

BID DOCUMENTS

6/06/25

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

ARCHITECTURAL,
CIVIL, STRUCTURAL:



1623 E. 6TH ST. TULSA, OK 74120
918.835.9588

C.A. 0049 (ARCH) RENEWAL DATE: 06-30-2027
C.A. 00262 (PE) RENEWAL DATE: 06-30-2026

CONSULTANTS:

MECHANICAL | ELECTRICAL | PLUMBING



1350 S BOULDER AVE STE #950
TULSA, OK 74119
918.629.4291
ktm@greenacornllc.com

C.A. 8292 (MEP) RENEWAL DATE- 06-30-2026



72 HOURS BEFORE YOU DIG...
CALL OKIE: 1-800-522-6543

LOCATIONS OF UNDERGROUND UTILITY LINES WERE OBTAINED FROM THE UTILITY OWNERS AND HAVE BEEN SHOWN TO THE EXTENT KNOWN. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS WERE TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALL "OKIE" 72 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE AND VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES HEREIN, PRIOR TO FURTHER CONSTRUCTION.

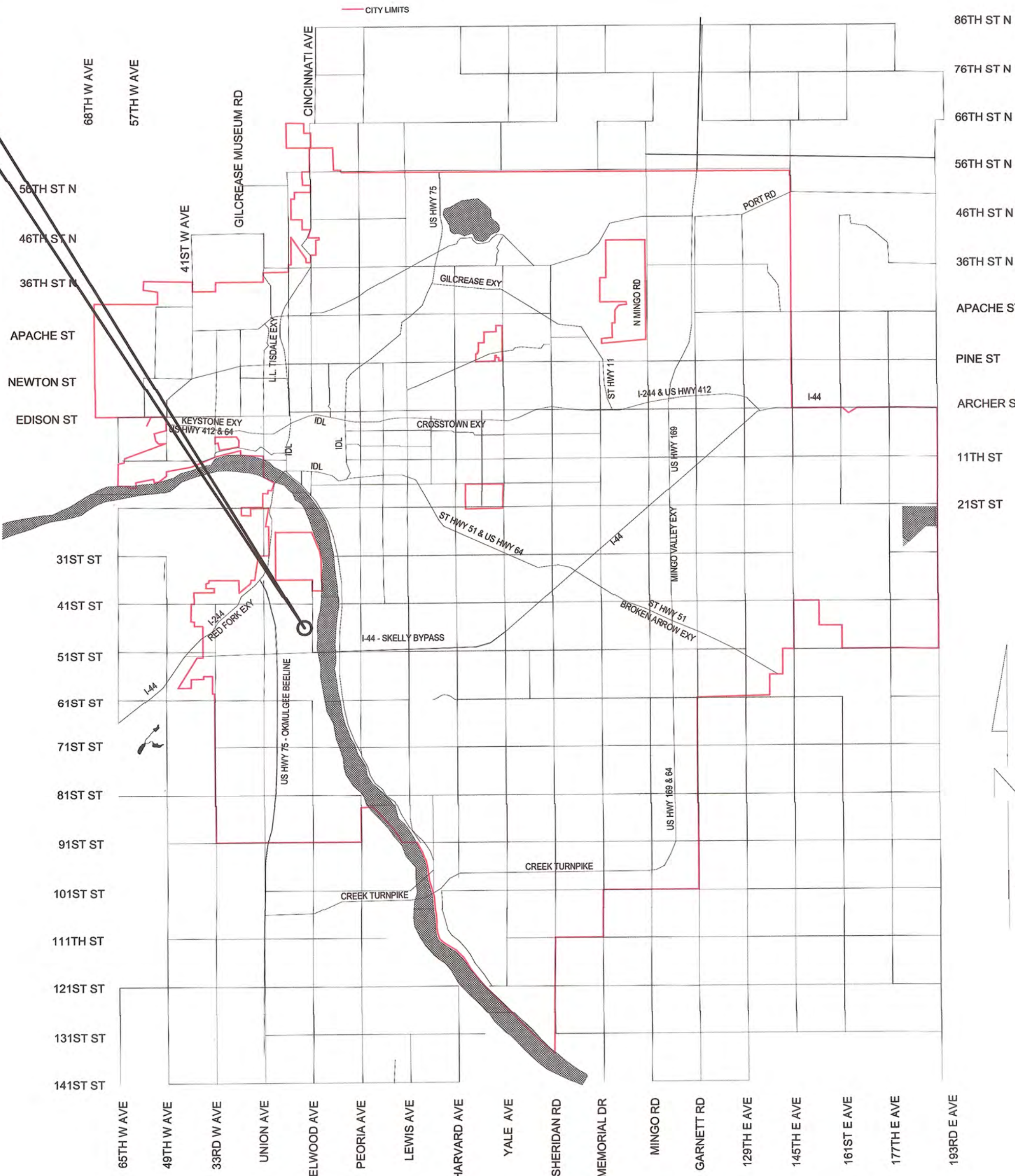
UTILITY COORDINATION INFORMATION

TULSA ENGINEERING SERVICES DEPARTMENT	
WATER DESIGN	918-596-9566
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9741
STORMWATER DESIGN	918-596-9498
COT UTILITY COORDINATION	918-596-9649
OKLAHOMA NATURAL GAS COMPANY	
918-831-8261	
COX COMMUNICATIONS	918-286-4716
PSO/AEP	918-250-6257
AT&T	918-576-2142
MTTA	918-830-0024

CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AS ADOPTED BY C.O.T.

PROJECT NO. SW23-01-01
WATER AND SEWER DEPARTMENT
CITY OF TULSA, OKLAHOMA
4510 S. ELWOOD AVE. TULSA, OK 74107

PROJECT LOCATION
4510 S. ELWOOD AVE.
TULSA, OK 74107



SEE SHEET G0-01 FOR INDEX

CITY OF TULSA STANDARDS

COT 126	STANDARD SILT FENCE AND CONSTRUCTION ENTRANCE
COT 312	FRAME AND LID FOR WATER VAULTS
COT 313	VALVE BOX
COT 351	BEDDING DETAIL PVC FLEXIBLE SANITARY SEWER PIPE
COT 361	IN-LINE TEES FOR SERVICE CONNECTION
COT 525	3" METER STANDARD AND VAULT ASSEMBLY
COT 751	PIPE BEDDING DETAIL FOR STORM SEWER
COT 755	CONFIGURATIONS OF CAST IRON CURB INLETS
COT 764	STANDARD REINFORCED CONCRETE STORMWATER INLETS
COT 790	STANDARD SIDEWALK RAMP

ODOT STANDARDS

IPD-0
RSF-0
TSD-0
CWA-0
SSS-2-1
LECS-5-2
PED-4-1
PCES-5-1
PUD-4-1
GMF1-2-01



APPROVED BY

Thomas M. By
DIRECTOR OF WATER & SEWER

Joe C. Bell
DIRECTOR OF PUBLIC WORKS

ADVERTISEMENT DATE

PREPARED BY:

JENNIFER HAMMOCK, AIA
BKL, INC.

6/11/2025
DATE

6/12/2025
DATE



DATE

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STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:	DRAWN	ABS	APPROVED
1/8" = 1'-0"	DESIGNED	JDH	 CITY ENGINEER
	SURVEY		
PROFILE SCALE	PROJ. MGR.	TW 6/25	
N/A	LEAD ENGR.	Bpdc 6/25	
HORIZONTAL:	FIELD MGR.	JW 6/25	
N/A	RECOMMENDED	Jmms & Jm	
VERTICAL:	DESIGN MANAGER		DATE: 6/12/2025
FILE:	DRAWING:		
ATLAS PAGE NO.			
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GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
5. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS; AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA-WATER AND SEWER, CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.
6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS , EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.
7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY EFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.
8. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.
10. CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.
11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.
13. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION AND DISTRIBUTION OF A WRITTEN NOTICE TO RESIDENTS 48 HOURS PRIOR TO BEGINNING PAVEMENT REMOVAL AND MILLING AND OVERLAY OPERATIONS.
14. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.
15. ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.
16. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.
18. ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
19. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.
20. WHERE IT IS NECESSARY TO CROSS CURBING, PROTECTION AGAINST DAMAGE MUST BE PROVIDED BY THE CONTRACTOR. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS, SIDEWALK, LIGHTING, AND AMENITIES CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE ENGINEER'S/ARCHITECT'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE. ALL DISTURBED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.
21. IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-7814 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.
22. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.
23. NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.
24. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.

- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
26. MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.
27. ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED-ON CURBS WILL NOT BE ALLOWED.
28. NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.
29. CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
30. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
- 31* ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.
32. THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY OF TULSA STANDARDS, CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.
33. POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.
34. ALL ASPHALT STREETS THAT ARE TO BE RECONSTRUCTED SHALL BE LEFT WITH A DRIVABLE SURFACE AT ALL TIMES. THE CONTRACTOR WILL NOT BE ALLOWED TO MILL OFF ALL THE ASPHALT BEFORE EXCAVATION BEGINS.
35. THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
37. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
38. THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.
39. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.
40. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
41. ALL TRENCH WIDTHS & BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED TRENCH WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.
42. THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.
43. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING NEIGHBORHOOD, MTTA, ETC TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS PART OF THIS PROJECT.
44. FOR ITEMS PROVIDED "BY OTHERS", PROVIDE AND INSTALL BLOCKING, MECHANICAL, ELECTRICAL, AND PLUMBING. (REFERENCE MEP DOCUMENTS). CONTRACTOR IS RESPONSIBLE FOR INSTALLATION COORDINATION.
45. STRUCTURAL, ARCHITECTURAL, AND MEP SHEETS ARE DRAWN ACCORDING TO A PLAN NORTH.
46. AREAS DISTURBED BY THE CONSTRUCTION OUTSIDE THE LIMITS OF THE CONSTRUCTION ARE TO BE RETURNED TO THEIR PREVIOUS CONDITION AT CONTRACTOR'S EXPENSE AS DIRECTED BY ENGINEER. ORANGE PROTECTIVE FENCING IS TO BE INSTALLED AROUND THE DRIP LINE OF ALL TREES TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION AND STAGING AREA. ALL AREAS DISTURBED WITHIN AND BEYOND THE LIMIT OF CONSTRUCTION LINE SHALL BE RE-VEGETATED.
47. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL ENVIRONMENTAL PROTECTION AGENCY (EPA) AND OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS FOR STORMWATER MANAGEMENT FOR THIS PROJECT. ALL COSTS TO BE INCLUDED.
48. COORDINATE THE CONSTRUCTION STAGING AREA WITH THE OWNER'S REPRESENTATIVE. IF REQUIRED, THE AREA IS TO BE STABILIZED WITH AGGREGATE BASE TO A DEPTH OF 6". THE GRAVEL IS TO BE REMOVED AT THE COMPLETION OF PROJECT. ALL COSTS TO BE INCLUDED IN LINE ITEM MOBILIZATION, DEMOBILIZATION, AND MISCELLANEOUS.
49. EXISTING FENCING TO REMAIN. COORDINATE WITH OWNER PRIOR TO CUTTING OR REMOVING ANY FENCING. OWNER WILL REPAIR FENCING AND MOW STRIP AS NECESSARY AFTER COORDINATION.

50. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, PERMIT FEES, LICENSES, LICENSE FEES, TAP FEES, ETC.
51. NO DIMENSION MAY BE SCALED, REFER UNCLEAR ITEMS TO THE ENGINEER FOR INTERPRETATION.



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: N/A	DRAWN BY: DESIGNED BY: SURVEY BY:	BKL BKL TLS	4/25 4/25 9/24
PROFILE SCALE:	PROJ. MGR.	<i>Jw</i>	<i>6/15</i>
HORIZONTAL: N/A	LEAD ENGR.	<i>BDC</i>	<i>6/12/25</i>
VERTICAL: N/A	FIELD MGR.	<i>Jw</i>	<i>6/15</i>
	RECOMMENDED BY: <i>Shawn B. [Signature]</i>		
	DESIGN MANAGER		
FILE:	DRAWING:	DATE: <i>6/12/2025</i>	
ATLAS PAGE NO.:			
SHEET NAME: GENERAL NOTES		SHEET NO. G0-02	

PAY ITEM SCHEDULE - BASE BID					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
1	DIV 1	GENERAL REQUIREMENTS AND MOBILIZATION		LSUM	1
2	012100	OWNERS ALLOWANCE		ALLOW	170,000
3	033000	CONCRETE SLAB AND SLAB EDGE	1	CY	411
4	032000/033000	ELEVATED CONCRETE SLAB, REINFORCED	1	CY	15
5	032000/033000	REINFORCED CONCRETE FOOTINGS	1	CY	41
6	033543	SCONC - SEALED CONCRETE	1	SF	1,358
7	033543	PCONC1 - POLISHED CONCRETE FINISHING	1	SF	8,201
8	42200	M8 - 8" BURNISHED BLOCK - FULLY GROUTED	1	SF	1,176
9	042200	M8 - 8" BURNISHED BLOCK	1	SF	1,386
10	042200	M6 - 6" CMU	1	SF	231
11	042613	M4 - 4" BURNISHED BLOCK	1	SF	357
12	051213	STEEL CANOPY STRUCTURE	1, 6	LB	14,430
13	064023	WD1 - WOOD BASE	1	LF	328
14	064116	WDI1 - CHAIRRAIL	1	LF	546
15	064116	PLYWOOD AT MECH ROOM	1	SF	361
16	064116	6.BSINK SINK BASE CABINET - 36x34x24	1	EA	3
17	064116	6.BWKSFADA-ADA WORKSURFACE BASE CABINET - 30x34x24	1	EA	1
18	064116	6.BWKSF - WORKSURFACE BASE CABINET - 36x34x24	1	EA	3
19	064116	6.BTRSH - TRASH BASE CABINET WITH 8" COUNTER RING- 18x34x24	1	EA	4
20	064116	6.B2DRW - 2 DRAWER BASE CABINET - 24x34x24	1	EA	3
21	064116	6.B3DRW - 3 DRAWER BASE CABINET - 18x34x24	1	EA	2
22	064116	6.B3DRW - 3 DRAWER BASE CABINET - 27x34x24	1	EA	1
23	064116	6.B3DRW - 3 DRAWER BASE CABINET - 28x34x24	1	EA	1
24	064116	6.B3DRW - 3 DRAWER BASE CABINET - 15x30x24	1	EA	2
25	064116	6.B3DRW - 3 DRAWER BASE CABINET - 30x24x24	1	EA	2
26	064116	6.B3DRW - 3 DRAWER BASE CABINET - 30x42x24	1	EA	2
27	064116	6.B1DRW2DR - 1 DRAWER + 1 DOOR BASE CABINET - 16x34x24	1	EA	1
28	064116	6.B2DRW2DR - 2 DRAWER + 2 DOOR BASE CABINET - 24x34x24	1	EA	1
29	064116	6.B2DRW2DR - 2 DRAWER + 2 DOOR BASE CABINET - 27x34x24	1	EA	2
30	064116	6.B2DRW2DR - 2 DRAWER + 2 DOOR BASE CABINET - 30x34x24	1	EA	6
31	064116	6.B2DRW2DR - 2 DRAWER + 2 DOOR BASE CABINET - 32x34x24	1	EA	6
32	064116	6.B2DRW2DR - 2 DRAWER + 2 DOOR BASE CABINET - 36x34x24	1	EA	5
33	064116	6.U2DR - 1 DOOR UPPER CABINETS - 16x30x15	1	EA	1
34	064116	6.U2DR - 1 DOOR UPPER CABINETS - 18x30x15	1	EA	2
35	064116	6.U2DR - 2 DOOR UPPER CABINETS - 24x30x15	1	EA	4
36	064116	6.U2DR - 2 DOOR UPPER CABINETS - 30x30x15	1	EA	2
37	064116	6.U2DR - 2 DOOR UPPER CABINETS - 32x30x15	1	EA	6
38	064116	6.U2DR - 2 DOOR UPPER CABINETS - 33x30x15	1	EA	2
39	064116	6.U2DR - 2 DOOR UPPER CABINETS - 35x30x15	1	EA	2
40	064116	6.U2DR - 2 DOOR UPPER CABINETS - 36x30x15	1	EA	2
41	064116	6.U2DR - 2 DOOR UPPER CABINETS - 36x24x15	1	EA	5
42	064116	6.UCSU - OPEN SHELF - 36x30x15	1	EA	2
43	064116	6.UCSU - OPEN SHELF CORNER UNIT - 30x30x15	1	EA	1
44	064116	6.BM - BENCH UNIT 60"	1	EA	2
45	064116	6 BN - BENCH UNIT SIDE TABLE	1	EA	3
46	064116	6.RECDESK - RECEPTION DESK WITH TRANSACTION COUNTER	1	LF	14
47	064116	6.RECDESK - RECEPTION DESK	1	LF	5
48	064116	6.VAN - RESTROOM VANITY 84x32x22	1	EA	2
49	064116	6.VAN - RESTROOM VANITY 36x32x22	1	EA	2
50	064116	6 VAN - RESTROOM VANITY 33x32x22	1	EA	1
51	072100	THERMAL INSULATION	1	SF	840
52	075423	TPO ROOFING SYSTEM	1	SF	1,890
53	079200	JOINT SEALANTS	1	SYS	1

PAY ITEM SCHEDULE - BASE BID CONT.					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
54	081113, 087100, 088000	TYPE A -36" WOOD DOOR, H.M. FRAME, AND HARDWARE	1, 3, 20	EA	32
55	081113, 087100, 088000	TYPE A -PAIR 36" H.M. DOORS, H.M. FRAME, AND HARDWARE	1, 3, 20	EA	4
56	081113, 087100, 088000	TYPE A -PAIR 36" WOOD DOORS, H.M. FRAME, AND HARDWARE	1, 3, 20	EA	6
57	081113, 087100, 088000	TYPE B - H.M. DOOR, H.M. FRAME, AND HARDWARE - W/LITE	1, 3, 20	EA	9
58	081113, 087100, 088000	FEMA DOOR, H.M. FRAME, AND HARDWARE	1, 3	EA	2
59	081113, 087100, 088000	PAIR AL FRAME DOOR WITH GLASS, AL FRAME, AND HARDWARE	1, 3, 20	EA	3
60	084113/088000	ALUM. STOREFRONT AND GLAZING	1, 2	SF	962
61	083613	OVERHEAD SECTIONAL DOOR	1, 3	EA	1
62	092216/092900	P1 - PARTITION	1, 4	SF	1,327
63	092216/092900	P1A - PARTITION	1, 4	SF	6,573
64	092216/092900	P1AF - PARTITION	1, 4	SF	4,526
65	092216/092900	P1F - PARTITION	1, 4	SF	409
66	092216/092900	P2 - PARTITION	1, 4	SF	2,093
67	092216/092900	P2A - PARTITION	1, 4	SF	305
68	092216/092900	P3FT - PARTITION	1, 4	SF	762
69	092216/092900	P4TT - PARTITION	1, 4	SF	265
70	092216/092900	P5A - PARTITION	1, 4	SF	249
71	092216/092900	P5AF - PARTITION	1, 4	SF	1,396
72	092216/092900	P6 - PARTITION	1, 4	SF	6,286
73	092216/092900	P6A - PARTITION	1, 4	SF	642
74	092216/092900	P6F - PARTITION	1, 4	SF	1,256
75	092216/092900	P6AF - PARTITION	1, 4	SF	42
76	092216/092900	P7T - PARTITION	1, 4	SF	34
77	092216/092900	P7AT - PARTITION	1, 4	SF	142
78	092216/092900	P7TAF - PARTITION	1, 4	SF	183
79	092216/092900	P11AF - PARTITION	1, 4	SF	432
80	092216/092900	P12AF - PARTITION	1, 4	SF	179
81	092216/092900	GYP BD CEILINGS	1, 4	SF	1,374
82	092216/092900	EXTERIOR GYP BD CEILINGS	1, 4	SF	1,749
83	093013	9.CT1 - PORCELAIN TILE (RESTROOM AND ENTRY FLOOR 12X24)	1, 8	SF	1,914
84	093013	9.CT2 -PORCELAIN TILE (EXTERIOR PAVERS 30X30)	1, 8	SF	1,249
85	093013	9.CT3 - PORCELAIN TILE (FLOORS)	1, 8	SF	733
86	093013	9.CT3 - PORCELAIN TILE (BASE)	1, 8	SF	367
87	093013	9.CT3 - PORCELAIN TILE (RESTROOM WALLS)	1, 8	SF	1,622
88	093013	9.CT4 - PORCELAIN TILE (ACCENT AT RESTROOM WALLS)	1, 8	SF	42
89	093013	9.CT5 - PORCELAIN TILE (BACKSPLASHES AND RECEPTION ACCENT)	1, 8	SF	215
90	095123	9.ACT1.2 - ACOUSTICAL CEILING TILES AND GRID	1, 7	SF	4,253
91	095123	9.ACT 2.2 - ACOUSTICAL CEILING TILES AND GRID (HIGH ACOUSTICS)	1, 7	SF	5,659
92	096513	9.RB1 - RUBBER BASE	1, 9	LF	2,989
93	096813	9.CPT1 - CARPET TILES - OFFICES	1, 10	SY	749
94	097200	VINYL WALL COVERING AT MID ROOM	1	SF	185
95	098433	9.AWP1 - ACOUSTICAL WALL PANELS	1	SF	1,160
96	098433	9.AWP2 - ACOUSTICAL WALL PANELS WITH WOOD SLATS	1	SF	2,555
97	099100	PAINT - EXTERIOR STEEL CANOPY	1, 6	SYS	2
98	099100	PAINT - GYP WALLS	1, 6	SF	41,738
99	099100	PAINT - GYP CEILING	1, 6	SF	1,527
100	099100	PAINT - EXP CEILING	1, 6	SF	5,567
101	101100	10.MB9648 - MARKERBOARD 96" X 48"	1	EA	8
102	101100	MARKERBOARD MARKER KITS	1	EA	4
103	101416	PLAQUES	1	EA	1
104	101419	BUILDING SIGNAGE - DIMENSIONAL LETTERS	1	SYS	1
105	101419	DECORATIVE CONFERENCE ROOM SIGNAGE	1	SYS	1
106	101423	EVACUATION SIGNAGE	1	EA	15
107	101423	ROOM ID SIGNAGE	1	EA	13
108	101423	ROOM ID SIGNAGE WITH INSERT	1	EA	23

PAY ITEM SCHEDULE - BASE BID CONT.					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
109	101423	CONFERENCE ROOM SIGNAGE	1	EA	8
110	101423	RESTROOM SIGNAGE	1	EA	5
111	101423	REFUGE SIGNAGE	1	EA	2
112	101423	VINYL ON GLASS	1	EA	2
113	102113	10.TP - TOILET PARTITION (STANDARD)	1	EA	5
114	102113	10.TP - TOILET PARTITION (URINAL SCREEN)	1	EA	1
115	102113	10.TP - TOILET PARTITION (ADA)	1	EA	4
116	102239	10.FP - FOLDING PARTITION WALL	1	SF	420
117	102600	10.WP - WALL AND DOOR PROTECTION	1	EA	35
118	102800	10.MU - MIRROR 72" WIDE X 48" TALL	1	EA	2
119	102800	10.MU - MIRROR 36" WIDE X 48" TALL	1	EA	2
120	102800	10.MU - MIRROR 33" WIDE X 48" TALL	1	EA	1
121	102800	10.DTP - DUAL TOILET PAPER ROLL WITH SHELF	1	EA	10
122	102800	10.TSC - TOILET SEAT COVER	1	EA	10
123	102800	10.SNW - SANITARY NAPKIN WASTE	1	EA	6
124	102800	10.GB42 - 42" GRAB BAR	1	EA	5
125	102800	10.GB36 - 36" GRAB BAR	1	EA	7
126	102800	10.GB18 - 18" GRAB BAR	1	EA	6
127	102800	10.GBSHR - SHOWER GRAB BAR	1	EA	1
128	102800	10.SD - SOAP DISPENSER	1	EA	12
129	102800	10.PTD - PAPER TOWEL DISPENSER	1	EA	7
130	102800	10.PTC12 - RECESSED COMBO PAPER TOWEL DISPENSER AND 12 GALLON WASTE CAN	1	EA	5
131	102800	10.MBH - MOP AND BROOM HOLDER WITH SHELF	1	EA	2
132	102800	10.SCR - 3' SHOWER ROD, HOOKS AND 4' (MIN) WIDE CURTAIN	1	EA	1
133	102800	10.RH - ROBE HOOK	1	EA	3
134	102800	10.CSS - CORNER SHOWER SHELF	1	EA	1
135	102800	10.RFSS - RECESSED FOLDING SHOWER SEAT	1	EA	1
136	105123	10.PLK - PHENOLIC LOCKERS (15W X 18D X 72H)	1	EA	3
137	104413/104416	10.FEC - FIRE EXTINGUISHERS AND CABINETS	1	EA	5
138	104413/104416	10.AED - AUTOMATIC EMERGENCY DEFIBRILLATOR	1	EA	1
139	122413	WT3 - ROLLER WINDOW SHADES 48X48	1	EA	20
140	122413	WT4 - ROLLER WINDOW SHADES 48X86	1	EA	5
141	122413	WT5 - ROLLER WINDOW SHADES (3) 48X48 GROUPED TOGETHER	1	EA	2
142	122413	WT6 - ROLLER WINDOW SHADES 36X48	1	EA	1
143	123661.19	12.SDSF - SOLID SURFACE COUNTERTOP - 25" DEEP WITH 1.5 INCH EDGE	1	SF	245
144	123661.19	12.SDSF - SOLID SURFACE VANITY - 22" DEEP WITH 1.5 INCH EDGE	1	SF	44
145	123661.19	12.SDSF - SOLID SURFACE TRANSACTION - 12" DEEP WITH 1.5 INCH EDGE	1	SF	14
146	123661.19	12.SDSF - SOLID SURFACE BACK SPLASH - 4"	1	SF	14



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
				N/A	DESIGNED BY:	BKL	4/25	
					SURVEY BY:	TLS	9/24	
				PROFILE SCALE	PROJ. MGR.	TW	6/7/25	
					LEAD ENGR.	Bpc	6/25	
				HORIZONTAL:	FIELD MGR.	JW	6/25	
				N/A	RECOMMENDED:			
					DESIGN MANAGER	Thomas J. M		
				FILE:	DRAWING:			CITY ENGINEER
				ATLAS PAGE NO:				DATE: 6/12/2025
				SHEET NAME:				SHEET NO.
				PAY QUANTITIES & NOTES				G0-03

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

PAY ITEM SCHEDULE - BASE BID CONT.					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
147	133419	NEW PRE-ENGINEERED METAL BUILDING	1, 21	SF	19,678
148	211313	FIRE SUPPRESSION	1	SF	19,678
149	224200	WC-1 FLOOR MOUNTED FLUSH VALVE WATER CLOSET (ADA)	1, 14	EA	5
150	224200	WC-2 FLOOR MOUNTED FLUSH VALVE WATER CLOSET	1, 14	EA	5
151	224200	UR-1 URINAL	1, 14	EA	3
152	224200	LAV-1 - DROP IN LAVORATORY	1, 13	EA	7
153	224200	SK-1 DOUBLE BOWL DROP-IN SINK	1, 13	EA	1
154	224200	SK-4 SINGLE BOWL DROP-IN SINK (ADA)	1, 13	EA	2
155	224200	EWS-1 -EYE WASH STATION	1, 13	EA	1
156	224200	MSB-1 MOP SERVICE BASIN	1, 13	EA	2
157	224200	SH-1 SHOWER	1, 13	EA	1
158	224200	EW-C1 ELECTRIC WATER COOLER (ADA) SINGLE	1, 13	EA	1
159	224200	EW-C2 ELECTRIC WATER COOLER (ADA)	1, 13	EA	1
160	224200	IMB-1 ICE MAKER BOX	1	EA	5
161	224200	FPHB-1 FREEZEPROOF WALL HYDRANT	1	EA	6
162	224200	FPHB-2 FREEZEPROOF WALL HYDRANT (DUAL TEMP)	1	EA	1
163	224200	FPRH-1 FREEZEPROOF ROOF HYDRANT	1	EA	1
164	223400	WH-1 WATER HEATER	1	EA	1
165	223400	WH-2 WATER HEATER	1	EA	1
166	224200	CIRC PUMP SYSTEM AND PIPING	1	EA	2
167	226600	DCV-1 DOUBLE CHECK VALVE BACKFLOW PREVENTER 3"	1	SYS	1
168	226600	DCV-S DOUBLE CHECK VALVE BACKFLOW PREVENTER	1	SYS	1
169	221316	YCO-1 YARD CLEANOUT	1	EA	1
170	221316	WCO-1 WALL CLEANOUT	1	EA	2
171	224200	FD-1 FLOOR DRAIN	1	EA	16
172	224200	FS-1 FLOOR SINK	1	EA	1
173	224200	FCO-1 FLOOR CLEAN OUT	1	EA	4
174	221316	TD-1 TRENCH DRAIN	1	EA	1
175	221316	OL-1 OIL INTERCEPTOR	1	EA	1
176	221316	SANITARY PIPING	1	SYS	1
177	221116	DOMESTIC PIPING	1	SYS	1
178	224200	RD-1 ROOF DRAIN SYSTEM	1	EA	1
179	230000	COMPLETE MECHANICAL SYSTEM	1, 15	SYS	1
180	265200	A 2X4 RECESSED, 4000L	19	EA	66
181	265200	AE 2X4 RECESSED, 4000L, INTERGRAL BATTERY	19	EA	19
182	265200	B 2X2 RECESSED, 3200L	19	EA	33
183	265200	BE 2X2 RECESSED, 3200L, INTEGRAL BATTERY	19	EA	5
184	265200	D4 4" LED DOWNLIGHT, 2000L	19	EA	14
185	265200	D4E 4" LED DOWNLIGHT, 2000L, INTEGRAL BATTERY	19	EA	1
186	265200	D6 6" LED DOWNLIGHT, 2500L	19	EA	35
187	265200	D6E 6" LED DOWNLIGHT, 2500L, INTEGRAL BATTERY	19	EA	23
188	265200	EM 20W LED MULLION MOUTED EMERGENCY FIXTURE	1, 11	EA	1
189	265200	F 8W LED SPOT LIGHT MOUNTED DIRECTLY TO JUNCTION BOX.	19	EA	2
190	265200	L1 5.6W/FT RECESSED LINEAR FIXTURE (7' 2-1/4" LENGTH)	18, 19	EA	2
191	265200	L2 5.6W/FT RECESSED LINEAR FIXTURE (15' 5-1/4" LENGTH)	18, 19	EA	2
192	265200	L3E 5.6W/FT RECESSED LINEAR FIXTURE (23' 3/8" LENGTH). PROVIDE (3) EM AS INDICATED ON PLANS.	18, 19	EA	2
193	265200	P6 6' LED UP/DOWN PENDANT FIXTURE	19	EA	1
194	265200	P8 8' LED UP/DOWN PENDANT FIXTURE	19	EA	1
195	265200	P20 20' LED PENDANT FIXTURE, 675 LM/FT DOWN, 530 LM/FT UP, 20' ARICRAFT CABLE MOUNT, INTEGRAL BATTERIES	19	EA	4
196	265200	P24 24' LED PENDANT FIXTURE, 675 LM/FT DOWN, 530 LM/FT UP, 20' ARICRAFT CABLE MOUNT, INTEGRAL BATTERIES	19	EA	4
197	265200	P40 40' LED PENDANT FIXTURE, 675 LM/FT DOWN, 530 LM/FT UP, 20' ARICRAFT CABLE MOUNT, INTEGRAL BATTERIES PER PLANS.	19	EA	10
198	265200	S4 4' SURFACE MOUNTED LINEAR FIXTURE, 795LM/FT	19	EA	5
199	265200	S4E 4' SURFACE MOUNTED LINEAR FIXTURE, 795LM/FT, EM	19	EA	5
200	265200	S8 8' SURFACE MOUNTED LINEAR FIXTURE, 795LM/FT	19	EA	2
201	265200	ST 4' LED STRIP LIGHT 4100L (6.5W/FT)	19	EA	10
202	265200	STE 4' LED STRIP LIGHT 4100L, INTEGRAL BATTERY	19	EA	3

PAY ITEM SCHEDULE - BASE BID CONT.					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
203	265200	T-18000 LUMEN LED POLE LIGHT (PROVIDE 20' POLE AND 3' POLE BASE)	12, 19	EA	15
204	265200	W WALL MOUNTED LED FIXTURE WITH WALL MOUNT BRACKET.	19	EA	14
205	265200	WE WALL MOUNTED LED FIXTURE WITH WALL MOUNT BRACKET	19	EA	2
206	265200	WL 22' WALL WASH LED FIXTURE, 795 LM/FT	19	EA	1
207	265200	WW 4" LED WALL WASH DOWNLIGHT, 1000L	19	EA	3
208	265200	XC1 LED RED EXIT SIGN, SINGLE FACE, CEILING MOUNT	19	EA	5
209	265200	XC2 LED RED EXIT SIGN, DOUBLE FACE, CEILING MOUNT	19	EA	4
210	265200	XW1 LED RED EXIT SIGN, SINGLE FACE, WALL MOUNT	19	EA	8
211	260000	POWER SYSTEM	16, 19, 20	SYS	1
212	282000	FIRE ALARM SYSTEM	19	SF	19,678
213	202(A)	UNCLASSIFIED EXCAVATION	E-2, E-3, E-4, R-1	CY	2,205
214	202(D)	UNCLASSIFIED BORROW	E-3, E-4, R-1	CY	1,315
215	205(A)	TYPE A-SALVAGED TOPSOIL	-	CY	274
216	220	SWPPP DOCUMENTATION	E-6, E-7	LSUM	1
217	230(A)	SOLID SLAB SODDING	E-10, E-11	SY	2,445
218	231(A)	TREES	G-7	EA	2
219	240(A)	REMOVING TREES 6" TO 12" IN DIAMETER	G-7	EA	2
220	303(A)	AGGREGATE BASE TYPE A	S-2, 105	CY	1,257
221	310(B)	SUBGRADE, METHOD B	-	SY	4,092
222	325	SEPARATOR FABRIC	S-3	SY	4,223
223	414(B)	DOWEL JOINTED P.C.C. PAVT. (PLACEMENT)	S-10, S-11, S-13	SY	3,595
224	414(G)	P.C. CONCRETE FOR PAVEMENT	S-10, S-11, S-12, S-13	CY	601
225	601(A)	TYPE I PLAIN RIPRAP	-	TON	6
226	609	(PL) PARKING BLOCK	-	EA	54
227	609(A)	COMBINED CURB AND GUTTER (6" BARRIER)	S-10, S-12, S-13, S-15, S-16	LF	602
228	610(A)	4" CONCRETE SIDEWALK	S-12, S-13, S-16, S-17	SY	839
229	613(A)	24" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	D-8, D-12, D-13, D-16	LF	42
230	613(I)	8" NON-PERF.PIPE UNDERDRAIN RND.	D-13	LF	421
231	613(L)	24" PREFAB. CULVERT END SEC., ROUND	-	EA	2
232	613(Q)	OUTLET LATERAL HEADWALL	D-14	EA	7
233	619(B)	REMOVAL OF FENCE	R-1, R-2	LF	10
234	619(B)	REMOVAL OF ASPHALT PAVEMENT	R-1, R-2	SY	1,229
235	619(B)	REMOVAL OF EXISTING STRUCTURES	E-1, R-1, R-2, R-3, R-4, R-5	EA	1
236	619(B)	REMOVAL OF EXISTING PIPE	R-1, R-2, R-3, R-5	LF	49
237	624	(PL) WOOD PRIVACY FENCE W/ GATE	102	LF	39
238	850(A)	SHEET ALUMINUM SIGNS	T-2	SF	7
239	851(C)	1.5" SQUARE TUBE POST	-	LF	40
240	851(C)	2" SQUARE TUBE POST	-	LF	10
241	856(A)	TRAFFIC STRIPE (PLASTIC)(4" WIDE)	T-3	LF	1,334
242	856(B)	TRAFFIC STRIPE (PLASTIC)(SYMBOLS)	T-3	EA	4
243	SPECIAL	12"X12" LANDSCAPING AREA INLET	104	EA	1
244	SPECIAL	DOWNSPOUT ADAPTER	101	EA	7
245	SPECIAL	CURB RAMP	-	EA	2
246	COT 309	6 INCH PVC AWWA C900 CLASS 200 DR-14 (RJ)	W-1, W-2, W-3, W-8, W-9, W-10, W-22, W-23, W-24, W-25, W-27, W-28, W-30, W-31	LF	140
247	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	W-2, W-8, W-12	EA	3
248	COT 312	12 INCH DUCTILE IRON SLEEVE (RJ)	W-2, W-8, W-12	EA	2
249	COT 312	6 INCH X 3 INCH DUCTILE IRON TEE (RJ)	W-2, W-8	EA	1
250	COT 312	12 INCH X 6 INCH DUCTILE IRON TEE (RJ)	W-2, W-8	EA	1
251	COT 313	6" SANITARY SEWER LINE	103	LF	113
252	COT 315	3 INCH WATER SERVICE CONNECTION (LONG)	W-15, W-16, W-22, W-23, W-28, W-28, W-30, W-31	EA	1
253	COT 315	3 INCH COMPOUND WATER METER	W-25	EA	1
254	COT 315	3 INCH WATER METER VAULT	W-25	EA	1
255	COT 317	6 INCH GATE VALVE (RJ)	W-8	EA	1
256	COT 318	VALVE BOX	W-21	EA	1
257	SPECIAL	POWER SERVICE CONNECTION (4" CONDUIT)	106	LF	271
258	019113	HVAC GENERAL COMMISSIONING	-	EA	1



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
				N/A	DESIGNED BY:	BKL	4/25	
					SURVEY BY:	TLS	9/24	
				PROFILE SCALE	PROJ. MGR.	TW	6/25	
				HORIZONTAL:	LEAD ENGR.	BDE	6/25	
				N/A	FIELD MGR.			
				VERTICAL:	RECOMMENDED:			
				N/A	DESIGN MANAGER			
				FILE:	DRAWING:			DATE:
				ATLAS PAGE NO:				
				SHEET NAME:				SHEET NO.
				PAY QUANTITIES & NOTES				G0-04

PAY ITEM SCHEDULE - ADD ALTERNATE					
ITEM NUMBER	SPEC. NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
ALT 1 - GENERATOR					
300	032000/033000	REINFORCED CONCRETE GENERATOR PAD	1	CY	9
301	260000	GENERATOR	1, 22	EA	1
ALT 2 - LAB BUILDOUT					
302	123553.19	OPEN SHELVING UNIT 42X85X18	1	EA	2
303	123553.19	SINK BASE CABINET - 39x34x24	1	EA	1
304	123553.19	SINK BASE CABINET - 36x34x24	1	EA	1
305	123553.19	ACCESS PANEL	1	EA	2
306	123553.19	2 DRAWER + 2 DOOR BASE CABINET - 30x34x24	1	EA	4
307	123553.19	2 DRAWER + 2 DOOR BASE CABINET - 36x34x24	1	EA	2
308	123553.19	4 DRAWER BASE CABINET - 15x34x24	1	EA	1
309	123553.19	4 DRAWER BASE CABINET - 18x34x24	1	EA	7
310	123553.19	CORNER BASE CABINET WITH LAZY SUZAN - APPROX 36x34x36	1	EA	1
311	123553.19	OPEN BASE CABINET - 36X	1	EA	2
312	123553.19	2 SLIDING DOOR UPPER CABINET - 36x30x15	1	EA	6
313	123553.19	3 DRAWER CABINET - 30X30X34 FOR COUNTERTOP FREEZER	1	EA	1
314	123553.19	OPEN SHELF CORNER UNIT - APPROX 36X30X15	1	EA	1
315	123553.19	DRYING RACK - WITH TRAY 30X36	1	EA	1
316	123553.19	ADJUSTABLE SHELVING	1	LF	5
317	123553.19	36" DEEP RESIN COUNTERTOP WITH FRONT LIP	1	LF	11
318	123553.19	30" DEEP RESIN COUNTERTOP WITH FRONT LIP	1	LF	21
319	123553.19	30" TO 36" TRANSITION RESIN COUNTERTOP AT CORNER	1	LF	8
320	123553.19	4" HIGH BACKSPLASH	1	LF	38
321	123553.19	RESIN ISLAND COUNTERTOP WITH FRONT LIP - 49"	1	LF	9
322	224200	SK-2 SINGLE BOWL DROP-IN SINK	13	EA	1
323	224200	SK-3 SINGLE BOWL DROP-IN SINK (ADA)	13	EA	1
324	224200	EWS-1 EYE WASH STATION	13	EA	1
325	260000	ELECTRICAL POWER AT LAB	19	SYS	1
326	115329	4' FUME HOOD SYSTEM WITH DUCTWORK	19	EA	1
ALT 3 - CEILING AT OPEN OFFICES					
327	095123	9.ACT 2.2 - ACOUSTICAL CEILING TILES AND GRID (HIGH ACOUSTICS)	1, 7	SF	5,567
ALT 4 - ASPHALT PARKING LOT					
328	202(A)	UNCLASSIFIED EXCAVATION	E-2, E-3, E-4, R-1	CY	1,403
329	202(D)	UNCLASSIFIED BORROW	E-3, E-4, R-1	CY	351
330	205(A)	TYPE A-SALVAGED TOPSOIL	-	CY	26
331	230(A)	SOLID SLAB SODDING	E-10, E-11	SY	232
332	303(A)	AGGREGATE BASE TYPE A	S-2, 105	CY	590
333	310(B)	SUBGRADE, METHOD B	-	SY	3,905
334	325	SEPARATOR FABRIC	S-3	SY	3,916
335	411(C)	SUPERPAVE, TYPE S4 PG (64-22)	S-5, S-6, S-7, S-8	TON	401
336	411(C)	SUPERPAVE, TYPE S3 PG (64-22)	S-5, S-6, S-7, S-8	TON	802
337	601(A)	TYPE I PLAIN RIPRAP	-	TON	11
338	609(A)	COMBINED CURB AND GUTTER (6" BARRIER)	S-10, S-12, S-13, S-15, S-16	LF	581
339	611(G)	INLET CI DES. 2 (STD)	D-2, D-3, D-7, D-8, D-9, D-10, D-11, D-16	EA	2
340	613(A)	18" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	D-8, D-12, D-13, D-16	LF	172
341	613(L)	18" PREFAB. CULVERT END SEC., ROUND	-	EA	2
342	850(A)	SHEET ALUMINUM SIGNS	T-2	SF	4
343	851(C)	1.5" SQUARE TUBE POST	-	LF	20
344	851(C)	2" SQUARE TUBE POST	-	LF	5
345	856(A)	TRAFFIC STRIPE (PLASTIC)(4" WIDE)	T-3	LF	1,846
346	856(B)	TRAFFIC STRIPE (PLASTIC)(SYMBOLS)	T-3	EA	2
347	SPECIAL	CURB RAMP	-	EA	1
ALT 5 - APPLIANCES					
348	113200	11.CM - COFFEE MAKER INSTALLATION	19	EA	5
349	113200	11.DW - DISHWASHER (BREAKROOM AND LAB)	19	EA	2
350	113200	11.IM - COUNTERTOP ICEMAKER	19	EA	1
351	113200	11.MWC - MICROWAVE	19	EA	3
352	113200	11.RANGE - RANGE AND RANGE HOOD	19	EA	1
353	113200	11.REF1 - REFRIGERATOR - BREAKROOMS	19	EA	3
354	113200	11.REF2 - REFRIGERATOR (LAB)	19	EA	2

ARCHITECTURAL PAY ITEM NOTES:

1. FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE DOCUMENTS AND SPECIFICATIONS. INCLUDES REMOVAL AND RECYCLING OF PACKAGING MATERIAL.
2. COMPLETE AND INSTALLED FRAMING AND GLAZING SYSTEMS INCLUDING ANY ADDITIONAL NECESSARY FLASHING, TRIM, OR ACCESSORIES PER THE CONTRACT DOCUMENTS.
3. COMPLETE THE DOOR AND FRAME INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. INCLUDING REMOVAL OR RECYCLING PACKAGING MATERIAL. PROVIDE COMPLETE SYSTEM.
4. FURNISH AND INSTALL METAL STUD AND GYPSUM BOARD PARTITIONS, SOFFITS AND/OR CEILINGS. INCLUDES COMPLETE SYSTEMS.
5. NOT USED.
6. INCLUDES PATCHING, PREPPING AND PAINTING SURFACES
7. INCLUDES COMPLETE CEILING SYSTEMS.
8. INCLUDES ASSOCIATED TILE TRANSITIONS.
9. INCLUDES ASSOCIATED RUBBER BASE TRANSITIONS.
10. INCLUDES ASSOCIATED CARPET TILE TRANSITIONS.
11. LOCATE REMOTE DRIVER IN NEAREST ACCESSIBLE CEILING SPACE. FIXTURE SHALL BE MOUNTED TO MULLION DIRECTLY ABOVE DOOR. FIXTURE SHALL OPERATE ONLY IF POWER IS LOST. INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL FOR CONNECTION.
12. INCLUDES LIGHT POLE BASE FOR COMPLETE INSTALLATION.
13. FURNISH AND INSTALL PLUMBING FIXTURE, FAUCETS, DRAIN PIPING AND OTHER ACCESSORIES TO PROVIDE A COMPLETE SYSTEM.
14. FURNISH AND INSTALL WATER CLOSETS AND URINALS WITH FLUSH VALVES AND PIPING TO PROVIDE A COMPLETE SYSTEM.
15. INCLUDES ALL EXHAUST FANS, DUCTWORK, DAMPERS & GRILLES AS SHOWN ON DRAWINGS FOR A COMPLETE AND OPERABLE SYSTEM.
16. CAMERA AND SECURITY UPGRADES PER CITY OF TULSA PURCHASE ORDER. INFRASTRUCTURE FOR SECURITY IS BY GC AND PER DRAWINGS. ALL WORK BY COT SECURITY NOT TO BE INCLUDED IN BID.
17. COMPLETE WITH ELECTRICAL AND DATA CONNECTIONS IN ACCORDANCE WITH THE DOCUMENTS AND SPECIFICATIONS.
18. WALL TO WALL CONFIGURATION. PROVIDE FIELD CUTTABLE FILLER FIXTURE.
19. INCLUDES ALL LABOR, EQUIPMENT AND MATERIAL FOR CONNECTION. ENSURE JUNCTION BOXES ARE RECESSED WITHIN WALL CAVITY. INCLUDES ALL WORK NECESSARY TO PROVIDE A FULL AND COMPLETE PROJECT PER THE DRAWINGS THAT IS NOT ALREADY INCLUDED IN SEPARATE LINE ITEMS.
20. INCLUDES MATERIAL AND LABOR OF CONDUIT WITH PULL STRINGS, CABLE TRAYS, OR J-HOOKS AS CALLED OUT ON DOCUMENTS FOR OWNER'S LOW VOLTAGE AND NETWORK CONTRACTORS. INCLUDES COORDINATION WITH OWNER'S REPRESENTATIVE.
21. PROVIDE AND ERECT STRUCTURAL SYSTEMS, ANCHOR BOLTS, METAL PANELS, INSULATION SYSTEM, SNOW GUARDS, AND OTHER METAL ACCESSORIES AND FLASHINGS PER CONTRACT DOCUMENTS TO PRODUCE COMPLETE PRE-ENGINEERED BUILDING SYSTEM.
22. GENERATOR SYSTEM INCLUDES GENERATOR WITH 48HR DIESEL FUEL TANK, SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH, SERVICE PLATFORM (CATWALK) FOR GENERATOR ACCESS AS REQUIRED PER CODE, CONCRETE PAD. REFER ALTERNATES SPECIFICATION FOR ADDITIONAL INFORMATION.

ROADWAY PAY ITEM NOTES (11/14/2018):

EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1 - E11)

- E-1: ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.
- E-2: ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.
- E-3: THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.
- E-4: UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.
- E-5: NOT USED.
- E-6: THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.
- E-7: EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
 - A) AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM;
 - B) IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY;
 - C) FOR ENTIRE DURATION OF PROJECT WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
 - D) WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN.ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.

ROADWAY PAY ITEM NOTES (11/14/2018):

E-8 & E-9: NOT USED

E-10: ESTIMATED QUANTITY IS BASED ON SODDING OF ALL DISTURBED AREAS OUTSIDE THE FINAL PAVING LIMITS AND WITHIN THE FINAL GRADING LIMITS AS INDICATED BY THE TOP-OF-CUT/TOE-OF-SLOPE LINE ON THE PLANS (EXCLUDING SURFACES OF STRUCTURES, FIXTURES AND APPURTENANCES). SEEDING SHALL BE OF BERMUDA. PRICE BID INCLUDES PLACEMENT AND COMPACTION OF SUITABLE BACKFILL. ANY EXISTING GRASSED AREAS BEYOND THE ABOVE STATED LIMITS THAT ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE SEED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.

E-11: COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04G OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE, OR AS DIRECTED BY MANUFACTURER OR CITY.

SURFACING / STRUCTURES (S1 - S21)

S-1: NOT USED.

S-2: INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.

S-3: SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

S-4: NOT USED

S-5: THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.

S-6: ESTIMATED AT 112 LBS PER SQ YD PER 1 INCH THICK.

S-7: ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.

3-8: A HIGHER GRADE OF ASPHALT BINDER THAN IS INDICATED ON THE PLANS MAY BE USED, BUT AT NO ADDITIONAL COST TO THE CITY.

S-8 (TABLE):

BINDER ² GRADE	MESALs	ADT ¹	NOTES
PG 64-22 OK	< 3	< 5,000	USE WHEN MORE THAN 4-6 INCHES BELOW THE SURFACE. ALSO USE FOR SHOULDERS, DRIVEWAYS, BELOW PCC, AND TEMPORARY CONSTRUCTION.
PG 70-28 OK	< 10	< 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 OK	>= 10	>= 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 E	-	-	CONTACT ODOT MATERIALS DIVISION FOR RECOMMENDED USE.
¹ USE ADT ONLY WHEN ESAL COMPUTATIONAL DATA IS NOT AVAILABLE. CALCULATE THE DESIGN ESALs BASED ON 20 YEARS.			
² PG 70-28 OK OR PG 76-28 OK MAY BE DESIRABLE IN HIGH VOLUME AREAS WHERE SLOW, STANDING, OR TURNING TRAFFIC OCCURS, SUCH AS URBAN INTERSECTIONS OR OFF-RAMPS. OFF RAMPS SHOULD AT LEAST USE THE SAME BINDER AS THE MAINLINE.			

S-9: NOT USED.

S-10: FOR P.C. CONCRETE TYPICAL SECTIONS, CONTRACTOR MAY SUBSTITUTE INTEGRAL CURB FOR CURB & GUTTER, AND VICE VERSA, ONLY WITH APPROVAL OF THE ENGINEER, WITH NO ADJUSTMENT MADE TO UNIT PRICE OR QUANTITY.

S-11: CONCRETE PAVEMENT SHALL BE COMPLETE IN PLACE. NO PARTIAL OR FINAL PAYMENT SHALL BE MADE UNTIL PAVEMENT HAS BEEN SAWED AND SEALED. ANY SECTIONS OF PAVEMENT WITH UNAPPROVED DEVIATIONS FROM THE JOINT LAYOUT PROVIDED IN THE PLANS MAY BE REJECTED AT THE DISCRETION OF THE ENGINEER.



NO		REVISION		BY	DATE	PLAN SCALE: N/A PROFILE SCALE: HORIZONTAL: N/A VERTICAL: N/A		DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24 PROJ. MGR. TW 6/25 LEAD ENGR. BOC 10/25 FIELD MGR. RECOMMENDED: [Signature] DESIGN MANAGER		APPROVED: [Signature] CITY ENGINEER	
						FILE:		DRAWING:		DATE:	
						ATLAS PAGE NO:					
						SHEET NAME:		PAY QUANTITIES & NOTES		SHEET NO.	
										G0-05	

SPECIAL CIVIL PAY NOTES (101 - 104):

- 101: PROVIDE ADS DOWNSPOUT ADAPTER (PRODUCT #0664AA) OR APPROVED EQUAL. COORDINATE SIZE OF DOWNSPOUT TO UNDERGROUND PIPE CONNECTION PRIOR TO ORDERING. PAINT EXPOSED ADAPTER TO MATCH DOWNSPOUT.
- 102: ALL MATERIALS, LABOR, & FURNISHINGS TO CONSTRUCT DUMPSTER SCREEN WALL SHALL BE INCLUDED IN PRICE BID. SCREEN WALL SHALL BE A MINIMUM HEIGHT OF 6 FEET AND ONE SIDE TO BE FURNISHED WITH AN OPAQUE, LOCKABLE GATE.
- 103: PRICE BID TO INCLUDE ALL MATERIAL, FITTINGS, CLEANOUTS, CONNECTIONS, THE INSTALLATION OF AN IN-LINE TEE AND BRACING FOR RISER PIPE, THE COST OF THE LINE BETWEEN THE BUILDING CONNECTION AND THE EXISTING LINE, EARTH BACKFILL, SHEETING, SHORING, AND CONCRETE CRADLES, ALL FITTINGS AND ADAPTERS TO CONNECT SERVICE TO THE EXISTING LINE, TESTING, AND ANY OTHER INCIDENTAL ITEMS NEEDED TO COMPLETE THE CONSTRUCTION AS SHOWN ON THE PLANS. CONTRACTOR TO INSTALL SANITARY SEWER LINE PER COT SPECIFICATION 615, MORE STRINGENT REQUIREMENTS CONTROL, OR AS DIRECTED BY OWNER. VARIATIONS TO BE APPROVED BY OWNER. CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR PROPOSED CONSTRUCTION, LAYOUT, AND CONNECTION.
- 104: PROVIDE 12"X12" SQUARE CATCH BASIN WITH GALVANIZED STEEL GRATE OR APPROVED EQUAL. PRICE BID TO INCLUDE ALL MATERIAL, LABOR, EXCAVATION, AND ANY NECESSARY COMPONENTS TO COMPLETE INSTALLATION.
- 105: EXISTING AGGREGATE BASE MATERIAL ON-SITE MUST BE APPROVED BY ENGINEER TO BE UTILIZED FOR AGGREGATE BASE, TYPE A. APPROVED EXISTING AGGREGATE BASE MATERIAL ON-SITE MUST BE USED PRIOR TO ANY MATERIAL. ITEM MAY BE ENTIRELY UNDERRUN.
- 106: PRICE BID TO INCLUDE ALL MATERIAL, FITTINGS, CONNECTIONS, THE COST OF THE CONDUIT BETWEEN THE BUILDING CONNECTION AND THE EXISTING POLE, EARTH BACKFILL, SHEETING AND SHORING, ALL FITTINGS AND ADAPTERS TO CONNECT SERVICE TO THE EXISTING LINE, BORING, TRENCHING AND ANY OTHER INCIDENTAL ITEMS NEEDED TO COMPLETE THE CONSTRUCTION AS SHOWN ON THE PLANS. VARIATIONS TO BE APPROVED BY OWNER.

SURFACE SUMMARY														
	202(A)	202(D)	303(A)		310(B)	325	411(C)	411(C)	414(B)	414(G)	609	609(A)	610(A)	SPECIAL
	UNCLASSIFIED EXCAVATION	UNCLASSIFIED BORROW	AGGREGATE BASE TYPE A	EXISTING AGGREGATE BASE	SUBGRADE, METHOD B	SEPARATOR FABRIC	SUPERPAVE, TYPE S4 PG (64-22)	SUPERPAVE, TYPE S3 PG (64-22)	DOWEL JOINTED P.C.C. PAVT. (PLACEMENT)	P.C. CONCRETE FOR PAVEMENT	(PL) PARKING BLOCK	COMBINED CURB AND GUTTER (6" BARRIER)	4" CONCRETE SIDEWALK	CURB RAMP
	CY	CY	CY	CY	SY	SY	TON	TON	SY	CY	EA	LF	SY	EA
MAIN DRIVE	675	403	195	555	1217	1253	-	-	1101	184	-	124	-	-
OFF-DRIVE PARKING	296	177	87	244	551	603	-	-	483	81	24	-	-	-
SOUTH DRIVE	173	103	56	143	362	363	-	-	282	47	-	148	-	-
WEST PARKING LOT	-	-	252	-	-	-	-	-	-	-	-	-	-	-
EAST PARKING LOT	1031	614	303	848	1892	1918	-	-	1681	281	30	330	-	2
DUMPSTER PAD	30	18	10	25	70	86	-	-	48	8	-	-	-	-
BUILDING PAD	-	-	354	-	-	-	-	-	-	-	-	-	839	-
BASE BID TOTAL	2205	1315	1257	1815	4092	4223	-	-	3595	601	54	602	839	2
ALT 4 - ASPHALT PARKING LOT														
WEST PARKING LOT	1403	351	590	1295	3905	3916	401	802	-	-	-	581	-	1

SIGN SUMMARY						
SIGN NO.	TYPE OF SIGN	NUMBER OF SIGNS	SIGN SIZE	SHEET ALUMINUM SIGN	2" SQUARE POST	1.5" SQUARE TUBE POST
				SF	LF	LF
1	R7-8	2	12 x 18	1.5	2.5	10
	R7-8aP	-	12 x 6	0.5	-	-
2	R7-8	2	12 x 18	1.5	2.5	10
	R7-8aP	-	12 x 6	0.5	-	-
3	R7-8	1	12 x 18	1.5	2.5	10
4	R7-8	1	12 x 18	1.5	2.5	10
ALTERNATE						
5	R7-8	2	12 x 18	1.5	2.5	10
	R7-8aP	-	12 x 6	0.5	-	-
6	R7-8	2	12 x 18	1.5	2.5	10
	R7-8aP	-	12 x 6	0.5	-	-



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
				N/A	DESIGNED BY:	BKL	4/25	
					SURVEY BY:	TLS	9/24	
				PROFILE SCALE:	PROJ. MGR.	TV	6/25	
				HORIZONTAL:	LEAD ENGR.	BDC	6/25	
				N/A	FIELD MGR.			
				VERTICAL:	RECOMMENDED BY:	Shannon D. My		
				N/A	DESIGN MANAGER			
				FILE:	DRAWING:			DATE:
				ATLAS PAGE NO:				
			SHEET NAME:				SHEET NO.	
			PAY QUANTITIES & NOTES				G0-07	

STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
PROJECT NO. SW23-01-01				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS & ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING				
PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
N/A	DESIGNED BY:	BKL	4/25	
	SURVEY BY:	TLS	9/24	
PROFILE SCALE:	PROJ. MGR.	TV	6/25	
HORIZONTAL:	LEAD ENGR.	BDC	6/25	
N/A	FIELD MGR.			
VERTICAL:	RECOMMENDED BY:	Shannon D. My		
N/A	DESIGN MANAGER			
FILE:	DRAWING:			DATE:
ATLAS PAGE NO:				
SHEET NAME:				SHEET NO.
PAY QUANTITIES & NOTES				G0-07

 CEILING ACCESS PANEL

 SUSPENDED ACOUSTIC BAFFLES

 EXIT SIGNAGE, RE: ELEC.

**REFER MEP FOR DIFFUSER, VENT,
AND LIGHTING LOCATIONS**

- ACT1.2
- ACT2.2
- GYP BD
- MTL SOFFIT PANEL
- AWP1 ACOUSTICAL PANELING
- LINER PANEL WITH
SUPPORT BANDS EACH WAY

	KEY NOTE
	MATERIAL OR COLOR CHANGE
	WINDOW NUMBER
	SIGNAGE NUMBER (STARTING WITH "S")
	CEILING TYPE AND HEIGHT
	ROOM NAME AND NUMBER
	REVISION INDICATION AND KEY
	LEVEL AND ELEVATION INDICATION
	SECTION KEY
	EXTERIOR ELEVATION
	INTERIOR ELEVATION
	DETAIL SECTION KEY
	DETAIL PLAN KEY
	NEW DOOR AND NUMBER REF. A3 SERIES SHEETS

	CONCRETE		PLYWOOD
	CONCRETE MASONRY UNIT		WOOD
	GROUT		
	MORTAR		
	BRICK		
	GYPSUM, PLASTER, MORTAR		
	EARTH		
	AGGREGATE BASE		
	STEEL		
	ALUMINUM		
	RIGID INSULATION		
	INSULATION BATT		
	BLOCKING		
	BLOCKING - SHIM		

	—	PARTITION TYPE
		(CMU) CONCRETE MASONRY UNIT
		GYPSUM BOARD PARTITION.
		GYP. BOARD PARTITION WITH ACoust. BATTING
		GRID LINE
		CENTER LINE
		1 HOUR FIRE RATING

P1 (4 7/8")
3 5/8" METAL STUD 16" O.C.
1 LAYER 5/8" GYP.BD. BOTH SIDES

P2 (4 1/4" WITH ACOUSTICS)
3 5/8" METAL STUD 16" O.C.
1 LAYER 5/8" GYP.BD. ONE SIDE

P3 (4 3/4)
3 1/2" METAL STUD
5/8" TILE BACKER

P4 4 7/8"
3 1/2" METAL STUD
5/8" TILE BACKER BOTH SIDES

P5 (7 1/8")
6" METAL STUD @ 16" O.C.
5/8" GYP BD. BOTH SIDES

P6 (3 1/8") FURRING WALL
2-1/2" METAL STUD @ 16" O.C.
5/8" GYP. BD. ONE SIDE

P7 3 5/8" STUD WALL
5/8" GYP. ONE SIDE
5/8" TILE BACKER ONE SIDE

M4 (3 5/8")
(CMU) 4" BURNISHED BLOCK CONCRETE
MASONRY UNIT, BURNISHED ONE SIDE
HEIGHT VARIES (SLOPED)

M8 (7 5/8")
(CMU) 8" BURNISHED BLOCK MASONRY UNIT,
BURNISHED BOTH SIDES
HEIGHT VARIES

REFER TO WALL SECTIONS FOR EXTERIOR WALL
TYPES.

G - FULLY GROUTED/ REINFORCED CMU

1. IDENTIFY PARTITIONS WITH FIRE OR SMOKE RATING 10 FT ON CENTER, BOTH SIDES OF PARTITION, ABOVE CEILING LINE. LETTERING SHALL BE 2 INCH HELVETICA, PAINTED RED WITH AID OF STENCILS.
2. REFERENCE REFLECTED CEILING FOR CEILING TYPE IN EACH ROOM
3. REFERENCE FINISH PLANS, SCHEDULE, AND LEGEND FOR WALL BASE TYPE IN EACH ROOM.
4. PROVIDE STRAPS OR CHICKENWIRE TO SECURE ACOUSTICAL BATT INSULATION AT CLAD PARTITIONS.
5. STUDS ARE 16" ON CENTER AND ARE DIMENSIONED AT CENTERLINE OF WALL UNLESS OTHERWISE NOTED
6. PRE-ENGINEERED METAL BUILDING WALLS ARE DIMENSIONED TO OUTSIDE OF STEEL UNLESS OTHERWISE NOTED
7. CMU WALLS ARE DIMENSIONED TO OUTSIDE OF BLOCK UNLESS OTHERWISE NOTED
8. EXTEND TO STRUCTURE AS NOTED. ALL OTHER PARTITIONS TO EXTEND 6" MIN. ABOVE CEILING UNO. PROVIDE ANGLE BRACING ABOVE CEILING AS NEEDED.
9. USE FIRE-RESISTANCE-RATED CONSTRUCTION AS REQUIRED FOR RATED JOINT SYSTEMS AND SPECIAL DETAILING.
10. PROVIDE CONTROL JOINTS IN THE FOLLOWING LOCATIONS.

- A. AT SINGLE DOORS INSTALL ONE CONTROL JOINT AT A CORNER OF THE DOOR OPENING FARTHEST FROM THE CLOSEST PERPENDICULAR WALL.
- B. AT DOUBLE DOORS INSTALL TWO CONTROL JOINTS AT CORNER OF THE DOOR OPENING.
- C. AT CEILINGS INSTALL CONTROL JOINTS IN AREAS EXCEEDING 2500 SQ. FT. SPACE CONTROL JOINTS NOT MORE THAN 50 FEET O.C.
- D. INSTALL CONTROL JOINTS WHERE CEILING FRAMING OR FURRING CHANGES DIRECTION.
- E. AT WALL PARTITIONS AND FURRING SPACE CONTROL JOINTS NOT MORE THAN 30 FEET O.C.
- F. INSTALL CONTROL JOINTS IN FURRED ASSEMBLIES WHERE CONTROL JOINTS OCCUR IN BASE EXTERIOR WALL.



NO	REVISION	BY	DATE	PLAN SCALE: DRAWN: ABS As indicated: DESIGNED: JDH SURVEY: PROFILE SCALE: PROJ. MGR. TW 6/25 LEAD ENGR. BDC 6/25 HORIZONTAL: FIELD MGR. JW 6/25 RECOMMENDED: <i>James S. M</i> J. M. S. M. VERTICAL: DESIGN MANAGER FILE: DRAWING:	APPROVED <i>T. Ober</i> CITY ENGINEER DATE: 6/12/2025
				ATLAS PAGE NO: SHEET NAME:	SHEET NO. G1-02
				LEGENDS AND SYMBOLS	

6/5/2025 2:28:08 PM

AB..... ANCHOR BOLT
ABV..... ABOVE
AC..... ACOUSTICAL
A/C..... AIR CONDITIONING
ACT..... ACOUSTICAL CEILING TILE
AD..... AREA DRAIN
ADAS..... ADA SHOWER SEAT
ADD..... ADDENDUM
ADDL..... ADDITIONAL
ADH..... ADHESIVE
ADJ..... ADJUSTABLE
ADMIN..... ADMINISTRATION
A/E..... ARCHITECT-ENGINEER
AFF..... ABOVE FINISH FLOOR
AHU..... AIR HANDLING UNIT
AL..... ALUMINUM
ALUM..... ALUMINUM
ALT..... ALTERNATE
ANCH..... ANCHOR
ANG..... ANGLE
ANOD..... ANODIZED
APPROX..... APPROXIMATE
ARCH..... ARCHITECT, ARCHITECTURAL
ASB..... ASBESTOS
ASP..... ASPHALT
ASSY..... ASSEMBLY
AUTO..... AUTOMATIC

BCS..... BABY CHANGING STATION
BD..... BOARD
BDRM..... BEDROOM
BEL..... BELOW
BK..... BRICK
BKT..... BRACKET
BL..... BUILDING LINE
BLDG..... BUILDING
BLK..... BLOCK, BLOCKING
BM..... BEAM
BNCHMK..... BENCH MARK
BO..... BY OWNER, BY OTHERS
BOD..... BOTTOM OF DECK
BOM..... BOTTOM OF MULLION
BOT..... BOTTOM
BP..... BRICK PAVER
BR..... BACKER ROD
BS..... BATH STATION PULL CORD
BSMT..... BASEMENT
BT..... BENT
BTM..... BITUMINOUS
BTRM..... BATHROOM
BTW..... BETWEEN
BUT..... BUTT JOINT
BVL..... BEVELED

C..... CHANNEL
CAB..... CABINET
C/C..... CENTER TO CENTER
CEM..... CEMENT
CER..... CERAMIC
CFL..... COUNTER FLASHING
C-FRZ..... COMMERCIAL FREEZER
C-FRG..... COMMERCIAL REFRIGERATOR
CH..... COAT HOOK
CHAN..... CHANNEL
CHKBD..... CHALK BOARD
CHPT..... CEILING HUNG PLASTIC TOILET PARTITION
CI..... CAST IRON
CIR..... CIRCLE, CIRCULAR
CJ..... CONTROL JOINT
CLOUT..... CLEAN OUT
CLR..... CLEAR, CLEARANCE
CL..... CLOSET, CENTER LINE
CLG..... CEILING
CMU..... CONCRETE MASONRY UNIT
CMP..... COMPOSITE METAL PANEL
CNTR..... COUNTER
CO..... CASED OPENING
CO2..... CARBON DIOXIDE
COF..... COFFEE MAKER
COL..... COLUMN
COMPT..... COMPARTMENT
COMPR..... COMPRESSED, COMPRESSOR
CONC..... CONCRETE
COND..... CONDITION
CONN..... CONNECTION
CONST..... CONSTRUCTION
CONT..... CONTINUE, CONTINUOUS
CONTR..... CONTRACTOR
CONV..... CONVENIENCE
COR..... CORNER
CG..... CORNER GUARD
CORR..... CORRIDOR, CORRUGATED
CP/CI..... CONTRACTOR PROVIDED / CONTRACTOR
INSTALLED
CPI..... CONTRACTOR PROVIDED AND INSTALLED
CPT..... CARPET

CR..... CHAIR RAIL, COLD ROLLED
CRS..... COURSES
CS..... COUNTERSUNK
CSG..... CASING
CSS..... CEILING SUPPORT SYSTEM
CT..... CERAMIC TILE
CTB..... CERAMIC TILE BASE
CTR..... CENTER
CTRK..... CURTAIN TRACK
CUBE..... CUBICAL
CW..... CURTAIN WALL

DB..... DOCK BUMPER
DBA..... DEFORMED BAR ANCHOR
DBL..... DOUBLE
DEMO..... DEMOLISH, DEMOLITION
DEPT..... DEPARTMENT
DIA..... DIAMETER
DIAGL..... DIAGONAL
DIAGM..... DIAGRAM
DIM..... DIMENSION
DIV..... DIVISION
DN..... DOWN
DO..... DITTO
DP..... DAMPPROOFING
DR..... DOOR
DRN..... DRAIN
DS..... DOWNSPOUT
DTL..... DETAIL
DWG..... DRAWING
DWGS..... DRAWINGS

E..... EAST
EA..... EACH
EB..... EXPANSION BOLT
E/E..... END TO END
EF..... EXHAUST FAN
EIFS..... EXTERIOR INSULATION FINISH SYSTEM
EL..... ELEVATION
ELAST..... ELASTIC, ELASTOMERIC
ELEC..... ELECTRIC
ELEV..... ELEVATOR
EJ..... EXPANSION JOINT
EM..... ENTRY MAT
ENCL..... ENCLOSED, ENCLOSURE
ENGR..... ENGINEER
ENT..... ENTRY, ENTRANCE
EPDM..... ETHYLENE PROPYLENE DIENE MONOMER
EPX..... EPOXY
EQAL..... EQUAL
EQMT..... EQUIPMENT
ESC..... ESCAPE
ESCL..... ESCALATOR
ETR..... EXISTING TO REMAIN
EW..... EACH WAY
EWC..... ELECTRIC WATER COOLER
EXB..... EXPANSION BOLT
EXC..... EXCAVATE
EXIST..... EXISTING
EXP..... EXPOSED
EXT..... EXTERIOR
EXPAN..... EXPANSION

FA..... FIRE ALARM
FAB..... FABRICATE, FABRICATED, FABRIC
FAP..... FABRIC ACOUSTICAL PANEL
FB..... FACE BRICK
FD..... FLOOR DRAIN
FDC..... FIRE DEPARTMENT CONNECTION
FDN..... FOUNDATION
FE..... FIRE EXTINGUISHER
FEB..... FIRE EXTINGUISHER ON WALL BRACKET
FEC..... FIRE EXTINGUISHER IN WALL CABINET
FF..... FINISH FLOOR
F/F..... FACE TO FACE
FG..... FIBERGLASS
FHVC..... FIRE HOSE VALVE CABINET
FIN..... FINISH
FIXT..... FIXTURE
FL..... FLOOR
FLASH..... FLASH
FLEX..... FLEXIBLE
FLOR..... FLUORESCENT
FLRG..... FLOORING
FMPTP..... FLOOR MOUNTED PLASTIC TOILET
PARTITION
FOS..... FACE OF STUD
FR..... FIRE RATED
FRTD..... FIRE RETARDANT
FRIG..... REFRIGERATOR
FRM..... FRAME, FRAMING
FS..... FOLDING SEAT
FSS..... FOLDING SHOWER SEAT
FSTN..... FASTENER
FT..... FOOT, FEET

FURR..... FURRED, FURRING
FV..... FIELD VERIFY
FW..... FOOD WELL
FWAS..... FABRIC WRAPPED ACOUSTIC SYSTEM
FWC..... FABRIC WALL COVERING

G..... GAS
GA..... GAUGE
GALV..... GALVANIZED
GB..... GRAB BARS, GYPSUM BOARD
GC..... GENERAL CONTRACTOR
GFRC..... GLASS FIBER REINFORCED CONCRETE
GL..... GALVANIZED IRON
GL..... GLASS, GLAZED, GLAZING
MGMSB..... GLASS-MAT GYPSUM SHEATHING BOARD
GND..... GROUND
GR..... GRADE
GRA..... GRANITE
GRT..... GROUT
GYP..... GYPSUM BOARD
GYP BD..... GYPSUM BOARD

H..... HYDROGEN
HB..... HOSE BIB
HC..... HOLLOW CORE
HDCP..... HANDICAP
HDW..... HARDWARE
HDWD..... HARDWOOD
HD..... HEAD, HEADER
HM..... HOLLOW METAL
HORZ..... HORIZONTAL
HOSP..... HOSPITAL
HPT..... HIGH POINT
HR..... HANDRAIL
HS..... HAND SINK
HSS..... HOLLOW STRUCTURAL SECTIONS
HT..... HEIGHT
HTR..... HEATER
HVAC..... HEATING, VENTILATION, & AIR
 CONDITIONING
HVV..... HEAVY
HW..... HOT WATER

ICE..... ICE MACHINE
ID..... INSIDE DIAMETER
IMPR..... IMPREGNATE
INCAND..... INCANDESCENT
INCIN..... INCINERATOR
IN..... INCH, INCHES
IND..... INDUSTRIAL
INFO..... INFORMATION
INST..... INSULATE, INSULATION
INT..... INTERIOR, INTERNAL
INV..... INVERT
ISOL..... ISOLATION

JAN..... JANITOR
JB, J-BOX..... JUNCTION BOX
JCT..... JUNCTION
JST..... JOIST
JT..... JOINT

KD..... KNOCK DOWN
KIT..... KITCHEN
K/O..... KNOCK OUT
KOP..... KNOCK OUT PANEL

L..... LEFT
LAB..... LABORATORY
LAM..... LAMINATE, LAMINATED
LAND..... LANDING
LAV..... LAVATORY
LAV-ADA..... ADA LAVATORY
LBER..... LUMBER
LDIF..... LINEAR DIFFUSER
LG..... LONG
LGMF..... LIGHT GAUGE METAL FRAMING
LH..... LEFT HAND
LHR..... LEFT HAND REVERSE
LIN..... LINEAR
LIQ..... LIQUID
LKR..... LOCKER
LKS..... LOCAL KEY SWITCH
LLH..... LONG LEG HORIZONTAL
LLV..... LONG LEG VERTICAL
LOC..... LOCATION
LOUV..... LOUVER
LP..... LOW POINT
LT..... LIGHT
LTG..... LIGHTING
LWT..... LIGHT WEIGHT
LWTC..... LIGHT WEIGHT CONCRETE
LVT..... LUXURY VINYL TILE

MACH..... MACHINE
MAN..... MANUAL
MAS..... MASONRY
MAT..... MATERIAL
MAX..... MAXIMUM
MBHUS..... MOP/BROOM HOLDER UNIT W/ SHELF
MD..... MODEL, MODULE
MDF..... MEDIUM DENSITY FIBER BOARD
MECH..... MECHANICAL
MED..... MEDICAL
MEMB..... MEMBRANE
MEZZ..... MEZZANINE
MFR..... MANUFACTURER
MFD..... MANUFACTURED
MG..... MEDICAL GAS
MH..... MANHOLE
MID..... MIDDLE
MIN..... MINIMUM
MIR..... MIRROR
MISC..... MISCELLANEOUS
MK..... MARK
MKBD..... MARKERBOARD
MLWK..... MILLWORK
MO..... MASONRY OPENING
MONO..... MONOLITHIC
MTD..... MOUNT, MOUNTED
MTL..... METAL
MU..... MIRROR UNIT
MULL..... MULLION
MULT..... MULTIPLE

N..... NORTH, NITROGEN
NA..... NOT APPLICABLE
NAT..... NATURAL
NC..... NON-SLIP
NEO..... NEOPRENE
NO, #..... NUMBER
NIC..... NOT IN CONTRACT
NOM..... NOMINAL
NRC..... NOISE REDUCTION COEFFICIENT
NS..... NON SLIP
NTS..... NOT TO SCALE

O/A..... OVERALL
OC..... ON CENTER
OD..... OUTSIDE DIAMETER
OFOI..... OWNER FURNISH/OWNER INSTALL
OFCL..... OWNER FURNISH/CONTRACTOR INSTALL
OFRD..... OVERFLOW ROOF DRAIN
OH..... OPPOSITE HAND
O/H..... OVERHEAD
O/O..... OUT TO OUT
OPNG..... OPENING
OPP..... OPPOSITE
ORIG..... ORIGINAL

PARA..... PARAGRAPH
PAR..... PARALLEL
PBD..... PARTICLE BOARD
PC..... PIECE, PRECAST CONCRETE
PC WKST.. PERSONAL COMPUTER WORKSTATION
PED..... PEDESTAL, PEDESTRIAN
PERF..... PERFORATE (D)
PEMB..... PRE-ENGINEERED METAL BUILDING
PERP..... PERPENDICULAR
PFN..... PREFINISHED
PL..... PLATE, PROPERTY LINE, PLASTER
PLAM..... PLASTIC LAMINATE
PLAS..... PLASTER
PLAT..... PLATFORM
PLB..... PLUMBING
PLWD..... PLYWOOD
PNTD..... PAINTED
PNL..... PANEL
PO..... PRIVATE OFFICE
POL..... POLISH
POLYS..... POLYSTYRENE
PRE FAB.. PREFABRICATED
PREP..... PREPARATION
PROD..... PRODUCTION
PROJ..... PROJECT, PROJECTOR
PRT..... PRINTER
PS..... PROJECTION SCREEN
PSF..... POUNDS PER SQUARE FOOT
PT..... POINT, PAINT
PTD..... PAPER TOWEL DISPENSER
PTN..... PARTITION
PTWD..... PAPER TOWEL DISPENSER/WASTE
 RECEPTACLE
PUR..... PURLIN (S)
PWR..... POWER

QT.....	QUARRY TILE
QTY.....	QUANTITY
QTZ.....	QUARTZ
R.....	RISER, RADIUS
RAD.....	RADIUS
RB.....	RUBBER BASE
RBHK.....	ROBE HOOK
RCV.....	RECEIVER
RD.....	ROOF DRAIN
RE, REF.....	REFERENCE
REBAR.....	REINFORCING BAR
RECEPT.....	RECEPTACLE
REC.....	RECESSED
REF.....	REFERENCE
REG.....	REGISTER, REGULATOR
REINF.....	REINFORCE, REINFORCING
REPRO.....	REPRODUCE
REQ.....	REQUIRE (D)
RESIL.....	RESILIENT
RESI.....	RESISTANT
RET.....	RETURN
REV.....	REVISE, REVISION
RH.....	RIGHT HAND
R/H.....	ROOF HATCH
RHR.....	RIGHT HAND REVERSE
RM.....	ROOM
RO.....	ROUGH OPENING
RT.....	RUBBER TILE, RIGHT
RTU.....	ROOF TOP UNIT
RUB.....	RUBBER
RW.....	RETAINING WALL
S.....	SOUTH
SAFB.....	SOUND ATTENUATING FIBERGLASS BA
SCG.....	SUSPENDED CEILING GRID
SC.....	SOLID CORE
SD.....	STORM DRAIN
SDFS.....	SOLID SURFACE
SCHED.....	SCHEDULE, SCHEDULED
SCW.....	SCREW (S)
SCONC.....	SEALED CONCRETE
SCD.....	SEAT COVER DISPENSER
SDISH.....	SOAP DISH
SECT.....	SECTION
SEP.....	SEPARATE
SGL.....	SINGLE PLY
SHTHG.....	SHEATHING
SHT.....	SHEET
SCR.....	SHOWER CURTAIN, ROD, AND HOOKS
SHWR.....	SHOWER ROD
SIM.....	SIMILAR
SL.....	SURGICAL LIGHT
SLNT.....	SEALANT
SNDU.....	SANITARY-NAPKIN DISPOSAL UNIT
SP.....	SPANDREL
SPEC.....	SPECIFICATION (S)
SQ.....	SQUARE
SQFT, SF..	SQUARE FOOT/STOREFRONT
SS.....	SANITARY SEWER
SST.....	STAINLESS STEEL
ST.....	STONE
STA.....	STATION
STAG.....	STAGGERED
STC.....	SOUND TRANSMISSION COEFFICIENT
STD.....	STANDARD
STIFF.....	STIFFENER
STIR.....	STIRRUP
STL.....	STEEL
STOR.....	STORAGE
STORFT.....	STOREFRONT
STR.....	STRUCTURE, STRUCTURAL
1SU.....	SINK UNIT - SINGLE
2SU.....	SINK UNIT - DOUBLE
3SU.....	SINK UNIT - TRIPLE
SUP.....	SUPPLY, SUPPORT
SUR.....	SURFACE
SUS.....	SUSPEND (ED)
SV.....	SHEET VINYL
SW.....	SWITCH
SYM.....	SYMMETRICAL
SYS.....	SYSTEM
T&B.....	TOP AND BOTTOM
TB.....	TOWEL BAR
TD.....	TRENCH DRAIN
T&G.....	TONGUE AND GROOVE
TEL.....	TELEPHONE
TEMP.....	TEMPERED
TGL.....	TINTED GLASS
THK.....	THICK
THRU.....	THROUGH
TKBD.....	TACKBOARD
TLT, TOIL..	TOILET
TO.....	TOP OF

[illegible][illegible]

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

PLAN SCALE:	DRAWN	Author		APPROVED
1/8" = 1'-0"	DESIGNED	JDH		
	SURVEY			
PROFILE SCALE	PROJ. MGR.	TW	6/25	
HORIZONTAL:	LEAD ENGR.	RDC	6/25	
VERTICAL:	FIELD MGR.	JW	6/25	
	RECOMMENDED:			
FILE:	DRAWING:			
ATLAS PAGE NO:				

SHEET NAME:
ABBREVIATIONS

SHEET NO.
G1-03

GENERAL ARCHITECTURAL CODE REVIEW

BUILDING DESCRIPTION:

SINGLE STORY PRE-ENGINEERED METAL BUILDING STRUCTURE CONTAINING BUSINESS AND ASSEMBLY OCCUPANCIES FOR THE CITY OF TULSA'S STORMWATER MAINTENANCE AND OPERATIONS.

APPLICABLE CODES:

2018	INTERNATIONAL BUILDING CODE (IBC)
2018	INTERNATIONAL MECHANICAL CODE (IMC)
2020	NATIONAL ELECTRIC CODE (NEC)
2018	INTERNATIONAL PLUMBING CODE (IPC)
2018	INTERNATIONAL FIRE CODE (IFC)
2009	ACCESSIBILITY CODE (ICC/ANSI 117.1)

USE AND OCCUPANCY:

304.1	PRIMARY USE GROUP B (BUSINESS)
303.4	ACCESSORY USE GROUP A-3 (ASSEMBLY)

GENERAL BUILDING AREA:

506.1	BUILDING AREA - GROSS	19,066 SF
504.3	BUILDING HEIGHT - HIGHEST PEAK	30' - 8"
ALLOWABLE HEIGHT NS 2B A-3 & B = 55' - 0"		

GENERAL ROOF AREA:

ROOF AREA - GROSS	21,360 SF
-------------------	-----------

TYPE OF CONSTRUCTION:

602.2	TYPE IIB
-------	----------

TABLE 506.2 ALLOWABLE AREA FACTOR

A-3	ALLOWABLE AREA TYPE IIB SPRINKLERED = 38,000 SF AREA PROVIDED = 2,400 SF
B	ALLOWABLE AREA TYPE IIB SPRINKLERED = 92,000 SF AREA PROVIDED = 16,666 SF

OCCUPANCY LOAD:

TABLE 1004.5	FLOOR AREA(SF)	LOAD FACTOR	OCCUPANTS
MECH/ELEC	260 SF	300 GROSS	1
ASSEMBLY	2,400 SF	15 NET	160
BUSINESS	16,406 SF	150 GROSS	165
BUILDING TOTAL			326

MEANS OF EGRESS:

TABLE 1005.3.2	EGRESS WIDTH PER OCCUPANT	LOAD	FACTOR	REQUIRED	PROVIDED
	FIRST FLOOR	326	0.20	65.2 IN.	180 IN.

TABLE 1006.2.1	COMMON PATH OF TRAVEL SHALL NOT BE MORE THAN 100 FEET FOR GROUP B OCCUPANCY, 75 FEET FOR GROUP A OCCUPANCY THIS PROJECT COMPLIES WITH THIS REQUIREMENT.
----------------	---

TABLE 1017.2	LENGTH OF EXIT ACCESS TRAVEL 200 FEET MAX FOR GROUP A AND B WITH SPRINKLER SYSTEM. THIS PROJECT COMPLIES WITH THIS REQUIREMENT.
--------------	---

1020.4	DEAD END CORRIDORS SHALL NOT BE MORE THAN 20 FEET. THIS PROJECT COMPLIES WITH THIS REQUIREMENT.
--------	---

TABLE 1006.3.2	MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD PER FLOOR LESS THAN 500: 2 EXITS MORE THAN 2 EXITS ARE PROVIDED
----------------	--

ACCESSIBILITY:

TABLE 1106.1	ACCESSIBLE PARKING: 55 STANDARD SPACES MINIMUM REQUIRED 60 STANDARD SPACES PROVIDED WITH 4 ADA SPACES ADD ALTERNATE: 77 ADDITIONAL SPACES AND 2 ADDITIONAL ADA SPACES
--------------	---

1105.1	60% BUT NOT LESS THAN ONE ENTRANCE MUST COMPLY WITH ACCESSIBLE ROUTE PROVISIONS. ALL ENTRANCES ARE ACCESSIBLE
--------	---

1109.5.1	NOT FEWER THAN TWO DRINKING FOUNTAINS SHALL BE PROVIDED. ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIEMENTS FOR PEOPLE WHO USE A WHEELCHAIR AND ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIRMENTS OF THOSE WHO STAND.
----------	--

TWO STANDARD AND ONE ADA DRINKING FOUNTAINS PROVIDED,

PLUMBING FIXTURE COUNT:

TABLE 2902.1 IBC MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

WATER CLOSETS:

OCCUPANCY TYPE	LOAD	RATIO/MEN	REQUIRED	PROVIDED	RATIO/WOMEN	REQUIRED	PROVIDED
ASSEMBLY	80*	1:125	1		1/65	2	
BUSINESS	83*	1:25/1:50	3		1:25/1:50	3	
TOTAL:			4	7**		5	6

BUSINESS OCCUPANCY WATER CLOSET RATIO IS 1 PER 25 FOR FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50.

*LOAD IS 50% TOTAL OCCUPANT LOAD (50% MEN/50% WOMEN)
**(3) WATER CLOSETS AND (4) URINALS

LAVATORIES:

OCCUPANCY TYPE	LOAD	RATIO/MEN	REQUIRED	PROVIDED
ASSEMBLY	160	1:200	1	4
BUSINESS	165	1:40/1:80	3	4

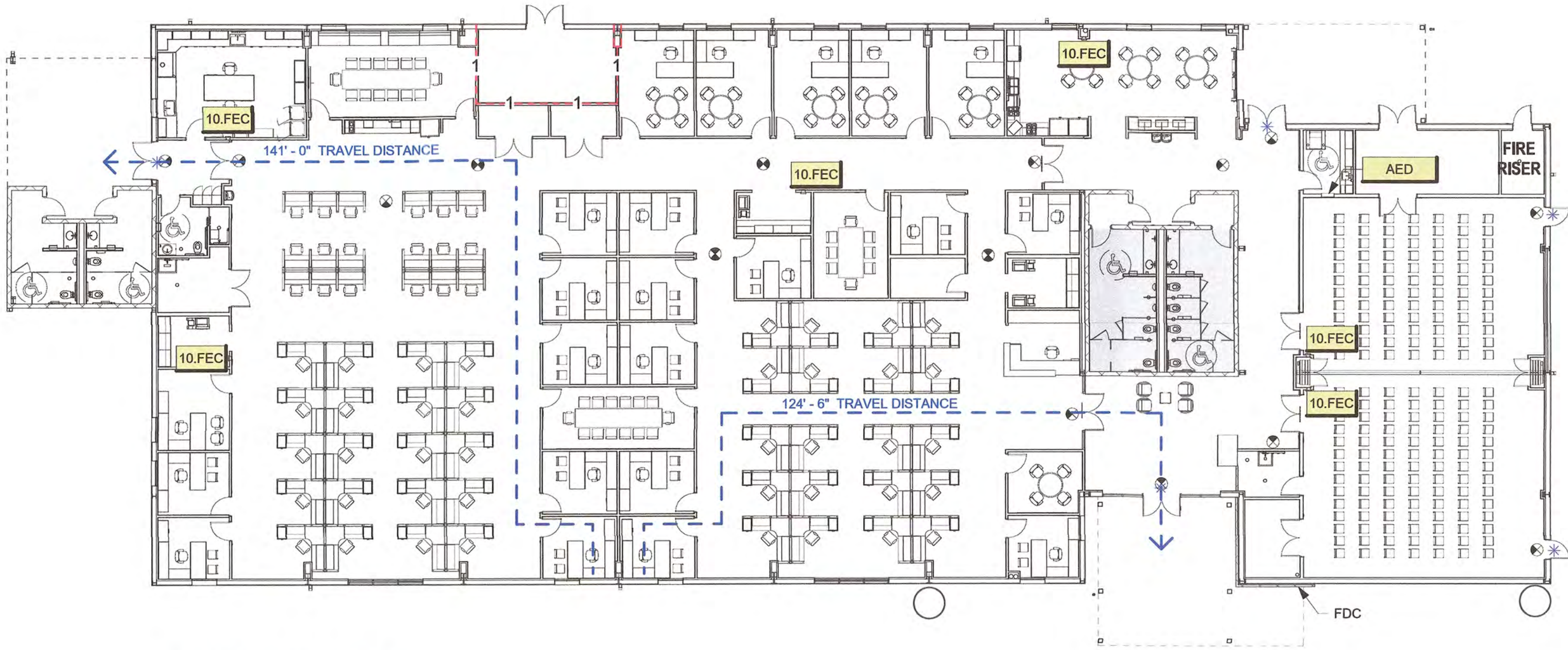
BUSINESS OCCUPANCY LAVATORY RATIO IS 1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80.

DRINKING FOUNTAINS:

OCCUPANCY TYPE	LOAD	RATIO	REQUIRED	PROVIDED
ASSEMBLY	160	1:500	1	
BUSINESS	165	1:100	2	
				3 (1 ADA TO BE PROVIDED)

SERVICE SINKS:

OCCUPANCY TYPE	LOAD	RATIO	REQUIRED	PROVIDED
ASSEMBLY	160	1 PER USE	1	
BUSINESS	165	1 PER USE	1	
				2



1 EGRESS PLAN
1/16" = 1'-0"

FIRE SUPPRESSION:

903.2.1 AN AUTOMATIC SPRINKLER SHALL BE PROVIDED THROUGHOUT BUILDINGS AND PORTIONS THEREOF USED AS GROUP A OCCUPANCIES

BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER PER NFPA 13

FIRE HYDRANT LOCATED 250' TO THE NORTHEAST ACROSS S. ELWOOD AVE

FIRE DEPARTMENT CONNECTION IS LOCATED BY THE EAST/MAIN ENTRY

BEST AVAILABLE REFUGE AREA:

460 SQFT - 92 OCCUPANT
STRUCTURE IS DESIGNED TO WITHSTAND 250 MPH WIND

LEGEND:

- * BUILDING EXIT
- ➔ MEANS OF EGRESS
- ☉ FE FIRE EXTINGUISHER ON BRACKET
- ☐ FEC FIRE EXTINGUISHER CABINET
- ☐ AED AUTOMATED EXTERNAL DEFIBRILLATOR
- 1 - 1 HOUR FIRE WALL UL U419
- ▭ BEST AVAILABLE REFUGE AREA
- ⊗ EXIT SIGNAGE RE: ELECTRICAL

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

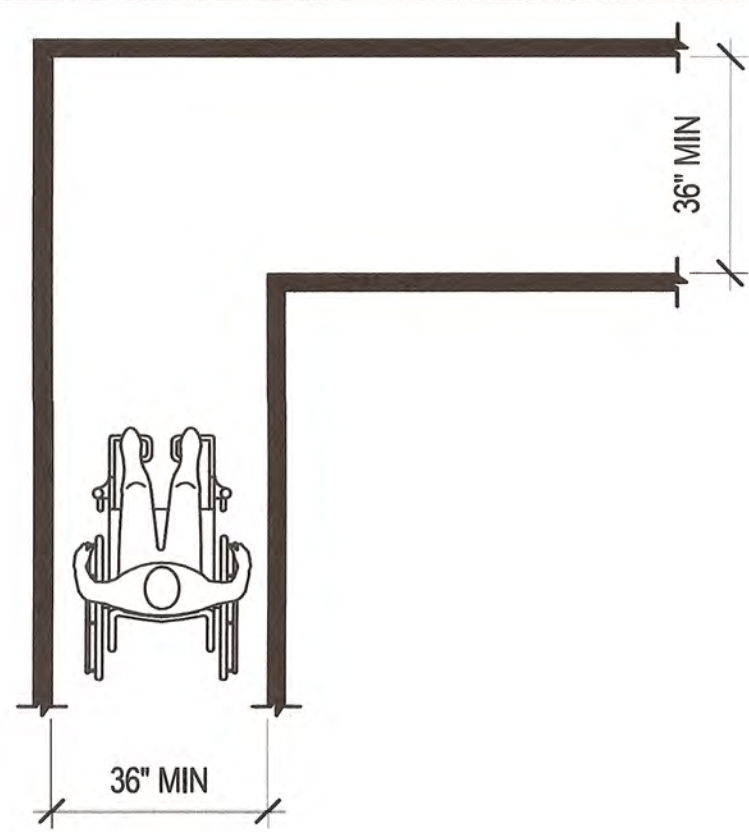
PLANS AND ESTIMATES PREPARED BY:

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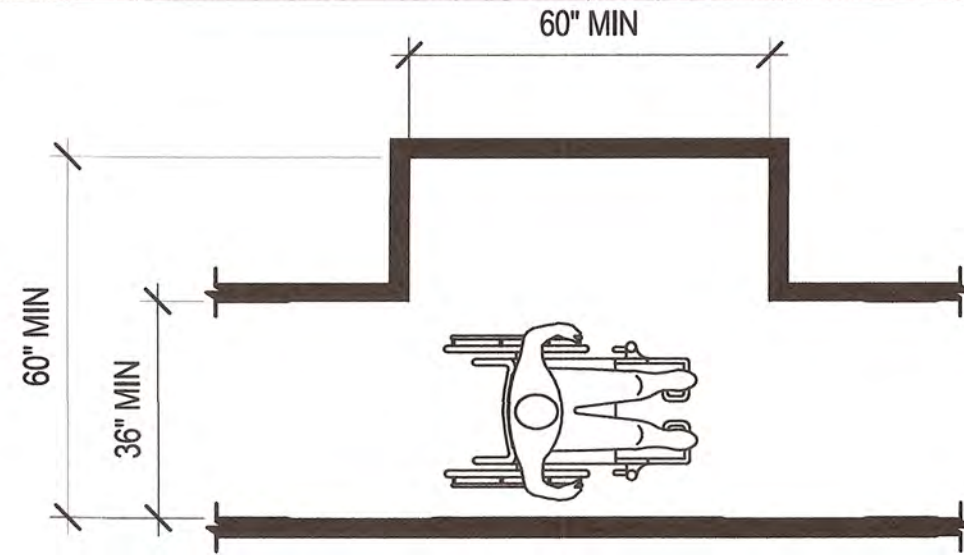
GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING



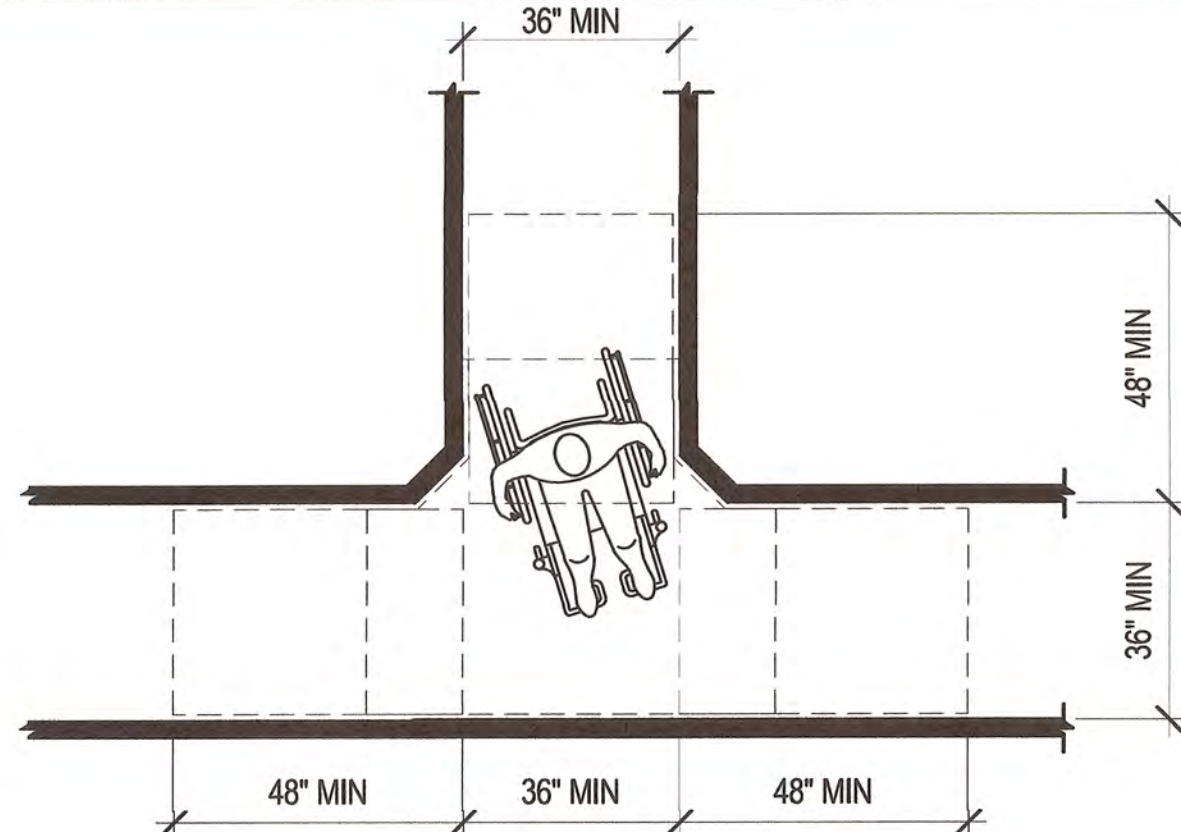
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				As indicated	DESIGNED	JDH	
					SURVEY		
				PROFILE SCALE	PROJ. MGR.	TW 6/25	
					LEAD ENGR.	Boc 6/25	
				HORIZONTAL:	FIELD MGR.	Jw 6/25	
					RECOMMENDED		
				VERTICAL:	DESIGN MANAGER		
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				ATLAS PAGE NO:			
				SHEET NAME:	LIFE SAFETY		
				SHEET NO.			G1-04



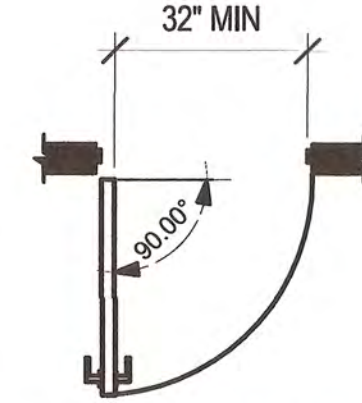
403.5.3.2 CLEAR WIDTH AT 90-DEGREE TURN
3/8" = 1'-0"



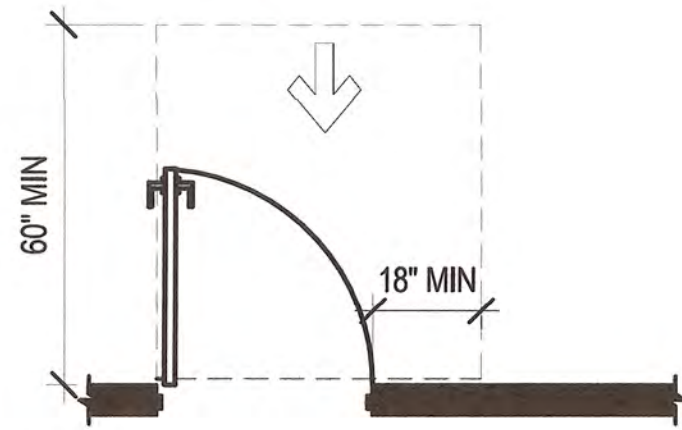
403.5.4.2(A) PASSAGE SPACE - 60X60 OPTION
3/8" = 1'-0"



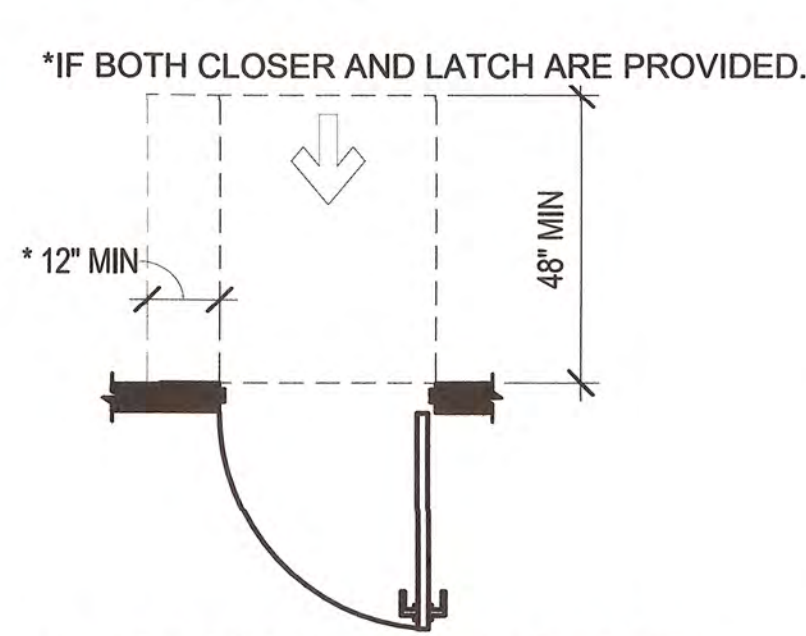
403.5.4.2(B) PASSAGE SPACE T-TURN OPTION
3/8" = 1'-0"



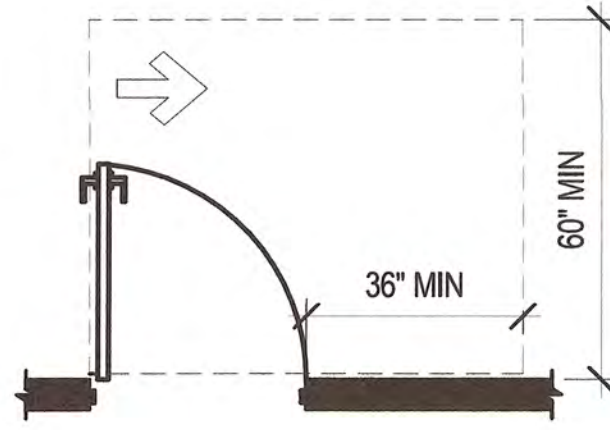
404.2.2.3(A) CLEAR WIDTH OF DOORWAYS - HINGED DOOR
3/8" = 1'-0"



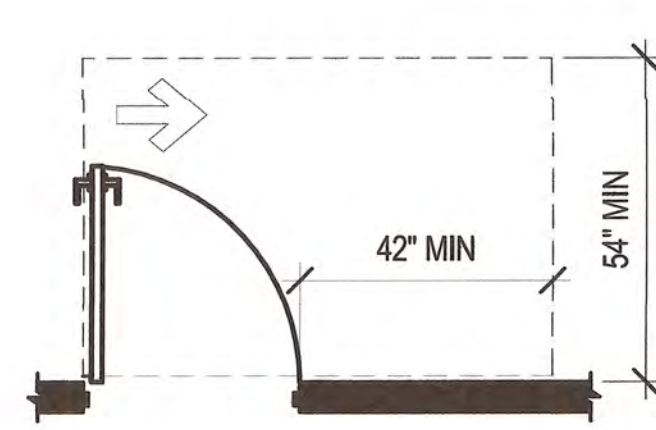
404.2.3.2 (a) FRONT APPROACH - PULL SIDE
3/8" = 1'-0"



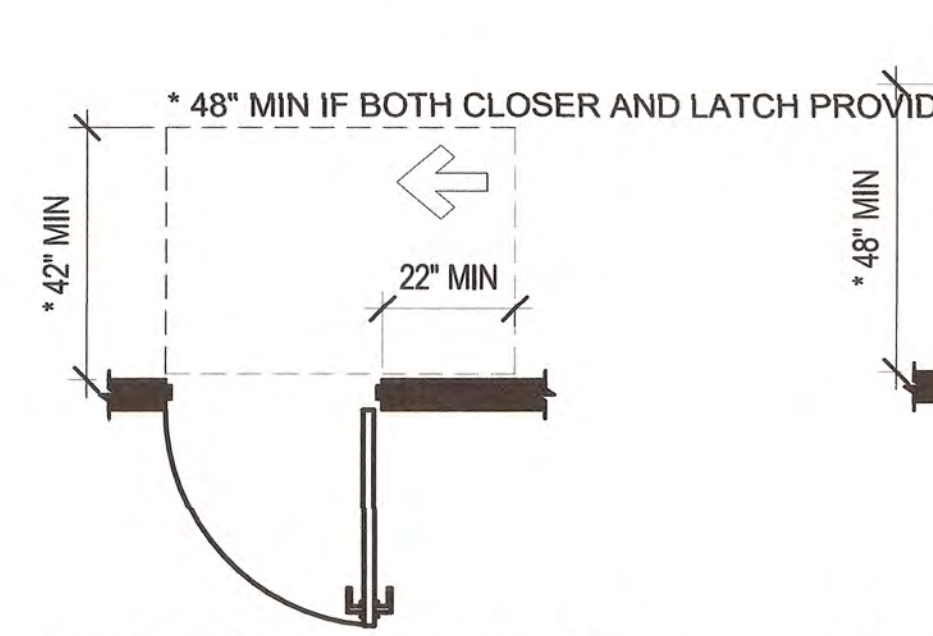
404.2.3.2(b) FRONT APPROACH - PUSH SIDE
3/8" = 1'-0"



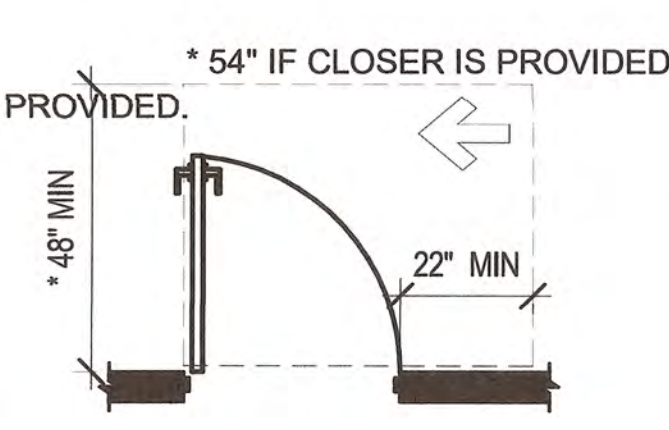
404.2.3.2(c) HINGE APPROACH - PULL SIDE
3/8" = 1'-0"



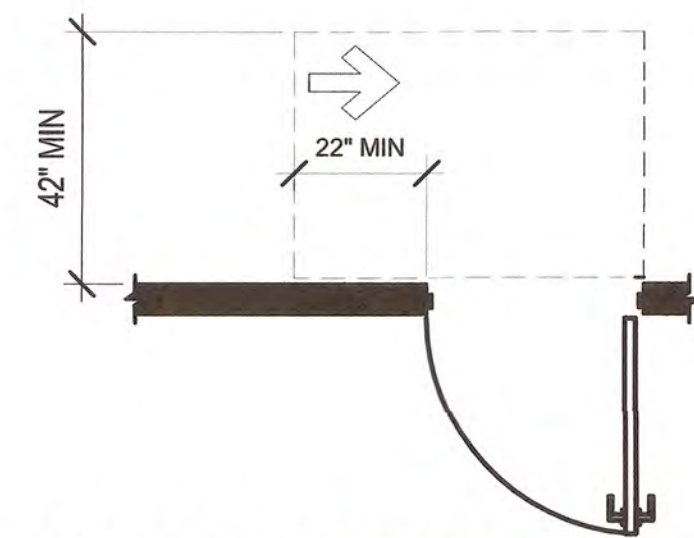
404.2.3.2(d) HINGE APPROACH - PULL SIDE
3/8" = 1'-0"



404.2.3.2(e) HINGE APPROACH - PUSH SIDE
3/8" = 1'-0"

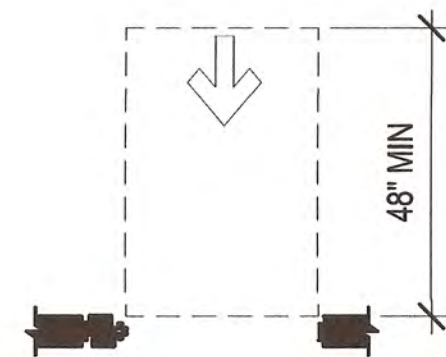


404.2.3.2(f) LATCH APPROACH - PULL SIDE
3/8" = 1'-0"

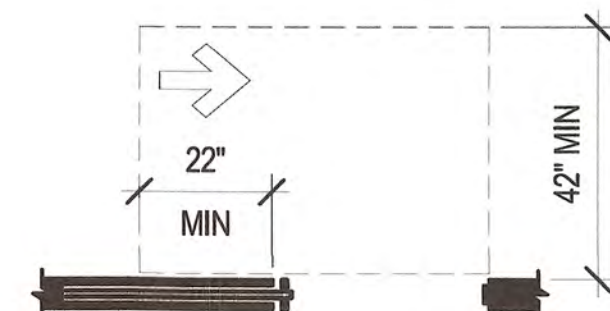


404.2.3.2(g) LATCH APPROACH - PUSH SIDE
3/8" = 1'-0"

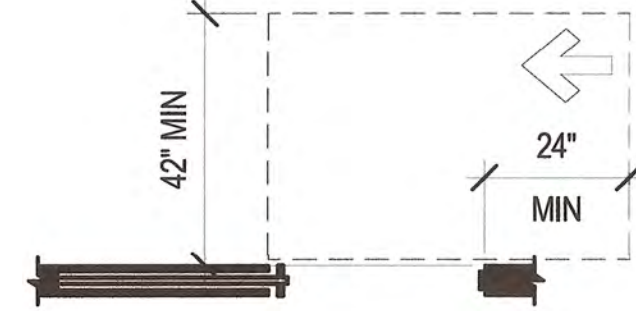
404.2.3.2 MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS



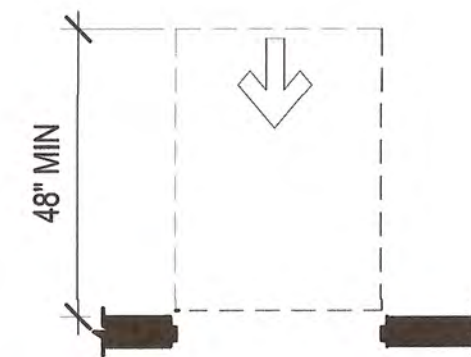
(a) FRONT APPROACH WITH DOOR
3/8" = 1'-0"



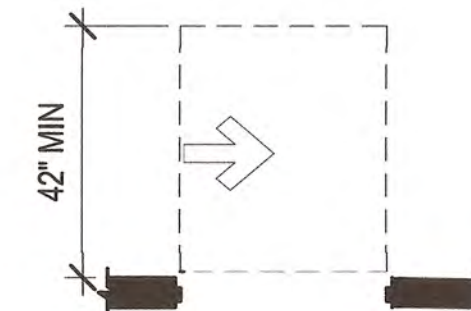
(b) POCKET OR HINGE APPROACH
3/8" = 1'-0"



(c) STOP OR LATCH APPROACH
3/8" = 1'-0"



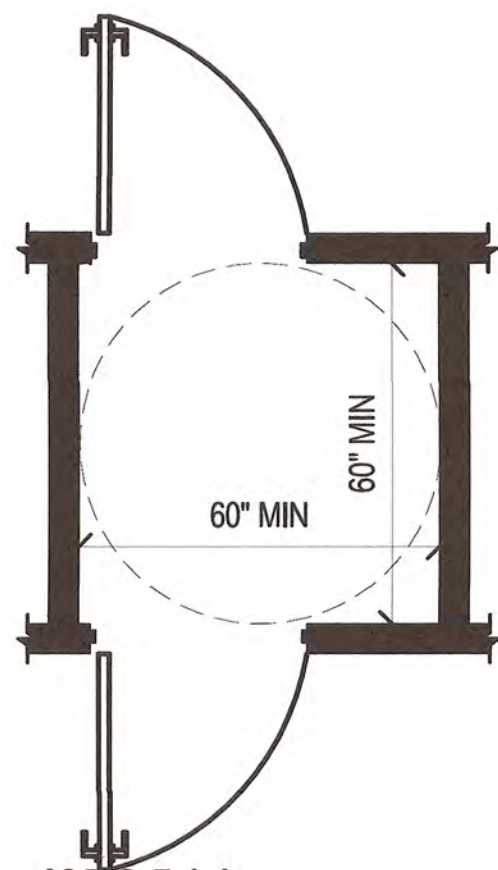
(a) FRONT APPROACH
3/8" = 1'-0"



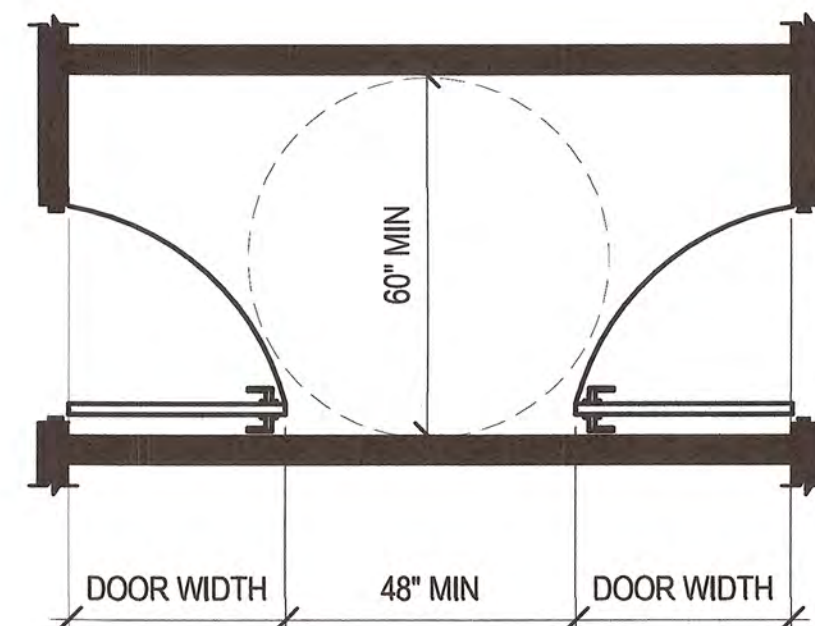
(b) SIDE APPROACH
3/8" = 1'-0"

404.2.3.3 MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS -

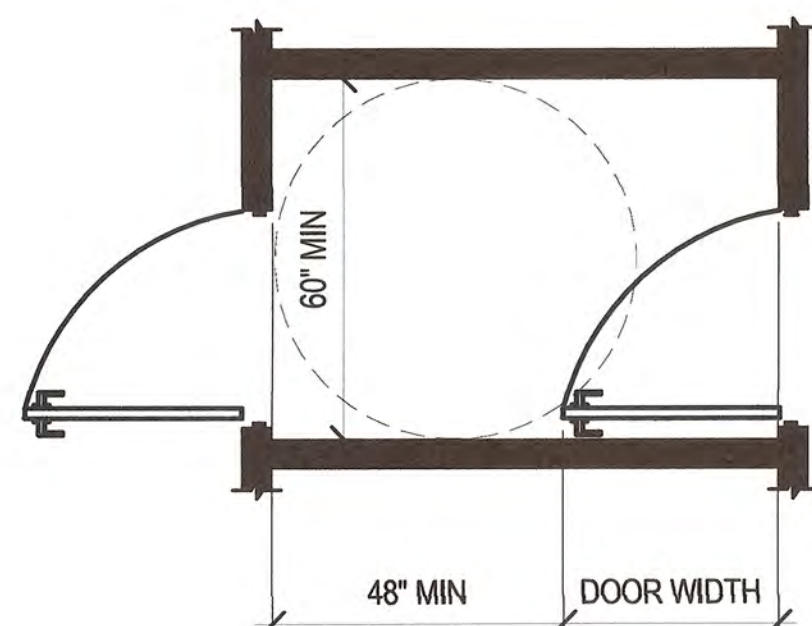
404.2.3.4 MANEUVERING CLEARANCE FOR DOORWAYS WITHOUT DOORS



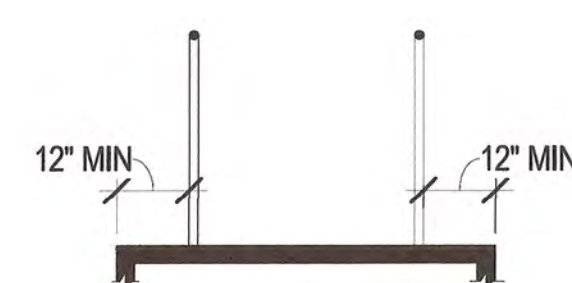
405.2.5 (a)
3/8" = 1'-0"



404.2.5 (b)
3/8" = 1'-0"



404.2.5 (c)
3/8" = 1'-0"

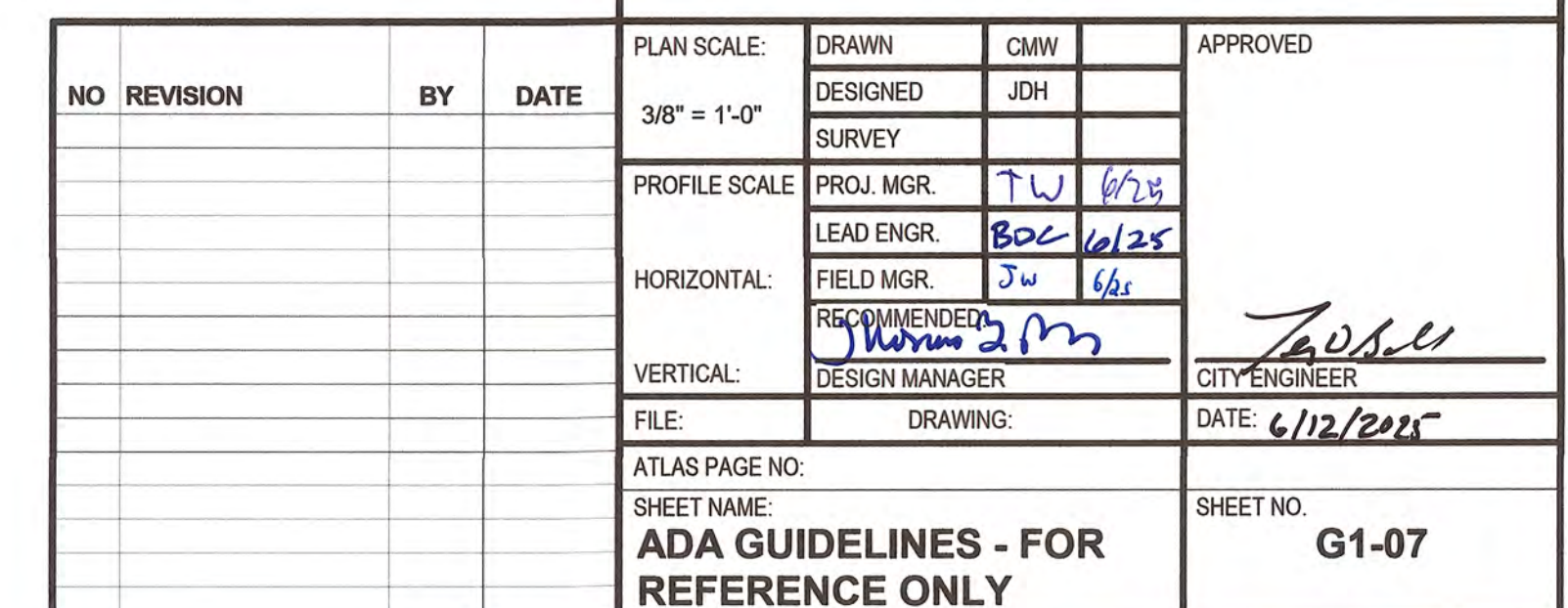
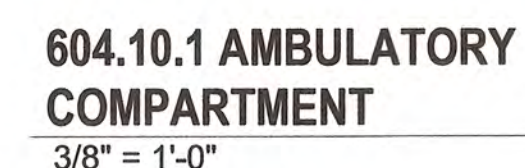
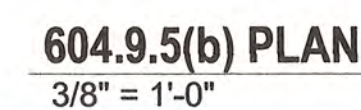
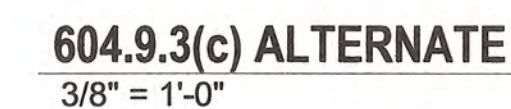
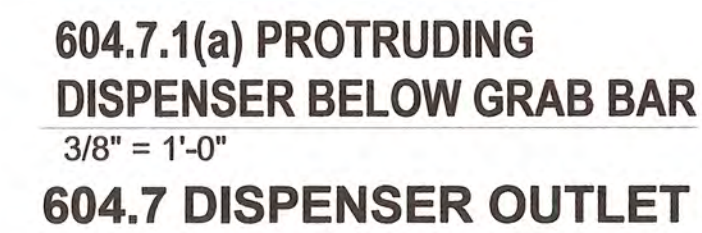
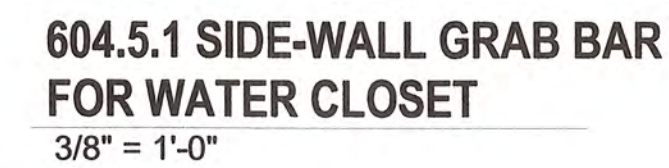
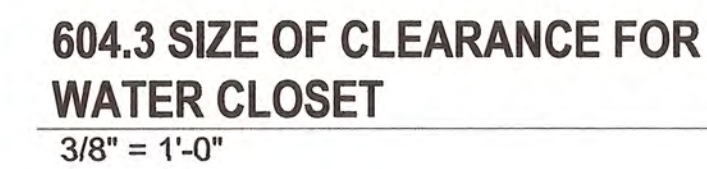
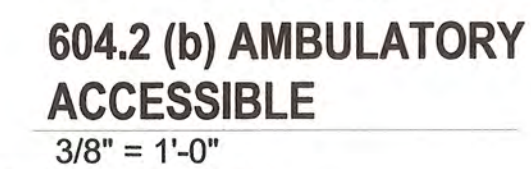
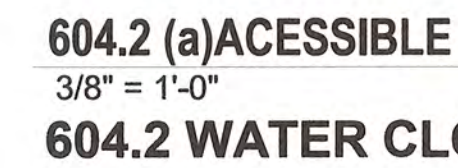
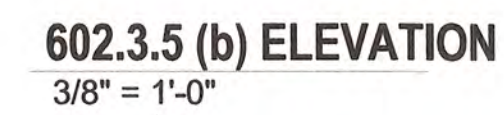
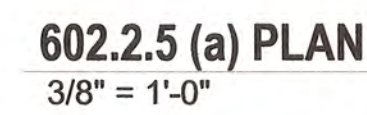


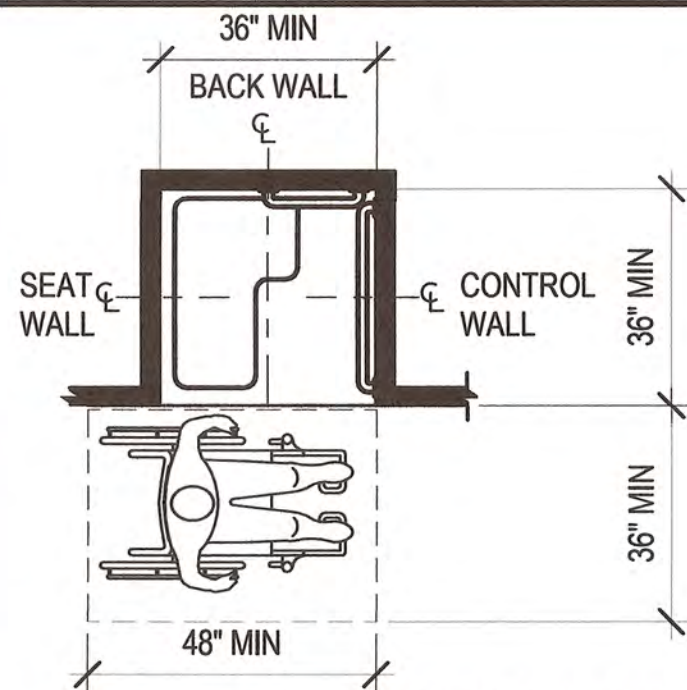
405.9.1 EXTENDED FLOOR SURFACE
3/8" = 1'-0"

404.2.5 TWO DOORS OR GATES IN A SERIES



				PLAN SCALE:		DRAWN		CMW		APPROVED	
				3/8" = 1'-0"		DESIGNED		JDH			
						SURVEY					
				PROFILE SCALE:		PROJ. MGR.		TW		6/25	
						LEAD ENGR.		BDC		10/25	
				HORIZONTAL:		FIELD MGR.		JDH		6/25	
						RECOMMENDED:		JDH		6/25	
				VERTICAL:		DESIGN MANAGER				CITY ENGINEER	
				FILE:		DRAWING:				DATE: 6/12/2025	
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				ADA GUIDELINES - FOR REFERENCE ONLY						G1-06	

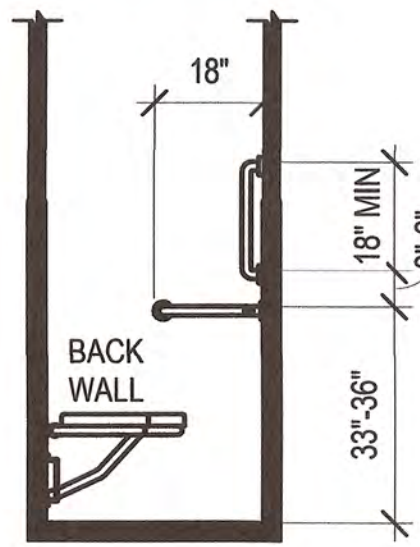




NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER POINTS OF OPPOSING SIDES

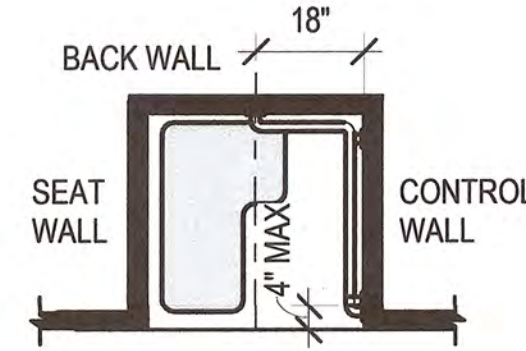
608.2.1 TRANSFER-TYP SHOWER COMPARTMENT SIZE AND CLEARANCES

3/8" = 1'-0"



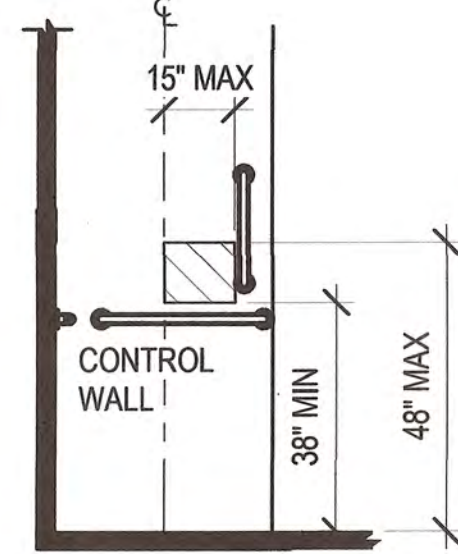
608.3.1(A) GRAB BARS IN TRANSFER-TYPE SHOWER - ELEVATIONS

3/8" = 1'-0"



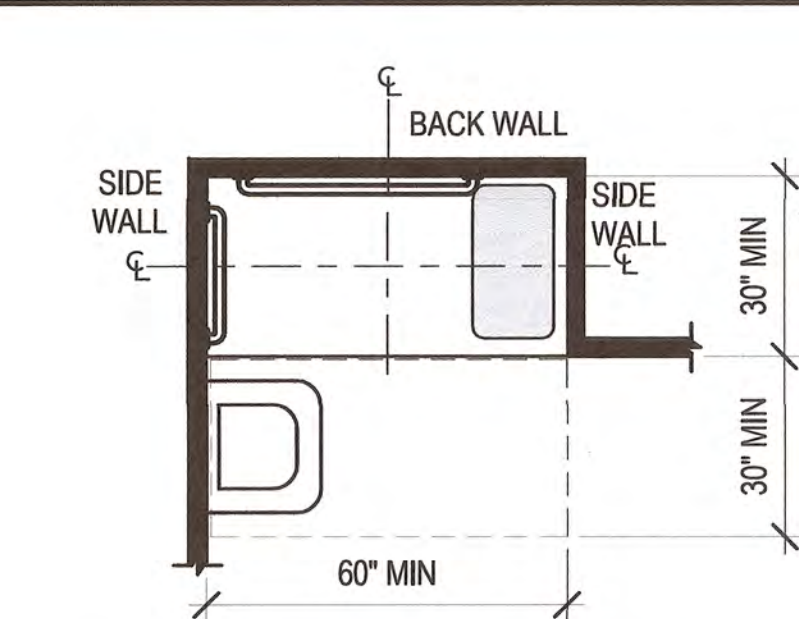
608.3.1(B) GRAB BARS IN TRANSFER-TYPE SHOWER - PLAN

3/8" = 1'-0"



608.4.1 TRANSFER-TYPE SHOWER CONTROLS AND HANDSHOWER LOCATION

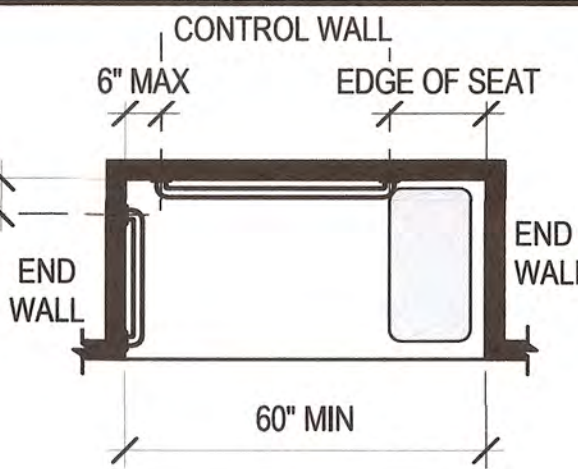
3/8" = 1'-0"



NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER POINTS OF OPPOSING SIDES

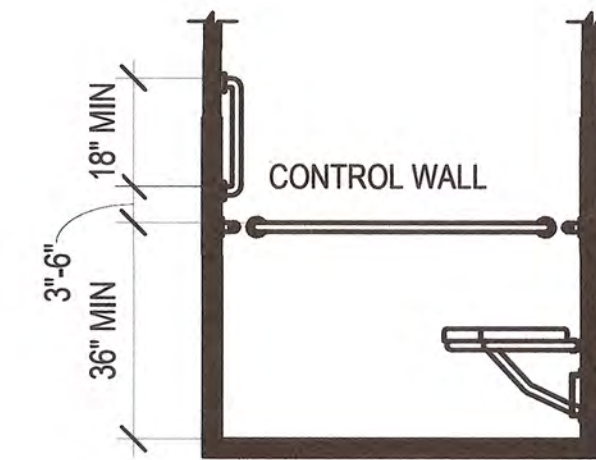
608.2.2 STANDARD ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

3/8" = 1'-0"



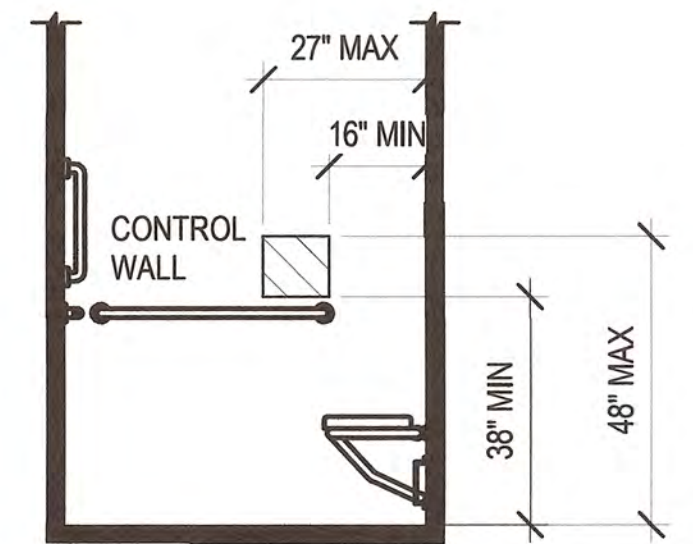
608.3.2 GRAB BARS IN STANDARD ROLL-IN-TYPE SHOWER WITH SEAT

3/8" = 1'-0"



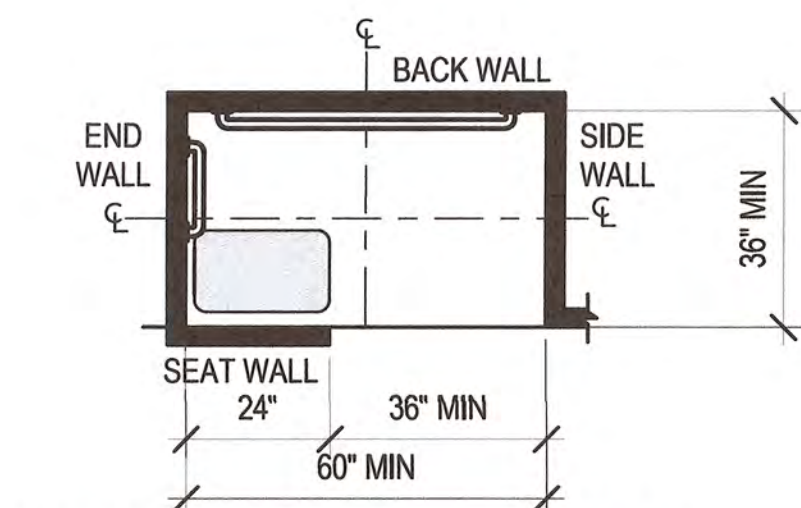
608.3.2 ELEVATION

3/8" = 1'-0"



608.4.2 STANDARD ROLL-IN-TYPE SHOWER CONTROLS AND HANDSHOWER LOCATION

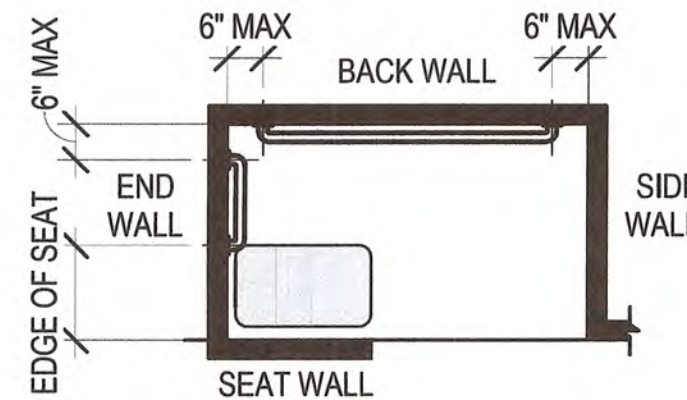
3/8" = 1'-0"



NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER POINTS OF OPPOSING SIDES

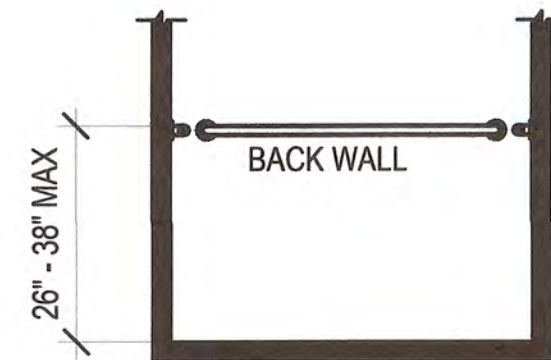
608.2.3 ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

3/8" = 1'-0"



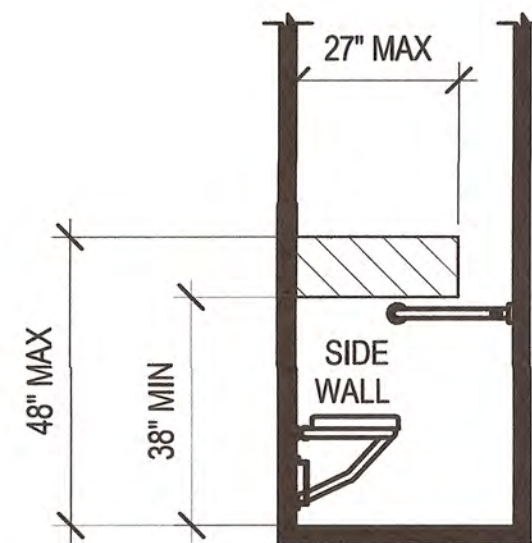
608.3.3 GRAB BARS IN ALTERNATE ROLL-IN TYPE SHOWER - PLAN

3/8" = 1'-0"



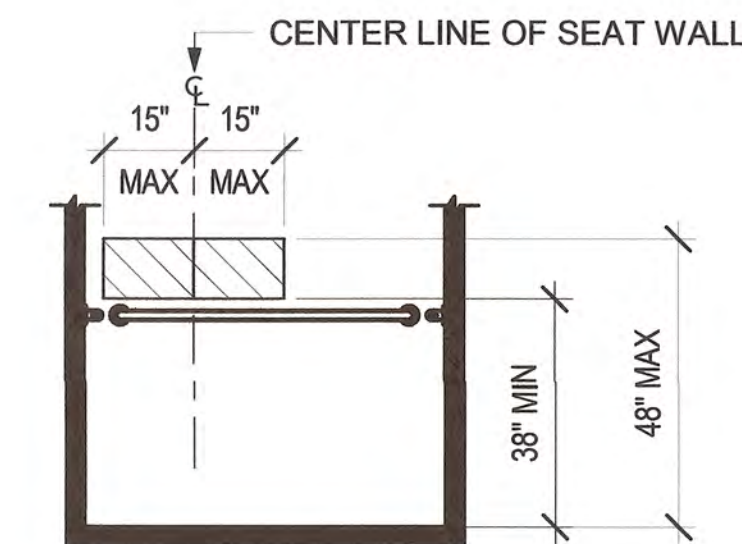
608.3.3(A) GRAB BARS IN ALTERNATE ROLL-IN TYPE SHOWER - ELEVATION

3/8" = 1'-0"



608.4.3(a) END WALL

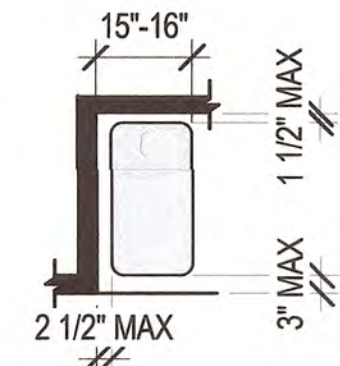
3/8" = 1'-0"



608.4.3(b) BACK WALL

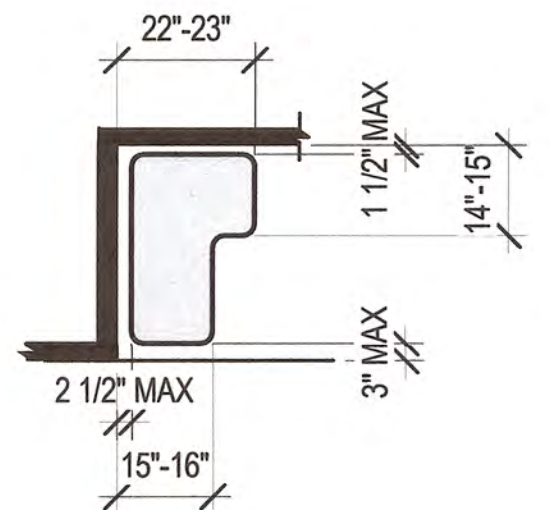
3/8" = 1'-0"

608.4.3 ALTERNATE ROLL-IN TYPE SHOWER CONTROL AND HANDSHOWER LOCATION



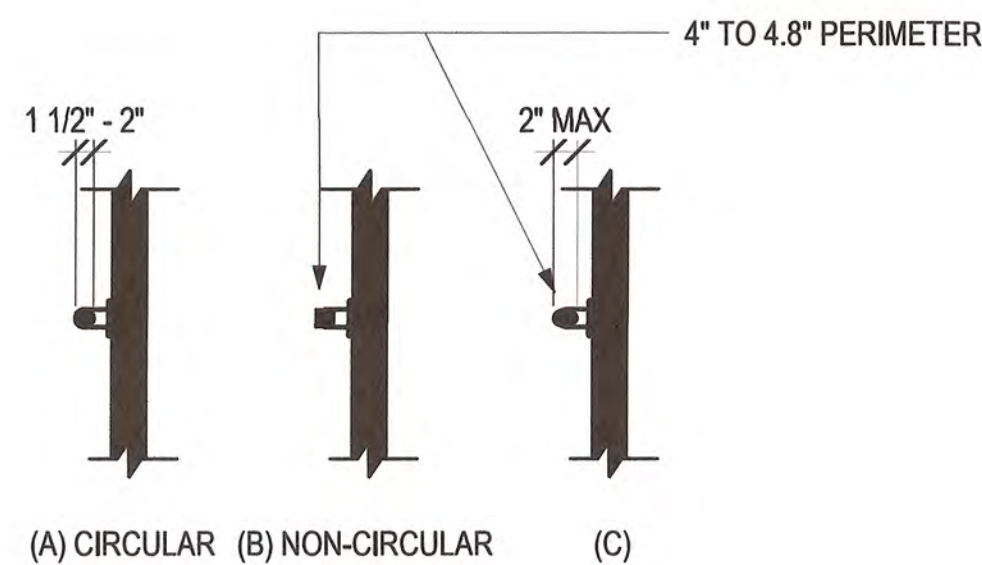
610.3.1 RECTANGULAR SHOWER COMPARTMENT SEATS

3/8" = 1'-0"



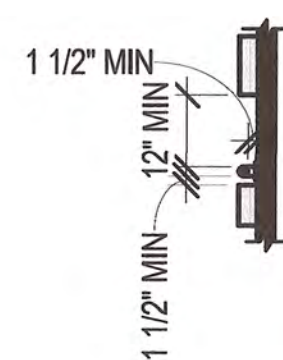
610.3.2 L-SHAPED SHOWER COMPARTMENT SEATS

3/8" = 1'-0"



609.2 SIZE OF GRAB BARS

3/4" = 1'-0"



609.4 SPACING OF GRAB BARS

3/8" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

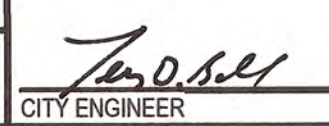
PROJECT NO. SW23-01-01

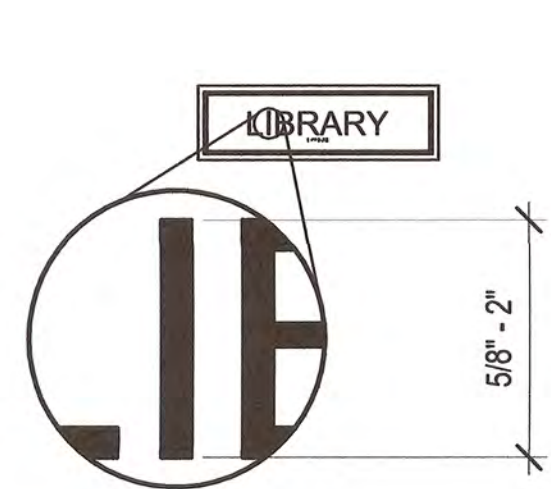
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

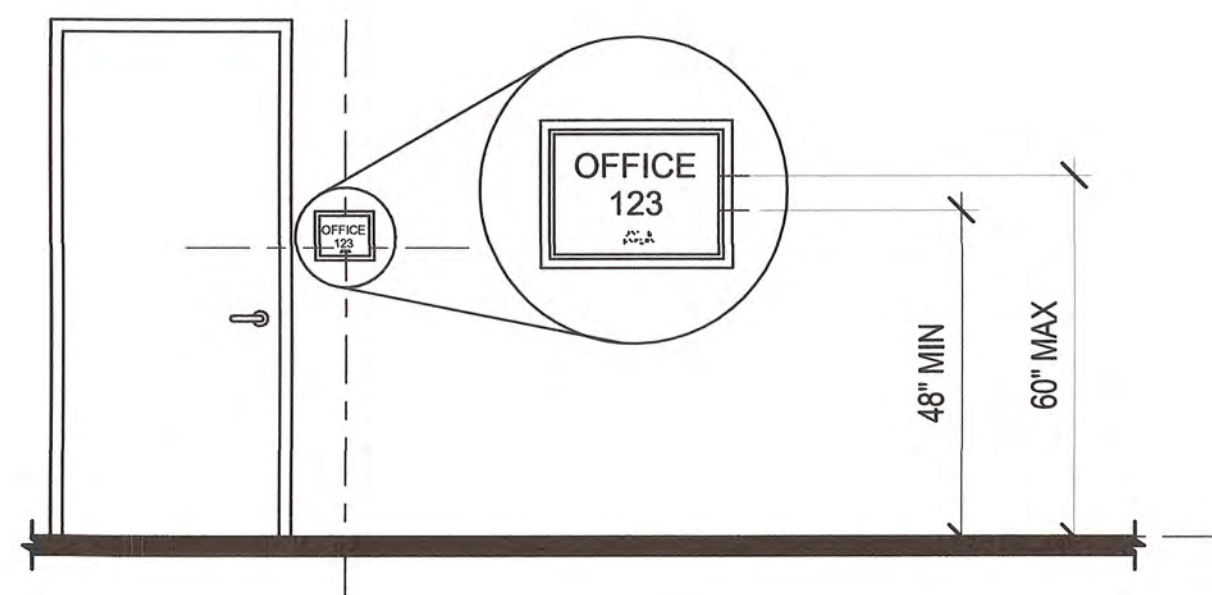
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

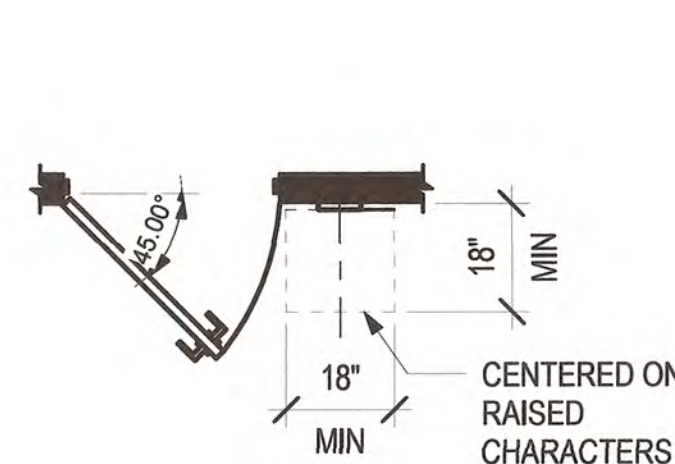
NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	CMW	APPROVED
				As indicated	DESIGNED	JDH	
				PROFILE SCALE	PROJ. MGR.	TW 6/25	 CITY ENGINEER
					LEAD ENGR.	BOC 6/25	
				HORIZONTAL:	FIELD MGR.	JW 6/25	
					RECOMMENDED	JW 6/25	
				VERTICAL:	DESIGN MANAGER		DATE: 6/12/2025
				FILE:	DRAWING:		
				ATLAS PAGE NO:			SHEET NO. G1-08
				SHEET NAME:	ADA GUIDELINES - FOR REFERENCE ONLY		



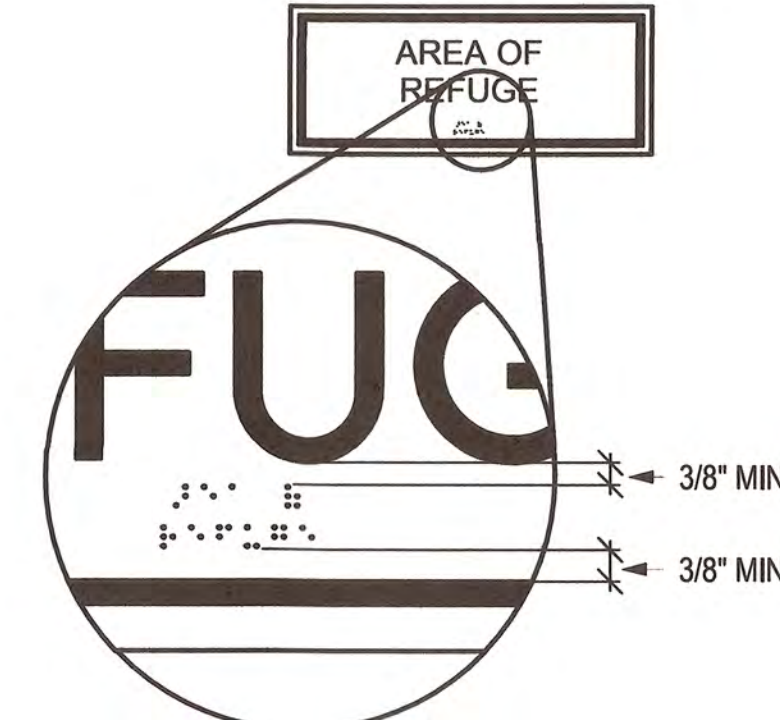
703.3.5 CHARACTER HEIGHT
3/8" = 1'-0"



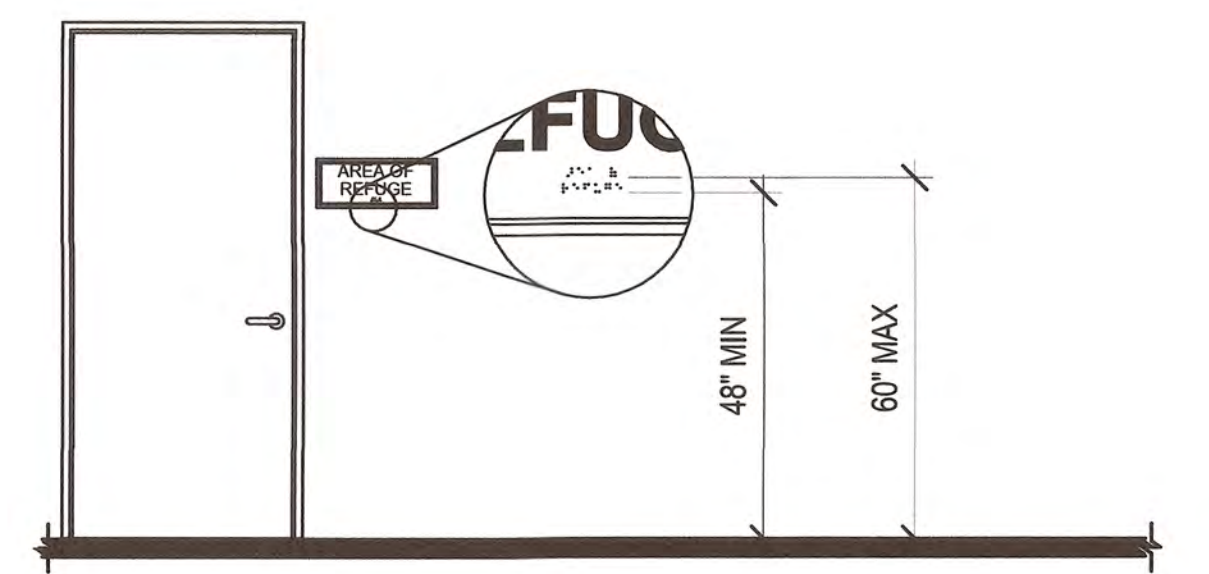
703.3.10 HEIGHT OF RAISED CHARACTERS ABOVE FLOOR
3/8" = 1'-0"



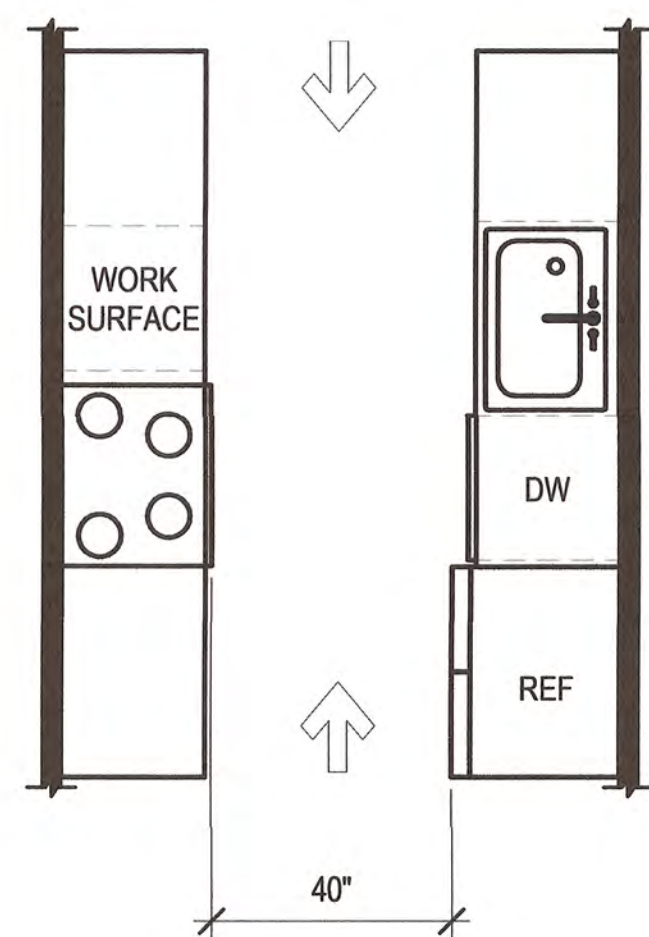
703.3.11 LOCATION OF SIGNS AT DOORS
3/8" = 1'-0"



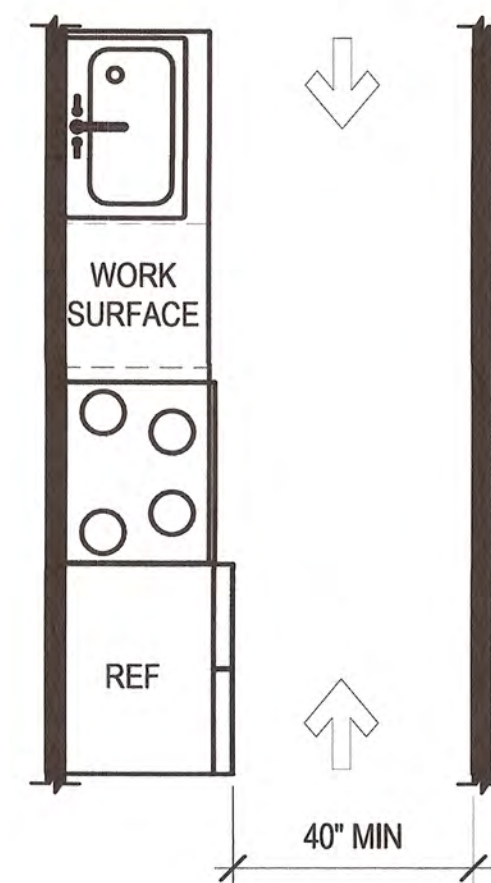
703.4.4 POSITION OF BRAILLE
3/8" = 1'-0"



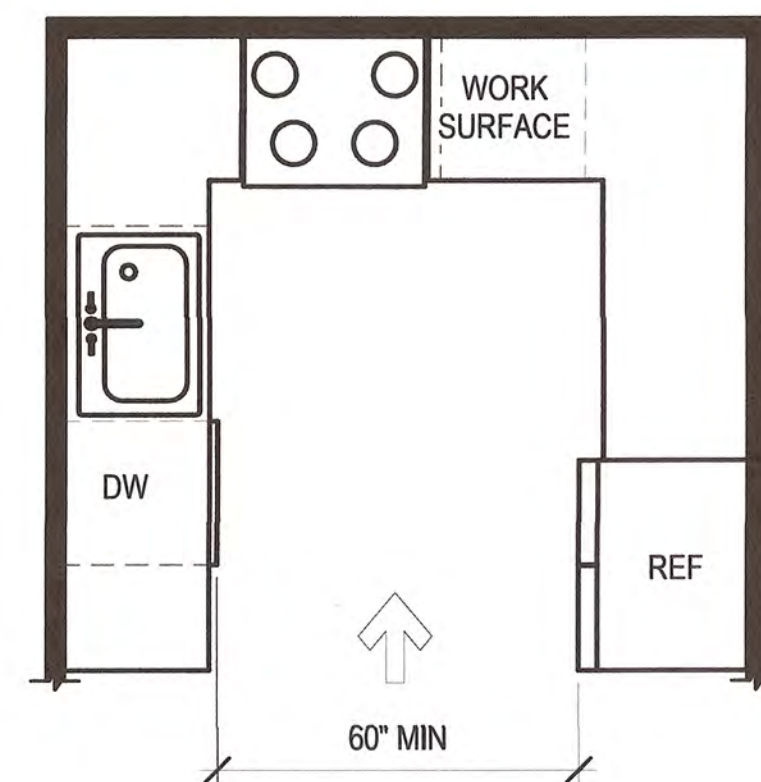
703.4.5 HEIGHT OF BRAILLE CHARACTERS ABOVE FLOOR
3/8" = 1'-0"



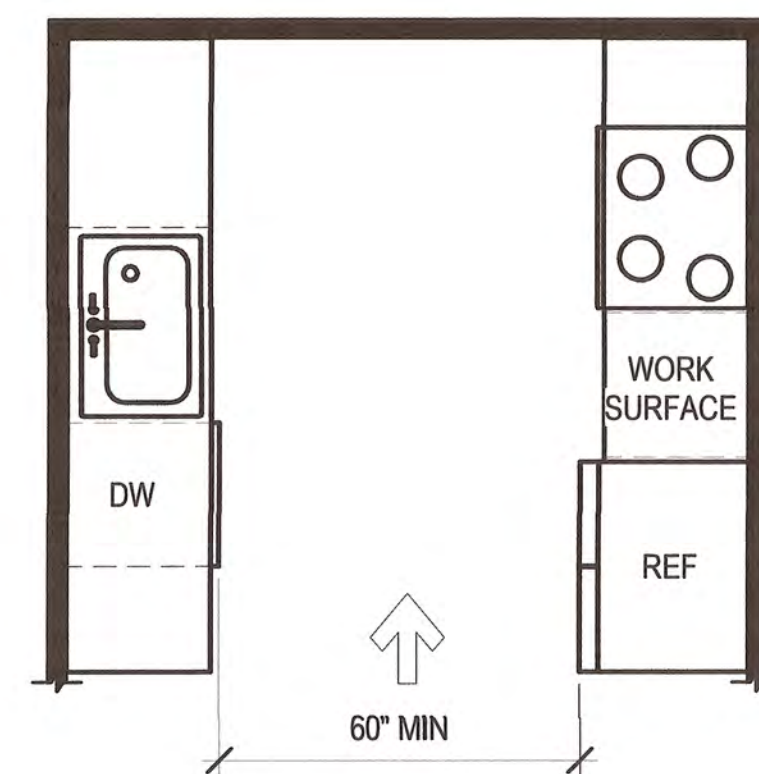
804.2.1 (A) PASS-THROUGH KITCHEN CLEARANCE
3/8" = 1'-0"



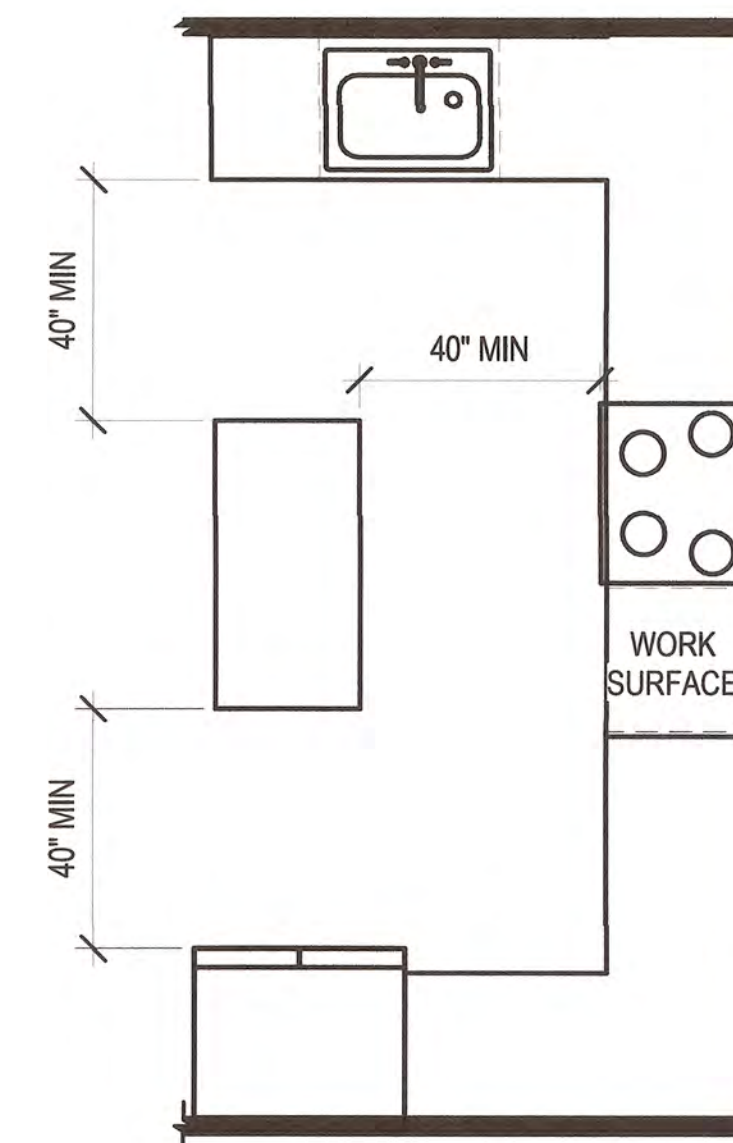
804.2.1 (B) PASS-THROUGH KITCHEN CLEARANCE
3/8" = 1'-0"



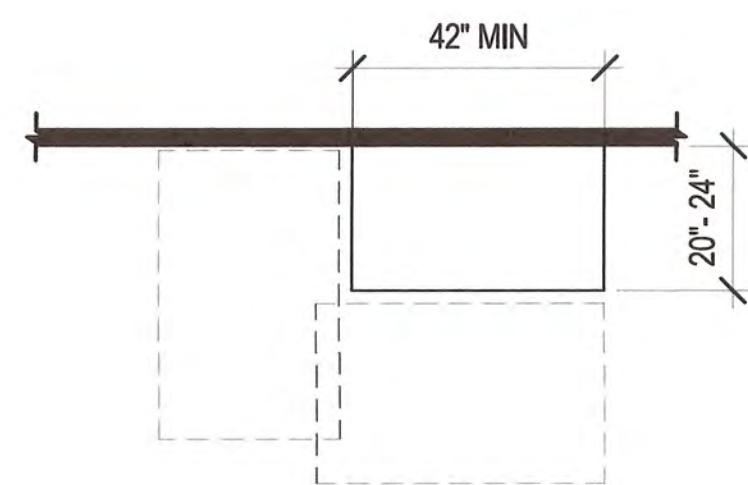
804.2.2 (A) U-SHAPED KITCHEN CLEARANCES
3/8" = 1'-0"



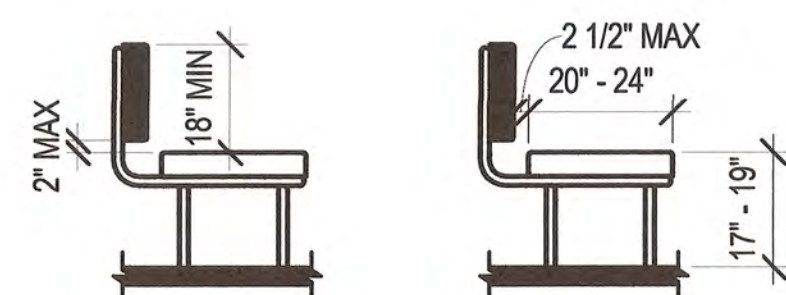
804.2.2 (B) U-SHAPED KITCHEN CLEARANCES
3/8" = 1'-0"



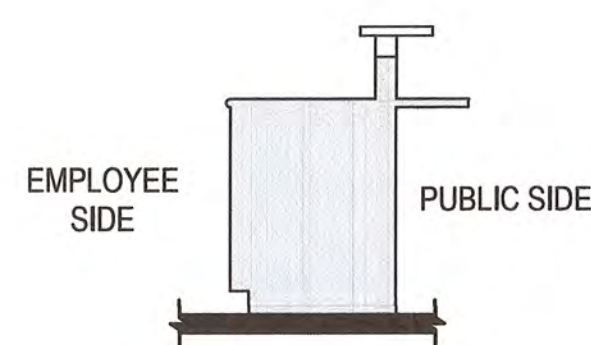
804.2.2 (C) U-SHAPED KITCHEN CLEARANCES
3/8" = 1'-0"



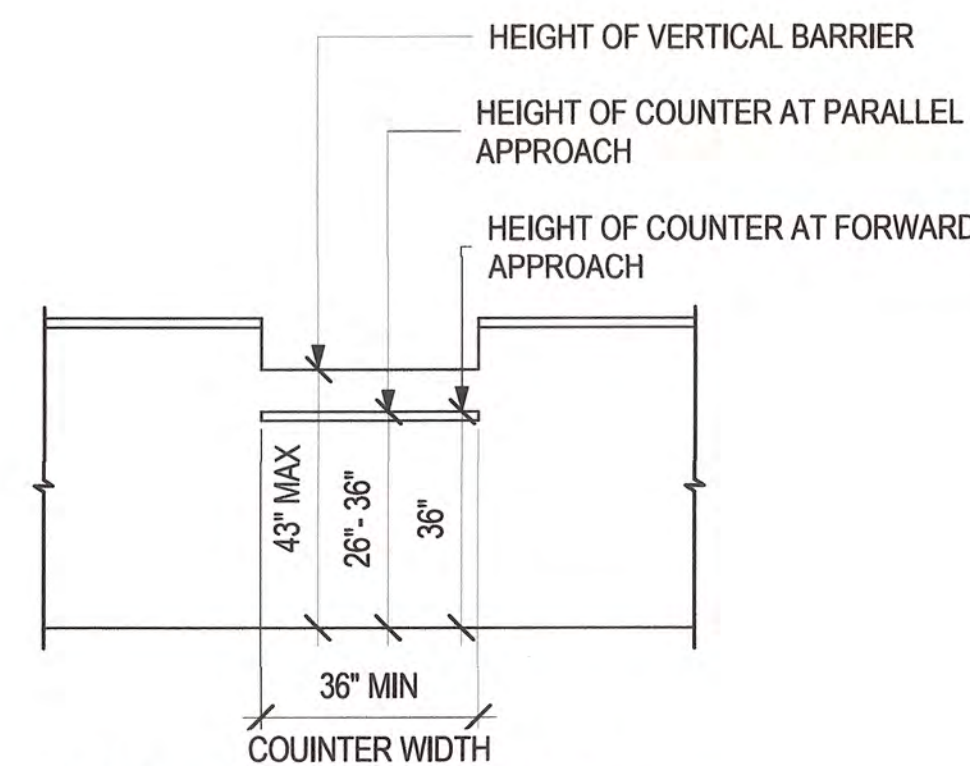
903 (A) BENCHES - BENCH SIZE AND CLEAR FLOOR SPACE
3/8" = 1'-0"



903 (B) BENCHES - BENCH BACK SUPPORT AND SEAT HEIGHT
3/8" = 1'-0"



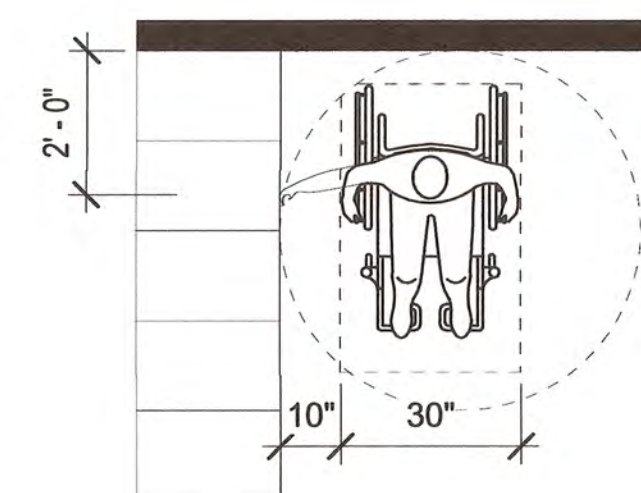
904.3(A) SALES AND SERVICE COUNTERS - CROSS SECTION
3/8" = 1'-0"



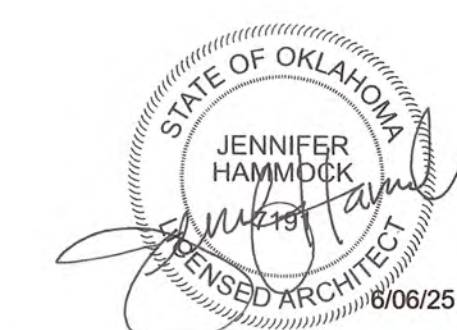
904.3(B) SALES AND SERVICE COUNTERS - ELEVATION
3/8" = 1'-0"

LOCKER PLACEMENT

- CLEARANCE IN FRONT OF LOCKERS MUST BE A MIN 24" AWAY FROM OTHER OBSTACLES. MINIMUM 30" X 48" FLOOR SPACE WITH A 10" MINIMUM DOOR SWING ALONG WITH 60" TURNING RADIUS.



ADA TURNING RADIUS
3/8" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING				PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA				WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:				BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING							
PLAN SCALE:		DRAWN	CMW	APPROVED			
As indicated		DESIGNED	JDH				
PROFILE SCALE:		SURVEY					
PROJ. MGR.		TW	6/25				
LEAD ENGR.		BCL	6/25				
FIELD MGR.		JW	6/25				
RECOMMENDED							
DESIGN MANAGER							
FILE:		DRAWING:		DATE:			
ATLAS PAGE NO:							
SHEET NAME:							
ADA GUIDELINES - FOR REFERENCE ONLY							

TOPOGRAPHIC SURVEY

OF

CITY OF TULSA

STORMWATER BUILDING

A PART OF THE SE/4 NE/4 OF SECTION 26, T-19-N, R-12-E
TULSA COUNTY, STATE OF OKLAHOMA

LEGEND

- ASPHALT

CONCRETE

GRAVEL

UT

SS

UC

STW

OHE

FENCE

WATER VALVE

WATER METER

FIRE HYDRANT

SHRUB

DECIDUOUS TREE

CONIFEROUS TREE

POWER POLE
- CITY WIRE

TELEPHONE UNDERGROUND MARKER

SIGN

MAIL BOX

CAS METER

FIBER OPTIC PEDESTAL

TRAFFIC SIGNAL POLE

ELECTRIC METER

LIGHT POLE

TRAFFIC JUNCTION BOX

CORNER UNDERGROUND MARKER

BOLLARD/FENCE POST

SANITARY SEWER MANHOLE

GAS VALVE

STORM SEWER MANHOLE

FOUND MONUMENTS

SET MONUMENTS

FLOOD LIGHT

BENCHMARK

#3 REBAR WITH RED PLASTIC CAP STAMPED
'TLS CONTROL'
NORTHING: 406149.20'
EASTING: 2560589.55'
ELEV. = 627.04' (NAD83)



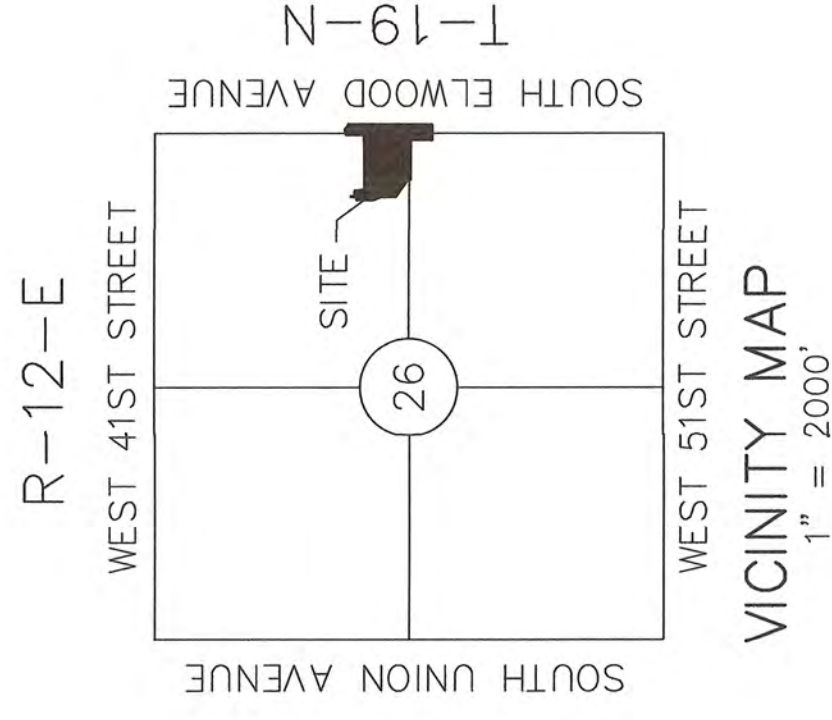
1" = 50'

NORTH
28.20'
N 88°38'00" E
146.04'

EAST
192.72'

N 07°37'23" W
934.97'

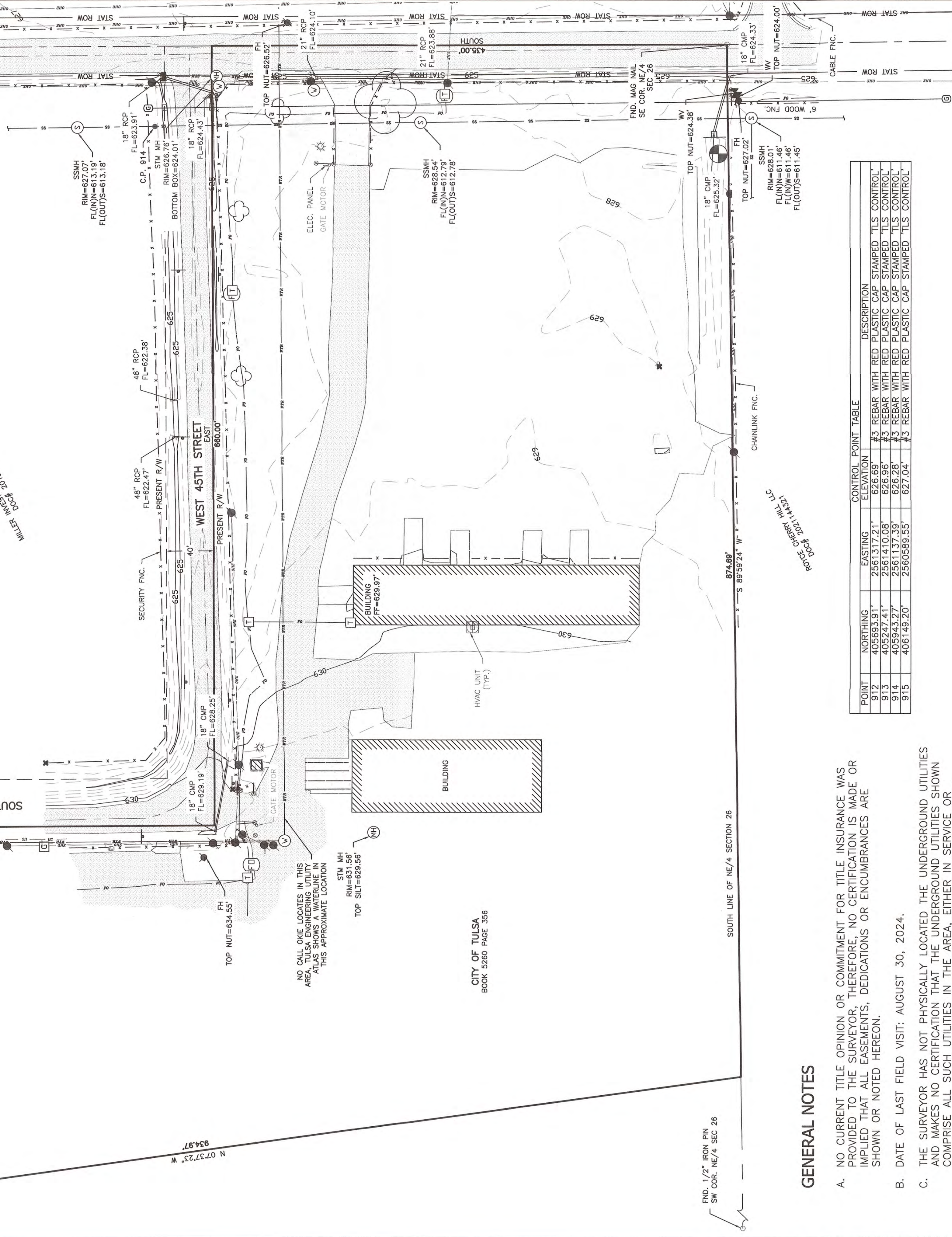
EAST R/W OF MIDLAND VALLEY RAILROAD



BENCHMARK
C.P. 915

SOUTH GALVESTON AVENUE

MILK, MEAT & PRODUCE



NO CALL OKE LOCATES IN THIS
AREA TULSA ENGINEERING UTILITY
ATLAS SHOWS A WATERLINE IN
THIS APPROXIMATE LOCATION

TOP SUT=629.55'

STM MH
RM=631.55'

CITY OF TULSA
BOOK 5260 PAGE 356

FND. 1/2" IRON PIN
SW COR. NE/4 SEC 26

SOUTH LINE OF NE/4 SECTION 26

ROGC CERRY HILL LLC
BOOK 2621 PAGE 1

GENERAL NOTES

- NO CURRENT TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE WAS PROVIDED TO THE SURVEYOR, THEREFORE, NO CERTIFICATION IS MADE OR IMPLIED THAT ALL EASEMENTS, DEDICATIONS OR ENCUMBRANCES ARE SHOWN OR NOTED HEREON.
- DATE OF LAST FIELD VISIT: AUGUST 30, 2024.
- THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES AND MAKES NO CERTIFICATION THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. CALL OKIE TICKET NUMBERS 24082110041449, 24082110151518, 24082110241601; 24082110401735 ISSUED ON AUGUST 21, 2024.
- THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES AS SHOWN ARE DERIVED FROM RECORD SURVEY PLATS, RIGHT-OF-WAY MAPS, OR DEEDS REFERENCED HEREON AND ARE NOT GUARANTEED OR TO BE RELIED ON FOR THE ESTABLISHMENT OF PROPERTY LINES.

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
912	405693.91'	2561317.21'	626.69'	#3 REBAR WITH RED PLASTIC CAP STAMPED 'TLS CONTROL'
913	405247.41'	2561410.08'	626.96'	#3 REBAR WITH RED PLASTIC CAP STAMPED 'TLS CONTROL'
914	405943.27'	2561137.39'	626.28'	#3 REBAR WITH RED PLASTIC CAP STAMPED 'TLS CONTROL'
915	406149.20'	2560589.55'	627.04'	#3 REBAR WITH RED PLASTIC CAP STAMPED 'TLS CONTROL'



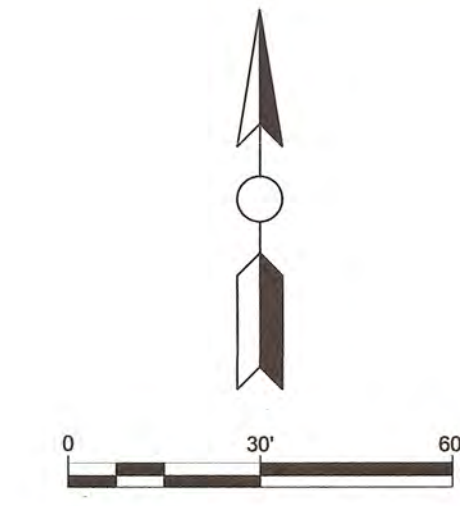
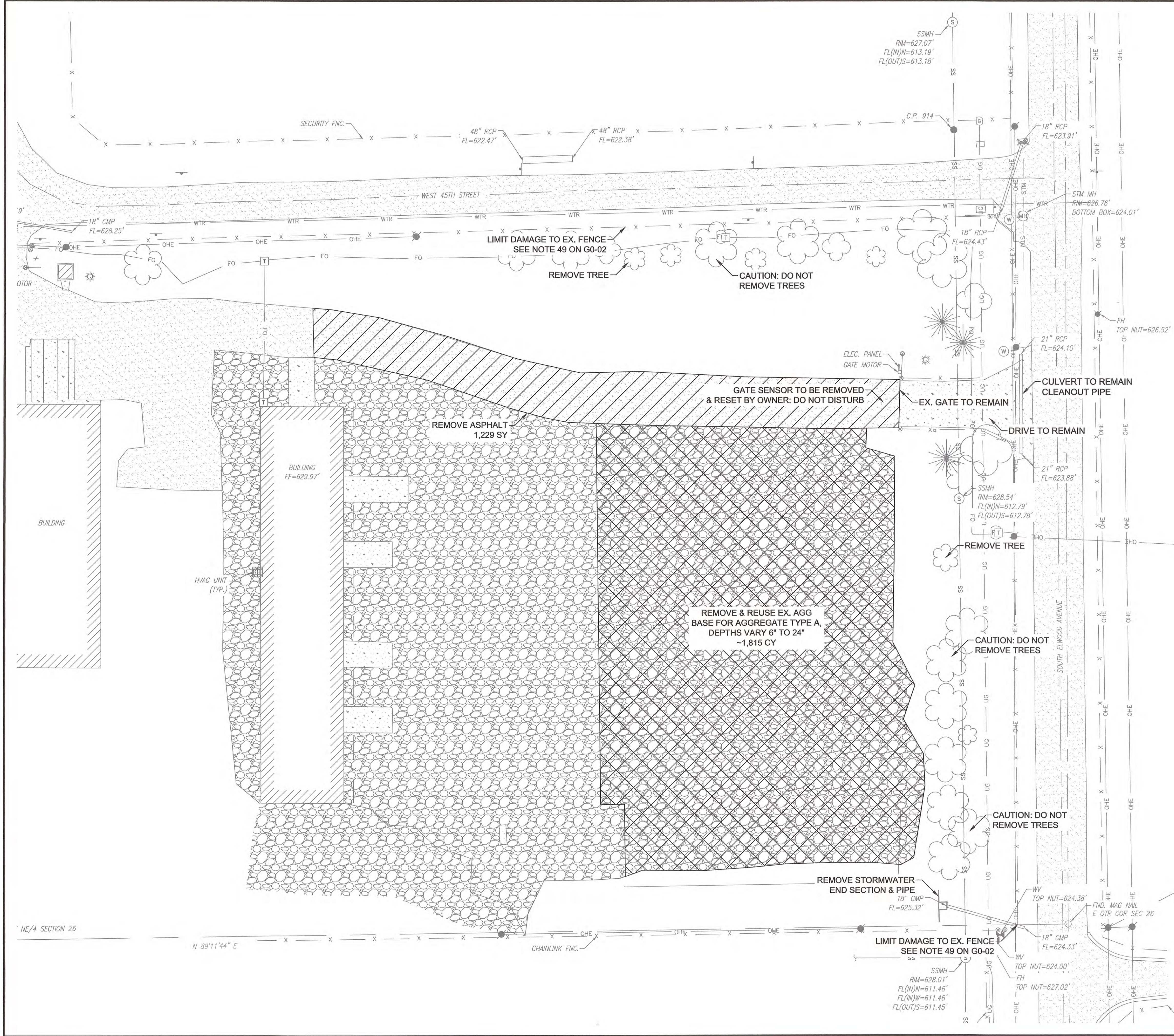
I, JOSHUA R. LAMB, HEREBY STATE THAT THE
INFORMATION SHOWN HEREON IS TRUE AND CORRECT
TO THE BEST OF MY KNOWLEDGE.

JOSHUA R. LAMB
OKLAHOMA PLS NO. 1678

TULSA LAND SURVEYING LLC
1501 EAST 6TH STREET
TULSA, OK 74120
(918) 794-6777
CA 6038

EXPIRES 6/30/2025

DRAWING PREPARED: MARCH 27, 2025
TULS NO.: 24-103 BKL - COT STORMWATER BUILDING



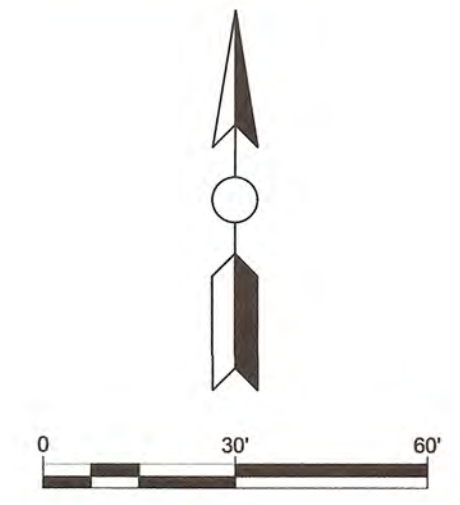
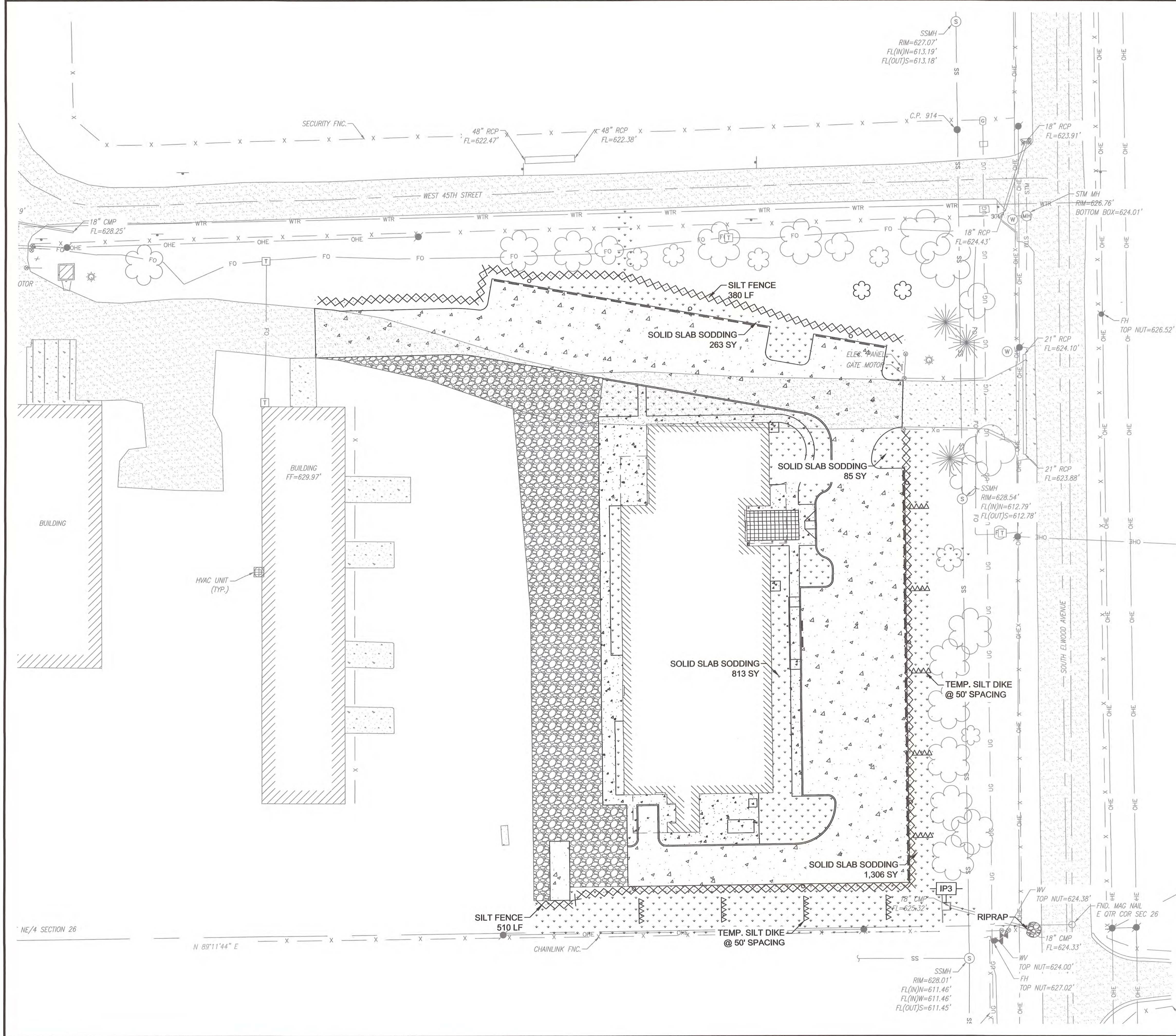
LEGEND

	REMOVE ASPHALT
	REMOVE & REUSE GRAVEL



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=30'		DRAWN BY: BKL 4/25	APPROVED:
		DESIGNED BY: BKL 4/25	
		SURVEY BY: TLS 9/24	
PROFILE SCALE		PROJ. MGR. TW 6/25	
HORIZONTAL:		LEAD ENGR. BDC 6/25	
VERTICAL:		FIELD MGR. JW 6/25	
		RECOMMENDED DESIGN MANAGER	
FILE:		DRAWING:	DATE: 6/12/2025
ATLAS PAGE NO:			
SHEET NAME: DEMOLITION PLAN		SHEET NO. C1-04	

NE/4 SECTION 26
N 89°11'44" E



LEGEND

- [IP3] TEMPORARY INLET SEDIMENT FILTER
- [X-X] TEMPORARY SILT FENCE
- [AAA] TEMPORARY SILT DIKE
- [*] SOLID SLAB SODDING



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

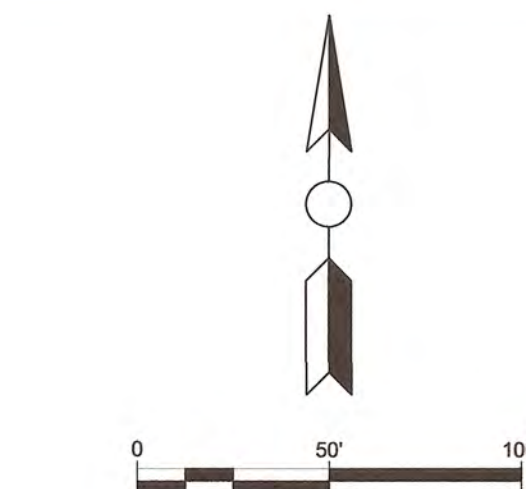
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

PLAN SCALE: 1"=30'	DRAWN BY: BKL 4/25	APPROVED: CITY ENGINEER
	DESIGNED BY: BKL 4/25	
	SURVEY BY: TLS 9/24	
PROFILE SCALE	PROJ. MGR. TW 6/25	
HORIZONTAL:	LEAD ENGR. BKL 6/25	
VERTICAL:	FIELD MGR. JL 6/25	
	RECOMMENDED: [Signature] 6/25	
FILE:	DRAWING:	DATE: 6/12/2025
ATLAS PAGE NO:		
SHEET NAME: EROSION CONTROL	SHEET NO. C1-05	

NE/4 SECTION 26
N 89°11'44" E

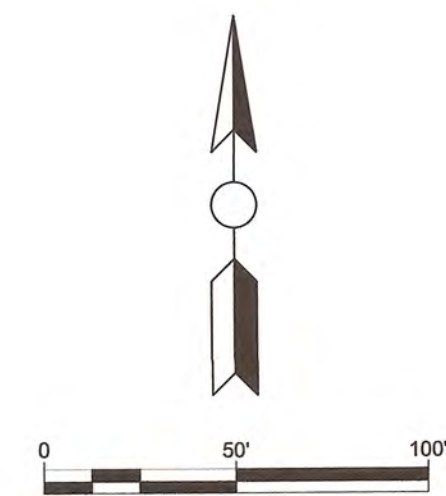


XX-#	DRAINAGE AREA NUMBER
	DRAINAGE BOUNDARY
	FLOW PATH
	PROP. INLET
	PROP. CULVERT

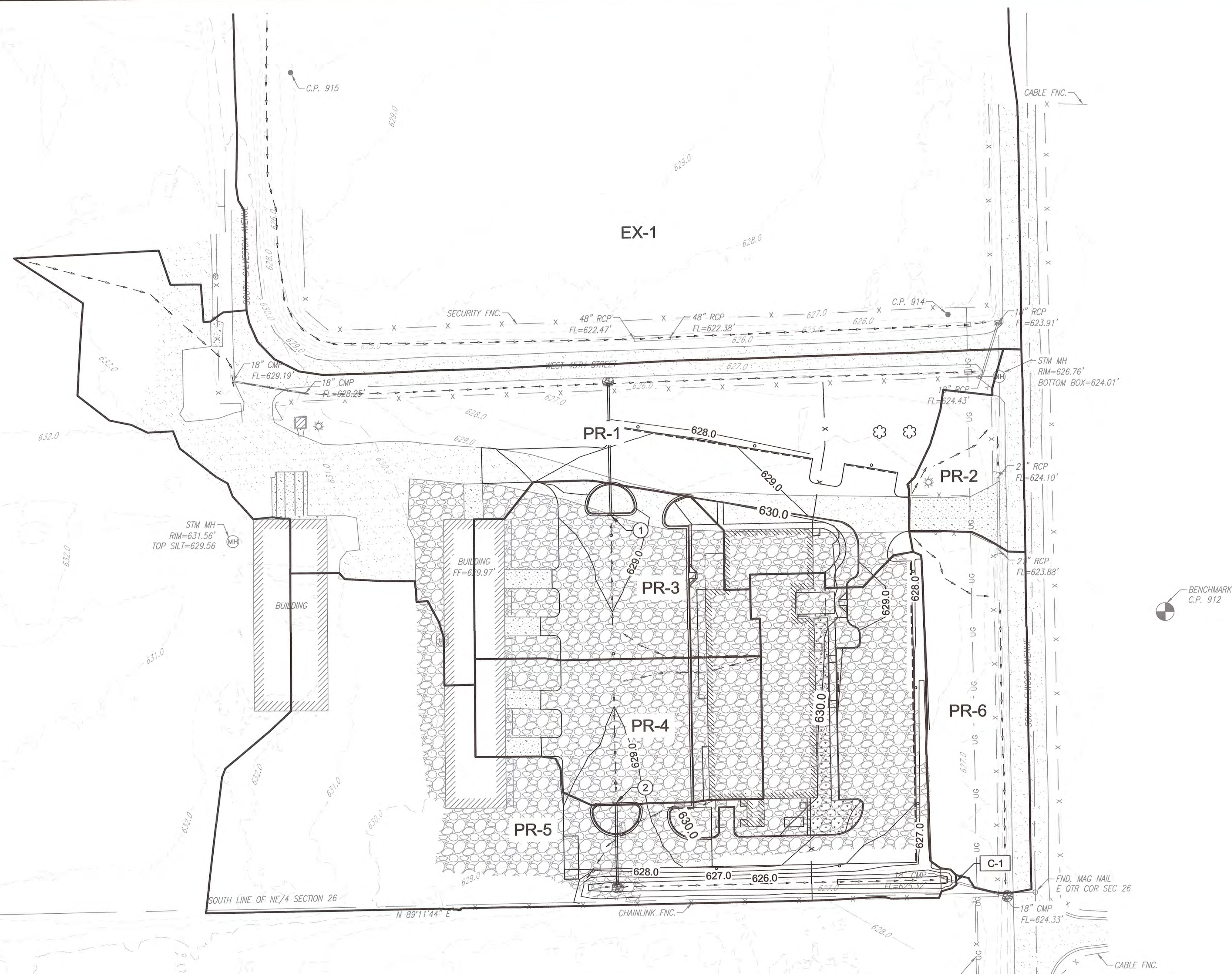
SUMMARY OF HYDROLOGIC DATA AND RUNOFF CALCULATIONS - EXISTING CONDITIONS														
D.A. NO.	AREA	INTENSITY	FACTORED RUNOFF COEFF.	DESIGN YEAR RUNOFF	COLLECTING STRUCTURE NUMBER	OVERLAND FLOW				SHALLOW CHANNELIZED FLOW				TOTAL TIME OF CONCENTRATION
	A	I100	C	Q100		FLOWPATH LENGTH	AVG. SLOPE	VELOCITY	Ti	FLOWPATH LENGTH	AVG. SLOPE	VELOCITY	Tt	TC=Ti+Tt
	ACRES	I100 YR		CFS		LF	%	FPS	MIN	LF	%	FPS	MIN	MIN
EX-1	8.95	9.138	0.85	69.62	EX-1	150	1.49	2.48	1.01	1229	0.35	0.96	21.31	10.00
EX-2	3.03	9.444	0.82	23.55	EX-2	150	0.47	1.39	1.80	693	0.99	1.61	7.19	8.99
EX-3	0.26	12.751	0.64	2.13	EX-3	94	4.26	1.44	1.09	38	1.00	1.61	0.39	1.48
EX-4	2.08	10.500	0.85	18.85	EX-4	150	1.59	2.04	1.23	455	0.96	1.58	4.78	6.01
EX-5	1.08	11.654	0.68	8.59	N/A	150	0.72	1.37	1.83	209	1.78	2.15	1.62	3.44



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=50'	DRAWN BY: DESIGNED BY: SURVEY BY:	BKL BKL TLS 4/25 4/25 9/24	APPROVED:
PROFILE SCALE	PROJ. MGR.	<i>TLW</i> 6/25	
HORIZONTAL: N/A	LEAD ENGR.	<i>BDC</i> 6/25	
VERTICAL: N/A	FIELD MGR.	<i>JW</i> 6/25	
RECOMMENDED: DESIGN MANAGER			
FILE:	DRAWING:		DATE: <i>6/12/2025</i>
ATLAS PAGE NO:			SHEET <i>OF</i> END SHEETS
SHEET NAME: EX. DRAINAGE AREA MAP			SHEET NO.
			C1-07



- LEGEND**
- XX-# DRAINAGE AREA NUMBER
- DRAINAGE BOUNDARY
- FLOW PATH
- (#) PROP. INLET
- C-# PROP. CULVERT



SUMMARY OF HYDROLOGIC DATA AND RUNOFF CALCULATIONS - PROPOSED CONDITIONS (ALTERNATE)

D.A. NO.	AREA	INTENSITY	FACTORED RUNOFF COEFF.	DESIGN YEAR RUNOFF	COLLECTING STRUCTURE NUMBER	OVERLAND FLOW				SHALLOW CHANNELIZED FLOW				TOTAL TIME OF CONCENTRATION
	A	I100	C	Q100		FLOWPATH LENGTH	AVG. SLOPE	VELOCITY	Ti	FLOWPATH LENGTH	AVG. SLOPE	VELOCITY	Tt	
	ACRES	I100 YR		CFS		LF	%	FPS	MIN	LF	%	FPS	MIN	
EX-1	8.95	9.138	0.85	69.62	EX-1	150	1.49	2.48	1.01	1229	0.35	0.96	21.31	10.00
PR-1	2.18	9.444	0.72	14.84	EX-2	150	0.47	1.39	1.80	693	0.99	1.61	7.19	8.99
PR-2	0.23	12.751	0.66	1.92	EX-3	94	4.26	1.44	1.09	38	1.00	1.61	0.39	1.48
PR-3	0.62	12.408	0.88	6.74	INLET-1	129	1.03	2.06	1.04	96	0.60	1.58	1.01	2.05
PR-4	0.54	12.390	0.90	5.99	INLET-2	125	1.04	2.07	1.00	102	0.60	1.57	1.08	2.09
PR-5	2.28	11.137	0.83	21.00	C-1	138	3.25	3.66	0.63	296	0.39	1.27	3.89	4.52
PR-6	0.52	9.138	0.49	2.31	N/A	100	4.31	1.45	1.15	244	0.05	0.36	11.37	10.00



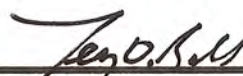
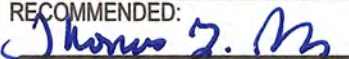
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				DESIGNED BY: BKL 4/25		
				SURVEY BY: TLS 9/24		
				PROFILE SCALE: HORIZONTAL: N/A	PROJ. MGR. TW 6/25	
				VERTICAL: N/A	LEAD ENGR. BKL 6/25	
					FIELD MGR. JW 6/25	
					RECOMMENDED DESIGN MANAGER Shannon B. Bm	
				FILE:	DRAWING:	DATE: 6/12/2025
				ATLAS PAGE NO:		SHEET OF END SHEETS
				SHEET NAME: DRAINAGE AREA MAP (ALT)		SHEET NO. C1-09

SUMMARY OF DRAINAGE STRUCTURES														
STR. NAME	DESCRIPTION	NORTHING	EASTING	DESIGN	ELEV. TOP OF GRATE	FL. ELEV. BOTTOM STRUCTURE	PIPE SLOPE	PIPE FLOWLINE UPSTREAM	PIPE FLOWLINE DOWNSTREAM	INLET C1 DES. 2 (STD)	REINFORCED CONCRETE PIPE	REINFORCED CONCRETE PIPE	18" PREFAB. CULVERT END SEC. ROUND	24" PREFAB. CULVERT END SEC. ROUND
										611(G)	613(A)	613(A)	613(L)	613(L)
											18"	24"	18"	24"
C-1	CONST. 42 LF OF 24" RCP w/ 24" PCES	405470.00	2561136.79	ODOT PCES-5-1	-	624.67	0.0076	624.67	624.36	-	-	42	-	2
ALTERNATE														
INLET-1	CONST. CICI DES 2 w/ 107 LF OF 18" RCP TO C-2	405779.06	2560855.12	CICI DES 2	628.51	625.84	0.0044	625.84	625.37	1	107	-	-	-
INLET-2	CONST. CICI DES 2 w/ 65 LF OF 18" RCP TO C-3	405536.08	2560858.08	CICI DES 2	628.51	625.84	0.0037	625.84	625.60	1	65	-	-	-
C-2	CONST. 18" PREFAB. CULVERT END SECTION ROUND	405885.94	2560853.30	ODOT PCES-5-1	-	625.37	-	-	-	-	-	-	1	-
C-3	CONST. 18" PREFAB. CULVERT END SECTION ROUND	405471.67	2560858.92	ODOT PCES-5-1	-	625.60	-	-	-	-	-	-	1	-
TOTAL										2	172	42	2	2

SUMMARY OF INLET DESIGN (ALTERNATE)																
STR. NO.	DESIGN	LOCATION	TOP OF GRATE	FLOWLINE	INNER STR HEIGHT	LONGITUDINAL SLOPE AT INLET	CROSS SLOPE AT INLET	CLOGGING FACTOR	Q100	SUM Q AT INLET	Q-INTERCEPT	Q-BYPASS	SPREAD AT INLET	DEPTH AT INLET	BYPASS TARGET STR NO.	INLET EFFICIENCY
			FT	FT	VT	%	%		CFS	CFS	CFS	CFS	FT	FT		%
INLET-1	CICI DES 2	ON SAG	628.51	625.84	2.67	0	0.6	0.8	6.74	6.74	6.74	0.00	26.05	0.15632	N/A	100.0%
INLET-2	CICI DES 2	ON SAG	628.51	625.84	2.67	0	0.6	0.8	5.99	5.99	5.99	0.00	21.68	0.13006	N/A	100.0%

SUMMARY OF PIPE DESIGN																	
START NODE STR. NO.	END NODE STR. NO.	PIPE SHAPE	PIPE HEIGHT	PIPE WIDTH	LENGTH	SLOPE	INV. UP.	INV. DN.	T/G UP	T/G DN	HGL UP	HGL DN	EGL UP	EGL DN	Q-100	Q-CAPACITY	VELOCITY
			INCH	INCH	FT	%	FT	FT	FT	FT	FT	FT	FT	FT	CFS	CFS	FPS
C-1A	C-1B	CIRCULAR	24	24	42	0.76%	624.67	624.36	-	-	626.67	626.36	627.63	627.32	24.72	19.73	7.87
ALTERNATE																	
INLET-1	C-2	CIRCULAR	18	18	107	0.44%	625.84	625.37	628.51	-	627.02	626.55	627.02	626.55	6.74	6.98	4.50
INLET-2	C-3	CIRCULAR	18	18	65	0.37%	625.84	625.60	628.51	-	626.99	626.75	627.25	627.01	5.99	6.43	4.13



NO	REVISION	BY	DATE	PLAN SCALE: N/A	DRAWN BY: DESIGNED BY: SURVEY BY:	BKL BKL TLS	4/25 4/25 9/24	APPROVED:
				PROFILE SCALE	PROJ. MGR.	TW	6/23	 CITY ENGINEER
				HORIZONTAL: N/A	LEAD ENGR.	BDC	4/25	
				VERTICAL: N/A	FIELD MGR.	JLS	4/25	
					RECOMMENDED: DESIGN MANAGER			
				FILE:	DRAWING:	DATE: 6/12/2025		
				ATLAS PAGE NO:				
				SHEET NAME: STRUCTURE SUMMARY				SHEET NO. C1-10

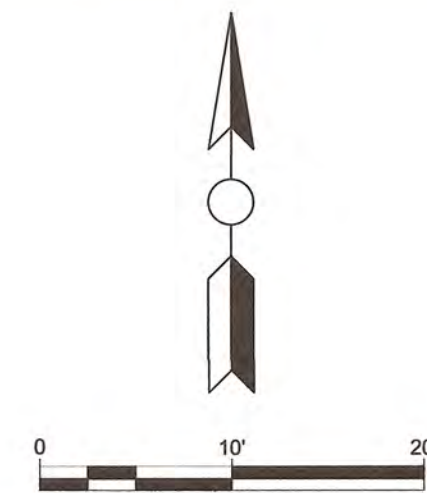
STORMWATER MAINTENANCE AND OPERATIONS BUILDING
PROJECT NO. SW23-01-01
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:
BKL, INCORPORATED ENGINEERS & ARCHITECTS

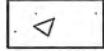
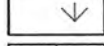
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING

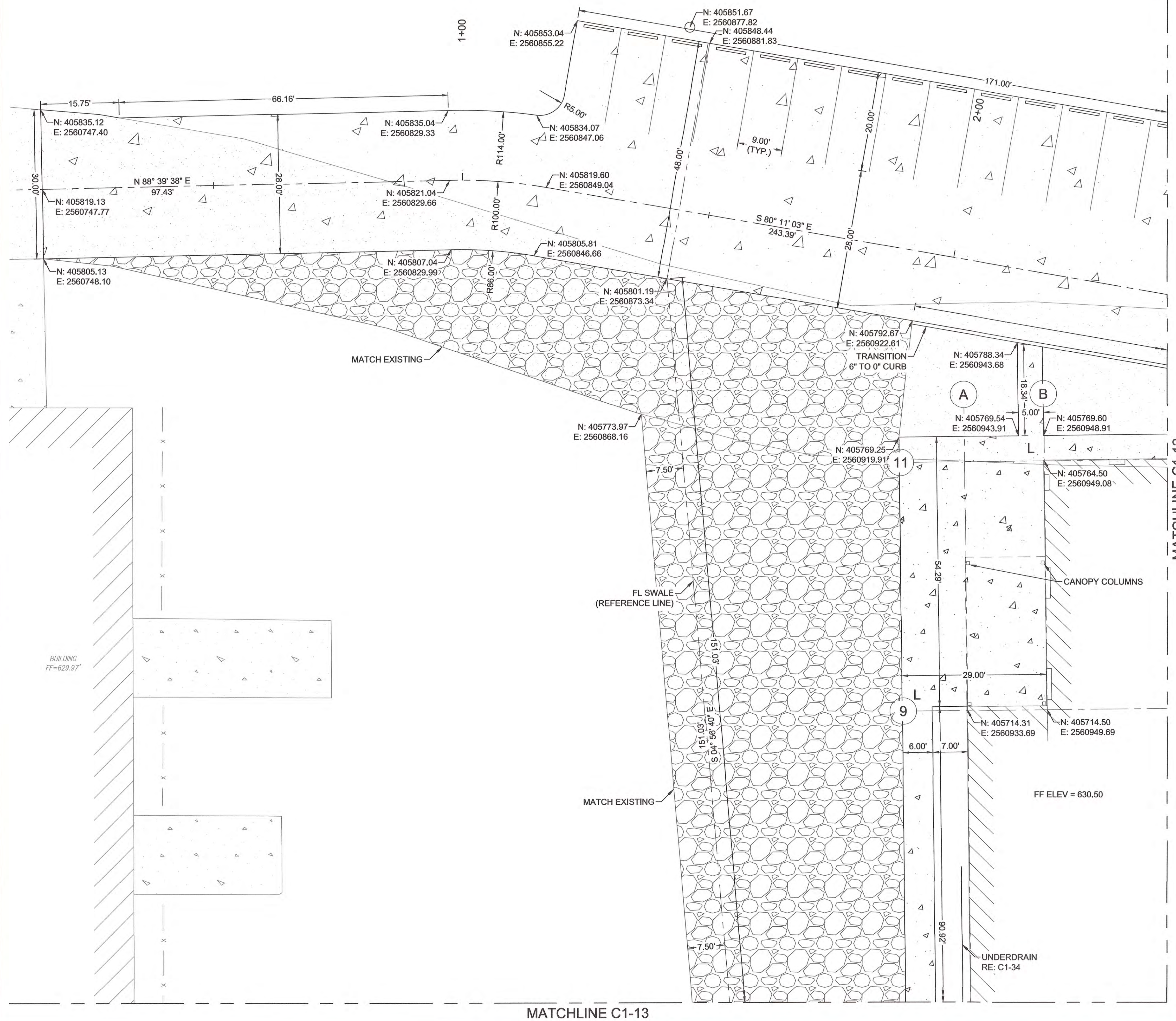
C1-11	C1-12
C1-13	C1-14

SHEET LEGEND



LEGEND

- | | |
|---|--|
|  | BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS |
|  | BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS |
| L | ADA RAMP LANDING |
| R | ADA RAMP |
|  | CONCRETE PAVEMENT |
|  | ASPHALT PAVEMENT |
|  | SIDEWALK |
|  | PROP. GRAVEL |
|  | SOLID SLAB SODDING |
|  | EXTERIOR TILE |



STORMWATER MAINTENANCE AND OPERATIONS BUILDING					
PROJECT NO. SW23-01-01					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS & ESTIMATES PREPARED BY:					
BKL, INCORPORATED ENGINEERS & ARCHITECTS					
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING					
TE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
	1"=10'	DESIGNED BY:	BKL	4/25	
		SURVEY BY:	TLS	9/24	
		PROFILE SCALE	PROJ. MGR.	TW	6/25
	HORIZONTAL:	LEAD ENGR.	BDC	6/25	
	VERTICAL:	FIELD MGR.	JW	6/25	
	N/A	RECOMMENDED:			
	N/A	DESIGN MANAGER			
	FILE:	DRAWING:			DATE: 6/12/2025
	ATLAS DRAWING NO:				
SHEET NAME:				SHEET NO. C1-11	
PAVING PLAN (1 OF 4)					

SHEET LEGEND



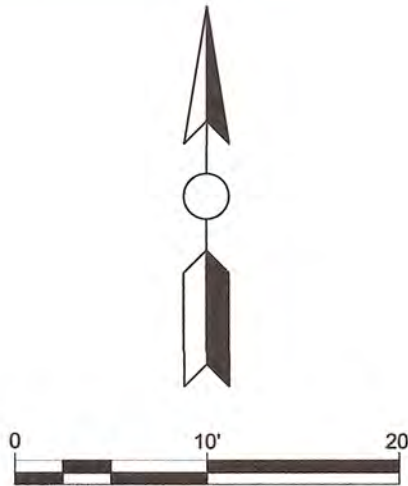
- | | |
|---|---|
| 1 | 2 |
|---|---|



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
				1"=10'	DESIGNED BY:	BKL	4/25	
					SURVEY BY:	TLs	9/24	
				PROFILE SCALE	PROJ. MGR:	TW	6/25	
				HORIZONTAL:	LEAD ENGR.	BDC	6/25	
				N/A	FIELD MGR.	JW	4/25	
				VERTICAL:	RECOMMENDED:	Shanna J. M.		
				N/A	DESIGN MANAGER			
				FILE:	DRAWING:			DATE: 6/12/2025
				ATLAS PAGE NO:				
				SHEET NAME:	PAVING PLAN (2 OF 4)			SHEET NO.
								C1-12

MATCHLINE C1-11

C1-11	C1-12
C1-13	C1-14
SHEET LEGEND	



LEGEND

- BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS
- BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS
- ADA RAMP LANDING
- ADA RAMP
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- SIDEWALK
- PROP. GRAVEL
- SOLID SLAB SODDING
- EXTERIOR TILE

MATCH EXISTING

MATCHLINE C1-14



STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

NO	REVISION	BY	DATE	FILE:	DRAWING:	DATE:
				ATLAS PAGE NO:		
				SHEET NAME:	PAVING PLAN (3 OF 4)	SHEET NO. C1-13
				PLAN SCALE:	1"=10'	APPROVED:
				DRAWN BY:	BKL 4/25	
				DESIGNED BY:	BKL 4/25	
				SURVEY BY:	TLS 9/24	
				PROFILE SCALE:	PROJ. MGR. TW 6/25	
				HORIZONTAL:	LEAD ENGR. BOC 6/25	
				VERTICAL:	FIELD MGR. JU 6/25	
				RECOMMENDED:	DESIGN MANAGER	
				FILE:	DRAWING:	DATE: 6/12/2025
				ATLAS PAGE NO:		
				SHEET NAME:	PAVING PLAN (3 OF 4)	SHEET NO. C1-13

N: 405650.72
E: 2560886.35

N: 405624.05
E: 2560921.68

UNDERDRAIN
RE: C1-34

FF ELEV = 630.50

FL SWALE
(REFERENCE LINE)

N: 405533.06
E: 2560922.79

N: 405510.96
E: 2560888.06

N: 405511.14
E: 2560902.39

N: 405507.56
E: 2560937.59

N: 405474.96
E: 2560888.50

N: 405475.14
E: 2560902.83

N: 405483.57
E: 2560937.89

N: 405466.12
E: 2560912.58

4' DITCH BOTTOM
(REFERENCE LINE)



MATCH EXISTING

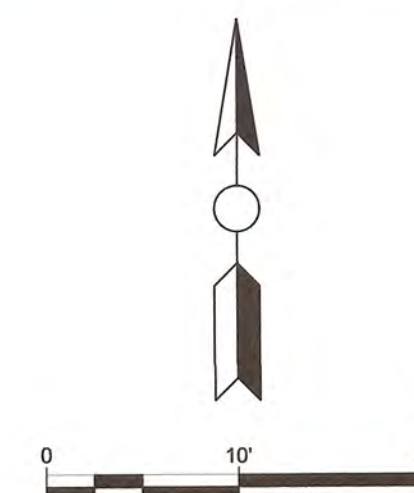
MATCHLINE C1-14

MATCH EXISTING

MATCHLINE C1-14

C1-11	C1-12
C1-13	C1-14

SHEET LEGEND



LEGEND

- | | |
|---|--|
|  | BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS |
|  | BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS |
|  | ADA RAMP LANDING |
|  | ADA RAMP |
|  | CONCRETE PAVEMENT |
|  | ASPHALT PAVEMENT |
|  | SIDEWALK |
|  | PROP. GRAVEL |
|  | SOLID SLAB SODDING |
|  | EXTERIOR TILE |

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

				PLAN SCALE: 1"=10'		DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24		APPROVED:  CITY ENGINEER	
				PROFILE SCALE: HORIZONTAL: N/A VERTICAL: N/A		PROJ. MGR. JW 6/25 LEAD ENGR. BOC 6/25 FIELD MGR. JW 6/25 RECOMMENDED: DESIGN MANAGER: 			
				FILE:		DRAWING:		DATE: 6/12/2025	
				ATLAS PAGE NO:					
				SHEET NAME: PAVING PLAN (4 OF 4)				SHEET NO. C1-14	



MATCHLINE C1-12

MATCHLINE C1-13

FF ELEV = 630.50

ADA SIGNAGE
(VAN ACCESSIBLE)

EXTENDED TYPE D RAMP—

ADA SIGNAGE

ADA SIGNAGE

UNDERDRAIN-
RE: C1-33

N: 405540.25
E: 2561011.82

N: 405538.12
E: 2561037.47

N: 405538.87
E: 2561044.1

N: 405534.11
E: 2561064.19

N: 405631.66
E: 2561108.50

$\begin{array}{r} \text{N } 01^{\circ} 00' 32'' \text{ W} \\ \hline 258.57' \end{array}$

N: 405534.67
E: 2561109.69

4' DITCH BOTTOM
(REFERENCE LINE)

N: 405508.81
E: 2561039.50

N: 405484.81
E: 2561039.79

N: 405485.65
E: 2561108.78

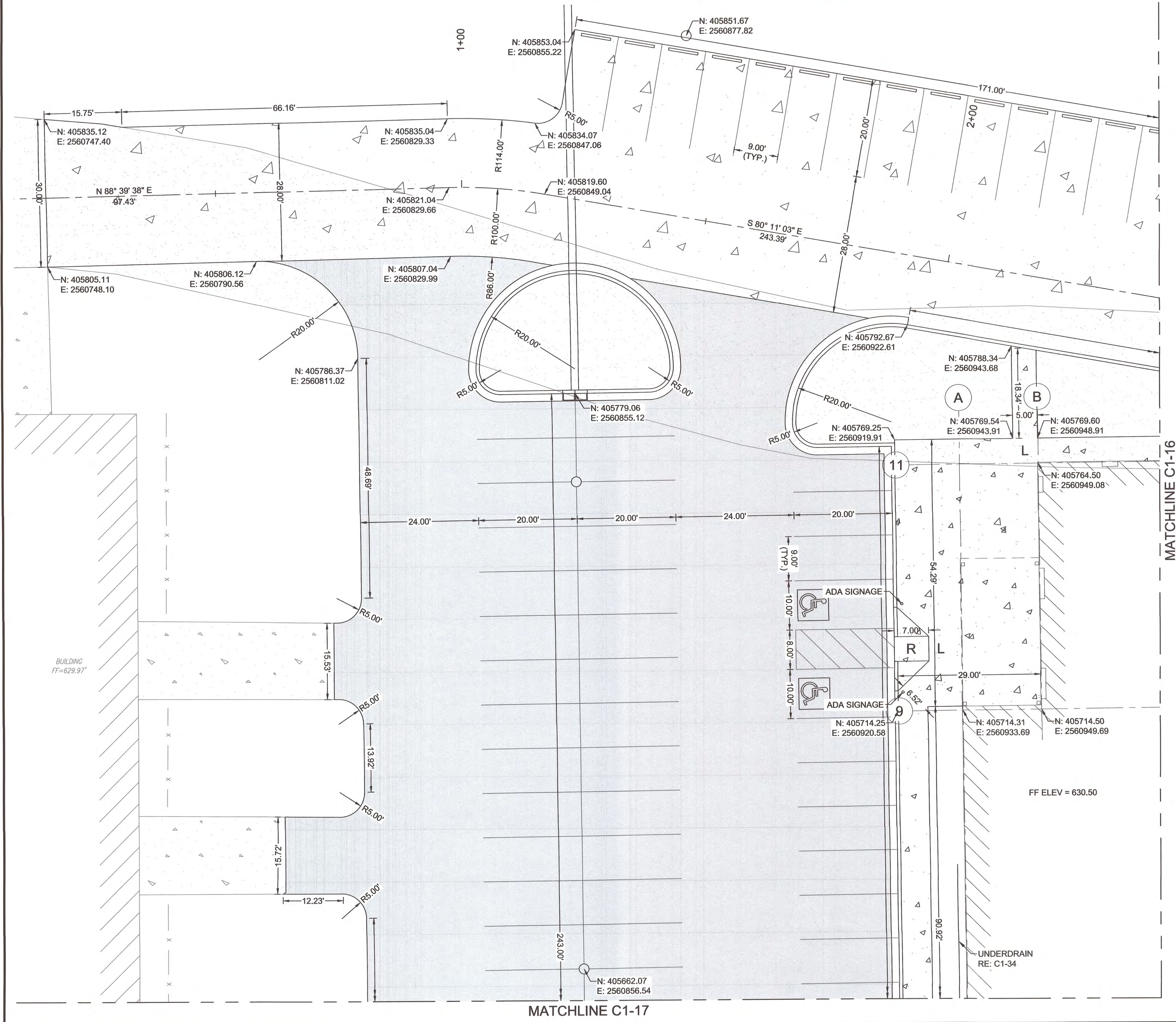
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E: 2561114.15

N: 405470.97
E: 2561133.30

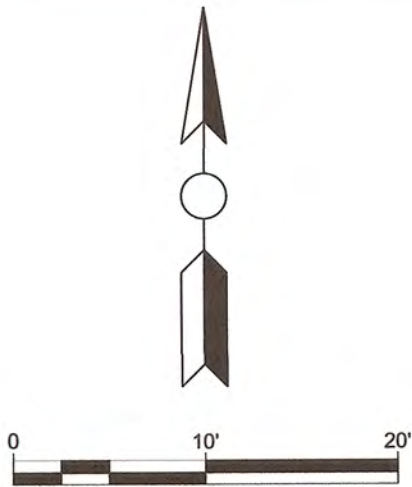
N: 405457.83
E: 2561180.5

FL=624.3

4' DITCH BOTTOM
(REFERENCE LINE)



C1-15	C1-16
C1-17	C1-18
SHEET LEGEND	



LEGEND	
	A BUILDING GRIDLINES RE: ARCH PLANS FOR DETAILS
	# BUILDING GRIDLINES RE: ARCH PLANS FOR DETAILS
	L ADA RAMP LANDING
	R ADA RAMP
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	SIDEWALK
	PROP. GRAVEL
	SOLID SLAB SODDING
	EXTERIOR TILE

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

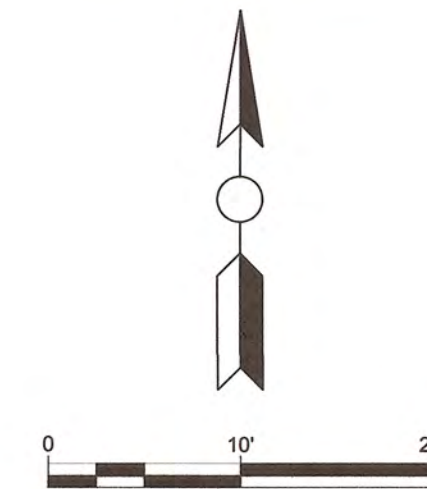


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NO		REVISION		BY		DATE		1"=10'		DESIGNED BY:		BKL				4/25	
										SURVEY BY:		TLS				9/24	
								PROFILE SCALE		PROJ. MGR.		TW				6/25	
								HORIZONTAL:		LEAD ENGR.		BCL				6/25	
								N/A		FIELD MGR.		JW				6/25	
								VERTICAL:		RECOMMENDED:		Sharon S. [Signature]		CITY ENGINEER			
								N/A		DESIGN MANAGER							
								FILE:		DRAWING:		DATE:		6/12/2025			
								ATLAS PAGE NO:									
								SHEET NAME:				SHEET NO.					
								PAVING PLAN (ALT)									
								(1 OF 4)									
														C1-15			

MATCHLINE C1-15

C1-15	C1-16
C1-17	C1-18

SHEET LEGEND



LEGEND

- A** BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS
- #** BUILDING GRIDLINES
RE: ARCH PLANS FOR DETAILS
- L** ADA RAMP LANDING
- R** ADA RAMP
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- SIDEWALK
- PROP. GRAVEL
- SOLID SLAB SODDING
- EXTERIOR TILE

MATCHLINE C1-18

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING



NO	REVISION	BY	DATE	PLAN SCALE: 1"=10'	DRAWN BY: DESIGNED BY: SURVEY BY:	BKL BKL TLS	4/25 4/25 9/24	APPROVED:
				PROFILE SCALE	PROJ. MGR.	TW	6/25	
				HORIZONTAL:	LEAD ENGR.	BDC	6/25	
				VERTICAL:	FIELD MGR.	JW	4/25	
					RECOMMENDED:	JW	4/25	
					DESIGN MANAGER			
				FILE:	DRAWING:			CITY ENGINEER
				ATLAS PAGE NO:				DATE: 6/12/2025
				SHEET NAME:				SHEET NO.
				PAVING PLAN (ALT)				C1-17
				(3 OF 4)				

SCREEN WALL
FOR DUMPSTER

N: 405465.11
E: 2560835.02

N: 405465.42
E: 2560859.00

TYPE I RIPRAP

4" DITCH BOTTOM
(REFERENCE LINES)

269.57'
S 89° 15' 24" W

N: 405483.57
E: 2560937.89

N: 405482.11
E: 2560941.44

N: 405507.38
E: 2560922.44

N: 405507.58
E: 2560939.26

N: 405533.06
E: 2560922.79

N: 405539.32
E: 2560935.82

N: 405536.08
E: 2560858.08

N: 405530.83
E: 2560838.14

N: 405531.32
E: 2560878.14

N: 405527.13
E: 2560902.19

N: 405510.21
E: 2560826.39

N: 405482.21
E: 2560826.74

N: 405474.21
E: 2560826.83

N: 405474.06
E: 2560814.83

23.98'
S 89° 15' 24" W

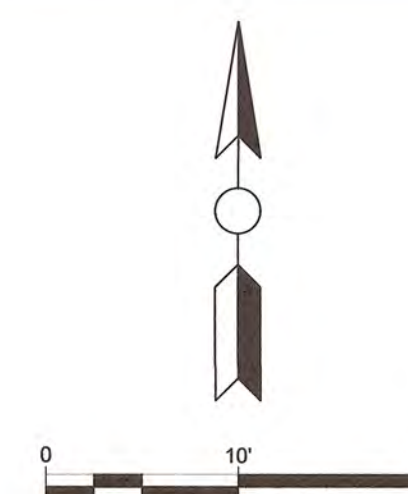
FF ELEV = 630.50

UNDERDRAIN
RE: C1-34

N: 405624.05
E: 2560921.68

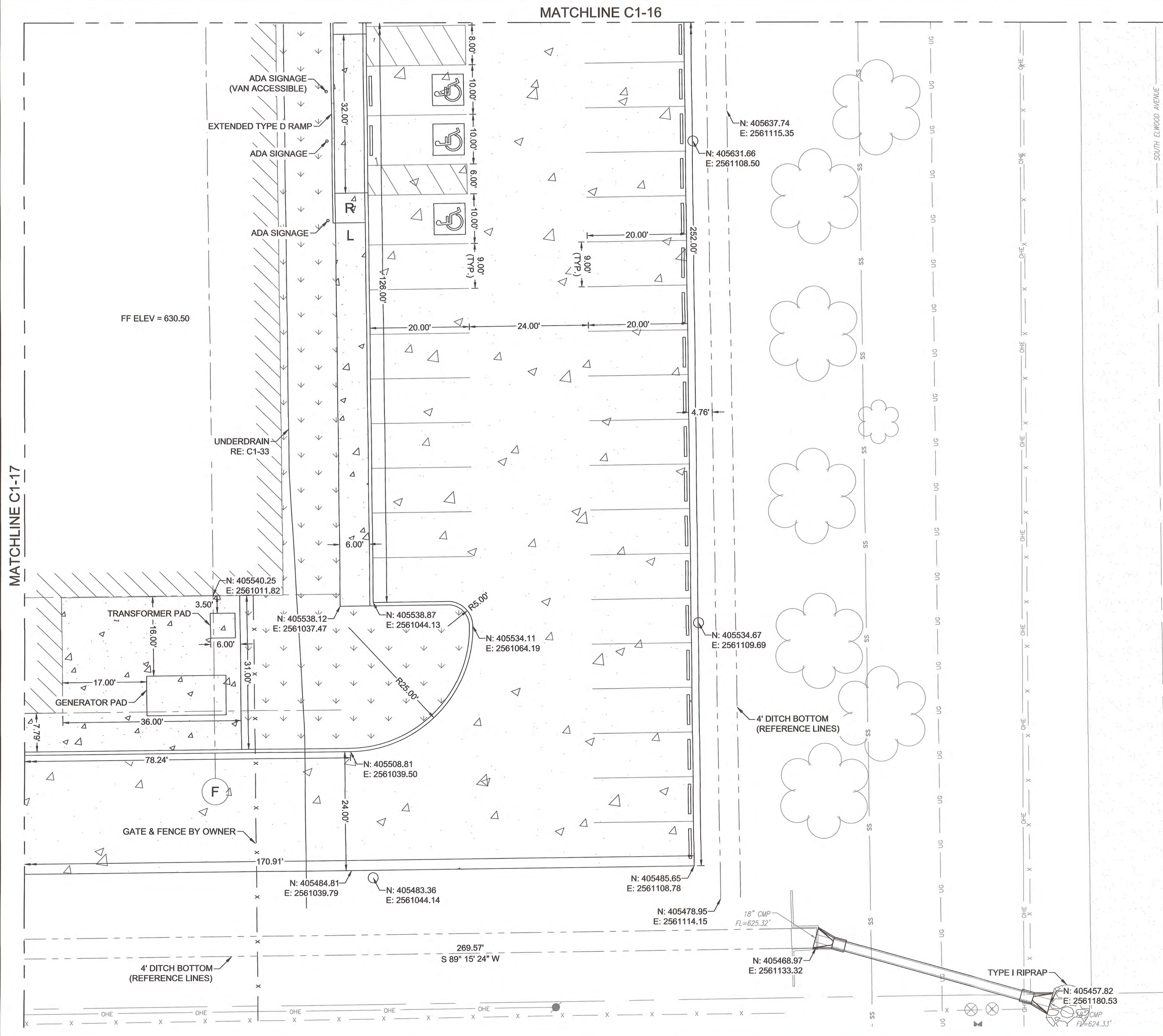
C1-15	C1-16
C1-17	C1-18

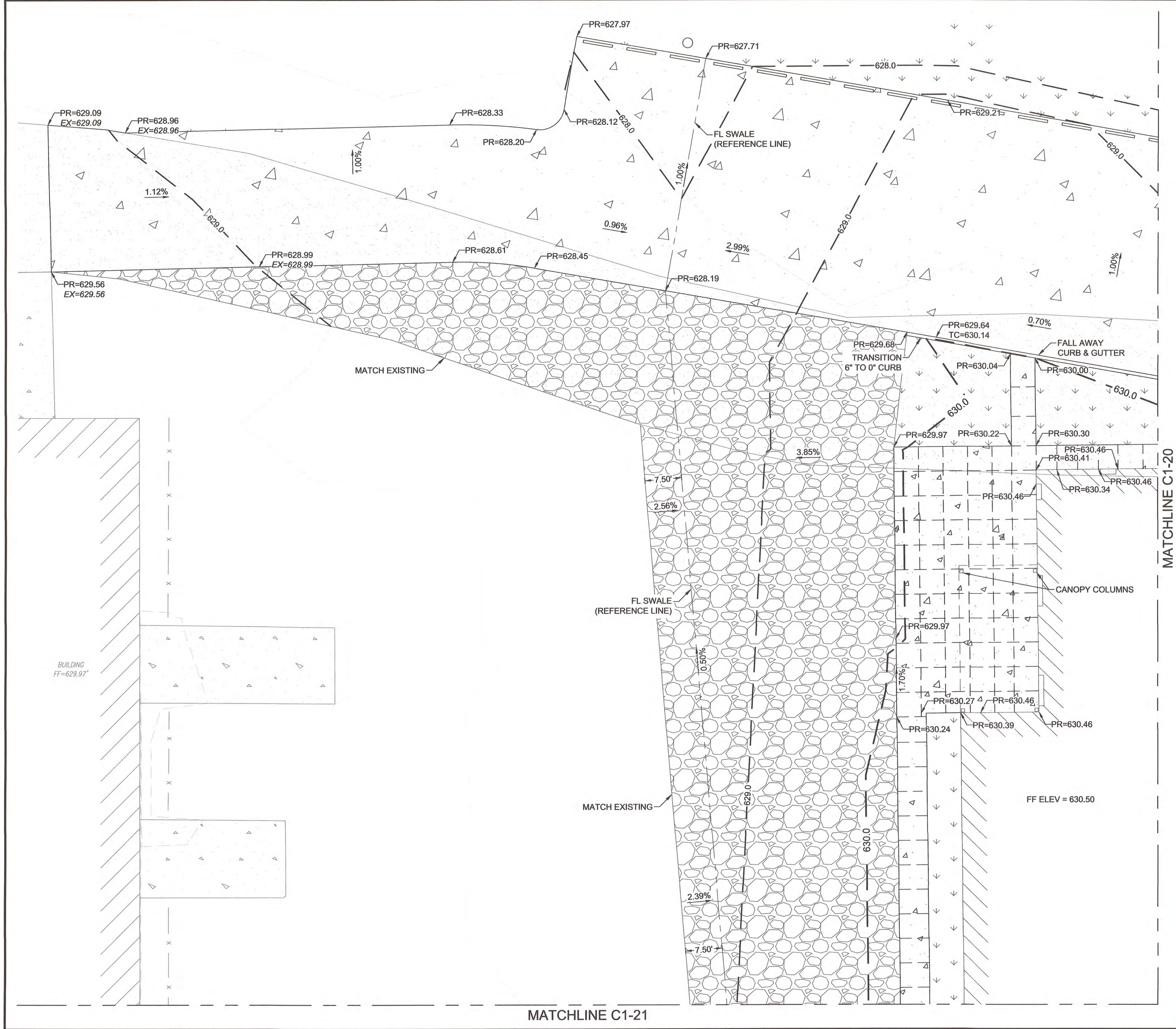
SHEET LEGEND



	BUILDING GRIDLINES RE: ARCH PLANS FOR DETAILS
	BUILDING GRIDLINES RE: ARCH PLANS FOR DETAILS
	ADA RAMP LANDING
	ADA RAMP
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	SIDEWALK
	PROP. GRAVEL
	SOLID SLAB SODDING
	EXTERIOR TILE

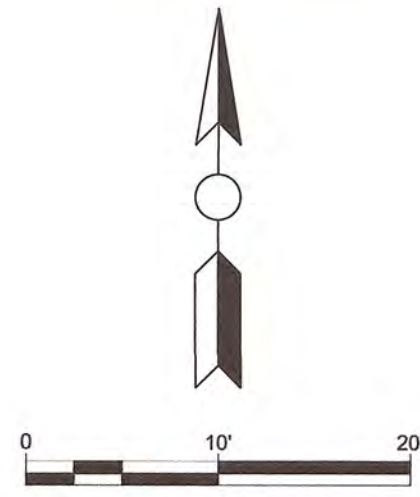
SHEET NAME: PAVING PLAN (ALT) (4 OF 4)	SHEET NO. C1-18
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[illegible]



C1-19	C1-20
C1-21	C1-22

SHEET LEGEND



LEGEND

- PR PROPOSED ELEVATION
- TC TOP OF CURB ELEVATION
- FF FINISHED FLOOR
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- SIDEWALK
- PROP. GRAVEL
- SOLID SLAB SODDING
- EXTERIOR TILE
- MAJOR PROP CONTOUR
- MINOR PROP CONTOUR



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=20'		DRAWN BY: BKL 4/25	APPROVED:
DESIGNED BY: BKL 4/25		SURVEY BY: TLS 9/24	 CITY ENGINEER DATE: 6/12/2025
PROFILE SCALE		PROJ. MGR. TW 6/25	
HORIZONTAL:		LEAD ENGR. BDC 6/25	
VERTICAL:		FIELD MGR. JW 6/25	
RECOMMENDED: DESIGN MANAGER			
FILE:		DRAWING:	
ATLAS PAGE NO:			
SHEET NAME: GRADING PLAN (1 OF 4)		SHEET NO. C1-19	

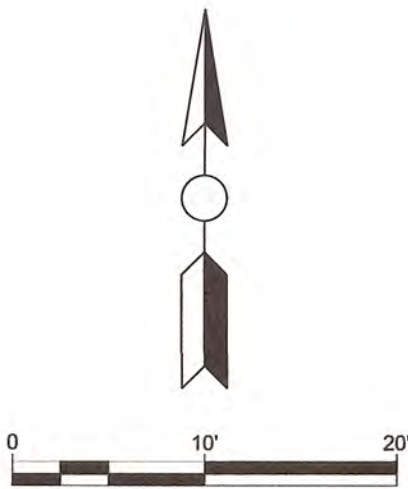
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TC	TOP OF CURB ELEVATION
FF	FINISHED FLOOR
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	SIDEWALK
	PROP. GRAVEL
	SOLID SLAB SODDING
	EXTERIOR TILE
	MAJOR PROP CONTOUR
	MINOR PROP CONTOUR



<table><tr><th>NO</th><th>REVISION</th><th>BY</th><th>DATE</th></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>				NO	REVISION	BY	DATE																																					PLAN SCALE: 1"=10'			DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24			APPROVED:		
				NO	REVISION	BY	DATE																																													
PROFILE SCALE			PROJ. MGR. TW 6/25			 CITY ENGINEER																																														
HORIZONTAL: N/A			LEAD ENGR. BDC 6/25																																																	
VERTICAL: N/A			FIELD MGR. JW 6/25																																																	
			RECOMMENDED: Thomas G. M.																																																	
			DESIGN MANAGER																																																	
			FILE: DRAWING:			DATE: 6/12/2025																																														
			ATLAS PAGE NO:																																																	
			SHEET NAME:			SHEET NO.																																														
			GRADING PLAN (2 OF 4)			C1-20																																														

MATCHLINE C1-19

C1-19	C1-20
C1-21	C1-22
SHEET LEGEND	



LEGEND

- PR PROPOSED ELEVATION
TC TOP OF CURB ELEVATION
FF FINISHED FLOOR
CONCRETE PAVEMENT
ASPHALT PAVEMENT
SIDEWALK
PROP. GRAVEL
SOLID SLAB SODDING
EXTERIOR TILE
MAJOR PROP CONTOUR
MINOR PROP CONTOUR

MATCH EXISTING

MATCHLINE C1-22

FL SWALE
(REFERENCE LINE)

CANOPY COLUMN



STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

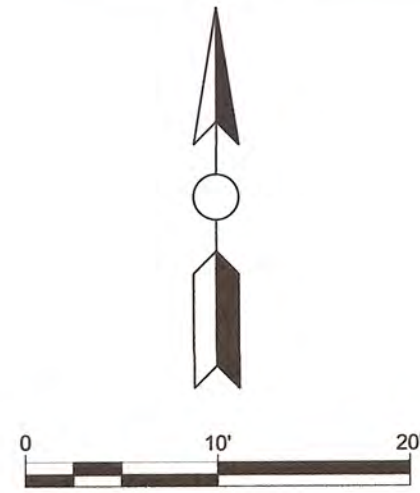
GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN BY:	BKL	4/25	APPROVED:
				1"=10'	DESIGNED BY:	BKL	4/25	
					SURVEY BY:	TLS	9/24	
				PROFILE SCALE	PROJ. MGR.	TW	6/25	
				HORIZONTAL:	LEAD ENGR.	BDC	6/25	
				N/A	FIELD MGR.	JW	6/25	
				VERTICAL:	RECOMMENDED			
				N/A	DESIGN MANAGER			
				FILE:	DRAWING:			DATE: 6/12/2025
				ATLAS PAGE NO:				
				SHEET NAME:				SHEET NO.
				GRADING PLAN (3 OF 4)				C1-21

MATCHLINE C1-20

C1-19	C1-20
C1-21	C1-22

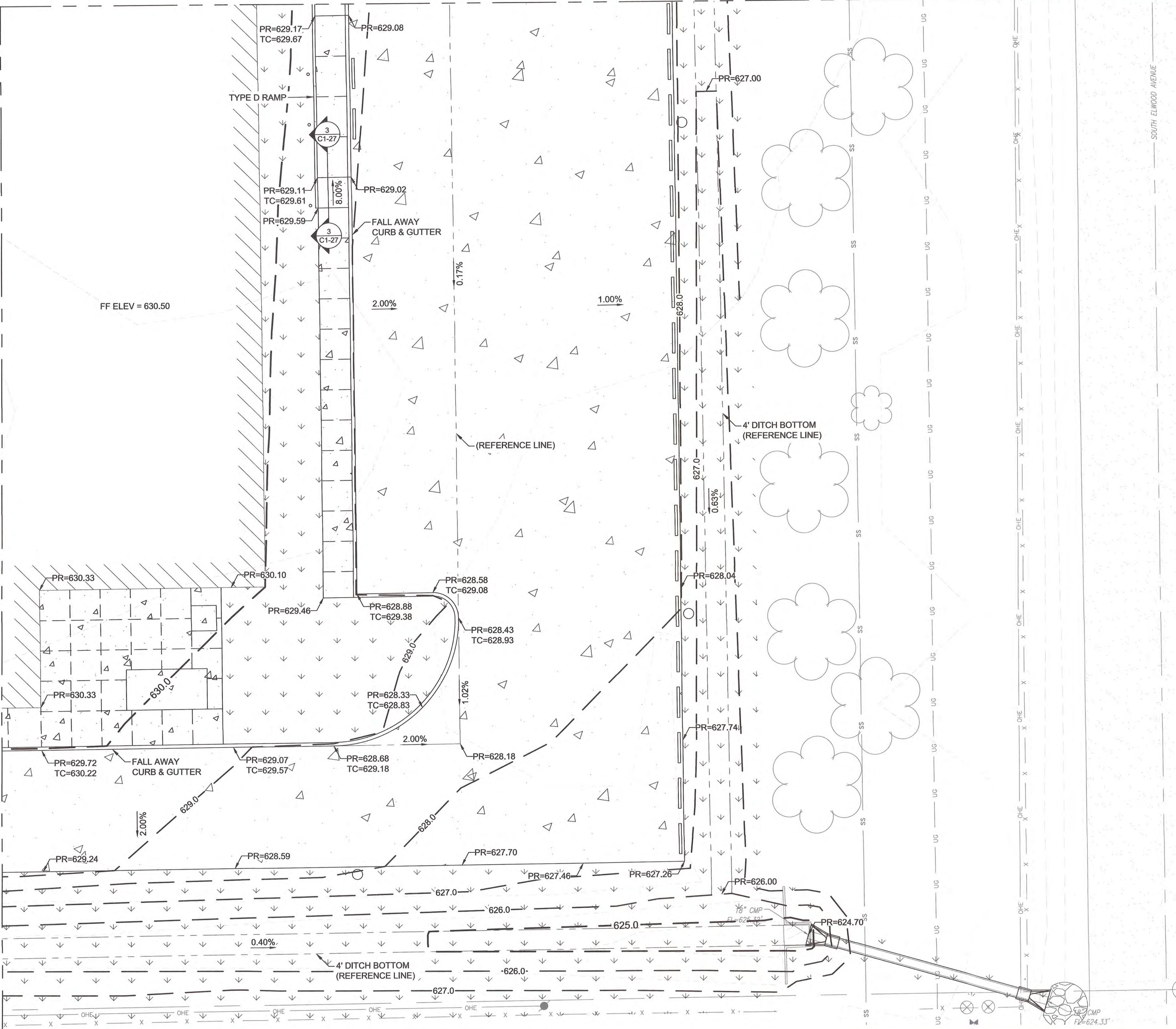
SHEET LEGEND



LEGEND

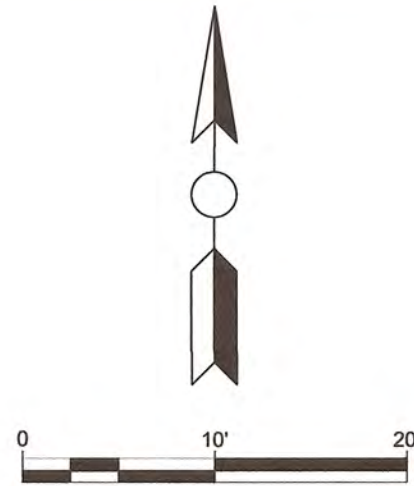
- PR PROPOSED ELEVATION
TC TOP OF CURB ELEVATION
FF FINISHED FLOOR
CONCRETE PAVEMENT
ASPHALT PAVEMENT
SIDEWALK
PROP. GRAVEL
SOLID SLAB SODDING
EXTERIOR TILE
MAJOR PROP CONTOUR
MINOR PROP CONTOUR

MATCHLINE C1-21



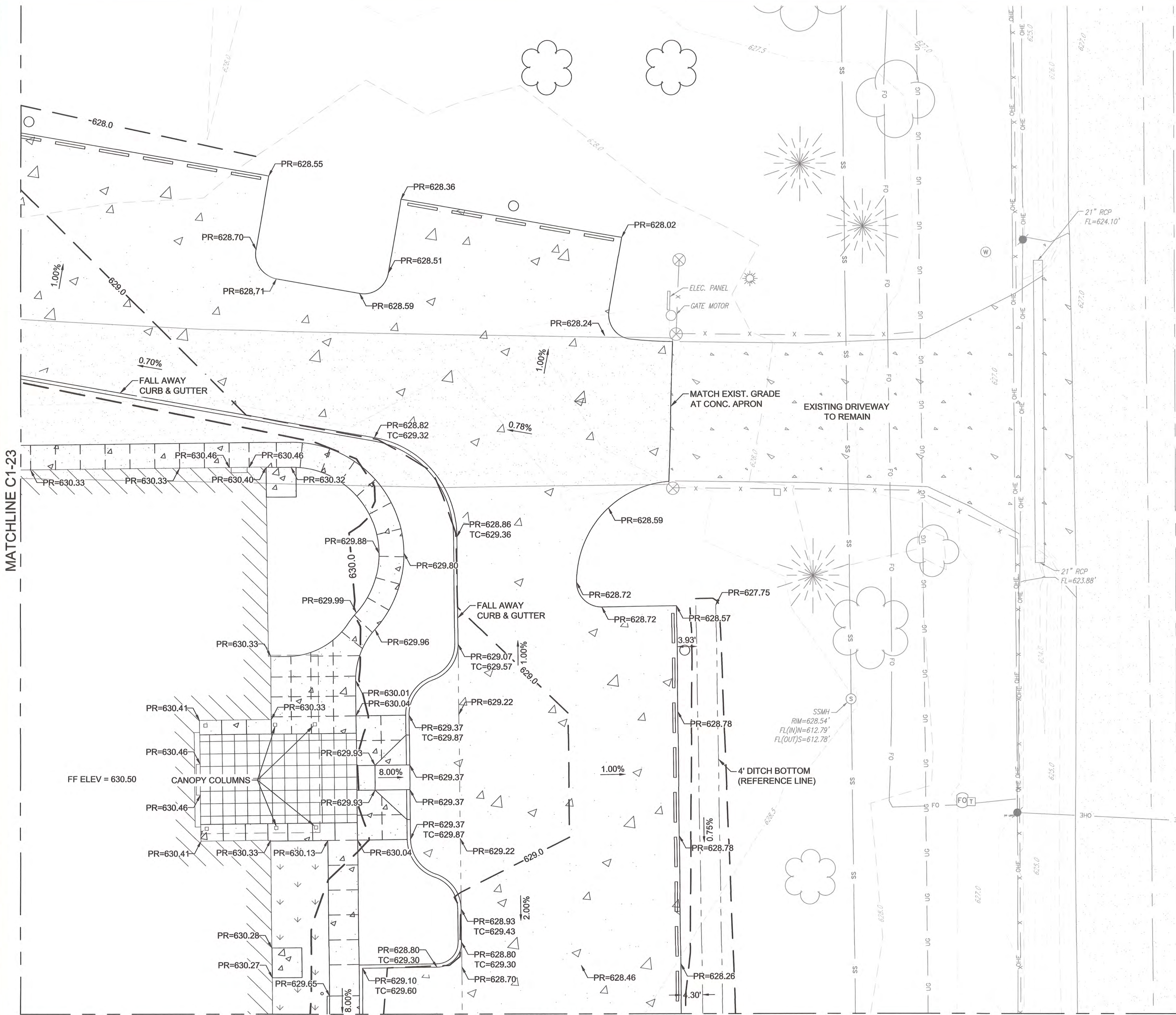
STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=10'		DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24 PROJ. MGR. TW 6/25 LEAD ENGR. BOC 6/25 FIELD MGR. JU 6/25 RECOMMENDED BY: [Signature] DESIGN MANAGER: [Signature]	APPROVED: [Signature] CITY ENGINEER DATE: 6/12/2025
FILE: ATLAS PAGE NO:		DRAWING: DATE: 6/12/2025	
SHEET NAME: GRADING PLAN (4 OF 4)		SHEET NO. C1-22	

C1-23	C1-24
C1-25	C1-26
SHEET LEGEND	



LEGEND

- PR PROPOSED ELEVATION
- TC TOP OF CURB ELEVATION
- FF FINISHED FLOOR
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- SIDEWALK
- PROP. GRAVEL
- SOLID SLAB SODDING
- EXTERIOR TILE
- MAJOR PROP CONTOUR
- MINOR PROP CONTOUR



STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

PLAN SCALE: 1"=10'	DRAWN BY: BKL 4/25	APPROVED:
	DESIGNED BY: BKL 4/25	
	SURVEY BY: TLS 9/24	
PROFILE SCALE	PROJ. MGR. TW 6/25	
HORIZONTAL:	LEAD ENGR. BDC 6/25	
N/A	FIELD MGR. JW 6/25	
VERTICAL:	RECOMMENDED: JW 6/25	
N/A	DESIGN MANAGER	
FILE:	DRAWING:	CITY ENGINEER
ATLAS PAGE NO:		DATE: 6/12/2025
SHEET NAME: GRADING PLAN (ALT) (2 OF 4)		SHEET NO. C1-24

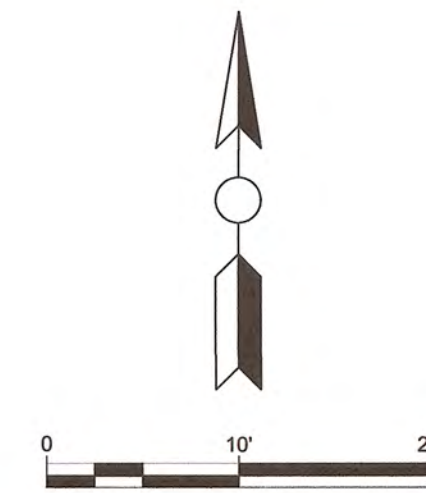
MATCHLINE C1-23

MATCHLINE C1-26

MATCHLINE C1-23

C1-23	C1-24
C1-25	C1-26

SHEET LEGEND



LEGEND

PR	PROPOSED ELEVATION
TC	TOP OF CURB ELEVATION
FF	FINISHED FLOOR
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	SIDEWALK
	PROP. GRAVEL
	SOLID SLAB SODDING
	EXTERIOR TILE
	MAJOR PROP CONTOUR
	MINOR PROP CONTOUR

MATCHLINE C1-26

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:

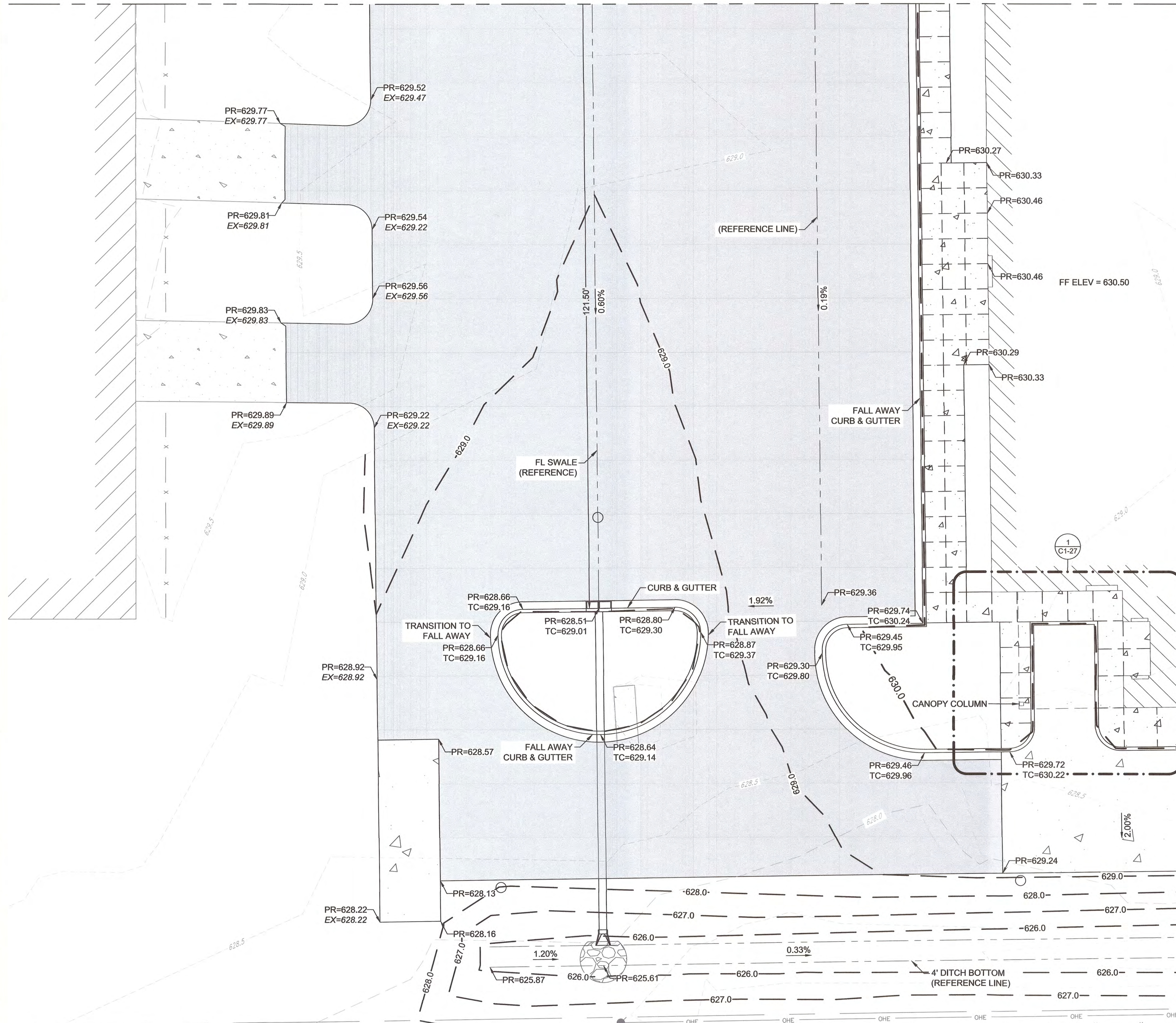
BKL, INCORPORATED
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GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING



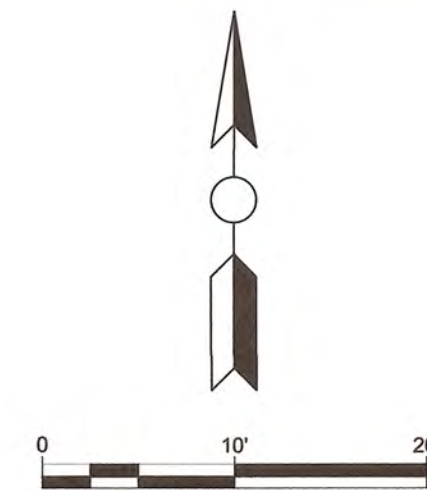
NO	REVISION	BY	DATE

PLAN SCALE: 1"=10'	DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24	APPROVED:
PROFILE SCALE	PROJ. MGR. TW 6/25 LEAD ENGR. BKL 6/25 FIELD MGR. JW 6/25	
HORIZONTAL: N/A	RECOMMENDED DESIGN MANAGER Shawn S. M	
VERTICAL: N/A		
FILE:	DRAWING:	DATE: 6/12/2025
ATLAS PAGE NO:		
SHEET NAME: GRADING PLAN (ALT) (3 OF 4)		SHEET NO. C1-25



MATCHLINE C1-24

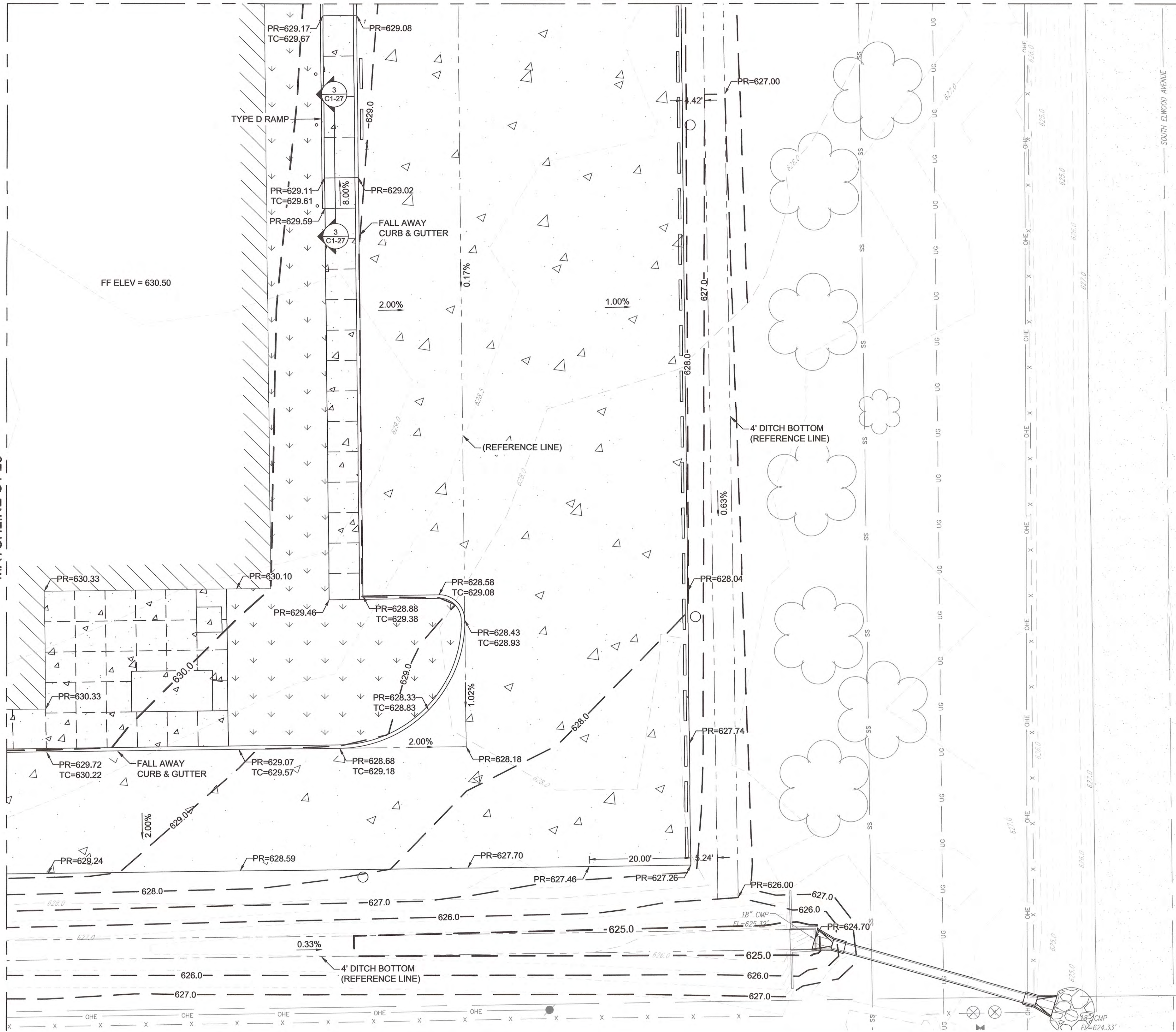
C1-23	C1-24
C1-25	C1-26
SHEET LEGEND	



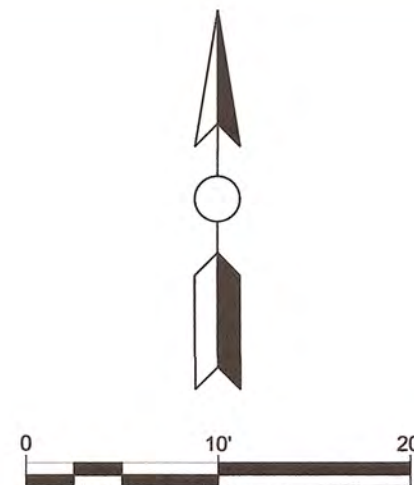
LEGEND

- PR PROPOSED ELEVATION
TC TOP OF CURB ELEVATION
FF FINISHED FLOOR
CONCRETE PAVEMENT
ASPHALT PAVEMENT
SIDEWALK
PROP. GRAVEL
SOLID SLAB SODDING
EXTERIOR TILE
MAJOR PROP CONTOUR
MINOR PROP CONTOUR

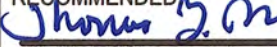
MATCHLINE C1-25



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=10'	DRAWN BY: BKL 4/25	DESIGNED BY: BKL 4/25	APPROVED:
PROFILE SCALE	PROJ. MGR. TW 6/25	LEAD ENGR. BKL 6/25	 CITY ENGINEER
HORIZONTAL: N/A	FIELD MGR. JW 6/25	RECOMMENDED: JW 6/25	
VERTICAL: N/A	DESIGN MANAGER		
FILE:	DRAWING:		DATE: 6/12/2025
ATLAS PAGE NO:	SHEET NAME: GRADING PLAN (ALT) (4 OF 4)		SHEET NO. C1-26

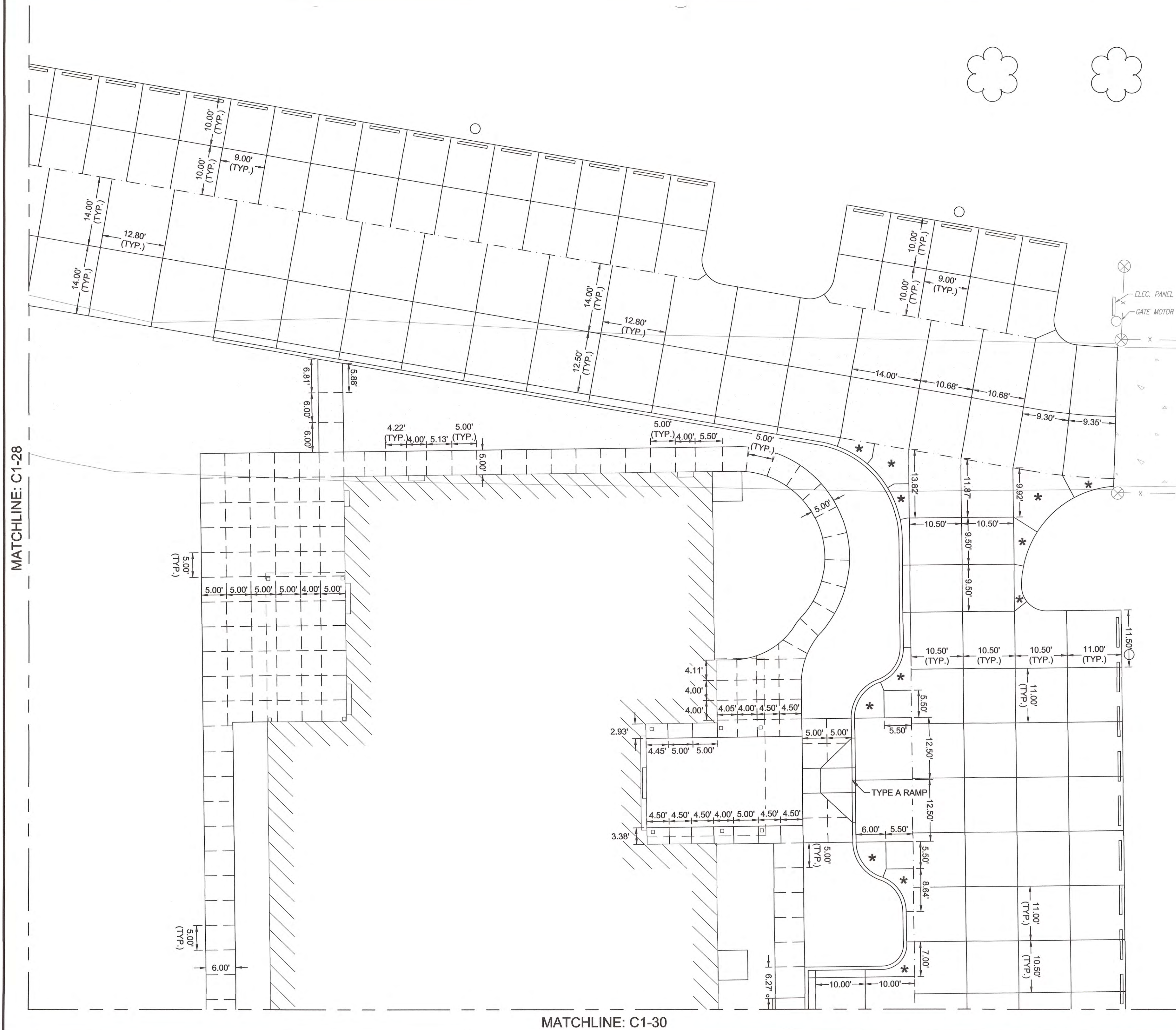


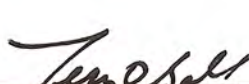
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 _____ EXPANSION JOINT
 _____ SIDEWALK JOINT
 * REINFORCED PANEL

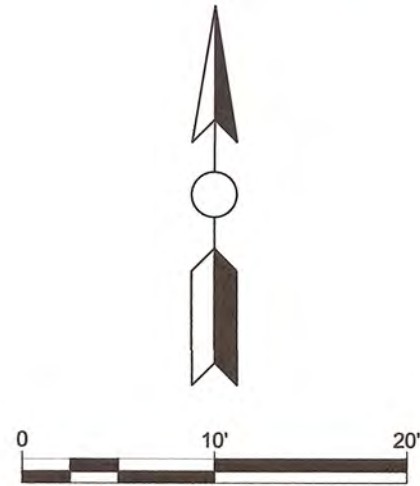
NO	REVISION	BY	DATE	PLAN SCALE: 1"=20' PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A	DRAWN BY: DESIGNED BY: SURVEY BY: PROJ. MGR. LEAD ENGR. FIELD MGR. RECOMMENDED: DESIGN MANAGER	BKL 4/25 BKL 4/25 TLS 9/24 TW 6/25 BDC 6/25 JW 6/25 	APPROVED:  CITY ENGINEER
				FILE:	DRAWING:	DATE: 6/12/2025	
				ATLAS PAGE NO:			
				SHEET NAME: JOINT LAYOUT (1 OF 3)		SHEET NO. C1-28	

LEGEND

 DOWEL JOINT
 EXPANSION JOINT
 SIDEWALK JOINT
 REINFORCED PANEL



				PLAN SCALE: DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24		APPROVED:  CITY ENGINEER
				PROFILE SCALE: PROJ. MGR. TW 6/25 LEAD ENGR. BDC 6/25		
				HORIZONTAL: N/A FIELD MGR. JW 6/15		
				VERTICAL: N/A RECOMMENDED: Thomas D. Hall DESIGN MANAGER		
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				ATLAS PAGE NO:		
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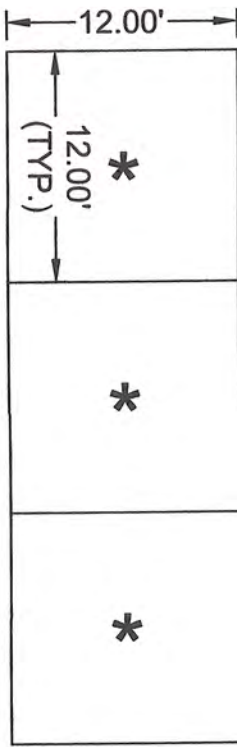
LEGEND

- DOWEL JOINT
- EXPANSION JOINT
- SIDEWALK JOINT
- REINFORCED PANEL

EXTENDED TYPE D RAMP

TRANSFORMER PAD

GENERATOR PAD



STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

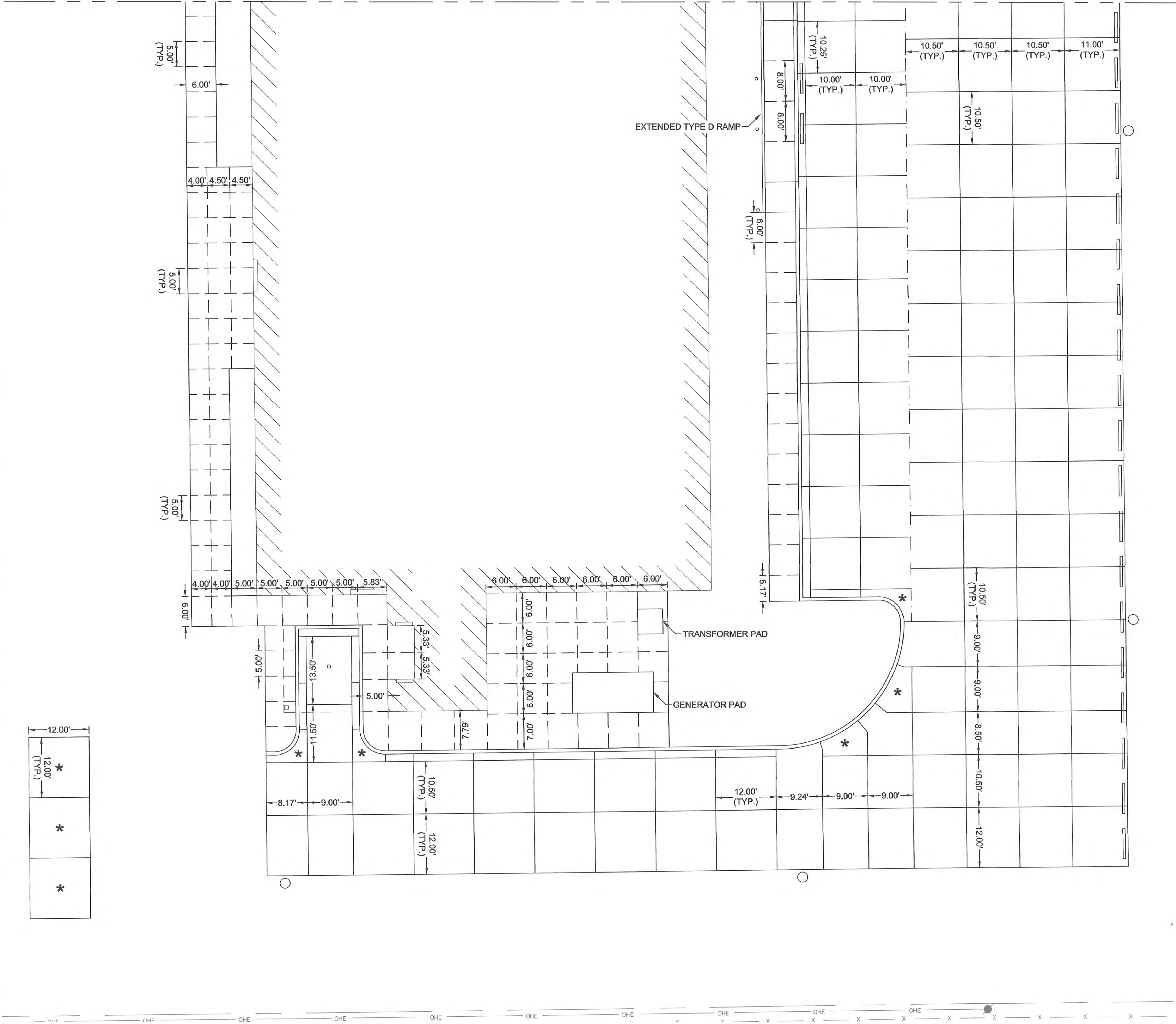
PROJECT NO. SW23-01-01

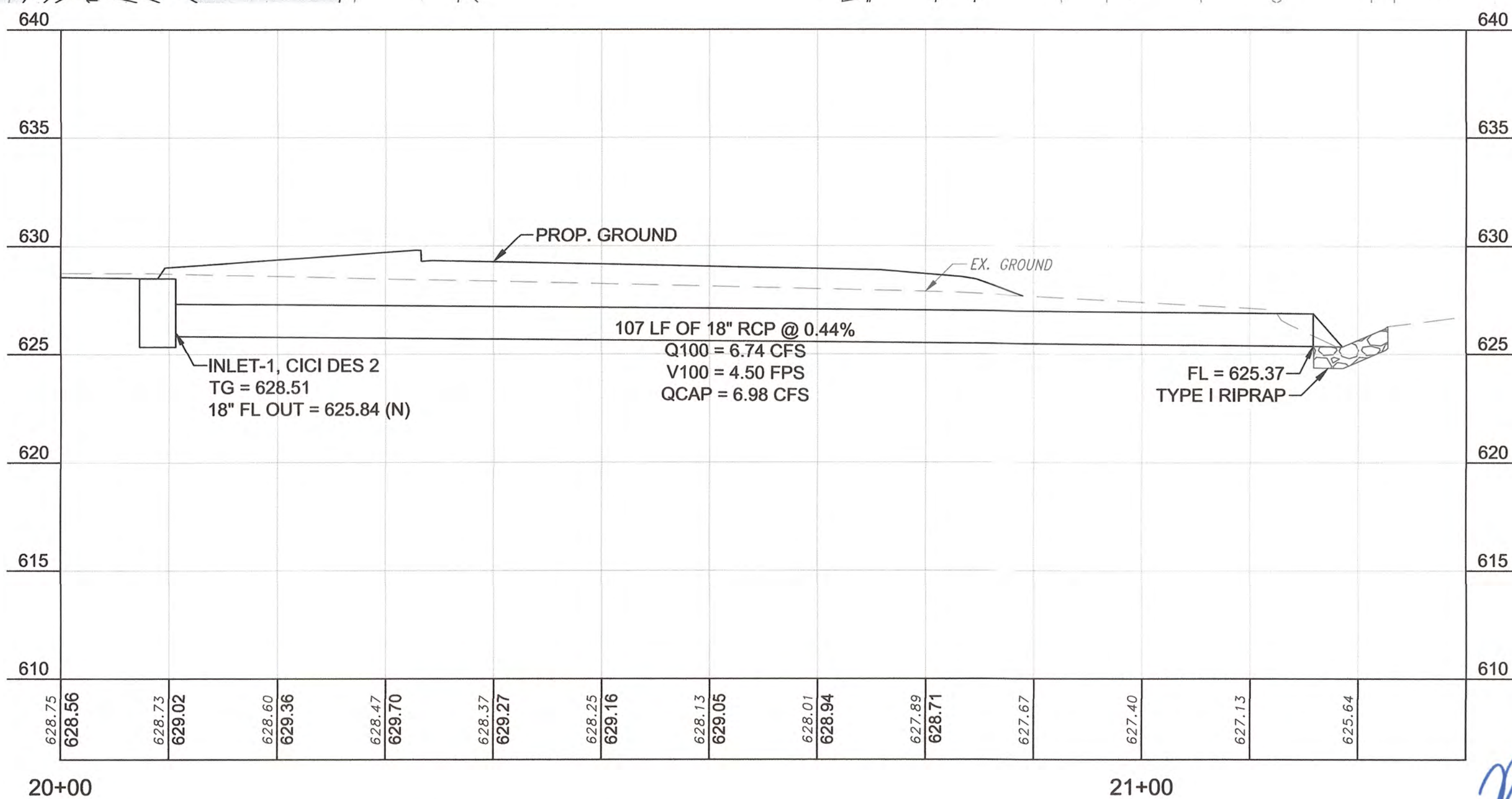
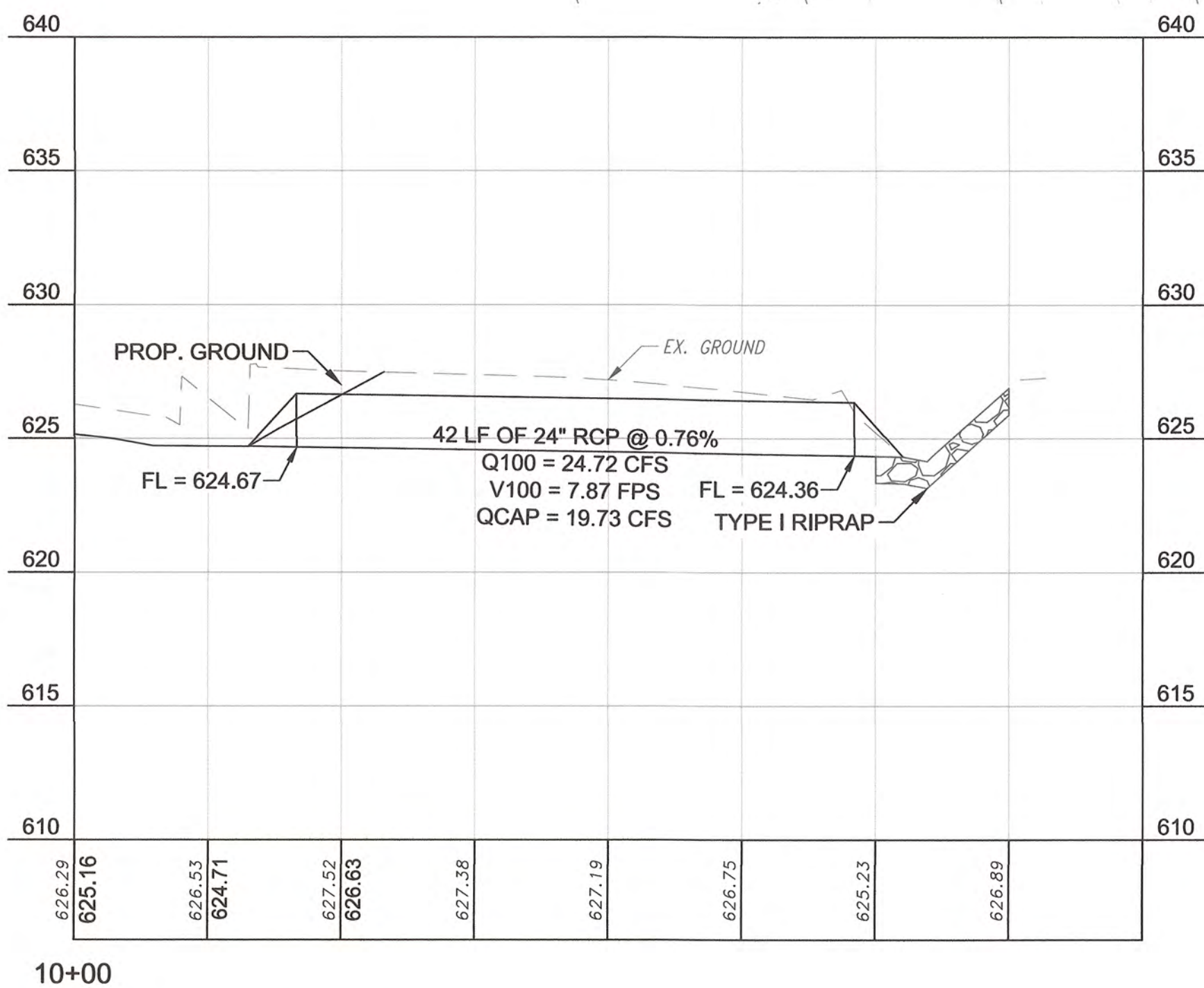
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS & ESTIMATES PREPARED BY:
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

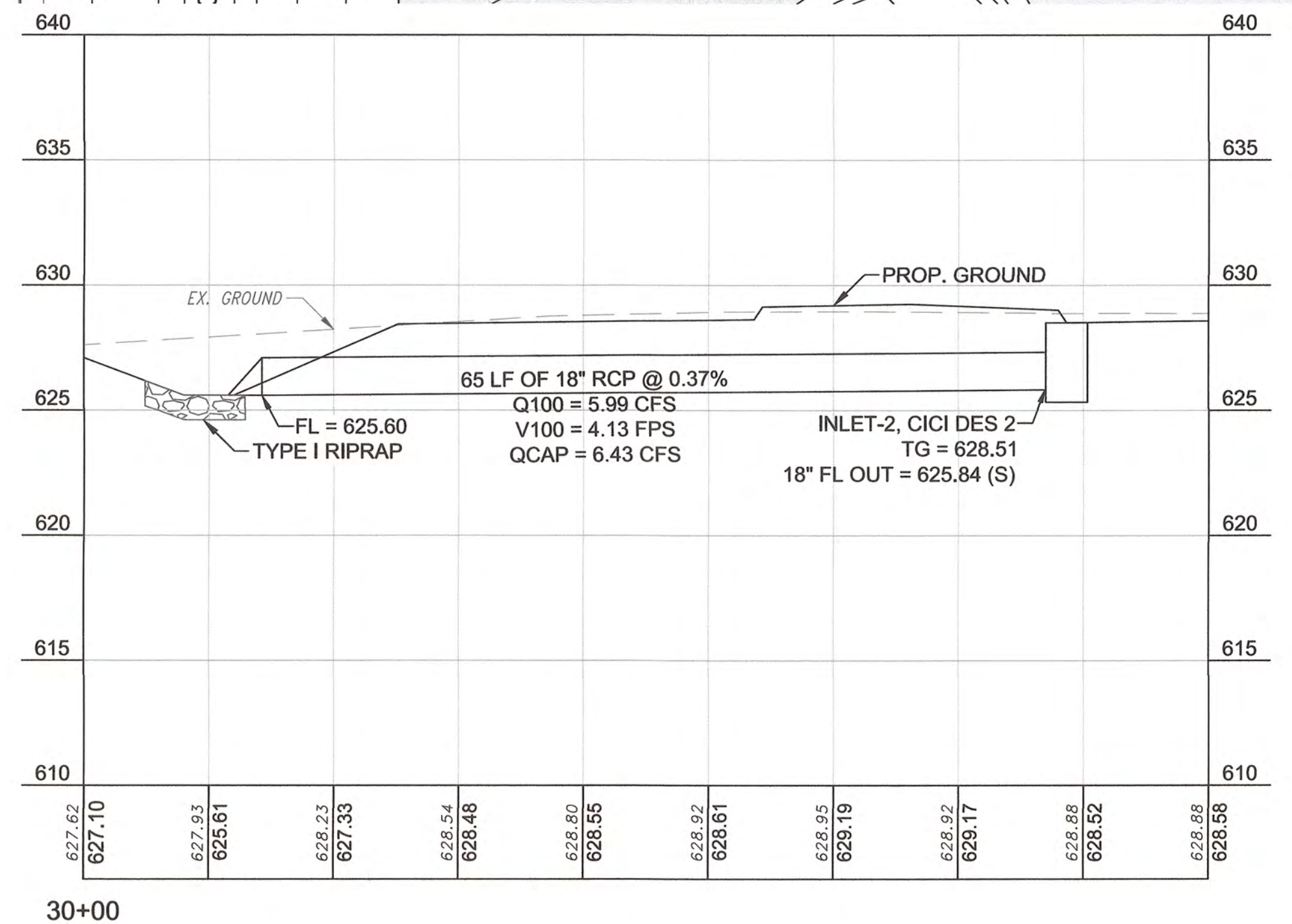
GREEN ACORN
MECHANICAL, ELECTRICAL, & PLUMBING

PLAN SCALE: 1"=20'	DRAWN BY: BKL 4/25	APPROVED: CITY ENGINEER
	DESIGNED BY: BKL 4/25	
	SURVEY BY: TLS 9/24	
PROFILE SCALE:	PROJ. MGR. TW 6/25	DATE: 6/12/2025
HORIZONTAL:	LEAD ENGR. BKL 6/25	
VERTICAL:	FIELD MGR. JB 6/25	
	RECOMMENDED: JH 6/25	
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FILE:	DRAWING:	
ATLAS PAGE NO:		
SHEET NAME: JOINT LAYOUT (3 OF 3)		SHEET NO. C1-30

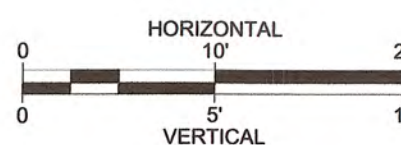




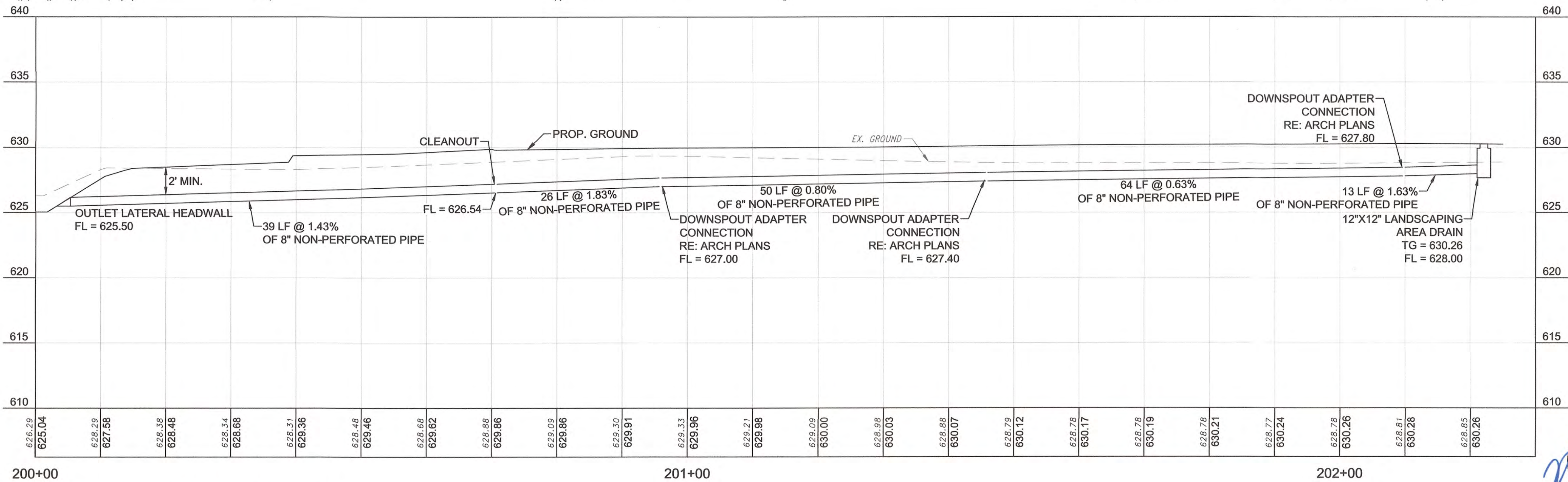
STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS & ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING			
PLAN SCALE: 1"=10'	DRAWN BY:	BKL	4/25
1"=10'	DESIGNED BY:	BKL	4/25
PROFILE SCALE	SURVEY BY:	TLS	9/24
HORIZONTAL:	PROJ. MGR.	JW	6/25
1"=10'	LEAD ENGR.	BDC	6/25
VERTICAL:	FIELD MGR.	JW	6/25
1"=5'	RECOMMENDED: 		
DESIGN MANAGER		APPROVED: 	
FILE:		DRAWING:	
ATLAS PAGE NO:		DATE: 6/12/2025	
SHEET NAME:		SHEET OF END SHEETS	
STORMWATER PLAN & PROFILE (1 OF 4)		SHEET NO.	
		C1-31	



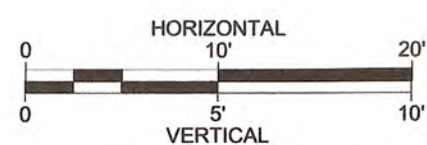
1" = 10' (H.) 1" = 5' (V.)



				PLAN SCALE: 1"=10' DRAWN BY: BKL 4/25 DESIGNED BY: BKL 4/25 SURVEY BY: TLS 9/24		APPROVED:	
NO	REVISION	BY	DATE	PROFILE SCALE: PROJ. MGR. TW 6/25 HORIZONTAL: LEAD ENGR. BOC 6/25 VERTICAL: FIELD MGR. JW 6/65 RECOMMENDED: <i>[Signature]</i> DESIGN MANAGER		<i>[Signature]</i> CITY ENGINEER	
				FILE: DRAWING:		DATE: 6/12/2025	
				ATLAS PAGE NO:		SHEET OF END SHEETS	
				SHEET NAME: STORMWATER PLAN & PROFILE (2 OF 4)		SHEET NO. C1-32	



4 $1'' = 10'$ (H.) $1'' = 5'$ (V.)



STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
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CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
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BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL, & PLUMBING				
PLAN SCALE: 1"=20'	DRAWN BY: DESIGNED BY: BKL	BKL 4/25 BKL 4/25	APPROVED:	
HORIZONTAL: 1"=20'	SURVEY BY: TLS 9/24	PROJ. MGR.: TLW 6/75	 CITY ENGINEER	
PROFILE SCALE	LEAD ENGR.: BOC 6/25	FIELD MGR.: JU 6/25		
VERTICAL: 1"=5'	RECOMMENDED: DESIGN MANAGER			
FILE:	DRAWING:		DATE: 6/12/2025	
ATLAS PAGE NO:			SHEET OF END SHEETS	
SHEET NAME: STORMWATER PLAN & STORM (3 OF 4)			SHEET NO. C1-33	



GENERAL

- G1. SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.
- G2. APPLICABLE SPECIFICATIONS AND CODES
A. INTERNATIONAL BUILDING CODE (IBC) 2018 WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS.
B. ACI 318-19
C. ASCE 7-16
D. AISC 15th EDITION
E. LOCAL JURISDICTION AMENDMENTS
- G3. DESIGN CRITERIA
1. APPLIES TO ALL STRUCTURES
A. DEAD LOAD:
1. ACTUAL TRIBUTARY STRUCTURE WEIGHT
2. SUPERIMPOSED DEAD LOAD: 5 PSF
B. LIVE LOAD:
1. WALKWAYS, STAIRS, GRATING: 100 PSF
2. SLAB ON GRADE: 250 PSF
3. ROOF: 20 PSF (NOT REDUCIBLE)
C. WIND:
1. BASIC WIND SPEED: 109 MPH (250 MPH STORM SHELTER)
2. EXPOSURE: B
3. RISK CATEGORY: II
4. ALL STRUCTURES ARE ENCLOSED
D. SNOW LOAD:
1. GROUND SNOW LOAD = 10 PSF
- G4. GEOTECH
THE FOLLOWING NON-CONTRACTUAL GEOTECHNICAL REPORT DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THIS STRUCTURAL DESIGN:
CONTRACTOR IS TO READ AND BECOME FAMILIAR WITH THE GEOTECHNICAL REPORT.
GEOTECHNICAL FIRM NAME: AIMRIGHT TESTING
ADDRESS: 2120 S 130TH E AVE, TULSA, OKLAHOMA 74134
PROJECT NUMBER: 17141124
REPORT DATE: DECEMBER 30, 2024
ALLOWABLE [NET] SOIL BEARING = 2600 PSF
- G5. SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.
- G6. OPENINGS
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- G7. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.
- G8. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.
- G10. SPECIAL INSPECTIONS
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR & SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A SPECIAL INSPECTION PLAN WILL BE SUBMITTED UNDER SEPARATE COVER WITH THE PERMIT APPLICATION.
- G11. UNLESS SPECIFICALLY NOTED, THERE ARE NOT PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

PRE-MANUFACTURED METAL BUILDING

THE STRUCTURAL STEEL BUILDING FRAME IS AN ENGINEERED SYSTEM DESIGNED, MANUFACTURED AND ERECTED BY THE METAL BUILDING CONTRACTOR. THE DRAWINGS, DETAILS AND DIMENSIONS SHOWN ON THESE DOCUMENTS ARE REPRESENTATIVE OF THE ARCHITECTS REQUIREMENTS FOR THE APPEARANCE OF THE FINAL PRODUCT. THE FOUNDATION DRAWINGS ARE INDICATIVE OF THE EXPECTED LOADINGS TRANSMITTED BY THIS SYSTEM. FINAL LOADINGS IMPOSED ON THE FOUNDATIONS BY THE METAL BUILDING MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION OF THE FOUNDATION. THE METAL BUILDING MANUFACTURER IS ALLOWED TO ADJUST SIZES AND SHAPES IN ORDER TO DESIGN THE MOST EFFICIENT SYSTEM FOR THEIR PRODUCT WITHIN THESE GUIDELINES. CHANGES MUST BE APPROVED BY THE ARCHITECT IN WRITING. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CHANGES. THE FOUNDATIONS ARE DESIGNED FOR PINNED BASES.

CONCRETE

- C1. DESIGN STRENGTHS: (28 DAY COMPRESSIVE STRENGTH)
NORMAL WEIGHT CONCRETE FOR
INTERIOR SLABS ON GRADE: 4000 PSI
FOOTINGS, GRADE BEAMS, AND TIE BEAMS: 4500 PSI
INTERIOR SUSPENDED SLABS: 4000 PSI
- C2. CONCRETE COVER
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR
REINFORCING AS FOLLOWS:
CONCRETE DEPOSITED AGAINST EARTH: 3"
ALL OTHER: 2"
SEE DRAWINGS FOR EXCEPTIONS
- C3. SEE SPECIFICATIONS FOR REINFORCING PLACEMENT
REQUIREMENTS.
- C4. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION
FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON
STRUCTURAL DRAWINGS. AS REQUIRED TO ACCOMMODATE ALL
WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND
OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY
COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER
STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.
- C5. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES (AND 1/2"
CHAMFERS AT JOINTS AS SHOWN;) NOT ALL CHAMFERS MAY BE
SHOWN ON DRAWINGS.
- C6. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS
AS INDICATED.
- C7. ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED
AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER,
RETAINED BY THE CONTRACTOR, IN ACCORDANCE WITH
APPLICABLE PROJECT AND CODE REQUIREMENTS. SUBMIT AS A
SHOP DRAWING FOR REVIEW AND APPROVAL BY THE ENGINEER.
COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING
CONCRETE.
- C8. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING
TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT
SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.
- C9. CONTRACTOR SHALL SUBMIT A CONCRETE PLACEMENT PLAN
IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE
PLACEMENT SEQUENCE.
- C10. ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED IN
THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH APPENDIX D
OF ACI 318 AND CHAPTER 19 OF THE IBC. ALL EXPANSION AND
ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING
EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC
EVALUATION REPORT.
- C11. PROVIDE ACI STANDARD HOOKS WHERE INDICATED ON DRAWINGS.
- C12. FORMED CONSTRUCTION JOINTS SHALL BE KEYED.
CONSTRUCTION JOINTS AT UNFORMED SURFACE SHALL BE
ROUGHENED.
- C13. A MINIMUM OF 48 HOURS SHALL ELAPSE BETWEEN PLACEMENT OF
ADJACENT CONCRETE CONSTRUCTION AT JOINTS WHERE
PLACEMENT IS INTERRUPTED.
- C14. UNLESS OTHERWISE NOTED, LAPS FOR REINFORCING SHALL BE 40
BAR DIAMETERS OR 1'-8" WHICHEVER IS GREATER.

MASONRY

- M1. DESIGN STRENGTHS:
F'm= 2000 PSI
F_y= 60,000 PSI
- M2. GROUT FOR FILLING MASONRY CAVITIES TO BE COARSE GROUT UNO, MAXIMUM COARSE AGGREGATE SIZE IS 3/8 INCH.
- M3. GROUT POURS SHALL NOT EXCEED 4 FEET IN HEIGHT UNLESS CLEANOUTS ARE PROVIDED IN THE BOTTOM COURSE OF THE CELL(S) TO BE GROUTED, AND WRITTEN PERMISSION IS OBTAINED FOR HIGH LIFT GROUTING.
- M4. RESTRICTED BAR ANCHORAGE:
IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOK. SHOW ON SHOP DRAWINGS AND HIGHLIGHT WITH A BOX TO BRING TO ENGINEER'S ATTENTION.
- M5. ANCHOR BOLTS:
ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.
- M6. IF BOND BEAMS AT INTERSECTING WALLS ARE SHOWN ON THE DRAWINGS TO MEET AT DIFFERENT ELEVATIONS, EXTEND REINFORCING OF BOTH BOND BEAMS AROUND INTERSECTING CORNER NOT LESS THAN 4 FEET IN EACH DIRECTION.
- M7. LINTEL BLOCKS SHALL NOT BE USED AS BOND BEAM BLOCKS EXCEPT AT OPENINGS WHERE BOND BEAMS AND LINTELS COINCIDE.

STEEL

- S1. DESIGN STRENGTHS:
WIDE FLANGE AND TEES: Fy=50 KSI
PIPES: Fy=35 KSI
STAINLESS STEEL Fy=33 KSI
HSS SECTIONS Fy=46 KSI
ALL OTHER PLATES AND SHAPES: Fy=36 KSI
- S2. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.
- S3. ELEVATIONS:
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO.
- S4. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS.
- S5. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS.
- S6. CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.
- S7. ALL STEEL BEAMS SHALL RECEIVE STANDARD CAMBER PER THE SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLANS. BEAMS REQUIRING SPECIAL CAMBER ARE DENOTED ON THE BEAMS $\frac{1}{2}$ " ON THE FRAMING PLANS. EXAMPLE: (+1/2") INDICATES $\frac{1}{2}$ ".
- S8. WELD ALL STRUCTURAL STEEL CONNECTIONS OR BOLT WITH ASTM A325-N BOLTS. BEAM CONNECTIONS SHALL BE EQUIVALENT TO "FRAMED BEAM CONNECTIONS" (AISC). WELDING SHALL CONFORM TO AWS "WELDING IN BUILDING CONSTRUCTION".

CMU LINTEL NOTES

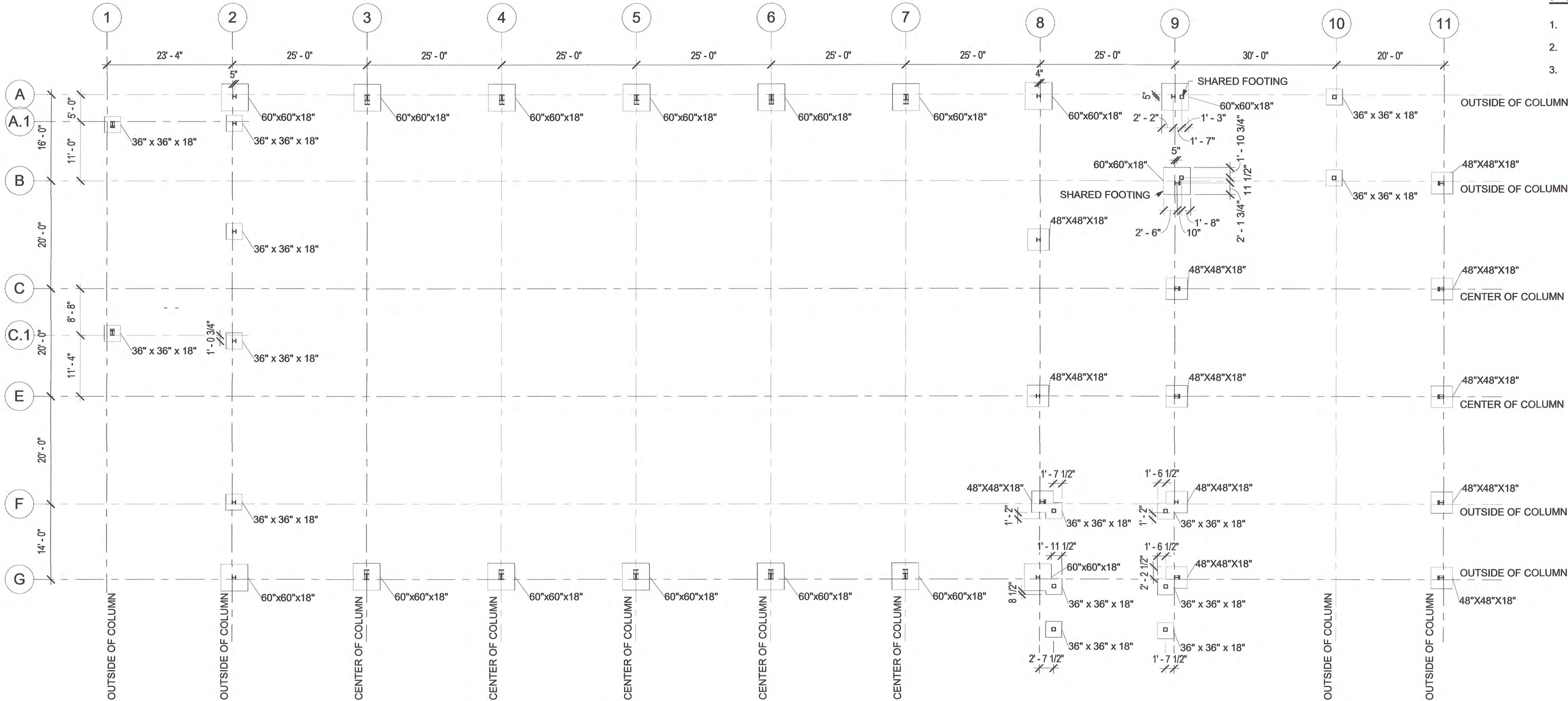
- L1. LINTELS: REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DOORS, WINDOWS, AND OTHER BLOCK OPENINGS.
- TYPE "A" FOR 1'-4" TO 5'-0" OPENINGS, PROVIDE 8x8 LINTEL BLOCK WITH 2- #5 BARS AND 3,000 PSI CONCRETE UNLESS OTHERWISE DETAILED.**
- TYPE "B" FOR 5'-1" TO 8'-0" OPENINGS, PROVIDE 2- ANGLES 5x3x3/8" WITH 2- 4" CMU. PROVIDE 8" MIN. BEARING AT EACH END UNLESS OTHERWISE DETAILED.**
- TYPE "C" FOR 8'-1" TO 16'-0" OPENINGS, PROVIDE A W14x26 LINTEL WITH A PLATE 7x1/4" WELDED TO THE BOTTOM. PROVIDE 8" MIN. BEARING AT EACH END UNLESS OTHERWISE DETAILED.**
- L2. ALL CMU WALLS ARE 8" THICK UNLESS NOTED OTHERWISE.
- L3. BEAMS AND ANGLES SUPPORTED BY CMU WALLS SHALL BE POCKETED IN WITH BEARING ON PLATE 7-1/2x1/2x8" WITH 2- 1/2" DIA. ANCHOR BOLTS x 14" LONG. GROUT CELLS FULL HEIGHT BELOW BEAM. PROVIDE 2 BOND BEAMS DIRECTLY BELOW BEAM.



				PLAN SCALE:		DRAWN		RSK		APPROVED	
NO	REVISION	BY	DATE	12" = 1'-0"		DESIGNED		SAL		 CITY ENGINEER	
						SURVEY					
				PROFILE SCALE		PROJ. MGR.		TW 6/25			
						LEAD ENGR.		BDC 6/25			
				HORIZONTAL:		FIELD MGR.		JW 4/25			
						RECOMMENDED BY		J. M.			
				VERTICAL:		DESIGN MANAGER				DATE: 6/12/2025	
				FILE:		DRAWING:					
				ATLAS PAGE NO:						SHEET NO.	
				SHEET NAME:						S0-01	
STRUCTURAL NOTES											

FOUNDATION NOTES

- 1. CENTER ALL COLUMNS ON FOOTINGS.
- 2. CENTER ALL SHARED FOOTINGS AS SHOWN.
- 3. MONOLITHICALLY POUR ALL FOOTINGS THAT TOUCH OR OVERLAP.

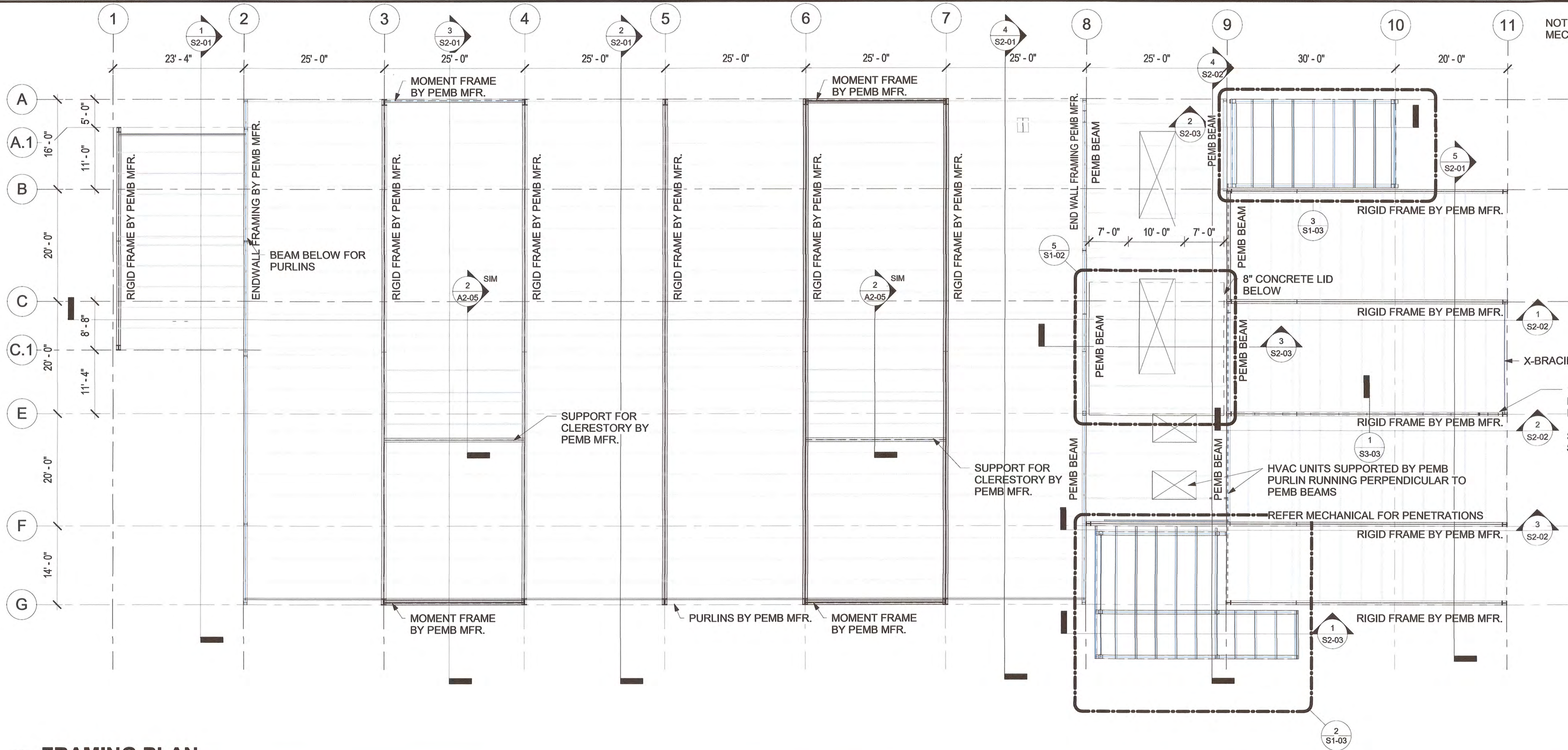


1 FOUNDATION PLAN

3/32" = 1'-0"



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PLAN SCALE:		APPROVED	
3/32" = 1'-0"			
DRAWN:			
DESIGNED:			
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PROFILE SCALE:			
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LEAD ENGR.		BDC 6/25	
HORIZONTAL:		JW 6/25	
FIELD MGR.		JW 6/25	
RECOMMENDED:		J. M. [unclear]	
DESIGN MANAGER		CITY ENGINEER	
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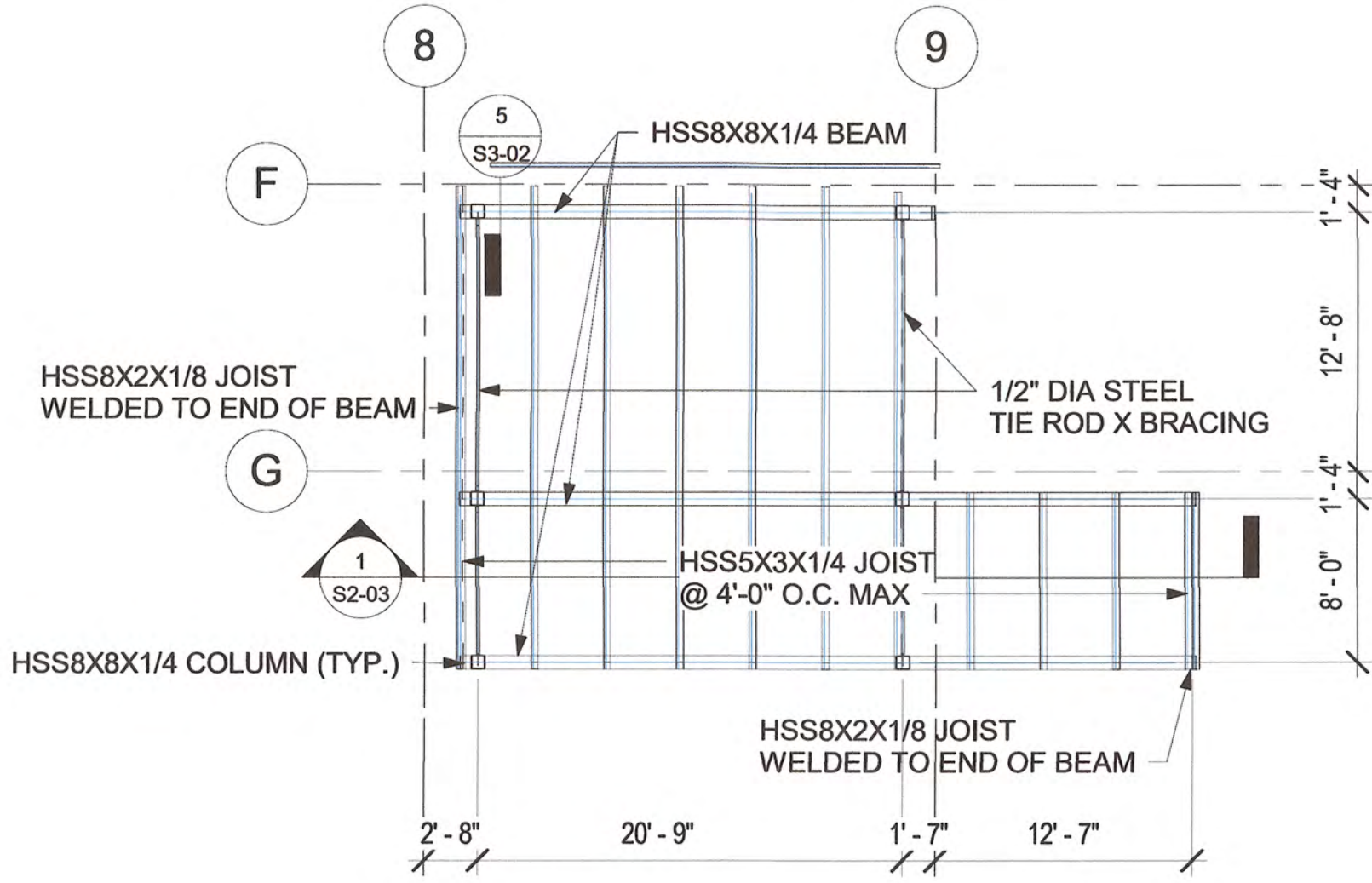


NOTE: PEMB MFR. TO PROVIDE FRAMING FOR MECHANICAL UNITS AND OPENINGS ON PEMB FRAMING

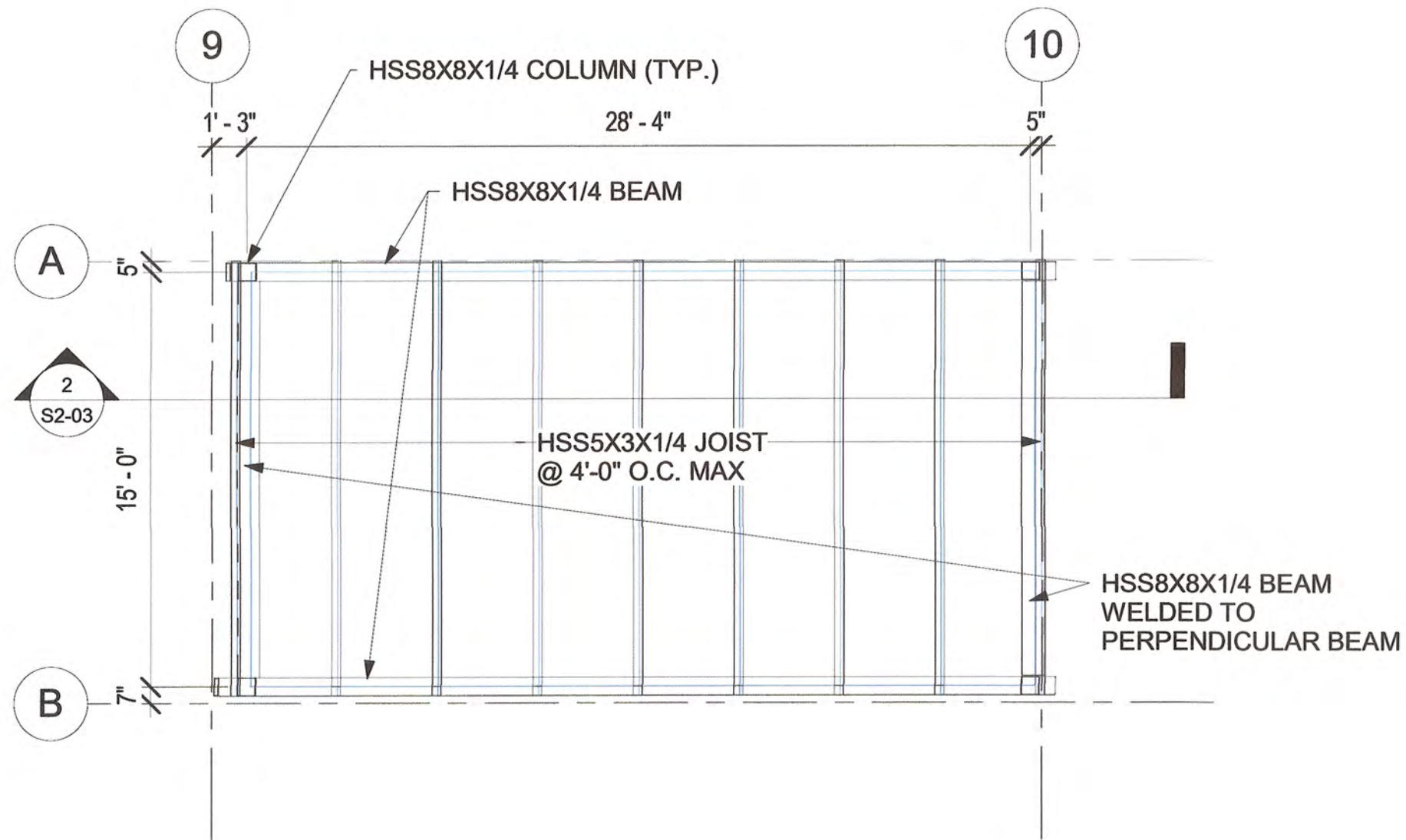
12' TALL FOLDING PARTITION WALL BELOW RIGID FRAME ON GRIDLINE E FROM GRIDLINE 9 TO 11. REFER ARCH.

SUPPORT W/ W6X15 SHOWN IN SECTION AND DETAIL

1 FRAMING PLAN
3/32" = 1'-0"



2 EAST CANOPY FRAMING PLAN
1/8" = 1'-0"



3 WEST CANOPY FRAMING PLAN
3/16" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

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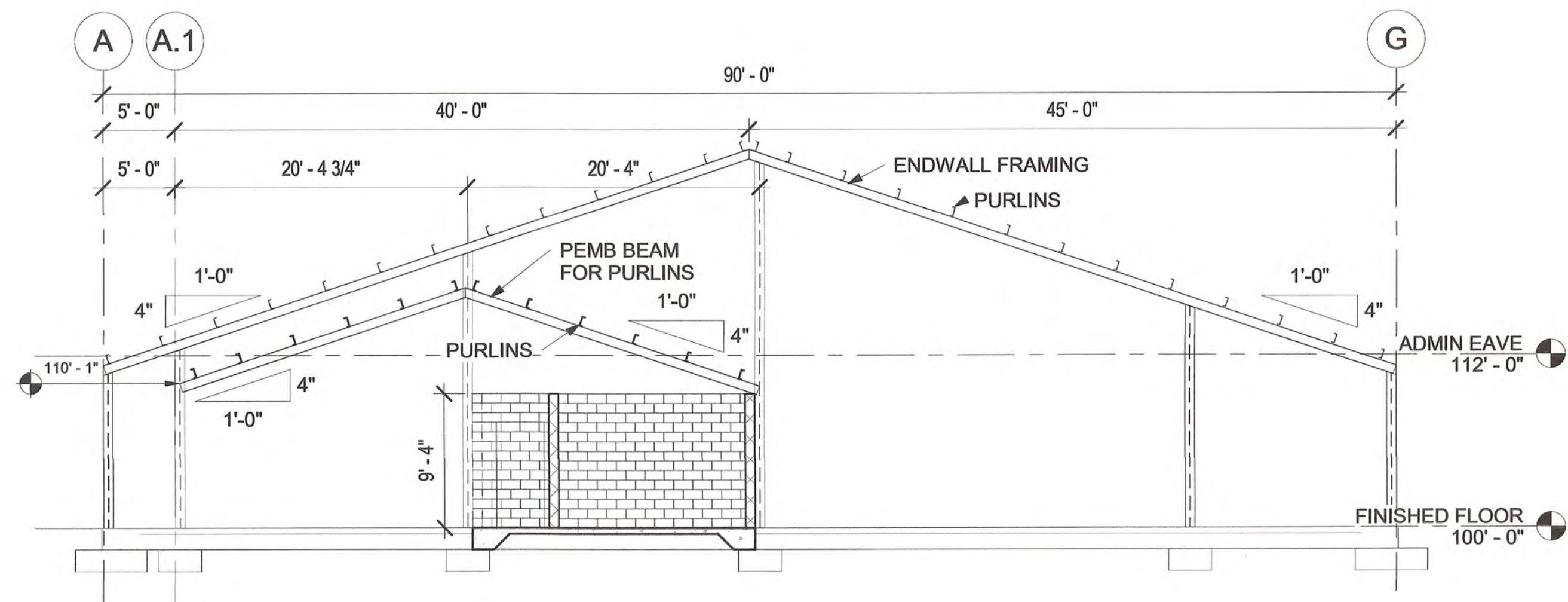
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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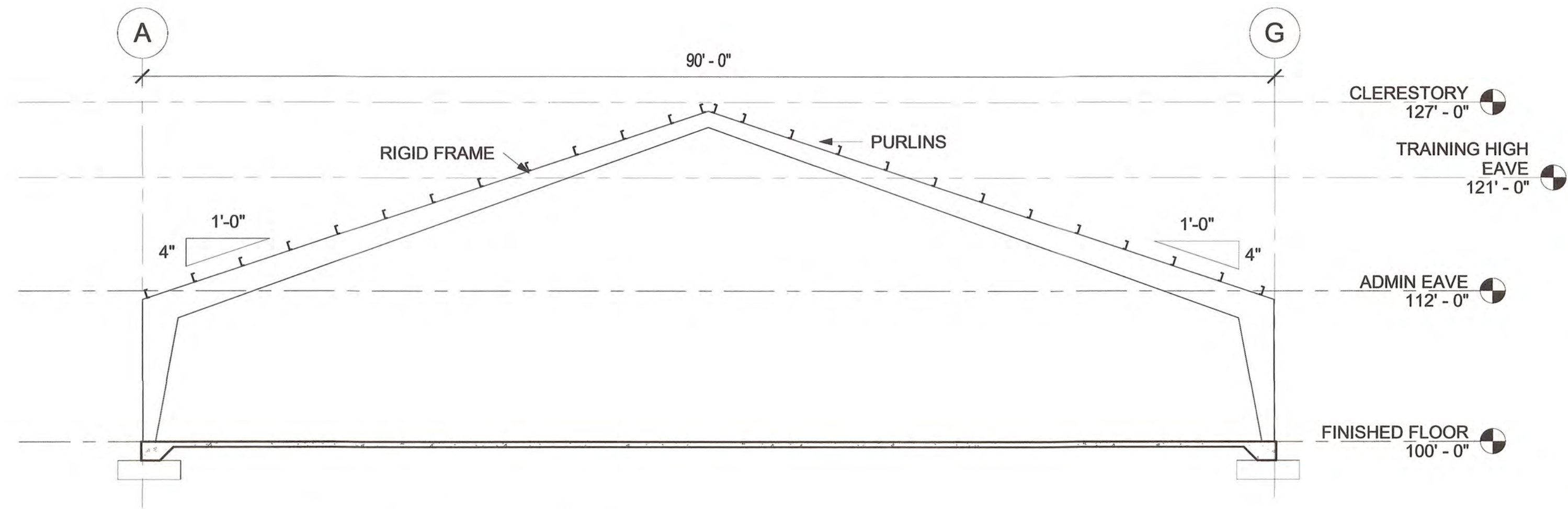
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

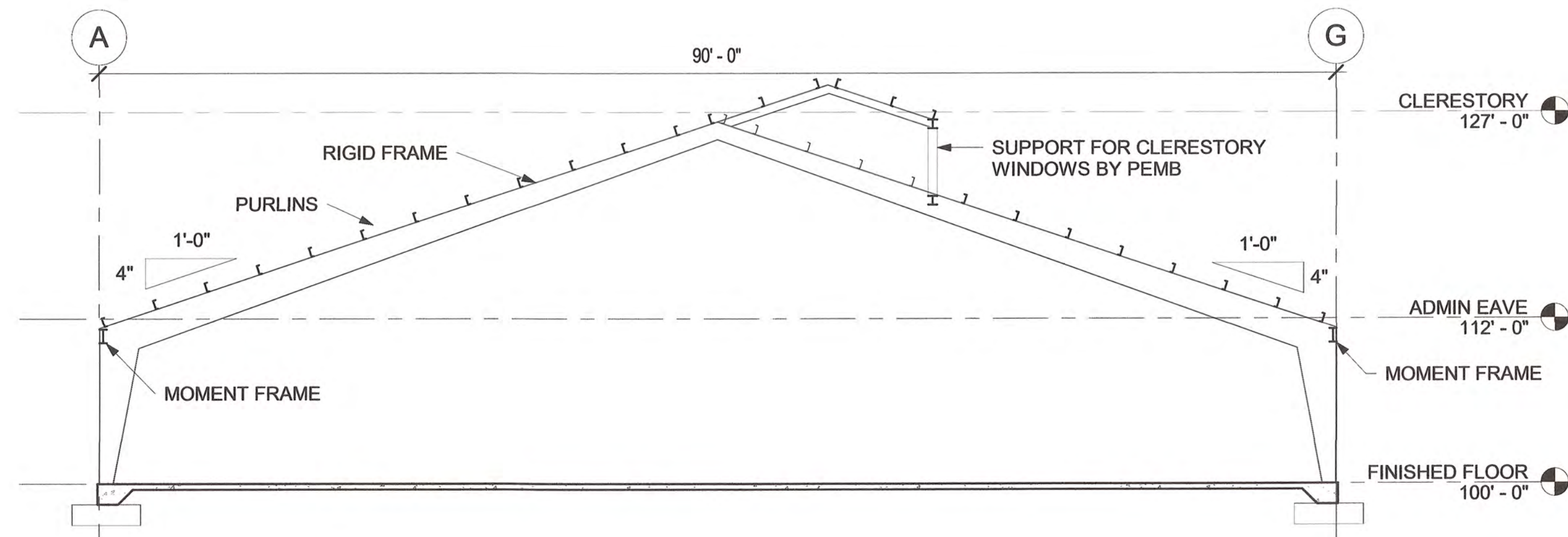
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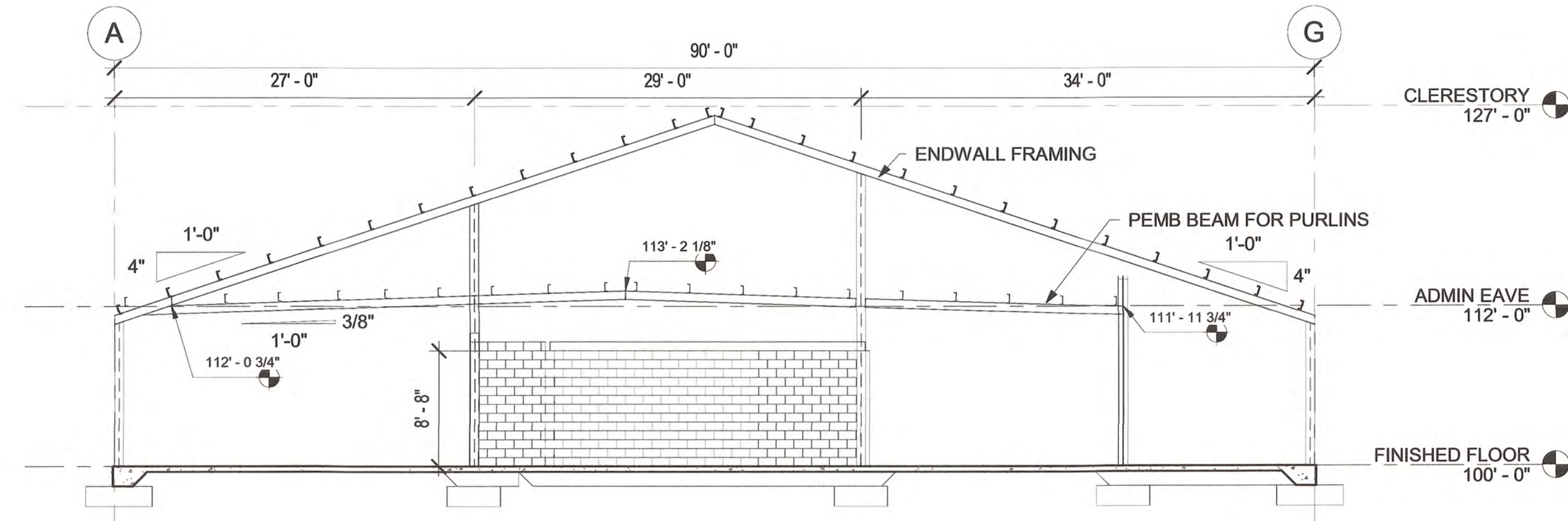
1 FRAMING SECTION - GRIDLINE 2
1/8" = 1'-0"



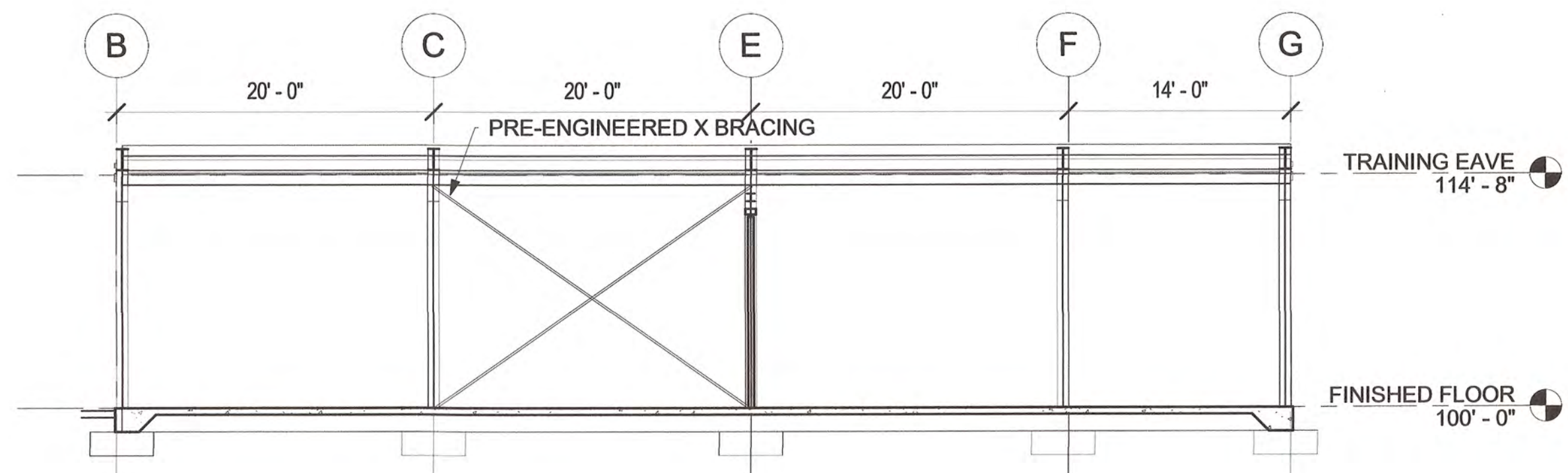
2 FRAMING SECTION - GRIDLINE 5 (TYP)
1/8" = 1'-0"



3 FRAMING SECTION BETWEEN GRIDLINES 3 & 4
1/8" = 1'-0"



4 FRAMING SECTION - GRIDLINE 8
1/8" = 1'-0"



5 FRAMING SECTION - BETWEEN GRIDLINES 10 & 11
1/8" = 1'-0"



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GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE: 1/8" = 1'-0"	DRAWN SURVEY	RSK SAL	APPROVED CITY ENGINEER DATE: 6/12/2025
PROFILE SCALE	PROJ. MGR. LEAD ENGR.	TW 80C	
HORIZONTAL:	FIELD MGR.	6/25 6/25	
VERTICAL:	DESIGN MANAGER	6/25	
FILE:	DRAWING:	ATLAS PAGE NO:	
SHEET NAME: SECTIONS			SHEET NO. S2-01



PROJECT NO. - SW23-01-01

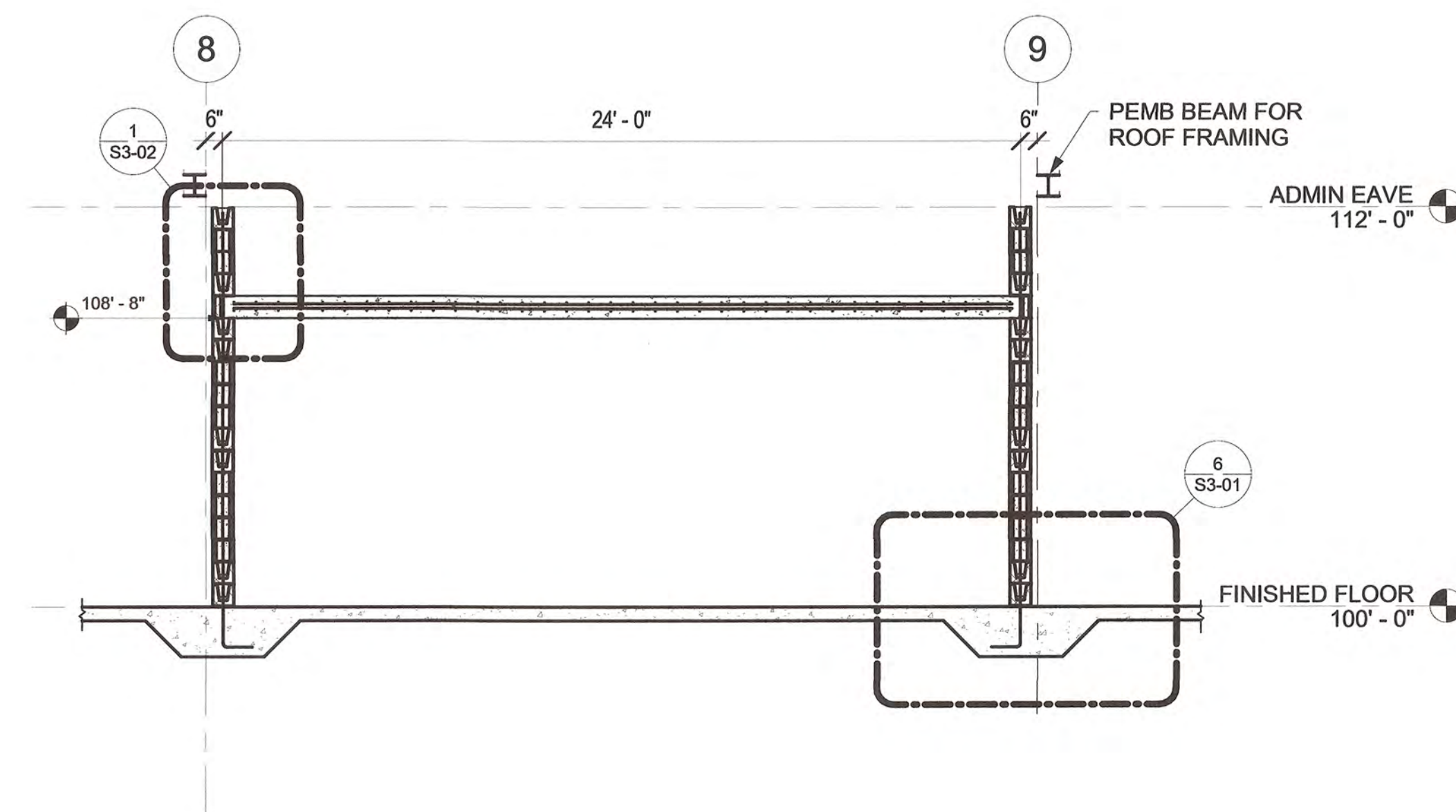
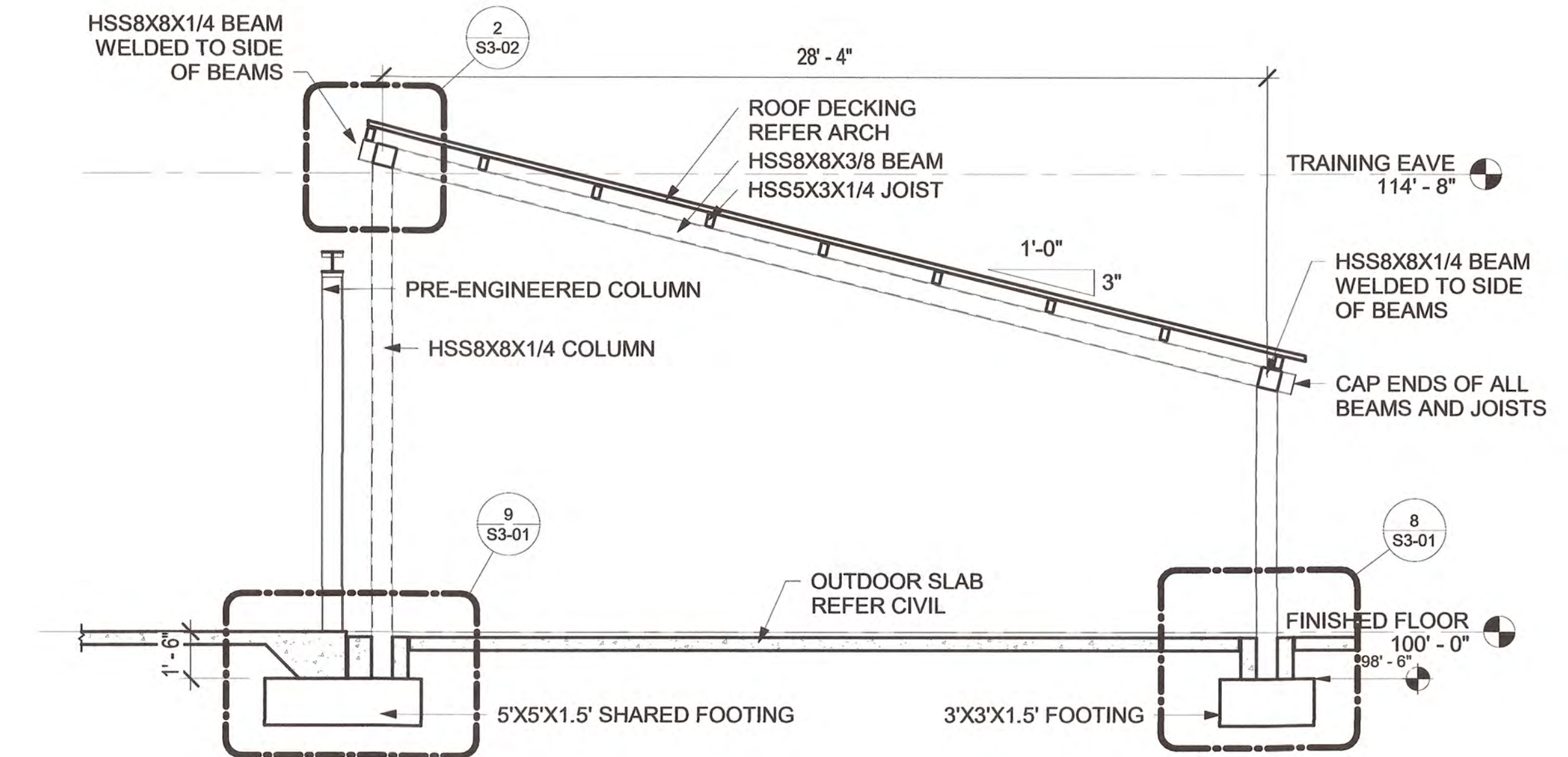
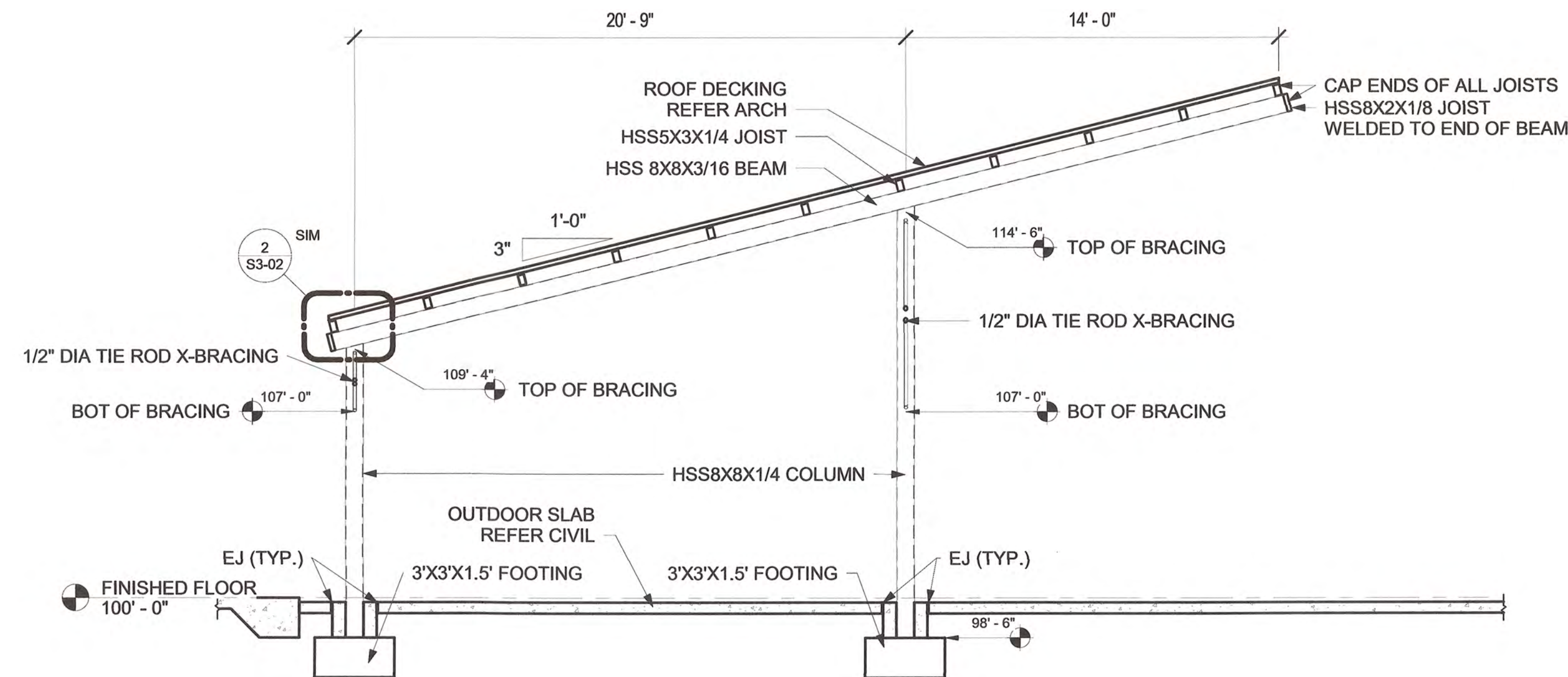
CITY OF TULSA, OKLAHOMA
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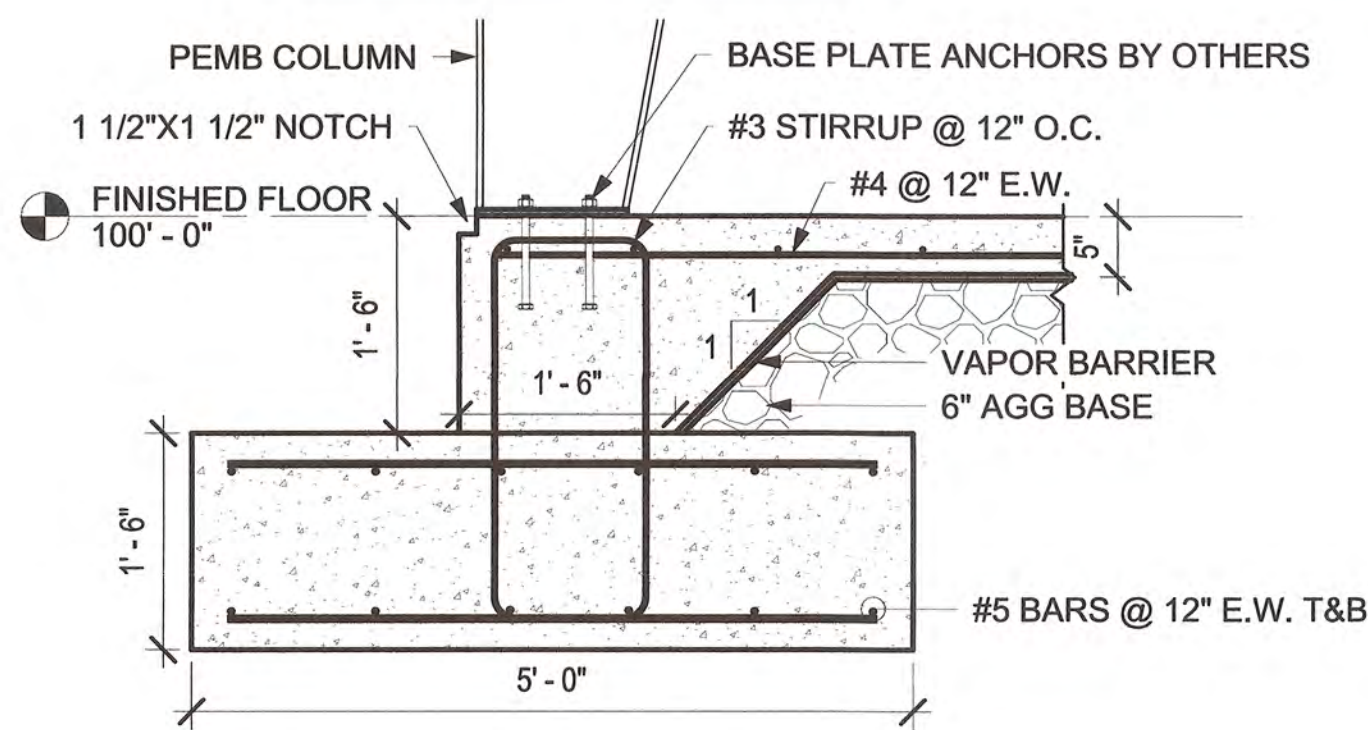
GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

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				NO	REVISION	BY	DATE																																											
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				SURVEY																																														
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		LEAD ENGR.		BDC		6/25																																												
HORIZONTAL:		FIELD MGR.		JWS		6/25																																												
VERTICAL:		RECOMMENDED		J. Thomas		2 PM																																												
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		DRAWING:				DATE: 6/12/2025																																												
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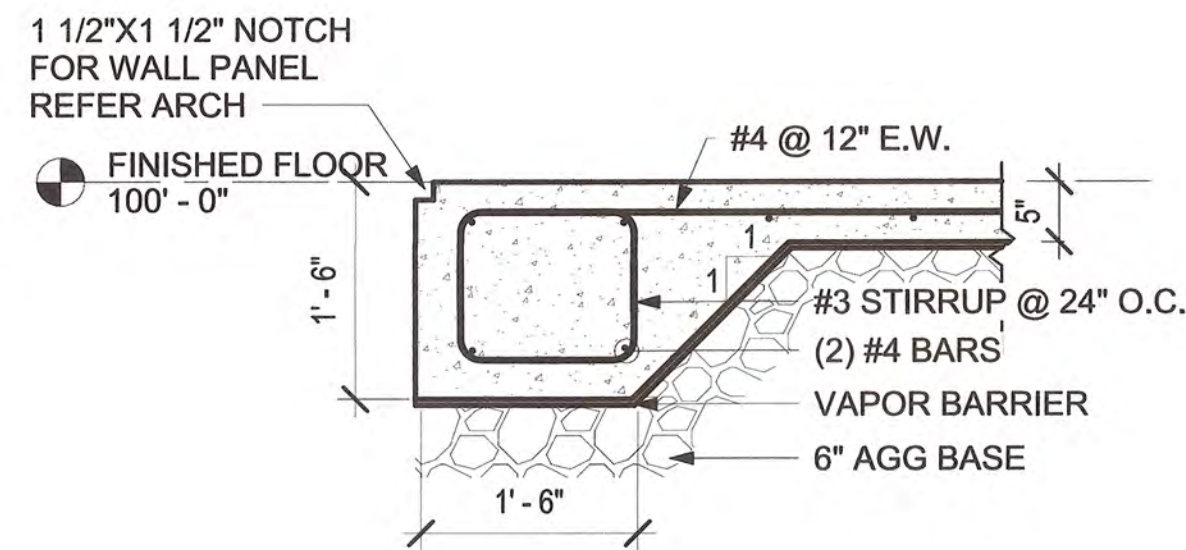


822 6/5/2025 2:28:51 PM

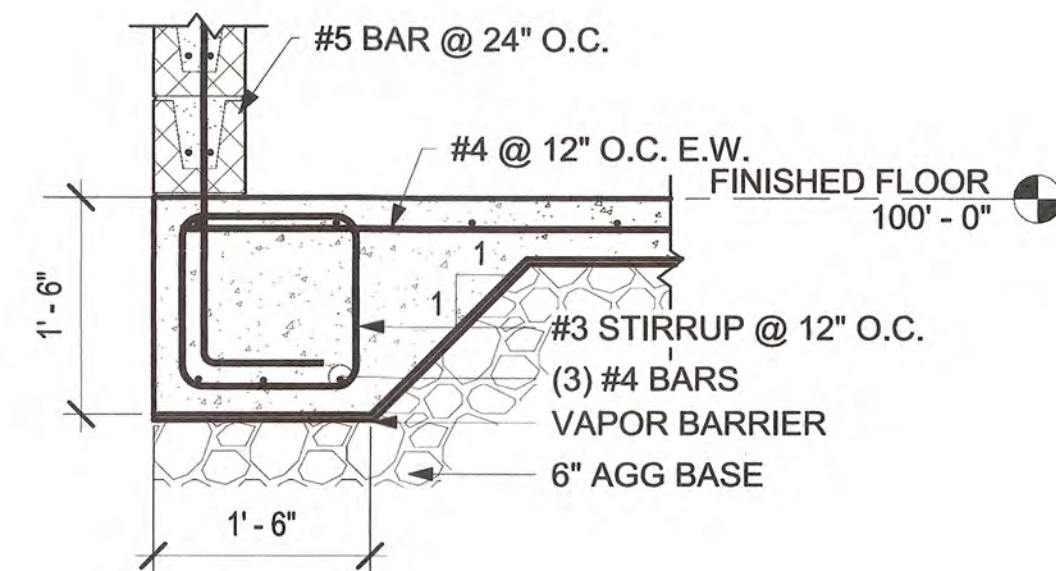
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NO	REVISION	BY	DATE	1/4" = 1'-0"		DESIGNED		SAL		 CITY ENGINEER DATE: 6/12/2025
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						RECOMMENDED:		J. M. Jones		
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				FILE:		DRAWING:				
ATLAS PAGE NO:										
SHEET NAME:						SECTIONS				SHEET NO. S2-03



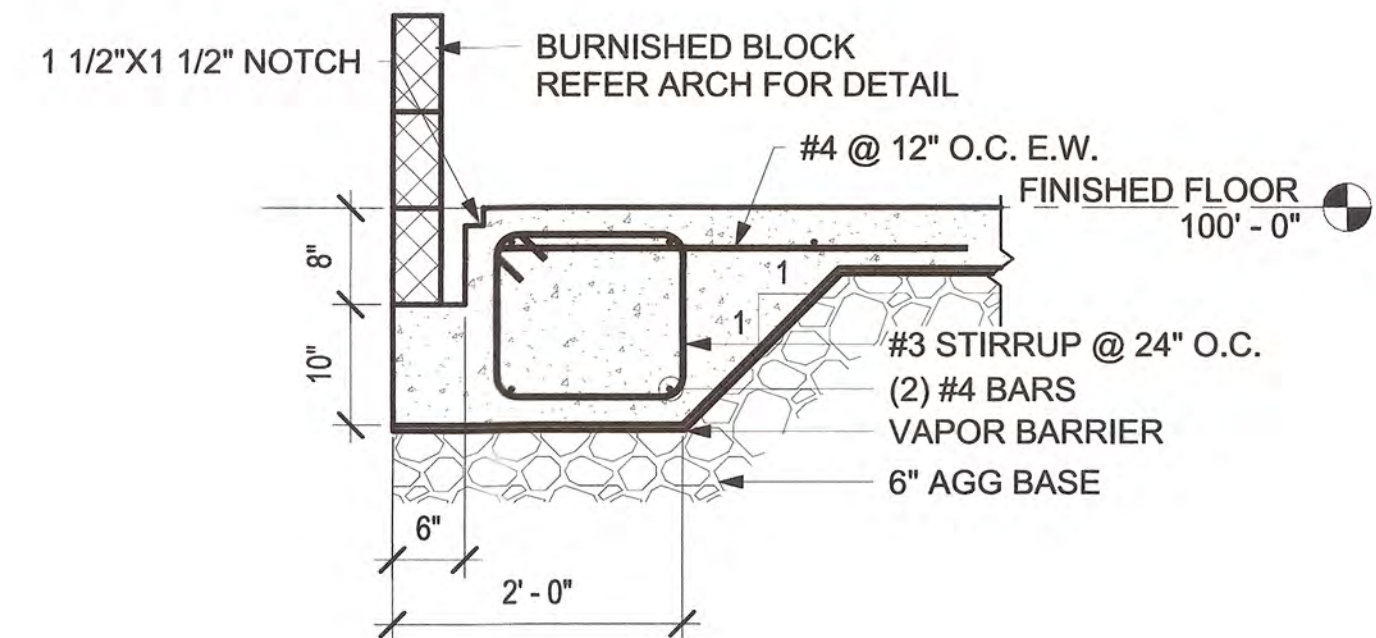
1 TYP. FOOTING DETAIL



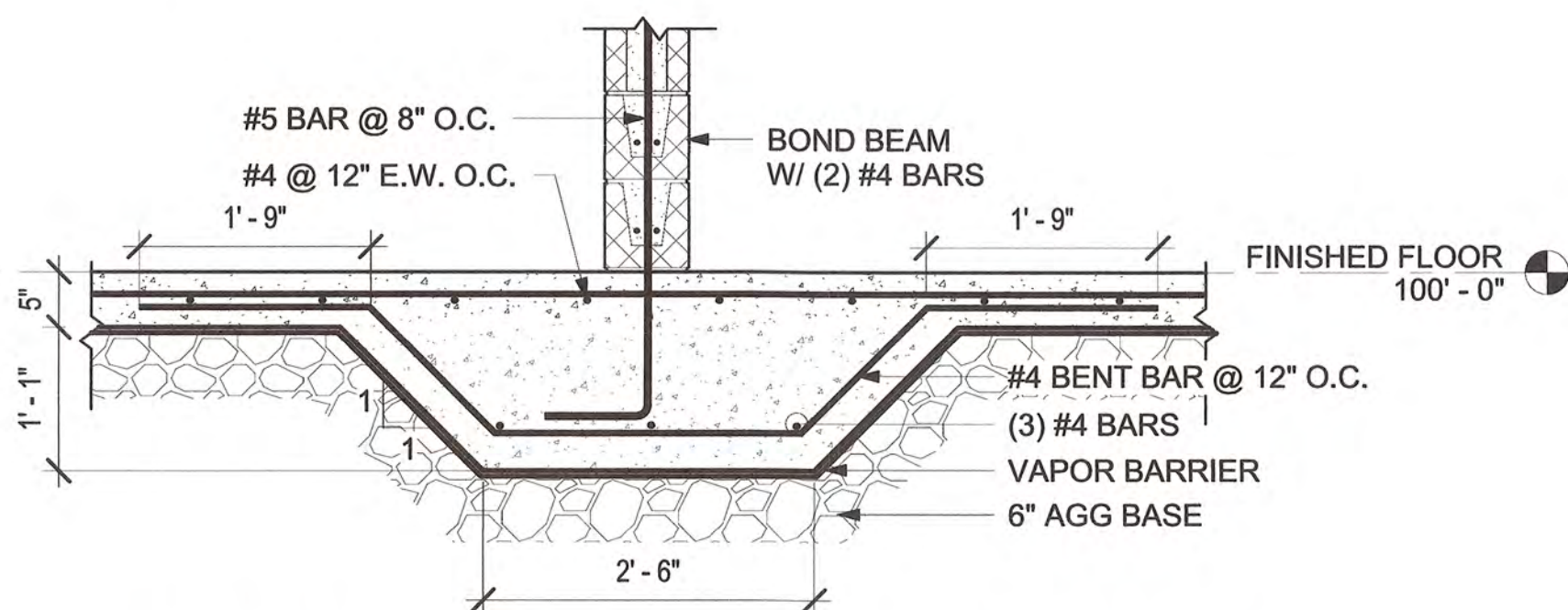
2 TYP. SLAB EDGE DETAIL



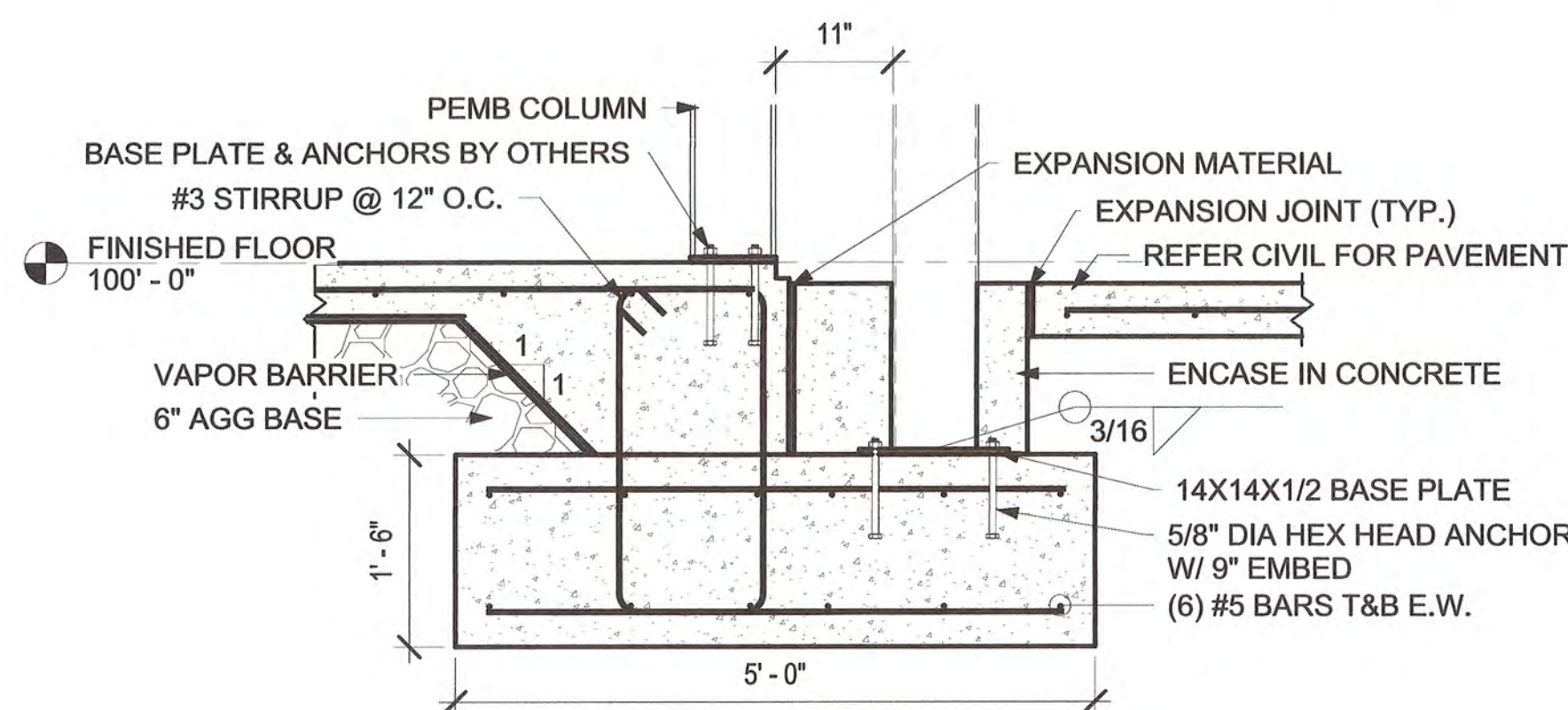
3 SLAB EDGE FOR CMU



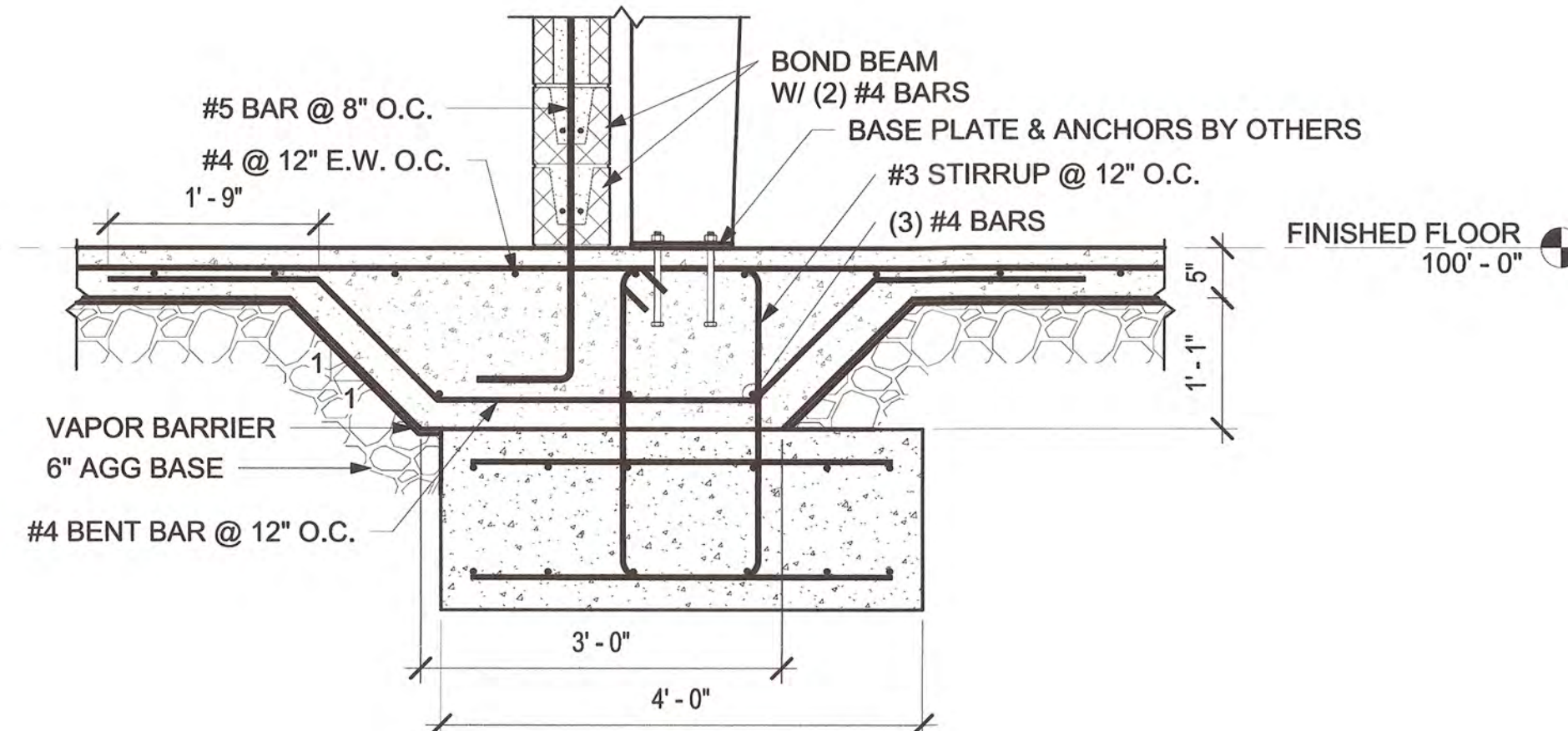
4 SLAB EDGE FOR BURNISHED BLOCK



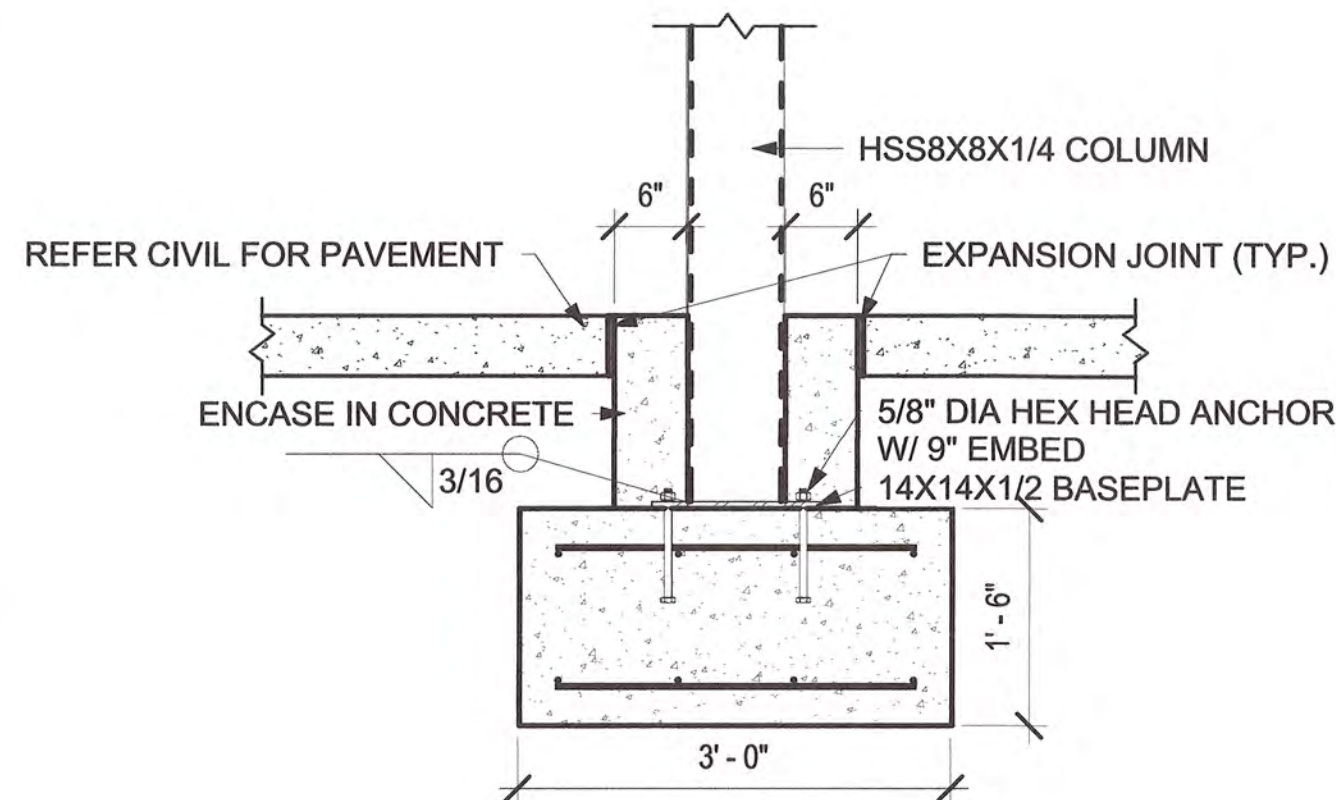
5 BEST AREA OF REFUGE THICKENED SLAB



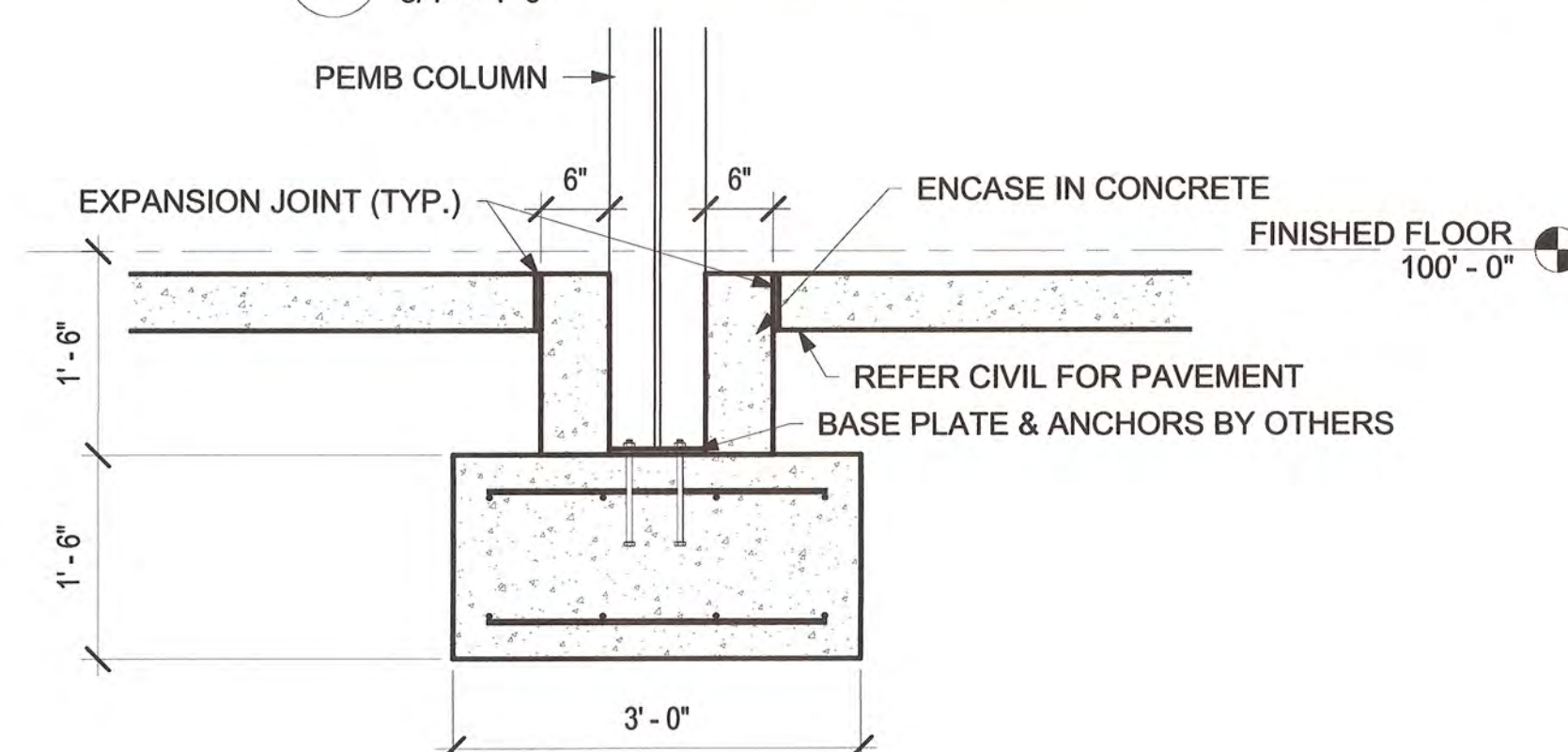
6 SHARED FOOTING



7 THICKENED SLAB FOR CMU & PEMB COLUMN

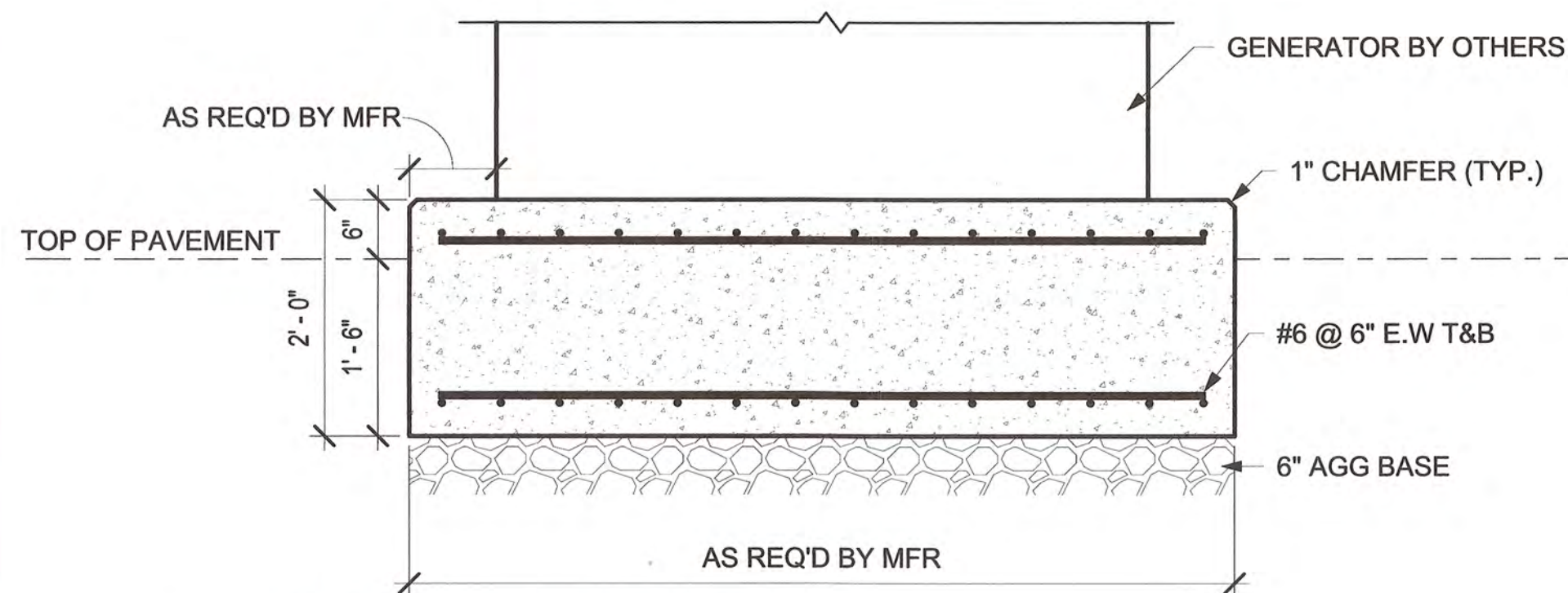


8 ENCASED COLUMN DETAIL



9 ENCASED PEMB COLUMN DETAIL

NOTE: VERIFY DESIGN WITH STRUCTURAL ENGINEER BEFORE INSTALL



10 GENERATOR PAD DETAIL



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. - SW23-01-01

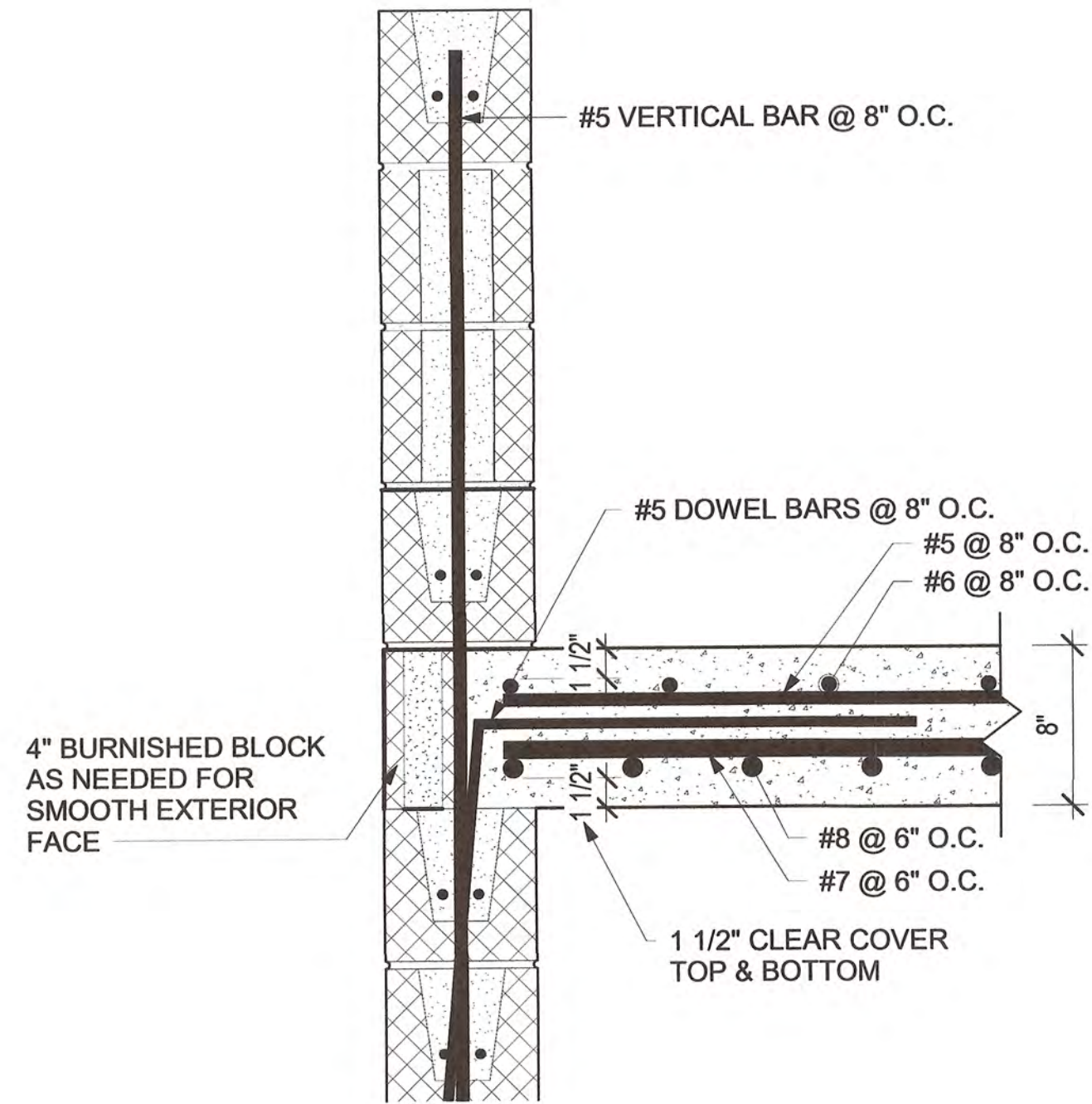
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

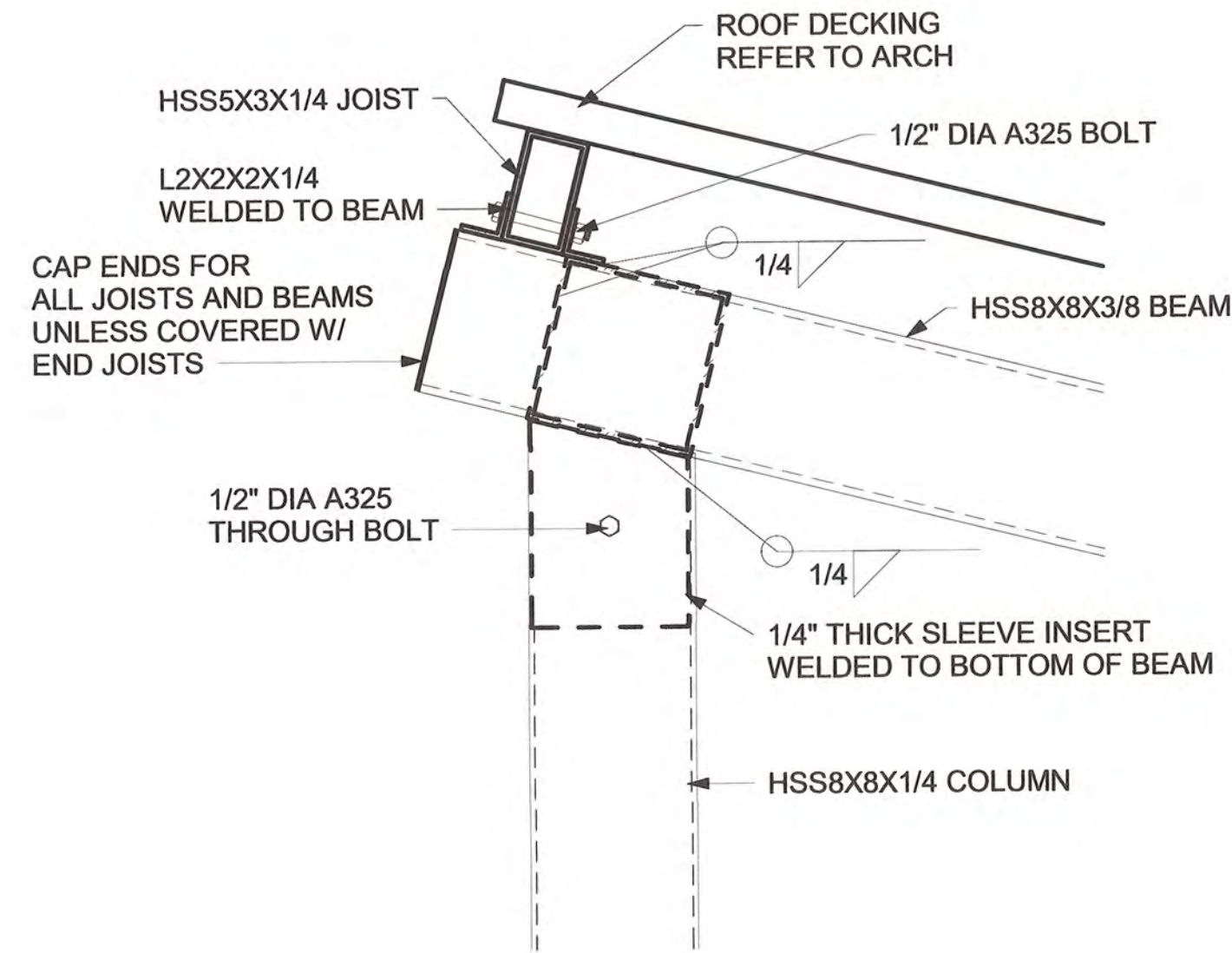
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

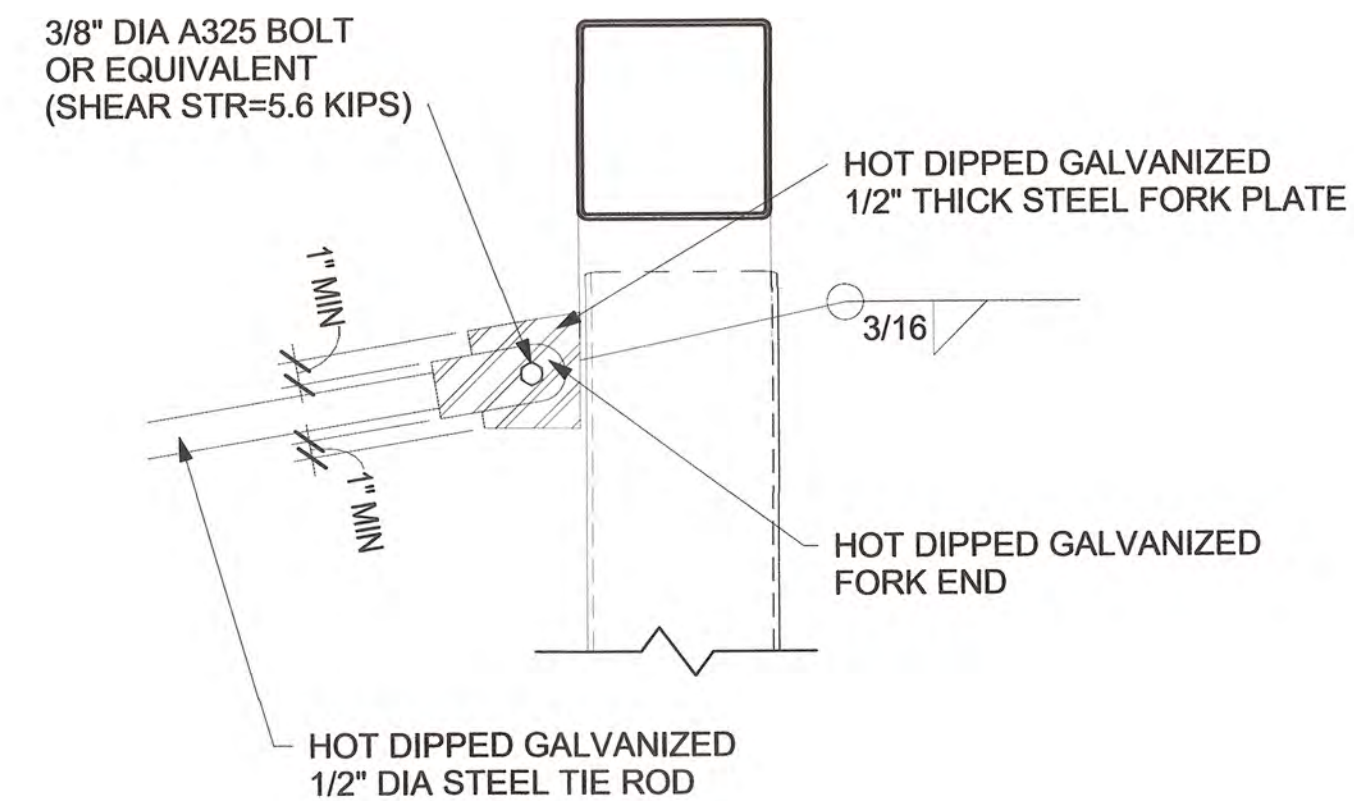
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					SURVEY		
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					LEAD ENGR.	BDC 6/25	
				HORIZONTAL:	FIELD MGR.	JW 6/25	
					RECOMMENDED	JM 6/25	
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				ATLAS PAGE NO:			
				SHEET NAME:	STRUCTURAL DETAILS		SHEET NO. S3-01



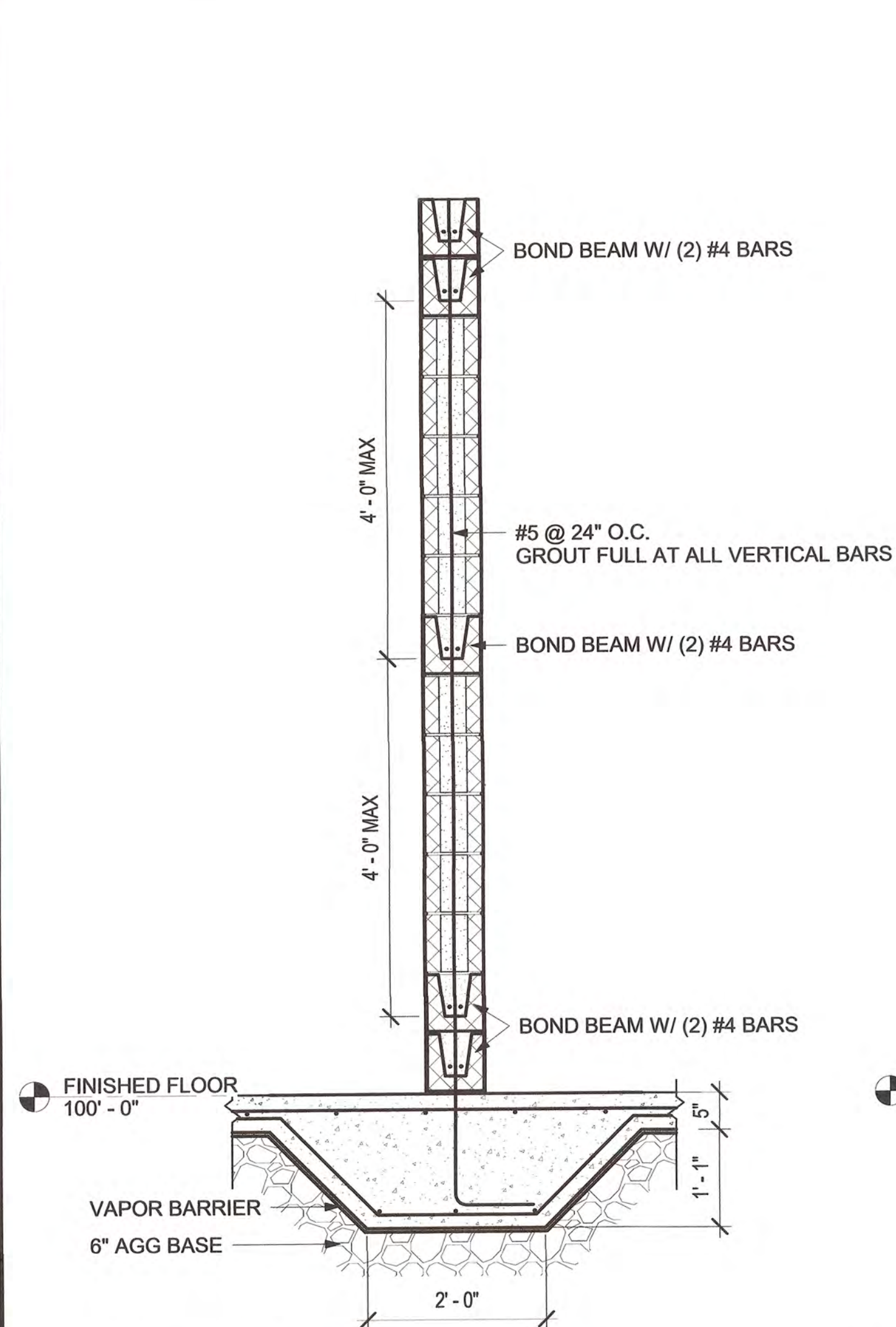
1 8" CONCRETE LID TO CMU
1 1/2" = 1'-0"



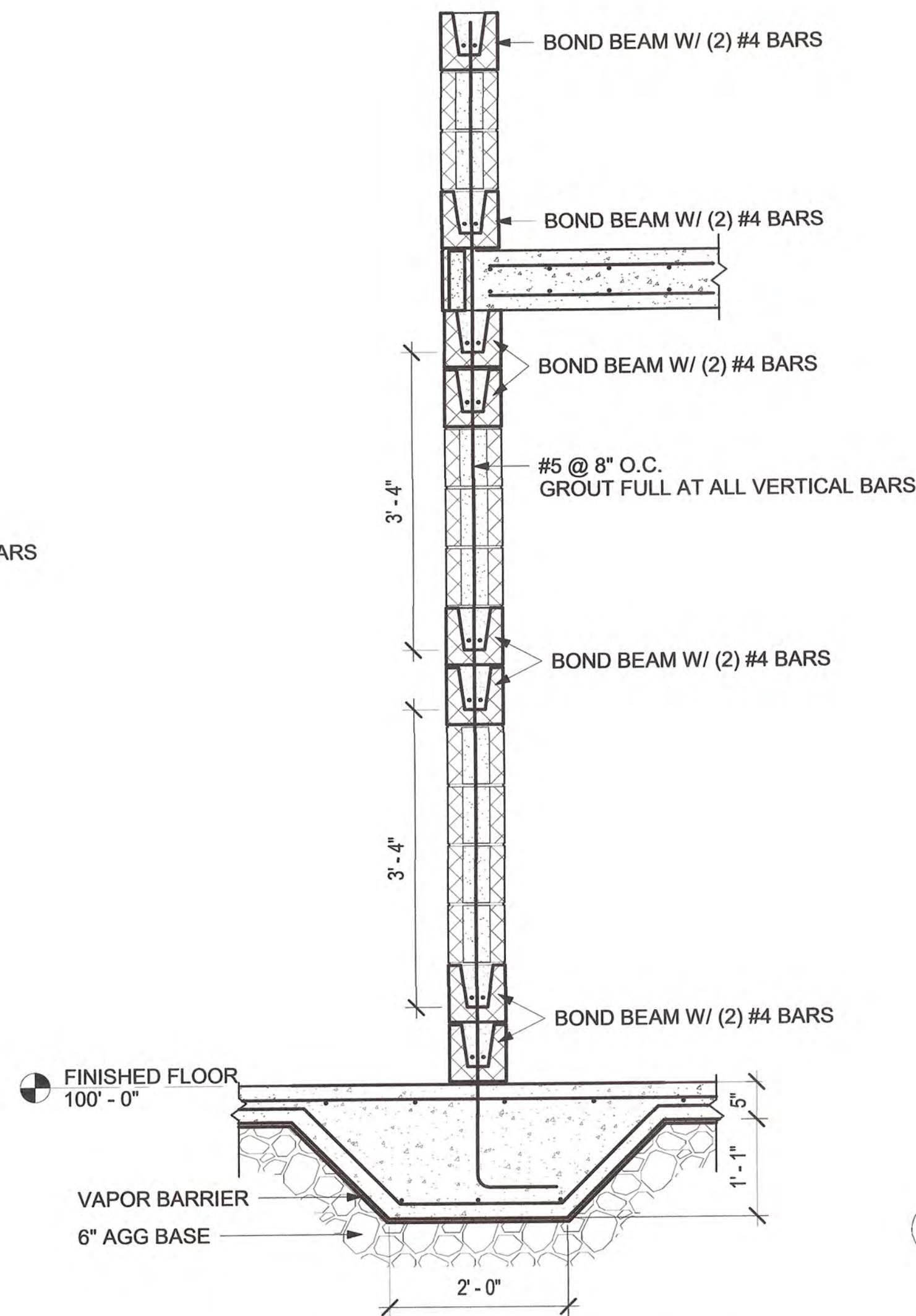
2 CANOPY CONNECTIONS
1 1/2" = 1'-0"



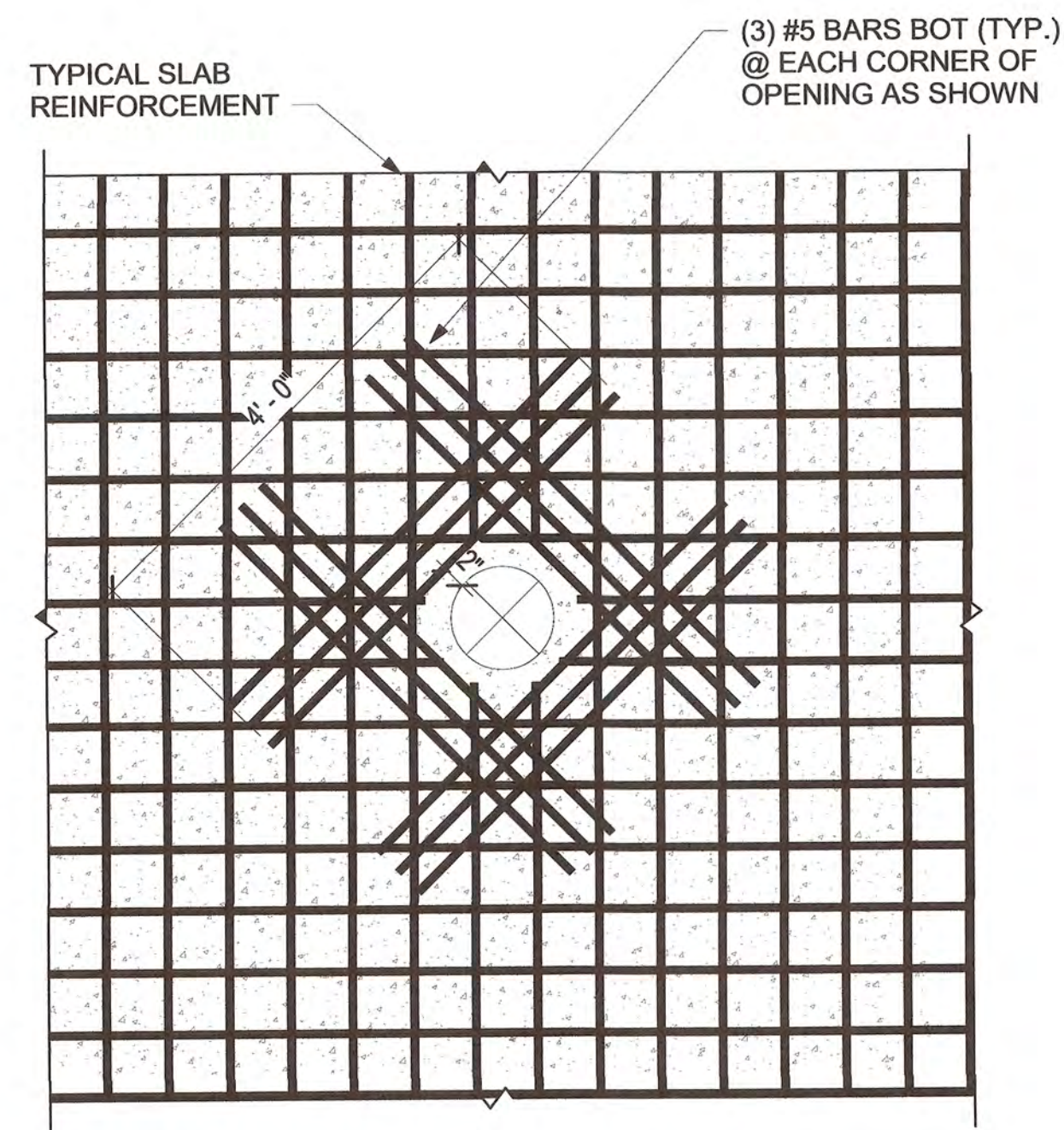
5 X-BRACING CONNECTION AT COLUMN
1 1/2" = 1'-0"



3 TYP. CMU WALL DETAIL
3/4" = 1'-0"

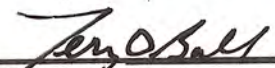


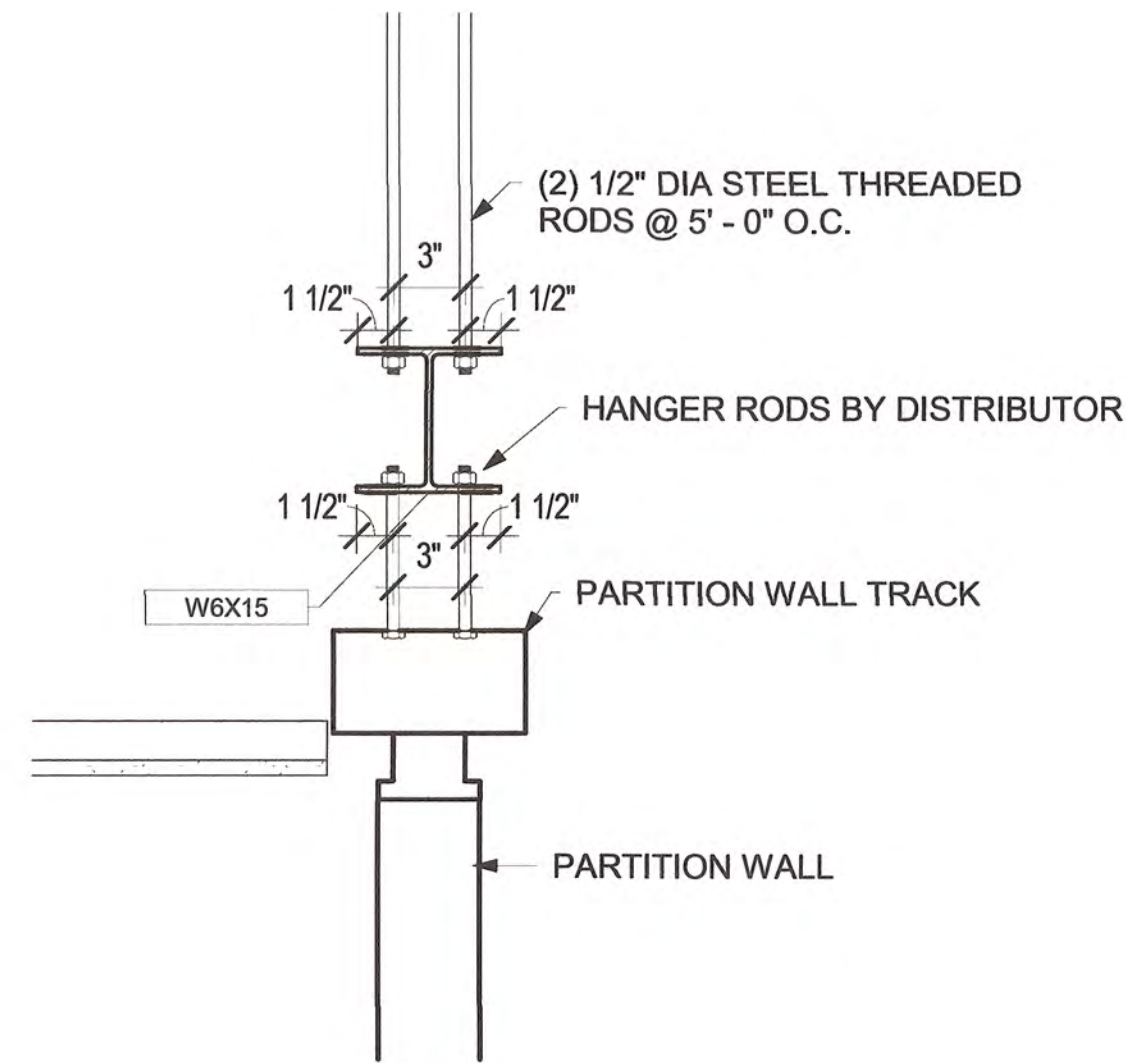
4 BEST AREA OF REFUGE CMU DETAIL
3/4" = 1'-0"



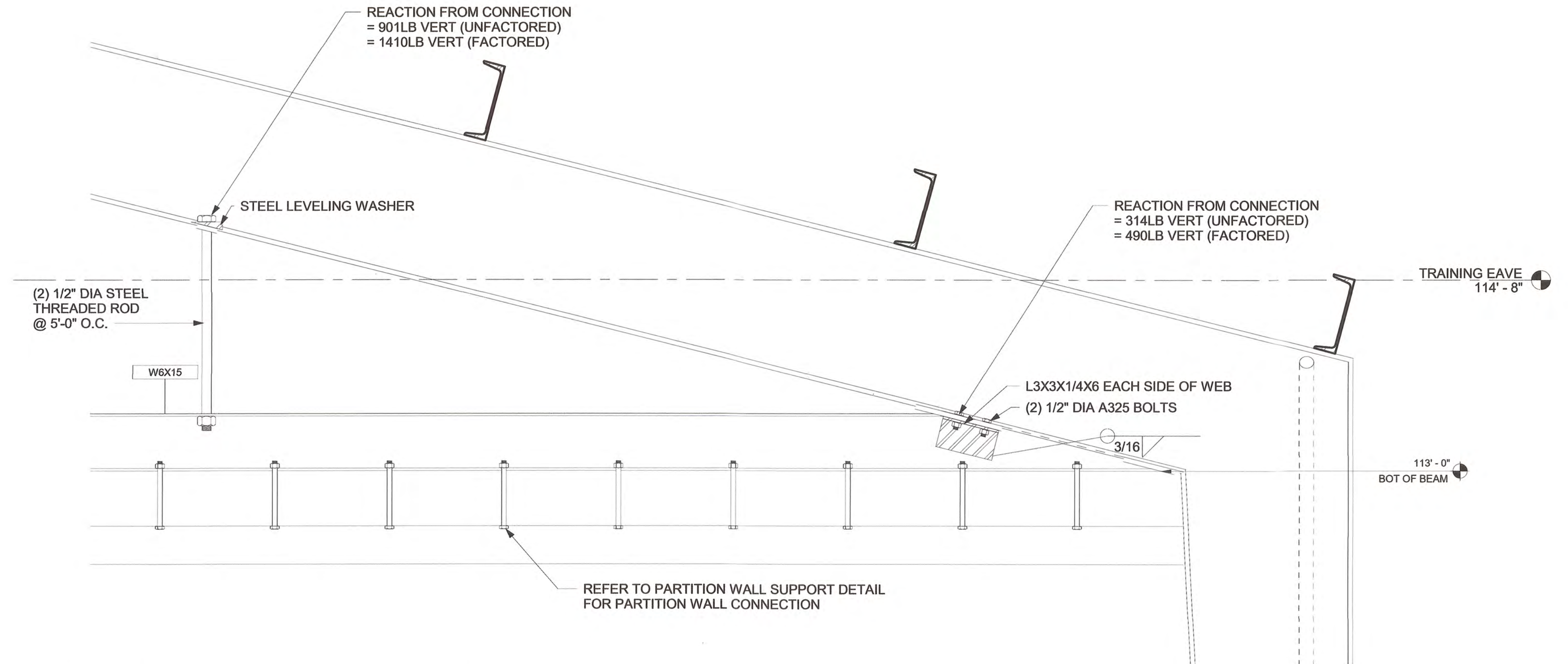
6 REINFORCING AT OPENING IN CONCRETE LID
3/4" = 1'-0"



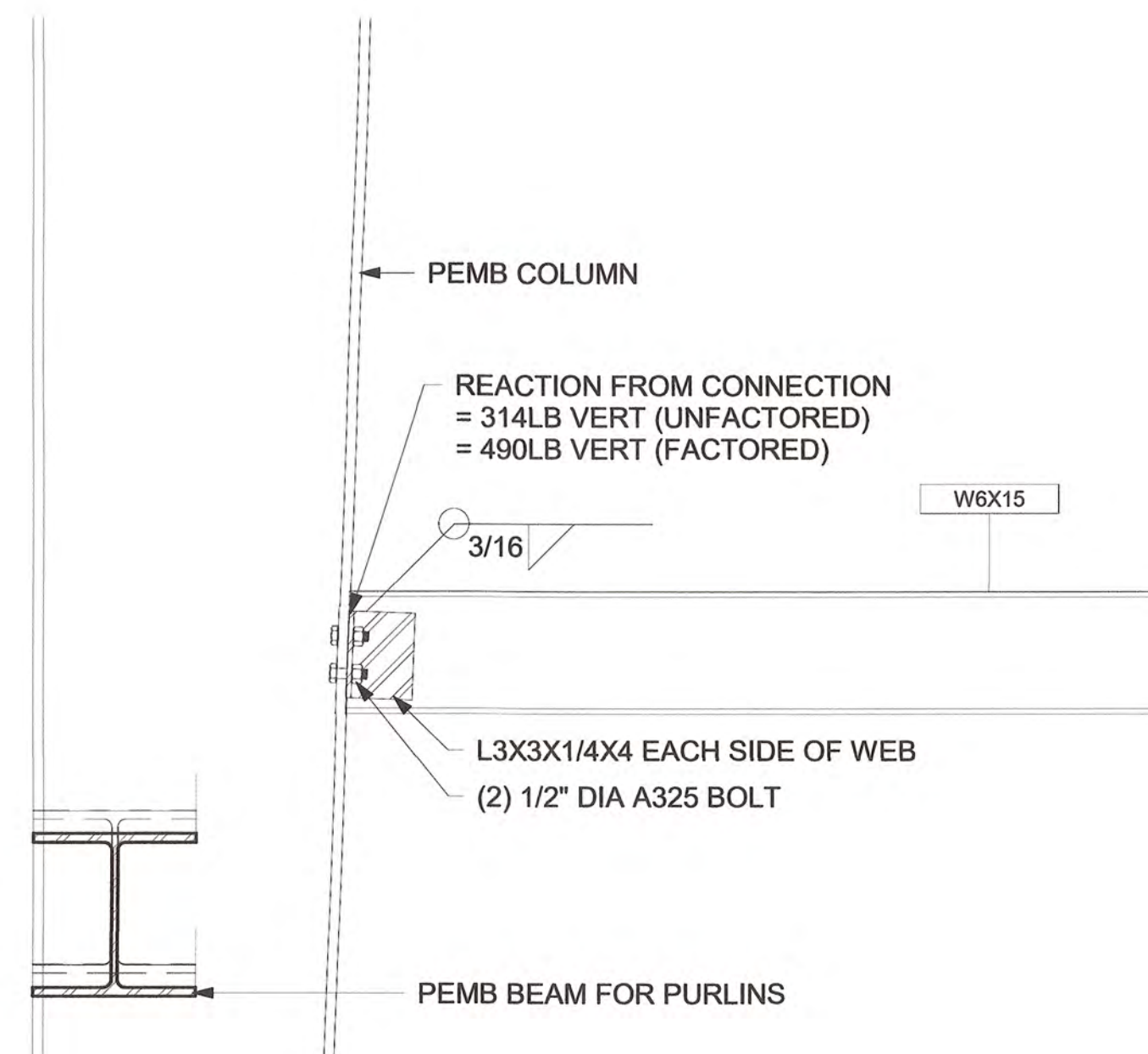
STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. - SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:	DRAWN	RSK	APPROVED
As indicated	DESIGNED	SAL	 CITY ENGINEER DATE: 6/12/2025
	SURVEY		
PROFILE SCALE	PROJ. MGR.	TW 6/25	
	LEAD ENGR.	Boc 6/25	
HORIZONTAL:	FIELD MGR.	DJ 6/25	
VERTICAL:	RECOMMENDED Shane G. M.		
FILE:	DESIGN MANAGER		
	DRAWING:		
ATLAS PAGE NO:			SHEET NO.
SHEET NAME: STRUCTURAL DETAILS			S3-02



1 PARTITION WALL SUPPORT DETAIL
1 1/2" = 1'-0"



2 BEAM CONNECTION DETAIL @ COLUMN 11E
1 1/2" = 1'-0"



3 BEAM CONNECTION DETAIL @ COLUMN 9E
1 1/2" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. - SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE: 1 1/2" = 1'-0"	DRAWN DESIGNED SURVEY	RSK SAL	APPROVED
PROFILE SCALE	PROJ. MGR. LEAD ENGR.	TW Boc 6/25	6/25
HORIZONTAL:	FIELD MGR.	JW 6/25	6/25
VERTICAL:	RECOMMENDED DESIGN MANAGER	Thom 6/25	6/25
FILE:	DRAWING:		CITY ENGINEER DATE: 6/12/2025
ATLAS PAGE NO: SHEET NAME: STRUCTURAL DETAILS			SHEET NO. S3-03

Key Value	Keynote Text
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CO	CANOPY OVERHANG
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SHEET NO.:	SHEET NO.:
FLOOR PLAN OVERALL	A1-01

6/5/2025 2:29:11 PM

Key Value	Keynote Text
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PROJECT NO. SW23-01-01

ANS AND ESTIMATES PREPARED BY: _____

姓名	学号	性别	年龄	职业
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AN SCALE:	DRAWN	ABS		APPROVED
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DESIGNED	JDH	

	SURVEY		
PROFILE SCALE	PROJ MCB	71	6.55

LEAD ENGR.	BDC	6/25
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HORIZONTAL:	FIELD MGR.	Jw	6/25
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RECOMMENDED: *Thomas J. M.* *Tenover*

RTICAL:	DESIGN MANAGER	CITY ENGINEER
5	DRAWING	DATE: 6/10/2005

DATE: 5/12/2023	DRAWING:	CL:
AS PAGE NO:		

SHEET NAME:	SHEET NO.
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FLOOR PLAN - SOUTH **A1-02**



				PLAN SCALE:	DRAWN	ABS		APPROVED
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NO	REVISION	BY	DATE	1/8" = 1'-0"	DESIGNED	JDH	

			SURVEY		
			PROFILE SCALE	PROJ MGR	TU / hkr

[illegible]

			HORIZONTAL:	FIELD MGR.	JW	6/25
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[illegible]

VERTICAL:	DESIGN MANAGER	CITY ENGINEER
FILE	DRAWING	DATE: 6/15/2005

FILE:	DRAWING:	DATE: 5/12/2023
ATLAS PAGE NO:		

			SHEET NAME:	SHEET NO.
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Key Value	Keynote Text
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8.2	FOLDING PARTITION DOOR.
9.AWP2	ACOUSTICAL WALL PANEL WITH WOOD SLATS.
9.PES	PAINT EXPOSED STRUCTURE, TYPICAL
10.MHS	MOP AND BROOM HOLDER WITH SHELF.
11.TC	TIMECLOCK LOCATION RE: MEP TIMECLOCK DEVICE PROVIDED BY OWNER
22.FD	FLOOR DRAIN RE: PLUMBING
22.WST	8' TALL 5' DIAMETER CORRUGATED METAL WATER STORAGE TANK, GALVANIZED. WITH WATER PUMP, FAUCET WITH WATER HOSE CONNECTION. GALVANIZED OVERFLOW CONDUCTOR HEAD AND DOWNSPOUT. APPROX 1,000 GALLON, BY SOUTHERN ARIZONA RAIN GUTTERS, OR APPROVED EQUAL



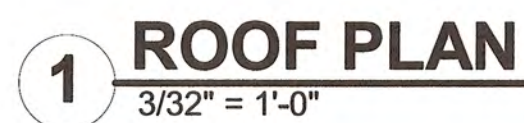
PROJECT NO. SW23-01-01

PLANS AND ESTIMATES PREPARED BY:

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

NO	REVISION	BY	DATE	PLAN SCALE: 1/8" = 1'-0"	DRAWN DESIGNED SURVEY	Author JDH	APPROVED <
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Key Value	Keynote Text
5.RC	STAINLESS STEEL RAIN CHAIN, 1/4" LINK
7.CC	PREFINISHED METAL COPING CAP
7.DS	PREFINISHED METAL DOWNSPOUT
7.DW	DOWNSPOUT ROUTED INTO WATER STORAGE TANK
7.EF	PREFINISHED METAL EAVE FLASHING
7.GO	ENDS OF GUTTERING TO REMAIN OPEN
7.GR	NON-PENETRATING GUARDRAIL SYSTEM WITH 4' SWING GATE, GARLOCK RAILGUARD 200 OR APPROVED EQUAL. SUPPORTS SET ON RUBBER PADS WITH ADHERED ISOLATION PAD BELOW
7.GU	PREFINISHED METAL GUTTER
7.MEM	THERMOPLASTIC MEMBRANE ROOFING SYSTEM OVER COVERBOARD AND TAPERED INSULATION
7.RF	PREFINISHED METAL RIDGE FLASHING
7.SB	CONCRETE SPLASH BLOCK
7.SG	SNOW GUARD
7.STS	PREFINISHED STANDING SEAM METAL ROOFING SYSTEM
7.WP	WALK PAD
22.RD	PRIMARY AND OVERFLOW ROOF DRAINS. REFERENCE MEP.
22.WST	8' TALL 5' DIAMETER CORRUGATED METAL WATER STORAGE TANK, GALVANIZED. WITH WATER PUMP, FAUCET WITH WATER HOSE CONNECTION, GALVANIZED OVERFLOW CONDUCTOR HEAD AND DOWNSPOUT. APPROX 1,000 GALLON, BY SOUTHERN ARIZONA RAIN GUTTERS, OR APPROVED EQUAL
23.COM	MECHANICAL UNIT, REF. MEP.



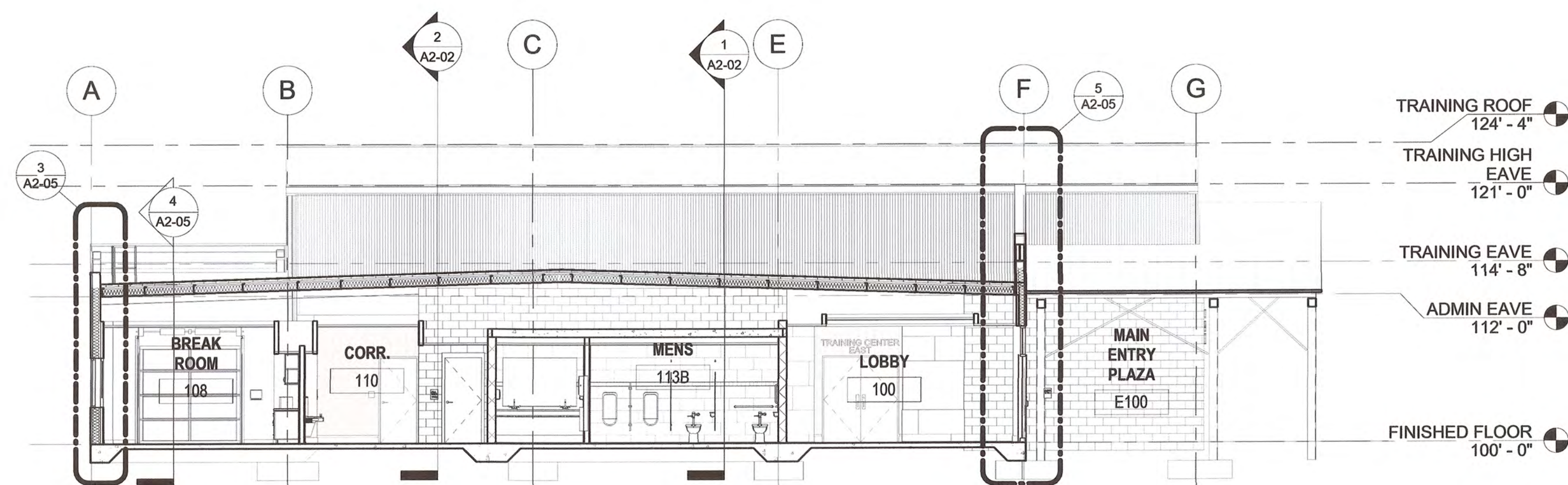
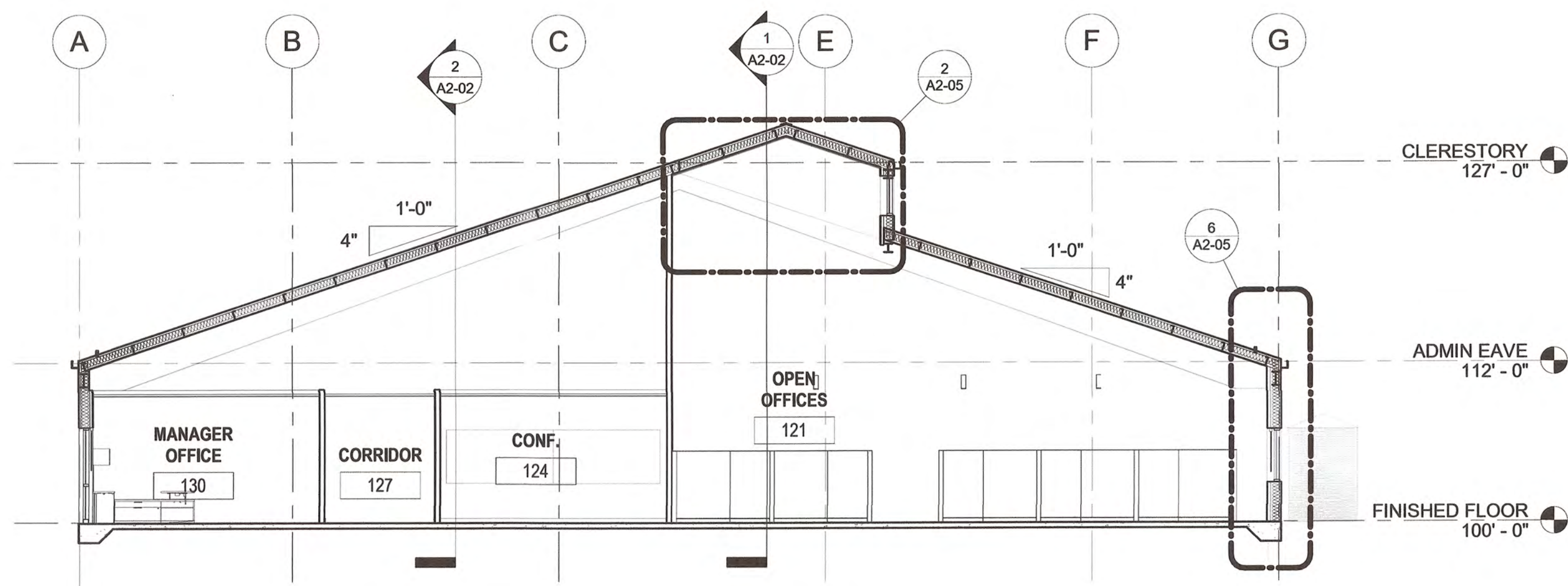
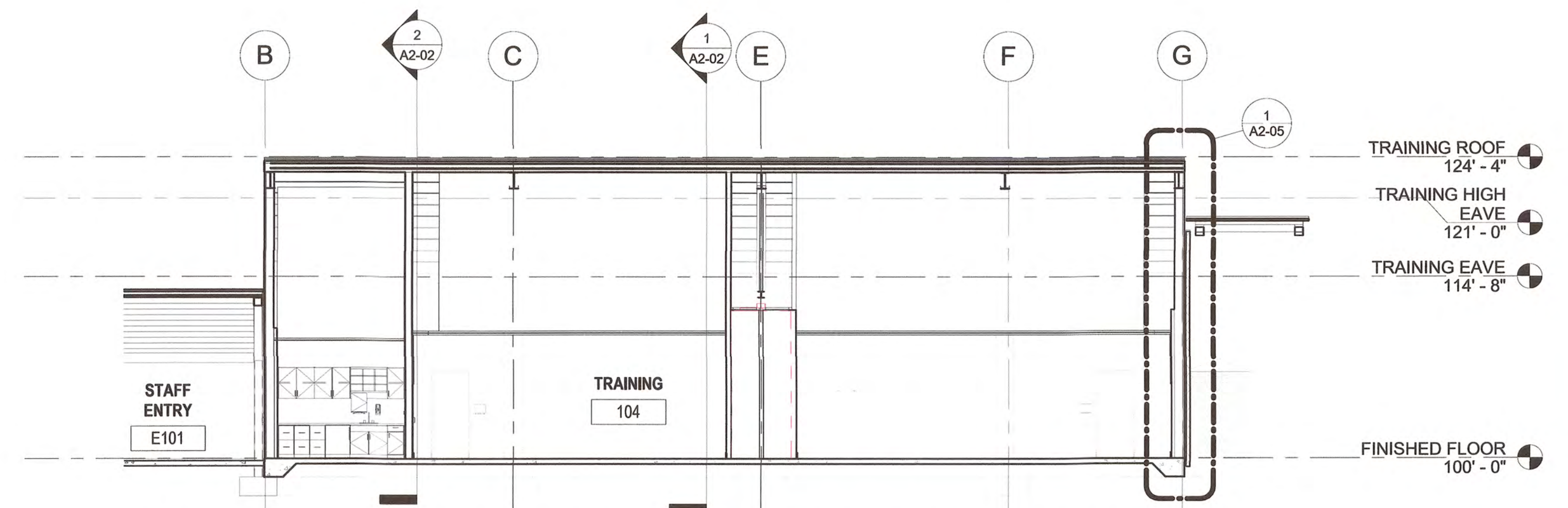
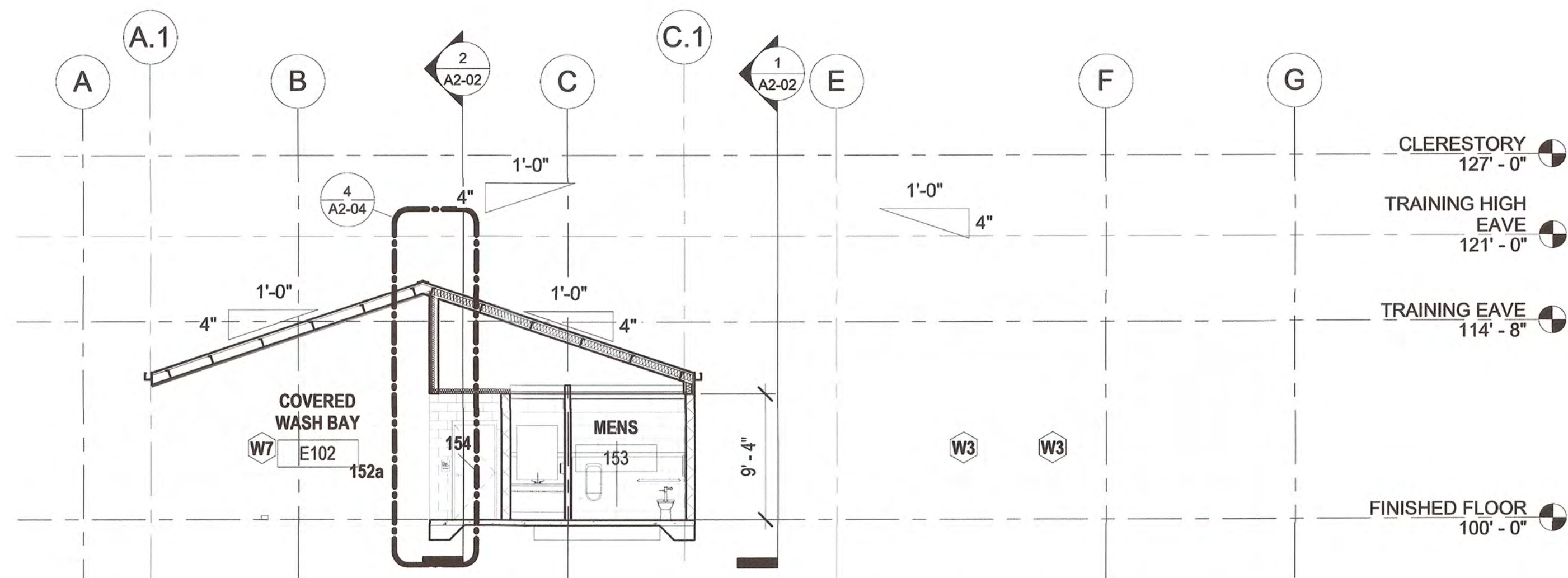
1. **STANDING SEAM METAL ROOF CONSTRUCTION:** (R11 +R19FC): METAL ROOF PANEL ON THERMAL BLOCKS OVER VINYL SCRIM FACED THERMAL BATT INSULATION OVER UNFACED THERMAL BATT INSULATION BETWEEN PURLINS ON UNINTERRUPTED CONTINUOUS LINER WITH SUPPORT BANDS.
2. **REFER PLUMBING DRAWINGS FOR VENT THROUGH ROOF (VTR) LOCATIONS, LOCATE PIPE PENETRATION IN VALLEYS OF METAL ROOF PANELS AS APPLICABLE**
3. **REFER MECHANICAL ROOF PLANS FOR GAS PIPING, CONDENSATE PIPING, RTU SUPPORT DETAILS, & DUCT SUPPORT DETAILS**
4. **ALL ROOF PIPE SUPPORTS TO BE INORGANIC AND TO BE PLACED ON ADHERED SACRIFICIAL ROOFING MEMBRANE SLIP SHEETS.**



ATLAS PAGE NO:	
SHEET NAME: ROOF PLAN	SHEET NO. A1-05



NO	REVISION	BY	DATE	PLAN SCALE: DRAWN ABS As indicated DESIGNED JDH SURVEY PROFILE SCALE: PROJ. MGR. TW 6/25 LEAD ENGR. BDC 6/25 HORIZONTAL: FIELD MGR. JW 4/25 RECOMMENDED: [Signature] VERTICAL: DESIGN MANAGER FILE: DRAWING:	APPROVED CITY ENGINEER [Signature] DATE: 6/12/2025
ATLAS PAGE NO:				SHEET NO. A2-02	
SHEET NAME:					
BUILDING SECTIONS					



6/5/2025 2:29:56 PM

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

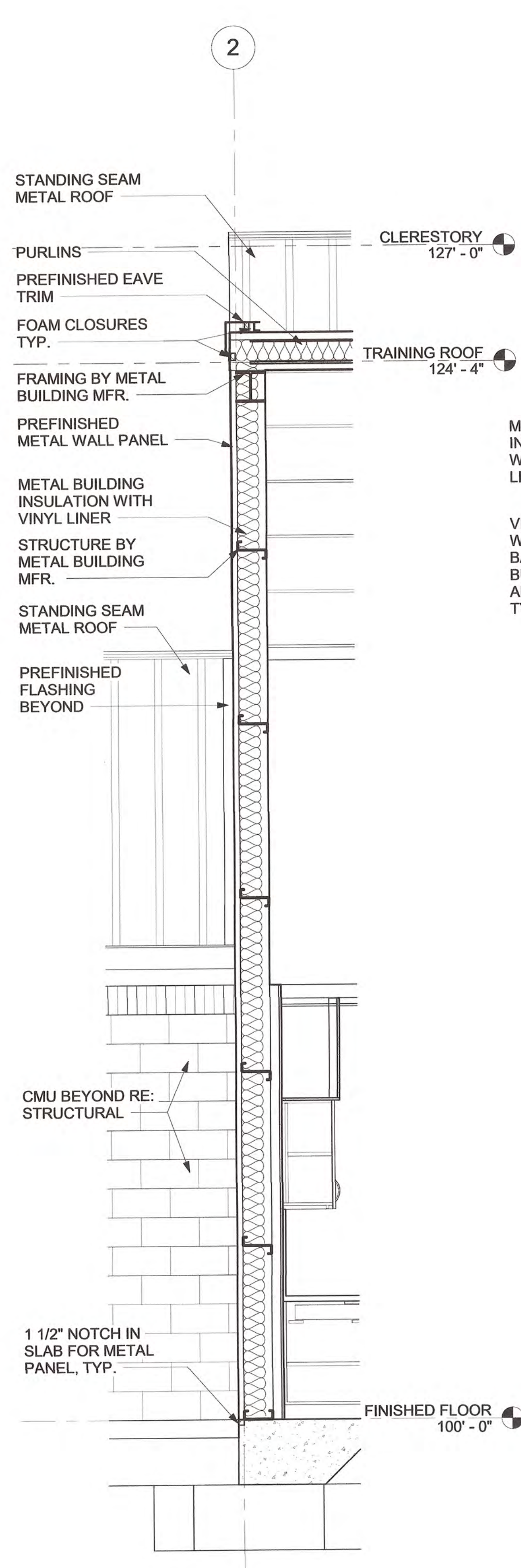
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

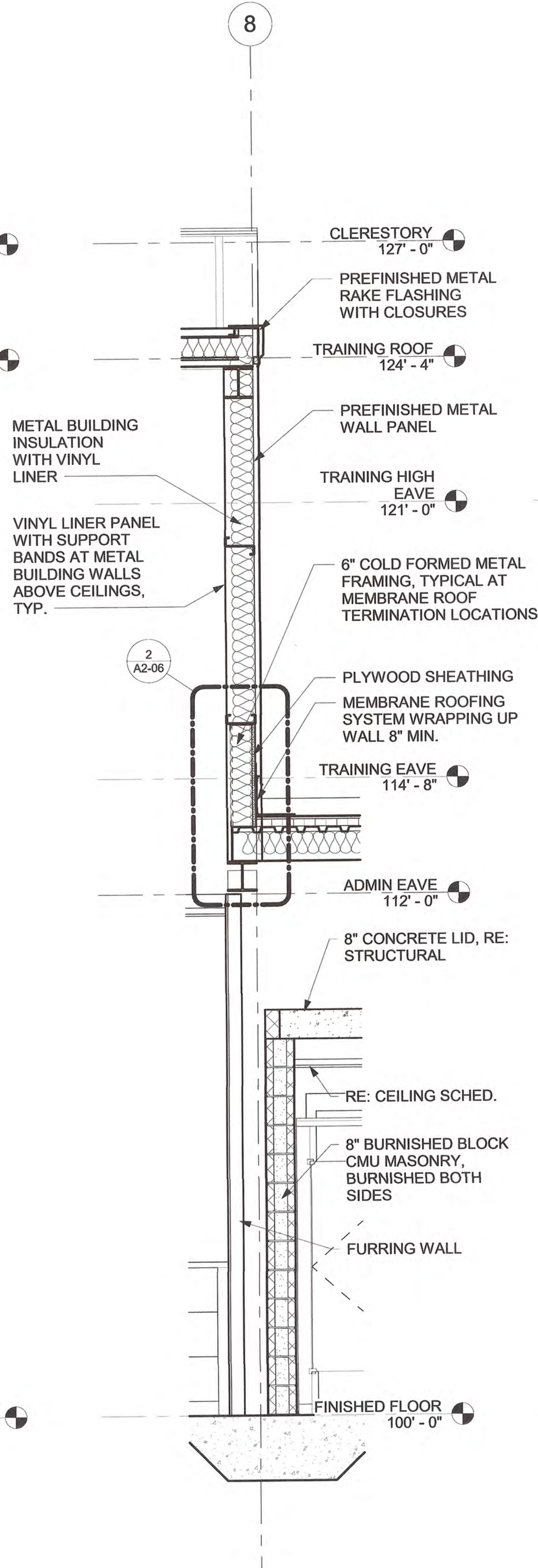


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					SURVEY					
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					LEAD ENGR.		BDC 6/25			
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					RECOMMENDED:		Thomas S. [Signature]		[Signature]	
			VERTICAL:		DESIGN MANAGER				CITY ENGINEER	
			FILE:		DRAWING:				DATE: 6/12/2025	
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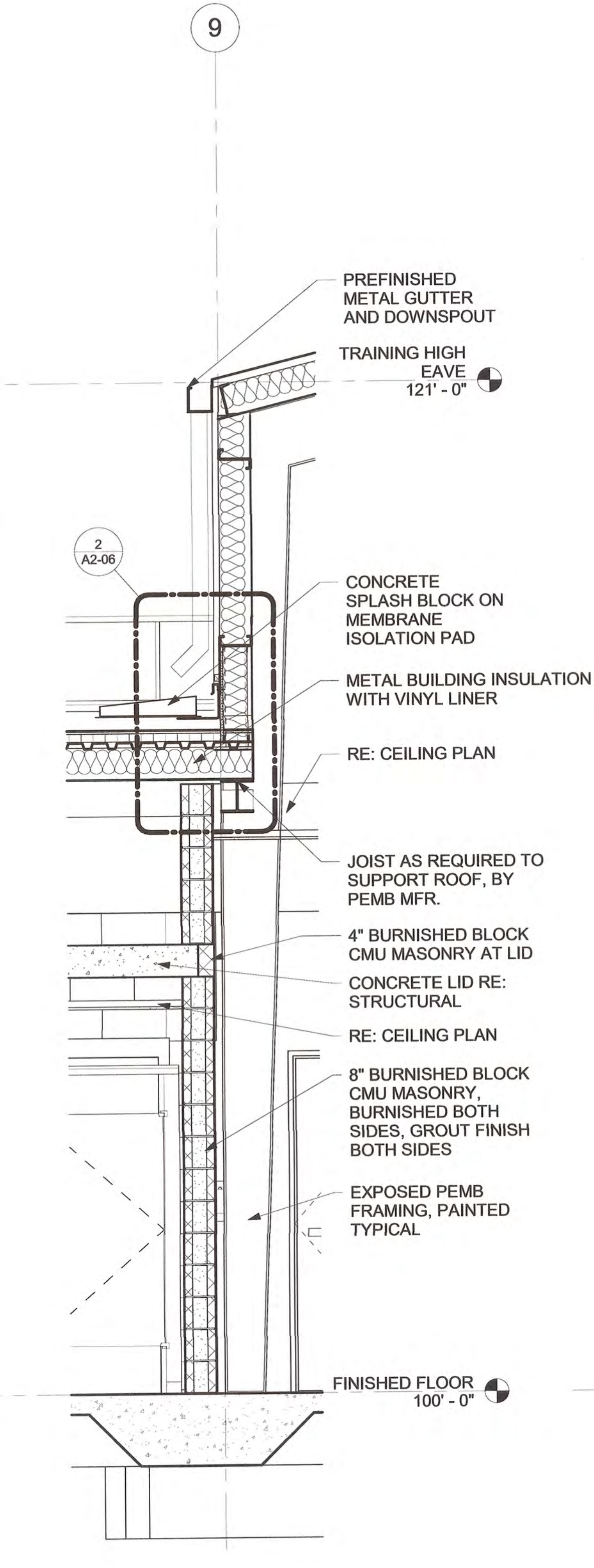
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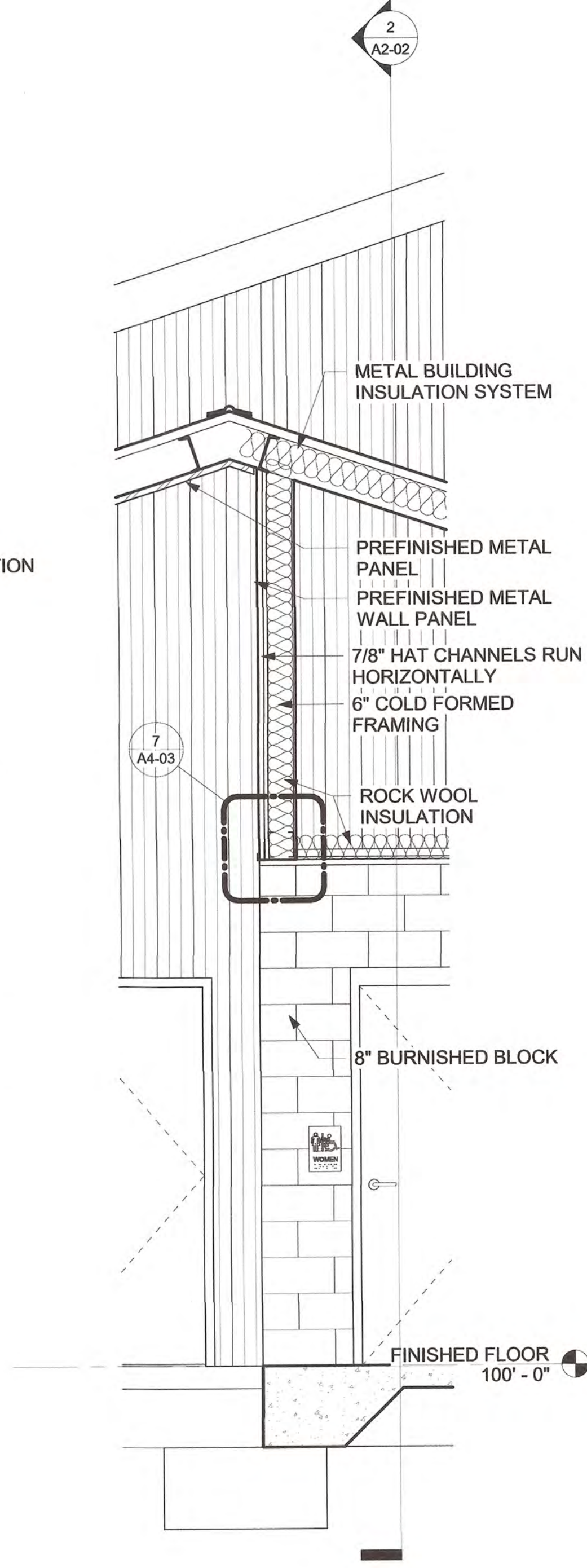
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1/2" = 1'-0"



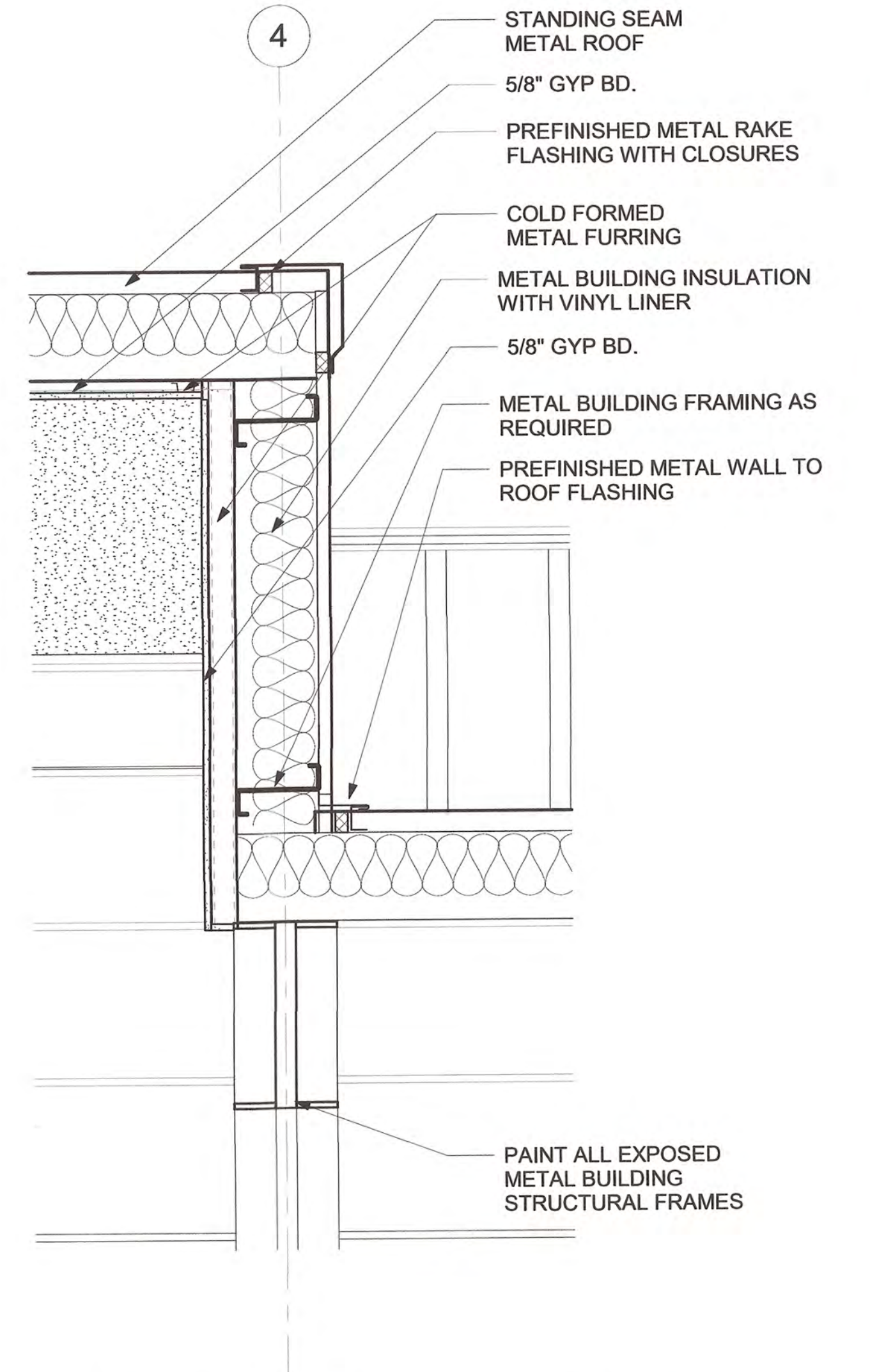
2 SECTION @ BARA/ADMIN
1/2" = 1'-0"



3 SECTION @ BARA/TRAINING
1/2" = 1'-0"



4 SECTION @ EXTERIOR RR
1/2" = 1'-0"



5 CLERESTORY WALL SECTION
1" = 1'-0"



**STORMWATER MAINTENANCE
AND OPERATIONS BUILDING**

PROJECT NO. SW23-01-01

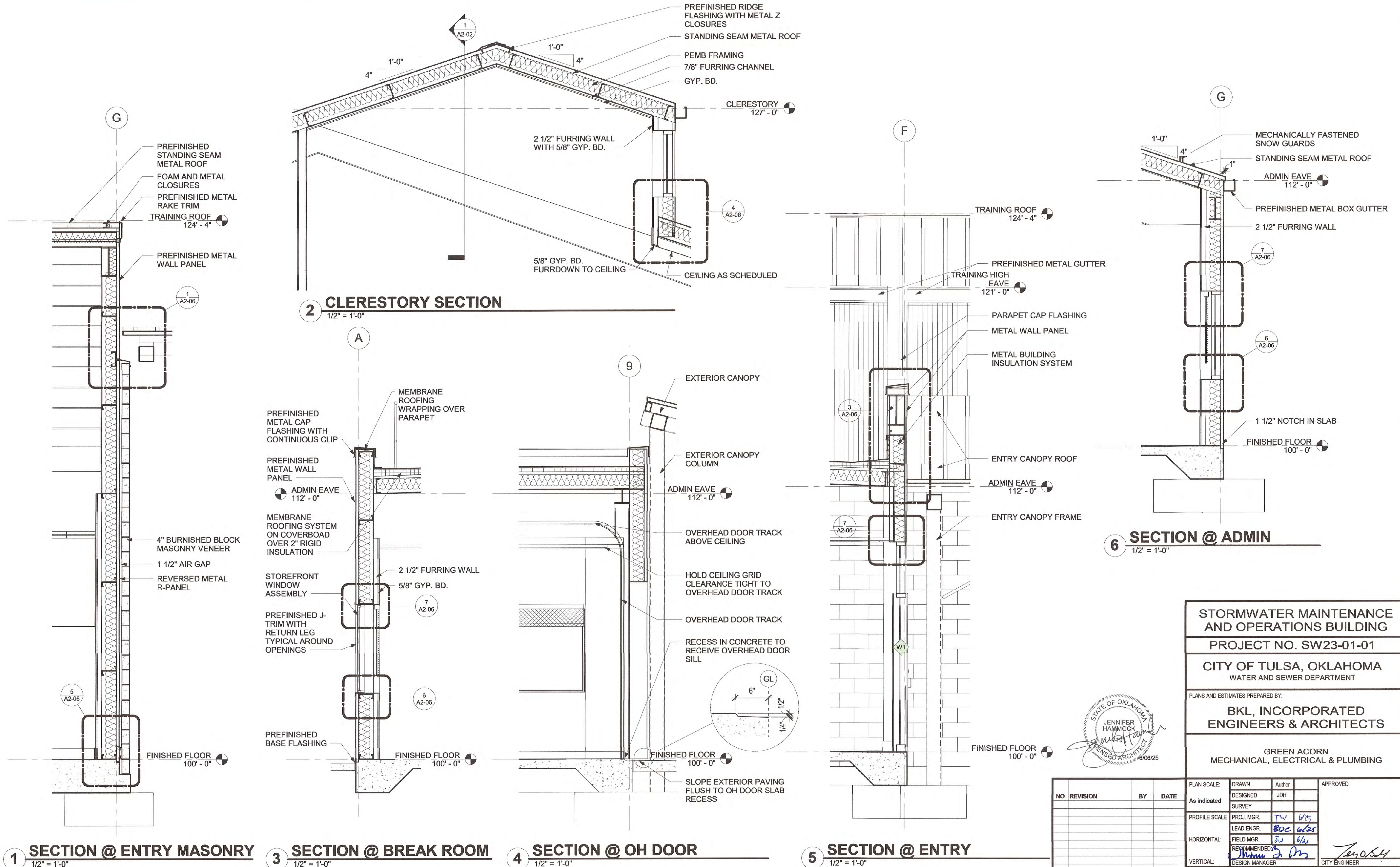
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

**BKL, INCORPORATED
ENGINEERS & ARCHITECTS**

**GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING**

				PLAN SCALE:		DRAWN		Author		APPROVED					
NO		REVISION		BY		DATE		As indicated		DESIGNED		JDH			
										SURVEY					
								PROFILE SCALE		PROJ. MGR.		TW		6/25	
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								HORIZONTAL:		FIELD MGR.		JS		6/25	
										RECOMMENDED:		Jennifer Hammond			
								VERTICAL:		DESIGN MANAGER		M			
								FILE:		DRAWING:				CITY ENGINEER	
														DATE: 6/12/2025	
								ATLAS PAGE NO:							
								SHEET NAME:						SHEET NO.	
								WALL SECTIONS						A2-04	



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
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As indicated	DESIGNED	JDH	
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HORIZONTAL:	PROJ. MGR.	TW 6/5	
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FILE:	DESIGN MANAGER		
ATLAS PAGE NO:	DRAWING:		
SHEET NAME:			
WALL SECTIONS			



PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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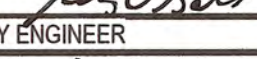
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				VERTICAL: DESIGN MANAGER		DATE: 6/12/2025	
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				SHEET NAME: ENLARGED WALL SECTION DETAILS		A2-06	

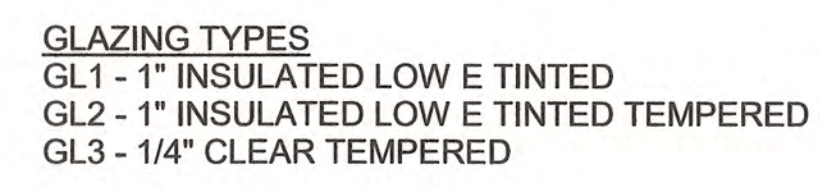
DOOR SCHEDULE										
NO	DOOR					FRAME			HARDWARE	NOTES
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100a	6' - 0"	7' - 0"	ALUM	D (PAIR)	CLR ANO	ALUM	W1	CLR ANO	C714A	CARD READER
101b	6' - 0"	7' - 0"	ALUM	D (PAIR)	CLR ANO	ALUM	W2	CLR ANO	700AC	
102	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	201	
103	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	212S	
104a	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	700C	
104b	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	700C	
104c	3' - 0"	7' - 0"	HM	A	PNT	HM	A	PNT	725	
104d	3' - 0"	7' - 0"	HM	A	PNT	HM	A	PNT	725	
105	3' - 0"	7' - 0"	HM	A	PNT	HM	A	PNT	205	
106a	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	204	
106b	6' - 0"	7' - 0"	HM	A (PAIR)	PNT	HM	A	PNT	212S	
107	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	341	
109a	6' - 0"	7' - 0"	HM	A (PAIR)	PNT	HM	A	PNT	C714	
110	6' - 0"	7' - 0"	HM	B (PAIR)	PNT	HM	A	PNT	C710	
112a	3' - 0"	7' - 0"	WD	A	PNT	HM	B	PNT	801HL	
112b	3' - 0"	7' - 0"	HM	A	PNT	HM	B	PNT	T201H	
113a	3' - 0"	7' - 0"	WD	A	PNT	HM	B	PNT	801HL	
113b	3' - 0"	7' - 0"	HM	A	PNT	HM	B	PNT	T201H	
114	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
115	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
119	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
122	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	201	
123	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
124	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	101	
125	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
128	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
129	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
130	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
131	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
132	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
134	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
135	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
136	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
137a	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
137b	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
138	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
139	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
140	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
141	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
142	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
143	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
144	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	C	PNT	101	
145	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	200C	
146	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	200C	
147	6' - 0"	7' - 0"	HM	A (PAIR)	PNT	HM	A	PNT	204	
149a	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	101	
149b	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	101	
151	3' - 0"	7' - 0"	HM	B	PNT	HM	A	PNT	C207	
152	8' - 0"	8' - 0"		E						
152a	6' - 0"	7' - 0"	HM	B (PAIR)	PNT	HM	A	PNT	C714	
152b	6' - 0"	7' - 0"	HM	B (PAIR)	PNT	HM	A	PNT		

DOOR SCHEDULE										
NO	DOOR					FRAME			HARDWARE	NOTES
	WIDTH	HEIGHT	MATERIAL	TYPE	FINISH	MATERIAL	TYPE	FINISH		
155	3' - 0"	7' - 0"	WD	A	CLR COAT	HM	A	PNT	341	
157	6' - 0"	7' - 0"	WD	A (PAIR)	CLR COAT	HM	A	PNT	200C	
159	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
160	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	
161	3' - 0"	7' - 0"	WD	C	CLR COAT	HM	A	PNT	101	



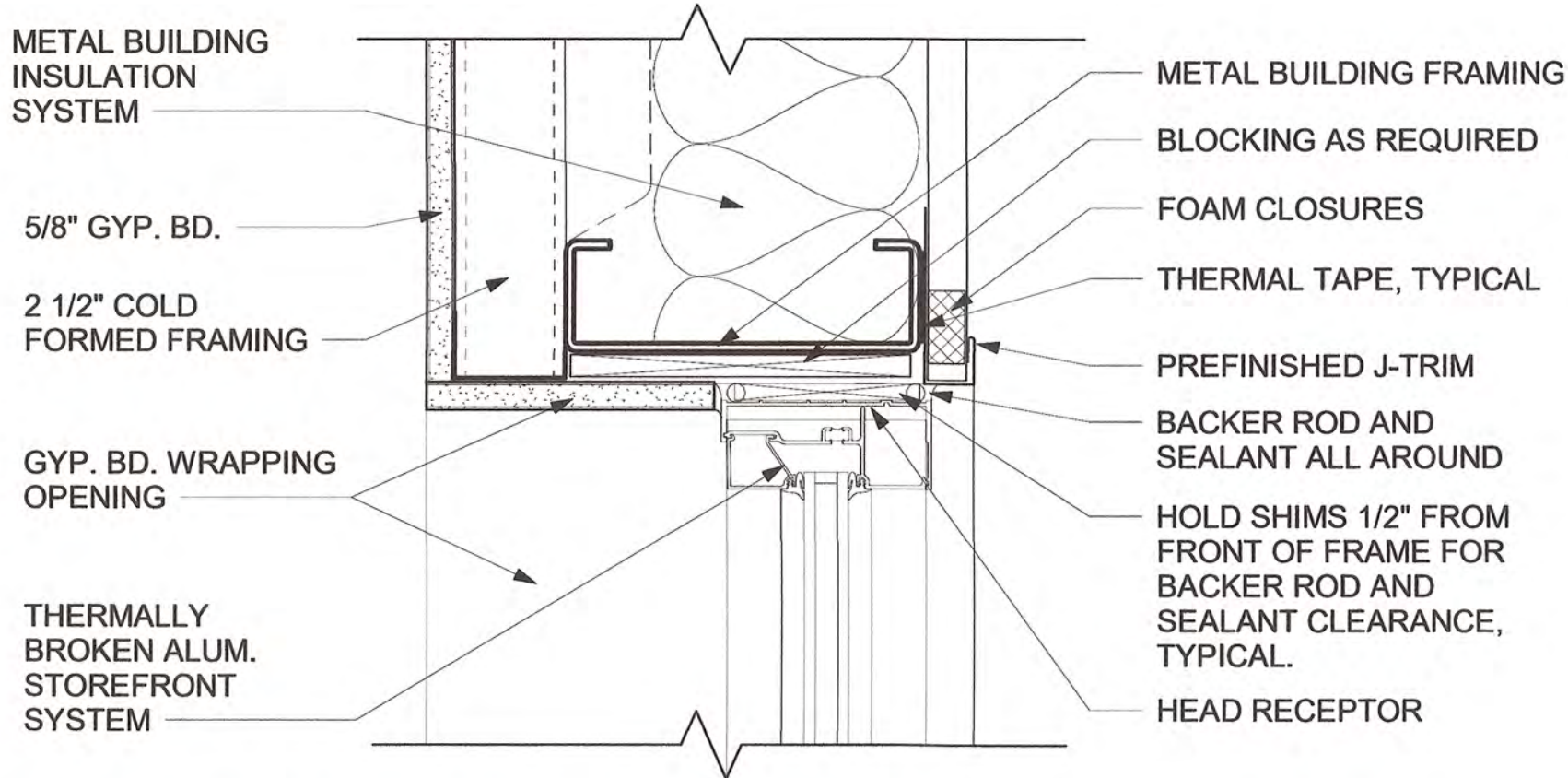
OVERHEAD DOOR GLAZING
1" INSULATED, GREY TINTED, BY DOOR MANUFACTURER

			PLAN SCALE:		DRAWING		ABS		APPROVED	
NO	REVISION	BY	DATE	1/4" = 1'-0"		DESIGNED		JDH		 CITY ENGINEER
						SURVEY				
				PROFILE SCALE		PROJ. MGR.		TW 6/25		
				HORIZONTAL:		LEAD ENGR.		BOC 6/25		
						FIELD MGR.		JW 6/25		
				VERTICAL:		RECOMMENDED		JW 6/25		 CITY ENGINEER
						DESIGN MANAGER				
				FILE:		DRAWING:		DATE: 6/12/2025		
				ATLAS PAGE NO:						SHEET NO.
				SHEET NAME:						
				DOOR SCHEDULE						A3-01

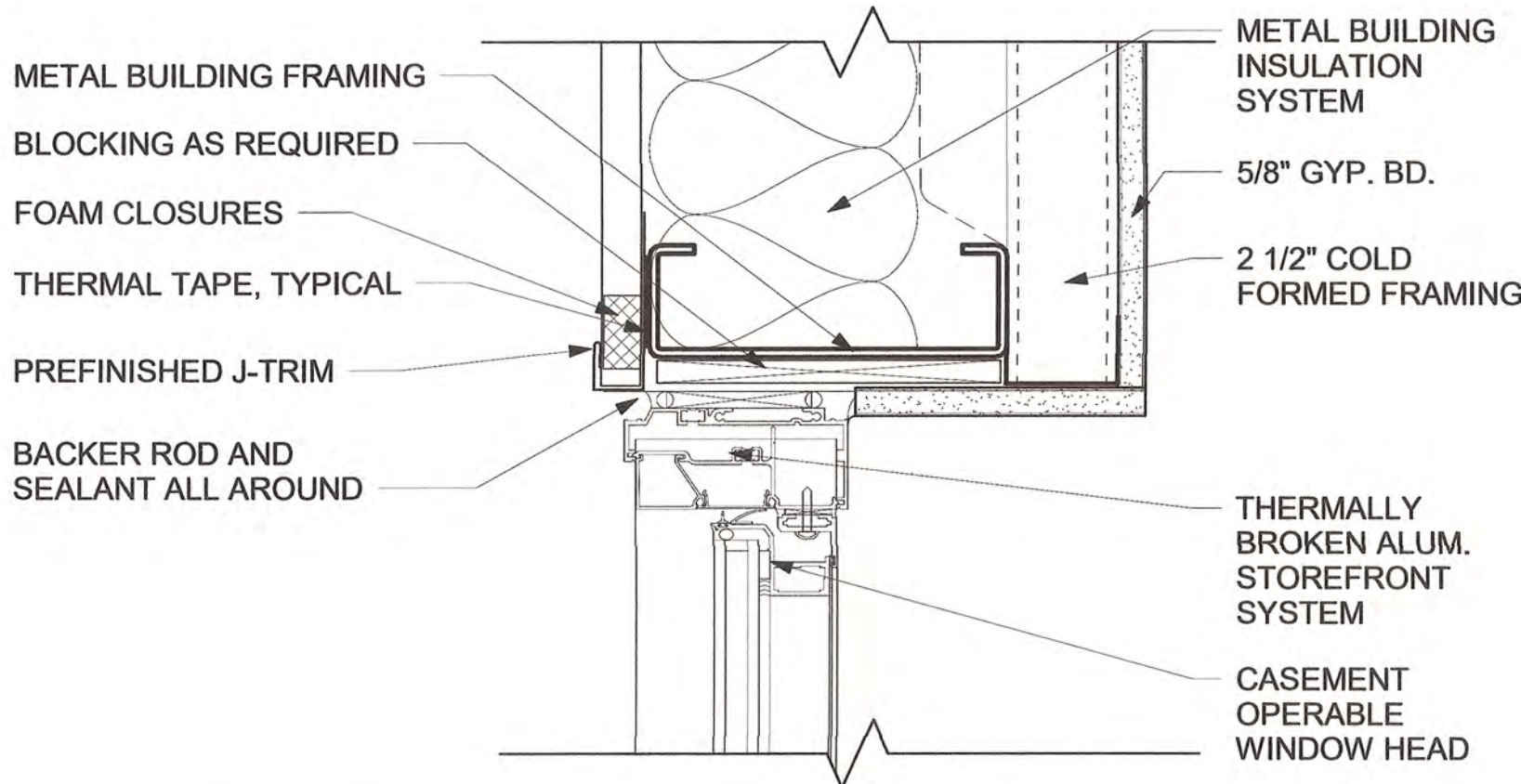


1 $\frac{3}{8}" = 1'-0"$

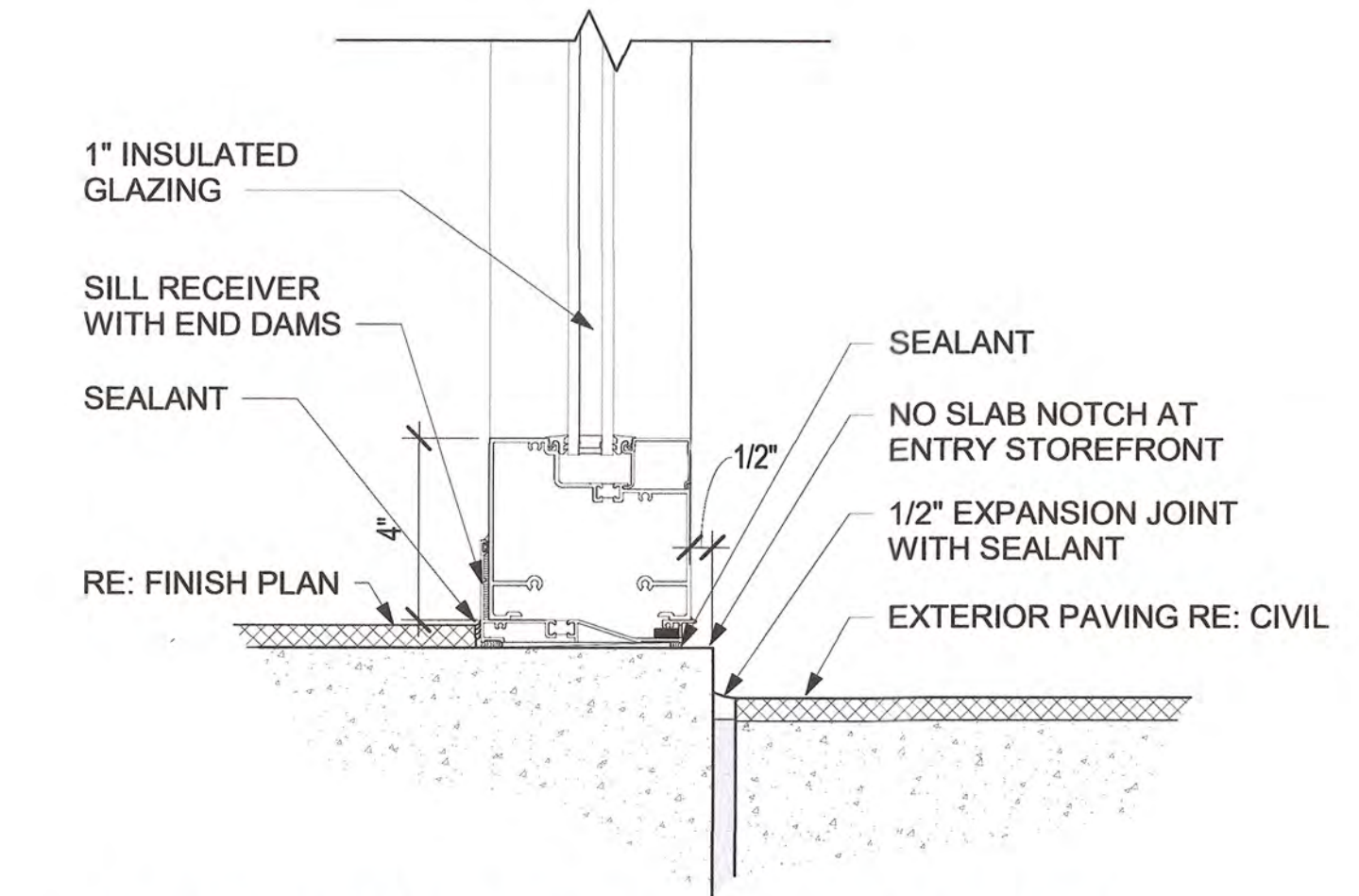
				PLAN SCALE: DRAWN Author 3/8" = 1'-0" DESIGNED JDH SURVEY		APPROVED	
				PROFILE SCALE PROJ. MGR. JW 6/15 LEAD ENGR. BOE 6/25			
				HORIZONTAL: FIELD MGR. JW 6/21 RECOMMENDED BY Thomas J. M.		CITY ENGINEER <i>Thomas J. M.</i>	
				VERTICAL: DESIGN MANAGER		DATE: 6/12/2025	
				FILE: DRAWING:			
				ATLAS PAGE NO:			
				SHEET NAME: WINDOW DETAILS		SHEET NO. A3-02	



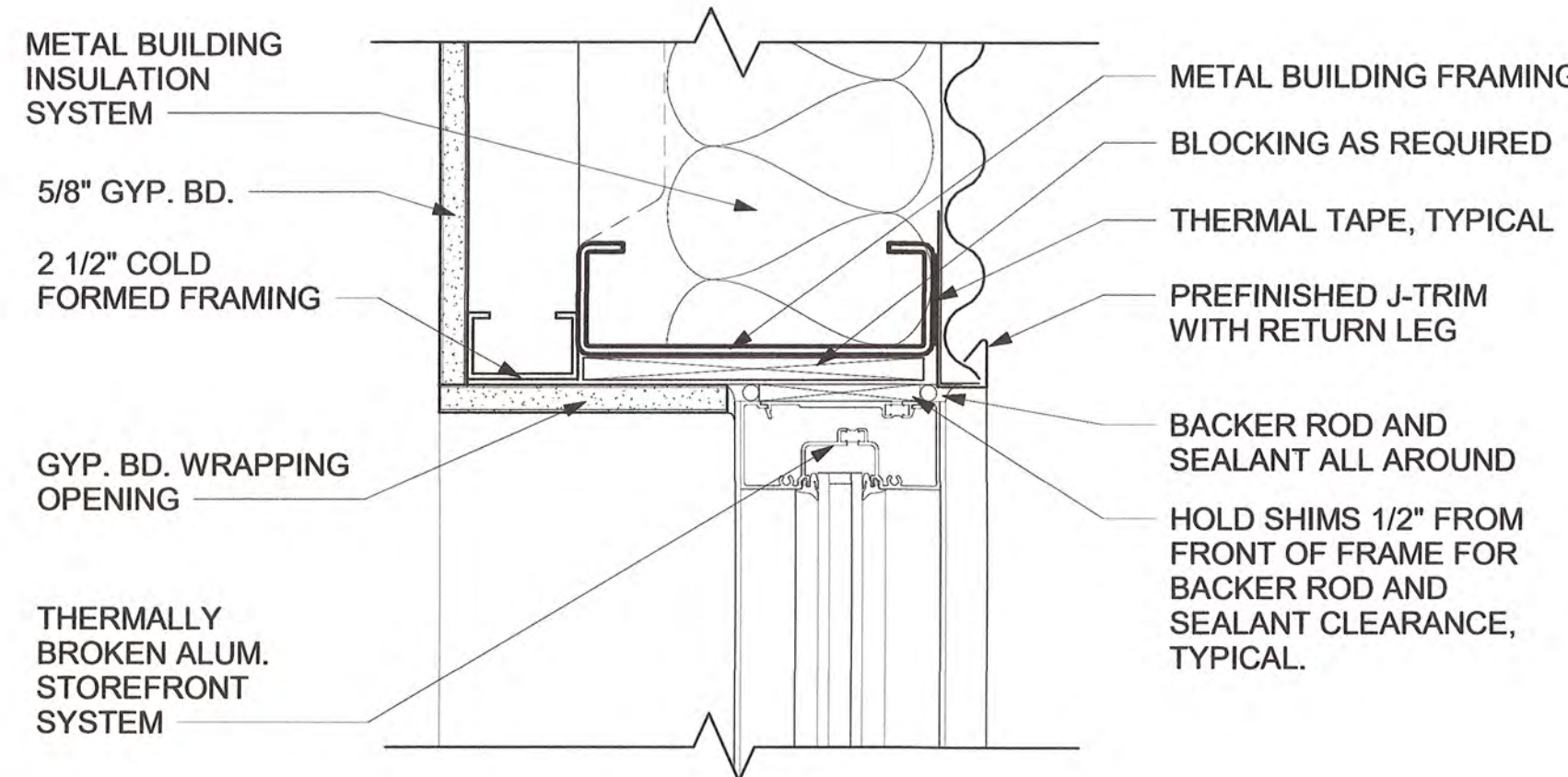
1 STOREFRONT HEAD DETAIL
3" = 1'-0"



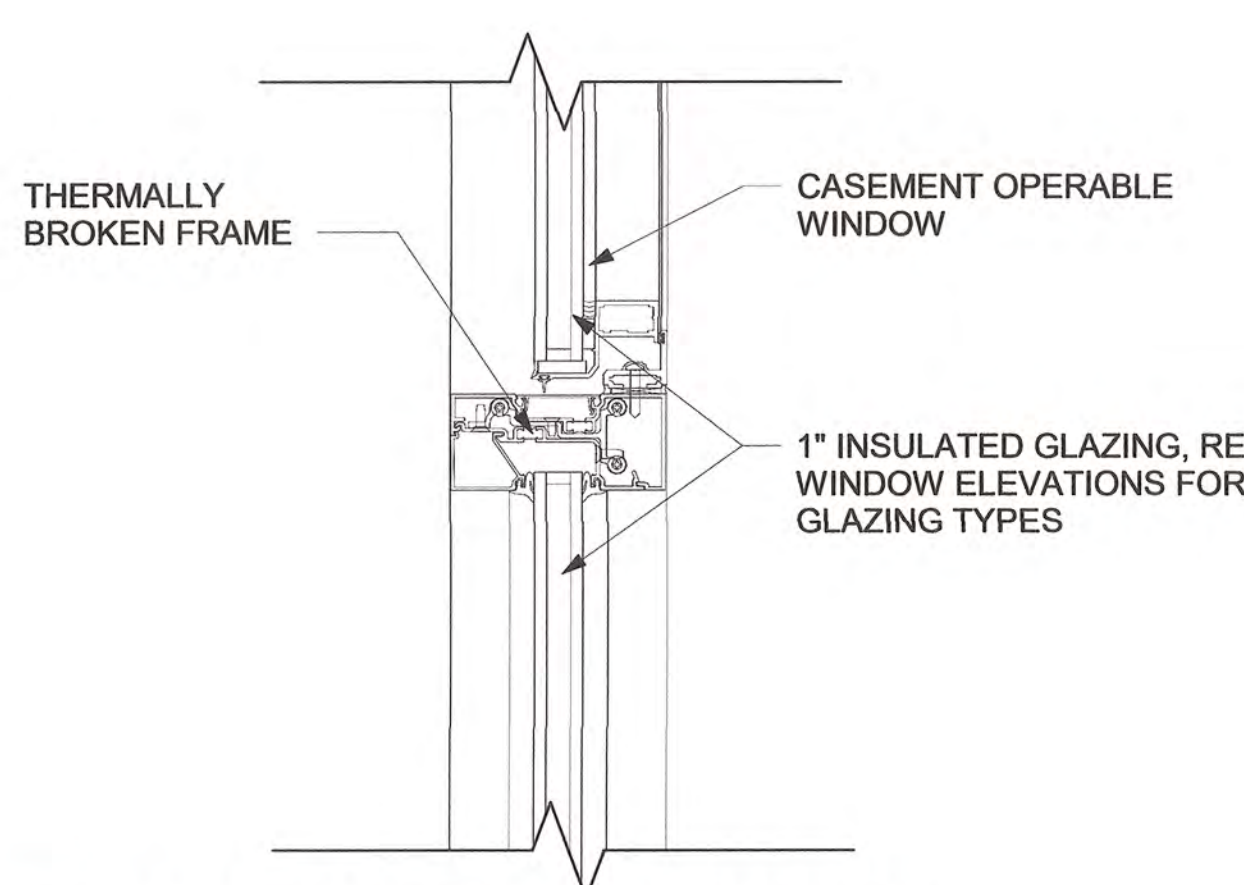
4 OPERABLE WINDOW HEAD
3" = 1'-0"



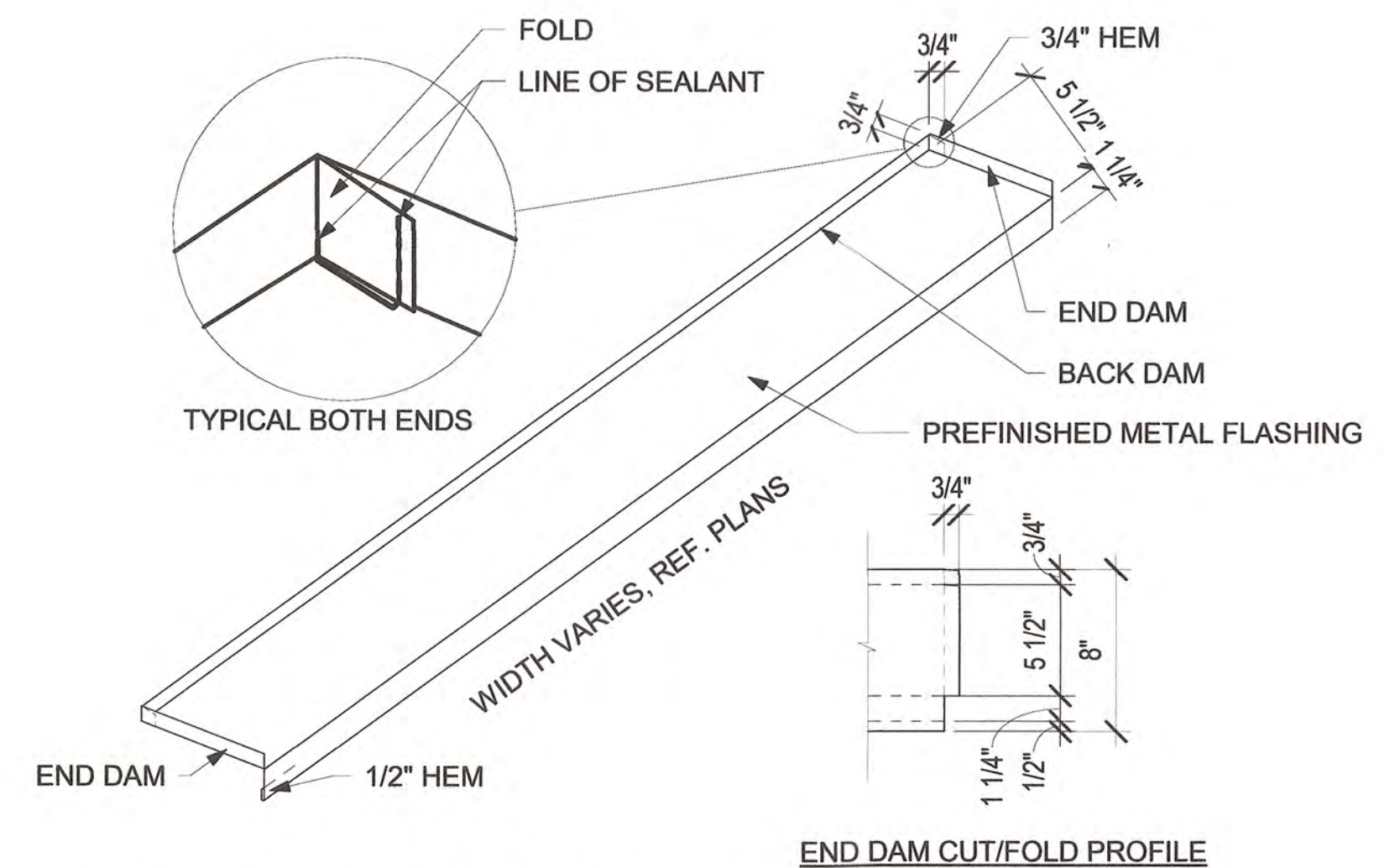
7 4" STOREFRONT SILL AT ENTRY
3" = 1'-0"



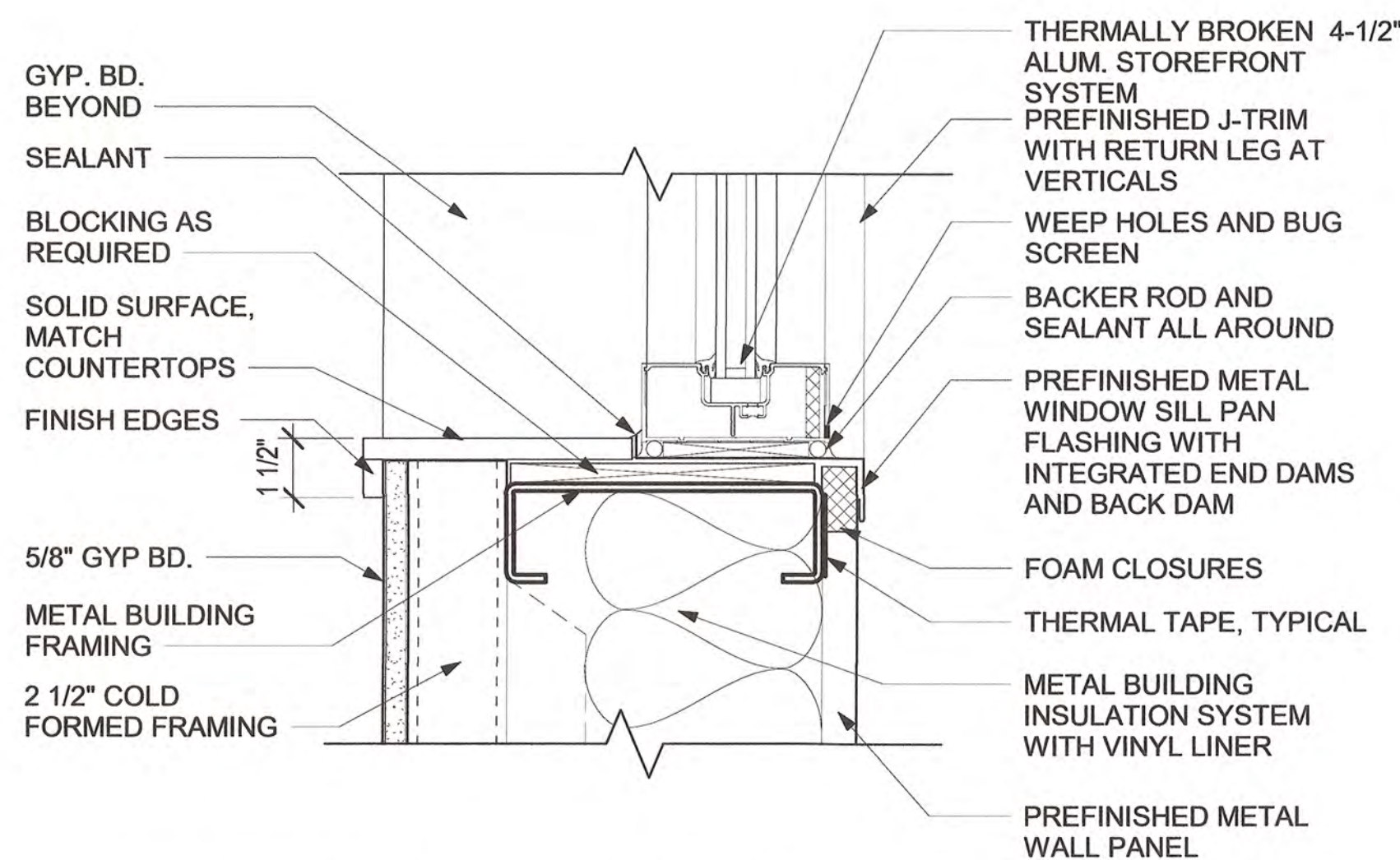
2 STOREFRONT JAMB
3" = 1'-0"



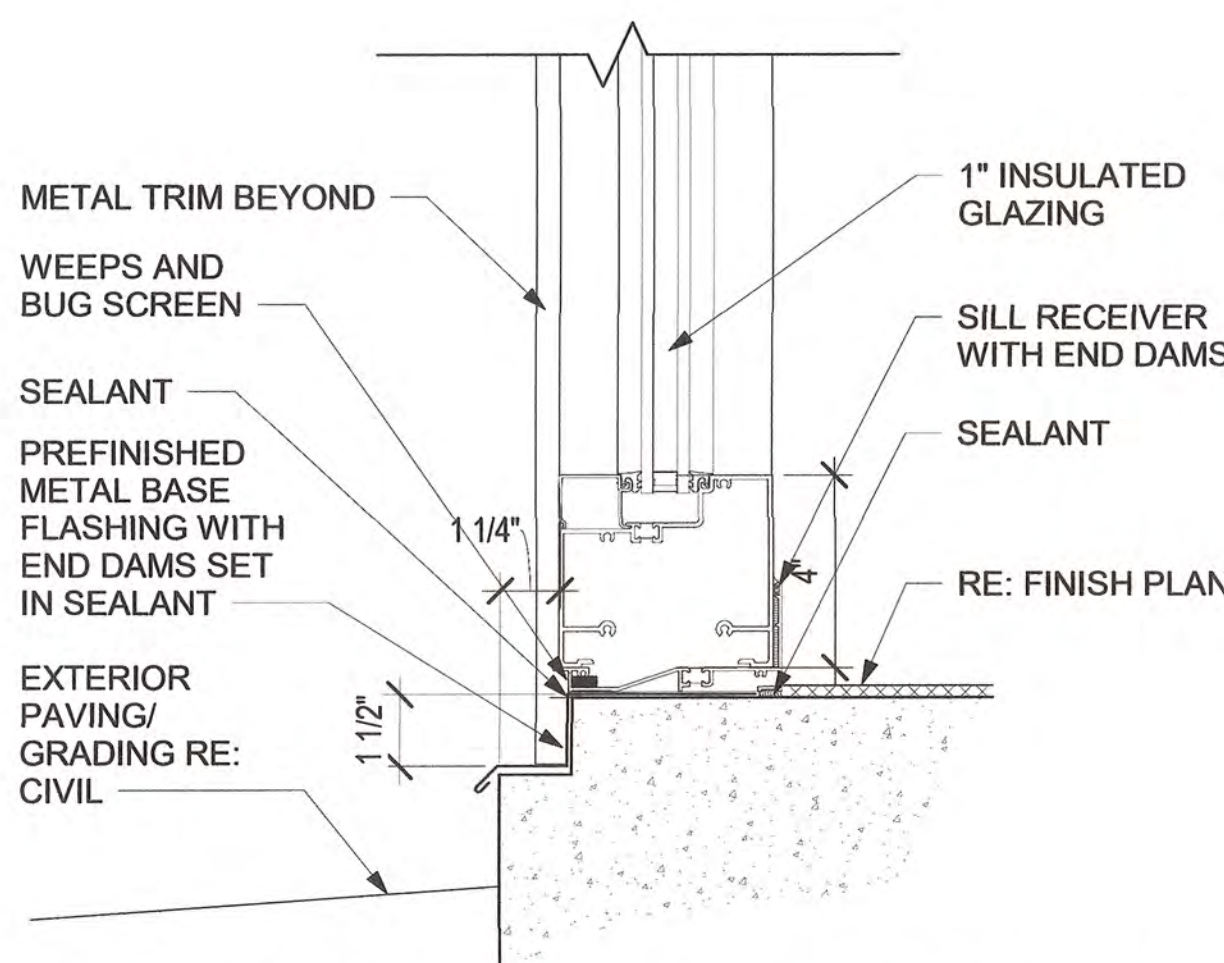
5 OPERABLE WINDOW MULLION
3" = 1'-0"



8 WINDOW SILL PAN
1 1/2" = 1'-0"



3 STOREFRONT @ WINDOW SILL
3" = 1'-0"



6 4" STOREFRONT SILL AT OFFICES
3" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

NO			REVISION	BY	DATE	PLAN SCALE:	DRAWN	Author	APPROVED
						As indicated	DESIGNED	JDH	
							SURVEY		
						PROFILE SCALE	PROJ. MGR.	<i>rw</i> 6/25	
							LEAD ENGR.	<i>BK</i> 6/25	
						HORIZONTAL:	FIELD MGR.	<i>rw</i> 6/25	
							RECOMMENDED	<i>rw</i> 6/25	
						VERTICAL:	DESIGN MANAGER		
						FILE:	DRAWING:		
						ATLAS PAGE NO:			
						SHEET NAME:	WINDOW DETAILS		
									SHEET NO. A3-03

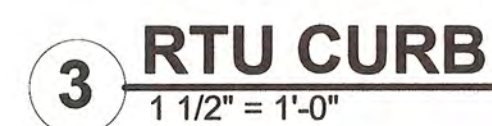


			PLAN SCALE:		DRAWN		ABS		APPROVED	
NO	REVISION	BY	DATE	1/4" = 1'-0"		DESIGNED		JDH		
						SURVEY				
				PROFILE SCALE:		PROJ. MGR.		JW 6/25		
						LEAD ENGR.		BOZ 6/25		
				HORIZONTAL:		FIELD MGR.		JW 6/25		
						RECOMMENDED				
				VERTICAL:		DESIGN MANAGER				
				FILE:		DRAWING:		DATE: 6/12/2025		
				ATLAS PAGE NO:						
				SHEET NAME:		SHEET NO.				
		ENLARGED FLOOR PLANS		A4-02						



				PLAN SCALE: DRAWN Author			APPROVED
				As indicated DESIGNED JDH			
				SURVEY			
				PROFILE SCALE PROJ. MGR. TW 6/25			
				LEAD ENGR. BOC 6/25			
				HORIZONTAL: FIELD MGR. JW 6/25			
				RECOMMENDED John L. M			
				VERTICAL: DESIGN MANAGER			
				FILE: DRAWING:			
ATLAS PAGE NO:							CITY ENGINEER Timothy
SHEET NAME:							DATE: 6/12/2025
ENLARGED DETAILS							SHEET NO. A4-03

Key Value	Keynote Text
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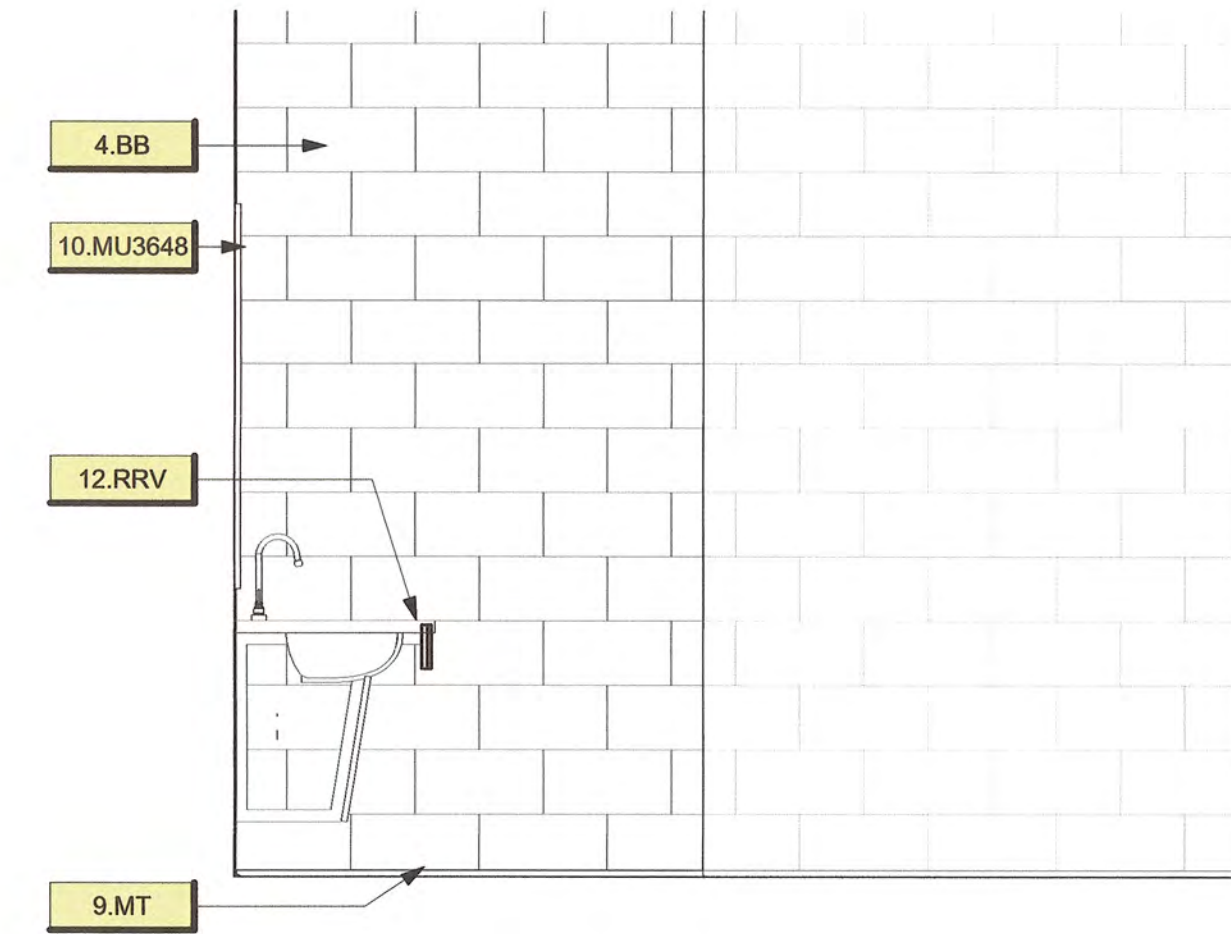


ENLARGED DETAILS	APPROX.
	

6/5/2025 2:30:33 PM

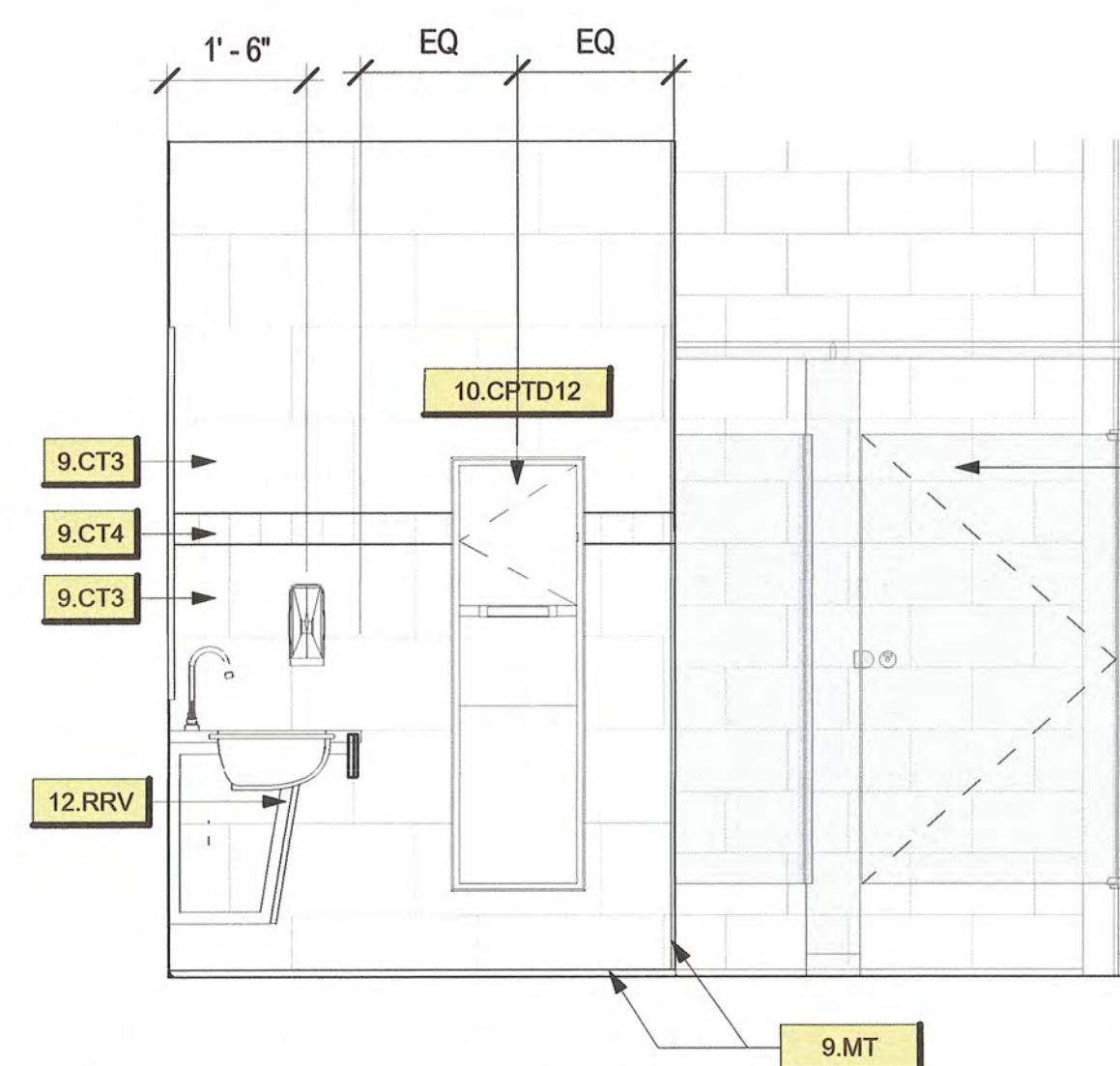


PLAN SCALE:	DRAWN	CMW	APPROVED
1/2" = 1'-0"	DESIGNED	JDH	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TW 6/25	
	LEAD ENGR.	BDC 6/25	
HORIZONTAL:	FIELD MGR.	JW 6/25	
	RECOMMENDED	Markus L. DM	
VERTICAL:	DESIGN MANAGER		CITY ENGINEER
FILE:	DRAWING:		DATE: 6/12/2025
ATLAS PAGE NO:			
SHEET NAME: INTERIOR ELEVATIONS - NORTH RESTROOMS			SHEET NO. A5-01



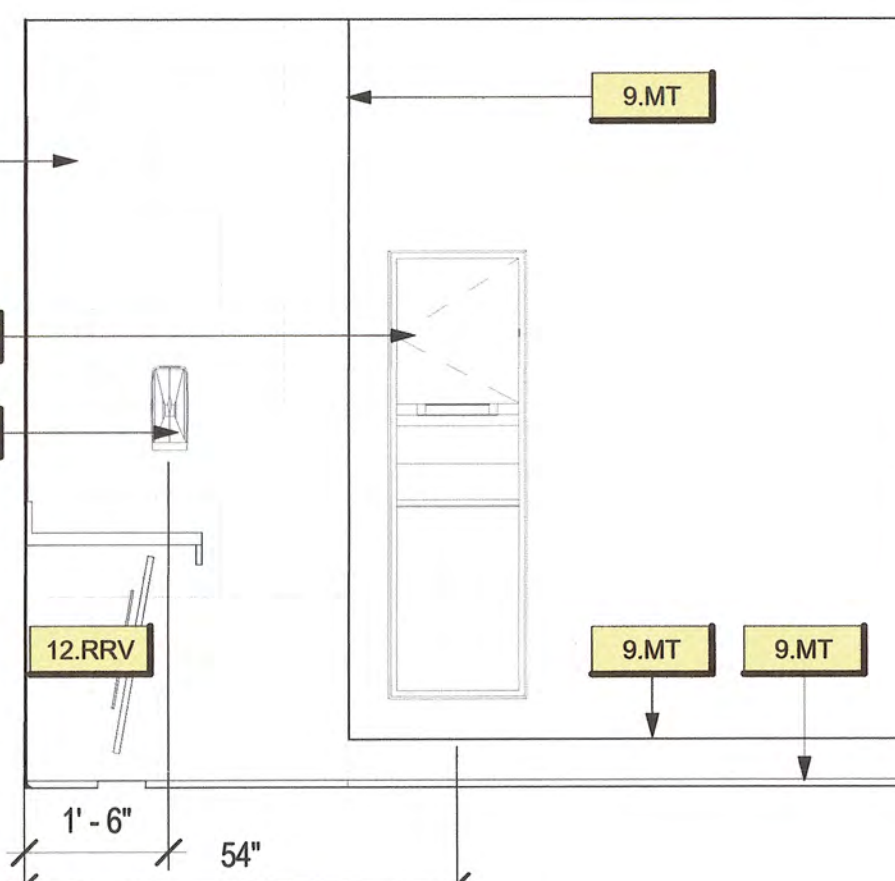
2 154 WOMENS - SOUTH
1/2" = 1'-0"

3 154 WOMENS WEST



5 153 MENS - EAST
1/2" = 1'-0"

6 153 MENS WEST
1/2" = 1'-0"



8 **155 R.R.- EAST**
1/2" = 1'-0"

9 155 R.R. - SOUTH
1/2" = 1'-0"

10 155 R.R. - WEST
1/2" = 1'-0"

KEYNOTES	
Key Value	Keynote Text
4.BB	8"BURNISHED MASONRY BLOCK
9.CT3	PORCELAIN TILE - 12" X 24" LOBBY FLOOR BORDER AND RESTROOM WALL TILE (VERIFY SIZE)
9.CT4	PORCELAIN TILE - 24" X 48" LOBBY WALL TILE
9.MT	METAL TRIM - REFERENCE TRANSITION DETAILS
10.CPTD12	COMBO PAPER TOWEL DISPENSER AND WASTE CAN (12 GALLON) - RECESSED
10.CSS	CORNER SHOWER SHELF
10.DTPW	DUAL TOILET PAPER DISPENSER WITH SHELF
10.GB18	18-INCH GRAB BAR, INSTALL PER ADA GUIDELINES.
10.GB36	36-INCH GRAB BAR, INSTALL PER ADA GUIDELINES.
10.GB42	42-INCH GRAB BAR, INSTALL PER ADA GUIDELINES.
10.GBSHR	SHOWER GRAB BAR, INSTALL PER ADA GUIDELINES.
10.MU3348	33" WIDE X 48" WIDE MIRROR UNIT. LOCATE THE BOTTOM OF MIRROR (EXCLUDING FRAME) 40" AFF MAX.
10.MU3648	36" WIDE X 48" WIDE MIRROR UNIT. LOCATE THE BOTTOM OF MIRROR (EXCLUDING FRAME) 40" AFF MAX.
10.PTP	FLOOR MOUNTED PHENOLIC-CORE TOILET PARTITION
10.RSS	RECESSED SHOWER SEAT
10.SDW	SOAP DISPENSER - WALL MOUNTED.
10.SRHC	36" SHOWER ROD, CURTAIN, AND HOOKS, SHOWER CURTAIN TO BE 12 INCH MIN. LONGER THAN SHOWER ROD.
12.RRV	QUARTZ COUNTERTOP AT RESTROOM VANITY WITH UNDERMOUNT SINKS
12.SDSF	SOLID SURFACE COUNTERTOP
22.TLT	TOILET. REFERENCE MEP.
22.TLTADA	TOILET AT ADA HEIGHT. REFERENCE MEP.
22.URNL	URINAL. REFERENCE MEP.

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

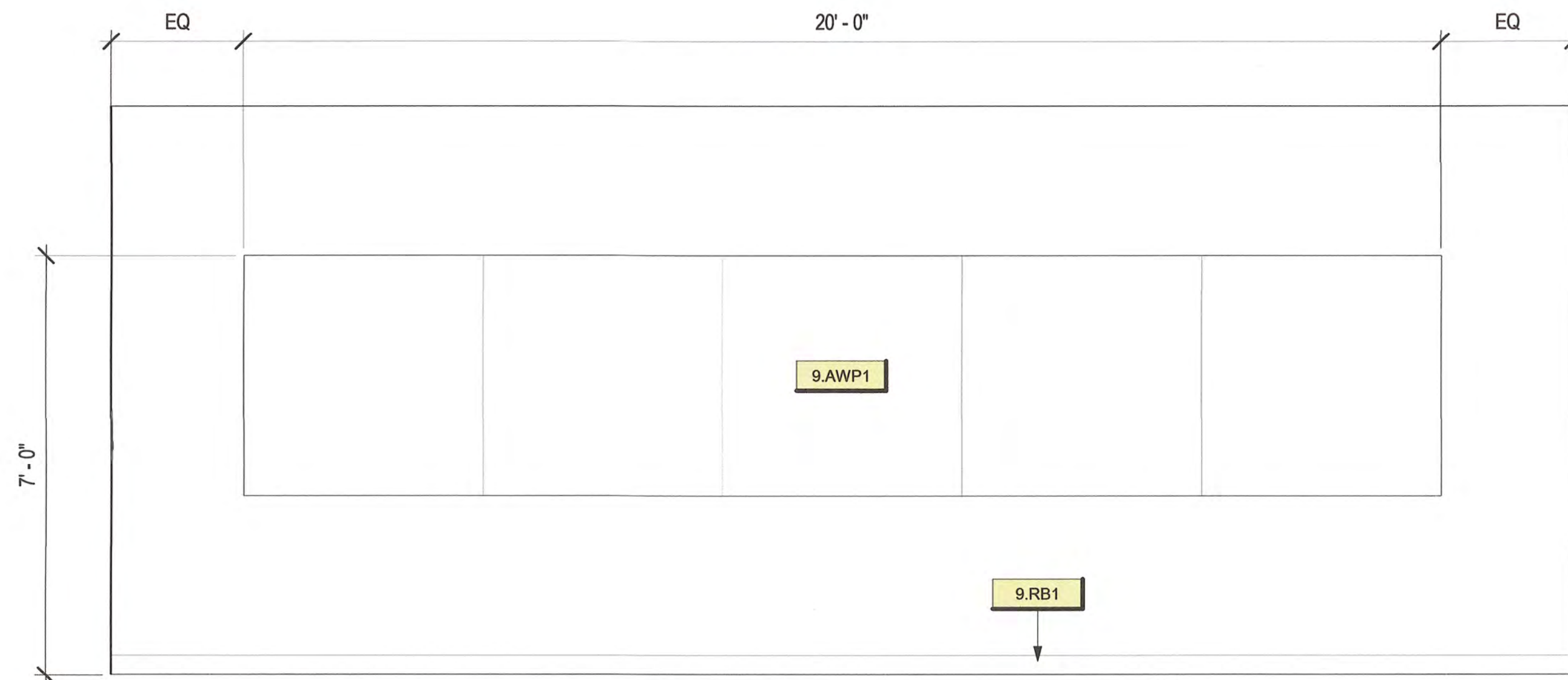
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

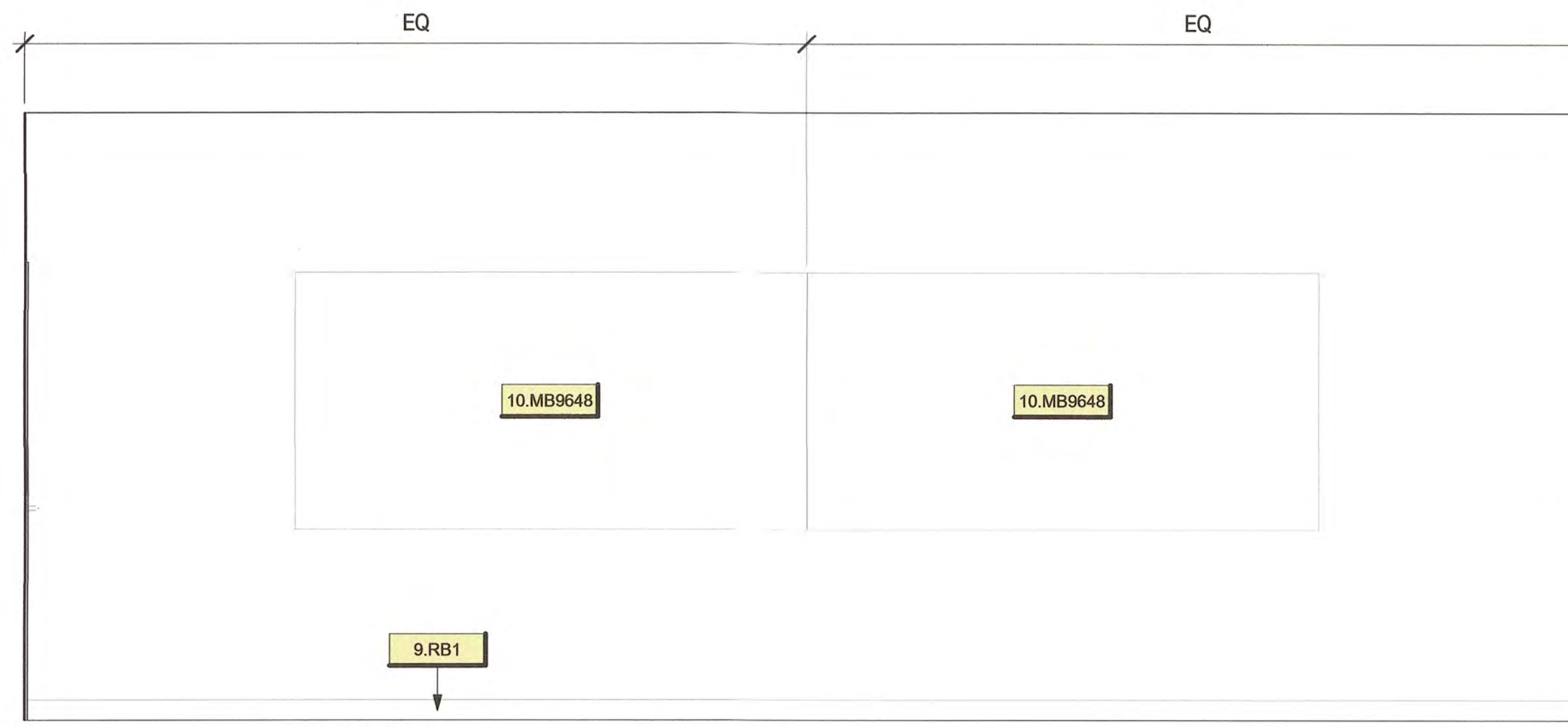
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NO	REVISION	BY	DATE	1/2" = 1'-0"	DESIGNED: JDH
				SURVEY	
				PROFILE SCALE: PROJ. MGR. <i>TU</i> <i>6/25</i>	
				LEAD ENGR. <i>SDC</i> <i>6/25</i>	
				HORIZONTAL: FIELD MGR. <i>TU</i> <i>6/25</i>	
				RECOMMENDED: <i>Thomas J. M.</i>	
				VERTICAL: DESIGN MANAGER	CITY ENGINEER <i>Thomas J. M.</i>
				FILE: DRAWING:	DATE: <i>6/12/2025</i>
ATLAS PAGE NO:					
SHEET NAME:				SHEET NO.	
INTERIOR ELEVATIONS - SOUTH RESTROOMS				A5-02	



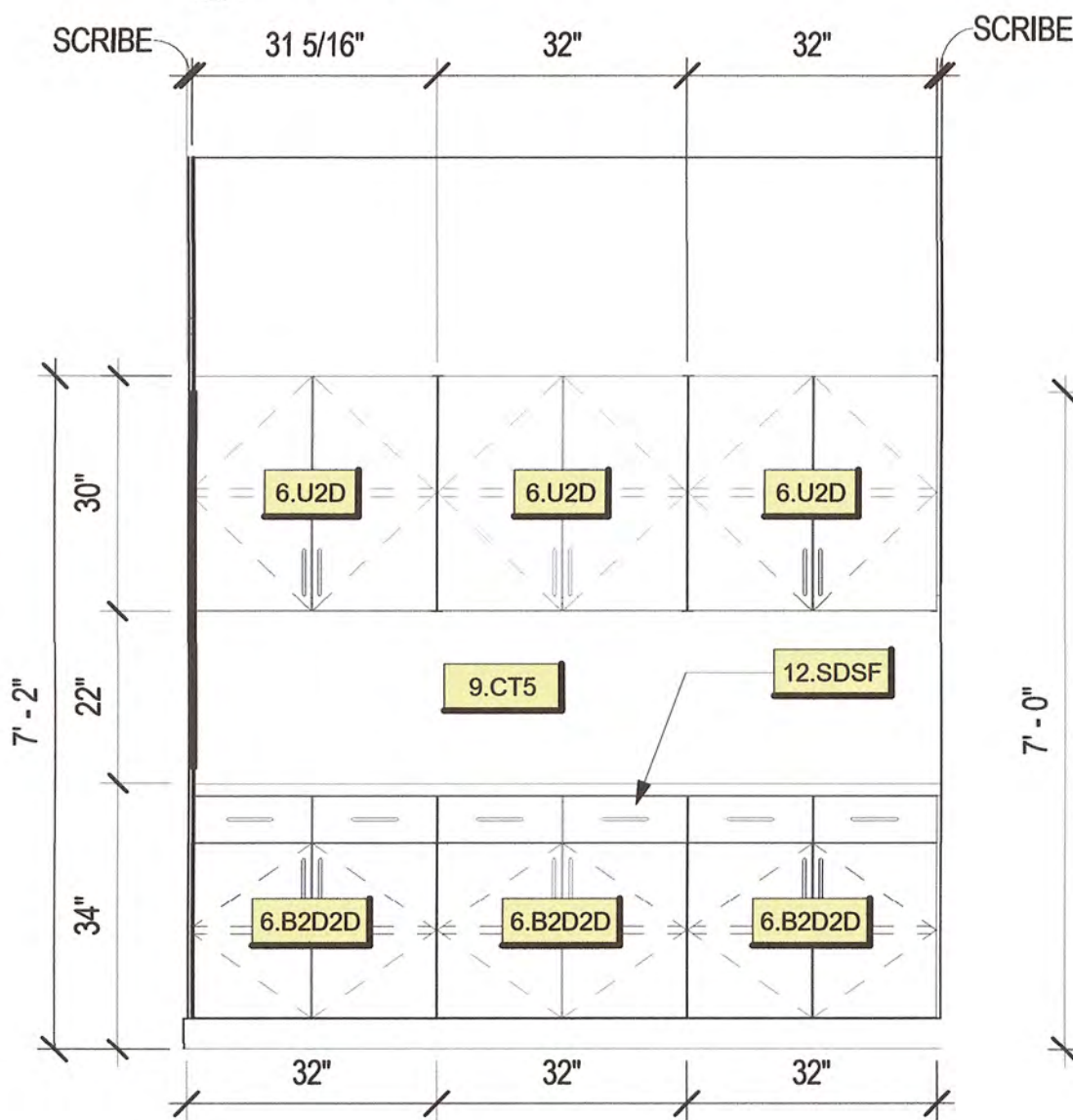
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NO	REVISION	BY	DATE	1/2" = 1'-0"	DESIGNED: JDH
				SURVEY	
				PROFILE SCALE	PROJ. MGR. TW 6/15
					LEAD ENGR. BDC 6/25
				HORIZONTAL:	FIELD MGR. JW 6/15
				VERTICAL:	RECOMMENDED DESIGN MANAGER Theresa 2.02
				FILE:	DRAWING: CITY ENGINEER Teresa
				ATLAS PAGE NO:	DATE: 6/12/2025
				SHEET NAME:	SHEET NO.
				INTERIOR ELEVATIONS - BREAKROOM & MISC.	A5-03



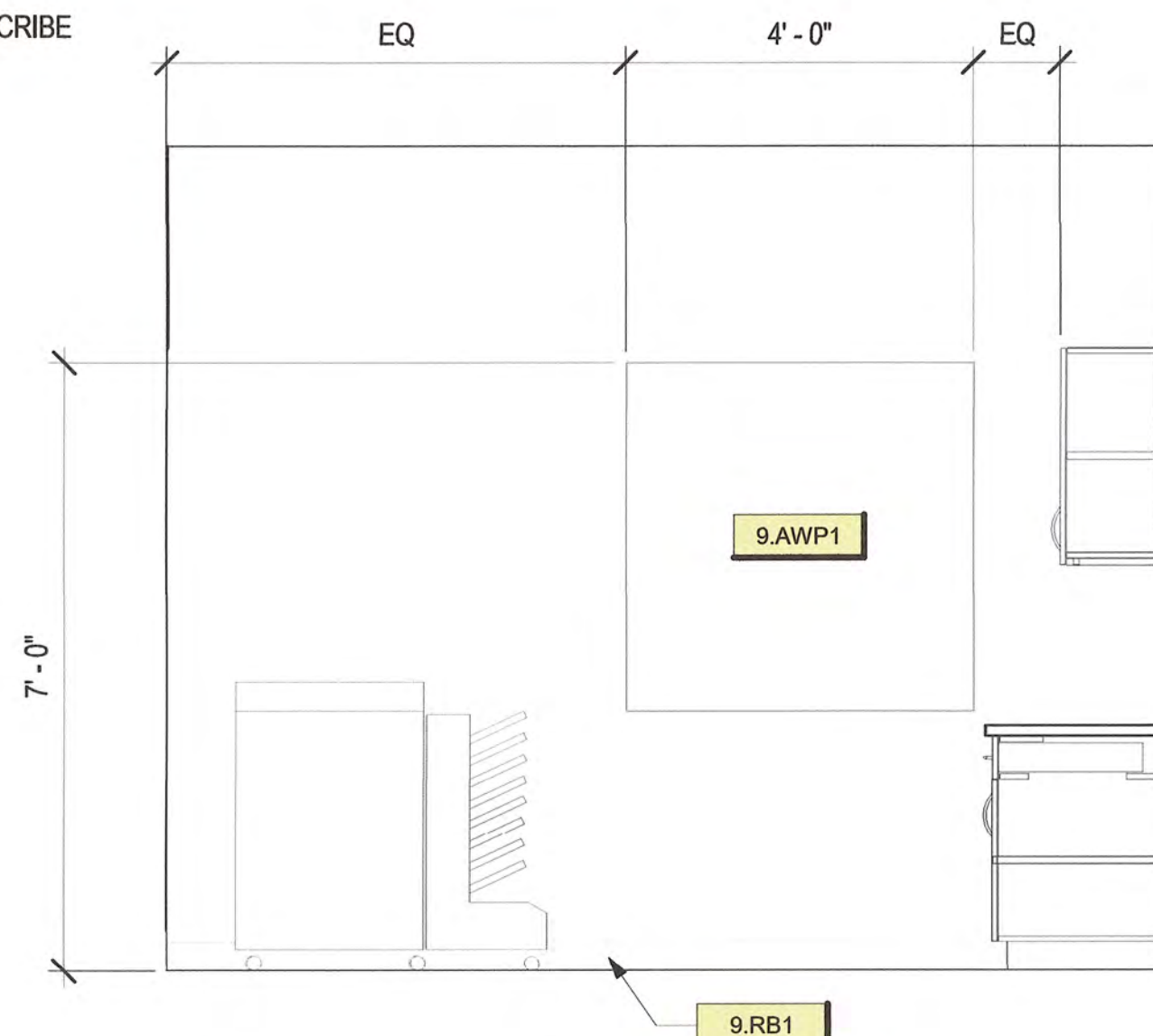
1 137 CONFERENCE ROOM - EAST
1/2" = 1'-0"



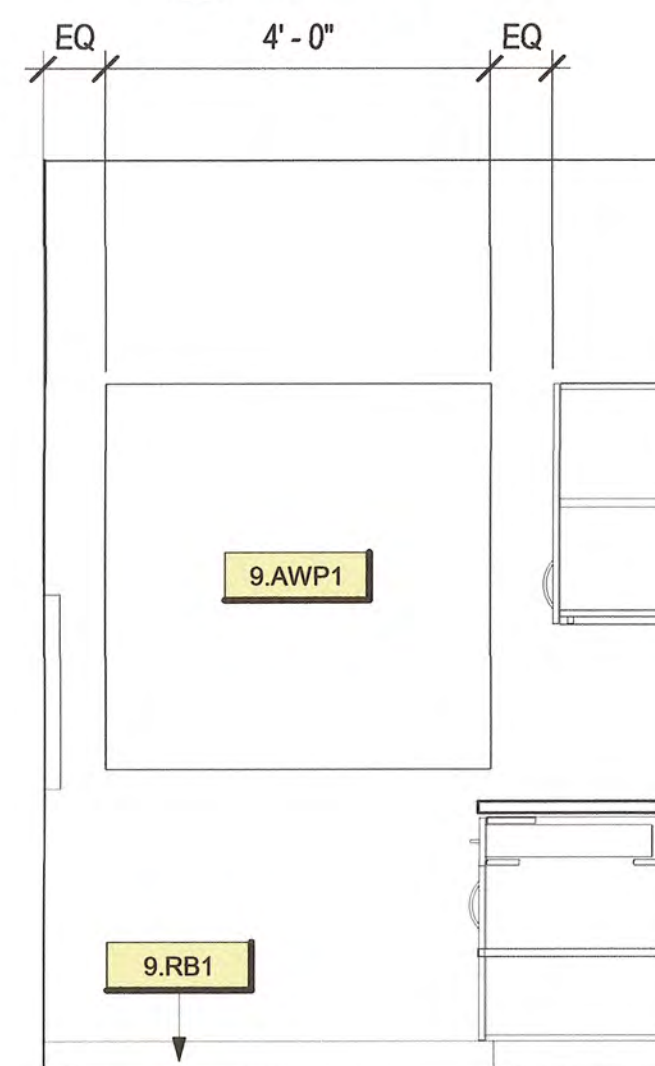
2 137 CONFERENCE ROOM - WEST
1/2" = 1'-0"



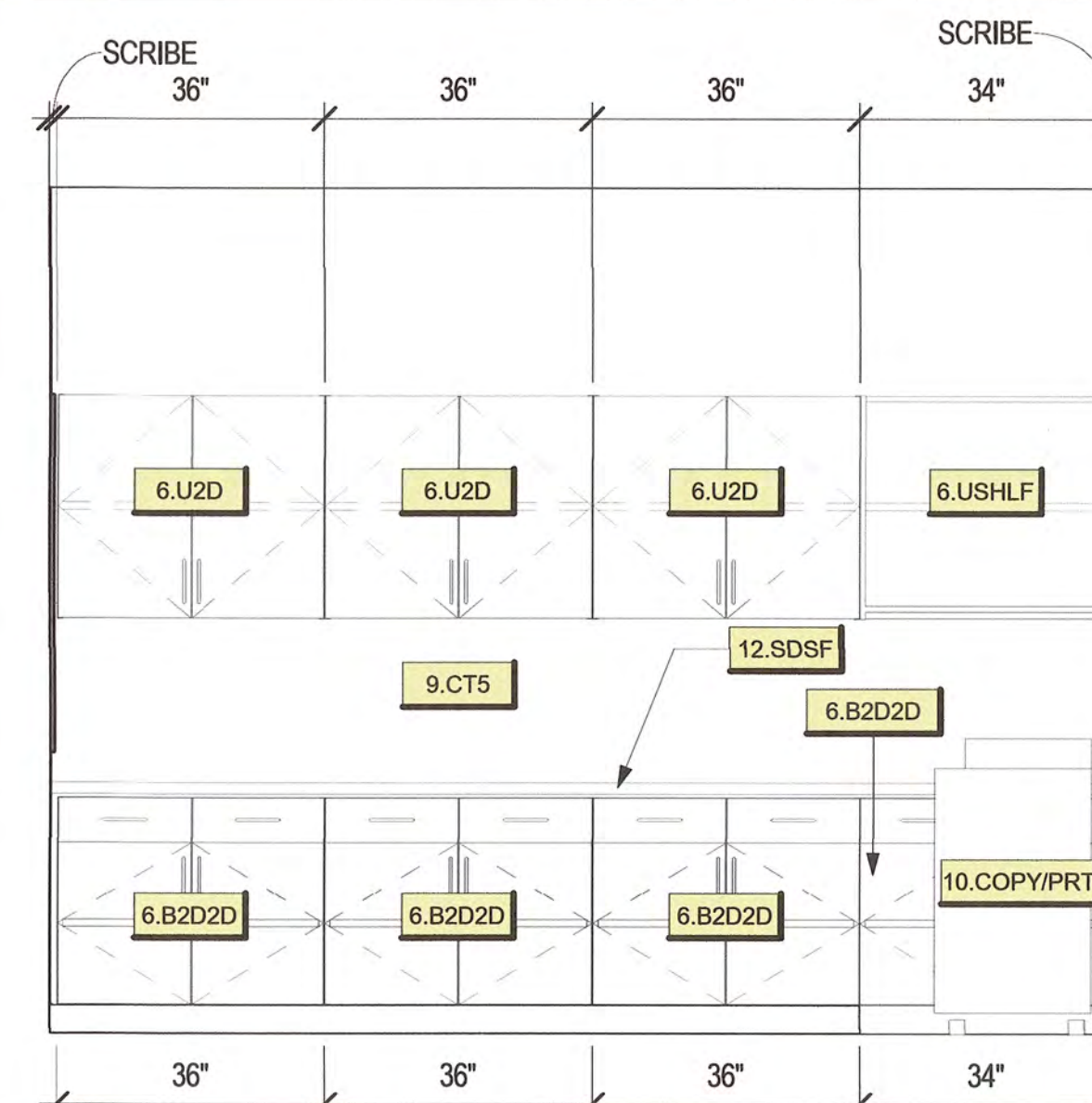
3 118 WKRM - NORTH
1/2" = 1'-0"



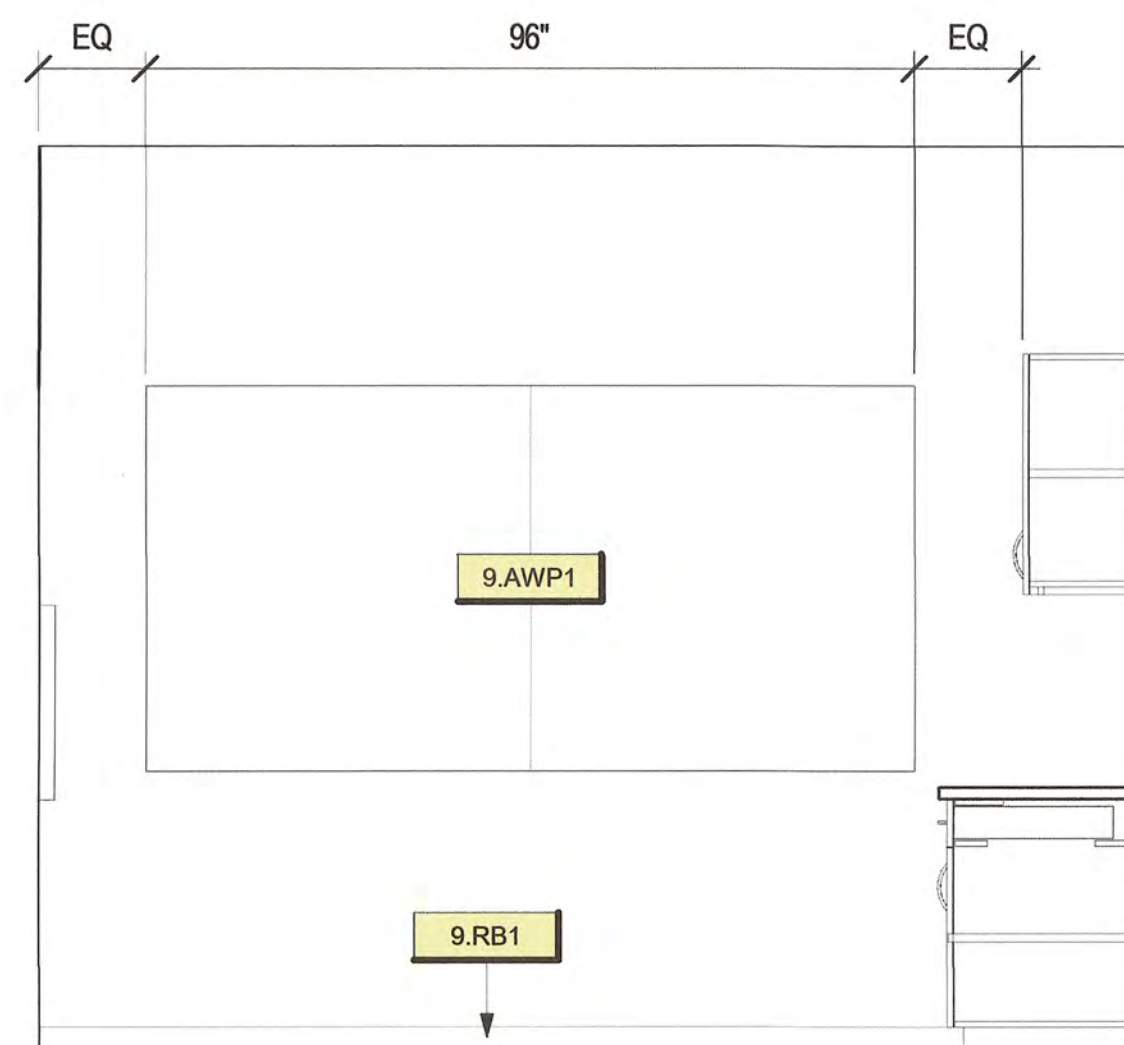
4 118 WORKROOM - WEST
1/2" = 1'-0"



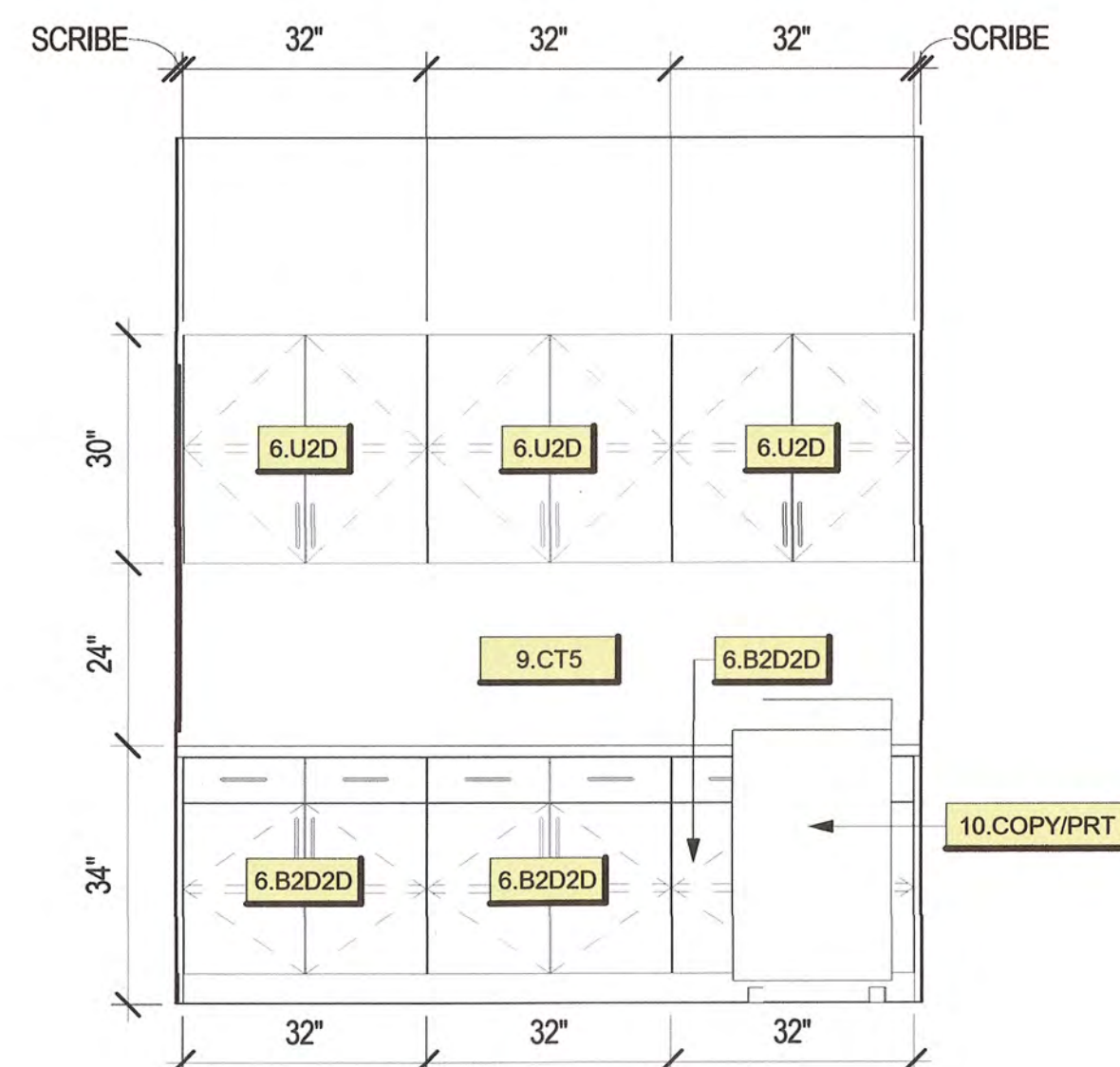
5 126 WORKROOM - NORTH
1/2" = 1'-0"



6 126 WKRM - EAST
1/2" = 1'-0"



7 158 WORKROOM - EAST
1/2" = 1'-0"



8 158 WKRM - SOUTH
1/2" = 1'-0"

KEYNOTES	
Key Value	Keynote Text
6.B2D2D	BASE CABINET - 2 DRAWER, 2 DOOR
6.U2D	UPPER CABINET - 2 DOORS
6.USHLF	UPPER CABINET - OPEN SHELVING
9.AWP1	ACOUSTICAL WALL PANEL
9.CT5	PORCELAN TILE - BACK AND SIDE SPLASH
9.RB1	RUBBER BASE - STANDARD 4" COVERED BASE
10.COPY/PRT	COPY/PRINTER MACHINE - REF. SCHEDULE.
10.MB9648	MAGNETIC MARKER BOARDS, 96" X 48" TALL, REFERENCE ELEVATION, AND SPECIFICATIONS.
12.SDSF	SOLID SURFACE COUNTERTOP

[illegible]



KEYNOTES	
Key Value	Keynote Text
6.1	ALIGN SIDE SPLASH WITH EDGE OF COUNTER, TYPICAL
6.B2D2D	BASE CABINET - 2 DRAWER, 2 DOOR
6.BN	UPHOLSTERED BENCH WITH DRAWER BELOW.
6.BNTBL	BUILD-TN SIDE TABLE
6.BSINK	BASE CABINET - SINK
6.BTRSH	BASE CABINET - TRASH
6.LIP	
6.U1D	UPPER CABINET - 1 DOOR
6.U2D	UPPER CABINET - 2 DOORS
6.WD1	WOOD FINISH 1
9.AWP1	ACOUSTICAL WALL PANEL
9.CT5	PORCELAIN TILE - BACK AND SIDE SPLASH
9.RB1	RUBBER BASE - STANDARD 4" COVERED BASE
10.MB9648	MAGNETIC MARKER BOARDS, 96" X 48" TALL, REFERENCE ELEVATION, AND SPECIFICATIONS.
10.PTDW	PAPER TOWEL DISPENSER - WALL MOUNTED.
10.SDW	SOAP DISPENSER - WALL MOUNTED.
11.CM	COFFEE MAKER - REF. SCHEDULE.
11.REF1	REFRIGERATOR (FULL SIZE) - REF. SCHEDULE.
12.WT3	WINDOW TREATMENT - ROLLER SHADE 48 INCHES X 48 INCHES TALL.
22.KS	SINK AND FAUCET. REFERENCE MEP.
27.TV	TV DISPLAY BY OWNER. REFER ELECTRICAL FOR ALL LOCATIONS. PROVIDE BLOCKING IN WALL

STORMWATER MAINTENANCE AND OPERATIONS BUILDING
PROJECT NO. SW23-01-01
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

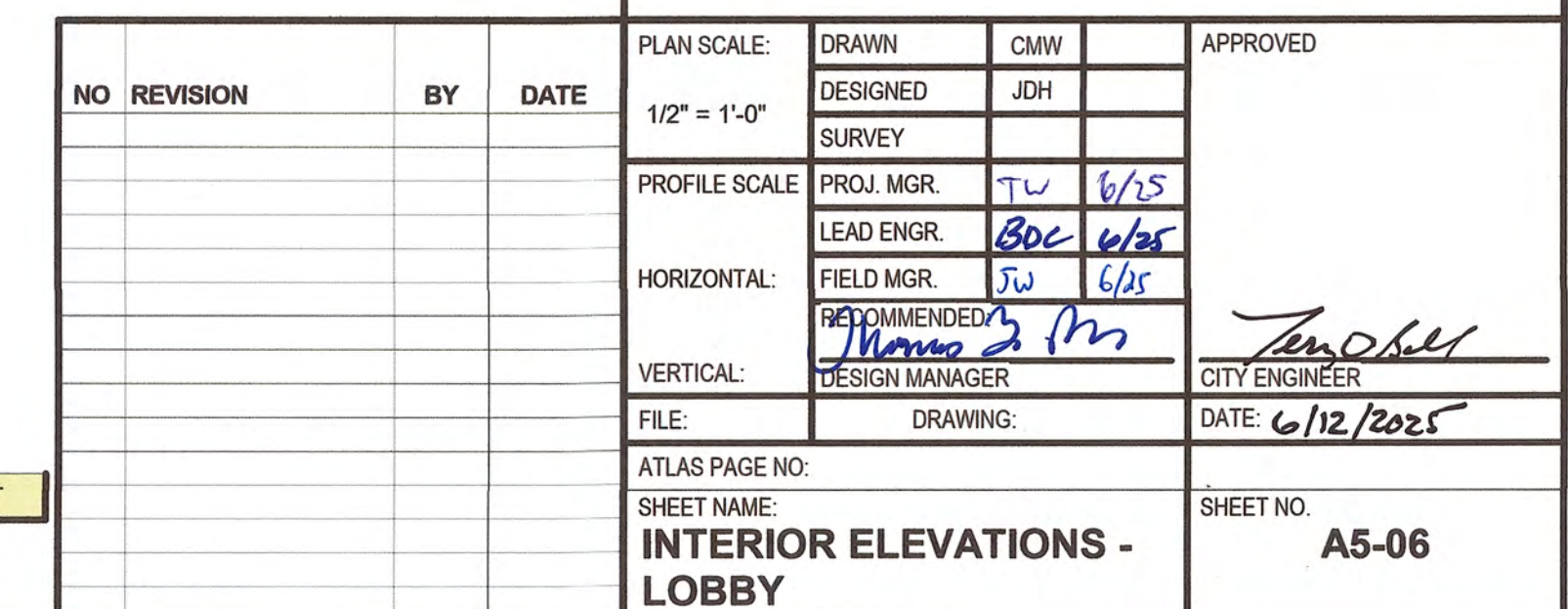
BKL, INCORPORATED
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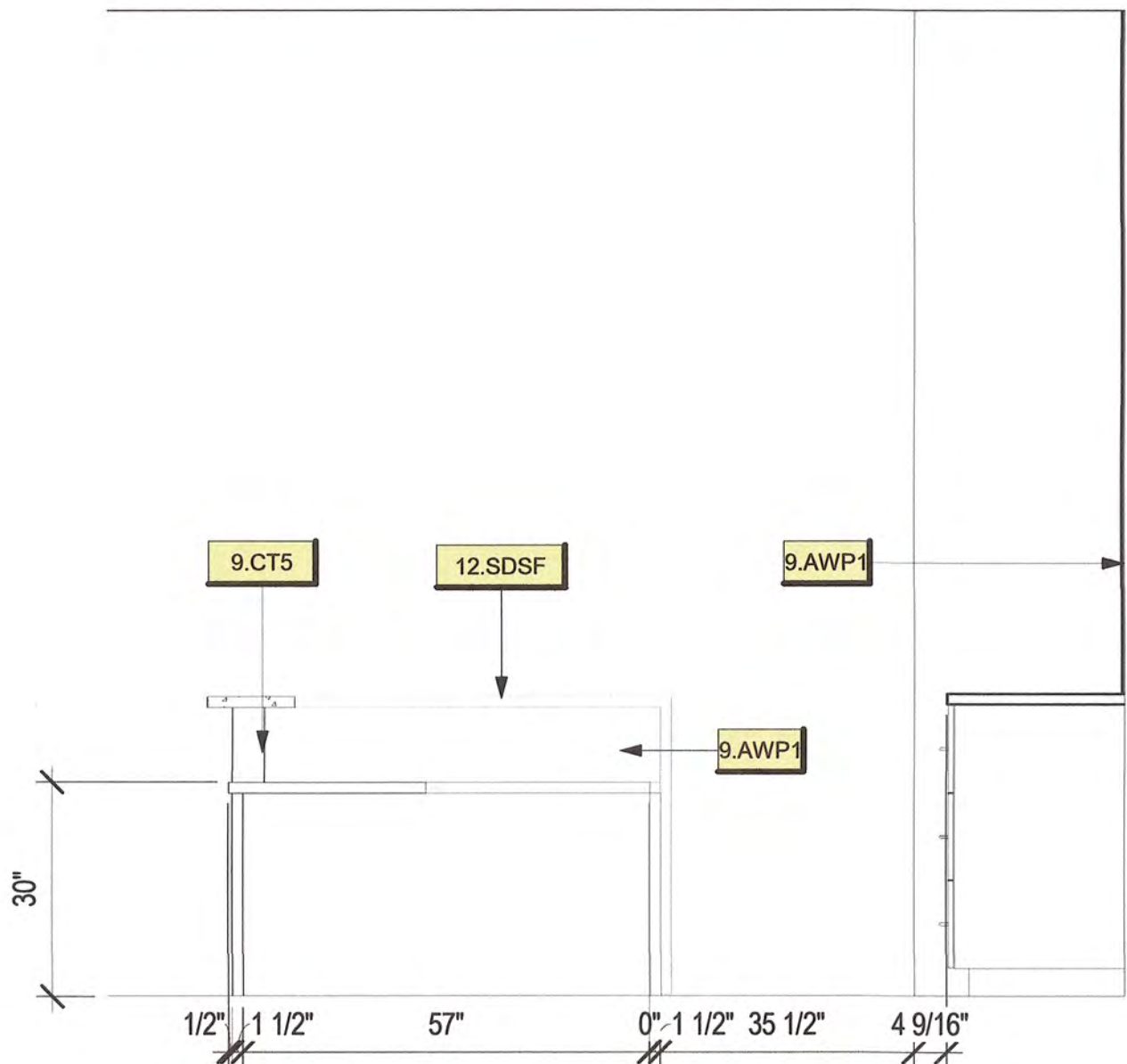
PLAN SCALE:	DRAWN	CMW	APPROVED
1/2" = 1'-0"	DESIGNED	JDH	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	TW 6/25	
	LEAD ENGR.	BDC 6/25	
HORIZONTAL:	FIELD MGR.	JW 6/25	
	RECOMMENDED BY	Thomas J. M	
VERTICAL:	DESIGN MANAGER		
FILE:	DRAWING:		CITY ENGINEER
			DATE: 6/12/2025
ATLAS PAGE NO:			
SHEET NAME: INTERIOR ELEVATIONS - CONFERENCE ROOMS			SHEET NO. A5-05

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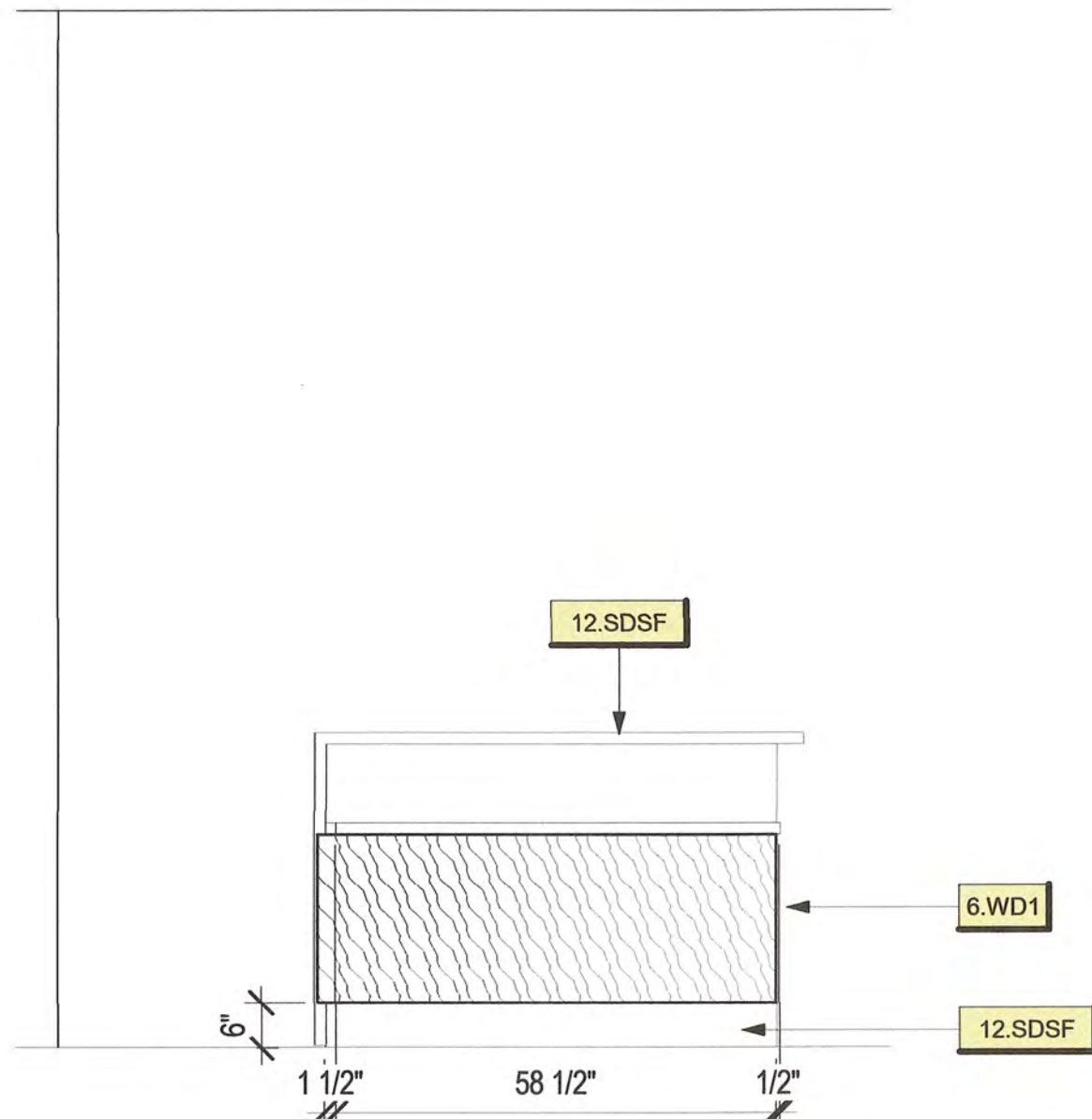
Key Value	Keynote Text
4.BB	8"BURNISHED MASONRY BLOCK
9.AWP2	ACOUSTICAL WALL PANEL WITH WOOD SLATS.
9.CT4	PORCELAIN TILE - 24" X 48" LOBBY WALL TILE
9.MT	METAL TRIM - REFERENCE TRANSITION DETAILS
13.FT	CUSTOM FISH TANK



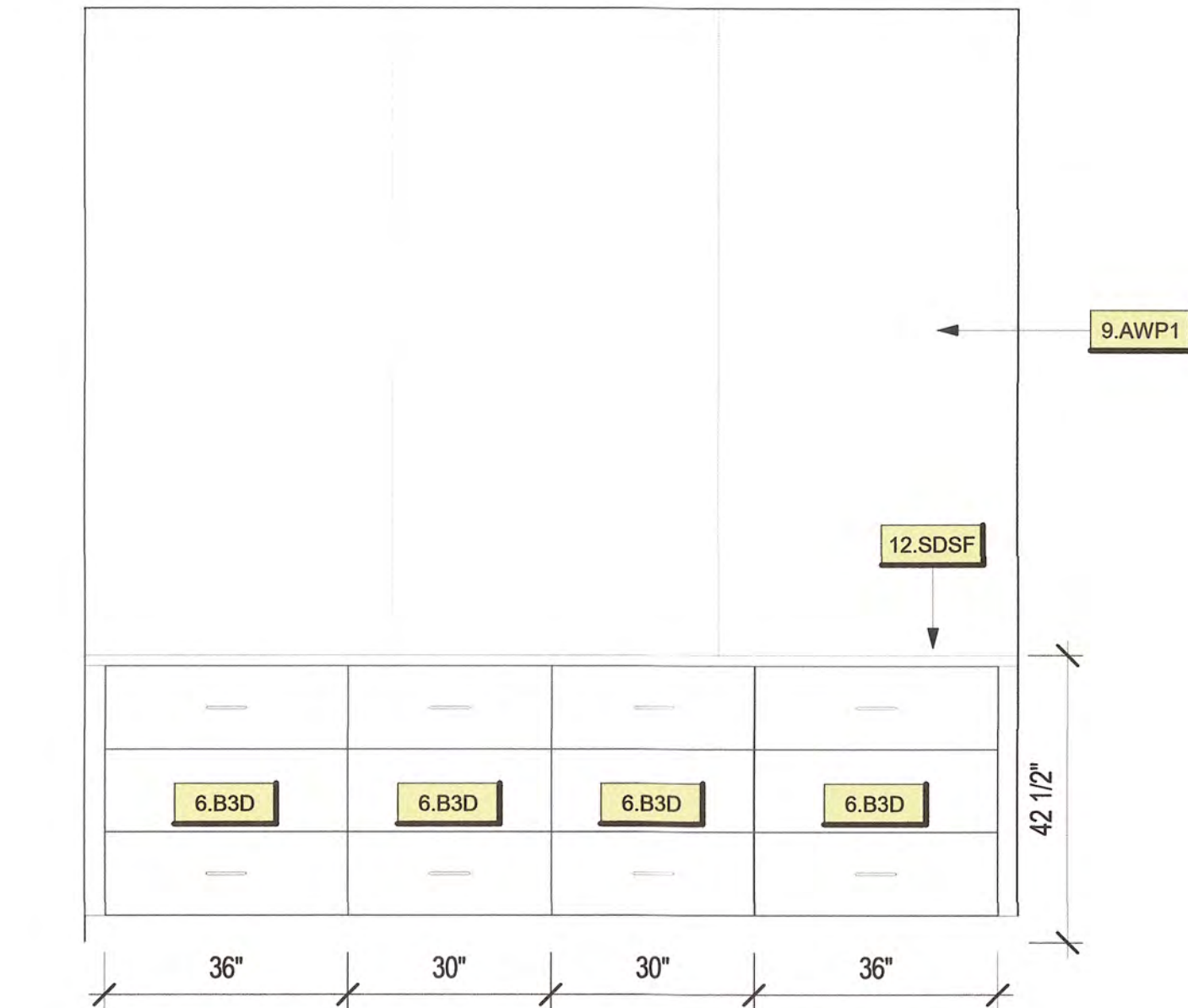
KEYNOTES	
Key Value	Keynote Text
6.B3D	BASE CABINET - 3 DRAWERS
6.BBF	BASE CABINET BOX BOX FILE
6.WD1	WOOD FINISH 1
9.AWP1	ACOUSTICAL WALL PANEL
9.CT3	PORCELAN TILE - 12" X 24" LOBBY FLOOR BORDER AND RESTROOM WALL TILE (VERFIY SIZE)
9.CT4	PORCELAN TILE - 24" X 48" LOBBY WALL TILE
9.CT5	PORCELAN TILE - BACK AND SIDE SPLASH
9.MT	METAL TRIM - REFERENCE TRANSITION DETAILS
9.RB1	RUBBER BASE - STANDARD 4" COVED BASE
10.GB18	18-INCH GRAB BAR, INSTALL PER ADA GUIDELINES.
10.GBSHR	SHOWER GRAB BAR, INSTALL PER ADA GUIDELINES.
10.RSS	RECESSED SHOWER SHEET
10.SRHC	36" SHOWER ROD, CURTAIN, AND HOOKS, SHOWER CURTAIN TO BE 12 INCH MIN. LONGER THAN SHOWER ROD.
12.LK	LOCKERS @ MUD ROOM.
12.SDSF	SOLID SURFACE COUNTERTOP



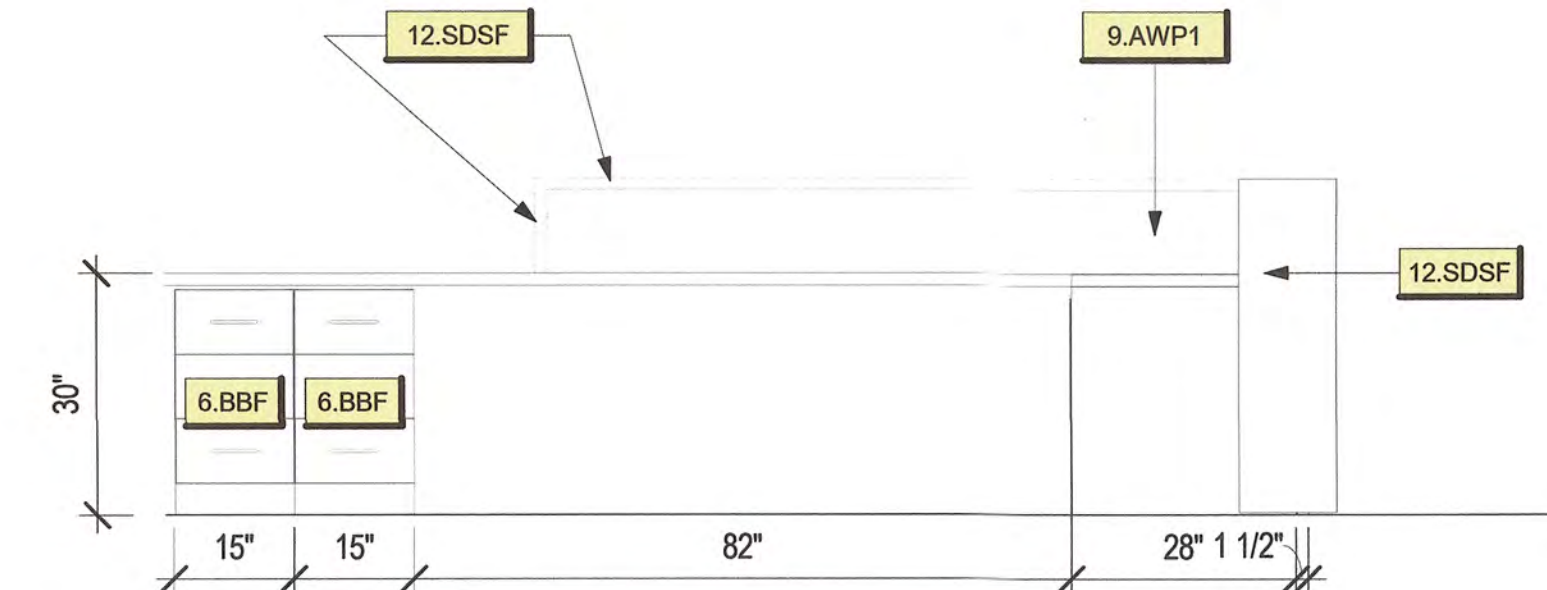
1 117 RECEPTION DESK - SOUTH
1/2" = 1'-0"



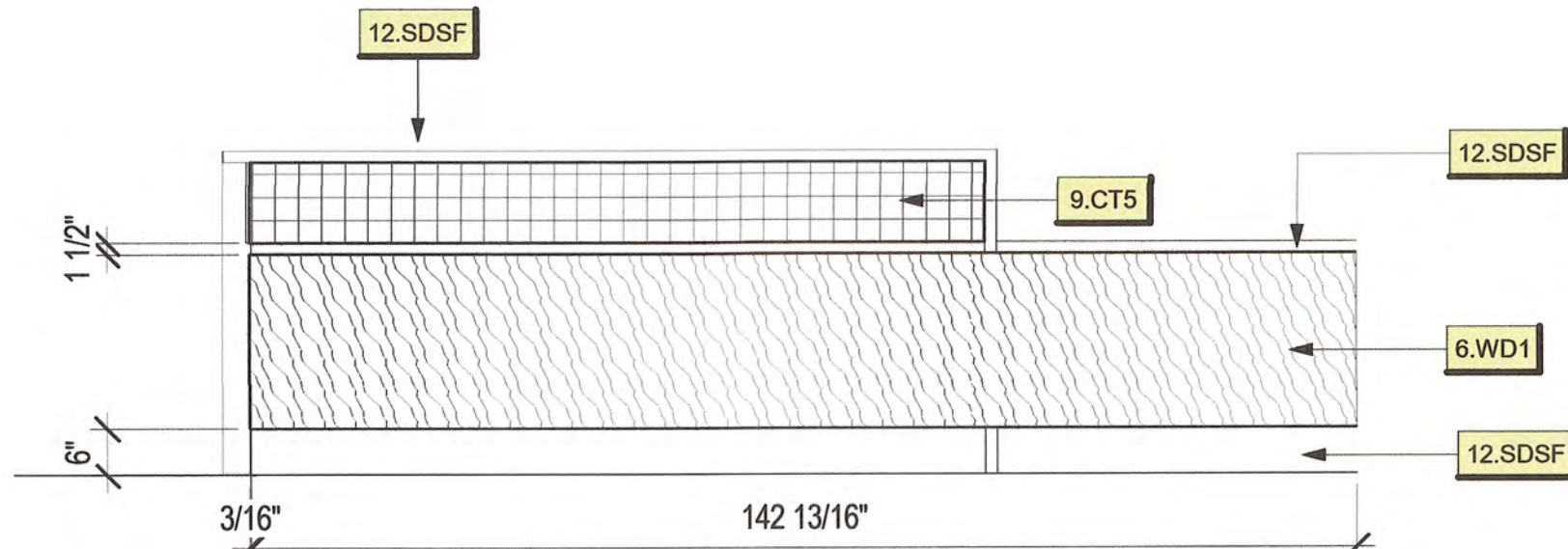
2 117 RECEPTION - NORTH
1/2" = 1'-0"



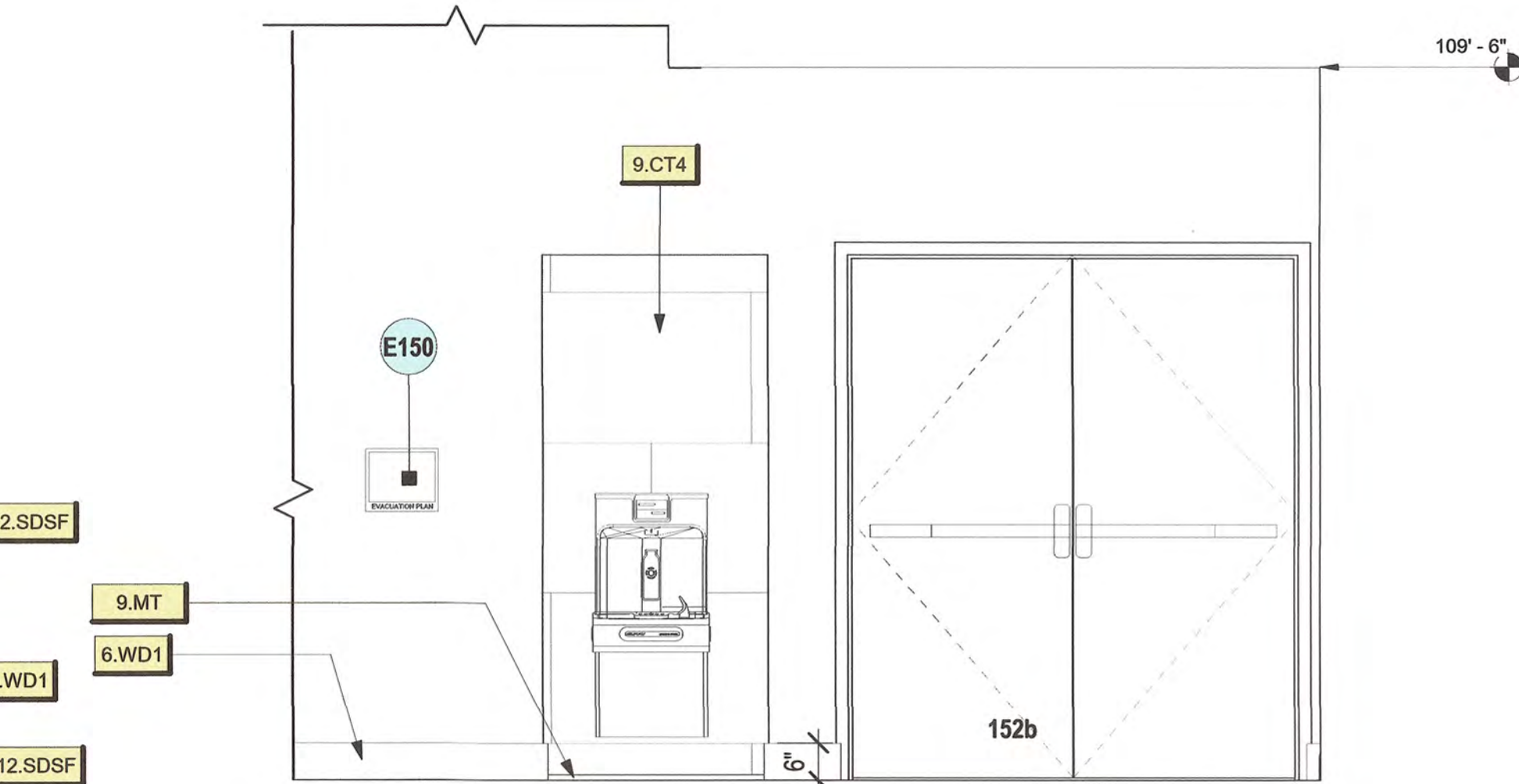
3 117 RECEPTION DESK - WEST
1/2" = 1'-0"



4 117 RECEPTION DESK - EAST
1/2" = 1'-0"



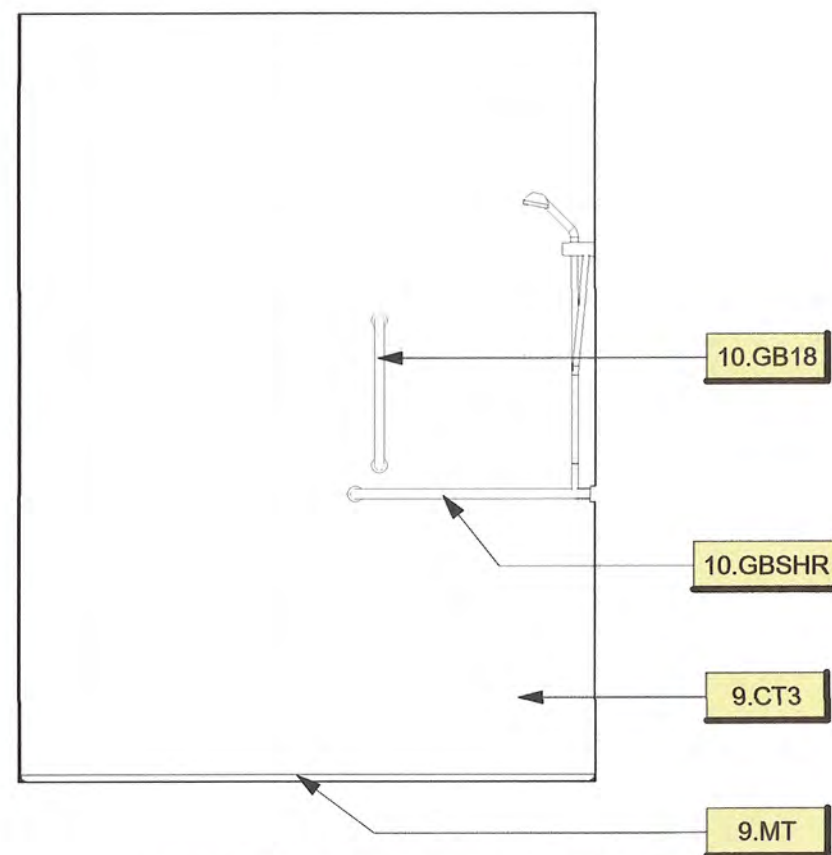
5 117 RECEPTION - WEST
1/2" = 1'-0"



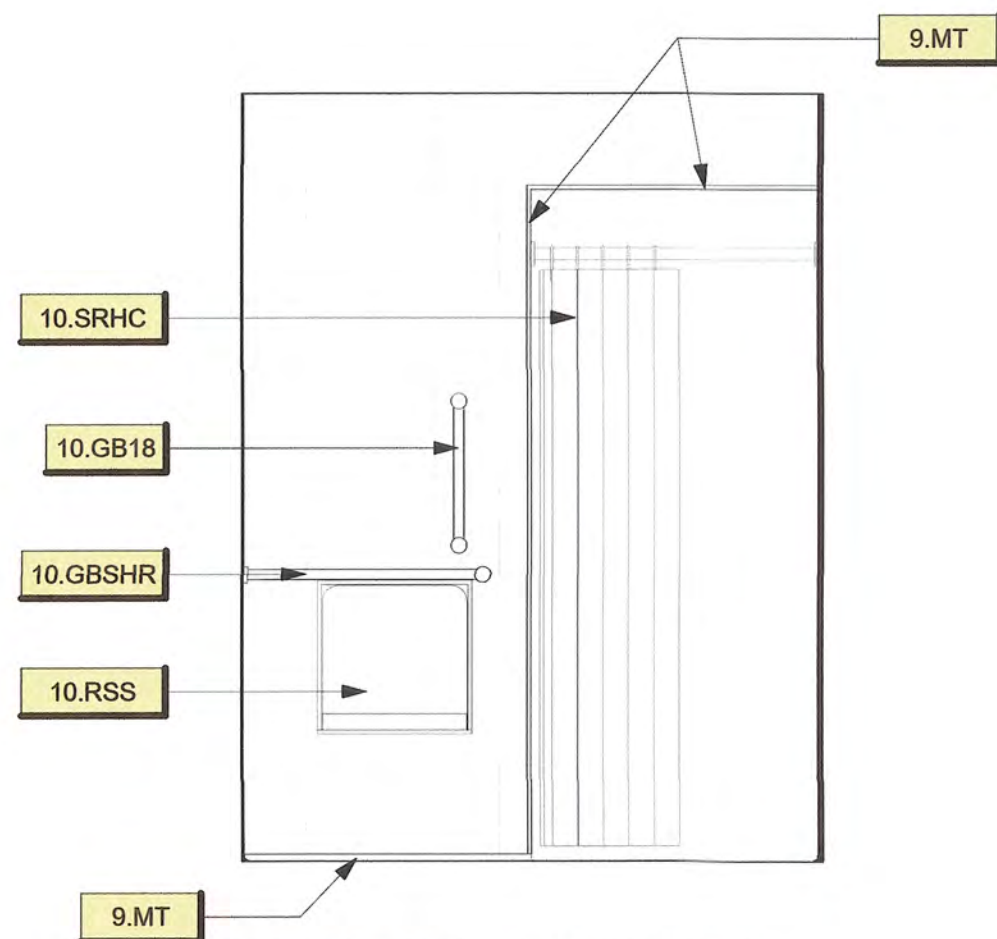
6 150 OPEN OFFICE (BOTTLE-FILL AREA) - SOUTH
1/2" = 1'-0"



7 157 MUD ROOM - EAST
1/2" = 1'-0"



8 158B SHW - NORTH
1/2" = 1'-0"



9 158B SHW - SOUTH
1/2" = 1'-0"

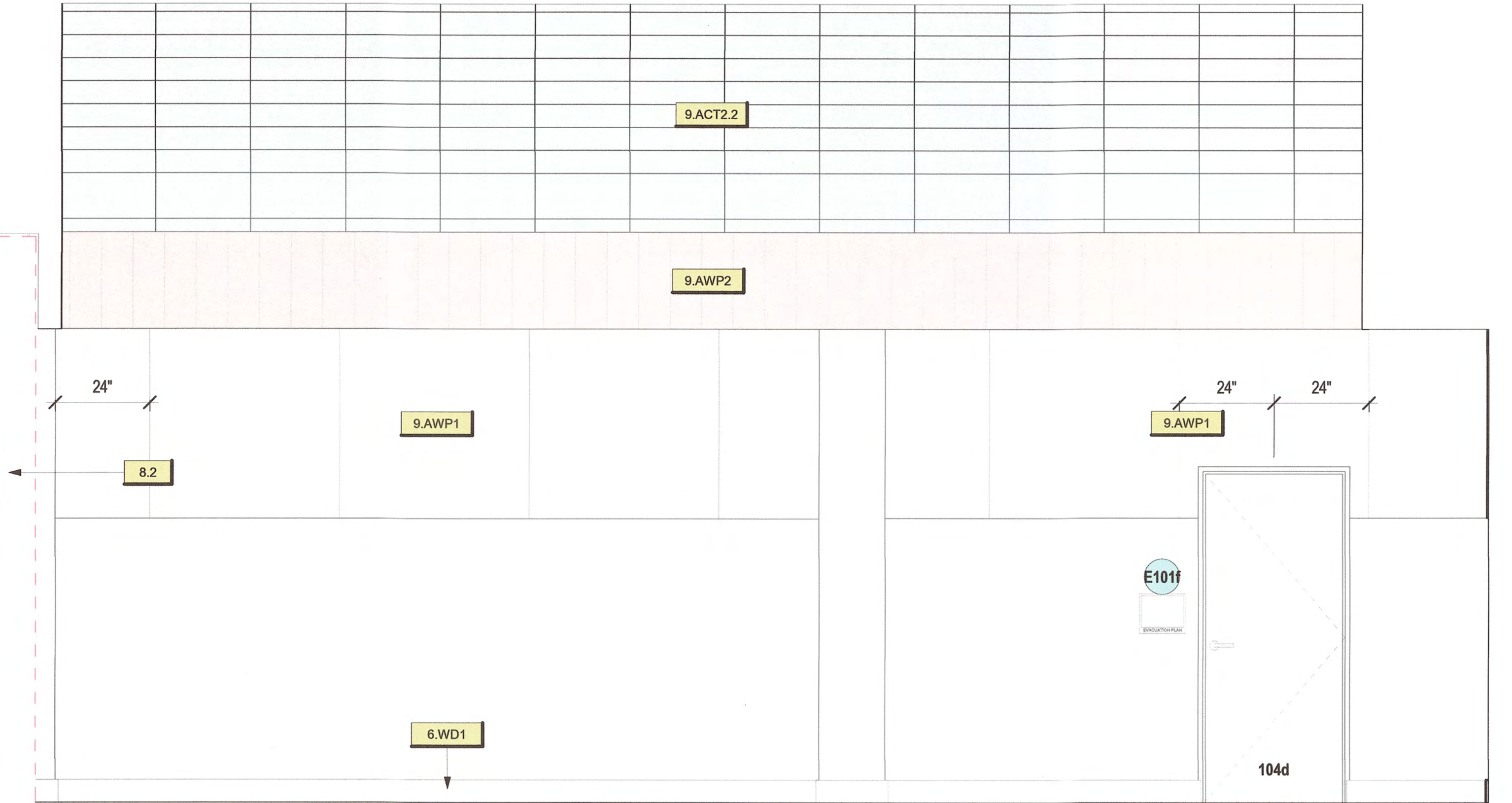
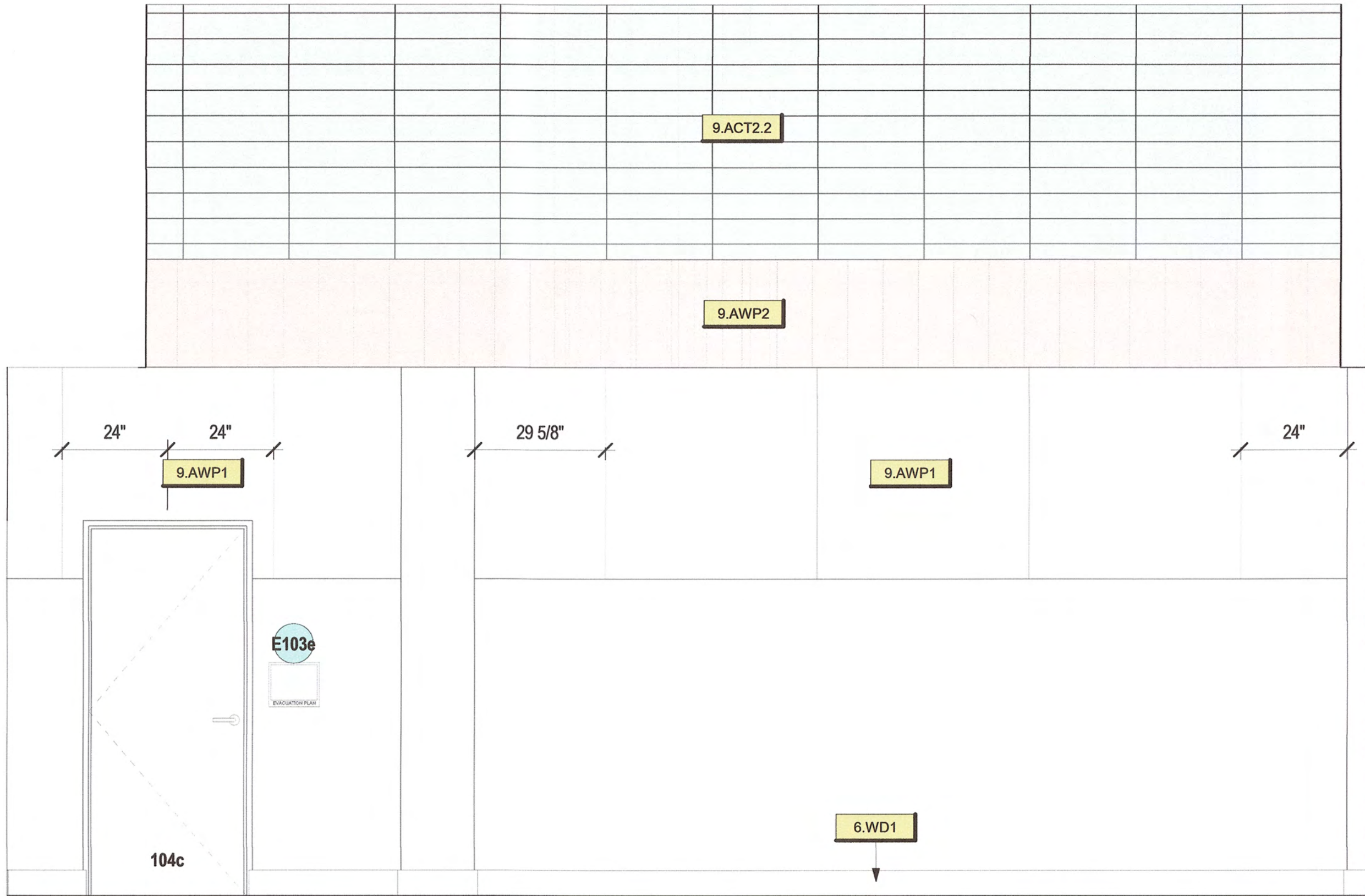
STORMWATER MAINTENANCE AND OPERATIONS BUILDING	
PROJECT NO. SW23-01-01	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS	
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING	
PLAN SCALE: 1/2" = 1'-0"	DRAWN DESIGNED SURVEY
PROFILE SCALE	PROJ. MGR. LEAD ENGR. FIELD MGR.
HORIZONTAL:	RECOMMENDED DESIGN MANAGER
VERTICAL:	FILE: DRAWING:
ATLAS PAGE NO:	SHEET NAME: INTERIOR ELEVATIONS - RECEPTION DESK & MISC.
APPROVED	CITY ENGINEER DATE: 6/12/2025
SHEET NO.	A5-07



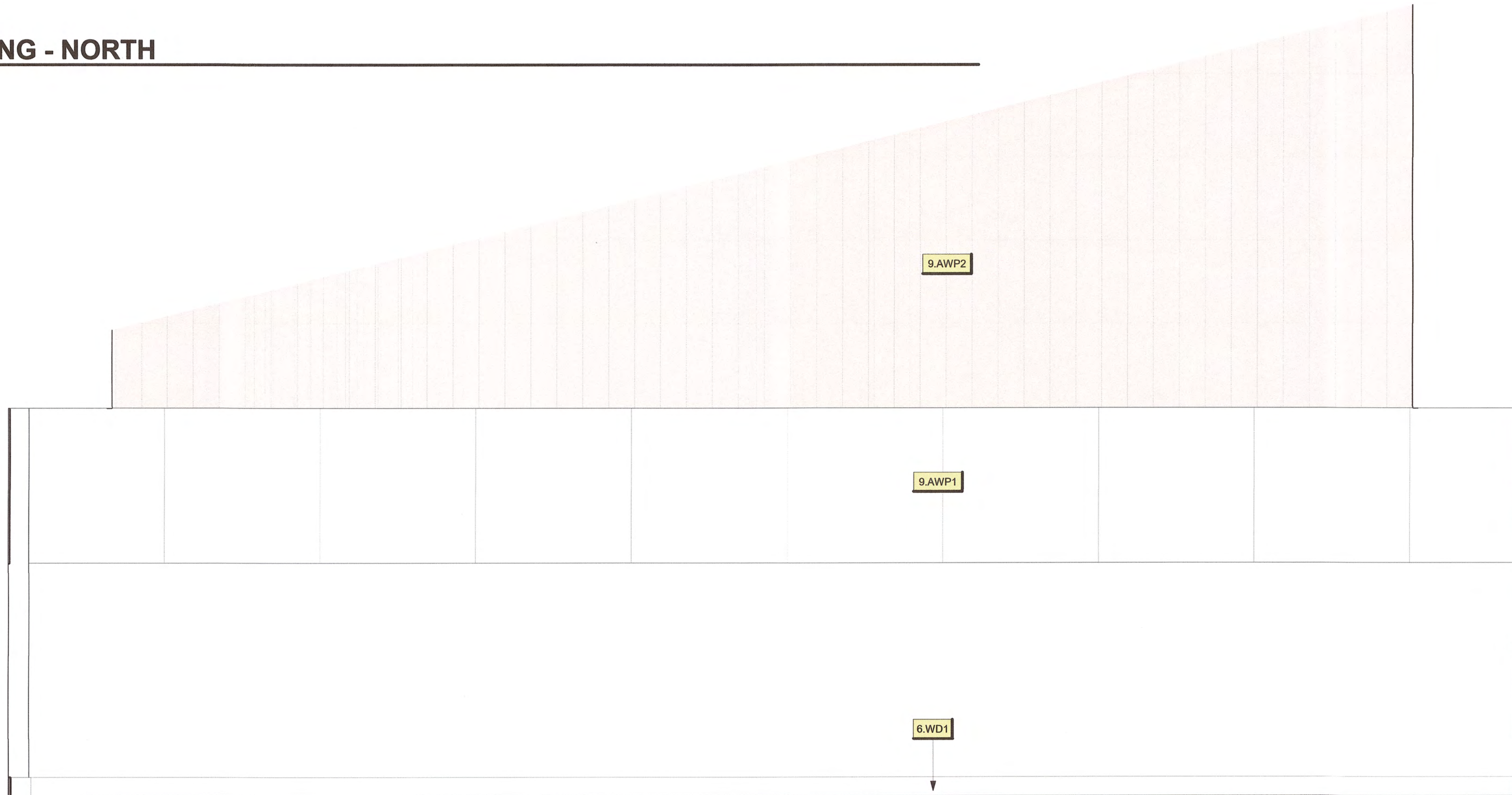
STORMWATER MAINTENANCE AND OPERATIONS BUILDING
PROJECT NO. SW23-01-01
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT
PLANS AND ESTIMATES PREPARED BY: BNL, INCORPORATED ENGINEERS & ARCHITECTS
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING

				PLAN SCALE: DRAWN: CMW 1/2" = 1'-0" DESIGNED: JDH SURVEY:		APPROVED:	
				PROFILE SCALE: PROJ. MGR. TW 6/15 LEAD ENGR. BDC 6/25			
				HORIZONTAL: FIELD MGR. JWS 6/15			
				VERTICAL: RECOMMENDED: [Signature] DESIGN MANAGER		CITY ENGINEER: [Signature]	
				FILE: DRAWING:		DATE: 6/12/2025	
				ATLAS PAGE NO:			
				SHEET NAME: INTERIOR ELEVATIONS - TRAINING ROOM		SHEET NO. A5-09	

6/5/2025 2:31:41 PM



1 104 TRAINING - NORTH
1/2" = 1'-0"



2 104 TRAINING - EAST
1/2" = 1'-0"

KEYNOTES	
Key Value	Keynote Text
6.WD1	WOOD FINISH 1
8.2	FOLDING PARTITION DOOR.
9.ACT2.2	2X2 HIGH ACOUSTICAL CEILING TILE AND GRID
9.AWP1	ACOUSTICAL WALL PANEL
9.AWP2	ACOUSTICAL WALL PANEL WITH WOOD SLATS.

STORMWATER MAINTENANCE
AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

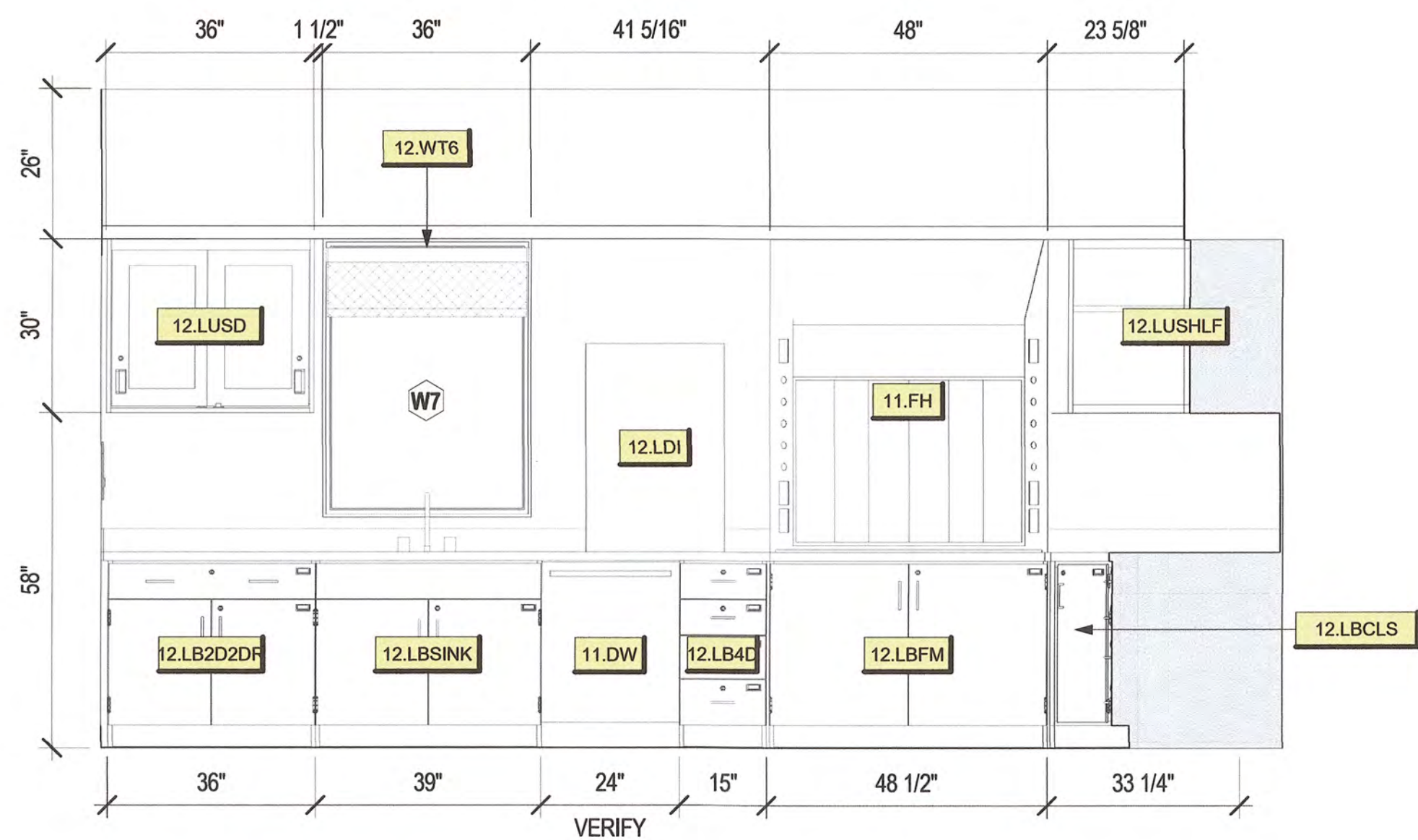
PLANS AND ESTIMATES PREPARED BY:
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

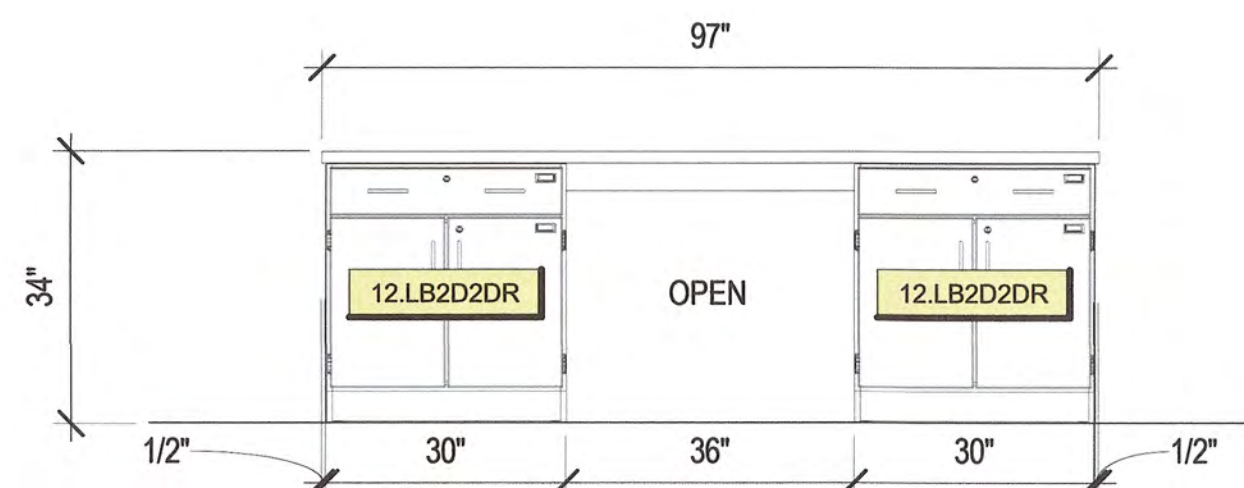


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					SURVEY		
				PROFILE SCALE	PROJ. MGR.	TW 6/15	
					LEAD ENGR.	Boc 6/25	
				HORIZONTAL:	FIELD MGR.	JW 6/25	
					RECOMMENDED		
				VERTICAL:	DESIGN MANAGER		
				FILE:	DRAWING:		
				ATLAS PAGE NO:			
				SHEET NAME:			
				INTERIOR ELEVATIONS - TRAINING			
				SHEET NO.			
				A5-10			

1 151 LAB NORTH
1/2" = 1'-0"

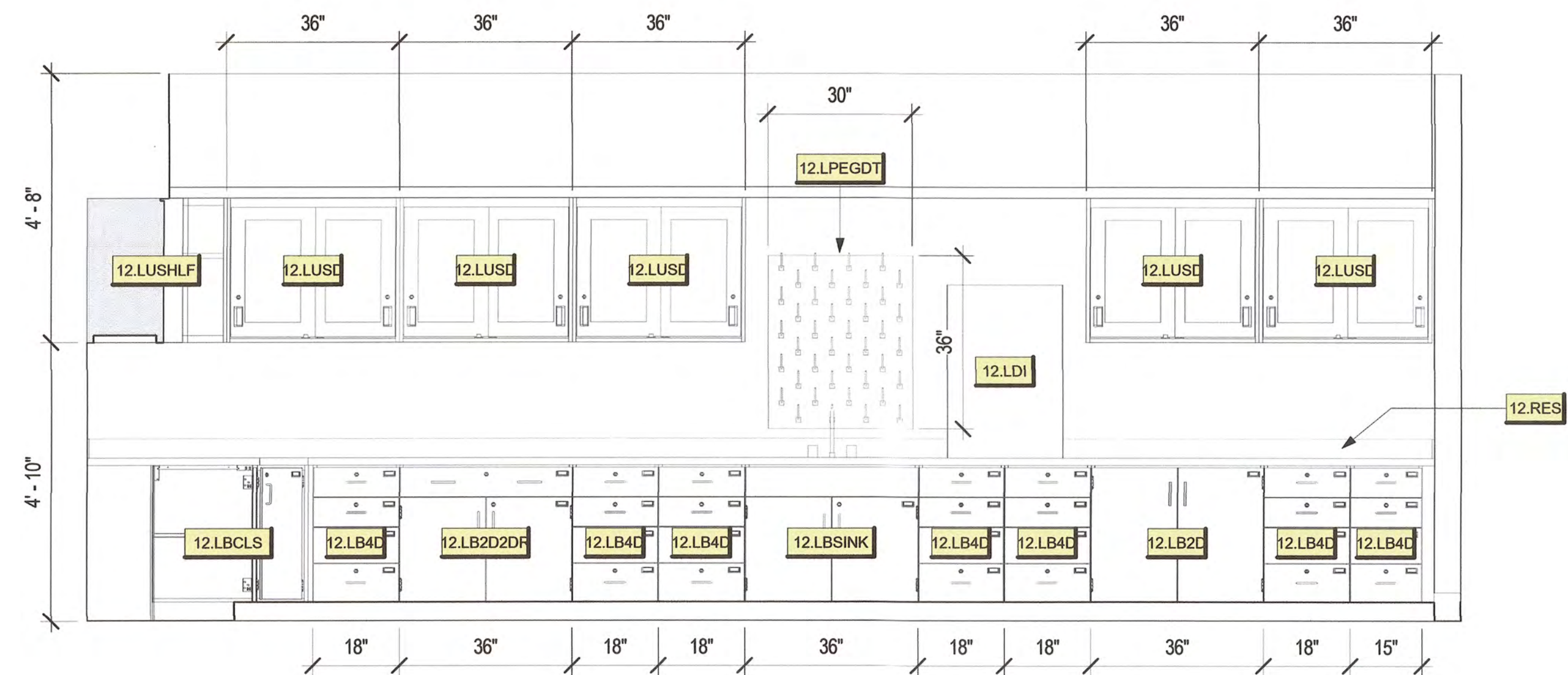


3 151 LAB - SOUTH
1/2" = 1'-0"

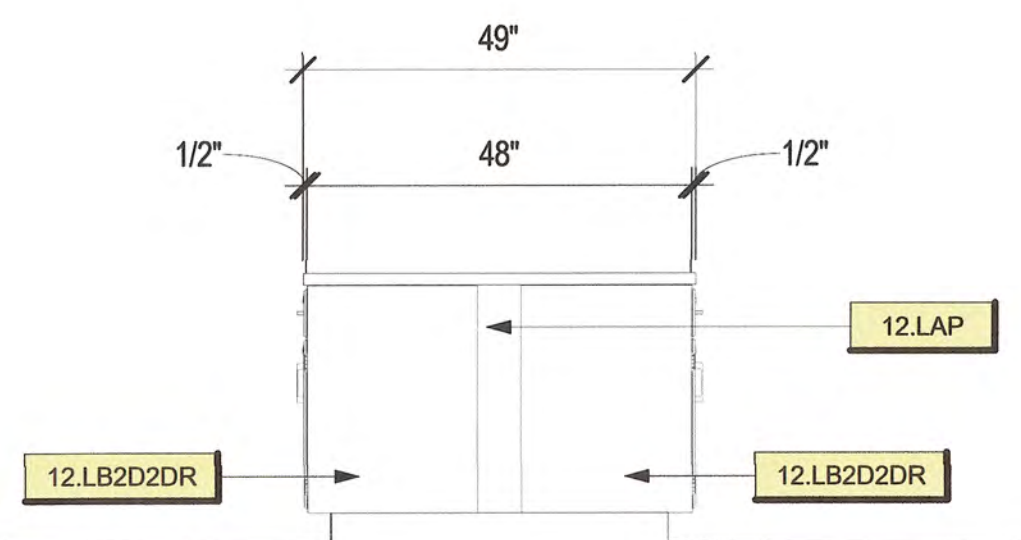


5 151 LAB ISLAND - WEST / EAST O.H.
1/2" = 1'-0"

2 151 LAB - EAST
1/2" = 1'-0"



4 151 LAB - WEST
1/2" = 1'-0"



6 151 LAB ISLAND - NORTH / SOUTH O.H.
1/2" = 1'-0"

KEYNOTES

Key Value	Keynote Text
9.RB1	RUBBER BASE - STANDARD 4" COVED BASE
10.FEC	FIRE EXTINGUISHER CABINET
11.DW	ADA DISHWASHER - REF. SCHEDULE.
11.FH	FUME HOOD - PROVIDED AND INSTALLED BY THE CONTRACTOR
11.FRZ	COUNTERTOP FREEZER WITH GLASS DOOR.
11.REF2	REFRIGERATOR (FULL SIZE) - REF. SCHEDULE. COMMERCIAL GRAD FRIG (2) WITH GLASS FRONTS. (CFCI) CONTRACTOR FURNISH AND INSTALL.
12.1	1/2" REVEAL BETWEEN WINDOW SILL AND BACKSPLASH
12.AS	ADJUSTABLE SHELVING
12.LAP	LAB ACCESS PANEL
12.LB2D	LAB BASE CABINET - 2 DOOR
12.LB2D2DR	LAB BASE CABINET - 2 DRAWER, 2 DOOR
12.LB4D	LAB BASE CABINET - 4 EQUAL DRAWERS
12.LBCLS	LAB BASE CORNER CABINET WITH LAZYSUSAN
12.LBFM	LAB BASE CABINET - METAL CABINET FOR FLAMMABLE MATERIAL
12.LBSINK	LAB BASE CABINET - SINK
12.LDI	DEIONIZED WATER SYSTEM.
12.LOS	LAB OPEN STORAGE UNIT
12.LPEGDT	LAB WALL-MOUNTED PEGGED DRYING RACK.
12.LUSD	LAB UPPER CABINET - SLIDING DOOR
12.LUSHLF	LAB UPPER CABINET - OPEN SHELVING
12.RES	RESIN LAB COUNTER TOP WITH 4" BACK/SIDE SPLASH
12.WT6	WINDOW TREATMENT - ROLLER SHADE 36 INCHES X 48 INCHES TALL.

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

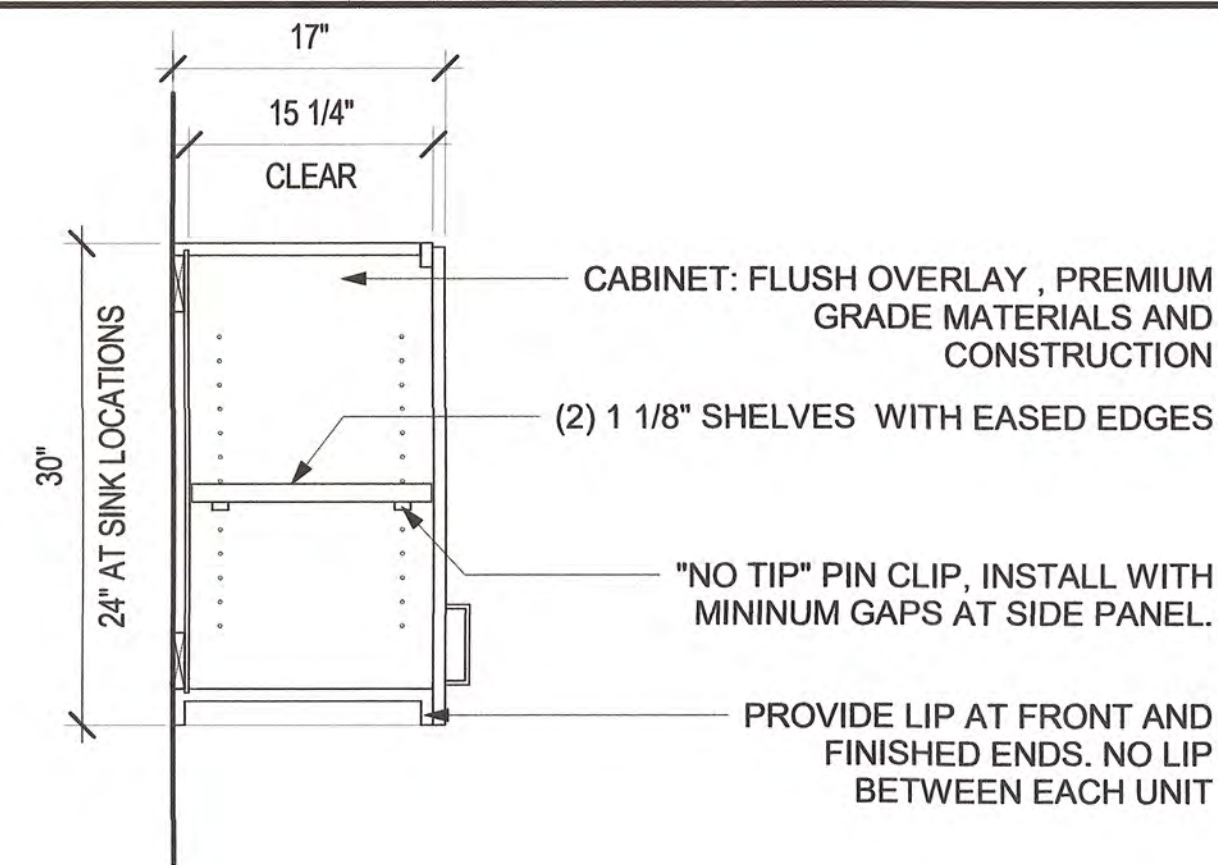
PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

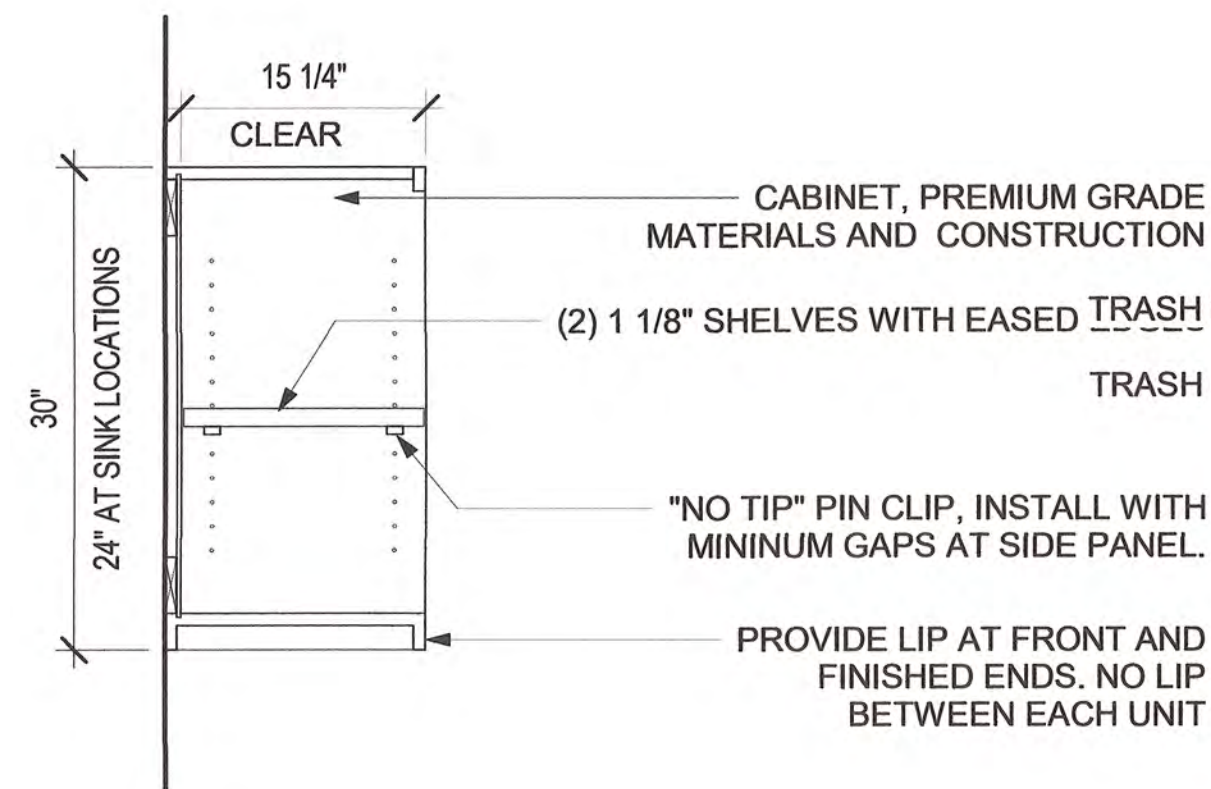
GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING



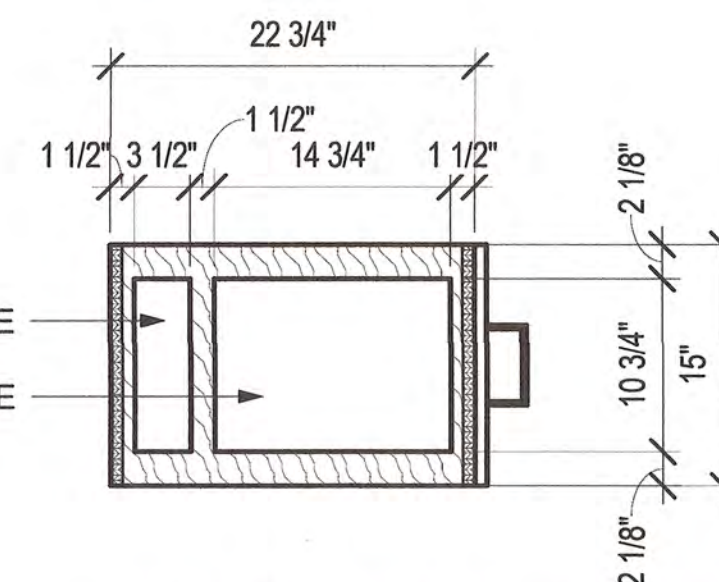
NO	REVISION	BY	DATE	ATLAS PAGE NO:	DESIGNED	CMW	APPROVED
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				PROFILE SCALE	PROJ. MGR.	TW	6/15
					LEAD ENGR.	BDC	6/25
				HORIZONTAL:	FIELD MGR.	SW	6/25
					RECOMMENDED BY	SW	6/25
				VERTICAL:	DESIGN MANAGER		
				FILE:	DRAWING:		
				SHEET NAME:			
				INTERIOR ELEVATIONS - LAB ALTERNATE			
				SHEET NO.			A5-11



1 6.U1D & 6.U2D - UPPER CABINET



2 6.USHLF - UPPER CABINET



PLAN VIEW - 12.TRSH BELOW COUNTER

- ### CASEWORK NOTES:

1. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. FIELD VERIFY DIMENSIONS AT ALL LOCATIONS PRIOR TO FABRICATION.
3. OBTAIN APPROVED APPLIANCE AND EQUIPMENT DATA SHEETS AND COORDINATE EQUIPMENT REQUIREMENTS PRIOR TO FABRICATION.
4. OBTAIN APPROVED PLUMBING DATA SHEETS AND COORDINATE FIXTURE REQUIREMENTS PRIOR TO FABRICATION.
5. INSTALL GROMMETS IN COUNTER TOPS @ ANY LOCATIONS THAT HAVE POWER/DATA OUTLETS BELOW COUNTER OR WITHIN THE TALL CABINETS. PROVIDE 5 ADDITIONAL GROMMETS. VERIFY ALL LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
6. ELECTRICAL/DATA OUTLETS ARE TO BE COORDINATED WITH ELECTRICAL CONTRACTOR. PROVIDE RACEWAYS FOR CONDUIT AS REQUIRED.
7. ALL CABINET DRAWERS AND DOORS ARE TO BE LOCKABLE. REFERENCE ARCHITECTURE WOODWORK SPEC FOR HARDWARE.
8. ALL 12" OR TALLER DRAWERS ARE TO HAVE BUILT-IN LETTER FILE RAILS.

CABINET DRAWER BOX	
CONSTRUCTION METHOD	DOWELED
DRAWER MATERIAL	BLACK MELAMINE
EDGE BANDING TYPE	.018" BLACK PVC

VANITIES

COUNTERTOP	SDSF
APRON	SDSF
BACK AND SIDE SPLASHES	SDSF (4" TALL)
ANGLED PANEL	PL1

MATERIAL	SDSF
----------	------

COUNTERTOPS

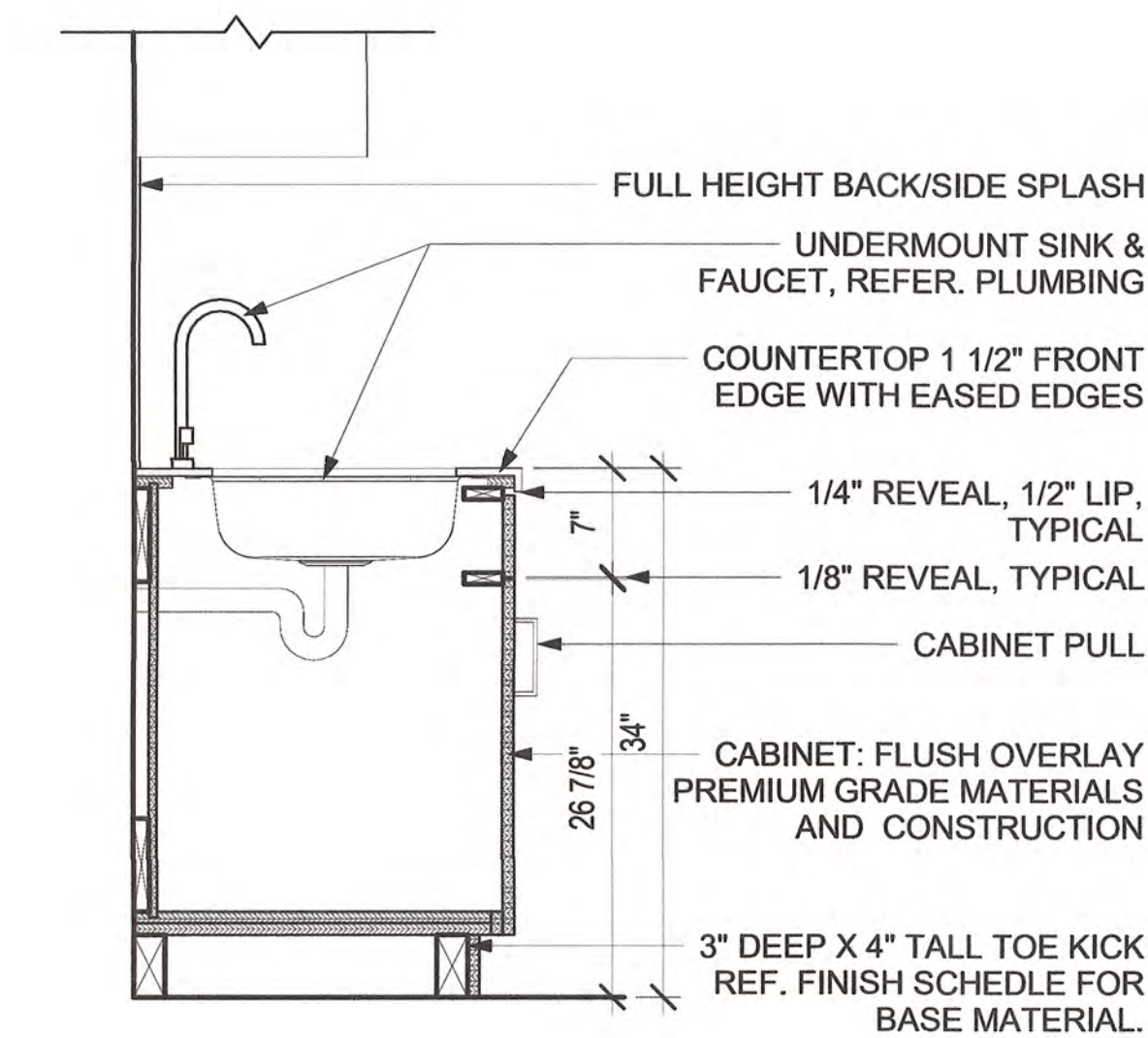
MATERIAL	SDSF
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BACK/SIDE SPLASH MATERIAL/FINISH

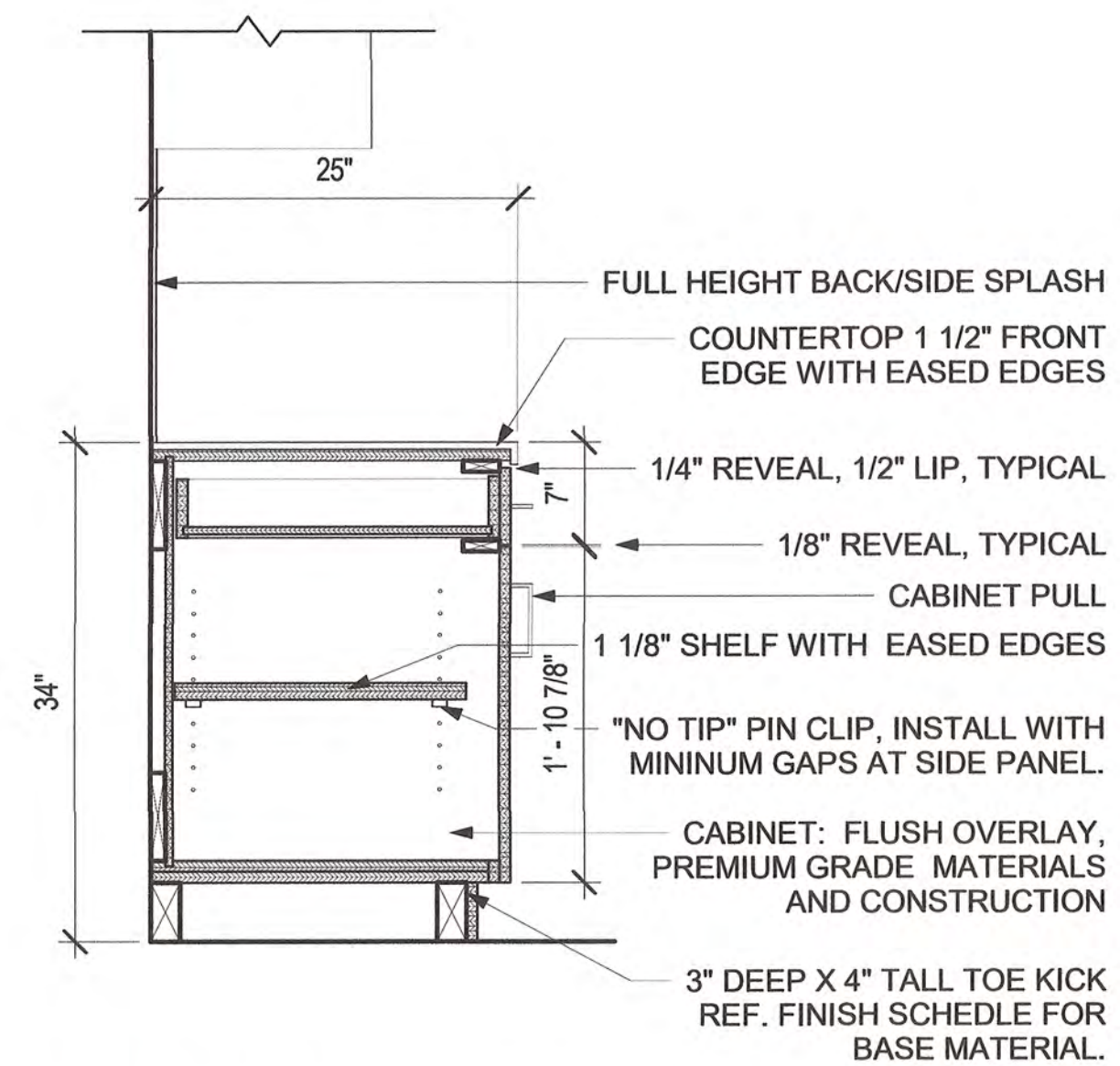
MATERIAL	CT5
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HARDWARE

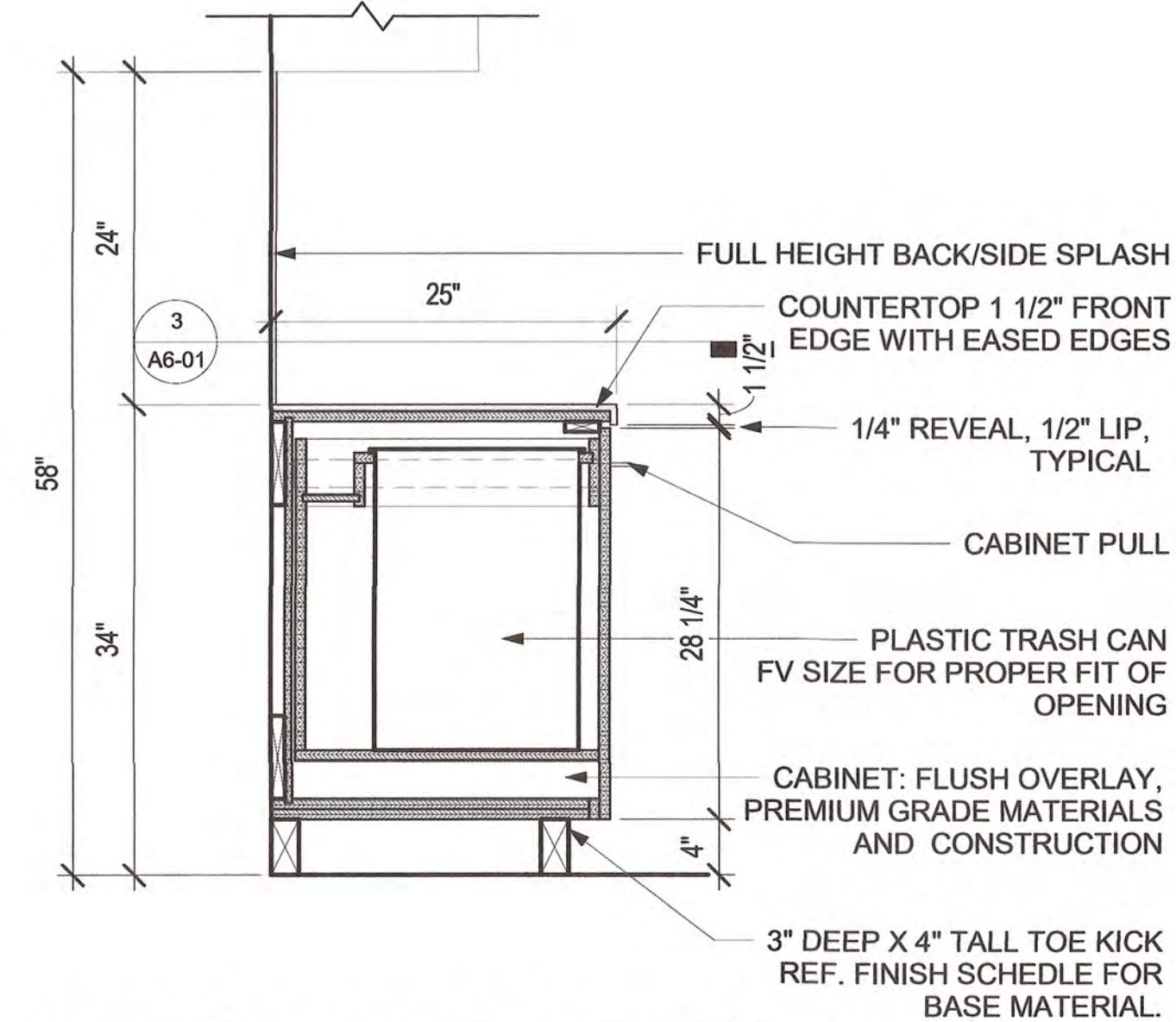
HINGE	BLUM CLIPTOP 170 DEGREE PRESS-IN 71T6580
HINGE PLATE	BLUM CLIP MOUNTING PLATE 174H7100E OMM
PULL	RAVINTE 5" SQUARE SATIN NICKEL
STANDARD DRAWER SLIDE	200 LB BALL SLIDES 200 FU20-20"
FILE DRAWER SILDE	200 LB BALL SLIDES 200 FU20-20"
CAB SHELF GLIP	2 PIN PLASTIC 300 LB
WIRE GROMMENT	MOCKET FLXI (2 3/8")
TRASH RING	NA
COUNTERTOP BRACKETS	A&M BRACKETS C024 CONCEALD
KEY BOARD TRAY	KENSINGTON K60717USF
SLATWALL	NA
FILE REAIL AND CLIPS	
POP-UP GROMMET	KUNG FU KIN POP UP GROMMETS
CABINET BUMPERS	



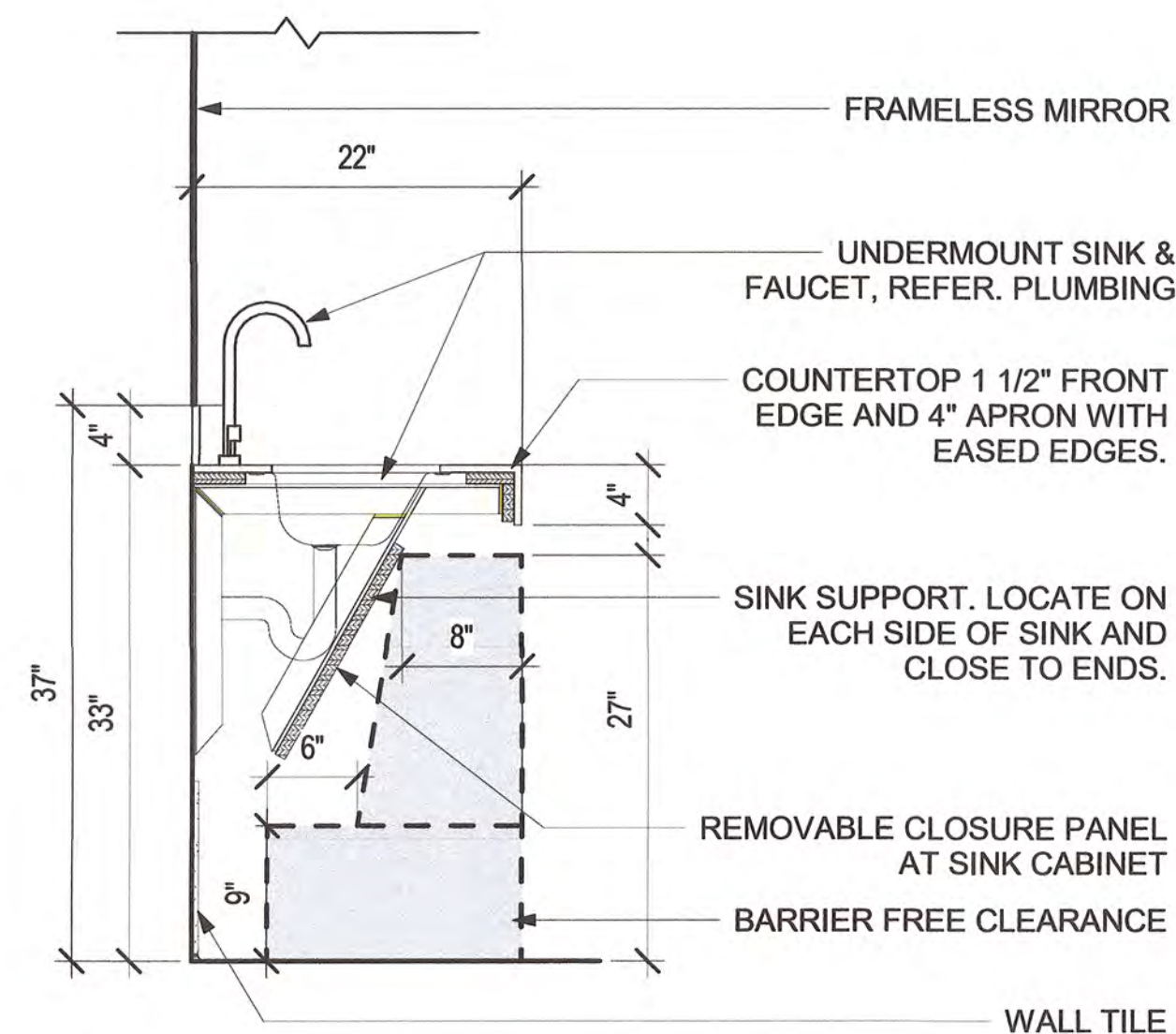
4 6.BSINK - BASE CABINET WITH SINK



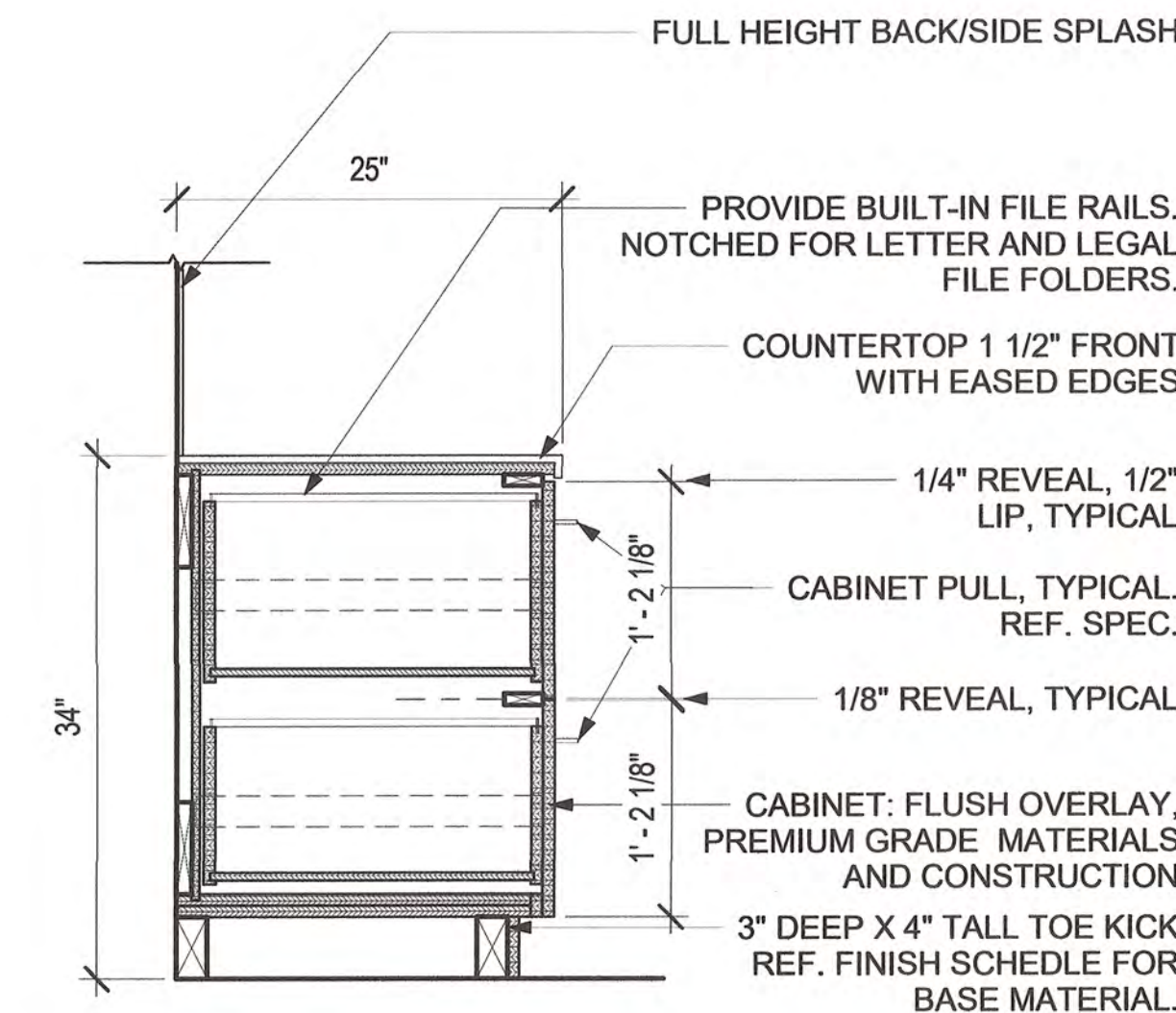
5 6.1B1D1D & 6.B2D2D - BASE CABINET **6 6.BTRSH - BASE CABINET**
 1" = 1'-0" 1" = 1'-0"



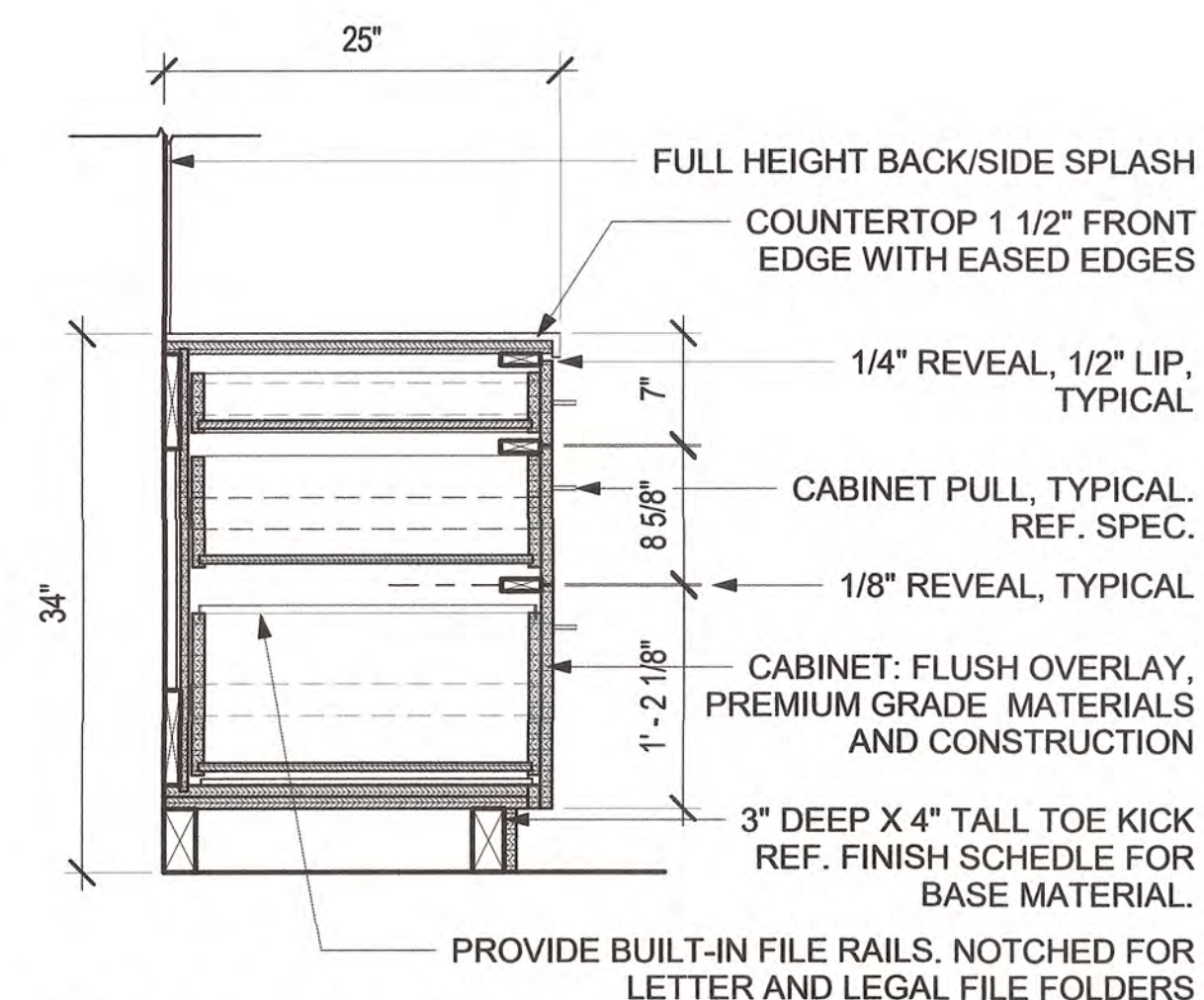
6. BTRSH - BASE CABINET
1" = 1'-0"



7 6.RRV - RESTROOM VANITY SINK
1" = 1'-0"



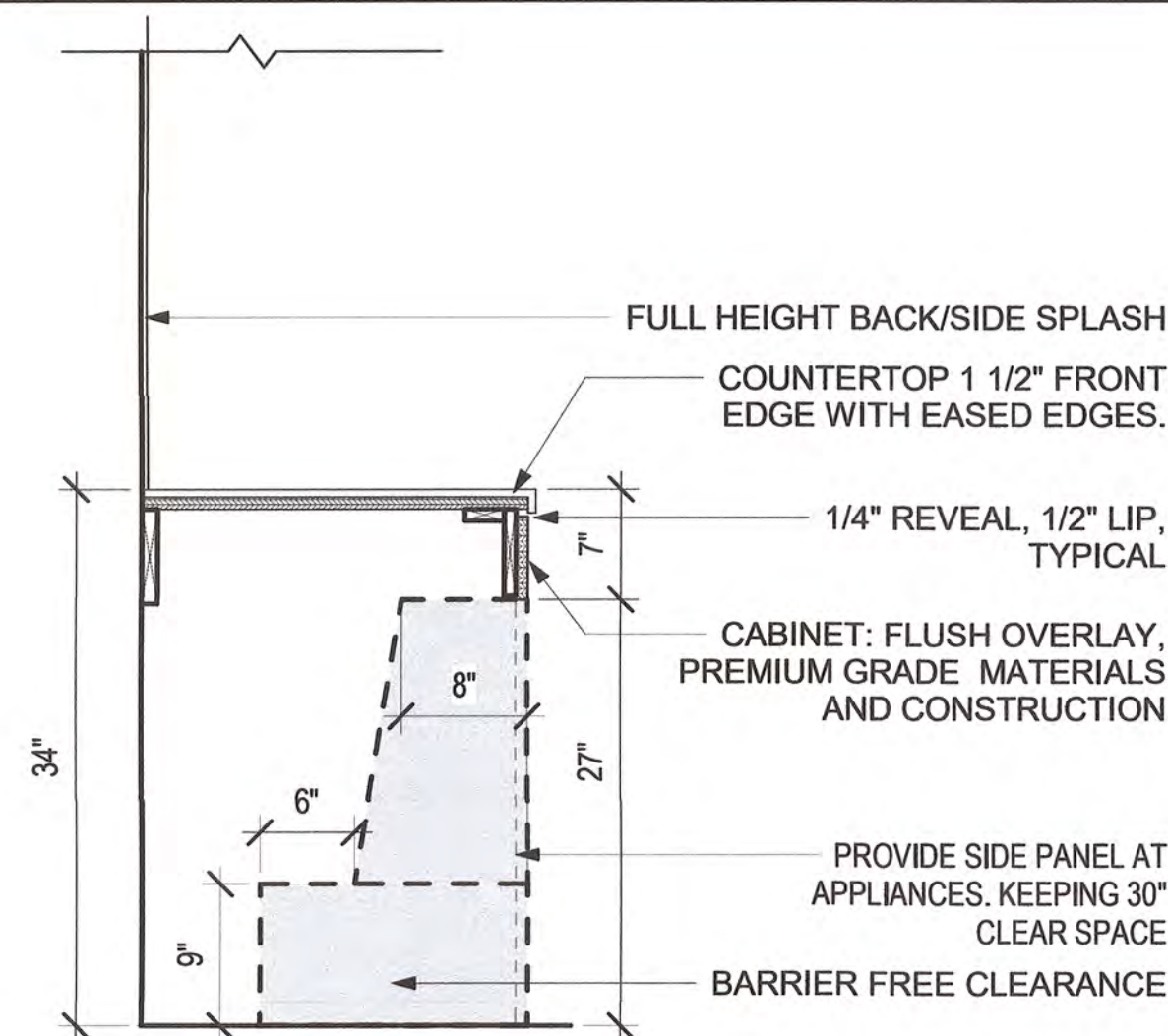
8 6B2D - BASE CABINET
1" = 1'-0"



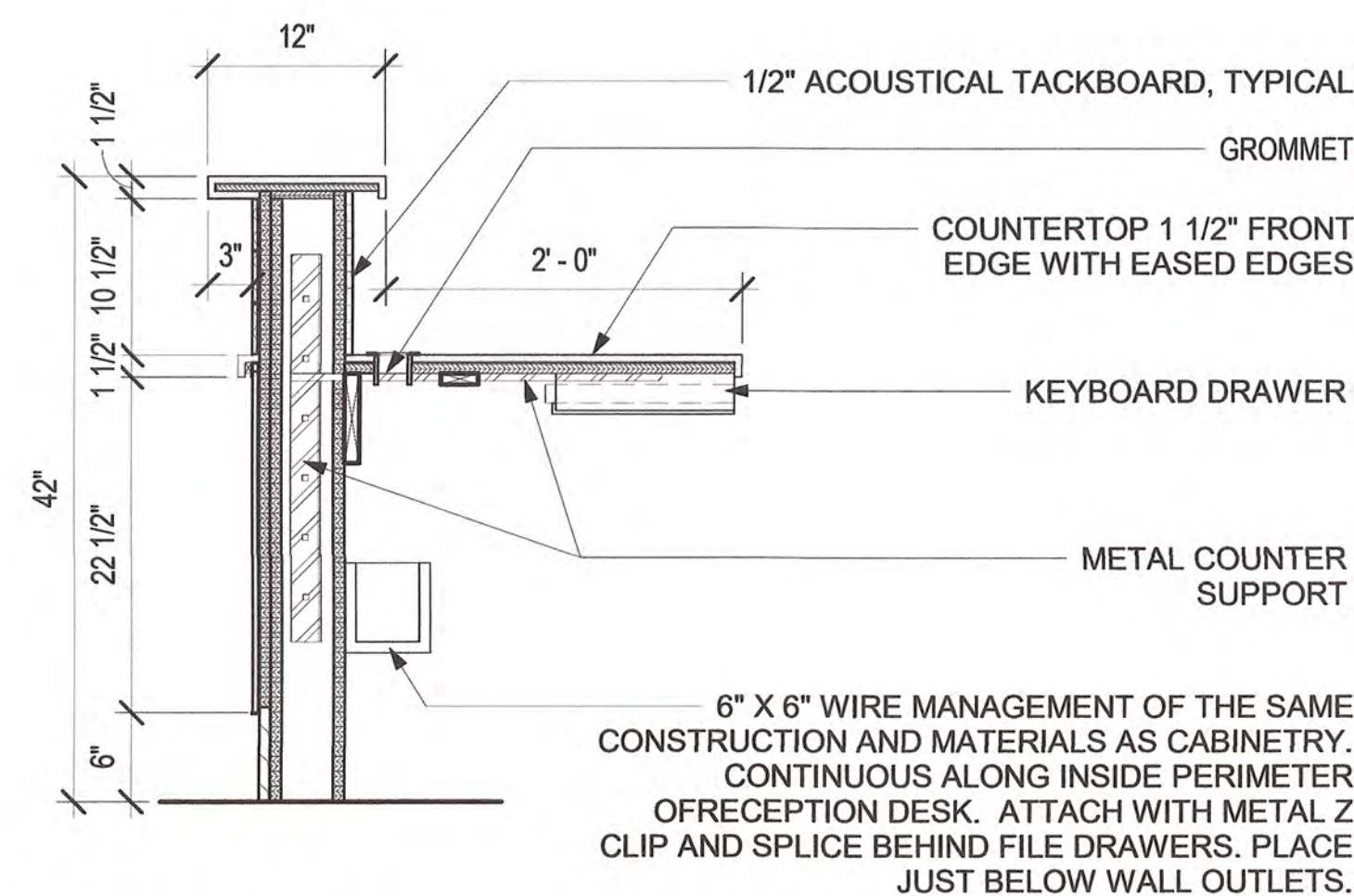
9 6.B3D - BASE CABINET
1" = 1'-0"



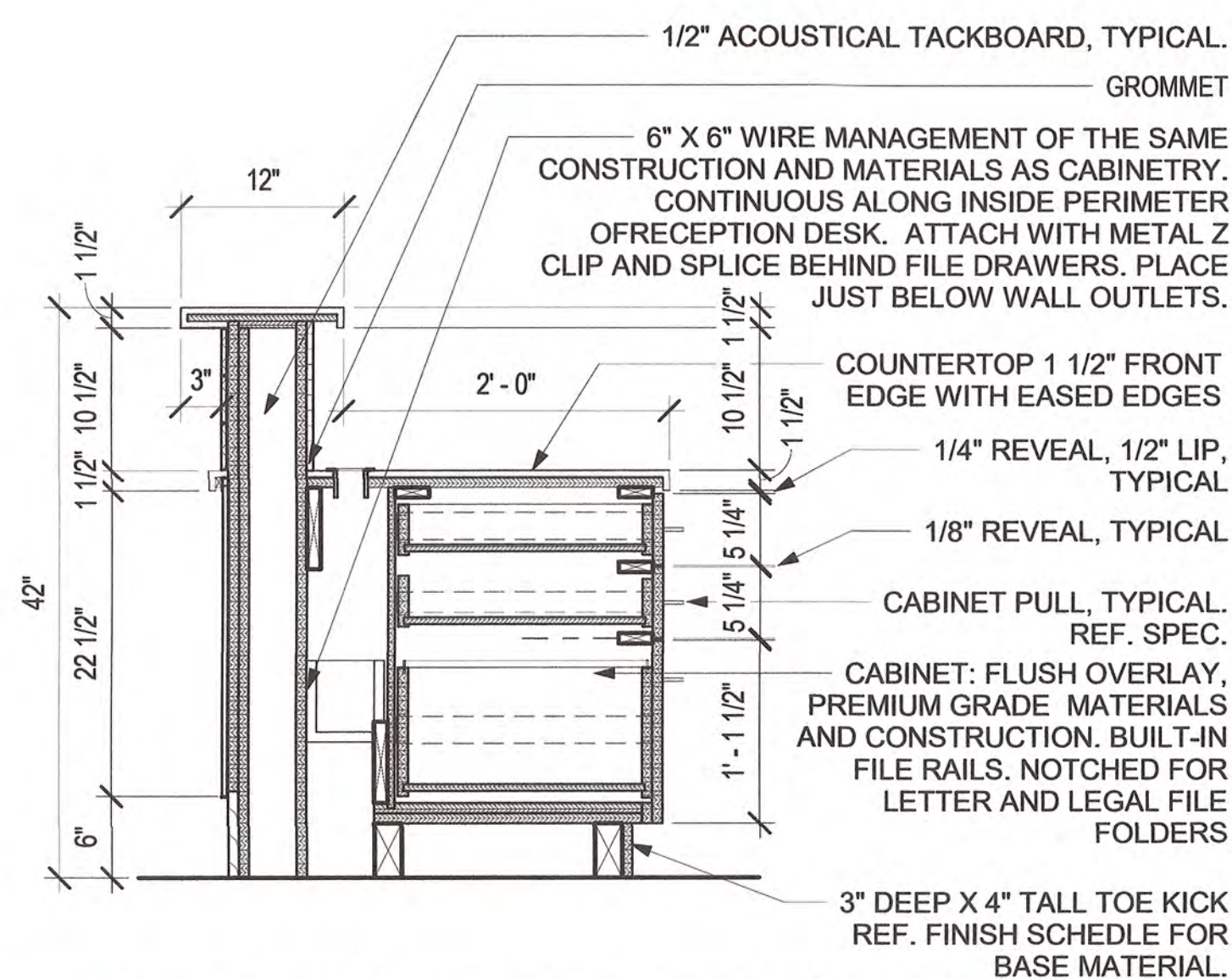
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NO	REVISION	BY	DATE	As indicated	DESIGNED	JDH	
					SURVEY		
				PROFILE SCALE	PROJ. MGR.	TW	6/15
					LEAD ENGR.	BDC	6/25
				HORIZONTAL:	FIELD MGR.	JW	6/25
					RECOMMENDED:	J. Gm	
				VERTICAL:	DESIGN MANAGER	CITY ENGINEER	
				FILE:	DRAWING:	DATE: 6/12/2025	
ATLAS PAGE NO:							
SHEET NAME:						SHEET NO.	
CASEWORK DETAILS						A6-01	



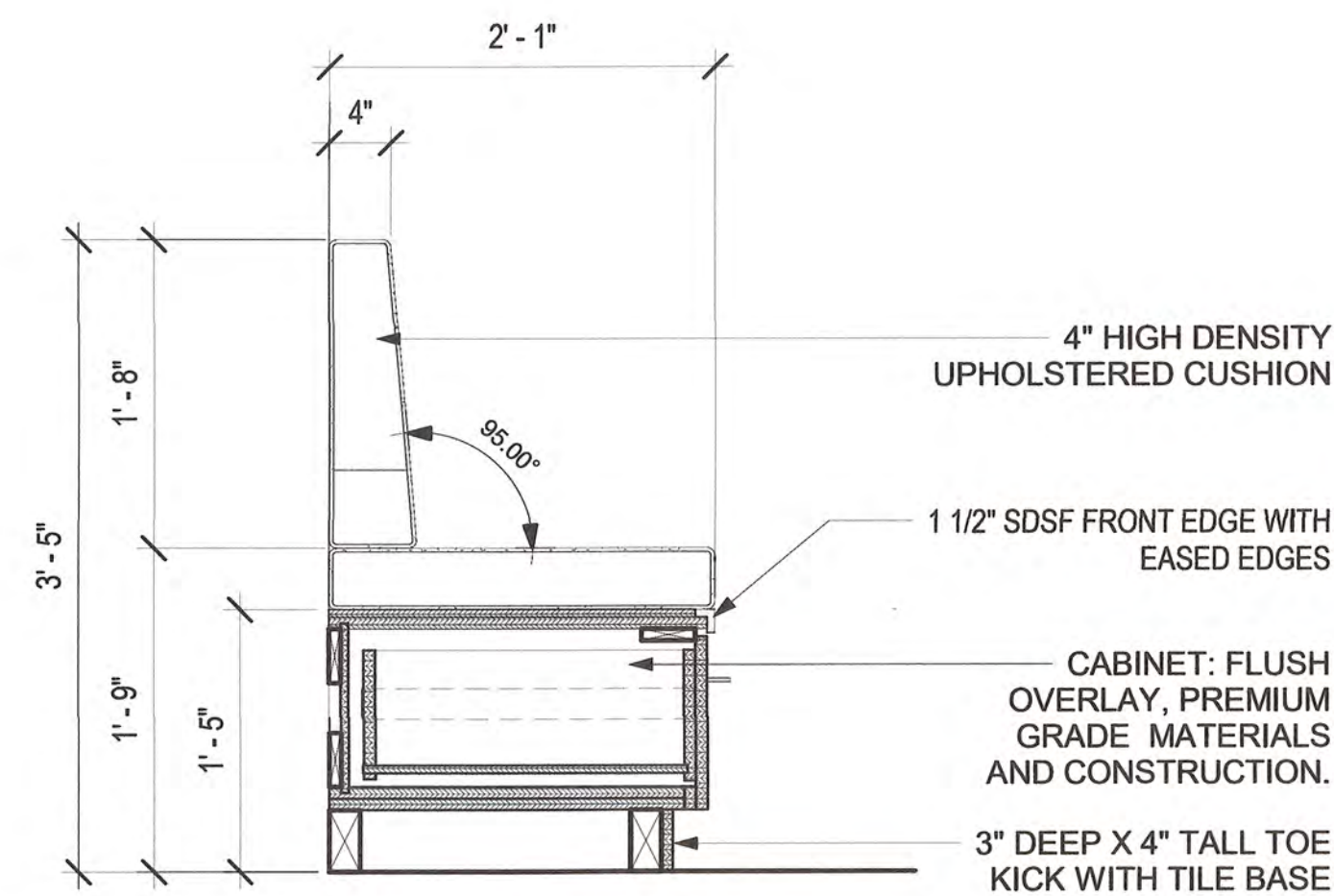
1 6.BADAWKSF - ADA WORKSURFACE
1" = 1'-0"



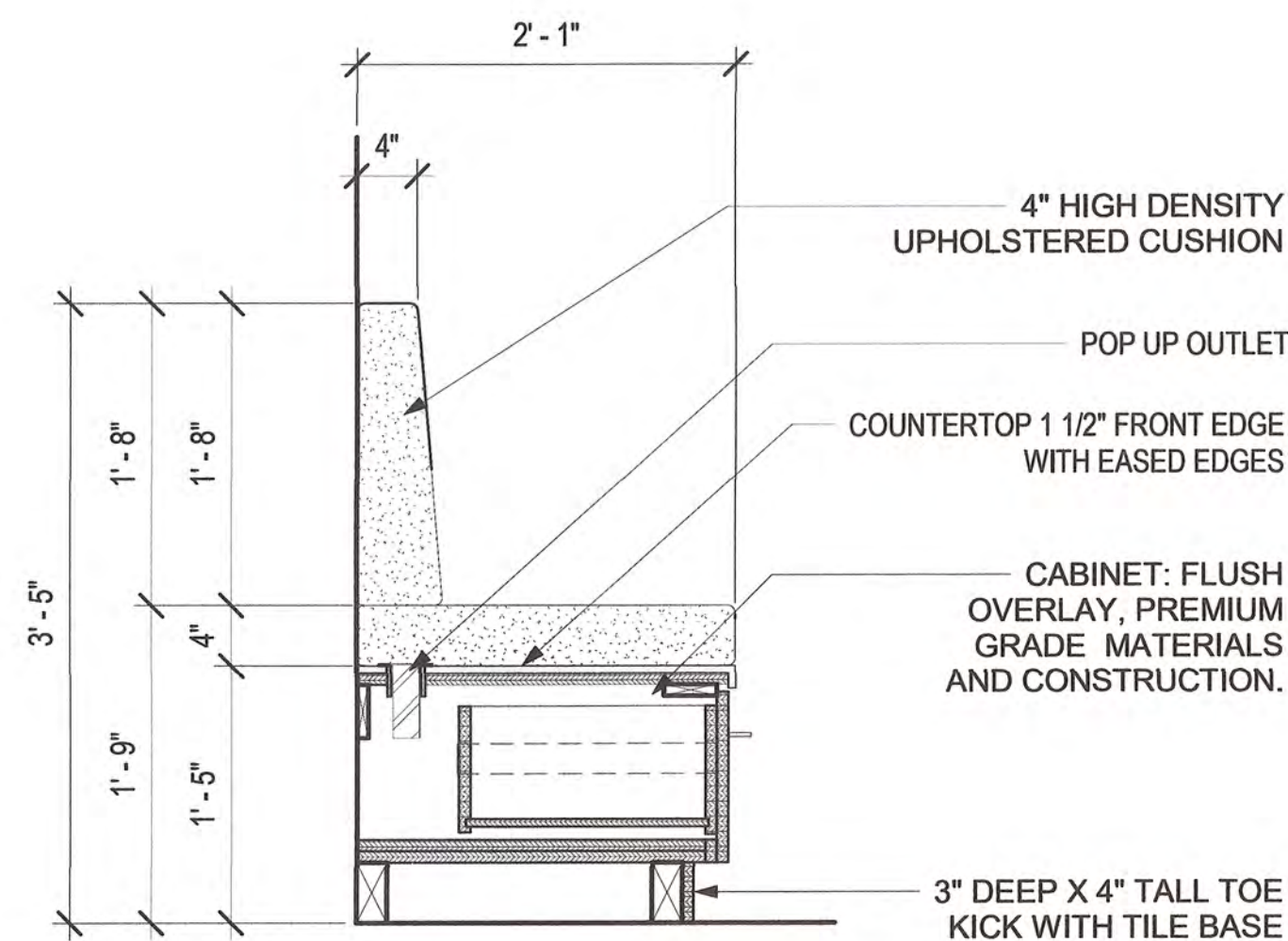
3 6.BKB - WORKSURFACE AT KEYBOARD DRAWER



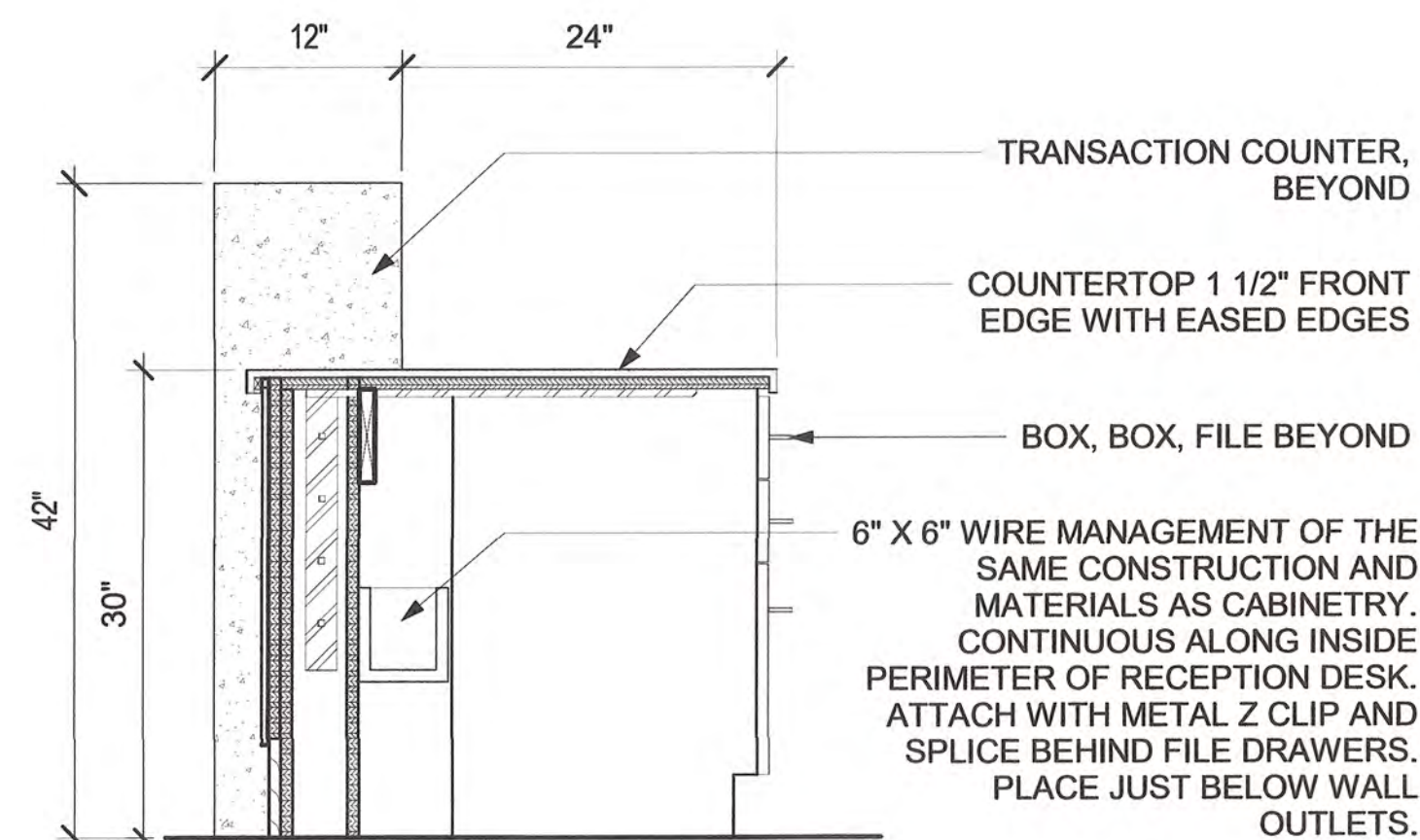
5 6.BBF - BOX BOX FILE BASE CABINET
1" = 1'-0"



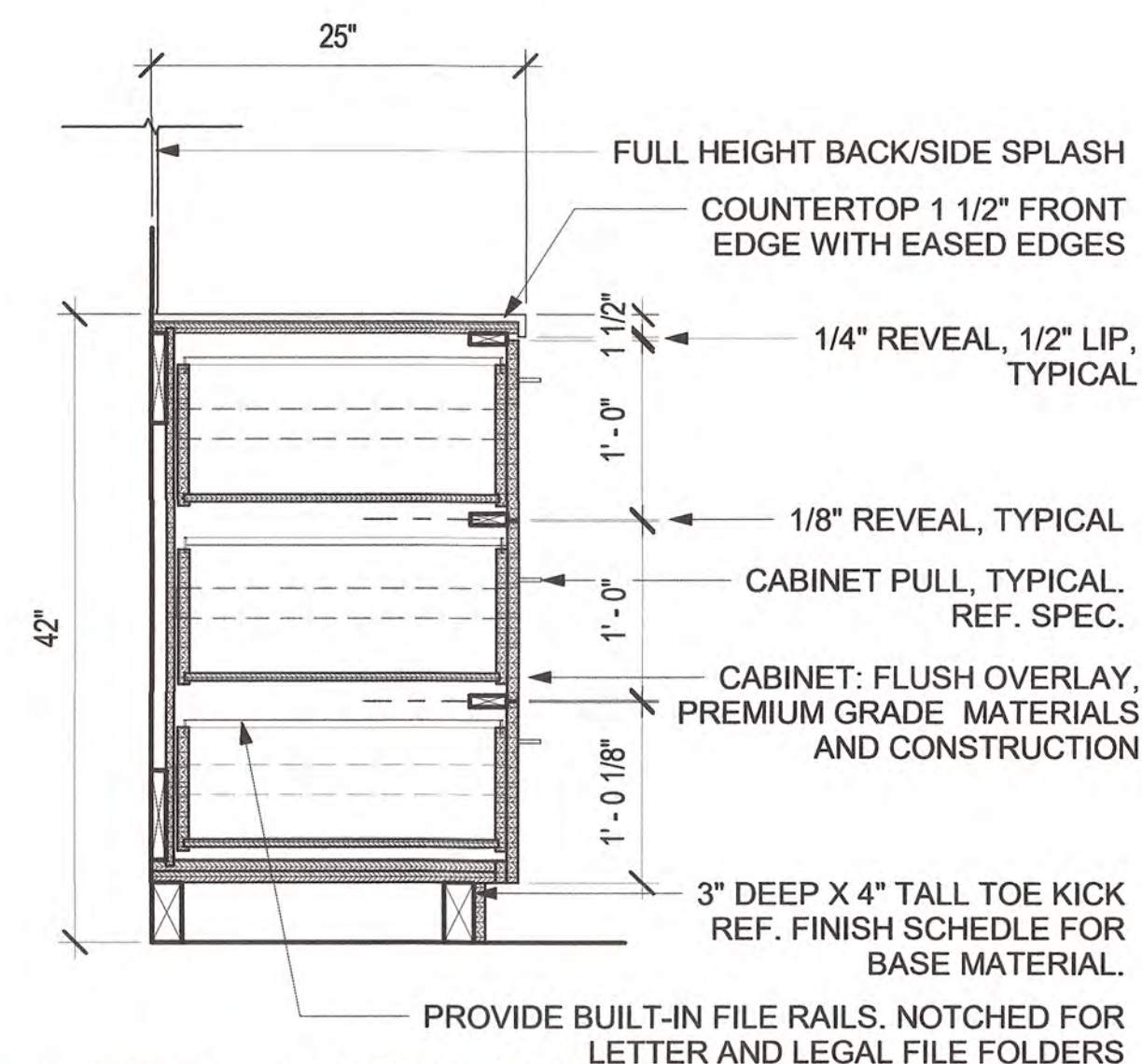
2 6.BENCH - CONFERENCE ROOM



4 BENCH - CONFERENCE ROOM1



6. BWS - BASE CABINET AT WORKSURFACE



7 6.B3D - BASE FILE CABINET
1" = 1'-0"

CASEWORK NOTES:

1. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. FIELD VERIFY DIMENSIONS AT ALL LOCATIONS PRIOR TO FABRICATION.
3. OBTAIN APPROVED APPLIANCE AND EQUIPMENT DATA SHEETS AND COORDINATE EQUIPMENT REQUIREMENTS PRIOR TO FABRICATION.
4. OBTAIN APPROVED PLUMBING DATA SHEETS AND COORDINATE FIXTURE REQUIREMENTS PRIOR TO FABRICATION.
5. INSTALL GROMMETS IN COUNTER TOPS @ ANY LOCATIONS THAT HAVE POWER/DATA OUTLETS BELOW COUNTER OR WITHIN THE TALL CABINETS. PROVIDE 5 ADDITIONAL GROMMETS. VERIFY ALL LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
6. ELECTRICAL/DATA OUTLETS ARE TO BE COORDINATED WITH ELECTRICAL CONTRACTOR. PROVIDE RACEWAYS FOR CONDUIT AS REQUIRED.
7. ALL CABINET DRAWERS AND DOORS ARE TO BE LOCKABLE. REFERENCE ARCHITECTURE WOODWORK SPEC FOR HARDWARE.
8. ALL 12" OR TALLER DRAWERS ARE TO HAVE BUILT-IN LETTER FILE RAILS.

CABINETS	
QUALITY STANDARDS	AWI - PREMIUM GRADE
MATERIAL/FINISH	PL1: REF FINISH LEGEND
STYLE	FRAMELESS / FULL OVERLAY
CONSTRUCTION METHOD	DOWELED
EXPOSED MATERIAL/ FINISH	PL1
SUBSTRAIGHT	MDF
EDGE BANDING	PL1
SEMI-EXPOSED MATERIAL SEMI CONCEALED EDGE BANDING	BLACK MELAMINE .018" BLACK PVC
ADJUSTABLE SHELVES	BLACK MELAMINE
ADJUSTABLE SHELVES EDGE BANDING	.018" BLACK PVC

CABINET DRAWER BOX	
CONSTRUCTION METHOD	DOWELED
DRAWER MATERIAL	BLACK MELAMINE
EDGE BANDING TYPE	.018" BLACK PVC

VANITIES

COUNTERTOP	SDSF
APRON	SDSF
BACK AND SIDE SPLASHES	SDSF (4" TALL)
ANGLED PANEL	PL1

WINDOW SILL WITH APRON

MATERIAL	SDSF
----------	------

COUNTERTOPS

MATERIAL	SDSF
----------	------

BACK/SIDE SPLASH MATERIAL/FINISH

MATERIAL	CT5
----------	-----

HARDWARE

HINGE	BLUM CLIPTOP 170 DEGREE PRESS-IN 71T65H
HINGE PLATE	BLUM CLIP MOUNTING PLATE 174H7100E OMM
PULL	RAVINTE 5" SQUARE SATIN NICKEL
STANDARD DRAWER SLIDE	200 LB BALL SLIDES 200 FU20-20"
FILE DRAWER SILDE	200 LB BALL SLIDES 200 FU20-20"
CAB SHELF GLIP	2 PIN PLASTIC 300 LB
WIRE GROMMENT	MOCKET FLXI (2 3/8")
TRASH RING	NA
COUNTERTOP BRACKETS	A&M BRACKETS C024 CONCEALD
KEY BOARD TRAY	KENSINGTON K60717USF
SLATWALL	NA
FILE REAIL AND CLIPS	
POP-UP GROMMET	KUNG FU KIN POP UP GROMMETS
CABINET BUMPERS	

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

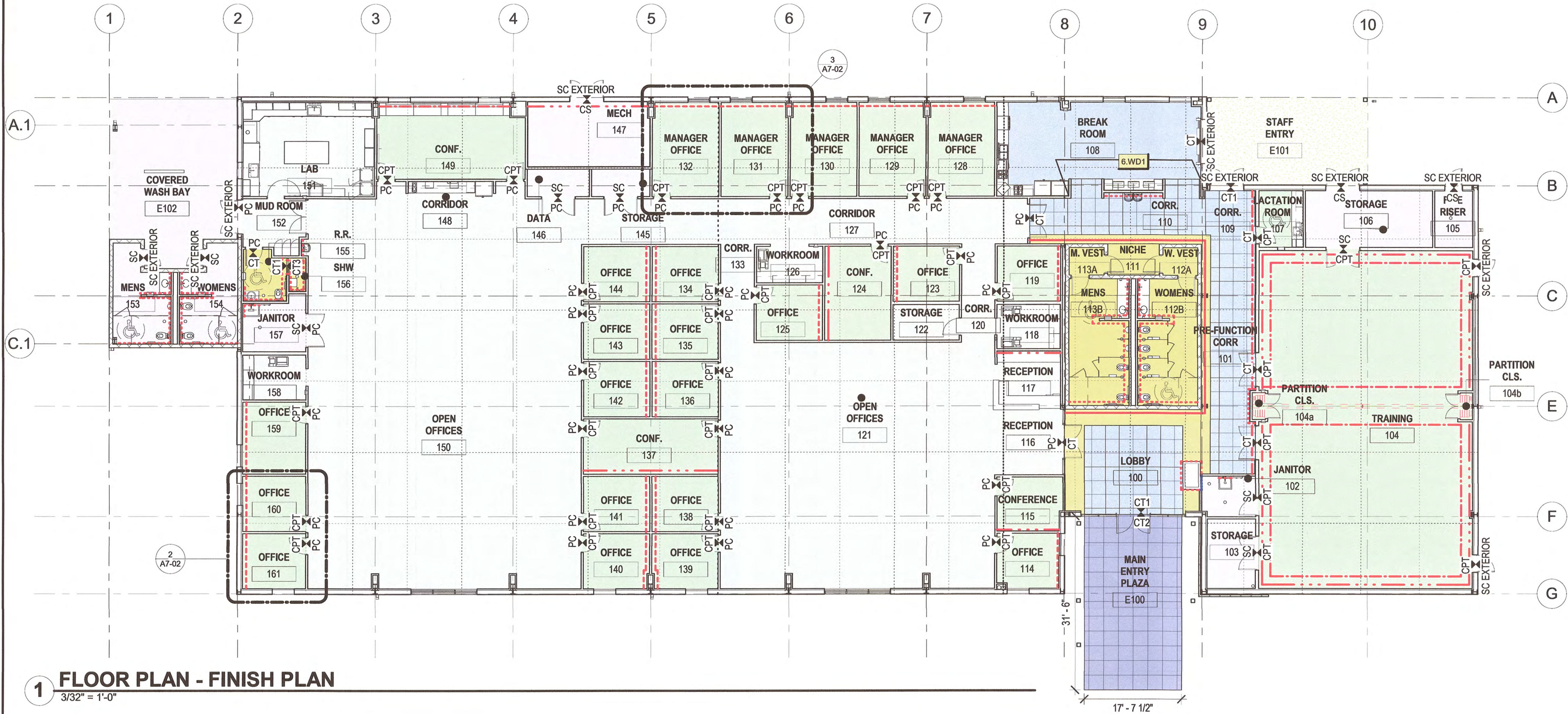
PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

				PLAN SCALE: DRAWN: CMW: APPROVED:	
NO	REVISION	BY	DATE	As indicated	DESIGNED: JDH SURVEY:
				PROFILE SCALE	PROJ. MGR. <i>TW</i> <i>6/10</i> LEAD ENGR. <i>BOC</i> <i>6/25</i>
				HORIZONTAL:	FIELD MGR. <i>JU</i> <i>6/15</i> RECOMMENDED: <i>Thomas J. M</i>
				VERTICAL:	DESIGN MANAGER: <i>Thomas J. M</i> CITY ENGINEER: <i>Thomas J. M</i>
				FILE:	DRAWING: DATE: <i>6/12/2025</i>
				ATLAS PAGE NO:	
				SHEET NAME:	SHEET NO.
				CASEWORK DETAILS	A6-02

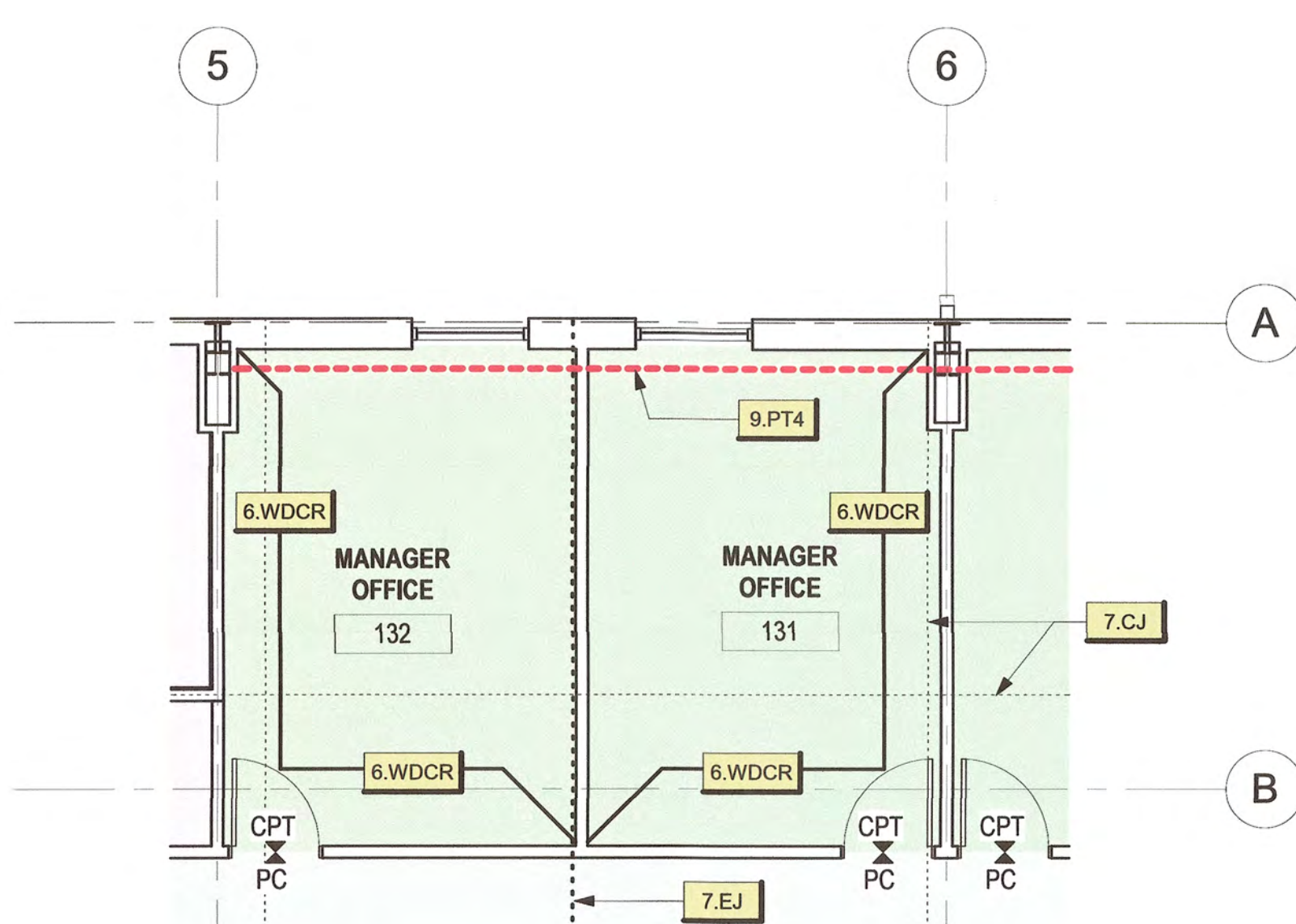
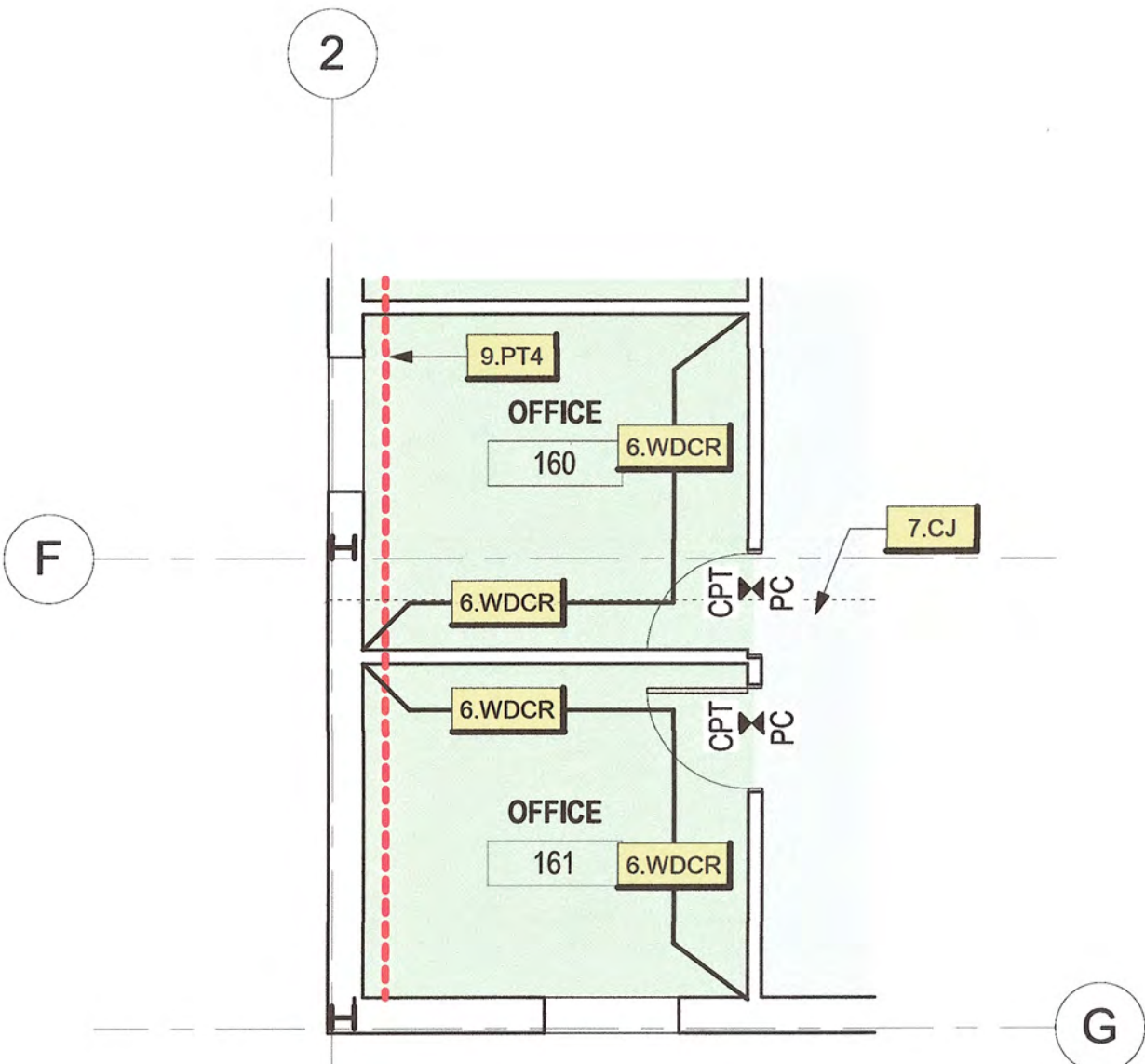
KEYNOTES	
Key Value	Keynote Text
6.WD1	WOOD FINISH 1
6.WDCR	TYPICAL WOOD CHAIRRAIL LOCATION AT OFFICES.
7.CJ	(CJ) CONTROL JOINT
7.EJ	(EJ) EXPANSION JOINT
9.PT4	ACCENT WALL PAINT



ROOM LEGEND - FLOORING

- CPT1
- CT1
- CT2-EXTERIOR
- CT3
- PC1
- SC1
- CONC

- CERAMIC TILE WALL
- ACCENT PAINT COLOR
- WOOD PANEL WALL
- GRAPHIC DISPLAY WALL
- ACOUSTICAL PANEL SYSTEM



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

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CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

NO	REVISION	BY	DATE	APPROVED
1	DESIGNED	JDH		
2	SURVEY			
3	PROJ. MGR.	TW	6/25	
4	LEAD ENGR.	Boc	6/25	
5	FIELD MGR.	JW	6/25	
6	RECOMMENDED			
7	DESIGN MANAGER			
8	FILE			
9	DRAWING			
10	ATLAS PAGE NO.			
11	SHEET NAME:			
12	FINISH PLAN			
13	SHEET NO.			
14	A7-02			

FINISH LEGEND (BoD) INDICATES BASIS OF DESIGN

CONCRETE FINISH

PC1	POLISHED CONCRETE	SC1	SEALED CONCRETE
SPECIFICATION: 08 61 16 MANUF: -- DESCRIPTION: INTERIOR PUBLIC SPACES		SPECIFICATION: 08 61 16 MANUF: -- DESCRIPTION: --	
			

CARPET TILE

CPT	CARPET - CONFERENCE ROOM AND OFFICES
SPECIFICATION: 09 68 13 MANUF: SHAW CONTRACT DESCRIPTION: ARRAY TILE 57295 COLOR: SHIMMERY BLUE 94485 MONOLITHIC INSTALL	
	

RUBBER BASE

RB	RESILIENT WALL BASE
SPECIFICATION: 09 65 13 MANUF: ROPPE DESCRIPTION: SERIES: PINNACLE TYPE: TS, GROUP 1, STYLE B SIZE: 4" TALL, 1/8" THICK COLOR: BLACK BROWN	
	

WALL COVERING

VWC	VINYL WALL COVERING
SPECIFICATION: 09 MANUF: TRIKES DESCRIPTION: P3TEC ADVANCE WALL PROTECTIONS PATTERN: (TO BE SELECTED) COLOR: (TO BE SELECTED) INCLUDE METAL TRIM AT TOP AND BOTTOM 4' - 0" TO TOP OF CHAIR RAIL	
	

EXTERIOR METAL PANEL

MP1-W	METAL PANEL - WALLS	MP2-W	METAL PANEL - WALL	MP3-W	METAL PANEL - WALL
SPECIFICATION: 13 34 19 MANUF: BERRIDGE DESCRIPTION: METAL PANELS STYLE: TO BE SELECTED COLOR: TO BE SELECTED LOCATION: TRAINING ROOM WALLS		SPECIFICATION: 13 34 19 MANUF: BERRIDGE DESCRIPTION: METAL PANELS STYLE: S-DECK COLOR: TO BE SELECTED LOCATION: OFFICE BUILDING WALLS		SPECIFICATION: 13 34 19 MANUF: BERRIDGE DESCRIPTION: METAL PANELS STYLE: S-DECK COLOR: PREMIUM TO BE SELECTED LOCATION: ENTRY WALLS	
MP1-R	METAL PANEL - ROOF	MP2-R	METAL PANEL - ROOF		
SPECIFICATION: 13 34 19 MANUF: BERRIDGE DESCRIPTION: METAL PANELS STYLE: TEE-LOCK COLOR: TO BE SELECTED LOCATION: TRAINING ROOM ROOF		SPECIFICATION: 13 34 19 MANUF: BERRIDGE DESCRIPTION: METAL PANELS STYLE: TEE-LOCK COLOR: TO BE SELECTED LOCATION: OFFICE BUILDING ROOF			

TILE

CT1	TILING - LOBBY	CT2	TILING - MAIN LOBBY PLAZA
SPECIFICATION: 09 30 13 MANUF: DAL TILE DESCRIPTION: STYLE: ASSEMBLE COLOR: EMISSARY AS12 SIZE: 30" X 30" RECTIFIED THICKNESS: 3/8 INCHES INSTALLATION METHOD: MONOLITHIC GROUT:		SPECIFICATION: 09 30 13 MANUF: DAL TILE DESCRIPTION: ASSEMBLE EXTERIOR PAVER COLOR: EMISSARY AS12 32" X 32" MONOLITHIC INSTALL	
			

CT3	LOBBY BORDERS / RESTROOM WALLS
SPECIFICATION: 09 30 13 MANUF: FLORIDA TILE INDUSTRIES DESCRIPTION: SEQUENCE COLOR: DRIFT HORIZONTAL STACK INSTALL 12" X 24"	
	

CT4	ACCENT TILE
SPECIFICATION: 09 30 13 MANUF: CROSSVILLE DESCRIPTION: COLOR BLOX 2 COLOR: TO BE SELECTED REFERENCE INTERIOR ELEVATIONS MATCH WIDTH OF LIGHTING	
	

CT5	BACKSPLASH
SPECIFICATION: 09 30 13 MANUF: TILEBAR DESCRIPTION: REWORK COLOR: PLASTER WHITE HORIZONTAL STACK INSTALL 3" X 12"	
	

ACOUSTICAL CEILING TILES

ACT1	ACOUSTICAL CEILING TILE	ACT2	HIGH ACOUSTICAL CEILING TILE	ACT3	HIGH HUMIDITY CEILING TILE
SPECIFICATION: 09 51 13 MANUF: ARMSTRONG DESCRIPTION: DUNE TILE: BEVELED TEGULAR 24" X 24" X 3/4", WHITE NRC: 0.50 OR GREATER GRID: PRELUDE 15/16" LOCATION: OPEN OFFICE AND CORRIDORS		SPECIFICATION: 09 51 13 MANUF: ARMSTRONG DESCRIPTION: ULTIMA HIGH NRC TILE: SQUARE TEGULAR 24" X 24" X 1", WHITE NRC: 0.85 OR GREATER GRID: PRELUDE 15/16" LOCATION: OFFICES, TRAINING AND CONFERENCE ROOMS,		SPECIFICATION: 09 51 13 MANUF: ARMSTRONG DESCRIPTION: ULTIMA HEALTH ZONE TILE: BEVELED TEGULAR 24" X 24"X 3/4", WHITE NRC: 0.70 OR GREATER GRID: 15/16" ALUMINUM WITH PREPAINTED ALUMINUM CAP LOCATION: LAB AND BREAKROOM	
					

PAINT COLORS

PT1	INTERIOR PAINT - GENERAL	PT2	INTERIOR PAINT - ACCENT WALL OFFICES
SPECIFICATION: 09 91 23 MANUF: BENJAMIN MOORE DESCRIPTION: BALLET WHITE OC-9		SPECIFICATION: 09 91 23 MANUF: BENJAMIN MOORE DESCRIPTION: PASHMINA AF-100	
			

PT3	INTERIOR PAINT - ACCENT WALL CONFERENCES
SPECIFICATION: 09 91 23 MANUF: BENJAMIN MOORE DESCRIPTION: TEMPTATION 1609	
	

PT4	DOOR & WINDOW FRAMES
SPECIFICATION: 09 91 23 MANUF: SHERWIN WILLIAMS DESCRIPTION: URBANE BRONZE SW 7048	
	

PT6	INTERIOR CEILING PAINT
SPECIFICATION: 09 91 23 MANUF: SHERWIN WILLIAMS DESCRIPTION: CEILING BRIGHT WHITE SW 7007 LOCATION: ALL CEILINGS U.N.O.	
	

WINDOW TREATMENT GYP CLGS/SOFFITS

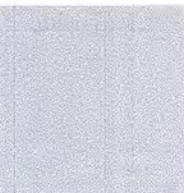
WT	ROLLER WINDOW SHADE	GYP	GYPSUM CEILING
SPECIFICATION: 12 24 13 MANUF: -- DESCRIPTION: COLOR: DARK GREY /BROWN BLEND 3% TO 5% VIEW REFERENCE ELEVATIONS AND PLANS FOR SIZES		SPECIFICATION: 09 29 00 MANUF: ARMSTRONG DESCRIPTION: ACOUSTIBUILT DRYWALL CEILING 48X72 7/8 THICKNESS TAPERED EDGE	
			

WOOD

WD	WOOD BASE TRIM	WD2	WOOD DOOR
SPECIFICATION: 06 40 23 MANUF: 6" TRIM DESCRIPTION: WALNUT MATCH AWP2 FINISH AND STAIN PLAN SLICES LOCATIONS - WOOD BASE AND CHAIRRAIL.		SPECIFICATION: 08 14 16 MANUF: VT INDUSTRIES DESCRIPTION: ARCHITECTURAL WOOD DOORS WHITE MAPLE RAVINE PLAIN SLICED	
			

WD3	LAB CASEWORK FRONTS
SPECIFICATION: 12 35 53.13 MANUF: KEWAUNEE DESCRIPTION: METAL CASEWORK WITH WOOD FRONTS COLOR: WINCHESTER BEECH NO 608	
	

METAL

MTL1	LAB CASEWORK METAL CASES
SPECIFICATION: 12 35 53.13 MANUF: KEWAUNEE DESCRIPTION: METAL CASEWORK COLOR: CC85 SATIN GREY	
	

TOILET PARTITIONS

PTP	PHENOLIC TOILET PARTITION
SPECIFICATION: 10 MANUF: -- DESCRIPTION: 3/4" TO 1" THICK PANEL BLACK CORE LAMINATE: WILSONART BURNISHED CHESTNUT 4796-60 MATTE FINISH	
	

LOCKERS

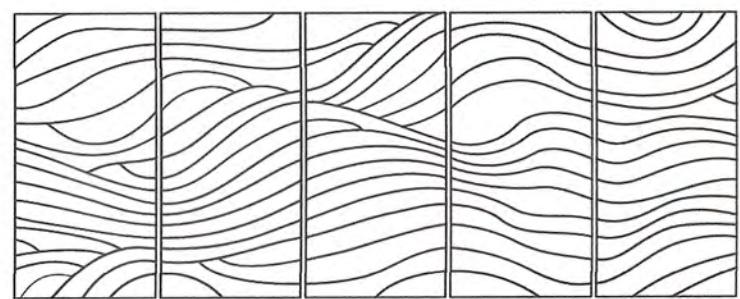
LCK	PHENOLIC LOCKERS
SPECIFICATION: 10 MANUF: -- DESCRIPTION: 3/4" TO 1" THICK PANEL BLACK CORE LAMINATE: WILSONART BURNISHED CHESTNUT 4796-60 MATTE FINISH	
	

PLASTIC LAMINATE

PL1	CASEWORK	SDSF	SOLID (COUNTERTOP)
SPECIFICATION: 09 91 23 MANUF: WILSONART DESCRIPTION: STANDARD LAMINATE COLOR: TO BE SELECTED MATCH AWP2		SPECIFICATION: 12 MANUF: FORMICA DESCRIPTION: EVERFORM SOLID SURFACE COLOR: 742 BLANCO TERRAZZO	
			

RC1	RESIN COUNTERTOP (LAB)
SPECIFICATION: 12 34 50 MANUF: KEWAUNEE DESCRIPTION: BRIK FLOW 4x8 X 9MM SLATE INCLUDED ADDITIONAL BRACKETS AND BRACKING AT SINKS	
	

ACOUSTICL WALL PANELS

AWP1	ACOUSTICAL WALL SYSTEM
SPECIFICATION: 09 MANUF: FRASCH DESCRIPTION: BRIK FLOW 4x8 X 9MM COLOR: 86 MIDNIGHT BLUE DESIGNS: WIND1, WIND2, WIND3, WIND4 AND WIND5	
	

AWP2	WOOD ACOUSTIC PANEL - LOBBY & TRAINING
SPECIFICATION: 09 MANUF: TERRAMAI PANELS DESCRIPTION: ACOUSTICAL MATERIAL - BLACK: 7/8" X 12" X 94 1/2" WOOD SLATS - WALNUT: 1" X 1/2" X 94 1/2" 1/2" REVEAL SPACING	
	

AWP3	ACOUSTICAL WALL SYSTEM				
SPECIFICATION: 09 84 33 MANUF: FRASCH DESCRIPTION: TO BE SELECTED COLOR: TO BE SELECTED DESIGNS: TO BE SELECTED LOCATION: CONFERENCE ROOMS					
AWP4	ACOUSTICAL WALL SYSTEM				
SPECIFICATION: 09 84 33 MANUF: FRASCH DESCRIPTION: TO BE SELECTED COLOR: TO BE SELECTED DESIGNS: TO BE SELECTED LOCATION: WORKROOM					



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

PLAN SCALE: 1/4" = 1'-0"

DRAWN: DESIGNED: CMW: JDH: SURVEY:

PROFILE SCALE: PROJ. MGR. TW 6/25 LEAD ENGR. BDC 6/25 FIELD MGR. Ju 6/25

HORIZONTAL: RECOMMENDED BY: DESIGN MANAGER: Ju 6/25

VERTICAL: DESIGN MANAGER: Ju 6/25

FILE: DRAWING:

ATLAS PAGE NO:

SHEET NAME: FINISH LEGEND

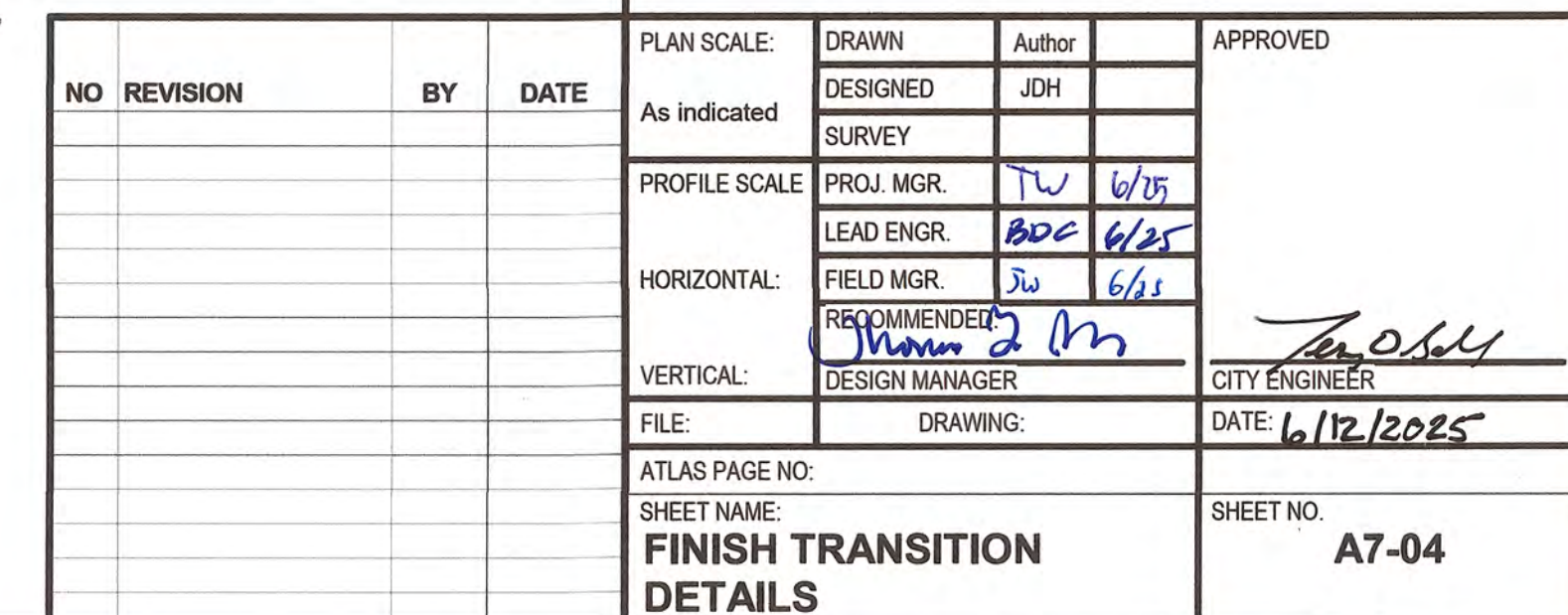
APPROVED: [Signature]

CITY ENGINEER: [Signature]

DATE: 6/12/2025

SHEET NO. A7-03

-	L TRIM	-	BASE TRIM	-	TRIM AT DOORS	-	PATTERN CHANGE	-	MATERIAL CHANGE 1 AND 2	-	OUTSIDE CORNER 1, 2, AND 3
SPECIFICATION:	09 30 13	SPECIFICATION:	09 30 13	SPECIFICATION:	09 30 13	SPECIFICATION:	09 30 13	SPECIFICATION:	09 30 13	SPECIFICATION:	09 30 13
MANUF:	SCHULTER	MANUF:	SCHULTER SYSTEMS L.P.	MANUF:	SCHULTER SYSTEMS L.P.	MANUF:	SCHULTER SYSTEMS L.P.	MANUF:	SCHULTER SYSTEMS L.P.	MANUF:	SCHULTER SYSTEMS L.P.
DESCRIPTION:	SCHIENE	DESCRIPTION:	DILEX-AHKA	DESCRIPTION:	INDEC	DESCRIPTION:	LVT TO LVT	DESCRIPTION:	CT TO CONC AND CPT TO CONC	DESCRIPTION:	QUADEC
	SIZE TO BE SELECTED		SIZE TO BE SELECTED		SIZE TO BE SELECTED		RENO-TK		SIZE TO BE SELECTED		SIZE TO BE SELECTED
	ANODIZED ALUMINUM		ANODIZED ALUMINUM		ANODIZED ALUMINUM		ANODIZED ALUMINUM		ANODIZED ALUMINUM		ANODIZED ALUMINUM
			NOTE: INCLUDE ALL INSIDE, OUTSIDE, AND END CONDITION CONNECTIONS								



ACCESSORIES

PHASE	KEYNOTE		DESCRIPTION	PROVIDED BY:	INSTALLED BY:	COMMENT
BASE BID	10.MU9648	2	MIRROR 72" WIDE X 48" TALL	CONTRACTOR	CONTRACTOR	
BASE BID	10.MU7248	2	MIRROR 36" WIDE X 48" TALL	CONTRACTOR	CONTRACTOR	
BASE BID	10.MU3348	1	MIRROR 33" WIDE X 48" TALL	CONTRACTOR	CONTRACTOR	
BASE BID	10.DTP	10	WALL MOUNTED - DUAL TOILET...	CONTRACTOR	CONTRACTOR	
BASE BID	10.TSCW	10	WALL MOUNTED - TOILET SEAT...	CONTRACTOR	CONTRACTOR	
BASE BID	10.FNW	6	WALL MOUNTED - FEMALE NAPKIN...	CONTRACTOR	CONTRACTOR	
BASE BID	10.GB42	5	42" GRAB BAR	CONTRACTOR	CONTRACTOR	
BASE BID	10.GB36	5	36" GRAB BAR	CONTRACTOR	CONTRACTOR	
BASE BID	10.GB18	6	18" GRAB BAR	CONTRACTOR	CONTRACTOR	
BASE BID	10.GBSHR	1	SHOWER GRAB BAR	CONTRACTOR	CONTRACTOR	
BASE BID	10.SDW	12	WALL MOUNTED - SOAP DISPENSER	CONTRACTOR	CONTRACTOR	
BASE BID	10.PTD	7	WALL MOUNTED - PAPER TOWEL...	CONTRACTOR	CONTRACTOR	
BASE BID	10.CPTD12	5	RECESSED - COMBO PAPER TOWEL...	CONTRACTOR	CONTRACTOR	
BASE BID	10.MS	2	WALL MOUNTED MOP SHELF (48"...	CONTRACTOR	CONTRACTOR	
BASE BID	10.RSS	1	RECESSED SHOWER SEAT	CONTRACTOR	CONTRACTOR	
BASE BID	10.SRHC	1	3' SHOWER ROD, HOOKS AND 4'...	CONTRACTOR	CONTRACTOR	
BASE BID	10.CSS	1	CORNER SHOWER SHELF	CONTRACTOR	CONTRACTOR	
BASE BID	10.RH	3	ROBE HOOK	CONTRACTOR	CONTRACTOR	

FF&E MISC

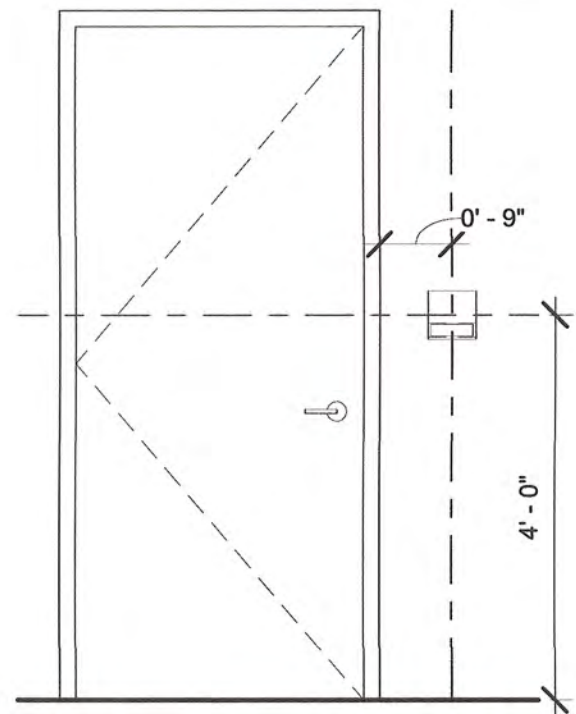
PHASE	KEYNOTE	QTY	DESCRIPTION	PROVIDED BY:	INSTALLED BY:	COMMENT
BASE BID	10.MB96X48	8	MAGNETIC MARKERBOARD	CONTRACTOR	CONTRACTOR	
BASE BID	10.MB96X48	4	MAGNETIC MARKERBOARD -...	CONTRACTOR	CONTRACTOR	
BASE BID	12.WT3	16	WINDOW SHADE	CONTRACTOR	CONTRACTOR	
BASE BID	12.WT4	5	WINDOW SHADE	CONTRACTOR	CONTRACTOR	
BASE BID	12.WT5	2	WINDOW SHADE	CONTRACTOR	CONTRACTOR	
BASE BID	12.WT6	1	WINDOW SHADE	CONTRACTOR	CONTRACTOR	
BASE BID	12.LCK	3	PHENOLIC LOCKERS (6 TIER)	CONTRACTOR	CONTRACTOR	

APPLIANCES AND EQUIPMENT

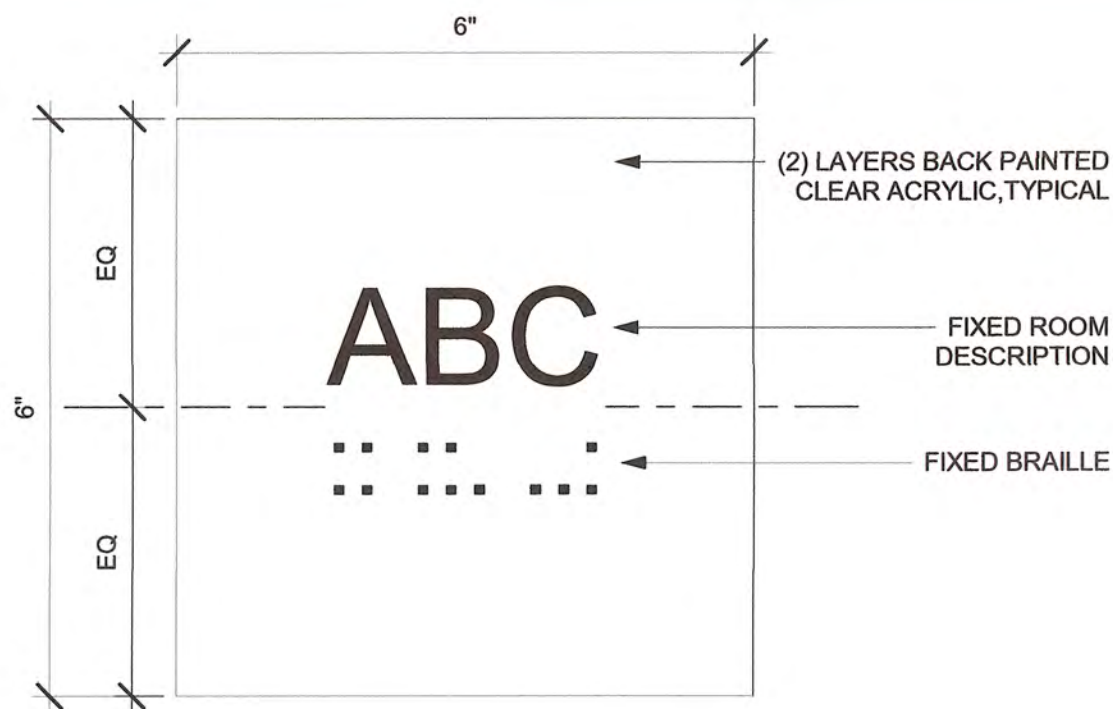
PHASE	KEYNOTE	QTY	DESCRIPTION	PROVIDED BY:	INSTALLED BY:	COMMENT
ALTERNATE	11.CM	5	COFFEE MAKER	OWNER	CONTRACTOR	PROVIDE WATER LINE AND...
ALTERNATE	11.DW	2	DISHWASHER - GE GDT226S	CONTRACTOR	CONTRACTOR	PROVIDE WATER LINE
ALTERNATE	11.IM	1	COUNTERTOP ICEMAKER -...	CONTRACTOR	CONTRACTOR	PROVIDE WATER LINE
ALTERNATE	11.MW	3	MICROWAVE - GE PEB91S9SJSS	CONTRACTOR	CONTRACTOR	VENT TO EXTERIOR
ALTERNATE	11.RG	1	RANGE - GE JGS561SPSS	CONTRACTOR	CONTRACTOR	
ALTERNATE	11.VH	1	RANGE HOOD	CONTRACTOR	CONTRACTOR	
ALTERNATE	11.REF1	3	REFRIGERATOR - BREAKROOMS	OWNER	CONTRACTOR	
ALTERNATE	11.REF2	2	REFRIGERATOR - LAB -...	OWNER	CONTRACTOR	ALTERNATE
BASE BID	11.REF3	1	ADA UNDERCOUNTER...	OWNER	CONTRACTOR	
ALTERNATE	11FRZ	1	COUNTER HEIGHT FREEZER - LAB -...	OWNER	CONTRACTOR	ALTERNATE
BY OWNER	11.COPY/PRT	4	COPY PRINTER COMBO	OWNER	OWNER	PROVIDE POWER AND DATA AS...
BY OWNER	12.LDI	2	WATER DEIONIZER	OWNER	OWNER	PROVIDE POWER
BY OWNER	10.TVO	11	TV DISPLAY	OWNER	OWNER	PROVIDE BLOCKING, POWER &...



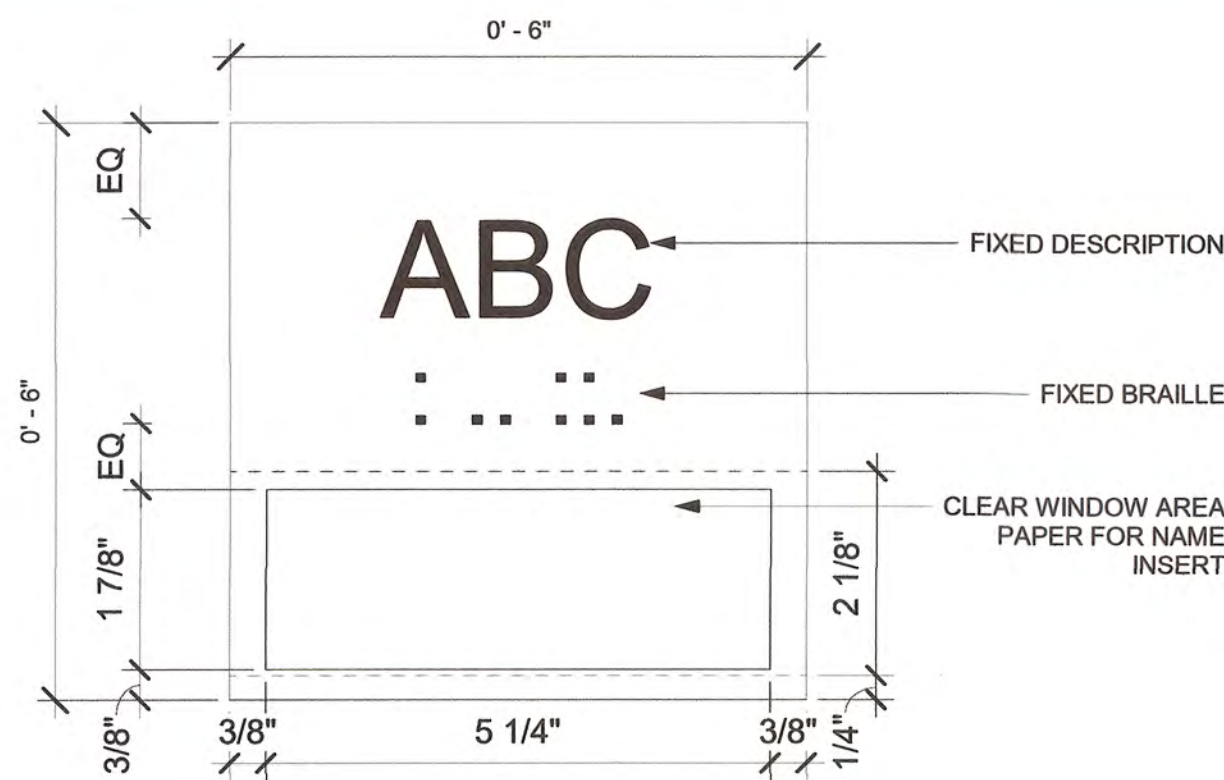
NO		REVISION	BY	DATE	PLAN SCALE: DRAWN DESIGNED JDH SURVEY PROFILE SCALE PROJ. MGR. TLW 6/25 LEAD ENGR. Boc 6/25 HORIZONTAL: FIELD MGR. Jw 6/25 RECOMMENDED: Thayer ms VERTICAL: DESIGN MANAGER FILE: DRAWING:	APPROVED
						CITY ENGINEER DATE: 6/12/2025
ATLAS PAGE NO:					SHEET NO.	
SHEET NAME:						
FF&E SCHEDULES					A8-02	



1 SIGNAGE - TYPICAL ELEVATION
1/2" = 1'-0"



2 DOOR SIGNAGE - 1 LINE
6" = 1'-0"



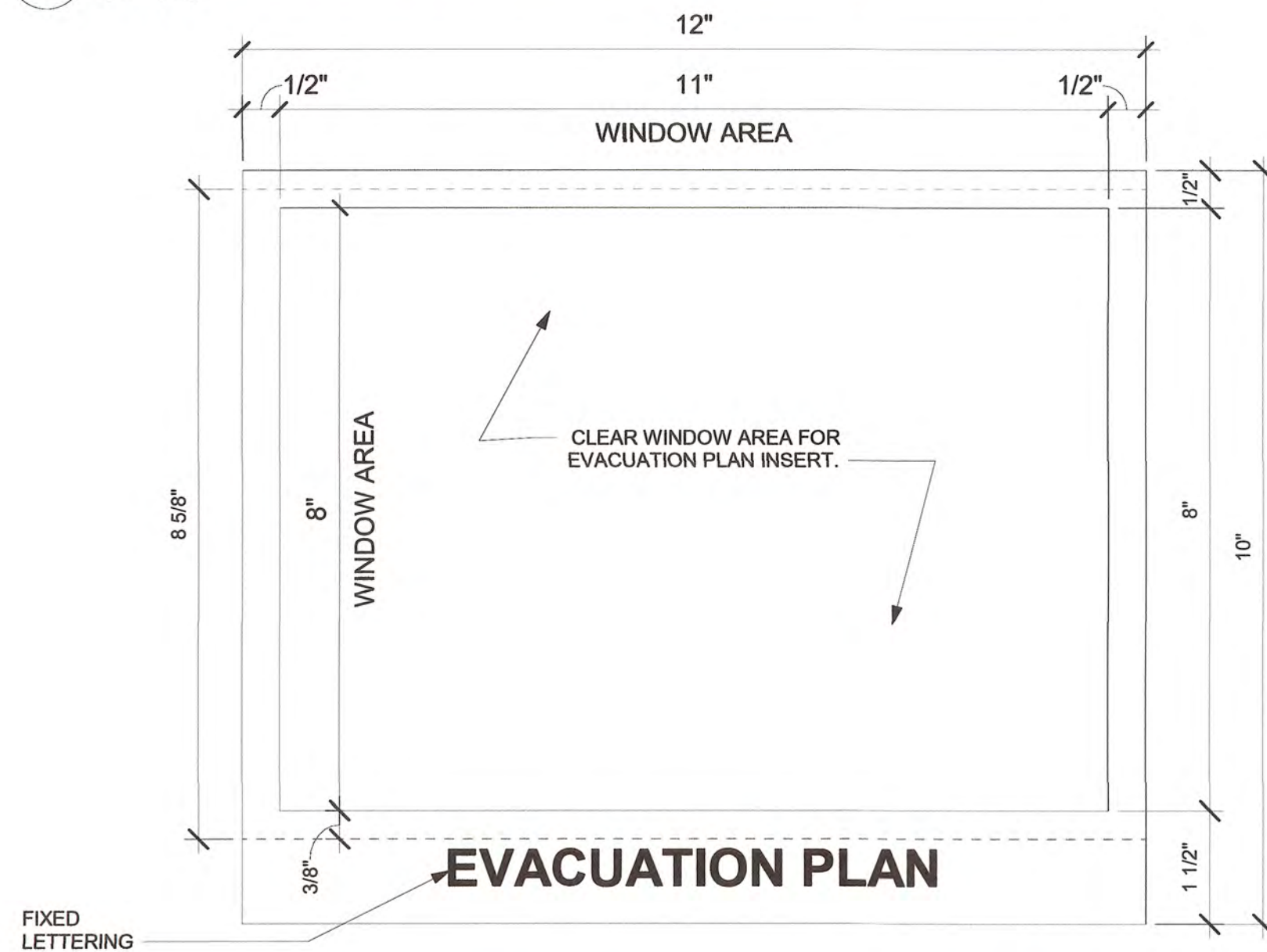
3 DOOR SIGNAGE WITH INSERT
6" = 1'-0"



5 SIGNAGE - MEN RESTROOM
6" = 1'-0"



6 SIGNAGE - WOMEN RESTROOM
6" = 1'-0"



7 EVACUATION PLAN WITH INSERT
6" = 1'-0"



8 SIGNAGE - RESTROOM AND SHOWER
6" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:		DRAWN	CMW
As indicated		DESIGNED	JDH
PROFILE SCALE:		SURVEY	
HORIZONTAL:		PROJ. MGR.	TW 6/25
VERTICAL:		LEAD ENGR.	BOE 6/25
FILE:		FIELD MGR.	JW 6/25
DRAWING:		RECOMMENDED BY	JW 6/25
ATLAS PAGE NO:		DESIGN MANAGER	JW 6/25
SHEET NAME:		CITY ENGINEER	JW 6/25
SIGNAGE DETAILS		DATE:	6/12/2025
		SHEET NO.	A8-03

SPRINKLER SCHEDULE:

- A. USE SPRINKLER TYPES IN SUBPARAGRAPHS BELOW FOR THE FOLLOWING APPLICATIONS:
- ROOMS WITHOUT CEILINGS: UPRIGHT SPRINKLERS
 - ROOMS WITH SUSPENDED CEILINGS: CONCEALED SPRINKLERS AND PENDANT A. PENDANT TYPE ALLOWED IN MECH, JANITOR, STORAGE OR FIRE RISER, WALL MOUNTING: SIDEWALL SPRINKLERS, CONCEALED SIDEWALL SPRINKLERS A. NON-CONCEALED SIDE WALL TYPE ALLOWED IN MECH, JANITOR, STORAGE OR FIRE RISER.
 - SPACES SUBJECT TO FREEZING: UPRIGHT, PENDENT, AND SIDEWALL DRY SPRINKLERS AS INDICATED.
- A. PROVIDE SPRINKLER TYPES IN SUBPARAGRAPHS BELOW WITH FINISHES INDICATED.
- CONCEALED SPRINKLERS: ROUGH BRASS, WITH FACTORY-PAINTED WHITE COVER PLATE.
 - UPRIGHT, PENDENT, AND SIDEWALL SPRINKLERS: CHROME PLATED IN FINISHED SPACES EXPOSED TO VIEW; ROUGH BRONZE IN UNFINISHED SPACES NOT EXPOSED TO VIEW; WAX COATED WHERE EXPOSED TO ACIDS, CHEMICALS, OR OTHER CORROSIVE FUMES.

FIRE PROTECTION SCOPE NOTES

- CONTRACTOR SHALL PAINT ALL EXPOSED FIRE PROTECTION PIPING IN OPEN OFFICES TO MATCH ADJACENT WALLS/CEILINGS. SPRINKLER HEADS AND PIPE THREADS SHALL NOT BE PAINTED, THEY SHALL BE COVERED, REMOVED OR PROTECTED DURING THE PAINTING PROCESS. CONFIRM FINAL COLOR WITH ARCHITECT PRIOR TO START OF WORK.

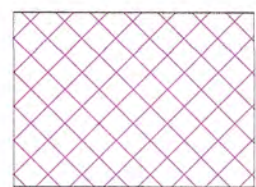
ADDITIONAL FIRE PROTECTION REQUIREMENTS FOR CITY OF TULSA:

- APPROVED AUDIBLE AND VISUAL DEVICES SHALL BE CONNECTED TO EVERY AUTOMATIC SPRINKLER SYSTEM. SUCH SPRINKLER WATER-FLOW ALARM DEVICES SHALL BE ACTIVATED BY WATER-FLOW EQUIVALENT TO THE FLOW OF A SINGLE SPRINKLER OF THE SMALLEST ORIFICE SIZE INSTALLED IN THE SYSTEM. ALARM DEVICES SHALL BE PROVIDED ON THE ADDRESS SIDE OF THE EXTERIOR OF THE BUILDING ABOVE THE FIRE DEPARTMENT CONNECTION (FDC) OR IN AN APPROVED LOCATION. WHERE A FIRE ALARM SYSTEM IS INSTALLED, ACTIVATION OF THE AUTOMATIC SPRINKLER SYSTEM SHALL ACTUATE THE BUILDING FIRE ALARM SYSTEM.
- THE FIRE DEPARTMENT CONNECTION SHALL BE A 5" (130 MM) QUICK-CONNECT CONNECTION WITH A 30° ANGLE ELBOW FOR RISERS LARGER THAN 3" (78 MM) IN SIZE. A SINGLE 2-1/2" (65 MM) NH STANDARD THREAD INLET IS PERMITTED FOR RISERS 3" AND SMALLER

PROVIDE FIRE SPRINKLERS PER THE NFPA CLASSIFICATIONS BELOW:



CLASSIFICATION:
LIGHT HAZARD



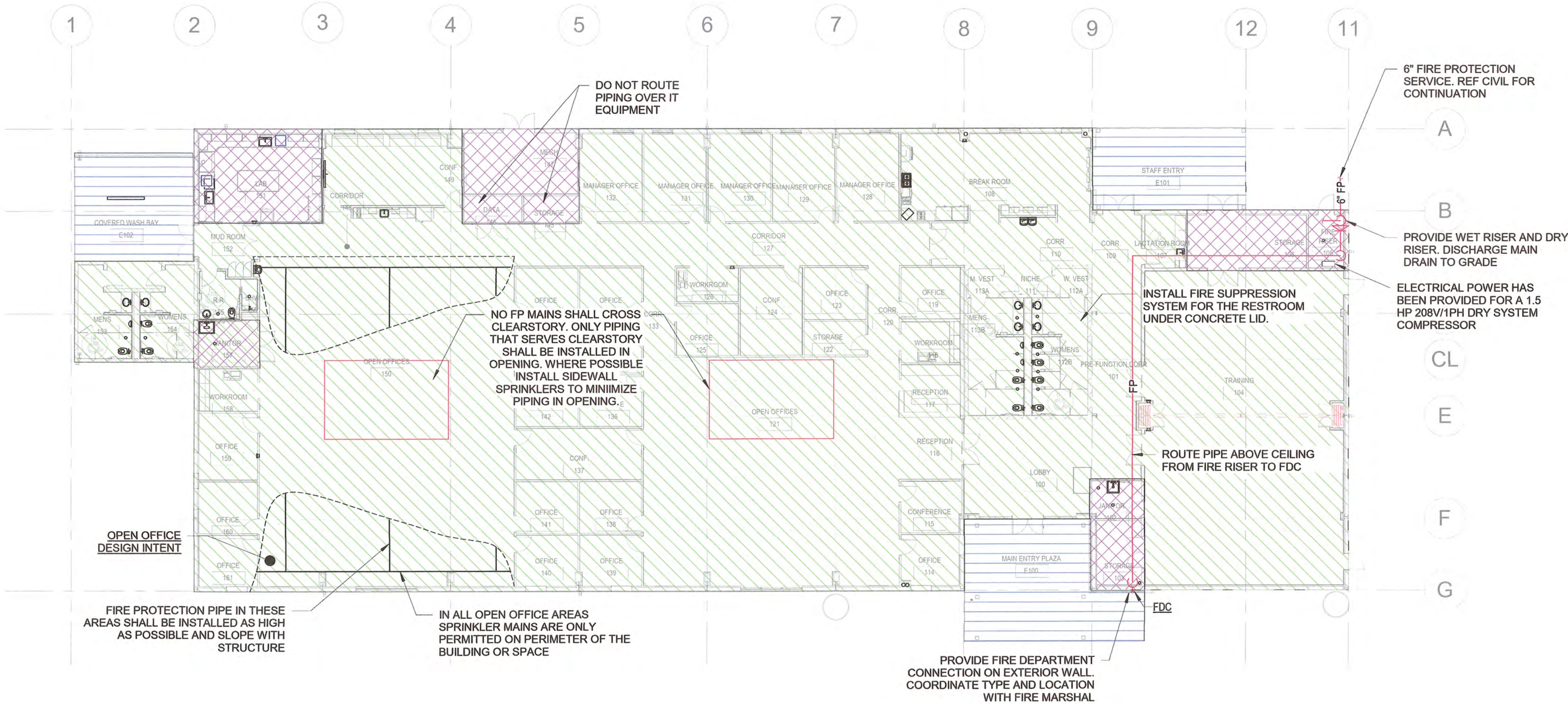
CLASSIFICATION:
ORDINARY HAZARD 1



CLASSIFICATION:
ORDINARY HAZARD 2
DRY SPRINKLER
SYSTEM

FIRE PROTECTION NOTES:

- THE DESIGN SHOWN ON THESE CONTRACT DOCUMENTS HAS BEEN PREPARED FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND TO PROVIDE GUIDANCE FOR BIDDING. ADDITIONAL EQUIPMENT OR DEVICES NOT SHOWN ON THESE DOCUMENTS MAY BE REQUIRED FOR A COMPLETE SYSTEM. THE CONTRACTOR SHALL SUBMIT COMPLETE SPRINKLER SHOP DRAWINGS AS REQUIRED BY SPECIFICATIONS. CONTRACTOR SHALL BASE SHOP DRAWING DESIGN ON THE FIRE PROTECTION DRAWINGS AND SPECIFICATIONS. SPRINKLER SHOP DRAWINGS SHALL INCLUDE ALL NECESSARY ELEVATIONS, HANGER LOCATIONS, PIPE LENGTHS, DIMENSIONS, FABRICATION METHODS/NOTES, MATERIAL DATA, CALCULATIONS AND ANY OTHER INFORMATION NECESSARY TO CLARIFY THE INTENT OF INSTALLATION. ANY ALTERNATIVES IN DESIGN OF THE SYSTEM OR IN MATERIALS OR EQUIPMENT USED MUST BE APPROVED IN WRITING BY THE FIRE PROTECTION ENGINEER OF RECORD PRIOR TO ANY BIDDING, FABRICATION, OR INSTALLATION.
- CONTRACTOR TO PROVIDE A COMPLETE FIRE SPRINKLER SYSTEM THROUGHOUT THE BUILDING. ALL SYSTEMS SHALL BE DESIGNED AND INSTALLED PER NFPA 13 AND NFPA 72.
- CONTRACTOR SHALL COORDINATE LOCATIONS OF FIRE PROTECTION COMPONENTS INCLUDING PIPING, ALARMS, DRAINS, TEST POINTS, ETC. WITH ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS. OBSTRUCTIONS TO SPRINKLER DISCHARGE MUST BE CONSIDERED DURING SHOP DRAWING PRODUCTION AND INSTALLATION. EXTRA SPRINKLERS MAY BE REQUIRED AT NO ADDITIONAL COST TO OWNER. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL OBTAIN CURRENT WATER FLOW TEST INFORMATION FROM WATER DEPARTMENT OR CONDUCT ADDITIONAL FLOW TESTING AS REQUIRED IN ACCORDANCE WITH NFPA 291. HYDRAULIC CALCULATIONS SHALL BE PROVIDED TO THE POINT OF TEST. COORDINATE TESTING AS REQUIRED WITH THE BUILDING MANAGEMENT, WATER DEPARTMENT, AND THE AHJ.
- A REQUEST FOR INFORMATION SHALL BE SUBMITTED FOR ANY QUESTIONS, COMMENTS, OR REVISIONS TO THE DOCUMENTS.
- IN OPEN CEILING AREAS ROUTE ALL SPRINKLER MAINS AS HIGH AS POSSIBLE IN STRUCTURE. ROUTE ABOVE THE BOTTOM CHORD WHEN OPEN WEB BAR JOISTS ARE PRESENT.
- SPRINKLER SYSTEMS SHALL BE MONITORED OFF-SITE INCLUDING TAMPER SWITCHES ON ALL CONTROL VALVES AND FLOW SWITCHES.
- THE FIRE PROTECTION ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NOR SHALL THEY BE REQUIRED TO SUPERVISE THE CONDUCT OF THE WORK, THE CONSTRUCTION PROCEDURES AS SET FORTH BY THE GENERAL CONTRACTOR, SUB-CONTRACTORS, THEIR RESPECTIVE EMPLOYEES, OR ANY OTHER PERSON AT THE JOBSITE OTHER THAN THE ENGINEERING FIRM'S OWN EMPLOYEES.
- SPRINKLER PROTECTION IS REQUIRED ABOVE THE ELECTRICAL ROOMS. NO MAIN PIPING SHALL PENETRATE OR PASS ABOVE THE ELECTRICAL ROOMS.
- THE CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DOCUMENTS PRIOR TO BID. SHOULD MODIFICATION TO THESE PLANS BECOME NECESSARY TO PROPERLY COORDINATE THE SYSTEM WITH OTHER TRADES, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL OF THESE CHANGES BY THE AHJ, AND THE FIRE PROTECTION ENGINEER OF RECORD. IN ADDITION TO OBTAINING THE NECESSARY APPROVALS, THE CONTRACTOR SHALL MAKE NOTE OF ALL FIELD OR COORDINATION CHANGES ON THE INSTALLATION DRAWINGS. ONCE COMPLETE, THE CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS TO THE FIRE PROTECTION ENGINEER OF RECORD AND THE OWNER FOR THEIR USE.
- THE CONTRACTOR SHALL DIVERT ALL DRAIN AND INSPECTORS TEST CONNECTION DISCHARGE AWAY FROM FINISHED SURFACES AND PIPE TO APPROVED DRAIN LOCATIONS. THE CONTRACTOR MAY BE BACK CHARGED FOR ANY REPAIR, REPLACEMENT, OR CLEANING OF RUST STAINS ON PAVEMENT/CONCRETE DUE TO WATER DISCHARGE FROM SPRINKLER SYSTEM DRAIN DOWNS.
- ALL HANGER CONNECTIONS SHALL BE MADE TO THE TOP CHORD OF STRUCTURAL JOIST UNLESS NOTED OTHERWISE. USE OF SAMMY SCREWS INTO ROOF DECK OR STRUCTURE IS PROHIBITED UNLESS APPROVED BY THE ENGINEER OF RECORD.
- COMPLETED TEST CERTIFICATES ARE TO BE FORWARDED TO THE FIRE MARSHAL AND FIRE PROTECTION ENGINEER OF RECORD.
- PENETRATIONS OF RATED WALLS OR ASSEMBLIES SHALL BE FIRE STOPPED WITH APPROVED METHODS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND PROJECT SPECIFICATIONS. ALL MATERIALS AND SEALANTS SHALL BE U.L. LISTED.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONFIRM FINAL LOCATION, TYPE, AND SIZE OF FIRE DEPARTMENT CONNECTION WITH THE AUTHORITY HAVING JURISDICTION BEFORE PROCEEDING WITH WORK.



1 FIRE PROTECTION PLAN

1/16" = 1'-0"



5/30/2025

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

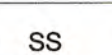
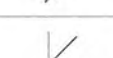
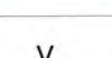
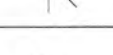
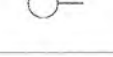
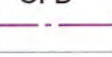
GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

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				FILE:	DRAWING:	DATE: 6/12/2025
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				SHEET NAME:		
						SHEET NO. FP1-01

JOB SPECIFIC
PLUMBING NOTES

1. LAB ALTERNATE
* PROVIDE AND INSTALL ALL LAB PLUMBING FIXTURES.

PLUMBING SYMBOL LEGEND

	EQUIPMENT TAG		DOMESTIC COLD WATER
	ISOLATION VALVE		DOMESTIC HOT WATER
	CHECK VALVE		DOMESTIC HOT WATER RETURN
	PIPE SIZE REDUCER		SANITARY SEWER
	PIPE SIZE INCREASER		VENT
	ELBOW DOWN		PRIMARY STORM DRAIN
	ELBOW UP		OVERFLOW STORM DRAIN
	TEE DOWN		OIL WASTE
	TEE UP		CONNECT TO EXISTING
	CONTINUATION		RISER TAG

GENERAL PLUMBING NOTES

- DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW THE GENERAL NOTES, AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND REQUIREMENTS.
- FURNISH A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE OWNER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS PREPARED BY THE ENGINEER-OF-RECORD AFTER FINAL INSPECTION OF INSTALLED PLUMBING SYSTEMS.
- FURNISH TO THE OWNER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
- PLANS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS.
- COORDINATE ALL ROOF AND WALL PENETRATIONS WITH OTHER TRADES. MAINTAIN 10" MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING WITH U.L. LISTED ASSEMBLIES, MATERIALS, AND SEALANTS.
- WHERE ANY PVC, PEX, OR COPPER PLUMBING LINE PENETRATES A CONCRETE SLAB AND IS NOT CONCEALED IN A WALL, PROVIDE A CAST IRON SLEEVE THAT IS FLUSH WITH THE BOTTOM OF THE SLAB AND EXTENDS A MINIMUM OF 6" ABOVE THE TOP OF THE SLAB.
- PROVIDE CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
- EXPOSED HOT WATER PIPES AND DRAINPIPES UNDER HANDICAPPED ACCESSIBLE LAVATORIES SHALL BE CONFIGURED OR INSULATED TO PROTECT AGAINST CONTACT.
- RPZ SHALL BE INSTALLED IN THE POTABLE WATER SUPPLY TO EACH LOCATION WHERE SANITIZING CHEMICALS OR DETERGENTS WILL BE ASPIRATED OR PUSHED BY WATER PRESSURE INTO CLEANSING/SANITIZING OPERATION.
- DRAINAGE AND VENT SYSTEM SHALL BE PRESSURE TESTED WITH WATER OR AIR.
- ALL RPZ ASSEMBLIES SHALL BE TESTED AND APPROVED BY A CROSS CONNECTION CONTROL DEVICE INSPECTOR BEFORE INITIAL OPERATION. RECORDS TO VERIFY THIS TESTING SHALL BE AVAILABLE ON SITE.
- ALL PENETRATIONS OF FLOOR/CEILING ASSEMBLIES SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.
- ALL DRY VENTS SHALL RISE VERTICALLY TO A MINIMUM OF 6 INCHES ABOVE THE FLOOD LEVEL RIM OF THE HIGHEST TRAP OR TRAPPED FIXTURE BEING VENTED.
- CUTOFF VALVES AND STOPS SHALL BE PROVIDED AT FIXTURE CONNECTIONS.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A WATER PRESSURE TEST FOR EVALUATING INCOMING DOMESTIC WATER SERVICE PRESSURES, AND REPORT BACK TO THE ENGINEER IF PRESSURE IS LESS THAN 60 PSI. IF INCOMING PRESSURE EXCEEDS 80 PSI, PROVIDE PRESSURE REDUCING VALVE TO REDUCE PRESSURE TO 70 PSI.
- PROVIDE SEWER CLEANOUTS AT LOCATIONS AND WITH CLEARANCES REQUIRED BY CODE, NOT EXCEEDING 50' IN HORIZONTAL RUNS AND AT EACH CHANGE OF DIRECTION GREATER THAN 45°.
- OUTDOOR SEWER PIPE SHALL BE INSTALLED NO LESS THAN 6" BELOW THE FROST LINE.
- CAULK AROUND ALL FIXTURES TO SEAL BETWEEN FIXTURE AND FLOOR OR WALL.
- SLOPE 3" AND 4" SANITARY SEWER AT 1/8" PER FOOT.
- SLOPE ALL SANITARY SEWER SMALLER THAN 3" AT 1/4" PER FOOT.
- SLOPE VENT PIPING AT 1/4" PER FOOT GRADED TO DRIP BACK TO SOIL OR WASTE PIPE BY GRAVITY.
- ALL SANITARY SEWER AND SANITARY VENT PIPING THAT IS NOT IN A CONDITIONED SPACE MUST BE BURIED BENEATH THE FROST LINE.
- PROVIDE FULL-OPEN AND SHUTOFF VALVES AT ALL LOCATIONS REQUIRED BY IPC SECTION 606. PROVIDE A MEANS OF ACCESS FOR ALL VALVES AND COORDINATE ACCESS PANEL LOCATIONS WITH ALL TRADES.
- PROVIDE (2) VERTICAL AND (2) LATERAL SUPPORTS TO COLD WATER PIPING IN THE CEILING SPACE UP TO ROOF HYDRANTS TO PREVENT ROOF LEAKS CAUSED BY THE ROOF HYDRANT BEING PULLED OR KICKED.

PLUMBING ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
ASJ	ALL SERVICE JACKET
CFH	CUBIC FEET PER HOUR
CMB	COMBUSTION AIR
CO	CLEANOUT
CONT	CONTINUATION
CP	CIRCULATION PUMP
CW	COLD WATER
DCV	DOUBLE CHECK VALVE
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
DWV	DRAIN, WASTE, VENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FPRH	FREEZEPROOF ROOF HYDRANT
FPWH	FREEZEPROOF WALL HYDRANT
FS	FLOOR SINK
GPM	GALLONS PER MINUTE
GV	GREASE VENT
GW	GREASE WASTE
HB	HOSE BIB
HW	HOT WATER
HS	HAND SINK
HWR	HOT WATER RETURN
IMB	ICE MAKER BOX
LAV	LAVATORY
MAX	MAXIMUM
MSB	MOP SINK
NG	NATURAL GAS
N.I.C	NOT IN CONTRACT
ORD	OVERFLOW ROOF DRAIN
OW	OIL WASTE
RD	ROOF DRAIN
REF	REFERENCE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
SK	SINK
SP	SUMP PUMP
SS	SANITARY SEWER
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	VENT
VTR	VENT TO ROOF
W/	WITH
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WATER FOUNTAIN
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
YCO	YARD CLEANOUT

PLUMBING PIPING MATERIAL SCHEDULE

SYSTEM TAG	DESCRIPTION	PIPE SIZES	MATERIAL	FITTINGS	INSULATION	REMARKS
SS//OW	SANITARY DRAINAGE & VENT (ABOVE GRADE)	ALL	CAST IRON TYPE "L" COPPER	HUB & SPIGOT/HUBLESS SOLDER/FLANGED	NONE	
SS//OW	SANITARY DRAINAGE & VENT (BELOW GRADE)	ALL	CAST IRON TYPE "L" COPPER SCH. 40 PVC	HUB & SPIGOT/HUBLESS SOLDER/FLANGED SOLVENT	NONE	
CW	POTABLE COLD WATER (ABOVE GRADE)	ALL	TYPE "L" COPPER	SOLDER/MECHANICAL PRESS	3/4" CLOSED CELL OR 3/4" FIBERGLASS W/ ASJ	1,2,3
CW	POTABLE COLD WATER (BELOW GRADE)	ALL	TYPE "K" COPPER	SOLDER/MECHANICAL PRESS	NONE	4
HW / HWR	DOMESTIC HOT WATER SUPPLY & RETURN (ABOVE GRADE)	ALL	TYPE "L" COPPER	SOLDER/MECHANICAL PRESS	1" CLOSED CELL OR 1" FIBERGLASS W/ ASJ	1,2,3
HW	POTABLE HOT WATER (BELOW GRADE)	ALL	TYPE "K" COPPER	SOLDER/MECHANICAL PRESS	1" CLOSED CELL OR 1" FIBERGLASS W/ ASJ	1
ST / OFD	STORM & OVERFLOW DRAINAGE (ABOVE GRADE)	ALL	CAST IRON	HUB & SPIGOT/HUBLESS	1" CLOSED CELL OR 1" FIBERGLASS W/ ASJ	1,2
ST	STORM DRAINAGE (BELOW GRADE)	ALL	CAST IRON	HUB & SPIGOT/HUBLESS	NONE	1,2

REMARKS:

- PROVIDE VAPOR BARRIER JACKET WHERE FIBERGLASS INSULATION IS USED.
- PROVIDE PVC JACKETING FOR ALL EXPOSED PIPING. PROVIDE COLOR CHART AND COORDINATE WITH ARCHITECT.
- INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" INSULATION TO PREVENT FREEZING.
- FOR DOMESTIC WATER ENTRY INTO THE BUILDING, MATCH MATERIAL SPECIFIED ON CIVIL DRAWINGS. REFERENCE DOMESTIC WATER SERVICE ENTRANCE DETAIL.

RECIRCULATION PUMP SCHEDULE

TAG		SERVICE	LOCATION	DESCRIPTION	DRIVE TYPE	PERFORMANCE DATA		PIPE SIZE		ELECTRICAL DATA		WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#					FLOW	HEAD	INLET	OUTLET	HP	FLA				
CP	1	DOMESTIC HOT WATER	101 JANITOR	INLINE	ECM	2.5 GPM	2 ftH2O	3/4"	3/4"	0.06 hp	0.5 A	120/1/60	6 lb	TACO	0018E-SF4 ALL
CP	2	DOMESTIC HOT WATER	158 JANITOR	INLINE	ECM	2.5 GPM	2 ftH2O	3/4"	3/4"	0.06 hp	0.5 A	120/1/60	6 lb	TACO	0018E-SF4 ALL

REMARKS:

- STAINLESS STEEL MODEL SUITABLE FOR OPEN LOOP POTABLE WATER SYSTEMS.
- VARIABLE SPEED, WET-ROTOR CIRCULATOR WITH HIGH EFFICIENCY ECM PERMANENT MAGNET TECHNOLOGY.
- PROVIDE AQUA-STAT FOR CONTROL.

WATER HEATER SCHEDULE (GAS)

TAG		SERVICE	LOCATION	PERFORMANCE DATA			GAS DATA		WATER CONN. SIZES		VENT CONN. SIZES		ELECTRICAL DATA		WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#			CAPACITY	RECOVERY	RISE	INPUT	PRESSURE	SIZE	CW	HW	CMB	FLUE	MCA				
WH	1	DOMESTIC HOT WATER	101 JANITOR	75 gal	154 GPH	90 °F	100000 Btu/h	14.00 in-wg	1/2"	1"	1"	3"	3"	15 A	120/1/60	382 lb	AO SMITH	BTXL-100 ALL
WH	2	DOMESTIC HOT WATER	158 JANITOR	75 gal	154 GPH	90 °F	100000 Btu/h	14.00 in-wg	1/2"	1"	1"	3"	3"	15 A	120/1/60	382 lb	AO SMITH	BTXL-100 ALL

REMARKS:

- PROVIDE WATER HEATER STAND SIZED FOR OPERATING WEIGHT OF WATER HEATER.
- PROVIDE DRAIN PAN AND MOUNT UNDER WATER HEATER.
- PROVIDE PVC VENTING AND CONCENTRIC VENT KIT. VENT WATER HEATER PER MANUFACTURER'S INSTRUCTIONS. REFERENCE ????? FOR INSTALLATION DETAIL.
- ROUTE T&P DRAIN LINE TO INDIRECTLY WASTE OVER FLOOR DRAIN.
- REFERENCE 1/P-501 FOR INSTALLATION DETAIL.
- PROVIDE EXPANSION TANK.
- SET HOT WATER SUPPLY TEMPERATURE TO 140°F.
- PROVIDE CONDENSING WATER HEATER WITH PRECISE TEMPERATURE CONTROL, DIRECT SPARK IGNITION, 0" CLEARANCE 4TO COMBUSTIBLES, GLASS-LINED HEAT EXCHANGER COIL, DIRECT VENTING CAPABLE OF BEING VENTED WITH PVC, ASME CERTIFIED T&P VALVE, MINIMUM 95% THERMAL EFFICIENCY.
- PROVIDE CONDENSATE NEUTRALIZATION KIT.

STORMWATER MAINTENANCE AND
OPERATIONS BUILDING

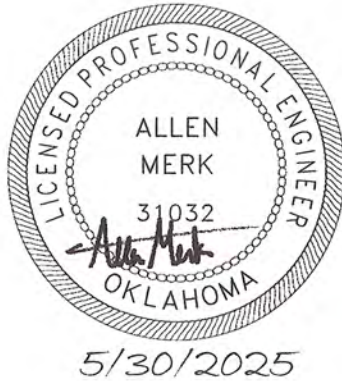
PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

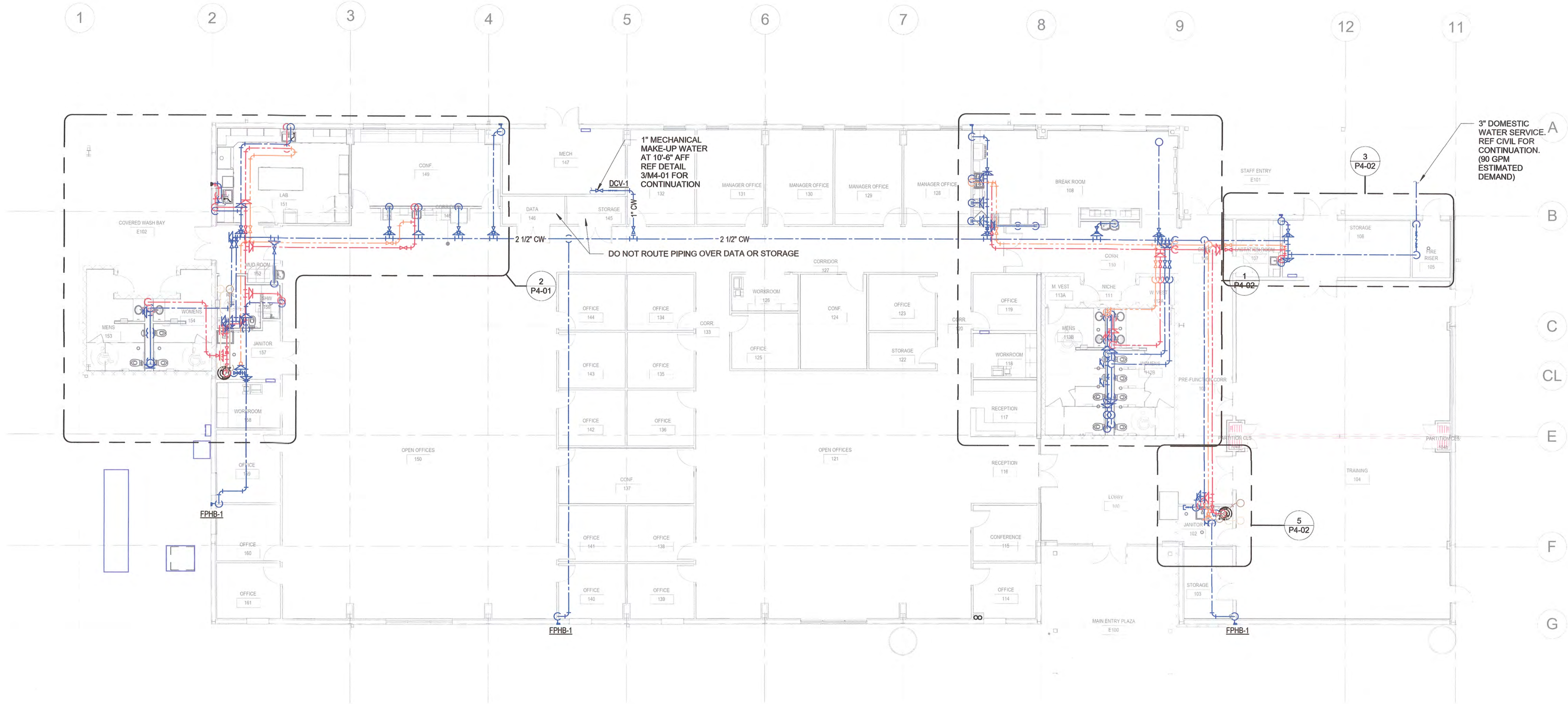
PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
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MECHANICAL, ELECTRICAL & PLUMBING



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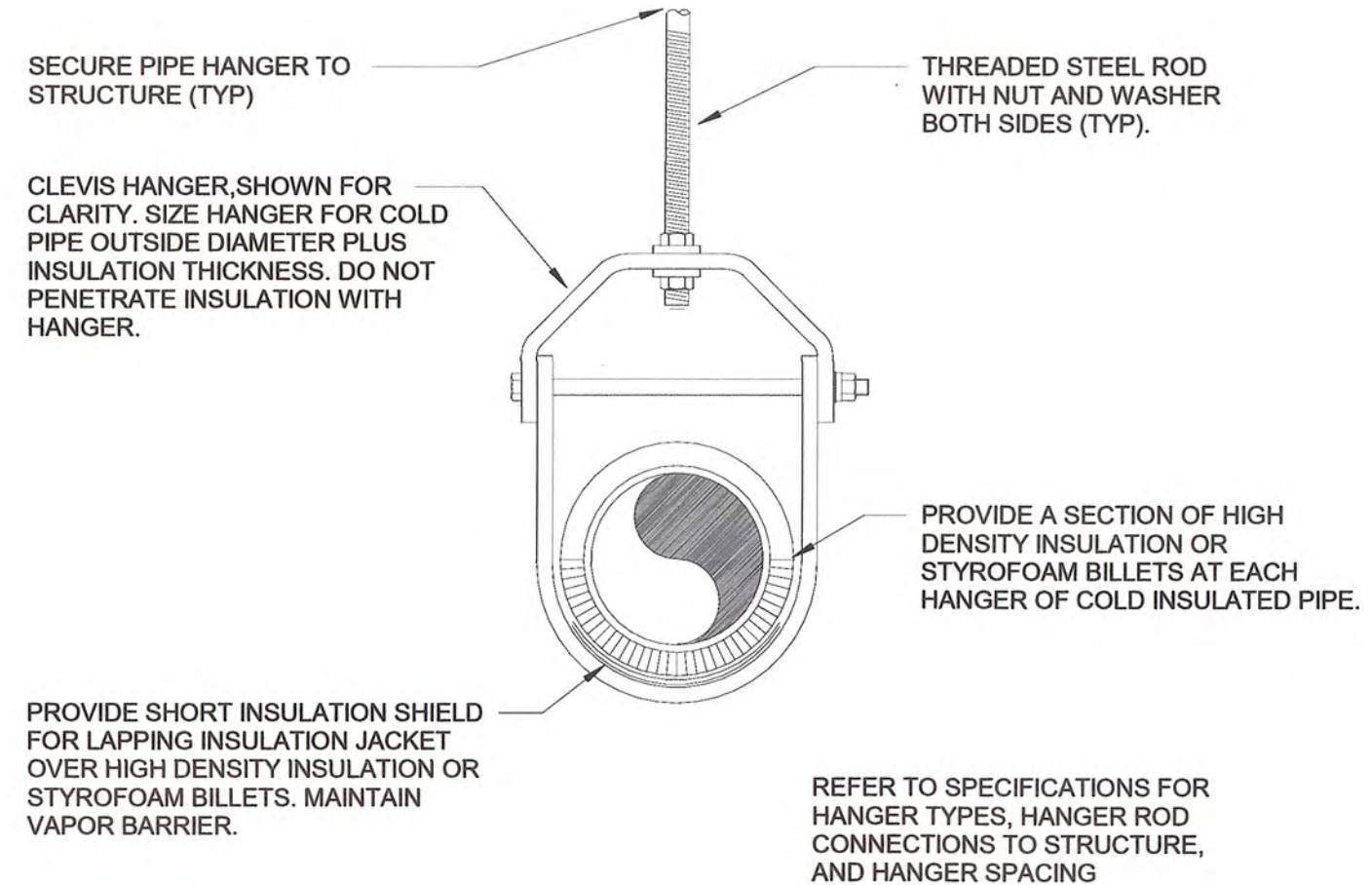


3" DOMESTIC WATER SERVICE. REF CIVIL FOR CONTINUATION. (90 GPM ESTIMATED DEMAND)



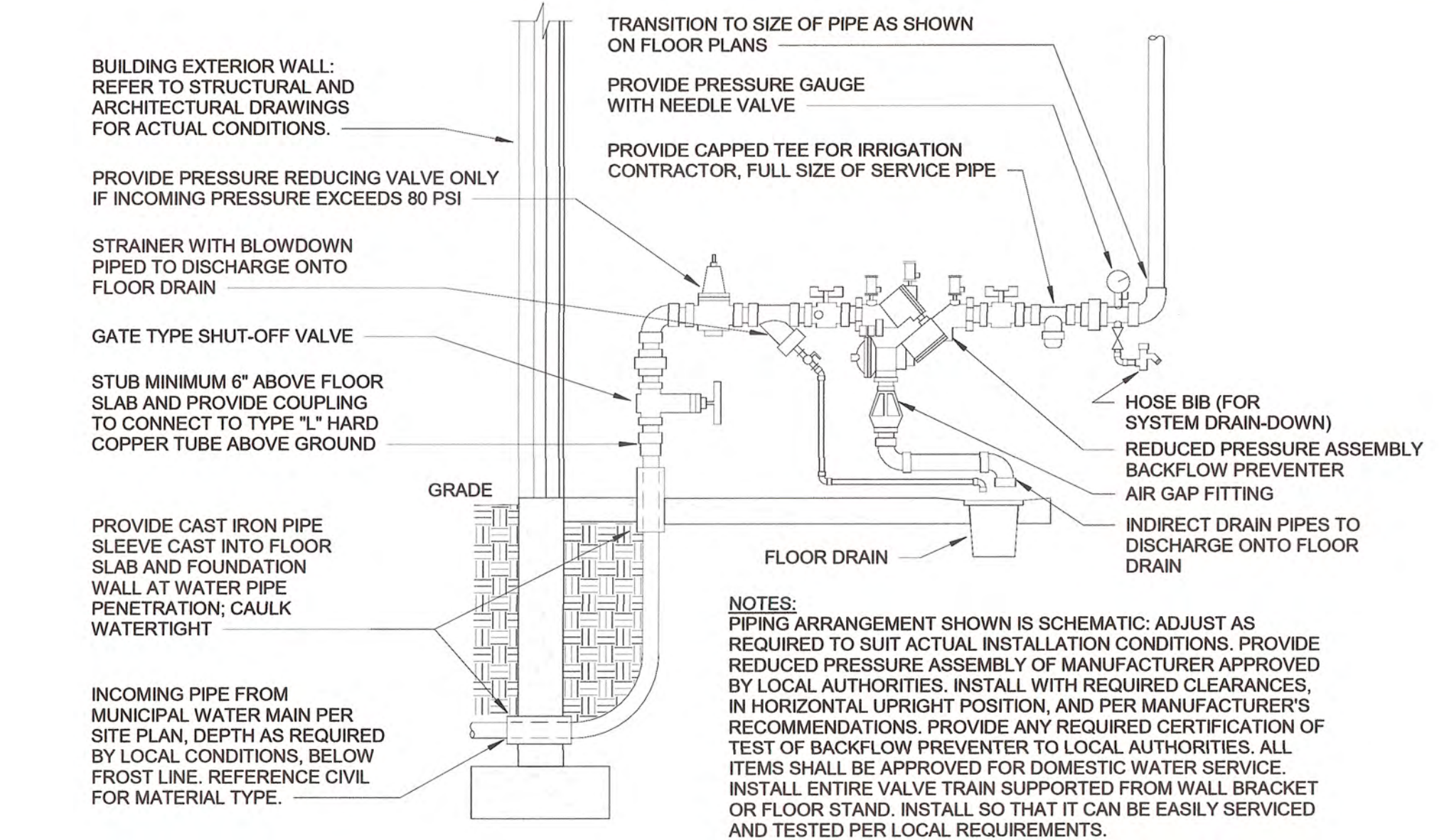
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3/32" = 1'-0"



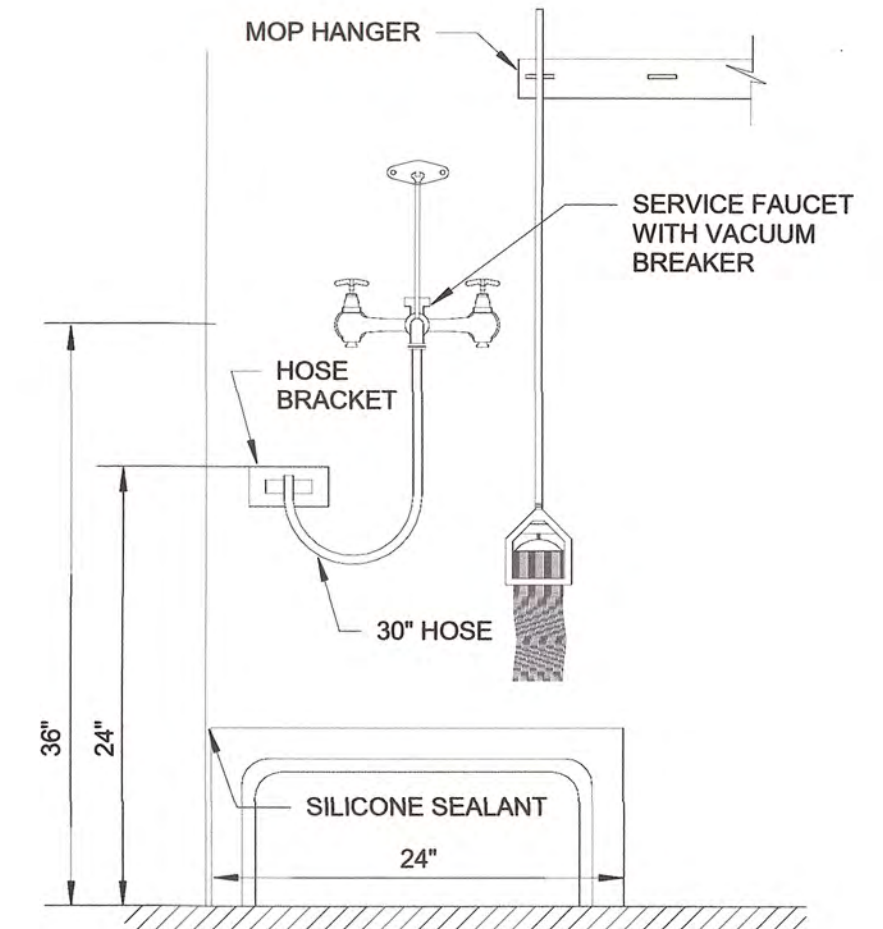
4 INSULATED PIPE HANGER DETAIL

NTS



3 DOMESTIC WATER SERVICE ENTRANCE (RPZ-1)

NTS



2 MOP SINK DETAIL

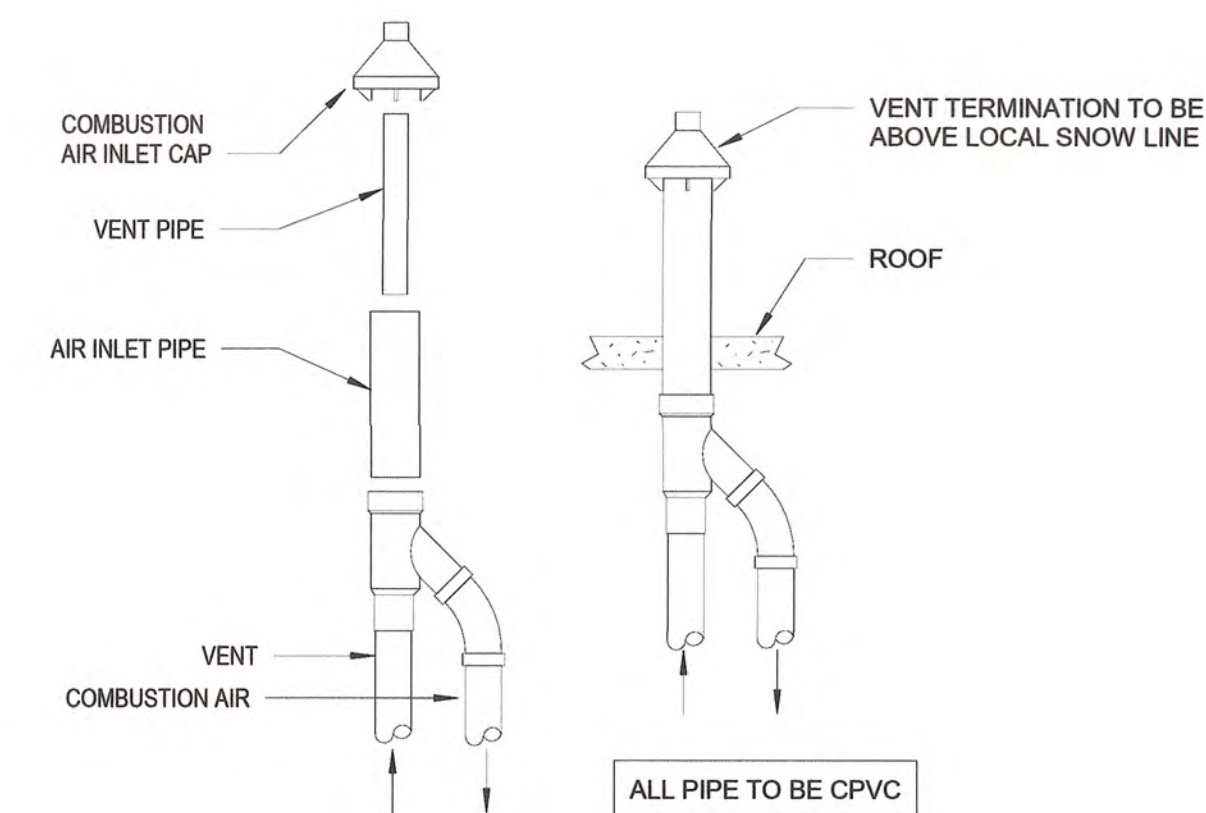
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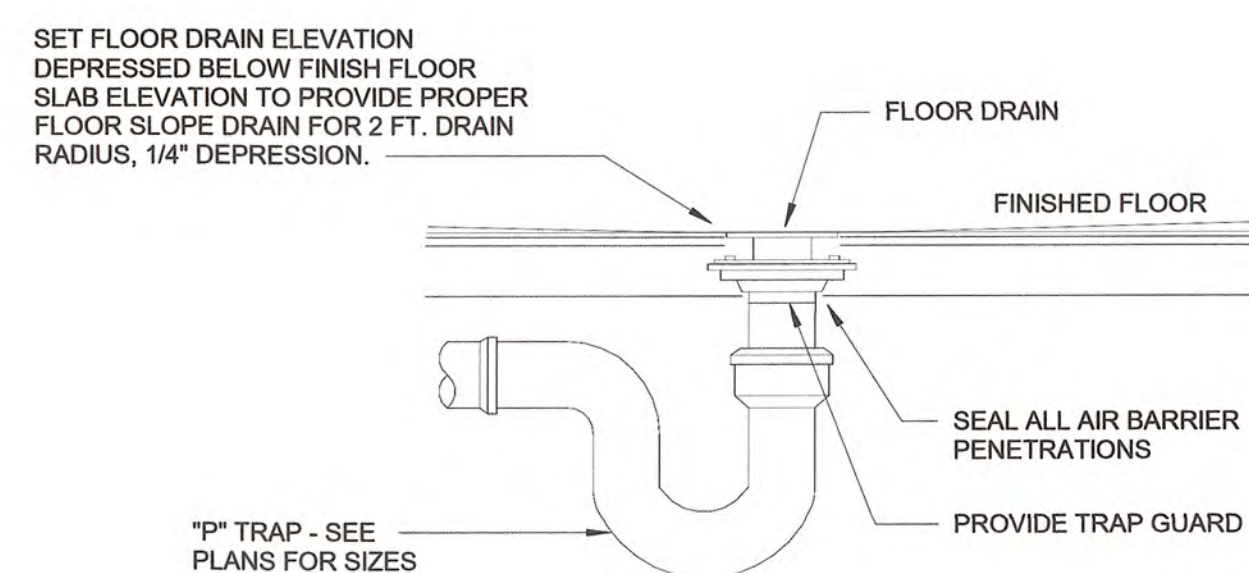
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PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
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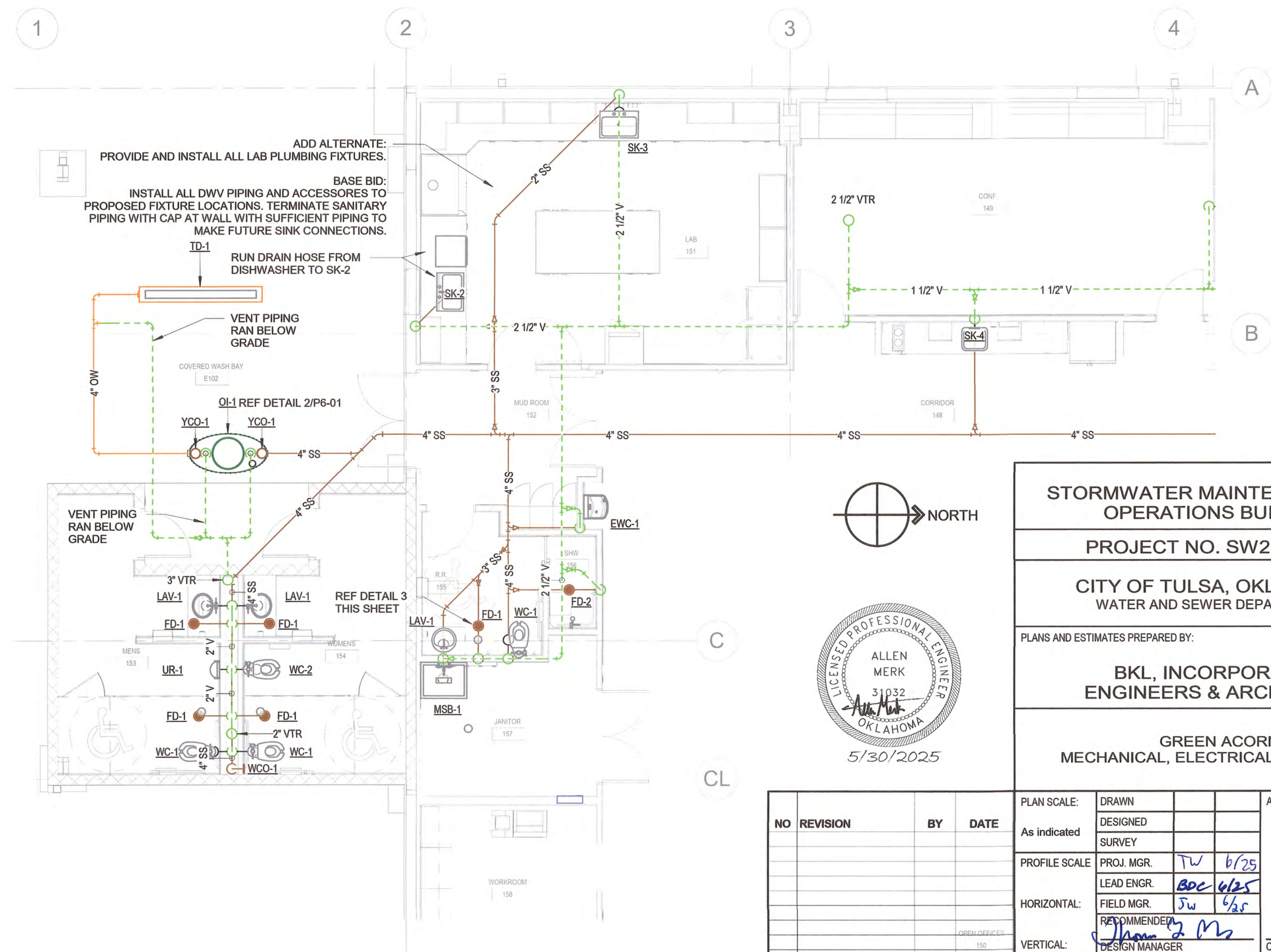
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2 SOUTH DOMESTIC WATER PLUMBING PLAN



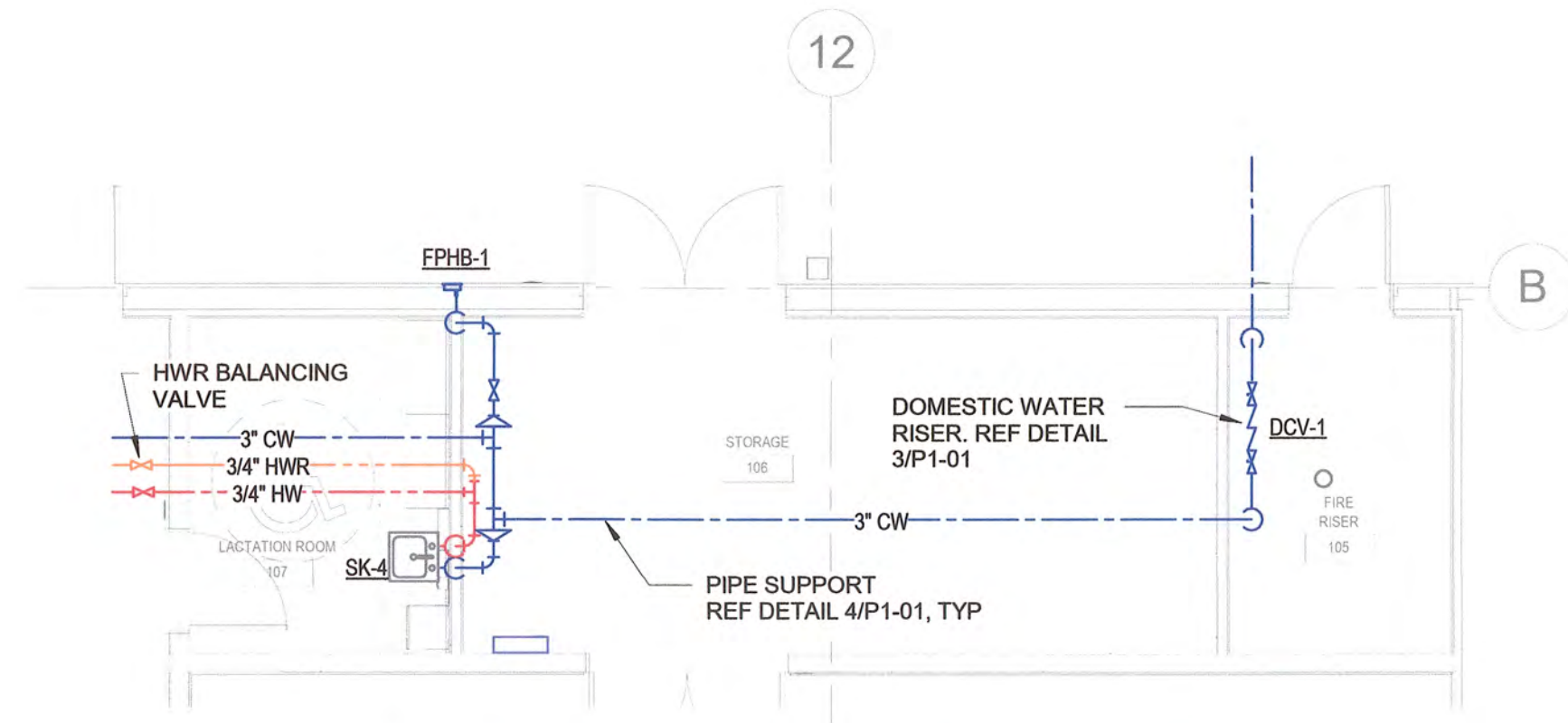
3 FLOOR DRAIN DETAIL



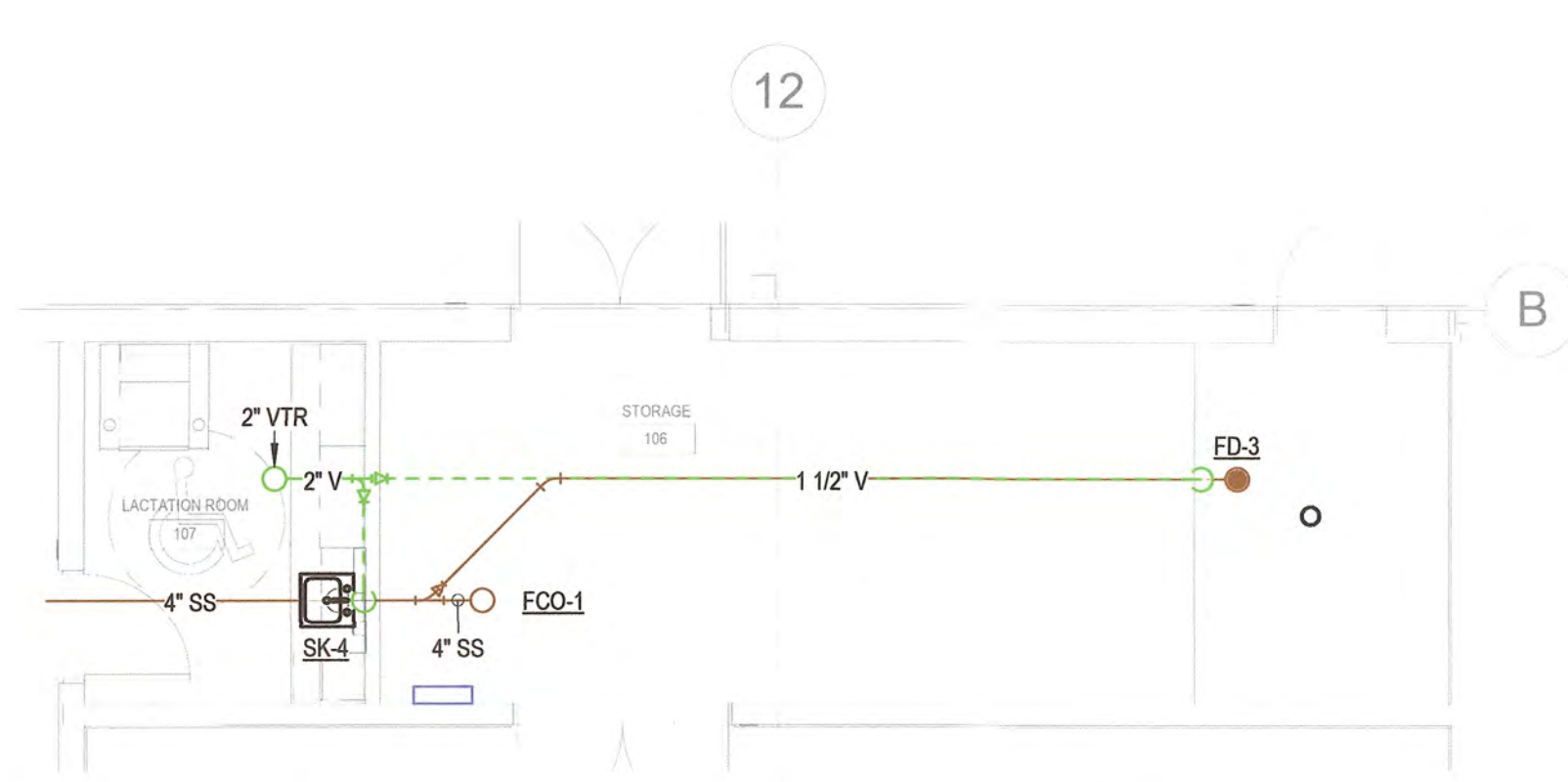
1 SOUTH SANITARY PLUMBING PLAN

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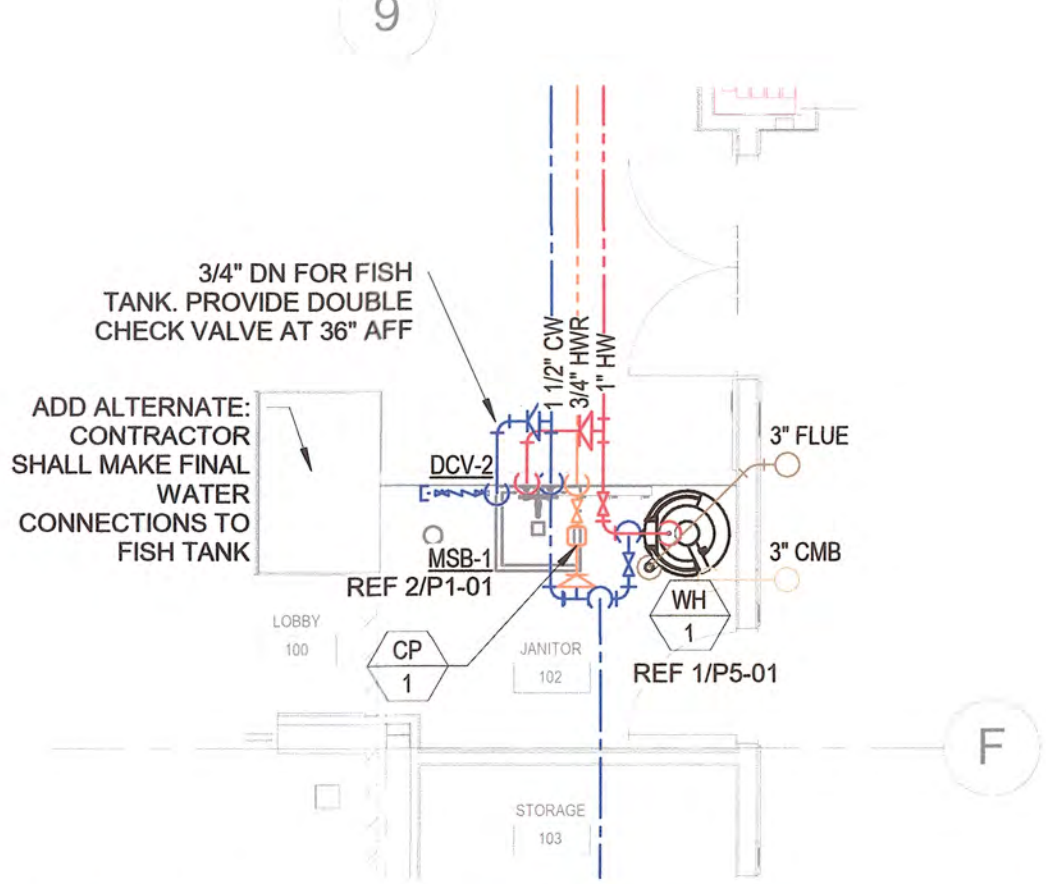
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3/16" = 1'-0"



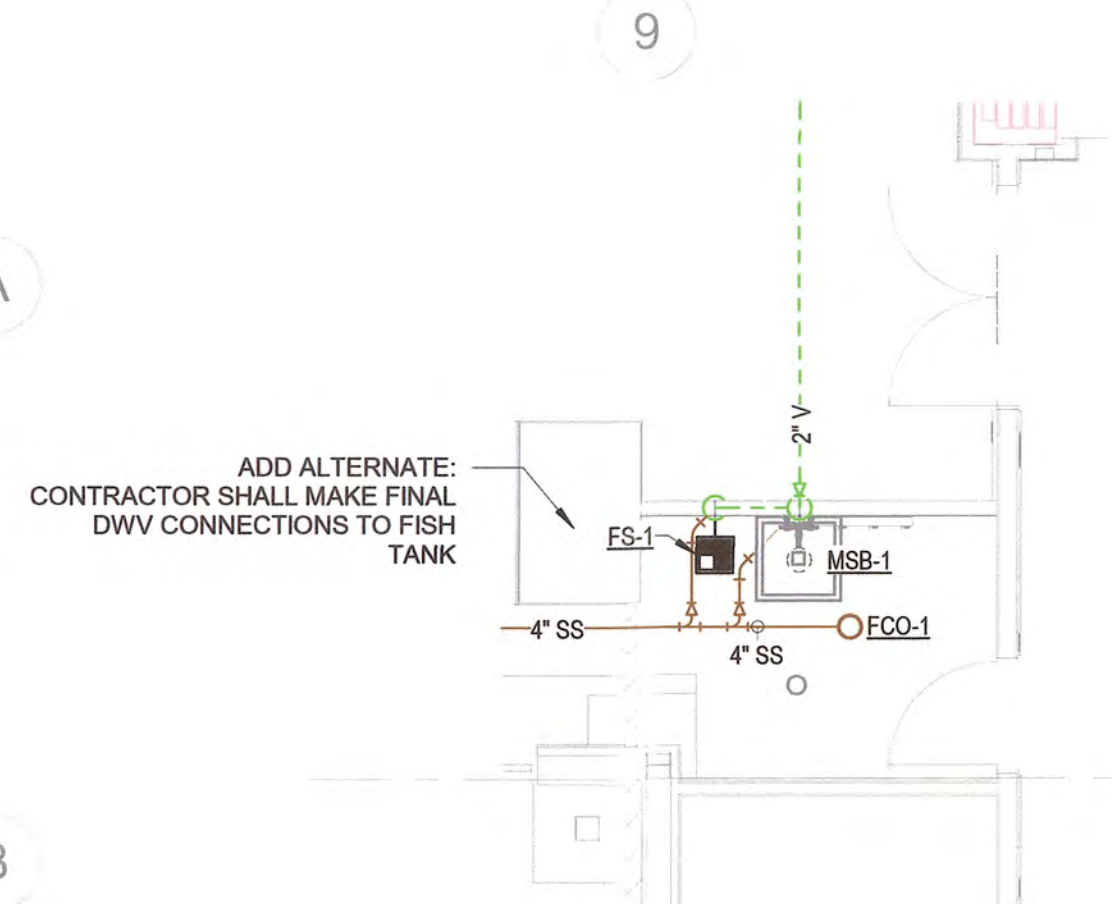
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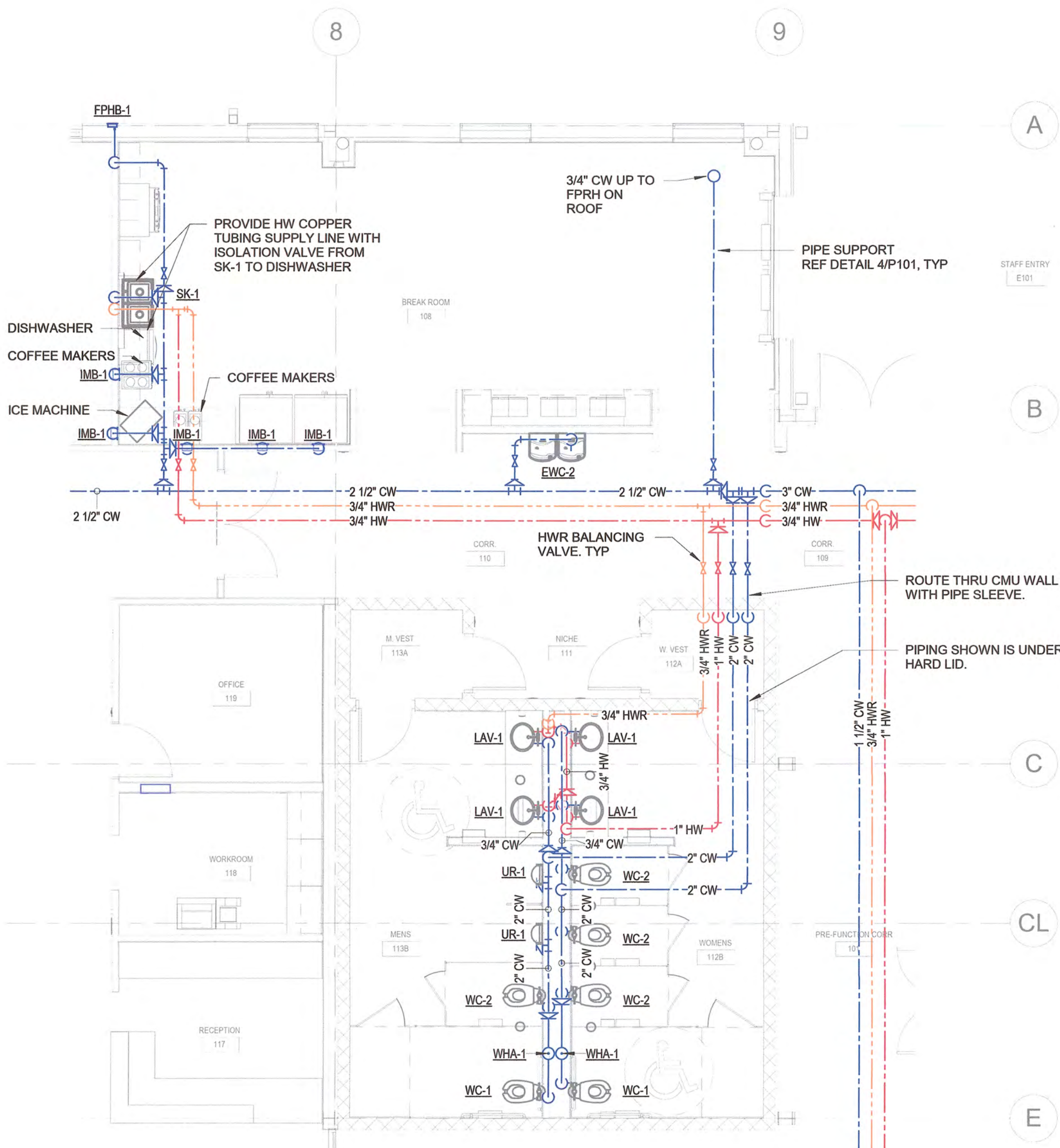
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3/16" = 1'-0"



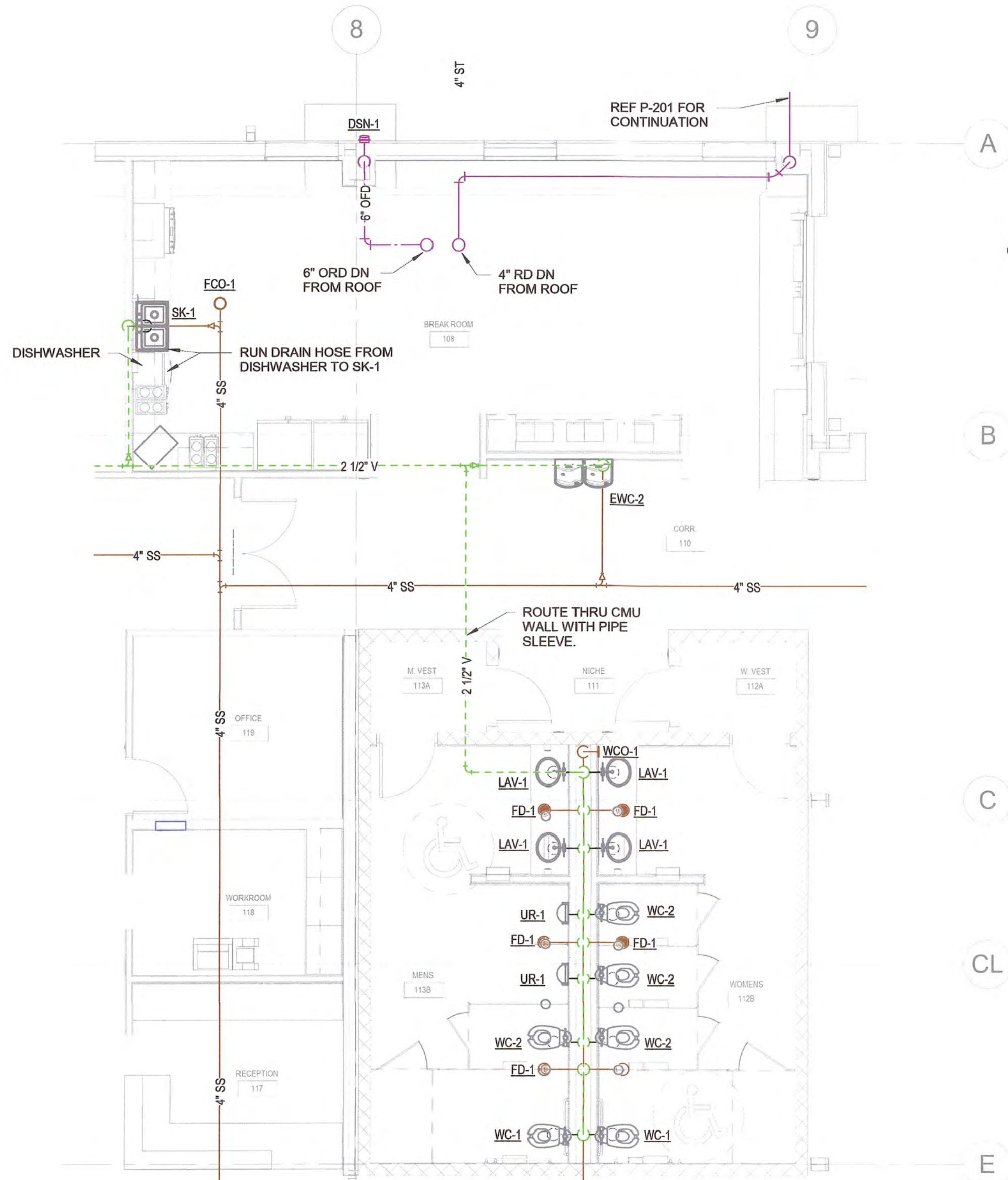
6 NORTHEAST SANITARY PLUMBING PLAN
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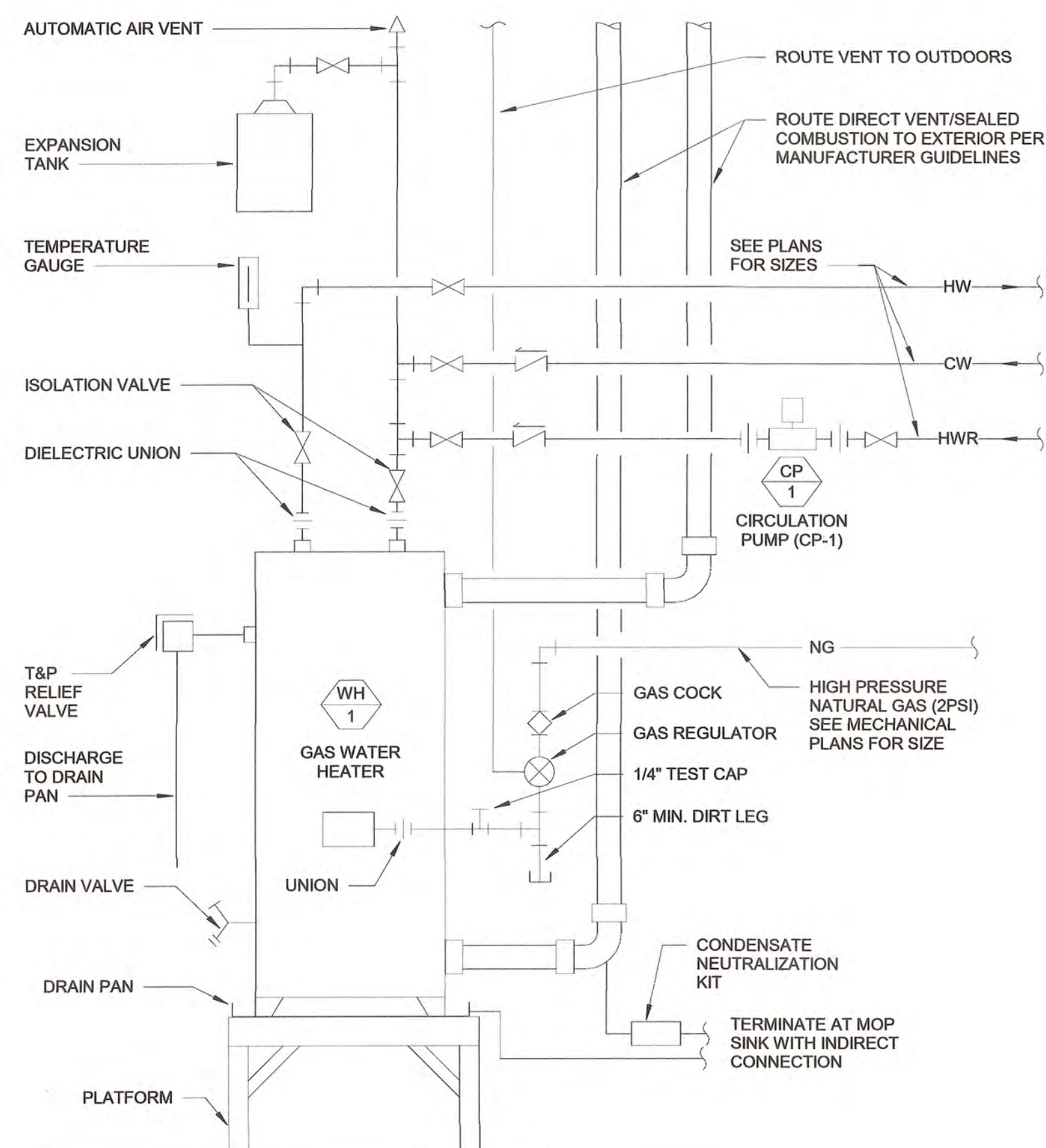
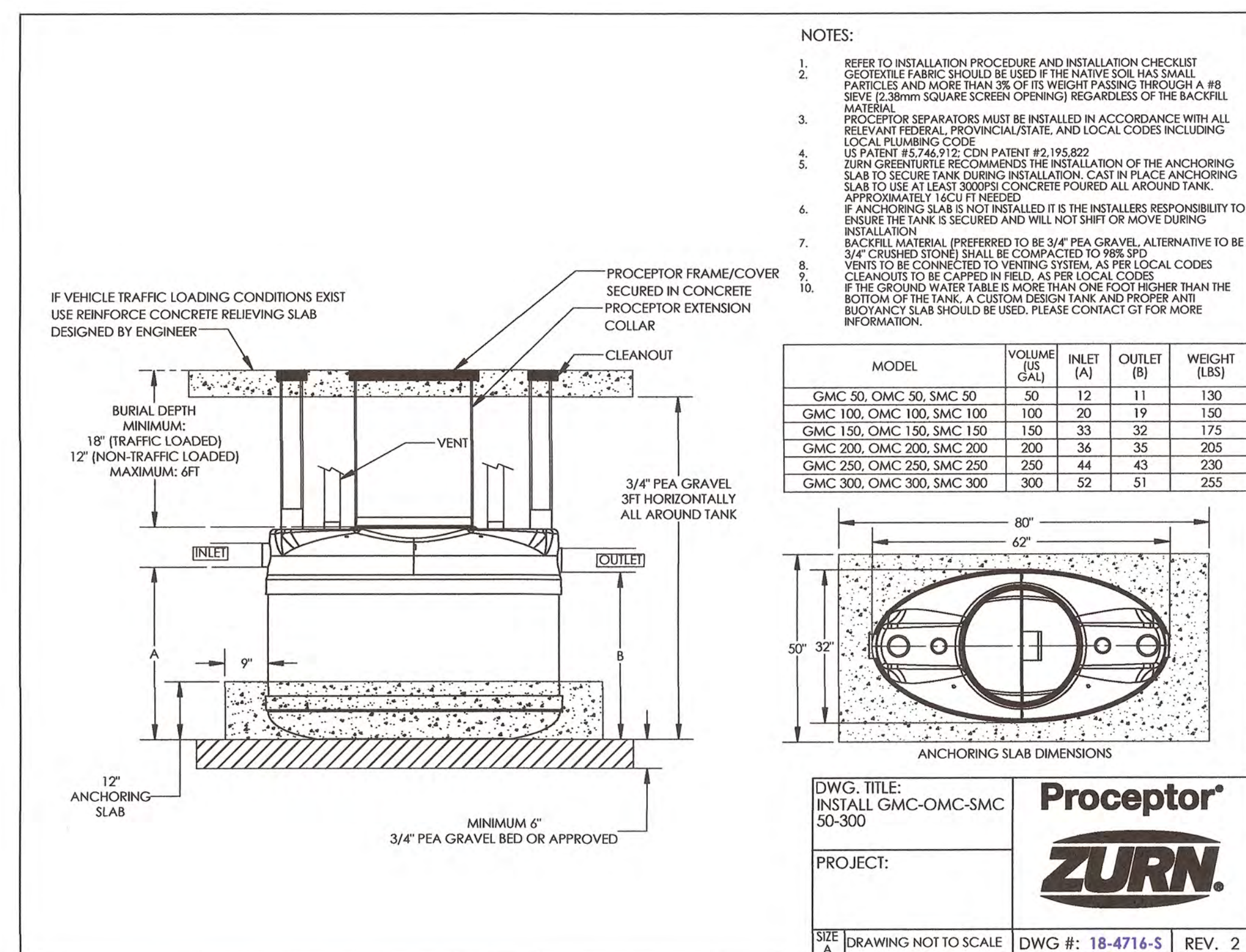
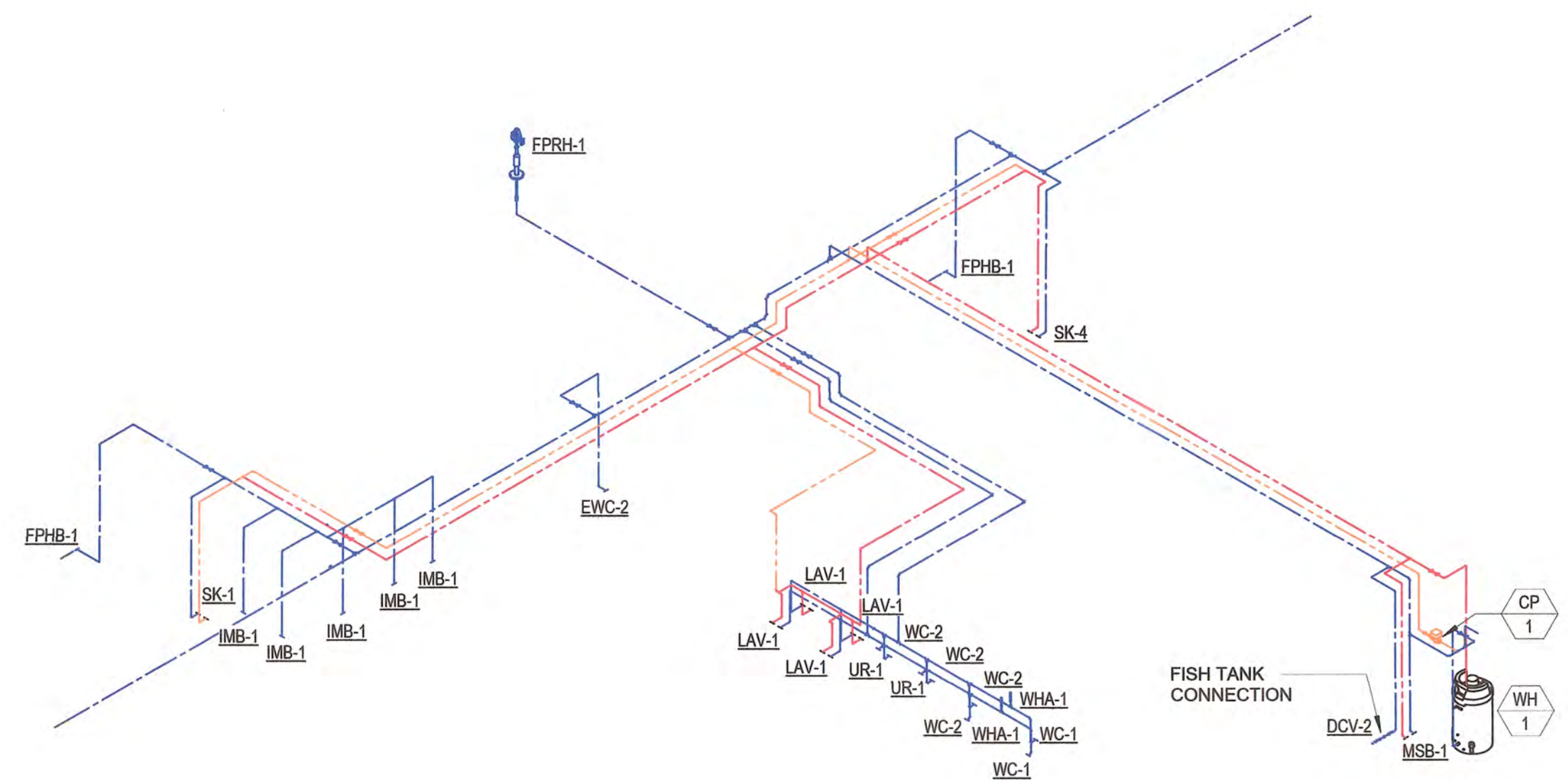
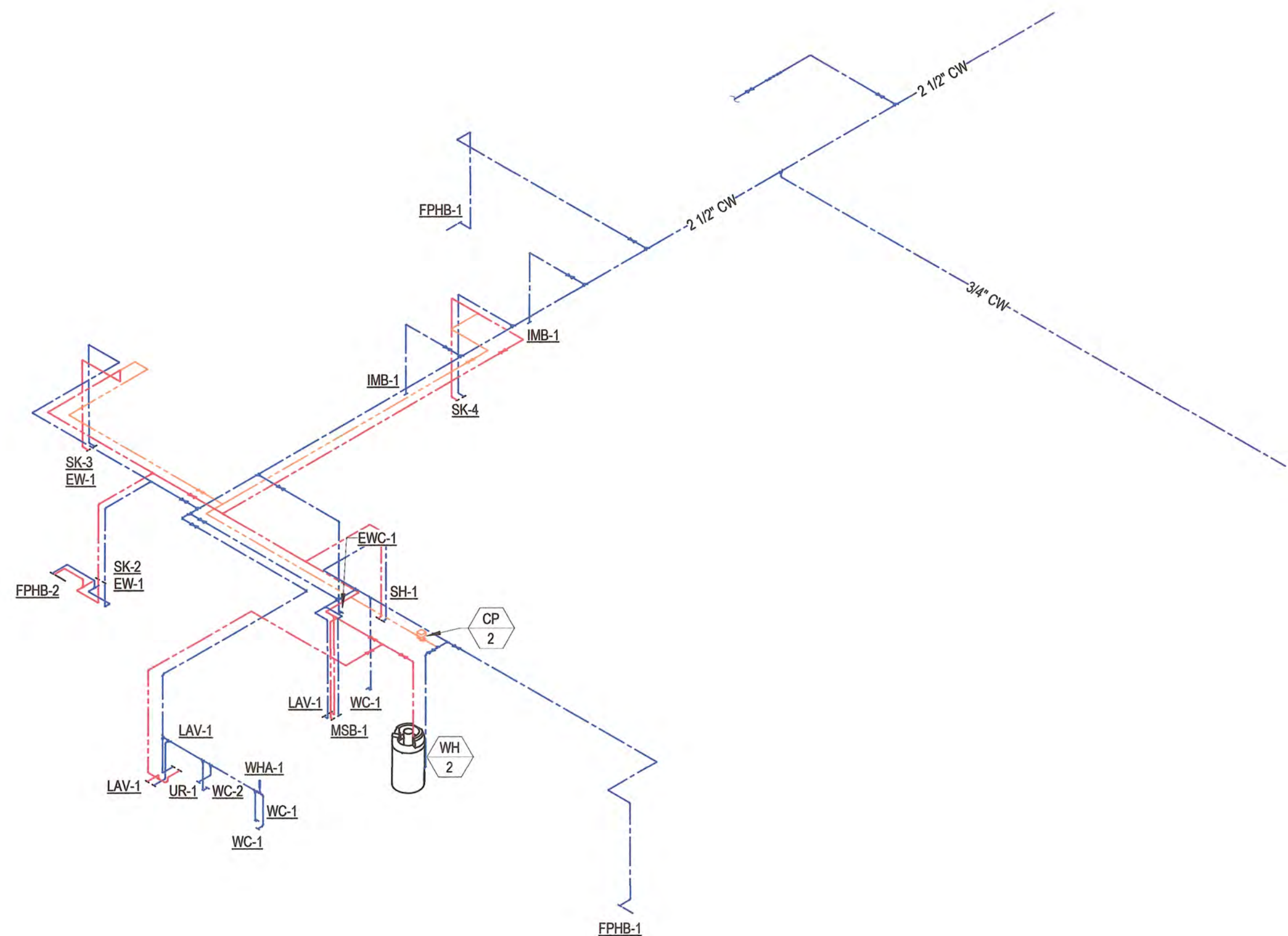
1 CENTRAL DOMESTIC PLUMBING PLAN
3/16" = 1'-0"



2 CENTRAL SANITARY PLUMBING PLAN
3/16" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
PROJECT NO. SW23-01-01				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY:				
BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING				
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3/16" = 1'-0"		DESIGNED		
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STORMWATER MAINTENANCE AND OPERATIONS BUILDING

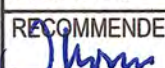
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CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

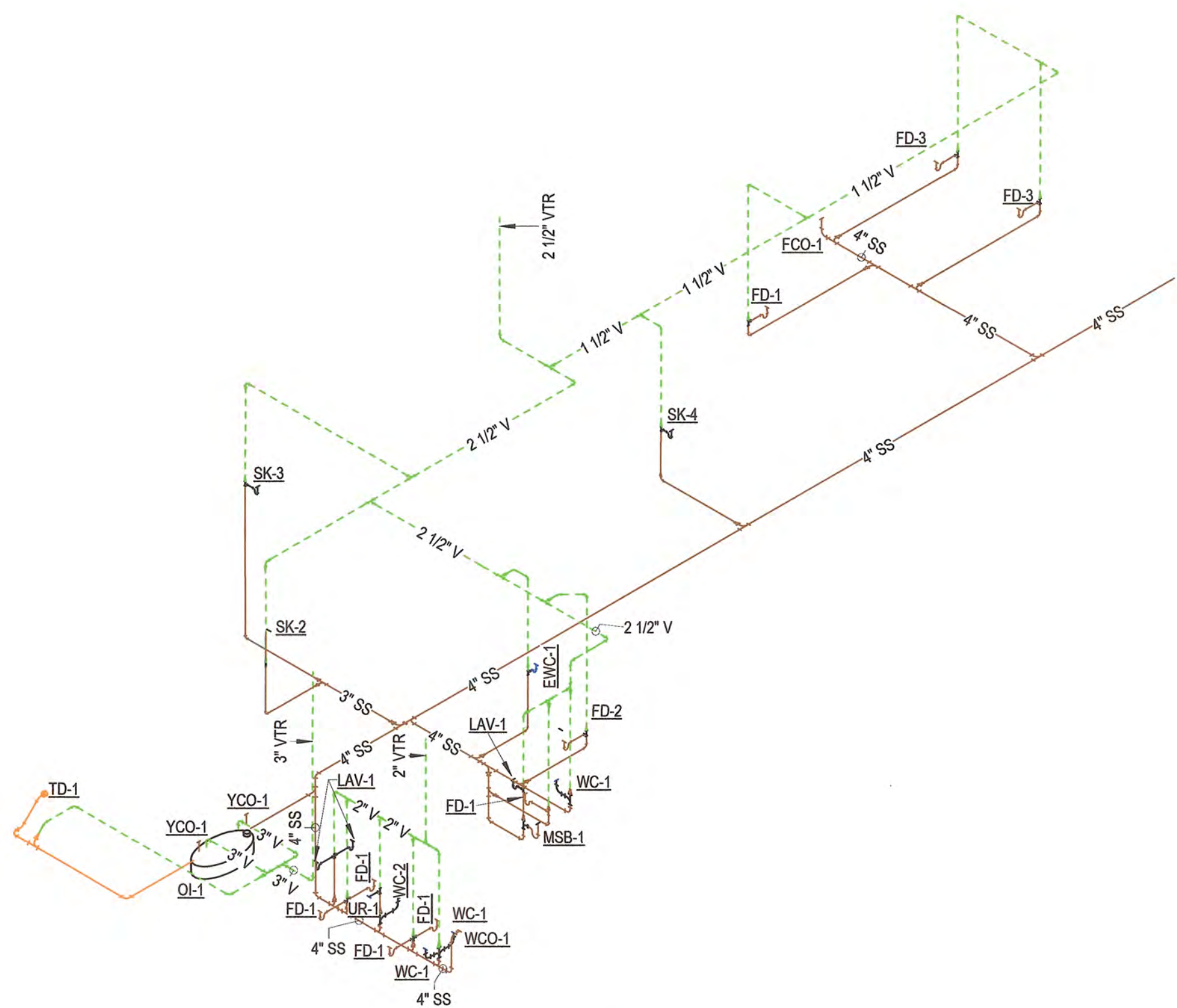
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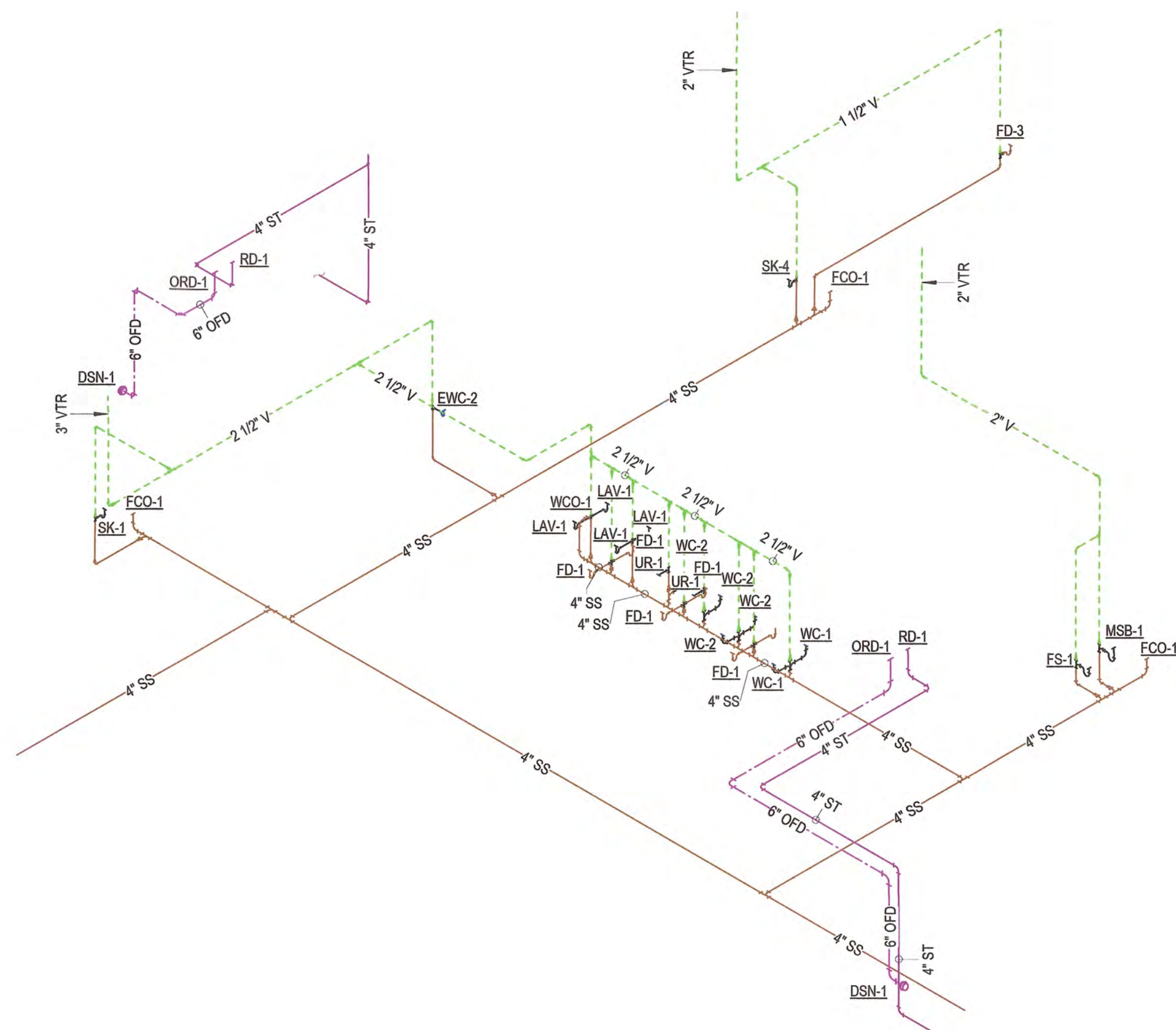
GREEN ACORN
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FILE:	DRAWING:			DATE: 6/12/2025
ATLAS PAGE NO:				SHEET NO. P5-01
SHEET NAME: PLUMBING DETAILS				

[illegible]



2 SOUTH DWV RISER



1 NORTH DWV RISER



				PLAN SCALE:	DRAWN	APPROVED	
NO	REVISION	BY	DATE		DESIGNED		
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	TW	6/5
					LEAD ENGR.	BOC	6/25
				HORIZONTAL:	FIELD MGR.	JW	6/5
					RECOMMENDED BY	Allen Merk	
				VERTICAL:	DESIGN MANAGER	CITY ENGINEER	
				FILE:	DRAWING:	DATE: 6/12/2025	
				ATLAS PAGE NO:			SHEET NO. P5-02
				SHEET NAME:			
				PLUMBING DETAILS			

PLUMBING FIXTURE SCHEDULE										
TAG	DESCRIPTION	RISER & AIR CHAMBER SIZES		NIPPLE & VALVE CONNECTION SIZES		CODE CONNECTION REQUIREMENTS		BASIS OF DESIGN		REMARKS
		HW	CW	HW	CW	SS	VENT	MANUFACTURER	MODEL #	
DCV-1	DOUBLE CHECK VALVE BACKFLOW PREVENTER	-	<varies>	-	<varies>	-	-	WATTS	007	<varies>
DCV-2	DOUBLE CHECK VALVE BACKFLOW PREVENTER	-	3/4"	-	3/4"	-	-	WATTS	007	THE ASSEMBLY SHALL CONSIST OF TWO POSITIVE SEATING CHECK MODULES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. THE CHECK MODULE SEATS AND SEAT DISCS SHALL BE REPLACEABLE. PROVIDE QUARTER TURN BALL VALVES ON BOTH SIDES OF THE BACKFLOW PREVENTER ASSEMBLY AND A Y-STRAINER UPSTREAM OF THE BACKFLOW PREVENTER ASSEMBLY. ASSEMBLY SHALL BE CAPABLE OF 12 GPM WITH A MAXIMUM PRESSURE DROP OF 5 PSI. ASSEMBLY SHALL BE ASSE 1015 COMPLIANT AND BE LEAD FREE.
DSN-1	DOWNSPOUT NOZZLE	-	-	-	-	6"	-	ZURN	Z199	ALL NICKEL BRONZE BODY WITH DECORATIVE FACE OF WALL FLANGE AND OUTLET NOZZLE, REMOVEABLE STAINLESS SCREEN
EW-1	EMERGENCY EYEWASH	3/4"	3/4"	1/2"	1/2"	-	-	HAWS	Z610S	EMERGENCY EYE/FACE WASH, DECK MOUNT, 13" DROP DOWN LENGTH, POLISHED CHROME BRASS SINGLE ACTION PULL DOWN VALVE BODY, UNIVERSAL SIGN, 1/2" SUPPLY CONNECTION EYE/FACE WASH HEAD FEATURES INVERTED DIRECTIONAL LAMINAR FLOW WITH 4.2 GPM FLOW CONTROL, DISCHARGE TO SINK PROVIDE EMERGENCY THERMOSTATIC MIXING VALVE MODEL 9201EFE AXION: THERMOSTATICALLY MIXES HOT AND COLD WATER TO PROVIDE A SAFE FLUID TEMPERATURE FOR EMERGENCY EYEWASH EQUIPMENT, 12 GPM CAPABLE.
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STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:	DRAWN		
	DESIGNED		
	SURVEY		
PROFILE SCALE	PROJ. MGR.	TW	6/25
	LEAD ENGR.	BAC	6/25
HORIZONTAL:	FIELD MGR.	JIS	6/25
	RECOMMENDED BY		
VERTICAL:	DESIGN MANAGER		
FILE:	DRAWING:	DATE: 6/12/2025	
ATLAS PLAN NO:			
SHEET NAME:		SHEET NO.	
PLUMBING SCHEDULES		P6-01	

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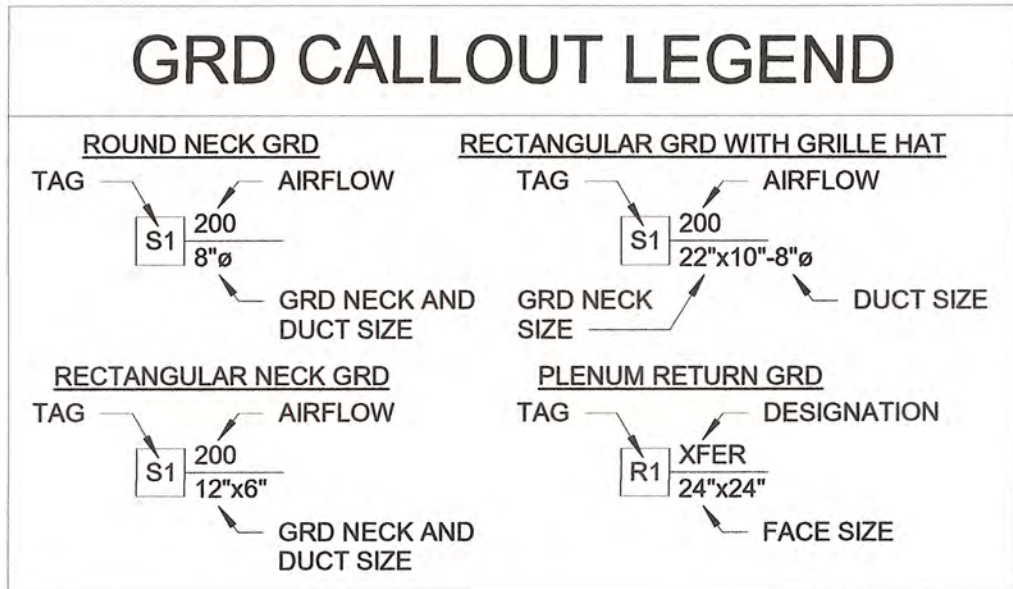
MECHANICAL PIPING MATERIAL SCHEDULE						
SYSTEM TAG	DESCRIPTION	PIPE SIZES	MATERIAL	FITTINGS	INSULATION	REMARKS
HHWS / HHWR	HEATING HOT WATER SUPPLY & RETURN	1-1/4" & SMALLER	TYPE "L" COPPER	BRAZED/MECHANICAL PRESS	1-1/2" FIBERGLASS W/ASJ	2
		1-1/2" & 2"	TYPE "L" COPPER	BRAZED/MECHANICAL PRESS	2" FIBERGLASS W/ASJ	
		2-1/2" & LARGER	SCH. 40 BLACK STEEL	GROOVED/WELDED	2" FIBERGLASS W/ASJ	
CD	CONDENSATE DRAIN - INDOOR	ALL	TYPE "M" COPPER	SOLDER/MECHANICAL PRESS	1/2" ARMAFLEX	1
	CONDENSATE DRAIN - OUTDOOR	ALL	SCH. 40 PVC	SOLVENT	NONE	
RL	REFRIGERANT LIQUID	ALL	TYPE "L" COPPER ACR	BRAZED	NONE	
RS	REFRIGERANT SUCTION	ALL	TYPE "L" COPPER ACR	BRAZED	3/4" ARMAFLEX	
NG	NATURAL GAS	2" & SMALLER	SCH. 40 BLACK STEEL	THREADED	NONE	
		2-1/2" & LARGER	SCH. 40 BLACK STEEL	WELDED	NONE	

- REMARKS:
 - ALL EXTERIOR GAS PIPING AND EXPOSED INTERIOR GAS PIPING TO BE PAINTED YELLOW. ALL INTERNAL PIPING BETWEEN METER AND UPSTREAM OF EQUIPMENT REGULATOR SHALL BE LABELED "ELEVATED PRESSURE"
 - NO INSULATION IS REQUIRED FOR STRAINERS, CONTROL VALVES, & BALANCING VALVES ASSOCIATED WITH 1" & SMALLER PIPING
- NOTES:
 - ALL PIPING REQUIRING INSULATION THAT IS EXPOSED TO VIEW SHALL HAVE PVC JACKETING. COORDINATE JACKET COLOR WITH ARCHITECT. PROVIDE PIPE LABELS AND FLOW ARROWS FOR ALL MECHANICAL PIPING. SUBMIT PIPE TAG PRODUCT DATA DURING SUBMITTAL PROCESS.

DUCT CONSTRUCTION SCHEDULE								
SYSTEM TAG	DESCRIPTION	LOCATION	MATERIAL	LINER / WRAP	PRESSURE CLASS	SEAL CLASS	LONGITUDINAL SEAM TYPE	REMARKS
SA-MP	MEDIUM PRESSURE SUPPLY - RECTANGULAR	INTERIOR - CONCEALED	GALVANIZED	1 1/2" WRAP (R-6)	4"	A	PITTSBURGH LOCK	
SA-MP	MEDIUM PRESSURE SUPPLY - ROUND	INTERIOR - CONCEALED	GALVANIZED	1 1/2" WRAP (R-6)	4"	A	SPIRAL	
SA-LP	LOW PRESSURE SUPPLY - RECTANGULAR	INTERIOR - CONCEALED	GALVANIZED	1" LINER (R-4)	2"	A	PITTSBURGH LOCK	
SA-LP	LOW PRESSURE SUPPLY - RECTANGULAR	INTERIOR - EXPOSED	GALVANIZED	1" LINER (R-4)	2"	A	PITTSBURGH LOCK	1
SA-LP	LOW PRESSURE SUPPLY - RECTANGULAR	EXTERIOR - ALL	GALVANIZED	2" LINER (R-8)	2"	A	PITTSBURGH LOCK	
SA-LP	LOW PRESSURE SUPPLY - ROUND	INTERIOR - CONCEALED	GALVANIZED	1" WRAP (R-4)	2"	A	SPIRAL/SNAP LOCK	
SA-LP	LOW PRESSURE SUPPLY - ROUND	INTERIOR - EXPOSED	GALVANIZED	NONE	2"	A	SPIRAL	1
RA	RETURN - RECTANGULAR	INTERIOR - ALL	GALVANIZED	1/2" LINER (R-2)	2"	A	PITTSBURGH LOCK	
RA	RETURN - RECTANGULAR	EXTERIOR - ALL	GALVANIZED	2" LINER (R-8)	2"	A	PITTSBURGH LOCK	
RA	RETURN - ROUND	INTERIOR - CONCEALED	GALVANIZED	NONE	2"	A	SPIRAL/SNAP LOCK	
RA	RETURN - ROUND	INTERIOR - EXPOSED	GALVANIZED	NONE	2"	A	SPIRAL	
OA	OUTSIDE AIR - RECTANGULAR	INTERIOR - CONCEALED	GALVANIZED	2" WRAP (R-8)	2"	A	PITTSBURGH LOCK	
OA	OUTSIDE AIR - ROUND	INTERIOR - CONCEALED	GALVANIZED	2" WRAP (R-8)	2"	A	SPIRAL/SNAP LOCK	
EA	EXHAUST - RECTANGULAR	INTERIOR - ALL	GALVANIZED	NONE	2"	A	PITTSBURGH LOCK	
EA	EXHAUST - ROUND	INTERIOR - CONCEALED	GALVANIZED	NONE	2"	A	SPIRAL/SNAP LOCK	
EA-K	TYPE I EXHAUST - RECTANGULAR	INTERIOR - CONCEALED	BLACK IRON	3" FIRE WRAP	2"	A	WELDED	2,3
ETA	TRANSFER - RECTANGULAR	INTERIOR - ALL	GALVANIZED	1/2" ACOUSTICAL LINER	2"	A	PITTSBURGH LOCK	
TA	TRANSFER - ROUND	INTERIOR - CONCEALED	GALVANIZED	NONE	2"	A	SPIRAL/SNAP LOCK	

- REMARKS:
 - PROVIDE DUCTWORK WITH PAINT GRIP FINISH AND PAINT. COORDINATE PAINT COLOR WITH ARCHITECT.
 - CONSTRUCT DUCTWORK OUT OF MINIMUM 16 GAUGE BLACK IRON AND SLOPE DUCTWORK 1/4" PER 1'-0" TOWARD HOOD OR RECEPTOR. PROVIDE ACCESS PANELS AT EVERY CHANGE OF DIRECTION AND EVERY 20'
 - TWO LAYERS OF 1-1/2" FIRE WRAP INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. BASIS OF DESIGN IS 3M FIRE BARRIER DUCT WRAP 615+
- NOTES:
 - ALL DUCTWORK TO BE CONSTRUCTED PER S.M.A.C.N.A. STANDARDS
 - ALL LINER TO BE 1-1/2 LB/CF, FLAME SPREAD RATING OF 25, AND SMOKE DEVELOPMENT RATING OF 50

MECHANICAL SYMBOL LEGEND			
XX"xXX"	RECTANGULAR DUCT TAG - WIDTH x HEIGHT		EQUIPMENT TAG
XX"ø	ROUND DUCT TAG - DIAMETER		SUPPLY DIFFUSER - CEILING
	MEDIUM PRESSURE SUPPLY DUCT		RETURN GRILLE - CEILING
	LOW PRESSURE SUPPLY DUCT		EXHAUST GRILLE - CEILING
	RETURN DUCT		WALL GRILLE
	TRANSFER DUCT		MANUAL VOLUME DAMPER
	EXHAUST DUCT		CONTINUATION
	OUTSIDE AIR DUCT		FLOW ARROW
	ISOLATION VALVE		CONNECT TO EXISTING
	REDUCER		THERMOSTAT / TEMPERATURE SENSOR
	ELBOW DOWN		MOTORIZED DAMPER



JOB SPECIFIC MECHANICAL NOTES	
1.	ROUTE CONDENSATE FROM ROOFTOP PACKAGE UNITS TO NEAREST PRIMARY ROOF DRAIN.
2.	ALL INTERIOR EXPOSED ROUND DUCTWORK SHALL BE UNINSULATED SPIRAL DUCT WITH PAINT GRIP FINISH. REFER TO ARCHITECT FOR PAINT DRAWINGS AND SPECS FOR PAINTING INSTRUCTIONS.
3.	ALL DUCT SIZE NOTATIONS ARE NET FREE AREA. THEY EXCLUDE LINER INSULATION AND EXCLUDE WRAP INSULATION.
4.	LAB ALTERNATE PROVIDE AND INSTALL FUME HOOD, HOOD FAN, DUCTWORK AND ACCESSORIES.

COMMISSIONING SCOPE NOTES
THE CONTRACTOR SHALL HIRE A COMMISSIONING AGENT (NOT ASSOCIATED WITH THE CONTROLS CONTRACTOR) TO PERFORM FUNCTIONAL TESTING ON THE HVAC SYSTEMS FOR THIS PROJECT. FUNCTIONAL PERFORMANCE TESTING SHALL BE IN ACCORDANCE WITH ASHRAE 202. THE FOLLOWING EQUIPMENT SHALL TESTED FOR FUNCTIONAL PERFORMANCE: - BUILDING AUTOMATION SYSTEM - RTU'S 1, 2, 3 & 4 - BOILER PLANT (BOILERS AND PUMPS) - FIVE (5) VAV BOXES RANDOMLY SELECTED BY THE COMMISSIONING AGENT - FIVE (5) FAN-POWERED BOXES RANDOMLY SELECTED BY THE COMMISSIONING AGENT - EXHAUST FAN EF-1, EF-2 & EF-6 WITH ASSOCIATED MOTORIZED DAMPERS - KITCHEN HOOD RH-1 - LAB HOOD LH-1 (ADD ALTERNATE)

EQUIPMENT SUBSTITUTION NOTES
WHERE ACCEPTABLE ALTERNATE MANUFACTURER'S ARE NOT LISTED BELOW FOR A TYPE OF PRODUCT, ALTERNATE MANUFACTURERS MAY BE SUBMITTED WITHOUT PRIOR APPROVAL FOR ANY PRODUCT CALLED OUT ON THE MECHANICAL DRAWINGS SO LONG AS THE PRODUCT MEETS THE PERFORMANCE AND FEATURES OF THE SPECIFIED UNIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL SUBSTITUTED PRODUCTS FIT IN THE ALLOTTED SPACE, USE THE SAME OR LESS POWER, AND DO NOT WEIGH MORE THAN THE SPECIFIED PRODUCTS. WHERE SPECIFIED PRODUCTS ARE IN VIEW IN FINISHED AREAS WITHIN THE BUILDING (GRD'S, WALL HEATERS, ETC), THE SUBSTITUTED PRODUCT MUST MATCH THE APPEARANCE OF THE SPECIFIED PRODUCT. REFERENCE THE GENERAL MECHANICAL NOTES FOR MORE SUBSTITUTION
IF SUBSTITUTING VAV'S AND FBP'S ENSURE ENTERING AIR TEMPS, ENTERING WATER TEMPS, AND AIRFLOWS MATCH THE SCHEDULE AND ENSURE ALL LEAVING AIR TEMPS ARE 95F OR HIGHER. GPM AND LWT CAN FLUCTUATE BASED ON MANUFACTURER.
IF SUBSTITUTING THE KITCHEN HOOD, IT SHALL CONFORM TO THE OK STATE FIRE MARSHALL OFFICIAL INTERPRETATION AND CODE DIRECTIVE 2013-7. HOOD MUST HAVE AN ICC EVALUATION SERVICE REPORT TO CONFIRM COMPLIANCE (ICC-ES.ORG/PMG-LISTING-PROGRAM).

MECHANICAL ABBREVIATIONS:

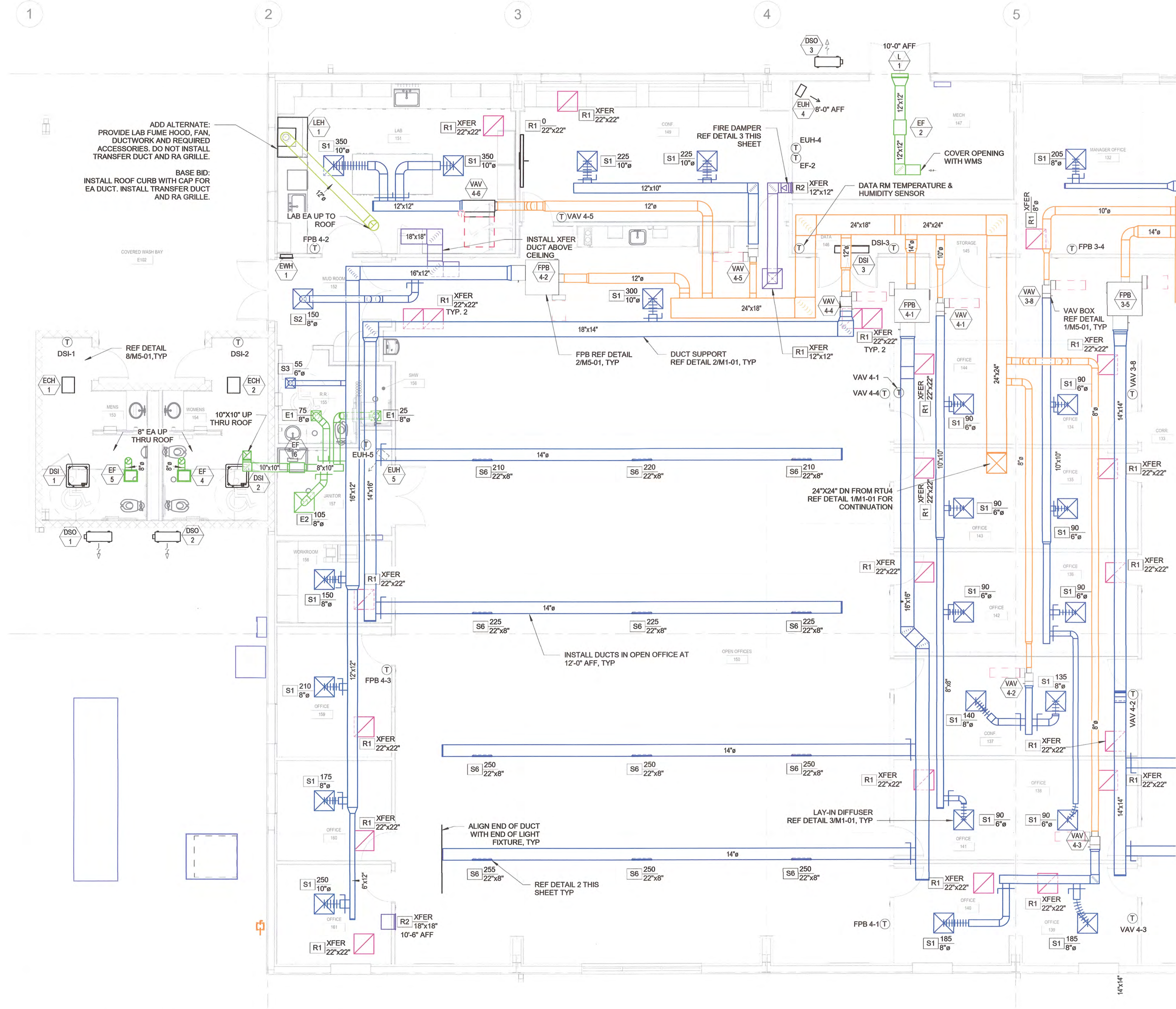
AAV AC ACH AFF AHU APD APPROX ARCH AVG	AUTOMATIC AIR VENT (VALVE) AIR CONDITIONING UNIT OR AIR COMPRESSOR AIR CHANGES PER HOUR ABOVE FINISHED FLOOR AIR HANDLING UNIT AIR PRESSURE DROP APPROXIMATE ARCHITECT/ARCHITECTURAL AVERAGE	ID IN OR * IN W.C. IN W.G. INSUL. KW	INSIDE DIAMETER INCH INCHES WATER COLUMN INCHES WATER GAUGE INSULATION KILOWATT
BAS BDD BFW BHP BOD BOF BTUH	BUILDING AUTOMATION SYSTEM BACK DRAFT DAMPER BOILER FEED WATER BRAKE HORSEPOWER BOTTOM OF DUCT BOTTOM OF PIPE BRITISH THERMAL UNIT PER HOUR	LAT LBS LDB LL LP LPS LVG LWB LWT	LEAVING AIR TEMPERATURE POUNDS LANDLORD LIQUID PROPANE LOW PRESSURE STEAM LEAVING LEAVING WET BULB TEMPERATURE LEAVING WATER TEMPERATURE
CA CAV CCW CD CFH CFM CH CHWR CHWS CL CMB CONT CR CT CU CU FT CUH CW CWR CWS	COMPRESSED AIR CONSTANT AIR VOLUME TERMINAL UNIT COUNTER CLOCKWISE CONDENSATE DRAIN CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CHILLER CHILLED WATER RETURN CHILLED WATER SUPPLY CENTER LINE COMBUSTION AIR CONTINUOUS, CONTINUATION CONDENSATE RETURN COOLING TOWER CONDENSING/ER UNIT CUBIC FEET CABINET UNIT HEATER CLOCKWISE CONDENSER WATER RETURN CONDENSER WATER SUPPLY	MAINT MAX MBH MCA MOD MECH MIN MISC MOCp	MAINTENANCE MAXIMUM THOUSAND BTU PER HOUR MINIMUM CIRCUIT AMPACITY MOTOR OPERATED DAMPER MECHANICAL MINIMUM OR MINUTE(S) MISCELLANEOUS MAXIMUM OVERCURRENT PROTECTION
DB DDC DIA DIM DN DP DWG DX	DRY BULB TEMPERATURE DIRECT DIGITAL CONTROL DIAMETER DIMENSION DOWN DIFFERENTIAL PRESSURE DRAWING DIRECT EXPANSION	NC NG NIC NK NO NO, OR # NR NTS	NORMALLY CLOSED OR NOISE CRITERIA NATURAL GAS NOT IN CONTRACT NOT NORMALLY OPEN NUMBER NOT REQUIRED NOT TO SCALE
(E) EA EAT EBB EC EDB EER EF EFF ELEV ELEC EQUIP ESP ET EUH EWB EWT EXIST	EXISTING EACH OR EXHAUST AIR ENTERING AIR TEMPERATURE ELECTRIC BASEBOARD HEATER ELECTRICAL CONTRACTOR ENTERING DRY BULB TEMPERATURE ENERGY EFFICIENCY RATIO EXHAUST FAN EFFICIENCY ELEVATION ELECTRIC/ELECTRICAL EQUIPMENT EXTERNAL STATIC PRESSURE EXPANSION TANK ELECTRIC UNIT HEATER ENTERING WET BULB TEMPERATURE ENTERING WATER TEMPERATURE EXISTING	R RA RC REQ'D RF RH RHG RL RM RO RPM RS	RETURN RETURN AIR REHEAT COIL REQUIRED RETURN FAN RELATIVE HUMIDITY REFRIGERANT HOT GAS REFRIGERANT LIQUID ROOM REVERSE OSMOSIS REVOLUTIONS PER MINUTE REFRIGERANT SUCTION
FD FLA FLEX FP FPB FPM FPS FRP FSD FT FV	FIRE DAMPER FULL LOAD AMPERES FLEXIBLE FIRE PROTECTION FAN POWERED TERMINAL UNIT FEET PER MINUTE FEET PER SECOND FIBERGLASS REINFORCED PLASTIC FIRE/SMOKE DAMPER FEET OR FLASH TANK FACE VELOCITY	S SA SD SF SPECS SQ SQFT SS STD STRUC	SUPPLY SUPPLY AIR OR SOUND ATTENUATOR SMOKE DAMPER OR SMOKE DETECTOR SUPPLY FAN SPECIFICATIONS SQUARE SQUARE FEET STAINLESS STEEL STANDARD STRUCTURE/STRUCTURAL
GAL GC GD GPH GPM	GALLON GENERAL CONTRACTOR GRAVITY DAMPER GALLONS PER HOUR GALLONS PER MINUTE	T TEF TEMP TSP TYP	THERMOSTAT TOILET EXHAUST FAN TEMPERATURE TOTAL STATIC PRESSURE TYPICAL
H HC HEPA HHWR HHWS HP HR HRP HTG HVAC HX HZ	HUMIDISTAT HEATING COIL HIGH EFFICIENCY PARTICULATE AIR FILTER HEATING HOT WATER RETURN HEATING HOT WATER SUPPLY HORSEPOWER OR HEAT PUMP HOUR HYDRONIC RADIANT PANEL HEATING HEATING, VENTILATION & AIR CONDITIONING HEAT EXCHANGER HERTZ	UC UGRD UH V VAV VD VEL VERT VFD VSD VTR	UNDER-CUT (DOOR) UNDERGROUND UNIT HEATER (HYDRONIC OR STEAM) VOLT VARIABLE AIR VOLUME VOLUME DAMPER VELOCITY VERTICAL VARIABLE FREQUENCY DRIVE VARIABLE SPEED DRIVE VENT THROUGH ROOF
		W W/ WB WC WMS WPD WT	WATT WITH WET BULB TEMPERATURE WATER COLUMN WIRE MESH SCREEN WATER PRESSURE DROP WEIGHT

GENERAL MECHANICAL NOTES

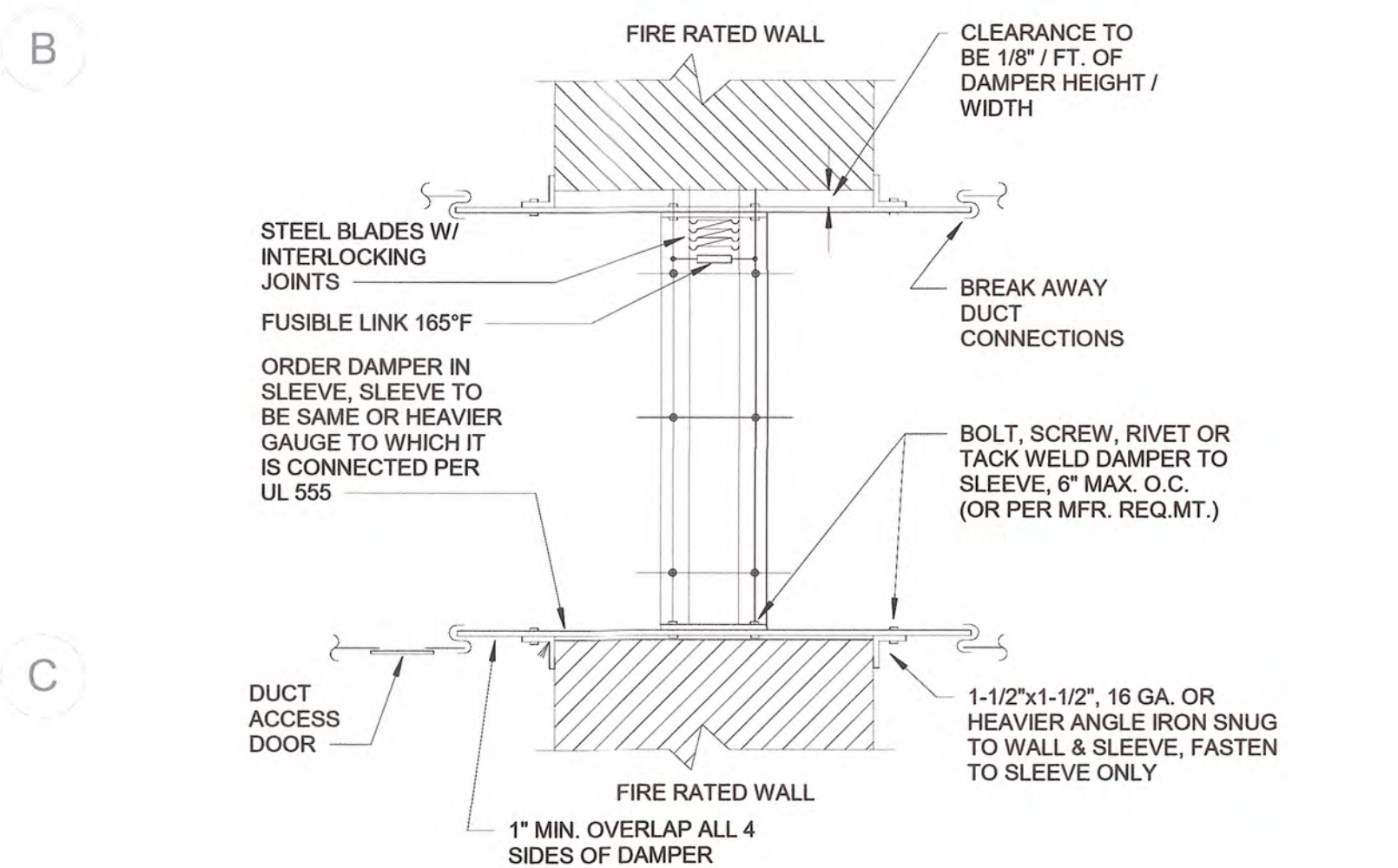
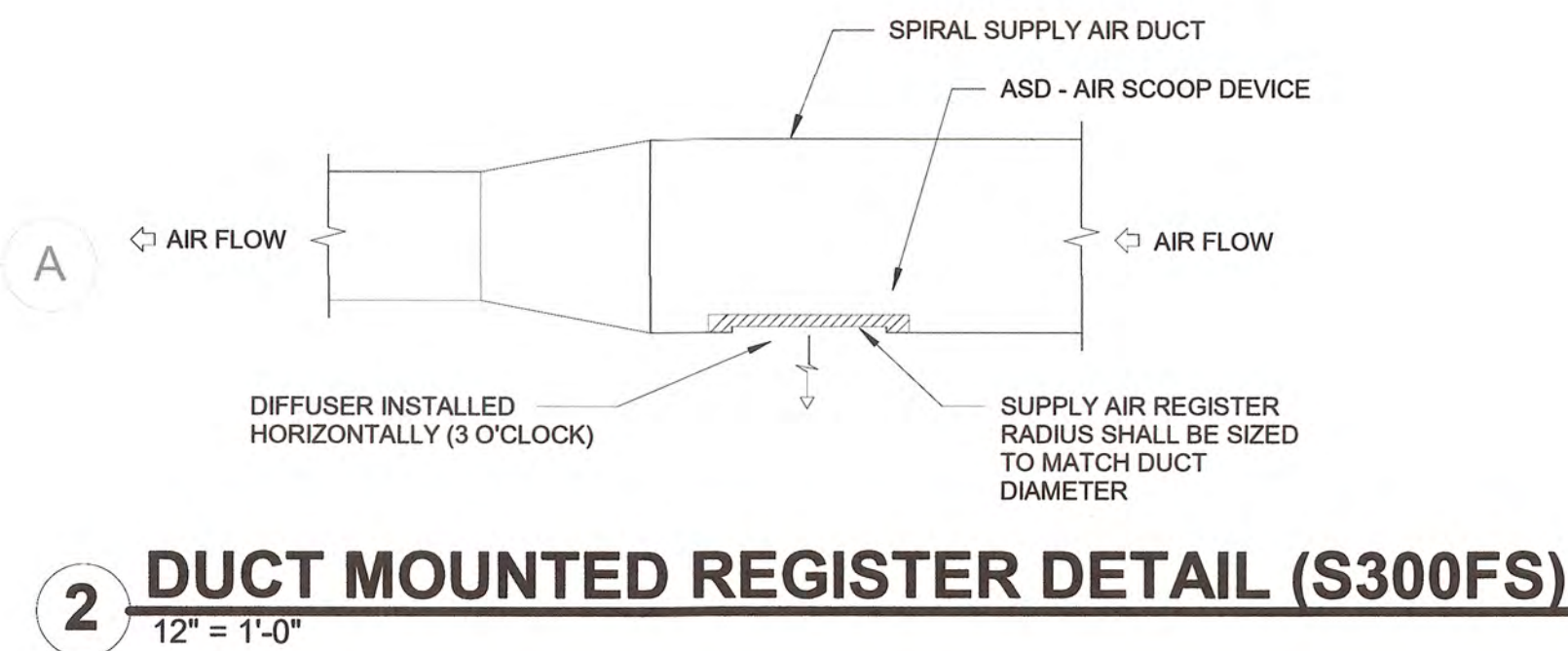
- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY CODE.
- DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, AND APPLICABLE CODES AND REGULATIONS.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
- CONTRACTOR TO PROVIDE TEST AND BALANCE OF MECHANICAL AND PLUMBING SYSTEMS WITHIN THE SCOPE OF THIS PROJECT. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH AABC STANDARDS.
- CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND REQUIREMENTS.
- ALL OUTSIDE AIR INTAKES TO BE A MINIMUM OF 10' FROM ANY MECHANICAL EXHAUST, OR PLUMBING VENTS.
- DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH MOST RECENT SMACNA STANDARDS.
- SUPPORTS FOR MECHANICAL SYSTEM PIPING MUST MEET THE HORIZONTAL AND VERTICAL SPACING PROVISIONS IN RESPECTIVE MECHANICAL CODE.
- EACH DUCT BRANCH TAKE-OFF SHALL HAVE A MANUAL VOLUME DAMPER.
- COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.
- REFER TO SPECIFICATIONS AND PROJECT MANUAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIED REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES. IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID OR SUBMITTED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL DIFFERENCES PRIOR TO BID, ALL COSTS OF ALL TRADES ASSOCIATION WITH THE SUBSTITUTIONS SHALL BE INCLUDED IN THE BID.
- COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL AIR DEVICES WITH MOUNTING SYSTEM DESIGNED FOR MOUNTING SURFACE TYPE.
- COORDINATE FINAL PLACEMENT OF ALL THERMOSTATS WITH WALL-MOUNTED DEVICES AND OWNER'S REPRESENTATIVE. MOUNT PER ADA REQUIREMENTS. ANY THERMOSTAT THAT IS REQUIRED TO BE MOUNTED ON AN EXTERIOR WALL SHALL BE MOUNTED ON AN INSULATED PAD.
- ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE INSTALLED AND SEALED TO MAINTAIN FIRE RATING WITH U.L. LISTED ASSEMBLIES, MATERIALS, AND SEALANTS.
- ALL EQUIPMENT SHALL BE TAGGED WITH 1/8" THICK PLASTIC TAGS. ALL TAGS SHALL BE ENGRAVED ON A GREEN TAG WITH WHITE LETTERS. ALL TAGS SHALL BE ABLE TO WITHSTAND 160°F. LENGTH SHALL VARY FOR TAG NAME LENGTH, BUT THE HEIGHT SHALL BE NO LESS THAN 1 INCH. TAG SHALL BE FASTENED TO EQUIPMENT EITHER WITH STAINLESS STEEL FASTENERS OR PERMANENT ADHESIVE.
- PROVIDE VALVES AS REQUIRED BY IMC & IFGC. PROVIDE A MEANS OF ACCESS FOR ALL VALVES AND COORDINATE ACCESS PANEL LOCATIONS WITH ALL TRADES.
- UNDERGROUND GAS PIPING SHALL BE BURIED A MINIMUM OF 18".
- REFRIGERANT PIPING INSTALLED WITHIN 1-1/2" OF THE UNDERSIDE OF ROOF DECKS SHALL BE PROTECTED FROM DAMAGE CAUSED BY NAILS AND OTHER FASTENERS.
- ALL SUPPLY TAKE-OFFS SHALL HAVE MANUAL VOLUME DAMPERS.
- ALL RECTANGULAR DUCT WITH 90° BENDS SHALL HAVE TURNING VANES.
- ROUTE DUCTWORK AS HIGH AS POSSIBLE, TYPICAL.
- ALL AIR HANDLING UNITS OVER 2000 CFM SHALL HAVE RETURN AIR SMOKE DETECTORS INTERLOCKED WITH FAN SHUTDOWN, AND SHALL BE TIED INTO THE FIRE ALARM SYSTEM.



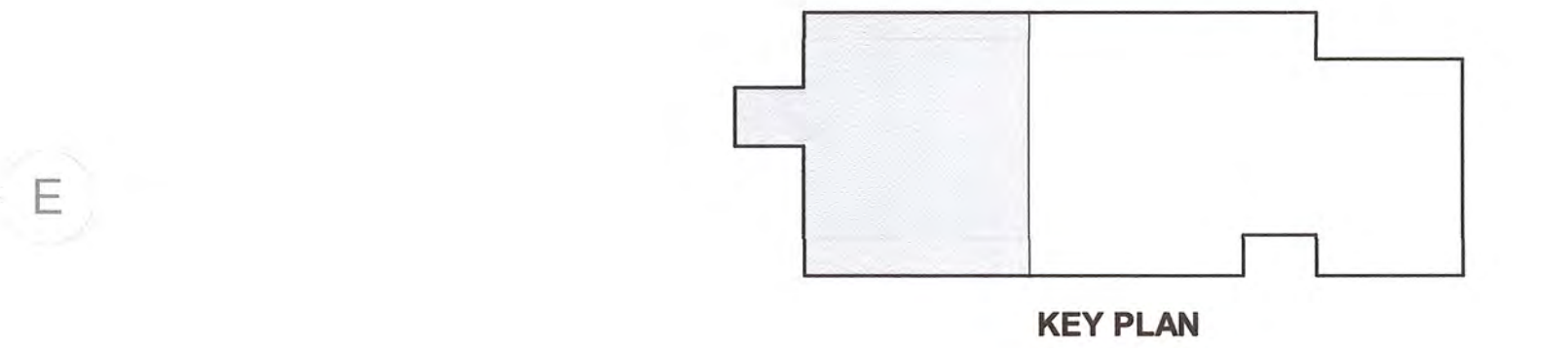
STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
PROJECT NO. SW23-01-01				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY:				
BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING				
NO	REVISION	BY	DATE	PLAN SCALE:
				DRAWN
				DESIGNED
				SURVEY
				PROFILE SCALE
				PROJ. MGR. <i>TW</i> <i>6/25</i>
				LEAD ENGR. <i>Boc</i> <i>6/25</i>
				FIELD MGR. <i>Ju</i> <i>6/25</i>
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				VERTICAL:
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				DRAWING:
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				SHEET NAME:
				MECHANICAL SYMBOLS, LEGENDS, & NOTES
				SHEET NO. M0-01



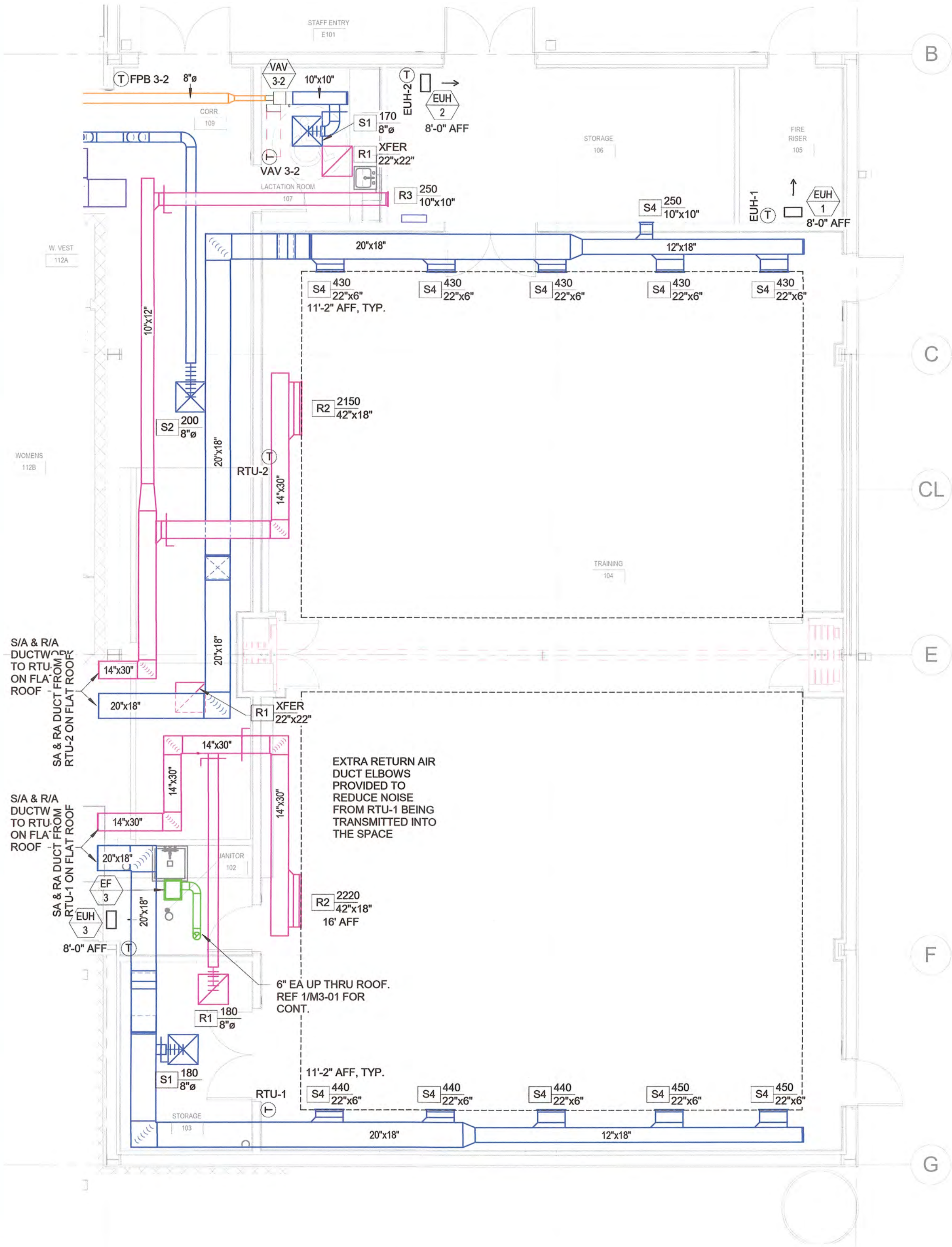
1 SOUTH OPEN OFFICE AREA ENLARGED HVAC PLAN
3/16" = 1'-0"



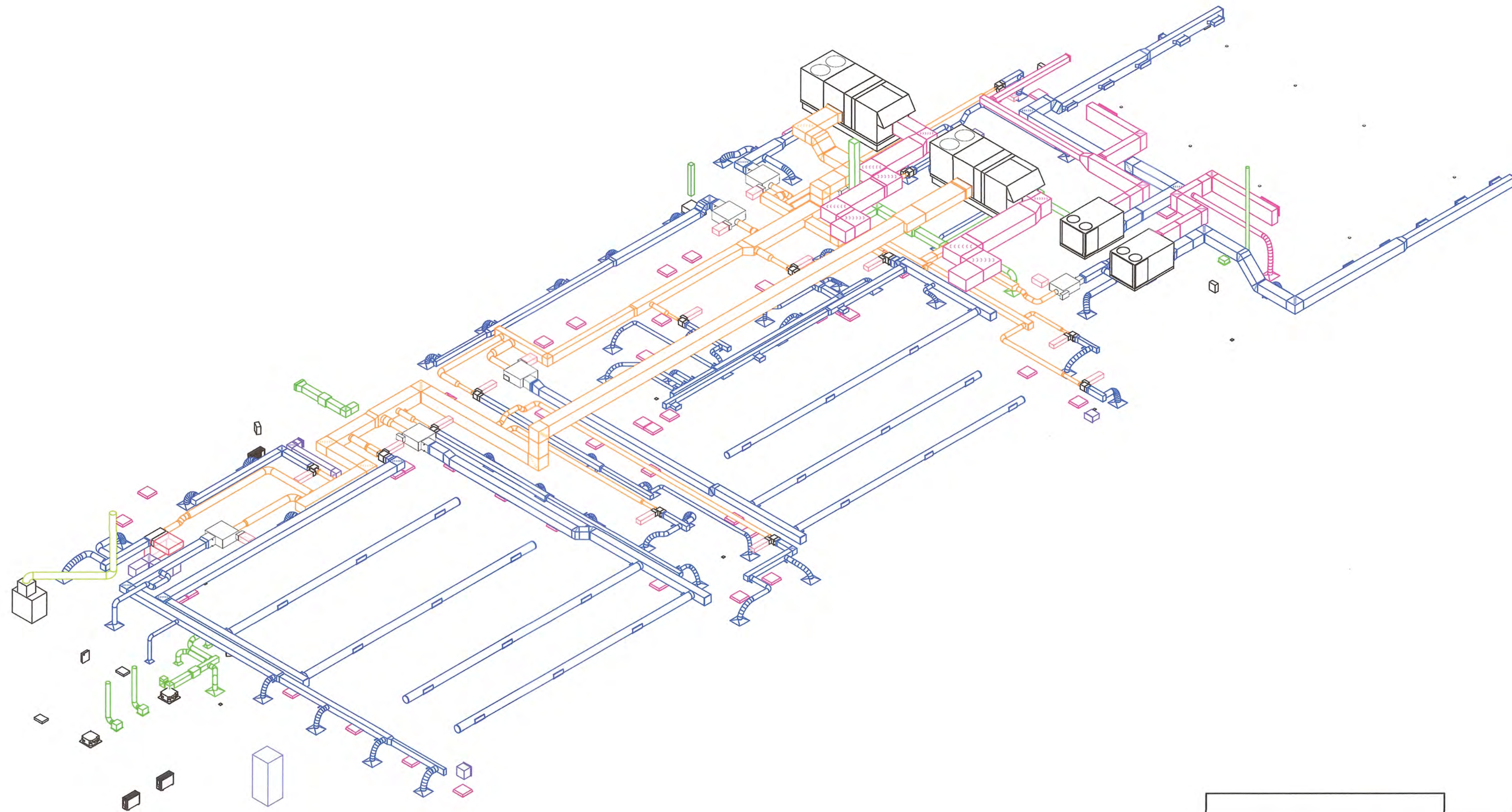
3 TYPE 'A' FIRE DAMPER AT WALL DETAIL
NTS



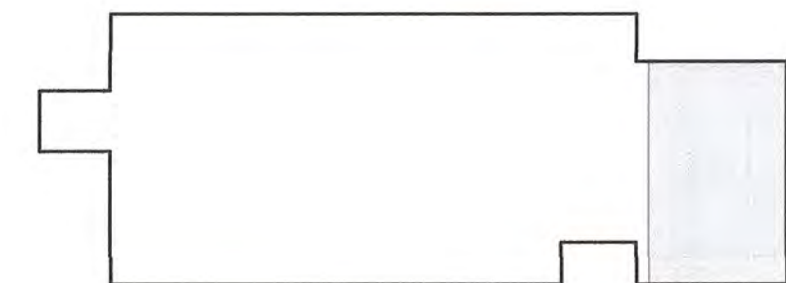
STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
PROJECT NO. SW23-01-01				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY:				
BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING				
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PROFILE SCALE:		As indicated	SURVEY	
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VERTICAL:		RECOMMENDED	DESIGN MANAGER	
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ATLAS PAGE NO:				
SHEET NAME:		ENLARGED HVAC PLAN - SOUTH ZONE		SHEET NO. M1-02



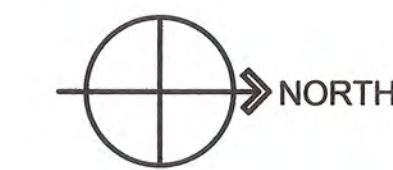
1 TRAINING ROOM AREA HVAC PLAN
3/16" = 1'-0"



2 OVERALL HVAC ISOMETRIC

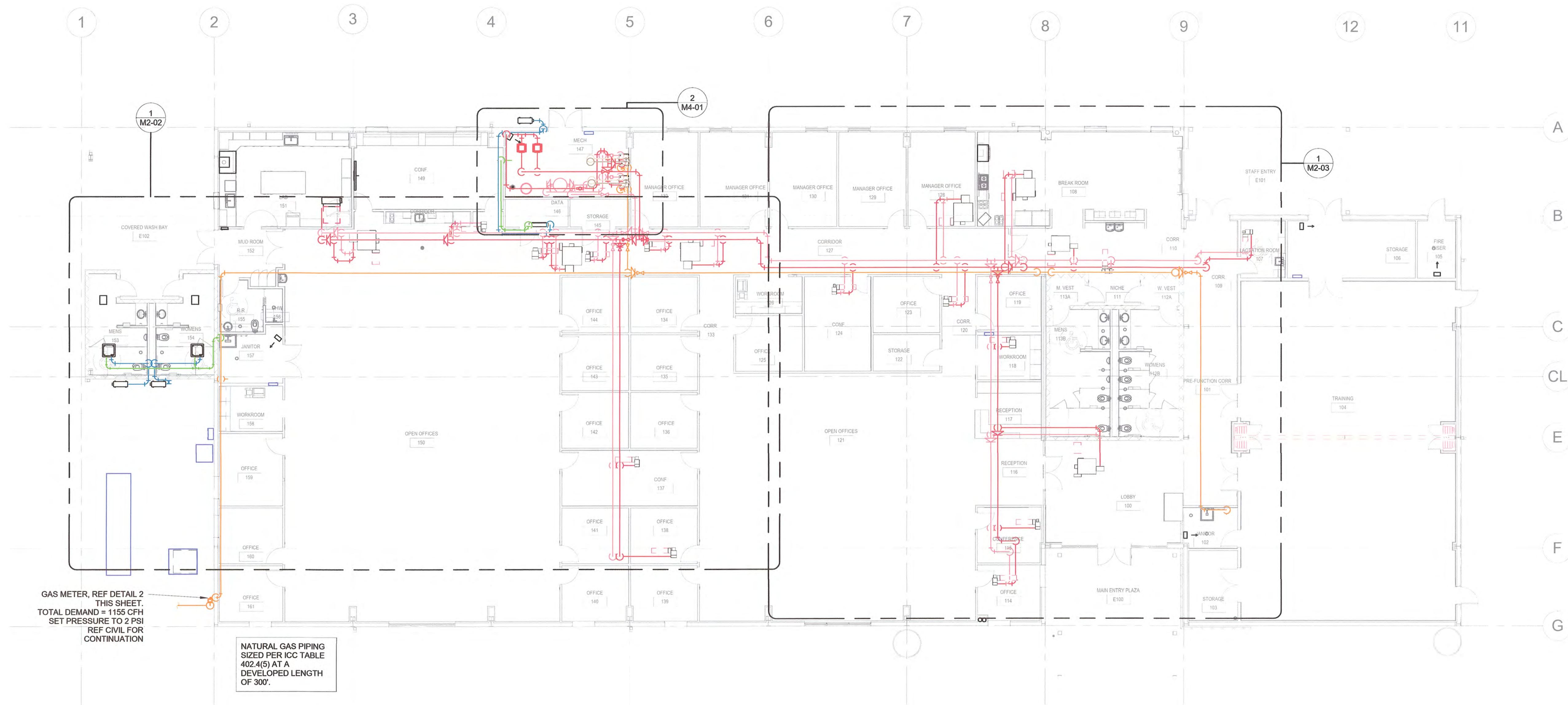


KEY PLAN

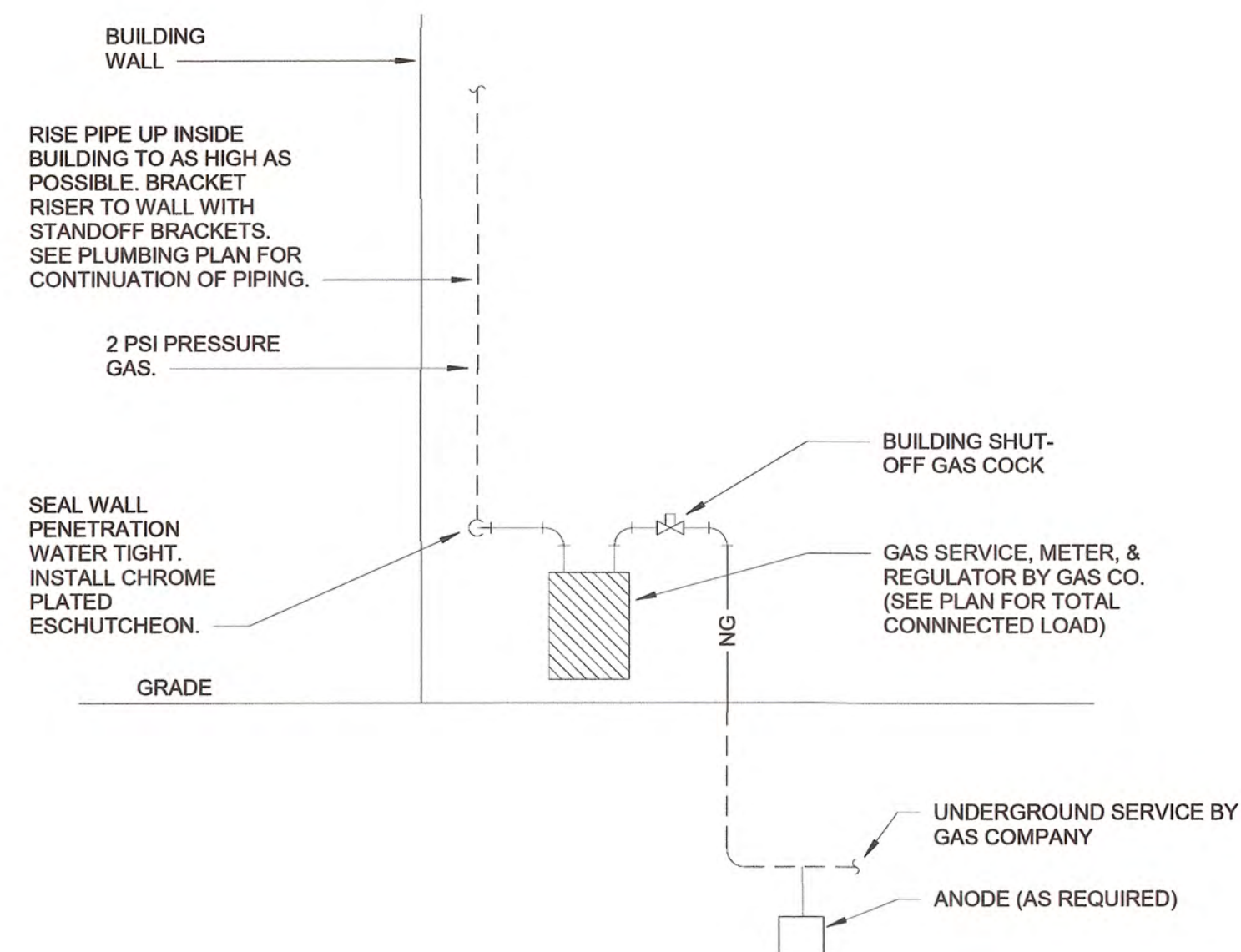


STORMWATER MAINTENANCE AND OPERATIONS BUILDING	
PROJECT NO. SW23-01-01	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY:	
BKL, INCORPORATED ENGINEERS & ARCHITECTS	
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING	

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					SURVEY			
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				SHEET NAME:	ENLARGED HVAC PLAN - NORTH ZONE			
					M1-04			



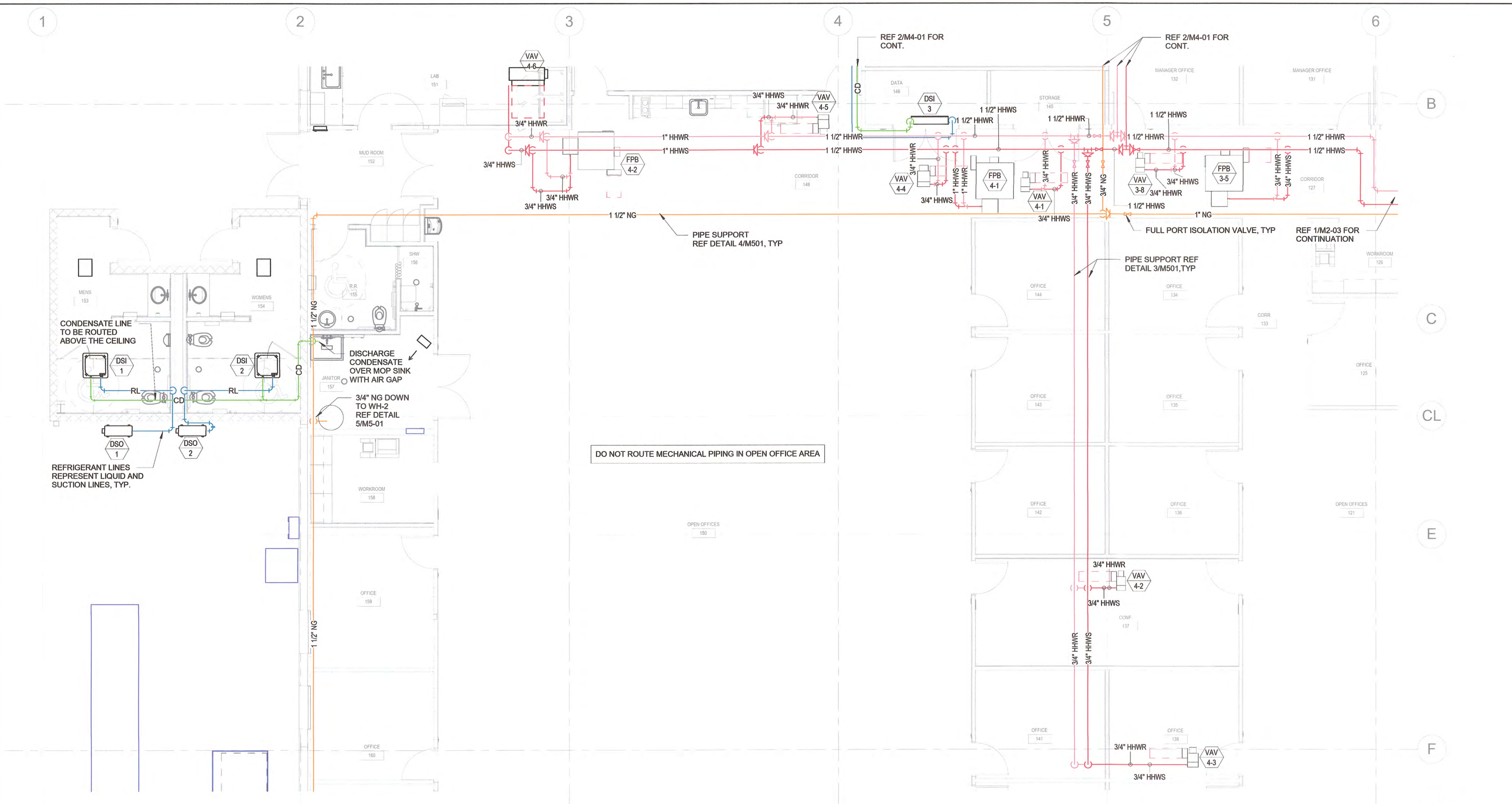
1 OVERALL MECHANICAL PIPING PLAN
3/32" = 1'-0"



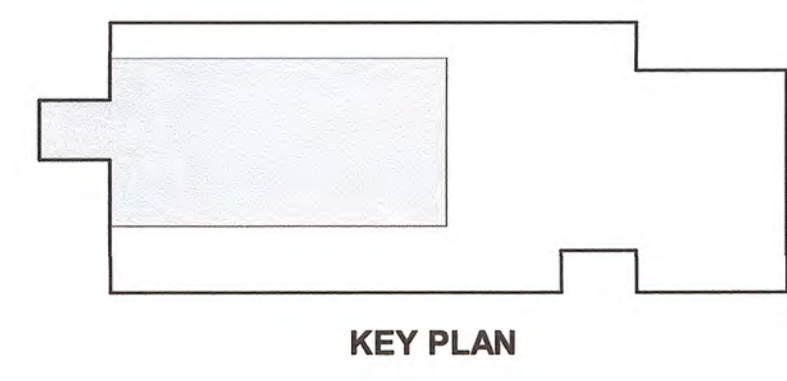
2 GAS RISER PIPING SCHEMATIC
NTS



STORMWATER MAINTENANCE AND OPERATIONS BUILDING				
PROJECT NO. SW23-01-01				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY:				
BKL, INCORPORATED ENGINEERS & ARCHITECTS				
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING				
PLAN SCALE:		DRAWN		APPROVED
As indicated		DESIGNED		
		SURVEY		
		PROFILE SCALE		
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VERTICAL:		LEAD ENGR. <i>Boc 6/25</i>		
		FIELD MGR. <i>JW</i> 6/25		
		RECOMMENDED BY <i>2 PM</i>		
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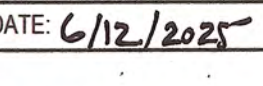


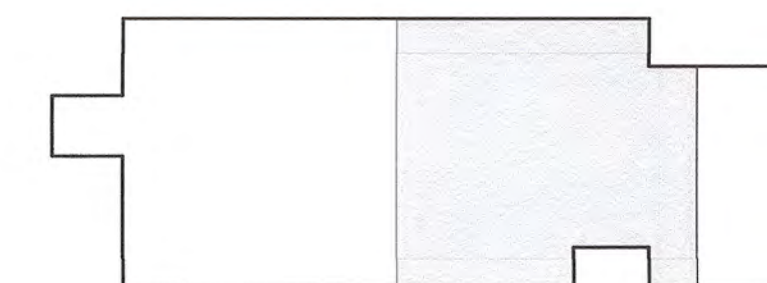
1 ENLARGED MECHANICAL PIPING PLAN - SOUTH ZONE
3/16" = 1'-0"



NORTH

5/30/2025

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				ATLAS PAGE NO:								
				SHEET NAME:			ENLARGED MECH PIPING PLAN - SOUTH ZONE			SHEET NO. M2-02		



A compass rose with a circle divided into four quadrants by a vertical and horizontal line. An arrow points to the right from the center, with the word "NORTH" written next to it.



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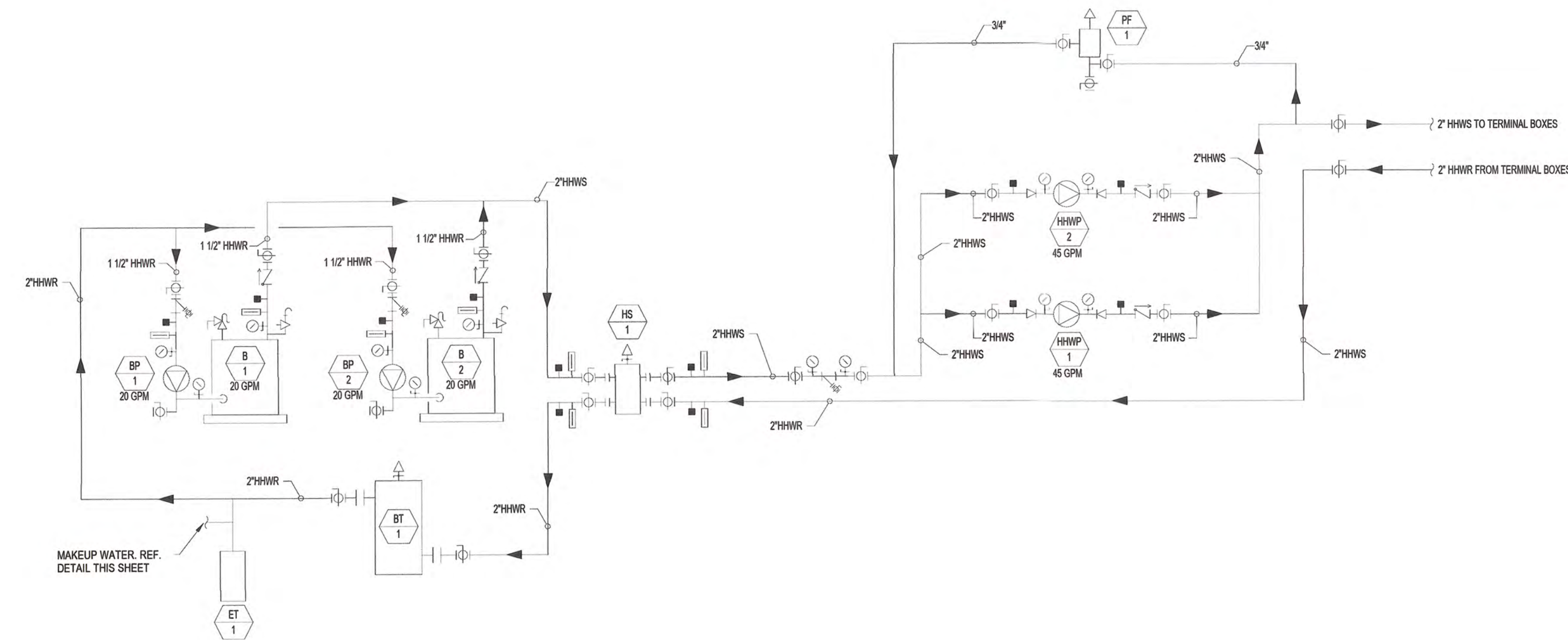
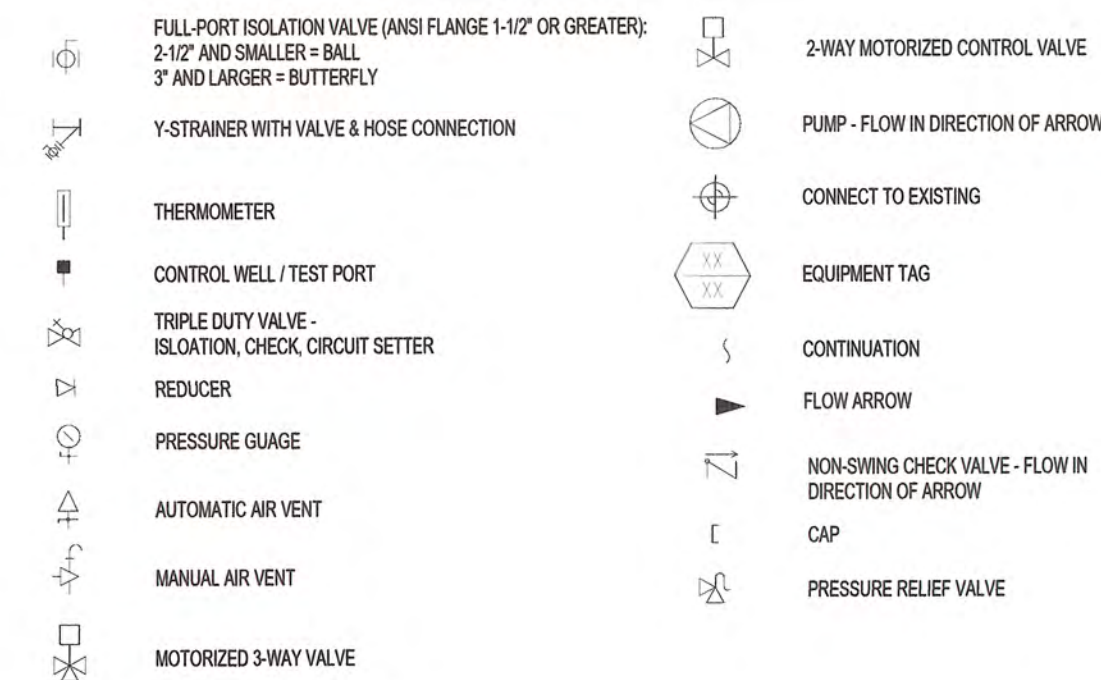


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ROOF HVAC PLAN							M3-01					

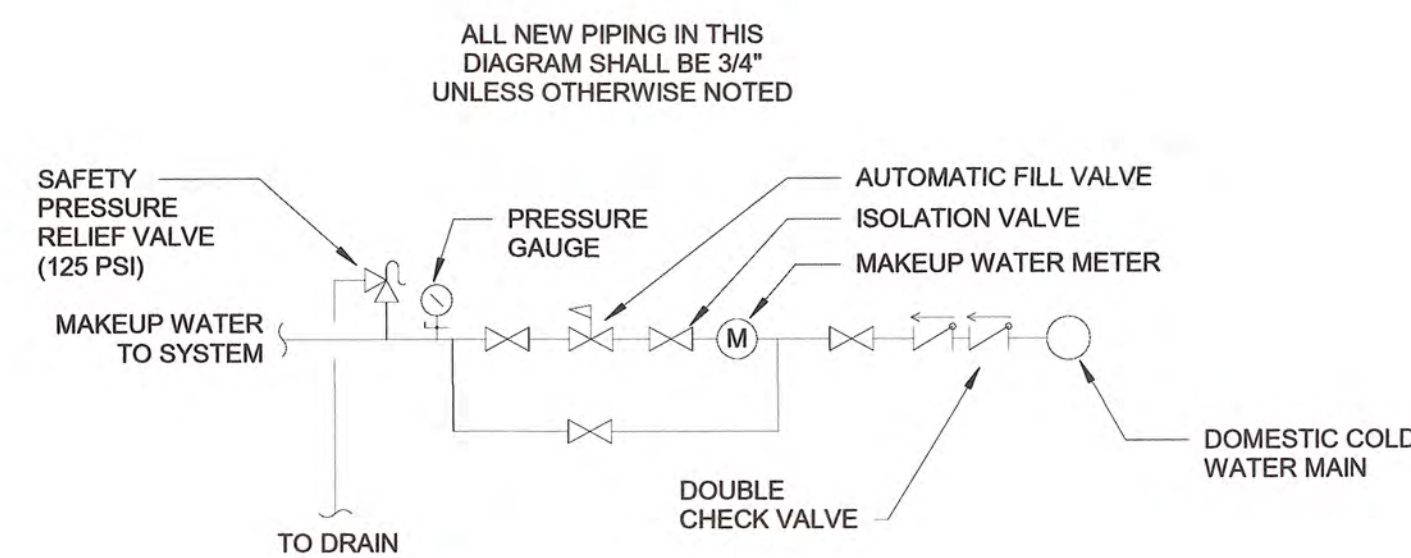
ASME CSD-1 CONTROLS & SAFETY NOTES

1. BOILER, BOILER CONTROLS, AND BOILER INSTALLATION SHALL COMPLY WITH ASME CSD-1 (VERSION 2018).
2. A DISCONNECTING MEANS CAPABLE OF BEING LOCKED IN THE OPEN POSITION SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION AT THE BOILER SO THAT THE BOILER CAN BE DISCONNECTED FROM ALL SOURCES OF POTENTIAL. THIS DISCONNECTING MEANS SHALL BE AN INTEGRAL PART OF THE BOILER OR ADJACENT TO IT.
3. A MANUALLY OPERATED REMOTE SHUTDOWN SWITCH OR CIRCUIT BREAKER SHALL BE LOCATED JUST OUTSIDE THE BOILER ROOM DOOR AND MARKED FOR EASY SHUTDOWN.
 - A. CONSIDERATION SHOULD BE GIVEN TO THE TYPE AND LOCATION OF THE REMOTE SHUTDOWN SWITCH TO SAFEGUARD AGAINST TAMPERING. IF THE BOILER ROOM DOOR IS ON THE BUILDING EXTERIOR, THE SWITCH SHOULD BE LOCATED JUST INSIDE THE DOOR. IF THERE IS MORE THAN ONE DOOR TO THE BOILER ROOM, THERE SHOULD BE A REMOTE SHUTDOWN SWITCH LOCATED AT EACH DOOR.
4. ACTIVATION OF THE REMOTE SHUTDOWN SWITCH OR CIRCUIT BREAKER SHALL IMMEDIATELY SHUT OFF THE FUEL OR ENERGY SUPPLY.
5. ALL UNINSULATED LIVE METAL PARTS AND ALL ROTATING OR MOVING PARTS THAT MAY CAUSE INJURY SHALL BE GUARDED TO AVOID ACCIDENTAL CONTACT.
6. THE POWER SUPPLY TO THE ELECTRICAL CONTROL SYSTEM SHALL BE FROM A TWO-WIRE BRANCH CIRCUIT THAT HAS A GROUNDED CONDUCTOR; OTHERWISE, AN ISOLATION TRANSFORMER WITH A TWO-WIRE SECONDARY SHALL BE PROVIDED. WHEN AN ISOLATION TRANSFORMER IS PROVIDED, ONE SIDE OF THE SECONDARY WINDING SHALL BE GROUNDED. CONTROL VOLTAGE SHALL NOT EXCEED 150 NOMINAL VOLTS, LINE TO LINE.
 - A. ONE SIDE OF ALL COILS SHALL BE ELECTRICALLY LOCATED IN THE GROUNDED SIDE OF THE CIRCUIT. ALL SWITCHING CONTACTS AND OVERCURRENT DEVICES SHALL BE ELECTRICALLY LOCATED IN THE UNGROUNDED OR 'HOT' SIDE OF THE CIRCUIT.
 - B. ALL ELECTRICAL CONTACTS OF EVERY SAFETY DEVICE INSTALLED IN THE SAME CONTROL CIRCUIT SHALL BE ELECTRICALLY CONNECTED IN SERIES.
7. ALL ELECTRICAL COMPONENTS AND DEVICES SHALL HAVE A VOLTAGE RATING COMMENSURATE WITH THE SUPPLY VOLTAGE OF THE CONTROL SYSTEM.
8. ALL ELECTRICAL COMPONENTS AND DEVICES SHALL BE PROVIDED WITH AN ELECTRICAL ENCLOSURE THAT IS AT LEAST NEMA TYPE 1 (GENERAL PURPOSE). WHERE ELECTRICAL DEVICES WILL BE SUBJECT TO DRIPPING MOISTURE, THE ENCLOSURE SHALL BE AT LEAST NEMA TYPE 2 (DRIPTIGHT).
9. ALL ELECTRICAL CONTROL DEVICES SHALL BE OF A TYPE TESTED AND ACCEPTED BY A NATIONALLY RECOGNIZED TESTING AGENCY.
10. THE DESIGN OF THE CONTROL CIRCUITS SHALL BE SUCH THAT LIMIT AND PRIMARY SAFETY CONTROLS SHALL DIRECTLY OPEN A CIRCUIT THAT FUNCTIONS TO INTERRUPT THE SUPPLY OF FUEL TO COMBUSTION UNITS.
11. AUTOMATIC RESETTING DEVICES, CONTROLS, OR SWITCHES SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE COMBUSTION SAFEGUARD CONTROL MANUFACTURER. NO AUTOMATIC RESETTING DEVICE, CONTROL, OR SWITCH SHALL BE INSTALLED IN THE WIRING BETWEEN THE LOAD SIDE (TERMINAL) OF THE PRIMARY OR PROGRAMMING CONTROL AND THE MAIN OR IGNITION FUEL VALVE OR VALVES. THIS DOES NOT PRECLUDE THE INSTALLATION OF MANUALLY OPERATED TEST SWITCHES FOR THE PURPOSES OF TESTING TIGHT CLOSURE OF INDIVIDUAL FUEL FEEDS.
12. PROVIDE CARBON MONOXIDE DETECTOR/ALARM IN BOILER ROOM AND INSTALL PER MANUFACTURER'S RECOMMENDATION.

MECHANICAL SYMBOLS



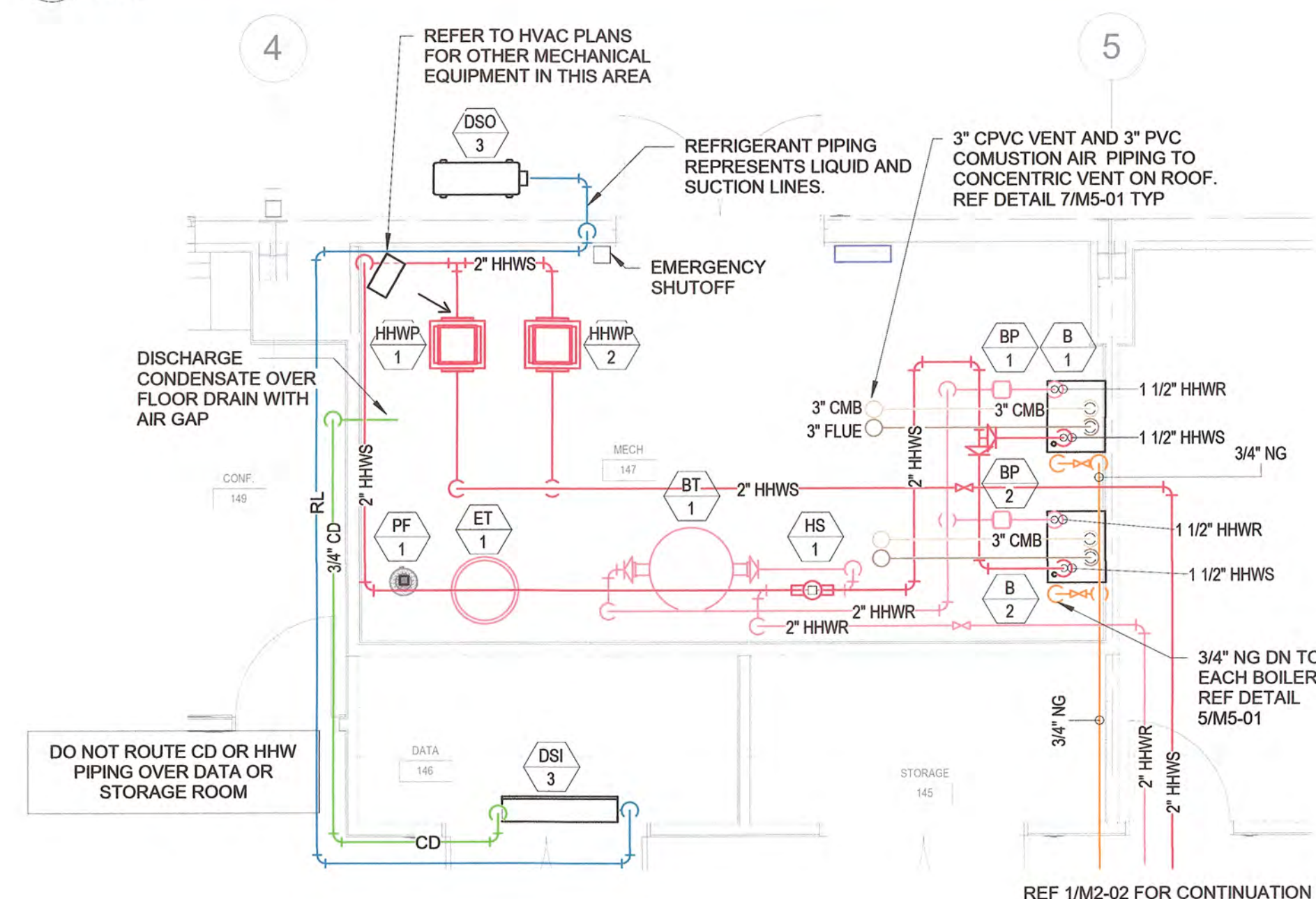
4 MECHANICAL FLOW DIAGRAM



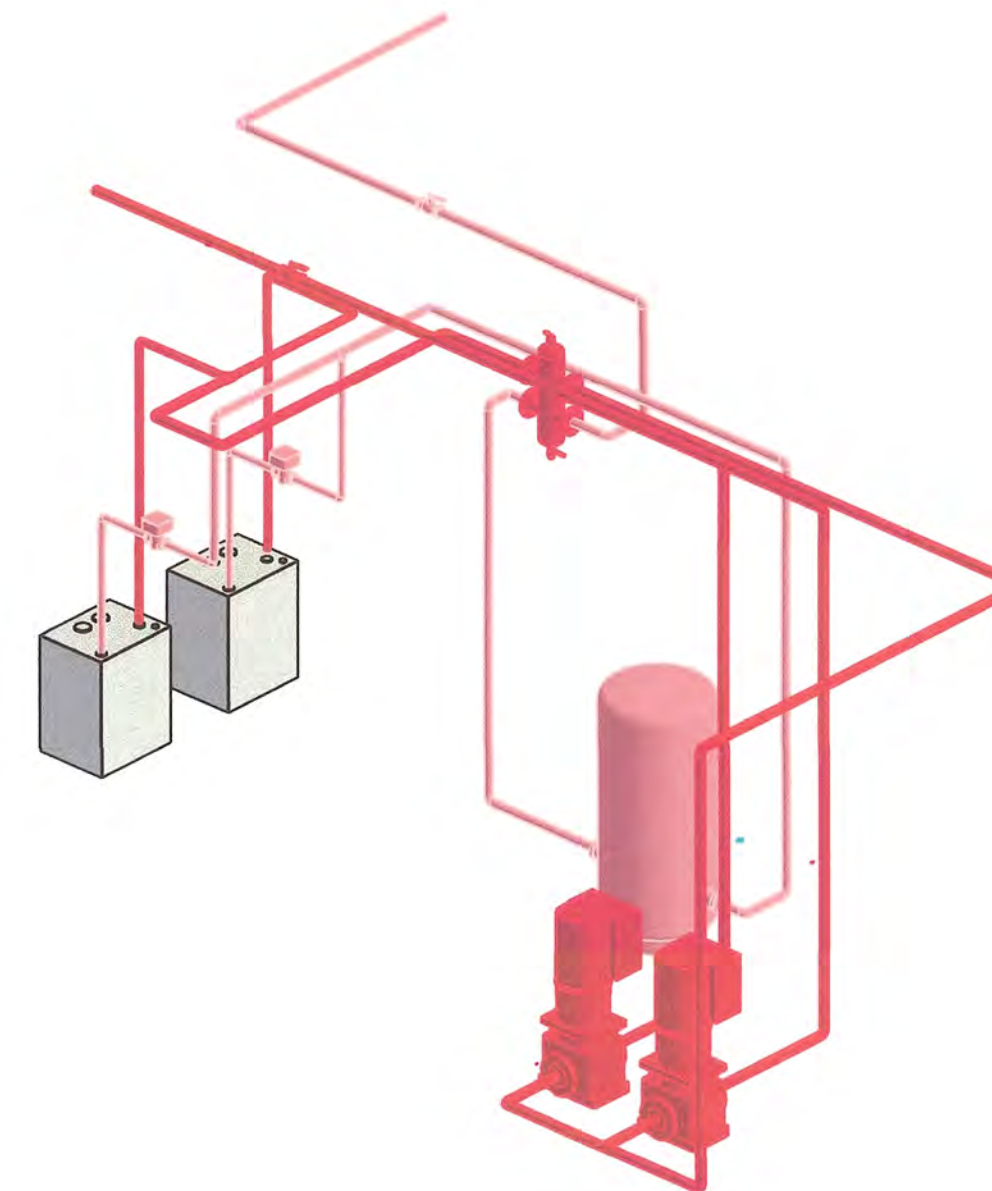
PUMP NOTES

1. INSTALL PUMPS TO PROVIDE ACCESS FOR PERIODIC MAINTENANCE INCLUDING REMOVING MOTORS, IMPELLERS, COUPLINGS, AND ACCESSORIES.
2. INSTALL BASE-MOUNTED PUMPS ON CAST-IN-PLACE CONCRETE EQUIPMENT BASES.
3. WHERE INSTALLING PIPING ADJACENT TO PUMP, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
4. CONNECT PIPING TO PUMPS. INSTALL VALVES THAT ARE THE SAME SIZE AS PIPING CONNECTED TO PUMPS, AND REDUCE PIPING TO PUMP CONNECTION SIZE AT THE PUMP. REDUCTIONS SHALL ALL BE ECCENTRIC AND FLAT ON TOP TO AVOID TRAPPING AIR.

3 MAKEUP WATER DETAIL



2 MECHANICAL ROOM PIPING PLAN



1 MECHANICAL ROOM ISOMETRIC

STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

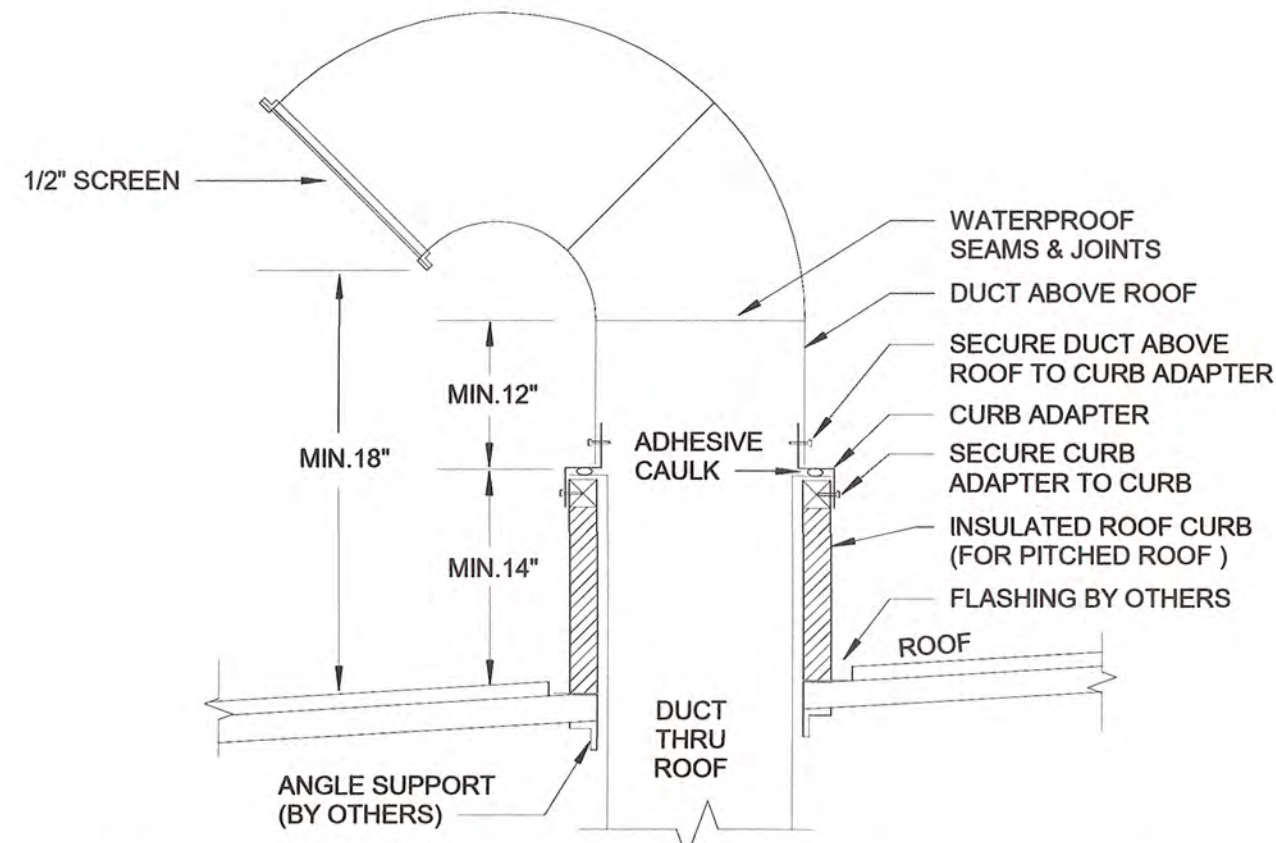
PLANS AND ESTIMATES PREPARED BY:

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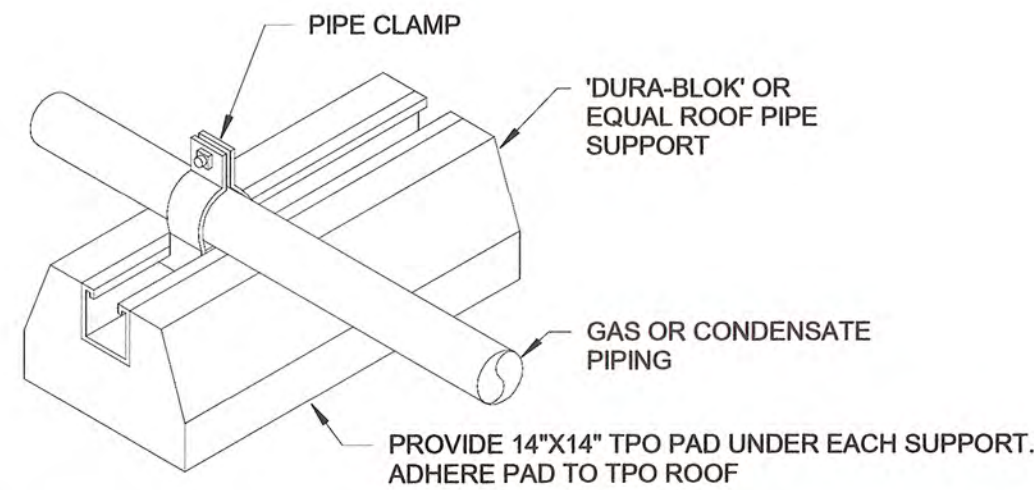
GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

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NO	REVISION	BY	DATE	As indicated	DESIGNED		
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					LEAD ENGR.	BOC	6/25
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					RECOMMENDED:	J. M. M.	
				VERTICAL:	DESIGN MANAGER	T. O. S.	
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ATLAS PAGE NO.:				SHEET NO.			
SHEET NAME:				SHEET NO.			
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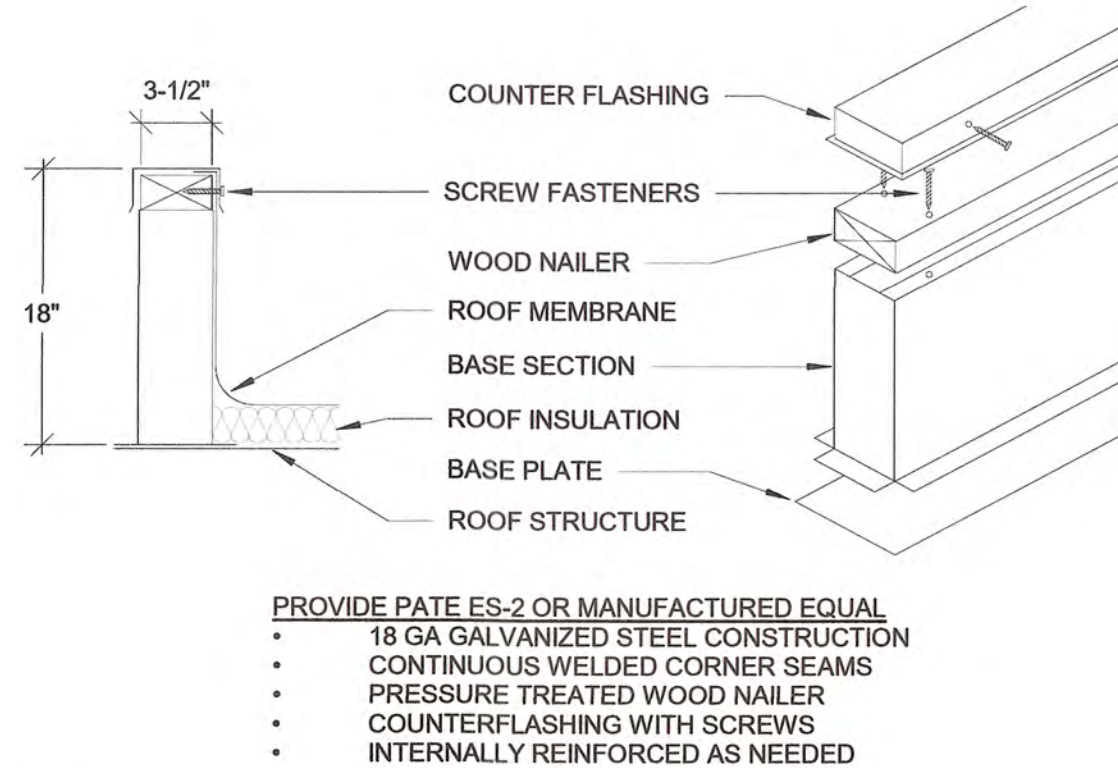




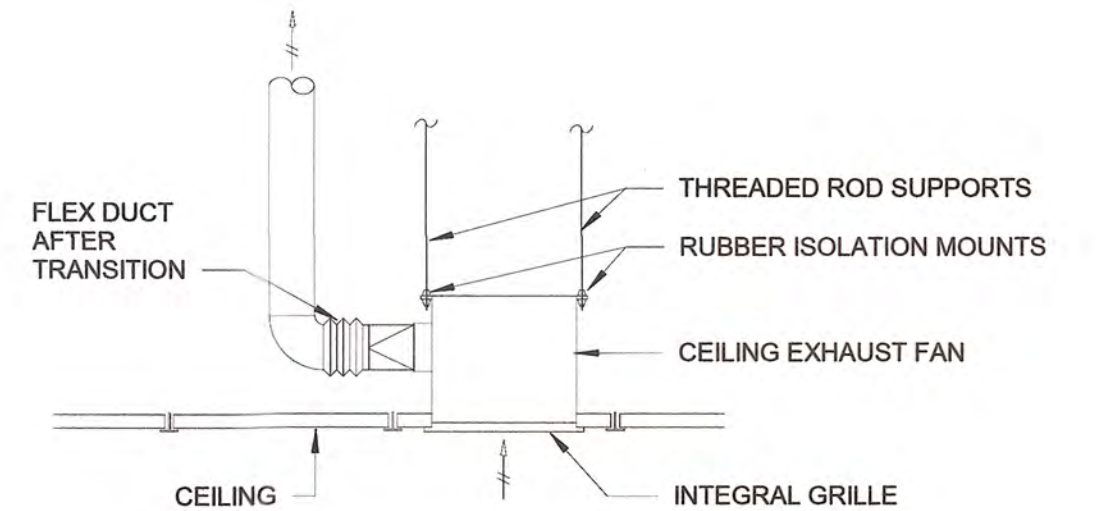
11 RECTANGULAR GOOSENECK DETAIL
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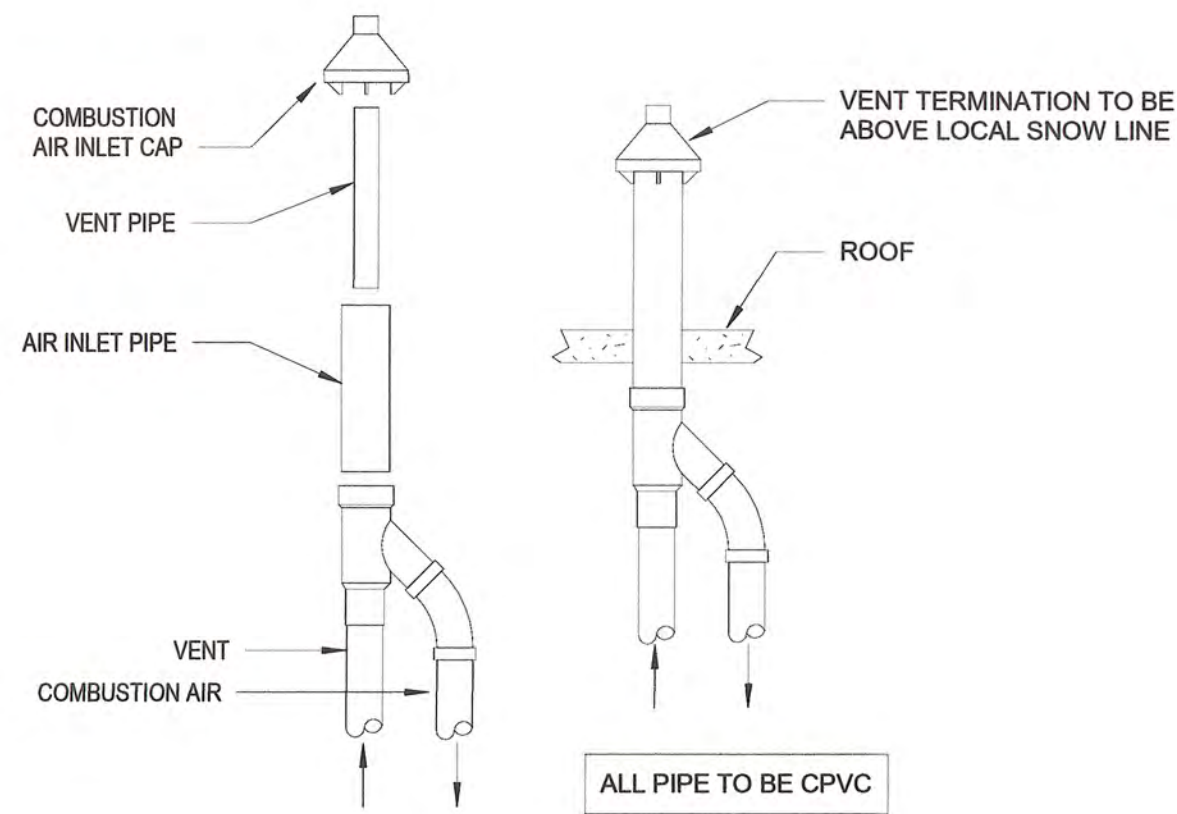
10 PIPING ROOF SUPPORT DETAIL
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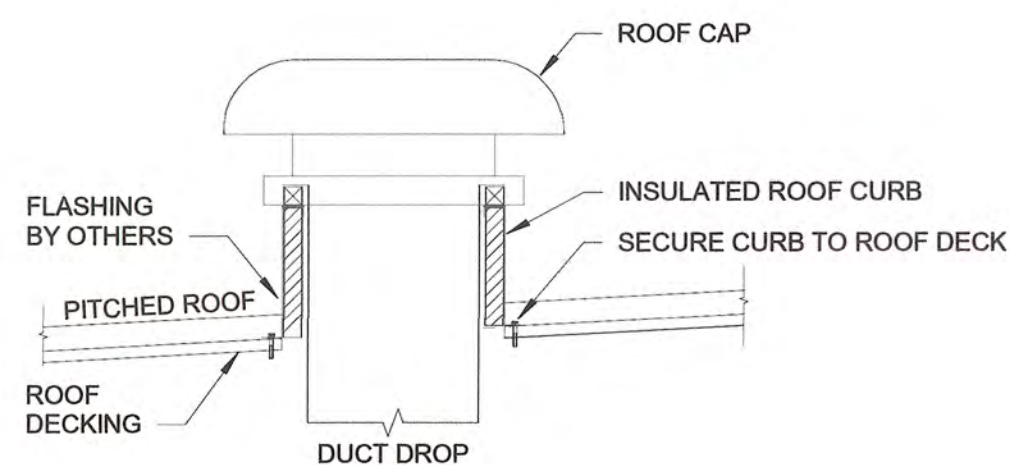
9 ROOF RAIL EQUIPMENT SUPPORT DETAIL
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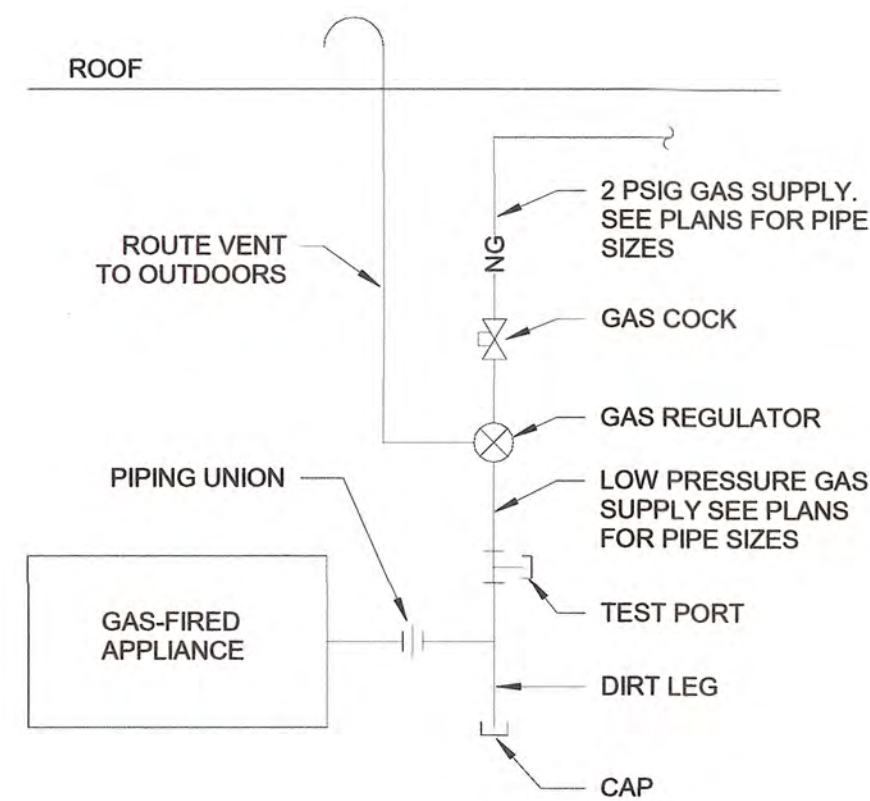
8 CEILING EXHAUST FAN DETAIL
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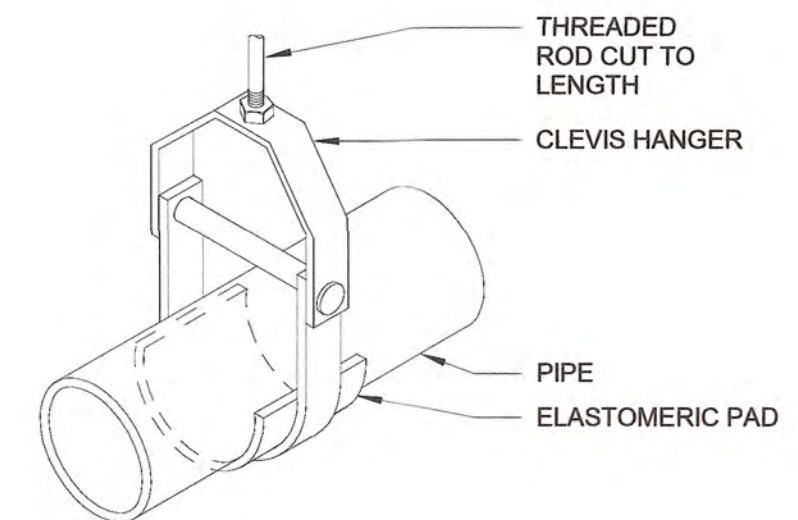
7 CONCENTRIC VENT TERMINAL DETAIL
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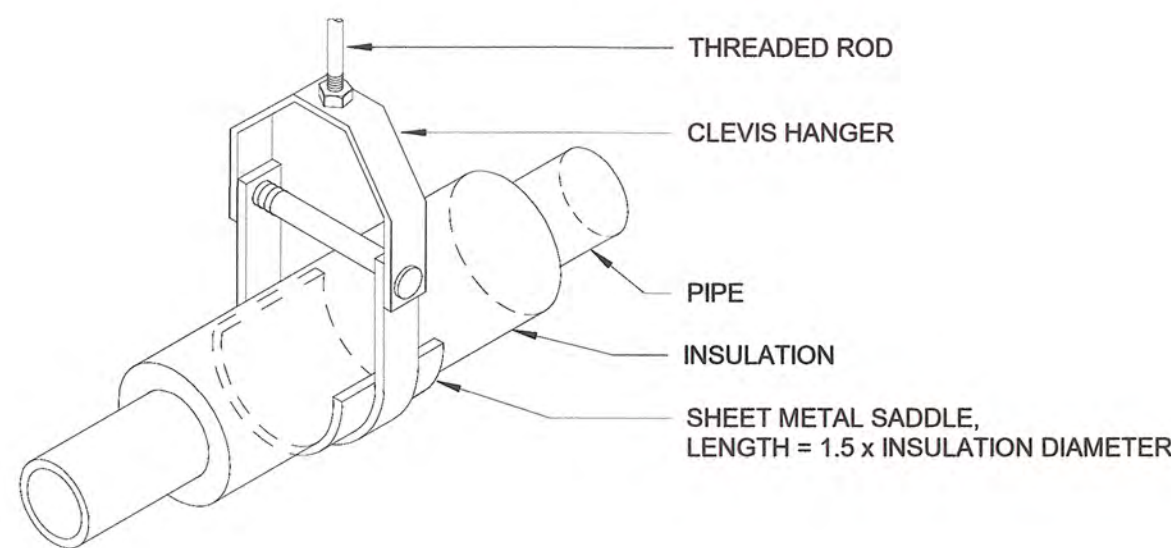
6 ROOF CAP DETAIL
NTS



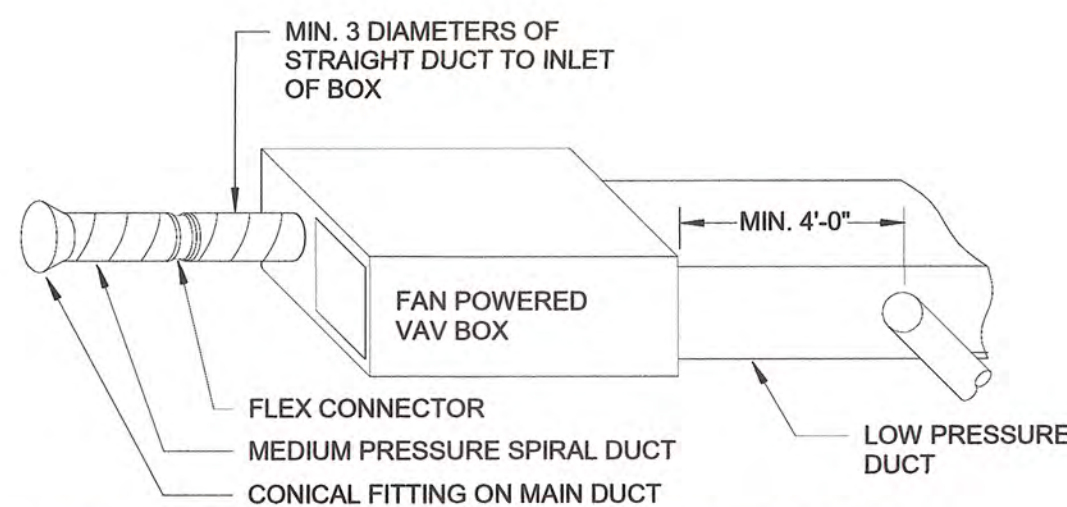
5 INDOOR GAS FIRED APPLIANCE PIPING DETAIL
NTS



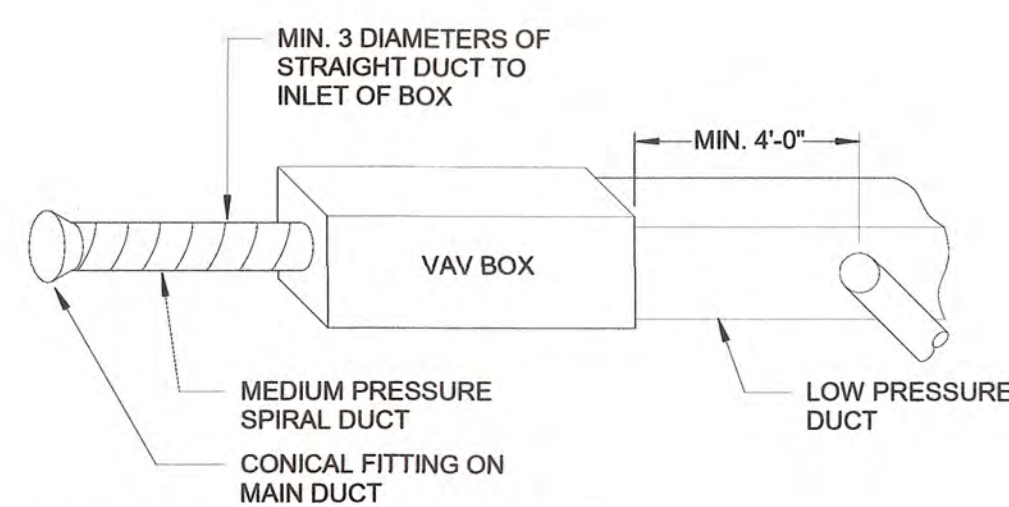
4 CLEVIS HANGER DETAIL - UNINSULATED PIPE
NTS



3 CLEVIS HANGER DETAIL - INSULATED PIPE
NTS



2 FAN POWERED BOX DETAIL
NTS



1 VAV BOX DETAIL
NTS



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:		APPROVED	
NO	REVISION	BY	DATE
As indicated		DESIGNED	
		SURVEY	
PROFILE SCALE		PROJ. MGR. Tw 6/25	
		LEAD ENGR. Boc 6/25	
HORIZONTAL:		FIELD MGR. Jw 6/25	
		RECOMMENDED	
		J. Hines	
VERTICAL:		DESIGN MANAGER	
FILE:		DRAWING:	
ATLAS PAGE NO:		DATE: 6/12/2025	
SHEET NAME:		CITY ENGINEER	
MECHANICAL DETAILS		SHEET NO.	
		M5-01	

5/28/2025 3:12:08 PM

PACKAGED ROOFTOP UNIT SCHEDULE (GAS HEAT)																																	
TAG					SUPPLY FAN					COOLING PERFORMANCE										HEATING PERFORMANCE					ELECTRICAL DATA								
NAME	#				LOCATION	NOMINAL TONS	REFRIGERANT	AIRFLOW	MIN. OA	ESP	BHP	HP	NET CAPACITY @ 105F AMBIENT		EAT (COIL)		LAT(COIL)		# OF STAGES	IEER	EER	COND. DRAIN	CAPACITY		EAT	LAT	STAGES	FILTER					MCA
										TOTAL	SENSIBLE	DB	WB	DB	WB									INPUT					OUTPUT				
RTU 1	1	LOW ROOF	7.5	R-32	2400 CFM	535 CFM	0.75 in-wg		2.4 hp	83773 Btu/h	67159 Btu/h	80.9 °F	66.6 °F	55.4 °F	55.3 °F	2	17.5	12.5	3/4"	130000 Btu/h	105300 Btu/h	54.5 °F	94.5 °F	2	MERV-8	39 A	50 A	208/3/60	1253 lb	DAIKEN	DHG090	1-16	
RTU 2	2	LOW ROOF	7.5	R-32	2400 CFM	620 CFM	0.75 in-wg		2.4 hp	84386 Btu/h	68389 Btu/h	82 °F	67 °F	56.1 °F	55.7 °F	2	17.5	12.5	3/4"	180000 Btu/h	145800 Btu/h	51.9 °F	107.5 °F	2	MERV-8	39 A	50 A	208/3/60	1253 lb	DAIKEN	DHG090	1-16	
RTU 3	3	LOW ROOF	20	R-32	7820 CFM	1100 CFM	1.50 in-wg	4.67 hp	7.5 hp	249622 Btu/h	192776 Btu/h	78.4 °F	65.7 °F	54.8 °F	54.8 °F	MODULATING	22.5	11.2	3/4"							MERV-8	122 A	150 A	208/3/60	3714 lb	DAIKEN	DPSC20B	1-5, 7-14,17 & 18
RTU 4	4	LOW ROOF	20	R-32	6265 CFM	1570 CFM	1.50 in-wg	3.3 hp	5 hp	242673 Btu/h	182396 Btu/h	81.8 °F	67 °F	53.7 °F	53.7 °F	MODULATING	22.5	11.2	3/4"							MERV-8	114 A	150 A	208/3/60	3714 lb	DAIKEN	DPSC20B	1-5, 7-14,17 & 18

- REMARKS:
- PROVIDE ROOF CURB TALL ENOUGH TO EXTEND A MINIMUM OF 8" ABOVE TOP OF ROOFING MATERIAL. COMPLETELY FILL ROOF CURB WITH BATT INSULATION TO PROVIDE THERMAL BARRIER AND ACOUSTIC DEADENING.
 - PROVIDE R/A SMOKE DETECTOR WIRED FOR FAN SHUTDOWN AND INTERLOCK WITH THE BUILDING SMOKE ALARM SYSTEM
 - PROVIDE HARDWIRED THERMOSTAT, REFERENCE CONTROL NOTES FOR ADDITIONAL INFORMATION.
 - PROVIDE BACNET CARD, REFERENCE CONTROL NOTES FOR ADDITIONAL INFORMATION.
 - PROVIDE PHASE LOSS PROTECTION AND BI-POLAR IONIZATION.
 - HOT GAS REHEAT FOR DEHUMIDIFICATION.
 - CONDENSER COIL HAIL GUARDS FOR ALL VERTICAL CONDENSER COIL SURFACES.
 - UNPOWERED CONVENIENCE OUTLET.
 - INTEGRAL NON-FUSED DISCONNECT.
 - STAINLESS STEEL HEAT EXCHANGER.
 - PROVIDE ISOLATION VALVE, DIRT LEG, REGULATOR, TEST PORT, AND UNION AT NATURAL GAS CONNECTION.
 - PROVIDE CONDENSATE TRAP AND SLOPE CONDENSATE PIPING TO ROOF DRAIN.
 - PROVIDE CONDENSATE OVERFLOW SWITCH IN PRIMARY CONDENSATE PAN TO SHUT DOWN THE UNIT IF THE CONDENSATE DRAIN IS CLOGGED.
 - UNIT WITH HORIZONTAL DISCHARGE AND HORIZONTAL RETURN.
 - ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF.
 - (2) SCROLL COMPRESSORS.
 - ENTHALPY ECONOMIZER WITH POWERED EXHAUST FAN (ECM MOTOR)
 - (2) INVERTER COMPRESSORS.

VAV BOX SCHEDULE (HOT WATER REHEAT)																						
TAG		LOCATION	INLET SIZE	AIRFLOW	HEATING AIRFLOW	MINIMUM AIRFLOW	UNIT TOTAL AIR PD	HOT WATER REHEAT COIL										CONTROL VALVE TYPE	SERVICE V/PH/Hz	MANUFACTURER	MODEL #	REMARKS
NAME	#							OUTPUT	EAT DB	LAT DB	EWT	LWT	FLOW	MAX PD	INLET	OUTLET						
VAV	3-1	110 CORR	5"	200 CFM	55 CFM	55 CFM	0.25 in-wg	2390 Btu/h	55 °F	95.1 °F	160 °F	134.0 °F	0.19 GPM	0.04 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	3-2	107 LAC. ROOM	4"	170 CFM	165 CFM	20 CFM	0.25 in-wg	7160 Btu/h	55 °F	95 °F	160 °F	141.7 °F	0.80 GPM	0.03 fH2O	1/2"	1/2"	3-WAY	24V	JCI	TSS	ALL	
VAV	3-3	120 CORR.	8"	650 CFM	145 CFM	145 CFM	0.25 in-wg	6340 Btu/h	55 °F	95.3 °F	160 °F	143.8 °F	0.80 GPM	0.38 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	3-4	124 CONFERENCE	4"	205 CFM	65 CFM	65 CFM	0.25 in-wg	1290 Btu/h	55 °F	114.6 °F	160 °F	133.6 °F	0.10 GPM	0.01 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	3-5	118 W.R.	10"	1030 CFM	385 CFM	165 CFM	0.25 in-wg	16690 Btu/h	55 °F	95 °F	160 °F	132.3 °F	1.23 GPM	0.07 fH2O	5/8"	5/8"	2-WAY	24V	JCI	TSS	ALL	
VAV	3-6	115 CONFERENCE	4"	120 CFM	30 CFM	30 CFM	0.25 in-wg	1540 Btu/h	55 °F	102.4 °F	160 °F	128.5 °F	0.10 GPM	0.01 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	3-7	114 OFFICE	5"	340 CFM	320 CFM	53 CFM	0.25 in-wg	15020 Btu/h	55 °F	98.3 °F	160 °F	136.4 °F	1.30 GPM	0.24 fH2O	5/8"	5/8"	3-WAY	24V	JCI	TSS	ALL	
VAV	3-8	127 CORRIDOR	6"	360 CFM	60 CFM	60 CFM	0.25 in-wg	2180 Btu/h	55 °F	95.2 °F	160 °F	133.8 °F	0.17 GPM	0.01 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	4-1	127 CORRIDOR	6"	360 CFM	60 CFM	60 CFM	0.25 in-wg	2330 Btu/h	52 °F	94.9 °F	160 °F	137.4 °F	0.21 GPM	0.01 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	4-2	137 CONF.	5"	275 CFM	110 CFM	110 CFM	0.25 in-wg	3000 Btu/h	52 °F	98 °F	160 °F	139.6 °F	0.30 GPM	0.1 fH2O	1/2"	1/2"	2-WAY	24V	JCI	TSS	ALL	
VAV	4-3	138 OFFICE	8"	370 CFM	350 CFM	105 CFM	0.25 in-wg	16870 Btu/h	52 °F	96.4 °F	160 °F	130.8 °F	1.18 GPM	0.26 fH2O	5/8"	5/8"	3-WAY	24V	JCI	TSS	ALL	
VAV	4-4	148 CORR	12"	1615 CFM	475 CFM	300 CFM	0.25 in-wg	24250 Btu/h	52 °F	99.1 °F	160 °F	129.6 °F	1.63 GPM	0.14 fH2O	5/8"	5/8"	2-WAY	24V	JCI	TSS	ALL	
VAV	4-5	149 CONF.	8"	450 CFM	400 CFM	120 CFM	0.25 in-wg	19520 Btu/h	52 °F	97 °F	160 °F	135.4 °F	1.62 GPM	0.39 fH2O	5/8"	5/8"	2-WAY	24V	JCI	TSS	ALL	
VAV	4-6	151 LAB	10"	700 CFM	700 CFM	700 CFM	0.25 in-wg	31880 Btu/h	52 °F	97 °F	160 °F	133.6 °F	2.47 GPM	1.15 fH2O	5/8"	5/8"	3-WAY	24V	JCI	TSS	ALL	

- REMARKS:
- 1/2" FIBERGLASS LINER.
 - MAX RADIATED VALUE = 22
 - MULTIPOINT, CENTER AVERAGING VELOCITY SENSOR.
 - PRESSURE INDEPENDENT PRIMARY AIRFLOW CONTROL.
 - REFER TO DETAIL 1/M5-01 FOR INSTALLATION DETAILS.
 - CONTRACTOR TO DETERMINE RH VS LH CONTROL AND COIL CONFIGURATION.
 - PROVIDE COIL PACK FOR TERMINAL BOX REHEAT COIL CONNECTION.
 - A. FOR TERMINAL BOXES WITH 2-WAY CONTROL VALVES: PROVIDE A COMBINATION Y-STRAINER AND BALL VALVE WITH CPTA (COMBINATION PRESSURE/TEST VALVE & MANUAL AIR VENT) AND DRAIN VALVE AT THE COIL INLET. PROVIDE CPTA, 2-WAY MOTORIZED CONTROL VALVE (WITH REDUCERS ON EITHER SIDE AS REQUIRED), AND MANUAL BALANCE VALVE (WITH CHARACTERISTIC ORIFICE, TEST PORTS, AND GRADUATED MEMORY STOP) AT THE COIL OUTLET. PROVIDE FLEXIBLE STAINLESS STEEL HOSES, UNIONS, AND REDUCERS (IF NECESSARY) AT THE COIL INLET AND OUTLET CONNECTIONS.
 - B. FOR TERMINAL UNITS WITH 3-WAY CONTROL VALVES: PROVIDE A COMBINATION Y-STRAINER AND BALL VALVE WITH CPTA AND MANUAL BALANCE (FOR 3-WAY BYPASS PIPING) AT THE COIL INLET. PROVIDE CPTA, 3-WAY MOTORIZED CONTROL VALVE (WITH REDUCERS ON ALL SIDES AS REQUIRED), AND MANUAL BALANCING VALVE (WITH CHARACTERISTIC ORIFICE, TEST PORTS, AND GRADUATED MEMORY STOP) AT THE COIL OUTLET. PROVIDE FLEXIBLE STAINLESS STEEL HOSES, UNIONS, AND REDUCERS (IF NECESSARY) AT THE COIL INLET AND OUTLET CONNECTIONS.

FAN POWERED BOX SCHEDULE (HOT WATER REHEAT)																										
TAG		HOT WATER REHEAT COIL																		ELECTRICAL DATA						
NAME	#	LOCATION	UNIT SIZE	INLET SIZE	MAXIMUM PRIMARY	MINIMUM PRIMARY	FAN ESP	NOMINAL MOTOR SIZE	OUTPUT	EAT DB	LAT DB	EWT	LWT	FLOW	MAX PD	INLET	OUTLET	CONTROL VALVE TYPE	SERVICE V/PH/Hz	MCA	MSCP	MANUFACTURER	MODEL #	REMARKS		
FPB 3-1	1	100 LOBBY	10	8"	760 CFM	104 CFM	0.25 in-wg	0.33 hp	30450 Btu/h	68 °F	104.8 °F	160 °F	139.4 °F	3.02 GPM	1.79 ftH2O	5/8"	5/8"	2-WAY	120/1/60	6 A	15 A	JCI	TCSB	ALL		
FPB 3-2	2	110 CORR.	07	6"	400 CFM	53 CFM	0.25 in-wg	0.33 hp	14900 Btu/h	68 °F	102.3 °F	160 °F	133.8 °F	1.16 GPM	0.29 ftH2O	5/8"	5/8"	2-WAY	120/1/60	5 A	15 A	JCI	TCSB	ALL		
FPB 3-3	3	108 BREAK ROOM	15	10"	1450 CFM	190 CFM	0.25 in-wg	0.5 hp	45140 Btu/h	68 °F	96.7 °F	160 °F	135.9 °F	3.83 GPM	0.54 ftH2O	5/8"	5/8"	2-WAY	120/1/60	9 A	15 A	JCI	TCSB	ALL		
FPB 3-4	4	128 MANAGER OFFICE	15	8"	1025 CFM	150 CFM	0.25 in-wg	0.5 hp	36920 Btu/h	67.8 °F	100.9 °F	160 °F	134.9 °F	3.00 GPM	0.34 ftH2O	5/8"	5/8"	2-WAY	120/1/60	9 A	15 A	JCI	TCSB	ALL		
FPB 3-5	5	127 CORRIDOR	15	10"	1110 CFM	166 CFM	0.25 in-wg	0.5 hp	45870 Btu/h	67.8 °F	105.8 °F	160 °F	133.5 °F	3.53 GPM	0.26 ftH2O	5/8"	5/8"	2-WAY	120/1/60	9 A	15 A	JCI	TCSB	ALL		
FPB 4-1	1	127 CORRIDOR	20	10"	1505 CFM	220 CFM	0.25 in-wg	0.75 hp	53790 Btu/h	67.4 °F	100.3 °F	160 °F	134.8 °F	4.36 GPM	0.31 ftH2O	5/8"	5/8"	2-WAY	120/1/60	12 A	20 A	JCI	TCSB	ALL		
FPB 4-2	2	148 CORR	15	8"	990 CFM	103 CFM	0.25 in-wg	0.5 hp	35960 Btu/h	68.1 °F	101.5 °F	160 °F	134.8 °F	2.91 GPM	0.33 ftH2O	5/8"	5/8"	2-WAY	120/1/60	9 A	15 A	JCI	TCSB	ALL		

- REMARKS:
- 1/2" FIBERGLASS LINER
 - MAX RADIATED NC VALUE = 39
 - SERIES FAN-POWERED BOX WITH EC MOTOR WITH ADJUSTABLE FAN SPEED CONTROLLER (FOR BALANCING) FACTORY MOUNTED TO FPB.
 - DDC FAN-POWERED BOX CONTROLLER
 - MULTIPOINT, CENTER AVERAGING VELOCITY SENSOR.
 - PRIMARY AIR FLOW BALANCING CONNECTIONS.
 - PRESSURE INDEPENDENT PRIMARY AIRFLOW CONTROL
 - SINGLE POINT ELECTRICAL CONNECTION @ 120V/1PH
 - REFER TO DETAIL 2/M5-01 FOR INSTALLATION DETAILS.
 - CONTRACTOR TO DETERMINE RH VS LH CONTROL AND COIL CONFIGURATION.
 - PROVIDE COIL PACK FOR TERMINAL BOX REHEAT COIL CONNECTION.
 - A. FOR TERMINAL UNITS WITH 2-WAY CONTROL VALVES: PROVIDE A COMBINATION Y-STRAINER AND BALL VALVE WITH CPTA (COMBINATION PRESSURE/TEST VALVE & MANUAL AIR VENT) AND DRAIN VALVE AT THE COIL INLET. PROVIDE CPTA, 2-WAY MOTORIZED CONTROL VALVE (WITH REDUCERS ON EITHER SIDE AS REQUIRED), AND MANUAL BALANCE VALVE (WITH CHARACTERISTIC ORIFICE, TEST PORTS, AND GRADUATED MEMORY STOP) AT THE COIL OUTLET. PROVIDE FLEXIBLE STAINLESS STEEL HOSES, UNIONS, AND REDUCERS (IF NECESSARY) AT THE COIL INLET AND OUTLET CONNECTIONS.
 - B. FOR TERMINAL UNITS WITH 3-WAY CONTROL VALVES: PROVIDE A COMBINATION Y-STRAINER AND BALL VALVE WITH CPTA AND MANUAL BALANCE VALVE (FOR 3-WAY BYPASS PIPING) AT THE COIL INLET. PROVIDE CPTA, 3-WAY MOTORIZED CONTROL VALVE (WITH REDUCERS ON ALL SIDES AS REQUIRED), AND MANUAL BALANCING VALVE (WITH CHARACTERISTIC ORIFICE, TEST PORTS, AND GRADUATED MEMORY STOP) AT THE COIL OUTLET. PROVIDE FLEXIBLE STAINLESS STEEL HOSES, UNIONS, AND REDUCERS (IF NECESSARY) AT THE COIL INLET AND OUTLET CONNECTIONS

LOUVER SCHEDULE													
TAG		SERVICE	DESCRIPTION	AIRFLOW	SIZE	FREE AREA	FREE AREA VELOCITY	DAMPER	MAX PD	MATERIAL / FINISH	MANUFACTURER	MODEL #	REMARKS
NAME	#												
L	1	SUPPLY	DRAINABLE STATIONARY LOUVER	350 CFM	20"x12"	35%	619 FPM	MOTORIZED	0.06 in-wg	ALUMINUM / PAINT	GREENHECK	ESD-403	ALL

- REMARKS:
- INSECT SCREEN
 - PROVIDE 120V MOTORIZED DAMPER BEHIND LOUVER. INTERLOCK OPERATION WITH EF-2 AND LOCAL THERMOSTAT.
 - PROVIDE FLANGE FRAME
 - LOUVER SHALL BE ONE OF THE MANUFACTURERS STANDARD COLORS AND FINISHES. PROVIDE ARCHITECT PHYSICAL COLOR SAMPLES PRIOR TO ORDER.

FAN SCHEDULE

TAG												MOTOR DATA		ELECTRICAL DATA					
NAME	#	AREA SERVED	TYPE	AIRFLOW	ESP	MAXIMUM SONES	DAMPER	DRIVE TYPE	SPEED	HP	FLA	SERVICE V/PH/Hz	WEIGHT	MANUFACTURER	MODEL #	REMARKS			
EF 1	1	MENS 113B & WOMENS 112B	INLINE	800 CFM	0.35 in-wg	8	MOTORIZED	DIRECT	1750	0.25 hp	3.6 A	120/1/60	50 lb	GREENHECK	SQ-9-VG	1,2,3,4,8			
EF 2	2	MECH 147	INLINE	350 CFM	0.25 in-wg	5	NONE	DIRECT	1725	0.1 hp	1.4 A	120/1/60	36 lb	GREENHECK	SQ-90-VG	1,2,3,4,8,9			
EF 3	3	JAN 103	CEILING	75 CFM	0.20 in-wg	1	BACKDRAFT	DIRECT	900		0.2 A	120/1/60	9 lb	GREENHECK	SP-B80	2,5,6,7,8			
EF 4	4	WOMENS 155	CEILING	150 CFM	0.25 in-wg	2	BACKDRAFT	DIRECT	924		1.5 A	120/1/60	24 lb	GREENHECK	SP-A390-VG	2,5,6,7,8			
EF 5	5	MENS 154	CEILING	150 CFM	0.25 in-wg	2	BACKDRAFT	DIRECT	924		1.5 A	120/1/60	24 lb	GREENHECK	SP-A390-VG	2,5,6,7,8			
EF 6	6	JAN 158/RR 156	INLINE	205 CFM	0.25 in-wg	6	BACKDRAFT	DIRECT	1750	0.07 hp	1.3 A	120/1/60	26 lb	GREENHECK	SQ-70-VG	1,2,3,4,8			

- REMARKS:
- EC MOTOR WITH SPEED CONTROLLER MOUNTED TO FAN (FOR BALANCING)
 - INTEGRAL ELECTRICAL DISCONNECT
 - DUCT WRAP INSULATION DOWNSTREAM OF BACKDRAFT/MOTORIZED DAMPER
 - PROVIDE FLEX CONNECTIONS DUCT CONNECTIONS AT FAN BODY.
 - INTEGRAL BACKDRAFT DAMPER
 - PROVIDE PRE-FAB ROOF CAP WITH INSECT SCREEN.
 - INTEGRAL GRILLE
 - REFER TO CONTROL NOTES FOR ADDITIONAL INFORMATION.
 - INTERLOCK FAN OPERATION WITH MOTORIZED DAMPER ON L1 AND LOCAL THERMOSTAT.

AIR TERMINAL SCHEDULE

TAG	SERVICE	DESCRIPTION	MOUNTING	INLET SIZE	FACE SIZE	DAMPER IN NECK	MATERIAL / FINISH	MANUFACTURER	MODEL #	REMARKS
E1	EXHAUST	PERFORATED GRILLE	SURFACE	SEE PLANS	24"x24"	N	STEEL / WHITE	TITUS	PAR	
E2	EXHAUST	PERFORATED GRILLE	LAY-IN	SEE PLANS	24"x24"	N	STEEL / WHITE	TITUS	PAR	
E3	EXHAUST	PERFORATED GRILLE WITH OPPOSED BLADED DAMPER	CEILING	SEE PLANS	24"x24"	OBD	STEEL/ WHITE	TITUS	PAR	
R1	RETURN	PERFORATED RETURN PANEL	LAY-IN	24"X24"	24"x24"	N	STEEL / WHITE	TITUS	PXP	1
R2	RETURN	35" SINGLE DEFLECTION GRILLE, 3/4" SPACING, BLADES PARALLEL TO LONG DIMENSION	SURFACE	SEE PLANS	INLET + 2"	N	STEEL / WHITE	TITUS	35ORL	
R3	RETURN	35" SINGLE DEFLECTION GRILLE, 3/4" SPACING, BLADES PARALLEL TO LONG DIMENSION	DUCT	SEE PLANS	INLET + 2"	N	STEEL / WHITE	TITUS	35ORL	
S1	SUPPLY	SQUARE PLAQUE DIFFUSER	LAY-IN	SEE PLANS	24"x24"	N	STEEL / WHITE	TITUS	OMNI	
S2	SUPPLY	SQUARE PLAQUE DIFFUSER	SURFACE	SEE PLANS	24"x24"	N	STEEL / WHITE	TITUS	OMNI	
S3	SUPPLY	SQUARE PLAQUE DIFFUSER	SURFACE	SEE PLANS	12"x12"	OBD	STEEL / WHITE	TITUS	OMNI	
S4	SUPPLY	ADJUSTABLE DOUBLE DEFLECTION GRILLE, 3/4" SPACING, BLADES PARALLEL TO SHORT DIMENSION	SURFACE	SEE PLANS	INLET + 2"	OBD	STEEL / WHITE	TITUS	30ORS	
S6	SUPPLY	ADJUSTABLE DOUBLE DEFLECTION SPIRAL DUCT MOUNTED GRILLE, BLADES PARALLEL TO SHORT DIMENSION	DUCT	SEE PLANS	INLET + 1.5"	Y	ALUMINUM / WHITE	TITUS	S300FS	

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HEATING HOT WATER BOILER SCHEDULE																						
TAG		SERVICE	LOCATION	HEATING DATA					HYDRONICS					VENT CONN. SIZES		ELECTRICAL DATA		WEIGHT	MANUFACTURER	MODEL #	REMARKS	
NAME	#			INPUT	OUTPUT	TURNDOWN	GAS PRESSURE	GAS SIZE	EWT	LWT	FLOW	FLUID TYPE	WATER CONN. SIZES		CMB	FLUE	FLA					SERVICE V/PH/HZ
B	1	SPACE HEATING	MECH 147	301000 Btu/h	286000 Btu/h	7.5:1	13.00 in-wg	1"	130 °F	160 °F	20 GPM	WATER	1 1/2"	1 1/2"	3"	3"	15 A	120/1/60	340 lb	LAARS	LFTHW301NX	ALL
B	2	SPACE HEATING	MECH 147	301000 Btu/h	286000 Btu/h	7.5:1	13.00 in-wg	1"	130 °F	160 °F	20 GPM	WATER	1 1/2"	1 1/2"	3"	3"	15 A	120/1/60	340 lb	LAARS	LFTHW301NX	ALL

- REMARKS:
- PROVIDE STANDARD WALL MOUNT BRACKET AND SECURELY ANCHOR TO WALL.
 - PROVIDE ALL TEMPERATURE SENSORS AND WELLS REQUIRED FOR PROPER BOILER OPERATION.
 - PROVIDE ALL FLOW SENSORS AND WELLS REQUIRED FOR PROPER BOILER OPERATION.
 - PROVIDE ELECTRICAL DISCONNECT.
 - PROVIDE BACNET CARD, REFERENCE CONTROL NOTES ON SHEET M7-01 FOR ADDITIONAL INFORMATION.
 - INTERLOCK EACH BOILER WITH CORRESPONDING PRIMARY PUMP.
 - PROVIDE CONDENSATE PIPING AND CONDENSATE NEUTRALIZATION KIT.
 - PROVIDE OUTDOOR AIR TEMPERATURE SENSOR.
 - PROVIDE NATURAL GAS SUPPLY FILTER.
 - PROVIDE ISOLATION VALVE, NG REGULATOR & VENT, DIRT LEG, TEST PORT, AND UNION AT BOILER GAS CONNECTION. EXTEND REGULATOR VENT TO OUTDOORS. REF 4/M5-01 FOR DETAILS.
 - INTEGRAL GAS TRANE WITH STAINLESS STEEL HEAT EXCHANGER.
 - ASME 1" STAMPED & ETL LISTED.
 - PROVIDE EMERGENCY SHUT-OFF SWITCH AT ALL ENTRANCES TO THE BOILER ROOM.
 - PROVIDE ASME RATED PRESSURE RELIEF VALVE.
 - REFER TO ASME CSD-1 NOTES ON SHEET M4-01.
 - CONTRACTOR TO ANALYZE WATER QUALITY AND TREAT THE HEATING HOT WATER SYSTEM TO MEET THE BOILER MANUFACTURER'S REQUIREMENTS.

HEATING HOT WATER PUMP SCHEDULE																		
TAG		SERVICE	LOCATION	FLUID	DRIVE TYPE	PERFORMANCE DATA		PIPE SIZE		ELECTRICAL DATA				WEIGHT	MANUFACTURER	MODEL #	REMARKS	
NAME	#					FLOW	HEAD	INLET	OUTLET	HP	MAX SPEED	FLA	SERVICE V/PH/Hz					
HHWP	1	HEATING HOT WATER	MECH 147	WATER	VFD	45 GPM	75 RH2O	2"	2"	1.5 hp	4000	4 A	208/3/60	97 lb	GRUNDFOS	CRE 10 2 A BN A E HQQE	ALL	
HHWP	2	HEATING HOT WATER	MECH 147	WATER	VFD	45 GPM	75 RH2O	2"	2"	1.5 hp	4000	4 A	208/3/60	97 lb	GRUNDFOS	CRE 10 2 A BN A E HQQE	ALL	

- REMARKS:
- VERTICAL INLINE PUMP WITH CAST IRON CASE & MOTOR BRACKET.
 - CORROSION RESISTANT WETTED PARTS.
 - FACTORY PUMP MOUNTED VARIABLE SPEED DRIVE/CONTROLLER WITH BACNET.
 - PROVIDE 4" CONCRETE PAD AND INLINE PUMP BASE AND SECURE PUMP BASE TO CONCRETE PAD. PROVIDE MINIMUM THREE PIPE DIAMETERS OF STRAIGHT PIPE BEFORE AND AFTER PUMP.
 - ANSI 125# SUCTION & DISCHARGE CONNECTIONS.

BOILER PUMP SCHEDULE																	
TAG		SERVICE	LOCATION	FLUID	TYPE	PERFORMANCE DATA		PIPE SIZE		ELECTRICAL DATA			WEIGHT	MANUFACTURER	MODEL #	REMARKS	
NAME	#					FLOW	HEAD	INLET	OUTLET	HP	FLA	SERVICE V/PH/Hz					
BP	1	BOILER RECIRCULATION	MECH 147	WATER	INLINE	20 GPM	13 RH2O	1 1/2"	1 1/2"	0.14 hp	4 A	115/1/60	15 lb	GRUNDFOS	MAGNA3 32-60 GF	ALL	
BP	2	BOILER RECIRCULATION	MECH 147	WATER	INLINE	20 GPM	13 RH2O	1 1/2"	1 1/2"	0.14 hp	4 A	115/1/60	15 lb	GRUNDFOS	MAGNA3 32-60 GF	ALL	

- REMARKS:
- CANNED ROTOR TYPE PUMP WITH CAST IRON HOUSING.
 - STAINLESS STEEL ROTOR & BEARING PLATE WITH CORROSION RESISTANT IMPELLER.
 - INTERLOCK BOILER PUMP WITH CORRESPONDING BOILER, REFERENCE CONTROL NOTES FOR ADDITIONAL INFORMATION.

DUCTLESS SPLIT INDOOR UNIT SCHEDULE																		
TAG		LOCATION	TYPE	NOMINAL TONS	REFRIGERANT	AIRFLOW	TOTAL CAPACITY		PIPE SIZE		ELECTRICAL DATA			WEIGHT	MANUFACTURER	MODEL #	REMARKS	
NAME	#						COOLING @ 95°F	HEATING @ -4°F	LIQUID	SUCTION	COND. DRAIN	MCA	MOCP					SERVICE V/PH/HZ
DSI	1	153 MENS	4 WAY CASSETTE	1.5	R-32	459 CFM	18000 Btu/h	17600 Btu/h	3/8"	5/8"	3/4"	16 A	25 A	208/1/60	37 lb	LG	KNUDB181A	1,2,3,5,6
DSI	2	154 WOMENS	4 WAY CASSETTE	1.5	R-32	459 CFM	18000 Btu/h	17600 Btu/h	3/8"	5/8"	3/4"	16 A	25 A	208/1/60	37 lb	LG	KNUDB181A	1,2,3,5,6
DSI	3	146 DATA	HIGH WALL	1.5	R-32	706 CFM	18000 Btu/h	12160 Btu/h	3/8"	5/8"	3/4"	19 A	30 A	208/1/60	26 lb	LG	KNUAB181A	1,2,4,5,6

- REMARKS:
- PROVIDE WIRED THERMOSTAT AND LOCATE ON WALL PER PLANS
 - CORROSION RESISTANT DRAIN PAN
 - INTEGRAL CONDENSATE PUMP
 - PROVIDE BECKET BK17UL CONDENSATE PUMP, DSI SHALL SHUT DOWN IF CONDENSATE PUMP FAILS. INSTALL AT SAME HEIGHT AS THE INDOOR UNIT.
 - INDOOR UNIT POWERED FROM OUTDOOR UNIT
 - CONSULT MANUFACTURER'S INSTALLATION MANUAL FOR DX PIPING STANDARDS

DUCTLESS SPLIT OUTDOOR UNIT SCHEDULE													
TAG		NOMINAL TONS	REFRIGERANT	TOTAL CAPACITY		SEER2	PIPE SIZE		ELECTRICAL DATA			WEIGHT	REMARKS
NAME	#			COOLING @ 95°F	HEATING @ -4°F		LIQUID	SUCTION	MCA	MOCP	SERVICE V/PH/HZ		
DSO	1	1.5	R-32	18000 Btu/h	17600 Btu/h	20.5	3/8"	5/8"	16 A	25 A	208/1/60	136 lb	1-3
DSO	2	1.5	R-32	18000 Btu/h	17600 Btu/h	20.5	3/8"	5/8"	16 A	25 A	208/1/60	136 lb	1-3
DSO	3	1.5	R-32	18000 Btu/h	12160 Btu/h	23	3/8"	5/8"	19 A	30 A	208/1/60	128 lb	ALL

- REMARKS:
- PROVIDE 4" CONCRETE PAD FOR CONDENSING UNIT
 - PROVIDE UNFUSED DISCONNECT
 - CONSULT MANUFACTURER'S INSTALLATION MANUAL FOR DX PIPING STANDARDS.
 - UNIT SHALL BE CAPABLE OF LOW AMBIENT COOLING OPERATION DOWN TO 0°F

LAB HOOD SCHEDULE (ALTERNATE)															
TAG		SERVICE	LOCATION	HOOD TYPE	HOOD DIMENSIONS	FACE VELOCITY AT DESIGN (100% OPEN SASH)	FAN DATA			FAN ELECTRICAL DATA			HOOD ELECTRICAL DATA		REMARKS
NAME	#						DESIGN AIRFLOW	ESP	TYPE	HP	FLA	SERVICE V/PH/HZ	FLA	SERVICE V/PH/HZ	
LEH	1	LAB FUME HOOD	151 LAB	COUNTERTOP	4' X 2'-7" X 4'-11	100 FPM	725 CFM	0.30 in-wg	CENTRIFUGAL	1 HP	10	115/1/60	10 A	115/1/60	ALL

- REMARKS:
- PROVIDE 4" WIDE LABORATORY FUME HOOD WITH REMOTE REINFORCED POLYESTER (FRP) FAN.
 - PROVIDE 4"X30" WORK SURFACE WITH NO CUTOUTS.
 - FAN SHALL BE SET TO SINGLE SPEED, FAN SPEED AND SASH POSITION SHALL BE INDEPENDANT.
 - HOOD SHALL HAVE PREWIRED LED LIGHTS WITH ADA COMPLIANT SWITCHES.
 - 12" MOLDED FIBERGLASS EXHAUST CONNECTIONS.
 - TEMPERED SAFETY GLASS VERTICAL RISING SASH WITH CABLE AND PULLEY.
 - ONE PIECE FIBERGLASS LINER WITH PRE-SET BAFFLES WITH FLAME SPREAD LESS THAN 25 (ASTM E84).
 - IN CASE OF SUBSTITUTIONS, CONTRACTOR SHALL VERIFY HOOD AND FAN MATERIAL COMPATIBILITY WITH LAB CHEMICAL LIST.
 - PROVIDE CHEMICAL RESISTANT PVC DUCT AND FITTINGS (SCH 40) , BACKDRAFT DAMPER, BALANCING DAMPER AND ZERO PRESSURE WEATHERCAP. PROVIDE PLENUM WRAP FOR ALL EXPOSED LAB EXHAUST DUCT ABOVE THE CEILING.

POT FEEDER SCHEDULE										
TAG		LOCATION	CAPACITY	DIMENSIONS			WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#			DIAMETER	HEIGHT	INLETS				
PF	1	MECH 147	5 gal	10"	1' - 11"	3/4"	23 lb	WESSELS	CPDTA-5	ALL

HYDRAULIC SEPARATOR SCHEDULE											
TAG		LOCATION	TYPE	FLOW	DIMENSIONS			WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#				DIAMETER	HEIGHT	INLETS				
HS	1	MECH 147	AIR & DIRT	75 GPM	7"	3' - 0"	2 1/2"	106 lb	SPIROTHERM	VDX250-FAM	ALL

- REMARKS:
- STEEL TANK WITH PAINTED EXTERIOR
 - COMBINATION AIR & DIRT SEPARATOR WITH MAGNETS.
 - 1" DRAIN PORT.
 - ASME RATED.
 - AUTOMATIC AIR VENT AT THE TOP OF AIR/DIRT SEPARATOR.
 - PIPE CONNECTIONS SHALL BE ANSI FLANGE TYPE
 - SUPPORT SEPARATOR FROM STRUCTURE.

EXPANSION TANK SCHEDULE													
TAG		SERVICE	LOCATION	TYPE	VOLUME		DIMENSIONS			WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#				TANK	ACCEPTANCE	DIAMETER	HEIGHT	INLETS				
ET	1	HEATING HOT WATER	MECH 147	EXPANSION TANK	53 gal	53 gal	2' - 0"	3' - 7"	1 1/2"	210 lb	GRUNDFOS	GFXA-200	ALL

- REMARKS:
- FULL ACCEPTANCE EXPANSION TANK.
 - ASME RATED.
 - REPLACEABLE HEAVY DUTY BUTYL BLADDER.
 - STEEL TANK WITH PAINTED EXTERIOR.
 - LIFTING LUG.
 - DRAIN PORT.
 - MOUNT ON 4" CONCRETE HOUSEKEEPING PAD.

BUFFER TANK SCHEDULE												
TAG		SERVICE	LOCATION	TYPE	CAPACITY	DIMENSIONS			WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#					DIAMETER	HEIGHT	INLETS				
BT	1	HEATING HOT WATER	MECH 147	BUFFER TANK	200 gal	2' - 6"	6' - 0"	3"	555 lb	GRUNDFOS	GCBT-200-3F	ALL

- REMARKS:
- MOUNT ON 4" CONCRETE HOUSEKEEPING PAD.
 - ASME RATED
 - PAINTED EXTERIOR WITH LIFTING LUGS
 - WRAP WITH 2" CLOSED CELL FOAM INSULATION.
 - PROVIDE AUTOMATIC AIR VENT AT TOP OF BUFFER TANK.
 - PIPE CONNECTIONS SHALL BE ANSI FLANGE TYPE.

KITCHEN HOOD SCHEDULE													
TAG		SERVICE	LOCATION	TYPE	FAN DATA			FAN & HOOD ELECTRICAL DATA		WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#				AIRFLOW	ESP	TYPE	SERVICE V/PH/HZ	MOCPP				
KEH	1	KITCHEN EXHAUST	108 BREAK ROOM	WALL	250 CFM	0.25 in-wg	INLINE	115/1/60	15 A	86 lb	GREENHECK	GRRS-W-30-T-E-D-X	ALL

- REMARKS:
- PROVIDE ELECTRICAL DISCONNECT.
 - PROVIDE EXTERNAL INLINE ECM EXHAUST FAN INTERLOCKED WITH HOOD.
 - STAINLESS STEEL RESIDENTIAL STYLE KITCHEN EXHAUST HOOD WITH EXTERNAL INLINE FAN (WITH BACKDRAFT DAMPER), FIRE SUPPRESSION (WITH PULL STATION), AND LIGHTS.
 - PROVIDE MANUAL PULL STATION AND INTERLOCK WITH INTEGRAL FIRE SUPPRESSION AND THE BUILDING FIRE ALARM SYSTEM.
 - PROVIDE ADA COMPLIANT USER INTERFACE.
 - PROVIDE MANUFACTURES WALL MOUNT BRACKET AND HORN/STROBE.
 - UPON ACTIVATION OF THE PULL STATION POWER TO APPLIANCE SHALL BE SHUTDOWN AND PROVIDE AN AUDIBLE ALARM VIA AN ACCESSORY SHIPPED WITH HOOD THAT IS INSTALLED BETWEEN THE APPLIANCE AND THE ELECTRICAL RECEPTACLE.
 - HOOD SHALL BE UL300A & UL507 LISTED.
 - HOOD SHALL HAVE ICC EVALUATION SERVICE REPORT.
 - CONTRACTOR SHALL SUBMIT HOOD & FIRE SUPPRESSION EQUIPMENT DATA, DRAWINGS AND SPECIFICATIONS AS REQUIRED BY AHJ.

ELECTRIC HEATER SCHEDULE											
TAG		MOUNTING	TYPE	AIRFLOW	HEATING INPUT	FLA	SERVICE V/PH/HZ	WEIGHT	MANUFACTURER	MODEL #	REMARKS
NAME	#										
ECH	1	CEILING	FAN-FORCED CEILING HEATER	150 CFM	4 kW	20 A	208/1/60	23 lb	QMARK	EFF4008	1,6,7,8
ECH	2	CEILING	FAN-FORCED CEILING HEATER	150 CFM	4 kW	20 A	208/1/60	23 lb	QMARK	EFF4008	1,6,7,8
EUH	1	WALL	FAN-FORCED UNIT HEATER	350 CFM	3 kW	15 A	208/1/60	27 lb	QMARK	MUH03-81	1,4,5
EUH	2	WALL	FAN-FORCED UNIT HEATER	350 CFM	3 kW	15 A	208/1/60	27 lb	QMARK	MUH03-81	1,4,5
EUH	3	WALL	FAN-FORCED UNIT HEATER	350 CFM	3 kW	15 A	208/1/60	27 lb	QMARK	MUH03-81	1,4,5
EUH	4	WALL	FAN-FORCED UNIT HEATER	350 CFM	5 kW	24 A	208/1/60	27 lb	QMARK	MUH05-81	1,4,5
EUH	5	WALL	FAN-FORCED UNIT HEATER	350 CFM	3 kW	15 A	208/1/60	27 lb	QMARK	MUH03-81	1,4,5
EWH	1	WALL	FAN-FORCED WALL HEATER	100 CFM	3 kW	15 A	208/1/60	25 lb	QMARK	FRA4024F	1,2,3

- REMARKS:
- INTEGRAL DISCONNECT
 - INTEGRAL THERMOSTAT
 - RECESSED WALL MOUNTED INSTALLATION.
 - PROVIDE MOUNTING BRACKET
 - PROVIDE WALL MOUNTED THERMOSTAT.
 - INTEGRAL TAMPER RESISTANT THERMOSTAT, SET AT 65°F.
 - INSTALL RECESSED IN CEILING.
 - ALL WHITE CONSTRUCTION.



5/30/2025

				PLAN SCALE:	DRAWN			APPROVED
NO	REVISION	BY	DATE		DESIGNED			
					SURVEY			
				PROFILE SCALE	PROJ. MGR.	TW	6/25	
					LEAD ENGR.	BOC	6/25	
				HORIZONTAL:	FIELD MGR.	JW	6/25	
					RECOMMENDED:	J. M.		
				VERTICAL:	DESIGN MANAGER			
				FILE:	DRAWING:			
				ATLAS PAGE NO:				
				SHEET NAME:				DATE: 6/12/2025
				MECHANICAL SCHEDULES				SHEET NO.
								M6-02

STAND ALONE EQUIPMENT: POINTS AND SEQUENCES

CONTROLS ARE DESIGN/BUILD WITH DESIGN OF THE CONTROL SYSTEM DELEGATED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETELY FUNCTIONING CONTROL SYSTEM THAT CONFORMS TO THE REQUIREMENTS OF THE LARGEST MATERIALS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND OPERATING BUILDING AUTOMATION SYSTEM (BAS), UTILIZING DIRECT DIGITAL CONTROLS (DDC) AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. ALL CONTROLLERS FURNISHED IN THIS SECTION SHALL COMMUNICATE ON A PEER-TO-PEER BUS OVER AN OPEN PROTOCOL BUS OR IP NETWORK THAT COMPLIES WITH THE COMMUNICATIONS STANDARDS OF THE INTERNATIONAL BUILDING WIRELESS COMMUNICATIONS FOR CONTROLS FROM SPARE BREAKERS. MULTIPLE 120V CIRCUITS ARE PROVIDED IN PANEL "M" FOR THE DDC CONTROL POWER. REFER TO ELECTRICAL PANEL SCHEDULES.

- SYSTEM ARCHITECTURE SHALL PROVIDE SECURE WEB ACCESS USING GOOGLE CHROME BROWSER FROM ANY COMPUTER ON THE OWNER'S LAN.
- ANY CONTROL SYSTEM THAT SHALL PROVIDE ADDITIONAL BAS SERVER SOFTWARE SHALL BE UNACCEPTABLE. ONLY SYSTEMS THAT UTILIZE THE NIAGARA 4 FRAMEWORK SHALL SATISFY THE REQUIREMENTS OF THIS SECTION.
- THE BAS SERVER SHALL HOST ALL GRAPHIC FILES FOR THE CONTROL SYSTEM.
- CONTROL AND MONITORING OF ALL BACNET COMPATIBLE EQUIPMENT.
 - PERFORMANCE MONITORING. THE SYSTEM SHALL PROVIDE THE SPECIFIED PERFORMANCE MONITORING FUNCTIONALITY, INCLUDING REQUIRED MONITORING POINTS AND PERFORMANCE METRICS, SYSTEM ACCURACY, DATA ACQUISITION AND DATA MANAGEMENT CAPABILITIES, AS WELL AS ALL REQUIRED GRAPHICAL AND DATA DISPLAYS.
- SYSTEM ARCHITECTURE SHALL FULLY SUPPORT A MULTI-VENDOR ENVIRONMENT AND BE ABLE TO INTEGRATE THIRD PARTY SYSTEMS VIA EXISTING VENDOR PROTOCOLS INCLUDING, AS A MINIMUM, LONTALK, BACNET AND MODBUS.
- ALL CONTROL DEVICES FURNISHED WITH THIS SECTION SHALL BE PROGRAMMABLE DIRECTLY FROM THE NIAGARA 4 WORKBENCH EMBEDDED TOOLSET UPON COMPLETION OF THIS PROJECT. THE USE OF CONFIGURABLE OR PROGRAMMABLE CONTROLLERS THAT REQUIRE ADDITIONAL SOFTWARE TOOLS FOR POST-INSTALLATION MAINTENANCE SHALL NOT BE ACCEPTABLE. OWNER SHALL OWN THE CONTROL SYSTEM. OWNER SHALL RECEIVE ALL ADMINISTRATOR LEVEL LOGIN AND PASSWORDS FOR ENGINEERING TOOLSET AT FIRST TRAINING SESSION. THE OWNER SHALL HAVE FULL LICENSING AND FULL ACCESS RIGHTS FOR ALL NETWORK MANAGEMENT, OPERATING SYSTEM SERVER, ENGINEERING AND PROGRAMMING SOFTWARE REQUIRED FOR THE ONGOING MAINTENANCE AND OPERATION OF THE BAS.
- OPEN NIC STATEMENTS - ALL NIAGARA 4 SOFTWARE LICENSES SHALL HAVE THE FOLLOWING NICS: "ACCEPT.STATION.IN=""", "ACCEPT.STATION.OUT="" AND "ACCEPT.WB.IN="" AND "ACCEPT.WB.OUT="" . ALL OPEN NIC STATEMENTS SHALL FOLLOW NIAGARA OPEN NIC SPECIFICATIONS.
- GLOBAL SCHEDULING
- ALARM ALERTS VIA TEXT MESSAGE, EMAIL, AND FRONT-END ALARMING
- TRENDING
- MULTIPLE USER LEVELS
 - ADMINISTRATOR
 - OPERATORS
 - VIEWER
- GRAPHICS SHOWING BUILDING FLOOR PLAN AND SPACE SENSOR LOCATIONS WITH SATISFIED/UNSATISFIED SPACE SETPOINT GRAPHICS
- GRAPHICS SHOWING FLOOR PLANS, ROPS, AND MECHANICAL UNITS
- UNIT GRAPHICS FOR EACH PIECE OF MECHANICAL EQUIPMENT SHOWING ALL REQUESTED CONTROL MONITORING POINTS
- COORDINATE INFORMATION TECHNOLOGY REQUIREMENTS SUCH AS IP ADDRESSES, MAC ADDRESSES, AND SUBNET MASKS WITH OWNER

- OWNER CONTROL SYSTEM TRAINING AND OWNER DESIRED SYSTEM REPROGRAMMING SHALL BE PROVIDED AT THE FOLLOWING INTERVALS:
 - PARTIAL OCCUPANCY
 - FULL OCCUPANCY
 - 3 MONTHS AFTER FULL OCCUPANCY
 - 6 MONTHS AFTER FULL OCCUPANCY
 - 12 MONTHS AFTER FULL OCCUPANCY
- INCLUDE 40 HOURS OF REPROGRAMMING TIME DURING THE FIRST YEAR OF OCCUPANCY TO BE USED AT THE OWNER'S DISCRETION.
- PROVIDE ONE YEAR WARRANTY ON PARTS AND LABOR.
- PROVIDE FIVE YEAR SOFTWARE MAINTENANCE AGREEMENT ON THE FRONT END AND ALL CONTRACTOR PROVIDED CONTROLLERS WITH UPDATES AND CYBER SECURITY PROTECTION INCLUDED.
- PROVIDE CONTRACTOR'S SUBMITTAL FOR REVIEW BY OWNER AND ENGINEER THAT INCLUDE THE FOLLOWING:
 - NETWORK COMMUNICATIONS DIAGRAM
 - FRONT END GRAPHICS
 - SEQUENCE OF OPERATIONS
 - POINTS LIST
 - SETPOINTS
- PROVIDE AS-BUILT CONTROL DRAWINGS
 - NETWORK COMMUNICATIONS DIAGRAM
 - FRONT END GRAPHICS
 - SEQUENCE OF OPERATIONS
 - POINTS LIST
 - SETPOINTS
 - POINT-TO-POINT COMMISSIONING REPORT
 - PERFORMANCE VERIFICATION SHEETS
 - CONTROLLER CHECKOUT/CALIBRATION SHEETS
- ANY CONTROL WIRING THAT WILL NOT BE CONCEALED SHALL BE INSTALLED IN CONDUIT
- COORDINATE CONTROL PANEL LOCATION WITH OWNER AND CONTRACTOR

- OCCUPIED HEATING SETPOINT = 70°F (ADJ)
- OCCUPIED COOLING SETPOINT = 74°F (ADJ)
- OCCUPIED TEMPERATURE RANGE LIMITS = 70°F-74°F
- UNOCCUPIED HEATING SETPOINT = 66°F (ADJ)
- UNOCCUPIED COOLING SETPOINT = 78°F (ADJ)

- ADJUST THE OCCUPIED TEMPERATURE SETPOINT ANYWHERE IN THE RANGE OF 70°F-74°F (ADJ)
- OVERRIDE THE OCCUPANCY SCHEDULE FOR 2 HOURS (ADJ)
- DISPLAY SPACE TEMPERATURE
- DISPLAY OCCUPIED/UNOCCUPIED STATUS

- IF ANY TEMPERATURE SENSOR READS A TEMPERATURE LOWER THAN 50°F (ADJ) A PRIORITY ALARM SHALL BE TRIGGERED TO ALERT THE OWNER OF THE POSSIBILITY OF FREEZING CONDITIONS.

- RTU-4 SHALL BE INTEGRATED INTO THE CONTROL SYSTEM.
- PROVIDE ALL SENSORS AND ACTUATORS REQUIRED FOR MONITORING AND CONTROL TO ACHIEVE THE SEQUENCES AND POINTS BELOW. RTU'S SHALL HAVE A BACNET CARD.
- BELOW IS A LIST OF PREDETERMINED POINTS:
 - SUPPLY AIR TEMPERATURE SETPOINT
 - SUPPLY AIR TEMPERATURE
 - SUPPLY FAN COMMAND (ON/OFF/SPEED)
 - SUPPLY FAN STATUS (ON/OFF/SPEED)
 - COOLING COMMAND (ON/OFF/PERCENTAGE)
 - COOLING STATUS (ON/OFF/PERCENTAGE)
 - SUPPLY DUCT STATIC PRESSURE SETPOINT
 - SUPPLY DUCT STATIC PRESSURE
 - RETURN AIR TEMPERATURE
 - OUTSIDE AIR TEMPERATURE
- SEQUENCE OF OPERATIONS:
 - DURING OCCUPIED/UNOCCUPIED HOURS WHEN ECONOMICIZING IS NOT AVAILABLE, THE RTU SUPPLY FAN SHALL RUN CONSTANTLY AND MODULATE TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT, THE OUTSIDE AIR DAMPER SHALL MODULATE TO DELIVER THE MINIMUM OA VOLUME SHOWN ON THE RTU SCHEDULE, AND STAGE COOLING TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT OF 55°F (ADJ.).
 - DURING OCCUPIED/UNOCCUPIED HOURS WHEN ECONOMICIZING IS AVAILABLE, THE RTU SUPPLY FAN SHALL RUN CONSTANTLY AND MODULATE TO MAINTAIN THE DUCT STATIC SETPOINT, THE OUTSIDE AIR DAMPER SHALL MODULATE, AND THE COILING SHALL STAGE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT OF 55°F (ADJ.).
 - COORDINATE WITH TEST AND BALANCE CONTRACTOR TO DETERMINE SUPPLY AIR DUCT STATIC SETPOINT.

- ALL VAVs SHALL BE INTEGRATED INTO THE CONTROL SYSTEM.
- PROVIDE ALL SENSORS AND ACTUATORS REQUIRED FOR MONITORING AND CONTROL TO ACHIEVE THE SEQUENCES AND POINTS BELOW. SPACE TEMPERATURE AND SPACE TEMPERATURE SETPOINT SHALL BE SET UP FOR TRENDDING.
- BELOW IS A LIST OF PREDETERMINED POINTS:
 - MINIMUM AIRFLOW
 - MAXIMUM AIRFLOW
 - HEATING AIRFLOW
 - ACTUAL AIRFLOW
 - DAMPER COMMAND (POSITION)
 - HEATING COIL COMMAND (ON/OFF/PERCENTAGE)
 - HEATING COIL STATUS (ON/OFF/PERCENTAGE)
 - LEAVING AIR TEMPERATURE
 - ENTERING AIR TEMPERATURE
 - SPACE TEMPERATURE SETPOINT
 - SPACE TEMPERATURE
- SEQUENCE OF OPERATIONS:
 - IN COOLING MODE, THE MOTORIZED DAMPER SHALL MODULATE AIRFLOW BETWEEN THE MINIMUM AND MAXIMUM AIRFLOW VALUES TO MEET SPACE TEMPERATURE SETPOINT. IF THE SPACE TEMPERATURE DROPS BELOW SET POINT(SPACE OVERCOOLED) THE REHEAT COIL VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
 - IN HEATING MODE, THE MOTORIZED DAMPER SHALL REGULATE AIRFLOW TO THE HEATING AIRFLOW VALUE AND MODULATE THE REHEAT COIL TO MEET SPACE TEMPERATURE SETPOINT.

- ALL FPBs SHALL BE INTEGRATED INTO THE CONTROL SYSTEM.
- PROVIDE ALL SENSORS AND ACTUATORS REQUIRED FOR MONITORING AND CONTROL TO ACHIEVE THE SEQUENCES AND POINTS BELOW.
- BELOW IS A LIST OF PREDETERMINED POINTS:
 - FAN COMMAND (ON/OFF/SPEED)
 - FAN STATUS (ON/OFF/SPEED)
 - MINIMUM PRIMARY AIRFLOW
 - MAXIMUM PRIMARY AIRFLOW
 - ACTUAL PRIMARY AIRFLOW
 - PRIMARY AIR DAMPER COMMAND (POSITION)
 - HEATING COIL COMMAND (ON/OFF/PERCENTAGE)
 - HEATING COIL STATUS (ON/OFF/PERCENTAGE)
 - LEAVING AIR TEMPERATURE
 - PRIMARY AIR ENTERING TEMPERATURE
 - SPACE TEMPERATURE SETPOINT
 - SPACE TEMPERATURE
- SEQUENCE OF OPERATIONS:
 - DURING OCCUPIED HOURS IN COOLING MODE, THE FAN SHALL RUN CONSTANTLY. THE PRIMARY AIR DAMPER SHALL MODULATE TO MEET THE SPACE TEMPERATURE SETPOINT. MINIMUM PRIMARY AIRFLOW SHALL ALWAYS BE MET. IF THE SPACE TEMPERATURE DROPS BELOW SET POINTS, THE REHEAT COIL (OVERCOOLED) THE REHEAT COIL VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
 - DURING OCCUPIED HOURS IN HEATING MODE, THE FAN SHALL RUN CONSTANTLY. THE PRIMARY AIR DAMPER SHALL MODULATE TO MEET THE MINIMUM PRIMARY AIRFLOW. THE HEATING COIL SHALL MODULATE TO MEET THE SPACE TEMPERATURE SETPOINT.
 - DURING UNOCCUPIED HOURS, THE FAN, PRIMARY AIR DAMPER, AND REHEAT COIL SHALL STAGE TO MAINTAIN SPACE TEMPERATURE SETPOINT. THE PRIMARY AIR DAMPER CAN FULLY CLOSE IN HEATING MODE.
- NOTES:
 - FAN SHALL RUN AT CONSTANT VOLUME. THE CONTROLS SYSTEM SHALL SHOW AN UNEDITABLE NOTE ON THE GRAPHIC THAT SHOWS THE FAN SPEED, DETERMINED AT BALANCING, REQUIRED TO ACHIEVE DESIGN AIRFLOW.

- BOILERS B-1 & B-2 AND HEATING HOT WATER PUMPS HHWP-1 AND HHWP-2 SHALL BE INTEGRATED INTO THE CONTROL SYSTEM.
- PROVIDE ALL SENSORS AND ACTUATORS REQUIRED FOR MONITORING AND CONTROL TO ACHIEVE THE SEQUENCES AND POINTS BELOW. ALL POINTS SHALL BE SET UP FOR TRENDING.
- BELOW IS A LIST OF PREDETERMINED POINTS
 - OUTDOOR AIR TEMPERATURE
 - HEATING HOT WATER SUPPLY SETPOINT (ADJ)
 - HEATING HOT WATER SUPPLY TEMPERATURE (PER BOILER)
 - HEATING HOT WATER SUPPLY TEMPERATURE (PRIMARY LOOP BEFORE HS-1)
 - HEATING HOT WATER RETURN TEMPERATURE (PRIMARY LOOP AFTER HS-1)
 - HEATING HOT WATER SUPPLY TEMPERATURE TO BUILDING (SECONDARY LOOP)
 - HEATING HOT WATER RETURN TEMPERATURE FROM BUILDING (SECONDARY LOOP)
 - BOILER ENABLE COMMAND PER BOILER (ON/OFF)
 - BOILER STATUS PER BOILER (ON/OFF/ALARM)
 - BOILER FIRING RATE PER BOILER
 - HEATING HOT WATER PUMP COMMAND PER PUMP (ON/OFF/SPEED)
 - HEATING HOT WATER PUMP STATUS PER PUMP (ON/OFF/SPEED)
 - HEATING HOT WATER PUMP RUNTIME PER PUMP
 - SECONDARY WATER LOOP DIFFERENTIAL PRESSURE SETPOINT
 - SECONDARY WATER LOOP DIFFERENTIAL PRESSURE (REF DRAWINGS FOR DP SENSOR LOCATION)
 - ALARM STATUS FOR BOILERS AND PUMPS
- SEQUENCE OF OPERATIONS
 - BOILERS SHALL RUN LEAD LAG AND ROTATE POSITIONS EVERY WEEK TO EVENLY DISTRIBUTE USE ACROSS THE BOILERS
 - HEATING HOT WATER SUPPLY SYSTEM SHALL ACTIVATE WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 60°F OR ANY VAV BOX OR FAN POWERED BOX CALLS FOR HEAT.
 - WHEN THE HEATING HOT WATER SYSTEM IS ACTIVATED ENABLE THE HEATING HOT WATER PUMPS. HEATING HOT WATER PUMPS OPERATE IN DUTY, STANDBY (N+1), RAMP DUTY PUMP UP AND DOWN TO MAINTAIN THE SECONDARY LOOP DIFFERENTIAL PRESSURE SETPOINT.
 - ROTATE DUTY HHWP TO MAINTAIN RUNTIME. CHANGE OVER DUTY PUMP WHEN THE RUNTIME OF THE DUTY PUMP IS 168 HOURS (ADJ) MORE THAN THE STANDBY PUMP. IF DUTY PUMP FAILS, ALARM GAS AND SWITCH TO STANDBY PUMP AUTOMATICALLY.
 - START BOILERS AND INTEGRAL CIRCULATOR PUMPS AND SEQUENCE BOILERS (USING INTERNAL BOILER WATER) TO MAINTAIN 160°F (ADJ) SECONDARY LOOP HEATING HOT WATER SUPPLY TEMPERATURE.
 - SUPPLY WATER TEMPERATURE SHALL BE RESET BETWEEN 120°F-160°F DEPENDING ON OUTDOOR AIR TEMPERATURE WITH 160°F WATER BEING PROVIDED ANYTIME THE OUTDOOR AIR TEMPERATURE IS BELOW FREEZING.

WORK WITH TAB CONTRACTOR TO DETERMINE SECONDARY LOOP DIFFERENTIAL PRESSURE SETPOINT DETERMINED DURING HYDRONIC BALANCING. ADD UNEDITABLE NOTE TO THE BOILER PLANT BAS GRAPHIC SHOWING THE DIFFERENTIAL PRESSURE SETPOINT DETERMINED DURING BALANCING.

- PROVIDE TEMPERATURE AND HUMIDITY SENSOR IN DATA 146 INTERLOCKED WITH THE CONTROL SYSTEM TO ALARM IF THE TEMPERATURE EXCEEDS 80°F (ADJ) OR 80% RH (ADJ)

- CONTROL TOILET EXHAUST FAN WITH A TIME CLOCK SET TO THE SAME OCCUPANCY SCHEDULE AS THE REMAINDER OF THE HVAC EQUIPMENT. LOCATE TIMECLOCK IN JAN 103.
- SEQUENCE OF OPERATIONS:
 - FAN SHALL RUN CONTINUOUSLY DURING OCCUPANCY HOURS.

- CONTROL TOILET EXHAUST FAN WITH A TIME CLOCK SET TO THE SAME OCCUPANCY SCHEDULE AS THE REMAINDER OF THE HVAC EQUIPMENT. LOCATE TIMECLOCK IN JAN 158.
- SEQUENCE OF OPERATIONS:
 - FAN SHALL RUN CONTINUOUSLY DURING OCCUPANCY HOURS.

- CONTROL EXHAUST FAN WITH LOCAL THERMOSTAT SET AT 90 F.
- SEQUENCE OF OPERATIONS:
 - MOTORIZED DAMPER ON LOUVER L-1 SHALL OPEN AND FAN SHALL RUN TO UNTIL SET POINT HAS BEEN MET. DAMPER SHALL BE NORMALLY CLOSED.

- SEQUENCE OF OPERATIONS:
 - FAN SHALL RUN CONTINUOUSLY.

- CONTROL ELECTRIC WALL HEATER WITH LOCAL THERMOSTAT SET AT 65F.
- SEQUENCE OF OPERATIONS:
 - FAN AND HEATER SHALL STAGE TO MEET SETPOINT.

- CONTROL ELECTRIC WALL HEATER WITH INTEGRAL THERMOSTAT SET AT 70F.
- SEQUENCE OF OPERATIONS:
 - FAN AND HEATER SHALL STAGE TO MEET SETPOINT.

- CONTROL ELECTRIC WALL HEATER WITH LOCAL THERMOSTAT SET AT 60F.
- SEQUENCE OF OPERATIONS:
 - FAN AND HEATER SHALL STAGE TO MEET SETPOINT.

- CONTROL SPLIT SYSTEMS WITH LOCAL THERMOSTAT. REFER TO GENERAL SETPOINTS SECTION OF CONTROL NOTES FOR SETPOINTS.
- SEQUENCE OF OPERATIONS:
 - FAN AND HEATING OR COOLING SYSTEM SHALL STAGE TO MEET SETPOINT.

- INTERLOCK FAN AND KITCHEN EQUIPMENT UNDER HOOD TO ENSURE KITCHEN EXHAUST FAN IS RUNNING WHEN COOKING EQUIPMENT IS IN OPERATION

1. LAB HOOD FAN SHALL OPERATE CONTINUOUSLY AT DESIGN CFM SETPOINT.
2. FAN SPEED SHALL BE INDEPENDENT FROM SASH POSITION.

PROJECT NO. SW23-01-01

PLANS AND ESTIMATES PREPARED BY

**GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING**

				PLAN SCALE:	DRAWN			APPROVED
NO	REVISION	BY	DATE		DESIGNED			
					SURVEY			
				PROFILE SCALE	PROJ. MGR.	TW	6/15	
					LEAD ENGR.	Boc	6/15	
				HORIZONTAL:	FIELD MGR.	Jw	6/15	
					RECOMMENDED BY	J. Pm		
				VERTICAL:	DESIGN MANAGER			CITY ENGINEER
				FILE:	DRAWING:			DATE: 6/12/2025
				ATLAS PAGE NO:				
				SHEET NAME:				SHEET NO.
					MECHANICAL CONTROLS			M7-01



1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID IN ORDER TO VERIFY THE EXTENT OF THE CONSTRUCTION WORK AND THE ACTUAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. SUBMITTAL OF BID SHALL BE CONSIDERED PROOF THAT THE CONTRACTOR HAS VISITED THE JOB SITE AND IS FAMILIAR WITH THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR PROCURING ALL NECESSARY PERMITS AND LICENSES REQUIRED FOR WORK. PAY ALL LAWFUL FEES, INCLUDING, BUT NOT LIMITED TO UTILITY DEPOSITS, INSPECTION FEES, AND TEMPORARY AND PERMANENT CONSTRUCTION FEES.
3. PROVIDE ELECTRICAL UTILITY WITH THE CONSTRUCTION SCHEDULE WHEN IT BECOMES AVAILABLE.
4. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS WITH OTHER TRADES. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT. FAILURE TO COORDINATE WITH OTHER TRADES SHALL NOT RESULT IN A CHANGE ORDER.
5. NOTIFY ARCHITECT AND REQUEST ADDITIONAL INFORMATION FOR PROPOSED ALTERNATE OR ALTERNATE EQUIPMENT OTHER THAN LISTED IN CONTRACT DOCUMENTS OR SUBMITTED DURING PRODUCT REVIEW WHICH REQUIRES ADDITIONAL SPACE, SUPPORT, LAYOUT OR ELECTRICAL REQUIREMENT. PROVIDE WORK ONLY AFTER WRITTEN NOTICE TO PROCEED FROM ENGINEER OF RECORD.
6. SERVICE EQUIPMENT SHALL BE MARKED WITH THE AVAILABLE FAULT CURRENT ON THE PANEL PER NEC 110.24. COORDINATE WITH LOCAL UTILITY.
7. PROVIDE HANDLE TIES ON ALL MULTIWIRED BRANCH CIRCUITS TO MEET THE REQUIREMENTS OF NEC 210.4(B).
8. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZED PER NEC) IN ALL CONDUITS CONTAINING POWER CIRCUITS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
9. PROVIDE A COMPLETE TYPED PANELBOARD IDENTIFICATION SCHEDULE AND PANELBOARD NAMEPLATE FOR ALL PANELS.
10. PROVIDE DEVICE LABELS (STICK ON MYLAR TAPE LABEL) WITH PANEL AND BRANCH CIRCUIT-1/4" HIGH BLACK LETTER) FOR ALL ELECTRICAL DEVICES.
11. BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4" C UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE MAY BE USED FOR THE FINAL 15-FT OF RUN. MINIMUM CONDUIT SIZE SHALL BE 1" FOR ALL UNDERSLAB & BELOW GRADE INSTALLATIONS.
12. CONTRACTOR SHALL SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3)(a) WHERE CIRCUITS ARE GROUPED.
13. ALL FEEDER AND BRANCH CIRCUITS SHALL BE INSTALLED ABOVE GROUND, UNLESS SPECIFICALLY NOTED IN PLANS TO BE BELOW GRADE.
14. MINIMIZE VISIBILITY OF SURFACE-MOUNTED CONDUIT. GROUP CONDUITS AND ROUTE HORIZONTALLY TO NEAREST BREAK IN WALL, TURN 90 DEGREES AND ROUTE TO STRUCTURE. GROUP BRANCH CIRCUITS WHEN POSSIBLE TO REDUCE CONDUITS. UTILIZE NEAREST WALL CHASES WHEN POSSIBLE.
15. PROVIDE ARC FLASH WARNING LABELS ON ALL REQUIRED EQUIPMENT.
16. HOMERUNS ARE SHOWN SEPARATELY TO PRESERVE DRAWING CLARITY. CONTRACTOR IS PERMITTED TO COMBINE HOMERUNS SERVING LIGHTING AND WIRING DEVICES AS ALLOWED BY THE NEC.

13. WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
 - A. LIGHTING DEVICES +48"
 - B. RECEPTACLES +18"
 - C. GFI RECEPTACLES +24"
 - D. TELEPHONE +48"
 - E. TELEPHONE/DATA +18"
 - F. DATA +18"
 - G. FIRE ALARM PULL STATION +48"
18. PROVIDE SEALS AT RACEWAY PENETRATIONS AS FOLLOWS:
 - A. EXTERIOR: REFER TO ARCHITECTURAL DOCUMENTS FOR SEALING REQUIREMENTS AT ALL EXTERIOR MOUNTED DEVICES, FIXTURES, ENCLOSURES, AND RACEWAY PENETRATIONS AND EXACT LOCATIONS.
 - B. FIRE RATED WALLS: SEAL PER SPECIFICATIONS FOR FIRE STOPPING.
19. ALL PENETRATIONS THROUGH SIDE WALLS OR ROOF ARE TO BE COORDINATED WITH ARCHITECT AND SEALED IN A WAY THAT MAINTAINS MANUFACTURER'S WARRANTY.
20. UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING THE CIRCUIT:
 - A. INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE.
 - B. PERFORM CONTINUITY TEST.
 - C. VERIFY PROPER PHASING CONNECTION TO ALL THREE PHASE MOTOR LOADS.
21. ALL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ACCEPTABLE MANUFACTURERS SHALL BE AS INDICATED FOR EQUIPMENT SCHEDULED UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND EQUIPMENT AND MAKE ALL FINAL CONNECTIONS FOR A COMPLETE AND OPERATIONAL SYSTEM IN CONFORMANCE WITH EQUIPMENT MANUFACTURER WIRING DIAGRAMS.
22. COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECTURAL ELEVATIONS, DETAILS, AND MILLWORK DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL ITEMS PRIOR TO ROUGH-IN THESE SHALL TAKE PRECEDENCE OVER ANY INDICATIONS IN ELECTRICAL CONSTRUCTION DOCUMENTS.
23. COORDINATE EXACT ELECTRICAL REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT PRIOR TO ROUGH-IN. WHERE PROVIDED EQUIPMENT NAMEPLATE PROTECTIVE DEVICE RATING DIFFERS FROM SIZE SPECIFIED, PROVIDE WIRING AND OVERCURRENT DEVICE WITH APPROPRIATE RATING PER NEC.
24. PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND WIRING FROM DISCONNECT SWITCH OR JUNCTION BOX TO EQUIPMENT KNOCKOUT OR ELECTRICAL CONNECTION POINT FOR ALL OUTDOOR OR OTHER WET-LOCATION EQUIPMENT CONNECTIONS.
25. COORDINATE EXACT LOCATION AND REQUIREMENTS OF ALL APPLIANCES AND OTHER DEVICES WITH OTHER TRADES AND VENDORS PRIOR TO ROUGH-IN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL REQUIREMENTS AS REQUIRED BY EQUIPMENT PROVIDER AND/OR EQUIPMENT DRAWINGS. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
26. REFER TO MECHANICAL PLANS FOR CONTROL OF EXHAUST FANS, VRF SYSTEM, BRANCH CONTROLLERS, AHUS, MAU'S ETC. PROVIDE ALL ELECTRICAL REQUIREMENTS INCLUDING DISCONNECT SWITCH, SPEED CONTROLLER, AND MOTOR STARTER.
27. PROVIDE 4"x8"x3/4" FIRE RETARDANT PLYWOOD BACKBOARD FOR ANY TELEPHONE TERMINAL BOARDS U.N.O. PROVIDE DUPLEX RECEPTACLE AT +48".

1. THE LOCATION OF DUCTS, PIPE AND EQUIPMENT AS SHOWN ON THE DRAWINGS IS DIAGRAMMATIC AND SCHEMATIC AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES BEFORE INSTALLATION. LIGHT FIXTURE LOCATIONS SUPERSEDE HVAC DUCTWORK, GRILLES AND DIFFUSERS. OFFSET TO AVOID STRUCTURE AND/OR ANY OTHER PIPING.
2. COORDINATE EXACT FIXTURE LOCATIONS WITH STRUCTURE, DIFFUSERS, ETC.
3. WHERE FIELD CONDITIONS WILL INTERFERE WITH THE INTENDED LIGHTING LAYOUT, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ARCHITECT AND ENGINEER OF RECORD.
4. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LIGHT FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
5. EXIT LIGHTS AND EMERGENCY LIGHTS SHALL BE CONNECTED TO UNSWITCHED PORTION OF LIGHTING CIRCUIT SERVING AREA.
6. LIGHT FIXTURES WITH EMERGENCY BATTERY BACKUP SHALL HAVE ADDITIONAL UNSWITCHED HOT/NEUTRAL PAIR OF CONDUCTORS ROUTED TO BATTERY PACK.
7. PROVIDE ALL ACCESSORIES REQUIRED FOR FUNCTIONAL ELECTRICAL INSTALLATION AND SUPPORT.
8. PROVIDE DRY WALL/PLASTER KIT FOR FIXTURES MOUNTED ON GYP. BOARD PER ARCHITECTURAL CEILING PLAN.
9. EXIT SIGN MOUNTING:
 - A. WALL: CENTER 12" ABOVE DOOR OPENING.
 - B. CEILING/PENDANT: ON CEILING OR AT HEIGHT SPECIFIED ON DRAWINGS.
10. EMERGENCY LIGHT MOUNTING:
 - A. COMPLY WITH MANUFACTURER'S REQUIREMENTS FOR MAINTAINED LIGHTING LEVELS AND COORDINATE ELEVATIONS WITH ARCHITECT AND ENGINEER.
11. EMERGENCY LIGHT ELECTRICAL CONNECTION:
 - A. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS. ALLOW BATTERY TO CHARGE CONTINUOUSLY FOR A MINIMUM OF 168 HOURS BEFORE INITIAL TESTING.
 - B. AFTER EMERGENCY LIGHT HAS BEEN POWERED DO NOT REMOVE POWER FOR EXTENDED PERIODS OF TIME.
12. PROVIDE LIGHT FIXTURE SUPPORTS AND RESTRAINTS TO COMPLY WITH APPLICABLE SEISMIC ZONE REQUIREMENTS.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ALL LIGHT FIXTURES TO OWNER.

A	Ampers	MC	Intermediate Metal Conduit
AC	Air Conditioning	kV	Kilovolts
AFF	Above Finished Floor	kVA	KiloVolt-Ampers
AFG	Above Finished/Final Grade	kW	Kilowatts
AIC	Ampers Interrupting Capacity	LCD	Liquid Crystal Display
ATS	Automatic Transfer Switch	LED	Light Emitting Diode
AWG	American Wire Guage	LV	Low Voltage
BAS	Building Automation System	MC	Momentary Contact
BPS	Bolted Pressure Switch	MDF	Main Distribution Frame
C	Conduit	N	Neutral
CB	Circuit Breaker	O.C.	On Center
CDF	Cable Distribution Frame	P	Pole
CKT	Circuit	PC	Photocell
ded	dedicated	PNL	Panel
DIA	Diameter	PVC	Polyvinyl Chloride
DP	Distribution Panel	SPD	Surge Protective Device
EB	Electronic Ballast	SW	Switch
EMT	Electric Metallic Tubing	SWBD	Switchboard
fc	Footcandles	UNO	Unless noted otherwise
G	Ground	UON	Unless otherwise noted
GFI	Ground Fault Circuit Interrupter	UPS	Uninterruptible Power Supply
GFCI	Ground Fault Circuit Interrupter	UTP	Unshielded Twisted Pair
GFP	Ground Fault Protection	V	Volts
GND	Ground	VA	Volt-Ampers
GRC	Galvanized Rigid Conduit	VFD	Variable Frequency Drive
HID	High Intensity Discharge	W	Watts
HP	Heat Pump / Horsepower	w/	with
HVAC	Heating, Ventilation, and Air Conditioning	WP	Weatherproof
HWG	Heavy Wall Gauge	WR	Weather-resistant
IDF	Intermediate Distribution Frame	XFMR	Transformer

	ELECTRICAL SWITCHBOARD
	ELECTRICAL PANELBOARD
	ELECTRICAL DISCONNECT SWITCH
	FUSED ELECTRICAL DISCONNECT SWITCH
	COMBINATION MOTOR STARTER
	MOTOR STARTER
	ENCLOSED CIRCUIT BREAKER
	HOMERUN, CONCEALED IN WALLS AND CEILINGS
	HOMERUN, CONCEALED IN SLAB OR BELOW GRADE
	CIRCUIT AND (assigned switch group)
	LOW VOLTAGE WIRING
	MANUAL MOTOR STARTER SWITCH
	ELECTRICAL POINT OF CONNECTION OR GROUND ROD
	ELECTRICAL JUNCTION BOX
	DUPLEX RECEPTACLE
	DOUBLE-DUPLEX RECEPTACLE
	GFCI RECEPTACLE
	6" ABOVE COUNTER, COORDINATE FINAL HEIGHTS WITH MILLWORK ELEVATIONS
	SIMPLEX RECEPTACLE, NEMA TYPE NOTED ON PLANS
	DUPLEX/USB COMBO RECEPTACLE
	CEILING MOUNTED RECEPTACLE
	FLOOR BOX, RE: E2-11 'FLOOR BOX SCHEDULE' FOR TYPE INFORMATION
	SMOKE DETECTOR
	TIMECLOCK

	STRIP LIGHT FIXTURE
	2'x2' LIGHT FIXTURE, SHADING INDICATES EMERGENCY BACKUP
	DOWNLIGHT
	EMERGENCY FIXTURE
	WALL/CEILING MOUNTED EXIT SIGN, ARROWS INDICATE EGRESS PATH
	PHOTOCELL, 120V
	SINGLE POLE SWITCH
	SWITCH - LOWER CASE INDICATES SWITCH GROUP
	INFRARED OCCUPANCY SENSOR SWITCH
	DIMMER - FORWARD PHASE
	INFRARED OCCUPANCY SENSOR SWITCH, 0-10V DIMMING
	3-WAY SWITCH
	4-WAY SWITCH
	DUAL TECHNOLOGY PIR/ULTRASONIC SENSOR SWITCH
	LIGHTING CONTROLS SWITCH LOCATION, RE: LIGHTING CONTROLS SCHEDULE FOR MORE INFORMATION
	LIGHTING POWER PACK, RE: CONTROL NOTES FOR MORE INFORMATION
	IR/DT OCCUPANCY SENSOR, RE: LIGHTING CONTROL SCHEDULE FOR MORE INFORMATION.
	UL924 EMERGENCY RELAY

	DATA OUTLET (2 NETWORK DROPS AT EACH LOCATION UNO)
	SINGLE HDMI PASS THROUGH WALL PLATE
	ACCESS CONTROL
	SECURITY CAMERA, WALL MOUNTED
	SECURITY CAMERA, CEILING MOUNTED
	TV LOCATION. PROVIDE DUPLEX RECEPTACLE AND JUNCTION BOX FOR LOW VOLTAGE
	TIMECLOCK LOCATION. PROVIDE DUPLEX RECEPTACLE AND JUNCTION BOX FOR LOW VOLTAGE
	WIRELESS ACCESS POINT

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FIRE ALARM SYSTEM RESULTING IN A COMPLETE AND OPERABLE FIRE ALARM SYSTEM THAT COMPLIES WITH NFPA 72, NFPA 1221, IFC 510.1, AND IS APPROVED BY THE OWNER AND THE AUTHORITIES HAVING JURISDICTION. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONNECTIONS BETWEEN KITCHEN HOOD AND FIRE ALARM SYSTEM. FIRE ALARM CONTRACTOR SHALL SUBMIT FIRE DRAWINGS DESIGNED BY NICET LEVEL IV INDIVIDUAL, EQUIPMENT CUT SHEETS, ETC. PER LOCAL CODE AND NFPA 72 TO LOCAL AUTHORITIES HAVING JURISDICTION AND ENGINEER FOR REVIEW PRIOR TO ORDERING EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. THE PRODUCT OF SINGLE MANUFACTURER, SHALL DISPLAY THE MANUFACTURER'S NAME ON EACH COMPONENT. COORDINATE WITH OWNER FOR ACCEPTABLE MODELS AND DESIGN REQUIREMENTS.

1. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE 2023 NATIONAL ELECTRICAL CODE (NEC) (INCLUDING LOCAL AMENDMENTS), AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
2. PROVIDE DATA ROUGH-IN, INCLUDING BACK BOXES, MINIMUM OF 1" EMT TURNED OUT 90 DEGREES IN CEILING SPACE, AND PULL STRING. PROVIDE BUSHINGS FOR ALL LOW-VOLTAGE CONDUITS. BUNDLE, TRAIN, AND ROUTE ALL CONDUCTORS UTILIZING CABLE TRAY OR J-HOOKS BACK TO SYSTEM HEAD-END EQUIPMENT.
3. ACCESS CONTROL AND CCTV SYSTEM BY OTHERS. COORDINATE WITH VENDOR TO PROVIDE 120V POWER FOR SYSTEMS AS NEEDED.
4. USE OF METALCLAD CABLE IS ACCEPTABLE FOR LIGHTING WHIPS. OTHER USES ARE SUBJECT TO APPROVAL BY ENGINEER OF RECORD PRIOR TO INSTALLATION.
5. ALL CONDUIT FITTINGS SHALL BE COMPRESSION TYPE. SET-SCREW TYPE NOT ALLOWED.
6. EXTERIOR AND ROOF MOUNTED MAINTENANCE RECEPTACLES SHALL BE GFCI/RW TYPE. RECEPTACLES SHALL BE INSTALLED IN METALLIC WP BOX WITH METALLIC IN-USE COVER.
7. WIRING DEVICE COLORS: REFER TO SPECIFICATIONS FOR SPECIALTY DEVICES. STANDARD DEVICES SHALL BE WHITE. WALL PLATES SHALL BE WHITE.
8. PROVIDE TAMPER RESISTANT RECEPTACLES WHERE REQUIRED BY NEC 406.12.
9. REFER TO MANUFACTURER'S SPECIFICATIONS FOR WIRING DIAGRAMS AND ADDITIONAL REQUIREMENTS FOR FURNITURE. CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND FURNITURE SUPPLIER TO CAREFULLY DEFINE THE SCOPE OF WORK DURING THE FURNITURE INSTALLATION AS REQUIRED BY THE NEC. ALL WIRING WITHIN AND CONNECTIONS TO THE FURNITURE SYSTEM SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
10. ALL CONDUIT SHALL BE CONCEALED ABOVE LAY-IN CEILINGS WHERE POSSIBLE. CONDUIT IN OTS AREAS SHALL NOT BE RUN PERPENDICULAR TO STRUCTURE.
11. PROVIDE 4" CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR/EXTERIOR ON-GRADE MOUNTED ELECTRICAL EQUIPMENT.
12. ALL EXTERIOR LIGHTING CIRCUITS (SITE AND BUILDING MOUNTED) SHALL BE EQUIPPED WITH PHOTOCELL FUNCTION FOR DUSK/DOWN OPERATION AND SHALL INCLUDE PHOTOCELL OVERRIDE. TIMECLOCK SCHEDULES AND PHOTOCELL SENSITIVITY SHALL BE SYNCHRONIZED TO ENSURE UNIFORM OPERATION.
13. PROVIDE ALL TIMECLOCKS REQUIRED FOR MECHANICAL EQUIPMENT AND ENSURE ALL EXHAUST FANS ARE PROPERLY POWERED THROUGH TIMECLOCKS PER MECHANICAL CONTROLS ON M7-01.

REFERENCE DRAWINGS FOR EXPLICIT DETAILS

GENERATOR BASE:

- PROVIDE PULL BOX ON WALL FOR FUTURE INSTALLATION OF ATS.
- PROVIDE CONDUITS FOR GENERATOR FEED TO ATS AND GENERATOR ANNUNCIATOR PANEL TO FUTURE GENERATOR LOCATION.

GENERATOR ALTERNATE:

- PROVIDE GENERATOR WITH 48HR FUEL TANK
- PROVIDE SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH.
- PROVIDE ALL REQUIRED CONDUITS AND CABLING BETWEEN GENERATOR EQUIPMENT:
 1. 800A FEEDER BETWEEN GENERATOR AND ATS
 2. 800A FEEDER BETWEEN ATS AND MDP
 3. CONDUITS AND DATA FOR ATS ANNUNCIATOR PANEL.
- PROVIDE POWER TO INTEGRAL GENERATOR PANEL.
- PROVIDE ANNUNCIATOR PANELS AS INDICATED ON E2-01.
- PROVIDE SERVICE PLATFORM (CATWALK) FOR GENERATOR ACCESS.
- PROVIDE CONCRETE PAD FOR GENERATOR

LAB BASE:

- PROVIDE EMERGENCY LIGHTING VIA (2) 'STE' FIXTURES.

LAB ALTERNATE:

- PROVIDE CONDUIT, WIRE, AND DEVICES WITHIN LAB AREA.

PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

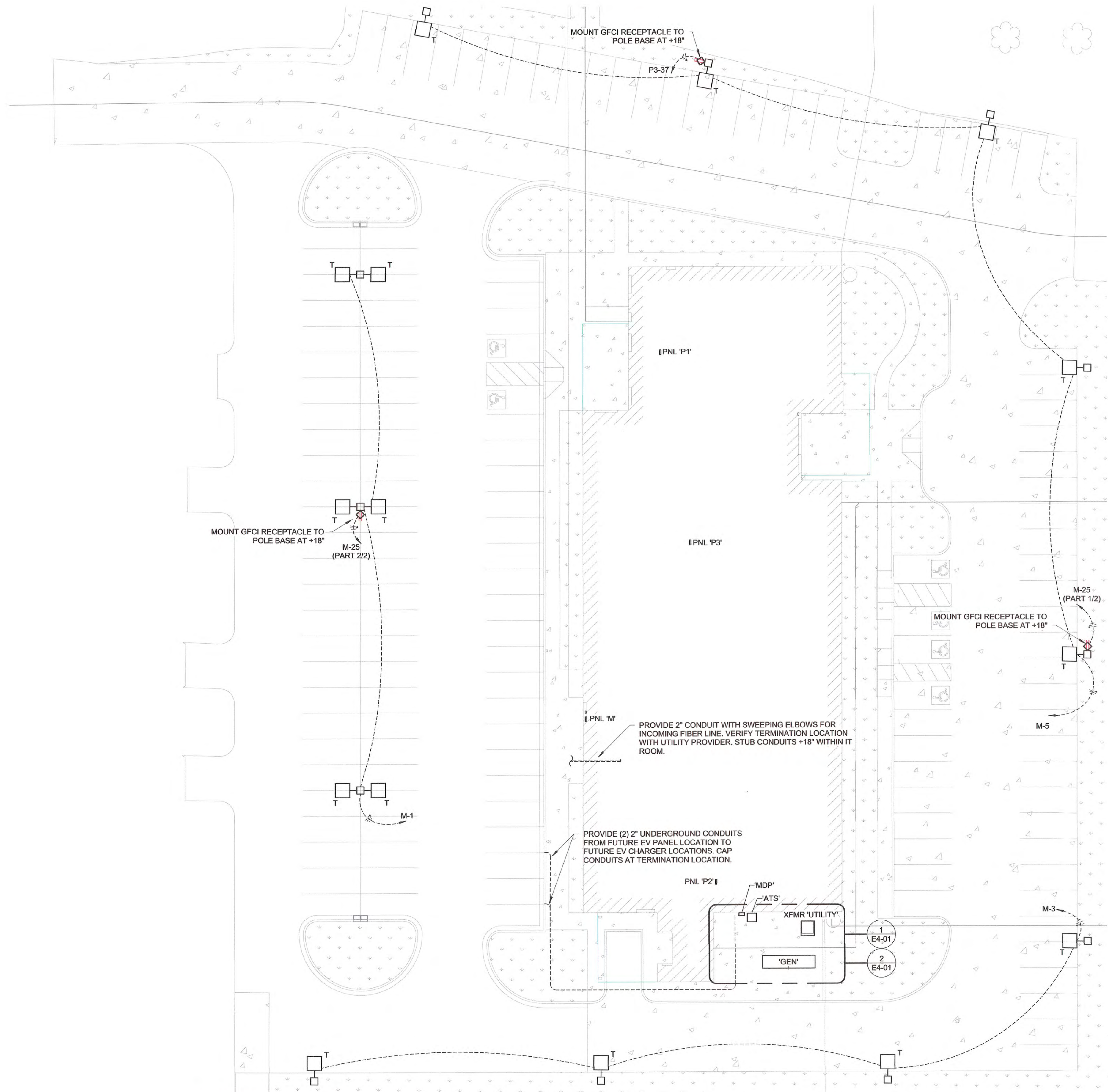
BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

				PLAN SCALE:	DRAWN	HR	APPROVED <
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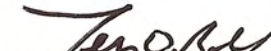
1 ELECTRICAL SITE PLAN

1" = 20'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:		DRAWN	
1" = 20'-0"		DESIGNED	DB
		SURVEY	
PROFILE SCALE:		PROJ. MGR.	
HORIZONTAL:		LEAD ENGR.	Tw 6/25
		FIELD MGR.	Boc 6/25
		RECOMMENDED:	Ju 6/25
VERTICAL:		DESIGN MANAGER	
FILE:		DRAWING:	
ATLAS PAGE NO:		CITY ENGINEER	
SHEET NAME:		DATE: 6/12/2025	
ELECTRICAL SITE PLAN		SHEET NO. E0-02	



NO	REVISION	BY	DATE	PLAN SCALE:			DRAWN		DB	APPROVED
				3/32" = 1'-0"	DESIGNED				 CITY ENGINEER DATE: 6/12/2025	
					SURVEY					
				PROFILE SCALE	PROJ. MGR.		TW	6/25		
					LEAD ENGR.		BAC	6/25		
				HORIZONTAL:	FIELD MGR.		Jus	6/25		
					RECOMMENDED: 1					
				VERTICAL:	DESIGN MANAGER					
				FILE:	DRAWING:					
				ATLAS PAGE NO:						SHEET NO.
SHEET NAME:										
ELECTRICAL LIGHTING PLAN					E1-01					

KEYNOTES

1 FIXTURE SHALL BE MOUNTED TO MULLION AT +113"

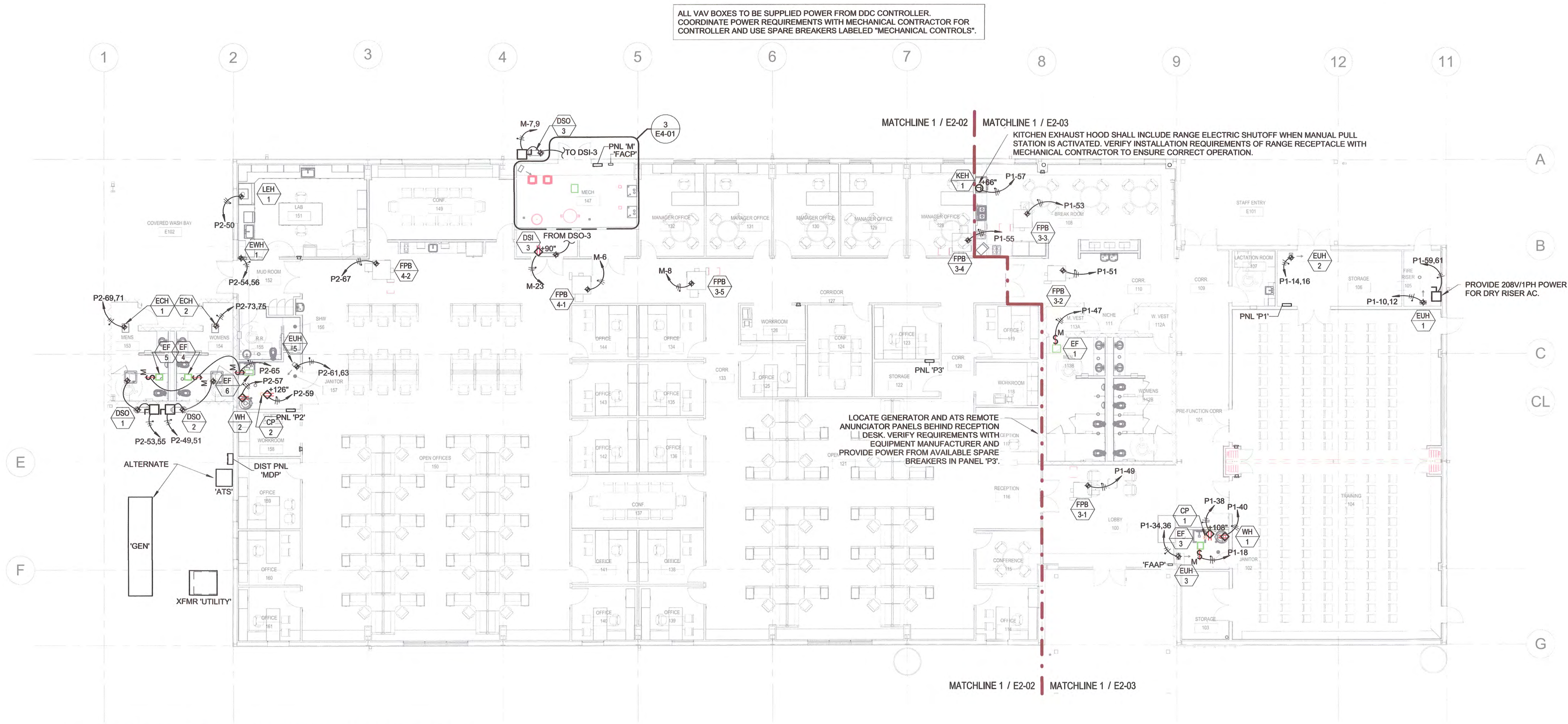


1 ELECTRICAL LIGHTING PLAN



5/30/2025

					PLAN SCALE:	DRAWN	DB		APPROVED
NO	REVISION	BY	DATE		1/8" = 1'-0"	DESIGNED			
						SURVEY			
					PROFILE SCALE	PROJ. MGR.	<i>TW</i>	<i>6/25</i>	
						LEAD ENGR.	<i>BAC</i>	<i>6/25</i>	
					HORIZONTAL:	FIELD MGR.	<i>TW</i>	<i>6/25</i>	
						RECOMMENDED:	<i>Thomas J. My</i>		
					VERTICAL:	DESIGN MANAGER			CITY ENGINEER
					FILE:	DRAWING:			DATE: <i>6/12/2025</i>
					ATLAS PAGE NO:				
					SHEET NAME:				SHEET NO.
					ELECTRICAL LIGHTING				E1-03
					PLAN - NORTH				



1 ELECTRICAL POWER PLAN - OVERALL



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

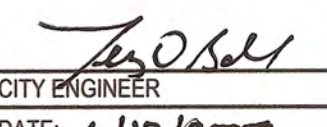
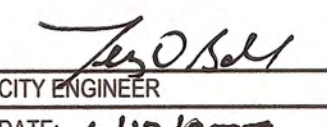
PROJECT NO. SW23-01-01

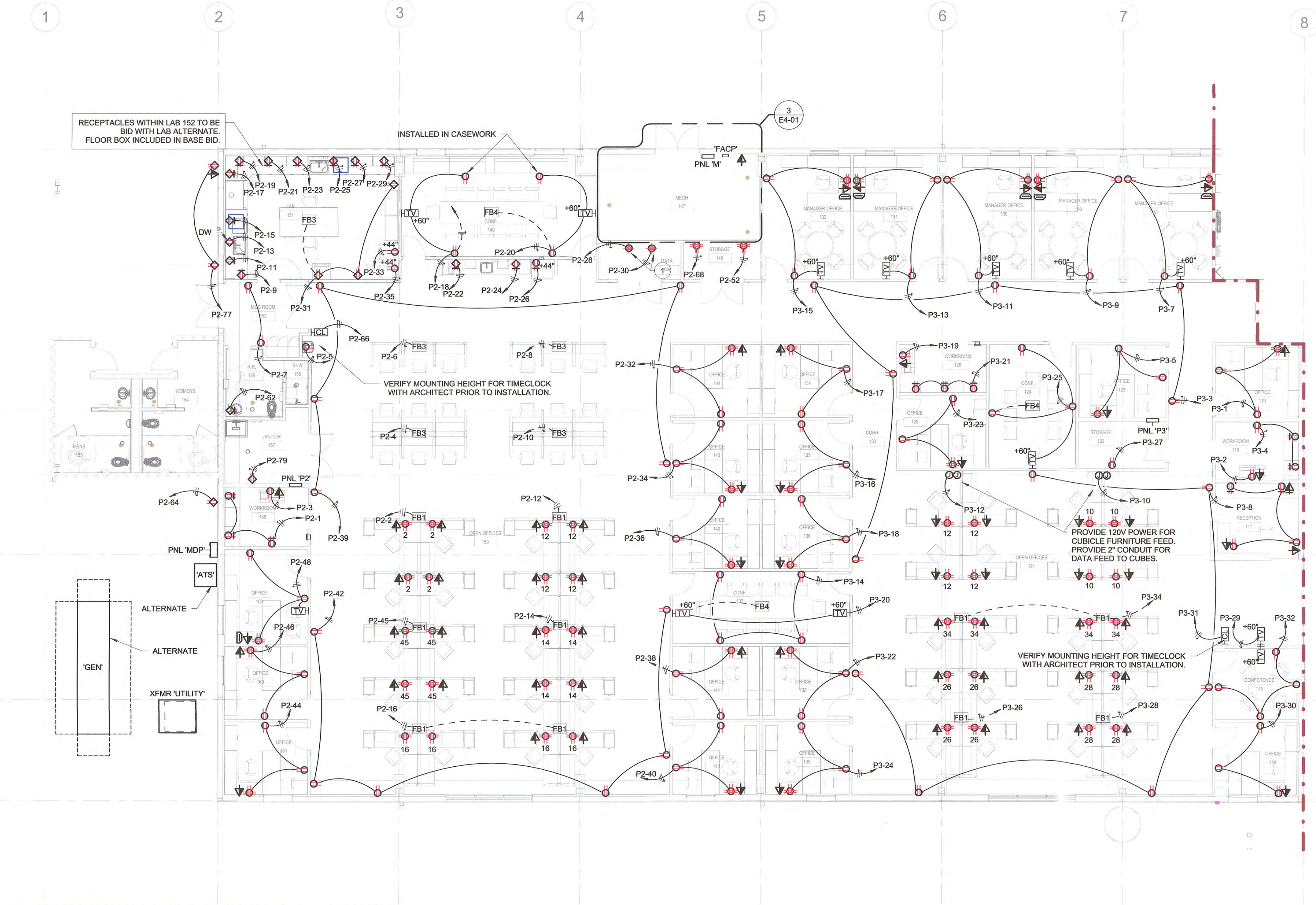
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

BKL, INCORPORATED
ENGINEERS & ARCHITECTS

GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	DB	APPROVED
				3/32" = 1'-0"	DESIGNED		
				PROFILE SCALE	PROJ. MGR.	TW 6/25	 CITY ENGINEER
					LEAD ENGR.	Boc 6/25	
				HORIZONTAL:	FIELD MGR.	SW 6/25	
				VERTICAL:	RECOMMENDED:	MS 6/25	 CITY ENGINEER
				FILE:	DESIGN MANAGER		
				ATLAS PAGE NO:	DRAWING:		DATE: 6/12/2025
				SHEET NAME:			SHEET NO.
				ELECTRICAL POWER PLAN			E2-01

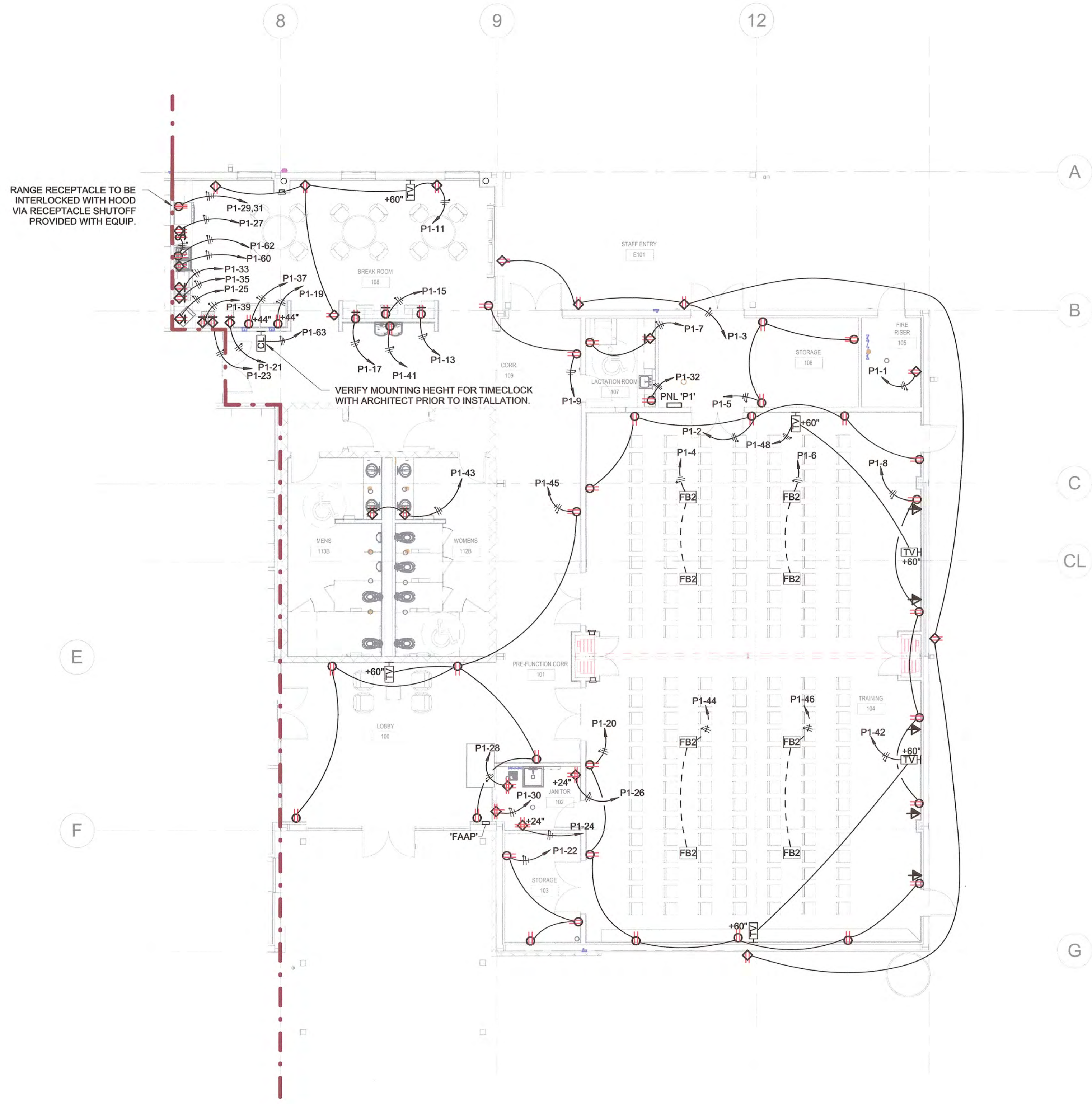


1 ELECTRICAL POWER PLAN - SOUTH
1/8" = 1'-0"

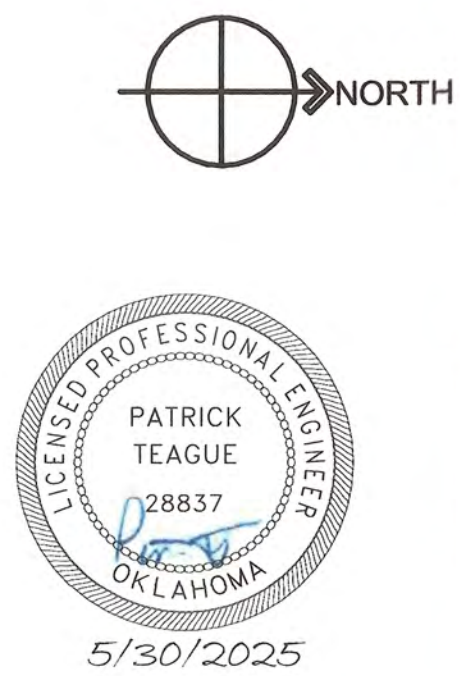
- KEYNOTES**
- 1 PROVIDE DROP CORD RECEPTACLE WITH STRAIN RELIEF FOR CONNECTION TO DATA CABINET POWER SUPPLY UNIT.



STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:			
BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			
PLAN SCALE:	DRAWN	DB	APPROVED
1/8" = 1'-0"	DESIGNED		
PROFILE SCALE:	PROJ. MGR.	TW 6/25	
	LEAD ENGR.	BDC 6/25	
HORIZONTAL:	FIELD MGR.	JW 6/25	
VERTICAL:	RECOMMENDED:	Chorus 6/25	
FILE:	DESIGN MANAGER		CITY ENGINEER
ATLAS PAGE NO:	DRAWING:		DATE: 6/12/2025
SHEET NAME:			SHEET NO.
ELECTRICAL POWER PLAN - SOUTH			E2-02



1 ELECTRICAL POWER PLAN - NORTH
1/8" = 1'-0"



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

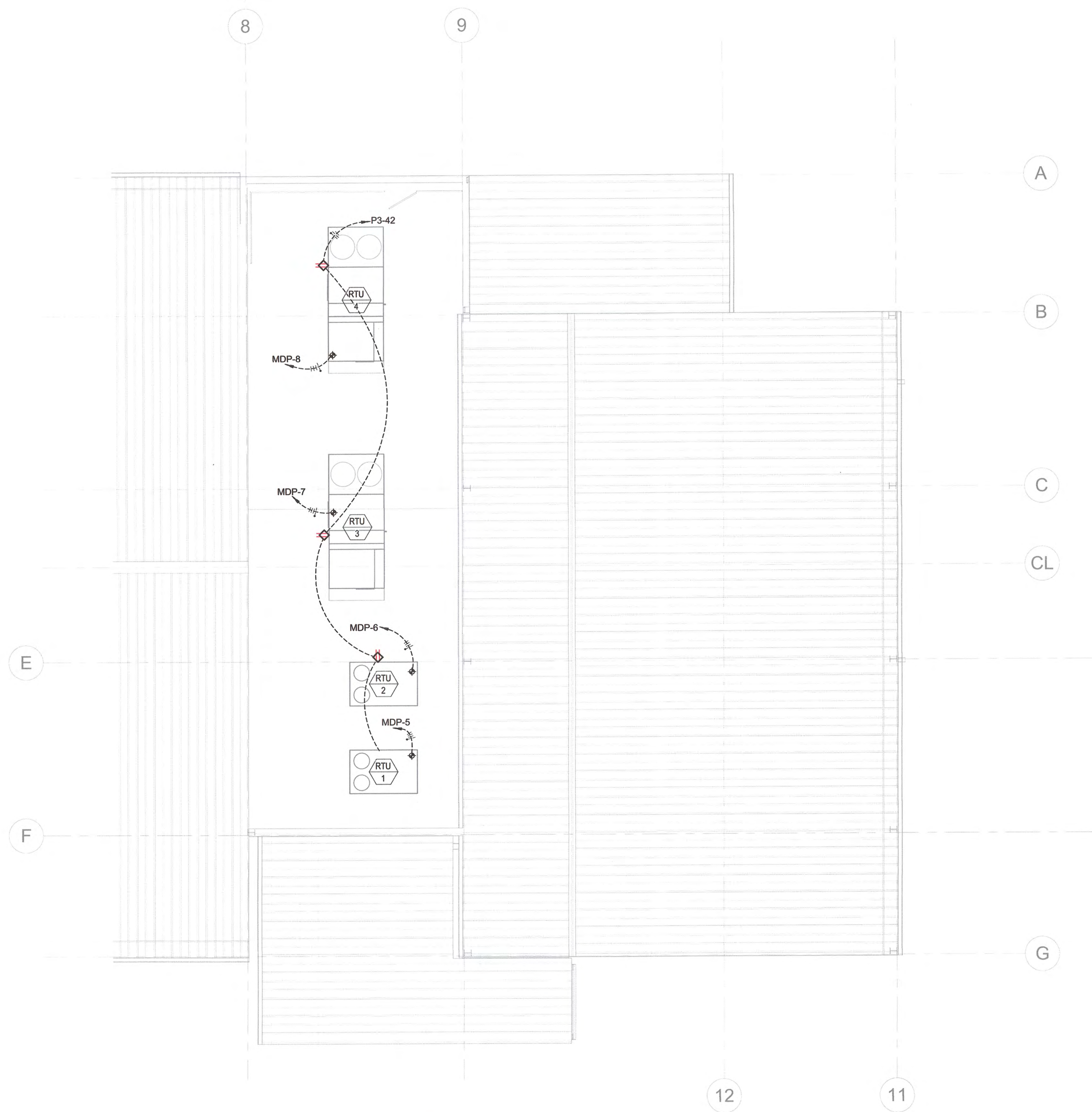
PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
**BKL, INCORPORATED
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GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

NO. REVISION				BY	DATE	PLAN SCALE: 1/8" = 1'-0"	DRAWN DESIGNED SURVEY	DB	APPROVED
						PROFILE SCALE	PROJ. MGR.	TW	6/25
							LEAD ENGR.	BOC	6/25
						HORIZONTAL:	FIELD MGR.	JW	6/25
							RECOMMENDED	J. M.	
						VERTICAL:	DESIGN MANAGER		
						FILE:	DRAWING:		DATE: 6/12/2025
						ATLAS PAGE NO:			
						SHEET NAME:	ELECTRICAL POWER - NORTH		
							SHEET NO. E2-03		



1 ROOF ELECTRICAL POWER PLAN
1/8" = 1'-0"



STORMWATER MAINTENANCE AND
OPERATIONS BUILDING

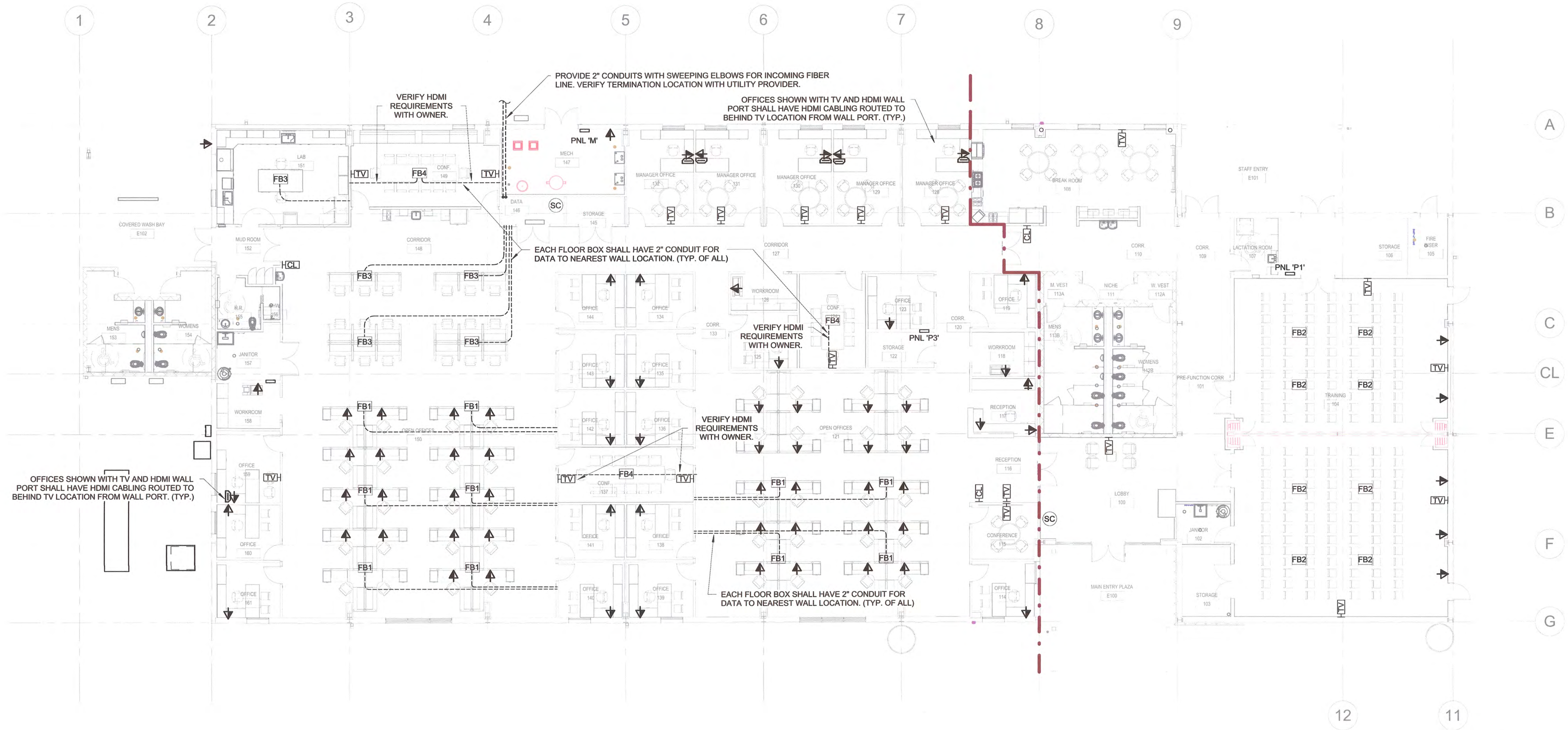
PROJECT NO. SW23-01-01

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
**BKL, INCORPORATED
ENGINEERS & ARCHITECTS**

**GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING**

NO				REVISION	BY	DATE	PLAN SCALE:	DRAWN	DB	APPROVED
							1/8" = 1'-0"	DESIGNED		 CITY ENGINEER DATE: 6/12/2025
								SURVEY		
							PROFILE SCALE	PROJ. MGR.	Tw 6/25	
								LEAD ENGR.	Boc 6/25	
							HORIZONTAL:	FIELD MGR.	Ju 6/25	
								RECOMMENDED BY	M 6/25	
							VERTICAL:	DESIGN MANAGER		
							FILE:	DRAWING:		
							ATLAS PAGE NO:			
							SHEET NAME:	ELECTRICAL ROOF PLAN		SHEET NO. E2-04



1 ELECTRICAL SYSTEMS PLAN
3/32" = 1'-0"

FLOOR BOX SCHEDULE						
TYPE	GANG 1	GANG 2	GANG 3	GANG 4	FINISH	DESCRIPTION
FB1	FURN. FEED	DATA	N/A	N/A	BLACK	LEGRAND EVOLUTION SERIES FURNITURE FEED, 1 POWER GANG, 1 DATA GANG (VERIFY QTY OF DATA WITH OWNER PRIOR TO INSTALLATION)
FB2	DUPLEX	DUPLEX	BLANK	BLANK	BLACK	LEGRAND EVOLUTION SERIES 4-GANG FLOOR BOX.
FB3	DUPLEX	DUPLEX	'6" DATA	BLANK	BLACK	LEGRAND EVOLUTION SERIES 4-GANG FLOOR BOX.
FB4	DUPLEX	DUPLEX	'4" DATA	HDMI	BLACK	LEGRAND EVOLUTION SERIES 4-GANG FLOOR BOX.



STORMWATER MAINTENANCE AND OPERATIONS BUILDING

PROJECT NO. SW23-01-01

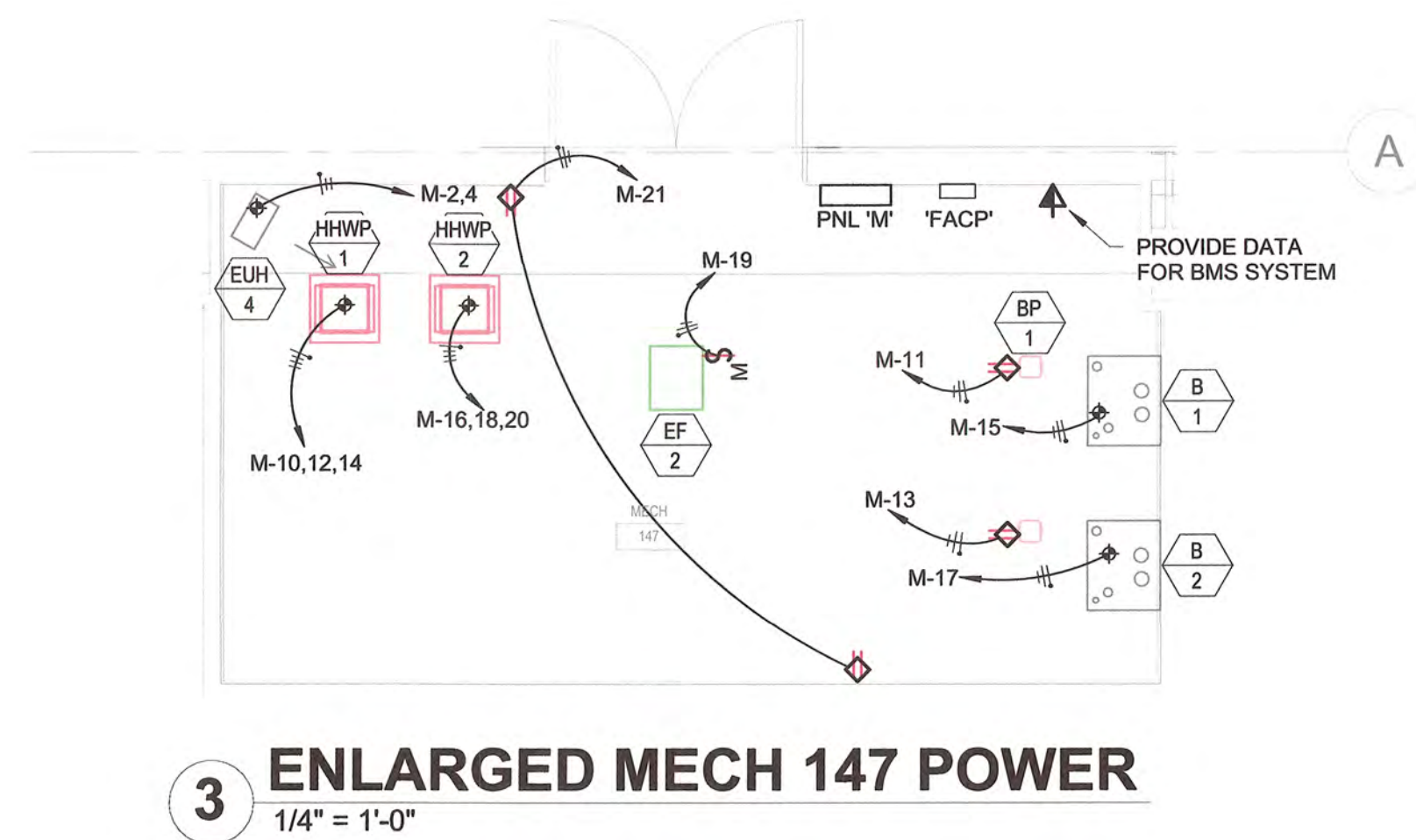
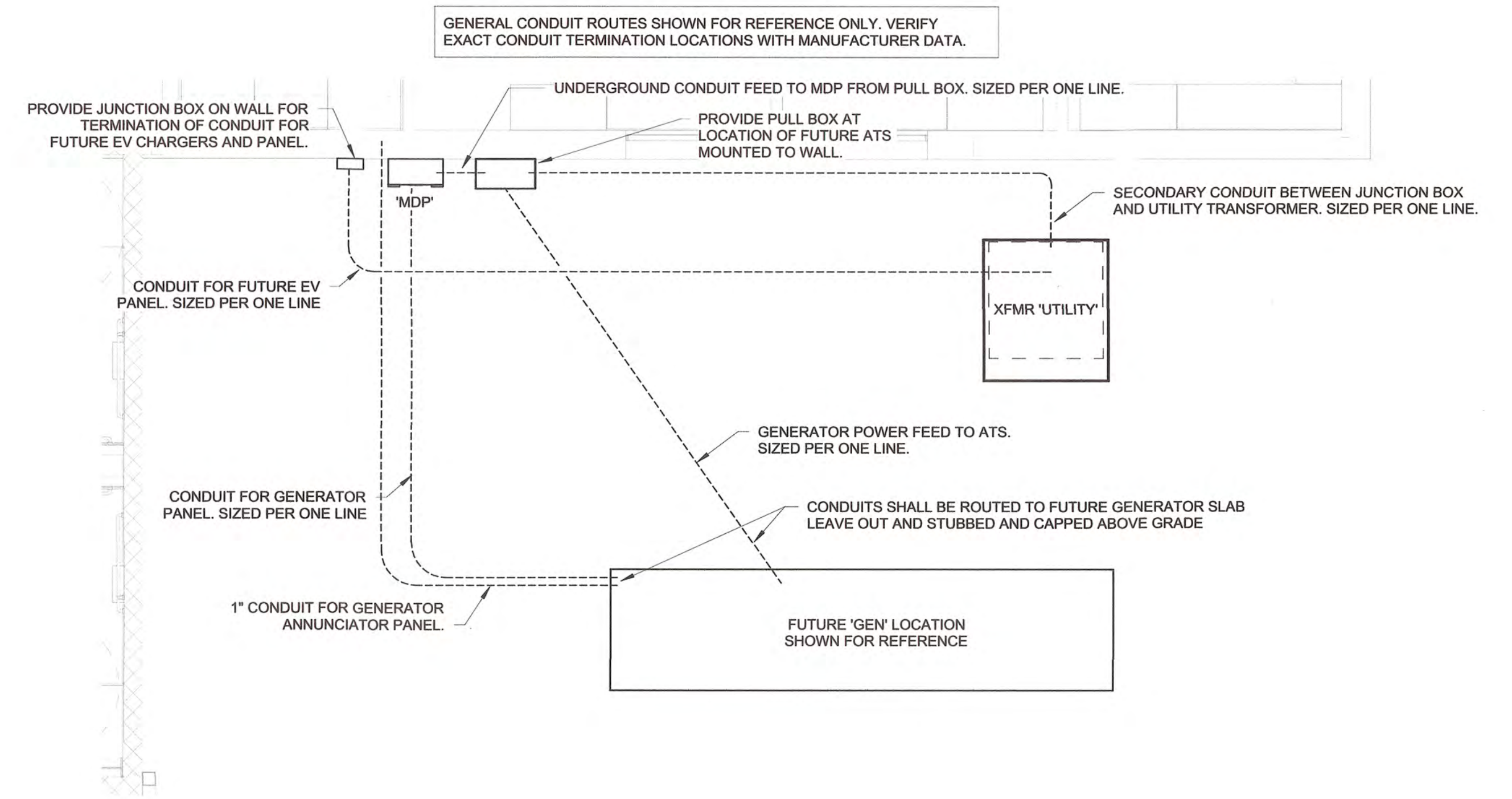
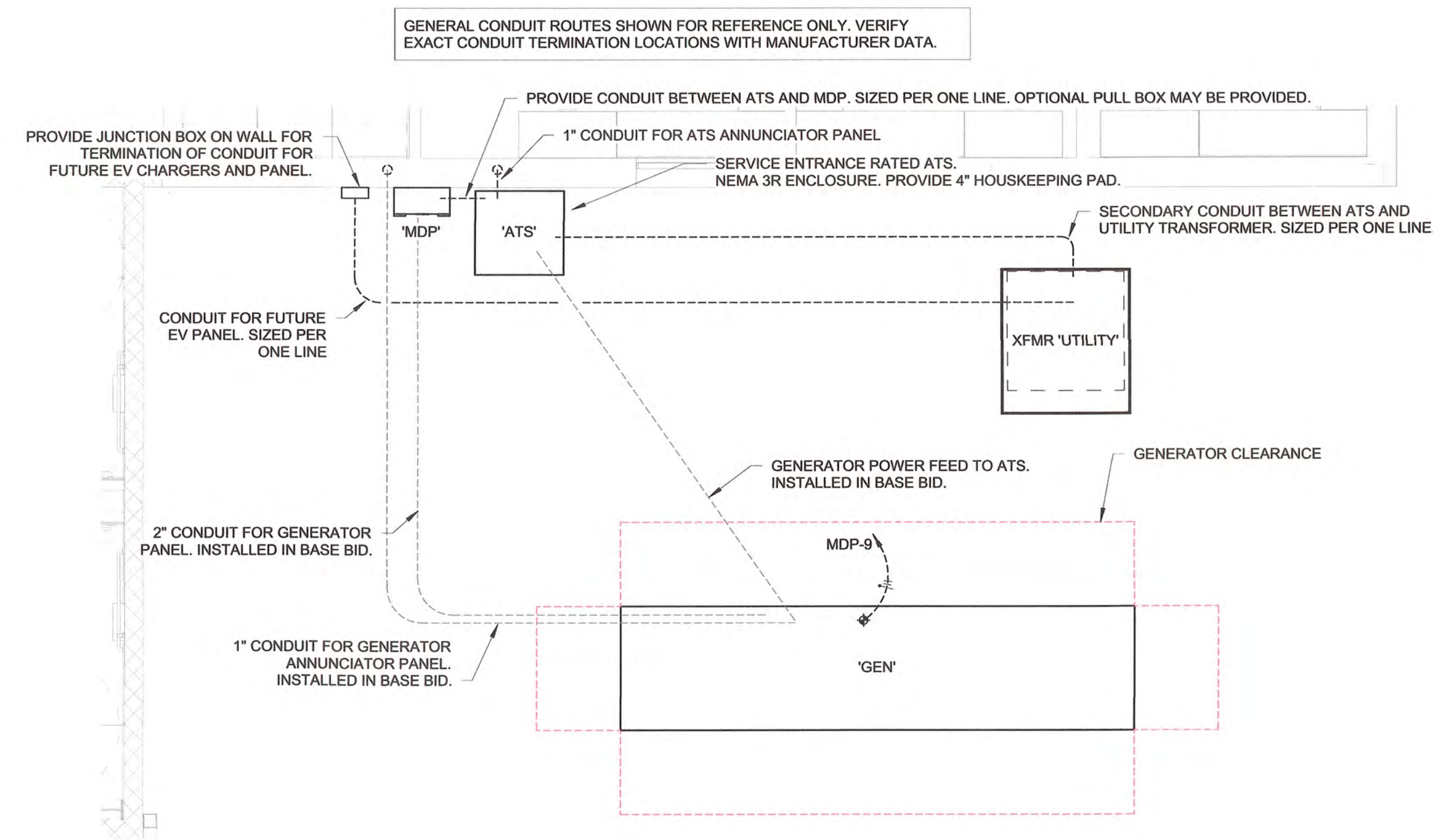
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
BKL, INCORPORATED
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GREEN ACORN
MECHANICAL, ELECTRICAL & PLUMBING

PLAN SCALE:	DRAWN	DB	APPROVED
3/32" = 1'-0"	DESIGNED		
PROFILE SCALE	PROJ. MGR.	TW	6/25
	LEAD ENGR.	Boc	6/25
HORIZONTAL:	FIELD MGR.	Jw	6/25
VERTICAL:	RECOMMENDED BY	Jm	6/25
FILE:	DESIGN MANAGER		
ATLAS PAGE NO:	DRAWING:		
SHEET NAME:			
ELECTRICAL SYSTEMS PLAN			

SHEET NO. **E2-11**

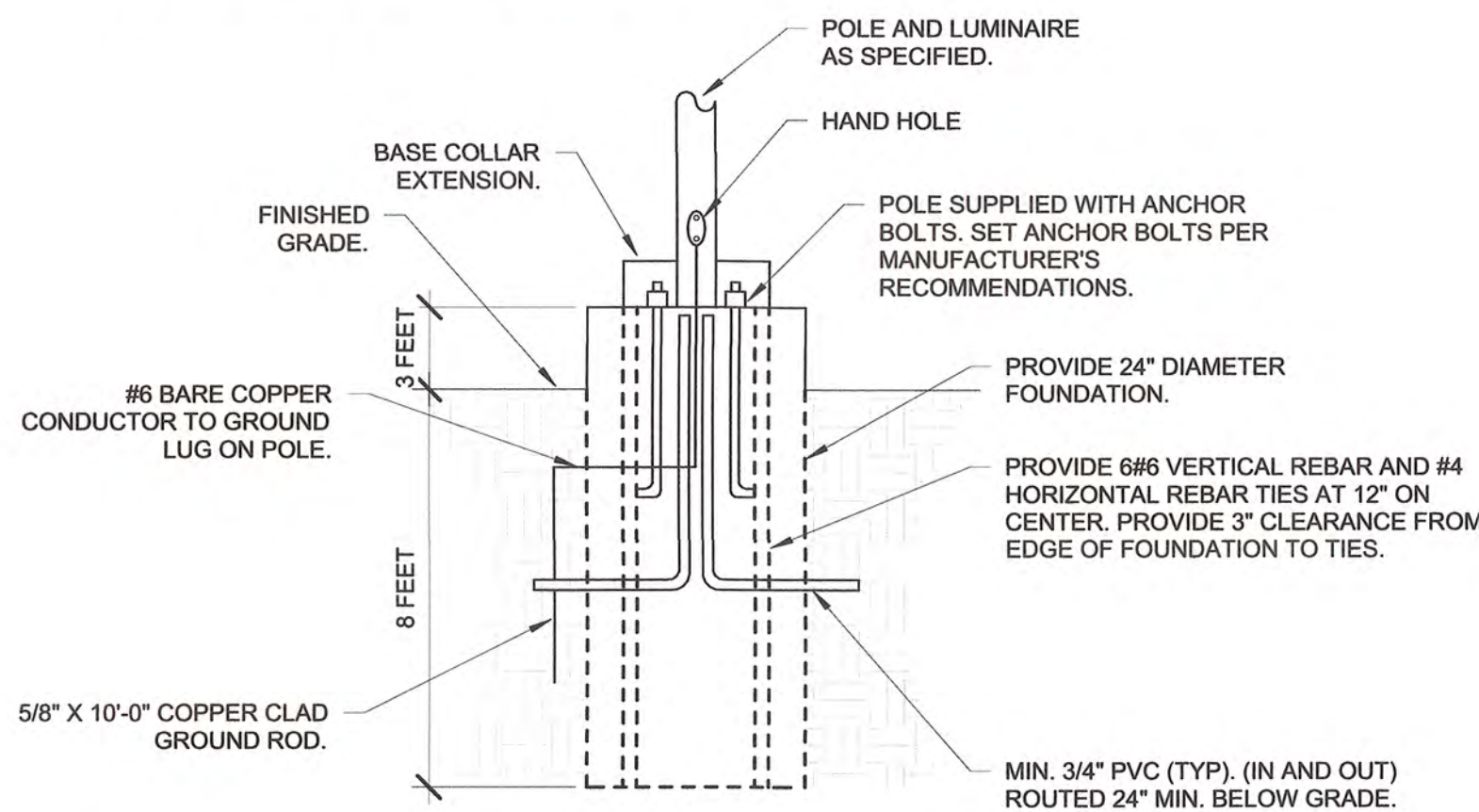


STORMWATER MAINTENANCE AND OPERATIONS BUILDING					
PROJECT NO. SW23-01-01					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY:					
BKL, INCORPORATED ENGINEERS & ARCHITECTS					
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING					
PLAN SCALE:	DRAWN	DB		APPROVED	
$\frac{1}{4}'' = 1'-0''$	DESIGNED				
	SURVEY				
PROFILE SCALE	PROJ. MGR.	TW	6/25		
	LEAD ENGR.	BDC	6/25		
HORIZONTAL:	FIELD MGR.	JW	6/25		
VERTICAL:	RECOMMENDED BY	[Signature]		[Signature] CITY ENGINEER	
	DESIGN MANAGER				
FILE:	DRAWING:			DATE: 6/12/2025	
ATLAS PAGE NO:					
SHEET NAME: ENLARGED ELECTRICAL PLANS				SHEET NO. E4-01	

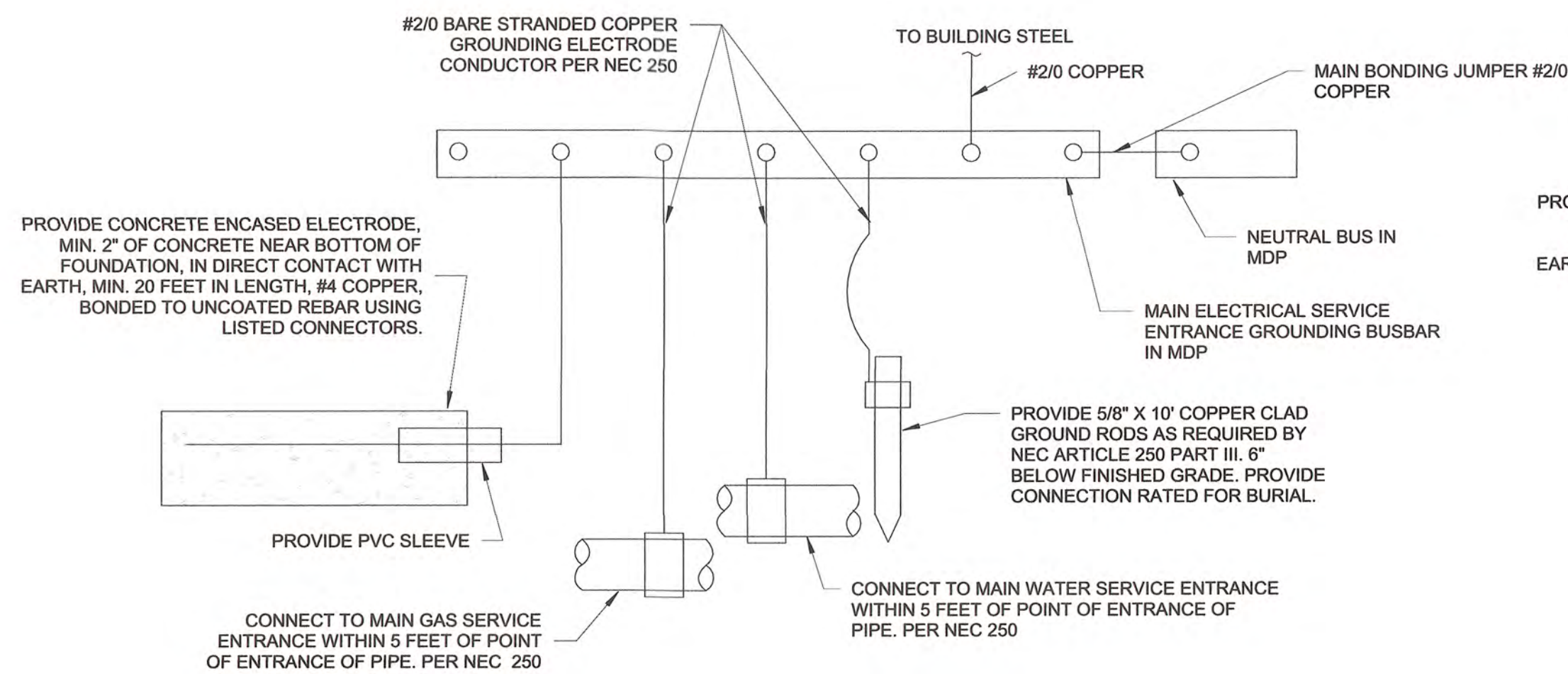
LOCATION: MECHANICAL YARD SUPPLY FROM: UTILITY TRANSFORMER (ALTERNATE: ATS) MOUNTING: SURFACE ENCLOSURE: NEMA 3R				VOLTAGE/PHASE: 208/120V, Wye, 3PH, 4W A.I.C. RATING 65kAIC, FULLY RATED MAINS TYPE: MCB MAINS RATING: 800 A			
CKT	CIRCUIT DESCRIPTION	NOTES	A	B	C	REMARKS	
1	PANEL 'P1'		19.58	20.82	20.61		
2	PANEL 'P2'		24.18	21.50	18.37		
3	PANEL 'P3'		10.22	11.18	8.81		
4	PANEL 'M'		8.56	8.29	6.31		
5	RTU-1		4.37	4.37	4.37		
6	RTU-2		4.37	4.37	4.37		
7	RTU-3		13.25	13.25	13.25		
8	RTU-4		12.29	12.29	12.29		
9	GENERATOR PANEL			2.50	2.50		
10	PREPARED SPACE	--	--	--	--		
11	PREPARED SPACE	--					
			96.81 kVA	98.56 kVA	90.88 kVA		

BREAKER NOTES	LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	EST. DEMAND	PANEL TOTALS
1) SHUNT TRIP	HVAC	124469 VA	100.00%	124469 VA	
2) LOCK-OUT DEVICE	Lighting	13984 VA	125.00%	17481 VA	CONN. LOAD (kVA): 286 kVA
3) GFCP	Motor	16632 VA	125.00%	20790 VA	EST. DEMAND (kVA): 267 kVA
4) GCFI	Receptacle	63100 VA	57.92%	36550 VA	EST. DEMAND (A): 742 A
5) AFCI (DED. NEUT. REQ'D)	Misc Equip	68072 VA	100.00%	68072 VA	
6) EXISTING CKT TO REMAIN					
7)					
8)					

NOTES:
 PROVIDE 4" HOUSEKEEPING PAD UNDER 'MDP'
 MCB NOT INSTALLED IF GENERATOR ALTERNATE IS ACCEPTED.

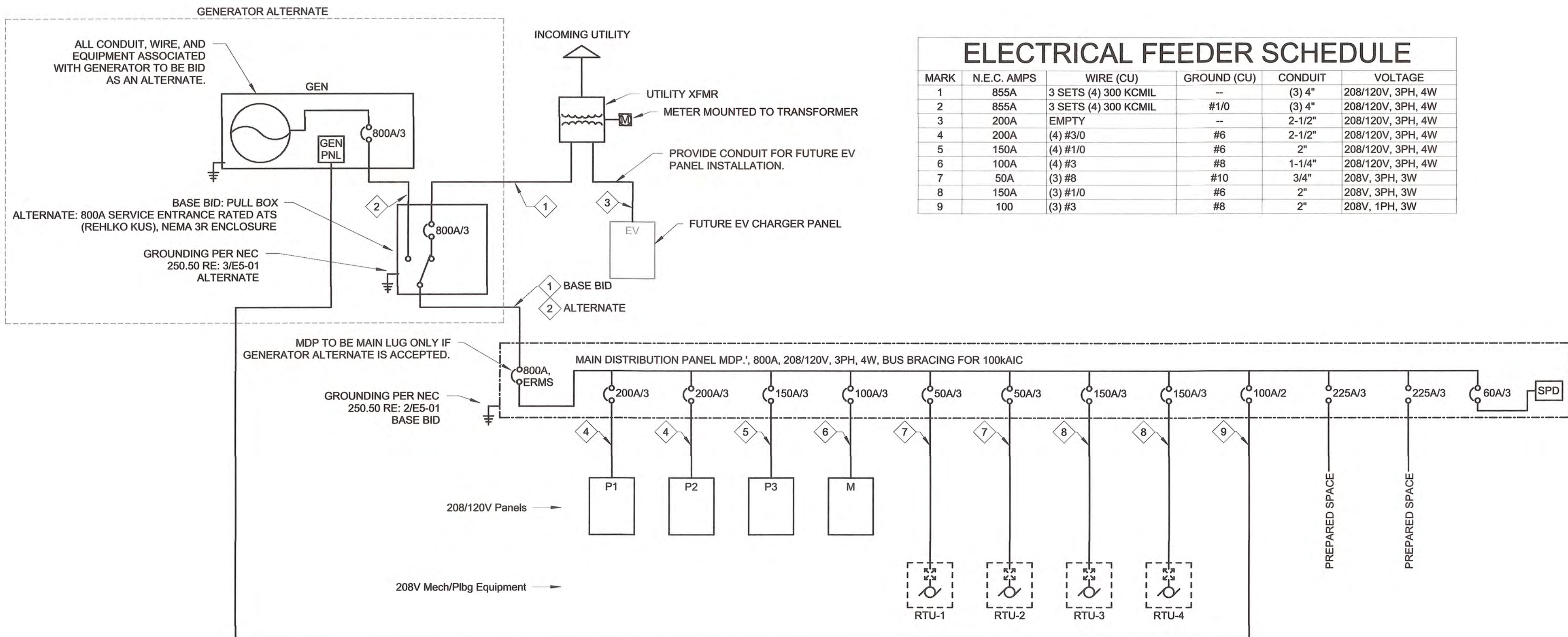


4 PO
N.T.S.



1. PROVIDE GROUNDING OF TELECOMMUNICATIONS EQUIPMENT TO TELECOMMUNICATION MAIN GROUND BUSBAR PER TELECOMMUNICATION VENDOR'S DIRECTION.
2. PROVIDE FOR BONDING OF WATER PIPE SYSTEM AT ALL WATER HEATER LOCATIONS. JUMPERS SHALL BE INSTALLED BETWEEN COLD AND HOT WATER PIPES AT WATER HEATER LOCATIONS. JUMPER SIZE SHALL BE #2/0 COPPER.

2 N.T.S.

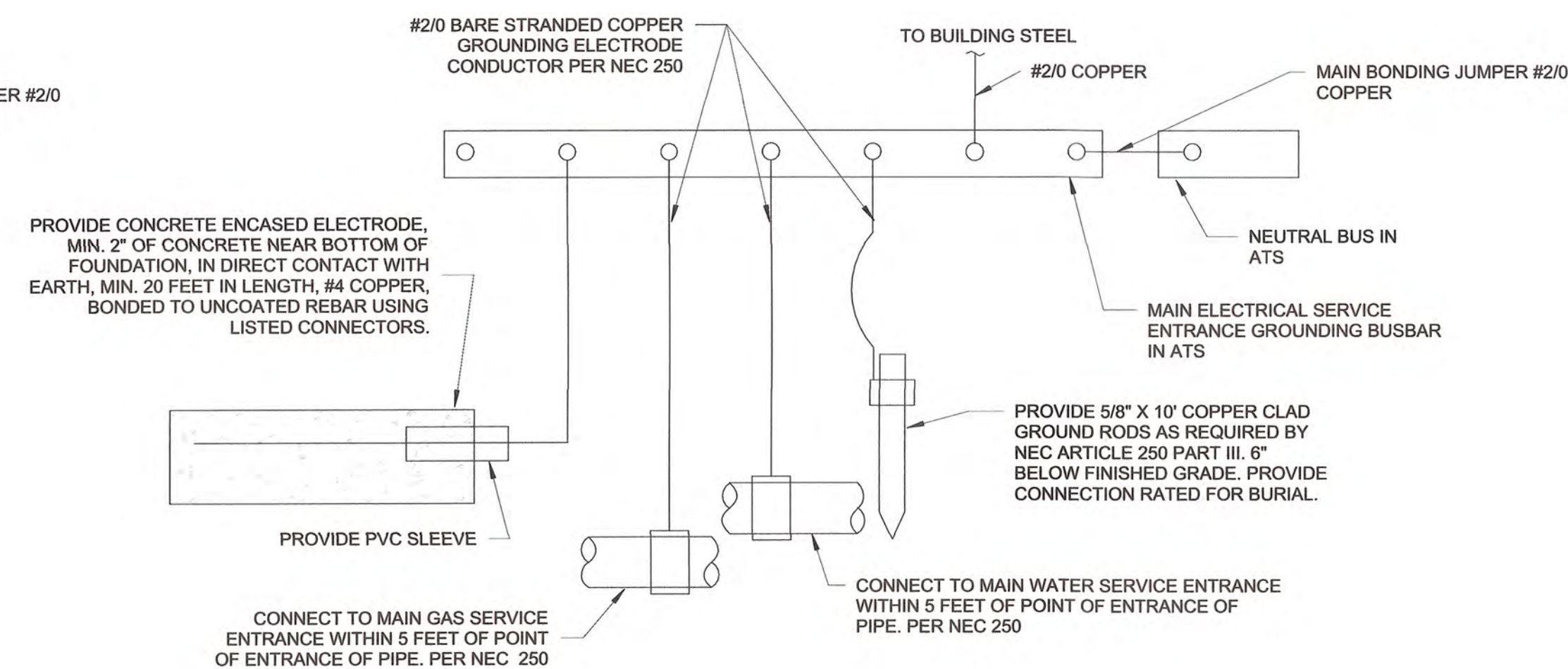


1 ELI
N.T.S.

DIESEL GENERATOR SCHEDULE											
TAG	MANUFACTURER	MODEL	VOLTS/PHASE	KW RATING	MAX db(A) @ FULL LOAD	HEATER RATING	BATTERY CHARGER (A)	WET WEIGHT (WITH FULL TANK)	DIMENSIONS (L"xW"xH")	TANK CAPACITY (GAL)	RUNTIME @ FULL LOAD
GEN	REHLKO	300REOZJ	208V/3ph	300	75	2500W (208V/1PH)	10A	17836 lbs.	220" x 25.7" x 124.9"	1074	48HR

REMARKS:

- GENERATOR SHALL INCLUDE 4UA13 ALTERNATOR.
- ENCLOSURE FINISH - BEIGE
- PROVIDE INTEGRAL 208/120V, 1PH, 3W LOAD CENTER FOR POWERING OF LIGHTS, SERVICE RECEPTACLE, BATTERY CHARGER, AND HEATER
- MUFFLERS SHALL BE LOCATED WITHIN ENCLOSURE.
- REMOTE ANNUNCIATOR - HARDWIRED
- PROVIDE EMERGENCY STOP BUTTON ON EXTERIOR OF GENERATOR ENCLOSURE.
- PROVIDE CATWALKS FOR GENERATOR ENCLOSURE ACCESS.
-
-



1. PROVIDE GROUNDING OF TELECOMMUNICATIONS EQUIPMENT TO TELECOMMUNICATION MAIN GROUND BUSBAR PER TELECOMMUNICATION VENDOR'S DIRECTION.
2. PROVIDE FOR BONDING OF WATER PIPE SYSTEM AT ALL WATER HEATER LOCATIONS. JUMPERS SHALL BE INSTALLED BETWEEN COLD AND HOT WATER PIPES AT WATER HEATER LOCATIONS. JUMPER SIZE SHALL BE #2/0 COPPER.

3 N.T.S.



				PLAN SCALE:			DRAWN:			DB:			APPROVED:		
NO				REVISION				BY				DATE			
								DESIGNED:							
				N.T.S.				SURVEY:							
								PROFILE SCALE:				PROJ. MGR. TW 6/75			
												LEAD ENGR. BOC 6/135			
								HORIZONTAL:				FIELD MGR. JW 6/1			
												RECOMMENDED: DESIGN MANAGER [Signature]			
				VERTICAL:								CITY ENGINEER [Signature]			
				FILE:				DRAWING:				DATE: 6/12/2025			
				ATLAS PAGE NO:											
				SHEET NAME:				ELECTRICAL DETAILS				SHEET NO. E5-01			

PANELBOARD: P1															
LOCATION: STORAGE 106								VOLTAGE/PHASE: 208/120V, Wye, 3PH, 4W							
SUPPLY FROM: MDP								A.I.C. RATING: 10kAIC, FULLY RATED							
MOUNTING: SURFACE								MAINS TYPE: MLO							
ENCLOSURE: NEMA 1								MAINS RATING: 200 A							
CKT	CIRCUIT DESCRIPTION	WIRE SIZE (H,N,G) OR (H,G)	NOTES	TRIP	#	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	WIRE SIZE (H,N,G) OR (H,G)	CIRCUIT DESCRIPTION	CKT	
1	STORAGE 104	1-#12, 1-#12, 1-#12		20 A	1	0.18	0.90			1	20 A	1-#12, 1-#12, 1-#12	TRAINING 103 WEST	2	
3	ENTRY PLAZA	1-#12, 1-#12, 1-#12		20 A	1		0.90	0.72		1	20 A	1-#12, 1-#12, 1-#12	TRAINING 103 FB WEST	4	
5	MECH/ELECT 106	1-#12, 1-#12, 1-#12		20 A	1			0.54	0.72	1	20 A	1-#12, 1-#12, 1-#12	TRAINING 103 FB WEST	6	
7	LACTATION ROOM 107	1-#12, 1-#12, 1-#12		20 A	1	0.36	0.72			1	20 A	1-#12, 1-#12, 1-#12	TRAINING 103 NORTH	8	
9	CORRIDOR 109	1-#12, 1-#12, 1-#12		20 A	1		0.36	1.50		2	20 A	2-#12, 1-#12	EUH-1	10	
11	BREAK ROOM 108	1-#12, 1-#12, 1-#12		20 A	1			0.90	1.50					12	
13	MICROWAVE	1-#12, 1-#12, 1-#12		20 A	1	1.10	1.50			2	20 A	2-#12, 1-#12	EUH-2	14	
15	MICROWAVE	1-#12, 1-#12, 1-#12		20 A	1		1.10	1.50						16	
17	MICROWAVE	1-#12, 1-#12, 1-#12		20 A	1			1.10	0.10	1	20 A	1-#12, 1-#12, 1-#12	EF-3	18	
19	FRIDGE	1-#12, 1-#12, 1-#12	4	20 A	1	0.80	1.08			1	20 A	1-#12, 1-#12, 1-#12	TRAINING 103 EAST	20	
21	COUNTER	1-#12, 1-#12, 1-#12		20 A	1		0.18	0.54		1	20 A	1-#12, 1-#12, 1-#12	STORAGE 102	22	
23	COFFEE MAKER	1-#12, 1-#12, 1-#12		20 A	1			1.60	0.36	1	20 A	1-#12, 1-#12, 1-#12	JAN 101	24	
25	ICEMAKER	1-#12, 1-#12, 1-#12		20 A	1	0.60	0.36			1	20 A	1-#12, 1-#12, 1-#12	JAN 101	26	
27	COUNTER	1-#12, 1-#12, 1-#12		20 A	1		0.18	0.36		1	20 A	1-#12, 1-#12, 1-#12	TANK PUMP	28	
29	RANGE	2-#6, 1-#6, 1-#10		50 A	2	4.16	0.70		4.16	0.36	1	20 A	1-#12, 1-#12, 1-#12	JAN 101	30
31										1	20 A	4	1-#12, 1-#12, 1-#12	107 FRIDGE	32
33	COFFEE MAKER	1-#12, 1-#12, 1-#12		20 A	1		1.60	1.50		2	20 A	2-#12, 1-#12	EUH-3	34	
35	COFFEE MAKER	1-#12, 1-#12, 1-#12		20 A	1			1.60	1.50					36	
37	FRIDGE	1-#12, 1-#12, 1-#12	4	20 A	1	0.80	0.18			1	20 A	1-#12, 1-#12, 1-#12	CP-1	38	
39	COFFEE MAKER	1-#12, 1-#12, 1-#12		20 A	1		1.60	1.80		1	20 A	1-#12, 1-#12, 1-#12	WH-1	40	
41	WATER COOLER	1-#12, 1-#12, 1-#12	4	20 A	1			0.70	0.36	1	20 A	1-#12, 1-#12, 1-#12	EAST TRAINING TV	42	
43	RESTROOMS	1-#12, 1-#12, 1-#12		20 A	1	0.36	0.72			1	20 A	1-#12, 1-#12, 1-#12	EAST TRAINING FB	44	
45	PRE-FUNCTION/LOBBY	1-#12, 1-#12, 1-#12		20 A	1		1.26	0.72		1	20 A	1-#12, 1-#12, 1-#12	EAST TRAINING FB	46	
47	EF-1	1-#12, 1-#12, 1-#12		20 A	1			0.41	0.36	1	20 A	1-#12, 1-#12, 1-#12	WEST TRAINING TV	48	
49	FPB 3-1	1-#12, 1-#12, 1-#12	2	20 A	1	0.86	0.60			1	20 A	1-#12, 1-#12, 1-#12	NORTH EXTERIOR LTG.	50	
51	FPB 3-2	1-#12, 1-#12, 1-#12	2	20 A	1		0.86	0.30		1	20 A	1-#12, 1-#12, 1-#12	NORTH LIGHTING	52	
53	FPB 3-3	1-#12, 1-#12, 1-#12	2	20 A	1			1.18	1.04	1	20 A	1-#12, 1-#12, 1-#12	NW LIGHTING	54	
55	FPB 3-4	1-#12, 1-#12, 1-#12	2	20 A	1	1.18	1.38			1	20 A	1-#12, 1-#12, 1-#12	OPEN AREA LIGHTING	56	
57	KITCHEN HOOD	1-#12, 1-#12, 1-#12		20 A	1		0.60	1.81		1	20 A	1-#10, 1-#10, 1-#10	TRAINING PEND. LTG.	58	
59								0.89	1.44	1	20 A	1-#12, 1-#12, 1-#12	DISHWASHER	60	
61	DRY RISER AC	2-#12, 1-#12		20 A	2	0.89	1.18			1	20 A	4	1-#12, 1-#12, 1-#12	GARBAGE DISP	62
63	TIMECLOCK	1-#12, 1-#12, 1-#12		20 A	1		0.18	0.00		1	20 A	--	--	SPARE	64
65	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	--	SPARE	66
67	SPARE	--	--	20 A	1	0.00	0.00			1	20 A	--	--	SPARE	68
69	SPARE	--	--	20 A	1		0.00	0.00		1	20 A	--	--	SPARE	70
71	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	--	SPARE	72
73	SPARE	--	--	20 A	1	0.00	0.00			1	20 A	--	--	SPARE	74
75	SPARE	--	--	20 A	1		0.00	0.00		1	20 A	--	--	SPARE	76
77	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	--	SPARE	78
Total Load:						20.61 kVA	19.58 kVA	20.82 kVA							
BREAKER NOTES		LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS									
1) SHUNT TRIP		HVAC	11869 VA	100.00%	11869 VA										
2) LOCK-OUT DEVICE		Lighting	5138 VA	125.00%	6422 VA	TOTAL CONN. LOAD (kVA): 61.01 kVA									
3) GFEP		Motor	408 VA	125.00%	510 VA	TOTAL EST. DEMAND (kVA): 60.42 kVA									
4) GFCI		Receptacle	13960 VA	85.82%	11980 VA	TOTAL EST. DEMAND (A): 168 A									
5) AFCI (DED. NEUTRAL REQ'D)		Misc Equip	29636 VA	100.00%	29636 VA										
6) EXISTING CIRCUIT TO REMAIN															
7) THROUGH RELAY PANEL															
8) THROUGH LIGHTING INVERTER															

PANELBOARD: P2															
LOCATION: JANITOR 157								VOLTAGE/PHASE: 208/120V, Wye, 3PH, 4W							
SUPPLY FROM: MDP								A.I.C. RATING: 22KAIC, FULLY RATED							
MOUNTING: FLUSH								MAINS TYPE: MLO							
ENCLOSURE: NEMA 1								MAINS RATING: 200 A							
CKT	CIRCUIT DESCRIPTION	WIRE SIZE (H,N,G) OR (H,G)	NOTES	TRIP	#	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	WIRE SIZE (H,N,G) OR (H,G)	CIRCUIT DESCRIPTION	CKT	
1	WORKROOM 158 RCPTS	1-#12, 1-#12, 1-#12		20 A	1	0.54	1.44			1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	2
3	COPIER	1-#12, 1-#12, 1-#12		20 A	1		0.80	0.36		1	20 A		1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	4
5	EWC	1-#12, 1-#12, 1-#12	4	20 A	1			0.70	0.36	1	20 A		1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	6
7	MUDROOM RCPTS	1-#12, 1-#12, 1-#12		20 A	1	0.36	0.36			1	20 A		1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	8
9	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.30	0.36		1	20 A		1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	10
11	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1			0.30	1.44	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	12
13	LAB RCPT - DW	1-#12, 1-#12, 1-#12		20 A	1	1.44	1.44			1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	14
15	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.30	1.44		1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 150 FLRBOX	16
17	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1			0.30	0.54	1	20 A		1-#12, 1-#12, 1-#12	CONF 149 S. TV & FLRBOX	18
19	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.30	0.90			1	20 A		1-#12, 1-#12, 1-#12	CONF 149 N. TV & FLRBOX	20
21	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.30	1.60		1	20 A		1-#12, 1-#12, 1-#12	COFFEE MAKER	22
23	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1			0.30	1.60	1	20 A		1-#12, 1-#12, 1-#12	S KITCHENETTE COUNTER	24
25	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.30	0.80			1	20 A	4	1-#12, 1-#12, 1-#12	FRIDGE	26
27	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.30	0.18		1	20 A		1-#12, 1-#12, 1-#12	DATA 146 CEILING RCPT	28
29	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1			0.30	0.18	1	20 A		1-#12, 1-#12, 1-#12	DATA 146 CEILING RCPT	30
31	LAB RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.90	0.72			1	20 A		1-#12, 1-#12, 1-#12	OFFICE 145 RCPTS	32
33	FRIDGE	1-#12, 1-#12, 1-#12	4	20 A	1		0.80	0.72		1	20 A		1-#12, 1-#12, 1-#12	OFFICE 144 RCPTS	34
35	FRIDGE	1-#12, 1-#12, 1-#12	4	20 A	1			0.80	0.72	1	20 A		1-#12, 1-#12, 1-#12	OFFICE 143 RCPTS	36
37	S. OFFICE LIGHTING	1-#12, 1-#12, 1-#12		20 A	1	0.68	0.72			1	20 A		1-#12, 1-#12, 1-#12	OFFICE 141 RCPTS	38
39	W. OPEN OFFICE 150 RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.90	0.72		1	20 A		1-#12, 1-#12, 1-#12	OFFICE 140 RCPTS	40
41	W. OPEN OFFICE LIGHTING	1-#12, 1-#12, 1-#12		20 A	1			0.82	1.08	1	20 A		1-#12, 1-#12, 1-#12	E. OPEN OFFICE 150 RCPTS	42
43	OPEN OFFICE LIGHTING	1-#12, 1-#12, 1-#12		20 A	1	0.82	0.72			1	20 A		1-#12, 1-#12, 1-#12	OFFICE 161 RCPTS	44
45	OPEN OFFICE 150 FLRBOX	1-#12, 1-#12, 1-#12	2	20 A	1		1.44	0.72		1	20 A		1-#12, 1-#12, 1-#12	OFFICE 160 RCPTS	46
47	E. OPEN OFFICE LIGHTING	1-#12, 1-#12, 1-#12		20 A	1			0.82	0.90	1	20 A		1-#12, 1-#12, 1-#12	OFFICE 159 RCPTS	48
49	DSO/DSI-2	2-#10, 1-#10		30 A	2	1.98	1.20			1	20 A	2	1-#12, 1-#12, 1-#12	LAB EXHAUST	50
51							1.98	0.36		1	20 A		1-#12, 1-#12, 1-#12	IT EQUIP	52
53	DSO/DSI-1	2-#10, 1-#10		30 A	2	1.98	1.50		1.98	1.50	2	20 A	2-#12, 1-#12	EWH-1	54
55															56
57	H	1-#12, 1-#12, 1-#12		20 A	1		1.80	0.45		1	20 A		1-#12, 1-#12, 1-#12	EXTERIOR RR LIGHTING	58
59	CP-2	1-#12, 1-#12, 1-#12		20 A	1			0.18	0.49	1	20 A		1-#12, 1-#12, 1-#12	SOUTH EXTERIOR LTG	60
61										1	20 A		1-#12, 1-#12, 1-#12	R.R. 156	62
63	EUH-5	2-#12, 1-#12		20 A	2	1.50	0.18		1.50	0.18	1	20 A	1-#12, 1-#12, 1-#12	MECH YARD RCPT	64
65	SOUTH EXHAUST	1-#12, 1-#12, 1-#12		20 A	1			0.52	0.18	1	20 A		1-#12, 1-#12, 1-#12	TIMECLOCK	66
67	FPB 4-2	1-#12, 1-#12, 1-#12	2	20 A	1	0.86	0.36			1	20 A		1-#12, 1-#12, 1-#12	IT EQUIP	68
69	ECH-1	2-#10, 1-#10		30 A	2		2.00								70
71								2.00							72
73															74
75	ECH-2	2-#10, 1-#10		30 A	2	2.00									76
77	SW EXTERIOR RCPTS	1-#12, 1-#12, 1-#12		20 A	1			0.36	0.00	1	20 A	--	--	SPARE	78
79	JANITOR 157 RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.18	0.00			1	20 A	--	--	SPARE	80
81								0.00		1	20 A	--	--	SPARE	82
83	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	--	SPARE	84
Total Load:						24.18 kVA	21.50 kVA	18.37 kVA							
BREAKER NOTES		LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS									
1) SHUNT TRIP		HVAC	8768 VA	100.00%	8768 VA										
2) LOCK-OUT DEVICE		Lighting	4094 VA	125.00%	5117 VA										
3) GPEP		Motor	173 VA	125.00%	217 VA										
4) GFCI		Receptacle	21960 VA	72.77%	15980 VA	TOTAL CONN. LOAD (kVA): 64.06 kVA									
5) AFCI (DED. NEUTRAL REQ'D)		Misc Equip	29067 VA	100.00%	29067 VA	TOTAL EST. DEMAND (kVA): 59.15 kVA									
6) EXISTING CIRCUIT TO REMAIN						TOTAL EST. DEMAND (A): 164 A									
7) THROUGH RELAY PANEL															
8) THROUGH LIGHTING INVERTER															

PANELBOARD: P3															
LOCATION: STORAGE 122							VOLTAGE/PHASE: 208/120V, Wye, 3PH, 4W								
SUPPLY FROM: MDP							A.I.C. RATING: 10kAIC, FULLY RATED								
MOUNTING: FLUSH							MAINS TYPE: MLO								
ENCLOSURE: NEMA 1							MAINS RATING: 150 A								
CKT	CIRCUIT DESCRIPTION	WIRE SIZE (H,N,G) OR (H,G)	NOTES	TRIP	#	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	WIRE SIZE (H,N,G) OR (H,G)	CIRCUIT DESCRIPTION	CKT	
1	OFFICE 119 RCPTS	1-#12, 1-#12, 1-#12		20 A	1	0.72	0.50		1	20 A		1-#12, 1-#12, 1-#12	WR 118 COPIER	2	
3	CORR 133 RCPTS	1-#12, 1-#12, 1-#12		20 A	1		1.08	0.54		1	20 A		WR 118 RCPTS	4	
5	OFFICE 123 RCPTS	1-#12, 1-#12, 1-#12		20 A	1			0.72	0.72	1	20 A		RECEPTION 117 RCPTS	6	
7	OFFICE 128 RCPTS	1-#12, 1-#12, 1-#12		20 A	1	0.90	1.08		1	20 A		1-#12, 1-#12, 1-#12	OPEN OFFICE 121 RCPTS	8	
9	OFFICE 129 RCPTS	1-#12, 1-#12, 1-#12		20 A	1		0.90	1.44	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 121 DESK	10	
11	OFFICE 130 RCPTS	1-#12, 1-#12, 1-#12		20 A	1			0.90	1.44	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 121 DESK	12
13	OFFICE 131 RCPTS	1-#12, 1-#12, 1-#12		20 A	1	0.90	0.72		1	20 A		1-#12, 1-#12, 1-#12	CONF 137 RCPTS	14	
15	OFFICE 132 RCPTS	1-#12, 1-#12, 1-#12		20 A	1		0.90	0.72	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 135 DESK	16	
17	OFFICE 134 RCPTS	1-#12, 1-#12, 1-#12		20 A	1			0.72	0.72	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 136 DESK	18
19	WORKROOM 126 COPIER	1-#12, 1-#12, 1-#12		20 A	1	0.50	0.36		1	20 A		1-#12, 1-#12, 1-#12	CONF 137 TVS	20	
21	WORKROOM 126 RCPTS	1-#12, 1-#12, 1-#12		20 A	1		0.54	0.72		1	20 A		1-#12, 1-#12, 1-#12	OFFICE 138 RCPTS	22
23	OFFICE 125 RCPTS	1-#12, 1-#12, 1-#12		20 A	1			0.72	0.72	1	20 A		1-#12, 1-#12, 1-#12	OFFICE 139 RCPTS	24
25	CONF 1224 RCPTS	1-#12, 1-#12, 1-#12		20 A	1	1.08	1.44		1	20 A	2	1-#12, 1-#12, 1-#12	OFFICE 121 RCPTS	26	
27	STORAGE 122 RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.18	1.44	1	20 A	2	1-#12, 1-#12, 1-#12	OFFICE 121 RCPTS	28	
29	CONF 115 TV	1-#12, 1-#12, 1-#12		20 A	1			0.36	0.54	1	20 A		1-#12, 1-#12, 1-#12	OFFICE 114 RCPTS	30
31	TIMECLOCK	1-#12, 1-#12, 1-#12		20 A	1	0.18	0.72		1	20 A		1-#12, 1-#12, 1-#12	CONFERENCE 115 RCPTS	32	
33	SPARE	--	--	20 A	1		0.00	1.80	1	20 A	2	1-#12, 1-#12, 1-#12	OPEN OFFICE 121 FLRBOX	34	
35	SPARE	--	--	20 A	1			0.00	1.07	1	20 A		1-#12, 1-#12, 1-#12	OFFICE 134-145 LIGHTING	36
37	N POLE RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.18	0.94		1	20 A		1-#12, 1-#12, 1-#12	OFFICE 128-132 LIGHTING	38	
39	SPARE	--	--	20 A	1		0.00	0.92	1	20 A		1-#12, 1-#12, 1-#12	CORRIDOR 127 LIGHTING	40	
41	SPARE	--	--	20 A	1			0.00	0.18	1	20 A		1-#12, 1-#12, 1-#12	ROOF RCPT	42
43	SPARE	--	--	20 A	1	0.00	0.00		1	20 A	--	--	SPARE	44	
45	SPARE	--	--	20 A	1		0.00	0.00	1	20 A	--	--	SPARE	46	
47	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	SPARE	48	
49	SPARE	--	--	20 A	1	0.00	0.00		1	20 A	--	--	SPARE	50	
51	SPARE	--	--	20 A	1		0.00	0.00	1	20 A	--	--	SPARE	52	
53	SPARE	--	--	20 A	1			0.00	0.00	1	20 A	--	SPARE	54	
Total Load:						10.22 kVA	11.18 kVA	8.81 kVA							
BREAKER NOTES		LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS									
1) SHUNT TRIP		Lighting	2938 VA	125.00%	3673 VA										
2) LOCK-OUT DEVICE		Receptacle	26280 VA	69.03%	18140 VA	TOTAL CONN. LOAD (kVA):		30.22 kVA							
3) GFEP		Misc Equip	1000 VA	100.00%	1000 VA	TOTAL EST. DEMAND (kVA):		22.81 kVA							
4) GFCI						TOTAL EST. DEMAND (A):		63 A							
5) AFCI (DED. NEUTRAL REQ'D)															
6) EXISTING CIRCUIT TO REMAIN															
7) THROUGH RELAY PANEL															
8) THROUGH LIGHTING INVERTER															

PANELBOARD: M														
LOCATION: MECH 147						VOLTAGE/PHASE: 208/120V, Wye, 3PH, 4W								
SUPPLY FROM: MDP						A.I.C. RATING: 10kAIC, Fully Rated								
MOUNTING: SURFACE						MAINS TYPE: MLO								
ENCLOSURE: NEMA 1						MAINS RATING: 100 A								
CKT	CIRCUIT DESCRIPTION	WIRE SIZE (H,N,G) OR (H,G)	NOTES	TRIP	#	A (kVA)	B (kVA)	C (kVA)	#	TRIP	NOTES	WIRE SIZE (H,N,G) OR (H,G)	CIRCUIT DESCRIPTION	CKT
1	SITE LIGHTING	1-#10, 1-#10, 1-#10		20 A	1	0.73	2.50		2	30 A		2-#10, 1-#10	EUH-4	2
3	SITE LIGHTING	1-#12, 1-#12, 1-#12		20 A	1		0.48	2.50						6
5	SITE LIGHTING	1-#10, 1-#10, 1-#10		20 A	1			0.61	1.66	1	20 A	2	1-#12, 1-#12, 1-#12	FPB 4-1
7	DSO/DSI-3	2-#10, 1-#10		30 A	2	1.56	1.18		1	20 A	2	1-#12, 1-#12, 1-#12	FPB 3-5	8
9							1.56	0.79						10
11	BOILER PUMP 1	1-#12, 1-#12, 1-#12		20 A	1			0.48	0.79	3	20 A		3-#12, 1-#12	HHWP-1
13	BOILER PUMP 2	1-#12, 1-#12, 1-#12		20 A	1	0.48	0.79							12
15	BOILER 1	1-#12, 1-#12, 1-#12		20 A	1		1.80	0.79						14
17	BOILER 2	1-#12, 1-#12, 1-#12		20 A	1			1.80	0.79	3	20 A		3-#12, 1-#12	HHWP-2
19	EF-2	1-#12, 1-#12, 1-#12		20 A	1	0.17	0.79							16
21	MECH 147 RCPT	1-#12, 1-#12, 1-#12		20 A	1		0.36	0.00		1	20 A	--	--	18
23	DSI-3 COND. PUMP	1-#12, 1-#12, 1-#12		20 A	1			0.18	0.00	1	20 A	--	--	20
25	POLE LIGHT RCPT	1-#12, 1-#12, 1-#12		20 A	1	0.36	0.00			1	20 A	--	--	22
27	SPACE	--	--	--	1		--	--		1	--	--	--	24
29	SPACE	--	--	--	1				--	1	--	--	--	26
Total Load:						8.56 kVA	8.29 kVA	6.31 kVA						
BREAKER NOTES		LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS								
1) SHUNT TRIP		HVAC	17648 VA	100.00%	17648 VA	TOTAL CONN. LOAD (kVA): 23.15 kVA TOTAL EST. DEMAND (kVA): 23.65 kVA TOTAL EST. DEMAND (A): 66 A								
2) LOCK-OUT DEVICE		Lighting	1815 VA	125.00%	2269 VA									
3) GFEP		Motor	172 VA	125.00%	215 VA									
4) GFCI		Receptacle	900 VA	100.00%	900 VA									
5) AFCI (DED. NEUTRAL REQ'D)		Misc Equip	2616 VA	100.00%	2616 VA									
6) EXISTING CIRCUIT TO REMAIN														
7) THROUGH RELAY PANEL														
8) THROUGH LIGHTING INVERTER														



NO	REVISION	BY	DATE	PLAN SCALE:	DRAWN	DB	APPROVED
					DESIGNED		
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	TW	6/25
					LEAD ENGR.	BOC	6/25
				HORIZONTAL:	FIELD MGR.	Jw	6/25
					RECOMMENDED		
				VERTICAL:	DESIGN MANAGER		
				FILE:	DRAWING:		CITY ENGINEER
				ATLAS PAGE NO:			DATE: 6/12/2025
				SHEET NAME:			
				ELECTRICAL SCHEDULES			SHEET NO. E6-02

STORMWATER MAINTENANCE AND OPERATIONS BUILDING			
PROJECT NO. SW23-01-01			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: BKL, INCORPORATED ENGINEERS & ARCHITECTS			
GREEN ACORN MECHANICAL, ELECTRICAL & PLUMBING			

