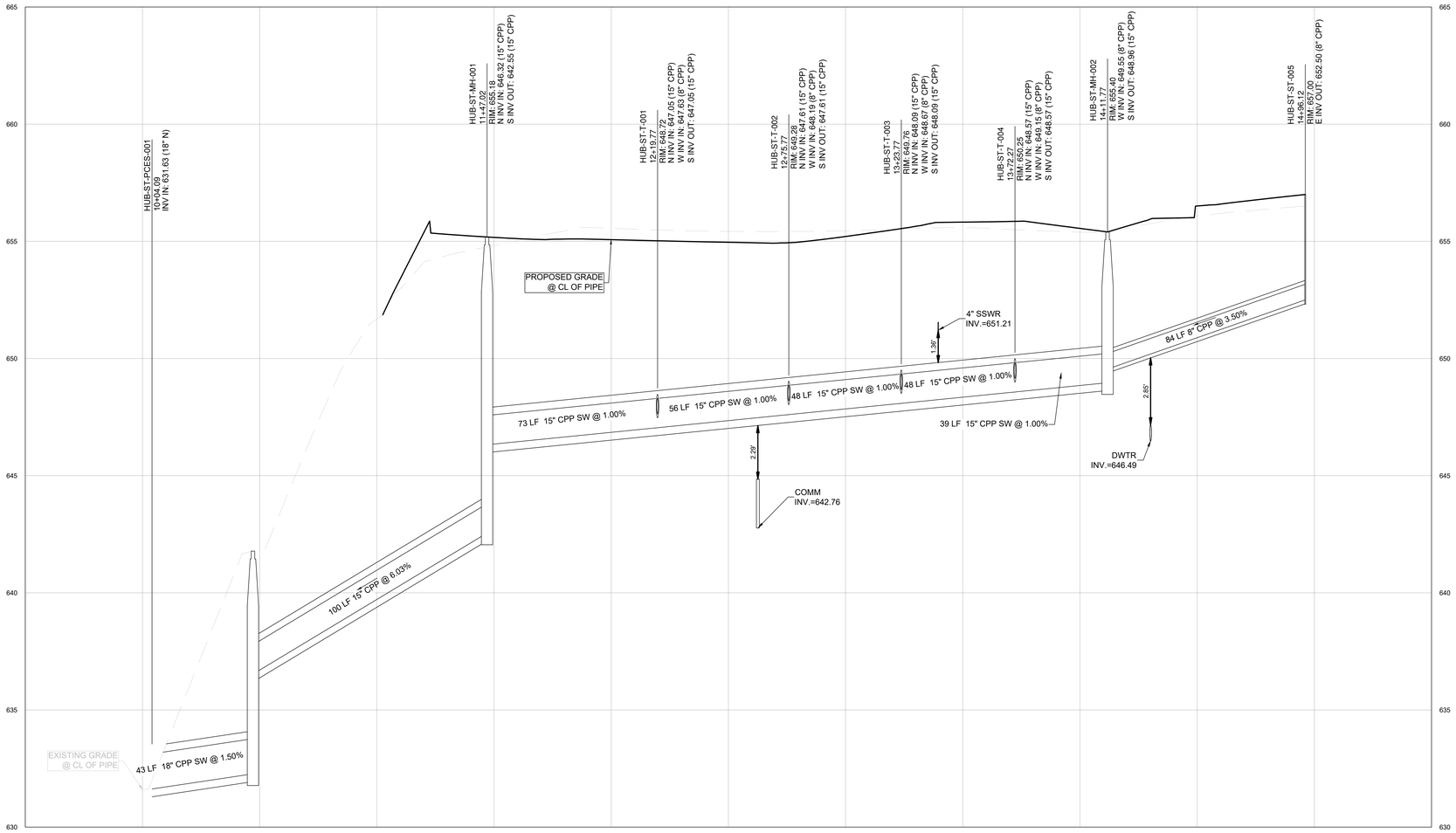
PROJ. NO.: 10438332

STORM SEWER PLAN

SCALE: AS SHOWN

SHEET NUMBER:
C-3300

PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB



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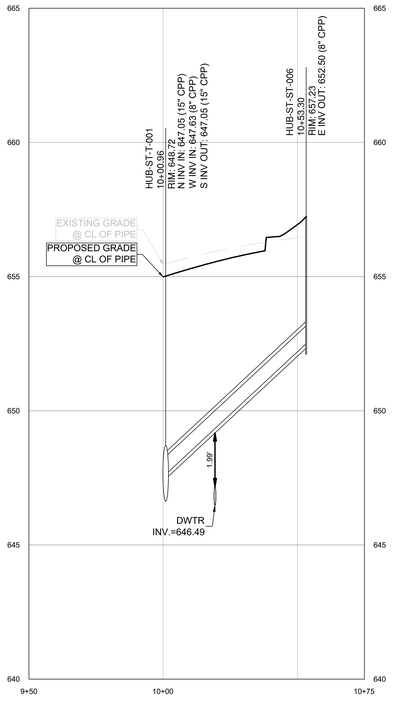
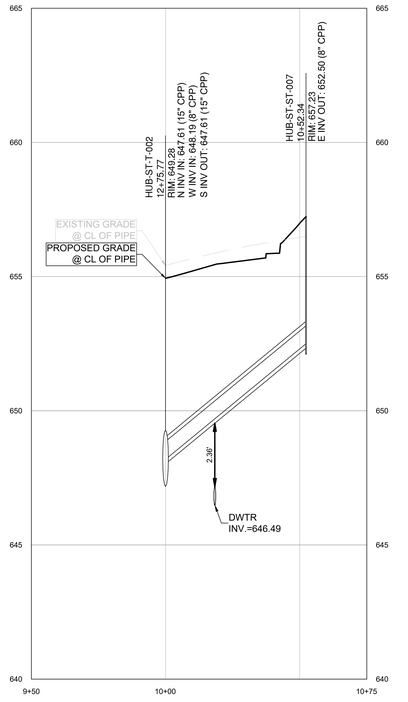


CYL-HUB-STRM-1.1 PROFILE



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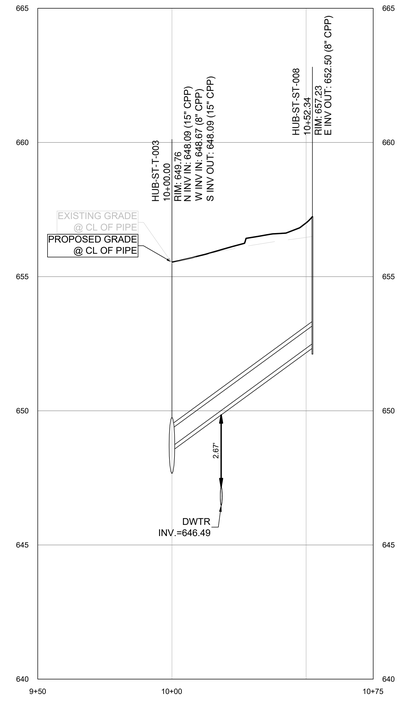
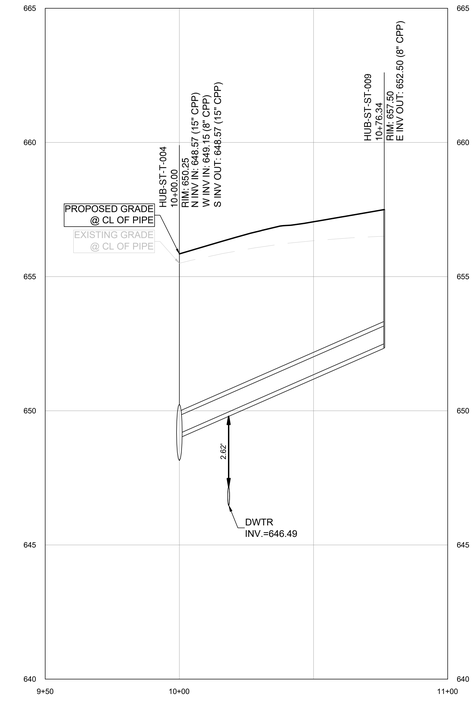


CYL-HUB-STRM-1.3 PROFILE



CYL-HUB-STRM-1.4 PROFILE

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

CAUTION
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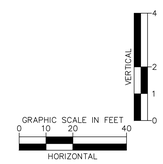

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ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
TIFFANY RAE KOLL
OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:

APPRV'D:

CYL-HUB

PROJECT ADDRESS:
CONFIDENTIAL

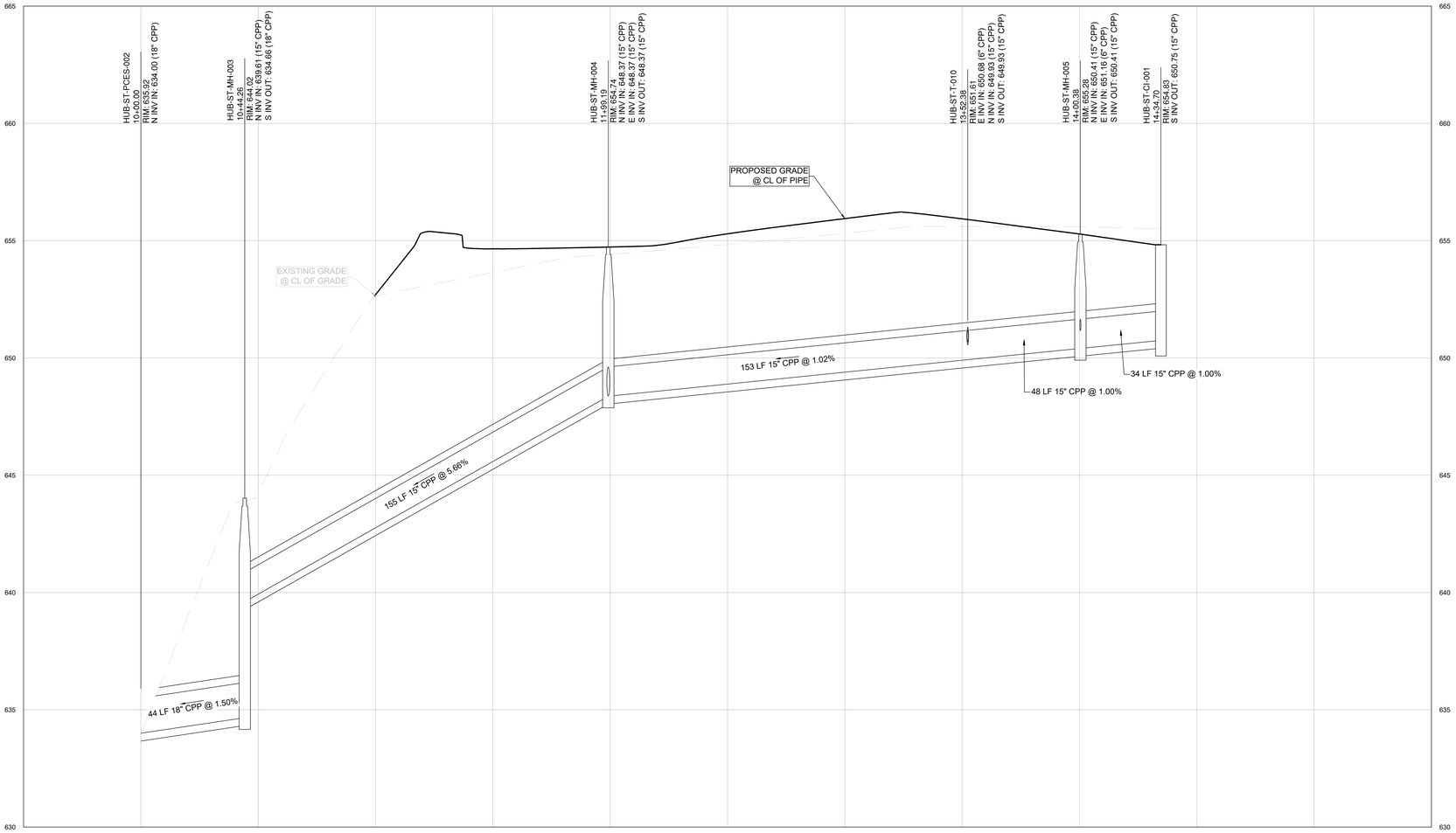
PROJ. NO.: 10438332

STORM PROFILES

SCALE: AS SHOWN

SHEET NUMBER:
C-3400

PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



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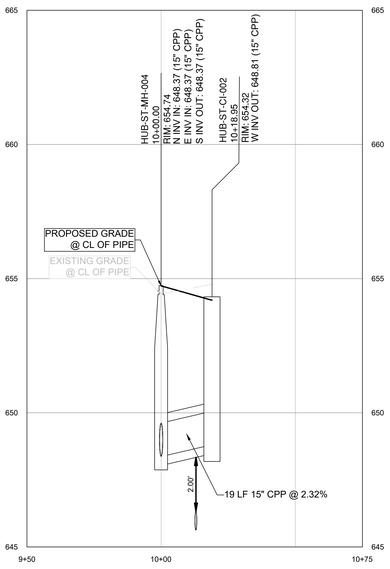

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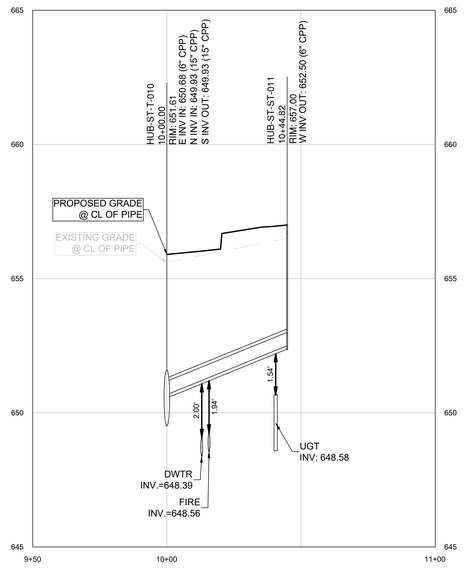

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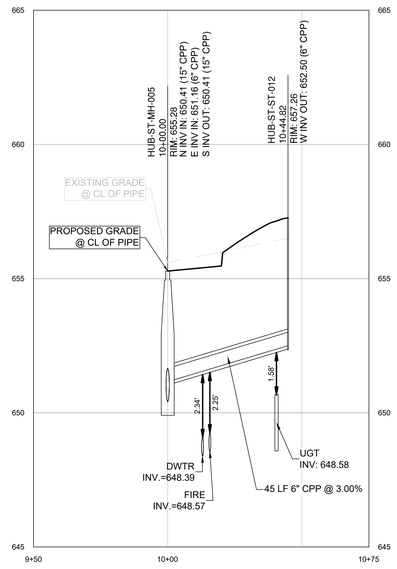


CYL-HUB-STRM-2.3 PROFILE

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

GRAPHIC SCALE IN FEET
HORIZONTAL: 0 10 20 40
VERTICAL: 0 1 2 4

C:\ACCVACCDocs\Kimley-Horn\080057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-3400 STORM PROFILES 7/15/2025 2:00 PM

ARCHITECTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	STRUCTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	MEP: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	CIVIL: Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DELMA RANDALL
OKLAHOMA
2026-04-03

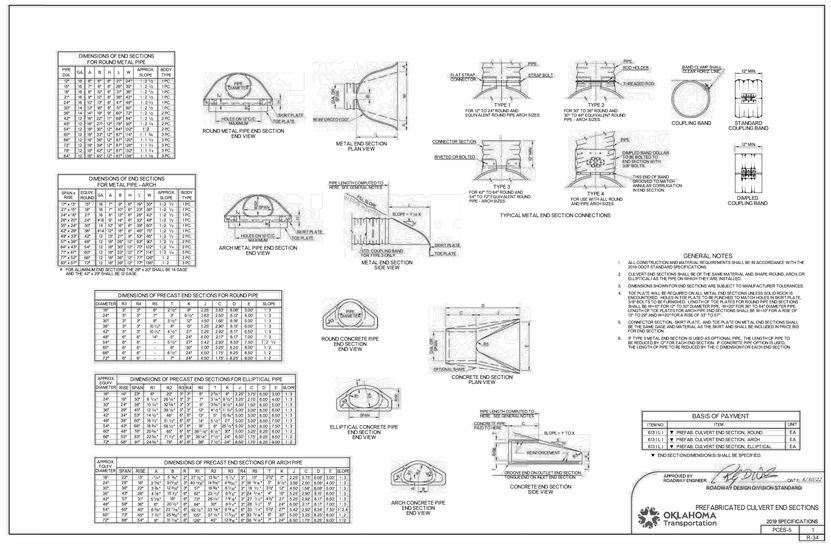
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

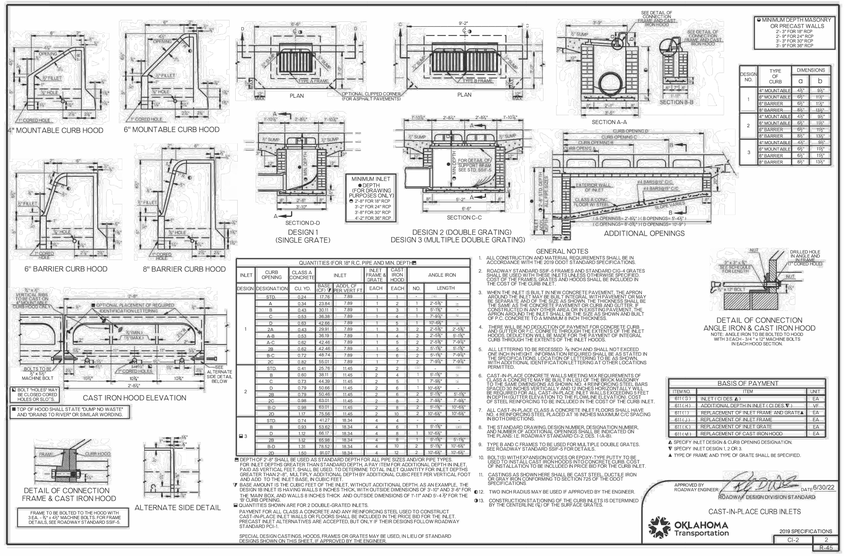
DRAWN:
APPRV'D:

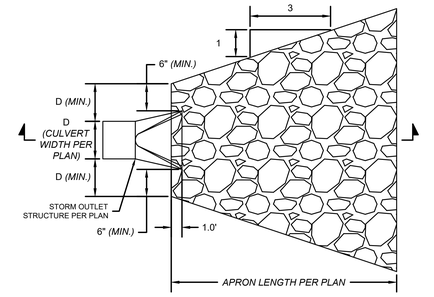
CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

STORM PROFILES
SCALE: AS SHOWN

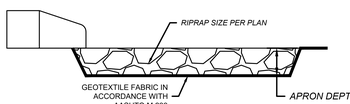
SHEET NUMBER:
C-3401
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB







RIPRAP APRON PLAN
NOT TO SCALE



RIPRAP APRON PROFILE
NOT TO SCALE

1 / - RIPRAP APRON DETAIL
NTS

C:\ACC\ACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-3500 STORM DETAILS 7/15/2025 1:37 PM

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
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Seattle, WA 98101
Ph. (206) 461-6000

MEP:
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Ph. (206) 461-6000

CIVIL:
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Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

DEVIN RAY HALL
2026-04-03

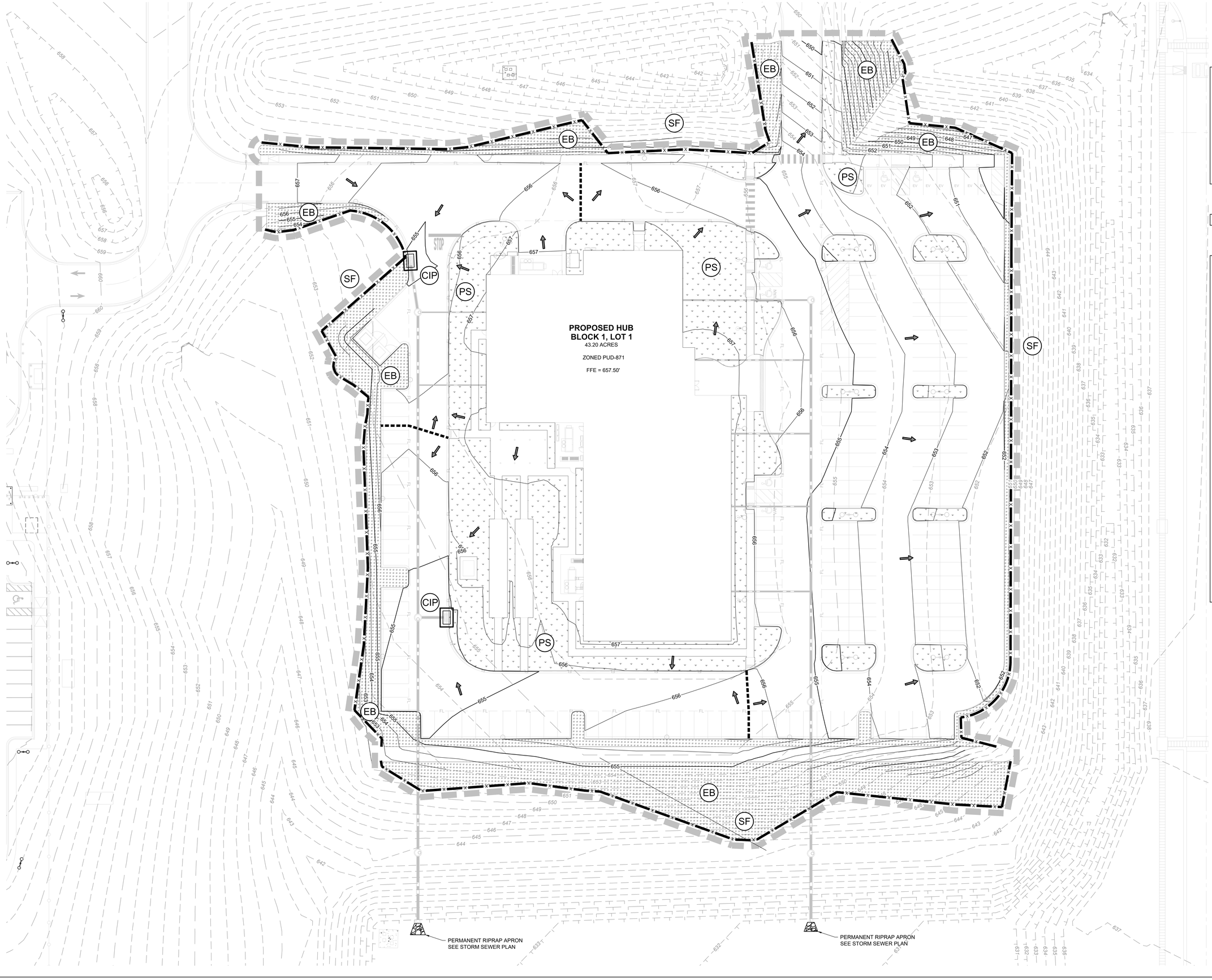
REVISIONS
NO. | DATE | DESCRIPTION
2026-04-03 | ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

STORM DETAILS
SCALE: AS SHOWN

SHEET NUMBER:
C-3500
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



N

0' 10' 20' 40'
SCALE IN FEET

LEGEND

- EXISTING CONTOUR
- PROP. CONTOURS
- DIRECTION OF FLOW
- HIGH POINT
- LIMITS OF DISTURBANCE
- SF FILTER BARRIER (SILT FENCE)
- CIP CURB INLET PROTECTION
- RD ROCK DAM
- PS PERMANENT STABILIZATION
- EB EROSION CONTROL BLANKET

DISTURBED AREA

TOTAL = 4.64 ACRES

EROSION AND POLLUTION CONTROL GENERAL NOTES:

1. THIS PART OF THE PROJECT SHALL COMPLY WITH THE OVERALL PROJECT REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE SWPPP AND THE ODEQ OKR10 PERMIT. THE CONTRACTOR FOR THIS PART OF THE PROJECT SHALL COORDINATE WITH THE OVERALL GC AND THE PERMIT HOLDER FOR ALL ACTIVITIES RELATED TO EARTH DISTURBANCE AND EROSION CONTROL, INCLUDING INSTALLATION, MAINTENANCE, AND INSPECTION OF BMP'S, ALTERATION OF FLOW PATTERNS AND/OR LIMITS OF DISTURBANCE, AND ALL REPORTING AND DOCUMENTATION REQUIREMENTS.
2. ALL CONTRACTORS SHALL COMPLY WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY GUIDELINES FOR BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AS IT RELATES TO PREVENTING POLLUTANTS IN STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR SHALL INSTALL EROSION AND POLLUTION CONTROL MEASURES AS INDICATED ON THE PLANS AND AS FIELD CONDITIONS WARRANT TO PREVENT OFFSITE MIGRATION OF SOILS OR OTHER POLLUTANTS BY VEHICULAR TRACKING OR IN STORM WATER RUNOFF. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. INSTALLATION OF CONTROL MEASURES, REPAIRS OR MODIFICATIONS TO THE MEASURES WILL BE MADE BY THE CONTRACTOR IF THE CONTROL MEASURES PROVE INEFFECTIVE OR IF ADDITIONAL CONTROL MEASURES ARE NECESSARY.
4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT TRACKING OF MUD AND/OR SOILS TO OFFSITE PAVEMENT. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY OFFSITE TRACKING THAT OCCURS.
5. ALL STOCKPILED SOILS WILL BE SURROUNDED BY A SILT FENCE, SEDIMENT CONTROL SWALE OR EQUIVALENT MEASURE TO PROPERLY CONTROL SEDIMENT RUNOFF.
6. THE CONTRACTOR SHALL DESIGNATE A CONCRETE TRUCK WASHOUT AREA. WASTE CONCRETE AND ASSOCIATED WATER AND MATERIAL WILL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.
7. THE CONTRACTOR SHALL CONSTRUCT A BERM OR OTHER SPILL PROTECTION MEASURE FOR ANY TEMPORARY FUEL STORAGE TANK(S) ON SITE TO CONTAIN AT LEAST ONE HALF (1/2) OF THE CAPACITY OF EACH TANK.
8. IF SUMP PUMPS ARE USED TO REMOVE WATER FROM EXCAVATED AREAS, THE DISCHARGE SHALL BE FILTERED OR DISCHARGED TO A SETTLING BASIN TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER ENTERS A STORM DRAIN OR LEAVES THE SITE.
9. INLET PROTECTION SHALL BE INSTALLED AT ALL ONSITE OR NEW INLETS TO PREVENT SEDIMENT AND SOILS FROM ENTERING THE STORM DRAIN SYSTEM UNTIL PERMANENT VEGETATION IS ESTABLISHED.
10. CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS OR IN CHANNELS, DRAINAGE WAYS OR BORROW DITCHES AT THE CONTRACTOR'S RISK. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURE INCLUDING FLOOD DAMAGE THAT OCCURS AS A RESULT OF BLOCKED DRAINAGE.
11. AT A MINIMUM, PERIMETER CONTROLS SUCH AS SILT FENCE SHALL BE INSTALLED AT ALL DOWN SLOPE BOUNDARIES OF DISTURBED AREAS AND AS WARRANTED WHERE PAVEMENT REMOVAL, UTILITY CONSTRUCTION, GRADING OR OTHER CONSTRUCTION ACTIVITIES ARE TO BE PERFORMED. THE CONTRACTOR SHALL AT ALL TIMES TAKE SUCH MEASURES AS NECESSARY TO PREVENT OFFSITE MIGRATION OF SEDIMENT AND DEBRIS.
12. IF DISCHARGE OF SOIL OR OTHER POLLUTANTS OCCURS, THE CONTROL MEASURES SHALL BE EVALUATED AND CHANGES OR ADDITIONAL MEASURES IMPLEMENTED WITHIN SEVEN (7) DAYS TO PREVENT FUTURE DISCHARGES.
13. DAMAGE TO ADJACENT PROPERTY AND/OR TO RECEIVING WATER CAUSED BY IMPROPERLY INSTALLED OR POORLY MAINTAINED EROSION AND POLLUTION CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY INCLUDES REMOVAL AND DISPOSAL OF ANY SILTATION, DEBRIS OR OTHER POLLUTANTS CAUSED BY HIS/HER OPERATIONS AND/OR FAILURE OF THE CONTROL MEASURES. FAILURE TO ADDRESS THE CAUSES OF DAMAGES MAY RESULT IN A STOP WORK ORDER.
14. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SEDIMENT BEFORE IT REACHES A DEPTH OF SIX (6) INCHES OR IMPAIRS THE EFFECTIVENESS OF THE CONTROL MEASURE.
15. THE CONTRACTOR SHALL STABILIZE, WITH SOME FORM OF GROUND COVER, ANY AREA WHERE CONSTRUCTION ACTIVITY IS TO BE CEASED (TEMPORARILY OR PERMANENTLY) FOR MORE THAN TWENTY-ONE (21) DAYS.
16. AT THE CONCLUSION OF THE PROJECT, ALL CHANNELS, DRAINAGE WAY AND BORROW DITCHES IN THE WORK ZONE SHALL BE CLEARED OF ANY SEDIMENT AND DEBRIS GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF THE EROSION AND POLLUTION CONTROL MEASURES.

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

C:\ACCVACCDocs\Kimley-Horn\9600579\00_CYL\Project Files\00_Civil\HUB\03_Production-DWGS\CYL-HUB-C-3700 EROSION CONTROL 8/6/2025 6:59 PM

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EROSION CONTROL
SCALE: AS SHOWN

SHEET NUMBER:
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PAPER SIZE: E (36"x48")
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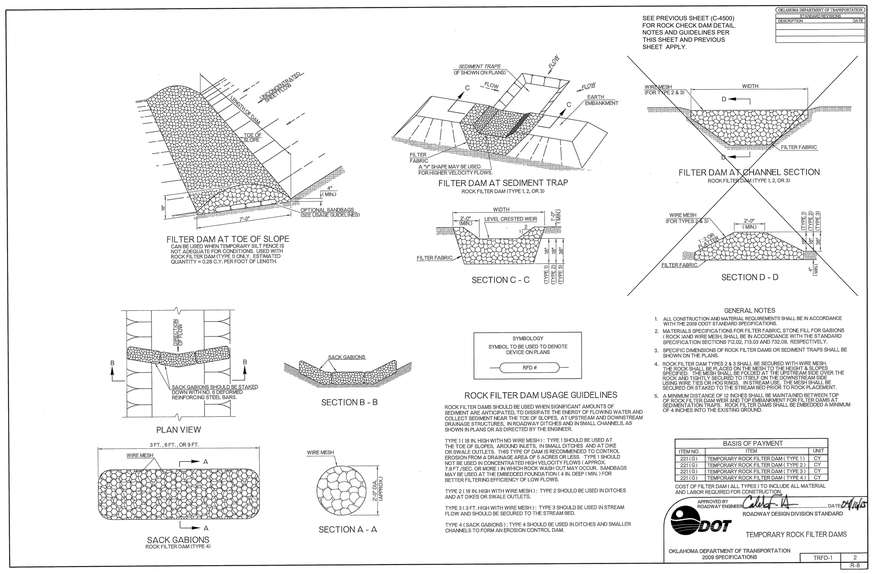
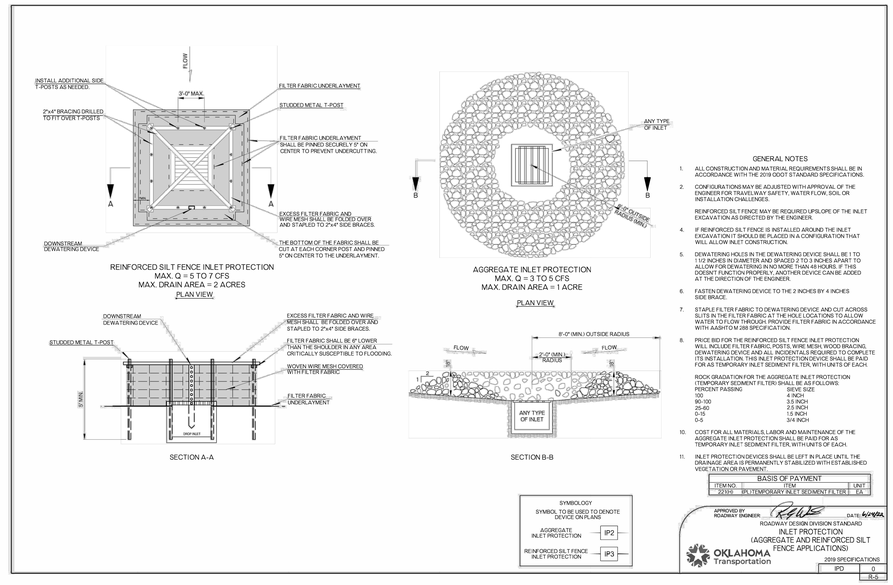


CD 4501 ROCK CHECK DAM DETAIL

NTS



IP 4501 INLET PROTECTION DETAIL

NTS

PRODUCT PLACEMENT NOTES

THE EROSION CONTROL PRODUCT SHOULD BE PLACED IMMEDIATELY AFTER COMPLETION OF THE PREPARATION OF THE AREA WHERE THE PRODUCT WILL BE PLACED.

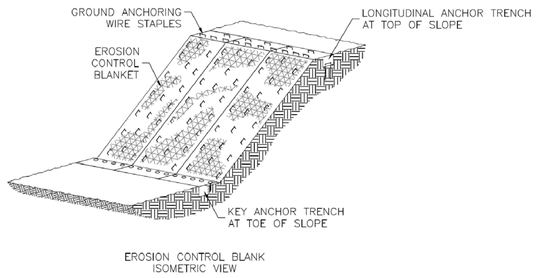
FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OR USE THE FOLLOWING INSTRUCTIONS. IF THERE IS A CONFLICT, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. STRIPS SHALL BE ROLLED OUT FLAT, PARALLEL TO THE DIRECTION OF FLOW, IN FLUMES AND DITCHES. ON STEEP CUT OR FILL SLOPES, STRIPS SHALL BE ROLLED OUT FLAT, AND PERPENDICULAR TO THE DIRECTION OF FLOW TO REDUCE RILL EROSION. WHEN 2 OR MORE STRIPS ARE REQUIRED TO COVER AN AREA, THEY SHALL OVERLAP AT LEAST 3" (75 MM); HOWEVER, EXCELSIOR BLANKETS WILL NOT REQUIRE LAPPING BUT ARE TO BE BUTTED TOGETHER AND STAPLED WITH HALF OF EACH STAPLE LOCATED IN EACH OF THE ADJOINING BLANKETS. ENDS OF STRIPS SHALL OVERLAP AT LEAST 6" (150 MM) WITH THE UPGRADE SECTION ON TOP. THE UPSLOPE END (ANCHOR SLOT) OF EACH STRIP SHALL BE BURIED IN 6" (150 MM) VERTICAL SLOTS, AND SOIL TAMPED FIRMLY AGAINST IT. FIGURE ECB-1 SHOWS TYPICAL EROSION CONTROL BLANKET INSTALLATION. WHEN CONDITIONS ARE WARRANTED BY THE OPINION OF THE QUALIFIED DESIGN PROFESSIONAL, ANY OTHER EDGE EXPOSED TO EXCESSIVE FLOW SHALL BE BURIED AS NOTED ABOVE. THE EROSION CONTROL PRODUCT SHALL BE SPREAD EVENLY AND SMOOTHLY, AND SHALL BE IN CONTACT WITH THE SOIL AT ALL POINTS. THE PRODUCT SHOULD NOT BE STRETCHED TIGHT IN SUCH A MANNER THAT THE MATERIAL "TENTS" OVER THE SOIL SURFACE. IF THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF THE EROSION CONTROL PRODUCT ARE DIFFERENT THAT THOSE GIVEN HERE, THE CONTRACTOR WILL BE REQUIRED TO FOLLOW THE MORE STRINGENT OF THE TWO.

CHECK SLOTS SHALL BE 24" (600 MM) MINIMUM WIDTH AND SEPARATE STRIPS OF EROSION CONTROL PRODUCT PLACED AT RIGHT ANGLES TO THE DIRECTION OF WATER FLOW IMMEDIATELY PRIOR TO PLACING THE GENERAL COVERING OF THE PRODUCT. CHECK SLOTS SHALL BE MADE BY BURYING A TIGHT FOLD OF THE PRODUCT VERTICALLY IN THE SOIL A MINIMUM OF 6" (150 MM) DEEP, AND TAMPING AND STAPLING THE FOLD IN PLACE. CHECK SLOTS SHALL BE PLACED SO THAT ONE CHECK SLOT, JUNCTION SLOT, OR ANCHOR SLOT OF THE EROSION CONTROL PRODUCT OCCURS EVERY 50 FEET (15 M) OF SLOPE. IF THE MANUFACTURER'S RECOMMENDATIONS FOR THE INSTALLATION OF CHECK SLOTS ARE DIFFERENT THAN THOSE GIVEN HERE, THE CONTRACTOR WILL BE REQUIRED TO FOLLOW THE MORE STRINGENT OF THE TWO.

EACH STRIP SHALL BE STAPLED IN 3 ROWS, AT EACH EDGE AND THE CENTER, WITH STAPLES SPACED NOT MORE THAN 3 FEET (900 MM) LONGITUDINALLY. CHECK SLOTS AND ENDS OF STRIPS SHALL BE STAPLED AT 9" (225 MM) INTERVALS ACROSS THEIR WIDTH.

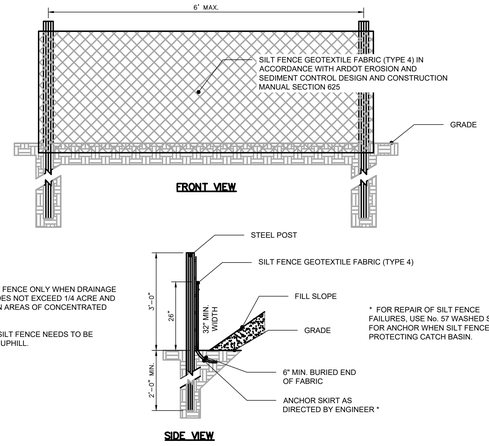
FOR TEMPORARY BLANKETS, STAPLES SHOULD BE U-SHAPED WIRE WITH AN 11-GAUGE THICKNESS OR GREATER. STAPLES SHOULD BE OF SUFFICIENT THICKNESS FOR SOIL PENETRATION WITHOUT UNDUE DISTORTION. THE LEGS OF THE STAPLES SHALL BE AT LEAST 6" LONG WITH A CROWN OF 1". APPROPRIATE BIODEGRADABLE STAPLES CAN BE USED IN LIEU OF WIRE STAPLES.

PERMANENT BLANKETS SHALL BE ANCHORED IN ONE OF TWO WAYS. BLANKETS CAN BE ANCHORED USING SOUND WOOD STAKES, 1" BY 3" STOCK SAWN IN A TRIANGULAR SHAPE. THE LENGTH OF THE STAKES SHALL BE FROM 12" TO 18" DEPENDING UPON THE SOIL COMPACTION AT THE SITE. STAKES SHALL BE INSTALLED ON 4 FEET CENTERS ALONG EACH EDGE OF THE BLANKET. BLANKETS CAN ALSO BE ANCHORED USING U SHAPED STAPLES OF 11 GAUGE STEEL OR GREATER WITH A MINIMUM LEG LENGTH OF 8" AND A 2" CROWN.



EB 4500 EROSION CONTROL BLANKET DETAIL

NTS



SF 4500 SILT FENCE DETAIL

NTS

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CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

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PROJ. NO.: 10438332

EROSION CONTROL DETAILS
SCALE: AS SHOWN

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PAPER SIZE: E (36"x48")
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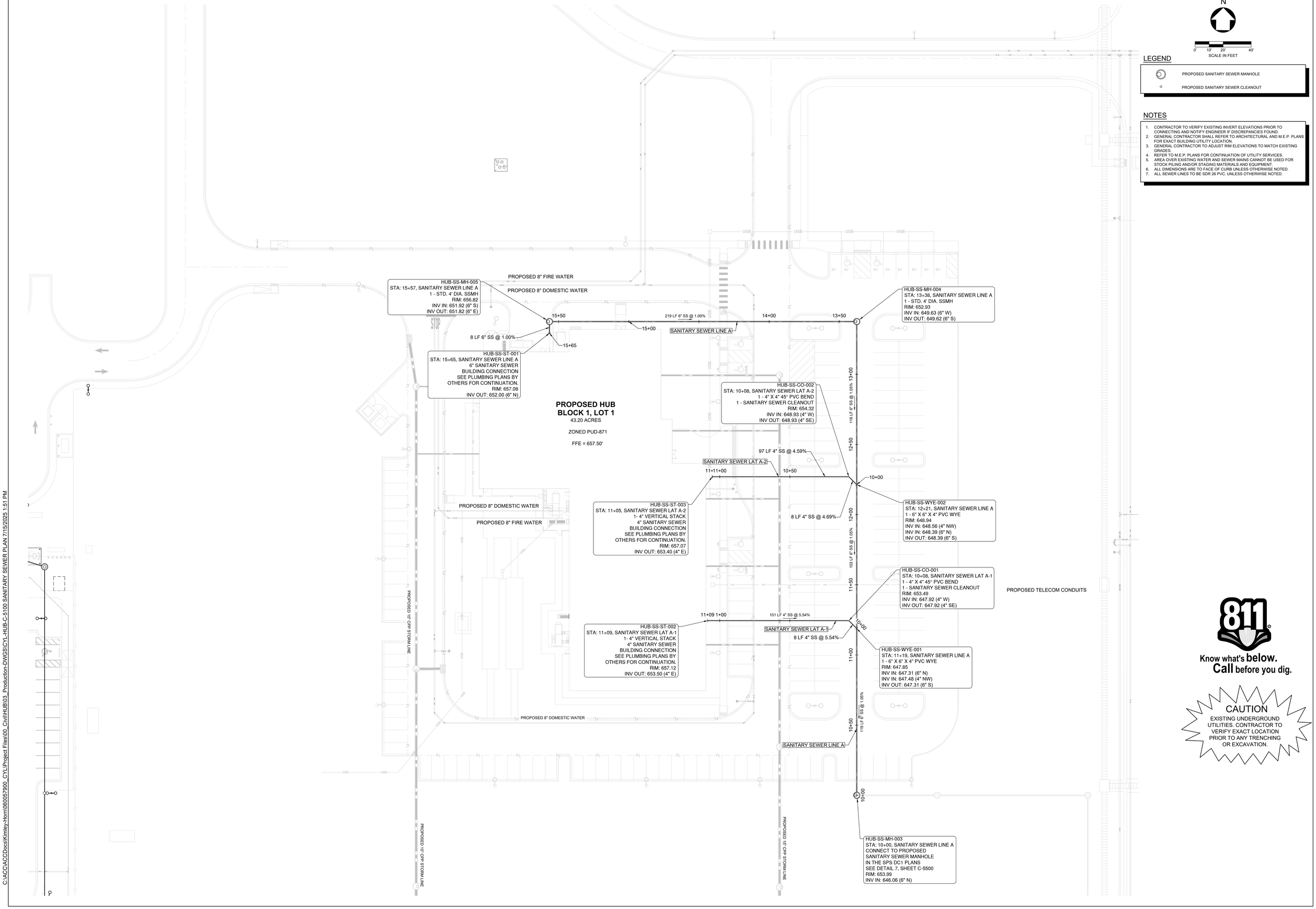

LEGEND

- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT

NOTES

1. CONTRACTOR TO VERIFY EXISTING INVERT ELEVATIONS PRIOR TO CONNECTING AND NOTIFY ENGINEER IF DISCREPANCIES FOUND.
2. GENERAL CONTRACTOR SHALL REFER TO ARCHITECTURAL AND M.E.P. PLANS FOR EXACT BUILDING UTILITY LOCATION.
3. GENERAL CONTRACTOR TO ADJUST RIM ELEVATIONS TO MATCH EXISTING GRADES.
4. REFER TO M.E.P. PLANS FOR CONTINUATION OF UTILITY SERVICES.
5. AREA OVER EXISTING WATER AND SEWER MAINS CANNOT BE USED FOR STOCK PILING AND/OR STAGING MATERIALS AND EQUIPMENT.
6. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
7. ALL SEWER LINES TO BE SDR 26 PVC. UNLESS OTHERWISE NOTED.

Know what's **below.**
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CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

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SANITARY SEWER PLAN
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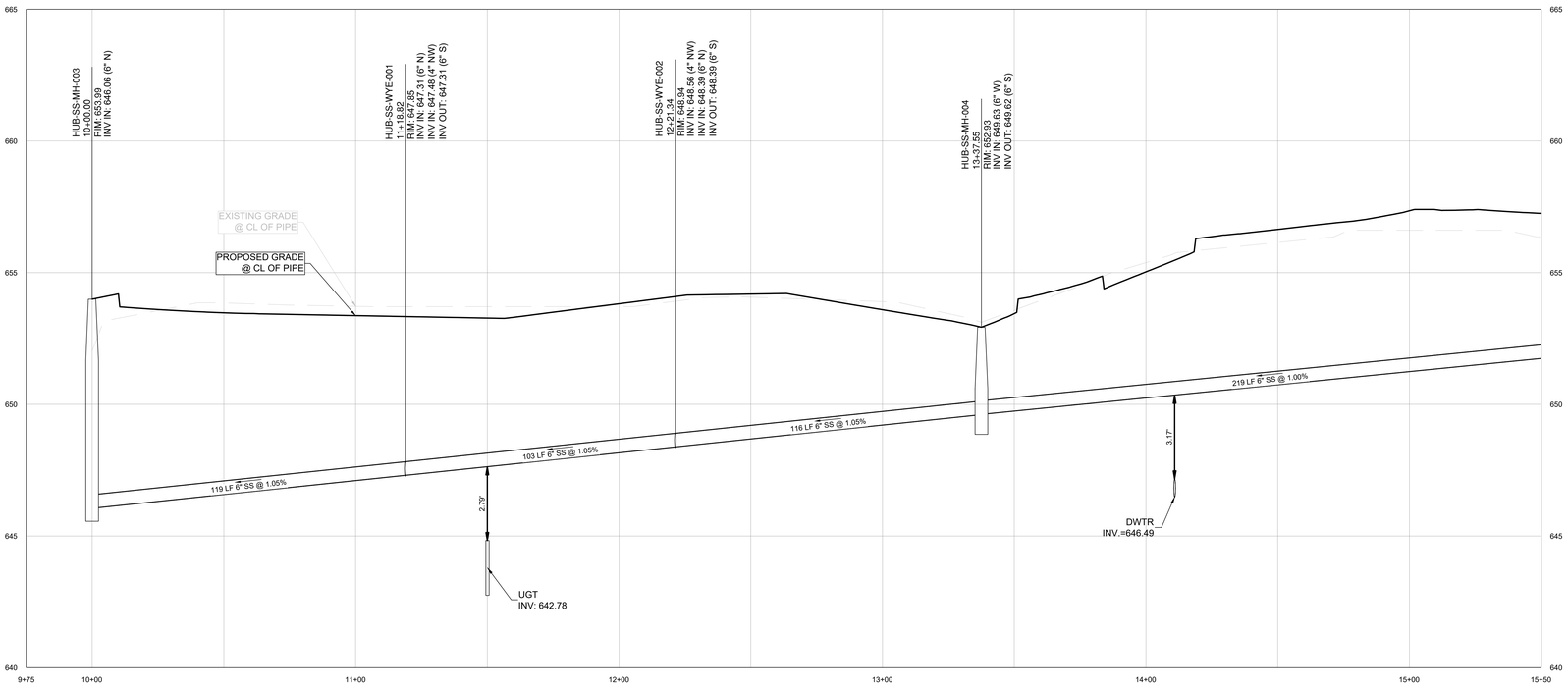
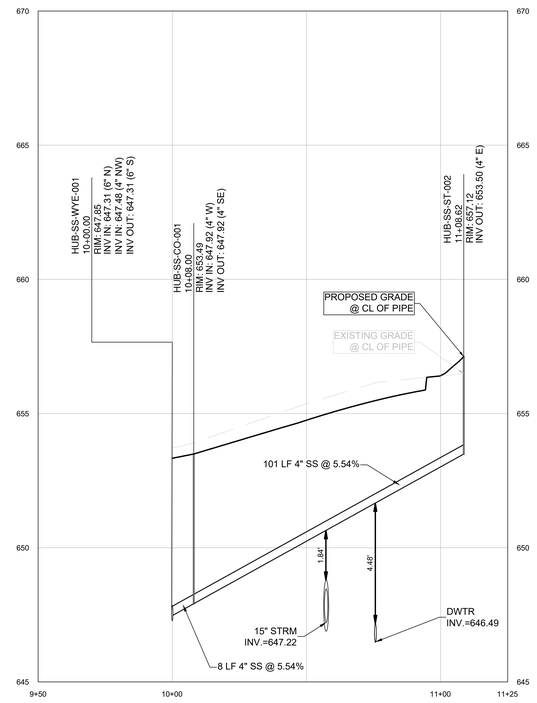
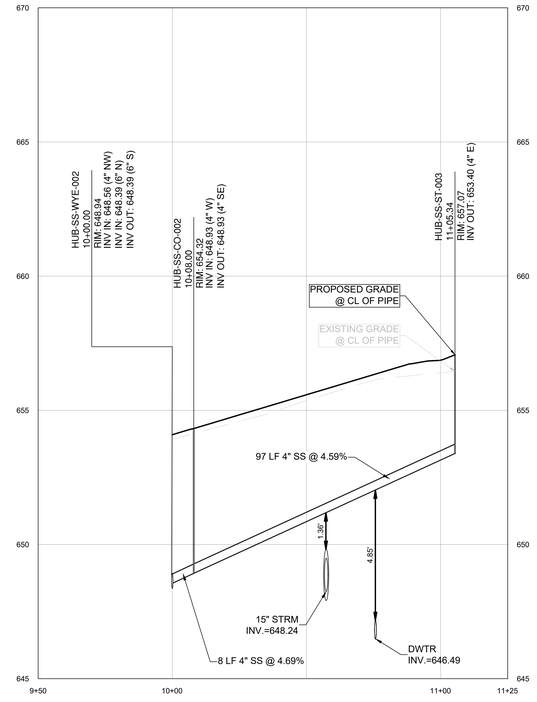


SANITARY SEWER LINE A PROFILE



SANITARY SEWER LAT A-1 PROFILE



SANITARY SEWER LAT A-2 PROFILE

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GRAPHIC SCALE IN FEET
HORIZONTAL: 0 10 20 40
VERTICAL: 0 1 2 4

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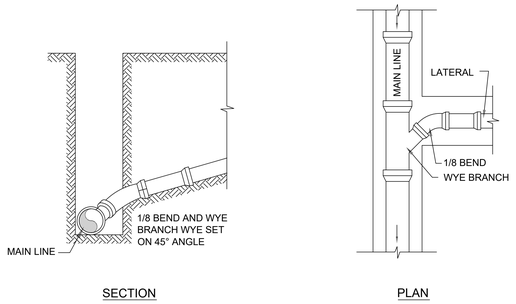
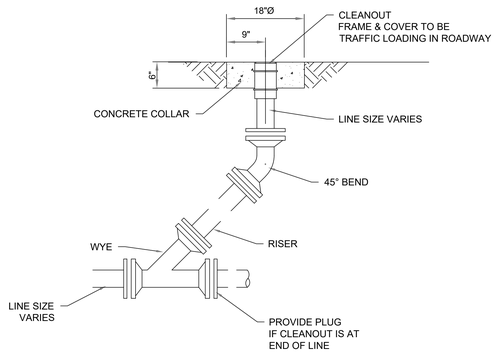


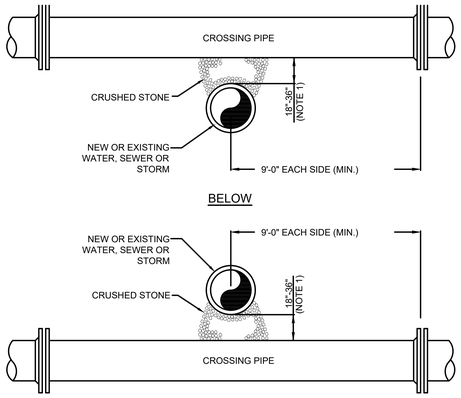
SECTION PLAN

NOTE:
1. TIE-IN STRUCTURES MAY VARY FROM DETAIL ABOVE; SEE PLANS FOR STRUCTURE TYPES.

1 - LATERAL CONNECTION
NTS

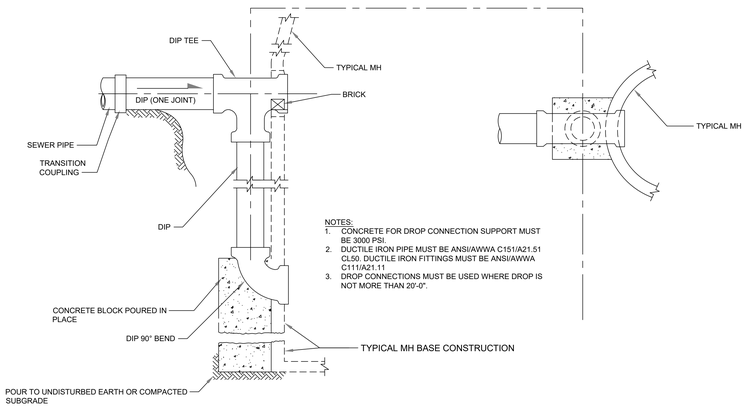


2 - EXTERIOR GRAVITY CLEANOUT
NTS



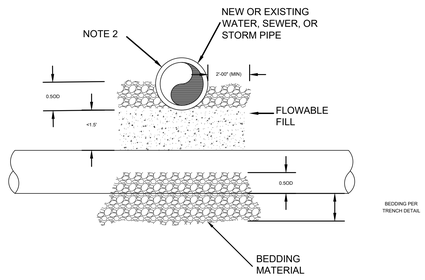
NOTES:
1. WHEN DISTANCE OF 18" OR MORE IS NOT POSSIBLE, USE MIN. CLEARANCE PIPE CROSSING DETAIL.
2. WHEN WATER LINE IS NEW, PROVIDE A FULL JOINT OF PIPE FOR BOTH LINES CENTERED AT CROSSING.
3. LOCATE SEWER BELOW WATER LINE.

3 - UTILITY CROSSING
NTS



NOTES:
1. CONCRETE FOR DROP CONNECTION SUPPORT MUST BE 3000 PSI.
2. DUCTILE IRON PIPE MUST BE ANSI/AWWA C151/A21.51 CL50. DUCTILE IRON FITTINGS MUST BE ANSI/AWWA C111/A21.11
3. DROP CONNECTIONS MUST BE USED WHERE DROP IS NOT MORE THAN 20'-0".

7 - OUTSIDE DROP MANHOLE
NTS



NOTES:
1. DETAIL IS SIMILAR FOR ALL PIPE CROSSINGS WHERE CLEARANCE BETWEEN PIPES IS LESS THAN 1'-6".
2. PROVIDE DOUBLE POLYETHYLENE WRAP AROUND ALL DUCTILE IRON PIPE. WRAP TO EXTEND 5'-0" PAST EACH SIDE OF THE FLOWABLE FILL.

6 - MIN. CLEARANCE PIPE CROSSING
NTS

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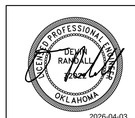

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SANITARY SEWER DETAILS
SCALE: AS SHOWN

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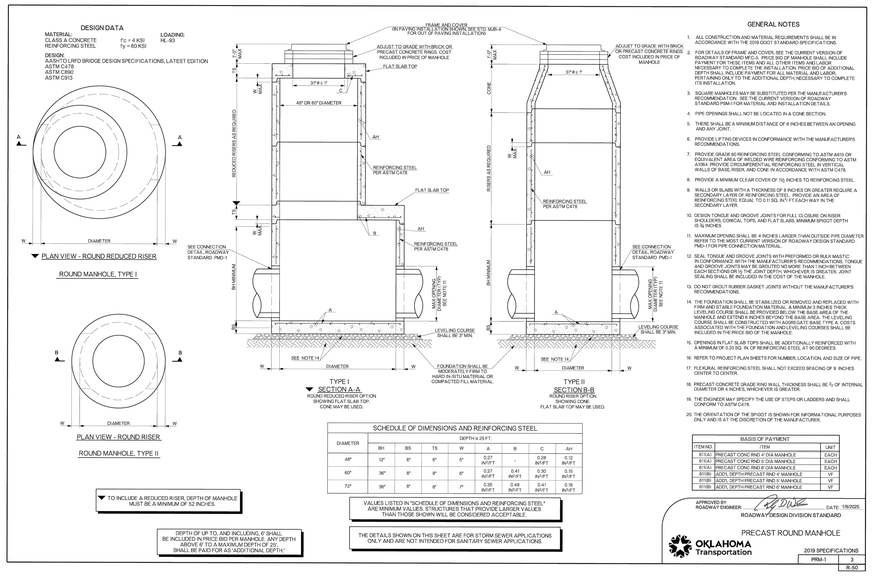


SCHEDULE OF DIMENSIONS AND REINFORCING STEEL								
	DEPTH ≤ 25'-7"							
DIAMETER	BH	BS	TS	W	A	B	C	AH
48"	12"	8"	6"	5"	0.27 in²/FT	-	0.28 in²/FT	0.12 in²/FT
60"	36"	8"	6"	6"	0.27 in²/FT	0.41 in²/FT	0.30 in²/FT	0.15 in²/FT
72"	36"	8"	6"	7"	0.35 in²/FT	0.48 in²/FT	0.41 in²/FT	0.18 in²/FT

VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE LARGER VALUES THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

THE DETAILS SHOWN ON THIS SHEET ARE FOR STORM SEWER APPLICATIONS ONLY AND ARE NOT INTENDED FOR SANITARY SEWER APPLICATIONS.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 ODOT STANDARD SPECIFICATIONS.
2. FOR DETAILS OF FRAME AND COVER, SEE THE CURRENT VERSION OF ROADWAY STANDARD DRAWING PMD-1. THE CONTRACT PRICE FOR PAYMENT FOR THESE ITEMS AND ALL OTHER ITEMS AND LABOR NECESSARY TO COMPLETE THE INSTALLATION, PRICE BID OF ADDITIONAL DEPTH SHALL INCLUDE PAYMENT FOR ALL MATERIAL AND LABOR PERTAINING ONLY TO THE ADDITIONAL DEPTH NECESSARY TO COMPLETE ITS INSTALLATION.
3. SQUARE MANHOLES MAY BE SUBSTITUTED PER THE MANUFACTURER'S STANDARDS FROM ROUND. SEE MANUFACTURER'S STANDARDS FROM FOR MATERIAL AND INSTALLATION DETAILS.
4. PIPE OPENINGS SHALL NOT BE LOCATED IN A CONE SECTION.
5. THERE SHALL BE A MINIMUM DISTANCE OF 6 INCHES BETWEEN AN OPENING AND ANY JOINT.
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF BASE, RISER, AND CONE IN ACCORDANCE WITH ASTM C478.
8. PROVIDE A MINIMUM CLEAR COVER OF 1½ INCHES TO REINFORCING STEEL.
9. WALLS OR SLABS WITH A THICKNESS OF 9 INCHES OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF REINFORCING STEEL EQUAL TO 0.11 SQ. IN/FT EACH WAY IN THE SECONDARY LAYER.
10. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON RISER SHOULDERS, CONICAL TOPS, AND FLAT SLABS. MINIMUM SPIGOT DEPTH IS ½ INCHES.
11. MAXIMUM OPENING SHALL BE 4 INCHES LARGER THAN OUTSIDE PIPE DIAMETER. REFER TO THE MOST CURRENT VERSION OF ROADWAY DESIGN STANDARD PMD-7 FOR PIPE CONNECTION MATERIAL.
12. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS SHALL BE SEALED WITH A MINIMUM OF TWO RINGS EACH SECTION OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER. JOINT SEALING SHALL BE INCLUDED IN THE COST OF THE MANHOLE.
13. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
14. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL A MINIMUM 3 INCHES THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE MANHOLE AND EXTEND 6 INCHES BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE INCLUDED IN THE PRICE BID OF THE MANHOLE. ANY COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSE SHALL BE INCLUDED IN THE PRICE BID OF THE MANHOLE.
15. OPENINGS IN FLAT SLAB TOPS SHALL BE ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF REINFORCING STEEL AT 90 DEGREES.
16. REFER TO PROJECT PLAN SHEETS FOR NUMBER, LOCATION, AND SIZE OF PIPE.
17. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 9 INCHES CENTER TO CENTER.
18. PRECAST CONCRETE GRADE RING WALL THICKNESS SHALL BE ½ OF INTERNAL DIAMETER OR 4 INCHES, WHICHEVER IS GREATER.
19. THE ENGINEER MAY SPECIFY THE USE OF STEPS OR LADDERS AND SHALL CONFORM TO ASTM C478.
20. THE ORIENTATION OF THE SPIGOT IS SHOWN FOR INFORMATIONAL PURPOSES ONLY AND IS AT THE DISCRETION OF THE MANUFACTURER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611A1	PRECAST CONC RING 6" DIA MANHOLE	EACH
611A1	PRECAST CONC RING 8" DIA MANHOLE	EACH
611A1	PRECAST CONC RING 10" DIA MANHOLE	EACH
611B1	ADDL DEPTH PRECAST RING 6" MANHOLE	VF
611B1	ADDL DEPTH PRECAST RING 8" MANHOLE	VF
611B1	ADDL DEPTH PRECAST RING 10" MANHOLE	VF

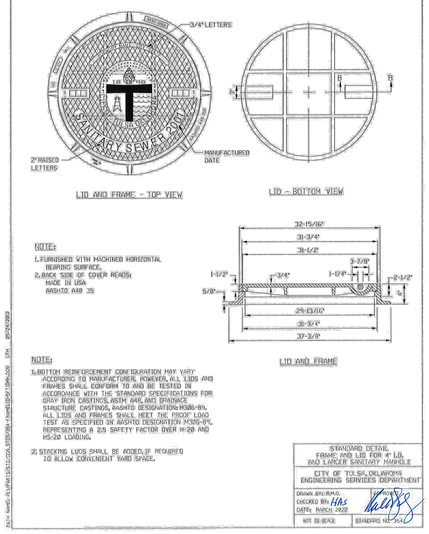
APPROVED BY ROADWAY ENGINEER: _____ DATE: 1/8/2015
ROADWAY DESIGN DIVISION STANDARD

OKLAHOMA Transportation

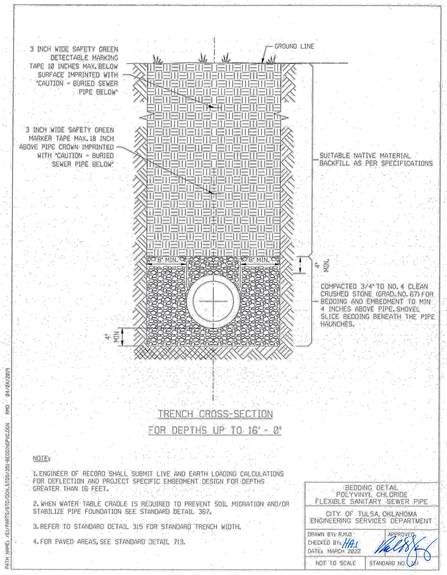
PRECAST ROUND MANHOLE

2019 SPECIFICATIONS

PRM-1 | 3 | R-50



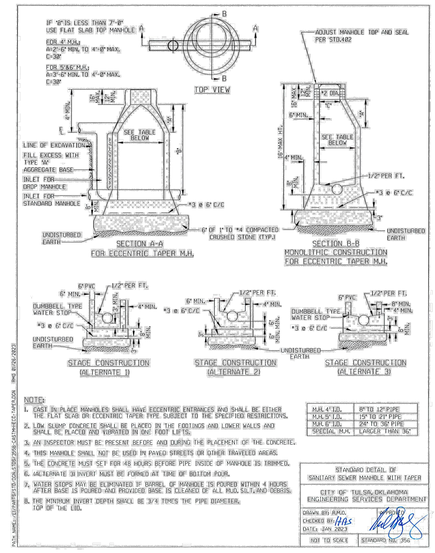
STANDARD DETAIL
FRAME AND LID FOR 4' I.D. AND LARGER SANITARY MANHOLE
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
DRAWN BY: RJH/JO
CHECKED BY: RJH
DATE: MARCH 2022
NOT TO SCALE
STANDARD NO. 354



TRENCH CROSS-SECTION
FOR DEPTHS UP TO 16' - 0"

NOTE:
1. ENGINEER OF RECORD SHALL SUBMIT LIVE AND EARTH LOADING CALCULATIONS FOR DEFLECTION AND PROJECT SPECIFIC EMBEDMENT DESIGN FOR DEPTHS GREATER THAN 16 FEET.
2. WHEN WATER TABLE CRADLE IS REQUIRED TO PREVENT SOIL MIGRATION AND/OR STABILIZE PIPE FOUNDATION SEE STANDARD DETAIL 367.
3. REFER TO STANDARD DETAIL 315 FOR STANDARD TRENCH WIDTH.
4. FOR PAVED AREAS, SEE STANDARD DETAIL 713.

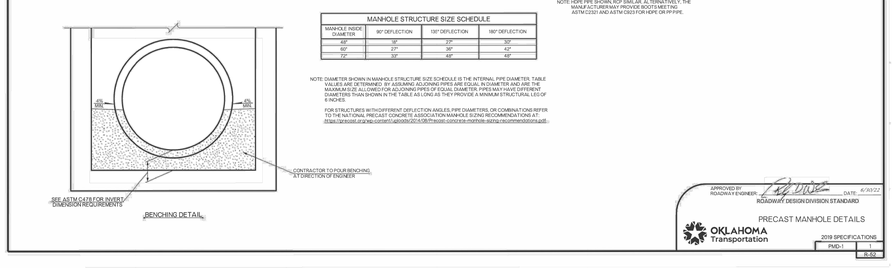
BEDDING DETAIL
POLYVINYL CHLORIDE
FLEXIBLE SANITARY SEWER PIPE
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
DRAWN BY: RJH/JO
CHECKED BY: RJH
DATE: MARCH 2022
NOT TO SCALE
STANDARD NO. 360



MH. d" I.D.	8" TO 12" PIPE
MH. 5'-0" I.D.	15" TO 21" PIPE
MH. 6'-0" I.D.	24" TO 36" PIPE
SPECIAL MH.	LARGER THAN 36"

NOTE:
1. CAST IN PLACE MANHOLES SHALL HAVE ECCENTRIC ENTRANCES AND SHALL BE EITHER THE FLAT SLAB OR ECCENTRIC TAPER TYPE SUBJECT TO THE SPECIFIED RESTRICTIONS.
2. LOW SLUMP CONCRETE SHALL BE PLACED IN THE FOOTINGS AND LOWER WALLS AND SHALL BE PLACED AND VIBRATED IN ONE POUR LIFT.
3. AN INSPECTOR MUST BE PRESENT BEFORE AND DURING THE PLACEMENT OF THE CONCRETE.
4. THIS MANHOLE SHALL NOT BE USED IN PAVED STREETS OR OTHER TRAVELED AREAS.
5. THE CONCRETE MUST SET FOR 48 HOURS BEFORE PIPE INSIDE OF MANHOLE IS TRIMMED.
6. ALL TRIANGLE IN INVERT MUST BE FORMED AT TIME OF BOTTOM POUR.
7. WATER STOPS MAY BE ELIMINATED IF BARREL OF MANHOLE IS POURED WITHIN 4 HOURS AFTER BASE IS POURED AND PROVIDED BASE IS CLEANED OF ALL MUD, SLURRY, DEBRIS.
8. THE MINIMUM INVERT DEPTH SHALL BE 3/4 TIMES THE PIPE DIAMETER, TOP OF THE LIP.

STANDARD DETAIL OF
SANITARY SEWER MANHOLE WITH TAPER
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
DRAWN BY: RJH/JO
CHECKED BY: RJH
DATE: APR. 2023
NOT TO SCALE
STANDARD NO. 356



MANHOLE STRUCTURE SIZE SCHEDULE			
MANHOLE INSIDE DIAMETER	90° DEFLECTION	135° DEFLECTION	180° DEFLECTION
48"	18"	27"	30"
60"	27"	36"	42"
72"	33"	48"	48"

NOTE: DIAMETER SHOWN IN MANHOLE STRUCTURE SIZE SCHEDULE IS THE INTERNAL PIPE DIAMETER. TABLE VALUES ARE DETERMINED BY ASSUMING ADJOINING PIPES ARE EQUAL IN DIAMETER AND ARE THE LARGEST PIPE ALLOWED IN THE MANHOLE. ADJOINING PIPES OF SMALLER DIAMETER THAN SHOWN IN THE TABLE AS LONG AS THEY PROVIDE A MINIMUM STRUCTURAL LEG OF 6 INCHES.

FOR STRUCTURES WITH DIFFERENT DEFLECTION ANGLES, PIPE DIAMETERS, OR COMBINATIONS REFER TO THE NATIONAL PRECAST CONCRETE ASSOCIATION MANHOLE SIZING RECOMMENDATIONS AT: https://precast.org/wp-content/uploads/2016/08/Precast-concrete-manhole-sizing-recommendations.pdf

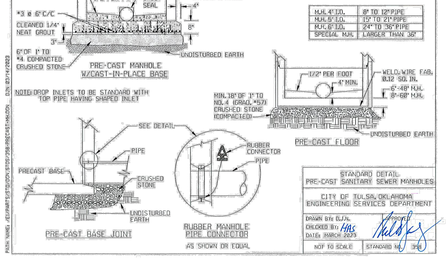
APPROVED BY ROADWAY ENGINEER: _____ DATE: 4/30/22
ROADWAY DESIGN DIVISION STANDARD

OKLAHOMA Transportation

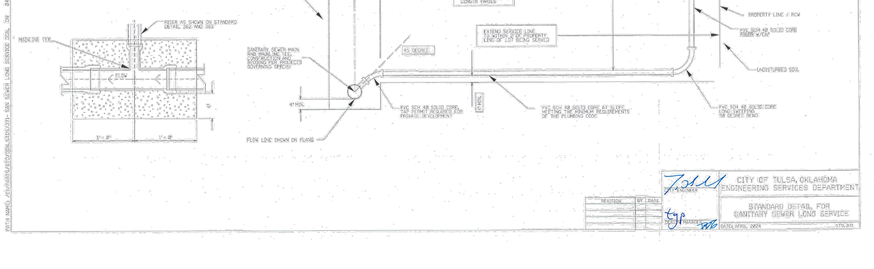
PRECAST MANHOLE DETAILS

2019 SPECIFICATIONS

PMD-1 | 1 | R-52



STANDARD DETAIL
PRE-CAST SANITARY SEWER MANHOLES
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
DRAWN BY: DJH
CHECKED BY: RJH
DATE: MARCH 2023
NOT TO SCALE
STANDARD NO. 346



CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
STANDARD DETAIL FOR
SANITARY SEWER LONG SERVICE
DATE: APRIL 2024
STD. 391

C:\ACC\ACCDocs\Kimley-Horn\060057900_CYL\Project Files\00_Civil\HUB03_Production-DWGS\CYL-HUB-C-5500 SANITARY SEWER DETAILS 7/15/2025 1:38 PM

ARCHITECTURE: DLR Group, 51 University St. Ste. 600, Seattle, WA 98101, Ph. (206) 461-6000	STRUCTURE: DLR Group, 51 University St. Ste. 600, Seattle, WA 98101, Ph. (206) 461-6000	MEP: DLR Group, 51 University St. Ste. 600, Seattle, WA 98101, Ph. (206) 461-6000	CIVIL: Kimley-Horn Associates, Inc., 1437 S BOULDER AVE. TULSA, OK 74119, Ph. (918) 380-8868	CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION	DEVIN RANDALL 26241 OKLAHOMA PROFESSIONAL ENGINEER 2026-04-03

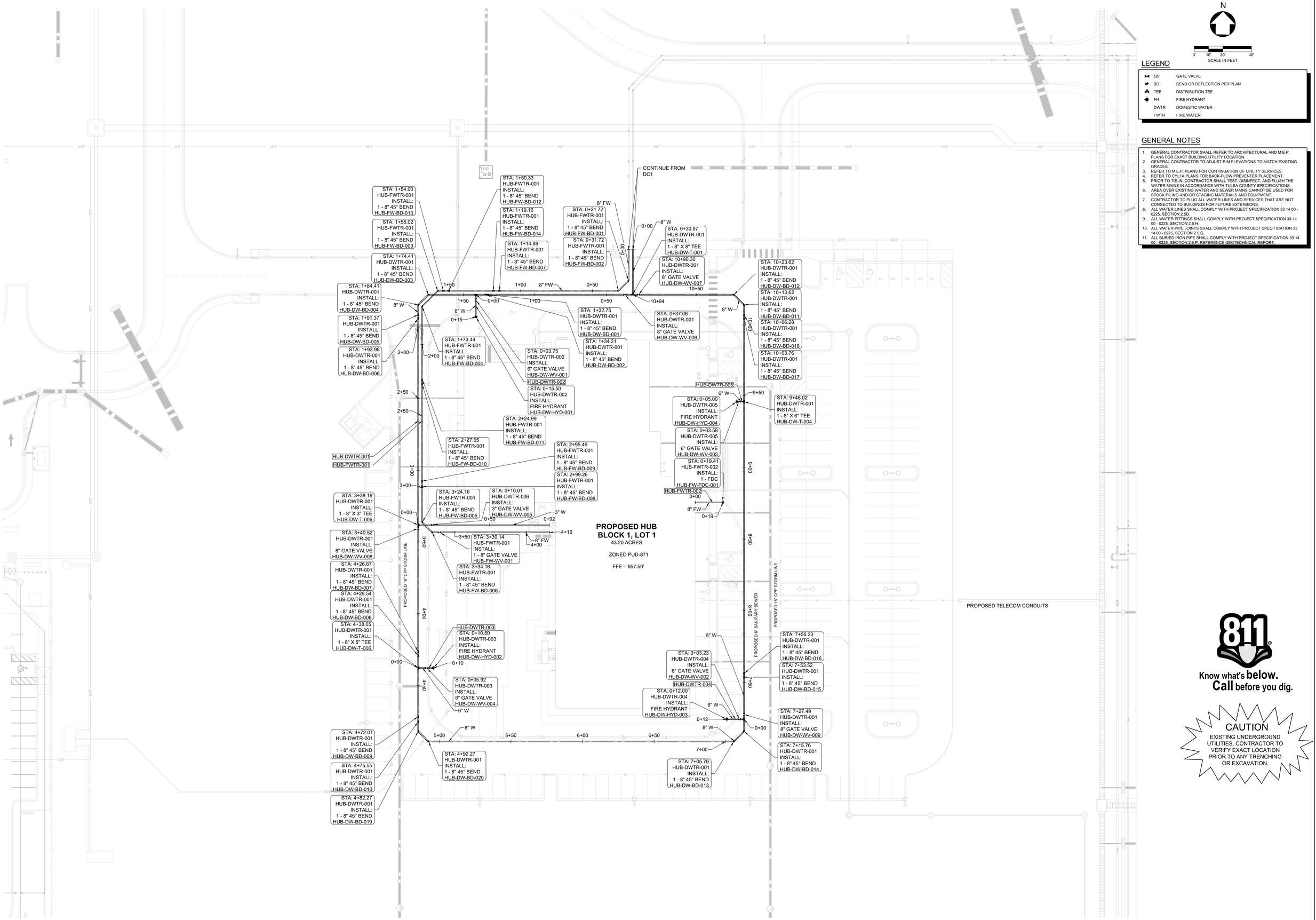
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS: CONFIDENTIAL
PROJ. NO.: 10438332

SANITARY SEWER DETAILS
SCALE: AS SHOWN

SHEET NUMBER: C-5501
PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB



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ARCHITECTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	STRUCTURE: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	MEP: DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	CIVIL: Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER — DEVIN RANDALL — OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS: CONFIDENTIAL
PROJ. NO.:10438332

WATER PLAN
SCALE: AS SHOWN

SHEET NUMBER:
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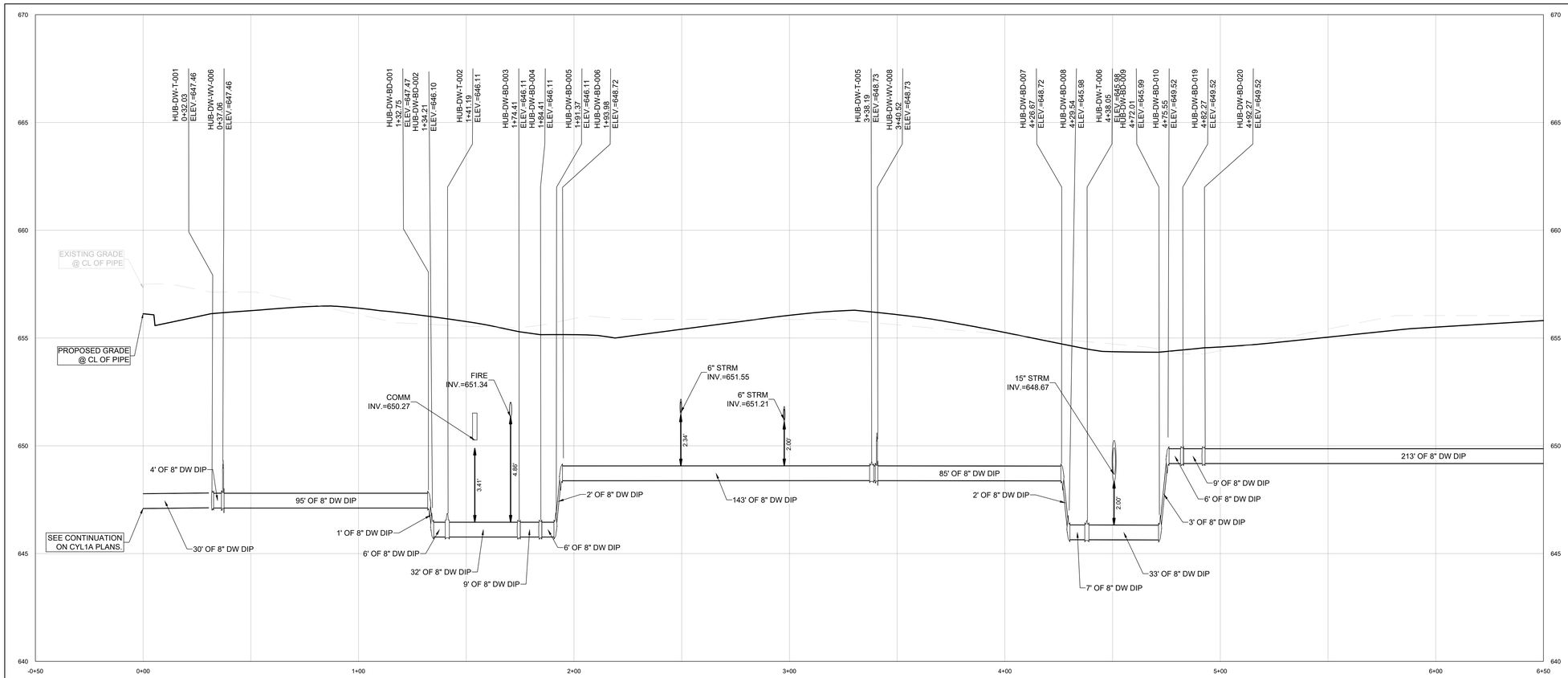
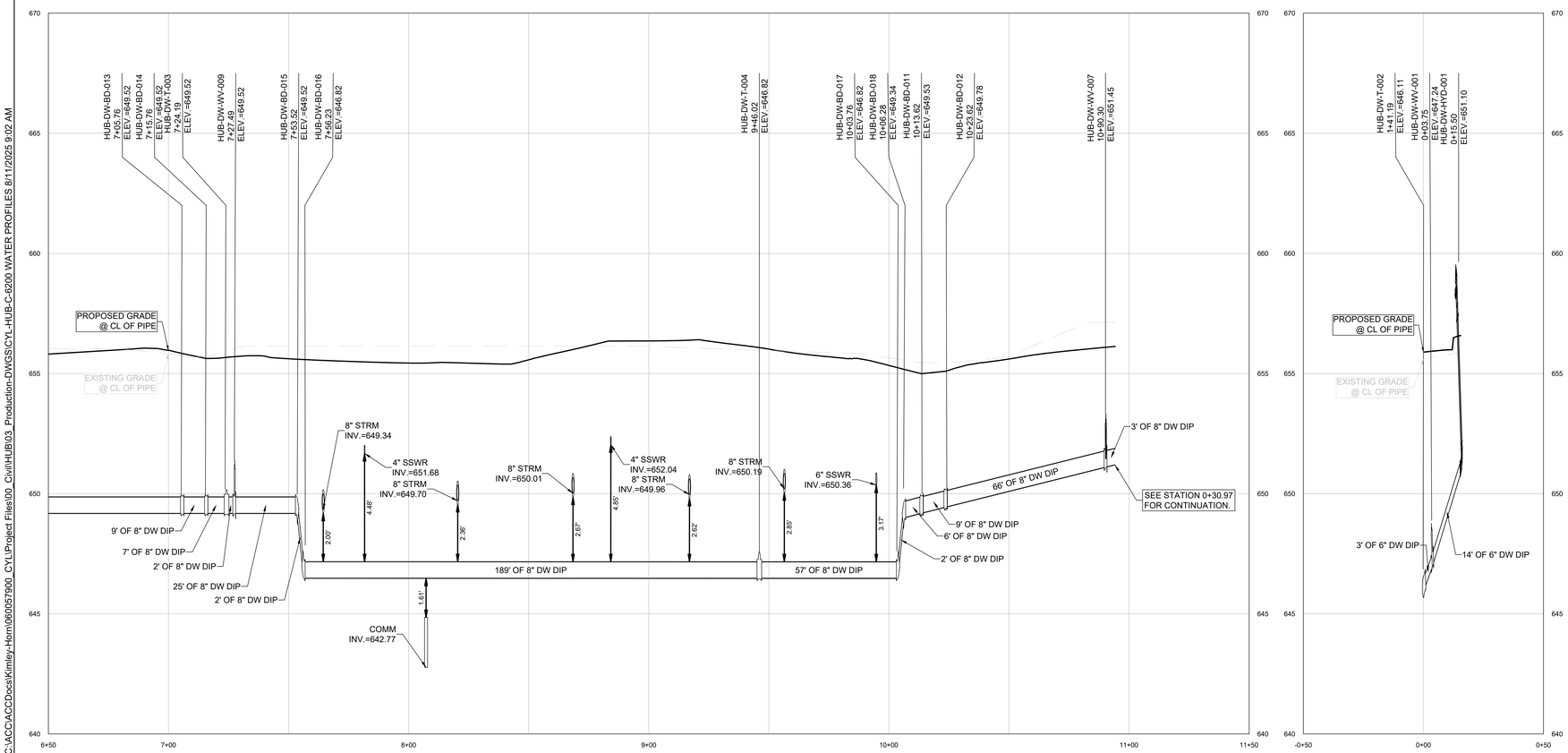
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



HUB-DWTR-001 PROFILE



HUB-DWTR-001 PROFILE

HUB-DWTR-002 PROFILE

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

GRAPHIC SCALE IN FEET
0 10 20 40
HORIZONTAL
VERTICAL 0 1 2 4

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ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEVIN RANDALL
OKLAHOMA
2026-04-03

REVISIONS			DRAWN:
NO.	DATE	DESCRIPTION	
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB	
			APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.:10438332

WATER PROFILES
SCALE: AS SHOWN

SHEET NUMBER:
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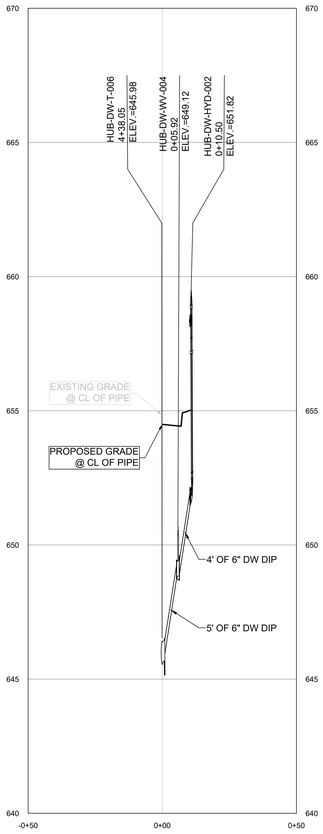

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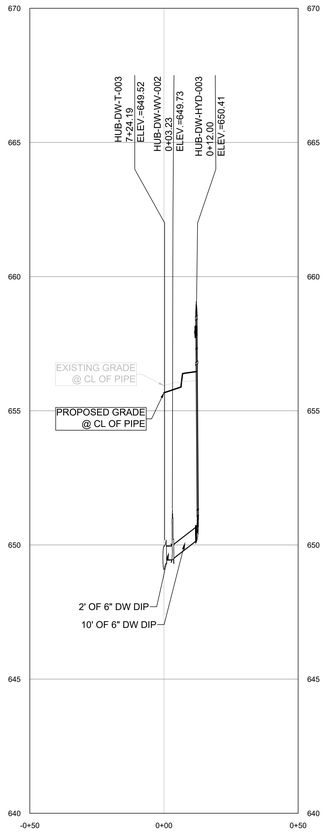

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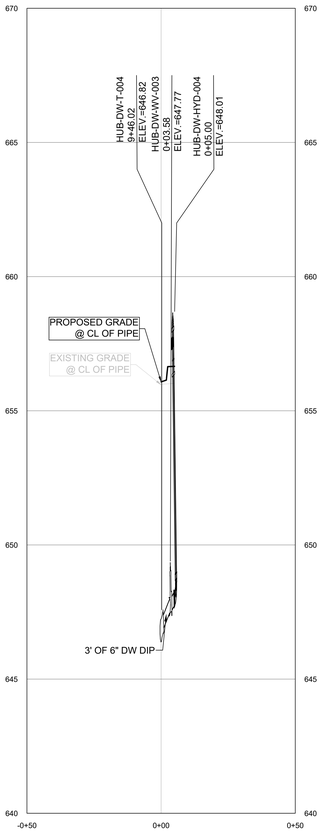

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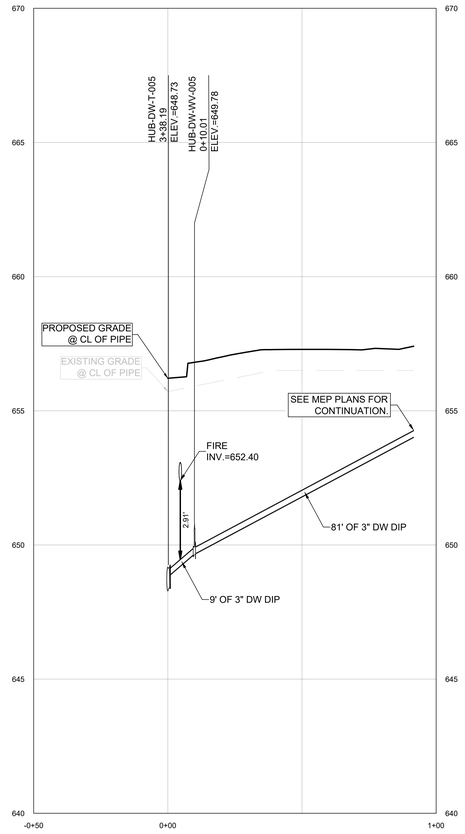

HUB-DWTR-006 PROFILE

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

GRAPHIC SCALE IN FEET
0 10 20 40
VERTICAL 4 2 1 0
HORIZONTAL

ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEMA RANDALL
OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

WATER PROFILES
SCALE: AS SHOWN

SHEET NUMBER:
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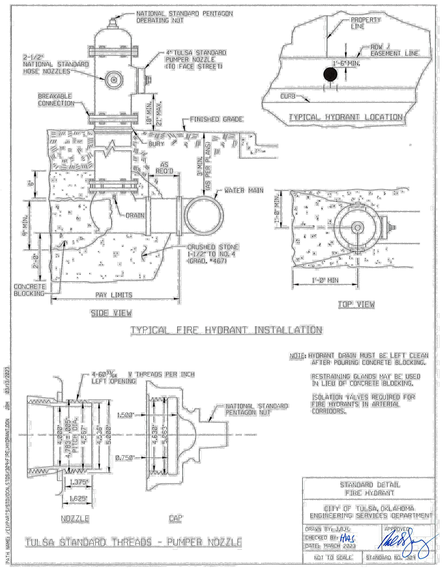
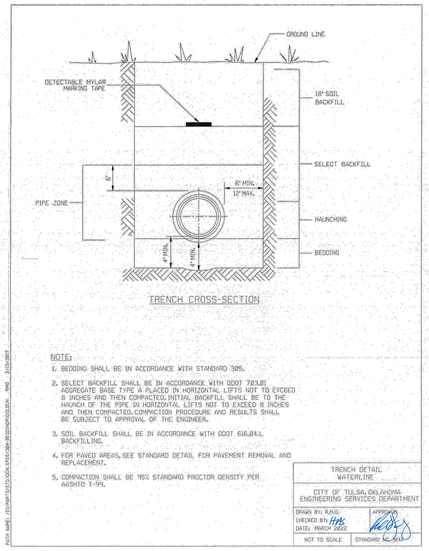
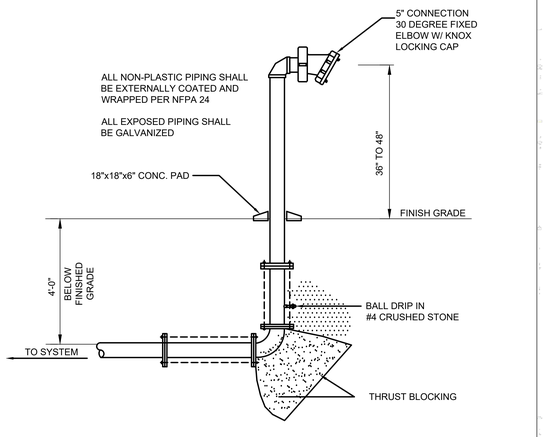
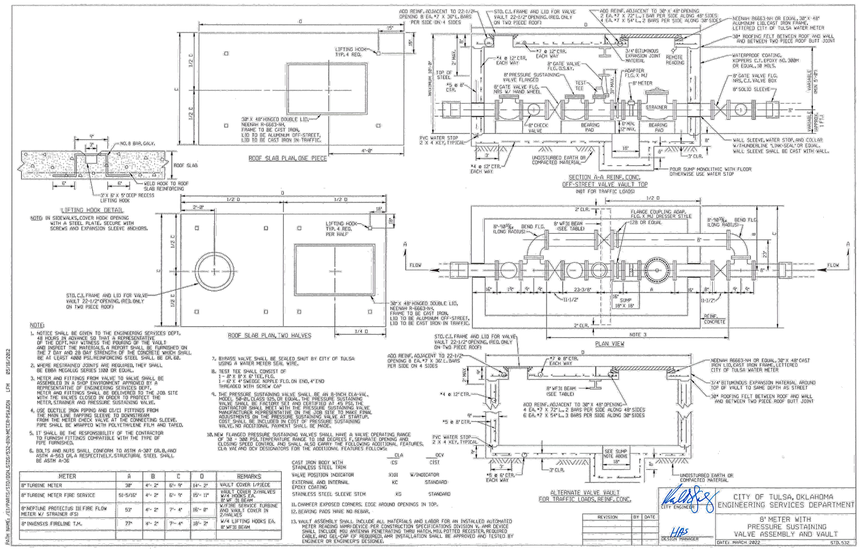
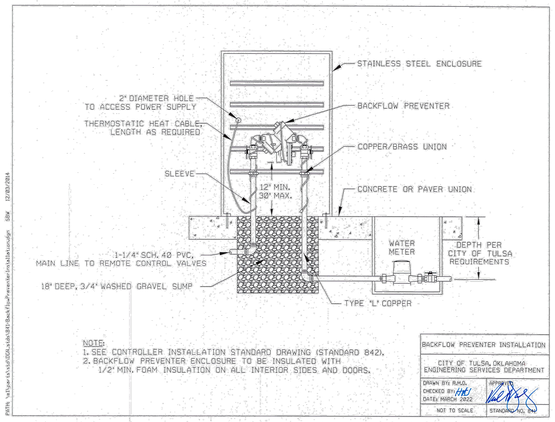


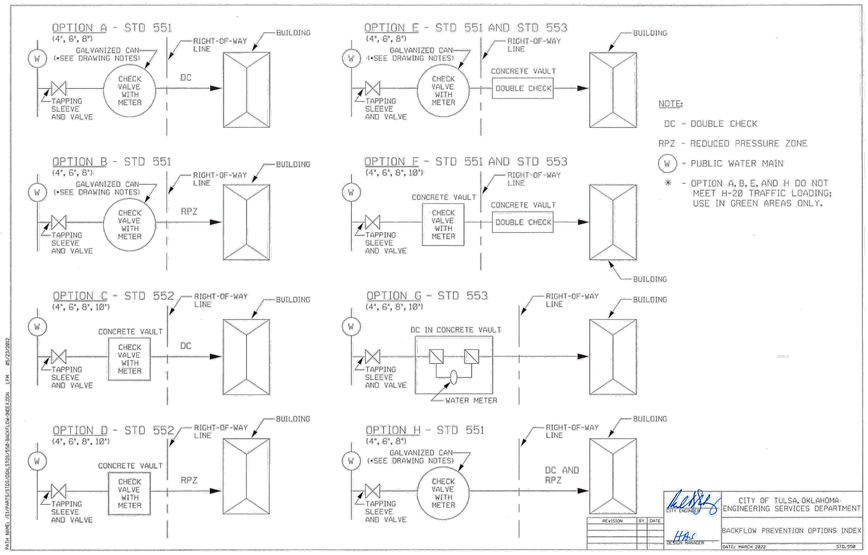


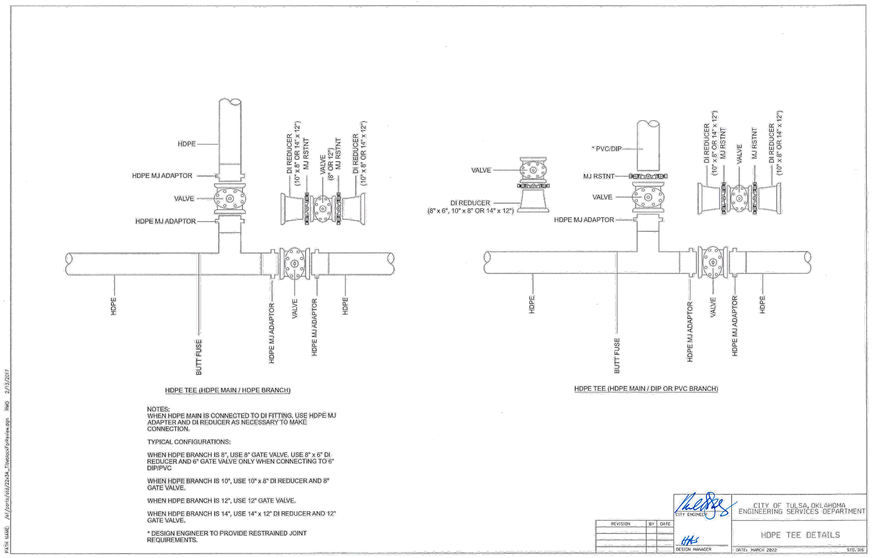


4 FIRE DEPARTMENT CONNECTION
NTS









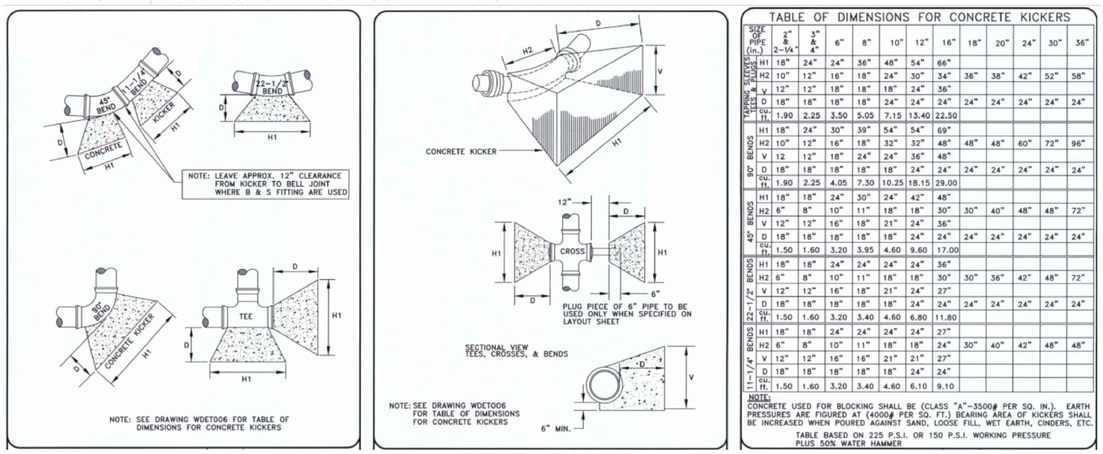
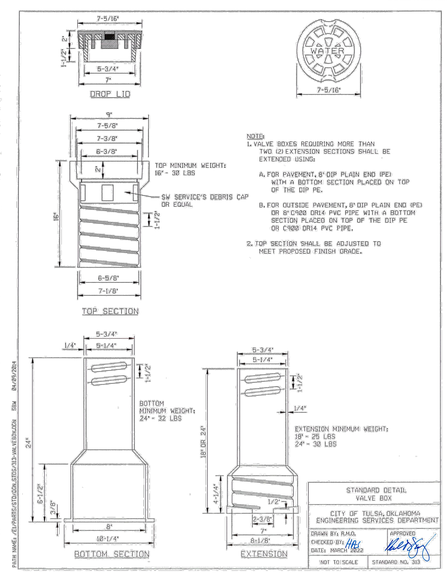


TABLE OF DIMENSIONS FOR CONCRETE KICKERS

SIZE OF PIPE (in.)		2" & 2-1/4"	3" & 4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"
TEES, CROSSES, TAPPING SLEEVES	H1	18"	24"	24"	36"	48"	54"	66"					
	H2	10"	12"	16"	18"	24"	30"	34"	36"	38"	42"	52"	58"
	V	12"	12"	18"	18"	18"	24"	36"					
	D	18"	18"	18"	18"	24"	24"	24"	24"	24"	24"	24"	24"
	CU. FT.	1.90	2.25	3.50	5.05	7.15	13.40	22.50					
90° BENDS	H1	18"	24"	30"	39"	54"	54"	69"					
	H2	10"	12"	16"	18"	32"	32"	48"	48"	48"	60"	72"	96"
	V	12	12"	18"	24"	24"	36"	48"					
	D	18"	18"	18"	18"	18"	24"	24"	24"	24"	24"	24"	24"
	CU. FT.	1.90	2.25	4.05	7.30	10.25	18.15	29.00					
45° BENDS	H1	18"	18"	24"	30"	24"	42"	48"					
	H2	6"	8"	10"	11"	18"	18"	30"	30"	40"	48"	48"	72"
	V	12"	12"	16"	18"	21"	24"	36"					
	D	18"	18"	18"	18"	18"	24"	24"	24"	24"	24"	24"	24"
	CU. FT.	1.50	1.60	3.20	3.95	4.60	9.60	17.00					
22-1/2° BENDS	H1	18"	18"	24"	24"	24"	24"	36"					
	H2	6"	8"	10"	11"	18"	18"	30"	30"	36"	42"	48"	72"
	V	12"	12"	16"	18"	21"	24"	27"					
	D	18"	18"	18"	18"	18"	24"	24"	24"	24"	24"	24"	24"
	CU. FT.	1.50	1.60	3.20	3.40	4.60	6.80	11.80					
11-1/4° BENDS	H1	18"	18"	24"	24"	24"	24"	27"					
	H2	6"	8"	10"	11"	18"	18"	24"	30"	40"	42"	48"	48"
	V	12"	12"	16"	16"	21"	21"	27"					
	D	18"	18"	18"	18"	18"	24"	24"					
	CU. FT.	1.50	1.60	3.20	3.40	4.60	6.10	9.10					

NOTE:
CONCRETE USED FOR BLOCKING SHALL BE (CLASS "A"-3500# PER SQ. IN.). EARTH PRESSURES ARE FIGURED AT (4000# PER SQ. FT.) BEARING AREA OF KICKERS SHALL BE INCREASED WHEN POURED AGAINST SAND, LOOSE FILL, WET EARTH, CINDERS, ETC.
TABLE BASED ON 225 P.S.I. OR 150 P.S.I. WORKING PRESSURE PLUS 50% WATER HAMMER

7 THRUST BLOCK
NTS



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ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER — DEWA RANDALL — OKLAHOMA
2026-04-03

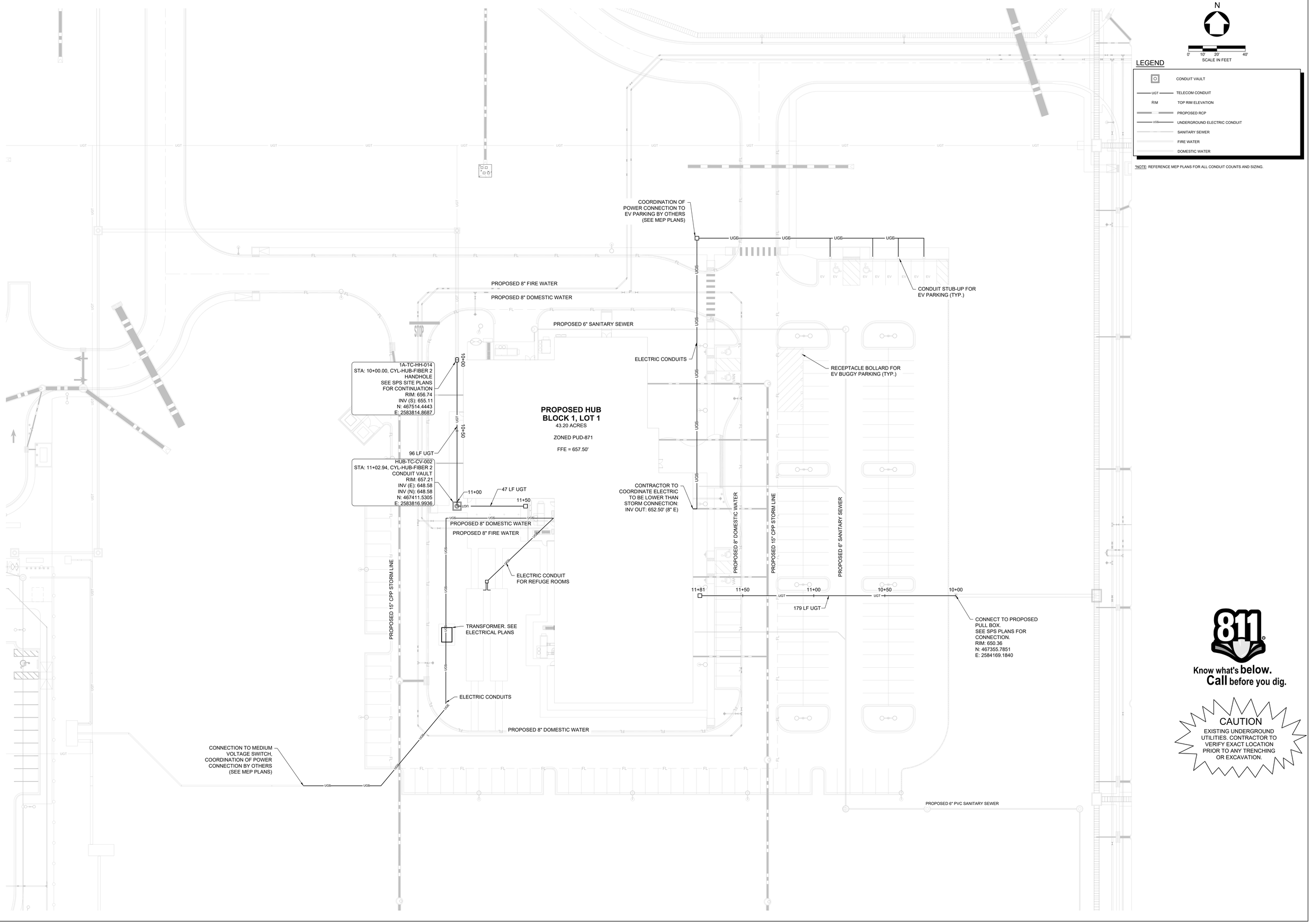
REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS: CONFIDENTIAL
PROJ. NO.: 10438332

WATER DETAILS
SCALE: AS SHOWN

SHEET NUMBER: C-6500
PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB



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ARCHITECTURE:	STRUCTURE:	MEP:	CIVIL:
DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	DLR Group 51 University St. Ste. 600 Seattle, WA 98101 Ph. (206) 461-6000	Kimley-Horn Associates, Inc. 1437 S BOULDER AVE. TULSA, OK 74119 Ph. (918) 380-8868

CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEVIN RANDALL
OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:

APPRV'D:

CYL-HUB

PROJECT ADDRESS:
CONFIDENTIAL

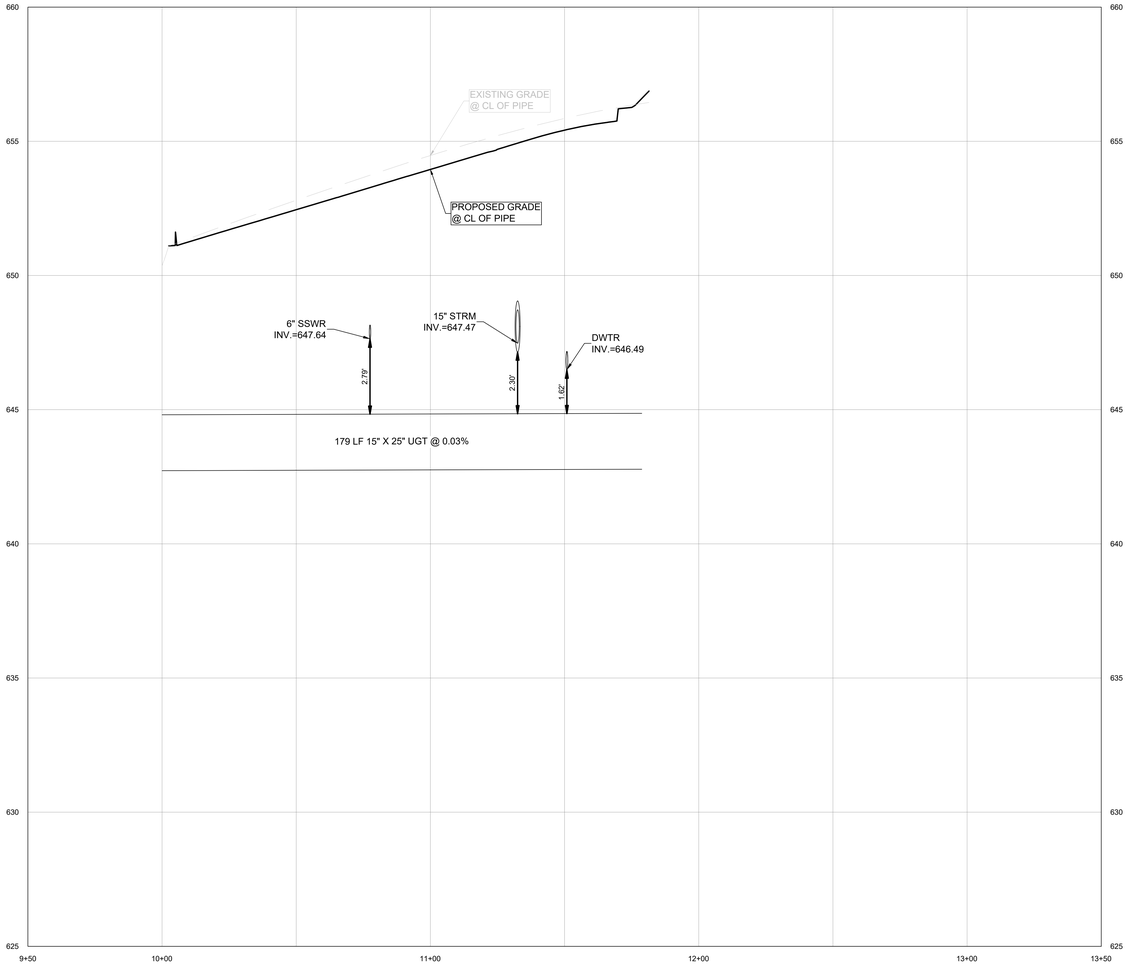
PROJ. NO.: 10438332

MISCELLANEOUS UTILITIES - TELECOM

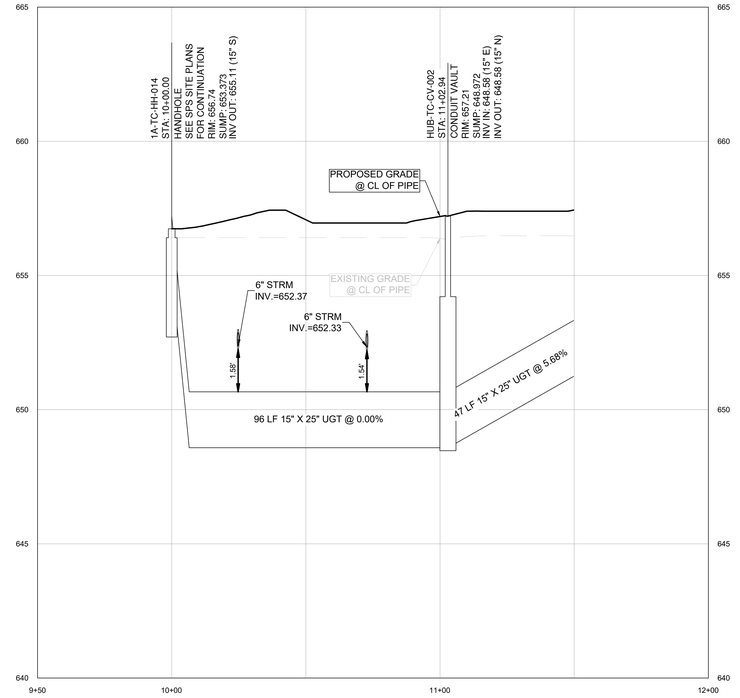
SCALE: AS SHOWN

SHEET NUMBER:
C-7000

PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - HUB



CYL-HUB-FIBER-1 PROFILE



CYL-HUB-FIBER 2 PROFILE

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

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

GRAPHIC SCALE IN FEET
HORIZONTAL 0 10 20 40
VERTICAL 0 1 2 4

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ARCHITECTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

STRUCTURE:
DLR Group
51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

MEP:
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51 University St. Ste. 600
Seattle, WA 98101
Ph. (206) 461-6000

CIVIL:
Kimley-Horn Associates, Inc.
1437 S BOULDER AVE.
TULSA, OK 74119
Ph. (918) 380-8868

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
DEMA RANDALL
OKLAHOMA
2026-04-03

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - HUB

DRAWN:
APPRV'D:

CYL-HUB
PROJECT ADDRESS:
CONFIDENTIAL
PROJ. NO.: 10438332

MISCELLANEOUS UTILITIES -TELECOM PROFILES
SCALE: AS SHOWN

SHEET NUMBER:
C-7100
PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - HUB

GENERAL NOTES:

1. WRITTEN DIMENSIONS PREVAIL OVER SCALED DIMENSIONS. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
2. THE CONTRACTOR BEARS ALL RESPONSIBILITY FOR VERIFYING ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO CONSTRUCTION. ANY DAMAGE TO UTILITIES THAT ARE TO REMAIN SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER. LANDSCAPE ARCHITECT ASSUMES NO RESPONSIBILITY FOR ANY NOT SHOWN ON PLANS.
3. ALL PROPOSED AND FINISHED GRADES ARE BASED ON INFORMATION PROVIDED BY THE OWNER'S SURVEY AND/OR CIVIL ENGINEER. ANY DISCREPANCIES IN ACTUAL FIELD MEASUREMENTS ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECT IMMEDIATELY.
4. PRIOR TO COMMENCEMENT OF HARDSCAPE CONSTRUCTION, ALL PIERS, FOOTINGS, AND WALLS ARE TO BE SURVEYED, LAID OUT, AND STAKED IN FIELD FOR REVIEW BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DEMOLITION, ADJUSTMENTS, OR RECONSTRUCTION RESULTING FROM UNAUTHORIZED CONSTRUCTION ACTIVITIES.
5. CONTRACTOR IS RESPONSIBLE FOR ALL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES PROVIDED BY LANDSCAPE ARCHITECT ARE PROVIDED FOR CONVENIENCE ONLY. CONTRACTORS ARE TO BID THEIR OWN VERIFIED QUANTITIES. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
6. EASEMENTS SETBACKS, BUILDING, CURB AND GUTTER, UNDERGROUND UTILITIES HAVE BEEN SUPPLIED TO LANDSCAPE ARCHITECT BY THE PROJECT CIVIL ENGINEER. REFER TO CIVIL ENGINEERS DRAWINGS FOR ADDITIONAL INFORMATION.

PLANTING NOTES:

1. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE DRAWINGS.
3. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AND MUST BE REPLACED WITH PLANT MATERIAL OF SAME VARIETY AND SIZE IF DAMAGED, DESTROYED, OR REMOVED.
4. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AND REMOVAL OF DEBRIS PRIOR TO PLANTING IN ALL AREAS.
5. FINAL FINISH GRADING SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TOPSOIL REQUIRED TO CREATE A SMOOTH CONDITION PRIOR TO PLANTING.
6. ALL PLANT QUANTITIES LISTED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SPECIFIED IN THE PLANT SCHEDULE AND VERIFY ALL QUANTITIES.
7. LANDSCAPE CONTRACTOR TO PROVIDE STEEL EDGING (REFER TO MATERIALS PAGE) BETWEEN ALL PLANTING BEDS AND LAWN AREAS.
8. ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE LATEST EDITION AMERICAN STANDARD FOR NURSERY STOCK. ANY PLANT SUBSTITUTION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE.
9. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.
10. ALL NEW PLANTING AREAS TO BE AMENDED PER SPECIFICATIONS.
11. ANY PLANT MATERIAL THAT DOES NOT SURVIVE SHALL BE REPLACED WITH AN EQUIVALENT SIZE AND SPECIES WITHIN THIRTY (30) DAYS.
12. PLANT MATERIAL SHALL BE PRUNED AS NECESSARY TO CONTROL SIZE BUT NOT TO DISRUPT THE NATURAL GROWTH PATTERN OR CHARACTERISTIC FORM OF THE PLANT EXCEPT AS NECESSARY TO ACHIEVE HEIGHT CLEARANCE FOR VISIBILITY AND PEDESTRIAN PASSAGE OR TO ACHIEVE A CONTINUOUS OPAQUE HEDGE IF REQUIRED.
13. LANDSCAPED AREAS SHALL BE KEPT FREE OF TRASH, WEEDS, DEBRIS, AND DEAD PLANT MATERIAL.
14. ALL LIME STABILIZED SOIL & INORGANIC SELECT FILL FOR BUILDING SHOULD BE REMOVED FROM PLANTING AREAS TO A DEPTH OF 24" & REPLACED WITH ORGANIC IMPORTED TOPSOIL FILL.
15. TREES OVERHANGING PEDESTRIAN WALKWAYS AND PARKING SHALL HAVE 7' CLEAR TRUNK HEIGHT TO MEET ACCESSIBILITY REQUIREMENTS. TREES OVERHANGING PUBLIC STREETS AND FIRE LANE SHALL HAVE A 14' MIN. CLEAR TRUNK HEIGHT.
16. CONTRACTOR TO PROVIDE 12 MONTH WARRANTY AFTER FINAL ACCEPTANCE.
17. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY (NOT ALREADY INCLUDED IN PLANTING PLANS) TO BE FINE GRADED, AND PLANTED WITH PLANTED WITH PLANTS OR SOD TO MATCH EXISTING CONDITIONS.

HARDSCAPE NOTES:

1. PRIOR TO COMMENCEMENT OF HARDSCAPE CONSTRUCTION, ALL PIERS, FOOTINGS, AND WALLS SHALL BE SURVEYED, LAID OUT, AND STAKED IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DEMOLITION, ADJUSTMENTS, OR RECONSTRUCTION RESULTING FROM UNAUTHORIZED CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES WHICH ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL STAKE SIDEWALK CENTERLINES AND NOTIFY THE OWNER FOR APPROVAL OF ALIGNMENTS PRIOR TO INSTALLATION.
4. PROVIDE EXPANSION JOINTS IN ALL CASES WHERE CONCRETE FLATWORK MEETS VERTICAL STRUCTURES SUCH AS WALLS, CURBS, STEPS, AND BUILDINGS, OR WHERE CONCRETE ABUTS UTILITY VAULTS OR BOXES.
5. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAVEMENT SURVEY REFERENCE MONUMENTS.
6. CONTRACTOR SHALL PROCEED WITH PAVING NO MORE THAN SEVENTY-TWO (72) HOURS AFTER DENSITY/MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY A TESTING FIRM ASSIGNED BY THE OWNER. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE OWNER. IF PAVING OPERATIONS HAVE NOT COMMENCED WITHIN THE SPECIFIED SEVENTY-TWO (72) HOUR LIMIT, A RETEST SHALL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT AND SPECIFICATIONS FOR PAVEMENT PREPARATION, COMPACTION, AND ALL EARTHWORK OPERATIONS.
8. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF ANY WORK. ALL SHOP DRAWINGS SHALL BE COMPLETE WITH RESPECT TO DIMENSIONS, DESIGN CRITERIA, AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER WHERE APPLICABLE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ACCURACY OF DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, AND COORDINATION WITH OTHER WORKS. ANY REQUIRED ADJUSTMENTS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

ACCESSIBILITY NOTES:

1. TREES PLANTED ADJACENT TO ACCESSIBLE ROUTES AND ACCESSIBLE AREAS SHALL BE PRUNED TO PROVIDE CLEARANCE OF 84" AFF.
2. IF PAVING HAS IRREGULAR PATTERN PROVIDED, JOINTS EXCEEDING MAX. 1/4" W, SHALL BE "FLUSH" WITH PAVING SURFACE MATERIAL

MATERIAL LEGEND:

PAVING

P-1 CONCRETE PAVING (INTEGRAL COLOR)

COLOR:	C-10 COOL GRAY (SCOFIELD, CHROMIX ADMIXTURE)
FINISH:	HEAVY ROCK SALT (50% COVERAGE)
CONTROL JOINTS:	SAWCUT (1/4 DEPTH OF CONCRETE) REGULAR INTERVALS (JOINT SPACING REFERENCE PLAN)
EXPANSION JOINTS:	GENERALLY 30' O.C. MAX. (SEE PLANS FOR EXACT LOCATION)
JOINT SEALANT:	COLOR TO MATCH CONCRETE
APPROVAL:	***COLOR SAMPLE, EJ SEALANT SAMPLE, MOCKUP***

P-2 CONCRETE PAVER

TYPE:	CONCRETE PAVERS
STYLE:	VERONA
COLOR:	80% SLATE / 20% CHARCOAL ACCENTS
FINISH:	STANDARD FINISH
SIZE:	3 x 18 x 80mm
PATTERN:	RANDOM RUNNER
INSTALL:	SAND SET ON CONCRETE SUBBASE, REF. DETAILS
MANUFACTURER:	KEYSTONE HARDSCAPES, OR APPROVED EQUAL
CONTACT:	GIBSON ROSE (470-534-1206)
APPROVAL:	***CUT SHEET, SAMPLE, MOCKUP***

P-3 TRUNCATED DOME PAVER

TYPE:	CONCRETE PAVERS
STYLE:	CITYSCAPE ADA
COLOR:	CHARCOAL
FINISH:	STANDARD FINISH
SIZE:	6 x 12 x 60mm
PATTERN:	STACKED
INSTALL:	SAND SET ON CONCRETE SUBBASE, REF. DETAILS
MANUFACTURER:	KEYSTONE HARDSCAPES, OR APPROVED EQUAL
CONTACT:	JOEY GUEDEA (214-684-4427)
APPROVAL:	***CUT SHEET, SAMPLE, MOCKUP***

METALS

M-1 STEEL EDGE

MATERIAL:	3/16" x 6" STEEL
COLOR:	POWDERCOAT BLACK
SIZE:	LENGTHS PER PLAN, ALL SEAMS TO BE FLUSH AND LEVEL
INSTALL:	REF. DETAILS
APPROVAL:	***CUT SHEET***

AGGREGATES

AG-1 DECORATIVE GRAVEL

TYPE:	CRUSHED GRAVEL
COLOR:	BLACK EAGLE
SIZE:	2-4" SIZE, 4" DEPTH
INSTALL:	REFER TO DETAILS
SUPPLIER:	MINICK MATERIAL, OR APPROVED EQUAL
CONTACT:	(405.834.8280)
APPROVAL:	***SAMPLE, MOCKUP***

SITE AMENITIES

A-1 PLANTER POT

TYPE:	WEDGE SQUARE
MODEL:	QS-WE3037P
SIZE:	30" DIA. x 37.5" HT.
MATERIAL:	STANDARD REINFORCED CONRETE
FINISH / COLOR:	GFRC SANDSTONE / MISSION WHITE
INSTALL:	REF. DETAILS AND MANUFACTURER SPECS
SUPPLIER:	OCP CORP, OR APPROVED EQUAL
CONTACT:	ANTHONY VARGAS (951.256.3228)
APPROVAL:	***CUT SHEET***

A-2 BENCH

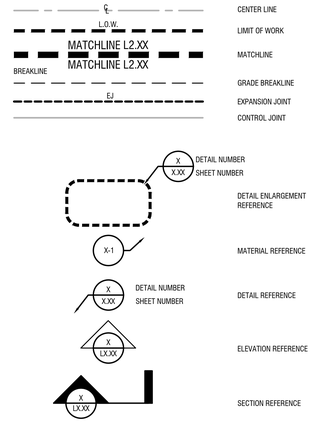
TYPE:	ANGELES
MODEL:	BNAG
FINISH / COLOR:	BASALT GREY - 7012
INSTALL:	SURFACE MOUNT
SUPPLIER:	OCP CORP, OR APPROVED EQUAL
CONTACT:	ANTHONY VARGAS (951.256.3228)
APPROVAL:	***CUT SHEET***

A-3 BOLLARD

TYPE:	BEACON A42 BOLLARD
MODEL:	ST-BOL-U-A42-BG
FINISH / COLOR:	HPC SANDSTONE / FRENCH GREY
INSTALL:	REF. DETAILS
SUPPLIER:	OCP CORP, OR APPROVED EQUAL
CONTACT:	ANTHONY VARGAS (951.256.3228)
APPROVAL:	***CUT SHEET***

SYMBOLS LEGEND:

GENERAL



PLANT SCHEDULE

SYMBOL	COMMON / BOTANICAL NAME	CONT.	SIZE	SPACING	QTY	REMARKS
TREES						
	Lacebark Elm / Ulmus parvifolia	3" cal	10`-12` ht	As Shown	10	B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7' CLEAR AT SIDEWALKS, 14' CLEAR AT FIRELANE
	Shumard Oak / Quercus shumardii	3" cal	10`-12` ht	As Shown	9	B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7' CLEAR AT SIDEWALKS, 14' CLEAR AT FIRELANE
	Sweet Gum / Liquidambar styraciflua	3" cal	10`-12` ht	As Shown	9	B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7' CLEAR AT SIDEWALKS, 14' CLEAR AT FIRELANE
ORNAMENTAL TREES						
	Rocky Mountain Juniper / Juniperus scopulorum	3" cal	10`-12` ht	As Shown	3	CONTAINER, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED
SHRUBS						
△	Green Mountain Boxwood / Buxus x 'Green Mountain'	3 gal	24" h x 24" w	30" OC	59	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
·	Morning Light Miscanthus / Miscanthus sinensis 'Morning Light'	3 gal	24" h x 18" w	36" OC	34	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
+	Nellie R. Stevens Holly / Ilex x 'Nellie R. Stevens'	15 gal	48" ht. min.	60" OC	34	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
DECIDUOUS SHRUBS						
ψ	Common Barberry / Berberis vulgaris	3 gal	18" h X 18" w	30" OC	158	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED

SYMBOL	COMMON / BOTANICAL NAME	CONT.	SIZE	SPACING	QTY	REMARKS
GROUND COVERS						
	Autumn Salvia / Salvia greggii	1 gal	12" h x 12" w	24" o.c.	353	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
	Berkeley Sedge / Carex divulsa	1 gal	12" h x 12" w	18" o.c.	1,913	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
	Purple Wintercreeper / Euonymus fortunei 'Coloratus'	1 gal	6" h X 6" w	18" o.c.	508	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
	Seasonal Color / Seasonal Color	4"pot	Varies	8" o.c.	29	CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
SEED						
	Bermuda Grass / Seed	HYDROSEED			77,381 sf	JOHNSON SEED CO. OR APPROVED EQUAL SEED RATES PER MANUF. PROVIDE PROMATRIX ENGINEERED FIBER MATRIX (EFM), FROM PROFILE EVS, OR APPROVED EQUAL.
SOD						
	Bermuda grass / Cynodon dactylon	SOD			22,759 sf	SOD TO HAVE TIGHT, SAND FILLED JOINTS AND BE FREE OF WEEDS

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN THE CASE OF A DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

NOTE: FOR ALL SLOPES GREATER THAN 4:1 CONTRACTOR TO PROVIDE EROSION CONTROL BLANKET S150, NORTH AMERICAN GREEN, OR APPROVED EQUAL.

NOTE: PLANTS ARE SPECIFIED BY HEIGHT, SPREAD, AND CONTAINER SIZE. ALL PLANTINGS ARE EXPECTED TO MEET ALL SPECIFICATIONS PROVIDED.

CODE CHART

CYL1A INDUSTRIAL HUB

TULSA, OKLAHOMA

SITE DATA	AC	SF
Zoning	PUD-871	
Total Site Area	32.15	1,400,511
Parking Spaces	176	
Total trees provided	28 Trees	
LANDSCAPE REQUIREMENTS	**Required**	**Provided**
Reference SPS code chart		

REFERENCE SPS PLANS FOR ALL LANDSCAPE CODE RELATED ITEMS.

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN &
ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA — DARRIAN SCOTT #362 — LICENSED LANDSCAPE ARCHITECT — 04/03/2026

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS			DRAWN:
NO.	DATE	DESCRIPTION	AEA
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS	
			APPRV'D:
			DAS

CYL1A

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO.: 10434525

GENERAL NOTES & MATERIALS LEGEND

SCALE: AS SHOWN

SHEET NUMBER:
L-9000

PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - SPS

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REFERENCE SPS PLANS

REFERENCE SPS PLANS

REFERENCE SPS PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

2' SOD STRIP AT ALL PAVEMENT EDGES, TYP.

LIMIT OF WORK

OUTFALL AND BAFFLE, REF. CIVIL PLANS

OUTFALL, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

OUTDOOR MECHANICAL EQUIPMENT, REF. MEP PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

MOTORCYCLE BUGGY PARKING

STEEL EDGE

AGGREGATE

DUMPSTER PAD, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

PATIO AREA, REF. CIVIL PLANS

SHADE STRUCTURE, REF. ARCH. PLANS

OUTDOOR MECHANICAL EQUIPMENT, REF. MEP PLANS

STEEL EDGE

AGGREGATE

STORM SHELTER, REF. ARCH PLANS

PROPOSED HUB

BLOCK 1, LOT 1

53.9455 ACRES

ZONED PUD-871

STEEL EDGE

AGGREGATE

CONCRETE PAVERS

CONCRETE PAVING INTEGRAL COLOR

PLANTER POT

BENCH

BOLLARD

TRUNCATED DOME PAVER

SIDEWALK, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

XFMR ELECTRICAL BOX, REF. CIVIL PLANS

GRAVEL SECURITY ACCESS PATH, REF. CIVIL PLANS

PERIMETER FENCE, REF. CIVIL PLANS

LIMIT OF WORK

GRAVEL SECURITY ACCESS PATH, REF. CIVIL PLANS

REFERENCE SPS PLANS

N

0' 10' 20' 40'

SCALE IN FEET

K:\MKN_LAL\P_projects\060007903 - cyl industrial\CAD\Sheets\HUB\CYL-HUB-L-8000 HARDSCAP PLAN 3/16/2026 1:52 PM

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN & ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA — DARRAN SCOTT — #362 — LICENSED LANDSCAPE ARCHITECT — 04/03/2026

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS

DRAWN: AEA

APPRV'D: DAS

CYL1A

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO.: 10434525

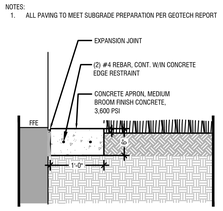
HARDSCAPE PLAN

SCALE: AS SHOWN

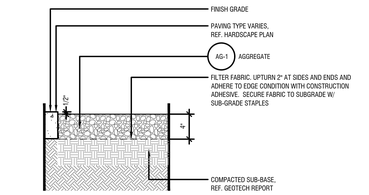
SHEET NUMBER:
L-9100

PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - SPS

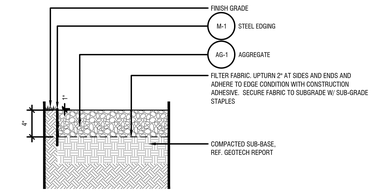
NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT



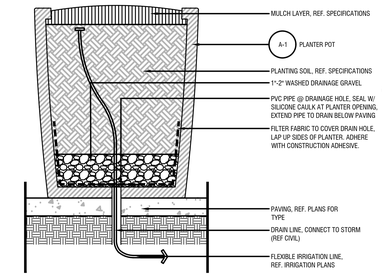
Concrete Apron @ Building — M
Scale: 1" = 1'-0"



Aggregate @ Paving — K
Scale: 1"=1'-0"

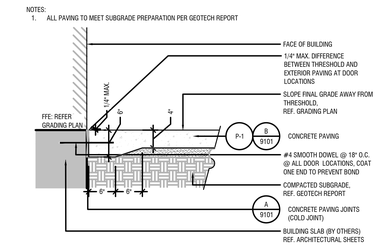


Aggregate @ Planting — J
Scale: 1"=1'-0"



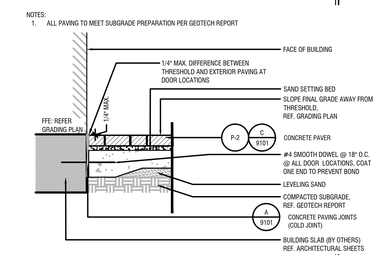
Planter Pot — H
Scale: 1" = 1'-0"

NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT



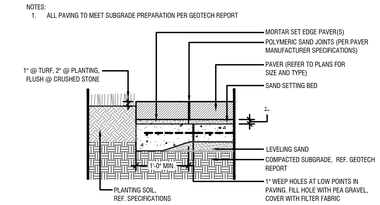
Concrete Paving @ Building and Doors — E
Scale: 1" = 1'-0"

NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT

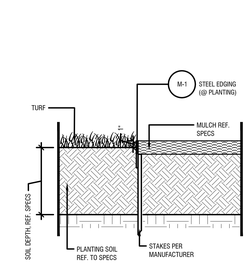


Concrete Paver @ Building — D
Scale: 1" = 1'-0"

NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT

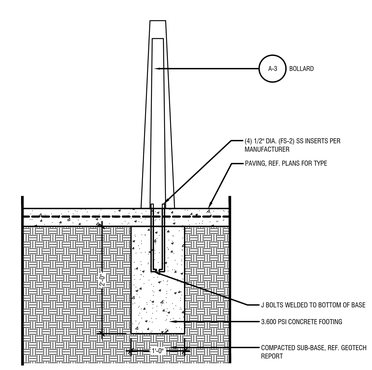


Concrete Paver — C
Scale: 1" = 1'-0"

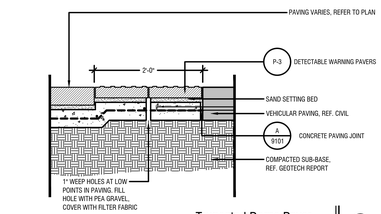


Steel Edge — L
Scale: 1 1/2" = 1'-0"

NOTE:
1. PROVIDE SHOP DRAWINGS OF BOLLARDS AND CONNECTION DETAILS PRIOR TO INSTALLATION.



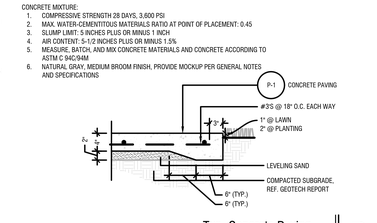
Bollard — I
Scale: 1" = 1'-0"



Truncated Dome Paver — G
Scale: 1" = 1'-0"

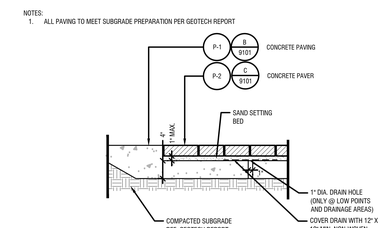
NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT
2. ALL VEHICULAR PAVING BY CIVIL

CONCRETE MIXTURE:
1. COMPRESSIVE STRENGTH 28 DAYS, 3,600 PSI
2. MAX. WATER-CEMENTITOUS MATERIALS RATIO AT POINT OF PLACEMENT: 0.45
3. SLUMP LIMIT: 5 INCHES PLUS OR MINUS 1 INCH
4. AIR CONTENT: 5-1/2 INCHES PLUS OR MINUS 1.5%
5. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE ACCORDING TO ASTM C 94/C94M
6. NATURAL GRAY, MEDIUM BROOM FINISH, PROVIDE MOCKUP PER GENERAL NOTES AND SPECIFICATIONS

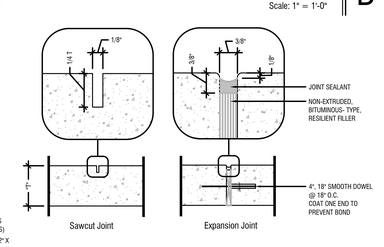


Typ. Concrete Paving — B
Scale: 1" = 1'-0"

NOTES:
1. ALL PAVING TO MEET SUBGRADE PREPARATION PER GEOTECH REPORT



Concrete Paver to Concrete Paving Transition — F
Scale: 1" = 1'-0"



Concrete Paving Joints — A
N.T.S.

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN & ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA — DARWIN SCOTT — #362 — LICENSED LANDSCAPE ARCHITECT
04/03/2026

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS

DRAWN: AEA
APPRV'D: DAS

CYL1A

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO.: 10434525

HARDSCAPE DETAILS

SCALE: AS SHOWN

SHEET NUMBER:
L-9101

PAPER SIZE: E (36"x48")
PHASE: ISSUE FOR CONSTRUCTION - SPS

REFERENCE SPS PLANS

REFERENCE SPS PLANS

REFERENCE SPS PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

PROPOSED DRIVE BY CYL1A PROJECT, REF. CIVIL PLANS

LIMIT OF WORK

NOTE:
EROSION CONTROL BLANKETS FOR ALL 4:1 SLOPES OR GREATER, AND OVERSEED WITH ANNUAL RYE

OUTFALL AND BAFFLE, REF. CIVIL PLANS

OUTFALL, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

2'-0" SOD STRIP AT ALL PAVEMENT EDGES, TYP.

BARRIER FREE RAMP, REF. CIVIL PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

SIDEWALK, REF. CIVIL PLANS

Sweet Gum

Shumard Oak

Lacebark Elm

Berkeley Sedge

2'-0" SOD STRIP AT ALL PAVEMENT EDGES, TYP.

OUTDOOR MECHANICAL EQUIPMENT, REF. MEP PLANS

BARRIER FREE RAMP, REF. CIVIL PLANS

MOTORCYCLE BUGGY PARKING

DUMPSTER PAD, REF. CIVIL PLANS

Rocky Mountain Juniper

Morning Light Miscanthus

Green Mountain Boxwood

Sweet Gum

SIDEWALK, REF. CIVIL PLANS

Seasonal Color

PATIO AREA, REF. CIVIL PLANS

OUTDOOR MECHANICAL EQUIPMENT, REF. MEP PLANS

SHADE STRUCTURE, REF. ARCH. PLANS

SIDEWALK, REF. CIVIL PLANS

Nellie R. Stevens Holly

Common Barberry

Green Mountain Boxwood

Lacebark Elm

Common Barberry

Nellie R. Stevens Holly

Sweet Gum

STORM SHELTER, REF. ARCH PLANS

PROPOSED HUB
BLOCK 1, LOT 1
53.9455 ACRES

ZONED PUD-871

Nellie R. Stevens Holly

Green Mountain Boxwood

Autumn Salvia

Common Barberry

SIDEWALK, REF. CIVIL PLANS

Shumard Oak

Lacebark Elm

Purple Wintercreeper

2'-0" SOD STRIP AT ALL PAVEMENT EDGES, TYP.

BARRIER FREE RAMP, REF. CIVIL PLANS

Sweet Gum

LIMIT OF WORK

LIMIT OF WORK

LIMIT OF WORK

GRAVEL SECURITY ACCESS PATH, REF. CIVIL PLANS

PERIMETER FENCE, REF. CIVIL PLANS

GRAVEL SECURITY ACCESS PATH, REF. CIVIL PLANS

PERIMETER FENCE, REF. CIVIL PLANS

REFERENCE SPS PLANS

PLANT SCHEDULE

SYMBOL	COMMON / BOTANICAL NAME
TREES	
	Lacebark Elm / Ulmus parvifolia
	Shumard Oak / Quercus shumardii
	Sweet Gum / Liquidambar styraciflua
ORNAMENTAL TREES	
	Rocky Mountain Juniper / Juniperus scopulorum
SHRUBS	
	Green Mountain Boxwood / Buxus x 'Green Mountain'
	Morning Light Miscanthus / Miscanthus sinensis 'Morning Light'
	Nellie R. Stevens Holly / Ilex x 'Nellie R. Stevens'
DECIDUOUS SHRUBS	
	Common Barberry / Berberis vulgaris

SYMBOL	COMMON / BOTANICAL NAME
GROUND COVERS	
	Autumn Salvia / Salvia greggii
	Berkeley Sedge / Carex divulsa
	Purple Wintercreeper / Euonymus fortunei 'Coloratus'
	Seasonal Color / Seasonal Color
SEED	
	Bermuda Grass / Seed
SOD	
	Bermuda grass / Cynodon dactylon

N

0' 10' 20' 40'
SCALE IN FEET

K:\MKN_LALPL_projects\060007903 - cyl industrial\CAD\Sheets\HUB\CYL-HUB-L-9101 LANDSCAPE PLAN 2/20/2026 11:21 AM

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN &
ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA — DARRAN SCOTT — #362 — LICENSED LANDSCAPE ARCHITECT
04/03/2026

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS

DRAWN: AEA
APPRV'D: DAS

CYL1A

PROJECT ADDRESS:
TULSA COUNTY, OK

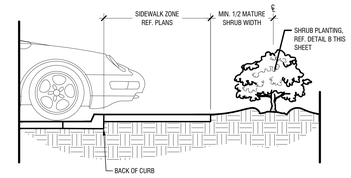
PROJ. NO.:10434525

LANDSCAPE PLAN

SCALE: AS SHOWN

SHEET NUMBER:
L-9200

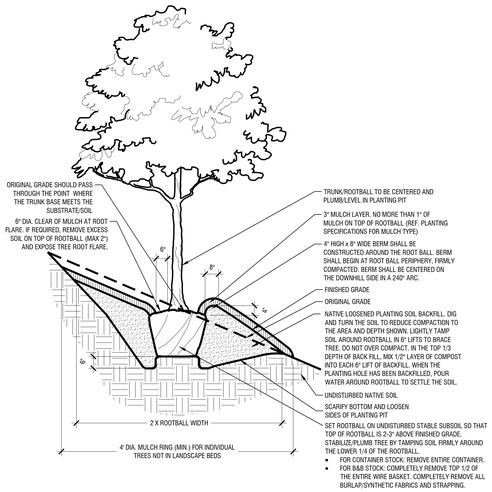
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - SPS



Shrub Planting at Sidewalk

Scale: NTS

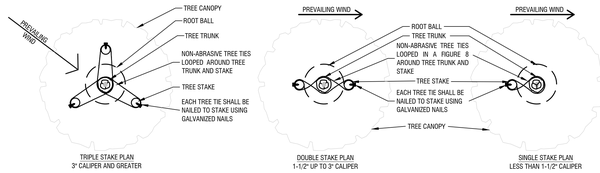
C



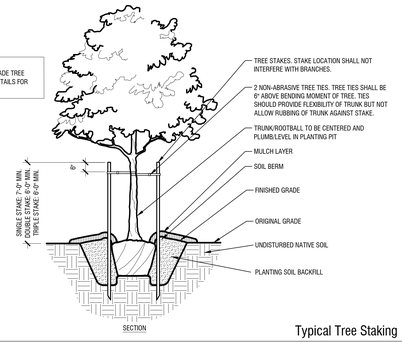
Tree Planting On 5-25% Slopes (20:1 to 4:1 Slopes)

Scale: NTS

G



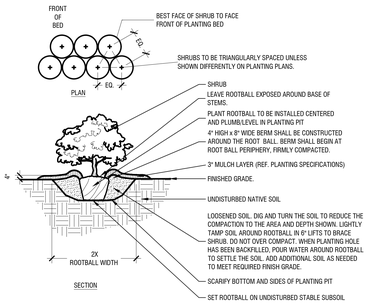
NOTES:
1. THIS DETAIL IS FOR ABOVE GRADE TREE STAKING ONLY. REF. OTHER DETAILS FOR TYPICAL TREE PLANTING.



Typical Tree Staking

Scale: NTS

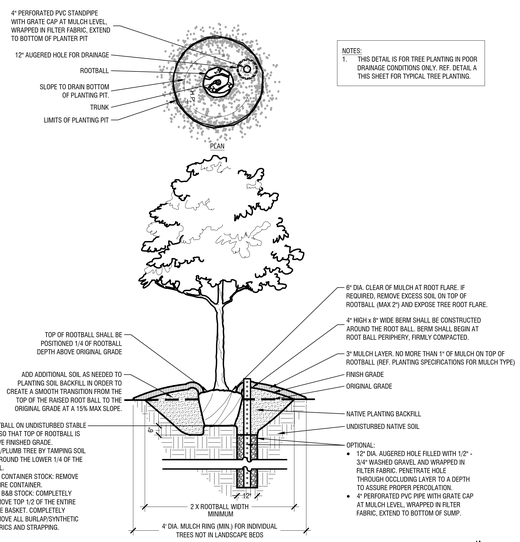
E



Typical Shrub Planting

Scale: NTS

B

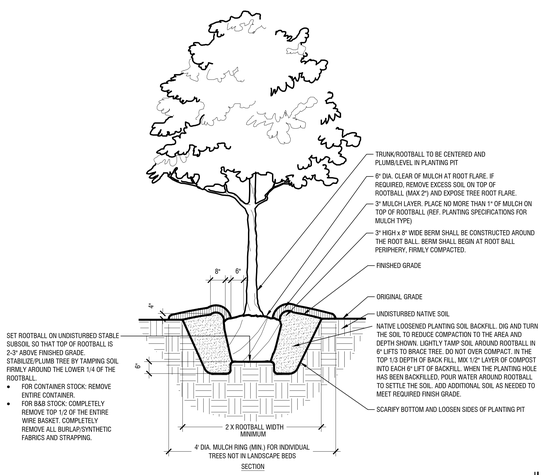


NOTES:
1. THIS DETAIL IS FOR TREE PLANTING IN POOR DRAINAGE CONDITIONS ONLY. REF. DETAIL A THIS SHEET FOR TYPICAL TREE PLANTING.

Tree Planting (Poor Drainage Condition)

Scale: NTS

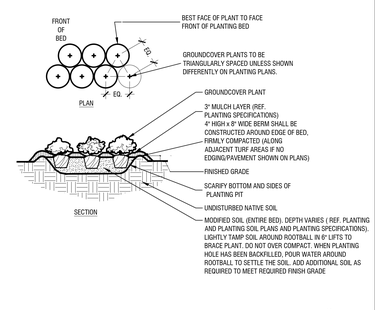
F



Typical Tree Planting (Up to 3" Caliper)

Scale: NTS

D



Typical Groundcover Planting

Scale: NTS

A

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN &
ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA
CHRISM SCOTT
#362
REGISTERED LANDSCAPE ARCHITECT
04/03/2026

CONFIDENTIAL CLIENT ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS

DRAWN: AEA

APPRV'D: DAS

CYL1A

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO.:10434525

LANDSCAPE DETAILS

SCALE: AS SHOWN

SHEET NUMBER:
L-9201

PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - SPS

REFERENCE SPS PLANS

REFERENCE SPS PLANS

REFERENCE SPS PLANS

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
A-7	Hunter ICV-G (Remote)	1"	Bubbler	3.6		32.6		1.53 in/h
A-8	Netafim LVCZ10075-HFHP	1"	Area for Dripline	7.11		39.5		0.41 in/h
A-9	Netafim LVCZSB010075-LF	1"	Area for Dripline	0.4		30.0		3.2 in/h
A-10	Netafim LVCZSB010075-LF	1"	Area for Dripline	3.92		36.4		0.41 in/h
A-11	Hunter ICV-G (Remote)	1"	Bubbler	2.25		32.2		1.53 in/h
A-12	Hunter ICV-G (Remote)	1-1/2"	Turf Rotary	27.24		32.3		0.57 in/h
A-13	Netafim LVCZSB010075-LF	1"	Area for Dripline	1.65		35.2		0.41 in/h
A-14	Netafim LVCZ10075-HFHP	1"	Area for Dripline	6.43		38.6		0.41 in/h
A-15	Hunter ICV-G (Remote)	1-1/2"	Turf Rotary	34.03		33.0		0.54 in/h
A-16	Hunter ICV-G (Remote)	1"	Bubbler	3.15		32.4		1.53 in/h
A-17	Hunter ICV-G (Remote)	1-1/2"	Turf Rotary	24.21		33.6		0.61 in/h
A-18	Netafim LVCZ10075-HFHP	1"	Area for Dripline	11.83		45.6		0.41 in/h
A-19	Hunter ICV-G (Remote)	1"	Bubbler	4.95		32.8		1.53 in/h
A-20	Netafim LVCZ10075-HFHP	1"	Area for Dripline	10.86		43.2		0.41 in/h

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter MP Corner PRDS-04-PRS30-CV Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle. T=Turquoise adj arc 45-105 on PRS30 body.	4
LSR SSR RCS	Hunter MP Strip PRDS-04-PRS30-CV Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PRS30 body. LCS=Ivory left strip, SS=Brown side strip, RCS=Copper right strip.	8
	Hunter MP1000 PRDS-04-PRS30-CV Turf Rotator, 4in. pop-up with check valve, pressure regulated to 30 psi, MP Rotator nozzle on PRS30 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	47
	Hunter MP2000 PRDS-04-PRS30-CV Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PRS30 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	63
	Hunter MP3000 PRDS-04-PRS30-CV Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PRS30 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	19
SS SR TS QS	Toro 570S-FB-PC Pressure-Compensating Flood Bubbler Nozzle on 570S Fixed Riser. 0.25 GPM, 0.5 GPM, 1.0 GPM, and 2.0 GPM.	31

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Netafim LVCZ10075-HFHP Pre-Assembled Control Zone Kit, with 1in. Series 80 Control Valve, 3/4in. Disc Filter, and High Flow Pressure Regulator 4.5GPM to 17.6GPM.	4
	Netafim LVCZSB010075-LF Pre-Assembled Control Zone Kit, with 1in. Series 80 Control Valve, 3/4in. Disc Filter, and Low Flow Pressure Regulator 0.25GPM-4.4GPM.	3
	Area to Receive Dripline Hunter MLD-05-06 0.5 GPH Brown Mini Landscape Dripline. Emitters at 6" O.C. Dripline laterals spaced at 6" apart. Specify with Hunter QB 1/4in. fittings.	24.0 lf
	Area to Receive Dripline Netafim TLCV-026-12 Techline Pressure Compensating Landscape Dripline with Check Valve. 0.26 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. 17mm.	9,723 lf

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICV-G (Remote) 1in., 1-1/2in., Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.	7
	Hunter HQ-44LRC-R Quick coupler valve, purple rubber locking cover for reclaimed water use, red brass and stainless steel, with 1in. NPT inlet, 2-piece body.	1
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diamter at valve location.	3
	Hunter ICD-100 Single Station Decoder w/Surge Suppression and Ground Wire. To be installed on Universal Decoder Stake Kit (DECSTAKE10).	14
POC1	Point of Connection 1 1/2" Ref. Civil Plans	1
POC2	Point of Connection 1 1/2" Ref. Civil Plans	1
	Irrigation Lateral Line: PVC Schedule 40 1" min.	5,356 lf
	Irrigation Mainline: PVC Schedule 40 1-1/2" Min.	1,600 lf
	Pipe Sleeve: PVC Schedule 40 Typical pipe sleeve for irrigation pipe. Pipe sleeve shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.	891.3 lf

Valve Callout: Valve Number (#), Valve Flow (#), Valve Size (#")

GENERAL IRRIGATION NOTES

1. IRRIGATION CONTRACTOR SHALL TEST EXISTING STATIC PRESSURE ON SITE PRIOR TO CONSTRUCTION. SHOULD EXISTING SITE PRESSURE BE BELOW THE DESIGN PRESSURE SPECIFIED WITHIN THESE PLANS, THE CONTRACTOR SHALL CONTACT THE IRRIGATION DESIGNER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. THE IRRIGATION CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES, UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN.
3. THE IRRIGATION CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE 100% COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS PRIOR TO COMMENCEMENT OF OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR.
5. LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES. MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18 INCHES.
6. ELECTRICAL POWER SHALL BE PROVIDED WITHIN 5 FEET OF CONTROLLER LOCATION BY GENERAL CONTRACTOR. LICENSED IRRIGATION CONTRACTOR TO PROVIDE FINAL HARD WIRE TO CONTROLLER.
7. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF 14 GAUGE, U.L. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR "IRRIGATION WIRE". CONTRACTOR TO CONFIRM WIRE SIZE PRIOR TO INSTALLATION. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF WIRE CONNECTOR UL APPROVED AND FILLED WITH SILICONE.
8. ALL REMOTE VALVE BOXES SHALL BE SET FLUSH WITH FINISHED GRADE AND CONTAIN ONE CUBIC FOOT OF CLEAN GRAVEL BENEATH VALVE. LABEL REMOTE BOXES WITH ONE-INCH ALPHA-NUMERIC NOTATION CORRESPONDING TO THE APPLICABLE ALPHA CONTROLLER AND NUMERIC STATION. USE 10" ROUND VALVE BOXES FOR ELECTRIC VALVES AND QUICK COUPLING VALVES. USE 15" X 9.5" RECTANGULAR BOX FOR DRIP VALVES UNLESS NOTED OTHERWISE. DOUBLE CHECK ASSEMBLY SHALL BE BOXED ACCORDING TO LOCAL CODES.
9. ALL SPRAY HEADS SHALL BE CONNECTED USING PVC SWING JOINT ASSEMBLIES TO CONNECT ALL SPRAY AND ROTOR HEADS.
10. ALL ROTOR HEADS SHALL BE CONNECTED WITH A MINIMUM 12" LENGTH OF ¾" FLEX PCV. THE FLEX PVC SHALL BE SOLVENT-WELDED TO SCHEDULE 40 PCV FITTINGS WITH WELD-ON 795 SOLVENT AND "P-70 PRIMER. PRIMER SHALL BE PURPLE IN COLOR
11. THE CONTRACTOR SHALL CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
12. SLEEVES SHALL BE INSTALLED BY GENERAL CONTRACTOR. SLEEVE MATERIAL SHALL BE PVC SHCEULD 40 UNLESS OTHERWISE NOTED. CONTRACTOR SHALL EXTEND SLEEVES 12 INCHES BEYOND EDGE OF ALL PAVEMENT.
13. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL. ALL PRESSURE MAINLINES UNDER ASPHALT PAVEMENT SHALL BE PLACED WITHIN SLEEVES AS NOTED.
14. DRIP LINE SHALL BE PLACED A MINIMUM OF 3" UNDER MULCH AND SECURE TO THE GROUND WITH DRIP IRRIGATION TUBING STAKES.
15. LICENSED IRRIGATION CONTRACTOR SHALL ADJUST SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE AND ADJUST FOR MINIMUM OVERSPRAY ONTO PAVEMENT. NO OVERSPRAY IS PERMITTED ONTO STREETS OR SIDEWALKS.
16. THE IRRIGATION CONTRACTOR SHALL SUPPLY AND CONSTRUCT IRRIGATION SYSTEM WITH ALL MATERIALS AND PER MANUFACTURER SPECIFICATIONS SHOWN ON THIS PLAN. IF CONTRACTOR PREFERS MATERIALS THAT DIFFER FROM THE THIS PLAN, THEY SHALL BE APPROVED BY THE IRRIGATION DESIGNER PRIOR TO CONSTRUCTION.
17. VERIFY CONTROLLER AND RAIN SENSOR LOCATION AND MAINLINE POINT OF CONNECTION AT PROJECT SITE WITH OWNER.
18. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
19. IRRIGATION LATERAL LINES, MAIN LINES AND EQUIPMENT MAY BE SHOWN OUTSIDE PROPERTY LINES ON THIS PLAN, ALL IRRIGATION LINES AND EQUIPMENT SHALL BE WITHIN AND INSTALLED WITHIN THE LIMITS OF THE PROPERTY LINE.
20. SUPPLY LINE AND METER SHALL BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
21. THE IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
22. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
23. MAINLINE, VALVES, AND WIRING ARE SHOWN ON DRAWINGS FOR CLARITY, SHOULD BE LOCATED IN ACCESSIBLE GREEN SPACE. CONTRACTOR TO COORDINATE WITH ALL DISCIPLINES TO AVOID CONFLICTS WITH UTILITIES' STRUCTURES, ETC.
24. INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.
25. SET SPRAY HEADS 4" FROM BACK OF CURB OR 24" IF PAVEMENT HAS NO CURB.
26. THE IRRIGATION CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT. "AS-BUILT" DRAWINGS TO BE COLOR CODED BY ZONE ON 8.5" X 11", LAMINATED, AND PLACED IN CONTROLLER.
27. ALL DRIP ZONES SHALL BE INSTALLED WITH A SELF-FLUSHING DISC FILTER, OR APPROVED EQUAL.
28. THE CONTRACTOR SHALL INSTALL ALL IRRIGATION COMPONENTS AS PER MANUFACTURERS REQUIREMENTS.
29. IRRIGATION HEADS AND COMPONENTS SHALL BE LOCATED A MINIMUM OF 24" FROM ALL BUILDINGS TO AVOID ADVERSE PERFORMANCE OF FOUNDATIONS AND SLABS.
30. NO LATERALS SHALL BE LESS THAN 1" DIAMETER.
31. NO MAINLINES SHALL BE LESS THAN 1" DIAMETER.

THIS IRRIGATION PLAN IS DESIGNED TO THE FOLLOWING STATS: 100 PSI AND 75 GPM. IF WATER PRESSURE DOES NOT MEET DESIGN SPECIFICATIONS A BOOSTER PUMP WILL BE REQUIRED AT COST OF CONTRACTOR. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION IF SYSTEM HAS +/- 5 PSI THAN DESIGN PRESSURE.
QUANTITIES PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR TO CONFIRM ALL QUANTITIES PRIOR TO BIDDING. REFERENCE MAXIMUM LATERAL DRIPLINE CHART TO DETERMINE MINIMUM NUMBER OF POINTS OF CONNECTION PER DRIP LINE ZONE. WHERE LAYOUT FLEXIBILITY EXISTS CENTER FEED LAYOUTS MUST BE USED. THIS ALLOWS FOR EVEN FLOW OF WATER THROUGH THE ZONE.
ECO-INDICATOR TO BE PLACED IN ALL DRIP AREAS AT THE FURTHEST POINT OF EACH DRIP RUN.
ZONES LOWER THAN THE CAPACITY OF THE FLOW SENSOR ARE TO BE WIRED IN THE CONTROLLER WITH ANOTHER ZONE SO THAT THE FLOW SENSOR READS BOTH ZONES AS ONE ZONE IN ORDER TO MEET THE FLOW SENSOR'S LOWEST GPM REQUIREMENT. DRIP ZONES REQUIRED TO REMAIN PIPED AS SEPARATE ZONES.

LIMIT OF WORK

CONTRACTOR TO PROVIDE TEMPORARY IRRIGATION FOR ALL SEED/SOD AREAS UNTIL ESTABLISHMENT, TYP.

CONTRACTOR TO PROVIDE STUB OUT FOR FUTURE EXPANSION

CONTRACTOR SHALL INCLUDE ONE (1) ISOLATION VALVE FOR EACH QUICK COUPLER WITHIN THE SAME VALVE BOX. (TYP.)

APPROXIMATE LOCATION OF EXISTING SPS 1-1/2" MAINLINE. CONTRACTOR SHALL LOCATE EXISTING SPS MAINLINE AND PROTECT IN PLACE DURING CONSTRUCTION. **REFERENCE SPS PLANS FOR CONTROLLER AND RAINFREEZE SENSOR, TYP.**

PROPOSED HUB

ALL DRIP ZONES SHALL HAVE MINIMUM 12" SETBACK (CLEAR-ZONE) BETWEEN DRIPLINE AND SOD OR PAVEMENT EDGE

SLEEVING SHOWN FOR CLARITY. INSTALL LATERALS IN ONE SLEEVE AND SIZE SLEEVE ACCORDINGLY (TYP.)

SLEEVING SHOWN FOR CLARITY. INSTALL LATERAL & MAINLINE IN SEPARATE SLEEVES AND SIZE SLEEVE ACCORDINGLY (TYP.)

CONTRACTOR SHALL ADJUST ALL OVERHEAD SPRAY HEADS TO ENSURE MINIMAL OVER-SPRAY OCCURS ON ANY HARDSCAPE SURFACE (TYP).

COORDINATE/DISCUSS PROJECT LIMITS WITH GENERAL CONTRACTOR WILL ENSURE ALL IRRIGATION EQUIPMENT IS INSTALLED WITHIN PROJECT AREA.

CONTRACTOR SHALL LOCATE ALL UTILITIES AND DEPTHS OF UTILITIES PRIOR TO PLANTING AND INSTALLING IRRIGATION. IRRIGATION SHALL NOT BE PLACED DIRECTLY OVER UTILITIES. ANY DAMAGE TO UTILITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTACT THE LOCAL GOVERNING AGENCY WITH ANY UTILITY CONFLICTS IN FIELD.

HUB-ST-MH-006
RIM: 641.78

N
0' 10' 20' 40'
SCALE IN FEET

HDR, INC.
1917 SOUTH 67th STREET
OMAHA, NE 68106
(402) 399-1000

KIMLEY-HORN &
ASSOCIATES, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA — DARRAN SCOTT #362 — REGISTERED LANDSCAPE ARCHITECT — 04/03/2026

CONFIDENTIAL CLIENT
ISSUE FOR CONSTRUCTION

KEYPLAN

REVISIONS		
NO.	DATE	DESCRIPTION
	2026-04-03	ISSUE FOR CONSTRUCTION - SPS

DRAWN: AEA
APPRV'D: DAS

CYL1A
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO.: 10434525

IRRIGATION PLAN
SCALE: AS SHOWN

SHEET NUMBER:
L-9300
PAPER SIZE: E (36"x48")
PHASE:ISSUE FOR CONSTRUCTION - SPS

GENERAL IRRIGATION SPECIFICATIONS AND NOTES

A. EXTENT:

1. INCLUDES FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT FOR THE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

   a. TRENCHING AND BACKFILL. (2) AUTOMATICALLY CONTROLLED LOW VOLUME IRRIGATION SYSTEM, (3) TEST ALL SYSTEMS AND MAKE OPERATIVE. (4) "AS-BUILT" DRAWINGS.

B. GENERAL:

1. PERMITS AND FEES: OBTAIN ALL PERMITS AND PAY REQUIRED FEES TO ANY GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THE WORK. INSPECTIONS REQUIRED BY LOCAL ORDINANCES DURING THE COURSE OF CONSTRUCTION SHALL BE ARRANGED AS REQUIRED. ON COMPLETION OF THE WORK, SATISFACTORY EVIDENCE SHALL BE FURNISHED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE THAT ALL WORK HAS BEEN INSTALLED IN ACCORDANCE WITH THE STATE AND LOCAL BUILDING PLUMBING CODE AND ALL OTHER CODE REQUIREMENTS.
2. APPROVAL: WHEREVER THE TERMS "APPROVE" OR "APPROVED" ARE USED IN THE SPECIFICATIONS, THEY SHALL MEAN THE APPROVAL OF THE OWNER'S CONSTRUCTION REPRESENTATIVE IN WRITING.
3. BEFORE ANY WORK IS STARTED, A CONFERENCE SHALL BE HELD BETWEEN THE CONTRACTOR AND THE OWNER'S CONSTRUCTION REPRESENTATIVE CONCERNING THE WORK UNDER THIS CONTRACT.
4. COORDINATION: COORDINATE AND COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED AS RAPIDLY AND EFFICIENTLY AS POSSIBLE.
5. INSPECTION OF SITE:

   a. CONTRACTOR SHALL ACQUAINT THEMSELVES WITH ALL SITE CONDITIONS. SUBMISSION OF THEIR PROPOSAL SHALL BE CONSIDERED EVIDENCE THAT THE EXAMINATION HAS BEEN CONDUCTED. SHOULD UTILITIES NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S CONSTRUCTION REPRESENTATIVE FOR INSTRUCTIONS AS TO FURTHER ACTION. FAILURE TO DO SO WILL MAKE CONTRACTOR LIABLE FOR ANY AND ALL DAMAGE THERETO ARISING FROM HIS OPERATIONS SUBSEQUENT TO DISCOVERY OF SUCH UTILITIES NOT SHOWN IN PLANS.
   b. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS IN THE LAYOUT AS MAY BE REQUIRED TO CONNECT TO EXISTING STUBS. SHOULD SUCH STUBS NOT BE LOCATED EXACTLY AS SHOWN, AND AS MAY BE REQUIRED TO WORK AROUND EXISTING WORK AT NO INCREASE IN COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.
6. PROTECTION OF EXISTING PLANTS AND SITE CONDITIONS: THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD, OR DELETE ANY MATERIAL, OR WORK AS THE WORK PROGRESSES. ADJUSTMENTS TO THE CONTRACT PRICE SHALL BE NEGOTIATED IF DEEMED NECESSARY BY THE OWNER ON A PER DIEM BASIS.
8. THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. REJECTED WORK SHALL BE REMOVED OR CORRECTED AT THE EARLIEST TIME POSSIBLE.
9. WORK SCHEDULE: WITHIN 10 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A WORK SCHEDULE.
10. "AS-BUILT" IRRIGATION DRAWINGS: PREPARE AN "AS-BUILT" DRAWING ON A FULL-SIZE PLAN SET WHICH SHALL SHOW DEVIATIONS FROM THE BID DOCUMENTS MADE DURING CONSTRUCTION AFFECTING THE MAIN LINE PIPE, CONTROLLER LOCATIONS, REMOTE CONTROL VALVES AND QUICK COUPLING VALVES. THE DRAWINGS SHALL ALSO INDICATE AND SHOW APPROVED SUBSTITUTIONS OF SIZE, MATERIAL AND MANUFACTURERS NAME AND CATALOG NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE DELIVERED TO THE TENANT'S CONSTRUCTION REPRESENTATIVE BEFORE FINAL ACCEPTANCE OF WORK.
11. FINAL ACCEPTANCE: FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER'S CONSTRUCTION REPRESENTATIVE UPON THE SATISFACTORY COMPLETION OF ALL WORK.
12. GUARANTEE: ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP. GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR OTHER DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP TO THE SATISFACTION OF THE TENANT'S CONSTRUCTION REPRESENTATIVE. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY AT NO COST TO THE OWNER.
13. A LAMINATED PLAN (8 1/2 X 11) SHOWING THE DIFFERENT IRRIGATION ZONES IN COLOR, PREPARED BY THE IRRIGATION CONTRACTOR, SHALL BE POSTED IN THE MECHANICAL ROOM OR WITHIN CONTROLLER CABINET.

C. MATERIALS:

1. GENERAL: ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW AND IN PERFECT CONDITION.
2. PLASTIC PIPING: ALL LATERAL LINES SHALL BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC) PIPE AND ALL MAIN LINES SHALL BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC) AND SHALL COMPLY WITH ONE OF THE FOLLOWING STANDARDS: ASTM D 1785, ASTM D-2241, AWWA C-900, OR AWWA C-905. SDR-PR PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS REQUIRED BY SDR-26. PVC GASKETS FITTINGS SHALL CONFORMING TO ASTM D 3139. GASKETS SHALL CONFORM TO ASTM F 477. SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. THREADED PVC PIPE FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2464. CONFORMING TO ASTM D-1784 AND D-2241.
3. PLASTIC FITTINGS: ALL SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. SCHEDULE 40 SOLVENT-WELD, POLYVINYL CHLORIDE (PVC) STANDARD WEIGHT AS MANUFACTURED BY SLOANE, LASCO, OR APPROVED EQUAL.
4. SOLVENT CEMENT: PVC CEMENT SHALL MEET ASTM D 2564 AND PVC CLEANER-TYPE SHALL MEET ASTM F 656.
5. SPRINKLER HEAD RISERS: SCHEDULE 40 PVC FOR RISERS. PIPE SHALL BE CUT WITH A STANDARD PIPE CUTTING TOOL WITH SHARP CUTTERS. REAM ONLY TO FULL DIAMETER OF PIPE AND CLEAN ALL ROUGH EDGES OR BURRS. CUT ALL THREADS ACCURATELY WITH SHARP DIES. NOT MORE THAN THREE(3) FULL THREADS SHALL SHOW BEYOND FITTINGS WHEN PIPE IS MADE UP. ASSEMBLIES SHALL BE AS DETAILED.
6. AUTOMATIC CONTROLLER: SEE LEGEND.
7. REMOTE CONTROL VALVES: SEE LEGEND.
8. CONTROL WIRING: CONVENTIONAL SYSTEMS TO USE 24 VOLT SOLID UL APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM WIRE SIZE: 14 GAUGE. ALL SPLICES SHALL BE MADE WITHIN VALVE BOX. TWO-WIRE SYSTEMS TO UTILIZE CONTROL WIRING PER MANUFACTURER STANDARDS.
9. SLEEVES FOR CONTROL WIRING: UNDER ALL WALKS AND PAVED AREAS AND WHERE INDICATED ON DRAWINGS. MINIMUM PVC SCHEDULE 40 PLASTIC PIPE.
10. SPRINKLER HEADS/ DRIP LINE: SEE LEGEND.
11. QUICK COUPLING VALVES: SHALL BE NOTED ON DRAWINGS.

D. WORKMANSHIP:

1. LAY OUT WORK AS ACCURATELY AS POSSIBLE TO THE DRAWINGS. THE DRAWINGS, THOUGH CAREFULLY DRAWN, ARE GENERALLY DIAGRAMMATIC TO THE EXTENT THAT SWING JOINTS, OFFSETS, AND ALL FITTINGS ARE NOT SHOWN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL AND COMPLETE COVERAGE OF ALL IRRIGATED AREAS AND SHALL MAKE ANY NECESSARY MINOR ADJUSTMENTS AT NO ADDITIONAL COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.
3. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED AND ANSWERED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN CONTRACT PRICE.

E. INSTALLATION:

1. EXCAVATION AND TRENCHING:

   a. PERFORM ALL EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK. INCLUDING UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS. RESTORE ALL SURFACES, EXISTING UNDERGROUND INSTALLATIONS, ETC., DAMAGED OR CUT AS A RESULT OF THE EXCAVATIONS TO AND IN A MANNER APPROVED BY THE OWNER.
   b. TRENCHES SHALL BE MADE WIDE ENOUGH TO ALLOW A MINIMUM OF 6 INCHES BETWEEN PARALLEL PIPE LINES. TRENCHES FOR PIPE LINES SHALL BE MADE OF SUFFICIENT DEPTHS TO PROVIDE THE MINIMUM COVER FROM FINISH GRADE AS FOLLOWS:
      1) 24" MINIMUM BELOW BOTTOM PAVEMENT PER SLEEVING INSTALLATION DETAIL FOR MAIN LINE.18" MINIMUM FOR NON-PRESSURIZED LATERALS.
      2) MINIMUM COVER OVER IRRIGATION LINES TO HEADS/ DRIPLINE EXCEPT VEHICLE TRAFFIC AREAS ARE AS FOLLOWS:
      12" COVER OVER LATERALS
      18" COVER OVER MAINLINE.
   c. MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AND RED LANTERNS AS REQUIRED BY THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND LOCAL ORDINANCES.
2. PIPE LINE ASSEMBLY:

   a. INSTALL REMOTE CONTROL VALVES WHERE SHOWN AND GROUP TOGETHER WHERE PRACTICAL, PLACE NO CLOSER THAN 12-18 INCHES TO WALK EDGES, WALLS, AND OTHER PAVEMENTS. PLACE A MINIMUM OF 24" FROM BUILDINGS.
   b. PLASTIC PIPE AND FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS AND METHODS RECOMMENDED BY MANUFACTURER OF THE PIPE, EXCEPT WHERE SCREWED CONNECTIONS ARE REQUIRED. PIPE AND FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT WITH A NON-SYNTHETIC BRISTLE BRUSH.
   c. PIPE MAY BE ASSEMBLED AND WELDED ON THE SURFACE. SNAKE PIPE FROM SIDE TO SIDE OF TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTION.
   d. MAKE ALL CONNECTIONS BETWEEN PLASTIC PIPE AND METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.
   e. JOINTS:
      1) PIPE SIZES 2 1/2 INCH OR SMALLER SHALL HAVE BELL AND SOCKET JOINTS.
      2) PIPE SIZES LARGER THAN 2 1/2 INCH SHALL HAVE SNAP CONNECTIONS WITH RUBBER GASKET JOINTS.
      3) THRUST BLOCKING SHALL BE REQUIRED WHEN PIPE SIZE IS 4" OR GREATER.
3. SPRINKLER HEADS/ DRIPLINE:

   a. INSTALL ALL SPRINKLERS/ DRIPLINE AS DETAILED ON DRAWINGS.
   b. DO NOT SCALE PLANS FOR EXACT HEAD LOCATION.
4. CLOSING OF PIPE AND FLUSHING LINES:

   a. CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD OBSTRUCT THE PIPE. LEAVE IN PLACE UNTIL REMOVAL IS NECESSARY FOR COMPLETION OF INSTALLATION.
   b. THOROUGHLY FLUSH OUT ALL WATER LINES BEFORE INSTALLING HEADS, DRIPLINE, VALVES AND OTHER HYDRANTS.
   c. TEST IN ACCORDANCE WITH PARAGRAPH ON HYDROSTATIC TESTS.
   d. UPON COMPLETION OF THE TESTING, THE CONTRACTOR SHALL COMPLETE ASSEMBLY AND ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.
5. INSPECTIONS:

   a. SPRINKLER/ DRIPLINE LAYOUT AND SPACING INSPECTION: VERIFICATION THAT THE IRRIGATION DESIGN IS ACCURATELY INSTALLED IN THE FIELD. IT WILL ALSO PROVIDE FOR ALTERATION OR MODIFICATION OF THE SYSTEM TO MEET FIELD CONDITIONS. SPACING SHOULD BE WITHIN 6% OF THE DESIGN SPACING.
   b. PIPE INSTALLATION DEPTH INSPECTION: ALL PIPES IN THE SYSTEM SHALL BE INSTALLED TO DEPTHS AS PREVIOUSLY DESCRIBED IN SECTION 'E' OF THESE SPECIFICATIONS.
   c. OPEN TRENCH INSPECTION: THE TRENCH AND ALL JOINTS AND EVERY TRANSITION IN PIPE SIZE, WILL BE OPEN WHERE OPEN TRENCH INSPECTION IS REQUIRED.
   d. INSPECTIONS WILL BE PERFORMED THROUGHOUT THE DURATION OF THE INSTALLATION. INSPECTION MAY BE MADE BY THE GOVERNING AGENCY/ OWNER TO ENSURE COMPLIANCE WITH DESIGN INTENT, SPECIFICATIONS, AND THE IRRIGATION CODES.
6. HYDROSTATIC TESTS:

   a. REQUEST THE PRESENCE OF THE OWNER AND/OR OWNERS REPRESENTATIVE IN WRITING AT LEAST 48 HOURS IN ADVANCE OF TESTING.
   b. TESTING TO BE ACCOMPLISHED AT THE EXPENSE OF THE CONTRACTOR AND IN THE PRESENCE OF THE OWNER.
   c. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.
   d. APPLYING A CONTINUOUS AND STATIC WATER PRESSURE OF 125 PSI WHEN WELDED PLASTIC JOINTS HAVE CURED AT LEAST 3 HOURS AND WITH THE RISERS CAPPED AS FOLLOWS:
      1) MAIN LINES AND SUBMAINS TO BE TESTED FOR 2 HOURS.
      2) NO PRESSURE LOSS IS ALLOWED FOR SOLVENT WELD MAINLINE/ PIPE.
   e. FOR PVC AND O-RING GASKET PIPE THE ALLOWABLE LEAKAGE SHALL NOT EXCEED THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

      $L = NPD^{\frac{1}{2}} / 1,850$

      IN WHICH:

      L=ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
      N=NUMBER OF JOINTS
      D=PIPE DIAMETER IN INCHES
      P=AVERAGE TEST PRESSURE IN PSI GAUGE.
   f. REPAIR LEAKS RESULTING FROM TESTS.
7. AUTOMATIC CONTROLLERS:

   a. CONNECT REMOTE CONTROL VALVES TO CONTROLLER IN A CLOCKWISE SEQUENCE TO CORRESPOND WITH STATION SETTING BEGINNING WITH STATIONS 1, 2, 3, ETC.
8. AUTOMATIC CONTROL WIRING:

   a. INSTALL CONTROL WIRING, SPRINKLER MAINS AND LATERALS IN COMMON TRENCHES WHEREVER POSSIBLE.
   b. INSTALL CONTROL WIRES AT LEAST 18" BELOW FINISHED GRADE AND SNAKE WIRE SIDE TO SIDE IN TRENCH BELOW MAIN LINE. EXPANSION CURLS SHALL BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION TO SOLENOID AND AT LEAST EVERY THREE HUNDRED (300') FEET IN LENGTH. (EXPANSION CURLS ARE FORMED BY WRAPPING AT LEAST FIVE (5) TURNS OF WIRE AROUND A ROD OR PIPE 1" OR MORE IN DIAMETER, THEN WITHDRAWING THE ROD).
   c. CONTROL WIRE SPLICES WILL BE ALLOWED ONLY RUNS OVER 1000 FT. CONNECTIONS SHALL BE IN VALVE BOX AND LOCATION TO BE SHOWN ON AS-BUILT PLANS.
   d. ALL WIRING PASSING UNDER EXISTING OR FUTURE PAVING, CONSTRUCTION, ETC., SHALL BE ENCASED IN PLASTIC OR GALVANIZED STEEL CONDUIT EXTENDING AT LEAST 24" BEYOND EDGES OF PAVING OR CONSTRUCTION.
   e. CONTRACTOR SHALL RUN TWO SPARE WIRES IN EACH DIRECTION FROM CONTROLLER TO FARTHEST VALVE TO SERVE AS BACKUP WIRES.
9. BACKFILL AND COMPACTING:

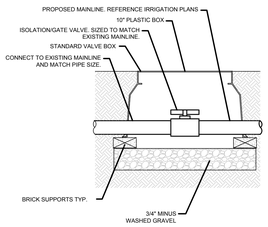
   a. AFTER SYSTEM IS OPERATING AND REQUIRED TESTS AND INSPECTIONS HAVE BEEN MADE, BACKFILL EXCAVATIONS AND TRENCHES WITH CLEAN SOIL, FREE OF RUBBISH. INITIAL BACKFILL MATERIAL TO 6 INCHES ABOVE THE TOP OF PIPE SHALL BE FREE OF ROCKS OR STONES LARGER THAN ONE INCH IN DIAMETER.FINAL BACKFILL MATERIAL SHALL BE FREE OF ROCKS OR STONES LARGER THAN 3 INCHES IN DIAMETER.
   b. BACKFILL FOR ALL TRENCHES, REGARDLESS OF THE TYPE OF PIPE COVERED, SHALL BE COMPACTED TO MINIMUM 90% DENSITY.
   c. COMPACT TRENCHES IN AREAS TO BE PLANTED BY THOROUGHLY FLOODING THE BACKFILL. JETTING PROCESS MAY BE USED IN THOSE AREAS.
   d. DRESS OFF ALL AREAS TO FINISH GRADES.
10. PROTECTIVE RADIUS OF EXISTING TREES:

   a. AN AUGER IS TO BE USED TO TUNNEL UNDER EXISTING TREES IF IRRIGATION IS INSTALLED WITHIN THE PROTECTIVE RADIUS OF EXISTING TREES AND ONLY IF THERE IS NO OTHER OPTION OR TO DO SO CREATES AN UNREASONABLE HARDSHIP.

F. CLEAN-UP:

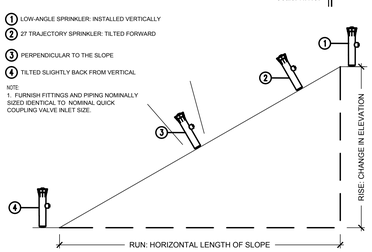
1. REMOVE FROM THE SITE ALL DEBRIS RESULTING FROM WORK OF THIS SECTION.

END SECTION



CONNECT TO EXISTING IRRIGATION MAINLINE

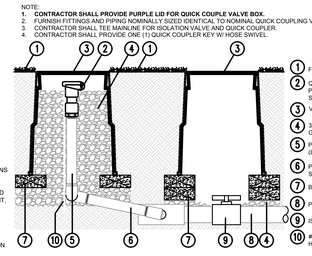
Scale: N.T.S. — N



EQUIPMENT ON SLOPE

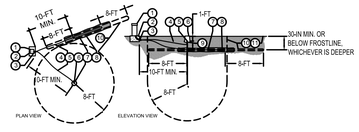
Scale: N.T.S. — M

NOTE:
1. **CONTRACTOR SHALL PROVIDE PURPLE LID FOR QUICK COUPLE VALVE BOX.**
2. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.
3. CONTRACTOR SHALL TEE MAINLINE FOR ISOLATION VALVE AND QUICK COUPLER.
4. CONTRACTOR SHALL PROVIDE ONE (1) QUICK COUPLER KEY W/ HOSE SWIVEL.



QUICK COUPLING VALVE (IN LANDSCAPE)

Scale: N.T.S. — L



A. CONTRACTOR SHALL INSTALL GROUNDING IN ACCORDANCE TO MANUFACTURERS SPECIFICATIONS AND LOCAL CODES AND REQUIREMENTS

B. SPHERE OF INFLUENCE SHALL REMAIN FREE AND CLEAR OF WIRES, CABLES, ELECTRONIC EQUIPMENT, AND ANY EQUIPMENT THAT MAY BE DAMAGED DURING AN ELECTRICAL SURGE EVENT

C. GROUND ROD SHALL BE DRIVEN INTO THE GROUND IN A VERTICAL POSITION OR AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES AT A LOCATION 10-FT FROM THE ELECTRONIC EQUIPMENT, THE GROUND PLATE, OR THE WIRES AND CABLES CONNECTED TO EQUIPMENT BEING GROUNDED

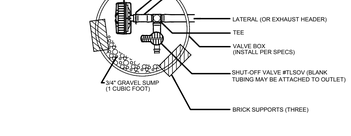
D. GROUND PLATE SHALL BE INSTALLED IN HORIZONTAL FLAT POSITION AT A LOCATION 10-FT FROM THE ELECTRONIC EQUIPMENT, THE GROUND ROD, OR THE WIRES AND CABLES CONNECTED TO EQUIPMENT BEING GROUNDED

E. CONTRACTOR SHALL INSURE 10HMS OR LESS RESISTANCE BETWEEN GROUND ROD AND CONTROLLER; MULTIPLE GROUND CONNECTIONS MAY BE NEEDED TO ACHIEVE 10 OHMS OR LESS RESISTANCE

F. CONTRACTOR SHALL INSTALL GROUNDING CIRCUIT COMPONENTS IN STRAIGHT LINES AVOIDING SHARP TURNS

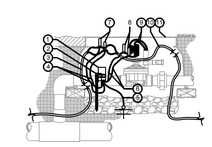
CONTROLLER GROUNDING

Scale: N.T.S. — P



LINE FLUSHING VALVE W/ SHUT-OFF VALVE

Scale: N.T.S. — K



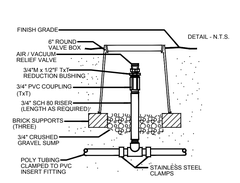
NOTES:
A. CONTRACTOR SHALL INDICATE ASSOCIATED VALVE NUMBER(S) ON MANUFACTURER PROVIDED LABEL ON DECODER WITH PERMANENT MARKET

B. CONTRACTOR SHALL LOCATE SPLICE WITH IDWIRE AND DECODER OUTPUT IN THE MIDDLE OF 36-IN[1-M] ID WIRE LOOP IN VALVE BOX

C. CONTRACTOR SHALL CONNECT BARE COPPER GROUND WIRE FROM DECODER OUTPUT TO GROUND DEVICE WIRE USING ERICO PG11L KIT

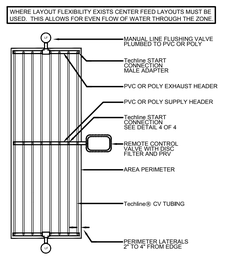
ICD 100 DECODER

Scale: N.T.S. — O



AIR/VACUUM RELIEF (PLUMBED TO POLY)

Scale: N.T.S. — J



ALL BARBED FITTINGS TO UTILIZE EITHER STAINLESS STEEL HOSE CLAMPS, STEEL CRIMP, OR COMPRESSION RING.

TECHLINE CV-MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

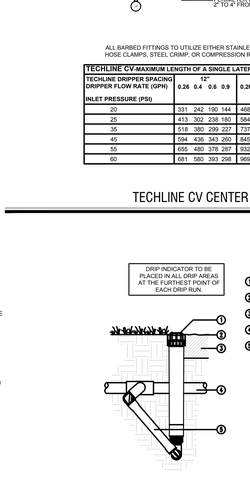
TECHLINE DRIPPER SPACING	12"			18"			24"	
DRIPPER FLOW RATE (GPH)	0.26	0.4	0.6 0.9	0.26	0.4	0.6 0.9	0.6	0.9
INLET PRESSURE (PSI)								
20	331	242	190 144	468	344	270 204	342	260
25	413	302	238 180	584	429	336 257	430	326
35	518	380	299 227	737	540	426 323	542	412
45	594	436	343 260	845	620	489 371	622	472
55	655	480	378 287	932	684	539 410	686	522
60	681	580	393 298	969	713	561 426	716	544

TECHLINE CV CENTER FEED LAYOUT

Scale: N.T.S. — I

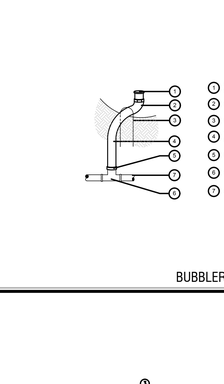
ECO INDICATOR - SWING JOINT

Scale: N.T.S. — H



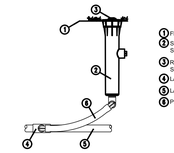
REMOTE CONTROL VALVE (TWO-WIRE)

Scale: N.T.S. — G



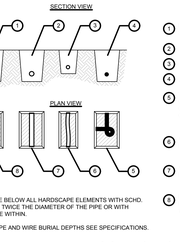
BUBBLER ASSEMBLY

Scale: N.T.S. — E



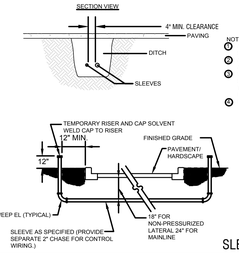
MP ROTATOR SPRINKLER

Scale: N.T.S. — D



PIPE AND WIRE TRENCHING

Scale: N.T.S. — C


SECTION VIEW
4" MIN. CLEARANCE
PAVING
DITCH
SLEEVES
NOTES:
1. ALL IRRIGATION SLEEV