OWASSO PUBLIC SCHOOLS

ENROLLMENT AND IT CENTER

PERMIT SET

04/29/2024

3-D REPRESENTATION FOR ILLUSTRATIVE PURPOSES ONLY, REFER TO DRAWINGS AND DETAILS

PROJECT CONTACTS

OWNER:

OWASSO PUBLIC SCHOOLS
1501 N. ASH ST.,
OWASSO, OKLAHOMA 74055
P:(918) 272-5367

ARCHITECT:

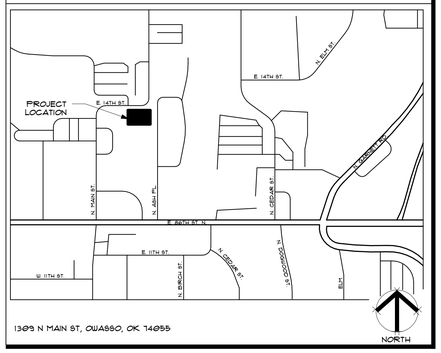
GH2 ARCHITECTS, LLC
320 SOUTH BOSTON AVENUE
SUITE 1090
TULSA, OKLAHOMA 74103
P:(918) 581-8158

CONSULTANT CONTACTS

MEP CONSULTANT:

PRECISION ENGINEERING GROUP, LLC
5800 E. SKELLY DR.
SUITE 1100
TULSA, OKLAHOMA 74135
P:(918) 749-3000

PROJECT LOCATION



1309 N MAIN ST, OWASSO, OK 74055

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GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

CS COVER SHEET

GH2 ARCHITECTS
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GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

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OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
COVER SHEET

SHEET NUMBER:
CS

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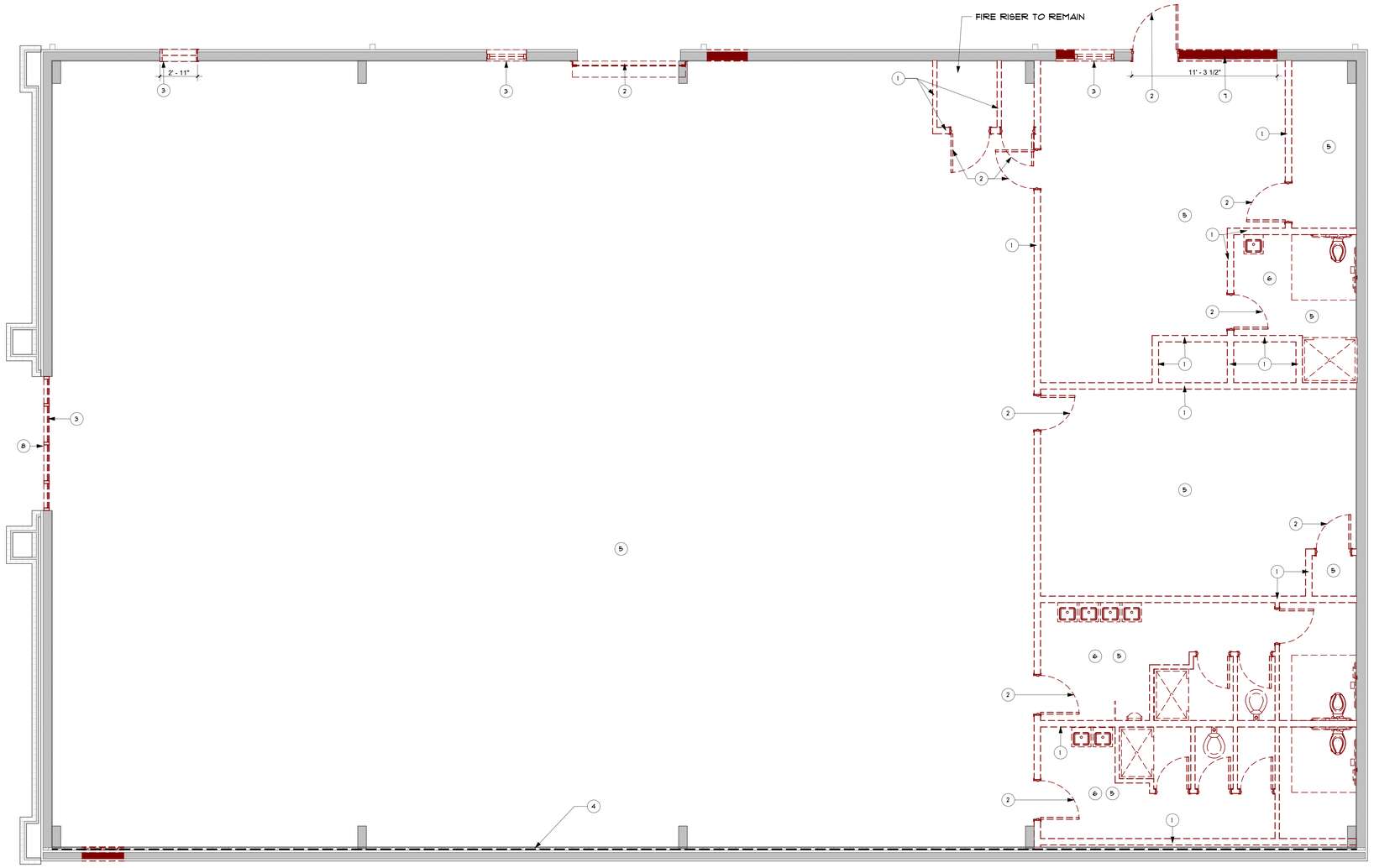

A FIRST FLOOR DEMOLITION PLAN

1/4" = 1'-0"

0' 1' 2' 4' 8' NORTH

DEMOLITION GENERAL NOTES

1. COORDINATE ALL DEMOLITION WITH NEW CONSTRUCTION AND RENOVATION WORK PRIOR TO START. EXTENT AND LOCATIONS OF BUILDING, SITE AND MECHANICAL, ELECTRICAL AND PLUMBING SYSTEM DEMOLITION IS APPROXIMATE. VERIFY AND COORDINATE EXACT EXTENTS AND START AND STOP POINTS WITH NEW WORK.
2. ITEMS SHOWN ON DEMOLITION PLANS WITH DASHED LINEWORK ARE TO BE REMOVED. SEE ADDITIONAL NOTES ON FLOOR PLAN.
3. VERIFY QUANTITY OF MATERIALS REQUIRED FOR DEMOLITION AND NEW CONSTRUCTION.
4. DISPOSE OF ALL ITEMS IN A LEGAL MANNER.
5. LOCATE AND PROTECT ANY STRUCTURAL COMPONENTS THAT ARE WITHIN WALLS, CEILINGS OR FLOORS, UNLESS SPECIFICALLY IDENTIFIED TO BE REMOVED.
6. REMOVE EXISTING INTERIOR PARTITIONS AS INDICATED ON PLAN TO ACCOMMODATE NEW CONSTRUCTION. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR REUSED OR RELOCATED DEVICES OR FIXTURES. CONFIRM IF A WALL IS OR IS NOT LOAD BEARING PRIOR TO REMOVING ANY PORTION. IF A WALL IS FOUND TO BE LOAD BEARING, AND IS NOT ADDRESSED IN THE DRAWINGS, CONTACT THE ARCHITECT FOR DIRECTION TO RETAIN THE STRUCTURAL INTEGRITY OF THE SUPPORTED STRUCTURE.
7. ALL EXISTING WALLS, FLOORS AND CEILINGS TO REMAIN SHALL BE PATCHED AND REPAIRED IF DAMAGE OCCURS DURING DEMOLITION OR CONSTRUCTION. PATCH AND REPAIR EXISTING SUBSTRATES THAT ARE TO REMAIN AS REQUIRED TO PREPARE THEM FOR NEW WORK AND FINISHES AS DEFINED ELSEWHERE IN THE DOCUMENTS. REPAIR CRACKS AND / OR STRUCTURAL DAMAGE RESULTING FROM DEMOLITION SHALL BE TO THE SATISFACTION OF THE OWNER AND THE ARCHITECT.
8. DUST WALLS SHALL BE INSTALLED AS REQUIRED TO ISOLATION DEMOLITION AREA FROM OCCUPIED AREA. COORDINATE WITH OWNER. MAINTAIN FIRE EXITS AT ALL TIMES.
9. REMOVE EXISTING LIGHT FIXTURES AND CEILINGS IN THEIR ENTIRETY, UNLESS NOTED OTHERWISE. LOCATIONS OF EXISTING FIXTURES ARE BASED ON GENERAL FIELD OBSERVATIONS. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS OF FIXTURES AND REPORT ANY DISCREPANCIES TO THE ARCHITECT. DE-ENERGIZE CIRCUITS UNTIL READY FOR NEW LIGHTING. COORDINATE WITH ELECTRICAL DRAWINGS TO DETERMINE IF CIRCUITS WILL BE REUSED, RELOCATED, OR ABANDONED. REMOVE CONDUCTORS AND CONDUIT BACK TO SOURCE FOR CIRCUITS THAT WILL BE ABANDONED.
10. REMOVE ALL ABANDONED AND NON-OPERATIONAL CABLING ABOVE CEILINGS IN AREA OF WORK. TAKE CARE TO NOT CUT EXISTING DATA OR FIBER THAT IS TO REMAIN FOR THE FUNCTIONING IT ROOM / SERVER. REMOVE ELECTRICAL OUTLETS, TELEPHONE / DATA OUTLETS, LIGHT SWITCHES, AND OTHER DEVICES IN PARTITIONS TO BE DEMOLISHED. REMOVE WIRING BACK TO CLOSEST WALL TO REMAIN AND TERMINATE IN NEW JUNCTION BOX. ALL ELECTRICAL, TELEPHONES, DATA, AND PLUMBING ITEMS NOT REUSED SHALL BE REMOVED IN THEIR ENTIRETY.
11. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
12. REMOVE ITEMS IDENTIFIED AS SALVAGED OR SCHEDULED FOR RE-USE. STORE IN PROTECTED AREA UNTIL REINSTALLATION. REPAIR DAMAGE CAUSE BY CARELESS REMOVAL OR IMPROPER STORAGE OR REPLACE SUCH ITEMS TO THE OWNER'S SATISFACTION.
13. REMOVE AND DISPOSE OF EXISTING FLOORING IN AREAS SHOWN TO BE REPLACED. REMOVE TO SUBSTRATE, LEAVING SURFACE READY FOR THE INSTALLATION OF NEW FINISH AS SCHEDULED. PATCH HOLES AND IMPERFECTIONS IN SUBSTRATE AS REQUIRED.
14. CONTACT ARCHITECT BEFORE REMOVING OR DEMOLISHING ANY EXISTING CONSTRUCTION OR ITEMS NOT SHOWN TO BE REMOVED.
15. REMOVE FIXTURES, RECEPTACLES, DEVICES, ETC. AS REQUIRED TO FACILITATE DEMOLITION. STORE DEVICES AND REINSTALL WHERE DIRECTED.
16. REMOVE ALL ITEMS FROM WALLS WITHIN AREAS OF WORK AND PREPARE FOR NEW WORK.
17. CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND FINAL CONDITION OF ALL EXISTING ADJACENT FINISHES TO REMAIN.
18. CONTACT ARCHITECT FOR ANY UNSEEN CONDITIONS OR UNCERTAIN AREAS THAT ARE NOT CLEARLY DEFINED BY THE DOCUMENTS.
19. REMOVE ALL PLUMBING LINES TO A POINT BELOW THE FINISH SLAB. PLUG AND CAP ALL LINES TO ENSURE A LEAK FREE CONDITION, INCLUDING SEWER GASES.
20. COMPLY WITH REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION. DO NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS FLOODING AND POLLUTION.
21. EXISTING BUILDINGS TO REMAIN IN WATERTIGHT CONDITION.
22. ANY MATERIALS TO BE RECLAIMED SHALL BE AT THE DISCRETION OF THE CONTRACTOR IF NOT INDICATED OR REQUIRED TO BE SALVAGED AND TURNED OVER TO THE OWNER.
23. VISIT THE EXISTING FACILITY TO DETERMINE THE EXTENT AND NATURE OF THE WORK AND THE CONDITIONS WITHIN WHICH THE WORK MUST BE ACCOMPLISHED. SUBMISSION OF BID WILL CONSTITUTE ACCEPTANCE OF EXISTING CONDITIONS.
24. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE CONSTRUCTION DOCUMENTS.
25. CONTRACTOR IS RESPONSIBLE FOR TESTING FOR LEAD BASED PAINT, AND MEETING LOCAL CODES GOVERNING METHODS OF REMOVING TOXIC MATERIALS AND TOXIC RESIDUE.
26. PROTECT ADJACENT SURFACES AND FEATURES FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO RESTORE ORIGINAL CONDITION ITEMS OR AREAS DAMAGED DURING CONSTRUCTION.

DEMOLITION LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED

DEMOLITION KEYOTES

KEY NOTE NUMBER	KEY NOTE TEXT
1	REMOVE PARTITION IN ITS ENTIRETY, INCLUDING ALL ELECTRICAL DEVICES.
2	REMOVE DOOR, HARDWARE, AND FRAME ASSEMBLY IN ITS ENTIRETY.
3	REMOVE WINDOW SYSTEM.
4	REMOVE EXISTING METAL PANEL. PREPARE FOR 1-HOUR RATING.
5	REMOVE ALL ROOM FINISHES INCLUDING CEILING AND FLOORING, UNLESS NOTED OTHERWISE.
6	REMOVE ALL RESTROOM PLUMBING FIXTURES AND ACCESSORIES, INCLUDING TOILET PARTITIONS, MIRRORS, HAND WASHING ACCESSORIES, AND FLOOR DRAINS.
7	REMOVE PORTION OF EXTERIOR WALL - PREPARE AREA FOR NEW DOOR OR WALL OPENING.
8	REMOVE EXISTING EXTERIOR SIGNAGE AND RETURN TO OWNER.
9	REMOVE CEILING IN ITS ENTIRETY.

GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

AD101 DEMOLITION PLAN - FIRST FLOOR

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GH2 PROJECT NUMBER:
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DEMOLITION PLAN - FIRST FLOOR

SHEET NUMBER:
AD101

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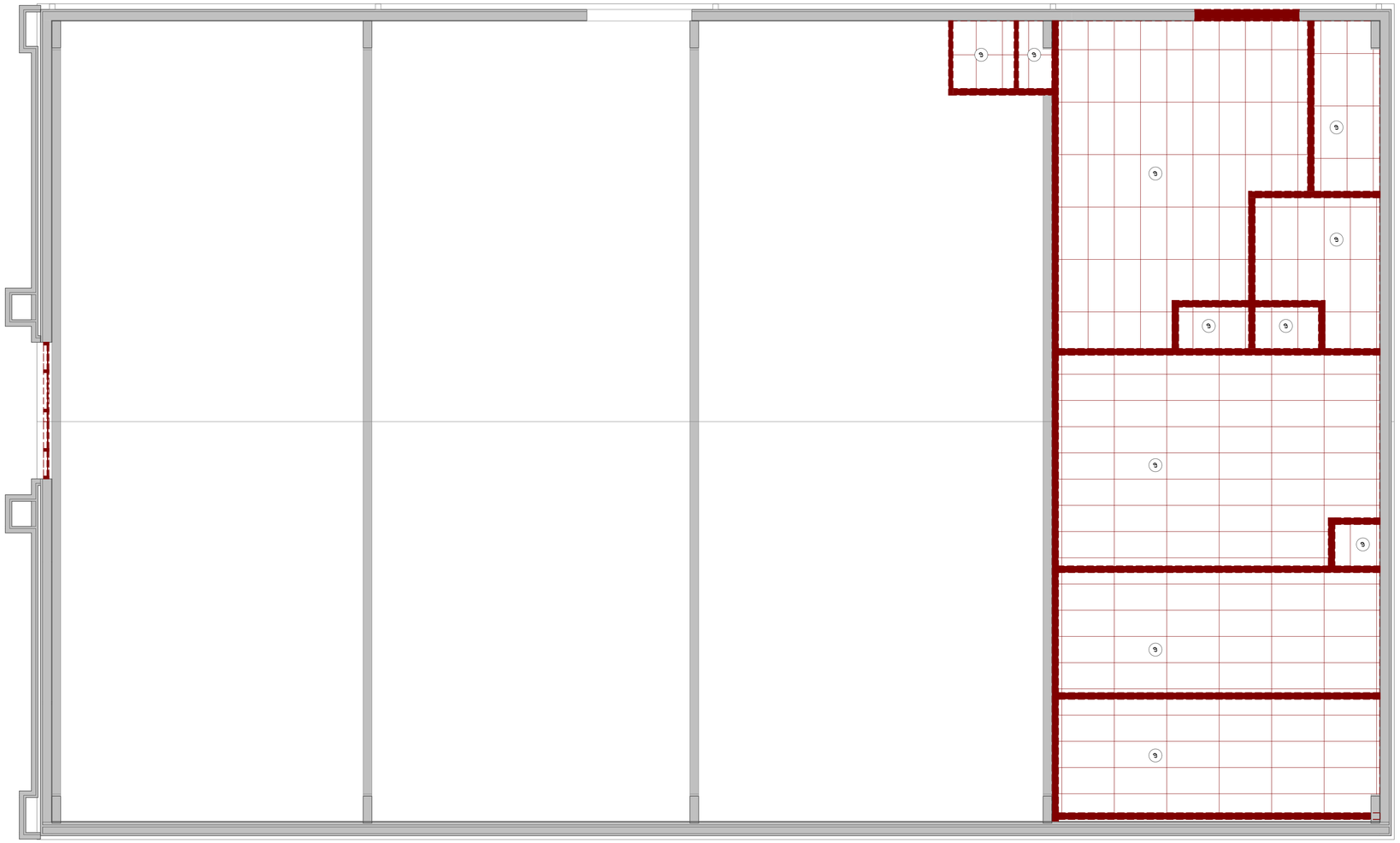
DEMOLITION LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED

DEMOLITION KEYOTES

KEY NOTE NUMBER	KEY NOTE TEXT
1	REMOVE PARTITION IN ITS ENTIRETY, INCLUDING ALL ELECTRICAL DEVICES.
2	REMOVE DOOR, HARDWARE, AND FRAME ASSEMBLY IN ITS ENTIRETY.
3	REMOVE WINDOW SYSTEM.
4	REMOVE EXISTING METAL PANEL. PREPARE FOR 1-HOUR RATING
5	REMOVE ALL ROOM FINISHES INCLUDING CEILING AND FLOORING, UNLESS NOTED OTHERWISE.
6	REMOVE ALL RESTROOM PLUMBING FIXTURES AND ACCESSORIES, INCLUDING TOILET PARTITIONS, MIRRORS, HAND WASHING ACCESSORIES, AND FLOOR DRAINS.
7	REMOVE PORTION OF EXTERIOR WALL - PREPARE AREA FOR NEW DOOR OR WALL OPENING.
8	REMOVE EXISTING EXTERIOR SIGNAGE AND RETURN TO OWNER.
9	REMOVE CEILING IN ITS ENTIRETY



A FIRST FLOOR REFLECTED CEILING PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'
NORTH

4/29/2024 4:48:50 PM

GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

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1309 N Main St, Owasso, OK 74055

AD121
DEMOLITION CEILING PLAN - FIRST FLOOR

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GH2 PROJECT NUMBER:
20230239

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NO.	DESCRIPTION	DATE

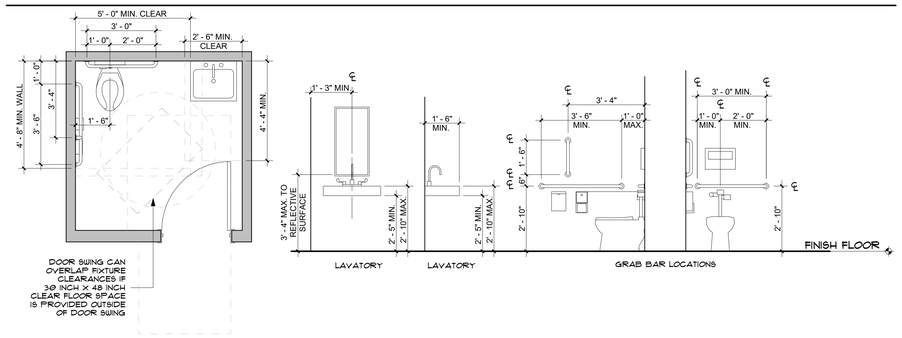
SHEET NAME:
DEMOLITION CEILING PLAN - FIRST FLOOR

SHEET NUMBER:
AD121

DOOR NOTES

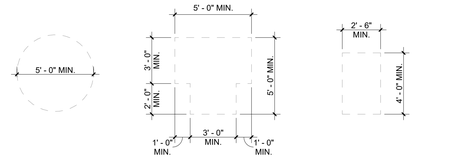
1. DOORS SHALL NOT REQUIRE A KEY OR SPECIAL KNOWLEDGE FOR OPERATION.
2. DOORS SHALL MEET ALL ACCESSIBILITY REQUIREMENTS OF ICC A117.1 - 2009 FOR OPERATIONS
3. DOORS SHALL ALLOW FOR UNLATCHING WITHOUT MORE THAN ONE OPERATION.
4. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
5. EXISTING HARDWARE TO BE REPLACED AS NEEDED TO MEET ALL ACCESSIBILITY REQUIREMENTS.

TYPICAL DIMENSIONS AND MOUNTING HEIGHTS



TURNING RADIUS AND CLEAR SPACE

PER 2009 ICC A117.1 ACCESSIBLE & USABLE BUILDINGS & FACILITIES



TURNING SPACE: CIRCULAR. 60 INCH DIAMETER MINIMUM AND IS PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE.

TURNING SPACE: T-SHAPE. T-SHAPED SPACE WITHIN A 60 INCH SQUARE, ARMS AND BASE 36 INCH MINIMUM AND IS PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE ONLY AT THE END OF EITHER THE BASE OR ONE ARM.

CLEAR FLOOR SPACE: RECTANGULAR. 30 INCH MINIMUM BY 48 INCH MINIMUM AND UNLESS OTHERWISE SPECIFIED, IS PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE.

SYMBOLS LEGEND

VIEW TITLE — A TITLE, 1/8" = 1'-0"

VIEW TITLE WITH REFERENCE — A TITLE, 1/8" = 1'-0", REF FROM: R / A101

WALL SECTION SYMBOL — XXX

ENLARGED FLOOR PLAN OR PLAN DETAIL REFERENCE — XXX

MATCHLINE & REFERENCES — MATCHLINE, SEE 1 / A101

INTERIOR ELEVATION — 01/A101

ROOM NAME, ROOM NUMBER — ROOM NAME, 101

AREA NAME, AREA SQUARE FEET, AREA OCCUPANCY — AREA NAME, 150 SF, 150

PARTITION TYPE SYMBOL — DS, 1X

DOOR TAG & RATING — 101, 20

WINDOW / STOREFRONT TAG — XX

MATERIAL TAG — P

EQUIPMENT TAG — 11, TYP.

PLAN NORTH ARROW — NORTH

GRAPHIC SCALE — 0' 2' 4' 8' 16'

ELEVATION OR HEIGHT SYMBOL

FLOORING TRANSITION

CENTERLINE — ℄

OPEN TO STRUCTURE — OTS

ALIGN FINISHES — ALIGN

REVISION EXTENTS & TAG — 1

GENERAL DEFINITIONS

ALIGN	TO ACCURATELY LOCATE FACE BASED ON ADJACENT ITEMS OR CONSTRUCTION.
CLEAR	MINIMUM DIMENSION BETWEEN FINISHED CONDITION, SHALL BE TREATED AS A PRIORITY TO HOLD BEFORE OTHER DIMENSIONS.
MAXIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION GREATER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT.
MINIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION SMALLER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT.
SIMILAR	NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES. DETAILS AND NOTES ARE TYPICAL. SIMILAR DETAILS AND NOTES APPLY IN SIMILAR CONDITIONS. THE WORD "SIMILAR" MEANS THAT ITEMS IN EACH CASE ARE TO BE SEPARATELY WORKED OUT TO SUIT CONDITIONS IN A MANNER LIKE OR SIMILAR TO THE EXAMPLE REFERRED TO AND DOES NOT MEAN IDENTICAL.
TYPICAL	THE CONDITION APPLIES TO THE SAME CONDITIONS THROUGHOUT UNLESS NOTED OTHERWISE.

GENERAL PROJECT NOTES

1. GENERAL NOTES ARE TYPICAL FOR AREAS OF WORK.
2. REFER TO COMPLETE SET OF CONSTRUCTION DOCUMENTS FOR ALL PROJECT NOTES.
3. THE CONTRACT DOCUMENTS IN THEIR ENTIRETY ARE THE RESPONSIBILITY OF ALL TRADES. WHERE REQUIREMENTS ARE SHOWN IN ONE SECTION OF THE SPECIFICATIONS OR DRAWINGS BUT NOT ANOTHER, THE CONTRACTOR IS NOT RELIEVED FROM PROVIDING COMPLETELY FINISHED, COORDINATED AND PROPERLY FUNCTIONING SYSTEMS.
4. ANY MISCELLANEOUS ITEMS OR MATERIALS NOT SPECIFICALLY NOTED, BUT REQUIRED FOR THE PROPER EXECUTION, INSTALLATION, OR PERFORMANCE OF THE WORK, SHALL BE PROVIDED BY THE CONTRACTOR.
5. CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT AND COORDINATION OF DIMENSIONS IN THE FIELD.
6. THE PRESENCE OF THE ARCHITECT OR AN ARCHITECT'S REPRESENTATIVE ON THE JOB SITE DOES NOT IMPLY CONCURRENCE OR APPROVAL OF THE WORK. THE CONTRACTOR SHALL CALL SPECIFIC ITEMS TO THE ATTENTION OF THE ARCHITECT IF THE CONTRACTOR WISHES TO OBTAIN THE ARCHITECT'S REVIEW.
7. IF DISCREPANCIES OCCUR BETWEEN DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATIONS, NOTIFY THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING.
8. DO NOT SCALE THE DRAWINGS. WRITTEN DIMENSIONS GOVERN. IF CRITICAL DIMENSIONS DO NOT APPEAR ON CONSTRUCTION DOCUMENTS, OR CONFLICT WITH DIMENSIONS ON OTHER DETAILS, NOTIFY THE ARCHITECT.
9. VERIFY EQUIPMENT ROUGH-IN DIMENSIONS WITH MANUFACTURER FOR EQUIPMENT THAT IS EXISTING, REUSED OR FURNISHED BY OWNER.
10. ALL PENETRATIONS THROUGH FLOORS, WALLS AND RATED ASSEMBLIES AS WELL AS ALONG SLAB PERIMETERS AND SEPARATION WALL PERIMETERS, SHALL BE SEALED AND PROTECTED WITH U.L. APPROVED ASSEMBLIES AND / OR PROTECTIVE DEVICES HAVING THE SAME OR GREATER TESTED RATING AS THAT REQUIRED FOR THE ASSEMBLY BEING PENETRATED. ALL PENETRATIONS TO BE PROTECTED TO MAINTAIN FIRE RATED ASSEMBLY INTEGRITY.
11. PROVIDE ELECTROLYTIC PROTECTION / ISOLATION BETWEEN ALL DISSIMILAR METALS, WHERE THEY OCCUR TO PREVENT ELECTROLYTIC REACTION AND / OR CORROSION.
12. PROVIDE ADEQUATE BLOCKING, BACKING OR STRUCTURAL SUPPORT AS REQUIRED TO PROPERLY INSTALL ALL MOUNTED ASSEMBLIES, INCLUDING ALL ATTACHED EQUIPMENT (OWNER AND CONTRACTOR FURNISHED ITEMS), PLUMBING FIXTURES, MILLWORK, AND CASEWORK.
13. PROVIDE ALL TEMPORARY BRACING AND SHORING AS REQUIRED FOR CONTRACT WORK.
14. PROTECT ALL NEWLY INSTALLED MATERIALS AND FINISHES UNTIL WORK IS FORMALLY ACCEPTED BY THE ARCHITECT OR THE OWNER'S REPRESENTATIVE AND TRANSFERRED TO THE OWNER.
15. THE CONSTRUCTION SITE IS TO BE KEPT CLEAN AND FREE OF DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR ALL PHASING, SECURING, HANDLING, TRANSPORTING AND DISPOSING OF DEBRIS.
16. COORDINATE STAGING AND STORAGE AREAS, AND LOCATIONS OF TEMPORARY FACILITIES WITH OWNER.
17. COORDINATE LOCATIONS OF CONSTRUCTION DUMPSTER ON SITE AND ACCESS TO BUILDING WITH OWNER.
18. PROVIDE DUST PROTECTION OF THE AREA OUTSIDE OF CONSTRUCTION AND DEMOLITION LIMITS.
19. PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION AS REQUIRED.
20. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. UTILITIES DISTURBED BY THE CONTRACTOR SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR REPAIR ACCORDING TO THE OWNER'S SPECIFICATIONS AND REQUIREMENTS AT NO COST TO THE OWNER.
21. SUBMIT A REQUEST TO INTERRUPT ANY SERVICES TO OWNER, IN WRITING, 96 HOURS IN ADVANCE OF PROPOSED INTERRUPTION. REQUEST SHALL STATE REASON, DATE, EXACT TIME OF, AND APPROXIMATE DURATION OF SUCH INTERRUPTION.
22. VERIFY THE EXISTENCE AND LOCATION OF UTILITIES PRIOR TO STARTING WORK.
23. MAINTAIN UTILITY SERVICES AND PROTECT THEM AGAINST DAMAGE DURING CONSTRUCTION OPERATIONS.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES - KNOWN AND UNKNOWN (OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO THEIR ACTION OR LACK OF ACTION ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK ASSISTANCE OF LOCAL UTILITIES IN LOCATING THE UTILITIES PRIOR TO PERFORMING OPERATIONS IN ANY AREA.
25. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE OWNER'S SECURITY REQUIREMENTS FOR THE AREA OF CONSTRUCTION.
26. INSTALL ALL NEW MATERIALS AND EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
27. ALL NEW BUILDING MATERIALS AND PRODUCTS SHALL NOT CONTAIN LEAD, CADMIUM, OR ASBESTOS.
28. KEYNOTES WHERE INDICATED ARE FOR REFERENCE ONLY AND MAY NOT BE AT ALL LOCATIONS THAT CORRESPOND TO THAT NOTE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITY OF MATERIALS REQUIRED FOR DEMOLITION AND NEW CONSTRUCTION.
29. REPAIR ANY DAMAGE DUE TO CONSTRUCTION TRAFFIC OR OPERATIONS.
    A. RETURN ALL DISTURBED LANDSCAPE AREAS DUE TO CONSTRUCTION ACTIVITY TO ORIGINAL CONDITION.
    B. FINAL GRADE AND SOD AREAS DISTURBED BY CONSTRUCTION.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY APPROVALS, PERMITS AND INSPECTION; PAYING REQUIRED FEES AND POSTING ANY REQUIRED BONDS, PRIOR TO BEGINNING ANY DEMOLITION OR CONSTRUCTION.
31. PROVIDE A TEMPORARY 6 FEET HIGH CHAIN LINK FENCE AROUND THE FULL PERIMETER OF THE CONSTRUCTION SITE DURING WORK, UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.
32. FINAL COLOR SELECTIONS TO BE MADE BY OWNER / ARCHITECT UPON RECEIPT OF ALL MATERIAL SUBMITTALS. REVIEW CANNOT BEGIN UNTIL ALL MATERIALS HAVE BEEN RECEIVED.
33. FINISH GRADE TO SLOPE AWAY FROM BUILDING, TYPICAL GRADE TO FACILITATE DRAINAGE.
34. THE LOCATION OF DUCTS, PIPE AND EQUIPMENT, AS SHOWN ON THE DRAWINGS, ARE DIAGRAMMATIC AND SCHEMATIC AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES BEFORE PERFORMING ANY WORK. LIGHT FIXTURE LOCATIONS SUPERSEDE HVAC DUCTWORK, GRILLES AND DIFFUSERS.
35. CLEAN INTERIOR AND EXTERIOR OF ALL WINDOW GLAZING.
36. PROVIDE NEW ESCUTCHEONS AT ALL PLUMBING PENETRATION AREAS AND FASTEN IN PLACE WITH JOINT SPACER.
37. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS. IN THE EVENT OF CONFLICT BETWEEN THE DRAWINGS OR BETWEEN A DRAWING AND SPECIFICATION ITEM, THE DRAWING OR SPECIFICATION REQUIRING THE GREATER EXTENT, LARGER NUMBER, OR HIGHER QUALITY SHALL GOVERN. NOTIFY ARCHITECT OF ANY DISCREPANCIES IN WRITING FOR RESOLUTION BEFORE PROCEEDING.
38. COORDINATE ENVIRONMENTAL REMEDIATION REQUIREMENTS AND PROCEDURES WITH OWNER AND OWNER'S ENVIRONMENTAL CONSULTANT IF AND WHEN SITE CONDITIONS ARE PRESENT THAT REQUIRE ENVIRONMENTAL REMEDIATION. ARCHITECT'S CONSTRUCTION DOCUMENTS ARE NOT INTENDED TO PROVIDE REMEDIATION OR SATISFY REMEDIATION REQUIREMENTS AND SHALL NOT BE USED AS SUCH.
39. SAND-BLASTING IS NOT PERMITTED.
40. CONTRACTOR SHALL MAINTAIN A CURRENT RECORD SET OF ALL CONTRACT DOCUMENTS AND RETURNED SUBMITTALS ON SITE FOR THE DURATION OF THE PROJECT. ANY CHANGES MADE TO THE CONTRACT DOCUMENTS SHALL BE PROMPTLY INCORPORATED INTO THE CURRENT RECORD SET.
41. WHEN IN DOUBT, SUBMIT A REQUEST FOR INFORMATION (RFI) TO THE ARCHITECT IN WRITING FOR ALL QUESTIONS, INCLUDING BUT NOT LIMITED TO CLARIFICATIONS, INTERPRETATIONS, OR WHERE FIELD CONDITIONS MAY IMPACT DESIGN INTENT, PRIOR TO PROCEEDING WITH THE WORK.

GH2 ARCHITECTS

STATE OF OKLAHOMA — Tyler Dee Wallace — 6649 — LICENSED ARCHITECT — 04.29.24

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

G001 PROJECT INFORMATION AND ADAAG INFO AND GUIDLINES

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER: **20230239**

ISSUE DATE: **04/29/2024**

ISSUE: **PERMIT SET**

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME: **PROJECT INFORMATION AND ADAAG INFO AND GUIDLINES**

SHEET NUMBER: **G001**

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DETAILED CODE INFORMATION

USE OR OCCUPANCY

303.1.2	SMALL ASSEMBLY SPACE CLASSIFIED AS PART OF B OCCUPANCY	
312.1	BUSINESS GROUP	
508.3	SINGLE USE, NO SEPARATION REQUIRED	

GENERAL BUILDING HEIGHTS AND AREAS

NON-SEPARATED USE GROUPS: B; TYPE IIB NON-COMBUSTIBLE FULLY-SPRINKLERED:		
TABLE 504.3	ALLOWABLE BUILDING HEIGHT	75 FEET ACTUAL HEIGHT: 14 FEET
TABLE 504.2	ALLOWABLE NUMBER OF STORIES	4 STORIES ACTUAL STORIES: 1
TABLE 506.2	ALLOWABLE BUILDING AREA	92,000 SF ACTUAL AREA: 6,378 SQUARE FEET
TABLE 508.2.1	AREA LIMITATIONS: AGGREGATE ACCESSORY OCCUPANCIES SHALL NOT OCCUPY MORE THAN 10 PERCENT OF THE BUILDING AREA OF THE STORY IN WHICH THEY ARE LOCATED AND SHALL NOT EXCEED THE TABULAR VALUES IN TABLE 503, WITHOUT AREA INCREASES IN ACCORDANCE WITH SECTION 506 FOR SUCH ACCESSORY OCCUPANCIES.	

TYPE OF CONSTRUCTION

TABLE 602.3	TYPE IIB FULLY-SPRINKLERED	
TABLE 601	STRUCTURAL ELEMENT	FIRE RESISTANCE RATING
	STRUCTURAL FRAME	0
	BEARING WALLS	
	EXTERIOR	0
	INTERIOR	0
	NON-BEARING WALLS	
	EXTERIOR	0
	INTERIOR	0
	FLOOR CONSTRUCTION	0
	ROOF CONSTRUCTION	0
TABLE 602	FIRE-RESISTANCE RATING REQUIRED FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE:	
	GROUP B	X< 5: 1 HOUR 5 ≤ X < 10: 1 HOUR 10 ≤ X < 30: 0 HOUR X ≥ 30: 0 HOUR

FIRE AND SMOKE PROTECTION

707.3.10	FIRE-AREAS	
TABLE 707.3.10	FIRE-RESISTANT RATING REQUIREMENTS FOR FIRE BARRIERS	- 2 HOURS
715.1	FIRE-RESISTANT JOINT SYSTEMS	
TABLE 716.5	FIRE DOOR AND FIRE SHUTTER FIRE PROTECTION RATINGS FIRE BARRIER (1 HR)	

INTERIOR FINISHES

TABLE 803.11	INTERIOR FINISH REQUIREMENTS: TYPE IIB	
	EXIT ENCLOSURES / EXIT PASSAGEWAYS:	CLASS B MATERIALS
	CORRIDORS PROVIDING EXIT ACCESS	CLASS C MATERIALS
	ROOMS OR ENCLOSED SPACES:	CLASS C MATERIALS
	NOTE E: CLASS C MATERIALS PERMITTED IN PLACES OF ASSEMBLY WITH AN OCCUPANT LOAD OF 300 PERSONS OR LESS	

FIRE PROTECTION SYSTEMS

906	PORTABLE FIRE EXTINGUISHERS PER NFPA 10 - 3 PROVIDED	
907.2	FIRE ALARM AND DETECTION SYSTEM AN APPROVED FIRE ALARM SYSTEM INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND NFPA 72 SHALL BE PROVIDED IN NEW BUILDINGS AND STRUCTURES AND PROVIDE OCCUPANT NOTIFICATION.	
	907.2.2 EXCEPTION: MANUAL FIRE ALARM BOXES ARE NOT REQUIRED WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED AND THE OCCUPANT NOTIFICATION APPLIANCES WILL ACTIVATE THROUGHOUT THE NOTIFICATION ZONES UPON SPRINKLER WATER FLOW	

MEANS OF EGRESS

1005.3.2	OTHER EGRESS WIDTH / OCCUPANT	0.15 INCHES / OCCUPANT 42 X 0.2 = 8.4" REQUIRED
TABLE 1006.2.1	SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY: OCCUPANCY: MAX. OCC. LOAD / SPACE MAX. COMMON PATH OF EGRESS TRAVEL DISTANCE	FULLY-SPRINKLERED B 49 OCC. 100 FEET
TABLE 1012.2	SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY FOR GROUP B CANNOT EXCEED AN OCCUPANT LOAD OF 49.	
TABLE 1017.2	EXIT ACCESS TRAVEL DISTANCE OCCUPANCY B, WITH SPRINKLER:	300 FEET
1020.4	DEAD END CORRIDOR EXCEPTIONS: 2. IN OCCUPANCIES IN GROUPS B, WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM, THE LENGTH OF THE DEAD-END CORRIDORS SHALL NOT EXCEED 50 FEET	
TABLE 1004.1.1		
	STORAGE, MECHANICAL EQUIPMENT ROOMS	300 GSF / OCCUPANT 386 GSF / 300 = 2 OCCUPANTS
	BUSINESS	150 GSF / OCCUPANT 5,976 GSF / 150 = 40 OCCUPANTS
		TOTAL OCCUPANT LOAD = 42 OCCUPANTS

NOTE: ALL LIFE SAFETY AND CODE COMPLIANCE INFORMATION PROVIDED SHALL BE INCORPORATED INTO THE PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE CODE COMPLIANCE MEASURES INDICATED AND SPECIFIED AS PART OF THE PROJECT COST. SOME PROVISIONS MAY BE IN EXCESS OF MINIMUM CODE REQUIREMENTS.

SUMMARY AND APPLICABLE CODES

SUMMARY
THE BUILDING DEPICTED IN THESE CONSTRUCTION DOCUMENTS IS A SPRINKLED SINGLE STORY OFFICE BUILDING.

TOTAL SQUARE FOOTAGE: 6,378 SQUARE FEET

OCCUPANCY TYPE: BUSINESS

NUMBER OF STORIES: ONE

FULLY SPRINKLED: YES

APPLICABLE CODES
2018 INTERNATIONAL BUILDING CODE (IBC)

2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)

2018 INTERNATIONAL PLUMBING CODE (IPC)

2017 NATIONAL ELECTRIC CODE (NEC)

2018 INTERNATIONAL FIRE CODE (IFC)

2018 INTERNATIONAL MECHANICAL CODE (IMC)

LIFE SAFETY HATCH LEGEND

BUSINESS

STORAGE

PLUMBING FIXTURE COUNT

MINIMUM NUMBER OF PLUMBING FACILITIES PER FLOOR: (B)

TABLE 2902.1

TOTAL OCCUPANTS: 42 OCCUPANTS: 21 MEN, 21 WOMEN

FIXTURE TYPE	IBC REQ'D		PROVIDED	
WATER CLOSETS	M/W: 1:25	M/W: 2	M: 1 W: 2	
LAVATORIES	M/W: 1:40	M/W: 2	M/W: 3	
DRINKING FOUNTAIN	1/100	1		1
SERVICE SINK	1 REQ'D	1		1

CODE PLAN LEGEND

: LINE OF TRAVEL
- TRAVEL DISTANCE TO EXITS = MAX 300' (IBC 1017.2)
- COMMON PATH OF TRAVEL = 100' MAX (IBC 1006.2.1)
- DEAD ENDS = 50' MAX (IBC 1020.4)

: FIRE EXTINGUISHER
- 75' MAX TRAVEL DISTANCE TO EXTINGUISHER (NFPA 10, 3-2.1)

: EXIT SIGN. REFER TO ELECTRICAL AND REFLECTED CEILING PLANS FOR EXIT SIGN LOCATIONS. PROVIDE 5 ADDITIONAL EXIT SIGNS TO BE LOCATED AS DIRECTED BY ARCHITECT.

: EXIT

DOOR EXIT WIDTH
42 OCC * 0.20" = 8 3/8" RQD
9" PROVIDED

: DOOR MARK
: DOOR WIDTH CALCULATION
: REQUIRED DOOR WIDTH
: PROVIDED DOOR WIDTH

PARTITION TYPES GRAPHICS CONVENTION

TYPICAL PARTITION WITH NO SPECIAL MATERIALS OR RATINGS

EXISTING PARTITION

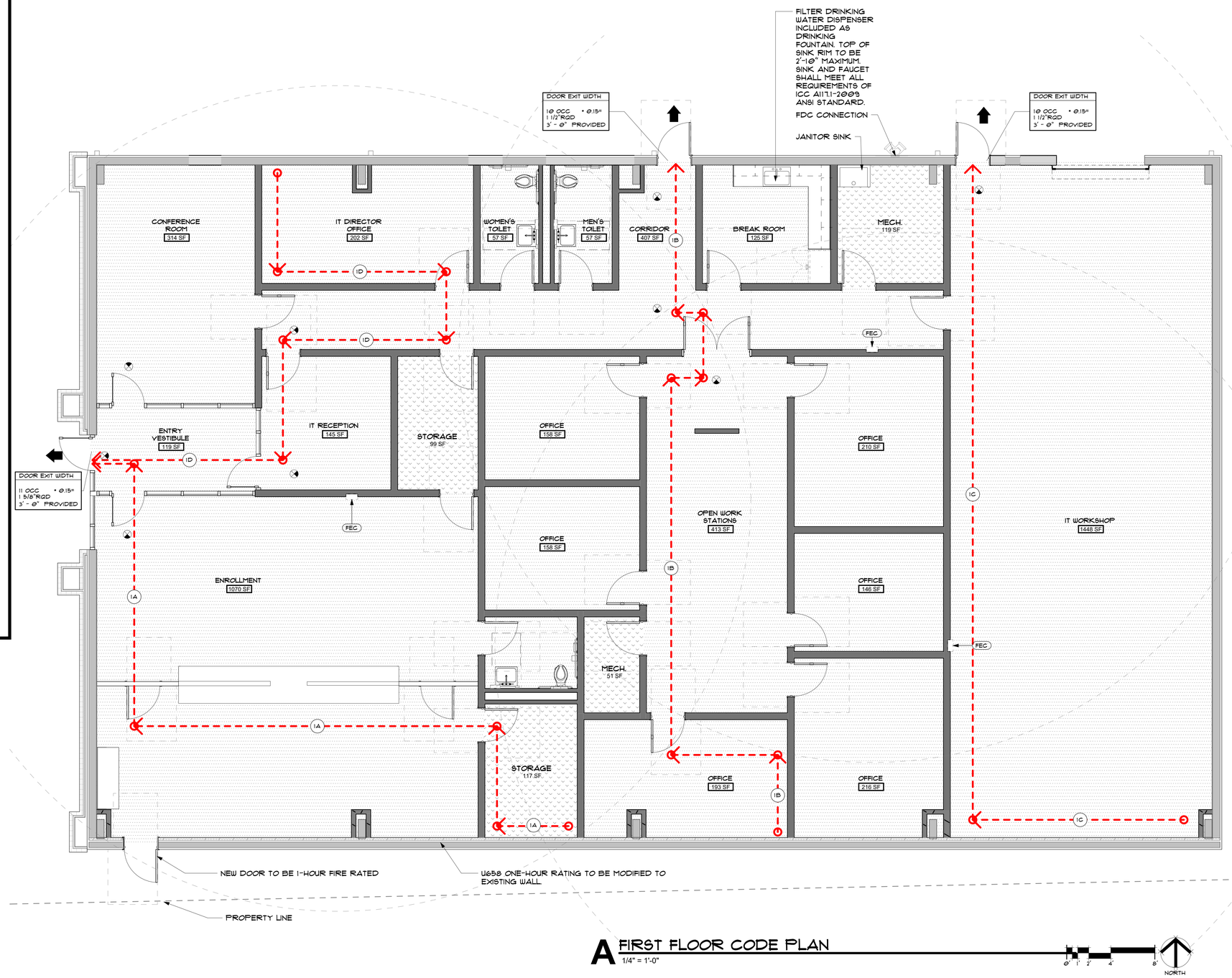
NEW PARTITION

FIRE RATED PARTITIONS USE STRIPES TO CONVEY 1-HR FIRE RATING

TRAVEL DISTANCE

PER IBC 2018, TABLE 1017.2, 300' MAXIMUM

PATH ID	TRAVEL DISTANCE
1A	76' - 1 5/8"
1B	75' - 9"
1C	78' - 1 1/2"
1D	73' - 6 3/8"



A FIRST FLOOR CODE PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

NORTH

GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

G002 LIFE SAFETY PLAN

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
LIFE SAFETY PLAN

SHEET NUMBER:
G002

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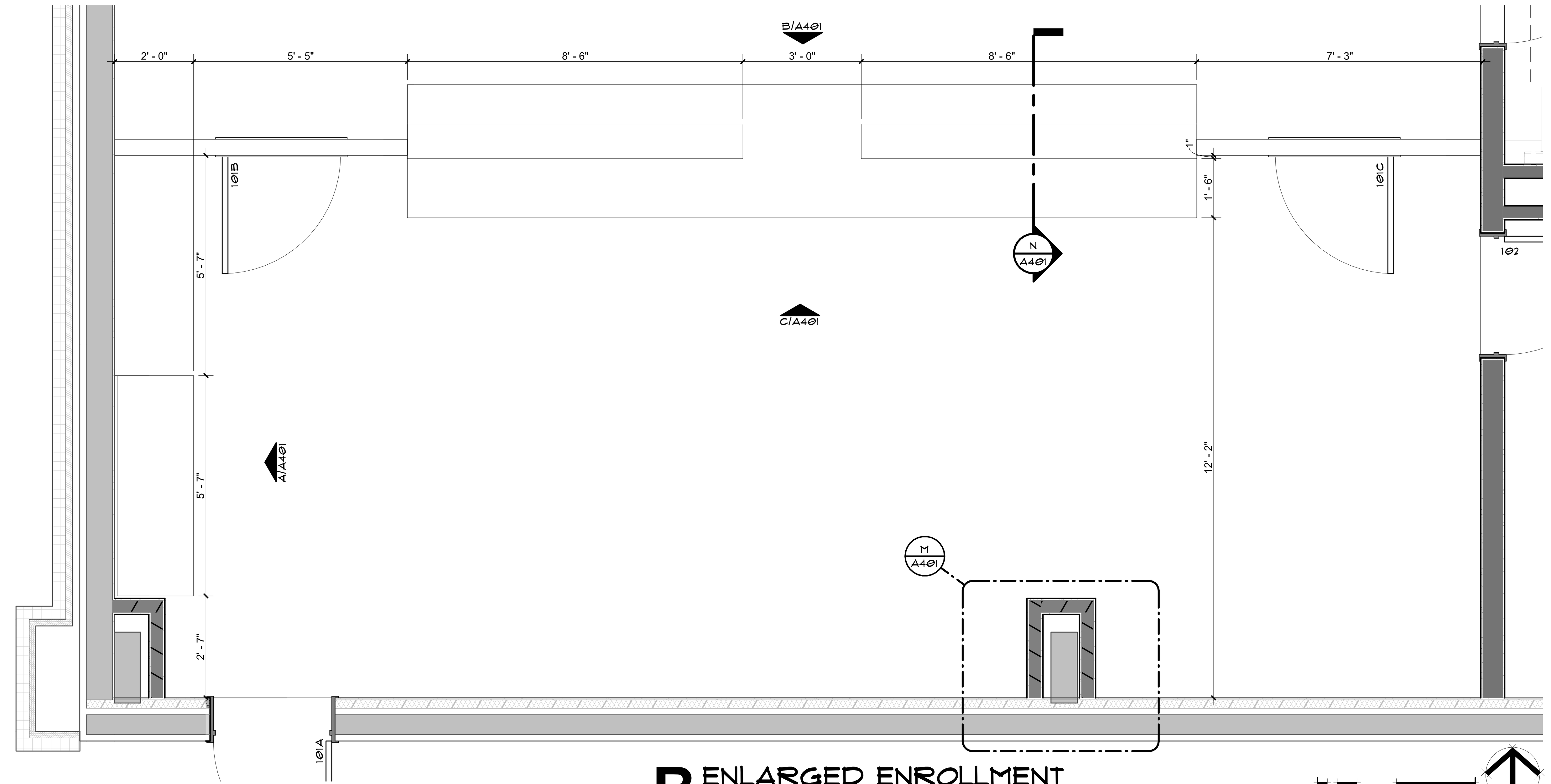

B ENLARGED ENROLLMENT
1/2" = 1'-0"

A FIRST FLOOR PLAN
1/4" = 1'-0"

FINISH FLOOR PLAN GENERAL NOTES

1. ALL NEW BUILDING MATERIALS AND PRODUCTS SHALL NOT CONTAIN LEAD, CADMIUM, OR ASBESTOS.
2. RECYCLE ALL ELIGIBLE FINISH MATERIALS PER MANUFACTURER'S RETURN OR RECLAMATION PROGRAM.
3. REFER TO ROOM FINISH SCHEDULE FOR ADDITIONAL INFORMATION AT NON-ELEVATED AREAS.
4. PROVIDE CORNER AND END-WALL GUARDS AT OUTSIDE GYPSUM BOARD CORNERS.
5. WALL FINISHES TO HAVE MINIMUM CLASS "A" RATING FOR FLAME SPREAD AND SMOKE DEVELOPMENT.
6. FINISH HATCHES AND PATTERNS ARE FOR GRAPHIC PURPOSES ONLY, AND ARE NOT INTENDED TO SHOW EXACT PATTERN OR SIZES OF FINISHES.
7. PROVIDE TILE BACKER BOARD AT ALL WALLS SHOWN TO RECEIVE TILE.
8. PROVIDE SEALANT AT ALL TILE INSIDE CORNERS AND AT DOOR FRAMES. COLOR TO MATCH ADJACENT GROUT COLOR.

TILE
1. "LEVEL LINE" OF TILE INSTALLATION TO BE TAKEN AT THE LOW POINT OF THE FLOOR SLAB TO ALLOW TILE TO BE FLUSH WITH VARIATION IN FLOOR SLAB.
2. USE SCHLUTER QUADEC TRANSITION STRIP FOR ALL OUTSIDE CORNERS OF TILE CONDITIONS AND UNFINISHED EXPOSED EDGES OF TILE INSTALLATION. MITER OUTSIDE CORNERS OF TRIM. BUTT JOINTS ARE NOT ALLOWED. FINISH: SATIN NICKEL.
3. TILE SOFT JOINTS TO MATCH GROUT COLOR. RE: SPECIFICATIONS FOR ADDITIONAL INFORMATION. INSTALL TILE AT WALLS WITH FULL PIECE AT FLOOR, CUTS TO OCCUR AT CEILING IF NEEDED, UNLESS NOTED OTHERWISE.

PAINT
1. ALL GYPSUM BOARD WALLS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.
2. DOOR FRAMES TO BE PT-2, UNLESS NOTED OTHERWISE.
3. ALL ELECTRICAL PANEL DOORS, AND WALL AND CEILING GRILLES ARE TO HAVE A FINISH TO MATCH ADJACENT SURFACE, UNLESS NOTED OTHERWISE.
4. SWITCH PLATES AND ELECTRICAL DEVICES ARE NOT TO BE PAINTED.

FLOORING
1. CHANGES IN FLOORING HEIGHTS UP TO 1/4 INCH MAY BE VERTICAL AND WITHOUT REDUCING EDGE TREATMENT. CHANGES IN FLOORING HEIGHTS BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2. IF CHANGES IN FLOORING LEVEL ARE GREATER THAN 1/2 INCH, NOTIFY ARCHITECT FOR DETAILS TO PROVIDE ADA COMPLIANT RAMP.
2. ALL FLOORING TRANSITIONS ARE TO OCCUR AT THE CENTERLINE OF DOOR, UNLESS NOTED OTHERWISE.
3. PROVIDE STAINLESS STEEL SCHLUTER TRANSITION STRIP BETWEEN CHANGE IN FLOOR SURFACE, UNLESS NOTED OTHERWISE.
4. PROVIDE THRESHOLD AT TRANSITION FROM WET AREAS.

CASEWORK
1. CONTRACTOR TO FIELD MEASURE AND VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF CASEWORK.
2. REFER TO FLOOR PLANS AND INTERIOR ELEVATIONS FOR EXACT LOCATIONS OF CASEWORK.
3. COUNTERTOPS AND BACKSPLASHES TO RECEIVE CLEAR SEALANT AT WALL.
4. ALL SOLID SURFACE COUNTERS TO BE SS-1, UNLESS NOTED OTHERWISE.
5. PROVIDE SIDE, TOP, AND BOTTOM FILLER PIECES AS REQUIRED TO COMPLETE THE CASEWORK AS INDICATED ON THE PLANS AND INTERIOR ELEVATIONS.
6. PROVIDE FINISHED END PANELS AT ALL EXPOSED CABINET ENDS, KNEE SPACES, AND BANQUETTE ENDS.
7. PROVIDE FILLER STRIPS TO MATCH ADJACENT CABINETS AT ALL NOTED LOCATIONS. MAXIMUM FILLER WIDTH 3 INCHES.

FLOOR PLAN GENERAL NOTES

NEW WALL / PARTITION

EXISTING WALL / PARTITION

TYPICAL DOOR PLACEMENT, UNLESS NOTED OTHERWISE. APPLIES TO SINGLE AND DOUBLE DOORS

ALIGN FINISHED EDGES, UNLESS NOTED OTHERWISE

XX-XX / XX-XX FLOORING TRANSITION

1. ALL INTERIOR DIMENSIONS ARE TO THE FACE OF STUD, UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS. CONTACT ARCHITECT FOR CLARIFICATION.
2. ALL EXTERIOR DIMENSIONS ARE FROM FACE OF EXTERIOR FINISH, UNLESS NOTED OTHERWISE.
3. UNLESS DIMENSIONED OTHERWISE, ALIGN PARTITIONS ON GRIDLINES WITH CENTERLINE OF STUD.
4. INTERIOR PARTITIONS ARE TYPE FA0 UNLESS NOTED OTHERWISE. REFER TO SHEET A601 FOR PARTITION TYPES.
5. WHEN WALL PARTITIONS OF DIFFERENT FIRE OR SOUND RATINGS INTERSECT, THE HIGHEST RATED PARTITION SHALL TAKE PRECEDENT.
6. WHERE EQUIPMENT IS SHOWN IN DASHED AND / OR HALFTONE, IT SHALL BE OWNER FURNISHED, OWNER INSTALLED, UNLESS NOTED OTHERWISE. EQUIPMENT, WHERE SHOWN, IS FOR COORDINATION AND BACKING PURPOSES ONLY. CONFIRM MAKES AND MODELS WITH OWNER. VERIFY EQUIPMENT ROUGH-IN DIMENSIONS WITH MANUFACTURER. COORDINATE UTILITIES FOR EQUIPMENT WITH OWNER'S EQUIPMENT AND MEP DOCUMENTS. CONTRACTOR TO VERIFY AND COORDINATE ALL EQUIPMENT WITH OWNER, INCLUDING BUT NOT LIMITED TO WEIGHT, LOCATION, BACKING REQUIREMENTS, POWER AND CLEARANCES.
7. ALL INTERIOR PARTITIONS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.
8. PROVIDE TELEVISIONS AT LOCATIONS INDICATED. PROVIDE BLOCKING. REFER TO TECHNOLOGY DRAWINGS FOR SIZES.
9. EXPOSED SURFACES OF CABINETS FINISHED TO MATCH FACE.
10. ALL COUNTERTOPS SHALL HAVE EASED EDGE CORNERS AT ALL EXPOSED EXTERIOR CORNERS.
11. ALL EXPOSED PIPES UNDER RESTROOM SINKS TO HAVE INSULATION WRAP.
12. REFER TO SHEET A401 FOR WINDOW AND DOOR SCHEDULE AND DETAILS.

PARTITION TYPES NAMING CONVENTION

STRUCTURE
- B 1 5/8" METAL STUD
- D 3 5/8" METAL STUD
- F 6" METAL STUD

FIRE RESISTANCE RATING
- 0 NON-RATED
- 1 1 HOUR

SUB-TYPE
- A 6" ABOVE CEILING, BRACED HEAD (OR STR TO STRUCTURE ABOVE IF UNDER 24")
- B TO UNDERSIDE OF STRUCTURE ABOVE
- F FURRING: 6" ABOVE CEILING
- P PARTIAL HEIGHT
- S SOUND PARTITION

EXAMPLE

DS / 1X: STRUCTURE; SUB-TYPE; SMOKE RATED (OPTIONAL); FIRE RATING

D = 3 5/8" METAL STUD
S = SOUND PARTITION
1 = 1 HR FIRE RESISTANCE RATING
X = SMOKE RATED PARTITION

PARTITION TYPES GRAPHICS CONVENTION

TYPICAL PARTITION WITH NO SPECIAL MATERIALS OR RATINGS

EXISTING PARTITION

NEW PARTITION

FIRE RATED PARTITIONS USE STRIPES TO CONVEY 1-HR FIRE RATING

INTERIOR FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	CEILING FINISH	COMMENTS
100	ENTRY VESTIBULE	CPT-2	RB-1	ACT-1	
101	ENROLLMENT	LVT-1	RB-1	ACT-1	
102	ENROLLMENT STORAGE	CONC-1	RB-1	ACT-1	
103	WOMEN'S TOILET	TL-1	TB-1	PT-3	
104	IT RECEPTION	CPT-1	RB-1	ACT-1	
105	CONFERENCE ROOM	CPT-1	RB-1	ACT-1	
106	IT DIRECTOR OFFICE	CPT-1	RB-1	ACT-1	
107	WOMEN'S TOILET	TL-1	TB-1	PT-3	
108	MEN'S TOILET	TL-1	TB-1	PT-3	
109	BREAK ROOM	LVT-1	RB-1	ACT-1	
110	FIRE RISER / MECH.	CONC-1	RB-1	OTS	
111	IT WORKSHOP	CONC-1	RB-1	OTS	
112	OPEN WORK STATIONS	CPT-1	RB-1	ACT-1	
113	OFFICE	CPT-1	RB-1	ACT-1	
114	OFFICE	CPT-1	RB-1	ACT-1	
115	OFFICE	CPT-1	RB-1	ACT-1	
116	OFFICE	CPT-1	RB-1	ACT-1	
117	NETWORK CLOSET	CONC-1	RB-1	OTS	
118	OFFICE	CPT-1	RB-1	ACT-1	
119	OFFICE	CPT-1	RB-1	ACT-1	
120	STORAGE	CONC-1	RB-1	OTS	
121	CORRIDOR	CPT-1	RB-1	ACT-1	

FINISH LEGEND

FLOOR FINISH

CPT-1 CARPET TILE
MANUF: SHAW CONTRACT
STYLE:
SIZE:
COLOR:

CPT-2 WALK OFF CARPET TILE
MANUF: PATCRAFT
STYLE: WALK RIGHT IN II
SIZE: 24" X 24"
THICKNESS: 9.19 MM
COLOR: STERLING
INSTALL: MONOLITHIC

CONC-1 SEALED CONCRETE
MANUF: REFER TO SPECIFICATIONS
COLOR: ARCHITECT TO SELECT COLOR FROM MANUFACTURER'S FULL RANGE
NOTE: TOILET ROOMS TO HAVE SLIP RESISTANT COATING

LVT-1 LUXURY VINYL TILE
MANUF: PATCRAFT
STYLE: TRUE SPECIES
COLOR: ARBOR ASH 00710-V3

TL-1 PORCELAIN TILE
MANUF: METRO SURFACES
STYLE: WALES
COLOR: PALLADIUM
FINISH: MATTE
SIZE: 12" X 24"
INSTALL: MONOLITHIC

BASE FINISH

RB-1 RESILIENT BASE
MANUF: TARKETT
STYLE: THERMOSET RUBBER
COLOR: BLACK
SIZE: 4" WITH TOE

TB-1 TILE BASE
MANUF: METRO SURFACES
STYLE: WALES
COLOR: PALLADIUM
FINISH: MATTE
SIZE: 3X24 BULLNOSE

WALL FINISH

PT-1 GENERAL WALL PAINT
MANUF: SHERWIN WILLIAMS
SHEEN: EGGSHELL
COLOR: PURE WHITE

PT-2 DOOR AND DOOR FRAME PAINT (HM ONLY)
MANUF: SHERWIN WILLIAMS
SHEEN: SEMI-GLOSS
COLOR: EVENING SHADOW

PT-3 GENERAL WALL PAINT
MANUF: SHERWIN WILLIAMS
SHEEN: EGGSHELL
COLOR: COLOR TO MATCH PANTONE/PMS - 1805. SWATCH TO BE SUBMITTED TO OWNER AND ARCHITECT FOR FINAL APPROVAL

CEILING FINISH

ACT-1 ACOUSTICAL CEILING TILE
MANUF: ARMSTRONG CEILINGS
STYLE: CALLA
COLOR: WHITE
SIZE: 24" X 24"
GRID: SQUARE LAY-IN 15/16"

PT-3 GYPSUM CEILING PAINT
MANUF:
SHEEN:
COLOR:

MISCELLANEOUS

PL-1 PLASTIC LAMINATE
MANUF: FORMICAR
COLOR: WALNUT RIFTWOOD
TEXTURE: NATURAL GRAIN FINISH

QZ-1 QUARTZ STONE (COUNTER)
MANUF: CORIAN
COLOR: ASHEN GRAY LEATHERED

WV-1 WOOD VENEER
MANUF: ACROVYN
COLOR: 1352 FOSSIL TEAK WOOD

GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

A101
FLOOR PLAN

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

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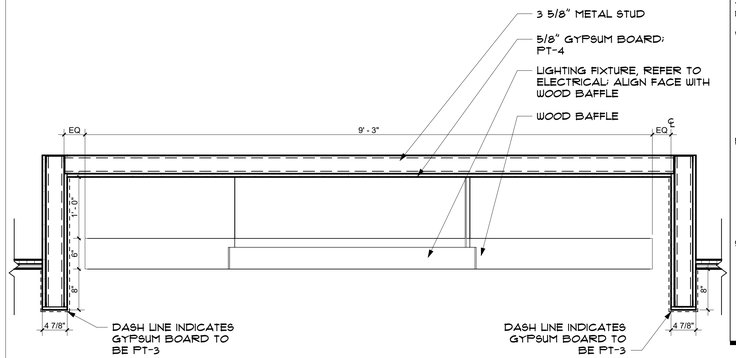
PERMIT SET

OTHER ISSUE DATES:
NO. DESCRIPTION DATE

SHEET NAME:
FLOOR PLAN

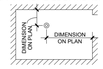
SHEET NUMBER:
A101



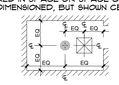
REFLECTED CEILING PLAN DIAGRAMS

THE FOLLOWING DESIGN CRITERIA APPLIES UNLESS SPECIFICALLY NOTED AND DIMENSIONED OTHERWISE.

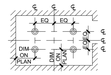
A. DIMENSIONS: WHEN COMPLETELY DIMENSIONED ON CEILING PLAN, LOCATE ITEMS AS INDICATED WHEN SHOWN DIMENSIONED BY A REFLECTED CEILING PLAN. SPECIFIC DIMENSIONS SHOWN BY REFLECTED CEILING PLANS TAKE PRECEDENCE OVER TYPICAL LOCATIONS.



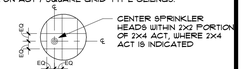
B. CENTERING: WHEN NOT DIMENSIONED BUT SHOWN CENTERED, LOCATE ITEMS CENTERED IN SPACE OR SPACE CREATED BETWEEN TWO ELEMENTS WHEN NOT DIMENSIONED, BUT SHOWN CENTERED.



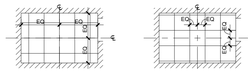
C. SYMMETRY: LOCATE FEATURES SYMMETRICALLY. LOCATE ITEMS ALIGNED WITH OTHER ITEMS SHOWN DIMENSIONED ELSEWHERE IN SPACE.



D. FIXTURES IN ACOUSTICAL CEILING TILE: WHEN NOT DIMENSIONED BUT OCCURS ON ACT / SQUARE GRID-TYPE CEILING, LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, AND OTHER DEVICES) AT CENTER OF PANEL ON ACT / SQUARE GRID-TYPE CEILINGS.



E. ACOUSTICAL CEILING TILE PLACEMENT: ACT / SQUARE AND / OR RECTANGULAR GRID-TYPE CEILINGS TO BE EVENLY SPACED. CUT TO FIT IRREGULAR GRID AND PERIMETER EDGE TRIM. MAKE FIELD CUT EDGES OF SAME PROFILE AS FACTORY EDGES. DOUBLE CUT AND FIELD PAINT EXPOSED REVEAL EDGES.



F. CONDUIT: CONCEAL ALL WIRE IN CONDUIT WHERE EXPOSED TO VIEW. INCLUDES:
1. ALL ELECTRICAL WIRING.
2. ALL DATA / IT / SECURITY WIRING; PROVIDE CONDUIT. CABLE TRAYS ARE ONLY ALLOWED WHERE CONCEALED BY ACT, DROP CEILING / CLOUDS AND WHERE WIRE IS FULLY CONCEALED FROM VIEW. EXPOSED UNDERSIDES OF CABLE TRAYS ARE ONLY ALLOWED WHERE MATERIAL IS PLACED SIMILAR TO MECHANICAL DUCTWORK. EXPOSED RANDOMLY PLACED CABLE TRAYS ARE NOT ALLOWED.
3. MC CABLE IS NOT ALLOWED AT EXPOSED LOCATIONS.

REFLECTED CEILING PLAN LEGEND

- 2X4 LAY IN LENS
- EMERGENCY 2X4 LAY IN LENS
- RECESSED CAN LIGHT
- 2X2 ACOUSTIC CEILING TILE (ACT)
- GYPSUM BOARD
- DATA, CEILING MOUNTED
- WAP — WIRELESS ACCESS POINT, CEILING MOUNTED
- SUPPLY DIFFUSER
- RETURN
- EXHAUST FAN
- 10' - 0" AFF — CEILING HEIGHT
- EXIT SIGN
- ALIGN — ALIGN FINISHED SURFACES
- OTS — OPEN TO STRUCTURE

NOTE: REFER TO STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

REFLECTED CEILING PLAN NOTES

1. ALL CEILINGS SHALL BE 8' - 6" AFF, UNLESS NOTED OTHERWISE.
2. ALL CEILING FINISHES TO BE ACT-1, UNLESS NOTED OTHERWISE. ALL CEILING GRIDS TO BE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS OF ITEMS WHERE NO CEILING IS REQUIRED OR INDICATED.
4. IN THE CASE OF MINOR DISCREPANCIES BETWEEN MECHANICAL, ELECTRICAL, PLUMBING AND ARCHITECTURAL DOCUMENTS IN THE LOCATION OF CEILING MOUNTED COMPONENTS, THE ARCHITECTURAL REFLECTED CEILING PLAN SHALL GOVERN. IN THE CASE OF MAJOR DISCREPANCIES, THE ARCHITECT SHALL BE NOTIFIED AS SOON AS THE DISCREPANCY IS DISCOVERED PRIOR TO PROCEEDING WITH THE WORK.
5. LIGHTS, EXIT SIGNS, SMOKE DETECTORS, SPEAKERS, DIFFUSERS, STROBES, AND MISCELLANEOUS DEVICES SHALL BE CENTERED IN THE CEILING TILE IN WHICH THEY OCCUR, UNLESS NOTED OTHERWISE.
6. CENTER, ALIGN AND / OR LOCATE LIGHT FIXTURES, MECHANICAL GRILLES, LIFE SAFETY DEVICES, OCCUPANCY SENSORS, SECURITY AND DATA FIXTURES AND OTHER MISCELLANEOUS COMPONENTS IN A UNIFORM AND ORDERLY FASHION, UNLESS ALTERNATE ARRANGEMENT IS SPECIFICALLY DIMENSIONED AND NOTED. INSTALL TRUE AND SQUARE.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE FIT OF ALL WORK AND TO PROVIDE A UNIFORM AND ORDERLY PLACEMENT AND APPEARANCE, WHETHER EXPOSED TO VIEW OR CONCEALED BY FINISHES.
8. ALL SPRINKLER HEADS SHALL BE ALIGNED IN THE SAME CEILING LOCATION PARALLEL TO THE WALL WITHIN EACH SPECIFIC CEILING CONSTRUCTION.
9. CENTER EXIT SIGNS ABOVE DOORS, UNLESS ALTERNATE ARRANGEMENT IS SPECIFICALLY DIMENSIONED AND NOTED.
10. CENTER, ALIGN AND LOCATE ACCESS PANELS IN ACCORDANCE WITH DESIGN CRITERIA FOR OTHER DEVICES. SUBMIT SHOP DRAWINGS THAT INDICATE EXACT SIZE, TYPE AND LOCATION OF CEILING AND WALL ACCESS PANELS FOR REVIEW AND ACCEPTANCE BEFORE INSTALLATION. ALL ACCESS PANELS SHALL BE PAINTED, UNLESS NOTED OTHERWISE AND EXTERIOR GRADE WHERE REQUIRED.
11. PROVIDE GYPSUM BOARD BULKHEADS WHERE CEILINGS OF DIFFERENT HEIGHTS OR ORIENTATION ABUT. DO NOT BUILD BULKHEADS OF ACOUSTICAL CEILING MATERIAL.
12. ALIGN ALL SOFFITS AND / OR BULKHEADS WITH ADJACENT WALLS, UNLESS NOTED OTHERWISE.
13. PROVIDE SUFFICIENT SUPPORT AND GRID SYSTEMS TO SUPPORT ALL CEILING MOUNTED DEVICES. ALL FIXTURES SHALL BE SUPPORTED AT EACH CORNER.
14. ALL OUTLETS, RECEPTACLES, DEVICES AND COVER PLATES SHALL BE INSTALLED PLUMB AND LEVEL. CROOKED INSTALLATION IS NOT ALLOWED.
15. MISALIGNED MEP FIXTURES OF ANY TYPE OR AT ANY LOCATION EXPOSED TO VIEW ARE NOT ALLOWED. MISALIGNED FIXTURES SHALL BE ADJUSTED OR REMOVED AND REPLACED IF REQUIRED FOR PROPER ALIGNMENT AT NO ADDITIONAL COST.
16. ALL RECESSED LIGHTING TO BE SEALED AIR-TIGHT, ICC-RATED AND SEALED TO GYPSUM BOARD OR FINISH MATERIAL AS REQUIRED BY THE IECC (INTERNATIONAL ENERGY CONSERVATION CODE). ALL MECHANICAL, ELECTRICAL AND PLUMBING FIXTURES SHALL BE IECC COMPLIANT.
17. CONTRACTOR TO COORDINATE ALL OUTLETS, SWITCHES AND POWER FEED WITH CASEWORK, PARTITIONS, FINISHES, FIXTURES AND EQUIPMENT.
18. SPRINKLER HEAD TYPES AND FINISHES:
    A. EXPOSED STRUCTURE: EXPOSED / CHROME
    B. FINISHED CEILING OR WALLS: FULLY RECESSED AND CONCEALED WITH WHITE COVER PLATE, FLAT AND FLUSH WITH CEILING OR WALL.
    C. PRE-FINISHED METAL CEILING OR WALL FEATURES: FULLY RECESSED AND CONCEALED WITH COVER PLATE, FLAT AND FLUSH TO MATCH ADJACENT FINISH; CUSTOM COLOR MAY BE REQUIRED IF MANUFACTURER'S RANGE DOES NOT PROVIDE MATCH, IN THE OPINION OF THE ARCHITECT.
    D. PROVIDE SPRINKLER GUARDS WHERE REQUIRED BY CODE.
19. PROVIDE SPRINKLER HEADS AND COVERS IN ACCORDANCE WITH SPECIFIED LEVEL OF EXPOSURE (TO VIEW), DESIGN CRITERIA AND AS INDICATED. PROVIDE BRAIDED METAL FLEXIBLE SPRINKLER DROPS AT ALL FINISHED CEILINGS OR WHERE REQUIRED FOR SPECIFIED PLACEMENT. CENTER AND ALIGN PIPES WITH ARCHITECTURAL FEATURES. PROVIDE ADDITIONAL HEADS BEYOND THAT REQUIRED FOR MINIMUM COVERAGE AS REQUIRED TO COMPLY WITH ARCHITECTURAL LAYOUT AND UNIFORM ALIGNMENT WITH OTHER FIXTURES. SUBMIT LAYOUT FOR REVIEW PRIOR TO AHJ REVIEW OR INSTALLATION.
20. PROVIDE PRE-FINISHED GRAY ELECTRICAL DEVICES AND STAINLESS STEEL COVER PLATES AT ALL WALLS IN PROJECT. AT ALL OTHER LOCATIONS, SUCH AS CASEWORK, RECEPTACLES AND COVER PLATES SHALL MATCH ADJACENT FINISHES, AS DETERMINED AND SELECTED BY THE ARCHITECT FROM MANUFACTURER'S FULL RANGE. FIELD PAINT WHERE REQUIRED.
21. MAINTAIN CONTINUOUS FIRE RATED ENCLOSURES AS REQUIRED AT RATED WALLS AND CEILINGS. PROVIDE FIRE RATED FIXTURE COVERS, J-BOXES OR CONSTRUCT GYPSUM BOARD ENCLOSURES WHERE REQUIRED FOR FIXTURE OR MEP RUNS TO MAINTAIN CONTINUOUS FIRE RATING.
22. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION FOR DIFFUSERS AND GRILLE TYPES. REFER TO ELECTRICAL DRAWINGS FOR FIXTURE SCHEDULES AND ADDITIONAL INFORMATION. DESIGN INTENT FOR APPEARANCE, TYPE, ARRANGEMENT AND LOCATION IS INDICATED ON ARCHITECTURAL DRAWINGS. REPORT DISCREPANCIES TO ARCHITECT FOR CLARIFICATION PRIOR TO ORDERING MATERIALS OR THE START OF ROUGH-IN.
23. LIFE SAFETY DEVICE COLORS: GRAY (UNLESS RED IS SPECIFICALLY REQUIRED BY CODE).
    A. WHITE, AT WHITE CEILINGS OR WHERE EXPOSED STRUCTURES.
    B. OTHER CEILINGS: NOT ALLOWED, USE WALL MOUNTED.
    C. INTERIOR / EXTERIOR WALLS: GRAY.
24. EXPOSED METAL DUCTWORK: ALL METAL DUCTWORK EXPOSED TO VIEW SHALL HAVE UNIFORM AND NEAT SEALANT AND SEAMS, CLEAN EXCESS SEALANT. PROVIDE 12 FOOT BY 12 FOOT MOCK-UP TO ILLUSTRATE ALL SEAMS AND SEALANT TYPES IN PROJECT.
25. EXPOSED STRUCTURE: WHEN NOT DIMENSIONED, BUT OCCURS ON OR ADJACENT TO EXPOSED STRUCTURE, LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER PIPING / HEADS, MECHANICAL DUCTS, PIPES, PLUMBING, DEVICES, AND ALL ASSOCIATED MOUNTING BRACKETS AND FASTENERS) CENTERED WITHIN SPACE BETWEEN OR ON STRUCTURAL ELEMENTS. MATCH ORIENTATION OF STRUCTURE, UNLESS A SPECIFIC ALTERNATE ARRAIGNMENT IS DIMENSIONED AND NOTED. CHANGE ORIENTATION OF ITEMS, IN ACCORDANCE WITH DESIGN CRITERIA FOR PLACEMENT, TO MATCH CHANGES IN ORIENTATION OF STRUCTURE. WHERE MULTIPLE SYSTEMS NEED TO SHARE THE SAME SPACE, CENTER ONE SYSTEM AND ALIGN ADJACENT SYSTEMS IN A UNIFORM AND ORDERLY FASHION.
26. COORDINATION: ALL DEVICES REQUIRED FOR PROJECT MAY NOT BE SHOWN ON ARCHITECTURAL DRAWINGS. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND TECHNOLOGY DRAWINGS FOR ADDITIONAL DEVICES. ALL DEVICES IN PROJECT SHALL FOLLOW DESIGN CRITERIA FOR PLACEMENT, AS INDICATED, WHETHER OR NOT SHOWN ON ARCHITECTURAL DRAWINGS. REPORT DISCREPANCIES TO ARCHITECT FOR CLARIFICATION PRIOR TO INSTALLATION.
27. COORDINATION DRAWINGS - PROVIDE THE FOLLOWING: PREPARE COORDINATION DRAWINGS TO A SCALE OF 1/4 INCH = 1'-0" OR LARGER, DETAILING MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS OF FIRE PROTECTION EQUIPMENT AND MATERIALS IN RELATIONSHIP WITH OTHER SYSTEMS, INSTALLATIONS, AND BUILDING COMPONENTS. INDICATE LOCATIONS WHERE SPACE IS LIMITED FOR INSTALLATION AND ACCESS AND WHERE SEQUENCING AND COORDINATION OF INSTALLATION ARE IMPORTANT TO THE EFFICIENT FLOW OF THE WORK, INCLUDING, BUT NOT NECESSARILY LIMITED TO THE FOLLOWING:
    A. INDICATE THE PROPOSED LOCATIONS OF PIPING, EQUIPMENT, HANGERS, HEAD TYPES AND LOCATIONS, AND MATERIALS.
    B. CLEARANCES FOR INSTALLING AND MAINTAINING INSULATION.
    C. CLEARANCES FOR SERVICING AND MAINTAINING EQUIPMENT, INCLUDING TUBE REMOVAL, FILTER REMOVAL, AND SPACE FOR EQUIPMENT DISASSEMBLY REQUIRED FOR PERIODIC MAINTENANCE.
    D. EQUIPMENT CONNECTIONS AND SUPPORT DETAILS.
    E. EXTERIOR AND FOUNDATION PENETRATIONS. FIRE-RATED WALL AND FLOOR PENETRATIONS.
    F. UNDERGROUND PIPING.
    G. SIZES AND LOCATIONS OF REQUIRED CONCRETE PADS AND BASES.
28. ABOVE ALL NEW CEILINGS, PROVIDE R-21 BATT INSULATION.

B SECTION DETAIL

1" = 1'-0"

A FIRST FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

GH2 ARCHITECTS

STATE OF OKLAHOMA
Tyler Dee Wallace
6649
LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

A121 REFLECTED CEILING PLAN - FIRST FLOOR

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
REFLECTED CEILING PLAN - FIRST FLOOR

SHEET NUMBER:
A121

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TOILET ACCESSORIES GENERAL NOTES

1. REFER TO ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES INDICATED ON SHEET G004. REFER TO SPECIFICATION 102800 - TOILET, BATH AND LAUNDRY ACCESSORIES FOR ADDITIONAL INFORMATION. COORDINATE AND VERIFY ALL OFCI AND CFCI ITEMS WITH OWNER.
2. TOILET PAPER DISPENSER, OFCI. LOCATIONS NOT SHOWN. PROVIDE ONE PER WATER CLOSET. COORDINATE MOUNTING WITH TOILET PARTITION DOOR SWING.
3. AUTOMATIC SOAP DISPENSER, CFCI. LOCATIONS NOT SHOWN. DECK-MOUNTED, RIGHT SIDE OF FAUCET, ONE PER LAVATORY, RE: MEP.
4. MANUAL SOAP DISPENSER, CFCI. LOCATIONS NOT SHOWN. PROVIDE OWNER PER TILE SHOWER, RE: SPECIFICATIONS.
5. GRAB BARS, CFCI. PROVIDE 18 INCH, 36 INCH AND 42 INCH GRAB BARS AS INDICATED ON SHEET G001 AND AS REQUIRED BY CODE AT ALL WATER CLOSETS.
6. SANITARY NAPKIN DISPOSAL UNIT, CFCI. LOCATIONS NOT SHOWN. PROVIDE ONE PER WATER CLOSET IN WOMENS TOILET ROOMS. PROVIDE ONE PER SINGLE OCCUPANCY TOILET ROOMS.
7. DOOR AND STALL DOOR HOOKS, CFCI. LOCATIONS NOT SHOWN. PROVIDE ONE HOOK PER ENTRY DOOR AT SINGLE OCCUPANCY WATER CLOSETS. RE: SPECIFICATION SECTION 087100 - DOOR HARDWARE. PROVIDE ONE HOOK PER STALL DOOR. RE: SPECIFICATION 102113.19 - PLASTIC TOILET COMPARTMENTS.
8. MOP AND BROOM HOLDER / COMBINATION UTILITY SHELF, CFCI. PROVIDE ONE AT EACH UTILITY SINK, RE: SPECIFICATIONS.
9. PROVIDE TILE BEHIND MIRRORS, TYPICAL. VANITY MIRROR TO BE INSTALLED AT 3'-0" ABOVE FINISH FLOOR TO ALIGN WITH GROUT LINES.

INTERIOR ELEVATION GENERAL NOTES

1. PROVIDE BLOCKING AT ALL WALL CABINETS AND ALL WALL MOUNTED EQUIPMENT.
2. EQUIPMENT SHOWN IN DASH AND/OR HALFTONE SHALL BE OWNER FURNISHED, CONTRACTOR INSTALLED. EQUIPMENT IS SHOWN HERE FOR COORDINATION AND BACKING PURPOSES ONLY. MAKES AND MODELS SHALL BE CONFIRMED WITH OWNER.
3. EXPOSED SURFACES OF CABINETS FINISHED TO MATCH FACE.
4. ALL COUNTERTOPS SHALL HAVE EASED EDGE CORNERS AT ALL EXPOSED EXTERIOR CORNERS.
5. ALL EXPOSED PIPES UNDER RESTROOM SINKS TO HAVE INSULATION WRAP.

TOILET ACCESSORIES

1. PAPER TOWEL DISPENSER, OFCI. LOCATIONS SHOWN FOR REFERENCE ONLY.
2. AIR FRESHENER, CFCI. LOCATIONS AS INDICATED, RE: SPECIFICATIONS.
3. MIRRORS, CFCI. PROVIDE SIZES AS INDICATED, RE: SPECIFICATION SECTION 088300 - MIRRORS.
4. HAND SANITIZER DISPENSER, CFCI. CENTER HORIZONTALLY ON WALL TILE LOCATIONS AS INDICATED, RE: SPECIFICATIONS.
5. PRE-FABRICATED TRANSFER-TYPE SHOWER WITH INTEGRAL GRAB BARS AND FOLDING SEAT, CFCI. RE: PLUMBING. PROVIDE 2 INCH DEPRESSED SLAB.
6. TOWEL PIN, CFCI. LOCATIONS AS INDICATED, RE: SPECIFICATIONS.
7. HORIZONTAL DIAPER CHANGING STATION, CFCI. LOCATIONS AS INDICATED.

TOILET ACCESSORY SCHEDULE

TA#	DESCRIPTION	MANUFACTURER	MODEL	NOTES
TA-4	SURFACE-MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER	BOBRICK WASHROOM EQUIPMENT, INC.	B-2888	
TA-5	SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK WASHROOM EQUIPMENT, INC.	B-270	
TA-6	CLASSIC SERIES SURFACE MOUNTED SEAT COVER DISPENSER	BOBRICK WASHROOM EQUIPMENT, INC.	B-221	
TA-17	GRAB BARS	BRADLEY CORPORATION	812	
TA-19	GRAB BARS	BRADLEY CORPORATION	812	
TA-20	GRAB BARS	BRADLEY CORPORATION	812	

DOOR SCHEDULE GENERAL NOTES

1. SEE SPECIFICATIONS FOR HARDWARE GROUPS.
2. PAINT ALL HOLLOW METAL DOORS AND FRAMES, UNLESS NOTED OTHERWISE.
3. COORDINATE ALL DETAILS WITH PARTITION TYPES, INTERIOR / EXTERIOR FINISHES AND CEILING CONDITIONS AS INDICATED ON FLOOR PLANS, CEILING PLANS, AND OTHER DRAWINGS.
4. ALL DOORS, FRAMES AND HARDWARE SHALL COMPLY WITH ACCESSIBILITY REQUIREMENTS, AS INDICATED.
5. PROVIDE CONTINUOUS SEALANT AT JOINTS BETWEEN DOOR / LITE FRAMES AND ADJACENT SURFACES EACH SIDE OF ALL HEADS / JAMBS / SILLS AND AROUND THE BASE OF ALL DOOR FRAMES.
6. ALL EXTERIOR HOLLOW METAL DOORS AND FRAMES TO BE INSULATED WITH THERMAL BREAKS.

DOOR SCHEDULE ABBREVIATIONS

AL	ALUMINUM	OH	OVERHEAD
HM	HOLLOW METAL	WD	WOOD

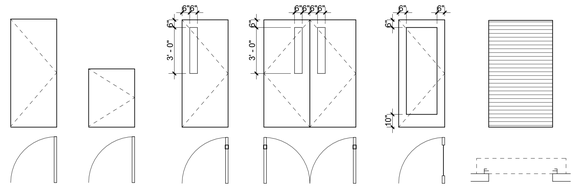
GLAZING TYPES

GL-1: 1/2" CLEAR TEMPERED

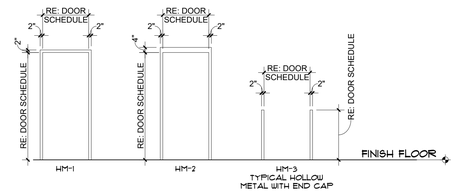
NOTE: PROVIDE SAFETY GLAZING WHERE REQUIRED PER CODE.

DOOR SCHEDULE

REV	DOOR NO.	ROOM	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	HARDWARE	COMMENTS
	101A	ENROLLMENT	3' - 0"	7' - 0"	A1	HM	PT-2	HM	HM	PT-2		1-HOUR FIRE RATING
	101B	ENROLLMENT	3' - 0"	4' - 0"	A1	WD	WD-1	A2	HM	PT-XX		
	101C	ENROLLMENT	3' - 0"	4' - 0"	A1	WD	WD-1	A2	HM	PT-XX		
	102	ENROLLMENT STORAGE	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	103	WOMEN'S TOILET	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	104	CORRIDOR	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	105	CONFERENCE ROOM	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	106	IT DIRECTOR OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	107	WOMEN'S TOILET	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	108	MEN'S TOILET	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	109	BREAK ROOM	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	110	FIRE RISER / MECH.	3' - 0"	7' - 0"	A1	HM	PT-2	HM	HM	PT-2		
	111A	CORRIDOR	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	111B	IT WORKSHOP	3' - 0"	7' - 0"	A1	HM	PT-2	A1	HM	PT-2		
	112	CORRIDOR	6' - 0"	7' - 0"	C2	WD	WD-1	C2	HM	PT-XX		
	113	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	114	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	115	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	116	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	117	NETWORK CLOSET	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	118	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	119	OFFICE	3' - 0"	7' - 0"	C1	WD	WD-1	C1	HM	PT-XX		
	120A	STORAGE	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	120B	STORAGE	3' - 0"	7' - 0"	A1	WD	WD-1	A1	HM	PT-XX		
	121	CORRIDOR	3' - 0"	7' - 0"	A1	HM	PT-2	HM	HM	PT-2		
	100A	ENTRY VESTIBULE	3' - 0"	7' - 0"	B1	AL/GL	AL/GL	B1	AL	PT-XX		
	100B	ENTRY VESTIBULE	3' - 0"	7' - 0"	B1	AL/GL	AL/GL	B1	AL	AL/GL		
	100C	ENTRY VESTIBULE	2' - 10"	7' - 0"	B1	AL/GL	AL/GL	B1	AL	PT-XX		
	100D	ENTRY VESTIBULE	3' - 0"	7' - 0"	B1	AL/GL	AL/GL	B1	AL	PT-XX		
	111C	IT WORKSHOP	8' - 0"	8' - 0"	S1	-	-	S1	HM	PT-XX		BY MANUFACTURER

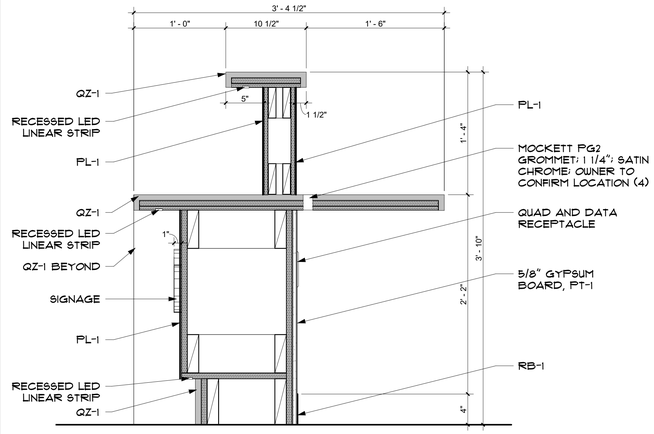


NOTES: REFER TO DOOR SCHEDULE FOR HEIGHT AND WIDTH DIMENSIONS



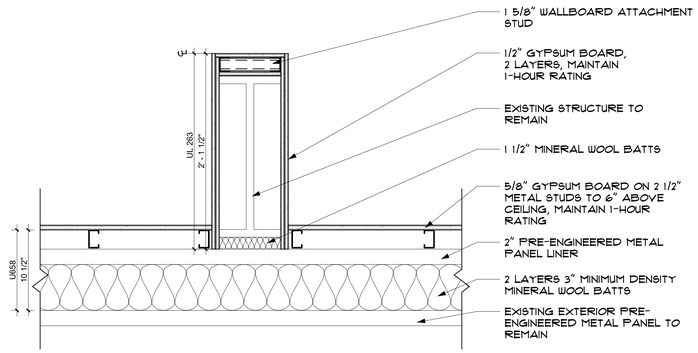
FRAME TYPES

NTS



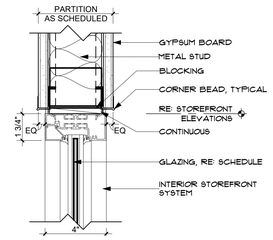
N DESK SECTION DETAIL

1 1/2" = 1'-0"



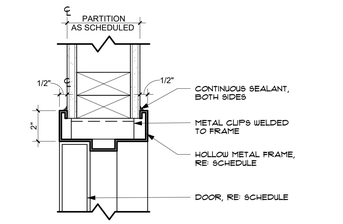
M PLAN DETAIL

1 1/2" = 1'-0"



L INTERIOR STOREFRONT HEAD

3" = 1'-0"

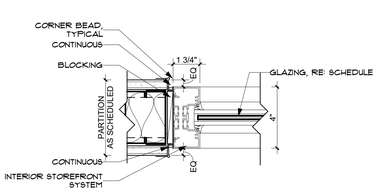


K TYPICAL H.M. JAMB DETAIL

3" = 1'-0"

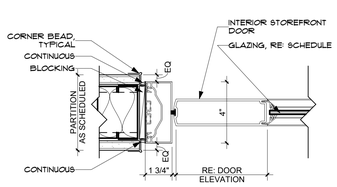
J TYPICAL H.M. DOOR HEAD DETAIL

3" = 1'-0"



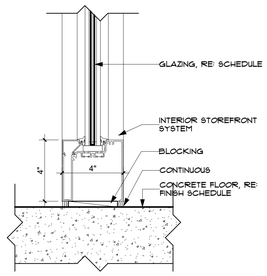
H INTERIOR STOREFRONT JAMB

3" = 1'-0"



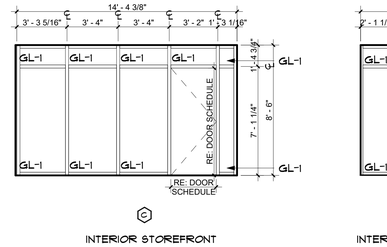
G INTERIOR STOREFRONT JAMB @ DOOR

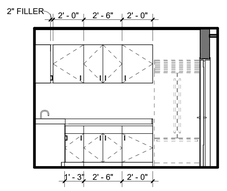
3" = 1'-0"



F INTERIOR STOREFRONT SILL

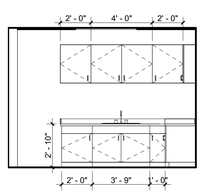
3" = 1'-0"





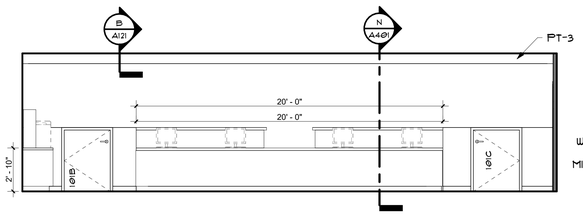
E BREAK ROOM

1/4" = 1'-0"



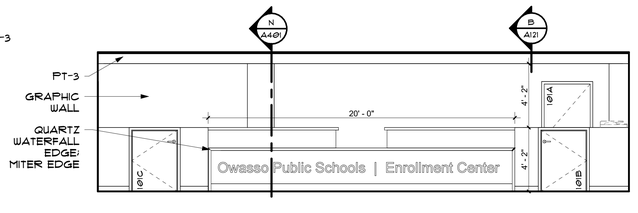
D BREAK ROOM

1/4" = 1'-0"



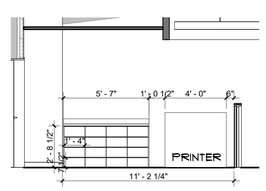
C ENROLLMENT

1/4" = 1'-0"



B ENROLLMENT

1/4" = 1'-0"



A ENROLLMENT

1/4" = 1'-0"

GH2 ARCHITECTS

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Tyler Dee Wallace
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LICENSED ARCHITECT
04.29.24

OWASSO PS - ENROLLMENT & IT CENTER

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A401 DETAILS

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GH2.COM

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SHEET NAME:
DETAILS

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A401

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ANY UNUSED ELECTRICAL OR HVAC EQUIPMENT, CONDUIT, WIRING, DUCTWORK, ETC. WITHIN THE DEMISED PREMISES MUST BE COMPLETELY REMOVED BACK TO POINT OF ORIGIN.

NOTE:
DEMOLITION OF EXISTING SYSTEMS SHALL BE SAFE. CONTRACTOR SHALL COORDINATE THE FOLLOWING PRIOR TO DEMOLITION:
- POWER IS TO BE DISCONNECTED BY A LICENSED ELECTRICIAN.
- DOMESTIC WATER TO BE SHUT OFF TO EQUIPMENT BEING WORKED ON OR REMOVED.
- FIRE SPRINKLER SHUT DOWN TO BE COORDINATED WITH LOCAL FIRE MARSHAL.
- INTERRUPTION TO UTILITIES SHALL BE COORDINATED WITH LANDLORD.

LANDLORD NOTES:
DEMOLITION CONTRACTOR SHALL COORDINATE EQUIPMENT SALVAGING WITH LANDLORD AND CONSTRUCTION MANAGER PRIOR TO DEMOLITION.

NOTE:
DEMOLITION CONTRACTOR SHALL VERIFY WITH MECHANICAL AND PLUMBING CONTRACTOR FOR EQUIPMENT, DUCTWORK, PIPING, CONTROLS SALVAGING PRIOR TO DEMOLITION AND REMOVAL OF EXISTING SYSTEMS

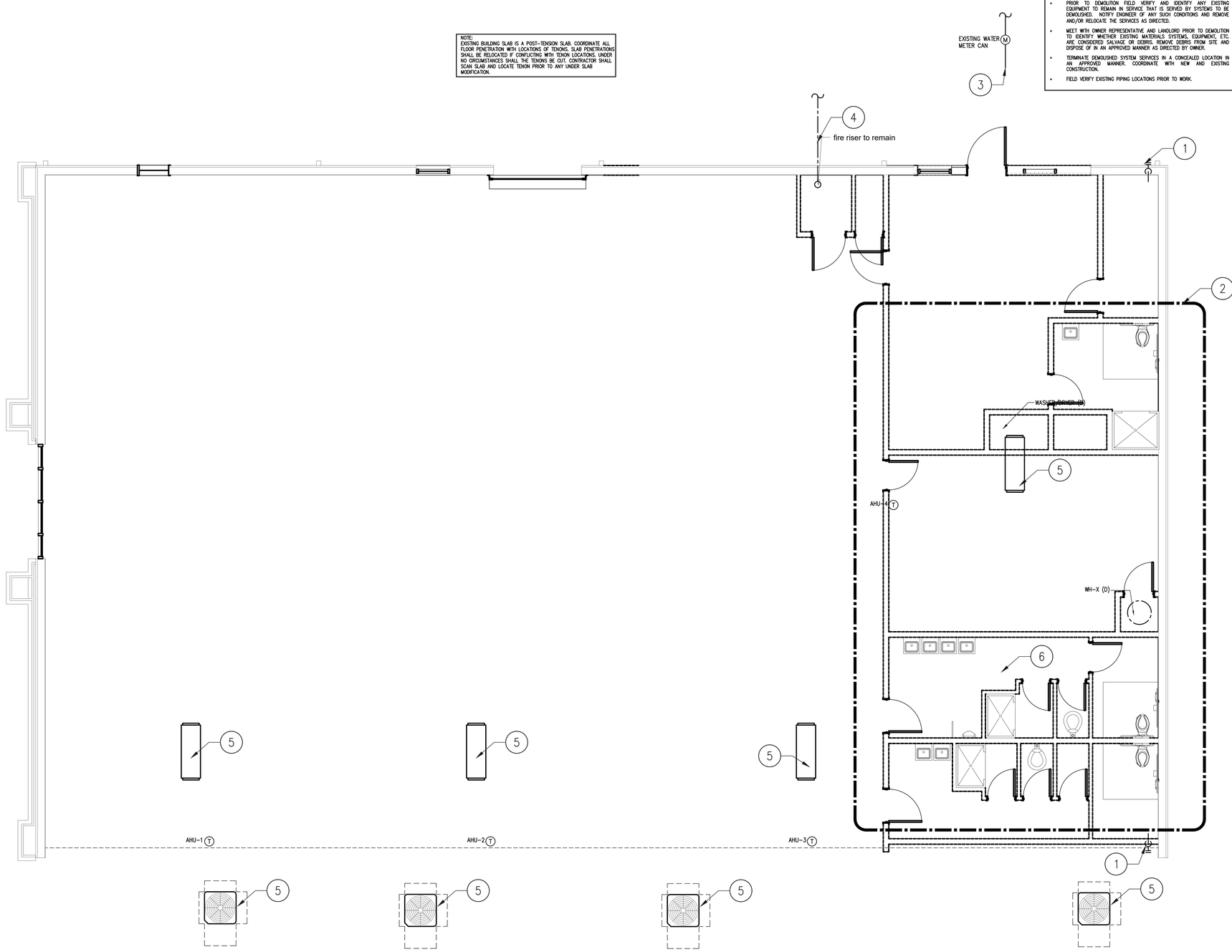
KEYNOTES

1. EXISTING FPWH TO REMAIN AND RECONNECTED TO NEW WATER LINE.
2. REMOVE EXISTING PLUMBING FIXTURES/PIPING AND CAP SANITARY SEWER BELOW SLAB.
3. EXISTING WATER BETWEEN METER AND BUILDING WILL BE REROUTED TO RISER ROOM. REFER TO PLUMBING PLAN FOR ADDITIONAL INFORMATION.
4. EXISTING FIRE SPRINKLER TO REMAIN. REFER TO FIRE PROTECTION FOR MODIFICATION.
5. REMOVE EXISTING HVAC DUCTWORK, GRILLES FOR FOUR SPLIT SYSTEMS. CONDENSING UNIT TO REMAIN. REFER TO MECHANICAL AND PLUMBING FOR ADDITIONAL SCOPE. EXISTING THERMOSTAT TO BE RELOCATED AND RECONNECTED.
6. REMOVE EXHAUST FAN, DRYER VENT, WATER HEATER AND RELATED PIPING AND DUCTWORK.

DEMOLITION NOTES

- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND SHALL BE FAMILIAR WITH THE LIMITS OF DEMOLITION REQUIRED FOR ALL TRADES. COORDINATE DEMOLITION WITH REQUIREMENTS OF NEW CONSTRUCTION PRIOR TO INITIATING WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLETE REMOVAL AND DISCARDING OF ALL DEMOLITION WASTE INCLUDING ANY UNFORESEEN ITEMS WITHIN THE SCOPE OF THE PROJECT.
- CONTRACTOR SHALL COORDINATE DEMOLITION OPERATIONS WITH CONTINUING OWNER OCCUPATION OF ADJACENT SPACES. ALL DEMOLITION WORK TO BE COORDINATED WITH OWNER AND CONDUCTED UNDER CONTROLLED CONDITIONS.
- REPAIR/PATCH AS REQUIRED FOR DEMOLITION OF VARIOUS CONSTRUCTION ITEMS. VERIFY AND COORDINATE ANY REQUIRED OPENINGS WITH RESPECTIVE TRADES. FOR ANY WORK THAT SHALL OCCUR OUTSIDE OF DEMOLITION AREA, CONTRACTOR SHALL RETURN SPACE TO ORIGINAL CONDITION.
- PROPERLY CAP, PLUG AND CONCEAL ANY PIPING LEFT IN PLACE. CAP ABANDONED SEWER PIPING A MINIMUM OF 8" BELOW FINISH FLOOR PATCH AND REPAIR SLAB.
- CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL NOT USED WATER PIPING, WASTE AND VENT, DUCTWORK, EQUIPMENT IN THE REMODEL AREA.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OWNER REPRESENTATIVE FOR WHETHER TO DISPOSE HVAC OUTLETS REMOVED OR RE-USE.
- DEMOLISH EXISTING AS REQUIRED PER NEW CONSTRUCTION AS DIRECTED BY ARCHITECT AND/OR AS NOTED ON DRAWINGS. AVOID DISRUPTION OF SERVICES DURING BUSINESS HOURS (IF APPLICABLE). ALL SYSTEM SHUT-DOWNS AND DISRUPTION OF SCHEDULED AFTER NORMAL BUILDING HOURS OR AS OTHERWISE APPROVED BY OWNER.
- PRIOR TO DEMOLITION FIELD VERIFY AND IDENTIFY ANY EXISTING EQUIPMENT TO REMAIN IN SERVICE THAT IS SERVED BY SYSTEMS TO BE DEMOLISHED. NOTIFY ENGINEER OF ANY SUCH CONDITIONS AND REMOVE AND/OR RELOCATE THE SERVICES AS DIRECTED.
- MEET WITH OWNER REPRESENTATIVE AND LANDLORD PRIOR TO DEMOLITION TO IDENTIFY WHETHER EXISTING MATERIALS SYSTEMS, EQUIPMENT, ETC. ARE CONSIDERED SALVAGE OR DEBRIS. REMOVE DEBRIS FROM SITE AND DISPOSE OF IN AN APPROVED MANNER AS DIRECTED BY OWNER.
- TERMINATE DEMOLISHED SYSTEM SERVICES IN A CONCEALED LOCATION IN AN APPROVED MANNER. COORDINATE WITH NEW AND EXISTING CONSTRUCTION.
- FIELD VERIFY EXISTING PIPING LOCATIONS PRIOR TO WORK.
- VERIFY EXTENT OF DEMOLITION OF SANITARY SEWER, DOMESTIC WATER AND FIRE PROTECTION PIPING PRIOR TO WORK. ALL DEMOLITION WORK SHALL BE IN COMPLIANCE WITH APPLICABLE CODES, STANDARDS AND THE AUTHORITY HAVING JURISDICTION.
- WHERE REQUIRED, COORDINATE EQUIPMENT ELECTRICAL TERMINATION REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
- CONTACT MALL OPERATIONS MANAGER TO SCHEDULE SLAB INSPECTION UPON COMPLETION OF DEMOLITION. ALL EXISTING CLEANOUTS SHALL REMAIN FUNCTIONAL AND ACCESSIBLE.
- AT ALL LOCATIONS WHERE PLUMBING FIXTURES ARE TO BE REMOVED, PLUMBING SUBCONTRACTOR SHALL REMOVE PIPING (WATER, WASTE, VENT) TO A POINT BEYOND FINISH SURFACE AND CAP OFF. WHERE PIPING SERVING EXISTING FIXTURE TO BE REMOVED ALSO SERVES FIXTURES THAT ARE TO REMAIN, PIPING SHALL BE REROUTED AND RECONNECTED AS REQUIRED TO ACCOMMODATE REMODELED AREAS AS REQUIRED.
- WHERE EXISTING WALLS ARE REMOVED AND PIPING IS FOUND THAT MUST REMAIN, PLUMBING SUBCONTRACTOR SHALL REROUTE AND RECONNECT PIPING AS REQUIRED, E.G. DOMESTIC WATER PIPING, GAS, SOIL, WASTE, VENT, AND ROOF LEADER PIPING.
- WHEREVER POSSIBLE, NEW PIPING AND RELOCATED PIPING SHALL BE RUN CONCEALED. COORDINATE LOCATION OF ALL PIPING WITH HVAC AND ELECTRIC SUBCONTRACTOR. COORDINATE CUTTING AND PATCHING WITH GENERAL CONTRACTOR.
- WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OTHERS, OWNER, OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS AND MAKE FINAL PLUMBING CONNECTIONS AT NEW LOCATIONS.
- ALL CUTTING AND PATCHING FOR REMOVAL, REMODELING OR INSTALLATION OF NEW PLUMBING WORK SHALL BE DONE BY PLUMBING CONTRACTOR.
- CUTTING, COREING AND REPAIR OF SLAB PENETRATIONS MUST CONFORM TO LANDLORD PROCEDURES.
- REFER TO ARCHITECTURAL DEMOLITION PLANS FOR EXTENT OF DEMOLITION WORK. COORDINATE WITH SAME.

NOTE:
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. COORDINATE ALL FLOOR PENETRATION WITH LOCATIONS OF TENONS. SLAB PENETRATIONS SHALL BE RELOCATED IF CONFLICTING WITH TENON LOCATIONS. UNDER NO CIRCUMSTANCES SHALL THE TENONS BE CUT. CONTRACTOR SHALL SCAN SLAB AND LOCATE TENON PRIOR TO ANY UNDER SLAB MODIFICATION.



NORTH

1 MPD100 MECHANICAL & PLUMBING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18905
4-26-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

GH2ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
MECHANICAL & PLUMBING DEMOLITION PLAN

SHEET NUMBER:
MPD100

HVAC SPECIFICATIONS

GENERAL

1. ALL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS MUST BE DESIGNED AND INSTALLED IN CONFORMANCE WITH THE STATE AND LOCAL BUILDING CODES, LOCAL FIRE DEPARTMENT REGULATIONS, AND THE LATEST EDITION OF SMACNA AND ASRAE STANDARDS.

2. DUCTWORK AND ALL OTHER H.V.A.C. CONSTRUCTION MUST BE DESIGNED TO CLEAR ANY INTERIOR ROOF LEADERS, DOWNSPOUTS, GAS LINES OR OTHER EXISTING CONSTRUCTION THAT OCCURS IN TENANT'S LEASED SPACE.

3. EXHAUST DUCT, PLUMBING VENTS AND FLUES SHALL NOT BE LOCATED WITHIN 10'-0" OF FROM OUTSIDE AIR INTAKE.

4. ALL ROOF WORK SHALL BE COORDINATED WITH THE LANDLORD'S FIELD REPRESENTATIVE. THE H.V.A.C. CONTRACTOR IS REQUIRED TO USE LANDLORD'S ROOFING CONTRACTOR FOR ALL ROOF WORK. THE H.V.A.C. CONTRACTOR SHALL INCLUDE THE COST OF SAME IN HIS BID.

5. H.V.A.C. CONTRACTOR WILL PROVIDE PERMANENT IDENTIFICATION OF THE STORE NAME ON ROOF TOP EQUIPMENT FOR THE CONVENIENCE OF MAINTENANCE AND REPAIR WORK. ALL NEW ROOFTOP EQUIPMENT SHALL BE PAINTED AS PER LANDLORD REQUIREMENTS.

6. H.V.A.C. CONTRACTOR SHALL PAY ALL FEES, OBTAIN ALL PERMITS AND INSPECTIONS AS REQUIRED FOR THIS PORTION OF THE WORK.

7. H.V.A.C. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF HIS WORK. ANY DISCREPANCIES WITH PLANS SHALL BE REPORTED TO TENANT'S REPRESENTATIVE.

8. ALL NEW MATERIALS, EQUIPMENT AND WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING DATE OF ACCEPTANCE BY TENANT, EXCEPT WHERE A LONGER WARRANTY PERIOD IS PROVIDED BY THE MANUFACTURERS OF EQUIPMENT OR COMPONENTS.

9. PRIOR TO THE START UP OF THE H.V.A.C. SYSTEM, THE H.V.A.C. CONTRACTOR SHALL CLEAN ALL DUCTWORK AND EQUIPMENT TO REMOVE ANY DIRT, RUBBISH OR DEBRIS.

10. THE COMPLETE H.V.A.C. SYSTEM SHALL BE TESTED AND BALANCED BY THE H.V.A.C. CONTRACTOR TO INSURE PROPER AIR FLOW TO ALL AREAS. THE GENERAL CONTRACTOR SHALL CONTRACT WITH AN INDEPENDENT TESTING ASSOCIATION TO VERIFY ALL AIR FLOW. A COPY SHALL BE FURNISHED TO THE TENANT.

11. ALL ROOF TOP EQUIPMENT SHALL BE CONVEYED VIA RUNWAY OF 3/4" PLYWOOD SHEETS 2" X 10" RUNNERS AND A RUBBER TIRED CONVEYANCE VEHICLE AND/OR AS APPROVED BY LANDLORD. THE H.V.A.C. CONTRACTOR IS RESPONSIBLE TO VERIFY APPROVED METHOD AND INCLUDE THIS IN HIS BID.

12. SPLASH PANS OR BLOCKS ARE REQUIRED ON THE ROOF AT ALL ROOF TOP UNIT CONDENSATES, OR AS DIRECTED BY LANDLORD.

13. FOR ADDITIONAL H.V.A.C. INFORMATION REFER TO MECHANICAL DETAILS AND DRAWINGS.

14. ALL DUCTWORK SHALL BE METAL. FIBERGLASS SHALL NOT BE USED IN ANY SITUATION.

SCOPE

FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR A COMPLETE FULLY OPERATIVE HEATING, VENTILATING, AND AIR CONDITIONING SYSTEM EXCEPT AS SPECIFICALLY EXCLUDED BY THE DRAWINGS, AND/OR TENANT'S DIRECTIONS.

EQUIPMENT

1. AIR CONDITIONING UNITS (FURNISHED PART OF SHELL)– UNITS SHALL BE FACTORY ASSEMBLED AND PRE-TESTED INCLUDING FANS, MOTORS, COILS, FILTERS, VARIABLES PITCH DRIVES, ETC. ALL UNITS SHALL BE EQUIPPED WITH AND ECONOMIZER PACKAGE RELIEF DAMPER. AND TONNAGE PER LOD.

2. FILTERS (FURNISHED PART OF SHELL)– FILTERS SHALL BE OF THE THROW AWAY TYPE WHENEVER POSSIBLE. IF FILTERS ARE OF NECESSITY THE PERMANENT TYPE, THEN THEY MUST BE CLEANABLE, HIGH VELOCITY TYPE AND SHALL BE AMERICAN AIR FILTERS, AIR MAYS, EVANS OR APPROVED EQUAL. FILTERS SHOULD BE OF THE OPTIMUM THICKNESS AND DESIGN FACE VELOCITY SHALL NOT EXCEED 550FPM. INSTALLATION OF THE AIR CONDITIONING UNIT SHALL BE SUCH SO AS TO NOT IMPEDE ACCESS TO THE FILTERS. WHERE FILTERS ARE IN FRAME HOLDERS, SUCH SUCH HOLDERS SHALL BE PROVIDED WITH A LIFT HANDLE. TENANT G.C. SHAW REPLACE ALL FILTERS AT COMPLETION OF CONSTRUCTION PHASE.

3. THE H.V.A.C. SUB-CONTRACTOR SHALL IDENTIFY ALL ROOF MOUNTED H.V.A.C. EQUIPMENT AND APPARATUS WITH 2" HIGH PAINTED STENCILED STORE NAME ON ALL SIDES OF EQUIPMENT.

DUCT

1. SQUARE AND RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED OF NEW GALVANIZED PRIME GRADE SHEET STEEL OF THE FOLLOWING GAUGES:

DUCT SIZE	GAUGE
12" AND LESS	NO. 26 U.S. GAUGE
13" TO 30"	NO. 24 U.S. GAUGE
31" TO 54"	NO. 22 U.S. GAUGE
55" TO 84"	NO. 20 U.S. GAUGE
85" AND OVER	NO. 18 U.S. GAUGE

2. SQUARE AND RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED AS FOLLOWS:

SIZE	METHOD
17" AND LESS	"S" AND DRIVE CLEATS
18" TO 30"	"L" STANDING SEAMS ON 3' CTRS
31" TO 54"	1-¼" STANDING SEAMS ON 3' CTRS

ROUND DUCTWORK SHALL BE CONSTRUCTED OF NEW GALVANIZED PRIME GRADE SHEET STEEL OF THE FOLLOWING GAUGES"

DUCT SIZE (DIAMETER	DUCTS	FITTINGS
8" AND LESS	24	22
9" TO 18"	22	20
19" TO 30	20	18

ALL 90 DEGREE ELBOWS FOR ROUND DUCTWORK SHALL BE FIVE (5) PIECE. ALL LONGITUDINAL SEAMS SHALL BE FORMED BY PITTSBURGH LOCKS. JOINTS SHALL BE SWAGGED WITH ONE-HALF INCH (1/2") OVERLAP.

3. ALL DUCTWORK SHALL BE MADE AIR TIGHT WITH MASTIC PRESSURE SENSITIVE TAPE.

4. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK LOCATED WITHIN THE BUILDING SHALL BE INSULATED WITH ONE AND ONE-HALF INCH (2") THICK FOIL-FACED FIBERGLASS INSULATION.

5. ALL SUPPLY AND RETURN AIR DUCTS LOCATED OUTSIDE OF THE BUILDING OR EXPOSED TO THE WEATHER SHALL HAVE ONE AND ONE-HALF (1-1/2") RIGID INSULATION ON THE INTERIOR OF THE DUCT.

6. CONTRACTOR WILL INSTALL SCREENS ON ALL DUCT OPENINGS WHICH LEAD TO OR ARE OUTDOORS. INSECT SCREENS SHALL BE 10 GAUGE, ONE-QUARTER INCH (1/4") MESH IN REMOVABLE GALVANIZED STEEL FRAMES.

7. ALL DUCT DIMENSIONS SHOWN ON DRAWING ARE CLEAR INSIDE DIMENSIONS.

HANGERS AND SUPPORTS

1. ALL HORIZONTAL DUCTS HAVING A DIMENSION OF 40 INCHES AND LESS SHALL BE SUPPORTED BY MEANS OF BAND IRON HANGERS OF NO. 18 U.S. GAUGE ATTACHED TO THE DUCT BY MEANS OF RIVETS, SCREWS, OR CLAMPS, AND FASTENED TO STRUCTURE ABOVE BY TOGGLE BOLTS OR OTHER MEANS. EACH SECTION OF DUCTWORK SHALL HAVE AT LEAST ONE PAIR OF SUPPORTS. VERTICAL DUCTS SHALL BE SUPPORTED WITH 1-1/4" X 1-1/4" X 1-1/4" ANGLES WHERE THEY PASS THROUGH THE FLOOR LINES.

2. ALL HORIZONTAL DUCTS HAVING A DIMENSION OF 40 INCHES AND MORE SHALL BE SUPPORTED BY MEANS OF ANGLE IRON TRAPEZE HANGERS EACH SECTION OF DUCTWORK SHALL HAVE AT LEAST ONE PAIR OF SUPPORTS.

3. DUCTWORK SHALL BE SUPPORTED BY ALL TURNS AND TRANSITIONS SUPPORT STRAIGHT DUCT EVERY 8' UP TO 35", EVERY 6' FOR DUCT FROM 36" TO 59", AND EVERY 4' FOR DUCT 60" AND OVER.

4. HANGER DESIGN SHALL BE AS DESCRIBED IN THE LATEST EDITION OF THE "SMACNA" MANUAL. REINFORCEMENT MEMBERS MAY BE USED TO SUPPORT THE DUCT SYSTEM PROVIDED DETAILS OUTLINED IN THE AFOREMENTIONED DOCUMENTS ARE ADHERED TO.

REINFORCEMENT

1. ALL DUCTS REQUIRING REINFORCEMENT SHALL BE REINFORCED ACCORDING TO THE LATEST EDITION OF "SMACNA" MANUAL.

2. MATERIALS FOR REINFORCEMENT MEMBERS SHALL BE GALVANIZED STEEL. ALL SCREWS AND WASHERS SHALL BE PLATED GALVANIZED.

FLASHING

1. CONTRACTOR WILL PROVIDE WATER TIGHT 24 GA. SHEET METAL FLASHINGS AT ALL EXTERIOR WALLS AND ROOF PENETRATIONS.

2. ALL CUTTING OF ROOF OPENINGS, SUPPORTS FOR ROOF OPENINGS, PITCH PANS, ROOF CURBS, FLASHINGS, COUNTER FLASHINGS, REPAIR TO ROOF, ETC. ASSOCIATED WITH H.V.A.C. SUB-CONTRACTOR SHALL BE THE RESPONSIBILITY AND PART OF THE CONTRACT OF THE H.V.A.C. SUB-CONTRACTOR. HE SHALL EMPLOY THE LANDLORD'S ROOFERS FOR THIS WORK SO AS TO MAINTAIN THE ROOF WARRANTY.

ACCESSORY ITEMS

1. ALL MANUAL DAMPERS, FIRE DAMPERS, TURNING VANES, REGISTER CONNECTIONS, ACCESS DOORS OR OTHER ASSOCIATED ACCESSORIES HALL BE INSTALLED ACCORDING TO THE LATEST PUBLICATION OF SMACNA" MANUAL.

DAMPERS

1. SPLITTER DAMPERS SHALL BE FABRICATED OF SHEET STEEL NOT LESS THAN NO. 16 U.S. GAUGE WITH THE LEADING EDGE HEMMED. EACH DAMPER SHALL BE LARGE ENOUGH TO COVER THE SMALLER OF THE TWO OPENINGS IT CONTROLS. DAMPERS SHALL BE CONTROLLED AS FOLLOWS: EXPOSED OR ACCESSIBLE DUCTWORK – LOCKING QUADRANTS EQUAL TO YOUNG REGULATOR NO. 1 WITH DAMPER ROD END BEARINGS ON OPPOSITE END. CONCEALED DUCTWORK – LOCKING QUADRANT EQUAL TO YOUNG REGULATOR NO. 315 (CHROMIUM PLATED WITH DAMPER ROD END BEARINGS ON BOTH ENDS).

2. VOLUME DAMPERS SHALL BE THE OPPOSITE INTERLOCKING TYPE AS MANUFACTURED BY AMERICAN FOUNDRY AND FURNACES CO. (AFFCO) OR EQUAL. BLADES SHALL BE OF NO. 16 GAUGE SHEET METAL AND SHALL NOT EXCEED 48: IN LENGTH OR 12" IN WIDTH. BLADES SHALL BE ON ONE-HALF INCH (1/2") DIAMETER LUBRICATING FERRULE TYPE.

3. JOB FABRICATED TURNING VANES SHALL BE ACCEPTABLE IN SQUARE ELBOWS. PROVIDE AND INSTALL BARBER COLMAN AIR TURNS OR EQUAL. TURNING VANES SHALL BE OF THE SAME GAUGE METAL AS THE DUCT IN WHICH THEY ARE INSTALLED. RADIUS ELBOWS SHALL HAVE A CENTERLINE RADIUS OF ONE AND ONE-HALF (1-1/2") TIMES THE DUCT WIDTH.

NOTE:
1. CONTRACTOR IS TO VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO BIDDING WORK. ANY CONDITIONS THAT AFFECT THE INSTALLATION OF THIS PROJECT MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER OR BE INCORPORATED IN THE BID.

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
BFF	BELOW FINISH FLOOR
CD	CONDENSATE
CLG	CEILING
CO	CLEAN OUT
CW	COLD WATER
CWS	CONDENSOR WATER SUPPLY
CWR	CONDENSOR WATER RETURN
DEG	DEGREES
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
ELEV	ELEVATION
ENGR	ENGINEERING
EXH	EXHAUST
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FPWH	FREEZE PROOF WALL HYDRANT
G	GAS
HORIZ	HORIZONTAL
HP	HORSEPOWER
HB	HOSE BIB
HW	HOT WATER
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
LAV	LAVATORY
MFGR	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
LB	POUND
RE:	REFER
REQD	REQUIRED
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SPEC	SPECIFICATION
STD	STANDARD
TEMP	TEMPERATURE
THRU	THROUGH
TYP	TYPICAL
UR	URINAL
WC	WATER CLOSET
WH	WATER HEATER

MECHANICAL SYMBOLS

S/A	SUPPLY AIR
R/A	RETURN AIR
O/A	OUTSIDE AIR
E/A	EXHAUST AIR
DN	DOWN
X"ø	ROUND DUCT SIZE
A—X" / XXX	DIFFUSER TYPE – NECK SIZE / CFM
EF–X	EXHAUST FAN
N.I.C.	NOT IN CONTRACT
U.C.	UNDERCUT DOOR, RE: ARCH
—CHWS—	CHILLED WATER SUPPLY PIPING
—CHWR—	CHILLED WATER RETURN PIPING
—HWS—	HEATING WATER SUPPLY PIPING
—HWR—	HEATING WATER RETURN PIPING
—CWS—	CONDENSER WATER SUPPLY PIPING
—CWR—	CONDENSER WATER RETURN PIPING
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
(X)	KEYED NOTE X
	MANUAL VOLUME DAMPER (MVD)
(FS)	FIRE/SMOKE DAMPER
(M)	MOTORIZED DAMPER
(FD)	FIRE DAMPER
	CONNECT TO EXISTING
(T) / (H) / (S)	THERMOSTAT / HUMIDISTAT / WALL SWITCH
(TS) / (HS)	TEMP. SENSOR / HUMID. SENSOR
RTU–XX	EQUIPMENT TAG / EQUIPMENT NO.

HVAC GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH LATEST EDITIONS OF ALL APPLICABLE LOCAL AND STATE CODES, AND INSTALLED ACCORDING TO MANUFACTURES RECOMMENDATIONS ADHERING TO REQUIRED CLEARANCES FOR OPERATION AND SERVICING..

2. CONTRACTOR TO PROVIDE AND MAKE OPERATIVE ALL EQUIPMENT, MATERIALS, SUPERVISION, LABOR AND ANY AND ALL ITEMS NECESSARY, INCLUDING FEES AND PERMITS, FOR THE PROPER INSTALLATION OF A FULLY OPERATIONAL HEATING, VENTILATION, AIR CONDITIONING AND PLUMBING SYSTEM AS INDICATED ON THESE DRAWINGS AND IN THE SPECIFICATIONS.

3. DRAWINGS ARE DIAGRAMMATIC AND THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND UTILITY LOCATIONS, SIZES AND BUILDING CONSTRUCTION MEASUREMENTS. THE LOCATION OF DUCTS, PIPING AND EQUIPMENT AS SHOWN ON THE DRAWINGS IS DIAGRAMMATIC AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES BEFORE FINAL INSTALLATION. LIGHT FIXTURE LOCATIONS SHALL SUPERSEDE HVAC DUCTWORK, GRILLES AND DIFFUSERS. PROVIDE OFFSET AS REQUIRED TO AVOID STRUCTURE AND/OR ANY OTHER PIPING WITHOUT ADDITIONAL COST TO THE OWNER.

4. ALL DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH LOCAL AND STATE ENERGY CODES AND IN ACCORDANCE WITH SMACNA STANDARDS.

   4.1. (2012 IECC C403.2.7) EXTERIOR DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-6 (R-8 IN CLIMATE ZONE 5-8) INSTALLED VALUE. EXTERIOR DUCTWORK SHALL COMPLY WITH LEAKAGE REQUIREMENTS OF IECC AND BE PROVIDED WITH A VAPOR RETARDER. ALL INTERNAL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-6 INSTALLED DUCT LINER. INTERNAL CONCEALED DUCTWORK SHALL BE INTERNALLY LINED OR WRAPPED WITH R-VALUE EQUAL TO INTERNAL EXPOSED DUCTWORK

   4.2. (2015 IECC C403.2.9) EXTERIOR DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-8 (R-12 IN CLIMATE ZONE 5-8) INSTALLED VALUE. EXTERIOR DUCTWORK SHALL COMPLY WITH LEAKAGE REQUIREMENTS OF IECC AND BE PROVIDED WITH A VAPOR RETARDER. ALL INTERNAL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-6 INSTALLED DUCT LINER. INTERNAL CONCEALED DUCTWORK SHALL BE INTERNALLY LINED OR WRAPPED WITH R-VALUE EQUAL TO INTERNAL EXPOSED DUCTWORK.

   4.3. (2018 IECC C403.11.1) EXTERIOR DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-8 (R-12 IN CLIMATE ZONE 5-8) INSTALLED VALUE. EXTERIOR DUCTWORK SHALL COMPLY WITH LEAKAGE REQUIREMENTS OF IECC AND BE PROVIDED WITH A VAPOR RETARDER. ALL INTERNAL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-6 INSTALLED DUCT LINER. INTERNAL CONCEALED DUCTWORK SHALL BE INTERNALLY LINED OR WRAPPED WITH R-VALUE EQUAL TO INTERNAL EXPOSED DUCTWORK.

   4.4. (2021 IECC C403.12.1) EXTERIOR DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-8 (R-12 IN CLIMATE ZONE 5-8) INSTALLED VALUE. EXTERIOR DUCTWORK SHALL COMPLY WITH LEAKAGE REQUIREMENTS OF IECC AND BE PROVIDED WITH A VAPOR RETARDER. ALL INTERNAL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED WITH MINIMUM R-6 INSTALLED DUCT LINER. INTERNAL CONCEALED DUCTWORK SHALL BE INTERNALLY LINED OR WRAPPED WITH R-VALUE EQUAL TO INTERNAL EXPOSED DUCTWORK.

5. FIRST 10'-0" OF SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY LINED WITH OWENS-CORNING QUITER ROTARY DUCT LINER, 1-1/2" R-6 DUCT LINER FOR SOUND ATTENUATION (OR EQUAL).

6. MOUNT TOP OF THERMOSTAT AT 48" A.F.F. TYPICAL UNLESS OTHERWISE NOTED.

7. PROVIDE FLEXIBLE DUCT CONNECTION IN MAIN SUPPLY AND RETURN AIR DUCTS SERVING ALL ELECTRICALLY DRIVEN MECHANICAL EQUIPMENT.

8. ALL MOTORIZED DAMPERS ARE TO BE HONEYWELL MARD MODULATING AUTOMATIC OPPOSED BLADE LOW LEAKAGE MOTORIZED DAMPERS. DAMPERS ARE TO HAVE 24V MOTOR WITH TRANSFORMER AND RELAYS.

9. PROVIDE ACCESS PANELS WHERE INDICATED OR REQUIRED FOR ACCESS TO PIPING AND DUCT WORK ACCESSORIES; SUCH AS, VALVES, DAMPERS, VENTS, OTHER ACCESSORIES, ETC.

10. BRANCH DUCTS SHALL BE THE SAME SIZE AS AIR DEVICE NECK UNLESS NOTED OTHERWISE.

11. PROVIDE BLANKET INSULATION OVER TOP OF ALL SUPPLY DIFFUSERS AND RETURN AIR GRILLES.

12. ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT AND SYSTEM COMPONENTS SHALL BE COORDINATED IN WRITING WITH ELECTRICAL CONTRACTOR FOR INCLUSION AND COORDINATION.

13. DUCTWORK CONSTRUCTION AND INSTALLATION SHALL BE PER MOST RECENT SMACNA STANDARDS FOR PRESSURE AND VELOCITY OF SYSTEM INSTALLATION. ALL DUCT JOINTS SHALL BE SEALED AS NOTED IN THE SPECIFICATIONS.

14. ALL RETURN AIR DUCTWORK SHALL BE RIGID SHEET METAL (FLEXIBLE DUCTWORK SHALL NOT BE ALLOWED). PROVIDE LINED RETURN AIR PLENUM AT R/A GRILLES. PLENUM SHALL BE SAME SIZE AS RETURN AIR GRILLE. RETURN AIR DUCTWORK AND AIR DEVICES SHALL BE SIZED FOR 100% OF SUPPLY AIR QUANTITIES.

15. DUCT SIZES SHOWN ON DRAWING ARE NET FREE AREA.

16. MAKE TRANSITION FROM DUCTWORK SIZES SHOWN ON THE DRAWINGS TO EQUIPMENT DUCT CONNECTION SIZES. VERIFY EQUIPMENT CONNECTION SIZES WITH FACTORY CERTIFIED DRAWINGS. MAKE ALL TRANSITIONS PER MOST RECENT SMACNA STANDARDS.

17. ALL MAJOR BRANCH DUCTS SHALL BE CONSTRUCTED USING OPPOSED BLADE DAMPERS WITH LOCKING DEVICE OR WITH SPLITTER DAMPER WITH LOCKING DEVICE FOR BALANCE OF DUCT SYSTEM.

18. TURNING VANES SHALL BE INSTALLED IN ALL RECTANGULAR 90 DEGREE ELBOWS IN SUPPLY, AND RETURN DUCTWORK, AND AS INDICATED ON THE DRAWINGS.

19. USE MINIMUM LENGTH FLEXIBLE DUCT TO AIR DEVICES. (MAXIMUM 5 FT.). USE FLEX DUCT ONLY IN FULLY ACCESSIBLE CEILING SPACES. PROVIDE 90 DEGREE SHEET METAL ELBOW AT CEILING DIFFUSER NECK CONNECTION. PROVIDE SADDLE UNDER FLEXIBLE DUCT HANGER TO SUPPORT DUCT AND PREVENT "PINCHING" OF DUCTWORK. FLEXIBLE DUCT SHALL BE INSTALLED SO AS NOT TO REDUCE CROSS SECTION AREA OF DUCT. ALL FLEXIBLE DUCTWORK SHALL HAVE R-8 INSULATION.

20. THE CONTRACTOR SHALL COORDINATE ROUTING AND SIZE OF DUCTWORK WITH ACTUAL FINAL BUILDING CONDITIONS OF STRUCTURE SIZE AND LOCATION, LIGHT LOCATIONS, ARCHITECTURAL FEATURES, AND WORK OF OTHER TRADES. WHERE DUCT SIZES MUST BE REVISED FROM THOSE SHOWN ON THE DRAWINGS, MAINTAIN SAME CROSS SECTIONAL AREA, VELOCITY, AND PRESSURE DROP. WHEN NECESSARY, REROUTE DUCT TO CLEAR OBSTRUCTIONS WITH MINIMUM NUMBER OF FITTINGS AND ELEVATION CHANGES. WHERE DUCT MUST BE SIGNIFICANTLY ALTERED FROM THAT SHOWN ON THE DRAWINGS, NOTIFY THE ARCHITECT PRIOR TO PROCEEDING.

21. CONTRACTOR MAY SUBSTITUTE ROUND DUCT IN LIEU OF RECTANGULAR DUCT SHOWN ON PLANS. SIZE ROUND DUCT EQUAL TO OR GREATER THAN NET FREE AREA OF RECTANGULAR DUCT. CONTRACTOR TO COORDINATE ROUTING AND CLEARANCES FOR ROUND DUCT.

22. EXPOSED DUCTWORK AND ACCESSORIES IN FINISHED AREAS TO BE PAINTED AS DIRECTED BY ARCHITECT.

23. CONTRACTOR SHALL PROVIDE TEST AND BALANCE OF HVAC SYSTEMS BY THIRD PARTY. TEST AND BALANCE SHALL BE PERFORMED BY CERTIFIED TECHNICIANS AND REPORTED AS DESCRIBED BY NEBB OR AABC. FILTERS SHALL BE NEW AND CLEAN, DUCTWORK CLEAN, AND EQUIPMENT CONTROLS AND DEVICES FULLY FUNCTIONAL AT THE TIME OF PERFORMING BALANCE WORK.

24. EXTEND FLUE VENTS 3'-0" ABOVE ROOF, MAINTAIN MINIMUM 10'-0" CLEAR BETWEEN ANY FLUE, VENT OR TOILET EXHAUST AND OUTSIDE AIR INTAKES. WHERE HORIZONTAL DISTANCE CANNOT BE PROVIDED, EXTEND FLUE VENTS 3'-0" ABOVE OUTSIDE AIR INTAKE.

25. INSTALL ALL MOTOR DRIVEN EQUIPMENT WITH VIBRATION ISOLATORS AND OR PADS TO REDUCE NOISE TRANSFER. TYPE AND METHOD OF ISOLATION SHALL BE IN CONFORMANCE WITH THOSE DESCRIBED IN THE SPECIFICATIONS FOR THE DUTY, TYPE, AND APPLICATION OF THE EQUIPMENT.

26. ALL EQUIPMENT SHALL BE PERMANENTLY LABELED WITH BAKELITE SIGNAGE SECURED TO EQUIPMENT WITH TEXT MINIMUM 3/4" TALL ON CONTRASTING BACKGROUND.

27. CONDENSATE PIPING SHALL BE AS NOTED ON THE DRAWING, BUT IN NO CASE LESS THAN 3/4 INCHES.

28. ROUTE CONDENSATE PIPING TO APPROVED DISCHARGE LOCATION. PROVIDE CONDENSATE TRAP WITH CLEANOUTS AND VENT ON DISCHARGE SIDE OF TRAP FOR ALL UNITS WITH COOLING COILS. TRAP DEPTH SHALL BE A MINIMUM OF THE UNIT TOTAL PRESSURE PLUS 2 INCHES.

29. CONDENSATE PIPING INSTALLED WITHIN THE BUILDING SHALL BE FULLY INSULATED AND PROVIDED WITH VAPOR BARRIER. CONDENSATE FROM FURNACES LOCATED IN LOCATIONS SUSCEPTIBLE TO FREEZING SHALL BE WRAPPED WITH HEAT TAPE. POWER REQUIREMENTS SHALL BE COORDINATED WITH ELECTRICAL CONTRACTOR.

30. FIRE DAMPERS SHALL BE MINIMUM 98% FREE AREA DYNAMIC TYPE. PROVIDE FIRE DAMPERS IN ALL DUCT PENETRATIONS TO FIRE RATED ASSEMBLIES. PROVIDE ACCESS DOORS IN DUCTWORK AND FIRE RATED ASSEMBLIES FOR OBSERVATION AND MAINTENANCE OF DAMPERS. REFER ARCHITECTURAL DRAWINGS FOR LOCATION, RATING, AND ASSEMBLY DEFINITION OF FIRE RATED WALL, CEILING, AND FLOOR ASSEMBLIES.

31. ALL LIQUID, SUCTION AND HEAT RECOVERY (AS APPLICABLE) REFRIGERANT PIPING SHALL BE INSULATED WITH MINIMUM 1" THICK INSULATION. INSULATION SHALL BE IN COMPLIANCE WITH (2015 IECC 403.2.10 OR 2018 IECC 403.11.3 OR 2021 IECC 403.12.3). INSULATION THICKNESS SHALL BE INCREASED WHERE RECOMMENDED BY MANUFACTURE OF EQUIPMENT. ANY REFRIGERANT PIPING EXTERIOR OF BUILDING SHALL HAVE UV RESISTANT INSULATION OR AN UV RESISTANT WRAP APPLIED.

32. COORDINATE WORK SHOWN ON THE DRAWINGS WITH ALL OTHER TRADES WORK AND ACTUAL CONDITIONS OF CONSTRUCTION.

33. HEAT PUMP UNITS SHALL BE MOUNTED ON A MINIMUM 12" TALL STAND DIVERSITECH QSTD3000 OR EQUAL.

34. IF UNIT AMPERAGES AND VOLTAGE ARE DIFFERENT FROM SCHEDULED AMPERAGES AND VOLTAGE; MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR EXACT BRANCH CIRCUIT BREAKER SIZES AND WIRE SIZES PRIOR TO ORDERING EQUIPMENT.

VRF

35. CONTRACTOR INSTALLING VRF EQUIPMENT SHALL BE CERTIFIED BY MANUFACTURER FOR INSTILLATION OF EQUIPMENT.

36. EQUIPMENT MANUFACTURE REPRESENTATIVE SHALL VISIT SITE AND REVIEW ALL REFRIGERANT PIPING BEFORE ANY PIPING IS CONCEALED. ANY CHANGES IN PIPING RECOMMENDED BY MANUFACTURE SHALL BE REVISED BY MECHANICAL CONTRACTOR AND REVIEWED AGAIN BY MANUFACTURE REPRESENTATIVE PRIOR TO CONCEALMENT.

37. EQUIPMENT START UP AND COMMISSIONING SHALL BE PROVIDED BY EQUIPMENT MANUFACTURE REPRESENTATIVE. MANUFACTURE SHALL PROVIDE COPY OF COMMISSIONING REPORT TO OWNER, MECHANICAL CONTRACTOR, ARCHITECT AND ENGINEER OF RECORD.

THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.

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GH2 ARCHITECTS

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18906
4-24-24
OKLAHOMA

GH2ARCHITECTS
GH2.COM

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SHEET NAME:
MECHANICAL GENERAL NOTES, LEGENDS & SYMBOLS

SHEET NUMBER:
M001

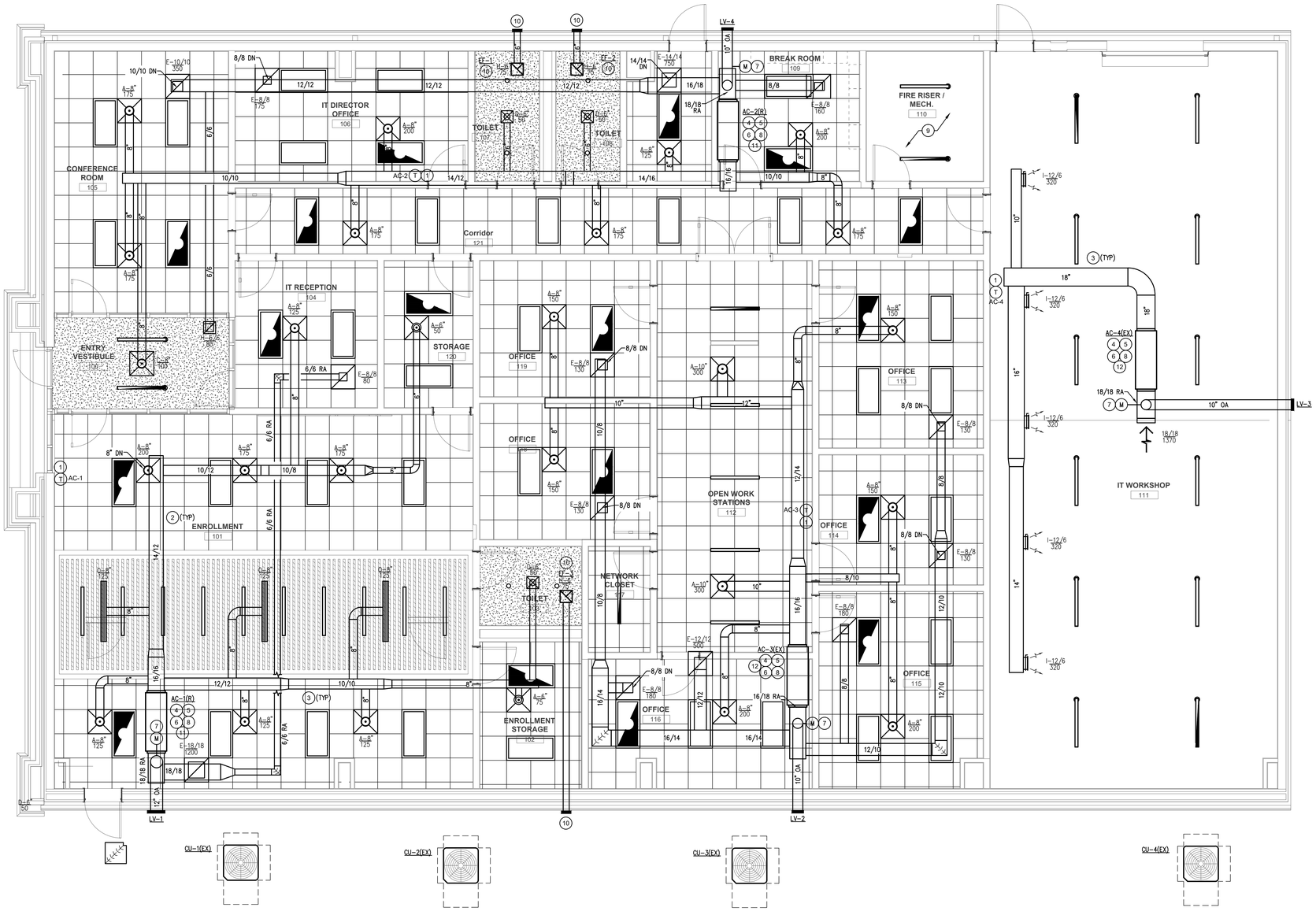
NOTE:
BALANCE DAMPERS ARE REQUIRED FOR BALANCING THE HVAC SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH AND INSTALL EVEN IF NOT SHOWN ON THE AIR OUTLET SCHEDULE OR PLANS. ALL DAMPERS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION OR REMOTE ADJUSTMENT PROVIDED.

WHERE DAMPERS ARE INSTALLED ABOVE A HARD LID CEILING A YOUNG REGULATOR CABLE INSIDE OR OUTSIDE AIR STREAM AIR CONTROL DAMPER (OR EQUAL) SHALL BE PROVIDED WITH CONCEALED CEILING REGULATOR REMOTE CONTROL KIT 270-301.

NOTE:
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. COORDINATE ALL FLOOR PENETRATION WITH LOCATIONS OF TENONS. SLAB PENETRATIONS SHALL BE RELOCATED IF CONFLICTING WITH TENON LOCATIONS. UNDER NO CIRCUMSTANCES SHALL THE TENONS BE CUT. CONTRACTOR SHALL SCAN SLAB AND LOCATE TENON PRIOR TO ANY UNDER SLAB MODIFICATION.

KEYNOTES (#)

1. RELOCATE AND RECONNECT EXISTING PROGRAMMABLE THERMOSTAT. MOUNT TOP OF THERMOSTAT AT 48" A.F.F. COORDINATE EXACT LOCATION WITH OWNER.
2. SUPPLY/RETURN/EXHAUST AIR DUCTWORK ROUTED ABOVE SUSPENDED CEILING. COORDINATE WITH NEW CEILING AND EXISTING STRUCTURE. (TYPICAL)
3. ALL EXPOSED SPIRAL DUCTWORK TO BE INTERNALLY LINED WITH MINIMUM 1" (R-6 INSTALLED MIN) LONG TEXTILE FIBBER TYPE DUCT LINER WITH COATING ON THE AIR STREAM SIDE CONFORMING TO NFPA 90A. DUCT LINER ADHESIVE SHALL BE AS RECOMMENDED BY DUCT LINER MANUFACTURE AND SHALL COMPLY WITH ASTM C-916. CONCEALED DUCTWORK TO BE EITHER INTERNALLY LINED AS LISTED ABOVE OR WRAPPED WITH R-6 INSTALLED MINIMUM WRAP.
4. HEAT PUMPS TO BE SUSPENED FROM STRUCTURE WITH VIBRATION ISOLATION ANGERS. FIELD VERIFY EXACT LOCATION WITH EXISTING CONDITIONS
5. ROUTE REFRIGERANT PIPING TO ASSOCIATED CONDENSING UNIT. ROUTE CONDENSATE PIPES TO NEAREST AHJ APPROVED RECPTOR
6. NO WIRING, PIPING OR DUCTWORK TO RUN ABOVE HEAT PUMP MAINTENANCE CLEARANCE.
7. PROVIDE MOTORIZED DAMPER INTERLOCKED WITH TIME OF DAY THERMOSTAT. DAMPER SHALL OPEN TO PROVIDE OUTDOOR AIR DURING OCCUPIED HOURS AND CLOSE DURING UNOCCUPIED HOURS. PROVIDE MANUAL BALANCE DAMPER FOR BALANCING OF OUTDOOR AIR.
8. ALL NEW AND EXISTING EXTERIOR REFRIGERANT PIPING SHALL BE INSULATED WITH AN OUTDOOR RATED UV RESISTANT INSULATION (ARMACELL ARMAFLEX SHIELD OR EQUAL). ALL INDOOR REFRIGERANT PIPING SHALL BE INSULATED WITH MINIMUM 1" INSULATION.
9. REFER TO ELECTRICAL AND FIRE ALARM PLAN FOR SMOKE DETECTION REQUIREMENTS.
10. ROUTE 6" EXHAUST DUCT FROM EXHAUST FAN AND DISCHARGE TO WALL CAP.
11. EXISTING UNITS AC-1 & AC-2 IS TO BE RELOCATED AND RETROFITTED WITH NEW DUCTWORK.
12. EXISTING UNITS AC-3 & AC-4 TO BE ELEVATED TO COORDINATE WITH NEW CEILING OR LIGHTING IN STORAGE, AND RETROFITTED WITH NEW DUCTWORK.



NORTH

1 M100 MECHANICAL FLOOR PLANS
SCALE: 1/4" = 1'-0"

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GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDU JAAFAR
18905
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

GH2 ARCHITECTS
GH2.COM

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MECHANICAL PLANS

SHEET NUMBER:
M100

AIR-COOLED SPLIT SYSTEM (HEAT PUMP) - EXISTING

MARK	NEW / EXISTING	AREA SERVED	FAN COIL DATA														CONDENSER DATA													WEIGHT (LBS)	REMARKS
			MANUFACTURE	MODEL	FAN					AUXILIARY HEAT			AUXILIARY HEAT MODEL #	VOLT/PH	MCA	MOCP	CONFIGURATION	WEIGHT (LBS)	MARK	MANUFACTURE	MODEL	TONS	COOLING CAPACITY (MBH)				HEATING CAPACITY (MBH)			ELECTRICAL DATA				
					CFM	O.A. MIN	O.A. MAX	E.S.P.	HP	INPUT (KW)	OUTPUT (MBH)	STAGES												STAGES	TOTAL	SENSIBLE	EER/SEER	@47°F	@17°F	COP/HSPF	VOLT/PH	MCA	MOCP		
AC-1	EX/RELO	ENROLLMENT	LENNOX	CB30M-65-4P	1600	–	320	0.7"	0.5	15.0	55.5	2	ECB29(EH)-15CB-P	208/1	EX	30/60	HORIZONTAL	EX	CU-1	GOODMAN	GSH130601AC	5.0	2	55.5	40.0	EX	55.5		EX	208/1	32.3	60	EX	ALL
AC-2	EX/RELO	COR/BRK/OFC	LENNOX	CB30M-65-4P	1600	–	175	0.7"	0.5	15.0	55.5	2	ECB29(EH)-15CB-P	208/1	EX	30/60	HORIZONTAL	EX	CU-2	GOODMAN	GSH130601AC	5.0	2	55.5	40.0	EX	55.5		EX	208/1	32.3	60	EX	ALL
AC-3	EXISTING	OFFICES	LENNOX	CB30M-65-4P	1600	–	220	0.7"	0.5	15.0	55.5	2	ECB29(EH)-15CB-P	208/1	EX	30/60	HORIZONTAL	EX	CU-3	GOODMAN	GSH130601AC	5.0	2	55.5	40.0	EX	55.5		EX	208/1	32.3	60	EX	ALL
AC-4	EXISTING	IT WORKSHOP	LENNOX	CB30M-65-4P	1600	–	230	0.7"	0.5	15.0	55.5	2	ECB29(EH)-15CB-P	208/1	EX	30/60	HORIZONTAL	EX	CU-4	GOODMAN	GSH130601AC	5.0	2	55.5	40.0	EX	55.5		EX	208/1	32.3	60	EX	ALL

REMARKS:
1. AUXILIARY DRAIN PAN AND FLOAT SWITCH TO BE RE-USED. CONTRACTOR TO CONFIRM OPERATION
2. PROVIDE NEW 2" MERV8 FILTER AND RACK.
3. PROVIDE NEW REFRIGERATION DRYER.
4. CONTRACTOR SHALL CONFIRM SPLIT SYSTEM OPERATION AND PROVIDE OWNER WITH REPAIR OR REPLACEMENT COST.
5. CHECK REFRIGERANT AND CHARGE.
6. PROVIDE PROGRAMMABLE 7 DAY PROGRAMMABLE THERMOSTAT WITH TIME OF DAY INTERLOCK WITH MOTORIZED DAMPER, AUTOMATIC SWITCHOVER AND LOCKING COVER. COORDINATE NUMBER OF STAGES WITH UNIT.
7. PROVIDE ALL NECESSARY COMPONENTS FOR CODE COMPLIANCE AND A COMPLETE AND OPERATIONAL SYSTEM.

LOUVER SCHEDULE

MARK	SERVICE	MANUFACTURE	MODEL	SIZE	CFM	REMARKS
LV-1	INTAKE	UNITED ENERTECH	FL-D-4	14"X14"	320	1,2,3,4
LV-2	INTAKE	UNITED ENERTECH	FL-D-4	14"X14"	175	1,2,3,4
LV-3	INTAKE	UNITED ENERTECH	FL-D-4	14"X14"	220	1,2,3,4
LV-4	INTAKE	UNITED ENERTECH	FL-D-4	14"X14"	230	1,2,3,4

REMARKS:
1. PROVIDE WITH BIRD SCREEN.
2. FINISH COLOR TO BE SELECTED BY ARCHITECT AFTER RECEIPT OF SUBMITTAL.
3. LISTED MANUFACTURER IS USED AS A BASIS FOR DESIGN. ALTERNATE MANUFACTURERS SHALL MEET THE LISTED CAPACITIES AS A MINIMUM.
4. BACK DRAFT DAMPER.
5. TWO POSITION DAMPER AND A 120 VOLT DAMPER OPERATOR.

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURE	MODEL	TYPE	ACTUAL CFM	TOTAL STATIC PRESSURE (IN WC)	ELECTRICAL (VOLTS/PH)	WEIGHT (LBS.)	REMARKS
EF-1	RESTROOM	GREENHECK	SP-110-VG	CEILING	75	0.375	120/1	12	ALL
EF-2	RESTROOM	GREENHECK	SP-110-VG	CEILING	75	0.375	120/1	12	ALL
EF-2	RESTROOM	GREENHECK	SP-110-VG	CEILING	75	0.375	120/1	12	ALL

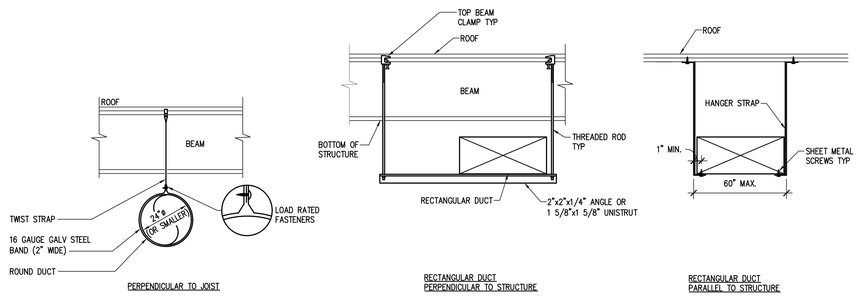
NOTES:
1. UNIT TO BE SUPPLIED WITH BACKDRAFT DAMPER.
2. E.C. TO INTERLOCK CONTROL TO RESTROOM LIGHT SWITCH.
3. UNIT TO BE SUPPLIED WITH DISCONNECT SWITCH.
4. PROVIDE MANUFACTURER'S WALL CAP. PAINT TO MATCH BUILDING EXTERIOR.
5. PROVIDE WITH VIBRATION ISOLATOR HANGING KIT.

GRILLES, REGISTERS, DIFFUSERS SCHEDULE

MARK	SERVICE	TYPE	MANUFACTURER	MODEL	CONSTRUCTION	FACE SIZE	FINISH	MOUNTING	REMARKS
A	SUPPLY	CEILING	TITUS	TMS-AA	ALUMINIUM	24X24	WHITE	LAY-IN	1,2,3,5
B	SUPPLY	CEILING	TITUS	TMS-AA	ALUMINIUM	12X12	WHITE	LAY-IN	1,2,3,5
C	SUPPLY	CEILING	TITUS	TMS-AA	ALUMINIUM	24X24	WHITE	FLANGED	1,2,3,4,5
D	SUPPLY	CEILING	TITUS	TMS-AA	ALUMINIUM	12X12	WHITE	FLANGED	1,2,3,5
E	RETURN/EXH	CEILING	TITUS	50F	ALUMINIUM	24X24	WHITE	LAY-IN	2,5
F	RETURN/EXH	CEILING	TITUS	50F	ALUMINIUM	12X12	WHITE	LAY-IN	2,5
G	RETURN/EXH	CEILING	TITUS	50F	ALUMINIUM	24X24	WHITE	FLANGED	2,4,5
H	RETURN/EXH	CEILING	TITUS	50F	ALUMINIUM	12X12	WHITE	FLANGED	2,4,5
I	SUPPLY	DUCT	TITUS	DLSV	ALUMINUM	---	WHITE	FLANGED	4
J	RETURN	WALL	TITUS	3552FL	ALUMINIUM	---	WHITE	FLANGED	4,5,7
K	SUPPLY	WALL	TITUS	300FL	ALUMINIUM	PLAN	WHITE	FLANGED	5,7
L	TRANSFER	WALL	TITUS	350FL	ALUMINIUM	---	WHITE	FLANGED	5,7
M	SUPPLY	CEILING	TITUS	350FL	ALUMINIUM	PLAN	WHITE	LAY-IN	1,2,4,5
O	SUPPLY	LINEAR	TITUS	FL-25(HT)	ALUMINUM	48" TWO SLOT	WHITE	FLANGED	1,2,5,7,9

REMARKS:
1. BRANCH DUCT SERVING DIFFUSER TO BE SAME SIZE AS DIFFUSER NECK UNLESS OTHERWISE NOTED.
2. REFER TO REFLECTED CEILING PLAN FOR EXACT LOCATION.
3. PROVIDE WITH 4-WAY THROW PATTERN UNLESS OTHERWISE NOTED ON PLAN.
4. PROVIDE WITH OPPOSED BLADE DAMPER.
5. REFER TO PLAN FOR NECK SIZES.
6. PROVIDE TWO GRILLES, ONE ON EACH SIDE OF WALL.
7. PAINT GRILLE/DIFFUSER. REFER TO ARCHITECT FOR COLOR.
8. 0° DEFLECTION.
9. 2.5" SLOT WIDTH. PROVIDE INSULATED PLENUM. COORDINATE MOUNTING FRAME WITH ARCHITECTURAL FLOATING CEILING.

A-8" — UNIT TYPE
8" — NECK SIZE (INCHES)
250 — TOTAL AIR QUANTITY (CFM EACH)



3 DUCT SUPPORT DETAILS
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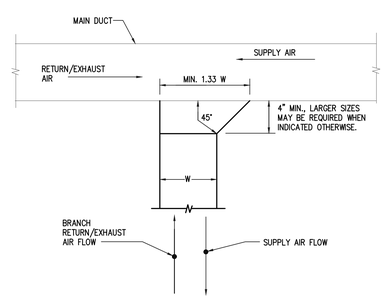

2 BRANCH DUCT TAKEOFF
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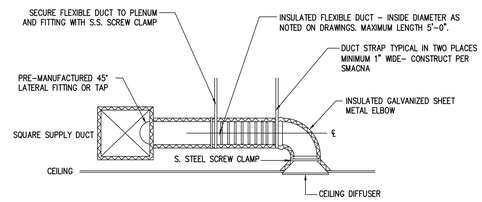

1 DUCT BRANCH RUNOUT DETAIL
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REGISTERED PROFESSIONAL ENGINEER — ABDU JAAFAR — 18905 — 4-24-24 — OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

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MECHANICAL SCHEDULES & DETAILS

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M200

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
BFF	BELOW FINISH FLOOR
CD	CONDENSATE
CLG	CEILING
CO	CLEAN OUT
CW	COLD WATER
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
DEG	DEGREES
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
ELEV	ELEVATION
ENGR	ENGINEERING
EXH	EXHAUST
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FPWH	FREEZE PROOF WALL HYDRANT
G	GAS
HORIZ	HORIZONTAL
HP	HORSEPOWER
HB	HOSE BIB
HW	HOT WATER
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
LAV	LAVATORY
MFGR	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
LB	POUND
RE:	REFER
REQD	REQUIRED
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SPEC	SPECIFICATION
STD	STANDARD
TEMP	TEMPERATURE
THRU	THROUGH
TYP	TYPICAL
UR	URINAL
UNO	UNLESS NOTED OTHERWISE
WC	WATER CLOSET
WH	WATER HEATER
VTR	VENT THROUGH ROOF
VTW	VENT THROUGH WALL

PLUMBING SYMBOLS

DN	DOWN
N.I.C.	NOT IN CONTRACT
VTR	VENT THRU ROOF
	ELBOW – TURNED DOWN
	ELBOW – TURNED UP
	TEE – TURNED DOWN
	TEE – TURNED UP
	SHUT–OFF VALVE
	THERMOSTATIC MIXING VALVE
	WATER HAMMER ARRESTOR
	PRV – PRESS. REDUCING VALVE
X	KEYED NOTE X
	CONNECT TO EXISTING
—— CD ——	CONDENSATE PIPING
—— SS ——	SANITARY SEWER PIPING
—— ST ——	STORM WATER PIPING
—— V ——	SANITARY VENT PIPING
—— – ——	DOMESTIC COLD WATER PIPING
—— – – ——	DOMESTIC HOT WATER PIPING
—— – – – ——	DOMESTIC HOT WATER RETURN
—— F ——	FIRE PROTECTION PIPING
—— G ——	LOW PRESSURE GAS PIPING
—— MPG ——	MEDIUM PRESSURE GAS PIPING
RTU–XX	EQUIPMENT TAG EQUIPMENT NO.

PLUMBING MATERIAL SPECIFICATIONS

1. DOMESTIC WATER SYSTEM:

1.1.PIPE AND FITTINGS:

1.1.1. ABOVE GRADE: PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH SOLDERED JOINTS AND WROUGHT COPPER SOCKET FITTING FOR ALL WATER PIPING ABOVE GROUND.

1.1.2. BELOW GRADE: PROVIDE TYPE "K" HARD DRAWN COPPER TUBING WITH BRAZED JOINTS AND WROUGHT COPPER SOCKET FITTING. NO FITTINGS SHALL BE ALLOWED BELOW GRADE INSIDE BUILDING FOOTPRINT.

1.1.3. JOINTS: SOLDER JOINTS FOR TYPE "L" COPPER TUBING SHALL BE MADE USING 95–5 ANTIMONY SOLDER WITH A COMPATIBLE FLUX. BRAZED JOINTS SHALL USE A BCUP BRAZING ALLOY WITH A COMPATIBLE FLUX. SOLDER FOR POTABLE WATER PIPING SHALL BE LEAD FREE. DIELECTRIC ADAPTERS SHALL BE PROVIDED BETWEEN COPPER AND IRON PIPE CONNECTIONS AND BETWEEN FERROUS AND NONFERROUS PIPING OR EQUIPMENT.

1.2. ALTERNATE MATERIAL(S) (WHERE ALLOWED BY LOCAL AUTHORITY AND OWNER):

1.2.1. ABOVE GROUND: CROSSLINKED POLYETHYLENE (PEX) "A" OR "B" (ASTM F876 & F877) TUBING WITH BRASS INSERT FITTINGS (ASTM F1807) OR PLASTIC INSERT FITTINGS (ASTM F2159) AND COPPER CRIMP RINGS OR COLD EXPANSION FITTINGS (ASTM F1960). DO NOT INSTALL WHERE EXPOSED TO DIRECT SUNLIGHT.

1.2.2. BELOW GROUND: CROSSLINKED POLYETHYLENE (PEX) "A" OR "B" (ASTM F876 & F877)TUBING WITH BRASS INSERT FITTINGS (ASTM F1807) OR PLASTIC INSERT FITTINGS (ASTM F2159) AND COPPER CRIMP RINGS OR COLD EXPANSION FITTINGS (ASTM F1960). NO JOINTS OR UNIONS SHALL BE ALLOWED BELOW GRADE INSIDE BUILDING FOOTPRINT.

2. SANITARY, WASTE AND VENT SYSTEM

2.1. PIPE AND FITTINGS:

2.1.1. PROVIDE SCH.40 PVC PLASTIC PIPING WITH DRAINAGE PATTERN FITTINGS AND SOLVENT–CEMENTED JOINTS PER ANSI/ASTM D1789 & D2729.

2.1. HANGERS AND SUPPORT: FURNISH AND INSTALL HANGERS, CLAMPS, INSERTS, ETC. NECESSARY FOR THE INSTALLATION OF ALL PIPES AND EQUIPMENT. SOIL, WASTE AND VENT STACKS SHALL BE WELL SUPPORTED AT THE BASE OF THE RISER. SUPPORTS FOR COPPER PIPES SHALL BE PLACED ON 8 FOOT CENTERS. SUPPORT FOR VERTICAL PIPE SHALL BE PLACED AT TOP AND BOTTOM OF EACH FLOOR. INSULATION SHALL RUN CONTINUOUS THROUGH ALL HANGERS AND SUPPORTS.

3. TESTING:

3.1. DOMESTIC COLD WATER PIPING SYSTEMS SHALL BE TESTED AT A HYDROSTATIC PRESSURE OF NOT LESS THAN 100 POUNDS PER SQUARE INCH GAUGE (BEFORE INSULATION APPLIED), AND PROVED TIGHT AT THIS PRESSURE FOR NOT LESS THAN 30 MINUTES IN ORDER TO PERMIT INSPECTION OF ALL JOINTS.

3.2. SANITARY, WASTE AND VENT PIPING SHALL BE TESTED WITH WATER BEFORE INSTALLING PLUMBING FIXTURES.

4. CONDENSATE SYSTEM:

4.1. SCHEDULE 40 OR 80 PVC OR ABS PIPING WITH DWV PATTERN FITTINGS TO BE USED UNLESS OTHERWISE REQUIRED BY LOCAL CODE.

5. NATURAL GAS OR PROPANE PIPING (LESS THAN 10PSI):

5.1. ABOVE GRADE:SCHEDULE 40, ASTM A120, BLACK IRON PIPE WITH 150 LB. BLACK MALLEABLE THREADED OR SOCKET WELDED FITTINGS.

5.2. BELOW GRADE: POLYETHYLENE, SDR–11 ASTM D25 D2513 PIPE AND FITTINGS WITH HEAT FUSION SOCKET JOINTS.

5.2.1. PLASTIC GAS SERVICE PIPE SHALL BE INSTALLED WITH AN INSULATED COPPER TRACE WIRE NO LESS THAN 18 GAUGE LOCATED ADJACENT TO THE TOP OF THE PIPING. THE COPPER TRACE WIRE SHALL EXTEND TO GRADE AND TERMINATE AT EACH END OF THE PLASTIC SERVICE PIPING. A CONTINUOUS PLASTIC BANNER LABELED "CAUTION – GAS PIPING" SHALL BE INSTALLED 12 INCHES ABOVE ALL BURIED GAS PIPING.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THE CONTRACTOR SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

DWV PLUMBING GENERAL NOTES

1. SLOPE STORM DRAINAGE PIPING AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.
2. SLOPE SANITARY SEWER PIPING 2–1/2" AND SMALLER AT 1/4" PER FOOT. SLOPE SANITARY SEWER PIPING 3" AND LARGER AT 1/8" PER FOOT.
3. CLEANOUTS ARE TO BE PROVIDED AT THE END OF EACH RUN, AT ANY CHANGE OF DIRECTION GREATER THAN 45 DEGREES, AT A MAXIMUM OF 100FT ON CENTER INSIDE THE BUILDING AND AT A MAXIMUM SPACING OF 100FT ON CENTER OUTSIDE THE BUILDING, OR AS SHOWN ON DRAWINGS. LOCATE CLEANOUTS A MINIMUM OF 18 INCHES CLEAR FROM WALLS AND OBSTRUCTIONS TO ALLOW SERVICING.
4. FOR CONTINUATION OF UTILITIES 5'–0" BEYOND BUILDING REFER TO CIVIL DRAWINGS UNLESS NOTED OTHERWISE.
5. VERIFY FLOW LINE INVERTS OF BUILDING MAIN SEWER EXIT(S) REQUIRED FROM FURTHERMOST BRANCH LINE AND SITE SEWER TIE–IN LOCATION INVERT PRIOR TO BEGINNING BUILDING ROUGH–IN. NOTIFY ARCHITECT IF ADEQUATE FALL BETWEEN BUILDING AND SEWER CONNECTION CANNOT BE ACHIEVED.
6. MAKE CHANGES IN PIPE SIZE NOTED ON THE PLANS DOWNSTREAM OF FITTING OF THE LARGER PIPE. WHEN PIPES ARE LARGER THAN EQUIPMENT TAPINGS, REDUCE SIZE IMMEDIATELY PRIOR TO CONNECTION.
7. FLOOR DRAINS AND CLEANOUTS SHALL BE FURNISHED WITH TOP AND TRIM COMPATIBLE WITH FLOOR COVERING MATERIAL. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR FINISH ALTERNATES AFFECTING FLOOR DRAIN AND CLEANOUT TRIM REQUIREMENTS.
8. ALL FLOOR DRAINS SHALL HAVE 3 INCHES MINIMUM WATER SEAL.
9. PROVIDE FUNNEL RECEPTOR FOR FLOOR DRAINS WHERE REQUIRED TO PREVENT SPILLAGE FROM INDIRECT WASTE LINES.
10. INSTALL A CLEANOUT AT THE FOOT OF EACH SINK WASTE STACK.
11. COORDINATE LOCATION OF TERMINATION OF VENT PIPING WITH OTHER TRADES AND ARCHITECTURAL FEATURES AND CONDITIONS. MAINTAIN REQUIRED CLEARANCES TO OUTSIDE AIR INTAKES, WINDOW, ETC. AS REQUIRED BY LOCALLY ACCEPTED CODE.
12. RUN ALL DRAIN LINES FROM EQUIPMENT OVERFLOW RECEIVERS, ETC. TO FLOOR/HUB DRAINS. DRAIN LINES SHALL BE HARD DRAWN COPPER INSTALLED WITH MINIMUM 1/8 INCH PER FOOT SLOPE SECURED BY GUIDES AND SUPPORTS FOR PIPE SIZE SHOWN. NO DRAIN LINE TO BE SMALLER THAN 3/4 INCH. INSTALL TEE AT EACH ELBOW OF CONDENSATE DRAIN WITH CLEANOUT PLUG ON BLIND TEE.
13. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS WHERE REQUIRED BY LOCAL AUTHORITY. PROVIDE PERMANENT ACCESS WITH SHUT–OFF VALVE UPSTREAM OF PRIMING DEVICE. ALTERNATE: IF ALLOWED BY LOCAL AUTHORITY, PROVIDE BARRIER TYPE EVAPORATION PREVENTION ZURN Z1072 OR EQUAL.
14. ALL NON–METALLIC SEWER PIPING SHALL BE PROVIDED WITH AN INSULATED COPPER 14 GAUGE TRACER WIRE LISTED FOR DIRECT BURIAL. TRACER WIRE SHALL BE INSTALLED ADJACENT AND OVER THE FULL LENGTH OF THE PIPING. TRACER WIRE SHALL TERMINATE AT THE CLEANOUT BETWEEN THE BUILDING DRAIN AND BUILDING SEWER.
15. CONDENSATE AND STORM PIPING SHALL BE INSULATED WITH 1/2" CLOSED CELL INSULATION WHEN WITHIN BUILDING TO PREVENT CONDENSATION.

SUPPLY PLUMBING GENERAL NOTES

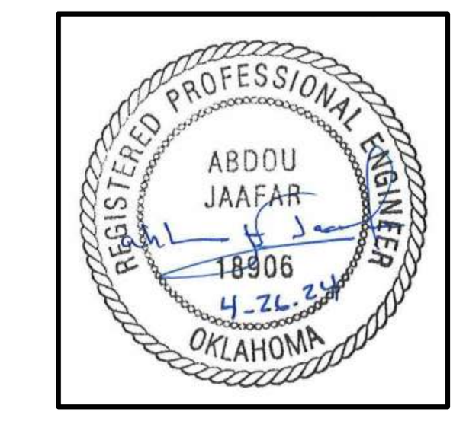
1. DOMESTIC WATER PIPING SHALL BE INSTALLED TO SLOPE TO DRAIN POINTS. WHERE CONDITIONS DICTATE TRAPPED SECTION OF PIPING, A DRAIN VALVE SHALL BE INSTALLED TO FACILITATE DRAINING OF TRAPPED SECTION OF PIPING. INSTALL MANUAL AIR VENTS AT HIGH POINTS IN SYSTEM FOR AIR VENTING.
2. THOROUGHLY FLUSH DOMESTIC WATER PIPING. SCREENED OUTLETS SHALL BE REMOVED DURING FLUSHING PROCESS AND REINSTALLED AT COMPLETION.
3. INSULATE ALL DOMESTIC HOT, HOT WATER RETURN AND COLD WATER PIPING. COLD WATER PIPING SHALL BE INSULATED WITH 1/2" CLOSED CELL INSULATION. HOT WATER AND HOT WATER RETURN SHALL BE INSULATED PER ADOPTED ENERGY CODE.
4. INSTALL SHUT–OFF VALVES AND UNIONS IN HOT WATER AND COLD WATER LINES AHEAD OF CONNECTIONS TO ALL PLUMBING FIXTURES & EQUIPMENT TO ALLOW SERVICING, MAINTENANCE AND EQUIPMENT REMOVAL.
5. PROVIDE ACCESS DOORS FOR ALL INACCESSIBLE VALVES. COORDINATE ACCESS DOOR WITH ARCHITECT.
6. LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY. LOCATION SHALL ALLOW FOR FULL STEM MOVEMENT OF VALVE.
7. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE THE CENTER OF THE PIPE.
8. INSTALLATION OF CHECK VALVES: INSTALL FOR PROPER DIRECTION OF FLOW.
9. CONTRACTOR SHALL PROVIDE TEST AND BALANCE OF HYDRONIC PIPING SYSTEMS WHERE SPECIFIED. TEST AND BALANCE SHALL BE PERFORMED AND REPORTED AS DESCRIBED BY NEBB OR AABC. PUMP STRAINERS SHALL BE CLEAN AND EQUIPMENT CONTROLS AND DEVICES FULLY FUNCTIONAL AT THE TIME OF PERFORMING BALANCE WORK. AFTER INSTALLATION OF NEW EQUIPMENT, THE CONTRACTOR SHALL BALANCE FLOW THROUGH HEATING AND COOLING COILS AND RECORD MEASUREMENTS. THE TEST FINDINGS SHALL BE REPORTED TO THE ARCHITECT FOR REVIEW AND COMMENT. IF THE SYSTEM IS FOUND TO BE OUTSIDE OF THE INSTALLED PUMPING EQUIPMENT ESTABLISHED PERFORMANCE CURVE, THE CONTRACTOR SHALL REBALANCE SYSTEM TO BRING IT TO THE PUMP MANUFACTURER'S PERFORMANCE PUMP CURVE.
10. NEW POTABLE WATER SYSTEM SHALL BE DISINFECTED BY FILLING WITH WATER/CHLORINE SOLUTION IN COMPLIANCE WITH IPC 610 AND AWWA C651 OR AWWA C652.
11. BASIS OF DESIGN FOR DOMESTIC WATER, UNLESS OTHERWISE NOTED, IS TYPE L COPPER PIPING. WHEN ALTERNATE IS UTILIZED, SIZE OF ALTERNATE SHALL BE MODIFIED AS REQUIRED TO MAINTAIN SAME INTERNAL DIAMETER.

PLUMBING GENERAL NOTES

1. ALL WORK AND INSTALLATIONS SHALL COMPLY WITH BUILDING SPECIFICATIONS, CURRENT CITY BUILDING CODE, AND OTHER GOVERNING CODES, STATE STATUTES, CITY ORDINANCES, AND REGULATIONS OF REGULATORY AGENCIES HAVING JURISDICTION AND SHALL ALSO CONFORM TO THE REQUIREMENTS OF THE OWNER'S INSURANCE CARRIER, THE STRUCTURAL ENGINEER, THE ARCHITECT, AND SHALL BE IN COMPLIANCE WITH ALL INDUSTRY STANDARDS. CODES AND ORDINANCES SHALL TAKE PRECEDENCE OVER SPECIFICATIONS AND DRAWINGS WHERE THERE IS A CONFLICT.
2. PAY ALL LAWFUL FEES FOR PERMITS OR LICENSES TO ACCOMPLISH THE WORK. OBTAIN AND PAY FOR ALL NECESSARY CERTIFICATES OF APPROVAL.
3. WORK SHOWN ON THE DRAWINGS IS TO BE COORDINATED WITH WORK OF ALL OTHER TRADES AND ACTUAL CONDITIONS OF CONSTRUCTION.
4. ESTABLISH LOCATION AND SIZE OF ALL UTILITY SERVICES PRIOR TO BUILDING ROUGH–IN. COORDINATE LOCATION OF BUILDING SERVICE ENTRANCES AND SYSTEM PIPE ROUTING WITH UTILITY SERVICE MAINS ON SITE AND SITE FEATURES AND CONDITIONS.
5. LAY OUT PIPES TO FALL WITHIN PARTITIONS OR CHASES. DO NOT REQUIRE FURRING OTHER THAN THOSE SHOWN ON THE DRAWINGS.
6. INSTALL ALL PIPING PARALLEL AND PERPENDICULAR TO BUILDING WALLS AND PARTITIONS UNLESS DISTINCTLY SHOWN OR NOTED OTHERWISE USING ONLY THE MINIMUM NUMBER OF BENDS REQUIRED. ROUTE PIPING LOCATED NEAR EACH OTHER PARALLEL IN ALL PLANES, WITH SUFFICIENT CLEARANCE.
7. ALL UNDERGROUND PLUMBING PIPING SUBJECT TO FREEZE SHALL BE INSTALLED BELOW LOCAL AREA FROST LINE MINIMUM. VERIFY SITE FROST DEPTH.
8. PIPING ON EXTERIOR WALLS SHALL BE INSTALLED ON THE ROOM SIDE OF EXTERIOR WALL INSULATION FOR FREEZE PROTECTION.
9. COPPER AND PLASTIC PIPING INSTALLED IN STUD WALLS SHALL BE PROTECTED WITH MINIMUM 1/16 INCH SHIELD PLATES EXTENDING BEYOND THE PIPE IN ALL DIRECTIONS.
10. LABEL PIPING TO IDENTIFY SYSTEM TYPE AND DUTY. FOR EXISTING BUILDINGS, FOLLOW ESTABLISHED IDENTIFICATION NOMENCLATURE.
11. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS AND DIMENSIONED LOCATIONS OF PLUMBING FIXTURES. FIXTURES DESIGNATED FOR HANDICAP USE SHALL BE INSTALLED TO MEET MOST CURRENT APPLICABLE ADA AND/OR ANSI REQUIREMENTS FOR INSTALLATION CLEARANCE AND ACCESS.
12. SLEEVE PIPING THROUGH EXTERIOR WALLS, FIRE AND SMOKE RATED WALLS AND ASSEMBLIES, ON GRADE SLAB FLOORS, MULTI–STORY FLOORS. ANNULAR SPACE BETWEEN PIPE AND SLEEVE SHALL BE CAULKED AND SEALED. FIRE RATED PENETRATIONS SHALL BE FIRE STOPPED TO MEET RATING OF CONSTRUCTION PENETRATED. EXTEND SLEEVE A MINIMUM OF 1 INCH ABOVE FLOOR PENETRATIONS IN POTENTIALLY WET AREAS SUCH MECHANICAL AND EQUIPMENT ROOMS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES. THIS INCLUDES, BUT IS NOT LIMITED, TO PROVIDING (FURNISHING AND INSTALLING) ALL TRAPS, DRAINS, AND SUPPLIES WITH STOPS.
14. LAY OUT THE PIPING SYSTEM IN CAREFUL COORDINATION WITH THE BUILDING CONDITIONS AND ALLOW FOR SERVICE OF ALL INSTALLED EQUIPMENT, ACCESS AND OPERATION OF VALVES, SERVICE OF ALL PIPING COMPONENTS, SERVICE OF HVAC EQUIPMENT. DETERMINE PROPER ELEVATION FOR ALL COMPONENTS OF THE SYSTEM. ESTABLISH STANDARD OF INSTALLATION AND REVIEW WITH OWNER'S REPRESENTATIVE FOR APPROVAL. DEMONSTRATE ACCESS OF ALL SYSTEM COMPONENTS. MAKE MODIFICATIONS REQUIRED BY THE OWNER AND INSTALL ALL OTHER SYSTEMS TO MEET INSTALLATION OF OWNER APPROVED UNIT PIPING.
15. KEEP ALL PIPE OPENINGS COVERED DURING CONSTRUCTION. VERIFY PIPING IS CLEAN AND CLEAR BEFORE EXTENDING PIPING SECTIONS.
16. INSTALL ALL EQUIPMENT AND PIPING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
17. COORDINATE LOCATION AND METHOD OF ATTACHMENT OF HANGERS AND SUPPORTS FOR PIPING SYSTEM TO BUILDING STRUCTURE WITH THE ARCHITECT AND STRUCTURE ENGINEER. ESTABLISH LOCATIONS OF SYSTEM PIPE ANCHORS AND OBTAIN APPROVAL FROM THE ARCHITECT AND STRUCTURAL ENGINEER. INSTALL HANGERS AND SUPPORTS, COMPLETE WITH NECESSARY INSERTS, BOLTS, RODS, NUTS, WASHERS, AND OTHER ACCESSORIES, TO ALLOW CONTROLLED MOVEMENT OF PIPING SYSTEMS, PERMIT FREEDOM OF MOVEMENT BETWEEN PIPE ANCHORS, AND FACILITATE ACTION OF EXPANSION AND CONTRACTION IN PROPER DIRECTION. LOCATE PIPING SUPPORTS AWAY FROM PIPE JOINTS TO ALLOW FREE MOVEMENT OF PIPING WITHOUT INTERFERENCE OF PIPE SUPPORTS.
18. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADING AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.
19. REVIEW CONNECTION REQUIREMENTS OF ACTUAL EQUIPMENT FURNISHED PRIOR TO ROUGH–IN. THIS INCLUDES EQUIPMENT FURNISHED BY THIS TRADE, ANY OTHER TRADES WORK, OR THE OWNER. ADJUST ROUGH–IN TO MEET EQUIPMENT INSTALLATION REQUIREMENTS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES. THIS INCLUDES, BUT IS NOT LIMITED, TO PROVIDING (FURNISHING AND INSTALLING) ALL TRAPS, DRAINS, AND SUPPLIES WITH STOPS.
21. PROVIDE EXPANSION LOOP(S) IN PIPING WHERE BUILDING EXPANSION JOINTS ARE CROSSED AND AS RECOMMENDED BY MANUFACTURE OF PIPING.

THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.

GH2 ARCHITECTS



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1309 N Main St, Owasso, OK 74055

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GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
PLUMBING GENERAL NOTES, LEGENDS & SYMBOLS

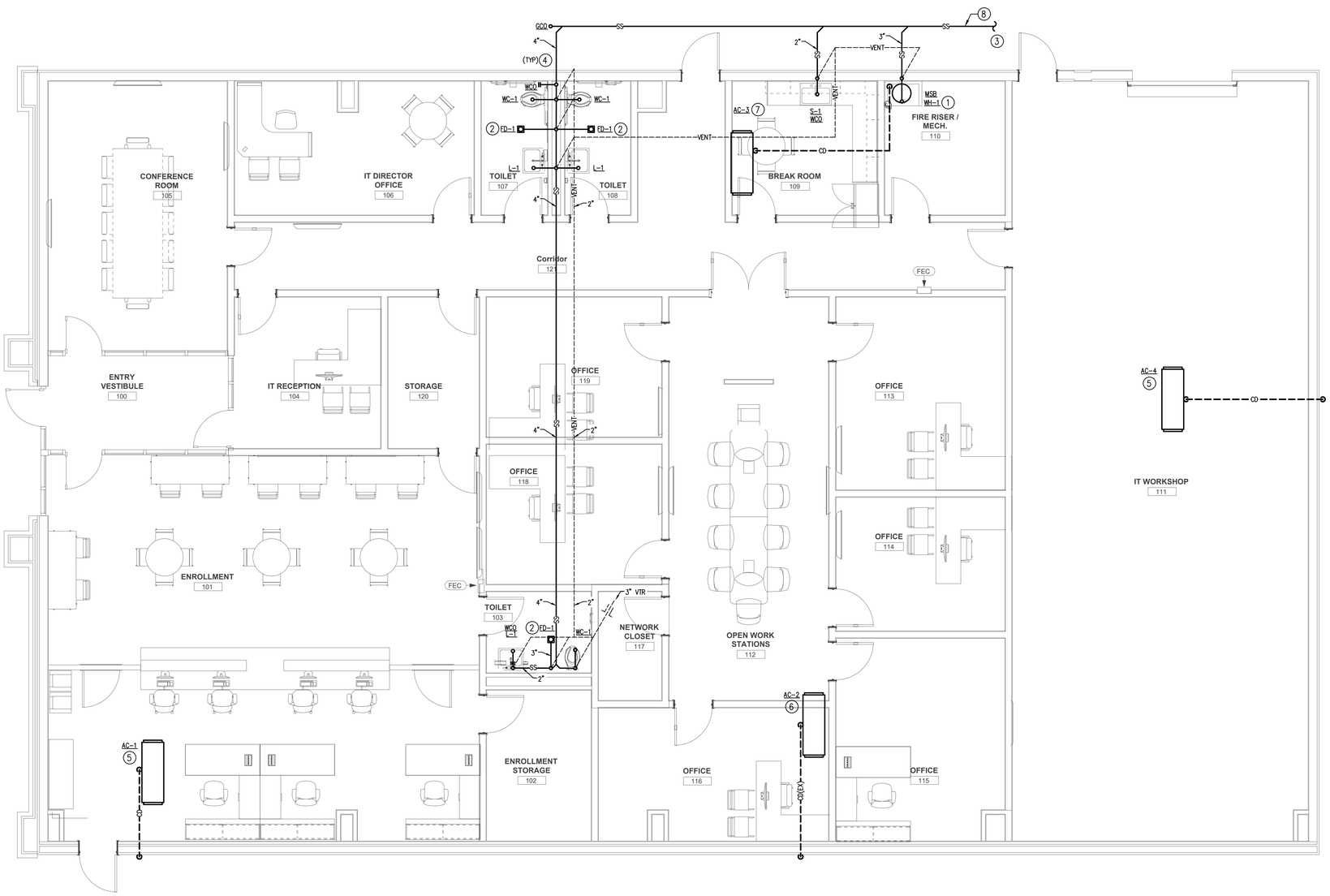
SHEET NUMBER:
P001

4/22/2024 9:16:17 AM

NOTE:
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. COORDINATE ALL FLOOR PENETRATION WITH LOCATIONS OF TENONS. SLAB PENETRATIONS SHALL BE RELOCATED IF CONFLICTING WITH TENON LOCATIONS. UNDER NO CIRCUMSTANCES SHALL THE TENONS BE CUT. CONTRACTOR SHALL SCAN SLAB AND LOCATE TENON PRIOR TO ANY UNDER SLAB MODIFICATION.

KEYNOTES (#)

1. ROUTE DRAIN PAN AND T&P RELIEF PIPING DOWN FROM WH-1 TO MOP SINK AND DISCHARGE SEPARATELY WITH A MINIMUM 2" AIR GAP.
2. PROVIDE "TRAP GUARD" OR SIMILAR BARRIER-TYPE TRAP SEAL PROTECTION DEVICE FOR FLOOR DRAIN/SINK.
3. CONNECT NEW SANITARY PIPING TO MINIMUM 4" EXISTING SANITARY PIPING. ALL EXISTING SANITARY SHALL BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO: CONNECTION POINT, INVERT, DIRECTION OF FLOW, AND LOCATION.
4. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING STRUCTURAL FOOTINGS PRIOR TO CONSTRUCTION AND MODIFY ROUTING AS REQUIRED. (TYPICAL)
5. PROVIDE NEW 3/4" CONDENSATE PIPING. INSULATE WITH 1/2" CLOSE CELL INSULATION. DRAIN TO EXTERIOR ABOVE GRADE.
6. EXISTING CONDENSATE PIPING. INSULATE WITH 1/2" CLOSE CELL INSULATION. FIELD VERIFY EXACT ROUTING.
7. ROUTE CONDENSATE PIPING TO MOP SINK. TERMINATE WITH MINIMUM 2" GAP. INSULATE WITH 1/2" CLOSE CELL INSULATION.
8. COORDINATE ROUTING WITH EXISTING FIRE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING/BACKFILL/NEW CONCRETE.



1 P100 PLUMBING DWV PLANS
SCALE: 1/4" = 1'-0"

NORTH

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18905
4-26-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

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04/29/2024

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OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

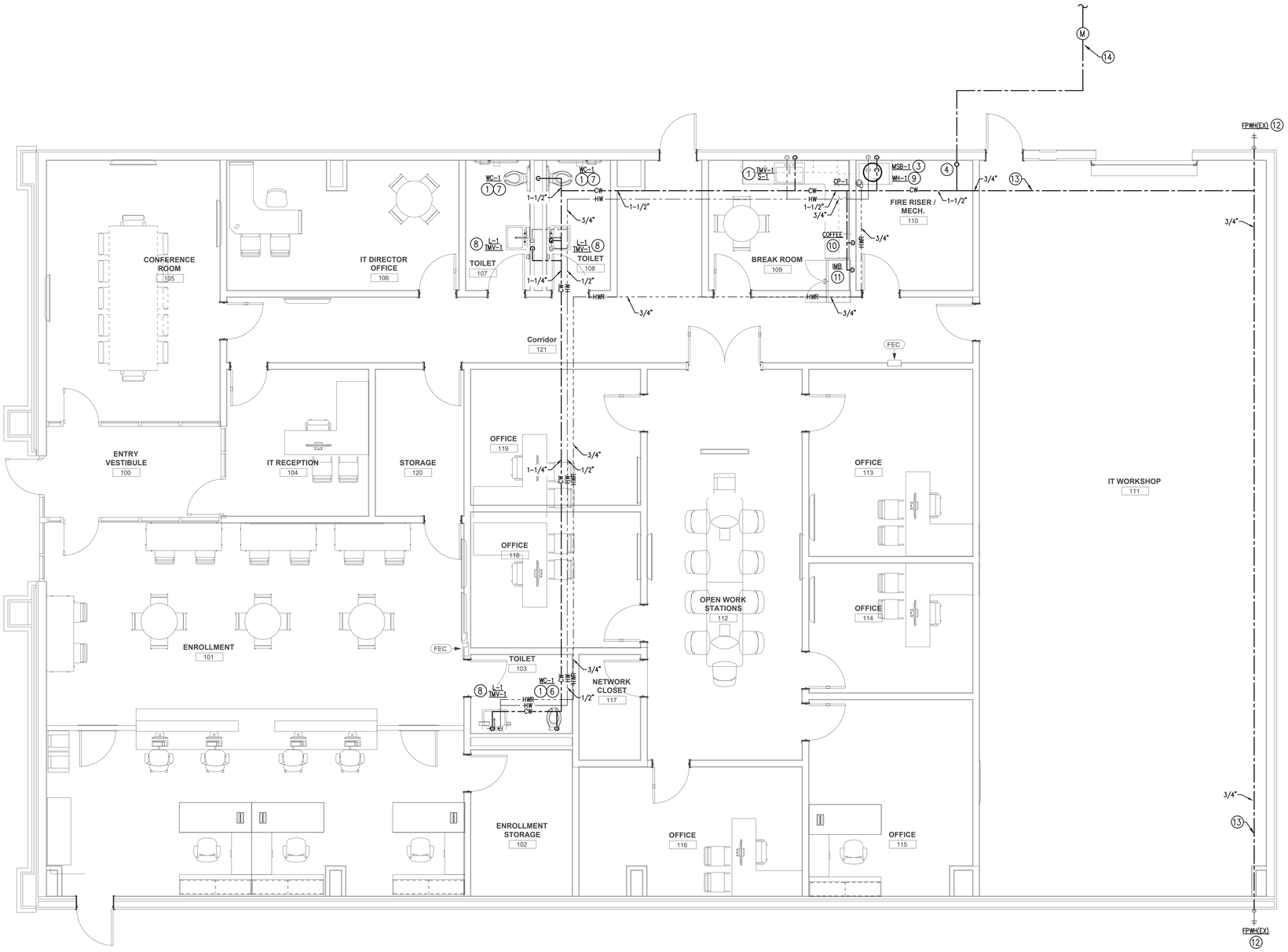
SHEET NAME:
PLUMBING WASTE & VENT PLAN

SHEET NUMBER:
P100

NOTE:
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. COORDINATE ALL FLOOR PENETRATION WITH LOCATIONS OF TENONS. SLAB PENETRATIONS SHALL BE RELOCATED IF CONFLICTING WITH TENON LOCATIONS. UNDER NO CIRCUMSTANCES SHALL THE TENONS BE CUT. CONTRACTOR SHALL SCAN SLAB AND LOCATE TENON PRIOR TO ANY UNDER SLAB MODIFICATION.

KEYNOTES (#)

1. PROVIDE WATER HAMMER ARRESTER ON ALL FLUSH VALVES, DISHWASHER AND ICE MAKERS PER PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M (TYPICAL)
2. STUB UP NEW 1-1/2" CW SUPPLY IN BUILDING AND PROVIDE SHUT-OFF VALVE. PROVIDE PRESSURE REDUCING VALVE SET AT 70 PSI IF PRESSURE EXCEEDS 75PSI AT LOW DEMAND TIMES.
3. ROUTE 3/4" HW & CW DOWN IN WALL TO MOP SINK.
4. COORDINATE EXACT WATER SUPPLY STUB-UP LOCATION WITH EXISTING FIRE RISER AND PIPING. WATER PIPING ROUTED BELOW SLAB TO BE TYPE K SOFT COPPER WITH NO JOINTS.
5. COORDINATE NEW DOMESTIC WATER SERVICE WITH LOCAL UTILITY COMPANY AND LOCAL AHJ. COORDINATE METER AND BACKFLOW PREVENTION REQUIREMENTS AND PROVIDE AND INSTALL AS NECESSARY.
6. PROVIDE 1-1/4"CW TO WATER CLOSET FLUSH VALVE.
7. PROVIDE 1-1/2"CW TO BACK-TO-BACK WATER CLOSET FLUSH VALVES.
8. 1/2"CW AND 1/2"HW TO HAND SINK OR LAVATORY. PROVIDE THERMOSTATIC MIXING VALVE (TMV). THERMOSTATIC MIXING VALVE TO BE SET TO 105F.
9. PROVIDE NEW 1"CW & 1"HW DOWN TO WATER HEATER. ROUTE WATER HEATER T&P TO FLOOR DRAIN AND TERMINATE WITH AIR GAP.
10. EXTEND 1/2" CW TO COFFEE MACHINE, PROVIDE INLINE BACKFLOW WATTS 3/8" SD3-FN PER ASSE-1022
11. 1/2" CW TO ICE MAKER. PROVIDE IN-LINE ASSE 1022 BACKFLOW PREVENTOR IF UNIT IS NOT EQUIPPED WITH BFP. MOUNT BOX AT 5'-0" A.F.F.
12. RECONNECT EXISTING HOSE BIBS TO NEW WATER LINES. FIELD VERIFY EXACT LOCATIONS.
13. ROUTE EXPOSED WATER LINES AS HIGH AS POSSIBLE.
14. RETROFIT EXISTING WATER DOWNSTREAM OF EXISTING METER WITH 1-1/2" LINE AND ROUTE TO NEW ENTRY.



1 P101 PLUMBING SUPPLY PLAN
SCALE: 1/4" = 1'-0"
NORTH

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GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDU JAAFAR
18905
4-24-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

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NO.	DESCRIPTION	DATE

SHEET NAME:
PLUMBING SUPPLY PLANS

SHEET NUMBER:
P101

FIXTURE UNIT COUNT

MARK	DESCRIPTION	QUANITY	D.F.U.	TOTAL D.F.U.	W.S.F.U.	TOTAL W.S.F.U.
S-1	BREAKROOM SINK	1	1	1.0	2.0	2.0
L-1	PUBLIC LAVATORY	3	1.0	3.0	2.0	6.0
WC-1	WATER CLOSET	3	4.0	12.0	10.0	30.0
MSB-1	MOP SINK	1	2.0	2.0	3.0	3.0
FD-1	FLOOR DRAIN	3	5.0	15.0	--	--
TOTAL				33.0		41.0

REMARKS:
1. QUANTITIES NOTED ON THIS LIST SHALL NOT BE USED FOR BIDS OR PURCHASING AND SHALL BE CONTRACTORS RESPONSIBILITY TO VERIFY.

WATER HEATER SCHEDULE (ELECTRIC)

MARK	MANUFACTURER	MODEL	STOR. TEMP. °F	STOR. CAP. GALLONS	RECOVERY G.P.H.	°F. RISE	ELEMENT (KW)	TOTAL (KW)	VOLTS/PHASE	AMPS	REMARKS
WH-1	A.O. SMITH	DEL-30	110	30	--	90	2.0/2.0	4.0	208/1/60	---	1,2,3,4,5,6,7

REMARKS:
1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. MOUNT ON PLATFORM PER DETAIL.
3. PROVIDE TEMPERATURE AND PRESSURE RELIEF VALVE PER ASME OR AGA APPROVAL.
4. PROVIDE EXPANSION TANK.
5. OTHER MANUFACTURER OFFERING EQUIVALENT PRODUCTS: STATE, RHEEM, BRADFORD WHITE.
6. MOUNT ON PLFORM. ROUTE P&T PIPE TO MOP SINK BELOW OR APPROVED RECEPTOR.
7. ELECTRIC ELEMENTS SHALL OPERATE SIMULTAINEOUS (NON-SIMULTANEOUS)
8. WATER HEATER STAND WITH 2" SECONDARY DRAIN PAN. ROUTE FULL SIZED DRAIN TO AHJ APPROVED RECPTOR.

CIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	SERVES	GPM	HEAD FT.	MIN. RETURN TEMP	WATTS	VOLT/PH	REMARKS
CP-1	TACO	003	DOMESTIC HW	3	10	125°F	52	115/1	1

REMARKS:
1. PROVIDE AQUASTAT/TIMER TO TURN ON 30 MINUTES PRIOR TO OCCUPANCY AND OFF AT END OF OCCUPANCY.
2. PROVIDE THERMOSTAT TO CONTROL SPEED OF PUMP. PUMP SHALL TURN ON AT 10°F LESS THAN WATJER HEATER SET POINT AND OFF AT 2°F LESS THAN WATER HEATER SET POINT.

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL	GAL.	ACCEPTANCE GAL.	CONNECTION SIZE	REMARKS
WH-1	AMTROL	ST-12	4.4	11.0	3/4"	ALL

REMARKS:
1. EXPANSION TANK: STEEL SHELL, HEAVY DUTY BUTYL NSF/ANSI 61, FACTORY PRECHARGED TO 50 PSIG. MAX OPERATING TEMPERATURE 200°, MAX OPERATING PRESSURE 150 PSI, 1 YEAR MANUFACTURER'S WARRANTY. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. FIELD CHARGE EXPANSION TANK TO SYSTEM PRESSURE BEFORE CONNECTION TO DOMESTIC WATER SYSTEM. FIELD VERIFY PRESSURE REQUIREMENTS.
3. OR EQUAL:

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	MANUFACTURER/ CATALOG NO.	TRIM	CONNECTIONS				REMARKS
				WASTE	VENT	CW	HW	
WC-1	WATER CLOSET (FLOOR MOUNT, SENSOR FLUSH VALVE, ADA COMPLIANT)	AMERICAN STANDARD MADERA 3461.001	16-1/2" HEIGHT FLUSHOMETER ELONGATED TOILET, WHITE, 12" ROUGH-IN. VALVE: SLOAN 8111-1.6-OR, 1.6 GPF BATTERY-POWERED SENSOR-OPERATED FLUSH VALVE, POLISHED CHROME FINISH, INSTALL IN ACCORDANCE WITH ADA REQUIREMENTS.	4"	2"	1-1/4"	---	1,2,4,5,17
L-1	LAVATORY (WALL HUNG, ADA)	AMERICAN STANDARD 0355.012	WALL CARRIER SUPPORT, FAUCET HOLES ON 4" CENTERS, FAUCET A.S. 5500.174, DRAIN M953455-0020A	1-1/2"	1-1/4"	1/2"	1/2"	1,2,4,5,17
S-1	BAR SINK (SINGLE BOWL, DROP-IN, ADA)	ELKAY/DAYTON LWSB151562KIT	15"x15x6" WITH GOOSENECK FAUCET LK2477CR, DRAIN: ELKAY LK99	2"	1-1/4"	1/2"	1/2"	1,2,4,5,17
DWB	DISH WASHER BOX	SIOUX CHIEF 696	WITH WATER HAMMER ARRESTER.	--	--	--	1/2"	--
FCO-1	FLOOR CLEAN OUT	ZURN ZB1400-SZ1	POLISHED BRONZE TOP	PLAN	--	--	--	11
FD-1	FLOOR DRAIN	ZURN Z415-BZ1	POLISHED BRONZE TOP WITH TRAP SEAL PROTECTION DEVISE	3"	1-1/2"	--	--	18
IMB-1	ICE MAKER BOX	SIOUX CHIEF 696	WITH WATER HAMMER ARRESTER	--	--	1/2"	--	--
MSB-1	MOP SINK BASIN	FIAT MSB-2424	FAUCET: FIAT 830-AA, HOSE & BRACKET: 832-AA, MOP HANGER: 889-CC	3"	1-1/2"	3/4"	3/4"	15
TMV-1	THERMOSTATIC MIXING VALVE	LEONARD 170-FL	--	--	--	3/8"	3/8"	--
WCO-1	WALL CLEAN OUT	ZURN ZS1469	--	PLAN	--	--	--	10
WHA	WATER HAMMER ARRESTER	ZURN 1260XL	FACTORY PRE-CHARGED, PERMANENTLY SEALED, ENGINEERED WATER HAMMER ARRESTER.	--	--	AS NOTED	--	8

REMARKS:

1. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS, MOUNT PER ADA REQUIREMENTS WHERE INDICATED.

2. PROVIDE CHROME PLATED WALL ESCUTCHEON(S) AT ALL WATER SUPPLY WALL PENETRATIONS. PROVIDE CHROME PLATED, HEAVY DUTY, COMMERCIAL GRADE, ANGLE SUPPLY WITH WHEEL HANDLE STOP(S) AND STAINLESS STEEL FLEXIBLE RISER HOSE(S) FOR HOT AND COLD WATER SUPPLIES (AS REQUIRED).

3. PROVIDE ALL PUBLIC LAVATORY FAUCETS WITH VANDAL RESISTANT, 0.5 GPM MAXIMUM FLOW CONTROL, SPRAY OUTLET, OMNI MODEL A212-05-VR.

4. PROVIDE 17 GAUGE CHROME PLATED P-TRAP WITH CLEANOUT AND WALL ESCUTCHEON. INSTALL WASTE ELL AT BOTTOM OF BOWL AND PIPE HORIZONTALLY BACK TO P-TRAP INSTALLED AGAINST WALL.

5. PROVIDE PLUMBEREX PRO EXTREME OR EQUAL UNDERSINK PROTECTIVE PIPE COVERING MODEL X4333, FOR WASTE, HOT, AND COLD PIPING, COLOR: WHITE. COVERS SHALL BE SECURED WITH SNAP-CLIP FLUSH REUSABLE FASTENERS. PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE INSTALLATION MEETING CURRENT ADA STANDARDS WHERE REQUIRED.

6. UNIT SHALL PROVIDE 8.0 GPH OF 50 DEGREE FAHRENHEIT WATER BASED ON 80 DEGREE FAHRENHEIT INLET WATER AND 90 DEGREE FAHRENHEIT ROOM TEMPERATURE.

7. PROVIDE SOLID BLOCKING IN WALL BEHIND UNIT FOR MOUNTING.

8. WATER HAMMER ARRESTORS SHALL BE PROPERLY SIZED, PROPERLY LOCATED IN AN EFFECTIVE RANGE FROM EQUIPMENT, AND IN ACCORDANCE WITH PDI STANDARD WH201.

9. PROVIDE ROUND ACCESS COVER (DEPRESSED CENTER IN CARPETED AREA TO MARK LOCATION AND ACCOMMODATE FLOOR FINISH) WITH NICKEL-BRONZE SCORED FRAMES & PLATES. SIZE AS INDICATED ON DRAWINGS. ENSURE AMPLE CLEARANCE AT CLEANOUT FOR RODDING OF DRAINAGE SYSTEM.

10. PROVIDE CAULKED OR THREADED CLEANOUT, EXTEND ACCESS COVER TO FINISHED WALL SURFACE. ENSURE AMPLE CLEARANCE AT CLEANOUT FOR RODDING OF DRAINAGE SYSTEM.

11. ADJUSTABLE GRADE CLEANOUT, DURA-COATED CAST IRON BODY WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND SCORIATED SECURED HEAVY DUTY TOP, ADJUSTABLE TO FINISHED GRADE.

12. PLUMBING CONTRACTOR SHALL COORDINATE WALL THICKNESS AT FREEZE PROOF WALL HYDRANT INSTALLATION WITH SUPPLIER WHEN ORDERING FIXTURES.

13. PROVIDE P-TRAP WITH CLEANOUT PLUG AND ESCUTCHEON.

14. PROVIDE CHROME PLATED WHEEL HANDLE STOPS WITH ESCUTCHEON AND FLEXIBLE RISER.

15. SINK FAUCETS TO BE PROVIDED WITH INTEGRAL CHECK VALVES.

16. PROVIDE FULL SIZE DRAIN LINE(S) FROM EQUIPMENT. DISCHARGE OVER FLOOR SINK OR HUB DRAIN WITH 2" AIR GAP.

17. INSTALL THERMOSTATIC MIXING VALVE (TMV) ON HW SUPPLY TO LAVATORIES, SHOWERS AND HAND SINKS. SET OUTLET TEMPERATURE @ 105°F.

18. PROVIDE BARRIER TYPE EVAPORATION PREVENTION OR TRAP PRIMER ON FLOOR DRAINS WHERE REQUIRED BY LOCAL CODE.

MINIMUM PIPE INSULATION THICKNESS

BASED ON 2015 INTERNATIONAL ENERGY CONSERVATION CODE TABLE C403.2.10

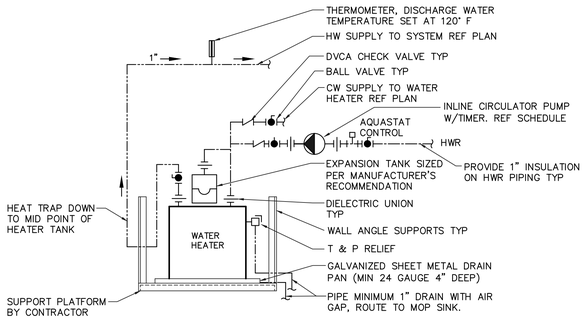
FLUID OPERATING TEMP RANGE	INSULATION CONDUCTIVITY (BTU•IN./(H•FT²•°F))	PIPE SIZE			
		> 1"	1" TO 1-1/2"	1-1/2" TO 4"	4" TO 8"
< 40°F	0.20-0.26	0.5"	1.0"	1.0"	1.0"
40-60°F	0.21-0.27	0.5"	0.5"	1.0"	1.0"
105-140°F	0.21-0.28	1.0"	1.0"	1.5"	1.5"
141-200°F	0.25-0.29	1.5"	1.5"	2.0"	2.0"

*REFER TO C403.11.3 FOR WHEN PIPING INSULATION IS REQUIRED.

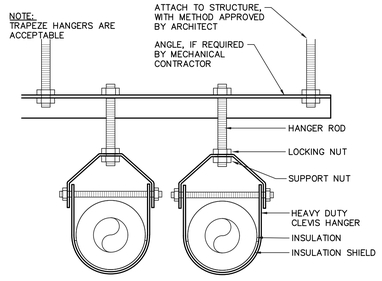
PIPING VOLUME AND MAXIMUM LENGTHS

BASED ON 2015 INTERNATIONAL ENERGY CONSERVATION CODE TABLE C404.5.1

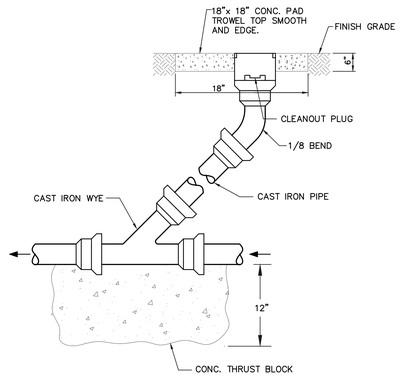
NOMINAL PIPE SIZE	VOLUME	MAXIMUM PIPING LENGTH (FT)	
		PUBLIC LAVATORY FAUCETS	OTHER FIXTURES & APPLIANCES
1/4	0.33	6	50
3/8	0.75	3	50
1/2	1.5	2	43
3/4	3	0.5	21
1	5	0.5	13
1-1/4	8	0.5	8
1-1/2	11	0.5	6
2 OR LARGER	18	0.5	4



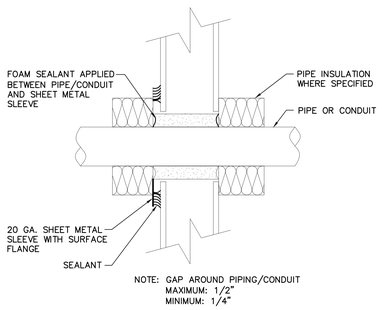
7 ELECTRIC WATER HEATER
SCALE: N.T.S



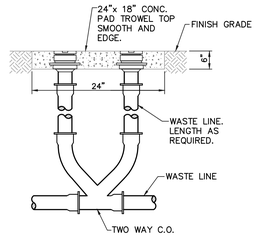
6 PIPE HANGERS
SCALE: N.T.S



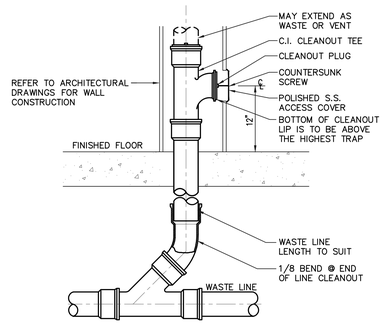
5 FINISHED GRADE CLEANOUT
SCALE: N.T.S



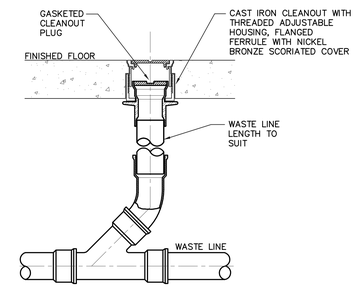
4 PIPE PENETRATION
SCALE: N.T.S



3 TWO WAY CLEANOUT (GRADE)
SCALE: N.T.S



2 WALL CLEANOUT
SCALE: N.T.S



1 FLOOR CLEANOUT
SCALE: N.T.S

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18905
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

GH2ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
PLUMBING SCHEDULES

SHEET NUMBER:
P200

POST-TENSION SLAB NOTE

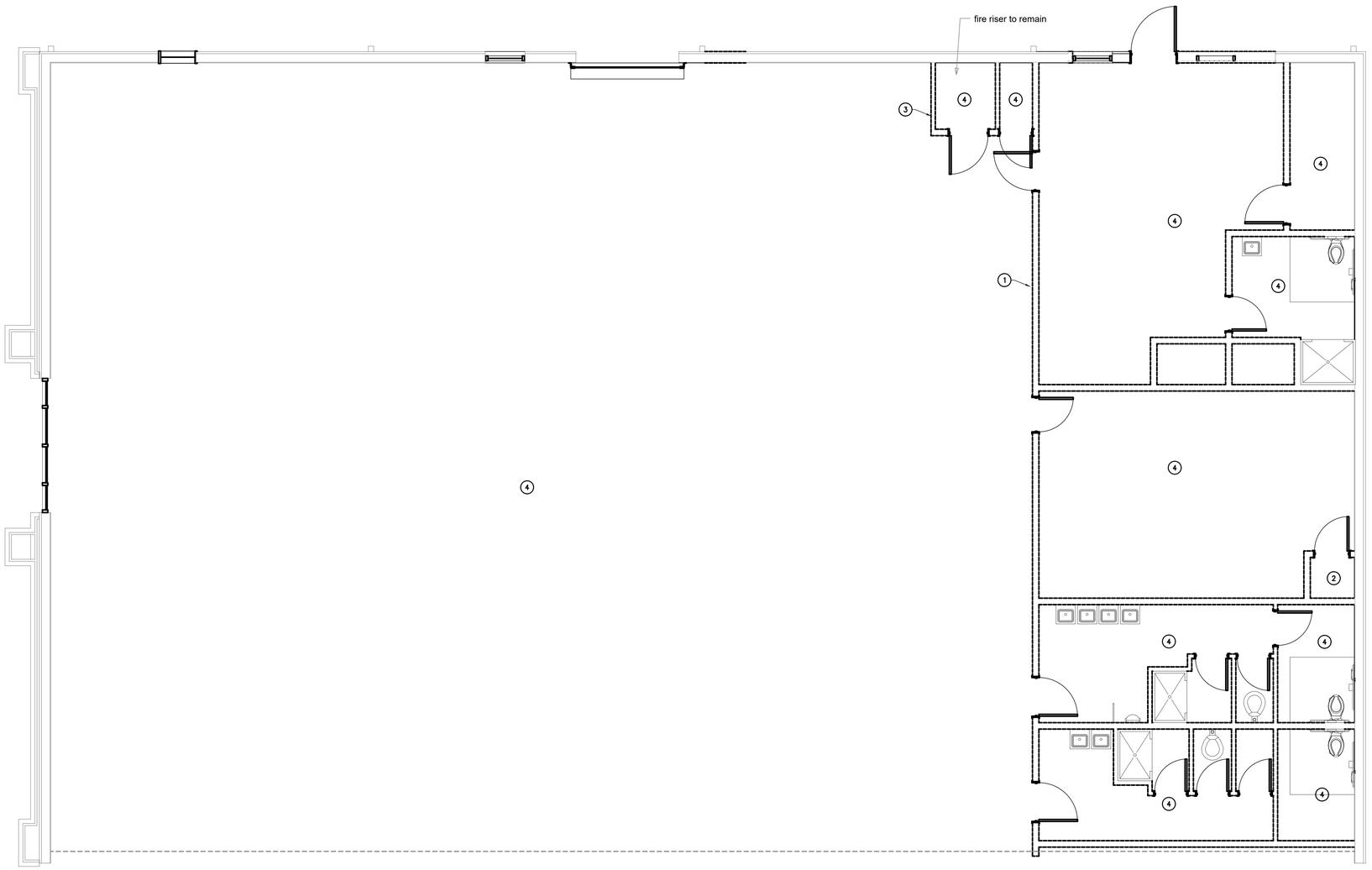
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. BEFORE ANYWORK, THE CONTRACTOR SHALL X-RAY THE SLAB TO IDENTIFY THE LOCATIONS OF POST-TENSION TENDONS WITHIN THE SLAB. UNDER NO CIRCUMSTANCES TENONS SHALL BE CUT.

(#) KEY NOTES

1. WALL SHOWN DASHED TO BE DEMOLISHED. REMOVE ALL ELECTRICAL DEVICES BACK TO PANELBOARD.
2. EXISTING ELECTRICAL WATER HEATER TO BE REMOVED. REMOVE ALL ASSOCIATED ELECTRICAL DEVICES BACK TO PANEL BOARD.
3. EXISTING FIRE ALARM PANEL TO BE REMOVED.
4. ALL EXISTING LIGHTING IN THIS ROOM TO BE REMOVED. REFER TO E100 FOR NEW LIGHTING PLAN.

ELECTRICAL DEMOLITION GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND SHALL BE FAMILIAR WITH THE LIMITS OF DEMOLITION REQUIRED FOR ALL TRADES. COORDINATE DEMOLITION WITH REQUIREMENTS OF NEW CONSTRUCTION PRIOR TO INITIATING WORK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLETE REMOVAL AND DISCARDING OF ALL DEMOLITION WASTE INCLUDING ANY UNFORESEEN ITEMS WITHIN THE SCOPE OF THE PROJECT.
3. CONTRACTOR SHALL COORDINATE DEMOLITION OPERATIONS WITH CONTINUING OWNER OCCUPATION OF ADJACENT SPACES. ALL DEMOLITION WORK TO BE COORDINATED WITH OWNER AND CONDUCTED UNDER CONTROLLED CONDITIONS.
4. REPAIR/PATCH AS REQUIRED FOR DEMOLITION OF VARIOUS CONSTRUCTION ITEMS. VERIFY AND COORDINATE ANY REQUIRED OPENINGS WITH RESPECTIVE TRADES. FOR ANY WORK THAT SHALL OCCUR OUTSIDE OF DEMOLITION AREA, CONTRACTOR SHALL RETURN SPACE TO ORIGINAL CONDITION.
5. THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR ALL REQUIRED ELECTRICAL DEMOLITION OF THIS SPACE TO COMPLETE THIS PROJECT. REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS.
6. PRIOR TO DEMOLITION FIELD VERIFY AND IDENTIFY ANY EXISTING EQUIPMENT TO REMAIN IN SERVICE THAT IS SERVED BY SYSTEMS TO BE DEMOLISHED. NOTIFY ENGINEER OF ANY SUCH CONDITIONS AND REMOVE AND/OR RELOCATE THE SERVICES AS DIRECTED.
7. MEET WITH OWNER OR AN OWNER'S REPRESENTATIVE PRIOR TO DEMOLITION TO IDENTIFY SYSTEMS, EQUIPMENT, ETC. THAT ARE TO BE SALVAGED OR TO BE DISPOSED. SALVAGE OR DISPOSE IN AN APPROVED MANNER AS DIRECTED BY THE OWNER.
8. ALL MATERIAL AND LABOR NECESSARY TO COMPLETE THIS PROJECT IS PROVIDED BY THE CONTRACTOR UNLESS SPECIFICALLY CALLED OUT TO BE PROVIDED BY OTHERS.
9. CONTRACTOR WILL BE RESPONSIBLE FOR ANY TEMPORARY POWER REQUIRED FOR THE COMPLETION OF THE JOB.
10. ALL NOTES ON THE ARCHITECTURAL DEMOLITION SHEETS APPLY TO THIS WORK.
11. CONTRACTOR IS TO REMOVE ALL EXISTING ELECTRICAL DEVICES, CONDUIT WIRE ETC THAT WILL NOT BE REUSED UNLESS NOTED OTHERWISE.WHERE REQUIRED, COORDINATE EQUIPMENT ELECTRICAL TERMINATION REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
12. THE DEFINITION OF ELECTRICAL IS ALL WIRING I.E. POWER, DATA, PHONE, ETC. THEREFORE WHEN A NOTE REFERS TO DISCONNECTING, CONNECTING OR RECONNECTING ELECTRICAL IT REFERS TO ALL WIRING NOT JUST POWER.
13. WHEN REMOVING OR RELOCATING AN ELECTRICAL DEVICE ALL ELECTRICAL SERVICE MATERIAL I.E. CONDUIT, WIRE, FITTINGS, HANGERS, ETC. THAT ARE NOT TO BE REUSED ARE TO BE REMOVED BACK TO THE FEEDING ELECTRICAL PANEL..



1 ED100 ELECTRICAL DEMOLITION
SCALE: 1/4" = 1'-0"
NORTH

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDU JAAFAR
18905
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

ED100 ELECTRICAL DEMOLITION

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OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
ELECTRICAL DEMOLITION

SHEET NUMBER:
ED100

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED FLOODLIGHT (TYPE DENOTED)
	RECESSED LIGHT (TYPE DENOTED)
	POLE MOUNTED LIGHT (TYPE DENOTED)
	2x4 LED PANEL (TYPE DENOTED)
	LINEAR LIGHT (TYPE DENOTED)
	SUSPENDED OR PENDANT LIGHT (TYPE DENOTED)
	RECESSED LINEAR LIGHT (TYPE DENOTED)
	STRIP LIGHT (TYPE DENOTED)
	TRACK AND TRACK LIGHT (TYPES DENOTED)
	EMERGENCY BATTERY LIGHT (TYPE DENOTED)
	EXIT SIGN (TYPE DENOTED)
	LIGHT ON CORD REEL (TYPE DENOTED)
	SINGLE POLE SW.
2	2 POLE SINGLE THROW SW.
3	3-WAY SW.
4	4-WAY SW.
K	KEYED SW.
	SW. W/PILOT
D	DIMMER SWITCH
	OCCUPANCY SENSOR SWITCH
MC	MOMENTARY CONTACT SWITCH
	MOTOR SWITCH
TD	TIME DELAY SWITCH
	PUSH BUTTON
	SINGLE RECEPT.
	DUPLEX RECEPT.
	SPLIT DUPLEX RECEPT.
	ISOLATED GROUND RECEPT (DUPLEX SHOWN)
	RECEPT ON EMERGENCY CKT (DUPLEX SHOWN)
	FOURPLEX RECEPT.
	ISOLATED GROUND FOURPLEX RECEPT.
	240 VOLT RECEPT.
	FLOOR RECEPT. (DUPLEX SHOWN)
	RECEPT ON DROP CORD (DUPLEX SHOWN)
	RECEPT ON CORD REEL (DUPLEX SHOWN)

SYMBOL	DESCRIPTION
	MULTIOUTLET ASSEMBLY (TYPE DENOTED)
	CLOCK (TYPE DENOTED)
P	POWER POLE (OPEN OFFICE STYLE)
	SURGERY SERVICE COLUMN
	STATIC GROUND RECEPTACLE (TYPE DENOTED)
	LIGHTNING PROTECTION AIR TERMINAL
	LIGHTNING PROTECTION CONDUCTOR SPLICE
	GROUND ROD (PLAN VIEW)
	UTILITY SERVICE POWER POLE (SITE)
	SPECIAL RECEPT. OR CONN. (SEE SCHEDULE)
J	JUNCTION BOX
PB	PULL BOX
	CIRCUIT BREAKER PANEL
	POWER OR DISTRIBUTION PANEL
	TRANSFORMER (TYPE DENOTED)
XX	XX-MOTOR (SEE SCHEDULE)
	COMB. MOTOR STARTER (FUSED)
	SAFETY DISC. SW. (NON-FUSED)
	SAFETY DISC. SW. (FUSED)
	BUS DUCT WITH PLUG IN DISCONNECT (FUSED)
R	RELAY
	ENCLOSED CIRCUIT BREAKER
	PRESSURE SWITCH
	FLOAT SWITCH
OS	OCCUPANCY SENSOR - TYPE DENOTED
LS	LIGHT LEVEL SENSOR - TYPE DENOTED
PC	PHOTOCELL
TC	TIME CONTROL SWITCH (TIME SWITCH)
H	HUMIDISTAT
T	THERMOSTAT
	SOLENOID VALVE

SYMBOL	DESCRIPTION
	TELEPHONE OUTLET (TYPE DENOTED)
W	WALL TELEPHONE OUTLET (TYPE DENOTED)
	INFORMATION OUTLET (TYPE DENOTED)
WAP	WIRELESS ACCESS POINT
TV	TELEVISION OUTLET
	BELL
	BUZZER
	CHIME
	DOOR SIGNAL - APT. UNIT
	SPEAKER (WALL OR CEILING MT.)
	HORN TYPE SPEAKER
V	VOLUME CONTROL
	MICROPHONE OUTLET
	FIRE ALARM HORN W/STROBE (CANDELAS)
F	FIRE ALARM BELL
F	FIRE ALARM BELL W/STROBE (CANDELAS)
F	FIRE ALARM CHIME W/STROBE (CANDELAS)
	FIRE ALARM STROBE (CANDELAS)
F(15)	FIRE ALARM SPEAKER W/STROBE (CANDELAS)
FAAP	FIRE ALARM REMOTE ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
	SMOKE DETECTOR (TYPE DENOTED)
	HEAT DETECTOR (TYPE & TEMP DENOTED)
DD	DUCT SMOKE DETECTOR (TYPE DENOTED)
F	REMOTE TEST/STATUS STATION
	F.A. PULLSTATION (TYPE DENOTED)
Z	F.A. ZONE ADDRESSABLE MODULE
I	F.A. INDIVIDUAL ADDRESSABLE MODULE
	F.A. DOOR HOLDER
	F.A. DOOR CLOSER
FR	FIRE ALARM SHUT DOWN RELAY
	SPRINKLER FLOW SWITCH
	SPRINKLER VALVE TAMPER SWITCH

SYMBOL	DESCRIPTION
ES	ELECTRIC STRIKE
ML	MAGNETIC LOCK
C	COMBINATION LOCK
DC	DOOR CONTACTS
CR	CARD READER
	KEYPAD
MD	MOTION DETECTOR (TYPE DENOTED)
	NURSE CALL EMERG. STATION
	NURSE CALL CODE BLUE EMERG. STATION
	NURSE CALL DUTY STATION
	NURSE CALL STAFF STATION
S	NURSE CALL SINGLE PATIENT STATION
D	NURSE CALL DUAL PATIENT STATION
DL	NURSE CALL DOME LIGHT (2 LAMP)
	CCTV CAMERA
CCTV	CCTV CAMERA WITH PAN/TILT DRIVE
#	KEYED NOTE (SEE SCHEDULE)
TWC	TWO WAY COMMUNICATION SYSTEM

ELECTRICAL SYMBOL NOTES

(A) A-12.b — THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.

EXAMPLE 1: LIGHTING FIXTURE TYPE "A" IS CONNECTED TO CIRCUIT A-12 AND CONTROLLED BY SWITCH "b". WHERE NO SWITCH IS GIVEN, THE WALL SWITCH/OCCUPANCY SENSOR CONTROLS ONLY THOSE FIXTURES IN THE ROOM.

E 14 — EXIT LIGHTS. STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILING MOUNTING. SHADED AREA INDICATES ILLUMINATED FACE(S). ARROW INDICATES DIRECTIONAL ARROW ON ILLUMINATED FACE(S). THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. EXAMPLE: THE WALL MOUNTED EXIT LIGHT TYPE "E" WITH SINGLE FACE AND DIRECTIONAL ARROW IS CONNECTED TO CIRCUIT 14.

16c — DEVICES. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SPLIT DUPLEX RECEPTACLE IS CONNECTED TO CIRCUIT 16 AND ONE RECEPTACLE OUTLET IS CONTROLLED BY SWITCH "c".

d — THE CONTROL DEVICE DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "d" TO CONTROL LIGHTING FIXTURES INDICATED BY "d".

1 — SPECIAL NOTE. SEE THE SPECIAL NOTES ON THAT SHEET FOR THE NOTE NUMBER INDICATED IN OVAL SYMBOL.

CONDUIT SHOWN WITHOUT SLASH MARKS SHALL CONTAIN 2 # 12 CONDUCTORS IN 3/4" CONDUIT UNLESS SPECIFIC EQUIPMENT REQUIRES A DIFFERENT SIZE.

SLASH MARK INDICATORS ARE: SHORT STRAIGHT=PHASE CONDUCTOR, LONG STRAIGHT=NEUTRAL CONDUCTOR, LONG STRAIGHT WITH A DOT=GROUND CONDUCTOR, ARC=ISOLATED GROUND.

H-1,3,5 — HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION IS SHOWN ADJACENT TO THE HOME RUN ARROW AS A NUMERATOR AND THE CIRCUIT DESIGNATION IS SHOWN AS THE DENOMINATOR. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOME RUN TO PANELBOARD "H", CIRCUITS 1, 3, 5.

SPECIFIC CODE NOTES

FIRE PROTECTION REQUIREMENTS

A. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL.
   1. CONDUITS MAY PENETRATE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRE-STOPPED.
   2. OPENINGS FOR STEEL ELECTRICAL BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL OR PARTITION.
   3. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES.

B. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.

C. RECESSED LIGHTING FIXTURES INSTALLED IN FIRE RATED CEILING ASSEMBLIES SHALL BE FIRE RATED FIXTURES BEARING THE UL FIRE RATED LABEL. FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE UL FIRE RESISTANCE DIRECTORY, AND SHALL INCLUDE A FIRE RATED ENCLOSURE INSTALLED OVER THE FIXTURE THAT MEETS THE REQUIREMENTS OF THE UL FIRE RESISTANCE DIRECTORY.

GFCI PROTECTION

A. ALL SINGLE-PHASE RECEPTACLES THAT ARE 50 AMPERES OR LESS, RATED 150 VOLTS TO GROUND OR LESS, AND ALL THREE-PHASE RECEPTACLES THAT ARE 100 AMPERES OR LESS, RATED 150 VOLTS TO GROUND OR LESS IN BATHROOMS, KITCHENS, ROOFTOPS, OUTDOORS, WET LOCATIONS, LOCKER ROOMS, GARAGES, UNFINISHED BASEMENTS, AND WITHIN 6FT OF SINKS TO BE GFCI AND IN READILY ACCESSIBLE LOCATION. IF READILY ACCESSIBLE LOCATION NOT AVAILABLE CIRCUIT TO BE FURNISHED WITH GFCI BREAKER

TAMPER-RESISTANT RECEPTACLES

A. ALL 15- AND 20-AMPERE, 125- AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.
(1) DWELLING UNITS IN ALL AREAS SPECIFIED IN 210.52 AND 550.13
(2) GUEST ROOMS AND GUEST SUITES OF HOTELS AND MOTELS
(3) CHILD CARE FACILITIES
(4) PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES
(5) BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES AND OUTPATIENT FACILITIES
(6) SUBSET OF ASSEMBLY OCCUPANCIES DESCRIBED IN 518.2 TO INCLUDE PLACES OF WAITING TRANSPORTATION, GYMNASIUMS, SKATING RINKS, AND AUDITORIUMS
(7) DORMITORIES

EXCEPTION TO (1), (2), (3), (4), (5), (6), AND (7): RECEPTACLES IN THE FOLLOWING LOCATIONS SHALL NOT BE REQUIRED TO BE TAMPER RESISTANT: (1) RECEPTACLES LOCATED MORE THAN 1.7 M (5 ½ FT) ABOVE THE FLOOR (2) RECEPTACLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE
(3) A SINGLE RECEPTACLE OR A DUPLEX RECEPTACLE FOR TWO APPLIANCES LOCATED WITHIN THE DEDICATED SPACE FOR EACH APPLIANCE THAT, IN NORMAL USE, IS NOT EASILY MOVED FROM ONE PLACE TO ANOTHER AND THAT IS CORD-AND-PLUG-CONNECTED IN ACCORDANCE WITH 400.10(A)(6), (A)(7), OR (A)(8)
(4) NONGROUNDING RECEPTACLES USED FOR REPLACEMENTS AS

ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)	CTR	CENTER	HT	HEIGHT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	SWBD	SWITCHBOARD
A	AMPERE	CU	COPPER	HTG	HEATING	NFDS	NON-FUSED SAFETY DISCONNECT SWITCH	SYM	SYMMETRICAL
AC	ABOVE COUNTER OR AIR CONDITIONER	DCP	DOMESTIC WATER CIRCULATING PUMP	HTR	HEATER			SYS	SYSTEM
		DEPT	DEPARTMENT	HV	HIGH VOLTAGE			TEL	TELEPHONE
ACLG	ABOVE CEILING	DET	DETAIL	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	NIC	NOT IN CONTRACT	TEL/DATA	TELEPHONE/DATA
ADO	AUTOMATIC DOOR OPENER	DIA	DIAMETER			NL	NIGHT LIGHT	TERM	TERMINAL
AF	AMP FRAME	DISC	DISCONNECT	HWP	HYDRONIC WATER PUMP	N.O.	NORMALLY OPEN	TL	TWIST LOCK
AFF	ABOVE FINISHED FLOOR	DIST	DISTRIBUTION	IC	INTERRUPTING CAPACITY	NPF	NORMAL POWER FACTOR	TR	TAMPER RESISTANT
AFG	ABOVE FINISHED GRADE	DN	DOWN	IG	ISOLATED GROUND	NTS	NOT TO SCALE	T-STAT	THERMOSTAT
AFI	ARC FAULT CIRCUIT INTERRUPTER	DPR	DAMPER	IMC	INTERMEDIATE METAL CONDUIT	OH	OVERHEAD	TTC	TELEPHONE TERMINAL CABINET
		DS	SAFETY DISCONNECT SWITCH	INCAND	INCANDESCENT	OL	OVERLOADS	TV	TELEVISION
AHU	AIR HANDLING UNIT	DT	DOUBLE THROW	IR	INFRARED	PA	PUBLIC ADDRESS	TVTC	TELEVISION TERMINAL CABINET
AL	ALUMINUM	DWG	DRAWING	IW	INTERLOCK WITH	PB	PULL BOX OR PUSHBUTTON	TYP	TYPICAL
ALT	ALTERNATE	EC	ELECTRICAL CONTRACTOR	J-BOX	JUNCTION BOX	PE	PNEUMATIC ELECTRIC	UC	UNDER COUNTER
AMP	AMPERE	ELEC	ELECTRIC, ELECTRICAL	KV	KILOVOLT	PED	PEDESTAL	UE	UNDERGROUND ELECTRICAL
AMPL	AMPLIFIER	ELEV	ELEVATOR	KVA	KILOVOLT-AMPERE	PF	POWER FACTOR	UG	UNDERGROUND
ANNUN	ANNUNCIATOR	EM	EMERGENCY	KVAR	KILOVOLT-AMPERE REACTIVE	PH	PHASE	UH	UNIT HEATER
APPROX	APPROXIMATELY	EMS	ENERGY MANAGEMENT SYSTEM	KW	KILOWATT	PIV	POST INDICATING VALVE	UT	UNDERGROUND TELEPHONE
AQ-STAT	AQUASTAT	EMT	ELECTRICAL METALLIC TUBING	KWH	KILOWATT HOUR	PNL	PANEL	UTIL	UTILITY
ARCH	ARCHITECT, ARCHITECTURAL	EP	ELECTRIC PNEUMATIC	LOC	LOCATE OR LOCATION	PP	POWER POLE	UV	UNIT VENTILATOR OR ULTRAVIOLET
AS	AMP SWITCH	EQUIP	EQUIPMENT	LT	LIGHT	PR	PAIR		
AT	AMP TRIP	EWC	ELECTRIC WATER COOLER	LTG	LIGHTING	PRI	PRIMARY	V	VOLT
ATS	AUTOMATIC TRANSFER SWITCH	EXIST	EXISTING	LTNG	LIGHTNING	PROJ	PROJECTION	VA	VOLT-AMPERES
AUTO	AUTOMATIC	EXH	EXHAUST	LV	LOW VOLTAGE	PRV	POWER ROOF VENTILATOR	VDT	VIDEO DISPLAY TERMINAL
AUX	AUXILIARY	EXP	EXPLOSION PROOF	MAX	MAXIMUM	PT	POTENTIAL TRANSFORMER	VERT	VERTICAL
AV	AUDIO VISUAL	FA	FIRE ALARM	MAG.S	MAGNETIC STARTER	PVC	POLYVINYL CHLORIDE (CONDUIT)	VFD	VARIABLE FREQUENCY DRIVE
AWG	AMERICAN WIRE GAUGE	FABP	FIRE ALARM BOOSTER POWER SUPPLY PANEL	M/C	MOMENTARY CONTACT	PWR	POWER	VOL	VOLUME
BATT	BATTERY			MC	MECHANICAL CONTRACTOR	QUAN	QUANTITY	W	WATT
BD	BOARD	FACP	FIRE ALARM CONTROL PANEL	MCB	MAIN CIRCUIT BREAKER	RCPT	RECEPTACLE	W	WITH
BLDG	BUILDING	FCU	FAN COIL UNIT	MCC	MOTOR CONTROL CENTER	REQD	REQUIRED	WG	WIRE GUARD
BMS	BUILDING MANAGEMENT SYSTEM	FIXT	FIXTURE	MDC	MAIN DISTRIBUTION CENTER	RM	ROOM	WH	WATER HEATER
C	CONDUIT	FLR	FLOOR	MDP	MAIN DISTRIBUTION PANEL	RSC	RIGID STEEL CONDUIT	W/O	WITHOUT
CAB	CABINET	FLUOR	FLUORESCENT	MFR	MANUFACTURER	RTU	ROOF TOP UNIT	WP	WEATHERPROOF
CAT	CATALOG	FU	FUSE	MFS	MAIN FUSED DISCONNECT SWITCH	SC	SURFACE CONDUIT	XFMR	TRANSFORMER
CATV	CABLE TELEVISION	FUDS	FUSED SAFETY DISCONNECT SWITCH	MH	MANHOLE	SEC	SECONDARY	XFR	TRANSFER
CB	CIRCUIT BREAKER	GA	GAUGE	MIC	MICROPHONE	SHT	SHEET		
CCTV	CLOSED CIRCUIT TELEVISION	GAL	GALLON	MIN	MINIMUM	SIM	SIMILAR		
CKT	CIRCUIT	GALV	GALVANIZED	MISC	MISCELLANEOUS	S/N	SOLID NEUTRAL		
CLG	CEILING	GC	GENERAL CONTRACTOR	MLO	MAIN LUGS ONLY	SPEC	SPECIFICATION	∠	ANGLE
COMB	COMBINATION	GEN	GENERATOR	MMS	MANUAL MOTOR STARTER	SPKR	SPEAKER	@	AT
CMPR	COMPRESSOR	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MOA	MULTIOUTLET ASSEMBLY	SP	SPARE	▲	DELTA
CONN	CONNECTION	GFP	GROUND FAULT PROTECTOR	MSP	MOTOR STARTER PANELBOARD	SR	SURFACE RACEWAY	'	FEET
CONST	CONSTRUCTION	GND	GROUND	MSBD	MAIN SWITCHBOARD	SS	STAINLESS STEEL	"	INCHES
CONT	CONTINUATION OR CONTINUOUS	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MT	MOUNT	SSW	SELECTOR SWITCH	#	NUMBER
CONTR	CONTRACTOR	GYP BD	GYPSUM BOARD	MT.C	EMPTY CONDUIT	S/S	STOP/START PUSHBUTTONS	Ø	PHASE
CONV	CONVECTOR	HOA	HAND/S-OFF-AUTOMATIC SWITCH	MTS	MANUAL TRANSFER SWITCH	STA	STATION	℄	CENTER LINE
CP	CIRCULATING PUMP	HORIZ	HORIZONTAL	MTR	MOTOR, MOTORIZED	STD	STANDARD	P	PLATE
CRT	CATHODE-RAY TUBE	HP	HORSEPOWER	N.C.	NORMALLY CLOSED	SURF	SURFACE MOUNTED		
CT	CURRENT TRANSFORMER	HPF	HIGH POWER FACTOR	NEC	NATIONAL ELECTRICAL CODE	SW	SWITCH		

GENERAL ELECTRICAL NOTES

A. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE AND FLOOR SLAB SHALL BE METAL. UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC.

B. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN METAL RACEWAY WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES. LOW VOLTAGE CABLES MAY BE RUN IN CABLE TRAY WHERE NOTED. LOW VOLTAGE CABLES MAY BE RUN IN CABLE SUPPORT HOOKS ABOVE ACCESSIBLE CEILINGS WHERE NOTED.

C. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS. SEE ARCHITECTURAL ELEVATIONS FOR LOCATIONS OF ELECTRICAL DEVICES AT PATIENT BED HEADWALLS.

D. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.

E. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED ON PLAN BY DASHED CONDUIT.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON DRAWINGS EXCEPT FOR ITEMS LISTED IN NOTE G.

G. TV OUTLETS, VOLUME CONTROLS, TELEPHONE OUTLETS, DATA OUTLETS, AND FIRE ALARM DEVICES SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE STUB UP DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOX 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.

H. FURNISH AND INSTALL CONDUIT FROM BACK BOXES FOR THE FOLLOWING DEVICES INTO THE ACCESSIBLE CEILING SPACE:

1/2"C	TV OUTLETS
1/2"C	VOLUME CONTROLS
3/4"C	TELEPHONE OUTLETS
3/4"C	NETWORK OUTLETS
3/4"C	FIRE ALARM DEVICES

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER — ABDU JAAFAR — 18905 — 4-26-24 — OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

E001 ELECTRICAL GENERAL NOTES & SYMBOLS

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GH2 PROJECT NUMBER: **20230239**

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NO.	DESCRIPTION	DATE

SHEET NAME: ELECTRICAL GENERAL NOTES & SYMBOLS

SHEET NUMBER: **E001**

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LIGHTING FIXTURE SCHEDULE

TYPE	CONSTRUCTION	MOUNTING	LIGHT SOURCE			CCT	CRI	ELECTRICAL		ELECTRICAL			PRODUCT		NOTE
	DESCRIPTION		LAMP	LUMENS DOWN	LUMENS UP			BALLAST/DRIVER	Voltage	WATTS	WATTS PER FOOT	EMERGENCY COMPONENT	MFR	CATALOG NUMBER	
A1	3" ARCHITECTURAL LINEAR (SURFACE MOUNT ACT)	SURFACE	LED	750 lm/ft	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 1%	120V	29 W	7.25	--	LUX	EOS 3.0-S LAM 750 4 35K 8 UNV S1 (FINISH)	--
A1E	SAME AS "D1" WITH EMERGENCY BATTERY PACK	SURFACE	LED	750 lm/ft	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 1%	120V	29 W	7.25	10W EM BATTERY	LUX	EOS 3.0-S LAM 750 4 35K 8 UNV S1 (FINISH) EB	--
A2	3" ARCHITECTURAL LINEAR (SURFACE MOUNT GYP)	SURFACE	LED	750 lm/ft	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 1%	120V	29 W	7.25	--	LUX	EOS 3.0-S LAM 750 4 35K 8 UNV S1 (FINISH) HC	--
A2E	SAME AS "A2" WITH EMERGENCY BATTERY PACK	SURFACE	LED	750 lm/ft	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 1%	120V	29 W	7.25	10W EM BATTERY	LUX	EOS 3.0-S LAM 750 4 35K 8 UNV S1 (FINISH) HC EB	--
A3	3" ARCHITECTURAL LINEAR (SUSPENDED)	SUSPENDED	LED	750 lm/ft	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 1%	120V	29 W	7.25	--	LUX	EOS 3.0-P-D LAM 750 4 35K 8 UNV S1 (FINISH) HC 102	--
B1	4FT STRIP LIGHT	SUSPENDED	LED	5,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	33W	--	--	H.E. WILLIAMS	7SR - 4 - L50/835 - ACF/D96 - DIM - UNV	--
B1E	SAME AS "B1" WITH EMERGENCY BATTERY PACK	SUSPENDED	LED	5,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	33W	--	10W EM BATTERY	H.E. WILLIAMS	7SR - 4 - L50/835 - EM/10WLP - ACF/D96 - DIM - UNV	--
B2	4FT STRIP LIGHT	SUSPENDED	LED	8,500 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	57W	--	--	H.E. WILLIAMS	7SR - 4 - L85/835 - ACF/D96 - DIM - UNV	--
B2E	SAME AS "B2" WITH EMERGENCY BATTERY PACK	SUSPENDED	LED	8,500 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	57W	--	10W EM BATTERY	H.E. WILLIAMS	7SR - 4 - L85/835 - EM/10WLP - ACF/D96 - DIM - UNV	--
C1	4" DOWNLIGHT	RECESSED	LED	3,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	28W	--	--	H.E. WILLIAMS	4DR - TL - L30/835 - DIM - UNV - R - W - OF CS N - F1	--
C1E	SAME AS "C1" WITH EMERGENCY BATTERY PACK	RECESSED	LED	3,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	28W	--	10W EM BATTERY	H.E. WILLIAMS	4DR - TL - L30/835 - EM/10WRTS - DIM - UNV - R - W - OF CS N - F1	--
D1	2X4 TROFFER	RECESSED	LED	4,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	32W	--	--	H.E. WILLIAMS	LT - 24 - L40/835 - AF - EM/10W - DIM - UNV	--
D1E	SAME AS "D1" WITH EMERGENCY BATTERY PACK	RECESSED	LED	4,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	32W	--	10W EM BATTERY	H.E. WILLIAMS	LT - 24 - L40/835 - AF - DIM - UNV	--
D2	2X4 TROFFER	RECESSED	LED	5,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	38W	--	--	H.E. WILLIAMS	LT - 24 - L52/835 - AF - EM/10W - DIM - UNV	--
D2E	SAME AS "D1" WITH EMERGENCY BATTERY PACK	RECESSED	LED	5,000 lm	0 lm	3500 K	80	LED DRIVER, 0-10V DIMMING, 10%	120V	38W	--	10W EM BATTERY	H.E. WILLIAMS	LT - 24 - L52/835 - AF - DIM - UNV	--
EX	EXIT SIGN	SURFACE	LED	--	--	--	--	--	120V	5W		NI-CAD BATTERY	ISOLITE	EUG - EM - R -1C MNTEB	--
W1	EXTERIOR WALL PACK	WALL	LED	3,000 lm	0 lm	4000 K	70	LED DRIVER, 0-10V DIMMING, 10%	120V	19W	--	--	LSI	XWS LED 3L SIL 3 UNV DIM 40 70CRI BLK	--
R	EXTERIOR EGRESS LIGHT	WALL	LED	546 lm	0 lm	4000 K	70	LED DRIVER	120V	10W	--	10W EM BATTERY	ISOLITE	ODLE 10 EM BK MB	--

POST-TENSION SLAB NOTE

EXISTING BUILDING SLAB IS A POST-TENSION SLAB. BEFORE ANYWORK, THE CONTRACTOR SHALL X-RAY THE SLAB TO IDENTIFY THE LOCATIONS OF POST-TENSION TENDONS WITHIN THE SLAB. UNDER NO CIRCUMSTANCES TENONS SHALL BE CUT.

KEY NOTES

1. EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CONNECTED AHEAD OF ALL LIGHTING CONTROLS AS PER NEC ARTICLE 700.12
2. REPLACE EXISTING EXTERIOR WALL PACKS. REUSE EXISTING CIRCUIT. CONTROL VIA PHOTO CELL TORK 2001 SERIES OR APPROVED EQUAL. FIELD VERIFY EXACT LOCATIONS.

LIGHTING GENERAL NOTES

1. ALL RECESSED LIGHTING FIXTURES IN LAY-IN CEILINGS SHALL BE INSTALLED WITH 8' LONG FLEXIBLE METAL CONDUIT.
2. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.
3. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF EXTERIOR LIGHTING FIXTURES.
4. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH GOOD INSTALLATION PRACTICES, SPECIFICATIONS, AND THE LATEST EDITIONS OF ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES. ALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
5. PLANS SHOWN ARE DIAGRAMMATICAL IN NATURE AND DO NOT INDICATE EVERY FITTING, TRANSITION, BOX, ETC REQUIRED. THEREFORE, CONTRACTOR IS TO COORDINATE ALL ELECTRICAL REQUIREMENTS WITH OTHER TRADES PRIOR TO INSTALLATION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLETE AND OPERATIONAL SYSTEMS SHOWN ON PLAN.
7. ALL CONDUIT, POWER WIRES, RECEPTACLE BOXES, RECEPTACLES, AND OVERLOAD PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
8. ALL CONDUIT SIZES SHALL BE DETERMINED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
9. WIRING DEVICES:
   a. SWITCHES +46"
   b. RECEPTACLES +18"
   c. VOICE/DATA +18"
10. EXIT SIGN MOUNTING:
    a. WALL FIXTURE: CENTER 12" ABOVE DOOR OPENING
    b. CEILING/PENDANT FIXTURE: ON CEILING OR AT HEIGHT SPECIFIED ON DRAWINGS
11. EXIT SIGNS, EMERGENCY BATTERY PACKS, AND NIGHT LIGHTS SHALL NOT BE SWITCHED.
12. ELECTRICAL CONTRACTOR WILL PROVIDE A ROOF MOUNTED PHOTOCELL IN A NEUTRAL POSITION THAT IS NOT FACING EAST OR WEST, TO CONTROL ALL EXTERIOR LIGHTS AND SIGNS.
13. PROVIDE SEPARATE BOXES FOR GANGED SWITCHES ON SEPARATE BRANCH CIRCUITS.
14. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND DETAILS FOR THE EXACT LOCATION OF ALL LIGHTING FIXTURES AND ANY OTHER EQUIPMENT INSTALLED IN THE CEILING SYSTEMS. VERIFY EXACT MOUNTING HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ROUGH-IN.
15. ADDITIONAL EXIT AND EMERGENCY LIGHTS MAY BE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. ADDITIONAL FIXTURES SHALL BE ADDED AS DIRECTED BY THE LOCAL AUTHORITY.
16. MAXIMUM COMBINED FEEDER AND BRANCH CIRCUITS SHALL NOT EXCEED 5% VOLTAGE DROP, AND THE MAXIMUM ON THE FEEDER OR BRANCH CIRCUIT SHALL NOT EXCEED 3% VOLTAGE DROP. ELECTRICAL CONTRACTOR TO INCREASE WIRE/CONDUIT SIZE AS NECESSARY TO MAINTAIN VOLTAGE DROP RECOMMENDATIONS.
17. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR GROUNDING OF ALL ELECTRICAL EQUIPMENT.
18. EMERGENCY LIGHT MOUNTING:
    a. WALL FIXTURE: 12" BELOW FINISHED CEILING OR +10'-0" IN AREAS OF EXPOSED STRUCTURE, UNLESS NOTED OTHERWISE.
    b. PENDANT FIXTURE: BOTTOM OF FIXTURE AT HEIGHT SPECIFIED ON DRAWINGS.
    c. REMOTE HEAD FIXTURE: HEADS CENTERED ABOVE DOOR OPENING +9'-0", UNLESS NOTED OTHERWISE AND BATTERY PACK MOUNTED ON INTERIOR SIDE OF WALL 12" BELOW FINISHED CEILING OR AT BAR JOIST IN AREAS OF EXPOSED

LEGEND	
IMAGE	DESCRIPTION AND MODEL NUMBER
2	2 BUTTON WITH LIGHT ICON - PICO KEYPAD (PJ2-2B-GWH-L01 (CW-1-WH))
3BRL	3 BUTTON WITH RAISE/LOWER AND LIGHT ICON - PICO KEYPAD (PJ2-3BRL-GWH-L01 (CW-1-WH))
OS	RADIO POWR SAVR WIRELESS CEILING OCCUPANCY SENSOR (LRF2-OCR2B-P)
WOS	RADIO POWR SAVR WIRELESS WALL OCCUPANCY SENSOR (LRF2-OWLB-P)
HUB	STARTER HUB, FLUSH-MOUNT ADAPTER AND POWER SUPPLY (HJS-D-FM)
8S	8 A LIGHTING, 3 A FAN (1/10 HP MOTOR, 120 V ONLY), SPEC GRADE ELECTRONIC SWITCH 120-277 V (MRF2S-8S-DV-WH)
8SS	MAESTRO WIRELESS SWITCH: 120-277 V, 8 A ELECTRONIC FLUORESCENT BALLASTS OR LED DRIVERS, OCCUPANCY/VACANCY SINGLE-POLE SWITCH SENSOR (MRF2S-8SS-WH)
8T	POWPAK DIMMING MODULE WITH 0-10 V CONTROL (RMJS-8T-DV-B)

1 E100 LIGHTING PLAN
NORTH
SCALE: 1/4" = 1'-0"

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1309 N Main St, Owasso, OK 74055

E100 LIGHTING PLAN

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SHEET NAME: LIGHTING PLAN

SHEET NUMBER: **E100**

POST-TENSION SLAB NOTE

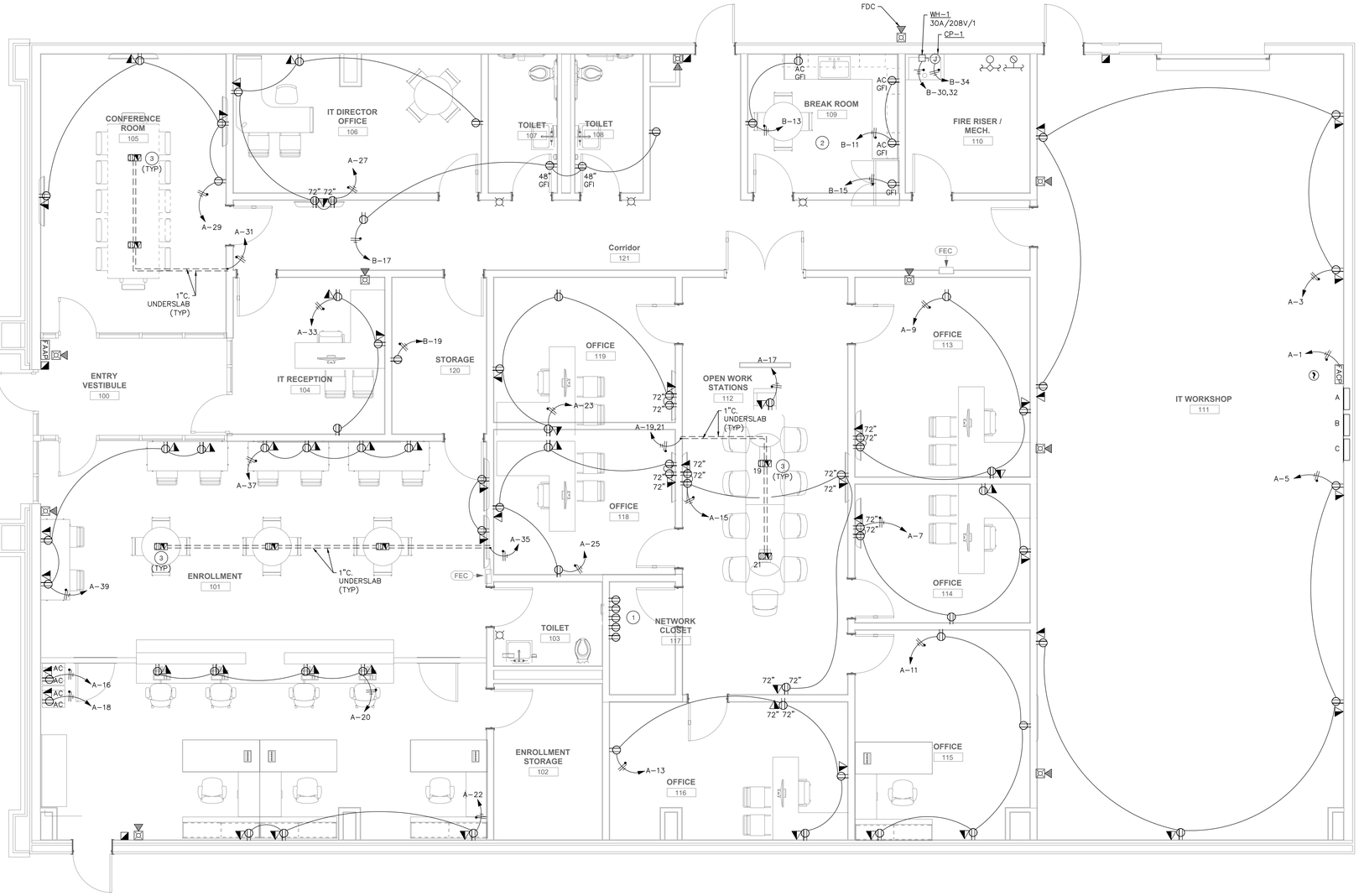
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. BEFORE ANYWORK, THE CONTRACTOR SHALL X-RAY THE SLAB TO IDENTIFY THE LOCATIONS OF POST-TENSION TENDONS WITHIN THE SLAB. UNDER NO CIRCUMSTANCES TENONS SHALL BE CUT.

(#) KEY NOTES

1. PROVIDE FIVE DEDICATED DUPLEX RECEPTACLES 48" AFF FOR NETWORK RACK. REFER TO PANEL SCHEDULES ON SHEET E.300 FOR HOMERUNS.
2. PROVIDE A GFCI CIRCUIT BREAKER IN LIEU OF A GFCI OUTLET IF THE OUTLET LOCATION IS NOT READILY ACCESSIBLE.
3. PROVIDE (1) 4-GANG FLOOR BOX (LEGRAND EFB45S OR EQUAL), WITH (2) 20AMP DUPLEX RECEPTACLES AND (2) DATA PORTS. COORDINATE WITH ARCHITECT FOR COVER FINISH.

POWER GENERAL NOTES

1. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH GOOD INSTALLATION PRACTICES, SPECIFICATIONS, AND THE LATEST EDITIONS OF ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES. ALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
2. PLANS SHOWN ARE DIAGRAMMATICAL IN NATURE AND DO NOT INDICATE EVERY FITTING, TRANSITION, BOX, ETC REQUIRED. THEREFORE, CONTRACTOR IS TO COORDINATE ALL ELECTRICAL REQUIREMENTS WITH OTHER TRADES PRIOR TO INSTALLATION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLETE AND OPERATIONAL SYSTEMS SHOWN ON PLAN.
4. ALL CONDUIT, POWER WIRES, RECEPTACLE BOXES, RECEPTACLES, AND OVERLOAD PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
5. ALL CONDUIT SIZES SHALL BE DETERMINED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
6. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR GROUNDING OF ALL ELECTRICAL EQUIPMENT.
7. WIRING DEVICES:
   a. SWITCHES +46"
   b. RECEPTACLES +18"
   c. VOICE/DATA +18"
8. WIRING SHALL INCLUDE FINAL CONNECTION TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.
9. UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING CIRCUIT:
   a. INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE.
   b. PERFORM CONTINUITY TEST.
   c. VERIFY PROPER PHASING CONNECTION TO ALL THREE PHASE MOTOR LOADS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD TYPEWRITTEN IDENTIFICATION SCHEDULES.
11. WHERE BRANCH CIRCUITS ARE GROUPED, SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC.
12. WHERE EQUIPMENT NAMEPLATE PROTECTIVE DEVICE RATING DIFFERS FROM SIZE PROVIDED, CHANGE OUT BRANCH CIRCUIT WIRING AND OVERCURRENT DEVICE TO APPROPRIATE RATING PER NEC.
13. NO ALUMINUM WIRE CONDUCTORS SHALL BE USED FOR INSTALLATION OF BRANCH CIRCUITS. USE COPPER WIRE CONDUCTORS. ALUMINUM CONDUCTORS FOR FEEDERS WILL NEED TO BE APPROVED BY ENGINEER AND OWNER.
14. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
15. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110. THE EXCLUSIVELY DEDICATED SPACE EXTENDING FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 408.
16. MAXIMUM COMBINED FEEDER AND BRANCH CIRCUITS SHALL NOT EXCEED 5% VOLTAGE DROP, AND THE MAXIMUM ON THE FEEDER OR BRANCH CIRCUIT SHALL NOT EXCEED 3% VOLTAGE DROP. ELECTRICAL CONTRACTOR TO INCREASE WIRE/CONDUIT SIZE AS NECESSARY TO MAINTAIN VOLTAGE DROP RECOMMENDATIONS.
17. WHERE CONNECTED TO A 20A. BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.
18. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.
19. PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 4" HIGH, 4% AIR ENTRAINED, POLYFIBER REINFORCED CONCRETE, 4" WIDER AND 4" LONGER THAN EQUIPMENT TO BE PLACED ON IT. REFER TO ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED



1 E200 POWER PLAN
SCALE: 1/4" = 1'-0"
NORTH

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GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDU JAAFAR
18905
4-26-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

E200 POWER PLAN

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SHEET NAME:
POWER PLAN

SHEET NUMBER:
E200

B — ELECTRICAL PANEL SCHEDULE — EXISTING

SERVICE: 120/240,1PH,3W,+G,IG **BUS RATING:** 200A MCB **SECTIONS:** 1
PANEL TYPE: NEMA 1 **AIC RATING:** EXISTING **MOUNTING:** SURFACE

EQUIP			LOADS		WIRE			OCT	PHASE		OCT		WIRE			LOADS				EQUIP
No.	DESCRIPTION	NOTE	AMPS	(KVA)	N	PH	CB/P	#	A	B	#	CB/P	PH	N		(KVA)	AMPS	NOTE	DESCRIPTION	No.
	NETWORK RACK			1.5	0.180	12	12	20/1	1	*		2				0.000	0.0			
	NETWORK RACK			1.5	0.180	12	12	20/1	3		*	4				0.000	0.0			
	NETWORK RACK			1.5	0.180	12	12	20/1	5			6				0.000	0.0			
	NETWORK RACK			1.5	0.180	12	12	20/1	7	*		8				0.000	0.0			
	NETWORK RACK			1.5	0.180	12	12	20/1	9		*	10				0.000	0.0			
	REC: BREAK ROOM			8.3	1.000	12	12	20/1	11			12				0.000	0.0			
	REC: BREAK ROOM			8.3	1.000	12	12	20/1	13	*		14				0.000	0.0			
	REFRIGERATOR			8.3	1.000	12	12	20/1	15		*	16				0.000	0.0			
	REC: RR & CORRIDOR			8.3	1.000	12	12	20/1	17			18				0.000	0.0			
	PRINTER			10.0	1.200	12	12	20/1	19	*		20				0.000	0.0			
				0.0	0.000				21		*	22				0.000	0.0			
				0.0	0.000				23			24				0.000	0.0			
				0.0	0.000				25	*		26				0.000	0.0			
				0.0	0.000				27		*	28				0.000	0.0			
				0.0	0.000				29			30	30/2	10		2.000	16.7		WATER HEATER	
				0.0	0.000				31	*		32		10		2.000	16.7			
				0.0	0.000				33		*	34	20/1	12	12	0.000	0.0		CP-1	
				0.0	0.000				35			36				0.000	0.0			
				0.0	0.000				37	*		38				0.000	0.0			
				0.0	0.000				39		*	40	20/2			0.000	0.0	EX	SPD	
				0.0	0.000				41			42				0.000	0.0			

TOTAL CONNECTED LOAD: 10.1 KVA PHASE "A": 4.540 KVA 37.8 AMPS
TOTAL CONNECTED AMPS: 42.1 AMPS PHASE "B": 5.560 KVA 46.3 AMPS

TOTAL CALCULATED LOAD: 11.1 KVA
TOTAL CALCULATED AMPS: 46.3 AMPS

PANELBOARD NOTES:
OI# - VIA LTG CONTACTOR #
EM - EMERG LTG HANDLE-ON CLAMP
EX - EXISTING
FA - RED HANDLE-ON CLAMP
GF - GFCI TYPE CIRCUIT BREAKER
LOK - HAND PADLOCKABLE OFF DEVICE
ST - SHUNT TRIP
OL - REFER TO ONE-LINE DIAGRAM

A — ELECTRICAL PANEL SCHEDULE — EXISTING

SERVICE: 120/240,1PH,3W,+G,IG **BUS RATING:** 200A MCB **SECTIONS:** 1
PANEL TYPE: NEMA 1 **AIC RATING:** EXISTING **MOUNTING:** SURFACE

EQUIP			LOADS		WIRE			OCT	PHASE		OCT		WIRE			LOADS				EQUIP
No.	DESCRIPTION	NOTE	AMPS	(KVA)	N	PH	CB/P	#	A	B	#	CB/P	PH	N		(KVA)	AMPS	NOTE	DESCRIPTION	No.
	FIRE ALARM CONTROL PANEL	FA	1.5	0.180	12	12	20/1	1	*		2					1.548	12.9		INTERIOR LIGHTS	
	REC: IT WORKSHOP		6.0	0.720	12	12	20/1	3		*	4					1.528	12.7		INTERIOR LIGHTS	
	REC: IT WORKSHOP		6.0	0.720	12	12	20/1	5			6					0.000	0.0	EX	EXTERIOR LIGHTS	
	REC: OFFICE 114		7.5	0.900	12	12	20/1	7	*		8					0.000	0.0	EX	EXTERIOR LIGHTS	
	REC: OFFICE 113		7.5	0.900	12	12	20/1	9		*	10					0.000	0.0			
	REC: OFFICE 115		7.5	0.900	12	12	20/1	11			12					0.000	0.0	EX	EXISTING LOAD	
	REC: OFFICE 116		7.5	0.900	12	12	20/1	13	*		14					0.000	0.0		-	
	REC: OPEN WORK STATIONS		6.0	0.720	12	12	20/1	15		*	16	20/1	12	12		1.200	10.0		PRINTER	
	REC: OPEN WORK STATIONS		1.5	0.180	12	12	20/1	17			18	20/1	12	12		1.200	10.0		PRINTER	
	REC: OPEN WORK STATIONS		3.0	0.360		12	20/2	19	*		20	20/1	12	12		0.720	6.0		REC: ENROLLMENT	
	-		3.0	0.360		12		21		*	22	20/1	12	12		0.720	6.0		REC: ENROLLMENT	
	REC: OFFICE 119		7.5	0.900	12	12	20/1	23			24					0.000	0.0			
	REC: OFFICE 118		7.5	0.900	12	12	20/1	25	*		26					0.000	0.0			
	REC: IT DIRECTOR OFFICE		6.0	0.720	12	12	20/1	27		*	28					0.000	0.0			
	REC: CONFERENCE		6.0	0.720	12	12	20/1	29			30					0.000	0.0			
	REC: CONFERENCE		6.0	0.720	12	12	20/1	31	*		32					0.000	0.0			
	REC: IT RECEPTION		4.5	0.540	12	12	20/1	33		*	34					0.000	0.0			
	REC: ENROLLMENT		9.0	1.080	12	12	20/1	35	*		36					0.000	0.0			
	REC: ENROLLMENT		6.0	0.720	12	12	20/1	37	*		38					0.000	0.0			
	REC: ENROLLMENT		6.0	0.720	12	12	20/1	39		*	40	30/2				0.000	0.0		SPD	
			0.0	0.000				41			42					0.000	0.0			

TOTAL CONNECTED LOAD: 20.77 KVA PHASE "A": 9.588 KVA 79.9 AMPS
TOTAL CONNECTED AMPS: 86.6 AMPS PHASE "B": 11.186 KVA 93.2 AMPS

TOTAL CALCULATED LOAD: 17.69 KVA
TOTAL CALCULATED AMPS: 73.7 AMPS

PANELBOARD NOTES:
OI# - VIA LTG CONTACTOR #
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OL - REFER TO ONE-LINE DIAGRAM

C — ELECTRICAL PANEL SCHEDULE — EXISTING

SERVICE: 120/240,1PH,3W,+G,IG **BUS RATING:** 200A MCB **SECTIONS:** 1
PANEL TYPE: NEMA 1 **AIC RATING:** EXISTING **MOUNTING:** SURFACE

EQUIP			LOADS		WIRE			OCT	PHASE		OCT		WIRE			LOADS				EQUIP
No.	DESCRIPTION	NOTE	AMPS	(KVA)	N	PH	CB/P	#	A	B	#	CB/P	PH	N		(KVA)	AMPS	NOTE	DESCRIPTION	No.
	EXISTING LOAD	EX	0.0	0.000				1	*		2					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				3		*	4					0.000	0.0	EX	-	
	EXISTING LOAD	EX	0.0	0.000				5			6					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				7	*		8					0.000	0.0	EX	-	
	EXISTING LOAD	EX	0.0	0.000				9		*	10					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				11			12					0.000	0.0	EX	-	
	EXISTING LOAD	EX	0.0	0.000				13	*		14					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				15		*	16					0.000	0.0	EX	-	
	EXISTING LOAD	EX	0.0	0.000				17			18					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				19	*		20					0.000	0.0	EX	-	
	EXISTING LOAD	EX	0.0	0.000				21		*	22					0.000	0.0	EX	EXISTING LOAD	
	-	EX	0.0	0.000				23			24					0.000	0.0	EX	-	
			0.0	0.000				25	*		26					0.000	0.0			
			0.0	0.000				27		*	28					0.000	0.0			
			0.0	0.000				29			30					0.000	0.0			
			0.0	0.000				31	*		32					0.000	0.0			
			0.0	0.000				33		*	34					0.000	0.0			
			0.0	0.000				35			36					0.000	0.0			
			0.0	0.000				37	*		38					0.000	0.0			
			0.0	0.000				39		*	40					0.000	0.0			
			0.0	0.000				41			42					0.000	0.0			

TOTAL CONNECTED LOAD: 0 KVA PHASE "A": 0.000 KVA 0 AMPS
TOTAL CONNECTED AMPS: 0.0 AMPS PHASE "B": 0.000 KVA 0 AMPS

TOTAL CALCULATED LOAD: 0 KVA
TOTAL CALCULATED AMPS: 0.0 AMPS

PANELBOARD NOTES:
OI# - VIA LTG CONTACTOR #
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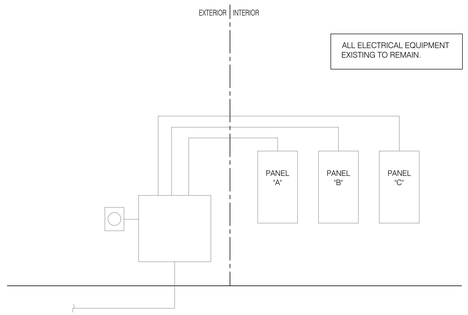

1 E300 ELECTRICAL RISER DIAGRAM
SCALE: NTS

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

ABDOU JAAFAR — 18905 — 4-24-24 — OKLAHOMA — REGISTERED PROFESSIONAL ENGINEER

OWASSO PS - ENROLLMENT & IT CENTER

1309 N Main St, Owasso, OK 74055

E300 ONE-LINE DIAGRAM & PANEL SCHEDULES

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
ONE-LINE DIAGRAM & PANEL SCHEDULES

SHEET NUMBER:
E300

Division 26: GENERAL ELECTRICAL REQUIREMENTS

1. GENERAL INSTRUCTIONS

A. GENERAL REQUIREMENTS

All requirements under Division 01 and the general and supplementary conditions of these specifications apply to this section and division. Where the requirements of this section and division exceed those of Division 01, this section and division take precedence. Become thoroughly familiar with all its contents as to requirements that affect this division, section, or both. Work required under this division includes all material, equipment, appliances, transportation, services, and labor required to complete the entire system as required by the drawings and specifications, or reasonably inferred to be necessary to facilitate the function of each system as implied by the design and the equipment specified.

The specifications and drawings for the project are complementary, and any portion of work described in one shall be provided as if described in both. In the event of discrepancies, notify the Engineer and request clarification prior to proceeding with the Work involved.

Drawings are graphic representations of the work upon which the contract is based. They show the materials and their relationship to one another, including sizes, shapes, locations, and connections. They convey the scope of work, indicating the intended general arrangement of the systems without showing all of the exact details as to elevations, offsets, control lines, and other installation requirements. Use the drawings as a guide when laying out the work and to verify that materials and equipment will fit into the designated spaces, and which when installed per manufacturers' requirements, will ensure a complete, coordinated, satisfactory, and properly operating system.

B. DEFINITIONS

Furnish: "to supply and deliver to the project site, ready for unloading, unpacking, assembling, installing, and similar operations."

Install: "to perform all operations at the project site including, but not limited to, the actual unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, testing, commissioning, starting up and similar operations, complete, and ready for the intended use."

Provide: "to furnish and install."

Furnished by Owner (or Owner-Furnished) or Furnished by Others: "an item furnished by the Owner or under other divisions or contracts, and installed under the requirements of this division, complete, and ready for the intended use, including all items and services incidental to the work necessary for proper installation and operation. Include the installation under the warranty required by this division.

Engineer: Where referenced in this Division, "Engineer" is the Engineer of Record and the Design Professional for the work under this division, and is a consultant to, and an authorized representative of the Architect, as defined in the General and/or Supplementary Conditions. When used in this division, Engineer means increased involvement by and obligations to the Engineer, in addition to involvement by and obligations to the Architect.

AHJ: The local code and/or inspection agency (Authority) Having Jurisdiction over the Work.

NRTL: Nationally Recognized Testing Laboratory, as defined and listed by OSHA in 29 CFR 1910.7 (e.g., UL, ETL, CSA), and acceptable to the AHJ over this project. Nationally recognized testing laboratories and standards listed are used only to represent the characteristics required and are not intended to restrict the use of other NRTLs that are acceptable to the AHJ and standards that meet the specified criteria.

Homerun: That portion of an electrical circuit originating at a junction box, termination box, receptacle, or switch with termination at an electrical panelboard. Note: Where MC cable is utilized for receptacle and/or lighting branch circuiting loads, the originating point of the homerun shall be at the first load in the circuit or at a junction box located in an accessible ceiling space as close as possible to the first load.

Substitution: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor. Substitutions include Value Engineering proposals.
1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

The terms "approved equal", "equivalent", or "equal" are used synonymously and shall mean "accepted by or acceptable to the Engineer as equivalent to the item or manufacturer specified". The term "approved" shall mean labeled, listed, certified, or all three, by an NRTL, and acceptable to the AHJ over this project.

C. PRE-BID SITE VISIT

Prior to submitting bid, visit the site of the proposed work and become fully informed as to the conditions under which the work is to be done. Failure to comply with this requirement shall not be considered sufficient justification to request or obtain extra compensation over and above the contract price.

D. MATERIAL AND WORKMANSHIP

Provide new material, equipment, and apparatus under this contract unless otherwise stated herein, of best quality normally used for the purpose in good commercial practice, and free from defects. Model numbers listed in the specifications or shown on the drawings are not necessarily intended to designate the required trim, written descriptions of the trim govern model numbers.

Provide markings or a nameplate for all material and equipment identifying the manufacturer and providing sufficient reference to establish quality, size, and capacity. All workmanship shall be of the finest possible by experienced mechanics of the proper trade. In general, provide the following quality grade(s) for all materials and equipment.

Commercial specification grade:

Provide all hoists, scaffolds, staging, runways, tools, machinery, and equipment required for the performance of the electrical work. Store and maintain material and equipment in clean condition, and protected from weather, moisture, and physical damage.

Furnish only material and equipment that are listed, labeled, certified, or all three, by an NRTL whenever any listing or labeling exists for the types of material and equipment specified.

At a minimum, general work practices for electrical construction shall be in accordance with NECA 1 (latest edition), "Standard Practices for Good Workmanship in Electrical Construction".

E. MANUFACTURERS

In other articles where lists of manufacturers are introduced, subject to compliance with requirements, provide products by one of the manufacturers specified.

Where a list is provided, manufacturers are listed alphabetically and not in accordance with any ranking or preference.

Where manufacturers are not listed, provide products subject to compliance with requirements from manufacturers that have been actively involved in manufacturing the specified product for no less than 5 years.

F. COORDINATION

Coordinate all work with other divisions and trades so that various components of the systems are installed at the proper time, fit the available space, and allow proper service access to those items requiring maintenance. Components which are installed without regard to the above shall be relocated at no additional cost to the Owner.

Unless otherwise indicated, the General Contractor shall provide chases and openings in building construction required for installation of the systems specified herein. Contractor shall furnish the General Contractor with information where chases and openings are required. Contractor shall keep informed as to the work of other trades engaged in the construction of the project and shall execute work in a manner as to not interfere with or delay the work of other trades.

Figured dimensions shall be taken in preference to scale dimensions. Contractor shall take his own measurements at the building, as variations may occur. Contractor shall be held responsible for errors that could have been avoided by proper checking and inspection.

Provide materials with trim that will properly fit the types of ceiling, wall, or floor finishes actually installed. Model numbers listed in the specifications or shown on the drawings are not intended to designate the required trim.

Make all offsets required to clear equipment, beams, and other structural members, and to facilitate concealing raceways in the manner anticipated in the design. Provide materials with trim that will fit properly the types of ceiling, wall, or floor finishes actually installed.

G. ORDINANCES AND CODES

Work performed under this contract shall, at a minimum, be in conformance with applicable national, state and local codes having jurisdiction. Equipment furnished and associated installation work performed under this contract shall be in strict compliance with current applicable codes adopted by the local AHJ, including any amendments and standards as set forth by the following:
1. National Fire Protection Association (NFPA)
2. Underwriters Laboratories (UL)
3. Occupational Safety and Health Administration (OSHA)
4. American National Standards Institute (ANSI)
5. American Society of Testing Materials (ASTM)
6. Rules and regulations of public utilities and municipal departments affected by connection of services.
7. Other national standards and codes where applicable.

Where the contract documents exceed the requirements of the referenced codes, standards, etc., the contract documents shall take precedence. Where conflicts between various codes, ordinances, rules, and regulations exist, comply with the most stringent.

Promptly bring all conflicts observed between codes, ordinances, rules, regulations, referenced standards, and these documents to the attention of the Architect and Engineer for final resolution. Contractor will be held responsible for any violation of the law.

Procure and pay for permits and licenses required for the accomplishment of the work herein described. Where required, obtain, pay for, and furnish certificates of inspection to Owner. Provide all safety lights, guards, and warning signs required for the performance of the work and for the safety of the public.

H. PROTECTION OF EQUIPMENT AND MATERIALS

Store and protect from damage equipment and materials delivered to job site. For materials and equipment susceptible to changing weather conditions, dampness, or temperature variations, store inside in conditioned spaces. For materials and equipment not susceptible to these conditions, cover with waterproof, tear-resistant, heavy tarp or polyethylene plastic as required to protect from plaster, dirt, paint, water, or physical damage. Equipment and material damaged by construction activities shall be rejected, and Contractor shall furnish new equipment and material of a like kind at its own expense.

Keep premises broom clean of foreign material created during work performed under this contract. Conduit, equipment, etc. shall have a neat and clean appearance at the termination of the work.

Plug or cap open ends of conduits while stored and installed during construction when not in use to prevent the entrance of debris into the systems.

I. SUBSTITUTIONS

Materials, products, equipment, and systems described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by the proposed substitution. The base bid shall include only the products from manufacturers specifically named in the drawings and specifications. To request a substitution, request the Substitution Request From from the Architect or Engineer. Complete and send the Substitution Request From for each material, product, equipment, or system that is proposed to be substituted. The burden of proof of the merit of the proposed substitution is upon the proposer.

Unless stated otherwise in writing to the Engineer by the Contractor, Contractor warrants to the Engineer, Architect, and Owner the following:
1. Proposed substitution has been fully investigated and determined to meet or exceed the specified Work in all respects unless stated otherwise in the substitution request.
2.Proposed substitution is consistent with the Contract Documents and will produce indicated results, including functional clearances, maintenance service, and sourcing of replacement parts.
3.Proposed substitution has received necessary approvals of authorities having jurisdiction.
4. Same warranty will be furnished for proposed substitution as for specified Work.
5.If accepted substitution fails to perform as required, Contractor shall replace substitute material or system with that originally specified and bear costs incurred thereby.
6. Coordination, installation and changes in the Work as necessary for accepted substitution will be complete in all respects.

No substitutions will be considered unless the Substitution Request Form is completed and attached with the appropriate substitution documentation. No substitution will be considered prior to receipt of bids unless written request for approval to bid has been received by the Engineer at least ten (10) calendar days prior to the date for receipt of bids .

If the proposed substitution is approved prior to receipt of bids, such approval will be stated in an addendum. Bidders shall not rely upon approvals made in any other way. Verbal approval will not be given. No substitutions will be considered after the contract is awarded unless specifically provided in the contract documents.

Provide factory generated point-by-point calculations for all exterior light fixtures .

Provide interior point-by-point calculations at the discretion of the engineer.

J. SUBMITTALS

Assemble and submit for review, shop drawings, material lists, manufacturer product literature for equipment to be furnished, and items requiring coordination between contractors under this contract. Provide submittals in sufficient detail so as to demonstrate compliance with these Contract Documents and the design concept. Prior to transmitting submittals, verify that the equipment submitted is mutually compatible with and suitable for the intended use, will fit the available space, and maintain manufacturer recommended service clearances. If the size of equipment furnished makes necessary any change in location or configuration, submit a shop drawing showing the proposed layout.

Transmit submittals as early as required to support the project schedule. Allow two weeks for Engineer review time, plus to/from mailing time via the Architect, plus a duplication of this time for resubmittals, if required. Only resubmit those sections requested for resubmittal.

Submittals shall contain the project name, applicable specification section, submittal data, equipment identification acronym as used on the drawings, and the Contractor's stamp. The stamp shall certify that the submittal has been checked by the Contractor, complies with the drawings and specifications, and is coordinated with other trades. Manufacturer product literature shall include shop drawings, product data, performance sheets, samples, and other submittals required by this division. Highlight, mark, list, or indicate the materials, performance criteria, and accessories that are being proposed. General product catalog data not specifically noted to be part of the specified product will be rejected and returned without review.

Submittals and shop drawings shall not contain firm name, logo, the seal, or signature of the Engineer. They shall not be copies of the work product of the Engineer. If the Contractor desires to use elements of such product, refer to paragraph "Electronic Drawing Files" for procedures to be used.

Separate submittals according to individual specification sections. Illegible submittals will be rejected and returned without review. Catalog data shall be properly bound, identified, indexed and tabbed in a 3-ring binder. Each item or model number shall be clearly marked and accessories indicated. Label the catalog data with the equipment identification acronym or number as used on the drawings and include performance curves, capacities, sizes, weights, materials, finishes, wiring diagrams, electrical requirements and deviations from specified equipment or materials. Mark out inapplicable items. Shop drawings will be returned without review if the above mentioned requirements are not met.
Provide the quantity of submittals required by Division 01. If not indicated and hard-copy sets are provided, submit a minimum of six (6) copies. Refer to Division 01 for acceptance of electronic submittals for this project. For electronic submittals, Contractor shall submit the documents in accordance with the procedures specified in Division 01. Contractor shall notify the Architect and Engineer that the submittals have been posted. If electronic submittal procedures are not defined in Division 01, Contractor shall include the website, user name, and password information needed to access the submittals. For submittals sent by e-mail, Contractor shall copy the designated representatives of the Architect and Engineer. Contractor shall allow for the Engineer review time as specified above in the construction schedule. Contractor shall submit only the documents required to purchase the materials and/or equipment in the submittal.

The checking and subsequent acceptance of submittals by the Engineer and/or Architect shall not relieve the Contractor from responsibility for deviations from the drawings and specifications, errors in dimensions, details, sizes of equipment, or quantities, omissions of components or fittings, coordination of electrical requirements, and not coordinating items with actual building conditions and adjacent work. Contractor shall request and secure written acceptance from the Engineer and Architect prior to implementing any deviation.

K. RECORD DRAWINGS (AS-BUILT DRAWINGS)

During progress of the work in this division, Contractor shall maintain an accurate record of all changes made during the installation of the system. Upon completion of the work, accurately transfer all record information to three identical sets of the approved shop drawings. Insert one set into each copy of the manual described below.

See Division 01 and General Conditions for additional information.

L. OPERATION AND MAINTENANCE INSTRUCTIONS

During the course of construction, collect and compile a complete brochure of equipment furnished and installed on this project. Include operational and maintenance instructions, manufacturer's catalog sheets, wiring diagrams, parts lists, approved submittals and shop drawings, warranties, and descriptive literature as furnished by the equipment manufacturer. Include an inside cover sheet that lists the project name, date, Owner, Architect, Engineer, General Contractor, Sub-Contractor, and an index of contents.

Submit three copies of literature bound in approved binders with index and tabs separating equipment types to the Architect at the termination of the work. Paper clips, staples, rubber bands, loose-leaf binding, and mailing envelopes are not considered approved binders. Final approval of systems installed under this contract shall be withheld until this equipment brochure is received and deemed complete by the Architect and Engineer. Instruct workmen to save required literature shipped with the equipment itself for inclusion in this brochure.

Include Record Drawings as described above.

Refer to Division 01 for acceptance of electronic manuals for this project. For electronic manuals, refer to paragraph "Submittals" for requirements.

M. WARRANTIES

Warrant each system and each element thereof against all defects due to faulty workmanship, design, or material for a period of 12 months from date of Substantial Completion, unless specific items are noted to carry a longer warranty in these construction documents or manufacturer's standard warranty exceeds 12 months. Remedy all defects occurring within the warranty period(s) as stated in the General Conditions and Division 01.

Warranties shall include labor and material, including travel expenses. Make repairs or replacements without any additional costs to the Owner, and to the satisfaction of the Owner, Architect, and Engineer.

Perform the remedial work promptly, upon written notice from the Engineer or Owner.

Also warrant the following additional items:
1. All raceways are free from obstructions, holes, crushing, or breaks of any nature.
2.All raceway seals are effective.
3.The entire electrical system is free from all short circuits and unwanted open circuits and grounds.

At the time of Substantial Completion, deliver to the Owner all warranties, in writing and properly executed, including term limits for warranties extending beyond the one year period and any actions the Owner must take in order to maintain warranty status. Each warranty instrument shall be addressed to the Owner and state the commencement date and term.

2. GENERAL MATERIALS AND INSTALLATION

A. EXCAVATION AND BACKFILLING

Perform excavation and backfill required for installation of underground work under this contract. Trenches shall be of sufficient width. Crib or brace trenches to prevent cave-in or settlement. Do not excavate trenches close to columns and walls of new building without prior consultation with the Architect. Use pumping equipment if required to keep trenches free of water. Backfill trenches in maximum 6-inch layers of well tamped dry earth in a manner to prevent future settlement.

Excavation as specified herein shall be classified as common excavation. Common excavation shall comprise the satisfactory removal and disposition of material of whatever substances and of every description encountered, including rock, if any, within the limits of the work as specified and shown on the drawings. Excavation shall be performed to the lines and grades indicated on the drawings. Dispose of excavated materials that are considered unsuitable for backfill, and surplus of excavated material, which is not required for backfill, all to the satisfaction of the Engineer.

B. COINCIDENTAL DAMAGE

Repair streets, sidewalks, drives, paving, walls, finishes, and other facilities damaged in the course of this Work. Repair materials shall match existing construction. Repair work shall meet all requirements of the Owner, local authorities having jurisdiction, and meet the satisfaction of the Architect. Repair work shall be thoroughly first class.

C. CUTTING AND PATCHING

Conform to the requirements in Division 01. Cut walls, floors, ceilings, and other portions of the facility as required to install work under this division. Obtain permission of the Architect prior to cutting. Do not cut or disturb structural members without prior approval from the Architect. Cut holes as small as possible. Patch walls, floors, and other portions of the facility as required by work under this division. Patching shall match the original material and construction including fire ratings, if applicable. Repair and refinish areas disturbed by work to the condition of adjoining surfaces in a manner satisfactory to the Architect.

D. ROUGH-IN

Coordinate without delay all roughing-in with other divisions. Conceal all conduit and raceways except in unfinished areas and where otherwise indicated on the drawings.

E. SUPPORT SYSTEMS

Steel Slotted Support Systems (Slotted Channel): Comply with MFMA-3, factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch.

Finishes:
1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-3.
2.Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane or polyester coating applied according to MFMA-3.
3. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-3.

Aluminum Slotted Support Systems (Slotted Channel): Comply with MFMA-3, Type 6063-T6, per ASTM B221; factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch.

Manufacturers: Cooper B-Line, ERICO International, Hilti, Power-Strut, Thomas and Betts, or Unistrut.

Field Fabrication:

Where field cutting of standard lengths of channel are required, make cuts straight and perpendicular to manufactured surfaces.

For field-cut or damaged surfaces of coated channels, dress cut ends, damaged surfaces, or both, with an abrasive material (e.g., file, grinding stone, or similar) and cleanser to remove oils, rust, sharp edges, and shards.

For channel with a factory-applied coating, re-finish cut edges with a coating compatible with the factory finish and as recommended by the manufacturer (e.g., manufacturer's touch-up paint or zinc-rich cold-galvanizing compound, as applicable).

F. ACCESS DOORS

Provide access doors for all concealed equipment where indicated or as required, except where above lay-in ceilings. Access doors shall be adequately sized for the devices served with a minimum size of 18 inches x 18 inches. Access doors must be of the proper construction for the type of construction in which it is installed. Obtain Architect's approval of type, size, location and color before ordering. Provide factory-fabricated and assembled units, complete with attachment devices and fasteners ready for installation, concealed hinges, flush screwdriver-operated cam lock, and anchor straps. Provide access doors manufactured by: Bar-Co, J.L. Industries, Karp Associates, Milcor, Nystrom Building Products, Wade, or Zum.

G. PENETRATIONS

Coordinate sleeve selection and application with selection and application of fire-stopping specified in Division 07 section "Through-Penetration Firestop Systems."

Roofs:
1. Coordinate all roof penetrations with Engineer, Owner, and as applicable, the roofing contractor providing a roof warranty.

2.Keep all raceway penetrations within mechanical equipment curbs wherever possible. Coordinate with Division 01.

3.Flash and counterflash all openings through roof, and/or provide pre-fabricated molded seals compatible with the roof construction installed, or as required by the Engineer, Owner, or roofing contractor. All roof penetrations shall be leaktight at the termination of the work and shall not void any new or existing roof warranties.

Walls and Floors:
1.Steel Pipe Sleeves for Raceways and Cables: ASTM A53/A53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends, and drip rings.

2. Cast-Iron Pipe Sleeves for Raceways and Cables: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

3. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052 inch thickness and of length to suit application.

H. FIRESTOPPING

Sealants and accessories shall have fire-resistance ratings indicated, as established by testing identical assemblies in accordance with UL 2079 or ASTM E 814, or other NRTL acceptable to AHJ.

Manufacturers: Hilti, RectorSeal, Specified Technologies Inc., United States Gypsum Company, or 3M corp.

Through and Membrane Penetration Firestopping Systems Product Schedule: Provide UL listing, location, wall or floor rating, and installation drawing for each penetration fire stop system.

Where project conditions require modification to qualified testing and inspecting agency's illustrations for a particular firestopping condition, submit illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly. Include qualifications data for testing agency.

I. EQUIPMENT FURNISHED BY OTHERS

Provide necessary equipment and accessories that are not provided by the equipment supplier or Owner to complete installation of equipment furnished by others in locations as indicated on the drawings, specified herein, or both. Equipment and accessories not provided by the equipment supplier may include, but not be limited to, flexible cords and plugs as required for proper operation of the complete system, in accordance with the manufacturers' instructions.

Contractor shall be responsible for correct rough-in dimensions, and verify them with Architect and/or equipment supplier prior to rough-in and service installations.

J. SYSTEM TESTING AND ADJUSTING

Adjust, align, and test all electrical equipment on this project provided under this division and all electrical equipment furnished by others for installation or wiring under this division for proper operation.

Test all systems and equipment according to the requirements in NETA ATS (latest edition) and all additional requirements specified in following sections.

Maintain the following on the project premises at all times: a true RMS reading voltmeter, a true RMS reading ammeter, and a megohmmeter insulation resistance tester. Provide test data readings as requested or as required by the Engineer.

K. EQUIPMENT IDENTIFICATION

Provide equipment identification nameplates on all switchboards, panelboards, electrical equipment enclosures, access doors, transformers, disconnect switches, enclosed circuit breakers, motor starters, feeder devices in switchboards, distribution panelboards, and motor control centers .

Nameplates:
1. Engraved, contrasting color, three-layer, laminated plastic , indicating the name of the equipment, load, or circuit as designated on the drawings and in the specifications.
2. Field-applied permanent epoxy adhesive, compatible with the equipment finish.

Attachment method shall be acceptable to the manufacturers of the equipment to which the nameplates are being applied.

Nameplate Color:
1. Black background with white letters for Normal Power;
2. Red background with white letters for Emergency Power.
Letter height: 3/8-inch minimum.

L. SYSTEM START UP

Perform the following prior to starting up the electrical systems:
1.Check all components and devices and lubricate items accordingly.
2. Tighten screws and bolts for connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
3.Adjust taps on each transformer for rated secondary voltage when the transformer is at minimum load.
4.Check and record building's service entrance voltage, grounding conditions, grounding resistance, and proper phasing.
5. Replace all burned-out lamps and lamps used for temporary construction lighting in permanent light fixtures.
6. After all systems have been inspected and adjusted, confirm all operating features required by the drawings and specifications and make final adjustments as necessary.

3. ACCEPTANCE TESTING

Perform acceptance test procedures in accordance with the specifications listed in the Reference Joint Appendices for the Building Energy Efficiency Standards of California. Reference the Non-Residential Certificate of Compliance (NRCC) forms on the drawings for the systems which shall be tested. Submit Non-Residential Certificate of Acceptance (NRCA) forms for each system for which the CLCATT is responsible.

END OF SECTION

Division 26: BASIC ELECTRICAL MATERIALS AND METHODS

1. RACEWAYS

A. METALLIC CONDUIT AND TUBING

Electrical Metallic Tubing, Couplings, and Fittings (EMT): ANSI C80.3, UL 797. Only steel products allowed . Reduced wall EMT is not allowed .

Flexible Metal Conduit (FMC): Zinc-coated steel or aluminum, UL 1. Reduced-wall FMC is not allowed .

Intermediate Metal Conduit (IMC): Hot-dip Galvanized Rigid Steel Conduit, ANSI C80.6, UL 1242.

Liquidtight Flexible Metal Conduit (LFMC): Flexible steel conduit with PVC jacket, UL 360; fittings: NEMA FB 1.

Rigid Metal Conduit (RMC):
1. Hot-dip Galvanized Rigid Steel Conduit (GRS): ANSI C80.1, UL 6.
2. Rigid Aluminum Conduit (RAC): ANSI C80.5, UL 6A.
Plastic-Coated IMC, RMC, and Fittings: NEMA RN 1, NRTL listed. Coating thickness of 0.04 inches minimum.

IMC and RMC Fittings: NEMA FB 1; compatible with conduit type and material, NRTL listed.

Manufacturers: AFC Cable, Alflex, Anamet Electrical, Electri-Flex, Indalex, Manhattan/CDT/Cole-Flex, O-Z/Gedney, Republic Raceway, Tyco International, Western Tube and Conduit, or Wheatland Tube.

B. NON-METALLIC CONDUIT AND TUBING

Rigid Nonmetallic Conduit (RNC): Schedule 40 PVC, 90 deg C rated, NEMA TC-2, UL 651

Fittings: NEMA TC 3, TC 6; UL 651, compatible with conduit/tubing type and material, NRTL listed.

Manufacturers: AFC Cable, American International, Anamet Electrical, Amco, Cantex, Certainteed, Condux International, Elecsys, Electri-Flex, Lamson and Sessions, Manhattan/CDT/Cole-Flex, Prime Conduit, Raco, Spiralduct, Superflex Ltd, or Thomas and Betts.

2. RACEWAY INSTALLATION

A. GENERAL RACEWAY INSTALLATION REQUIREMENTS

Install raceways parallel and perpendicular to building lines.

Install raceways to requirements of structure, to requirements of all other work on the project, and to clear all openings, depressions, pipes, ducts, reinforcing steel, and other immovable obstacles.

Install raceways set in forms for concrete structure in such a manner that installation will not affect the strength of the structure.

Except where approved in writing by the Engineer, install no raceway in a slab-on-grade. Locate raceway below granular fill below slabs-on-grade.

Install raceways continuous between connections to outlets, boxes, and cabinets with a minimum possible number of bends and not more than the equivalent of four 90-degree bends between connections. Use manufactured elbows for all 45- and 90-degree bends, unless approved by the Engineer in advance. Make other bends smooth and even and without flattening raceway or flaking galvanizing or enamel. Radii of bends shall be as long as possible and never shorter than the corresponding trade elbow.

Use long radius elbows for all underground installations, where necessary, or where otherwise indicated.

Securely fasten raceways in place with approved straps, hangers, and steel supports as required. Attach raceway supports to the building structure. Hang single raceways for feeders with malleable split ring hangers with rod and turnbuckle suspension from inserts spaced not over 10 feet apart in construction above. Clamp groups of horizontal feeder raceways to steel channels that are suspended from inserts spaced not over 10 feet apart in construction above. Securely clamp vertical feeder raceways to structural steel members attached to structure. Install cable clamps for support of vertical feeders where required. Add raceway supports within 12 inches of all bends, on both sides of the bends. Do not support raceways from suspended ceiling components.

Ream raceway ends, thoroughly clean raceways before installation, and keep clean after installation. Plug or cover openings and boxes as required to keep raceways clean during construction and fish all raceways clear of obstructions before pulling conductor wires. Provide raceways of ample size for pulling of wire, not smaller than code requirements and not less than 1/2-inch in size, unless indicated otherwise on Drawings. Homeruns containing more than one branch circuit shall not be less than 3/4-inch in size.

Protect all raceway installations against damage during construction. Repair all raceways damaged or moved out of line after roughing-in to meet Engineer's approval without additional cost to the Owner.

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18906
4-24-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

E401 ELECTRICAL SPECIFICATIONS

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
ELECTRICAL SPECIFICATION

SHEET NUMBER:
E401

Align and install true and plumb all raceway terminations at panelboards, switchboards, motor control equipment, and junction boxes.

Install approved expansion/deflection fittings where raceways pass through (if embedded) or across (if exposed) expansion joints, and when using RNC or RAC in exposed environments in accordance with NFPA 70 and expansion/contraction properties of RNC or RAC.

Install a pull wire in each empty raceway that is left for installation of conductors or cables under other divisions or contracts. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 24 inches of slack at each end of pull wire.

Make all joints and connections in a manner that will ensure mechanical strength and electrical continuity.

For raceways penetrating freezer and cooler walls, effectively seal raceways by installing a conduit fitting at the boundary of the two spaces and filling it with an approved pliable material after conductors or cables have been installed. Provide fitting whenever raceways pass from non-cooled to cooled spaces, raceways transition from outside a facility or enclosure to inside, or whether buried or exposed.

B. ABOVE GROUND RACEWAY USE:

Install all circular raceways concealed above suspended ceilings or concealed in walls or floors wherever possible except where otherwise indicated. Provide GRS for all conduits exposed to weather or other hazardous conditions.

Unless noted otherwise, all other raceway may be EMT where approved by local code. Use compression type fittings for EMT, with all fittings NRTL listed for the environment in which they are used. Unless noted otherwise, set-screw type fittings are not allowed.

C. UNDERGROUND RACEWAY USE:

Provide GRS installed below grade with a corrosion-resistant bonded-plastic or approved mastic coating. This shall include the 90-degree elbow below grade and the entire vertical transition to above grade.

RNC conduit may be used underground where permitted by local code and where not specifically restricted by these documents. When used, provide plastic-coated GRS, as specified above, for all bends greater than 30 degrees, including the 90-degree elbows below grade and the entire vertical risers for transitions from below to above grade or above slab.

D. EQUIPMENT CONNECTIONS

Use FMC for final connection to each motor, transformer, and any device that would otherwise transmit motion, vibration, or noise. Use LFMC where exposed to liquids, vapors, or sunlight , and to connect to kitchen and food service equipment. Provide all FMC and LFMC with an insulated bonding conductor.

Use only metal raceways for all power wiring from the output of variable frequency drives to their respective motors.

3. BUSHINGS AND LOCKNUTS

Rigidly terminate conduits entering sheet metal enclosures to the enclosure with a bushing and locknut on the inside and a locknut or an approved hub on the outside. Conduit shall enter the enclosure squarely.

Provide bushings and locknuts made of galvanized malleable iron with sharp, clean-cut threads.

Where EMT enters a box, provide approved EMT compression connectors.

Use insulated, grounding, or combination bushings wherever connection is subject to vibration or moisture, when required by NFPA 70, or both.

4. CONDUCTORS AND CABLES

Annealed (soft) copper complying with ICEA S-95-658/NEMA WC70 and UL standards 44 or 83 as applicable .

Aluminum conductor option:
Compact stranded, aluminum alloy (AA-8000 series), complying with ICEA S-95-658/NEMA WC70; No. 1/0 AWG or larger only.

Terminations: Tinned, compression type only; NRTL-listed for copper and aluminum conductors at 75 degrees C minimum.

Increase the raceway size as required, at no additional cost to the Owner, to accommodate the increased size of the aluminum Conductors.

Aluminum conductor size shall meet or exceed the ampere rating of the scheduled copper conductors at 75 degrees C.

Option applies only for the following feeders or services No. 2 AWG and larger (based on copper conductors):
1. Service entrance conductors.
2. Feeders to switchboards.
3. Feeders to panelboards. Exception: Apartment unit load center feeder conductors shall be copper; aluminum is not acceptable.
4. Feeders to motor control centers.
5. Feeders to transformers

Where aluminum conductors terminate existing panelboards , switchboards or switchgear that utilize compression connections use hydraulic-compression type connectors with a zinc base, anti_oxidizing compound. Use compression tools of the type that will not release unless the correct pressure has been applied.

Measure the temperature of all aluminum conductors at all splices and terminations. Make each test under typical building load Conditions after the building is occupied and in operation for a minimum of two weeks. Replace all joints or splices indicating excessive heating.

Take measurements with a non-contact type infrared thermometer, with target size not exceeding one inch at five feet and an accuracy of two percent or better. Submit the meter specifications and calibration date with the test results.

Aluminum Conductor Manufacturer: General Cable or approved equal.

Conductor Insulation Types: 90-degree C-rated, Type THHN/THWN-2 or XHHW-2 complying with ICEA S-95-658/NEMA WC70.

Sizes of conductors and cables indicated or specified are in American Wire Gage (AWG).

All feeder and branch circuit conductors No. 8 AWG and larger: Stranded.

All conductors, No. 10 AWG and smaller: Solid copper.

All Branch Circuit Wiring: Not smaller than No. 12 AWG. If no conductor size is indicated on the Drawings for a branch circuit, provide conductors and conduit sized per NFPA 70 and based on the indicated branch circuit overcurrent protective device (OCPD) rating and number of poles. Where no circuit size (i.e., conductors and OCPD) is indicated on the drawings for a branch circuit, provide three No. 12 AWG conductors, in 3/4-inch raceway, and a 20A circuit breaker.

Control Wiring: Stranded copper conductors, 600V insulation, of the proper type, size, and number as required to accomplish specified function. Minimum size: No. 14 AWG, unless noted otherwise.

Flexible Cords and Cables: Stranded copper conductors for all, unless noted otherwise.

Special Purpose Conductors And Cables, Such As Low Voltage Control And Shielded Instrument Wiring: As recommended by the system equipment manufacturer unless indicated otherwise.

Copper Conductor Manufacturers: Advance Wire and Cable, AFC Cable, Alan Wire, Alflex, American Insulated Wire, Encore Wire, Northern Cables, Okonite, or Southwire.

Connections: Apply a zinc based anti_oxidizing compound to connections. Do not use terminals on wiring devices to feed through to the next device.

5. CONDUCTORS AND CABLES INSTALLATION

Install all wiring in approved raceway and enclosures, except where specified or indicated for low-voltage wiring, where specified or indicated for direct-buried cables, or where type MC cable is indicated or specified as acceptable.

Install all conductors and cables in raceways continuous without taps or splices. Splice or tap only in approved boxes and enclosures with approved solderless connectors, or crimp connectors and terminal blocks for control wiring, and keep to the minimum required. Insulate all splices, taps, and joints as required by codes.

All materials used to terminate, splice, or tap conductors: designed for, properly sized for, and NRTL listed for the specific application and conductors involved, and installed in strict accordance with the manufacturer's recommendations, using the manufacturer's recommended tools.

Where wiring is indicated as installed, but the connection is indicated "FUTURE" or "BY OTHER DIVISION, TRADES, OR CONTRACTS", leave a minimum 3-foot "Pigtail" at the box, tape the ends of the conductors, and cover the box.

Common or shared neutrals are not allowed unless shown on the drawings to be used or specifically noted to be allowed.

Where multi-wire branch circuits (i.e., shared neutral) are allowed, they shall be provided with a means that will simultaneously disconnect all ungrounded conductors at the point the branch circuit originates. Multi-pole breakers or 3 single-pole breakers with a handle tie are two examples.

When multiple home runs are combined into a single raceway such that the number of conductors exceeds four (conductor count is made up of any combination of phase and neutral conductors), the following restrictions apply, which are in addition to those in NFPA 70:

Normal or Non-Essential circuits:

1. Maximum of 16 conductors in a single raceway. For up to eight conductors in a raceway, minimum raceway size: 3/4-inch. For greater than eight conductors, minimum raceway size: 1-inch. Do not install any other type of circuit in this raceway.

2. Minimum wire size for all conductors in this raceway: No. 10 AWG.

3. Only 15A and 20A branch circuit homeruns may be combined into one raceway.

GFCI circuits:
1. Do not use multi-conductor circuits, with a shared neutral, for any GFCI circuit breaker or receptacle circuit.

For branch circuits fed from GFCI circuit breakers, limit the one-way conductor length to 100 feet between the panelboard and the most remote receptacle or load on the GFCI circuit.

Properly identify all terminal blocks and wire terminals for control wiring with vinyl stick-on markers or equivalent. Provide Engineer with a list of proposed identifying numbers for review prior to installing markers.

Provide an equipment-grounding conductor or bonding jumper, as applicable, in all feeders and branch circuits, sized in accordance with NFPA 70 Tables 250.66 or 250.122, as applicable, unless indicated as larger on the drawings.

Wiring shall have insulation of the proper color to match color code system in the table below unless there is a color system currently in use by the facility, in which case the colors are to match the existing system. In larger sizes where properly colored insulation is not available, use vinyl plastic electrical tape of the appropriate color around each conductor at all termination points, junctions, and pull boxes.

System Voltage:

240V and under, including 208Y/120, 120/240, 120/208, and 240D/120 systems:
1. Phase A: Black.
2. Phase B: Red.
3. Phase C: Blue.
4. Neutral: White.
5. Equipment Ground: Green.
6. Isolated Ground: Green with yellow stripe.

480V and 480Y/277V

1. Phase A: Brown.
2. Phase B: Orange.
3. Phase C: Yellow.
4. Neutral: Gray.
5. Equipment ground: green.

6. MC CABLE

A. CABLE SPECIFICATIONS

Metal-clad cable (MC Cable) : 600V, unjacketed; UL Standard 83, 1569, and 1685; NFPA 70 Article 330 ; aluminum or galvanized steel interlocked armor; THHN- or XHHW-insulated conductors; color code: ICEA Method 1, with green insulated grounding conductor; listed for use in UL 1, 2, and 3 hour through-penetration firestop systems. MC Cable manufacturers: AFC Cable Systems, Encore Wire Corporation, Kaf-Tech, or Southwire.

B. APPLICATIONS OF MC CABLE

In lieu of flexible conduit and wiring from light fixtures located in accessible ceilings to junction boxes attached to building structure directly above the ceiling. Provide cable whips of sufficient lengths to allow for relocating each light fixture within a 5 foot radius of its installed location, but not exceeding 6 feet in unsupported lengths.

2. For vertical drops in stud walls.

3. In lieu of EMT, only for 15A and 20A branch circuits (with up to four (4) conductors, not including ground conductor), and only in dry concealed locations above grade, except where specifically not permitted by NFPA 70, owner, landlord, ahj, or noted in list below.

C. PROHIBITED USE OF MC CABLE UNLESS NOTED ABOVE

Examples of those uses include, but are not limited to the following:
1. Homeruns to panelboards (refer to Section 26: Definitions).
2. Where exposed to view.
3. Where exposed to damage.
4. Hazardous locations.
5. Wet locations.
6. When restricted otherwise.
7. When specifically disallowed by the local AHJ.
8. When specifically disallowed by the landlord.

7. MC CABLE INSTALLATION

Secure and support cable per NFPA 70 Article 330 . Secure cable within 12 inches of every box or fitting. Securing and supporting intervals shall not exceed six feet. Maintain consistent spacing to avoid derating due to bundling per NFPA 70 Section 310.15. Utilize steel cable hangers, Arlington SMC series or equivalent, to support wherever possible so cables can be routed in a neat and workmanship like manner.

8. JUNCTION BOXES, PULL BOXES, CABINETS, AND WIREWAYS

Provide junction boxes, pull boxes, cabinets, and wireways wherever necessary for proper installation of various electrical systems according to NFPA 70 and where indicated on the drawings. Size as required for the specific function or as required by NFPA 70, whichever is larger. Construction shall be of a NEMA design suitable for the environment installed.

Junction boxes shall be 4 inches square or larger with galvanized covers.

9. OUTLET BOXES

All outlets including light fixture, switch, receptacle, and similar outlets: galvanized steel knockout boxes, suitable in design to the purpose they serve and the space they occupy. Size as required for the specific function or as required by NFPA 70, whichever is larger. Set all outlet boxes in walls, columns, floors, or ceilings so they are flush with the finished surface, accurately set, and rigidly secured in position. Provide plaster rings, extension rings and/or masonry rings as required for flush mounting. Provide approved cast outlet boxes with hubs and weatherproof covers in all areas subject to damp, wet, or harsh conditions.

Manufacturers: Appleton, Cooper, Erikson Electrical, Hoffman, Killark Electric, O-Z/Gedney, Raco, Robroy Industries, Scott Fetzer, Spring City Electrical, Thomas and Betts, Walker Systems, or Woodhead.

10. OUTLET LOCATIONS

Coordinate locations of outlet boxes. Outlets are only approximately located on the small scale drawings. Use great care in the actual location by consulting the various large scale detailed drawings used by other division trades, and by securing definite locations from the Architect .

11. MOUNTING HEIGHTS

Unless noted otherwise, install wiring devices vertically aligned at height indicated on construction drawings.

A. RECEPTACLES
All duplex receptacles shall be specification grade, tamper resistant, 20 amp. GFCI protected where indicated.

Unless indicated otherwise, install vertically.

Where installed horizontally, install with the neutral slot mounted at the top .

Above counter: mount vertically aligned.

Mechanical and electrical equipment rooms and janitors closets: mount vertically aligned .

Weatherproof exterior receptacles: horizontally aligned.

GFCI receptacles: Same as general receptacles .

Isolated ground receptacles: Same as general receptacles .

SPD receptacles: Same as general receptacles .

Clock Receptacles: 84 inches above finished floor.

Concrete Block Walls: As long as ADA requirements are maintained, dimensions above may be adjusted slightly as required to compensate for variable joint dimensions such that bottom or top of boxes, as applicable, are at block joints.

B. SWITCHES

All switches shall be specification grade, 277v, 20 amp. type as indicated on drawings.

General: All switches shall be mounted at the same height throughout the project unless noted otherwise.

Above Counters: Same as for receptacles.

Concrete Block Walls: As long as ADA requirements are maintained, dimensions above may be adjusted slightly as required to compensate for variable joint dimensions, such that bottom or top of boxes, as applicable, are at block joints.

Walls with Wainscoting: 6 inches minimum above wainscoting, but not exceeding 48 inches above finished floor.

C. TELEPHONE/DATA OUTLET BOXES

General: Match mounting height of adjacent wiring device listed above.

For other than wiring devices, refer to paragraphs, articles, sections, divisions, or drawings to obtain mounting heights for specific equipment or systems.

12. WIRING DEVICES

Minor changes relative to the location of electrical equipment may be made to comply with structural and building requirements as determined in the course of construction. Provide all wiring devices of the same manufacturer and not mixed on the project, to the maximum extent possible. Provide color of toggles and receptacles as requested by the Architect.

Wiring Devices: Unless noted otherwise, devices shall be commercial grade, and rated for 20A.
Wiring device manufacturers: Cooper, Hubbell, Legrand, or Leviton.

Floor Boxes: UL 514A listed for scrub water exclusion. For slab on grade - Watertight, Class 1, and fully adjustable cast iron box. For slab above grade - Concrete-tight, fully adjustable, stamped galvanized steel box. Floor box shape, quantity of gangs, type and quantity of devices, finish, and flange type per drawings. Floor box manufacturers: Hubbell, Legrand, Thomas and Betts, or Walker.

13. SWITCH AND OUTLET COVER PLATES

Switch and Outlet Plates: Colored, smooth nylon; by the same manufacturer as the wiring devices, wherever possible. Verify desired materials and colors with Architect before installation. Switch plates in unfinished rooms and spaces: Stamped steel, cadmium plated. Install groups of switches under one ganged-plate, usually horizontally; or, where required by details, vertically. Set all cover plates plumb, parallel, and finished flush with the wall.

14. WEATHERPROOF COVER PLATES

Provide GFCI receptacles for designated weatherproof receptacles, unless indicated otherwise on the drawings.

Unattended Exterior, Wet Locations or Other Locations as Indicated: In-use, NEMA 3R, recessed or flush mount, NRTL labeled plates molded from a clear high impact ultraviolet stabilized polycarbonate material for easy verification that cords are plugged in and that the GFCI is functioning. Back box must be suitable for conduit connecting. Coordinate back box with wall depth. Intermatic WP1000RC/HRC or equal.

Attended Wet Or Damp Locations: Weatherproof cover plates NRTL listed for wet locations with cover(s) closed; die-cast aluminum or Type 302 stainless steel; single-cover for switches and vertically mounted receptacles; double-cover for horizontally mounted receptacles; self-closing covers.

Cover Plates: By the same manufacturer as the wiring devices; complying with NFPA 70 ARTICLES 406.9 (A) or (B) requirements for attended or unattended use as applicable.

15. ELECTRICAL SERVICE AND GROUNDING

A. ELECTRICAL SERVICE

See drawings for type, size, voltage, phase, and other requirements.

B. CONNECTION TO SERVING UTILITIES

Provide raceways, terminations, metering provisions, and miscellaneous equipment as required for electrical and telecom services for connection by the serving utility, in strict compliance with the requirements of all applicable codes and of the serving utility involved. Verify all service terminations and connection points in the field and work in conjunction with the utility involved in the installation of all services. Provide all materials and equipment required for complete utility connection but not furnished by the serving utility. Notify the utility companies involved within two weeks after notice to proceed of all required information necessary for the utility to supply the project without delay. Pay all charges of the serving utility for the electrical service(s).

C. GROUNDING

Permanently and effectively ground and bond the electrical installation in a thorough and efficient manner, and in conformance, at a minimum, with NFPA 70, or these documents, where they exceed code requirements. Use bare or insulated conductors as specified herein, and other materials indicated on the Drawings.

16. DISTRIBUTION AND CONTROL EQUIPMENT

A. POWER DISTRIBUTION PANELBOARDS: CIRCUIT BREAKER, 1200A BUS OR SMALLER

Panelboards: Dead-front distribution panelboards with number and sizes of circuit breakers as indicated on the drawings; where installed as service entrance equipment, permanently label as suitable for use as service entrance equipment; fully-rated for the available fault current indicated on the drawings; hinged, lockable front door that covers the circuit breaker handles. Circuit breakers: Quick-make, quick-break, indicating type; engraved nameplates for circuit identification of each circuit breaker. Provide a typewritten card directory indicating exactly what each circuit breaker controls on the inside face of the door for circuit identification.

Manufacturers: Square D, Eaton, G.E. , or Siemens.

B. LIGHTING AND APPLIANCE PANELBOARDS

Panelboards: Complete with bolt-on thermal magnetic, molded case circuit breakers assembled in a dead-front finished cabinet containing a typewritten card directory indicating exactly what each circuit breaker controls; fully-rated and with the integrated short circuit current ratings indicated on the drawings. Plug-in type breakers will not be acceptable. All two- and three-pole breakers: Common trip type.

1. Type SWD Circuit Breakers: Use when breaker serves as a switch for 120V or 277V lighting circuits.

2. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip). Use as indicated on drawings.

3. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30-mA trip). Use as indicated on drawings.

4. Handle Clamp: Loose attachment for holding circuit breaker handle in “on ” position. Use for all circuits containing emergency lighting loads, fire alarm loads, and as indicated on drawings. Breakers serving fire alarm loads must have a permanently-affixed red label stating “FA” in white letters adjacent to the circuit breaker.

5. Handle padlocking device: fixed attachment for locking circuit breaker handle in “on” or “off” position. Use as indicated on drawings.

Manufacturers: Square D (as applicable, based on voltage and ampere ratings and required short-circuit interrupting ratings as scheduled on the drawings) or approved equal by Eaton, G.E., or Siemens.

D. DISCONNECT (SAFETY) SWITCHES

Disconnect (Safety) Switches: Heavy-duty, fused or non-fused (as indicated on drawings or required) NEMA KS1, externally operated, visible-blade safety switches; NEMA enclosure type indicated on the drawings or suitable for the environment in which installed. based on fusible switch and fuse sizes indicated, include Class R, J, or L fuse provisions as applicable.

Where indicated, provide fusible switches permanently labeled as suitable for use as service entrance equipment, with integral and separate neutral and ground assemblies, suitable for the sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor.

Provide switches where not furnished with the starting equipment, at all other points required by NFPA 70, and where indicated on the drawings.

Manufacturers: Eaton, G.E., Siemens, or Square D.

F. FUSES

Provide each circuit and set of fuse clips throughout the work with sizes and types as required or indicated. All fuses larger than 600A: UL Class L, similar to type KRP-C Bussmann Low Peak or equal. Fuses used to protect motors: UL Class RK5, Bussmann Fusetron or equal. Fuses used to protect all other electrical equipment: UL Class RK1, dual element, Bussmann LPS/LPN or equal. All fused devices shall be labeled as to type and size of fuse required.

Furnish three spare fuses of each size and type used on the project (except for main switch fuses, furnish one spare), neatly contained in a properly labeled cabinet.

Manufacturers: Bussmann, Edison Fuse, Mersen/Ferraz Shawmut, or Littlefuse.

G. DRY-TYPE TRANSFORMERS

Transformers: General purpose, NRTL listed/labeled. Comply with NEMA ST 20 and UL 1561.

Insulation Class: For three-phase transformers less than 15 kVA and all single-phase, 185 degrees C, NRTL-component-recognized insulation system with a maximum of 115 degree C rise above a 40 degree C ambient temperature; for three-phase transformers 15 kVA and larger, 220 degrees C, NRTL-component-recognized insulation system with a maximum of 150 degree C rise above a 40 degree C ambient temperature. NRTL-component-recognized insulation system replaces the UL 1446 insulation rating system that used letters.

Phases, Voltages, and Sizes: As indicated on the drawings.

Sound Level: Not exceeding 3 dBa less than NEMA ST 20 standards for the sizes indicated when factory tested according to IEEE C57.12.91.

Full-Capacity Primary Taps: For three-phase below 25 kVA and all single-phase, one 5 percent tap above and one 5 percent tap below; 25 kVA to 500 kVA, six 2.5 percent taps (2 above, 4 below); above 500 kVA, four 2.5 percent (2 above, 2 below).

Transformer Core and Coil Assemblies: Mounted on integral vibration-absorbing pads.

Transformers 75 kVA and larger shall be floor mounted unless indicated otherwise. Transformers 45 kVA and smaller may be wall mounted where wall construction is suitable for the load. Floor mounted transformers shall be securely bolted to a 4 inch house keeping pad with vibration isolation pads. Wall mounted or suspended transformers shall have a means of isolating vibration from the support. Wall mounts must be by same manufacturer as and provided with transformer.

Transformers up through 1000 kVA shall be mounted on elastomeric vibration isolation pads. Pad shall be constructed of neoprene, rubber, glass fiber, or a combination thereof. Pads shall be “ribbed” or “waffled” in texture. Pads shall be selected for smallest durometer (hardness), preferably less than 50. Deflection of pad shall be 0.25 inches static minimum. Stack pads until the desired deflection is achieved.

Make final conduit connections to transformers with flexible conduit, with at least 6 inches of slack in all directions. Minimum flexible conduit length shall be 2 feet.

Transformer Enclosures: Removable front cover, core and coil encapsulated within resin compound, drip-proof, fabricated of heavy gauge sheet steel construction. Dry locations: Ventilated, NEMA 250 Type 2. Damp or wet locations: Ventilated with weather shields, NEMA 250 Type 3R. Corrosive locations: Totally enclosed, non-ventilated, NEMA 250 Type 4X, stainless steel.

Provide energy-efficient transformers complying with federal regulation 10 CFR 431.192 thru 431.196 requirements.

K-rated transformers shall be provided as indicated on the drawings and be listed for 115 degree C rise.

Manufacturers: ACME, Eaton, G.E., Siemens, Hammond, Sola/Hevi-Duty, or Square D.

H. FRACTIONAL HORSEPOWER MANUAL CONTROLLER

Manual motor starters for fractional horsepower single-phase motors shall consist of a manually operated toggle switch equipped with melting alloy type overload relay. Thermal unit shall be of one piece construction and interchangeable. Starter shall be inoperative if thermal unit is removed. Provide flush mounted units in finished areas and surface mounted units in unfinished areas. Starters shall have NEMA I general purpose enclosure, unless otherwise indicated, and be rated for the motor horsepower required. Provide with handle guard with locking provisions and an integral pilot light.

Manufacturers: Square D Class 2510 Type F, Eaton 9101 series, G.E. CR101 series, Siemens MSF series, or Westinghouse MST series.

17. LIGHT FIXTURES, LAMPS AND BALLASTS

A. LIGHT FIXTURE LOCATIONS

Light fixtures shown on the drawings represent general arrangements only. Refer to architectural drawings for more exact locations. Coordinate location with all other trades before installation to avoid conflicts. Coordinate light fixture locations in mechanical rooms with final installed piping and ductwork layouts.

LIGHT FIXTURES
Refer to Light Fixture Schedule on electrical drawings for requirements. see general requirements in these specifications for substitution requirements.

B. DRIVERS
LED Drivers: Comply with NRTL requirements and ANSI C82.77; designed for type and quantity of lamps served; sound levels not exceeding Class A ambient noise levels; lamp current crest factor of 1.5 or less; 90-percent power factor or greater; line transient withstand ratings as defined in ANSI/IEEE C62.41, Category A.; total harmonic distortion less than 20 percent; shall tolerate sustained open circuit and short circuit output conditions without damage; shall not over-drive LEDs at a current or voltage above LED rated values; ROHS compliant; meets EN610000 requirements for input harmonics.

C. DIMMABLE LIGHT FIXTURES

For dimmable light fixtures provide both control and power wiring between light fixture and control device and between light fixtures. Quantity of low voltage and line voltage wiring and wire type shall be per manufacturer's recommendations. Coordinate light fixture and control device dimming types for compatibility.

18. MISCELLANEOUS ELECTRICAL

A. WIRING OF MECHANICAL EQUIPMENT

Provide all raceways and power wiring for all Division 23 equipment requiring electrical connections, including but not limited to pumps, water heaters, and HVAC equipment, and all line-voltage control and interlock wiring not provided under Division 23. Connect per manufacturers' wiring diagrams. Coordinate with Division 23 for disconnects and variable frequency drives (VFD) furnished with equipment, and provide all disconnect switches and final connections as required. If VFD is separate or does not have an integral disconnect feature, provide disconnect switch with auxiliary contact such that motor will be turned off if switch is off. provide VFD cable, Belden or approved equivalent, for connection of VFD to motor when required. After installing wiring, verify that each motor load has the correct phase rotation.

Verify the actual “Maximum Overcurrent Protection” (MOCP) device ratings and “Minimum Circuit Ampacity” (MCA) conductor sizing for mechanical equipment from the equipment nameplate. Base electrical installations on actual required amperages, which may vary somewhat from the conductor and equipment sizes shown on the drawings; however, in no case, reduce the size of conductors indicated on the drawings without authorization from the Engineer. Provide properly sized electrical wiring and equipment without extra cost to the Owner. Notify the Engineer of all changes required in the electrical installation due to equipment variances so that the effects on feeders, branch circuits, panelboards, fuses and circuit breakers can be checked prior to purchasing and installation. Be responsible for coordinating with Division 23 to verify the actual ampacities and correct sizes of all conductors and overcurrent protective devices for all equipment, and correct overload heaters for all motors, when starters are provided under Division 26.

B. WIRING OF THERMOSTATS, TIME AND TEMPERATURE CONTROLS

Provide all raceways, power wiring, and line-voltage control and interlock wiring not provided under Division 23, for all thermostats, temperature control devices, and controls, including, but not limited to, night-stats, water heater interlocks, time switches and override timers. See mechanical drawings for locations and temperature control diagrams. Low-voltage conductors for thermostats and temperature control system may be run exposed above finished accessible ceilings, if approved and listed for this purpose, but shall be installed in conduit within walls and where exposed in the work areas.

C. TELEPHONE SYSTEM PROVISIONS

Provide incoming telephone service raceways as indicated on drawings or as required by the serving telephone company. Provide 3/4-inch thick plywood board, fire-retardant-treated and stamped FRT, securely anchored to the wall, at the location and of the size as indicated on the drawings. Provide flush mounted telephone outlet boxes with 3/4 inch conduit stub-up with pull-string concealed to accessible ceiling space at locations as indicated on the drawings.

D. DATA SYSTEM PROVISIONS

Provide flush mounted data outlet boxes with 3/4 inch conduit stub-up with pull-string concealed to accessible ceiling space at locations as indicated on the drawings.

END OF SECTION 26

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18506
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

E402
ELECTRICAL SPECIFICATIONS

GH2 ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
ELECTRICAL SPECIFICATION

SHEET NUMBER:
E402

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FIRE PROTECTION DESIGN CRITERIA

STORAGE/ELECTRICAL/DINING	CORRIDORS/OFFICES/RESTROOMS
CLASSIFICATION: ORDINARY HAZARD 1	CLASSIFICATION: LIGHT HAZARD
DENSITY: 0.15 GPM/SQ. FT.	DENSITY: 0.10 GPM/SQ. FT.
MINIMUM CALCULATION AREA: 1,500 SQ. FT.	MINIMUM CALCULATION AREA: 1,500 SQ. FT.
MAX. COVERAGE PER SPRINKLER: 130 SQ. FT.	MAX. COVERAGE PER SPRINKLER: 225 SQ. FT.
HOSE STREAM ALLOWANCE: 250 GPM	HOSE STREAM ALLOWANCE: 100 GPM

NOTE: THE INFORMATION GIVEN ABOVE HAS BEEN PROVIDED TO ASSIST THE CONTRACTOR IN BIDDING AND SHOP DRAWING PREPARATION. IF ANY CONFLICT SHALL ARISE BETWEEN THE INFORMATION PROVIDED ABOVE AND THE REQUIREMENTS OF NFPA 13 AND/OR THE AUTHORITY HAVING JURISDICTION, CONTRACTOR SHALL ADHERE TO ALL NFPA 13 AND AUTHORITY HAVING JURISDICTION REQUIREMENTS.

KEYNOTES

1. EXISTING 4" OR 6" LEAD FIRE PROTECTION TO BE REUSED UP TO EXISTING FLANGE ABOVE FLOOR. CONTRACTOR SHALL RETROFIT RISER, TRIM, BACKFLOW, PIPING PER NEW LAYOUT AND APPLICABLE ADOPTED CODES.
2. COORDINATE SPRINKLER ROUTING WITH HVAC EQUIPMENT ABOVE CEILING AND DO NOT LOCATE ANY PIPING OR SPRINKLER IN THE SERVICE CLEARANCE. COORDINATE WITH MECHANICAL CONTRACTOR.

NOTE:
EXISTING BUILDING SLAB IS A POST-TENSION SLAB. COORDINATE ALL FLOOR PENETRATION WITH LOCATIONS OF TENONS. SLAB PENETRATIONS SHALL BE RELOCATED IF CONFLICTING WITH TENON LOCATIONS. UNDER NO CIRCUMSTANCES SHALL THE TENONS BE CUT. CONTRACTOR SHALL SCAN SLAB AND LOCATE TENON PRIOR TO ANY UNDER SLAB MODIFICATION.

FIRE SPRINKLER SYSTEM SHUT-DOWN SHALL BE COORDINATED IN ADVANCE WITH LANDLORD, TENANT AND AUTHORITY HAVING JURISDICTION/FIRE MARSHAL.

SPRINKLER NOTE:
ALL PENDENT SPRINKLERS SHALL BE CENTERED IN QUARTER- POINTS OF CEILING TILES. ANY UPRIGHT SPRINKLERS SHALL BE PROVIDED WITH GUARDS ADDED IF SPRINKLERS ARE SUBJECT TO DAMAGE.

NORTH

1 FP100 FIRE PROTECTION PLAN
SCALE: 1/4" = 1'-0"

4/22/2024 9:16:17 AM

GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDOU JAAFAR
18905
4-26-24
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

GH2 ARCHITECTS
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FIRE PROTECTION PLAN

SHEET NUMBER:
FP100

WATER SUPPLY INFORMATION

CONTRACTOR NOTE:
WATERFLOW INFORMATION IS UNAVAILABLE FOR THIS SITE. THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PERFORMANCE OF THEIR OWN FLOW TEST. THIS FLOW TEST MUST BE APPROVED AND ACCEPTED BY THE AUTHORITY HAVING JURISDICTION. THIS FLOW TEST MUST BE PERFORMED IN STRICT ACCORDANCE WITH NFPA 291 AND THE AUTHORITY HAVING JURISDICTION REQUIREMENTS. THIS FLOW TEST MUST BE SUBMITTED WITH THE SPRINKLER SHOP DRAWINGS TO PRECISION ENGINEERING AND THE LOCAL AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO ANY FABRICATION OR INSTALLATION OF SPRINKLER PIPING. HYDRAULIC CALCULATIONS MUST BE PERFORMED BACK TO THE STATIC/RESIDUAL FIRE HYDRANT USED FOR TESTING.

GENERAL NOTES

1. SPRINKLER CONTRACTOR MUST REVIEW ALL CONSTRUCTION DOCUMENTS AND BECOME FAMILIAR WITH EXISTING SITE CONDITIONS PRIOR TO BID.
2. ROUTE SPRINKLER LINES TO COORDINATE WITH OTHER TRADES.
3. PENETRATIONS OF "RATED ASSEMBLIES" SHALL BE FIRE STOPPED WITH AN APPROVED MATERIAL PER METHODS REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
4. 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 FOLLOWED BY THE CONTRACTOR, SUBCONTRACTORS, THEIR RESPECTIVE EMPLOYEES OR ANY OTHER PERSON AT THE JOB SITE OTHER THAN THAT OF THE ENGINEERING FIRM'S EMPLOYEES.
5. THESE PLANS ARE PROVIDED TO ASSIST THE CONTRACTOR IN BIDDING ONLY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIALS REQUIRED FOR A COMPLETE FIRE SPRINKLER SYSTEM, ACCEPTABLE TO BOTH THE OWNER AND THE AUTHORITY HAVING JURISDICTION. NOTHING ON THESE PLANS SHALL RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY.
6. PROVIDE FLUSHING CONNECTIONS IN ACCORDANCE WITH NFPA 13.
7. PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS.
8. ALL MATERIALS SHALL SHALL BE UL LISTED AND/OR FM GLOBAL APPROVED. SPRINKLER PIPE SHALL BE MANUFACTURED TO STANDARDS RECOGNIZED BY NFPA 13. THREADED PIPE SHALL HAVE A CORROSION RESISTANCE RATING OF 1.0 OR GREATER. CRIMP-TYPE COUPLINGS SHALL NOT BE USED.
9. PRIOR TO INTERIOR FINISHING , HYDROSTATICALLY TEST SPRINKLER SYSTEM FOR LEAKAGE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION ADOPTED EDITION OF NFPA 13. COORDINATE ALL TESTING WITH THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION.
10. COMPLETED TEST CERTIFICATES SHALL BE PROVIDED TO THE AUTHORITY HAVING JURISDICTION AND THE OWNER'S REPRESENTATIVE.
11. SUBMIT SPRINKLER SYSTEM DRAWINGS IDENTIFIED AS "WORKING PLANS", MATERIAL DATA SHEETS, AND HYDRAULIC CALCULATIONS IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION ADOPTED EDITION OF NFPA 13. SHOP DRAWINGS SHALL INCLUDE ALL INCLUDE ALL INFORMATION REQUIRED BY THE CHECKLIST PROVIDED WITHIN NFPA 13. FAILURE TO PROVIDE THIS INFORMATION WILL RESULT IN DISAPPROVAL OF FIRE SPRINKLER SHOP DRAWINGS. HYDRAULIC CALCULATIONS SHALL INCLUDE ALL INFORMATION REQUIRED BY NFPA 13. HYDRAULIC CALCULATIONS SHALL BE PERFORMED BACK TO THE STATIC/RESIDUAL FIRE HYDRANT UTILIZED FOR FLOW TEST. INCLUDE HOSE STREAM ALLOWANCE AS REQUIRED BY NFPA 13.
12. PROVIDE SPRINKLER HEAD GUARDS ON ALL SPRINKLERS IN AREAS THAT ARE SUBJECT TO DAMAGE.

SEC.15300-WET PIPE SUPPRESSION SPRINKLERS

PART 1 – GENERAL

1.1 SECTION REQUIREMENTS

A. GENERAL: FIRE PROTECTION CONTRACTOR SHALL HAVE A MINIMUM OF A NICET LEVEL III FOR DESIGN AND INSTALLATION OF FIRE PROTECTION SYSTEMS. SPRINKLER PIPE SIZING SHALL BE HYDROSTATICALLY CALCULATED IN ACCORDANCE WITH THE LATEST ED. OF NFPA 13 STANDARDS AS APPLICABLE TO THIS PROJECT AND AS REQUIRED BY INSURING AUTHORITIES. PREPARE AND SUBMIT SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE STATE AND LOCAL FIRE MARSHALL FOR APPROVAL. SUBMIT FIRE MARSHAL APPROVED SHOP DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ARCHITECT/ENGINEER OF RECORD FOR FINAL REVIEW PRIOR TO INSTALLING OR FABRICATING SYSTEM. SUBMIT (2) COPIES OF "AS-BUILT" DRAWINGS TO THE OWNER AND ENGINEER OF RECORD FOR HIS FILES. FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A VALID WATER FLOW TEST (WATER FLOW TEST MUST HAVE BEEN PERFORMED WITHIN THE LAST 6 MONTHS). THE FIRE SPRINKLER DRAWINGS MUST SHOW A CURRENT AND CORRECT SITE UTILITY PLAN SHOWING ALL UNDERGROUND PIPING. THE UTILITY PLAN MUST SHOW THE EFFECTIVE POINT OF THE FLOW TEST, THE FLOW HYDRANT, AND BE CALCULATED TO THE BASE OF RISER. BASE OF RISER CALCULATIONS MUST INCLUDE ALL FRICTION LOSSES, HYDRANT COEFFICIENT, AND SIGNED BY THR AHJ.

B. SUBMITTALS: PRODUCT DATA FOR VALVES, SPRINKLERS, SPECIALTIES, AND ALARMS.

1. SUBMIT SPRINKLER SYSTEM DRAWINGS IDENTIFIED AS "WORKING PLANS" AND CALCULATIONS ACCORDING TO NFPA 13. SUBMIT REQUIRED NUMBER OF SETS TO AUTHORITIES HAVING JURISDICTION FOR REVIEW, COMMENT, AND APPROVAL. INCLUDE SYSTEM HYDRAULIC CALCULATIONS WHERE APPLICABLE.
2. SUBMIT ALL ABOVE GROUND MATERIAL AND TEST PAPERS TO THE GC AND ENGINEER OF RECORD. ALL TEST PAPERS MUST BE FILLED OUT CORRECTLY AND ENTIRELY AND BE SIGNED BY THE SPRINKLER CONTRACTOR AND LOCAL FIRE MARSHAL OR AHJ.

C. DESIGN AND INSTALLATION APPROVAL: COMPLY WITH THE MOST RECENTLY REVISED VERSIONS OF ALL APPLICABLE LAWS, CODES, STANDARDS, RECOMMENDATIONS OF TECHNICAL SOCIETIES, RULES, REGULATIONS, AND ORDINANCES OF FEDERAL, STATE, AND LOCAL AUTHORITIES. THESE CODES AND STANDARDS SHALL BE CONSIDERED A PART OF THIS SPECIFICATION AS THOUGH FULLY REPEATED HEREIN. MODIFICATIONS REQUIRED BY THE ABOVE MENTIONED AUTHORITIES SHALL BE MADE WITHOUT ADDITIONAL CHARGE TO THE OWNER.

D. HYDRAULICALLY DESIGN SPRINKLER SYSTEMS ACCORDING TO THE LATEST ADOPTED ED. OF NFPA 13.

E. COMPLY WITH ADOPTED EDITIONS OF NFPA 13, 24, 70 AND 72.
F. UL-LISTED AND -LABELED AND FM-APPROVED PIPE AND FITTINGS.

PART 2 – PRODUCTS

2.1 GENERAL

A. ALL VALVES, FITTINGS AND PIPING SHALL BE SUITABLE FOR INTENDED SERVICE AND SYSTEM PRESSURES AND TEMPERATURES.

B. ALL EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF LAWS, CODES, ORDINANCES, LEGISLATION, ETC. OF ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, WHETHER INDICATED ON THE CONTRACT DOCUMENTS OR NOT.

C. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF BEST GRADE AND QUALITY. PROVIDE STANDARD PRODUCTS OF REPUTABLE MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH MATERIALS AND EQUIPMENT.

2.2 PIPE AND FITTINGS

ABOVE GROUND PIPING: STEEL SCH 10 AND SCH 40 BLACK.

BELOW GROUND PIPING: DUCTILE IRON PER NFPA 24.

A. STEEL PIPE: ASTM A 53, ASTM A 135, OR ASTM A 795.

B. CAST-IRON THREADED FLANGES: ASME B16.1, CLASS 250, RAISED GROUND FACE, BOLT HOLES SPOT FACED.

C. CAST-IRON THREADED FITTINGS: ASME B16.4, CLASS 250, STANDARD PATTERN.

D. GROOVED-END FITTINGS: UL-LISTED AND FM-APPROVED, ASTM A 536, GRADE 65-45-12 DUCTILE IRON OR ASTM A 47 GRADE 32510 MALLEABLE IRON, WITH GROOVES OR SHOULDERS DESIGNED TO ACCEPT GROOVED COUPLINGS.

E. GROOVED-END COUPLINGS: UL 213, ASTM A 536 DUCTILE-IRON OR ASTM A 47 MALLEABLE-IRON HOUSING, WITH ENAMEL FINISH. INCLUDE GASKETS, BOLTS, AND ACCESSORIES.

2.3 VALVES SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE VALVES WITH ONE OF THE FOLLOWING MANUFACTURERS: TYCO, RELIABLE, VIKING, VCTAULIC, KENNEDY, OR MUELLER.

A. FIRE-PROTECTION SERVICE VALVES: UL LISTED AND FM APPROVED, WITH 175-PSIG NONSHOCK MINIMUM WORKING-PRESSURE RATING. VALVES FOR USE WITH GROOVED PIPING MAY BE GROOVED TYPE. INDICATING VALVES SHALL BE BUTTERFLY OR BALL TYPE, BRONZE BODY WITH THREADED ENDS, AND INTEGRAL INDICATING DEVICE WITH A 115-V AC, ELECTRIC, SINGLE-CIRCUIT SUPERVISORY SWITCH INDICATOR.

B. GATE VALVES: UL 262, CAST BRONZE, THREADED ENDS, SOLID WEDGE, OUTSIDE SCREW AND YOKE, RISING STEM.

C. SWING CHECK VALVES, NPS 2 AND SMALLER: UL 312 OR MSS SP-80, CLASS 150; BRONZE BODY WITH BRONZE DISC AND THREADED ENDS.

D. SWING CHECK VALVES, NPS 2-1/2 AND LARGER: UL 312, CAST-IRON BODY AND BOLTED CAP, WITH BRONZE DISC OR CAST-IRON DISC WITH BRONZE-DISC RING AND FLANGED ENDS.

E. ALARM CHECK VALVES: NOT REQUIRED

F. BALL DRIP VALVES: UL 1726, AUTOMATIC DRAIN VALVE, NPS 1/2, BALL CHECK DEVICE WITH THREADED ENDS. PIPE BALL DRIP TO FLOOR DRAIN OR OUTSIDE OF STRUCTURE.

2.4 SPRINKLERS SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING SPRINKLERS WHICH MAY BE INCORPORATED IN THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: TYCO, RELIABLE, & VIKING.

A. AUTOMATIC SPRINKLERS: WITH HEAT-RESPONSIVE ELEMENT COMPLYING WITH:

1. UL 199, FOR APPLICATIONS EXCEPT RESIDENTIAL.

B. SPRINKLER TYPES AND CATEGORIES: NOMINAL 1/2" OR 3/4" ORIFICE FOR 155 OR 165 DEGREE TEMPERATURE CLASSIFICATION RATING, UNLESS OTHERWISE INDICATED OR REQUIRED BY THE APPLICATION OR THE AUTHORITY HAVING JURISDICTION.

C. SPRINKLER TYPES INCLUDE THE FOLLOWING:

1. UPRIGHT, PENDENT, AND SIDEWALL SPRINKLERS.
2. EXTENDED COVERAGE AND QUICK-RESPONSE SPRINKLERS WHERE POSSIBLE.
3. PENDENT AND SIDEWALL, DRY-TYPE SPRINKLERS.

D. SPRINKLER FINISHES: CHROME PLATED AND BRASS

E. SPRINKLER ESCUTCHEONS: SHALL BE SEMI-RECESSED WITH CHROME FINISH

F. SPRINKLER GUARDS: WIRE-CAGE TYPE, INCLUDING FASTENING DEVICE.

G. SPRINKLER CABINETS: FINISHED STEEL CABINET AND HINGED COVER, WITH SPACE FOR MINIMUM OF 6 SPARE SPRINKLERS PLUS SPRINKLER WRENCH, SUITABLE FOR WALL MOUNTING. INCLUDE NUMBER OF SPRINKLERS REQUIRED BY NFPA 13 AND ONE WRENCH FOR SPRINKLERS. INCLUDE SEPARATE CABINET WITH SPRINKLERS AND WRENCH FOR EACH STYLE SPRINKLER ON PROJECT.

H. NOTE. ALL PENDENT SPRINKLERS SHALL BE CHROME FINISH WITH CHROME SEMI-RECESSED ESCUTCHEONS. ALL PENDENT SPRINKLERS BE CENTERED IN QUARTER POINTS OF ALL CEILING TILE MODULES.

2.5 SPECIALTIES AND ALARMS

A. FIRE DEPARTMENT CONNECTIONS: FDC THREADS TO MATCH THE AUTHORITY HAVING JURISDICTION THREAD TYPE.

B. LOCAL ALARM DEVICE SHALL BE AN ELECTRONIC NOTIFICATION DEVICE PER THE AUTHORITY HAVING JURISDICTION REQUIREMENTS.

C. WATER-FLOW INDICATORS: UL 346; ELECTRICAL-- SUPERVISION, VANE-TYPE WATER-FLOW DETECTOR; WITH 250-PSIG PRESSURE RATING; AND DESIGNED FOR HORIZONTAL OR VERTICAL INSTALLATION. INCLUDE 2 SINGLE-POLE, DOUBLE-THROW, CIRCUIT SWITCHES FOR ISOLATED ALARM AND AUXILIARY CONTACTS, 7 A, 125-V AC AND 0.25 A, 24-V DC; COMPLETE WITH FACTORY-SET, FIELD-ADJUSTABLE RETARD ELEMENT TO PREVENT FALSE SIGNALS AND TAMPERPROOF COVER THAT SENDS SIGNAL IF REMOVED.

D. ELECTRICAL-SUPERVISION-TYPE, WATER-FLOW SWITCH WITH RETARD FEATURE. INCLUDE SINGLE-POLE, DOUBLE-THROW, NORMALLY CLOSED CONTACTS AND DESIGN THAT OPERATES ON RISING PRESSURE AND SIGNALS WATER FLOW.

E. VALVE SUPERVISORY SWITCHES: UL 753; ELECTRICAL; SINGLE-POLE, DOUBLE THROW; WITH NORMALLY CLOSED CONTACTS. INCLUDE DESIGN THAT SIGNALS CONTROLLED VALVE IS IN OTHER THAN FULLY OPEN POSITION.

F. PRESSURE GAGES: UL 393, 3-1/2 TO 4-1/2 INCH DIAMETER DIAL WITH DIAL RANGE OF 0 TO 250 PSIG.

PART 3 – EXECUTION

3.1 GENERAL

A. WORK SHALL BE EXECUTED AND ALL MATERIALS INSTALLED IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADES IN A THOROUGH, SUBSTANTIAL, WORKMANLIKE MANNER BY COMPETENT WORKMEN, PRESENTING A NEAT APPEARANCE WHEN COMPLETED.

3.2 PIPE AND FITTING APPLICATION

A. USE STEEL PIPE WITH THREADED, ROLL-GROOVED, OR CUT-GROOVED JOINTS; COPPER TUBE WITH WROUGHT-COPPER FITTINGS AND BRAZED JOINTS; OR CPVC PLASTIC PIPE AND FITTINGS AND METAL-TO-PLASTIC TRANSITION FITTINGS WITH SOLVENT-CEMENTED JOINTS.

1. FOR STEEL PIPE JOINED BY THREADED FITTINGS, USE SCHEDULE 40.
2. FOR STEEL PIPE JOINED BY WELDING OR ROLL- GROOVED PIPE AND FITTINGS, USE SCHEDULE 10.

B. PIPE BETWEEN FIRE DEPARTMENT CONNECTIONS AND CHECK VALVES: USE GALVANIZED STEEL PIPE WITH FLANGED OR THREADED JOINTS.

C. INSTALL SHUTOFF VALVE, BACKFLOW PREVENTOR PRESSURE GAGE, DRAIN, AND OTHER ACCESSORIES INDICATED AT CONNECTION TO WATER SERVICE PIPING.

3.3 PIPING INSTALLATION

A. THE INSPECTORS TEST CONNECTIONS SHALL BE LOCATED AT THE MOST REMOTE POINT OF SYSTEM PER LOCAL FIRE MARSHAL. ANY AUXILIARY DRAINAGE SHALL BE LOCATED IN AN INCONSPICUOUS AREA WITH SIGNAGE PROVIDED.

B. INSTALL BALL DRIP VALVES TO DRAIN PIPING BETWEEN FIRE DEPARTMENT CONNECTIONS AND CHECK VALVES, AND WHERE INDICATED. DRAIN TO FLOOR DRAIN. (NOT APPLICABLE)

C. INSTALL ALARM DEVICES IN PIPING SYSTEMS.

D. INSTALL PRESSURE GAGES ON RISER OR FEED MAIN, AT EACH SPRINKLER TEST CONNECTION, AND AT TOP OF EACH RISER. INSTALL GAGES TO PERMIT REMOVAL, AND INSTALL WHERE THEY WILL NOT BE SUBJECT TO FREEZING.

E. INSTALL FIRE-PROTECTION SERVICE VALVES SUPERVISED-OPEN, LOCATED TO CONTROL SOURCES OF WATER SUPPLY EXCEPT FROM FIRE DEPARTMENT CONNECTIONS. WHERE THERE IS MORE THAN ONE CONTROL VALVE, PROVIDE PERMANENTLY MARKED IDENTIFICATION SIGNS INDICATING PORTION OF SYSTEM CONTROLLED BY EACH VALVE.

F. INSTALL BACKFLOW PREVENTOR INSIDE THE THE BUILDING AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. REFER TO PLAN AND DETAIL.

3.4 SPRINKLER APPLICATIONS (PROVIDE WHERE REQUIRED)

A. ROOMS WITHOUT CEILINGS: UPRIGHT SPRINKLERS.

B. ROOMS WITH SUSPENDED CEILINGS: PENDENT SPRINKLERS INSTALLED IN QUARTER POINTS OF CEILING TILES.

C. WALL MOUNTING: SIDEWALL SPRINKLERS.

D. SPACES SUBJECT TO FREEZING: PENDENT DRY-TYPE, AND SIDEWALL DRY-TYPE SPRINKLERS.

E. SPECIAL APPLICATIONS: USE EXTENDED COVERAGE, AND QUICK-RESPONSE SPRINKLERS WHERE INDICATED.

F. SPRINKLER FINISHES: CHROME PLATED IN FINISHED SPACES EXPOSED TO VIEW, ROUGH BRASS IN UNFINISHED SPACES NOT EXPOSED TO VIEW.

G. ALL SPRINKLERS IN SUSPENDED CEILINGS SHALL BE CENTERED IN CEILING TILE MODULES.

3.5 SPECIALTIES AND ALARMS INSTALLATIONS

A. INSTALL FIRE DEPARTMENT CONNECTIONS WITH BALL DRIP VALVES INSTALLED AT EACH CHECK VALVE FOR FIRE DEPARTMENT CONNECTION TO MAINS. EXTEND TO FLOOR DRAIN.

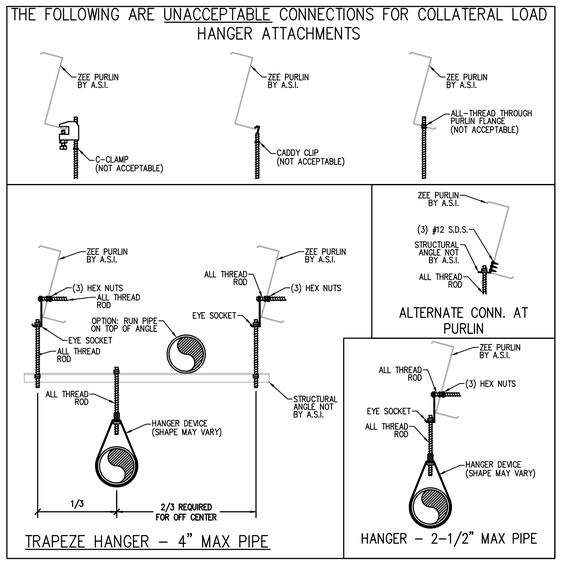
B. CONNECT ALARM DEVICES TO FIRE ALARM SYSTEM.

3.6 TESTING

A. PERFORM FIELD ACCEPTANCE TESTS OF EACH FIRE PROTECTION SYSTEM.

B. FLUSH, TEST, AND INSPECT SPRINKLER PIPING SYSTEMS ACCORDING TO NFPA 13, CHAPTER "SYSTEM ACCEPTANCE."

END OF SECTION 15300



3 PIPE SUPPORT
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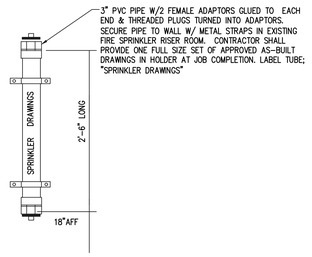

2 SHOP DRAWING HOLDER
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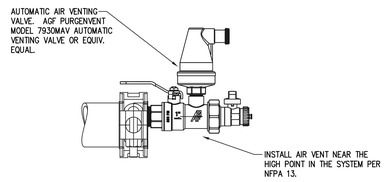

1 AIR RELEASE VALVE DETAIL
SCALE: NTS

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GH2 ARCHITECTS

REGISTERED PROFESSIONAL ENGINEER
ABDU JAAFAR
18905
OKLAHOMA

OWASSO PS - ENROLLMENT & IT CENTER
1309 N Main St, Owasso, OK 74055

GH2ARCHITECTS
GH2.COM

GH2 PROJECT NUMBER:
20230239

ISSUE DATE:
04/29/2024

ISSUE:
PERMIT SET

OTHER ISSUE DATES:

NO.	DESCRIPTION	DATE

SHEET NAME:
FIRE PROTECTION NOTES & DETAILS

SHEET NUMBER:
FP200