CAMDEN COUNTY LIBRARY SYSTEM M. ALLAN VOGELSON LIBRARY RENOVATION

203 LAUREL ROAD VOORHEES, NEW JERSEY CAMDEN COUNTY, NEW JERSEY



304 White Horse Pike Haddon Heights, New Jersey 08035

> Tel 856-546-8611 Fax 856-546-8612

www.BachDesignGroup.com

Code Review Data:

APPLICABLE BUILDING CODES & GUIDELINES 2021 INTERNATIONAL BUILDING CODE - NEW JERSEY EDITION 2021 NATIONAL STANDARD PLUMBING CODE 2020 NATIONAL ELECTRIC CODE (NFPA 70)

2021 INTERNATIONAL MECHANICAL CODE 2021 INTERNATIONAL FUEL GAS CODE ASHRAE 90.1-2019

(MAIN OCCUPANCY) A-3 ASSEMBLY (PROJECT SPACE) B-BUSINESS

USE GROUP CLASSIFICATION (304.1)

TYPE OF CONSTRUCTION (TABLE 601)

AREA, HEIGHT, STORIES:

(MAIN OCCUPANCY) A3-ASSEMBLY: 3-STORY, SPRINKLERED

(PROJECT SPACE) B-BUSINESS (ON FIRST FLOOR): 1,607 +/- SF, 1-STORY, SPRINKLERED

HEIGHT LIMITATIONS (TABLE 504.3) A-3 / B-BUSINESS USES, 75' (SPRINKLERED)

ALLOWABLE STORIES ABOVE GRADE PLANE (TABLE 504.4)

A-3 ASSEMBLY USE, 3 STORIES (SPRINKLERED) B-BUSINESS USE, 4 STORIES (SPRINKLERED)

AREA LIMITATIONS (TABLE 506.2)

(MAIN OCCUPANCY) A3-ASSEMBLY, 28,500 SQUARE FEET (SPRINKLERED, 4-ST) (PROJECT SPACE) B-BUSINESS USE, 92,000 SQUARE FEET (SPRINKLERED, 1-ST

OCCUPANT LOADS (TABLE 1004.5

B-BUSINESS (PROJECT SPACE)- 1,607 GROSS SF BASEMENT / 150 GROSS SF PER OCCUPANT = 10 OCCUPANTS MAXIMUM

COMMON PATH OF EGRESS TRAVEL (1006.2.1)

(B USE) WITH SPRINKLER SYSTEM: 100'

REMOTENESS OF EXITS (1007.1.1)

NOT LESS THAN ONE HALF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED

TRAVEL DISTANCE (TABLE 1017.2) (B USE) WTIH/WITHOUT SPRINKLER SYSTEM: 200'/300'

DEAD END CORRIDORS (1020.5)

LENGTH SHALL NOT EXCEED 50'-0"

NOTE TO ALL BIDDERS AND SUBS: "BID PACKAGE" IS INCLUSIVE OF ALL DRAWING SHEETS LISTED ON THIS COVER SHEET, ALL SPECIFICATIONS LISTED IN SPECIFICATION TABLE OF CONTENTS, AND ALL ADDENDA ISSUED PRIOR TO BID OPENING. BIDS SUBMITTED ARE ASSUMED TO BE COMPREHENSIVE AND ACCOUNTING FOR INFORMATION CONTAIN THROUGHOUT ENTIRE "BID PACKAGE". IT IS THE RESPONSIBILITY OF BIDDER TO PROVIDE ALL SUBCONTRACTORS, VENDORS, MATERIAL AND LABOR SUPPLIERS, ETC, WITH COMPLETE BID PACKAGE. FAILURE TO DO SO WILL NOT RELIEVE RESPONSIBILITY TO PROVIDE ALL WORK DESCRIBED IN THE "BID PACKAGE".

CONTRACTOR MUST CONTACT ARCHITECT/ENGINEER PRIOR TO STARTING CONSTRUCTION TO VERIFY THAT THE MOST CURRENT AND ARCHTIECT/ENGINEER APPROVED REVISION SET OF PLANS ARE BEING USED. ANY CORRECTIONS AND OR CHANGES TO THE PLAN SET WHICH ARE NECESSARY DUE TO USE OF INVALID PLAN SETS ARE AT THE SOLE EXPENSE OF THE OWNER/CONTRACTOR. ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY/LIABILITY FOR ANY WORK PERFORMED BASED ON INVALID PLAN SETS.

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DETAILS SCHEDULES AND DETAILS

ELECTRICAL COVER SHEET ELECTRICAL FLOOR PLAN

ELECTRICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

MECHANICAL COVER SHEET

MECHANICAL FLOOR PLAN MECHANICAL DETAILS

MECHANICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS

FP-1.0 FIRE PROTECTION COVER SHEET

FP-2.0 FIRE PROTECTION FLOOR PLAN

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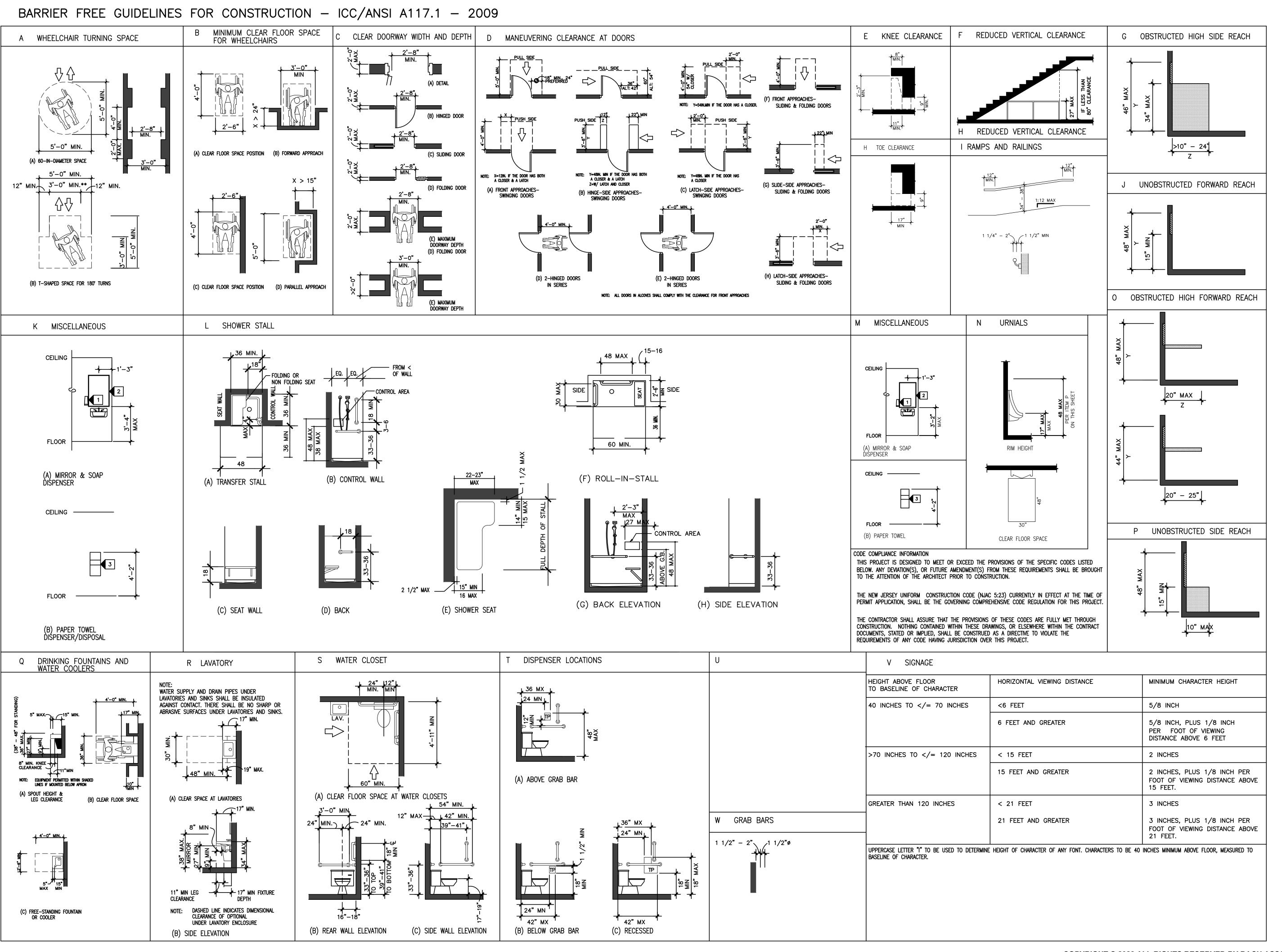


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COVER SHEET AND INDEX OF DRAWINGS

JOB NO: CCIA2022-01	DESIGNED BY: DM3
DATE: 10-5-22	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB
DRAWING NUMBER:	



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NJ PROFESSIONAL ENGINEER No. GE 41507
NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

ROJECT:

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AMDEN COUNTY LIBRARY SY:
M. ALLAN VOGELSON
LIBRARY RENOVATION

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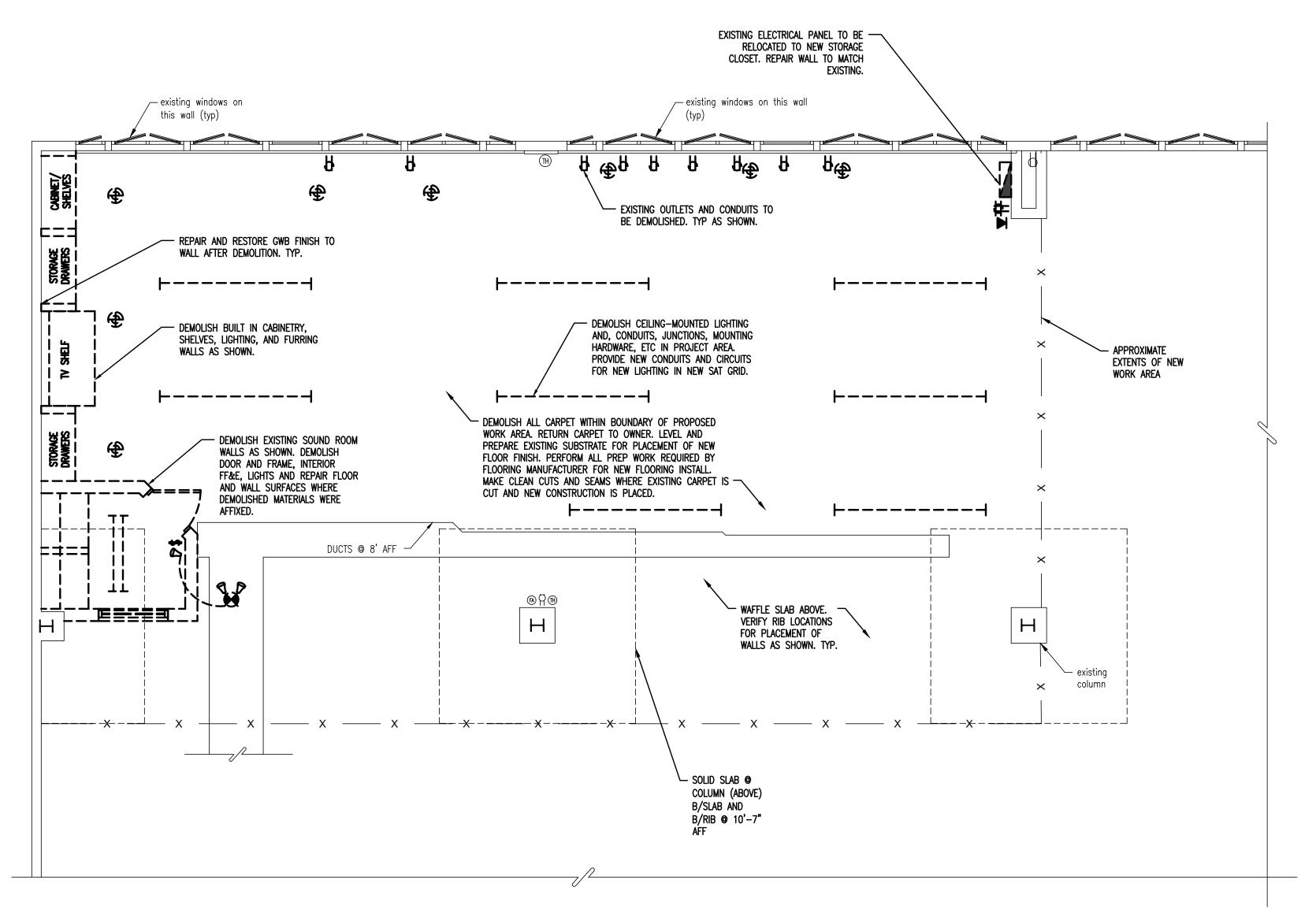
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ADA GUIDELINES

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DEMOLITION FLOOR PLAN SCALE: 1/2" = 1'-0"

DEMOLISH ALL CARPET WITHIN BOUNDARY OF PROPOSED WORK AREA. RETURN CARPET TO OWNER. LEVEL AND PREPARE EXISTING SUBSTRATE FOR PLACEMENT OF NEW FLOOR FINISH. PERFORM ALL PREP WORK REQUIRED BY FLOORING MANUFACTURER FOR NEW FLOORING INSTALL.

EXISTING CONSTRUCTION NOTES:

BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING BUILDING, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO STRUCTURAL, EGRESS, LIGHT, LIFE SAFETY, HVAC.

THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND CONDITIONS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.

DEMOLITION NOTES:

ANY AND ALL DEMOLITION OF EXISTING STRUCTURES AND/OR PORTIONS OF EXISTING STRUCTURES SHALL BE PERFORMED AS NECESSARY TO ACCOMPLISH THE WORK AS INDICATED ON THE DRAWINGS.

THE CONTRACTOR SHALL MAKE ALL PROVISIONS AS NECESSARY TO PROTECT UNAFFECTED OR ADJACENT AREAS FROM DUST, TRASH. DEBRIS AS WELL AS DAMAGED, SOILING, PAINT OVERSPRAY, ETC. BY USE OF A FULLY SEALED CONSTRUCTION BARRIER SUCH AS "ZIPWALL" OR OTHER <u>APPROVED</u> METHOD OF PROTECTION. SYSTEM MUST BE PROVIDED AS A SUBMITTAL BEFORE CONSTRUCTION BEGINS. CONTRACTOR TO COORDINATE WITH TENANT FOR PLACEMENT OF CONSTRUCTION BARRIERS TO ALLOW FOR CONTINUED OPERATION OF AREAS NOT AFFECTED BY CONSTRUCTION.

EVACUATION ROUTES AND SIGNAGE MUST BE MAINTAINED DURING CONSTRUCTION.

NO CONSTRUCTION MATERIALS ARE TO BE KEPT OUTSIDE OF THE ENCLOSED AREA.

WALKOFF MATS OR OTHER MEANS OF DUST CONTROL TO BE USED TO ENSURE ADJACENT AREAS ARE NOT DAMAGED OR CONTAMINATED DURING CONSTRUCTION.

CONTRACTOR TO COORDINATE WITH OWNER AND ARCHITECT WEEKLY, AND DAILY TO DISCUSS CONSTRUCTION ACTIVITIES THAT MAY DISRUPT LIBRARY VISITOR BEHAVIOR.

ALL SOILED AND/OR DAMAGED PORTIONS OF THE EXISTING STRUCTURE SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.

TEMPORARY BRACING SHALL BE PROVIDED AS DEEMED NECESSARY BY THE CONTRACTOR

A FULL SET OF CONSTRUCTION DOCUMENTS SHALL BE ON SITE AT ALL TIMES.

AND LEFT IN PLACE UNTIL WORK IS PERMANENTLY STABILIZED.

ALL DEMOLITION TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

ALL WORK SHALL COMPLY TO THE NEW JERSEY UNIFORM CONSTRUCTION CODE AND ALL ADOPTED SUBCODES, INCLUDING THE CURRENT ADOPTED EDITION OF THE INTERNATIONAL Building Code.

CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.

ALL WORK IS TO BE PERFORMED TO THE HIGHEST STANDARDS OF THE TRADES.

CONTRACTOR SHALL PROVIDE FOR THE SAFETY OF ALL JOB RELATED PERSONNEL.

PATCH AND REPAIR ANY DAMAGED PARTITIONS AND/OR FLOORING DUE TO DEMOLITION

DETAILS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYPICAL" IMPLY ALL CONDITIONS TREATED SIMILARLY. MODIFICATIONS TO BE MADE BY CONTRACTOR TO ACCOMMODATE MINOR VARIATIONS.

THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE SAFETY AND CONSTRUCTION PROCEDURES, TECHNIQUES, OR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE DRAWINGS. SPECIFICATIONS. OR THE REQUIRED CODES.

STRUCTURAL MEMBERS INCLUDING FOUNDATIONS, COLUMNS,

CONTRACTOR TO TEMPORARILY BRACE ALL EXISTING

BEAMS, JOISTS, WALLS, FLOORS AND CEILINGS, ETC.

AS NECESSARY PRIOR TO DEMOLITION & CONSTRUCTION!

CONTRACTOR SHALL BRING ERRORS AND OMISSIONS WHICH MAY OCCUR IN THE CONTRACT DOCUMENTS TO THE ATTENTION OF THE ARCHITECT IN WRITING AND WRITTEN INSTRUCTIONS SHALL BE OBTAINED BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY ERRORS, DISCREPANCIES, OR OMISSIONS IN THE RESPONSIBLE CONTRACT DOCUMENTS, OF WHICH THE CONTRACTOR FAILED TO NOTIFY THE ARCHITECT BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK.

THE CONTRACTOR AND THEIR SUBCONTRACTOR(S) SHALL VERIFY ALL DIMENSIONS AND JOB CONDITIONS AT THE JOB SITE SUFFICIENTLY IN ADVANCE OF WORK TO BE PERFORMED TO ASSURE THE ORDERLY PROGRESS OF THE WORK.

CONTRACTOR SHALL MAINTAIN THE PREMISES CLEAN AND FREE OF ALL TRASH, DEBRIS AND SHALL PROTECT ALL ADJACENT WORK FROM DAMAGE, SOILING, PAINT OVERSPRAY, ETC. ALL FIXTURES EQUIPMENT, GLAZING, FLOORS, ETC., SHALL BE LEFT CLEAN AND READY FOR OCCUPANCY UPON COMPLETION OF THE PROJECT. ALL TRASH AND DEBRIS IS TO BE REMOVED FROM THE SITE.

ALL MANUFACTURER'S PRINTED WARNINGS FOR HANDLING OF PRODUCTS MUST BE STRICTLY OBSERVED. THE WORDS "OR EQUAL" OR "OR EQUIVALENT" ARE TO BE ASSUMED WHENEVER A SPECIFIC MANUFACTURER IS NOTED.

CONTRACTOR TO PREP AND PAINT WALLS WITH 2 COATS OF PRIMER AND 2 COATS OF PAINT OR AS REQUIRED IN SPECIFICATIONS. COLOR DETERMINED BY OWNER OR AS SPECIFIED.

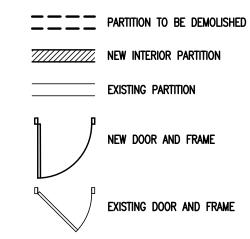
EXISTING ELECTRICAL COMPONENTS TO REMAIN EXCEPT AS NOTED. ANY ELECTRICAL COMPONENTS DISCONNECTED AND/OR REMOVED DURING CONSTRUCTION SHALL BE REINSTALLED IN THE SAME LOCATION BY A LICENSED ELECTRICAL CONTRACTOR UNLESS NOTED TO BE DEMOLISHED OR RELOCATED.

CONCRETE SLAB TO BE RESTORED TO MATCH EXISTING IF DAMAGED.

PROVIDE AND INSTALL GYPSUM WALLBOARD IN ACCORDANCE WITH "AMERICAN STANDARD SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM, WALLBOARD" AS APPROVED BY THE AMERICAN STANDARDS ASSOCIATE, LATEST EDITION.

APPLICATION OF PAINT OR OTHER COATING SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. READY-MIXED PAINT SHALL NOT BE THINNED, EXCEPT AS PERMITTED IN THE APPLICATION INSTRUCTIONS.

FLOOR PLAN LEGEND:



- EXISTING DUPLEX RECEPTACLE OUTLET NEW DUPLEX RECEPTACLE OUTLET
- NEW QUAD RECEPTACLE OUTLET
- NEW DUPLEX RECEPTACLE OUTLET
 1'-0" FROM CEILING FOR EQUIPMENT MOUNT DATA PORT

DUPLEX RECEPTACLE OUTLET-GROUND FAULT INTERRUPTER ₩ATER PROOF DUPLEX RECEPTACLE

OUTLET-GROUND FAULT INTERRUPTER SURFACED MOUNTED OUTLET

⊕ LED LIGHT FIXTURE

D DIMMER SWITCH

\$ SWITCH

3\$ 3-WAY SWITCH

4\$ 4-WAY SWITCH

SMOKE DETECTOR - HARDWIRE & INTERCONNECTED CM CARBON MONOXIDE DETECTOR HARDWIRE

& INTERCONNECTED SPRINKLER

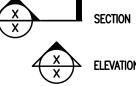
FA FIRE STROBE/ALARM

FP FIRE PULL STATION S CEILING MOUNTED SPEAKER SE SECURITY EQUIPMENT/CAMERA

EM EMERGENCY PULL SWITCH

EMERGENCY EXIT SIGN WITH DIRECTION INDICATOR

EMERGENCY LIGHT WITH BATTERY BACKUP EMERGENCY EXIT LIGHT WITH DIRECTION INDICATOR AND BATTERY



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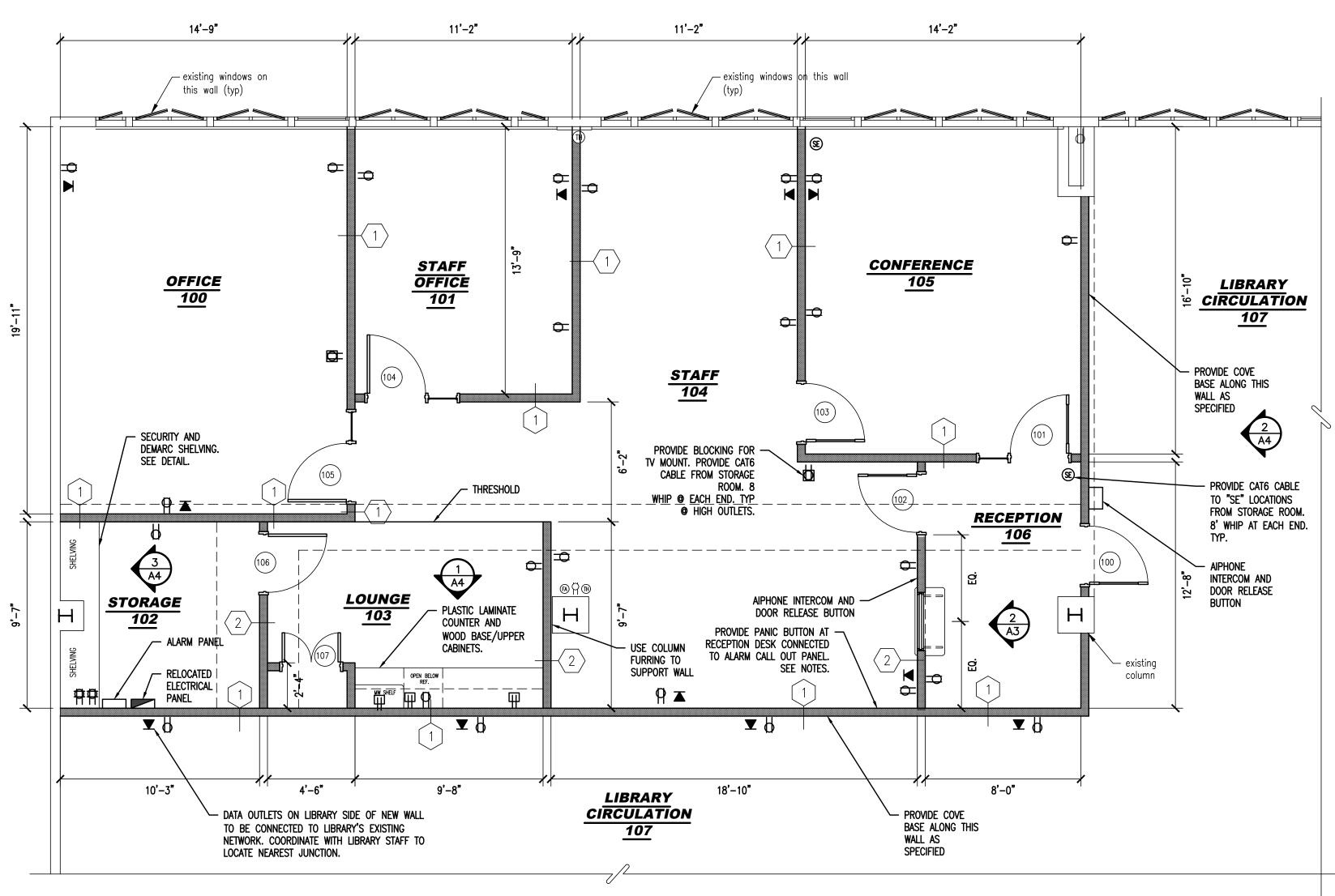
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DRAWING	; TITLE:	

DEMOLITION PLAN

DESIGNED BY: CCIA2022-01 10-5-22 CHECKED BY: AS NOTED DRAWING NUMBER:



A FLOOR PLAN SCALE: 1/2" = 1'-0"

REFLECTED CEILING LEGEND: FLOOR PLAN LEGEND: 24x48 LED LIGHT FIXTURE PARTITION TO BE DEMOLISHED 4\$ 4-WAY SWITCH SMOKE DETECTOR - HARDWIRE & 24x24 LED LIGHT FIXTURE ////////// NEW INTERIOR PARTITION 4x48 LED LIGHT FIXTURE CM CARBON MONOXIDE DETECTOR HARDWIRE EXISTING PARTITION & INTERCONNECTED DIFFUSER (SIZE VARIES) SPRINKLER NEW DOOR AND FRAME FA FIRE STROBE/ALARM RETURN (SIZE VARIES) FP FIRE PULL STATION LINEAR LED FIXTURE S CEILING MOUNTED SPEAKER EXISTING DOOR AND FRAME SE SECURITY EQUIPMENT/CAMERA EM EMERGENCY PULL SWITCH EXISTING DUPLEX RECEPTACLE OUTLET EMERGENCY EXIT SIGN WITH DIRECTION INDICATOR NEW DUPLEX RECEPTACLE OUTLET NEW QUAD RECEPTACLE OUTLET EMERGENCY LIGHT WITH BATTERY BACKUP NEW DUPLEX RECEPTACLE OUTLET 1'-0" FROM CEILING FOR EQUIPMENT MOUNT EMERGENCY EXIT LIGHT WITH DATA PORT DIRECTION INDICATOR AND BATTERY DUPLEX RECEPTACLE OUTLET-GROUND FAULT Interrupter SECTION TAG ₩ATER PROOF DUPLEX RECEPTACLE X ELEVATION TAG OUTLET-GROUND FAULT INTERRUPTER SURFACED MOUNTED OUTLET X PARTITION TYPE LED LIGHT FIXTURE XX DOOR IDENTIFICATION \$ SWITCH D\$ DIMMER SWITCH 3 3-WAY SWITCH

EXISTING CONSTRUCTION NOTES:

BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING BUILDING, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE EXISTING STRUCTURAL AND OTHER CONDITIONS.

THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND CONDITIONS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.

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NOTES:

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FINISH NOTES:

PROVIDE AND INSTALL GYPSUM WALLBOARD IN ACCORDANCE WITH "AMERICAN STANDARD SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM, WALLBOARD" AS APPROVED BY THE AMERICAN STANDARDS ASSOCIATE, LATEST EDITION.

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> MV200 WNC-SB

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STEVEN M. BACH, PE, RA, PP, CME NJ PROFESSIONAL ENGINEER No. GE 4150 NJ REGISTERED ARCHITECT No. AI 14872 NJ PROFESSIONAL PLANNER No. LI 05557

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DESCRIPTION ISSUE FOR BID

FLOOR PLAN

DESIGNED BY: CCIA2022-01 DRAWN BY: 10-5-22 SCALE: CHECKED BY: AS NOTED DRAWING NUMBER:

A-1

PANIC BUTTON SYSTEM TO INCLUDE THE FOLLOWING COMPONENTS:

MANUFACTURER: BEC INTEGRATED SOLUTIONS

2. WIRELESS SECURITY BUTTON STATION UNDER COUNTER/SURFACE MOUNT

3. BEC INDOOR/OUTDOOR SIREN AND STROBE

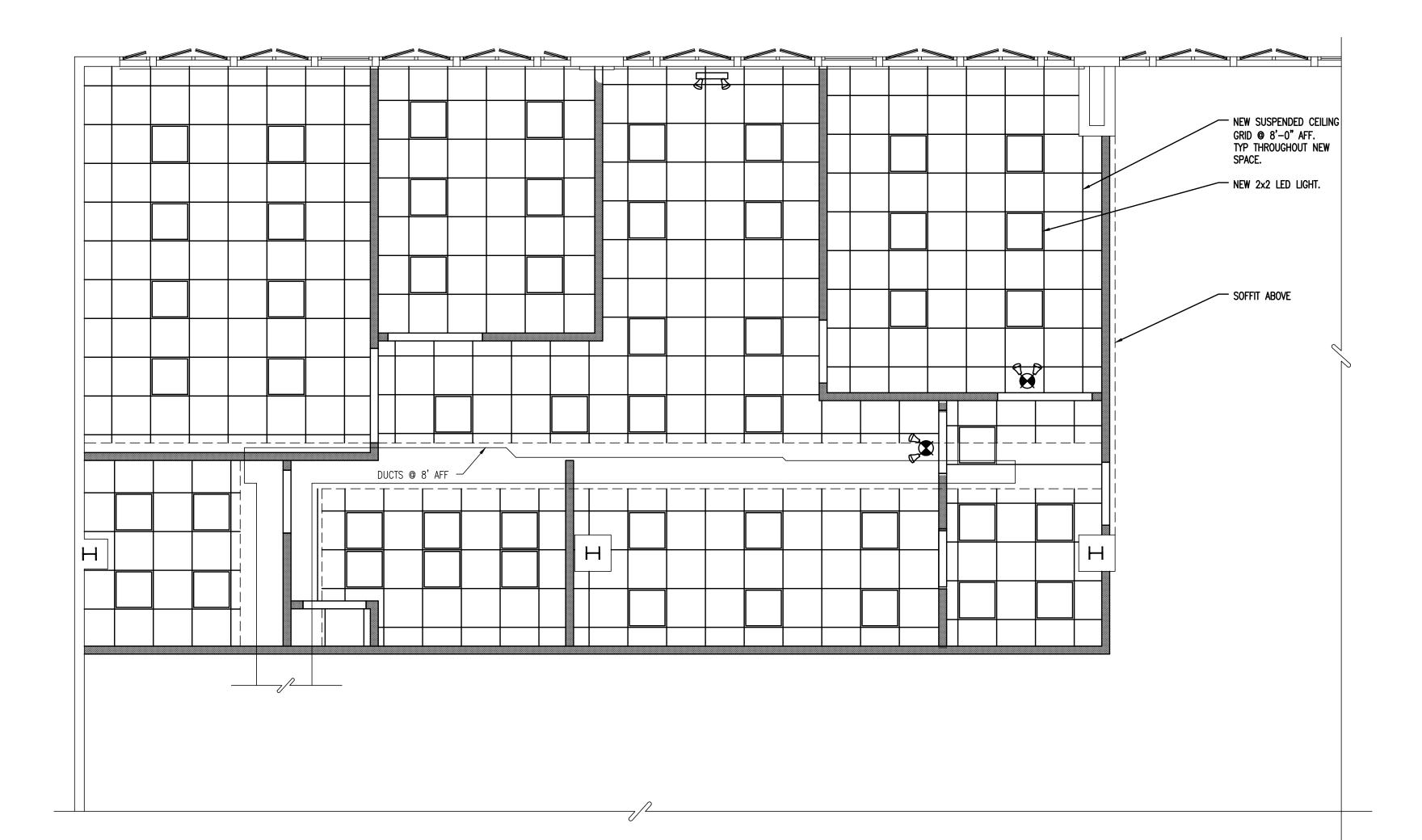
1. WIRELESS DESK CONSOLE

4. AUTO VOICE DIALER TWO INPUT VOICE ALARM DIALER

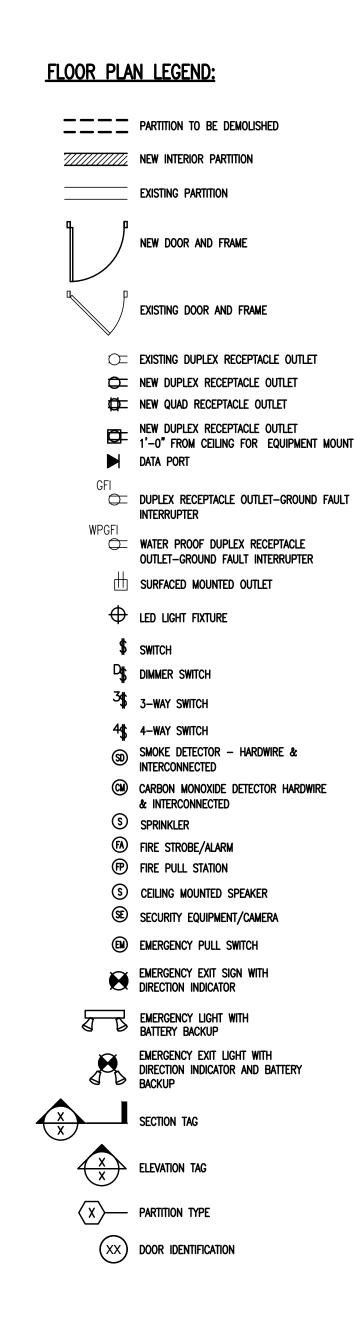
CONTRACTOR TO TEMPORARILY BRACE ALL EXISTING STRUCTURAL MEMBERS INCLUDING FOUNDATIONS, COLUMNS, BEAMS, JOISTS, WALLS, FLOORS AND CEILINGS, ETC. AS NECESSARY PRIOR TO DEMOLITION & CONSTRUCTION!

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NEW DROPS FOR SPRINKLER HEADS TO BE ADDED TO EXISTING SUPPLY PIPES TO COVER AREA UNDER NEW SUSPENDED CEILING. CONTRACTOR TO SUBMIT ENGINEERED FIRE PROTECTION PLANS SHOWING NEW SPRINKLER HEAD LOCATIONS ABOVE AND BELOW NEW CEILING.



1 REFLECTED CEILING PLAN
SCALE: 1/2" = 1'-0"





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NJ PROFESSIONAL ENGINEER No. GE 41507 NJ REGISTERED ARCHITECT No. AI 14872

NJ PROFESSIONAL PLANNER No. LI 05557

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

RENOVATION

PROJECT:

TY LIBRARY SYSTEM N VOGELSON

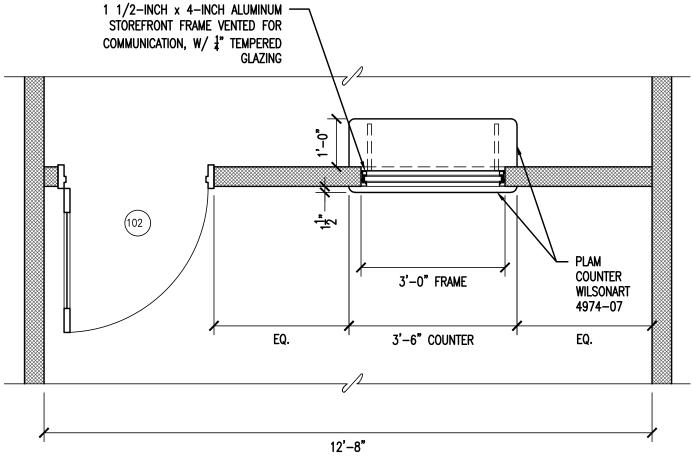
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NO.	DESCRIPTION	DATE
1	ISSUE FOR BID	11-14
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REFLECTED CEILING PLAN

JOB NO: CCIA2022-01	DESIGNED BY: DM3
DATE: 10-5-22	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

A-2

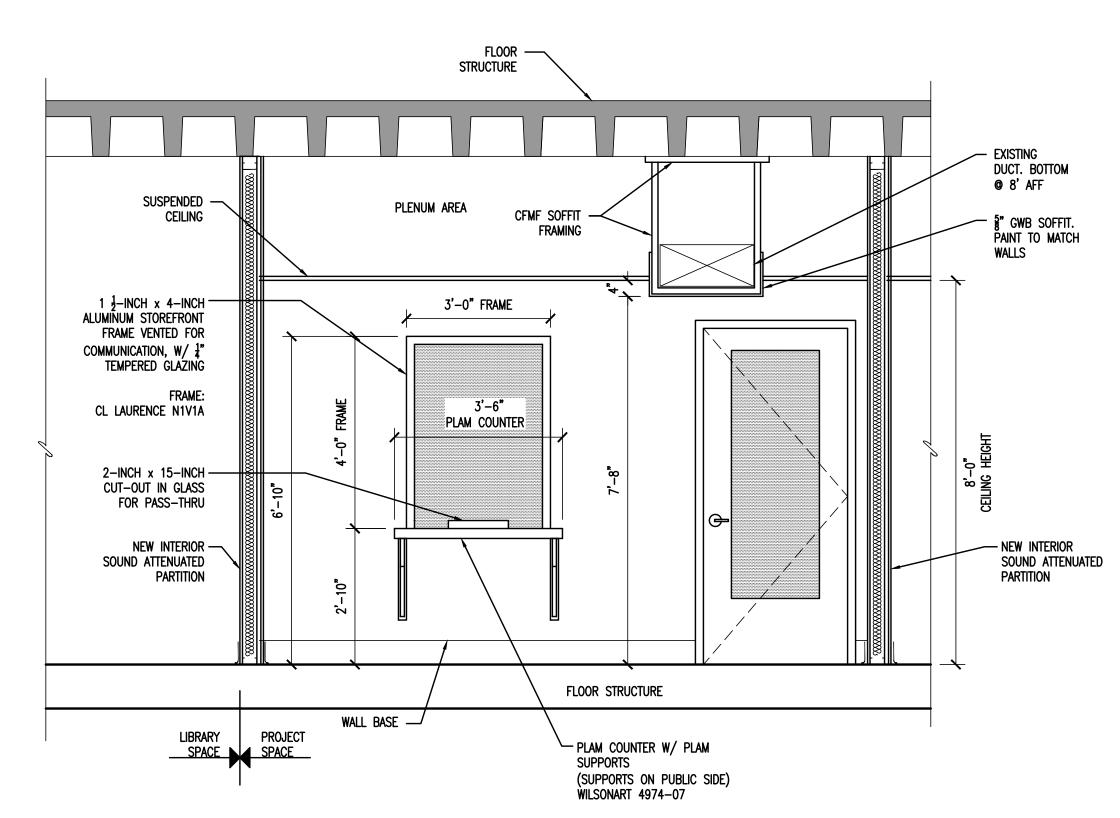


SERVICE COUNTER NOTES:
COORDINATE WITH OWNER FOR FINAL LOCATION OF
PANIC BUTTON, CONNECTED TO ALARM CALL OUT

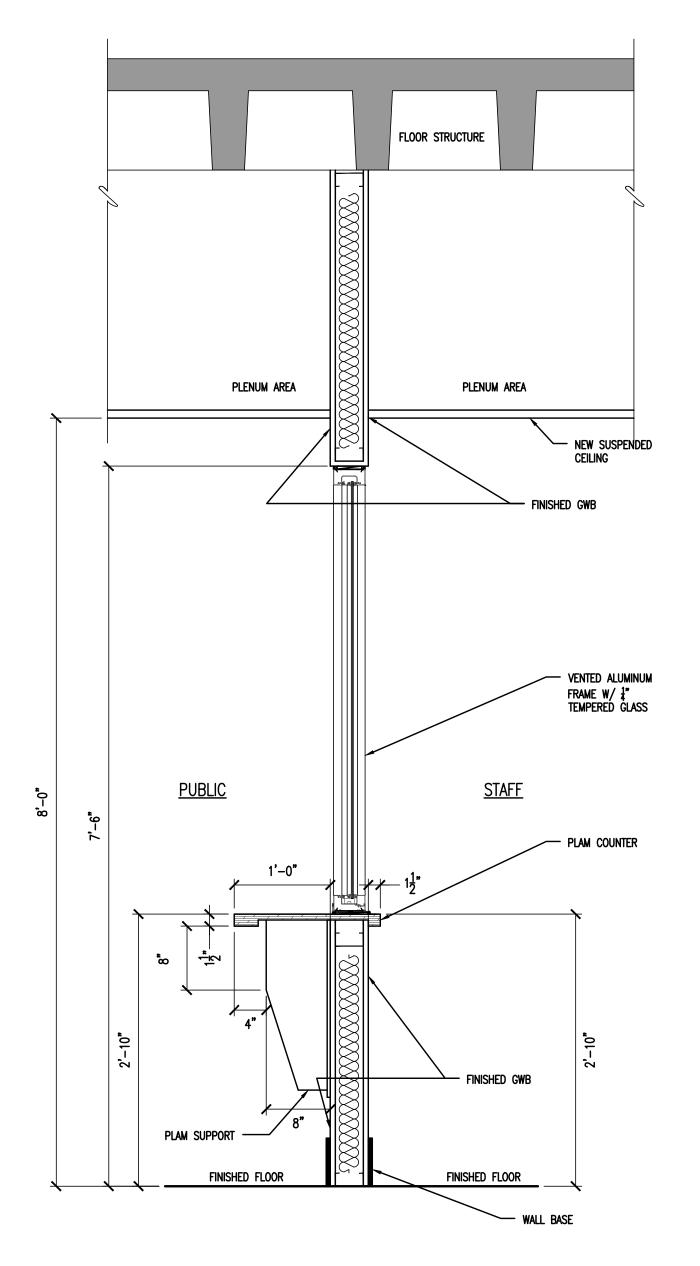
COORDINATE WITH OWNER FOR FINAL LOCATION OF MASTER STATION MODULE FOR ACCESS SENTRY SYSTEM IN STORAGE102. OBSERVE MAXIMUM LOW VOLTAGE RUN LENGTH FOR LOCATION OF ACCESS SENTRY SYSTEM POWER SUPPLY. PROVIDE FULL VOLTAGE TO TRANSFORMER IF LOW-VOLTAGE RUN EXCEEDS MAXIMUM ALLOWABLE.

COORDINATE WITH OWNER FOR FINAL LOCATION OF SURFACE MOUNT AIPHONE DOOR STATION FOR ACCESS SENTRY SYSTEM LOCATED AT DOOR 100.

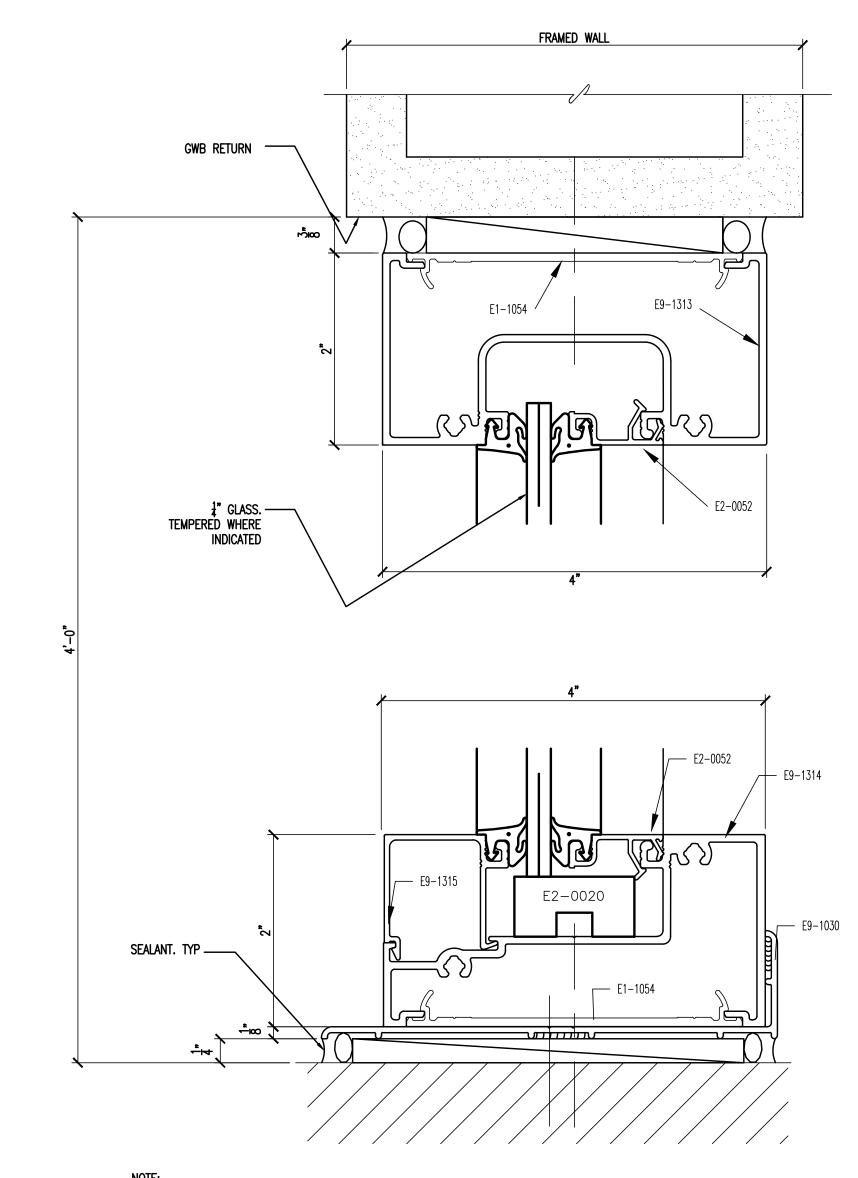
1 PLAN - SERVICE WINDOW SCALE: 1/2" = 1'-0"



2 ELEVATION - SERVICE WINDOW SCALE: 1/2" = 1'-0"



3 SECTION - SERVICE WINDOW SCALE: 1" = 1'-0"



REFERENCES TO INDIVIDUAL COMPONENTS TAKEN FROM MANUFACTURER'S DETAILS. CONFIRM ASSEMBLY WITH MANUFACTURER

SECTION - ALUMINUM STOREFRONT 4 @ SERVIE WINDOW SCALE: NOT TO SCALE

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BA

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NJ PROFESSIONAL ENGINEER No. GE 41507
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NJ PROFESSIONAL PLANNER No. LI 05557

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

OF ANY DISCREPANCIES BEFORE PROCEEL WITH THE WORK.

PROJECT:

AMDEN COUNTY LIBRARY SYST M. ALLAN VOGELSON LIBRARY RENOVATION

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AND EX	PENSES ARISING OUT OF OR RESULTING TI	HEREF
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1	ISSUE FOR BID	11-1
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DETAILS

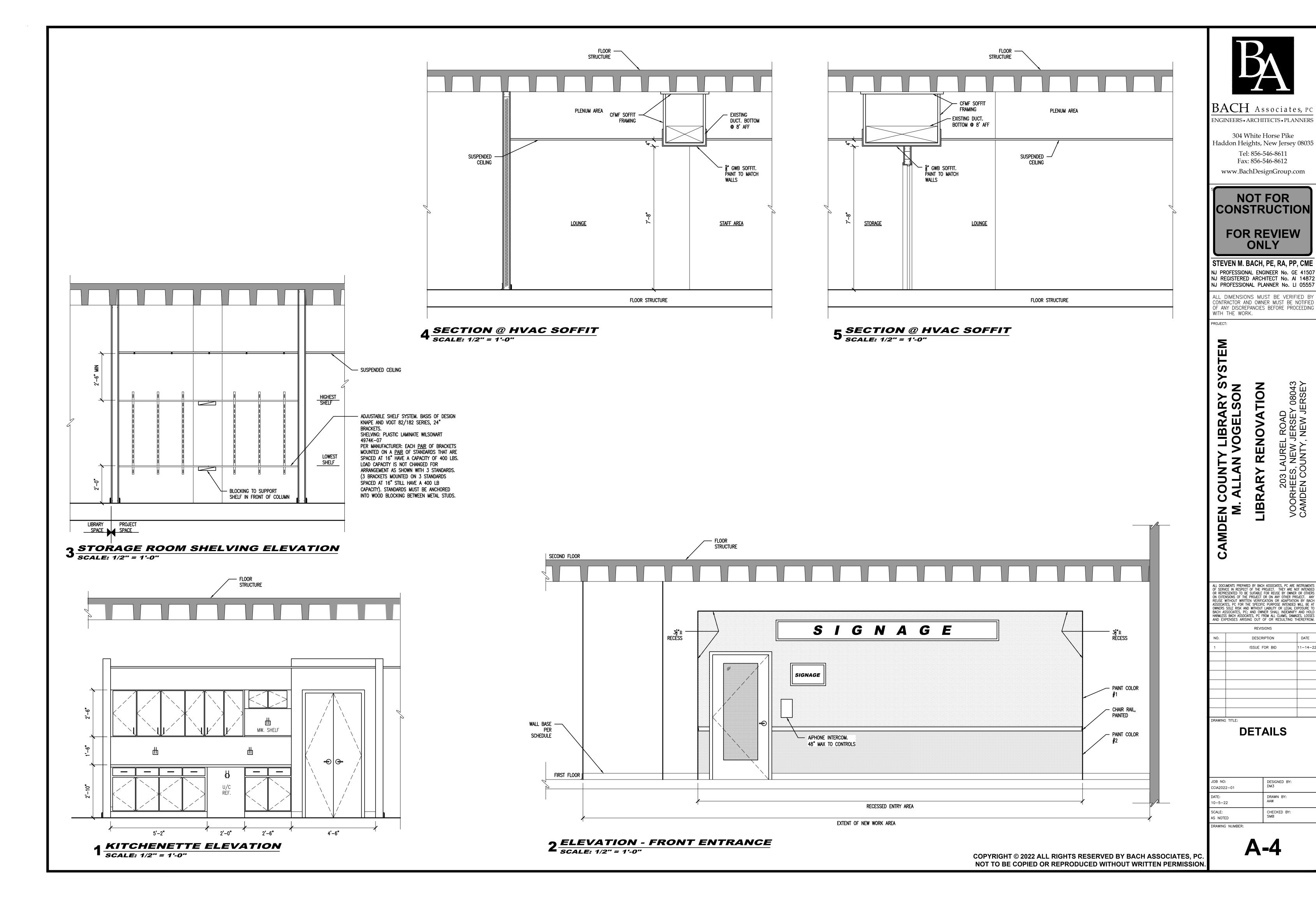
JOB NO:
CCIA2022-01

DATE:
DATE:
DRAWN BY:
AAW

SCALE:
AS NOTED

DRAWING NUMBER:

A-3



	ROOM FINISH SCHEDULE									
ROOM #:	ROOM NAME:			WALLS:				CEILING	CEILING	REMARKS:
		FLOOR:	BASE:	NORTH	EAST	SOUTH	WEST		HEIGHT:	
BASEMEN	NT									
100	OFFICE	CPT	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
101	STAFF OFFICE	CPT	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
102	STORAGE	LVP	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
103	LOUNGE	LVP	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
104	STAFF	CPT	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
105	CONFERENCE	CPT	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
106	RECEPTION	CPT	WOOD	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	1, 2, 3
107	LIBRARY CIRCULATION	EXG.	COVE	PAINT	EXG.	EXG.	PAINT	EXG.	EXISTING	4, 5

VCT: VINYL COMPOSITION TILE ACT: ACOUSTICAL CEILING TILE CPT: CARPET TILE RUB: RUBBER BASE PT: PORCELAIN TILE

COVE: VINYL COVE BASE LVT: LUXURY VINYL TILE

1. EXISTING GYPSUM SURFACES DAMAGED DURING CONSTRUCTION TO BE CUT OUT AND REPLACE DAMAGED GYPSUM, SPACKLE AND SAND SMOOTH, PAINT TO MATCH EXISTING.

2. PATCH AND REPAIR ALL WALLS / CEILINGS AND FLOORING AS A RESULT OF DEMOLITION AND/OR CONSTRUCTION, MATCH ADJACENT MATERIALS.

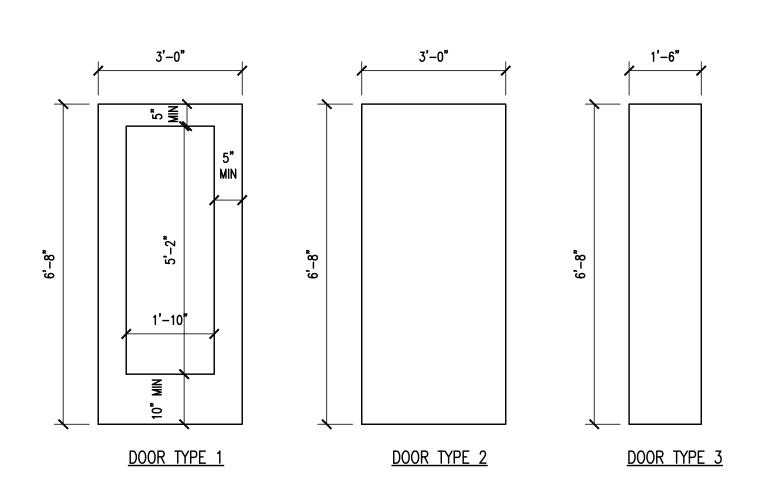
3. WOODGRAIN MILLWORK WM 623 9/16" x 3 1/4" SOLID PINE WALL BASE. PAINT WITH SHERWIN WILLIAMS PURE WHITE 255-C1 SW7005 IN SEMI-GLOSS FINISH. PROVIDE QUARTER ROUND TRIM @ LVP FLOORING.

4. COVE BASE TO MATCH EXISTING IN LIBRARY. SEE SPECIFICATION 096514 FOR MANUFACTURER AND STYLE.

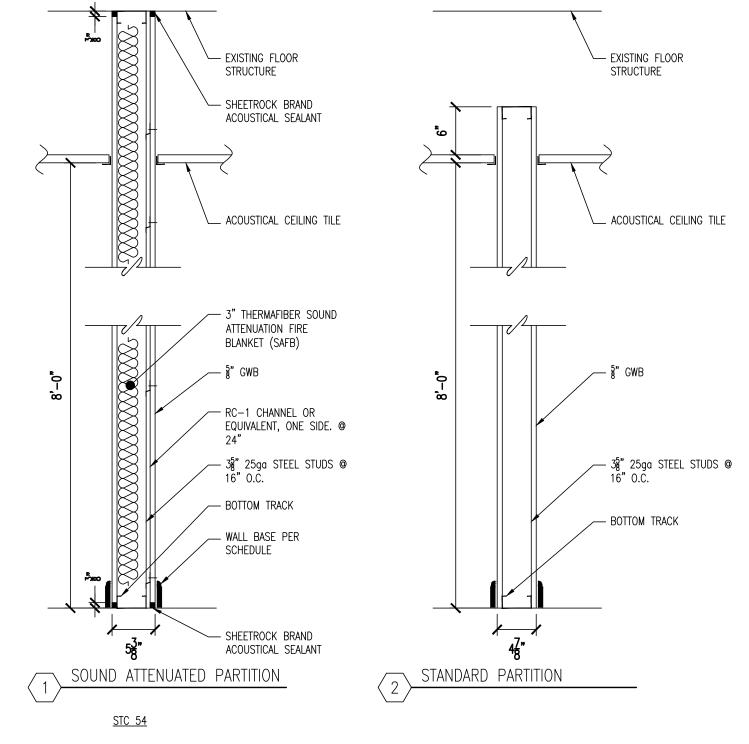
5. PAINT ALL NEW WALL SURFACES AND ALL EXISTING ADJACENT SURFACES AFFECTED BY WORK. COLOR TO MATCH EXISTING ADJACENT.

FULL HEIGHT PARTITIONS TO UNDERSIDE OF EXISTING RIB OF SLAB ABOVE. CONSULT ARCHITECT IF ADJUSTMENT TO WALL LOCATIONS IS REQUIRED TO MEET THIS REQUIREMENT T'± T'±	EXISTING CONCRETE WAFFLE SLAB NEW SUSPENDED CEILING
PUBLIC SIDE	TENANT SIDE
VINYL COVE BASE ON — LIBRARY SIDE OF NEW WALL	WOODGRAIN MILLWORK WALL BASE (PAINTED). PROJECT SIDE. TYP.

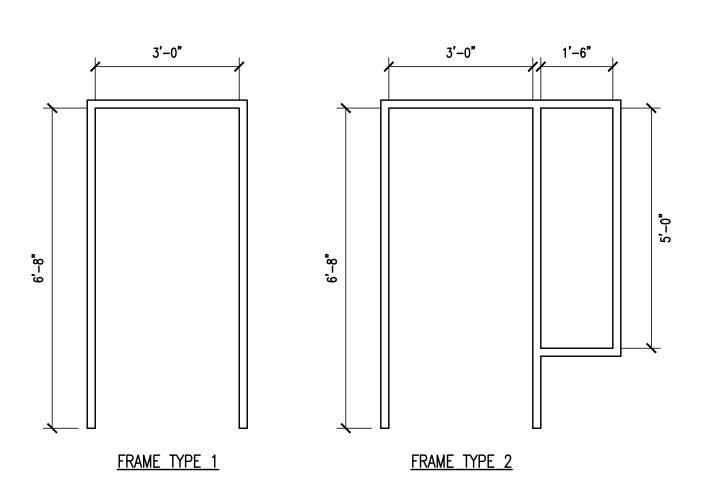
TENANT WALL TERMINATION SCALE: 1" = 1'-0"



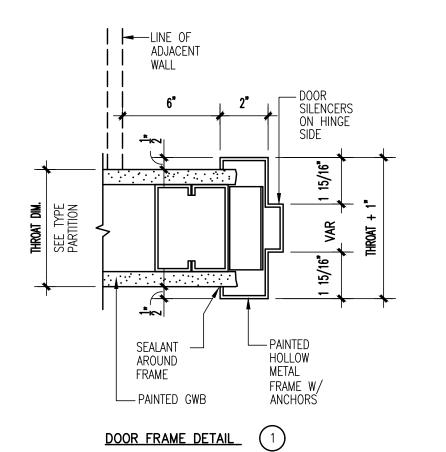
2 DOOR TYPES SCALE: NOT TO SCALE



5 PARTITION TYPES SCALE: NOT TO SCALE



3 FRAME TYPES SCALE NOT TO SCALE



4 FRAME DETAIL SCALE NOT TO SCALE

						DOOR	SC	HE	DULE	-		
DOOR	DOOR			FRAME			FRAME	HARDWARE	DOOR	FIRE		
NUMBER	SIZE	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	DETAIL		THRESHOLD	RATING	REMARKS
				•								
100	3'-0" x 6'-8"	1	WD	POLY	1	НМ	PM	1	100	_	_	CARD READER, ELECTRIC STRIKE, 4,
101	3'-0" x 6'-8"	1	WD	POLY	2	НМ	PM	1	101	-	_	CARD READER, ELECTRIC STRIKE, 4, 5
102	3'-0" x 6'-8"	1	WD	POLY	1	НМ	PM	1	101	-	_	CARD READER, ELECTRIC STRIKE, 4
103	3'-0" x 6'-8"	1	WD	POLY	1	НМ	РМ	1	102	-	_	CARD READER, ELECTRIC STRIKE, 4
104	3'-0" x 6'-8"	2	WD	POLY	2	НМ	PM	1	103	-	-	5
105	3'-0" x 6'-8"	2	WD	POLY	2	НМ	РМ	1	104	_	_	5, 6
106	3'-0" x 6'-8"	2	WD	POLY	1	НМ	PM	1	105	-	_	-
107	(2) 1'-6" x 6'-8"	3	WD	POLY	1	НМ	PM	1	106	_	_	-

AL ALUMINUM |CLR CLEAR ANODIZED |RES RESCUE HARDWARE |PB PANIC BAR |MAR: MARBLE JPC: POWDER COAT WD WOOD

PM PAINTED METAL CL CLASSROOM LOCKET PRV PRIVACY LOCKET FF: FACTORY FINISH

ME MATCH EXISTING PAS PASSAGE LATCH STL STEEL FG: ALL FIBERGLASS

POLY STAINED HM HOLLOW METAL ST STORE ROOM LOCKET P PAINT FRP: FIBER REINFORCEI FF: FACTORY FINISH FG: ALL FIBERGLASS FRP: FIBER REINFORCED PLASTIC FRP: FIBER REINFORCED PLASTIC

1. ALL GLAZING FOR DOOR AND WINDOW SHALL BE TEMPERED PLATE GLASS UNLESS NOTED OTHERWISE

2. WHERE INDICATED, FIRE RATING TO BE APPLIED TO BOTH DOOR AND FRAME CONSTRUCTION. 3. GENERAL CONTRACTOR TO SUBMIT ALL DOOR FRAME & HARDWARE FOR ARCHITECT REVIEW AND APPROVAL

4. KEYLESS ENTRY SYSTEM INCLUDES HARDWIRED ELECTRIC STRIKE AND REQUIRED POWER SUPPLY WITH COMPATIBLE EXIT DEVICE, HARDWIRED CARD READER WITH REQUIRED POWER SUPPLY TO ACTIVATE STRIKE, ENTRY HARDWARE, CYLINDER

FOR MANUAL RETRACTION OF LATCH, ALL REQUIRED POWER AND LOW VOLTAGE WIRING TO ALLOW FOR COMPLETE OPERATION OF LOCK, INTERCONNECTED ACCESS SENTRY SYSTEM WITH LOCK RELEASE BUTTON WHERE NOTED.

5. ADJACENT, INTEGRAL-FRAME SIDE LITE 1'-6" x 5'-0".

6. PROVIDE MINI-BLINDS ON INTERIOR OF OFFICE DOOR WITH GLASS KIT.

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PROJECT:

TY LIBRARY SYSTEM N VOGELSON

RENOVATION LIBRARY

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1 ISSUE FOR BID 11-1	NO.	DESCRIPTION	DATE
	1	ISSUE FOR BID	11-14-2

SCHEDULES AND DETAILS

JOB NO: CCIA2022-01	DESIGNED BY: DM3
DATE: 10-5-22	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB
DRAWING NUMBER:	

A-5

ELECTRICAL SYMBOLS SCHEDULE

ELECTRICAL ABBREVIATIONS

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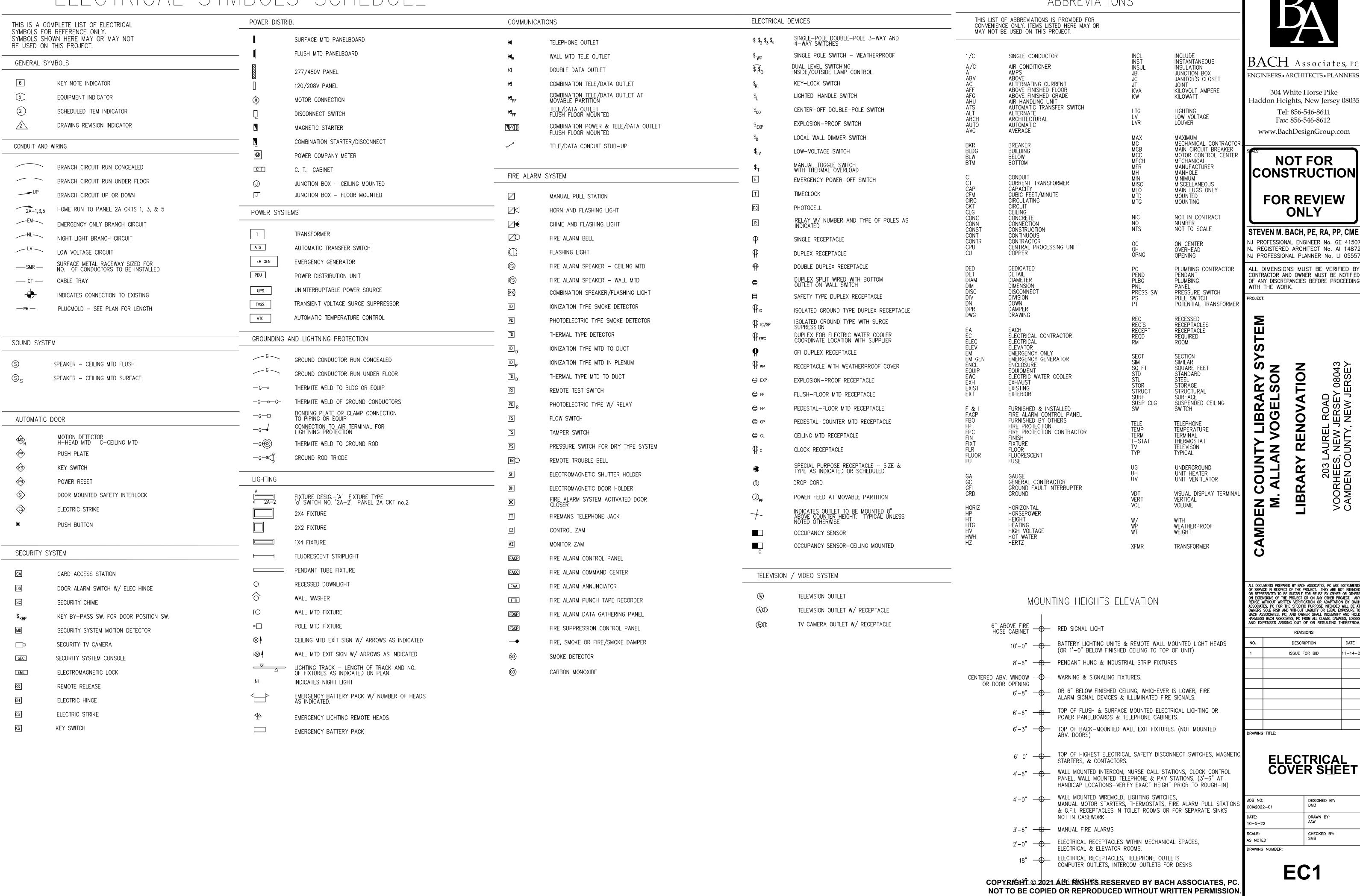
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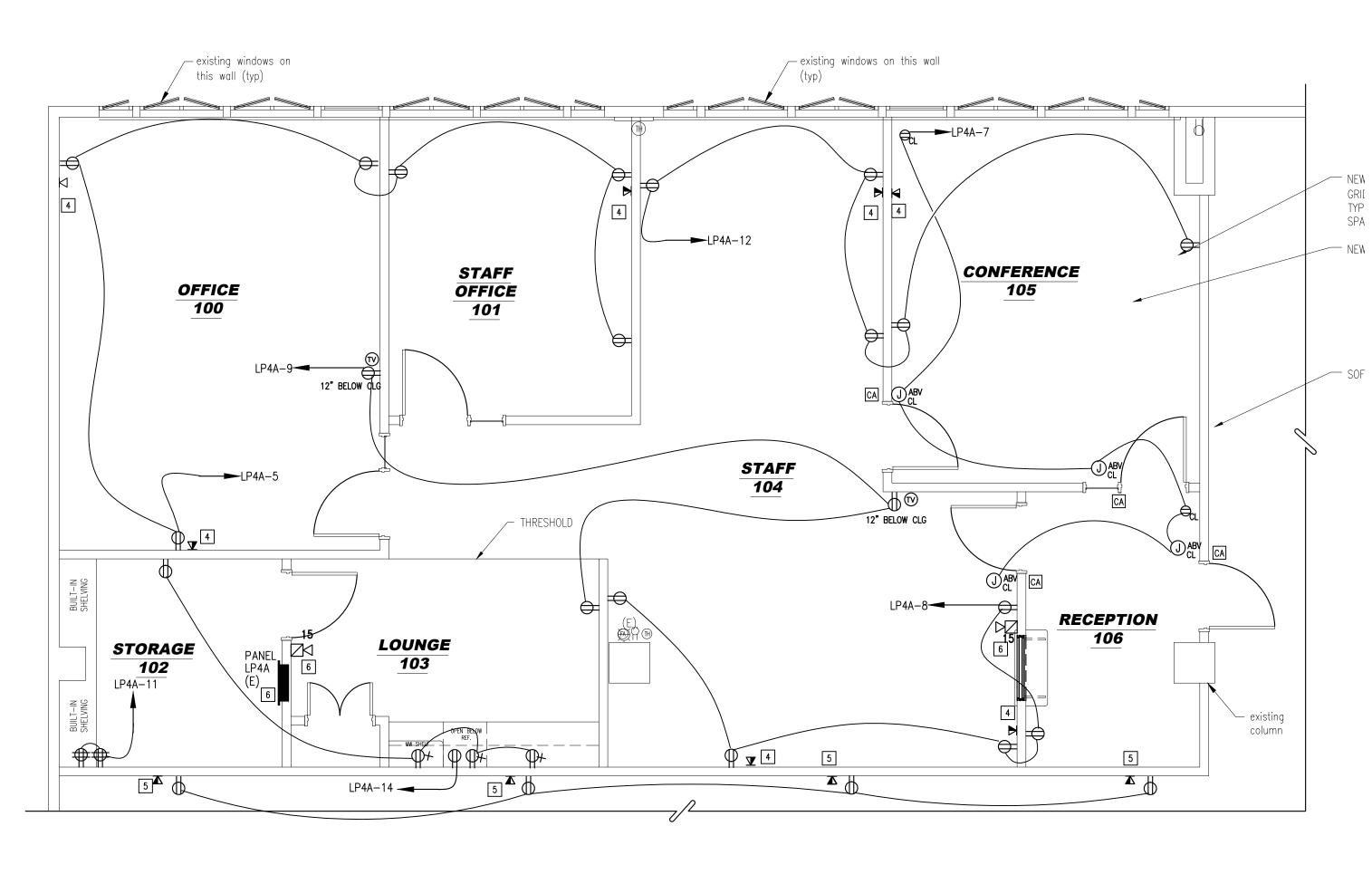
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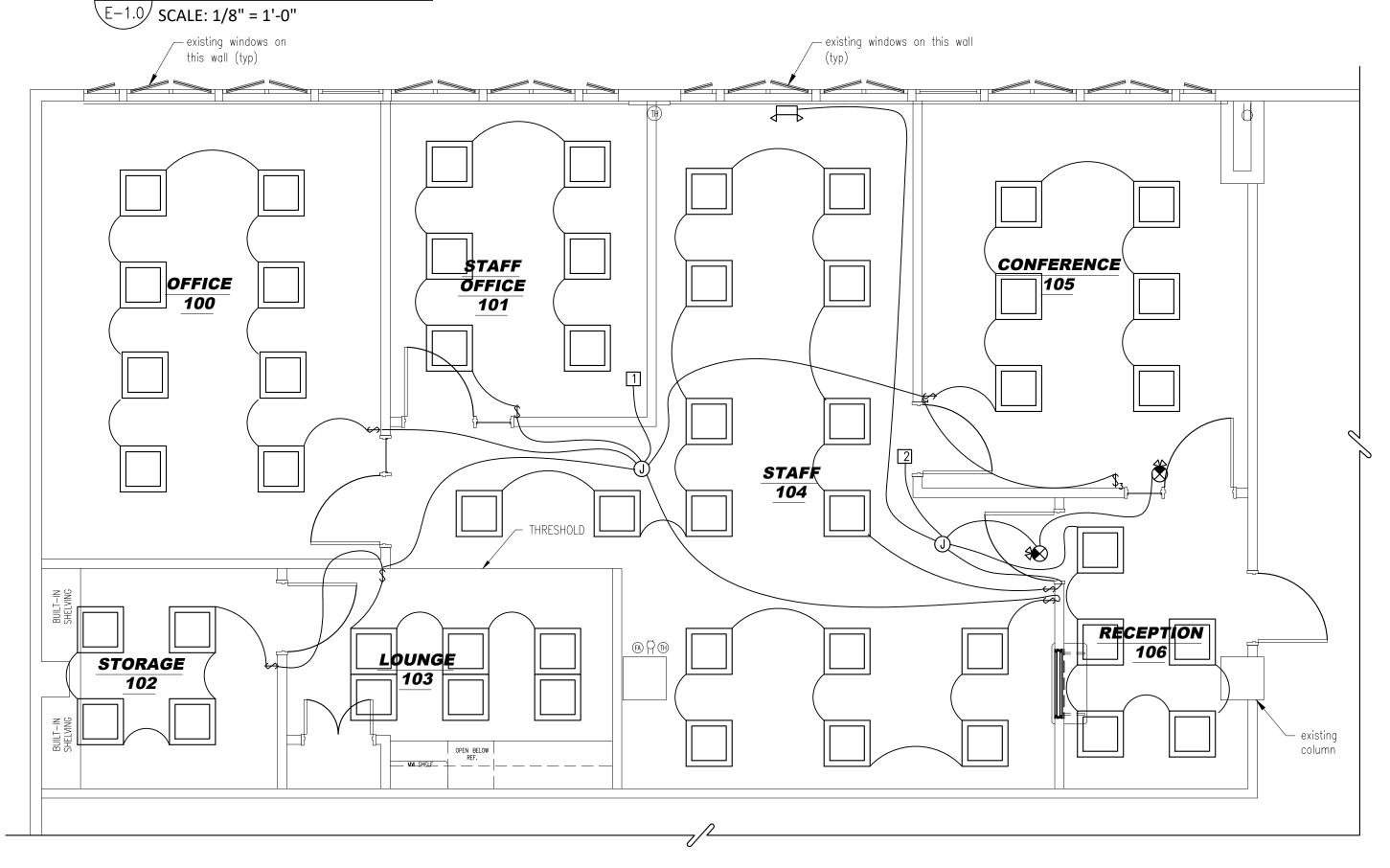
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ELECTRICAL POWER PLAN



GENERAL REQUIREMENTS FOR ELECTRICAL WORK

- 1. CONTRACTOR SHALL PROVIDE LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL WORK AS INDICATED ON THE DRAWINGS AND AS SPECIFIED.
- 2. LABOR, MATERIAL, EQUIPMENT AND SERVICE OBVIOUSLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF ELECTRICAL SYSTEMS, ALTHOUGH NOT SPECIFICALLY MENTIONED OR SHOWN, SHALL BE PROVIDED.
- 3. ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRIC CODE AND APPLICABLE LAWS CODES AND REGULATIONS OF MUNICIPAL, COUNTY, STATE, FEDERAL AUTHORITIES, UTILITY COMPANIES, INSURANCE AGENCIES AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.

CONTRACTOR AND ALL EMPLOYEES SHALL FAMILIARIZE THEMSELVES WITH OWNERS, STATE, LOCAL AND FEDERAL CONSTRUCTION SAFETY GUIDELINES PRIOR TO THE COMMENCEMENT OF WORK.

- OBTAIN. PAY FOR AND DELIVER PERMITS AND CERTIFICATES OF INSPECTION AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK. AN ELECTRICAL INSPECTION CERTIFICATE, FOR EACH CLASS OF WORK REQUIRING INSPECTION, MUST BE SUBMITTED PRIOR TO OR WITH THE FINAL PAYMENT INVOICE. CONTRACTOR MUST MAKE APPLICATION FOR THE INSPECTION. COORDINATE SAME, AND PAY THE REQUIRED INSPECTION FEE.
- BEFORE SUBMITTING HIS BID, TRADE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD. FAILURE TO DO SO SHALL NOT RELIEVE TRADE CONTRACTOR OF HIS OBLIGATION TO PAY FOR COSTS THAT MAY BE INCURRED DUE TO CONDITIONS THAT MAY AFFECT THE COST OF INSTALLING HIS WORK.
- 6. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. HOWEVER, CERTAIN RACEWAYS, BENDS, FITTINGS, BOXES, SYSTEM COMPONENTS, APPURTENANCES AND
- CONSULT THE DRAWINGS FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE SAME ARE NOT DEFINITELY LOCATED, OBTAIN THIS INFORMATION FROM THE ARCHITECT/ENGINEER.

RELATED SPECIALTIES ARE NOT SHOWN, BUT SHALL BE PROVIDED TO INSURE A COMPLETE INSTALLATION.

- INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED OR SHOWN, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK, THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN REVIEW.
- 9. NO CONSIDERATION OR ALLOWANCE SHALL BE GRANTED FOR ALLEGED MISUNDERSTANDING OF MATERIALS AND EQUIPMENT TO BE FURNISHED FOR WORK TO BE ACCOMPLISHED.
- 10. WORK FURNISHED UNDER THE CONTRACT SHALL BE WARRANTED AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR, OR AS OTHERWISE SPECIFIED, FROM THE DATE OF FINAL ACCEPTANCE.
- 11. MATERIAL AND EQUIPMENT IN THE WORK SHALL BE NEW, HOSPITAL GRADE, FIRST CLASS, THE BEST OF THEIR RESPECTIVE KINDS AND APPROPRIATE FOR THE APPLICATION AND ENVIRONMENT.
- 12. EQUIPMENT OR APPARATUS FOR ANY ONE SYSTEM SHALL BE THE PRODUCT OF ONE MANUFACTURER. THE TERM "MANUFACTURER" SHALL BE UNDERSTOOD AS APPLYING TO A COMPANY OF ESTABLISHED REPUTATION IN THE MANUFACTURE OF A PARTICULAR PIECE OF EQUIPMENT OR APPARATUS FROM PRODUCTS OF HIS OWN MAKE OR OTHERS, AND WHO ASSUMES FULL RESPONSIBILITY FOR PRODUCTS USED IN SUCH EQUIPMENT OR APPARATUS. THE MANUFACTURER MUST SUBMIT EVIDENCE OF FIVE (5) YEARS OR MORE MANUFACTURING EXPERIENCE IN THE PRODUCTION OF THESE PRODUCTS.
- 13. MATERIAL OR EQUIPMENT SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE, OR CATALOG NUMBER ARE DESIGNED TO ESTABLISH STANDARDS OF DESIRED QUALITY, STYLE, PERFORMANCE, ELECTRICAL, MECHANICAL AND PHYSICAL CHARACTERISTICS, AND DIMENSIONS.
- 14. WHERE CABLE PASSES THROUGH FIRE RATED STRUCTURES PROVIDE FIREPROOF FITTINGS.
- 15. RACEWAYS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT AS OTHERWISE SPECIFIED OR SHOWN.
- 16. WHERE CONDUIT TERMINATES IN A CABINET, BOX OR AUXILIARY GUTTER, THE CONDUCTORS SHALL BE PROTECTED BY AN INSULATING BUSHING. LOCKNUTS SHALL BE PROVIDED BOTH INSIDE AND OUTSIDE THE ENCLOSURE.
- 17. A PULL WIRE SHALL BE INSTALLED IN EMPTY RACEWAYS. PULL WIRE SHALL BE 200 POUND TEST NYLON. BOTH ENDS SHALL BE IDENTIFIED BY MEANS OF LABELS OR TAGS, READING "PULL WIRE" AND GIVING THE ORIGINATION AND TERMINATION POINTS.
- 18. GENERALLY, WIRING (OTHER THAN EMERGENCY) SHALL BE DONE WITH INSULATED COPPER CONDUCTORS IN CONTINUOUSLY GROUNDED ELECTRICAL METALLIC TUBING (EMT). CONDUCTORS AND RACEWAYS SHALL BE HOSPITAL GRADE, INSTALLED CONCEALED IN THE CONSTRUCTION EXCEPT IN MECHANICAL OR ELECTRICAL SPACES, OPEN CONSTRUCTION AREAS OR WHERE SHOWN ON THE DRAWINGS.

LINE VOLTAGE AND LOW VOLTAGE WIRING SHALL BE RUN IN SEPARATE RACEWAYS.

LOCK-ON CIRCUIT BREAKER HANDLE

ALL EMERGENCY WIRING SHALL BE INSTALLED IN NONFLEXIBLE METAL RACEWAY PER NATIONAL ELECTRICAL CODE ARTICLE 517.30.C.3. USE HOSPITAL GRADE GRS CONDUIT, IMC CONDUIT, EMT, ETC. PER NATIONAL ELECTRICAL CODE REQUIREMENTS, NO OTHER WIRING FOR ANY OTHER SYSTEMS SHALL BE INSTALLED WITHIN THE SAME RACEWAYS AS EMERGENCY WIRING.

- 19. HOSPITAL GRADE MC CABLING MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING ABOVE SUSPENDED CEILING. ALL HOME RUNS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING (EMT) FROM CIRCUIT BREAKER PANELS TO
- 20. RACEWAYS SHALL BE HOSPITAL GRADE AND SHALL BE SUPPORTED TO COMPLY WITH NEC.
- 21. WHERE TELE DATA OUTLETS ARE SHOWN, PROVIDE A SINGLE GANG BOX WITH BLANK PLATE AND HOSPITAL GRADE CONDUIT (1" DIA. MINIMUM) WITH PULL STRING UP TO CEILING SPACE ABOVE.
- 22. NO "THROUGH-WALL" BOXES SHALL BE PERMITTED. WHERE DRAWINGS INDICATE BOXES BACK-TO-BACK, OR SIMILAR LOCATIONS, SUCH BOXES SHALL BE INSTALLED SEPARATELY, SPACED MINIMUM SIX INCHES APART
- 23. FOR CONDUITS OR CABLES THAT PENETRATE FIRE RATED WALLS, FLOORS, PARTITIONS, OR SLABS, FILL AND SEAL SPACES BETWEEN THE CONDUITS OR CABLES AND THE SLEEVE WITH 2-PART INTUMESCENT FOAM SEALANT CREATING A FIRE STOP EQUAL TO OR EXCEEDING FIRE RATING OF CONSTRUCTION MATERIAL BEING PENETRATED. FIRE SEALANT SHALL PREVENT SPREAD OF FLAME. SMOKE, AIR AND WATER THROUGH THE SLEEVE AND SHALL PASS 3 HOUR TEST PER ASTMA E814 AND UL 1479. FIRE SEALANT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 24. ALL CONDUITS AND FLEXIBLE METAL CONDUIT SHALL CONTAIN A GROUNDING CONDUCTOR. CONDUITS ARE NOT TO BE USED AS A GROUNDING CONDUCTOR.

ALL BRANCH CIRCUIT WIRING SUPPLYING NEW RECEPTACLES AND LIGHTING BEING INSTALLED SHALL BE #12 COPPER CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL WIRE.

- 25. ALL NEW DEVICES (RECEPTACLES, SWITCHES, ETC...) SHALL BE HUBBELL OR LEVITON. ALL DEVICES SHALL BE HOSPITAL GRADE, TAMPER RESISTANT TYPE.
- 26. CONTRACTOR SHALL COORDINATE THE MOUNTING OF ALL DEVICES WITH OWNER AND FIELD CONDITIONS. SOME ITEMS MAY NEED TO BE, OR PREFERRED BY OWNER TO BE OTHERWISE MOUNTED.
- 27. JUNCTION BOX LOCATIONS SHOWN ON PLANS ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL DETERMINE FINAL LOCATIONS OF ALL JUNCTION BOXES. ALL JUNCTION BOXES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION AND LABELED WITH SOURCE AND SOURCE VOLTAGE. JUNCTION BOXES CONTAINING EMERGENCY WIRING SHALL HAVE RED COVERS AND LABELED AS ABOVE.
- 28. RECEPTACLE, SWITCH AND OTHER DEVICES AND COVER PLATES SHALL BE BUILDING STANDARD COLOR. EMERGENCY RECEPTACLES SHALL BE RED WITH RED COVER PLATES AND SHALL BE PERMANENTLY LABELED WITH PANEL BOARD AND CIRCUIT NUMBER SUPPLYING RECEPTACLE.
- 29. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED TO COMPLY WITH OSHA AND ANSI/ASME A13.1-2007 STANDARDS FOR THE IDENTIFICATION OF SYSTEMS. THE MARKINGS MUST IDENTIFY THE EQUIPMENT, IT'S ORIGIN AND VOLTAGE OF THE CONTENTS. ALL EQUIPMENT SHALL BE IDENTIFIED USING PHENOLIC NAMEPLATES AND LABELED IN ACCORDANCE WITH THE NOMENCLATURE USED ON THE DRAWINGS AND MUST BE COMPATIBLE WITH THE MIMS
- 30. ALL SYSTEMS WIRING INCLUDING LOW VOLTAGE CONTROLS, FIRE ALARM, NURSE CALL, CCTV AND TELE/DATA SHALL BE INSTALLED IN CONDUIT AND/OR CABLE TRAY/DUCT SYSTEM AND SHALL BE SUPPORTED TO COMPLY WITH THE
- 31. CONTRACTOR SHALL PROVIDE AND AFFIX ARC FLASH WARNING LABELS (PER N.E.C. 110.16) AND AVAILABLE AVAILABLE FAULT CURRENT LABELS (PER N.E.C. 110.24) TO ALL PANEL BOARDS.
- 32. WHERE LOAD IS BEING ADDED TO AN EXISTING PANEL BOARD, OR A PARTICULAR CIRCUIT WITHIN AN EXISTING PANEL BOARD, CONTRACTOR SHALL VERIFY THAT THE ADDITIONAL LOAD BEING ADDED WILL NOT OVERLOAD EXISTING PANEL BOARD, TRANSFORMER AND/OR CIRCUIT.
- 33. ELECTRICAL SHUTDOWNS MUST BE COORDINATED WITH THE PROJECT COR AND MUST ALLOW A MINIMUM OF TWO WEEKS FOR FULL APPROVAL.

<u>TELE/DATA NOTES:</u>

ALL TELEPHONE AND DATA SYSTEMS WORK MUST COMPLY WITH ANSI/TIA/EIA 569A COMMERCIAL BUILDING STANDARDS FOR TELECOMMUNICATIONS PATHWAYS AND SPACES.

- ALL RECESSED AND SURFACE MOUNTED BOXES SHALL BE FURNISHED WITH A SINGLE LENGTH OF 1" DIAMETER HOSPITAL GRADE EMT FIXED TO THE TOP OF THE BOX AND EXTENDING A MINIMUM OF 6" THE NEAREST ACCESSIBLE CEILING LEVEL.
- 3. BOTH OPEN ENDS OF THE EMT SHALL BE FURNISHED WITH A 1" DIAMETER SET SCREW CONNECTOR AND THREADED PLASTIC BUSHING.
- 4. EACH LENGTH OF EMT SHALL BE FURNISHED WITH A PULL STRING EXTENDING AT LEAST 18" BEYOND EACH OPEN END OF EMT.

				NE	UTRAL BUS:	100%		VOLTAGE:		208Y/120V, 1PH, 3W & G	
PANEL N	IO.			GF	ROUND BUS:	YES		MAINS:		125A	
LF	P4A (EXISTING)		ISO	LATED GR	ROUND BUS:	NO	MAIN	CIR. BKR.:		MLO	
	G AND RECEPTACLE PANEL SCHEDULE				MOUNTING	FLUSH	Al	C RATING:		10,000	
CIR.		WIRE	BREAKER					BREAKER	WIRE		CIR.
NO.	DESCRIPTION	SIZE	AMPS	POLES	A (VA)	B (VA)	POLES	AMPS	SIZE	DESCRIPTION	NO.
1	SPARE	#12	20	1	0		1	20	#12	SPARE	2
3	SPARE	#12	20	1		0	1	20	#12	SPARE	4
5	RECEPTACLES	#12	20	1	900		1	20	#12	SPARE	6
7	SECURITY RECEP	#12	20	1		1500 1 500	1	20	#12	RECEPTACLES	8
9	RECEPTACLES	#12	20	1	1500 4		1	20	#12	RECEPTACLES	10
11	IT RECEP	#12	20	1		1500 4	1	20	#12	RECEPTACLES	12
13	SPARE				0 800		1	20	#12	REFRIGERATOR	14
15	SPARE					0 •				SPARE	16
17	SPARE				0					SPARE	18
19	SPARE					0				SPARE	20
21	NOT USED				0 0					NOT USED	22
23	NOT USED					0 0				NOT USED	24
25	NOT USED				0					NOT USED	26
27	NOT USED					0 •				NOT USED	28
29	NOT USED				0 •					NOT USED	30
31	NOT USED					0 •				NOT USED	32
33	NOT USED				0					NOT USED	34
35	NOT USED					0 0				NOT USED	36
37	NOT USED				0					NOT USED	38
39	NOT USED					0 •				NOT USED	40
41	NOT USED				0					NOT USED	42
	SUB TOTAL				4700	5300				SUB TOTAL	
LEC	SEND: ** 6mA GROUND FAULT CIRCUIT B	REAKER			TED LOAD	10	KVA	REMARKS	S:		
LEG	SEND: ** 6mA GROUND FAULT CIRCUIT BF * 30mA GROUND FAULT CIRCUIT B				ND LOAD		KVA	REMARKS	S:		

MIN AMPS

SHEET NOTES

- 2 CONNECT TO THE CLOSEST EMERGENCY LIGHTING CIRCUIT
- RELOCATE EXISTING EXISTING PANEL TO THIS LOCATION
- 4 PROVIDE (2) PAIRS OF CAT 6 CABLE FROM STORAGE CLOSET #102
- LOCATION WITH OWNER PRIOR TO BIDDING

5 PROVIDE (2) PAIRS OF CAT 6 CABLE FROM MAIN IDF. CONFIRM

6 EXISTING DEVICE TO BE REINSTALLED

BACH Associates, 1 ENGINEERS • ARCHITECTS • PLANNERS

> 304 White Horse Pike Haddon Heights, New Jersey 08035 Tel: 856-546-8611

Fax: 856-546-8612 www.BachDesignGroup.com

NOT FOR CONSTRUCTION

FOR REVIEW ONLY

STEVEN M. BACH, PE, RA, PP, CME NJ PROFESSIONAL ENGINEER No. GE 4150 NJ REGISTERED ARCHITECT No. AI 14872

NJ PROFESSIONAL PLANNER No. LI 05557

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

0 Z CO

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	REVISIONS				
NO.	DESCRIPTION	DATE			
1	ISSUE FOR BID	11-14-			
DD 4144114					

ELECTRICAL FLOOR PLANS

JOB NO: CCIA2022-01	DESIGNED BY: DM3
DATE: 10-5-22	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB
DRAWING NUMBER:	

E-1.0

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THE INSTRUCTIONS TO BIDDERS, SUPPLEMENTARY GENERAL CONDITIONS AND ALL CONTRACT REQUIREMENTS SHALL APPLY WITH EQUAL FORCE TO ALL PORTIONS OF THE ELECTRICAL CONSTRUCTION AND BECOME A PART OF THIS CONTRACT.

NO CLAIM OR ADDITIONAL COMPENSATION WILL BE ENTERTAINED ON BEHALF OF OR PAID TO THIS CONTRACTOR ON ACCOUNT OF HIS FAILURE TO BE INFORMED OF THE ABOVE CONDITIONS AND REQUIREMENTS.

SHOULD A BIDDER FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS OR SPECIFICATIONS, OR SHOULD HE BE IN DOUBT AS TO THEIR MEANING, HE SHOULD AT ONCE NOTIFY THE ARCHITECT, WHO WILL SEND WRITTEN INSTRUCTIONS TO ALL BIDDERS. IF THESE ARE IGNORED BY THE CONTRACTOR, HE WILL BE RESPONSIBLE FOR FURNISHING THE PROPER OR WORKABLE EQUIPMENT AS

BEFORE SUBMITTING A BID, BIDDERS WILL BE HELD RESPONSIBLE TO HAVE VISITED THE SITE OF THE WORK AND FULLY INFORM THEMSELVES AS TO ALL EXISTING CONDITIONS AND LIMITATIONS, INCLUDING RULES, RATES AND FRINGE BENEFITS, TRAVEL PAY, AFFILIATION FEES AND TRANSPORTATION EXPENSE PREVAILING IN THE LOCAL LABOR MARKET, AND NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON BEHALF OF THE BIDDER BY REASON OF ANY ERROR ON HIS PART.

ADDENDA

ANY INTERPRETATION. CORRECTIONS OR CHANGES OF THE DRAWINGS AND SPECIFICATIONS WILL BE MADE ONLY BY AN ADDENDUM DULY ISSUED BY THE ARCHITECT AND A COPY OF SUCH ADDENDUM WILL BE MAILED OR DELIVERED TO EACH PERSON OR FIRM.

SCOPE OF CONSTRUCTION

THE CONTRACT UNDER THESE SPECIFICATIONS INCLUDES ALL LABOR, MATERIAL, EQUIPMENT AND SERVICE NECESSARY AND INCIDENTAL TO PROVIDE AND INSTALL IN PLACE, FINISHED COMPLETE, UNLESS OTHERWISE NOTED ALL ELECTRICAL CONSTRUCTION IN ACCORDANCE WITH THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS. SUBJECT TO AND IN ACCORDANCE WITH ALL RULES AND REGULATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, STATE AND MUNICIPAL CODES AND LOCAL POWER COMPANY, GENERALLY AS FOLLOWS:

POWER PANELS LIGHTING PANELS BRANCH WIRING LIGHTING FIXTURES AND LAMPS TELEPHONE SYSTEM WIRING OF EQUIPMENT FURNISHED BY OTHERS AND FINAL CONNECTIONS TO SAME EMERGENCY SYSTEM FIRE ALARM SYSTEM TELEVISION CONDUIT SYSTEM PROGRAM SYSTEM PUBLIC ADDRESS SYSTEM TEMPORARY SERVICE DEMOLITION

CONSTRUCTION INCLUDED

IN ADDITION TO THE GENERAL ITEMS, AS COVERED UNDER "SCOPE", THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER OPERATION OF ALL ELECTRICAL EQUIPMENT WHEN THE ELECTRICAL CONSTRUCTION IS COMPLETE, INSTALLED, CONNECTED AND ACCEPTED BY THE ARCHITECT AND OWNER. ELECTRICAL CONTRACTOR SHALL DO ALL WIRING TO AND MAKE FINAL CONNECTIONS TO ALL ELECTRICAL EQUIPMENT.

ALL ITEMS OF LABOR, MATERIAL AND EQUIPMENT NOT SPECIFIED IN DETAIL OR SHOWN ON DRAWINGS BUT INCIDENTAL TO OR NECESSARY FOR THE COMPLETI INSTALLATION AND PROPER OPERATION OF THE SEVERAL BRANCHES OF WORK AND DESCRIBED HEREIN, OR REASONABLY IMPLIED IN CONNECTION HEREWITH, SHALL BE FURNISHED AS IF CALLED FOR IN DETAIL BY THE SPECIFICATIONS OR DRAWINGS.

ALL ELECTRICAL CONDUCTORS, AFTER INSTALLATION OF WIRING AND APPARATUS HAS BEEN COMPLETED, SHALL BE TESTED BY THIS CONTRACTOR TO ENSURE CONTINUITY, PROPER SPLICING, FREEDOM FROM GROUNDS, (EXCEPT "MADE GROUNDS" AND THOSE REQUIRED FOR PROTECTION), INSULATION RESISTANCE TO BE IN ACCORDANCE WITH U.L. REQUIREMENTS. CONTRACTOR SHALL FURNISH AND EMPLOY SUITABLE INSTRUMENTS, SUCH AS AMMETERS, VOLTMETERS, "MEGGERS," ETC. PRELIMINARY TESTING WITH MEGGERS WILL BE PERMITTED BUT WILL NOT BE ACCEPTED AS FINAL OR CONCLUSIVE TESTS.

CONSTRUCTION NOT INCLUDED

THE FOLLOWING ITEMS OF ELECTRICAL CONSTRUCTION ARE NOT INCLUDED IN THIS CONTRACT:

CERTAIN LOW-VOLTAGE WIRING OF HEATING AND PLUMBING EQUIPMENT WILL BE DONE BY THE RESPECTIVE MECHANICAL CONTRACTOR; HOWEVER, REFERENCE IS MADE TO WIRING DIAGRAMS ON ATTACHED MECHANICAL DRAWINGS. ALL LINE VOLTAGE WIRING INCLUDING SETTING OF SWITCHES STARTERS AND RELATED ELECTRICAL EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR.

TELEPHONE WIRES WILL BE INSTALLED BY OTHERS THIS CONTRACTOR SHALL PROVIDE MUDRING AND

PULLSTRINGS AS HEREINAFTER SPECIFIED.

CERTAIN MOTORS AND EQUIPMENT, SUCH AS PUMPS, FANS. ETC.. WILL BE PROVIDED BY OTHERS, COMPLETE WITH MOTOR AND BUILT-IN OR SEPARATE CONTROLLERS AS COVERED BY SUCH CONTRACTS. THE EXTENT OF WORK REQUIRED BY THIS CONTRACTOR, IN CONNECTION WITH THE PROVISIONS OF THIS EQUIPMENT IS DESCRIBED HEREINAFTER UNDER "MOTOR CONNECTIONS" AND "EQUIPMENT HOOK-UP."

MOTORS CONNECTED TO DRIVEN EQUIPMENT WILL BE SET BY RESPECTIVE CONTRACTOR FURNISHING SAME

HEATING, VENTILATING AND PLUMBING CONTROL DEVICES, SWITCHES, STARTERS, ETC., BOTH LINE AND LOW VOLTAGE, WILL BE FURNISHED BY THE HEATING AND PLUMBING CONTRACTORS.

EXAMINATION OF SITE

BIDDERS SHALL CAREFULLY EXAMINE THE ENTIRE SITE OF THE ELECTRICAL CONSTRUCTION. THEY SHALL MAKE ALL INVESTIGATIONS NECESSARY TO INFORM THEMSELVES THOROUGHLY AS TO FACILITIES FOR DELIVERING, PLACING AND USING THE NECESSARY EQUIPMENT AND MATERIALS AND AS TO ALL THE DIFFICULTIES INVOLVED IN COMPLETION OF ALL THE ELECTRICAL CONSTRUCTION IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS AND

COORDINATION

THE EXACT FIELD LOCATION OF WALLS, FLOORS. PARTITIONS, DOORS AND WINDOWS MAY VARY FROM THE LOCATIONS SHOWN ON THE GENERAL, MECHANICAL AND ELECTRICAL DRAWINGS. PRIOR TO LOCATION OF SLEEVES BOXES AND CHASES, FOR ROUGHING OF PIPING, CONDUIT AND EQUIPMENT, THE CONTRACTOR SHALL CHECK PERSONALLY WITH THE GENERAL CONTRACTOR OR HIS REPRESENTATIVE TO DETERMINE THE EXACT FIELD LOCATION OF THE WALLS, FLOORS, DOORS, WINDOWS AND PARTITIONS. IN ADDITION, THE CONTRACTOR SHALL DETERMINE THE EXACT DIRECTION OF DOOR SWING SO THAT LOCAL SWITCHES AND THERMOSTATS CAN BE INSTALLED AT THE LOCKSIDE OF DOORS, UNLESS SPECIFIED OTHERWISE.

IT WILL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROPERLY ROUGH FOR THE ELECTRICAL CONDUIT AND EQUIPMENT UNDER HIS CONTRACT AND ANY COST INVOLVED IN THE RELOCATION OF THE ABOVE WILL BE THE ENTIRE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COST WILL BE PAID FOR ANY RELOCATION OF ROUGHING.

IT WILL BE THE FULL RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COOPERATE WITH THE GENERAL, HEATING AND PLUMBING CONTRACTORS IN THE PLANNING AND PROGRESS OF CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR IMPEDE THE WORK PROGRESS BY THE LACK OF TOOLS, EQUIPMENT OR

TEMPORARY AND RELATED CONDITIONS

THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE WITHIN THE SCOPE OF THESE SPECIFICATIONS AND COVERING THE AREAS SHOWN ON THE DRAWINGS. HOWEVER, IN ALL CASES, EVERY EFFORT SHALL BE MADE BY THE GENERAL CONTRACTOR AND THE ELECTRICAL CONTRACTOR TO ASSURE EARLY INSTALLATION OF PERMANENT WIRING SYSTEM. THIS SYSTEM, ALTHOUGH PERMANENT IN NATURE. IS CONSIDERED TEMPORARY DURING THE CONSTRUCTION PHASE AND ANY DAMAGE SHALL BE REPLACED AT NO COST TO THE OWNER.

THE ENERGY COSTS SHALL BE PAID BY THE TENANT CONTRACTOR SHALL COORDINATE EXACT LOCATION OF TIE-IN WITH BUILDING OWNER. ANY ADDITIONAL WIRING NEEDED BEYOND THE SCOPE OUTLINED IN THIS SPECI-FICATION SHALL BE PAID FOR BY THE INDIVIDUAL CON-TRACTOR REQUIRING THIS ADDITIONAL WORK.

THE ELECTRICAL CONTRACTOR SHALL PICK UP A SOURCE PANELS. ARRANGE WITH THE OWNER FOR A SUITABLE PLACE TO PICK UP TEMPORARY POWER. PROVIDE ADEQUATE GENERAL LIGHTING AND POWER OUTLETS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF OSHA.

THE FLECTRICAL CONTRACTOR SHALL REMOVE ALL THE TEMPORARY FACILITIES AT THE DISCRETION OF THE GENERAL CONTRACTOR AT THE END OF THE PROJECT AND ALL EQUIPMENT USED FOR TEMPORARY FACILITIES BECOMES THE PROPERTY OF THE ELECTRICAL CONTRACTOR.

ORDERING EQUIPMENT

THE CONTRACTOR SHALL, UPON APPROVAL BY THE ARCHITECT AND THE OWNER, IMMEDIATELY PLACE ORDERS FOR ALL MAJOR ITEMS OF EQUIPMENT COMPLETE WITH CONTROLS AND APPURTENANCES. THE CONTRACTOR IS REMINDED THAT ANY DELAY IN ORDERING EQUIPMENT WILL DELAY OPERATION OF THE WORK. ALL WORK ASSOCIATED WITH THE MAJOR ITEMS OF EQUIPMENT, SUCH AS STRUCTURAL SYSTEMS, CONCRETE WORK, PIPING, CONDUIT AND WIRING, SHALL BE INSTALLED WHILE APPROVED EQUIPMENT IS ON ORDER AND SHALL BE COMPLETE, READY TO RECEIVE EQUIPMENT, WHEN SAME ARRIVES ON SITE.

ALL EQUIPMENT SHALL BE ORDERED WITH PROPER TYPE AND SIZE CONNECTIONS AND CONTROLS IN ACCORDANCE WITH THE APPLICABLE SERVICE TO WHICH THE EQUIPMENT

DUST, DIRT AND NOISE

THE CONTRACTOR SHALL CARRY OUT ALL NEW WORK AND SHALL MAKE ALL CHANGES, RELOCATIONS AND INSTALLATIONS WITH A MINIMUM OF NOISE. ALL SIT AREAS AND NEW EQUIPMENT, FLOORS AND WALLS, SHALL BE ADEQUATELY PROTECTED FROM DUST AND DIRT CAUSED BY THE WORK. PROTECTION SHALL INCLUDE SUITABLE TEMPORARY BARRIERS OR COVERINGS. TH EXTERIOR AND INTERIOR PREMISES OF EACH BUILDING SHALL BE KEPT AS CLEAN AS POSSIBLE DURING CONSTRUCTION.

PROCEDURE

THE ACTUAL RUNS AND LOCATIONS OF ALL CONDUIT LINES AND EQUIPMENT SHALL BE DETERMINED ON THE SITE AND SHALL BE INSTALLED TO MEET THE VARIOUS CONDITIONS AT THE BUILDING. ANY CHANGES NECESSARY TO CONCEAL CONDUIT OR CLEAR EXISTING PIPES, EQUIPMENT OR CONSTRUCTION SHALL BE MADE WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

THE CONTRACTOR SHALL MAKE FINAL CONNECTIONS BETWEEN ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT AND PROVIDE SERVICES AND MAKE FINAL FIFCTRICAL CONNECTIONS TO ALL EQUIPMENT, EXCEPT AS SPECIFIED HEREINBEFORE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT ALL POWER WIRING OF CABLES TO ALL EQUIPMENT REQUIRING SAME UNLESS SPECIFIED OTHERWISE IN THESE SPECIFICATIONS. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL WIRING TO BE INCLUDED UNDER THIS CONTRACT. ALL WIRING SHALL BE COMPLETE ACCORDING TO THE SHOP DRAWINGS SUBMITTED FOR THE RESPECTIVE PIECES OF EQUIPMENT.

ALL WORK SHALL BE EXECUTED AND ALL EQUIPMENT CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF LABOR AND INDUSTRY. THE NATIONAL ELECTRICAL CODE AS AMENDED TO DATE, NATIONAL SAFETY CODE AS AMENDED AND ALL LOCAL ORDINANCES AND REGULATIONS. NOTHING CONTAINED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSTRUED TO SUPERSEDE OR CONFLICT WITH THE AFORESAID CODES, ORDINANCES OR REGULATIONS. CERTIFICATES OF APPROVAL SHALL BE OBTAINED FROM ANY DEPARTMENT ISSUING SAME, AND SHALL BE TURNED OVER TO THE OWNER AT THE COMPLETION OF THE WORK.

THE ELECTRICAL CONTRACTOR SHALL FURNISH INFORMATION TO THE GENERAL CONTRACTOR FOR ANY CHASES OR OPENINGS REQUIRED UNDER THIS CONTRACT NO CUTTING SHALL BE DONE WHICH MAY AFFECT THE BUILDING STRUCTURALLY OR ARCHITECTURALLY WITHOUT PRIOR APPROVAL BY THE ARCHITECT. ALL DAMAGED CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AND FINISHED TO MATCH THE SURROUNDING

HEREINAFTER WHERE THE PHRASE "OR APPROVED EQUAL" APPEARS, IT SHALL REFER TO THE APPROVAL TO BE OBTAINED FROM THE ARCHITECT AND THE OWNER. WHERE APPLICABLE, ALL MATERIALS AND EQUIPMENT SHALL BEAR THE U.L. LABEL OF APPROVAL. ELEVATIONS AND DIMENSIONS SHOWN ON THE DRAWINGS

ARE APPROXIMATELY CORRECT; HOWEVER, THE CONTRACTOR SHALL FIELD CHECK AND OTHERWISE VERIFY ALL SUCH DATA AT THE SITE BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL MAKE NECESSARY SURVEY EQUIPMENT AVAILABLE AT ALL TIMES AND SHALL MAKE USE OF SUCH EQUIPMENT WHEREVER NECESSARY TO PROPERLY INSTALL HIS EQUIPMENT.

WHERE THE CONTRACTOR ELECTS TO SUBSTITUTE APPROVED MATERIALS OR EQUIPMENT FOR MATERIALS OR EQUIPMENT SPECIFIED, HE WILL BE HELD RESPONSIBLE FOR ALL STRUCTURAL, MECHANICAL AND ELECTRICAL CHANGES REQUIRED FOR THEIR INSTALLATION, AT NO ADDITIONAL COST TO THE OWNER.

LOCATIONS OF EXISTING SEWERS, SOIL, WASTE, VENT, STEAM AND WATER LINES AND PRESENT ELECTRIC CONDUIT, WIRING AND EQUIPMENT SHOWN ON THE DRAWINGS. ARE APPROXIMATE AND THIS CONTRACTOR SHALL CHECK ALL SUCH INFORMATION ON THE SITE BEFORE PROCEEDING WITH THE WORK.

THE CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY ACQUAINT HIMSELF WITH CONDITIONS EXISTING AT THE LOCATIONS AND BUILDINGS BEFORE SUBMITTING HIS PROPOSAL AS HE WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE WORK COMPLETE IN EVERY DETAIL.

THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR ALL APPARATUS, EQUIPMENT AND APPURTENANCES FURNISHED BY HIM OR HIS SUBCONTRACTORS IN CONNECTION WITH THE WORK AND SPECIAL CARE SHALL BE TAKEN TO PROTECT ALL PARTS THEREOF IN SUCH MANNER AS MAY BE NECESSARY OR AS MAY BE DIRECTED. PROTECTION SHALL INCLUDE COVERS CRATING, SHEDS OR OTHER MEANS TO PREVENT DIR GRIT. PLASTER OR OTHER FOREIGN SUBSTANCES FROM ENTERING THE WORKING PARTS OF MACHINERY OR EQUIPMENT. SPECIAL CARE SHALL BE TAKEN TO KEEP ALL OPEN ENDS OF PIPES CLOSED WHILE IN STORAGE AND DURING INSTALLATION. WHERE EQUIPMENT MUST BE STORED OUTSIDE THE BUILDING, IT SHALL BE TOTALLY COVERED AND SECURED WITH HEAVY WEATHERPROOF TARPS AND KEPT DRY AT ALL TIMES. WHERE EQUIPMENT HAS BEEN SUBJECTED TO MOISTURE, IT SHALL BE REMOVED FROM THE SITE AND REPLACED WITH NEW EQUIPMENT. PROTECT ALL OPEN EXCAVATING UNTIL COVERED OVER.

DUE TO THE SCHEMATIC NATURE AND SMALL SCALE OF THE ELECTRICAL DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL EXACT LOCATIONS, OFFSETS, FITTINGS, ACCESS PANELS. PULL BOXES AND MISCELLANEOUS PARTS WHICH MAY BE REQUIRED TO FORM A COMPLETE SYSTEM. THE DRAWINGS ARE GENERALLY INDICATIVE OF THE WORK TO BE INSTALLED. THIS CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND ARRANGE ALL WORK ACCORDINGLY, FURNISHING NECESSARY PARTS AND EQUIPMENT AS MAY BE REQUIRED TO MEET THE

THE CONTRACTOR SHALL FURNISH THE SERVICE OF MANUFACTURER'S REPRESENTATIVE FOR ALL EQUIPMENT FURNISHED UNDER THESE CONTRACT DOCUMENTS. THE AMOUNT OF FACTORY SERVICE PROVIDED BY THE CONTRACTOR SHALL BE AS NORMALLY RECOMMENDED AND FURNISHED BY THE VARIOUS EQUIPMENT MANUFACTURERS.

VARIOUS CONDITIONS.

SPECIAL ATTENTION IS CALLED TO THE FACT THAT WITHIN THIRTY (30) DAYS AFTER ACCEPTANCE OF BIDS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO TH ARCHITECT FOR APPROVAL, A COMPLETE LIST OF EQUIPMENT AND MATERIALS TO BE FURNISHED UNDER THIS CONTRACT, GIVING NAMES AND ADDRESSES OF MANUFACTURERS AND MATERIAL THEY INTEND TO FURNISH. THIS SOURCE OF SUPPLY SHALL BE LISTED ON FORMS AVAILABLE FROM THE ARCHITECT AND SHALL BE SUBMITTED IN TRIPLICATE.

ALL MATERIALS AND EQUIPMENT INSTALLED BY THE CONTRACTOR SHALL BE FIRMLY SUPPORTED AND SECURED TO THE CONSTRUCTION WHERE REQUIRED, WITH SUITABLE HANGERS AND ANCHORS OF THE BEST QUALITY SPECIFICALLY DESIGNED FOR THE SERVICE REQUIRED.

FINISHED OR UNFINISHED AREA — GENERAL DEFINITION FINISHED AREA: SHALL BE DEFINED AS ANY SPACE WITH THE WALLS EITHER TILED, PLASTERED, COVERED OR PAINTED. EXCEPT CERTAIN CONCRETE OR CONCRETE BLOCK FOUNDATION WALLS BELOW GRADE IN WHICH CHASES FOR LARGE VERTICAL PIPING WILL NOT BE PERMITTED. WHERE THERE ARE CEILINGS IN FINISHED AREAS, ALL BOXES AND CONDUIT SHALL BE CONCEALED ABOVE THE CEILINGS UNLESS INDICATED "AT CEILING" IN WHICH CASE, BOXES AND CONDUIT SHALL BE EXPOSED BELOW CEILINGS. AREAS WHERE BOTTOM OF FLOOR OR ROOF SLABS SERVE AS FINISHED CEILINGS SHALL BE CONSIDERED FINISHED AREAS.

UNFINISHED AREAS: SHALL BE DEFINED AS ANY SPACE WITHOUT A WALL FINISH (WITH OR WITHOUT CEILINGS). WHEN IN DOUBT AS TO THE CLASSIFICATION OF A SPECIFIC SPACE, THE CONTRACTOR SHALL CHECK WITH THE ARCHITECT BEFORE ROUGH-IN.

STANDARDIZATION OF EQUIPMENT

WHERE THERE IS MORE THAN ONE ITEM OF EQUIPMENT REQUIRED UNDER THIS CONTRACT. THE CONTRACTOR SHALL FURNISH EQUIPMENT OF THE SAME TYPE AND FROM THE SAME MANUFACTURER. IN NO CASE SHALL THE CONTRACTOR FURNISH SIMILAR TYPES OF EQUIPMENT FROM DIFFERENT MANUFACTURERS.

EQUIPMENT BASES AND GUARDS

BASES UNDER EQUIPMENT SHALL BE 4" HIGH UNLESS NOTED OTHERWISE. BASES SHALL BE REINFORCED WITH 6 X 6 X 10 GAUGE WIRE MESH AND ANCHORED THROUGH FLOOR CONSTRUCTION WITH 3/4" DIAMETER BOLTS OR RODS. ANCHOR BOLTS FOR ÉQUIPMENT SHALL BE PLACED IN BASES BEFORE EQUIPMENT IS SET. BASES SHALL BE POURED BY THE ELECTRICAL CONTRACTOR AND ANCHORING BOLTS SHALL BE FURNISHED AND SET BY THE ELECTRICAL CONTRACTOR.

PROTECTION OF SERVICES

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR, REPLACE AND MAINTAIN IN SERVICE, ANY UTILITIES, FACILITIES OR SERVICES (UNDERGROUND, OVERGROUND, INTERIOR OR EXTERIOR) DAMAGED, BROKEN OR OTHERWISE RENDERED INOPERATIVE DURING THE COURSE OF CONSTRUCTION. THE METHOD USED BY THE CONTRACTOR IN REPAIRING, REPLACING OR MAINTAINING THE SERVICES SHALL BE APPROVED BY THE ARCHITECT AND THE OWNER.

ELECTRICAL REGULATIONS, PERMITS, CODES AND UNDERWRITERS

THE ELECTRICAL INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH, AND SHALL CONFORM TO, THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE OF THE NFPA, AND REGULATIONS OF THE NATIONAL SAFETY CODE WITH ALL REVISIONS AND AMENDMENTS TO DATE. ALL WORK SHALL ALSO CONFORM TO ALL GOVERNING LOCAL AND STATE CODES AND TO THE RULES AND REGULATIONS OF THE LOCAL POWER COMPANY.

ALL REGULATIONS OF THE DEPARTMENT OF LABOR AND INDUSTRY, WHICH ARE APPLICABLE, SHALL BE CONSIDERED A PART OF THIS CONTRACT. ALL MATERIALS SHALL HAVE THE APPROVAL OF THE U.L. AND SHALL BE AS LISTED AND/OR LABELED.

THE ELECTRICAL CONTRACTOR SHALL PAY FOR ALL INSPECTIONS AND PERMITS REQUIRED FOR THIS WORK. BEFORE FINAL PAYMENT WILL BE MADE, THIS CONTRACTOR SHALL DELIVER, TO THE ARCHITECT, CERTIFICATES OF APPROVAL COVERING THE WIRING AND FIXTURE INSTALLATION FROM THE INSPECTION DEPARTMENT OF THE MIDDLE DEPARTMENT ASSOCIATION OF FIRE UNDERWRITERS. CERTIFICATES SHALL BE IN DUPLICATE WITH ONE (1) COPY TO THE ARCHITECT AND ONE (1) COPY TO THE OWNER.

CUTTING AND PATCHING

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CUTTING AND PATCHING. FINISH PAINTING WILL BE DONE BY THE GENERAL CONTRACTOR.

MISCELLANEOUS METAL

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR THE INSTALLATION OF ALL MISCELLANEOUS METAL WORK REQUIRED TO COMPLETE THIS CONTRACT.

ALL SUPPORTS, BRACKETS, CLAMPS AND OTHER ITEMS SPECIFIED HEREIN SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE AND RECOGNIZED CODE.

MATERIALS: STRUCTURAL STEEL MEMBERS REQUIRED UNDER THIS PART SHALL CONFORM TO ASTM STANDARD SPECIFICATION A-7. OTHER MATERIALS SHALL BE AS SPECIFIED HEREINAFTER.

PRIMING: ALL STEEL AND IRON WORK SHALL BE PRIMED WITH RUST-OLEUM 769 OR APPROVED EQUAL. BEFORE PRIMING, ALL METAL SHALL BE THOROUGHLY CLEANED FREE FROM SCALE, RUST AND DIRT.

ANCHORS: THE CONTRACTOR SHALL PROVIDE ALL ANCHORS, BOLTS, SCREWS, DOWELS AND CONNECTING MEMBERS AND DO ALL CUTTING AND FITTING NECESSARY TO SECURE THE WORK TO ADJOINING CONSTRUCTION. BUILD IN CONNECTING MEMBERS TO MASONRY, CONCRETE AND STRUCTURAL STEEL AS THE WORK PROGRESSES.

SUPPORTS AND BRACKETS: SHALL BE NEATLY CONSTRUCTED OF STRUCTURAL SHAPES TO ADEQUATELY SUPPORT THE EQUIPMENT INTENDED. ALL SUPPORTS MUST BE APPROVED PRIOR TO INSTALLATION. ATTENTION IS DIRECTED TO THE PROPER RIGID SUPPORT REQUIRED FOR CONDUIT. FIELD CONDITIONS WILL REGULATE THE TYPE OF SUPPORT REQUIRED.

STRUCTURAL STEEL

THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS. TOOLS AND WHATEVER ELSE NECESSARY TO PLACE ALL STRUCTURAL STEEL SHOWN ON THE DRAWINGS OR AS REQUIRED FOR PROPER SUPPORT OF EQUIPMENT. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL STEEL REQUIRED UNDER THIS

REQUIREMENTS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. STRUCTURAL STEEL SHALL BE OF STANDARD SECTIONS, AS GIVEN IN THE STRUCTURAL STEEL MANUFACTURÉR'S HANDBOOKS AND OF SIZES AS INDICATED ON THE DRAWINGS. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARD SPECIFICATION A-7 AS AMENDED TO DATE.

ALL STRUCTURAL STEEL SHALL COMPLY WITH THE LATEST

SHOP DRAWINGS

THIS CONTRACTOR SHALL FURNISH SHOP DRAWINGS, CATALOG CUTS, DATA SHEETS, ETC., TO COVER SPECIFIED INFORMATION FOR ALL ITEMS IN ANY WAY DESIGNED FOR THIS JOB. NONE OF THE FOLLOWING ITEMS SHALL BE INSTALLED IN THE CONSTRUCTION UNTIL FINAL APPROVAL HAS BEEN GIVEN BY THE ARCHITECT AND THE OWNER. THIS CONTRACTOR SHALL CHECK SHOP DRAWINGS OF OTHER CONTRACTORS' EQUIPMENT TO ASCERTAIN PROPER LOCATION OF ALL EQUIPMENT AND CONNECTIONS. SUBMIT SHOP DRAWINGS, CATALOG CUTS, ETC., FOR THE FOLLOWING ITEMS:

LIGHTING AND POWER PANELS AND CABINETS LIGHTING FIXTURES WIRING DEVICES

ELECTRICAL SYSTEM GROUNDS

FURNISH AND INSTALL ALL ELECTRICAL SYSTEM GROUNDS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. THE DEPARTMENT OF LABOR AND INDUSTRY, AND THE LOCAL UTILITY COMPANY. LATEST PUBLICATIONS OF THE IEEE AND NEC SHALL BE CONSULTED FOR LATEST ACCEPTED PRACTICE. GROUND EQUIPMENT SHALL BE COMPLETE IN EVERY DETAIL INCLUDING FLEXIBLE LEADS, MOULDINGS, CONNECTORS, CLAMPS, RODS AND CONDUIT AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE ABOVE-MENTIONED CODES. GROUNDING SYSTEM SHALL BE A UNIFIED GROUNDING SYSTEM THOUGHOUT.

ACCESS PANELS

THE GEN. CONTRACTOR SHALL FURNISH AND INSTALL AN ACCESS PANEL WHERE JUNCTION BOXES AND SO FORTH ARE INSTALLED ABOVE PLASTER, TILE, OR SIMILAR TYPE NON-REMOVABLE CEILINGS. PANELS SHALL BE OF SUITABLE SIZE AND SHAPE FOR EACH PARTICULAR INSTALLATION WITH SCREW DRIVEN TYPE LATCH, AND WITH FRAME 2" DEEP PROPERLY ANCHORED TO CEILING CONSTRUCTION. THE PANEL FRAME AND DOOR SHALL BE CODE GAUGE FURNITURE STEEL THOROUGHLY CLEANED, POLISHED AND FACTORY PRIMED WITH 2 COATS OF

CONDUIT INSTALLATION

GENERAL: WIRING SHALL BE RUN IN RIGID STEEL CONDUIT AND/OR ELECTRICAL METALLIC TUBING WHERE SPECIFIED. WHERE SINGLE POLE WORK IS USED ON BRANCH CIRCUITS CIRCUIT WIRING MAY BE GROUPED IN ACCORDANCE WITH THE NEC. THE DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC AND INDICATE THE GENERAL METHOD OF INSTALLING ALL CIRCUIT WIRING AND THE OUTLETS WHICH ARE TO BE SUPPLIED. IF IT BECOMES NECESSARY TO CONNECT AN OUTLET TO A CIRCUIT OTHER THAN AS SHOWN OR RELOCATE AN OUTLET, THIS SHALL BE DONE WITHOUT ADDITIONAL CHARGE. THE SIZE AND GENERAL LOCATION OF THE VARIOUS FEFDERS ARE SHOWN ON THE DRAWINGS; HOWEVER, THE EXACT LOCATION AND ROUTING ÓF FFFDERS SHALL BE DETERMINED ON THE SITE BY THE CONTRACTOR. WHEREVER THE WORD "CONDUIT" APPEARS HEREIN, IT SHALL REFER TO EITHER RIGID STEEL CONDUIT OR STEEL ELECTRICAL METALLIC TUBING WHICHEVER IS APPLICABLE.

NO CONDUIT SMALLER THAN 3/4" TRADE SIZE MAY BE

IN THE CASE OF FLEXIBLE CONDUIT, NO SIZE SMALLER THAN 3/8" (1/2" O.D.) MAY BE USED AT LIGHTING FIXTURE'S, FÀNS AND VARIOUS EQUIPMENT, AGAIN SIZED IN ACCORDANCE WITH NEC.

LIGHTING AND CONVENIENCE OUTLET HOME RUNS ARE INDICATED ON THE DRAWINGS SEPARATELY AS SINGLE POLE WORK FOR CLARITY AND THEIR TERMINAL POINT AT THE CIRCUIT IS SHOWN SCHEMATICALLY; HOWEVER, THE CONTRACTOR WILL BE PERMITTED TO GROUP SINGLE POLE HOME RUN CIRCUITS IN ACCORDANCE WITH THE NEC AND CONNECT TO CIRCUIT BOXES AT ANY CONVENIENT POINT AS REQUIRED BY THE NEC. RUN A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. DO NOT GANG NEUTRALS.

METAL CLAD CONDUCTOR CABLE

CONDUCTORS CONNECTING RECEPTACLE AND SWITCH CIRCUITS IN PARTITIONS TO LIGHTING AND POWER GRID BOXES IN FINISHED AREAS ONLY, IN ACCORDANCE WITH THE NEC, SHALL BE 3-, 4-, OR 5-WIRE METAL CLAD (MC) CONSISTING OF #12 AWG COPPER THW (OR TW) INSULATED PHASE CONDUCTORS AND ONE FULL SIZE GREEN INSULATED CONDUCTOR AND ONE #12 AWG BARE BONDING CONDUCTOR, WHERE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. GROUND CONDUCTOR SHALL BE TERMINATED TO GROUNDING SYSTEM AS REQUIRED BY NEC AND AUTHORITY HAVING JURISDICTION. ALL CONDUCTORS SHALL BE ENCLOSED IN THE FLEXIBLE STEEL ARMORED

MANUFACTURERS: TYPE MC CONDUCTOR CABLES SHALL BE AS MANUFACTURED BY AMERICAN FLEXIBLE CONDUIT, BRAND-REX, ROME CABLE, OR CABLEC, IF THEY COMPLY WITH THESE SPECIFICATIONS.

PLENUM CONDUCTOR CABLE

PLENUM CONDUCTOR CABLE MAY BE USED FOR NEC CLASS 2 OR 3 WIRING IF CONDUCTOR CABLE IS UL LISTED IN ACCORDANCE WITH UL 910 AND UL 1820 AND IS INSTALLED IN ACCORDANCE WITH THE NEC AND IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. INSULATION TYPES, UL LISTING, AND WRITTEN ACCEPTANCE BY THE LOCAL AUTHORITY SHALL BE SUBMITTED FOR REVIEW.

RIGID CONDUIT: CONDUIT FURNISHED IN ACCORDANCE WITH THESE REGULATIONS SHALL BE OF MILD STEEL PIPING CONFORMING TO THE REQUIREMENTS OF FEDERAL SPECIFICATIONS WW-C581B, AND SHALL BE ZINC-COATED GALVANIZED, SHERARDIZED, OR APPROVED EQUAL FINISH, INSIDE AND OUTSIDE. FACTORY THREADED CONDUIT SHALL BE FURNISHED WITH PROTECTIVE COATED

IN ADDITION, TO PREVENT CORROSION, THE INSIDE AND OUTSIDE OF CONDUIT SHALL BE COVERED BY A COATING OF CLEAR ENAMEL.

ELECTRICAL METALLIC TUBING (EMT): THE CONTRACTOR MAY FURNISH AND INSTALL NEMA SPECIFICATION NO.

LOCATIONS WHERE EMT IS NOT PERMITTED. ALL APPLICABLE PORTIONS OF THE SPECIFICATION ON RIGID CONDUIT AND ITS INSTALLATION SHALL APPLY IN ITS ENTIRETY. EMT SHALL BE GALVANIZED OR SHERARDIZED AND COATED WITH ENAMEL BOTH INSIDE AND OUTSIDE. EACH LENGTH SHALL BEAR THE U.L. SEAL OF APPROVAL BE INSTALLED THROUGH WALL AND FLOOR

RIGID CONDUIT SHALL BE INSTALLED IN ALL AREAS AND

IN ABOVE GRADE LOCATIONS, EMT WILL BE PERMITTED TO CONSTRUCTION, IN CHASES, THROUGH JOISTS, AND IN ALL OTHER LOCATIONS, EXCEPT AS SPECIFIED ABOVE. WHERE RIGID CONDUIT IS INSTALLED, THE CONDUIT MUST TERMINATE IN AN OUTLET BOX OR JUNCTION BOX WHERE THE TRANSITION TO EMT (AND VISE VERSA) MUST BE MADE. WHERE BOXES ARE USED ONLY FOR THE TRANSITION FROM TUBING TO CONDUIT (OR CONDUIT TO TUBING), THE CONTRACTOR SHALL INSTALL A SUITABLE PLASTÉR RING AND A STAINLESS STEEL COVER PLATE.

FLEXIBLE CONDUIT (METALLIC AND NON-METALLIC): ALL CONNECTIONS BETWEEN MOTOR JUNCTION BOXES AND CONDUIT OR JUNCTION BOXES SHALL BE MADE WITH G.E. SINGLE STRIP (GREENFIELD) OR APPROVED EQUAL GALVANIZED FLEXIBLE STEEL CONDUIT (FEDERAL SPECIFICATIONS EWW-C-566) IN LENGTHS NOT TO EXCEED THE NEC REQUIREMENTS AND OF THE SAME SIZE AS THE MOTOR FEEDER CONDUIT. FLEXIBLE CONNECTIONS BETWEEN RECESSED LIGHTING FIXTURES AND EXHAUST FANS AND JUNCTION BOXES SHALL BE MADE WITH 3/8' G.E. SINGLE STRIP (GREENFIELD) OR APPROVED EQUÁL FLEXIBLE STEEL CONDUIT. ALL OTHER REQUIREMENTS OF THE NEC RELATIVE TO THE USE OF FLEXIBLE CONDUIT SHALL BE CONSIDERED A PART OF THIS SPECIFICATION. ALL CONNECTORS USED IN CONJUNCTION WITH GALVANIZED FLEXIBLE STEEL CONDUIT SHALL BE OF THE 'SQUEEZE TYPE" AND SHALL BE COMPLETE WITH NEMA APPROVED CONNECTORS.

CONDUIT INSTALLATION: ALL CONDUIT ENDS SHALL BE SQUARE CUT AND REAMED TO REMOVE BURRS. CONDUIT SHALL NOT BE INSTALLED UNDER ANY CHAIR CARRIERS. EACH END OF ANY CONDUIT RUN TERMINATING IN A PRESSED STEEL BOX OF ANY KIND SHALL BE PROVIDED WITH A GALVANIZED OR SHERARDIZED LOCK NUT INSIDE AND OUTSIDE OF THE BOX AND WITH AN APPROVED BUSHING. ALL CONDUIT SHALL BE RUN CONCEALED IN FLOORS, ON TOP OF FLOOR FILLS, IN WALLS, IN ALL FINISHED AREAS AND MAY BE EXPOSED IN CERTAIN SHOPS AND BOILER ROOM. EXPOSED CONDUIT MUST, IN GENERAL, FOLLOW BUILDING LINES. NO HORIZONTAL RUNS OF CONDUIT SHALL BE MADE IN WALLS. CONDUIT SHALL NOT BE INSTALLED IN CINDER FILLS OR EARTH UNLESS ENCASED IN A CONCRETE ENVELOPE. EXPANSION FITTINGS SHALL BE BONDED AND INSTALLED ON ALL CONDUIT AT BUILDING EXPANSION JOINTS AND WHERE OTHERWISE REQUIRED BY JOB CONDITIONS. EXPANSION FITTINGS SHALL BE EQUAL TO O.Z. EXPANSION FITTINGS, TYPE AX WITH TYPE AJ BONDING JUMPER AS MANUFACTURED BY APPLETON ELECTRIC COMPANY OR

ANCHORS AND INSERTS: HORIZONTAL RUNS OF CONDUIT SHALL BE SECURELY FASTENED IN PLACE IN ACCORDANCE WITH THE NEC. WOODEN PLUGS OR WOOD SCREWS WILL NOT BE PERMITTED. ALL ANCHORS SHALL E NON-HYGROSCOPIC AND SHALL BE INSERTED IN HOLES DRILLED IN THE CONSTRUCTION IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. AND SHALL BE METALLIC SHIELD TYPE AS MANUFACTURED BY RAWL PHILIPS, ACKERMAN-JOHNSON OR APPROVED EQUAL. ANY INSERTS "SHOT" INTO CONCRETE CONSTRUCTION WILL NOT BE PERMITTED KINDORE OR APPROVED FOLIA TRAPEZE TYPE HANGERS SHALL BE INSTALLED WHERE EXPOSED CONDUIT IS PARALLEL IN LONG RUNS. PERFORATED STRAP-IRON HANGERS WILL NOT BE

WHERE HANGERS OR SUPPORTS MUST BE ATTACHED TO PRECAST CONCRETE, HOLES MUST BE DRILLED WITH SPECIAL DIAMOND DRILL BITS.

CONDUIT FITTINGS: CONDUIT FITTINGS FOR USE OF CONDUIT WHEN FABRICATED FROM STEEL TUBING SUCH AS ELBOWS AND COUPLINGS SHALL CONFORM IN ALL RESPECTS TO THE SPECIFICATIONS FOR CONDUIT. CAST FITTINGS SHALL BE MADE OF RUST RESISTING FERROUS OR NON-FERROUS MATERIALS, SHALL BE PROVIDED WITH HEAVY THREADED HUBS, AND SHALL BE THOROUGHLY COATED WITH METALLIC ZINC OR CADMIUM INSIDE AND OUTSIDE AFTER ALL MACHINE WORK IS COMPLETED. FITTINGS WITH SET SCREWS ARE PROHIBITED. CAST CONDUIT FITTINGS SHALL BE USED ON ALL EXPOSED CONDUIT INSTALLATIONS.

WHERE SWITCH BOXES ARE USED AS THE TERMINATION OF THE "HOME RUN" IN ADDITION TO THE SWITCH LEGS, NOT LESS THAN A TWO-GANG BOX SHALL BE USED IN ORDER TO PROVIDE AMPLE ROOM FOR WIRING.

THE MINIMUM SIZES OF WIRE ON AN INSTALLATION SHALL BE AS FOLLOWS:

LIGHTING, FIRE ALARM AND POWER CIRCUITS NO. 12 AWG SIGNAL CIRCUITS WITH COMMON OR INDIVIDUAL PUBLIC ADDRESS SYSTEMS, TWISTED PAIR, SHIELDED AS SPECIFIED FIXTURES, NO. 14 AWG MINIMUM AND AS REQUIRED

NO. 10 AWG CONDUCTORS SHALL BE INSTALLED FOR ALL CIRCUIT RUNS GREATER THAN 100'-0" ONE WAY FROM PANELBOARD TO LAST OUTLET; OVER 150 FEET IN LENGTH SHALL BE NO. 8. WIRING SHALL BE INCREASED IN SIZE IF SO DEMANDED BY WATTAGE OF LOAD. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID, AND CONDUCTORS NO. 8 AWG AND LARGER SHALL BE

GREAT CARE SHALL BE EXERCISED IN PULLING WIRES INTO THE CONDUITS SO AS NOT TO INJURE THE INSULATION. ONLY U.L. APPROVED LUBRICANTS SHALL BE USED TO ASSIST IN THE PULLING IN OF WIRES WITH AN OUTER COVERING OF BRAID.

ALL INSULATED LIGHTING AND POWER SECONDARY CONDUCTORS, EXCEPT FIXTURE WIRE, WHICH SHALL BE AS SPECIFIED HEREINAFTER, SHALL BE COPPER, FIRST QUALITY, NEW AND SOUND WITH 600-VOLT INSULATION, 75 33/64 C MOISTURE AND HEAT RESISTANT TYPE THW, ASTM B-3 AND B-8. THE CONDUIT SYSTEM SHALL BE FREE OF

(CONTINUED)

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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ALL BURRS, SHARP EDGES AND DEFECTS BEFORE WIRE IS PULLED. FIXTURE CONDUCTORS SHALL BE TYPE THHN FROM THE ADJACENT JUNCTION BOX.

ALL WIRE AND CABLE SHALL BE MARKED WITH IDENTIFICATION IN ACCORDANCE WITH THE REGULATIONS

COMMUNICATION, SOUND AND OTHER LOW-VOLTAGE WIRING SHALL BE OF SIZE AND INSULATION RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT BEING SERVED.

THE CONTRACTOR SHALL REFER TO THE GENERAL, HEATING-VENTILATING AND PLUMBING SPECIFICATIONS AND INCORPORATE ALL ELECTRICAL WORK REQUIRED BY THESE CONTRACTS INTO THIS CONTRACT. THE CONTRACTOR SHALL ROUGH FOR ALL FIXTURES AND DEVICES AND AFTER SET BY OTHER CONTRACTORS. SHALL WIRE THROUGH THE EQUIPMENT TO THE DEVICES FURNISHED AND INSTALLED WITH THE EQUIPMENT. WIRE ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AS FURNISHED WITH THE RESPECTIVE EQUIPMENT. ALL ELECTRICAL POWER TO EQUIPMENT FURNISHED UNDER OTHER CONTRACTS SHALL BE INSTALLED AND WIRED COMPLETELY BY THIS CONTRACTOR, UNLESS OTHERWISE

THE CONTRACTOR SHALL INSTALL, IN EACH EMPTY UNDERGROUND AND INTERIOR CONDUIT, ONE (1) NYLON FISH LINE FOR THE FUTURE INSTALLATION OF WIRE AND

SPLICES - SECONDARY

ALL SPLICING SHALL BE DONE IN OUTLET BOXES, JUNCTION BOXES AND NOT IN THE CONDUIT. SPLICES MAY BE MADE WITH SOLDERLESS CONNECTORS, PRESSURE CONNECTORS, BUGS AND THEN INSULATED WITH TAPE. THE CONTRACTOR SHALL USE SCOTCH ELECTRICAL TYPE NO. 22 OR 33, SCOTCHLOK SPRING CONNECTORS WITH VINYL COVER, SCOTCH CAST RESIN NO. 4 AND SPLICING KIT OR PRESSURE SPLICE KIT, ALL AS APPROVED EQUAL AS RECOMMENDED BY THE MANUFACTURER OF THE SPLICING MATERIALS AND THE WIRE MANUFACTURER. CONNECTORS WHICH LEAVE CUT ENDS OF WIRE EXPOSED TO FLEXIBLE OR SOFT CONNECTOR INSULATOR WILL NOT BE PERMITTED PROPER SIZE CONNECTORS SHALL BE USED AT ALL SPLICE LOCATIONS. SOLDERED CONNECTIONS INSULATED WITH ELECTRICAL PLASTIC TAPE WILL BE PERMITTED. PROVIDE PULL BOXES AS REQUIRED. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS ENTERING THEM WITH RODS, HANGERS, BRACKETS OR OTHER SUITABLE MEANS.

RACEWAY ACCESSORIES

ALL OUTLET BOXES SHALL BE OF GALVANIZED STEEL. AT LEAST 1-1/2" DEEP AND CAREFULLY SIZED AS TO THE NUMBER OF CONDUCTORS AND DEVICES AND ACCORDING TO APPROPRIATE SECTIONS OF THE NEC. BOXES SHALL HAVE KNOCK-OUTS FOR CONDUIT TERMINATIONS AND MOUNTING LUGS AND EARS FOR COVERS.

OUTLET BOXES FOR WIRING DEVICES IN FINISHED WALLS SHALL BE ONE PIECE STANDARD GANG TYPE OF SIZE TO ACCOMMODATE NUMBER OF DEVICES NOTED. BOXES SHALL HAVE PLASTER COVERS TO BRING BOXES' OPENINGS FLUSH WITH FINISHED WALL AND NOT MORE THAN 1/4" BACK OF SAME.

BOXES FOR FLOOR OUTLETS SHALL BE CAST-METAL, THREADED CONDUIT-ENTRANCE, WATERPROOF TYPE WITH MEANS FOR ADJUSTING COVERPLATE TO FINISH FLOOR LEVEL. BOXES SHALL BE APPROXIMATELY 4" IN DIAMETER AND 3-1/2" DEEP WITH AN APPROVED GASKET OR SEAL BETWEEN ADJUSTING RING AND BOX.

DIMENSIONS FOR OUTLET BOXES SHOWN IN A GENERAL MANNER, GIVEN THE SCHEDULE, WILL BE PERMITTED SLIGHT ADJUSTMENT TO SATISFY BLOCK CONSTRUCTION ON THE PROJECT. THOSE DIMENSIONS ON THE DRAWING, HOWEVER, SHALL BE INSTALLED AS SHOWN.

OUTLET AND FLOOR BOXES SHALL BE AS MANUFACTURED BY RACO OR APPROVED EQUAL.

JUNCTION AND PULL BOXES NOT OVER 100 CUBIC INCH SHALL BE STANDARD OUTLET BOXES. JUNCTION OR PULL BOXES OVER 150 CUBIC INCH SHALL BE CONSTRUCTED SAME WITH COVERS SAME GAUGE METAL AS BOXES AND SECURED WITH SCREWS AND BOLTS. ALL BOXES SHALL BE COATED INSIDE AND OUTSIDE TO PREVENT

JUNCTION BOXES SHALL NOT BE LESS THAN 1-1/2" BY 4" SQUARE. REMOVABLE COVERS SHALL BE ACCESSIBLE AT

BOXES SHALL BE ACCESSIBLE, HOWEVER, IF ON CONCEALED CONDUITS, THEY SHALL BE SET WITH COVERS FLUSH WITH FINISH PLASTER LINE. JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSION. AS OUTLINED BY THE NEC FOR CONDUITS AND CONDUCTORS NOTED, SHALL BE INSTALLED WHERE SHOWN AND WHERE NECESSARY TO FACILITATE CONDUCTOR INSTALLATION.

SWITCHES

ALL SWITCHES MOUNTED VERTICALLY SHALL HAVE THE "ON" POSITION AT THE TOP AND ALL HORIZONTALLY MOUNTED SWITCHES SHALL HAVE THE "ON" POSITION AT

TUMBLER SWITCHES SHALL BE THE A.C. HEAVY DUTY, 120/277 VOLTS, FLUSH TOGGLE-TYPE SWITCH RATED AT 20 AMPERES AND U.L. APPROVED. THE OPERATING MECHANISM SHALL BE TOTALLY ENCLOSED IN A HIGH HEAT, NON-INFLAMMABLE, NON-HYGROSCOPIC MOULDED COMPOUND CASE, WITH TERMINAL SCREWS LOCATED ON THE SIDE OF THE SWITCH. OPERATING HANDLES SHALL BE MADE OF HIGH HEAT PHENOLIC COMPOUND. ALL SWITCHES SHALL HAVE WIDE PLASTER EARS. AND SHALL BE SINGLE POLE, DOUBLE POLE, 3-WAY AND 4-WAY AS REQUIRED AND SHALL BE EQUAL UNLESS SPECIFIED OTHERWISE TO HUBBELL 1221-I. 1223-I AND 1224-COVERPLATES. KEY-OPERATED SWITCHES SHALL BE EQUAL TO HUBBELL 1221-L, 1203-L, AND 1204-L COMPLETE WITH 1209 KEY.

CONVENIENCE OUTLETS

RECEPTACLES FOR CONVENIENCE OUTLETS SHALL MATCH EXISTING IN TYPE, MANUFACTURER AND COLOR.

AT EACH SPECIAL PURPOSE OUTLET SHOWN, FURNISH AND INSTALL A SUITABLE RECEPTACLE WITH A STAINLESS STEEL PLATE. OUTLETS RATED FROM 1.600 TO 3.000 WATTS SHALL BE PROVIDED WITH 30 AMPERE RECEPTACLES. OUTLETS RATED FROM 3,100 TO 10,000 WATTS SHALL BE PROVIDED WITH 50 AMPERE. ALL DEVICES SHALL BE HOSPITAL GRADE.

RECEPTACLES. OUTLETS FOR EQUIPMENT RATED OVER 10,000 WATTS SHALL BE CONNECTED THROUGH FUSED SAFETY SWITCHES WITHOUT RECEPTACLES. THIRTY (30 AMPERE RECEPTACLES SHALL BE 3-WIRE FLUSH MOUNTING TYPE SIMILAR TO HUBBELL 9350 OR 9350G WITH 9337 OR 9338 ARMORED CORD GRIP CAP AND WITH STAINLESS STEEL PLATE OR APPROVED EQUAL. TWENTY AMPERE, 4-WIRE RECEPTACLES SHALL BE HUBBELL 7250 WITH 9451 ARMORED CAP AND ALL OTHER 4-WIRE RECEPTACLES SHALL BE 60 AMPERE SIMILAR TO HUBBELL 7301 WITH 7303 CORD GRIP CAP. THE CONTRACTOR SHALL CHANGE CAPS ON ANY PIECE OF EQUIPMENT FURNISHED BY HIM OR OTHERS THAT DO NOT CONFORM TO THE ABOVE.

WALL PLATES

SWITCH, RECEPTACLES, PUSH BUTTONS, BLANK TELEPHONE AND OTHER OUTLET PLATES SHALL MATCH EXISTING IN TYPE, MANUFACTURER AND COLOR. WHERE MORE THAN ONE (1) SWITCH OCCURS AT ONE POINT, GANG PLATES SHALL BE USED.

ZINC-COATED PLATES MAY BE USED IN ALL UNFINISHED

ALL PLATES SHALL BE SET TRUE AND PLUMB AND SHALL FIT TIGHT AGAINST FINISHED WALL SURFACES AND OUTLET BOXES.

OUTLET AND SWITCH BOXES

OUTLET AND SWITCH BOXES SHALL BE OF PROPER TYPE AND SIZE AS REQUIRED BY THE NEC AND SHALL BE SECURED FIRMLY IN PLACE AND SET TRUE AND SQUARE AND FLUSH WITH THE FINISHED SURFACE, INCLUDING THOSE SET IN BOTTOM OF PLANK FLOOR SLABS.

CONCEALED BOXES SHALL BE OF PRESSED STEEL NOT LESS THAN 4" OCTAGON OR SQUARE, ZINC COATED AND PROVIDED WITH THE PROPER SIZE KNOCKOUTS. CAS BOXES SHALL BE USED ONLY AS CALLED FOR HEREIN OR AS SPECIFICALLY REQUIRED BY NEC. REFER TO "WEATHERPROOF LOCATIONS."

WHEN OUTLETS ARE REQUIRED IN TILE CONSTRUCTION, RECTANGULAR BOXES MADE FOR THE PURPOSE SHALL BE PROVIDED. NO SECTIONAL SWITCH BOXES SHALL BE PERMITTED IN TILE CONSTRUCTION. BOXES SHALL BE OF UNIT CONSTRUCTION, OF A SIZE REQUIRED FOR THE NUMBER OF SWITCHES OR OTHER OUTLETS SHOWN. THE SHAPE OF THE BOX SHALL BE SUCH AS TO PERMIT TILE TO BE CUT IN STRAIGHT LINES AND TO FIT CLOSELY AROUND THE BOX AND SO PLACED THAT THE COVERPLATE WILL BE FLUSH WITH FINISHED WALL SURFACES. NO PLASTER COVERS WILL BE REQUIRED FOR THESE OUTLETS IN TILE

ALL BOXES FOR LIGHT OUTLETS SHALL BE PROVIDED WITH FIXTURE STUDS OF A SIZE SUITABLE FOR THE WEIGHT OF THE FIXTURE TO BE SUPPORTED, BUT IN NO CASE LESS

LOCATION OF OUTLETS

THE APPROXIMATE SCHEMATIC LOCATION OF CEILING, SWITCH AND OTHER OUTLETS IS GIVEN ON THE DRAWINGS. THE EXACT LOCATION SHALL BE DETERMINED AT THE BUILDING AS THE WORK PROGRESSES. REFER TO ARCHITECTURAL PLANS FOR SPECIAL DETAILS.

UNLESS OTHERWISE INDICATED, OR OTHERWISE DECIDED AT THE SITE, OUTLET BOXES IN WALL SHALL BE LOCATED WITH CENTERLINE AT ELEVATION ABOVE THE FINISHED FLOOR AS SHOWN ON TABLE BELOW. IN CERTAIN PUBLIC AND WORK AREAS OF THE BUILDING, SWITCHES AND CONTROLS OF FREQUENT OR ESSENTIAL USE SHALL BE LOCATED 3'-4" ABOVE THE FLOOR. THIS IS IN ACCORDANCE WITH ACT 235 OF THE DEPARTMENT OF LABOR AND INDUSTRY. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INFORMATION ON AND COMPLYING WITH PROVISIONS OF ACT 235. RELOCATION OF ANY DEVICES NOT COMPLYING WITH ACT 235 SHALL BE AT CONTRACTOR'S EXPENSE.

THE ARCHITECT AND THE OWNER RESERVE THE RIGHT TO CHANGE THE LOCATION OF ANY OUTLET BEFORE IT HAS BEEN INSTALLED, WITHOUT ADDITIONAL COST TO THE

TELEPHONE, TELEVISION AND MISCELLANEOUS EMPTY CONDUIT SYSTEMS THE CONTRACTOR SHALL FURNISH MUDRING AND PULLSTRING AT EACH TELEPHONE/DATA OUTLET SHOWN ON PLAN. PROVIDE A 3/4 "C AT EACH LOCATION TO BE RUN TO ACCESSIBLE SPACE ABOVE THE FINISHED CEILING.

MOTOR CONNECTIONS

EACH CONTRACTOR WILL PROVIDE NECESSARY STARTERS AS REQUIRED FOR OPERATION OF THE MOTORS PROVIDED UNDER THEIR CONTRACT. THE ELECTRICAL CONTRACTOR SHALL SET THE STARTER AND LINE VOLTAGE CONTROLS AND MAKE ALL FINAL CONNECTIONS.

THIS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DIRECTION OF ROTATION OF ALL MOTORS AND SHALL CHANGE CONNECTIONS AS REQUIRED TO PROVIDE FOR PROPER ROTATION.

WHERE MOTORS ARE ARRANGED ON RAILS, OR ARE OTHERWISE ADJUSTABLE FOR PROPERLY TENSIONING BELT DRIVES, A PIECE OF FLEXIBLE GALVANIZED OR SHERARDIZED CONDUIT WITH SUITABLE FITTINGS AND NOT OVER 18" LONG WILL BE PERMITTED BETWEEN THE END OF THE RIGID CONDUIT OR "EMT" AND THE MOTOR TERMINAL BOX. IN ALL OTHER CASES, RIGID CONDUIT OR "EMT" SHALL BE EXTENDED DIRECT TO THE MOTOR TERMINAL BOX. MOTOR GROUNDING LEADS SHALL BE PROVIDED AS REQUIRED. NO BOX WILL BE PERMITTED IN LIEU OF FLEXIBLE CONDUIT.

LIGHTING FIXTURES

FIXTURE NUMBERS. AS SPECIFIED. HAVE BEEN TAKEN FROM THE CATALOGS OF FIXTURE MANUFACTURERS. FIXTURE NUMBERS AND DESCRIPTIONS ARE INTENDED TO DENOTE A STANDARD OF QUALITY AND TYPE. FIXTURES OF OTHER MANUFACTURERS MAY BE USED PROVIDED A COMPLETE COMPARABLE SCHEDULE IS SUBMITTED TO THE ARCHITECT AND THE OWNER FOR APPROVAL BEFORE PROCEEDING WITH THE ORDER. SPECIAL PRECAUTION SHALL BE TAKEN ON FINISHES.

A FIXTURE SHALL BE PROVIDED FOR EACH AND EVERY OUTLET INDICATED WHETHER A TYPE HAS BEEN GIVEN OR OMITTED, AND THE FIXTURE MUST BE COMPATIBLE. INCANDESCENT FIXTURES SHALL BE FITTED WITH 130 VOLT LAMPS OF PROPER TYPE AND CAPACITY. ALL LAMPS SHALL BE FIRST QUALITY AND SHALL BE MANUFACTURED BY GENERAL ELECTRIC, OSRAM OR PHILIPS. WHERE FLUORESCENT FIXTURES ARE SPECIFIED, THEY SHALL BE COMPLETE WITH HIGH POWER FACTOR BALLASTS, U.L. LISTED, C.B.M. CERTIFIED, AND E.T.L. APPROVED. LOW POWER FACTOR BALLASTS WILL NOT BE ACCEPTABLE UNDER ANY CIRCUMSTANCES. BALLASTS SHALL HAVE AN "A" SOUND RATING. BALLASTS SHALL BE AS MANUFACTURED BY JEFFERSON ELECTRIC COMPANY, GENERAL ELECTRIC COMPANY, OR ADVANCE TRANSFORMER COMPANY. BALLASTS WHICH ARE NOISY OR DEFECTIVE SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR WITHOUT ADDITIONAL CHARGES TO THE OWNER. EIGHT FOOT FLUORESCENT FIXTURES SHALL HAVE 4' LAMPS UNLESS OTHERWISE INDICATED. BALLASTS SHALL BE CLASS P INTERNALLY PROTECTED TO MEET SECTION 410-81 (E) OF THE NATIONAL ELECTRIC CODE. MERCURY BALLASTS TO BE CONSTANT WATTAGE TYPE. LAMP TYPES AND CRI RATINGS SHALL BE AS INDICATED ON LUMINAIRE SCHEDULE.

SUITABLE PLASTER RINGS OR FRAMES SHALL BE PROVIDED FOR ALL RECESSED FIXTURES. WHERE FIXTURES OR BOXES ARE RECESSED IN METAL DECKS, THE CONTRACTOR SHALL DO ALL CUTTING REQUIRED AT EACH LOCATION. THE CONTRACTOR SHALL REINFORCE OPENINGS IN METAL DECKS WITH SUITABLE STRUCTURAL MEMBERS AS REQUIRED BY THE ARCHITECT.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE GENERAL CONTRACTOR OF EXACT LOCATIONS WHERE RECESSED FIXTURES AND BOXES WILL BE INSTALLED. IT WILL BE NECESSARY TO COORDINATE THE EXACT LOCATIONS OF STEEL JOISTS AND OTHER STRUCTURAL MEMBERS TO PROVIDE CLEARANCE FOR RECESSED ELECTRICAL EQUIPMENT.

ALL LIGHTING FIXTURES REMOVED AND NOT RE-USED SHALL BE TURNED OVER TO BUILDING MANAGEMENT. INSTALLATION

THE CONTRACTOR SHALL PROVIDE AND INSTALL

"OCIOCOR CLIPS" ON THE "T" BAR SUSPENSION STUD "SCISSOR CLIPS" ON THE CONSTRUCTION FOR INSTALLATION OF SURFACE-MOUNTED FLUORESCENT FIXTURES ADDITIONAL WIRE TIES SHALL BE PROVIDED TO CEILING SYSTEM TO PREVENT SAG. ALL ACCESSORIES SUCH AS COUPLING PLATES SHALL BE PROVIDED TO ALIGN FIXTURES. ADDITIONAL WIRES SHALL BE PROVIDED SO THAT SUPPORTS WILL NOT DEFLECT MORE THAN 1/360 OF THE SPAN WITH TWICE THE FIXTURE WEIGHT.

FLUORESCENT FIXTURES USED FOR LAY IN CEILINGS SHALL HAVE ADDITIONAL SUPPORT AS REQUIRED AND SHALL HAVE ALL CLIPS INSTALLED TO ENSURE RIGID INSTALLATION. EACH FIXTURE SHALL BE ADJUSTED TO ACCOMPLISH A SYMMETRICAL PLACEMENT IN THE CEILING SPACE AND EASY REMOVAL OF THE LENS.

SURFACE-MOUNTED INCANDESCENT FIXTURES SHALL HAVE THE BASE SLOTTED TO RECEIVE THE "T" BAR TILE AND FIT SNUG AGAINST THE CEILING.

RECESSED DOWNLIGHT FIXTURE HOUSINGS SHALL BE FREELY SUPPORTED THROUGH THE USE OF CHANNELS AND ADJUSTED TO PUT FRAME FLUSH WITH FINISHED CEILING. LIGHT LEAKS WILL NOT BE TOLERATED AND GASKETS SHALL BE USED TO PREVENT THEM. ALL LENS SHALL HAVE A MINIMUM TOLERANCE AND SHALL FIT SNUG IN THEIR FRAMES.

FIXTURES INSTALLED IN OPEN STEEL AREAS SHALL BE INSTALLED ON "KINDORF" SYSTEM AS MANUFACTURED BY STEEL CITY COMPANY, OR APPROVED EQUAL. THIS SYSTEM SHALL BE SUSPENDED FROM THE STRUCTURAL STEEL MEMBERS AND SHALL HAVE VIBRATION RESISTANT ASSEMBLY CONNECTIONS. ALL RODS USED FOR SUSPENSION SHALL BE GALVANIZED AND SURFACE RACEWAY SUSPENSION SHALL HAVE CORROSION RESISTANT PAINT

OTHER FIXTURES SHALL BE RIGIDLY SUPPORTED FROM MAIN BUILDING STRUCTURE WITH APPROVED SUPPORTING

THE ELECTRICAL CONTRACTOR SHALL SPACE ALL LIGHTING FIXTURES EVENLY ON CENTERS OR JOINTS OF CEILING TILES OR OTHER CONSTRUCTION. FIXTURES SHALL BE LOCATED AT CENTER OF CEILING TILES WHERE POSSIBLE. ALL MEASUREMENTS FOR SPACING FIXTURES EVENLY ON ROOM DIMENSIONS SHALL BE TAKEN FROM CENTERLINE OF STEEL COLUMNS AND BEAMS IN ALL

EACH SOCKET IN MULTIPLE SOCKET FIXTURES SHALL BE PROVIDED WITH A LAMP OF PROPER TYPE AND WATTAGE TO CONFORM AS NEAR AS POSSIBLE WITH THE TOTAL WATTAGE LISTED ON THE DRAWINGS. WATTAGES

SHOWN ON THE DRAWINGS ARE MINIMUM.

FIXTURES SHALL BE DESIGNED, ARRANGED, FURNISHED AND INSTALLED COMPLETE WITH ALL ACCESSORIES FOR MOUNTING TO THE CEILING CONSTRUCTION FOR WHICH IT S TO BE INSTALLED. THE CONTRACTOR SHALL CHECK CARFFULLY WITH FINAL CEILING FINISH SCHEDULE OF ROOMS BEFORE ORDERING FIXTURES FOR HE SHALL BE HELD RESPONSIBLE FOR THE INSTALLATION COMPLETE IN EVERY DETAIL.

INTEGRAL OUTLET BOXES FACTORY MOUNTED ON RECESSED FIXTURES ARE PREFERRED, BUT NOT SPECIFICALLY REQUIRED.

ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH SUITABLE PENDANTS, CANOPIES, COVER, CEILING ROUNDELS, OPENING FLANGES, HANGERS, PLASTER RINGS OR FRAMES IF RECESSED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZE OPENINGS FOR RECESSED FIXTURES AND SHALL FURNISH AND INSTALL ALL WOOD OR METAL FRAMES PROPERLY SET IN PLACE AND ANCHORED.

METAL GAUGE OF FIXTURES SHALL BE HEAVY GAUGE AND FIXTURES MANUFACTURED OF LIGHT GAUGE METAL WITH EXCESSIVE FLEXIBILITY WILL NOT BE ACCEPTABLE.

FINISH: ALL METAL PARTS OF FIXTURES SHALL BE PAINTED. INTERIOR REFLECTIVE SURFACES SHALL BE OF BAKED-ON WHITE ENAMEL UNLESS FIXTURE SPECIFIED IS NORMALLY FURNISHED WITH POLISHED REFLECTIVE METAL SURFACES. EXTERIOR SURFACES SHALL BE FINISHED WITH ENAMEL. FIXTURES LOCATED IN HAZARDOUS AREAS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROPRIATE SECTIONS IN THE NEC. INCLUDING ALL WIRING AND FITTINGS CONTROLLING THESE LIGHTS.

ALL PLASTIC DIFFUSERS SHALL BE 100% VIRGIN ACRYLIC. FURNISH CERTIFICATE FROM THE LIGHT MANUFACTURER CERTIFYING SAME.

DISCONNECT SWITCHES

FUSED AND NO-FUSED DISCONNECT SWITCHES SHALL BE FURNISHED AT LOCATIONS SHOWN ON PLAN OR FOR EQUIPMENT MOUNTED IN REMOTE AREAS AS REQUIRED BY CODE. SWITCHES INDOOR OR NEMA 3R ENCLOSURE FOR EXTERIOR USE. SWITCHES SHALL BE EQUAL TO WESTINGHOUSE HEAVY-DUTY TYPE. FURNISH COMPLETE SET OF FUSES FOR FUSED DISCONNECT. WHERE MOTOR FEEDS EXCEED 50' OR LOCATED OUTSIDE AREA THAT PROTECTIVE DEVISES ARE LOCATED, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL NON-FUSED DISCONNECT SWITCHES.

HEATING AND PLUMBING EQUIPMENT

ELECTRICAL CONTRACTOR SHALL DO ALL POWER WIRING, LINE VOLTAGE WIRING AND CONTROL WIRING HFREINAFTER DESCRIBED AND COVERED UNDER THE HEATING AND PLUMBING DRAWINGS AND SPECIFICATIONS.

LECTRICAL CONTRACTOR SHALL REFER TO WIRING SCHEMATICS ON HEATING AND PLUMBING DRAWINGS FOR ADDITIONAL WIRING THAT IS TO BE DONE UNDER THIS

ELECTRICAL CONTRACTOR SHALL REFER TO THE HEATING AND PLUMBING SPECIFICATION FOR A MORE DETAILED DESCRIPTION OF THE EXTENT OF ELECTRICAL WORK TO BE DONE UNDER THE ELECTRICAL CONTRACT AND SHALL BECOME A PART THEREOF. THESE SPECIFICATIONS ARE AVAILABLE IN THE ARCHITECT'S OFFICE.

LABELING PANELS, SWITCHES, ETC.

ALL ELECTRIC PANELS AND PULL BOXES FOR SOUND, TV, AND TELEPHONE SHALL BE LABELED INSIDE OF THEIR COVERS AS TO THEIR USE AND FUNCTION. LABELING SHALL BE DONE BY STENCILING IN BLACK PRINT OR OTHER SUITABLE MEMO ACCEPTABLE TO THE ARCHITECT.

ALL DISCONNECT SWITCHES SHALL BE LABELED WITH VINYL ADHESIVE LETTERING AS TO ITS FUNCTION. ALL SWITCHES AND DEVICES LOCATED REMOTELY FROM THE EQUIPMENT IT SERVES SHALL BE SO LABELED AS TO IDENTIFICATION AND USE. ALL DEVICES THAT ARE NORMALLY SUPPLIED WITH DIRECTORIES SHALL BE FILLED IN COMPLETELY WITH TYPED LETTERING.

EQUIPMENT HOOK UP

THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR AND MATERIAL REQUIRED FOR THE FINAL CONNECTION, COMPLETE HOOK UP AND WIRING OF ALL EQUIPMENT FURNISHED UNDER OTHER CONTRACTORS. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE VARIOUS SCHEDULES AND DRAWINGS TO ESTABLISH THE SCOPE TO BE COVERED UNDER THIS CONTRACT. MOUNT AND WIRE TO CONTROLLERS AND DISCONNECTS SERVING THE VARIOUS PIECES OF EQUIPMENT.

THE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE IN NATURE ONLY, AND ARE TO BE USED FOR BIDDING PURPOSES. THE ACTUAL INSTALLATION DRAWINGS, CONCERNING EXACT LOCATIONS AND METHOD OF CONNECTION, WILL BE DEVELOPED BY THE VARIOUS CONTRACTORS WHICH ARE TO BE USED FOR CONSTRUCTION PURPOSES.

THE LOCATIONS SHOWN ON THE WORKING DRAWINGS ARE APPROXIMATE AND THE ELECTRICAL CONTRACTOR SHALL USE MANUFACTURERS' SHOP DRAWINGS FOR ROUGHING IN ACTUAL CONSTRUCTION.

GENERALLY, EQUIPMENT FURNISHED BY OTHERS SHALL BE ROUGHED IN AND WIRED COMPLETE ACCORDING TO THE MANUFACTURER'S SHOP DRAWINGS OF THE EQUIPMENT, INCLUDING ROUGHING IN AND FINAL CONNECTIONS. WIRE TO ALL LINE VOLTAGE CONTROLS AND CONTROLLERS.

SUPERVISION OF SYSTEMS INSTALLATION

ALL WORK ON MAJOR SYSTEMS SUCH AS THE SOUND, CLOCK, EMERGENCY GENERATOR AND FIRE ALARM SYSTEM SHALL BE PERFORMED UNDER THE SUPERVISION OF FACTORY ACCREDITED ENGINEERS. IT SHALL BE THE RESPONSIBILITY OF THIS ENGINEER TO CHECK AND INSPECT THE INSTALLATION OF THE SYSTEMS. HE SHALL ALSO TRAIN THE AUTHORIZED PERSONNEL ON THE PROPER USE AND MAINTENANCE OF THE EQUIPMENT. ALL WORK IN CONJUNCTION WITH THIS INSTALLATION SHALL BE IN ACCORDANCE WITH ALL LOCAL ELECTRICAL CODES.

INSTRUCTION

AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL INSTRUCT THE PERSONNEL WHO WILL HAVE CHARGE OF THE EQUIPMENT IN THE CARED, ADJUSTMENT AND OPERATION OF ALL PARTS OF ELECTRICAL SYSTEM. PROVIDE OWNER WITH COPIES OF ALL INSTRUCTION MANUALS AND BOOKLETS FOR EACH SYSTEM AND PIECE OF EQUIPMENT INSTALLED.

PROJECT COMPLETION

AT THE COMPLETION OF THE WORK, ALL PARTS OF THE ELECTRICAL SYSTEM SHALL BE TESTED FOR GROUNDS AND OTHER DEFECTS AND ALL PARTS SHALL BE PROPERLY ADJUSTED AND LEFT IN PROPER OPERATING CONDITION. ALL OVERLOAD DEVICES INCLUDE THE OVERLOAD TRIP

MOTOR SIZE. SWITCHES, CONTROLLERS AND OTHER OPERATING DEVICES, WHERE LOCATED SOME DISTANCE FROM THE EQUIPMENT OPERATED, OR WHERE THERE ARE SEVERAL OR A GROUP OF DEVICES FOR CONTROL OF NEARBY OR ADJACENT EQUIPMENT, SHALL BE IDENTIFIED BY LETTERING OF A LEGIBLE SIZE ON THE SWITCH CONTROLLER OR OPERATING DEVICE OF THE EQUIPMENT OPERATED BY SAME. USE A VINYL STICK-ON LETTERING

TAPE. THIS SHALL BE DONE FOR ALL SUCH EQUIPMENT

WHETHER FURNISHED UNDER THIS CONTROL OR NOT.

COILS OF THE STARTERS AND AUXILIARIES SHALL BE

ADJUSTED FOR THE LOAD CONTROLLED AND NOT THE

GUARANTEE

THIS CONTRACTOR SHALL GUARANTEE ALL MATERIAL. EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY THE ARCHITECT AND OWNER. HE SHALL REPLACE ALL DEFECTIVE MATERIAL AND WORKMANSHIP FURNISHED AND INSTALLED BY HIM AND ALL OTHER WORK AND EQUIPMENT DAMAGED THEREBY WITHOUT COST TO THE

IN ADDITION TO THE ONE YEAR GUARANTEE, THE CONTRACTOR SHALL FURNISH ANY WARRANTIES OR GUARANTEES THAT NORMALLY COME WITH SPECIFIC PIECES OF EQUIPMENT THAT EXCEEDS THE ONE-YEAR GUARANTEE. THESE ADDITIONAL WARRANTIES SHALL BE GIVEN TO THE OWNER FOR THE TIME PERIOD SPECIFIED.

BIDDING PROCEDURE

ALL BIDDERS SHALL SUBMIT FOR THE ELECTRICAL CONSTRUCTION OF THIS PROJECT AS OUTLINED IN THE FOLLOWING PARAGRAPHS. THESE BIDS SHALL BE ENTERED IN THE PROPER SPACES OF THE "PROPOSAL FORM."

BASE BID SHALL BE FOR ALL CONSTRUCTION AS SPECIFIED AND SHOWN ON WORKING DRAWINGS.

ALTERNATE BIDS SHALL BE "ADD" AMOUNTS AND/OR "DEDUCT" AMOUNTS FROM THE BASE BID FOR ALL LABOR AND MATERIAL IN THE ITEMS LISTED HEREINAFTER.

AS-BUILT DRAWING

UPON COMPLETION PRIOR TO TURN OVER CONTRACTOR SHALL, PROVIDE CADD DRAWING SHOWING ANY DEVIATIONS FROM CONTRACT, AND ALL CIRCUITING IN AN AS—BUILT CONDITION. A HARD COPY AND ELECTRONIC COPY ON DISK SHALL GIVEN TO THE OWNER AND ARCHITECT PRIOR TO FINAL PAYMENT.

END OF SPECIFICATION

FEEDER SCHEDULE						
TYPE						
H	225	1	2	3	4	
Ŀ	223	1PH, 2W, +G	1PH, 3W, +G	3PH, 3W, +G	3PH, 4W, +G	
	10	(2) #12 & #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(4) #12 & (1) #12G - 3/4 " C	
	15	(2) #12 & #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(4) #12 & (1) #12G - 3/4 " C	
	20	(2) #12 & #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(3) #12 & (1) #12G - 3/4 " C	(4) #12 & (1) #12G - 3/4 " C	
	25	(2) #10 & (1) #10G - 3/4 " C	(3) #10 & (1) #10G - 3/4 " C	(3) #10 & (1) #10G - 3/4 " C	(4) #10 & (1) #10G - 3/4 " C	
	30 35	(2) #10 & (1) #10G - 3/4 " C (2) #8 & (1) #10G - 3/4 " C	(3) #10 & (1) #10G - 3/4 " C (3) #8 & (1) #10G - 3/4 " C	(3) #10 & (1) #10G - 3/4 " C (3) #8 & (1) #10G - 3/4 " C	(4) #10 & (1) #10G - 3/4 " C (4) #8 & (1) #10G - 3/4 " C	
	40	(2) #8 & (1) #10G - 3/4 ° C	(3) #8 & (1) #10G - 3/4 " C	(3) #8 & (1) #10G - 3/4 ° C	(4) #8 & (1) #10G - 3/4 ° C	
	45	(2) #6 & (1) #10G - 3/4 " C	(3) #6 & (1) #10G - 3/4 " C	(3) #6 & (1) #10G - 3/4 " C	(4) #6 & (1) #10G - 3/4 " C	
	50	(2) #6 & (1) #10G - 3/4 " C	(3) #6 & (1) #10G - 3/4 " C	(3) #6 & (1) #10G - 3/4 " C	(4) #6 & (1) #10G - 3/4 " C	
	60	(2) #4 & (1) #10G - 1" C	(3) #4 & (1) #10G - 1" C	(3) #4 & (1) #10G - 1" C	(4) #4 & (1) #10G - 1 1/4 " C	
	70	(2) #4 & (1) #8G - 1" C	(3) #4 & (1) #8G - 1 1/4 " C	(3) #4 & (1) #8G - 1 1/4 " C	(4) #4 & (1) #8G - 1 1/4 " C	
	80	(2) #3 & (1) #8G - 1" C	(3) #3 & (1) #8G - 1 1/4 " C	(3) #3 & (1) #8G - 1 1/4 " C	(4) #3 & (1) #8G - 1 1/4 " C	
	90	(2) #2 & (1) #8G - 1" C	(3) #2 & (1) #8G - 1 1/4 " C	(3) #2 & (1) #8G - 1 1/4 " C	(4) #3 & (1) #8G - 1 1/2 " C	
	100	(2) #1 & (1) #8G - 1 1/4 " C	(3) #1 & (1) #8G - 1 1/2 " C	(3) #1 & (1) #8G - 1 1/2 " C	(4) #1 & (1) #8G - 1 1/2 " C	
	125	(2) #1 & (1) #6G - 1 1/4 " C	(3) #1 & (1) #6G - 1 1/2 " C	(3) #1 & (1) #6G - 1 1/2 " C	(4) #1 & (1) #6G - 1 1/2 " C	
	150	(2) #1/0 & (1) #6G - 1 1/4 °C	(3) #1/0 & (1) #6G - 1 1/2 °C	(3) #1/0 & (1) #6G - 1 1/2 °C	(4) #1/0 & (1) #6G - 2°C	
	175	(2) #2/0 & (1) #6G - 1 1/2 °C	(3) #2/0 & (1) #6G - 2*C	(3) #2/0 & (1) #6G - 2°C	(4) #2/0 & (1) #6G - 2°C	
	200	(2) #3/0 & (1) #6G - 1 1/2 °C	(3) #3/0 & (1) #6G - 2*C	(3) #3/0 & (1) #6G - 2°C	(4) #3/0 & (1) #6G - 2"C	
	225	(2) #4/0 & (1) #4G - 2°C	(3) #4/0 & (1) #4G - 2°C	(3) #4/0 & (1) #4G - 2°C	(4) #4/0 & (1) #4G - 2 1/2 °C	
	250	(2) 250 kCmil & (1) #4G - 2°C	(3) 250 kCmil & (1) #4G - 2 1/2 °C	(3) 250 kCmil & (1) #4G - 2 1/2 °C	(4) 250 kCmil & (1) #4G - 3"C	
	300	(2) 350 kCmil & (1) #4G - 2*C	(3) 350 kCmil & (1) #4G - 2 1/2 °C	(3) 350 kCmil & (1) #4G - 2 1/2 "C	(4) 350 kCmil & (1) #4G - 3"C	
	350	(2) 500 kCmil & (1) #3G - 2 1/2 "C	(3) 500 kCmil & (1) #3G - 3"C	(3) 500 kCmil & (1) #3G - 3"C	(4) 500 kCmil & (1) #3G - 3 1/2 °C	
	400	(2) 500 kCmil & (1) #3G - 2 1/2 "C	(3) 500 kCmil & (1) #3G - 3"C	(3) 500 kCmil & (1) #3G - 3"C	(4) 500 kCmil & (1) #3G - 3 1/2 °C	
SIZE	450	(2) 2"C EACH WITH (2) #4/0 & (1) #2G	(2) 2"C EACH WITH (3) #4/0 & (1) #2G	(2) 2"C EACH WITH (3) #4/0 & (1) #2G	(2) 2 1/2 "C EACH WITH (4) #4/0 & (1) #2G	
	500	(2) 2" C EACH WITH (2) 250 kCmil & (1) #2G	(2) 2 1/2 " C EACH WITH (3) 250 kCmil & (1) #2G	(2) 2 1/2 " C EACH WITH (3) 250 kCmil & (1) #2G	(2) 3" C EACH WITH (4) 250 kCmil & (1) #2G	
	600	(2) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #1G	(2) 2 1/2 " C EACH WITH (3) 350 kCmil & (1) #1G	(2) 2 1/2 " C EACH WITH (3) 350 kCmil & (1) #1G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1G	
	800	(2) 2 1/2 " C EACH WITH (2) 500 kCmil & (1) #1/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #1/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #1/0G	(2) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #1/0G	
	900	(3) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (4) 350 kCmil & (1) #2/0G	
	1000	(3) 2 1/2 " C EACH WITH (2) 500 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(3) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #2/0G	
	1200	(4) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (4) 350 kCmil & (1) #3/0G	
	1600	(5) 3" C EACH WITH (2) 500 kCmil & (1) #4/0G	(5) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(5) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(5) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #4/0G	
	2000	(6) 3" C EACH WITH (2) 500 kCmil & (1) 250kCmil G	(6) 3" C EACH WITH (3) 500 kCmil & (1) 250kCmil G	(6) 3" C EACH WITH (3) 500 kCmil & (1) 250kCmil G	(6) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) 250kCmil G	
	2500	(7) 3" C EACH WITH (2) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) 350kCmil G	
	3000	(8) 3" C EACH WITH (2) 500 kCmil & (1) 500kCmil G	(8) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(8) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(8) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	
	3500	(10) 3" C EACH WITH (2) 500 kCmil & (1) 500kCmil G	(10) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(10) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(10) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	
4000 (11) 3" C EACH WITH (11) 3 1/2 " C EACH WITH (2) 500 kCmil & (1) 500kCmil G (3) 500 kCmil & (1) 500kCmil G				(11) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(11) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	
	NOTES: CONDUIT SIZES ARE FOR TYPE THHN/THWN CONDUCTORS ONLY. OTHER CONDUCTOR TYPES MAY REQUIRE LARGER CONDUITS.					

		ALUMINUM FEEDER SCHEDULE				
	4	1	2 OR 3	4	4N	
225		1PH, 2W, +G	1PH, 3W, +G OR 3PH, 3W,+G	3PH, 4W, +G	3PH,4W,+G AND 200% N	
	100	(2) #1 & (1) #6G - 1 1/4°C	(3) #1 & (1)#6G - 1 1/2°C	(4) #1& (1) #6G - 1 1/2*C	(5) #2/0 & (1) #4G - 2°C	
	125	(2)#1/0 & (1) #4G-1 1/4"C	(3) #2/0 & (1) #4G - 1 1/2°C	(4) #2/0 & (1) #4G-2"C	(5) #3/0 & (1) #4G - 2 1/2°C	
	150	(2) #3/0 & (1) #4G - 1 1/2 "C	(3) #3/0 & (1) #4G - 1 1/2: "C	(4) #3/0 & (1) #4G - 2"C	(5) #4/0 & (1) #4G - 3"C	
	175	(2) #4/0 & (1) #4G - 2°C	(3) #4/0 & (1) #4G - 2°C	(4) #4/0 & (1) #4G - 2 1/2°C	(5) 350 kCmil & (1) #2G - 3"C	
	200	(2) 250 kCmil & (1) #4G - 2"C	(3) 250 kCmil & (1) #4G - 2 1/2°C	(4) 250 kCmil & (1) #4G - 2 1/2°C	(5) 350 kCmil & (1) #2G - 3°C	
	225	(2) 350 kCmil & (1) #2G - 2"C	(3) 350 kCmil & (1) #2G - 2 1/2"C	(4) 350 kCmil & (1) #2G - 3"C	(5) 500 kCmil & (1) #2G - 3 1/2"	
	250	(2) 350 kCmil & (1) #2G - 2 "C	(3) 350 kCmil & (1) #2G - 2 1/2"C	(4) 350 kCmil & (1) #2G - 3"C	(5) 500 kCmil & (1) #2G - 4"C	
	300	(2) 500 kCmil & (1) #2G - 2 1/2°C	(3) 500 kCmil & (1) #2G - 3°C	(4) 500 kCmil & (1) #2G - 3 1/2°C	(5) 750 kCmil & (1) #1G - 5°C	
	350	(2) 750 kCmil & (1) #1G -3"C	(3) 750 kCmil & (1) #1G −3 1/2" C	(4) 750 kCmil & (1) #1G -4"C	(2) 3" C EACH WITH (5) 350 kCmil & (1) #1/0G	
SIZE	400	(2) 2" C EACH WITH (2) 250 kCmil & (1) #1G	(2) 2 1/2" C EACH WITH (3) 250 kCmil & (1) #1G	(2) 3" C EACH WITH (4) 250 kCmil & (1) #1G	(2) 3" C EACH WITH (5) 350 kCmil & (1) #1/0G	
	450	(2) 2" C EACH WITH (2) 350 kCmil & (1) #1/0G	(2) 2 1/2" C EACH WITH (3) 350 kCmil & (1) #1/0G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1/0G	(2) 3 1/2" C EACH WITH (5) 500 kCmil & (1) #2/0G	
	500	(2) 2" C EACH WITH (2) 350 kCmil & (1) #1/0G	(2) 2 1/2" C EACH WITH (3) 350 kCmil & (1) #1/0G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1/0G	(2) 4" C EACH WITH (5) 500 kCmil & (1) #3/0G	
	600	(2) 2 1/2" C EACH WITH (2) 500 kCmil & (1) #2/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(2) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #2/0G	(2) 5" C EACH WITH (5) 750 kCmil & (1) #3/0G	
	800	(3) 2 1/2" C EACH WITH (2) 350 kCmil & (1) #3/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(3) 3" C EACH WITH (4) 350 kCmil & (1) #3/0G	(3) 4" C EACH WITH (5) 500 kCmil & (1) #4/0G	
	900	(3) 2 1/2" C EACH WITH (2) 500 kCmil & (1) #4/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(3) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #4/0G	(3) 5" C EACH WITH (5) 750 kCmil & (1) 250 kCmil G	
	1000	(3) 3" C EACH WITH (2) 500 kCmil & (1) #4/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(3) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #4/0G	(4) 5" C EACH WITH (5) 750 kCmil & (1) 350 kCmil G	
	1200	(4) 2 1/2" C EACH WITH (2) 500 kCmil & (1) 250 kCmil G	(4) 3" C EACH WITH (3) 500 kCmil & (1) 250 kCmil G	(4) 3 1/2" C EACH WITH (4) 500 kCmil & (1) 250 kCmil G	(4) 5" C EACH WITH (5) 750 kCmil & (1) 350 kCmil G	
	1600	(4) 3" C EACH WITH (2) 750 kCmil & (1) 350 kCmil G	(4) 3 1/2" C EACH WITH (3) 750 kCmil & (1) 350 kCmil G	(4) 4" C EACH WITH (4) 750 kCmil & (1) 350 kCmil G	(6) 5" C EACH WITH (5) 750 kCmil & (1) 500 kCmil G	
	2000	(6) 3" C EACH WITH (2) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (3) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (4) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (5) 750 kCmil & (1) 500 kCmil G	
	2500	(7) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(7) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(7) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(9) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G	
	3000	(8) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(8) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(8) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(10) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G	
	4000	(11) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(11) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(11) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(13) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G	

CONDUIT SIZES ARE FOR TYPE XHHW COMPACT STRANDED ALUMINUM CONDUCTORS ONLY. OTHER CONDUCTOR TYPES MAY REQUIRE LARGER CONDUITS.

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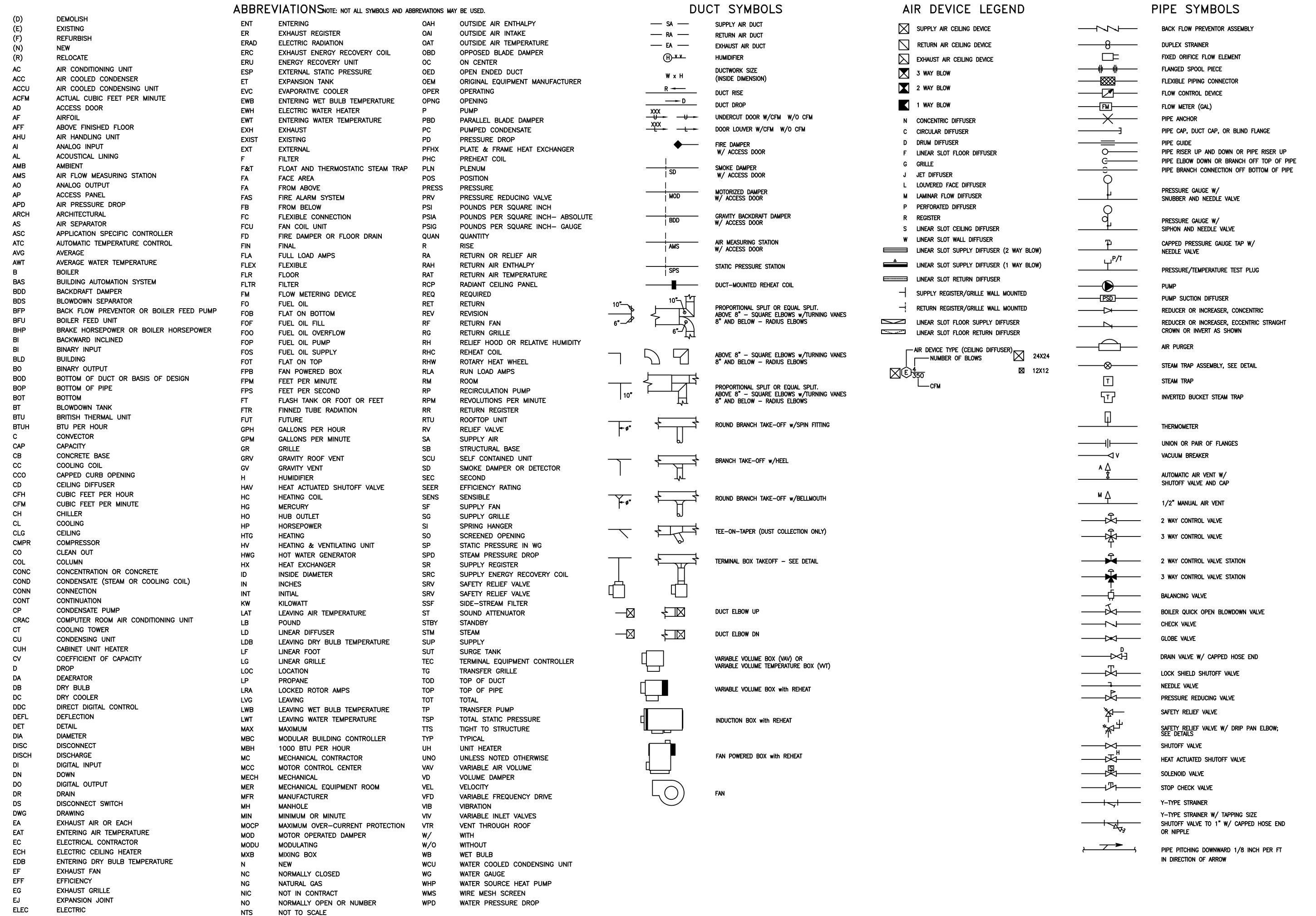
ELECTRICAL SPECIFICATIONS

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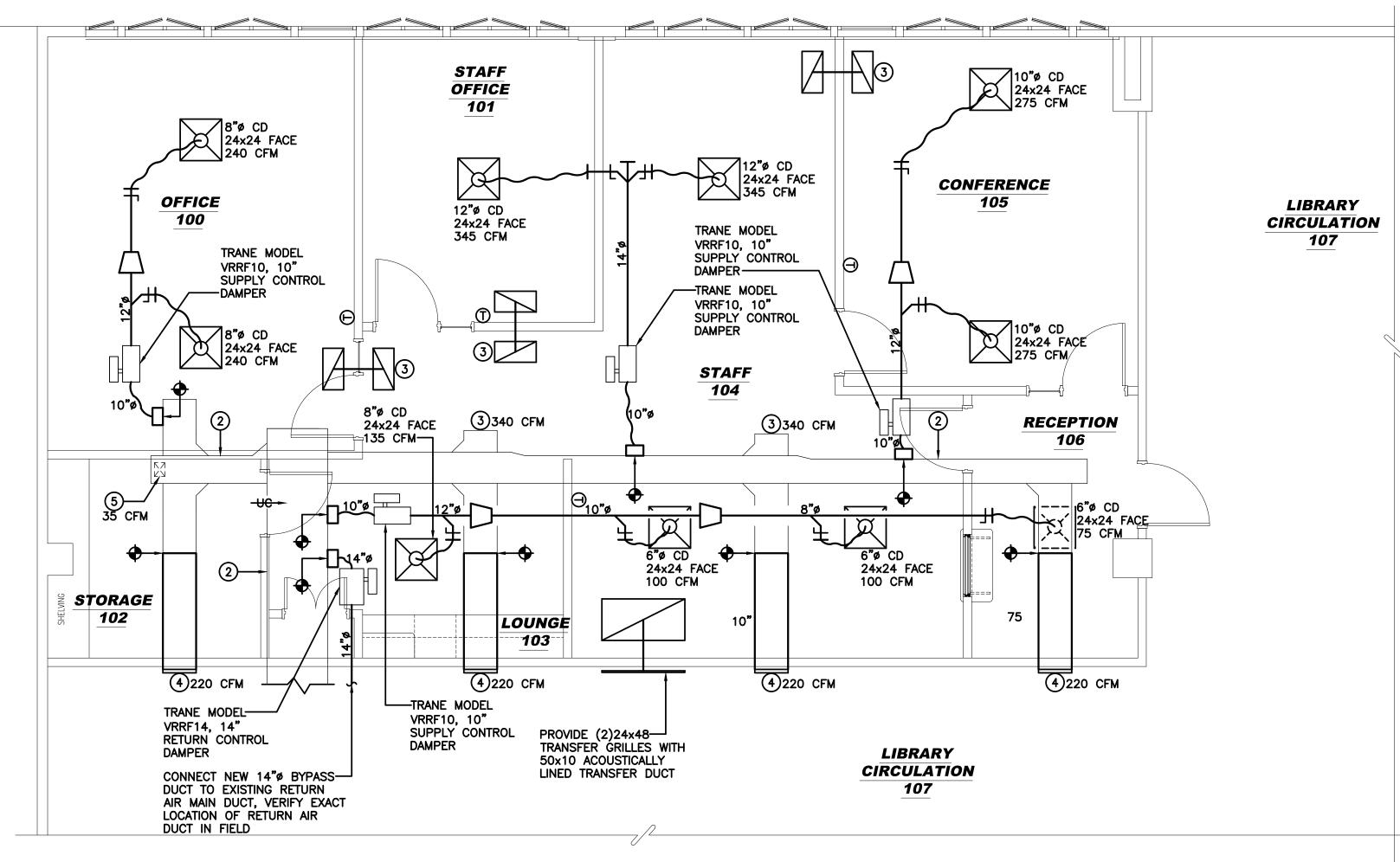
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MECHANICAL COVER SHEET

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1 MECHANICAL FLOOR PLAN
1/4"=1'-0"

MECHANICAL SHEET NOTES:

1) NOT USD.

- 2 EXISTING DUCTWORK TO REMAIN, VERIFY EXACT LOCATION IN FIELD, PROTECT DURING CONSTRUCTION.
- 3 PROVIDE (2)24x12 TRANSFER GRILLES WITH 14x10 ACOUSTICALLY LINED TRANSFER DUCT.
- 4 EXISTING REGISTER TO RELOCATED, EXTEND DUCTWORK AS REQUIRED FOR NEW LOCATION, VERIFY EXACT LOCATION IN FIELD, PROTECT DURING CONSTRUCTION, REBALNCE REGISTER AS INDICATED ON PLAN.
- (5) EXISTING SUPPLY AIR REGISTER TO REMAIN, EXTEND TO NEW CEILING LOCATION AS REQUIRED. RE-BALANCE AIR DEVICE AS SHOWN ON PLAN.



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CAMDEN COUNTY LIBRARY SYSTEM M. ALLAN VOGELSON

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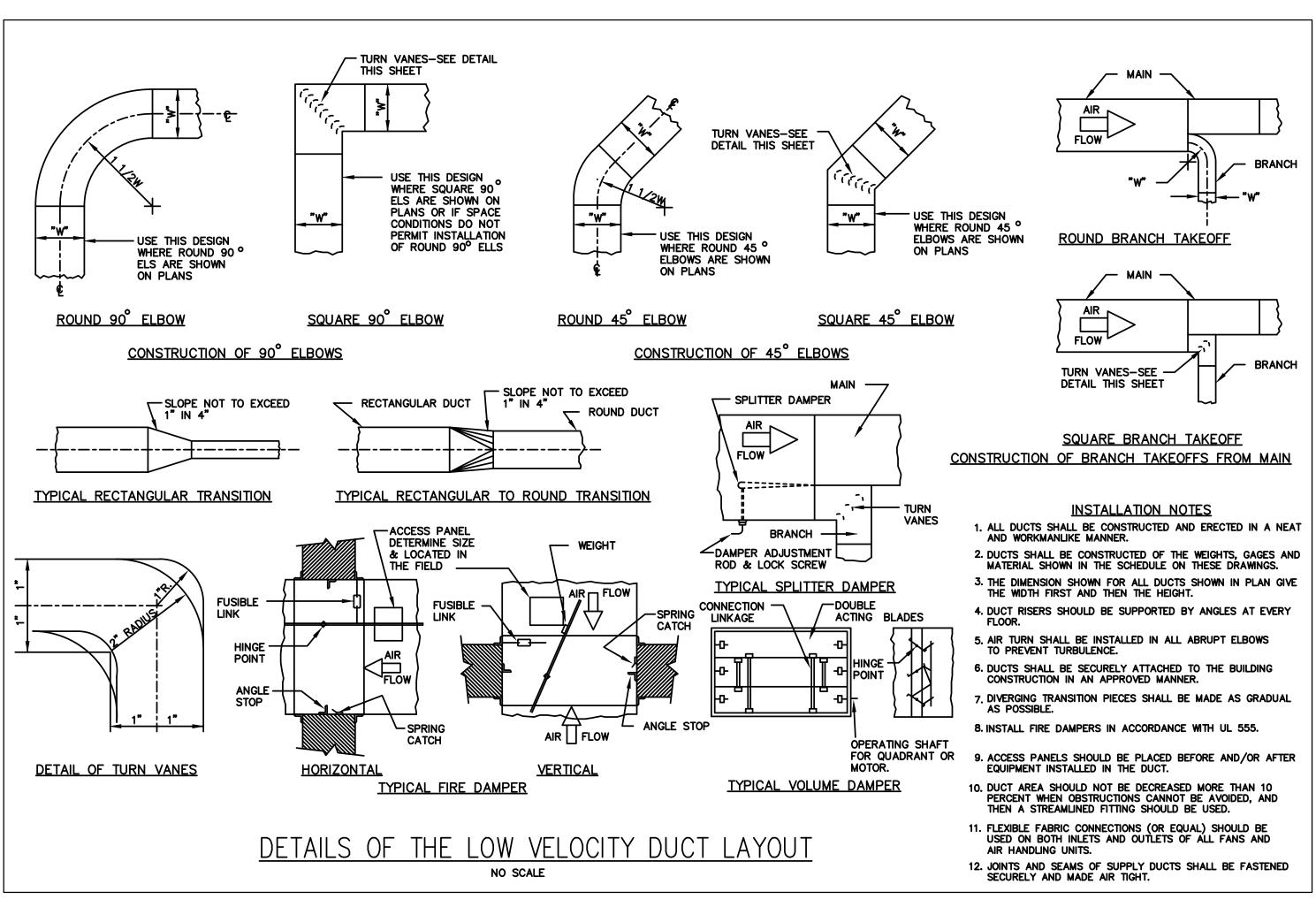
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DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESSES					
RECTANGULAR DUCTS					
MAXIMUM SIZE STEEL (INCHES) (MINIMUM THICKNE					
THROUGH 12 13 THROUGH 30 31 THROUGH 54 55 THROUGH 84 OVER 84		0.022 INCH (26 GAGE, GALV.) 0.028 INCH (24 GAGE, GALV.) 0.034 INCH (22 GAGE, GALV.) 0.040 INCH (20 GAGE, GALV.) 0.052 INCH (18 GAGE, GALV.)			
ROUND DUCTS					
	SPI	RAL SEAM DUCT	LONGITUDINAL SEA	M DUCT	FITTINGS
MAXIMUM SIZE (INCHES)	(MINIMU)	STEEL M THICKNESS, NOMINAL)	STEEL (MINIMUM THICKNESS	, NOMINAL)	STEEL (MINIMUM THICKNESS, NOMINAL)
THROUGH 12 13 THROUGH 18 19 THROUGH 28 29 THROUGH 36 37 THROUGH 52	0.022 0.028 0.034	INCH (24 GAGE, GALV.)	0.034 INCH (22 GA	AGE, GALV.) AGE, GALV.) AGE, GALV.)	0.022 INCH (26 GAGE, GALV.) 0.028 INCH (24 GAGE, GALV.) 0.034 INCH (22 GAGE, GALV.) 0.040 INCH (20 GAGE, GALV.) 0.052 INCH (18 GAGE, GALV.)

DUCT SYSTEM	SMACNA PRESSURE CLASS	SMACNA SEALING CLASS	DUCT MATERIAL	JOINING METHOD	INSUL TYPE & THICKNESS
SUPPLY	+ 1 INCH	С	GALV. STL.	DUCTMATE	1.5* BATT
RETURN	- 1 INCH	С	GALV. STL.	DUCTMATE	1.5" BATT
GENERAL EXHAUST	- 1 INCH	С	GALV. STL.	DUCTMATE	



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BASIC MECHANICAL REQUIREMENTS

- ALL MATERIAL AND EQUIPMENT SHALL BE LISTED, LABELED OR CERTIFIED BY UNDERWRITERS LABORATORIES, INC., WHERE SUCH STANDARD HAVE BEEN ESTABLISHED. EQUIPMENT AND MATERIAL WHICH ARE NOT COVERED BY UL STANDARDS WILL BE ACCEPTED PROVIDED EQUIPMENT AND MATERIAL IS LISTED, LABELED, CERTIFIED OR OTHERWISE DETERMINED TO MEET SAFETY REQUIREMENTS OF A NATIONALLY RECOGNIZED TESTING LABORATORY.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO BECOME FAMILIAR WITH EXISTING CONDITIONS. ANY CONCERNS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BID.
- UNLESS MORE STRINGENT PROVISIONS ARE SHOWN OR SPECIFIED. THE WORK SHALL COMPLY WITH APPLICABLE STANDARDS OF THE FOLLOWING.
 - A. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
 - B. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
 - C. FACTORY MUTUAL SYSTEM (FM)
 - D. MANUFACTURERS STANDARDIZATION SOCIETY OF VALVE AND FITTING INDUSTRY (MSS)
 - E. NATIONAL ELECTRICAL CODE (NEC), INCLUDING AMENDMENTS BY
 - LOCAL AUTHORITY HAVING JURISDICTION. F. SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL
 - ASSOCIATION (SMACNA)
 - G. UNDERWRITER'S LABORATORIES, INC. (UL)
 - H. PHILADELPHIA MECHANICAL CODE
- DURING CONSTRUCTION, PROTECT EQUIP, PIPE AND DUCTWORK. PREVENT ENTRY OF WATER, DIRT AND OBSTRUCTING MATERIALS. CLOSE OPEN ENDS WITH TEMP CLOSURES OF METAL OR POLYETHLENE. PROTECT WORK AGAINST FREEZING. PROVIDE TEMP HEAT AS NEEDED.
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENTS, APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPAL EQUIPMENT AND MATERIALS TO BE PROVIDED. PROVIDE CONSTRUCTION OFFSETS AS REQUIRED FOR COORDINATED INSTALLATION. PROVIDE MINOR EQUIPMENT, DETAILS, MATERIALS, AND METHODS NOT USUALLY SHOWN BUT STANDARD, REFERENCED AND SPECIFIED, TO COMPLETE THE WORK.
- CONCEAL MECHANICAL CONSTRUCTION RUNNING THROUGH FINISHED SPACES WITHIN THE WALLS OR IN CHASES. WHERE CEILINGS OCCUR. CONCEAL THE WORK ABOVE THE CEILING UNLESS INDICATED OTHERWISE.
- SUBJECT TO ACCEPTANCE BY OWNER AND WITHOUT EXTRA COST, MAKE MODIFICATIONS IN THE LAYOUT AS REQUIRED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR THE PROPER EXECUTION OF THE WORK.
- FIRE STOPPING; SYSTEM OR DEVICES LISTED IN THE UL FIRE RESISTANCE DIRECTORY UNDER CATEGORIES XHCR AND XHEZ MAY BE USED, PROVIDING THAT IT CONFORMS TO CONSTRUCTION TYPE, PENETRATION TYPE, ANNULAR SPACE REQUIREMENTS AND FIRE RATING INCLUDED IN EACH SEPARATE INSTANCE, AND THAT THE SYSTEMS BY SYMMETRICAL FOR WALL APPLICATIONS. SYSTEMS OR DEVICES MUST BE ASBESTOS-FREE. MORTAR SYSTEMS MUST BE WARNOCK HERSEY APPROVED. 3-M IS THE DESIGN STANDARD. FIRE STOP ALL PIPE AND DUCT PENETRATIONS THRU RATED WALLS AND FLOORS.
- WARRANTY: PROVIDE MINIMUM 12 MONTHS FROM DATE OF INSTALLATION OR 18 MONTHS FROM DATE OF SHIPMENT ON ALL EQUIPMENT. EXTENDED WARRANTIES MAY BE REQUIRED, AND ARE INDICATED IN EQUIPMENT SECTIONS.
- EQUIPMENT MANUFACTURE LISTED ON DRAWING SCHEDULES IS THE BASIS OF DESIGN AND IS SHOWN ON PLANS. IF CONTRACTOR CHOOSES TO USE ONE OF THE OTHER MANUFACTURERS LISTED IN SPECIFICATION, CONTRACTOR IS RESPONSIBLE FOR VERIFYING FIT AND PROVIDING ALL NECESSARY MODIFICATIONS TO MEP SYSTEMS TO ACCOMMODATE PROPER INSTALLATION OF THIS EQUIPMENT AND COMPLIANCE WITH DESIGN INTENT.
- EQUIPMENT SHALL COMPLY WITH SPECIFIC EQUIPMENT SECTIONS AND ALL OTHER RELATED SECTIONS, IE: MOTORS, FANS, FILTERS, COILS, ISOLATION, ETC.
- CONTRACTOR IS RESPONSIBLE FOR SECURING ALL PERMITS.
- SHOP DRAWINGS: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL SPECIFIED EQUIPEMENT. CONTRACTOR SHALL PROVIDE COORDINATED SHOP DRAWINGS FOR PIPING AND SHEETMETAL, SHOWING COORDINATION WITH OTHER DISCIPLINES. NO EQUIPMENT, PIPING OR DUCTWORK SHALL BE INSTALLED WITHOUT AN APPROVED SHOP DRAWING. WORK OR EQUIPMENT INSTALLED WITHOUT ENGINEER'S APPROVAL WILL BE SUBJECT TO REMOVAL AND REWORK PER THE ENGINEERS SOLE DISCRETION REGARDLESS OF DESIGN DOCUMENTS. ALL COST WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL ALLOW 10 BUSINESS DAYS FOR ENGINEERS REVIEW.
- CHANGE ORDERS: ALL CHANGE ORDER REQUESTS WILL BE IDENTIFIED PRIOR TO THE WORK BEING INSTALLED. CHANGE ORDERS REQUESTED AFTER INSTALLTION WILL NOT BE HONORED.

SUPPORTS AND ANCHORS

- PROVIDE SUPPORT MATERIALS IN ACCORDANCE WITH MSS SP-58. USE SUPPORT MATERIALS WHICH ARE COMPATIBLE WITH THE MATERIALS OF THE PIPING, DUCTWORK OR EQUIPMENT. PROTECT AGAINST RUST, ABRASION AND ELECTROLYTIC ACTION.
- SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM BUILDING STRUCTURE. UDE SUPPLEMENTAL STEEL AS NEEDED. DO NOT HANG FROM FROM METAL DECK.
- **DUCTWORK SUPPORT:**
 - A. PROVIDE MATERIAL THAT MATCH DUCTWORK. GENERALLY USE
 - HOT DIPPED GALVANIZED STEEL FASTNERS, STRAPS, RODS, ANGLE, ETC. B. SECURE DUCT USING 16 GA GALV STRAPS, 1-INCH WIDE FOR UP
 - TO 60-INCH, 1-1/2-INCH FOR LARGER DUCTWORK. C. SECURING DUCT TO SUPORTS BY SHEETMETAL SCREWS IS PROHIBITTED
- USE COPPER PLATED HANGERS AND SUPPORTS FOR BARE COPPER PIPING.

- USE HOT-DIP GALVANIZE OR ZINC ELECTRO-PLATE OTHER METAL SUPPORT COMPONENTS.
- SUPPORT PIPING SYSTEMS IN ACCORDANCE WITH APPLICABLE (REFERENCED) STANDARDS. SPACE PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INDEPENDENTLY SUPPORT CONCENTRATED WEIGHTS SUCH AS VALVES, STRAINERS, HEAVY FITTINGS AND WHERE DIRECTION CHANGES OCCUR. SUPPORT PIPING FROM BUILDING STRUCTURE. INCORPORATE REQUIREMENTS FOR VIBRATION CONTROL WITHIN THE SUPPORT SYSTEM.
- STANDARD PIPE HANGERS (MSS TYPES LISTED FOR REFERENCE)
- A. TYPE 1: ADJUSTABLE CLEVIS HANGER, CARBON STEEL.
 - B. TYPE 40: INSULATION PROTECTION SHIELD. CARBON STEEL.
 - GALVANIZED FINISH, MINIMUM 12-INCH LENGTH. C. TYPE 8: EXTENSION PIPE OR RISER CLAMP, CARBON STEEL.
 - D. TYPE 38: ADJUSTABLE PIPE SADDLE SUPPORT, CAST IRON SADDLE, LOCKNUT NIPPLE AND CAST IRON REDUCER.
- CLAMPS, INSERTS, ATTACHMENTS, ANCHORS, GUIDES:
 - A. TYPE 18: INSERT, MALLEABLE IRON, UL & FM APPROVED.
 - B. TYPE 19 AND 23: C-TYPE CLAMP, DUCTILE IRON CLAMP,
 - HARDENED STEEL CUP POINT SET SCREW AND LOCKNUT.
 - C. TYPE 22: WELDED BEAM ATTACHMENT, CARBON STEEL. D. TYPE 28 AND 29: FORGED STEEL BEAM CLAMP WITH EYE NUT.
 - E. TYPE 31, 32, 33: LIGHT, MEDIUM, HEAVY WELDED CARBON STEEL BRACKET. ATTACH PIPE WITH SCHEDULED HANGER OR SUPPORT.
 - F. ANCHORS: IN ACCORDANCE WITH ASTM F708.
 - G. GUIDES: CARBON STEEL SPIDER TYPE. H. UNIVERSAL TRAPEZE HANGERS (UNISTRUT) : CARBON STEEL CHANNEL.
 - I. HANGER RODS: CARBON STEEL, CADMIUM PLATED, THREADED BOTH ENDS. THREADED ONE END. OR CONTINUOUSLY THREADED.

MOTORS AND DRIVE

- UNLESS OTHERWISE NOTED, DESIGN MOTORS FOR NORMAL STARTING TORQUE AND CURRENT IN ACCORDANCE WITH NEMA STANDARDS USING A SERVICE FACTOR OF 1.15 AT CONSTANT SPEED.
- FOR EQUIPMENT LOCATED OUTDOORS OR EXPOSED TO WEATHER, PROVIDE MOTORS THAT ARE TOTALLY ENCLOSED FAN-COOLED (TEFC) OR TOTALLY ENCLOSED AIR OVER (TEAO) TYPE UNLESS INDICATED OTHERWISE.
- FOR MOTORS 1 HP AND LARGER, PROVIDE IN HIGH EFFICIENCY TYPE. FOR ALL MOTORS, PROVIDE IN CONSTANT SPEED, SQUIRREL CAGE INDUCTION TYPE.
- MOTORS AND DRIVES SHALL NOT PRODUCE SOUND LEVELS EXCEEDING OSHA STANDARDS.
- PROVIDE V-BELT MOTOR DRIVES (USE ONLY TYPE A, B, C OR D MATCHED SETS) UNLESS OTHERWISE SPECIFIED. MINIMUM DRIVE EFFICIENCY: 95 PERCENT.
- PROVIDE BELTS, PULLEYS, CHAINS, GEARS, COUPLINGS, PROJECTING SETSCREWS, KEYS AND OTHER ROTATING PARTS WITH GUARDS IN ACCORDANCE WITH OSHA.

ROOF CURBS AND SUPPORTS

- ACCEPTABLE MANUFACTURERS: PATE, PENN, THY CURB.
- DIMENSIONALLY COORDINATE CURBS AND SUPPORTS WITH BUILDING STRUCTURE AND EQUIPMENT TO BE SUPPORTED. PROVIDE CURB TO MATCH REQUIREMENTS OF ROOFING MATERIAL, SLOPE AND DESIGN.
- ROOF CURBS: 24 INCH HIGH, MINIMUM 18 OR 14 GAUGE GALVANIZED STEEL SIDES AS REQUIRED TO MEET LOAD, ASTM A-446, INTERNALLY REINFORCED. TREATED WOOD NAILER. FULLY MITERED CORNERS WITH WELDED SEAMS AND 1.5 INCH THICK 3LB DENSITY INSULATION. TOP OF ALL CURBS SHALL BE LEVEL, WITH PITCH BUILT INTO CURB. PROVIDE FULLY MITERED 3 INCH CANT WITH STEP. ON BUILT-UP ROOFS.

MECHANICAL SOUND ,AND VIBRATION CONTROL

- ACCEPTABLE MANUFACTURERS: AMBER/BOOTH, MASON INDUSTRIES, VIBRATION ELIMINATOR COMPANY.
- PROVIDE VIBRATION ISOLATION ON ALL MOTOR DRIVEN EQUIPMENT. REFER TO DRAWINGS SCHEDULES FOR TYPE, DEFLECTION, BASE AND APPLICATION INFORMATION.
- ALL SPRING ISOLATORS SHALL BE COMPLETELY STABLE IN OPERATION AND SHALL BE DESIGNED FOR NO LESS TAN 30% RESERVE DEFLECTION BEYOND ACTUAL OPERATING CONDITIONS. FOR OPEN SPRING ISOLATORS THE KX/KY BE 1.0 OR GREATER.
- STEEL COMPONENTS SHALL BE CLEANED AND PAINTED. ALL NUTS, BOLTS AND WASHERS SHALL BE ZINC-ELECTROPLATED. STRUCTURAL BASES SHALL BE CLEANED, DE-SLAGED AND PRIMED WITH ZINC-CHROMATE PRIMER.
- ISOLATORS EXPOSED TO WEATHER SHALL HAVE NEOPRENE COATED SPRINGS AND HOT DIPPED GALVANIZED STEEL COMPONENTS. ISOLATORS SHALL BE DESIGNED TO WITHSTAND WIND LOADS OF 30#/SF.
- ELASTOMERIC MATERIAL SHALL BE NEOPRENE OR HIGH QUALITY SYNTHETIC RUBBER WITH ANTI-OZONE AND ANTI-OXIDANT.
- ISOLATOR TYPE SH: COMBINATION SPRING AND ELASTOMERIC HANGER CONSISTING OF RECTANGULAR STEEL BOX, COIL SPRING, SPRING RETAINERS, AND ELASTOMERIC MOUNTING DESIGNED FOR 1/2 INCH (15 MM) DEFLECTION. NUTS, BOLTS AND WASHERS SHALL BE ZINC-ELECTROPLATED. WHEN APPLICABLE INCLUDE LOAD TRANSFER PLATE TO HOLD EQUIPMENT OR PIPING AT FIXED ELEVATION DURING INSTALLATION AND TO PERMIT TRANSFERRING LOAD TO SPRING AFTER INSTALLATION.

MECHANICAL INSULATION

- ACCEPTABLE MANUFACTURERS: CERTAINTEED, JOHN MANVILLE, OWENS-CORNING.
- USE MATERIALS WITH MAXIMUM FLAME SPREAD/FUEL CONTRIBUTED/SMOKE DEVELOPED RATING OF 25/50/50 IN ACCORDANCE WITH ASTM E84.
- USE INSULATION RATED FOR TEMPERATURES ENCOUNTERED.
- TYPE F: FLEXIBLE FOAM ELASTOMERIC SHEET; 'K' VALUE OF 0.27 AT 75 DEGREES F WITH SMOOTH EXTERIOR SURFACE. ARMSTRONG AP ARMAFLEX OR AP SS SHEET/ROLL INSULATION.
- TYPE W: FLEXIBLE GLASS FIBER WRAP | PCF; ANSI/ASTM C612; COMMERCIAL GRADE; 'K' VALUE OF 0.27 AT 75 DEGREES F WITH FOIL SCRIM VAPOR BARRIER FACING. OWNERS-CORNING T-100 FACED DUCT
- INSTALL INSULATION AFTER PIPING AND DUCTWORK HAS BEEN PRESSURE TESTED AND ACCEPTED. CONTINUE INSULATION WITH VAPOR BARRIER THROUGH PIPE SUPPORTS, HANGERS AND SLEEVES. INSULATE JOINTS, FITTINGS, VALVES, UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, EXPANSION JOINTS AND OTHER DEVICES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE AND FINISH WITH GLASS CLOTH AND ADHESIVE. INSTALL INSULATION ON VALVES, FLANGES, UNIONS. STRAINERS AND EXPANSION JOINTS IN SUCH A MANNER THAN IT CAN BE EASILY REMOVED AND REPLACED WITHOUT DAMAGE.
- SEAL JACKET JOINT, STAPLE SEAMS, PENETRATIONS BY MECHANICAL FASTENERS AND ALL OTHER VAPOR BARRIER PENETRATIONS WITH TAPE.
- ADHERE TYPE W INSULATION TO DUCTWORK WITH 100 PERCENT ADHESIVE COVERAGE. EXCEPT WHERE SPACING AROUND DUCTWORK WILL NOT PERMIT INSTALLATION OF MECHANICAL FASTENERS. IN ADDITION TO ADHESIVE, SECURE INSULATION TO UNDERSIDE OF DUCTWORK WITH MECHANICAL FASTENERS ON 12 INCH CENTERS WHEN BOTTOM DIMENSION IS 18 INCHES OR LARGER.

- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENTS, APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPAL EQUIPMENT AND MATERIALS. PROVIDE OFFSETS AS REQUIRED FOR COORDINATED INSTALLATION. PROVIDE MINOR EQUIPMENT, DETAILS, MATERIALS AND METHODS NOT SHOWN BUT STANDARD, REFERENCED AND SPECIFIED, TO COMPLETE THE WORK.
- REFER TO DRAWING PIPE SCHEDULE FOR PIPE SYSTEM'S MATERIAL, FITTINGS AND DEVICES REQUIREMENTS: ONLY MATERIALS SPECIFICALLY LISTED FOR A PARTICULAR SYSTEM MAY BE USED.

A. COPPER TYPE ACR: SEAMLESS COPPER TUBING, TYPE ACR, HARD DRAWN; ASTM B280.

FITTINGS:

- JOINT MATERIAL:
 - B. BRAZE FILLER METAL: ANSI/AWS A5.8. FLUX: ANSI/AWS A5.31, TYPE FB3-A OR FB3-C.
- UNIONS:
 - B. BRONZE: SOLDERED JOINT.

MISCELLANEOUS:

- A. BOLTS AND NUTS: CARBON STEEL HEXHEAD STUDS WITH HEAVY HEX NUTS: ASTM A307 GRADE B. ASTM A194 GRADE 2H.
- B. GASKETS: NON-ASBESTOS MATERIAL. THICKNESS. PRESSURE AND
- TEMPERATURE TO SUIT SYSTEM: FLEXITALLIC. C. DIELECTRIC FITTINGS: ISOLATION FLANGES. UNIONS AND
- COUPLINGS, EPCO SALES, INC. PRESSURE TEST: PRESSURE TEST ALL PIPING SYSTEMS TO 100%
- OF THEIR PRESSURE RATING OR 150% OF THE DESIGN PRESSURE RATING FOR 24 HOURS. . REPAIR ALL LEAKS.

- ACCEPTABLE MANUFACTURERS: DEZURICK, CRANE, STOCKHAM, HAMMOND.
- GENERAL: PROVIDE GEAR OPERATORS ON VALVES 4-INCH AND LARGER. PROVIDE CHAIN OPERATORS ON ALL VALVES 8-FT ABOVE FLOOR.
- REFER TO DRAWING PIPE SCHEDULE FOR SYSTEM VALVE SELECTION; ONLY VALVES SPECIFICALLY LISTED FOR A PARTICULAR SYSTEM MAY BE USED.
- BALL-2 PIECE: 400 PSI TWO-PIECE, FULL PORT, BRONZE BODY BALL VALVE. ZINC PLATED STEEL HANDLE WITH PROTECTIVE SLEEVE (LOCKABLE WHERE INDICATED) ,PTFE SEAT, SOLDERED JOINT, MSS-SP-110. PROVIDE VALVE STEM EXTENSIONS FOR VALVES IN INSULATED SYSTEMS. EQUAL TO STOCKHAM-214.

REFRIGERANT SYSTEM VALVES AND SPECIALTIES

- LIQUID INDICATORS: DOUBLE PORT TYPE WITH COPPER OR BRASS BODY, AND FLARED OR SOLDERED ENDS. PROVIDE REMOVABLE SEAL CAPS ON EACH PORT FOR INSPECTION OF REFRIGERANT CONDITIONS.
- STRAINERS: ANGLE TYPE WITH BRASS SHELL AND REPLACEABLE CARTRIDGE. SUITABLE FOR REFRIGERANT AND PIPING MATERIAL UTILIZED IN THE SYSTEM.
- REFRIGERANT DRIERS: IN-LINE OR ANGLE TYPE WITH COPPER OR BRASS SHELL. USE REPLACEABLE DESICCANT DRYING MATERIAL.
- FILTER-DRIERS: ANGLE TYPE, WITH BRASS SHELL AND USING COMBINED STRAINING AND DRYING MATERIAL. USE REPLACEABLE DESICCANT

MATERIAL. ACCEPTABLE IN LIEU OF SEPARATE STRAINERS AND DRIERS.

- SOLENOID VALVES: COPPER OR BRASS BODY WITH FLARED OR THREADED ENDS. USE REPLACEABLE COIL ASSEMBLY. PROVIDE A MANUALLY OPERATED STEM TO PERMIT OPERATION IN CASE OF COIL FAILURE.
- CHARGING VALVES: GENERAL PURPOSE TYPE WITH BRASS BODY, FLARED OR SOLDER ENDS AND REMOVABLE VALVE CORE. PROVIDE VALVE INLET WITH QUICK COUPLING CONNECTION FOR EASE OF CHARGING.

AIR COOLED CONDENSING UNITS

- ACCEPTABLE MANUFACTURERS: YORK, TRANE, AND CARRIER.
- UNIT: SELF-CONTAINED PACKAGED, FACTORY ASSEMBLED, PRE-WIRED UNIT, SUITABLE FOR OUTDOOR USE CONSISTING OF CASING, CONDENSING COIL AND FANS, INTEGRAL SUB-COOLING COIL, CONTROLS, LIQUID ACCUMULATOR, CRACK CASE HEATER, AND SCREENS. USE CORROSION RESISTANT MATERIALS FOR PARTS IN CONTACT WITH REFRIGERANT. COMPLY WITH ARI 210, NEC, AND UL. WARRANTY; 1-YEAR PARTS, 4-YEAR ON COMPRESSOR.
- CABINET: GALVANIZED STEEL WITH BAKED ENAMEL FINISH. REMOVABLE ACCESS DOORS OR PANELS WITH QUICK FASTENERS. PROVIDE
- CONDENSER COILS: SEAMLESS COPPER TUBING WITH MECHANICALLY BONDED ALUMINUM FINS IN GALVANIZED STEEL FRAME. PROVIDE SUB-COOLING CIRCUIT WITH LIQUID ACCUMULATORS.
- FANS: VERTICAL DISCHARGE DIRECT DRIVE, PROPELLER TYPE. STATICALLY AND DYNAMICALLY BALANCED, WITH GUARDS. BEARINGS SHALL BE ROLLER OR BALL TYPE. WITH GREASE FITTINGS EXTENDED TO OUTSIDE OF CASING.
- MOTORS: PERMANENTLY LUBRICATED BALL BEARING MOTORS WITH BUILT-IN CURRENT AND OVERLOAD PROTECTION.
- COMPRESSOR: SERVICEABLE HERMETIC DESIGN, SPRING ISOLATED WITH AUTOMATICALLY REVERSIBLE OIL PUMP. UNLOAD COMPRESSORS IN RESPONSE TO SUCTION PRESSURE, IN STEPS AS SCHEDULED TO 20 PERCENT OF FULL CAPACITY. STEP-START FANS AND COILS IN MULTIPLE COMPRESSOR UNITS. MOTORS SHALL HAVE PART WINDING START.
- CONTROLS: FACTORY WIRED MOTOR CONTROL PANEL CONTAINING FAN MOTOR CONTACTORS, FAN CYCLING THERMOSTATS, COMPRESSOR INTERLOCK AND CONTROL TRANSFORMER. PERMIT OPERATION DOWN TO 10 DEGREES F AMBIENT TEMPERATURE AT MINIMUM LOAD.
- SAFETY DEVICES: HIGH AND LOW PRESSURE SWITCHES. COMPRESSOR OVERLOAD DEVICES. EVAPORATOR FREEZE THERMOSTAT. POSITIVE ACTING TIMER TO PREVENT SHORT CYCLING OF COMPRESSOR IF POWER IS INTERRUPTED AND TO PREVENT COMPRESSOR FROM RESTARTING FOR APPROXIMATELY 5 MINUTES AFTER SHUTOFF.
- SUPPLY INITIAL CHARGE OF REFRIGERANT AND OIL FOR EACH REFRIGERATION SYSTEM. TEST ENTIRE SYSTEM FOR LEAKS AFTER COMPLETION OF INSTALLATION. REPAIR LEAKS, PUT SYSTEM INTO OPERATION. AND TEST EQUIPMENT PERFORMANCE.
- INSTALL PIPING PER MANUFACTURES INSTRUCTION. PROVIDE LIQUID AND SUCTION LINE SHUTOFF VALVES, REFRIGERANT DRYER, LIQUID LINE
- SOLENOID VALVE. AND THERMOSTATIC EXPANSION VALVE ACCEPTABLE MANUFACTURERS: LIEBERT, AIRFLOW, BLAZER.

AIR COILS

- ACCEPTABLE MANUFACTURER AND ACCEPTABLE SUBSTITUTIONS WHEN COILS ARE IN INTEGRAL PART OF EQUIPMENT SPECIFIED IN
 - OTHER SECTIONS USE THOSE MANUFACTURERS. B. ELECTRIC COIL ACCEPTABLE MANUFACTURERS: INDEECO, BRASCH,
- REFRIGERANT COILS 300 PSI. CLEAN. DEHYDRATE AND SEAL WITH DRY NITROGEN CHARGE. LIQUID DISTRIBUTORS: BRASS OR COPPER VENTURI TYPE DISTRIBUTOR WITH SEAMLESS COPPER DISTRIBUTOR TUBES, 5/16 INCH O.D. FOR REFRIGERANT R-12 AND 1/4 INCH O.D. FOR REFRIGERANT R-22: MAXIMUM 12 CIRCUITS PER DISTRIBUTOR. CONFIGURATION: DOWN FEED WITH BOTTOM SUCTION TO PREVENT TRAPPING OF OIL. COIL TO BE FULLY FACED AND INTERTWINED.



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RESIDENTIAL AHU

- ACCEPTABLE MANUFACTURERS: TRANE, CARRIER, YORK.
- STATIC INDEPENDENT MOTOR, TXV, PRE-PAINTED METAL CABINET, HIGH DENSITY INTERNAL INSULATION, 30% FILTER, PRIMARY AND SECONDARY DRAIN CONNECTIONS, CONTROL TRANSFORMER, ELECTRIC HEATER, DISCONNECT, PROGRAMMABLE THERMOSTAT.

FANS AND VENTILATORS

- FANS SHALL BE CAPABLE OF AUTOMATED TURNDOWN THROUGH DESIGN RANGE FROM MAXIMUM TO MINIMUM CONDITIONS SHOWN WITHOUT STALL. SURGE OR INCREASED VIBRATION FOR SMOOTH TROUBLE FREE OPERATION.
- QUALITY ASSURANCE: FAN PERFORMANCE RATINGS: AMCA 210. PRODUCT SHALL BEAR AMCA CERTIFIED RATING SEAL. SOUND RATINGS: AMCA 301 AND AMCA 300. PRODUCT SHALL BEAR AMCA CERTIFIED SOUND RATING SEAL. FABRICATION: AMCA 99.

GENERAL:

- A. PROVIDE DAMPERS WHERE SCHEDULE.
- B. WHERE DAMPERS ARE INDICATED, PROVIDE DAMPER ACTUATORS IN ACCORDANCE WITH CONTROL DRAWINGS.

INSTALLATION:

- A. INSTALL FANS ON VIBRATION ISOLATORS IN ACCORDANCE WITH EQUIPMENT SCHEDULES.
- B. SECURE ROOF MOUNTED EXHAUST FANS TO ROOF CURBS AND SUPPORTS
- WITH CORROSION RESISTANT LAG SCREWS. C. UNLESS OTHERWISE SPECIFIED, INSTALL FLEXIBLE SLEEVE BETWEEN
- FAN INLET AND DISCHARGE DUCTWORK.
- D. DO NOT OPERATE FANS FOR ANY PURPOSE UNTIL DUCTWORK IS CLEAN, (FILTERS ARE IN PLACE), BEARINGS LUBRICATED AND FANS HAVE BEEN TEST RUN UNDER OBSERVATION.

ROOF AND WALL MOUNTED CENTRIFUGAL EXHAUST FANS

- A. MANUFACTURERS: COOK MODEL AC, PENN VENTILATOR, ILG.
- B. HOUSING: BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS, MINIMUM 16 GAUGE MARINE ALLOY SPUN ALUMINUM STRUCTURAL BOLTED TO A RIGID ALUMINUM SUPPORT STRUCTURE, ROLL BEAD ON DISCHARGE BAFFLE. ONE-PIECE ALUMINUM BASE, WITH CONTINUOUSLY WELDED CURB CAP CORNERS.
- C. WHEEL: CENTRIFUGAL, BACKWARD INCLINED, NON-OVERLOADING, ALUMINUM CONSTRUCTION, WITH DEEP SPUN VENTURI INLET AND CAST

AIR FILTERS

- ACCEPTABLE MANUFACTURERS: CAMBRIDGE, FLANDERS, FARR.
- PRE-FILTERS:
 - A. 30 PERCENT EFFICIENT (ASHRAE 52); UL CLASS 2; 2 INCH DEEP; 0.08 INCH W.G. AT 250 FPM AND 0.28 INCH W.G. AT 500 FPM, INITIAL PRESSURE DROP. CHANGE OUT PRESSURE DROP: 0.90 INCH W.G.
 - B. PLEATED, NON-WOVEN COTTON FABRIC WITH ALUMINUM SCREEN BONDED TO THE MEDIA.
 - C. CONSTRUCT FRAME OF RIGID, HIGH WET DIAGONAL SUPPORT MEMBERS DIAGONAL SUPPORT MEMBERS BONDED TO INSIDE PERIPHERY OF ENCLOSURE STRENGTH FIBERBOARD WITH AIR SIDES OF EACH PLEAT.

DUCTWORK SYSTEMS

- DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE WORK. CAREFULLY EXAMINE THE DRAWINGS AND BE RESPONSIBLE FOR PROPER FITTING OF THE WORK WITHOUT SUBSTANTIAL ALTERATION OF THE INDICATED LAYOUT. VERIFY DIMENSIONS AND ROUTING SHOWN WITH RELATION TO EXISTING WORK AND THE WORK OF OTHER TRADES OR CONTRACTS . VERIFY LOCATION AND INTERFERENCES PRIOR TO FABRICATION AND ERECTION. SIZES SHOWN ON PLANS ARE INSIDE DIMENSIONS.
- DESIGN DUCT SYSTEMS FOR 2% LEAKAGE.
- FABRICATE AND INSTALL DUCTWORK SYSTEMS IN CONFORMANCE WITH SMACNA STANDARDS AND ANY ASSOCIATE MANUFACTURER GUIDELINES.

SHOP DRAWINGS:

- A. INDICATE DUCT FITTINGS, GAUGES, SIZES, WELDS AND CONFIGURATIONS. SUBMIT ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR PROPRIETARY MECHANICAL DUCT CONNECTION
- B. PREPARE PLANS AND SECTION AT SCALE OF 3/8 INCH TO 1 FOOT.
- C. SHOW AIR OUTLETS, INLETS, LIGHT FIXTURES, STRUCTURAL ELEMENTS, LINTELS, PARTITIONS AND OTHER ELEMENTS AFFECTING ROUTING OF DUCTWORK. COORDINATE AIR DEVICE LOCATIONS WITH CEILING INSTALLER. SHOW ROOM NUMBERS, NAMES AND COLUMN LINES
- D. SHOW ACTUAL EQUIPMENT SIZES. (AHUS, TERMINAL BOXES, DIFFUSERS, FANS, ETC.)
- E, COORDINATE AND SHOW WORK OF OTHER TRADES. INDICATED ANY AREAS OF CONFLICT AND BRING TO A/E'S ATTENTION.

MATERIALS:

- A. STEEL: GALVANIZED SHEET, LOCK-FORMING QUALITY, G90 FINISH, ASTM A527.
- E. CARBON STEEL: MIN .054 INCH THICK (16 MSG)

FABRICATION — GENERAL REQUIREMENTS

- A. SQUARE THROAT ELBOWS LARGER THAN 8 INCHES: DOUBLE THICKNESS TURNING VANES. SECURELY FASTEN VANES TO RUNNERS FOR QUIET. VIBRATION FREE OPERATION.
- B. SQUARE THROAT ELBOWS 8 INCHES AND SMALLER; RADIUS ELBOWS. MINIMUM CENTER LINE RADIUS OF 1-1/2 TIMES DUCT WIDTH.
- C. WHERE DUCTS ARE LOCATED OUTDOORS. LOCATE LONGITUDINAL SEAMS ON THE BOTTOM OF THE DUCT AND CROSS BREAK TOP SURFACES TO SHED WATER.
- D. DUCT TRANSITIONS: 15 DEGREE MINIMUM.
- E. FASTENERS SHALL GENERALLY BE STEEL, WITH ZINC OR CADMIUM COATING. BUT SHALL MATCH THE DUCTWORK MATERIAL. FASTENERS SHALL NOT PROJECT MORE THEN 1/2-INCH INTO DUCTWORK
- G. DUCT SEALANT SHALL BE UL CLASSIFIED, 25 OR LESS FLAME SPREAD, 50 OR LESS SMOKE SPREAD, 70 PERCENT MIN SOLID CONTENT. REQUIRE NO SURFACE PREPARATION. EQUAL TO UNITED MCGILL.

GENERAL CONSTRUCTION

- A. RECTANGULAR, SEALED JOINTS, SEAMS AND CONNECTIONS:
 - (1) SEAMS: PITTSBURGH LOCK.
- (2) JOINTS: FLANGED MECHANICAL DUCT CONNECTION SYSTEM FOR DUCTS 8 INCHES AND LARGER. POCKET LOCK TYPE FOR DUCTS SMALLER THAN 8 INCHES.
- (3) SEAL CLASS: A UNLESS OTHERWISE NOTED. B. ROUND SEALED JOINTS, SEAMS AND CONNECTIONS:
- (1) SEAMS: LOCK TYPE, RL-I OR RL-5.
- (2) JOINTS: RT-I, RT-6. (3) FITTINGS: SLIP TYPE; PLEATED OR CONTINUOUSLY WELDED STAMPED OR SEGMENTED. CONTINUOUSLY WELDED FITTINGS SUCH AS CONICAL TEES, 45 DEGREE LATERALS OR WYES MAY BE USED.
- (4) SEAL CLASS: A UNLESS OTHERWISE NOTED. C. RECTANGULAR, ROUND AND FLAT OVAL; CONTINUOUSLY WELDED JOINTS. SEAMS AND CONNECTIONS AS SPECIFIED:
- (1) ROUND SEAMS: RL-4.
- (2) RECTANGULAR JOINTS: T-21 OR T-21A.
- (3) ROUND JOINTS: RT-4 OR WELDED FLANGE. D. CARBON STEEL, WELDED CONSTRUCTION
- (1) ROUND SEAMS: RL-4. (2) RECTANGULAR JOINTS: BELL TYPE OR TELESCOPIC
- (3) ROUND JOINTS: RT-4
- FLANGED MECHANICAL DUCT CONNECTION SYSTEM: ACCEPTABLE MANUFACTURERS: LOCKFORMER TDC, ENGLE TDC, WARD DUCT CONNECTOR INDUSTRIES, AND DUCTMATE.
- FLEXIBLE DUCTWORK:
 - A. ACCEPTABLE MANUFACTURER: WAGNER CORP.
 - B. NON-METALLIC, EXPOSED TO VIEW IN FINISHED AREAS:

- FLEXIBLE TECHNOLOGIES MODEL SPIRATUBE NC-1; NEOPRENE IMPREGNATED POLYESTER FABRIC, ENCLOSED SPRING STEEL WIRE
- HELIX. INTEGRAL LINER. C. NON-METALLIC, CONCEALED AND UNFINISHED AREAS: THERMAFLEX INSULATED TYPE M-KC AND NON-INSULATED TYPE S-TL; UL181, CLASS 1, RATED FOR 6000 FPM VELOCITY, GLASS FIBER CLOTH, COATED SPRING STEEL WIRE HELIX, 1 INCH THICK GLASS FIBER INSULATION WITH VAPOR BARRIER. USE INSULATED TYPE WHERE REQUIRED IN ACCORDANCE WITH SECTION 15250. FLEXIBLE TECHNOLOGIES, FLEXAUST,
- FLEXIBLE DUCTWORK CONNECTOR
 - A. ACCEPTABLE MANUFACTURER: VENTGLASS BY VENTBARICS B. EIGHT INCH WIDE, 30 OZ FLASS FABRIC, DOUBLE COATED WITH NEOPRENE, 25 OR LESS FLAME SPREAD, 12 GAUGE GALV STEEL SECURING BAND
- - A. ACCEPTABLE MANUFACTURERS: RUSKIN, AIR BALANCE, PREFCO.

AIR OUTLETS AND INLETS

- ACCEPTABLE MANUFACTURERS: TITUS, KRUEGER, TUTTLE & BAILEY.
- GENERAL REQUIREMENTS: FINISH EXPOSED SURFACES WITH BAKED OFF-WHITE EPOXY ENAMEL (UNLESS NOTED OTHERWISE) . COORDINATE DIFFUSER MOUNTING STYLE, WITH CEILING REQUIREMENTS, REFER TO ARCHITECTURAL CEILING PLANS. PERFORMANCE ADA CERTIFIED. SIZES, LENGTHS AND NECK SIZES AS SHOWN ON PLANS.
- SQUARE PERFORATED FACE SUPPLY CEILING DIFFUSERS: ANEMOSTAT MODEL (PR): STEEL CONSTRUCTION, REMOVABLE CORE, HINGED DISTRIBUTION PLATE, FIELD ADJUSTABLE HORIZONTAL TO VERTICAL AIR FLOW. FIELD CHANGEABLE AIR PATTERN, ROUND NECK, WHITE PERFORATED DISTRIBUTION PLATE, BLACK BACK PAN, EQUALIZING DEFLECTOR.
- SQUARE LOUVERED SUPPLY CEILING DIFFUSERS: ANEMOSTAT MODEL (E#), THREE OR MORE EXPANDED FLARED MEMBERS, HORIZONTAL AIR PATTERN, REMOVABLE INNER ASSEMBLY, STAMPED STEEL CONES, ROUND NECK, EQUALIZING GRID.



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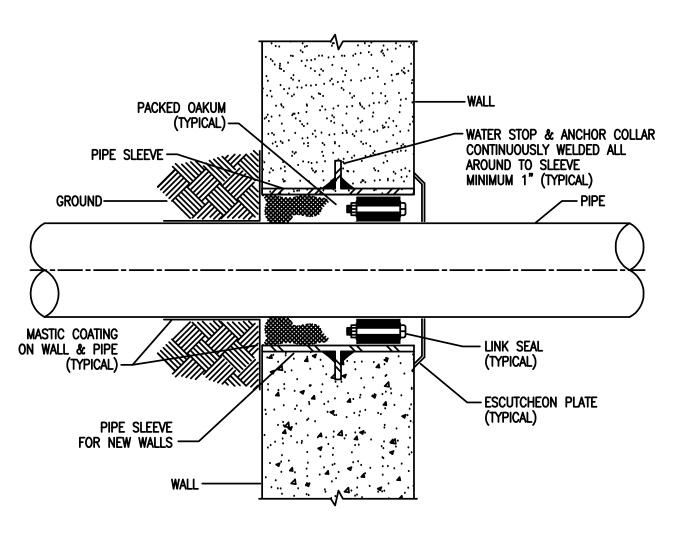
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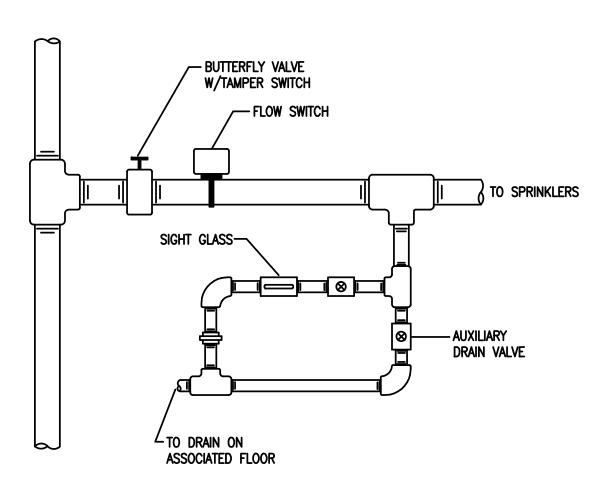
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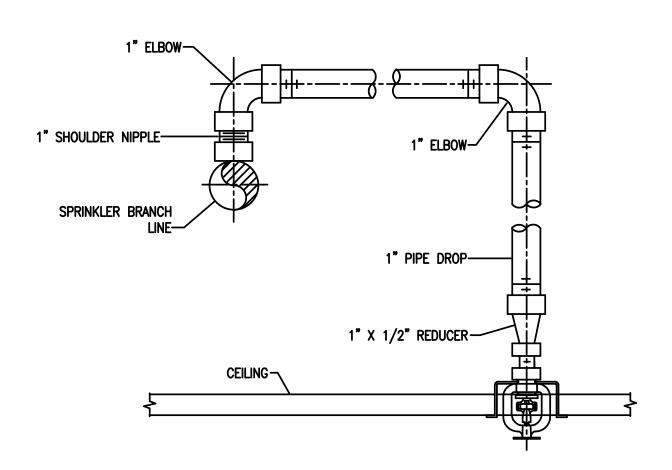
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9 PIPING PENTRATION DETAIL



8 TEST HEADER ASSEMBLY NOT TO SCALE



DETAIL—TYPICAL RECESSED

SPRINKLER HEAD—PIPE DROP

NOT TO SCALE

FIRE PROTECTION SYMBOLS

GATE VALVE

VALVE IN PIT

POST INDICATOR VALVE

KEY-OPERATED VALVE

OS&Y VALVE

BUTTERFLY VALVE

NON INDICATING VALVE (NONRISING—STEM VALVE)

CHECK VALVE

BACKFLOW PREVENTER (DOUBLE CHECK VALVE ASSEMBLY)

BACKFLOW PREVENTER (REDUCED PRESSURE ZONE-RPZ)

ALARM CHECK VALVE

DRY PIPE VALVE

DRY PIPE VALVE

◆ PREACTION VALVE

INSPECTORS TEST STATION

FIRE DEPT. HOSE VALVE

FLOW SWITCH

TAMPER SWITCH

₩ATER MOTOR GONG

DELUGE RISER

PREACTION RISER

PENDENT—CONCEALED

PENDENT-SEMI-RECESSED

PENDENT-SEALED/CONCEALED

© PENDENT-RECESSED

→ PENDENT-DRY

O UPRIGHT

₩ UPRIGHT W/GUARD

► SIDEWALL—HORIZONTAL

►EC SIDEWALL—EXTENDED COVERAGE

SIDEWALL—DRY, EXTENDED COVERAGE

-O- PRIVATE HYDRANT ONE HOSE OUTLET

PUBLIC HYDRANT
TWO HOSE OUTLET

PUBLIC HYDRANT
TWO HOSE OUTLET

AND PUMPER CONNECTION

WALL HYDRANT

SIAMESE FIRE DEPT. CONN.

FREESTANDING SIAMESE TWO HOSE OUTLET

SIAMESE FIRE DEPT. CONN.

CONNECT TO EXISTING

POINT OF DEMOLITION

EXISTING FIRE PROTECTION PIPING

— F — NEW FIRE PROTECTION PIPING

GENERAL NOTES:

 SCOPE OF WORK SHALL INCLUDE BUT BE NOT LIMITED TO THE FOLLOWING: INSTALLATION OF NEW SPRINKLER PIPING, HEADS & ACCESSORIES.

2. MATERIALS, INSTALLATION, AND PERFORMANCE SHALL COMPLY WITH NFPA 13, 231C, LOCAL REQUIREMENTS, AND OWNERS UNDERWRITER.

DESIGN SYSTEM ON A HYDRAULICALLY CALCULATED BASIS. REFER TO SPRINKLER DESIGN CRITERIA, SPRINKLER HEAD COVERAGE, AND SPRINKLER TEMPERATURES IN DIVISION 13 MECHANICAL SPECIFICATIONS SECTION 13900.

4. CONTRACTOR SHALL OBTAIN A FLOW TEST BEFORE STARTING WORK ON WATER SUPPLY INDICATING STATIC PRESSURE, INSTANTANEOUS GALLONS PER MINUTE (GPM) WITH RESULTANT RESIDUAL PRESSURE PRIOR TO DESIGN

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL BUILDING CONDITIONS AND NECESSARY INFORMATION AT THE JOB SITE TO PERFORM AND EXECUTE THE REQUIRED WORK. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ENTIRE SYSTEM WITH PIPING, DUCTWORK, DIFFUSERS, LIGHTING FIXTURES AND ALL OTHER TRADES.

6. PROVIDE SPRINKLER HEADS OVER AND UNDER ALL EXPOSED DUCTWORK OR OBSTRUCTIONS LARGER THEN 48" IN WIDTH PER NFPA GUIDELINES.

7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT ROOM LAYOUTS, ROOM DIMENSIONS, CEILING HEIGHTS, BUILDING CONSTRUCTION AND ALL OTHER ARCHITECTURAL AND STRUCTURAL DETAILS IMPACTING DESIGN.

8. CONTRACTOR SHALL TEST SYSTEM WITH PRESSURIZED AIR PRIOR TO FINAL TESTING. FINAL TESTING SHALL BE IN ACCORDANCE WITH NFPA 13, & LOCAL AUTHORITY HAVING JURISDICTION.

9. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (PER NFPA 13) WHICH INCLUDES HYDRAULIC CALCULATIONS AND EQUIPMENT CUT SHEETS FOR SUBMITTAL TO LOCAL BUILDING PERMIT OFFICE AND ENGINEER FOR APPROVAL

10. CONTRACTOR SHALL PROVIDE PIPE MARKERS EVERY (TEN) 10'-0" INDICATING DIRECTION OF FLOW.

11. SPRINKLER PIPING SHALL BE BLACK STEEL PIPE SCHEDULE 40 (1"-2") AND SCHEDULE 10 FOR (2-1/2" AND LARGER).

12. ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE PROTECTED WITH THE APPROPRIATE UL RATED PENETRATION SEALING SYSTEM.

BA

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LIBRARY SYSTEM VOGELSON

CAMDEN COUNT M. ALLA RY RENOVATION

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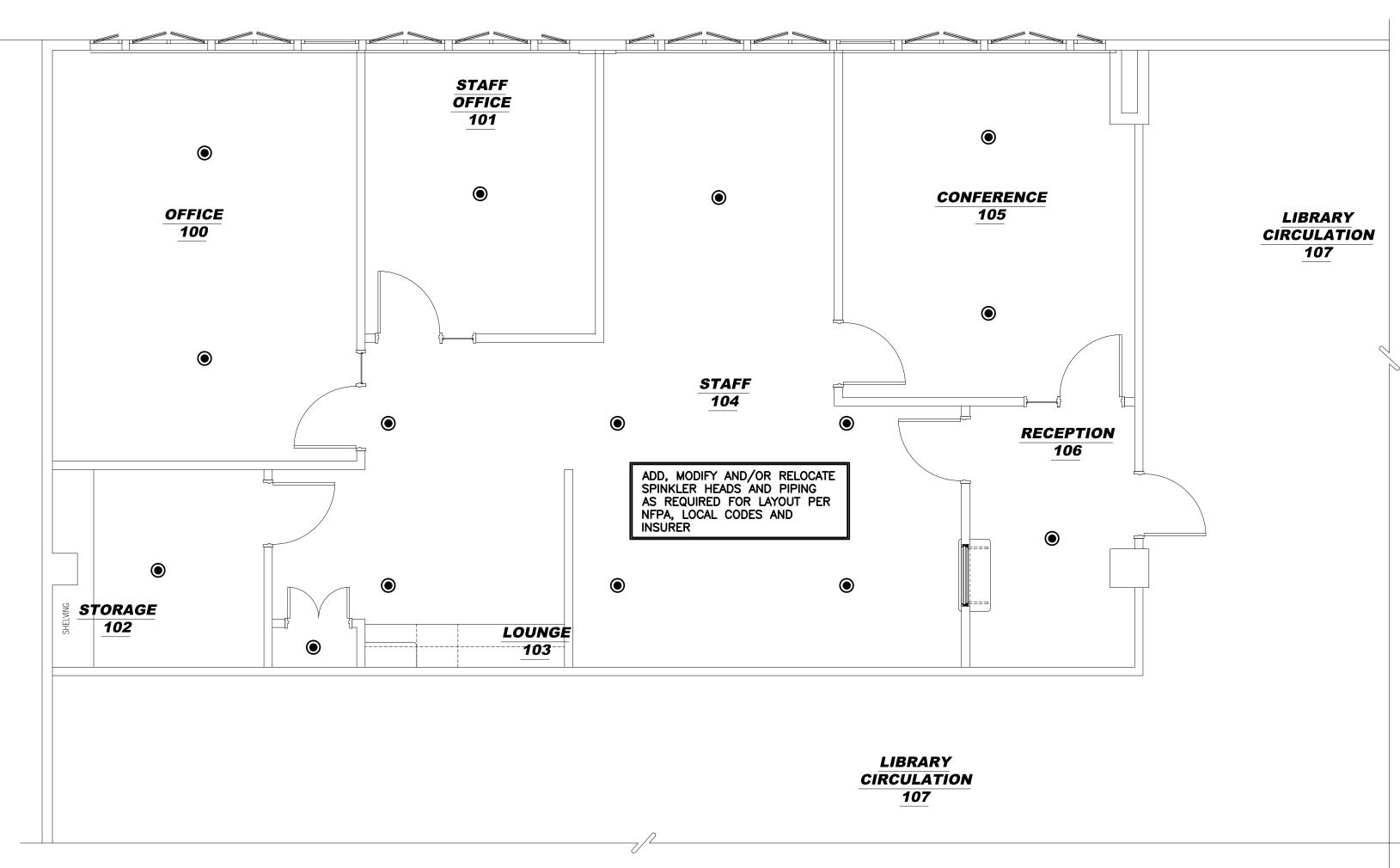
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PROJECT:

BRARY SYSTEM GELSON

BRARY RENOVATION
203 LAUREL ROAD

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