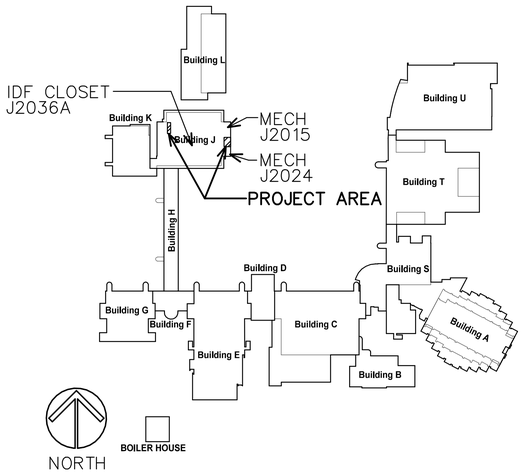
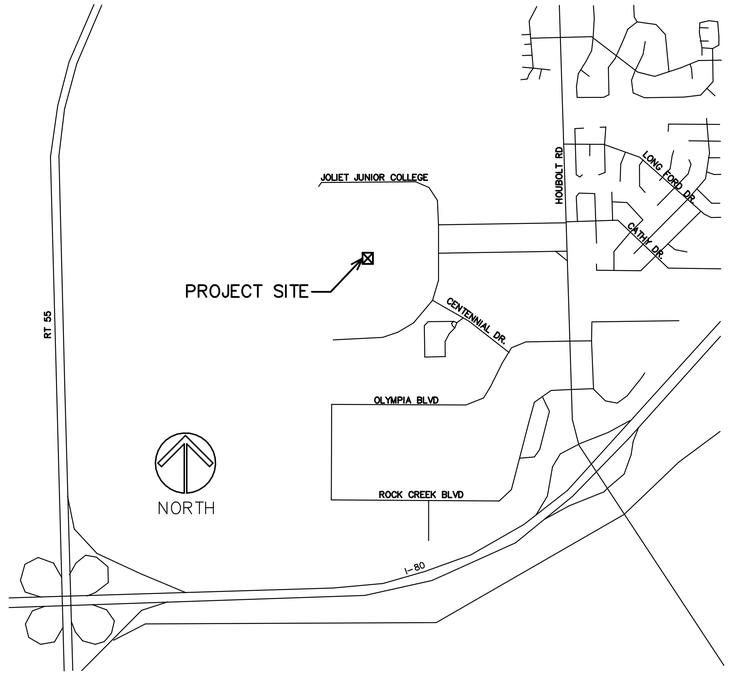
CAMPUS MAP



LOCATION MAP



INDEX OF SHEETS

E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE
SECOND FLOOR – BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

STROMSLAND + DE YOUNG + PRYBYS
ARCHITECTURE GROUP
20620 BURL COURT
JOLIET, IL 60433
PHONE: 815–727–1311
FAX: 815–727–5210

\\192.168.1.197\CURRENT PROJECTS\JJC- EHAS OFFICE RENOVATION\DRAWINGS\ARCH\T1.AEC

REGISTRATION

SEAL

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Joliet, Illinois 60433
www.sdpagroup.com
L. N. : 184-000437

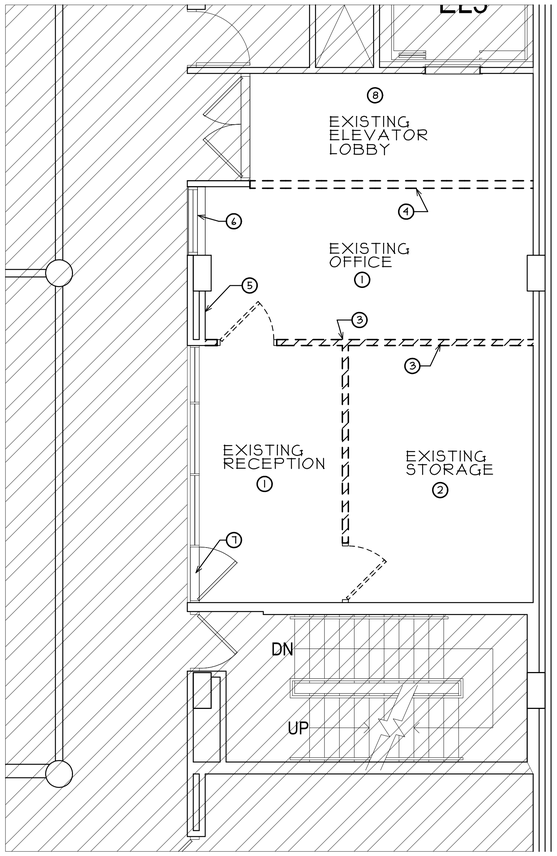
SET NUMBER

E.H.S. OFFICE REMODELING
JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE:
5/12/2023
REVISED:

PROJECT NO.
2304-02

SHEET NUMBER
T1
OF 1 SHEETS



NORTH

PARTIAL SECOND FLOOR DEMOLITION FLOOR PLAN

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

DEMOLITION PLAN LEGEND

- HATCH DENOTES AREAS NOT INCLUDED IN PROJECT SCOPE.
- EXISTING WALLS TO REMAIN (TYPICAL)
- EXISTING METAL STUD AND GYPSUM BOARD WALL TO BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) VERIFY IN FIELD
- EXISTING FULL HEIGHT CMU BLOCK WALL TO BE REMOVED COMPLETELY (UNLESS NOTED OTHERWISE) VERIFY IN FIELD
- EXISTING DOOR & FRAME TO REMAIN (TYPICAL)
- EXISTING DOOR & FRAME TO BE REMOVED. (TYPICAL)

DEMOLITION PLAN GENERAL NOTES

A. ALL SALVAGED ITEMS NOT REUSED SHALL BE PLACED IN STORAGE, ON SITE, AT A LOCATION DESIGNATED BY THE OWNER.

B. ALL ITEMS REMOVED AND NOT SALVAGED SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR.

C. PATCH & REPAIR HOLES AND/OR DAMAGED SURFACES CAUSED TO ADJACENT CONSTRUCTION DURING DEMOLITION.

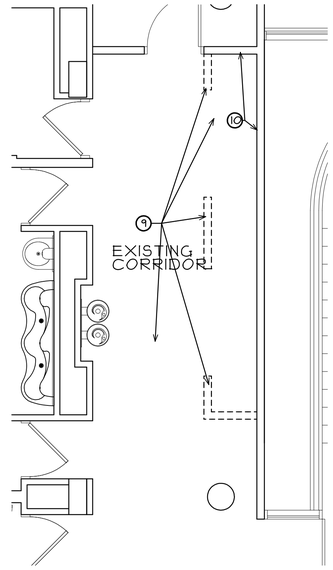
D. VERIFY ANY ADDITIONAL DEMOLITION WORK REQUIRED FOR INSTALLATION OF DEVICES/EQUIPMENT.

E. EXISTING FURNITURE AND MOVABLE EQUIPMENT TO BE REMOVED BY OWNERS STAFF. ANYTHING THAT REMAINS CONTRACTOR TO COORDINATE WITH OWNER FOR STORAGE LOCATION. (V.I.F.)

F. DEVICES INDICATED WITH AN "EX" ARE TO BE EXISTING TO REMAIN. (V.I.F.)

DEMOLITION PLAN KEY NOTES

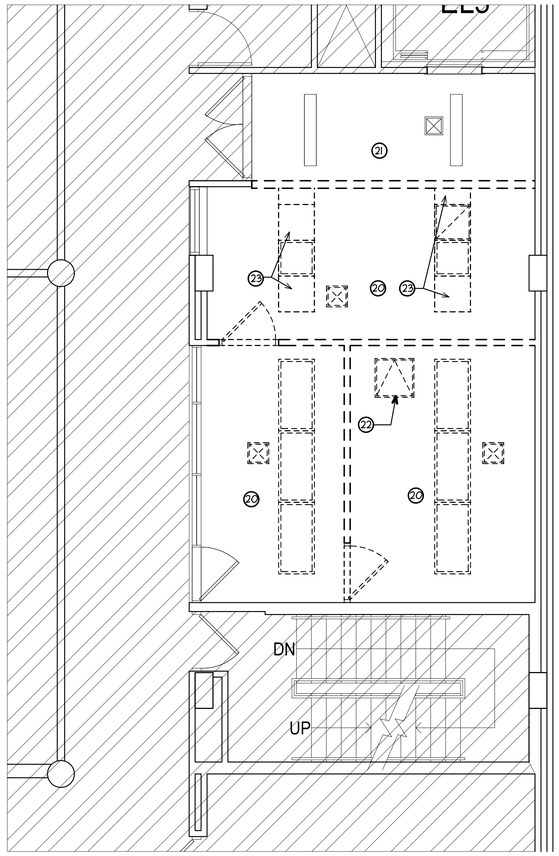
1. EXISTING CARPET TILE AND VINYL WALL BASE TO BE COMPLETELY REMOVED. (V.I.F.)
2. EXISTING VCT FLOORING AND VINYL WALL BASE TO BE COMPLETELY REMOVED. (V.I.F.)
3. EXISTING WHITE BOARD TO BE REMOVED AND SALVAGED TO OWNER. IF NOT REUSED IT SHALL BE PROPERLY DISPOSED OF (V.I.F.)
4. EXISTING TACK BOARD TO BE REMOVED AND SALVAGED TO OWNER. (V.I.F.)
5. EXISTING COAT RACK TO BE REMOVED AND SALVAGED TO OWNER. (V.I.F.)
6. EXISTING ROLLER SHADE TO BE REMOVED AND REINSTALLED BY OWNERS VENDOR.
7. EXISTING METAL TRANSITION PLATE TO BE REMOVED AND RE-INSTALLED AFTER NEW FLOORING IS INSTALLED. (V.I.F.)
8. EXISTING VCT FLOORING TO REMAIN. PROVIDE PROTECTION DURING CONSTRUCTION
9. EXISTING VCT FLOORING TO REMAIN. PROVIDE PROTECTION DURING CONSTRUCTION. CUT OUT ONLY AT NEW WALL LOCATION AS TO NOT SPLIT TILE WITH NEW WALL INSTALL
10. REMOVE EXISTING WALL BASE AT LOCATION OF NEW CLOSET. (V.I.F.)



NORTH

PARTIAL SECOND FLOOR DEMOLITION FLOOR PLAN

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



NORTH

PARTIAL SECOND FLOOR DEMO CEILING PLAN

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

DEMO CEILING PLAN LEGEND

- HATCH DENOTES AREAS NOT INCLUDED IN PROJECT SCOPE
- DENOTES EXISTING SURFACE MOUNTED LIGHTING FIXTURE TO REMAIN, SEE ELECTRICAL DRAWINGS
- DENOTES EXISTING LAY-IN LIGHTING FIXTURE TO BE REMOVED. SEE ELECTRICAL DRAWINGS. (V.I.F.)
- DENOTES EXISTING SUPPLY DIFFUSER TO REMAIN, SEE MECHANICAL NOTES
- DENOTES EXISTING SUPPLY DIFFUSER TO BE REMOVED, SEE MECHANICAL DRAWINGS
- DENOTES EXISTING RETURN GRILL TO BE REMOVED, SEE MECHANICAL DRAWINGS
- SD DENOTES EXISTING SMOKE DETECTOR TO REMAIN. (V.I.F.)

DEMO CEILING PLAN GENERAL NOTES

A. ALL SALVAGED ITEMS NOT REUSED SHALL BE PLACED IN STORAGE, ON SITE, AT A LOCATION DESIGNATED BY THE OWNER.

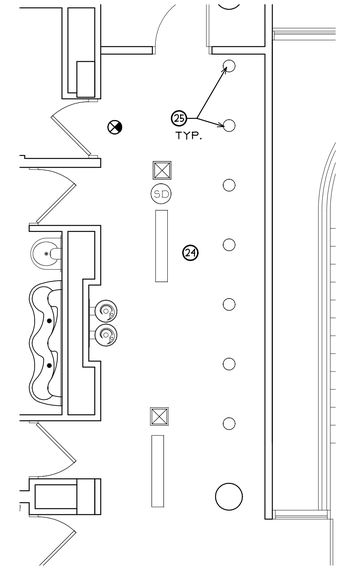
B. ALL ITEMS REMOVED AND NOT SALVAGED SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR.

C. PATCH & REPAIR ALL EXISTING GYPSUM BOARD SURFACES TO "LIKE NEW" CONDITION PRIOR TO INSTALLING NEW FINISHES.

D. COORDINATE WITH AND ALLOW OWNER'S SEPARATE VENDORS ACCESS TO CEILING INTERSTITIAL SPACES FOR INSTALLATION OF WIRING AND EQUIPMENT PRIOR TO INSTALLING LAY IN CEILING PANELS.

DEMO CEILING PLAN KEY NOTES

20. EXISTING GYPSUM BOARD AND SUPPORT STRUCTURE TO BE COMPLETELY REMOVED.(V.I.F.)
21. EXISTING GYPSUM BOARD CEILING TO REMAIN. RE-SUPPORT EDGE OF CEILING TO REMAIN AND ANCHOR TO NEW SHAFT WALL. (V.I.F.)
22. EXISTING METAL ACCESS PANEL TO BE REMOVED. (V.I.F.)
23. EXISTING ACOUSTIC CEILING AND GRID PIECES TO BE REMOVED. (V.I.F.)
24. EXISTING GYPSUM BOARD CEILING TO REMAIN.
25. EXISTING ABANDONED RECESSED LIGHTS TO REMAIN. (V.I.F.)



NORTH

PARTIAL SECOND FLOOR DEMO CEILING PLAN

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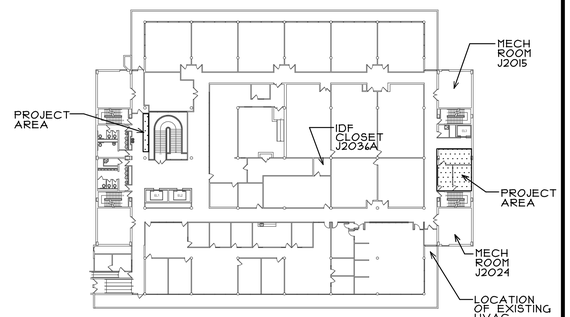

NORTH

SECOND FLOOR- BUILDING J

KEY PLAN

N.T.S.

stromsland + de young + prybys
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REGISTRATION

SEAL

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SET

E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 5/12/2023
REVISED:

PROJECT NO. 2304-02

SHEET NUMBER
D1

OF 1 SHEETS

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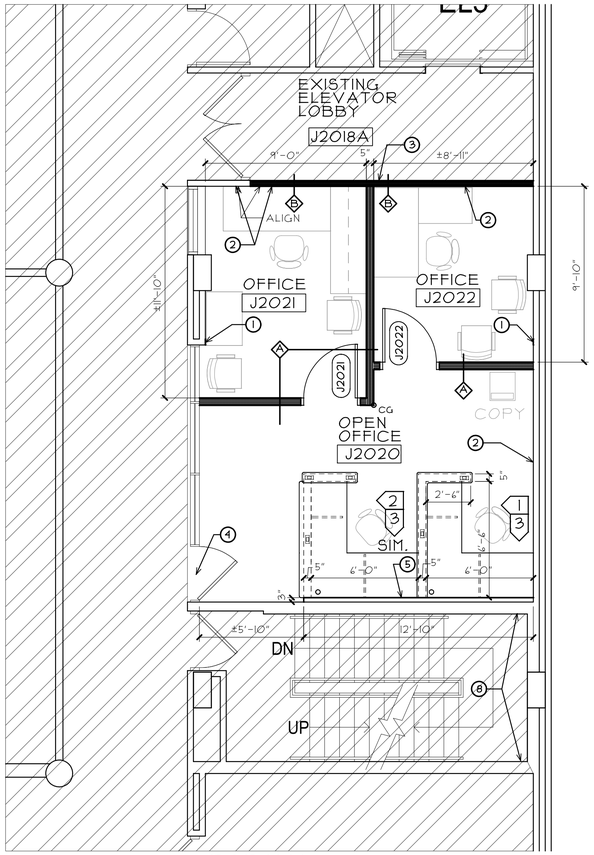

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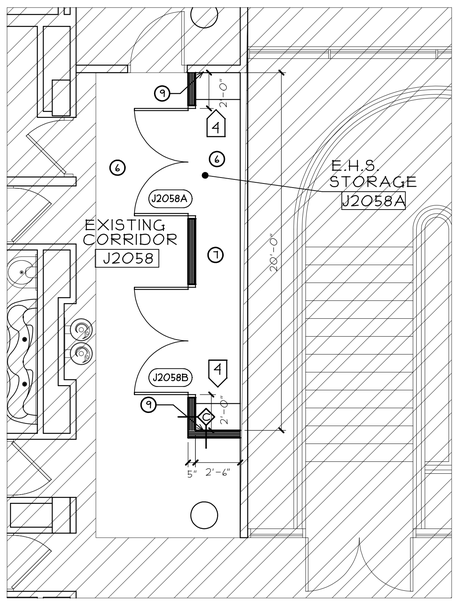


NORTH

PARTIAL SECOND FLOOR PLAN

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

FLOOR PLAN LEGEND

- HATCH DENOTES AREAS NOT INCLUDED IN PROJECT SCOPE.
- EXISTING WALLS TO REMAIN (TYPICAL)
- DENOTES NEW PARTITIONS, TYPE AS FOLLOWS: (U.N.O.)
- A — DENOTES 3 5/8" METAL STUDS AT 16" O.C. WITH 3-1/2" SOUND BLANKET INSULATION IN ALL CAVITIES, AND ONE LAYER OF 5/8" GYPSUM BOARD EACH SIDE. RUN STUDS FULL HEIGHT TO DECK ABOVE AND INSULATION, AND BOTH LAYERS OF GYPSUM BOARD TO RUN 6" ABOVE FINISHED CEILING.
- B — DENOTES ONE HOUR FIRE RATED SHAFT WALL ASSEMBLY (U.L. U469) PROVIDE 5/8" TYPE X GYPSUM BOARD ON 2 1/2" C-H METAL STUDS AT 24" O.C. WITH 1" GYPSUM BOARD PANELS SET IN STUD CHANNEL AND FILL WALL CAVITY WITH BLANKET INSULATION. (BUILT FROM PROJECT SIDE)RUN STUDS, GYPSUM BOARD, INSULATION AND 1" PANELS FULL HEIGHT TO DECK ABOVE. PROVIDE ADDITIONAL LAYER OF 5/8" GYPSUM BOARD ON OPPOSITE WALL SIDE AND TAPE INTO EXISTING GYPSUM BOARD CEILING.
- C — DENOTES 3 5/8" METAL STUDS AT 16" O.C. WITH ONE LAYER OF 5/8" GYPSUM BOARD EACH SIDE. RUN STUDS AND GYPSUM BOARD UP TO BOTTOM OF EXISTING GYPSUM BOARD CEILING AND TAPE-IN.
- EXISTING DOOR & FRAME TO REMAIN (TYPICAL)
- J1000 — DENOTES NEW DOOR AND/OR FRAME. SEE DOOR MARK IN DOOR AND FRAME SCHEDULE ON DRAWING SHEET A2.
- 1 — DENOTES ELEVATION TAG. SEE SHEET A1.
- ALL CHANGES IN FLOOR FINISH MATERIAL OR COLOR ARE TO OCCUR UNDER CENTER OF DOOR OR AT LOCATIONS INDICATED. SEE ROOM FINISH SCHEDULE FOR FLOORING TYPE IN EACH ROOM. PROVIDE NEW TRANSITION STRIP AT MATERIAL CHANGE LOCATIONS, SEE SPECIFICATION.
- CG — CORNER GUARD - SEE DETAIL 1 ON SHEET A2. CORNER GUARD TO START AT TOP OF WALL BASE AND RUN UP TO 4'-0" A.F.F.

FLOOR PLAN GENERAL NOTES

A. VERIFY ALL EXISTING DIMENSIONS IN FIELD AND REPORT ALL DISCREPANCIES PRIOR TO NEW CONSTRUCTION.

B. PATCH & REPAIR ALL EXISTING GYPSUM BOARD SURFACES TO "LIKE NEW" CONDITION PRIOR TO INSTALLING NEW FINISHES.

C. NEW M-E-P SERVICES IN EXISTING METAL STUD AND GYPSUM BOARD WALLS MAY BE "FISHED DOWN" IF POSSIBLE. OR THE WALL IS TO BE CHANNEL CUT AND PATCHED WITH "LIKE" MATERIALS. COORDINATE WITH M-E-P TRADES.

D. PROVIDE ALL REQUIRED IN WALL BLOCKING FOR NEW/SALVAGED WALL HUNG EQUIPMENT. COORDINATE WITH OWNER FOR OWNER PROVIDED EQUIPMENT.

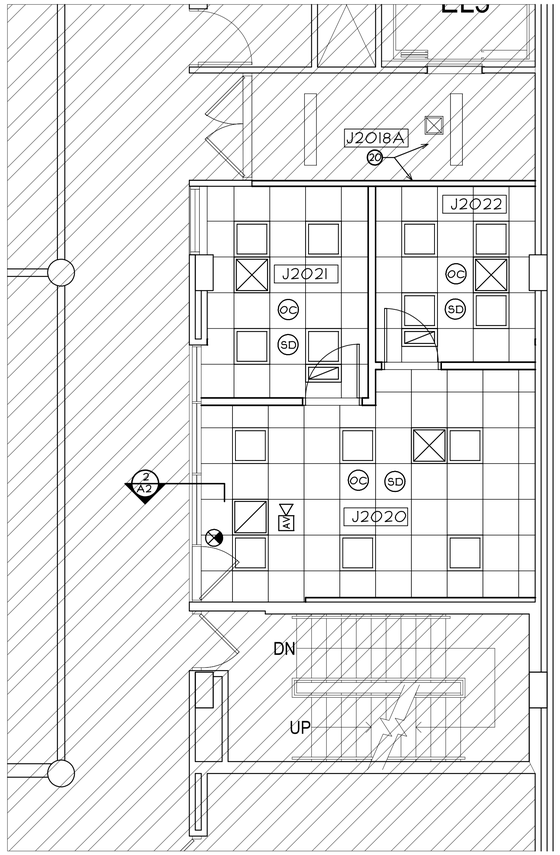
E. FURNITURE AND EQUIPMENT (F.B.O.) SHOWN FOR REFERENCE ONLY UNLESS NOTED OTHERWISE.

G. ALL PENETRATIONS (NEW AND EXISTING) OF FIRE WALLS SHALL BE SEALED WITH AN APPROPRIATE U.L. LISTED THROUGH-WALL PENETRATION FIRESTOPPING SYSTEM.

NOTE:
GENERAL CONTRACTOR TO PROVIDE A $5,000 ALLOWANCE IN HIS/HER BID FOR UNFORESEEN/MISCELLANEOUS CONDITIONS. WHEN FIGURING THIS ALLOWANCE IN THE BID, THE CONTRACTOR IS TO INCLUDE ALL NECESSARY OVERHEAD AND PROFIT TO CARRY THIS DOLLAR VOLUME. THIS ALLOWANCE IS NOT FOR THE CONTRACTOR'S BENEFIT, AND IS ONLY AUTHORIZED TO CHARGE AGAINST THIS ALLOWANCE WHEN DIRECTED AND APPROVED BY JOLIET JUNIOR COLLEGE. THE CONTRACTOR WILL BE ALLOWED TO INVOICE FOR DIRECT MATERIAL AND RAW LABOR COSTS ONLY.

FLOOR PLAN KEY NOTES

1. AT LOCATIONS OF REMOVED CMU BLOCK WALLS (SEE DEMOLITION PLANS) EXISTING WALLS TO REMAIN TO BE GROUND SMOOTH AND PATCHED FLUSH WITH MORTAR PRIOR TO NEW PAINT FINISH. (V.I.F.)
2. PROVIDE PAINTED ACCENT WALL (AC-1). (EGGSHELL FINISH)
3. PROVIDE NEW FACILITY STANDARD WALL BASE ON NEW WALL INFILL
4. RE-INSTALL EXISTING METAL TRANSITION PLATE AFTER NEW FLOORING IS INSTALLED.
5. PROVIDE 5/8" GYPSUM BOARD ON 1 1/2" METAL STUDS AT 16" O.C. RUN STUDS AND GYPSUM BOARD UP 6" ABOVE FINISHED CEILING. CLIP METAL STUDS AT TOP AND MID SPAN BACK TO EXISTING CMU WALL.
6. EXISTING VCT FLOORING TO REMAIN BUT BE CUT OUT AT LOCATION OF NEW WALL. (V.I.F.)
7. EXISTING GYPSUM BOARD CEILING AND EXISTING CAPPED RECESSED LIGHT FIXTURE TO REMAIN. (V.I.F.)
8. PATCH EXISTING CMU BLOCK WALL WITH MORTAR FLUSH AT LOCATIONS OF REMOVED HVAC LINE FOR REMOVED SPLIT SYSTEM IN EXISTING STAIR AND AT LOCATION WHERE LINES EXIT TO EXTERIOR (PAINT PATCH ON EXTERIOR TO MATCH EXISTING). (V.I.F.)SEE MECHANICAL DRAWINGS)
9. PROVIDE IN WALL BLOCKING FOR SUPPORT OF NEW SHELF METAL STANDARDS.



NORTH

PARTIAL SECOND FLOOR CEILING PLAN

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

CEILING PLAN LEGEND

- HATCH DENOTES AREAS NOT INCLUDED IN PROJECT SCOPE.
- DENOTES 2' X 2' SUSPENDED CEILING GRID SYSTEM. SEE ROOM FINISH SCHEDULE FOR GRID AND PANEL TYPES, AND CEILING HEIGHT IN EACH ROOM.
- DENOTES 2X2 LAY-IN LIGHTING FIXTURE IN ACOUSTIC CEILING - SEE ELECTRICAL DRAWINGS.
- OC — DENOTES CEILING MOUNTED OCCUPANCY SENSOR - SEE ELECTRICAL DRAWINGS.
- SD — DENOTES NEW LOCATION FOR NEW/EXISTING CEILING MOUNTED SMOKE DETECTOR- SEE ELECTRICAL DRAWINGS.
- DENOTES NEW CEILING MOUNTED LED EXIT SIGN. SEE ELECTRICAL DRAWINGS
- AV — DENOTES NEW CEILING MOUNTED FIRE ALARM DEVICES. SEE ELECTRICAL DRAWINGS.
- DENOTES LAY-IN SUPPLY DIFFUSER IN ACOUSTIC CEILING - SEE MECHANICAL DRAWINGS.
- DENOTES LAY-IN RETURN GRILLE IN ACOUSTIC CEILING - SEE MECHANICAL DRAWINGS.

CEILING PLAN GENERAL NOTES

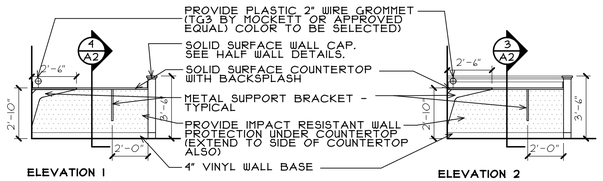
A. CEILING GRID AND LAY-IN PANEL TYPES ARE INDICATED IN THE ROOM FINISH SCHEDULE FOR EACH ROOM.

B. COORDINATE WITH AND ALLOW OWNER'S SEPARATE VENDORS ACCESS TO CEILING INTERSTITIAL SPACES FOR INSTALLATION OF WIRING AND EQUIPMENT PRIOR TO INSTALLING LAY IN CEILING PANELS.

C. ALL GYPSUM BOARD CEILINGS, SOFFIT, HEADERS, ETC. ARE TO RECEIVE PAINT FINISH.

CEILING PLAN KEY NOTES

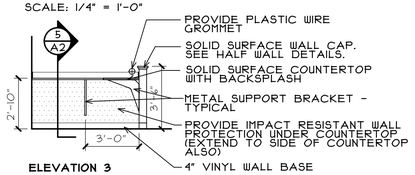
20. EXISTING GYPSUM BOARD CEILING TO REMAIN AND BE TAPED INTO NEW WALL. (V.I.F.) CUT EDGE TO BE PROPERLY RESUPPORTED.



ELEVATION 1 — ELEVATION 2

OPEN OFFICE

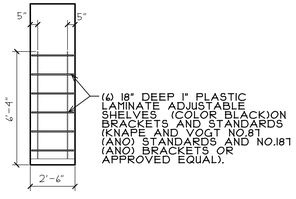
SCALE: 1/4" = 1'-0"



ELEVATION 3

OPEN OFFICE

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



ELEVATION 4

E.H.S. STORAGE

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

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REGISTRATION SEAL

SET NUMBER

E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 5/12/2023
REVISED:

PROJECT NO. 2304-02

SHEET NUMBER A1

OF 2 SHEETS

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ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	CEILING HGT.	REMARKS	ROOM NO.
J2018A	EX. ELEVATOR LOBBY	EX	EX	EX	EX	-	1	J2018A
J2020	OPEN OFFICE	CPT-1	RB-1	PNT	APC-1	9'-0"	2	J2020
J2021	OFFICE	CPT-1	RB-1	PNT	APC-1	9'-0"	2	J2021
J2022	OFFICE	CPT-1	RB-1	PNT	APC-1	9'-0"	2	J2022
J2058	EX. CORRIDOR	EX	EX	EX	EX	-	1	J2058
J2058A	E.H.S. STORAGE	EX	RB-1	PNT	PNT	-		J2058A

SCHEDULE ABBREVIATIONS

EX — EXISTING FINISH TO REMAIN

CPT-1 — CARPET TILE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR

RB-1 — RUBBER WALL BASE, #40 BLACK BY JOHNSONITE (FACILITY STANDARD)

PNT — SHERWIN WILLIAMS, SNOWBOUND, SW7004

AC-1 — BENJAMIN MOORE, KENSINGTON BLUE, 840

APC-1 — 2'X2' REVEAL EDGE CEILING PANEL AND GRID SYSTEM - SEE SPECIFICATION

REMARKS NOTES

1. AT AREAS OF NEW CONSTRUCTION PATCH-IN NEW FINISHES TO MATCH ADJOINING EXISTING, VERIFY IN FIELD. PROVIDE NEW PAINT FINISH ON ENTIRE WALL LENGTH OF CONSTRUCTION.
2. SEE FLOOR PLAN FOR ACCENT PAINT LOCATION. (AC-1)

DOOR & FRAME SCHEDULE

MARK	LOCATION	SIZE	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	GLASS	LABEL	HARD WARE SET	REMARKS	MARK
J2021	OFFICE	3'-0" X 7'-0" X 1 3/4"	1	HMTL	PAINT	3	HMTL	PAINT	6/A2	7/A2	-	G1	---	1		J2021
J2022	OFFICE	3'-0" X 7'-0" X 1 3/4"	1	HMTL	PAINT	3	HMTL	PAINT	6/A2	7/A2	-	G1	---	1		J2022
J2058A	E.H.S. STORAGE	(2)3'-0" X 7'-0" X 1 3/4"	2	HMTL	PAINT	3	HMTL	PAINT	6/A2	7/A2	-	-	---	2	1	J2058A
J2058B	E.H.S. STORAGE	(2)3'-0" X 7'-0" X 1 3/4"	2	HMTL	PAINT	3	HMTL	PAINT	6/A2	7/A2	-	-	---	2	1	J2058B

SCHEDULE ABBREVIATIONS

HMTL — HOLLOW METAL
SCWOOD — SOLID CORE WOOD
EX — EXISTING
ALUM — ALUMINUM

GLASS TYPES

G1 — 1/4" CLEAR TEMPERED GLASS

GENERAL NOTES

A. ALL NEW AND EXISTING HOLLOW METAL FRAMES TO RECEIVE NEW PAINT FINISH PER SPECIFICATION 099123.

B. PROVIDE WALL STOP FOR DOORS THAT OPEN 90 DEGREES AND FLOOR STOP FOR DOORS THAT OPEN MORE THAN 90 DEGREES.

C. ALL DOORS IN PROJECT AREA TO HAVE CARD READERS FURNISHED AND INSTALLED BY OWNERS VENDOR. CONTRACTOR TO PROVIDE 1/2" HOLE IN FRAME AT 42"A.F.F. (COORDINATE WITH OWNER)

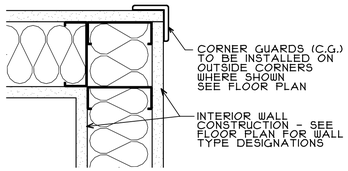
REMARKS

1. PROVIDE IN DOOR RACEWAY FOR ELECTRIC STRIKE IN LOCKED DOOR LEAF OVER TO FRAME.

HARDWARE SCHEDULE

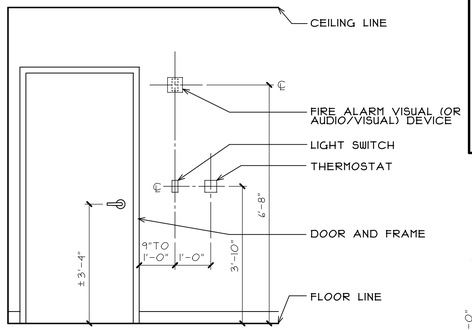
HARDWARE SET 1:
- 3 HINGES- HAGER BB1279 4.5X4.5 US26D
- 1 OFFICE LOCK- SCHLAGE "ND" SERIES CYLINDRICAL LOCK- MATCH FACILITY STANDARD
- 1 ELECTRIC STRIKE- (VON DUPRIN # 6210) FURNISHED AND INSTALLED BY OWNER'S VENDOR
- 1 CARD READER- FURNISHED AND INSTALLED BY OWNERS VENDOR (COORDINATE RACEWAY TO ACCESSIBLE CEILING)
- 1 WALL STOP- IVES WS401-CVX US26D

HARDWARE SET 2:
- 6 HINGES- HAGER BB1279 4.5X4.5 US26D
- 1 STOREROOM LOCK- SCHLAGE "ND" SERIES CYLINDRICAL LOCK- MATCH FACILITY STANDARD
- 1 ELECTRIC STRIKE- (VON DUPRIN # 6210) FURNISHED AND INSTALLED BY OWNER'S VENDOR (MOUNTED IN LOCKED DOOR LEAF)
- 1 CARD READER- FURNISHED AND INSTALLED BY OWNERS VENDOR (COORDINATE RACEWAY TO ACCESSIBLE CEILING)
- 1 SET OF MANUAL FLUSH BOLTS (T18)- IVES FB451 US26D



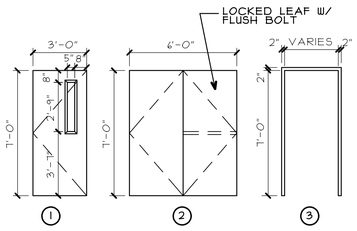
DETAIL AT OUTSIDE CORNER GUARD

1/A2 — SCALE: 3" = 1'-0"



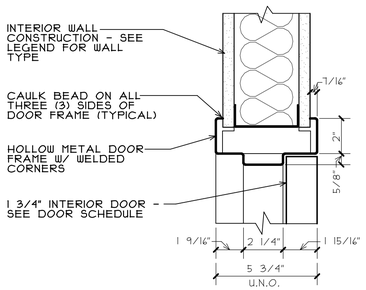
TYPICAL DEVICE LOCATIONS

SCALE: 1/2" = 1'-0"



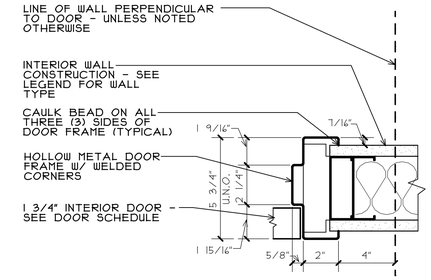
DOOR AND FRAME TYPES

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



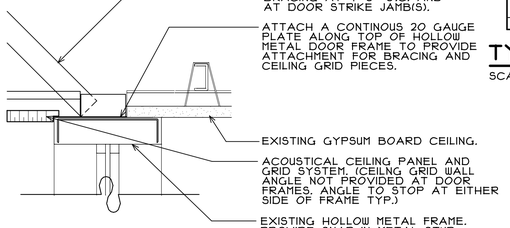
6/A2 HEAD DETAIL

SCALE: 3" = 1'-0"



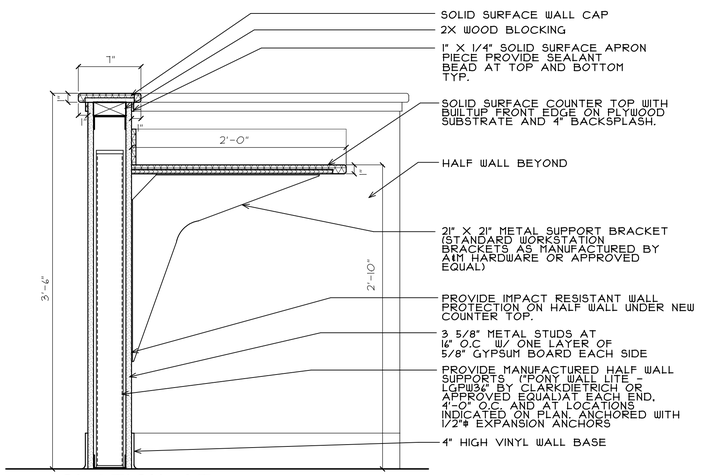
7/A2 JAMB DETAIL

SCALE: 3" = 1'-0"



DETAIL AT TOP OF SUITE ENTRY DOOR FRAME

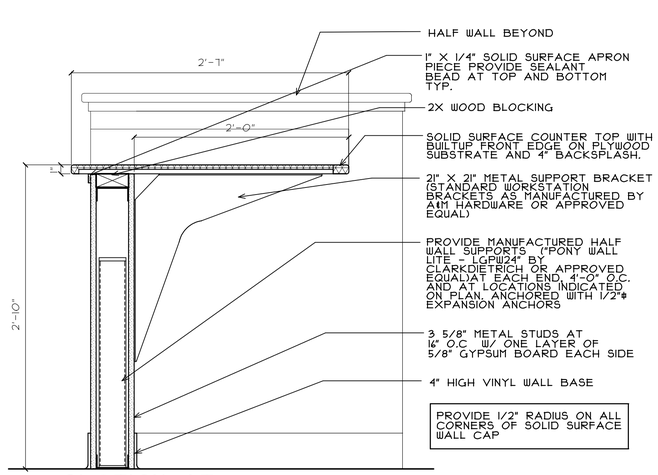
2/A2 — SCALE: 3" = 1'-0"



PROVIDE 1/2" RADIUS ON ALL CORNERS OF SOLID SURFACE WALL CAP

SECTION AT HALF WALL

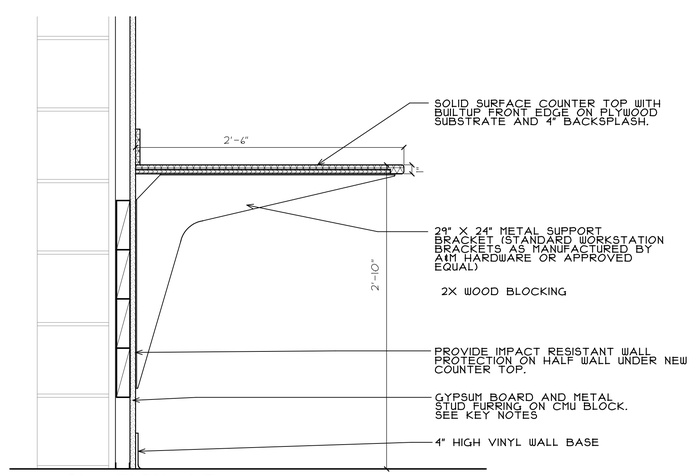
3/A2 — SCALE: 1 1/2" = 1'-0"



PROVIDE 1/2" RADIUS ON ALL CORNERS OF SOLID SURFACE WALL CAP

SECTION AT HALF WALL

4/A2 — SCALE: 1 1/2" = 1'-0"



SECTION AT DESK TOP

5/A2 — SCALE: 1 1/2" = 1'-0"

\\192.168.1.137\CURRENT PROJECTS\JJC- EHAS OFFICE RENOVATION\DRAWINGS\ARCH\A2.AEC

REGISTRATION

SEAL

stromsland + de young + prybys
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Joliet, Illinois 60433
815-727-1311
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www.sdpagroup.com

SET NUMBER

E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 5/12/2023
REVISED:

PROJECT NO. 2304-02

SHEET NUMBER
A2

OF 2 SHEETS

VENTILATION SCHEDULE

ROOM #	ROOM NAME	OCCUPANCY CLASSIFICATION	FLOOR AREA FT²	NUMBER OF PEOPLE/UNITS	IMC TABLE				IMC REQUIREMENTS					ACTUAL			EQUIPMENT	
					OCCUPANT DENSITY (#/1000 SF)	PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE (CFM/SF)	EXHAUST AIRFLOW RATE (CFM/FIXTURE)	TOTAL OCCUPANTS	TOTAL OCCUPANT OA CFM	TOTAL AREA OA CFM	TOTAL OA CFM	TOTAL EA CFM	SUPPLY CFM	OA CFM	EXHAUST CFM	SUPPLY FAN	EXHAUST FAN
J2018A	EXISTING ELEVATOR LOBBY	CORRIDORS	95	0	0	0	0.06	0	0	0	6	6	0	170	26	0	(X)VAV-13-7	-
J2020	OPEN OFFICE	OFFICE SPACES	225	2	5	5	0.06	0	2	10	14	24	0	300	45	0	(X)VAV-14-3	-
J2021	OFFICE	OFFICE SPACES	110	1	5	5	0.06	0	1	5	7	12	0	165	25	0	(X)VAV-13-7	-
J2022	OFFICE	OFFICE SPACES	85	1	5	5	0.06	0	1	5	5	10	0	110	17	0	(X)VAV-14-3	-
TOTALS			515	4					4	20	31	51	0	745	112	0		

AIR DEVICE SCHEDULE

TAG	MAKE/ MODEL	DESCRIPTION	SERVICE	SIZE	MAX N.C.	REMARKS
A	"TITUS" #OMNI	24"x24" LAY-IN SQUARE PLAQUE 4-WAY DIFFUSER W/ ROUND NECK	SUPPLY	24"x24"	25	1,2
B	"TITUS" #350FL	24"x24" OR 24"x12" LOUVERED RETURN GRILLE, 3/4" BLADE SPACING	RETURN	SEE PLAN	25	1,2,3

REMARKS:
1. PROVIDE WITH BAKED ENAMEL FINISH. COLOR SELECTED BY ARCHITECT
2. PROVIDE WITH LAY-IN FRAME
3. PROVIDE SQUARE TO ROUND ADAPTER WHERE REQUIRED.

MECHANICAL LEGEND

EQUIPMENT	RTU # ← MARK (SEE SCHEDULE) ← EQUIPMENT NUMBER
AIR DEVICE	S-200-A 8"Ø NK ← TYPE-CFM-DEVICE TAG ← NECK SIZE
	POINT OF CONNECTION TO EXISTING

INSULATION SCHEDULE

ALL EXPOSED DUCTWORK IN CONDITIONED SPACES	1/2" LINED
ALL EXTERIOR DUCTWORK	MIN. R-12
ALL CONCEALED SUPPLY AND RETURN DUCT	MIN. R-6
ALL EXHAUST UP TO 10'-0" FROM DISCHARGE	MIN. R-6

NOTE:
ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND WITH A MINIMUM OF R-12 INSULATION WHEN LOCATED OUTSIDE THE BUILDING ENVELOPE. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-12 INSULATION. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR UL 181B. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS.

MECHANICAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL APPLICABLE CODES.
2. ALL EQUIPMENT SHALL BE U.L., ETL, AND/OR AGA LABELED AS REQUIRED.
3. ALL DUCTWORK SHALL BE PRIME GRADE GALVANIZED SHEET METAL PER SMACNA STANDARDS.
4. DUCTWORK SHALL BE SUPPORTED WITH APPROVED HANGERS AT INTERVALS NOT EXCEEDING TEN (10) FEET OR BY OTHER APPROVED DUCT SUPPORT SYSTEMS DESIGNED IN ACCORDANCE WITH THE BUILDING CODE. FLEXIBLE AND OTHER FACTORY-MADE DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. MECHANICAL CONTRACTOR SHALL PROVIDE SPIN-IN COLLARS WITH DAMPERS AT ALL ROUND BRANCH TAKEOFFS TO DIFFUSERS.
6. DUCTWORK CONSTRUCTION MATERIALS, INCLUDING COVERINGS, LININGS, AND ADHESIVES, EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E-84.
7. PROVIDE FIRE DAMPERS BY "NAILOR" OR APPROVED EQUAL AT ALL PENETRATIONS THRU RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR ALL LOCATIONS AND RATINGS. ALL FIRE DAMPERS MAY NOT BE SHOWN ON THE PLANS. THIS CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND QUANTITIES.
8. MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE CANVAS CONNECTIONS AT ALL EQUIPMENT.
9. MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE AIR CONNECTORS FOR ALL DIFFUSERS. FLEXIBLE CONNECTORS SHALL NOT EXCEED FIVE (5) FEET.
10. FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS, BOTH METALLIC AND NONMETALLIC, SHALL BE TESTED IN ACCORDANCE WITH UL 181. SUCH DUCTS SHALL BE LISTED AND LABELED AS CLASS 0 OR CLASS 1.
11. OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXHAUST VENT, FLUE VENT OR ANY OTHER MECHANICAL SOURCE OF CONTAMINATION AND TWELVE (12) FEET FROM ANY PLUMBING VENT.
12. MECHANICAL CONTRACTOR SHALL PROVIDE BALANCING REPORTS BY A CERTIFIED BALANCER UPON COMPLETION OF PROJECT. PROVIDE INSPECTOR REPORTS PRIOR TO FINAL INSPECTION.
13. ALL THERMOSTATS SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS. WHERE THE THERMOSTAT IS ACCESSIBLE BY FRONTAL APPROACH ONLY, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-0" A.F.F. WHERE THE THERMOSTAT IS ACCESSIBLE FROM A SIDE APPROACH, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-6" A.F.F.
14. ELECTRICAL CONTRACTOR SHALL WIRE ALL EQUIPMENT AND SHALL PROVIDE DISCONNECT SWITCHES, STARTERS AND/OR RELAYS AS REQUIRED.
15. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, UTILITY BOXES, AND WIRING FOR ALL THERMOSTATS. MECHANICAL CONTRACTOR SHALL FURNISH, MOUNT, AND TERMINATE THERMOSTATS ONLY.
16. ELECTRICAL CONTRACTOR SHALL PROVIDE RETURN SMOKE DETECTORS IN SYSTEMS WITH A DESIGN CAPACITY OF GREATER THAN 2,000 CFM AND SUPPLY SMOKE DETECTORS IN SYSTEMS GREATER THAN 15,000 CFM. WIRE PER LOCAL CODE.
17. ELECTRICAL CONTRACTOR SHALL PROVIDE A 120 VOLT, 15 OR 20 AMP GFCI CONVENIENCE OUTLET FOR ALL ROOFTOP, ATTIC SPACE, OR CRAWL SPACE HVAC EQUIPMENT. CONVENIENCE OUTLET SHALL BE ON THE SAME LEVEL AND WITHIN 25'-0" OF HVAC EQUIPMENT.
18. EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS REQUIRED BY THE TERMS OF THEIR APPROVAL, IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THIS CODE. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT TIME OF INSPECTION, INCLUDING LISTING FOR OUTSIDE INSTALLATION WHEN APPLICABLE.
19. SUBMIT UL LISTED FIRE STOPPING MATERIALS AND SYSTEMS WHERE FIRE RATED ASSEMBLIES ARE BREACHED.

DESIGN CRITERIA

BASED ON ASHRAE HANDBOOK - 2017 FUNDAMENTALS

JOLIET, ILLINOIS

OUTDOOR DESIGN CONDITION

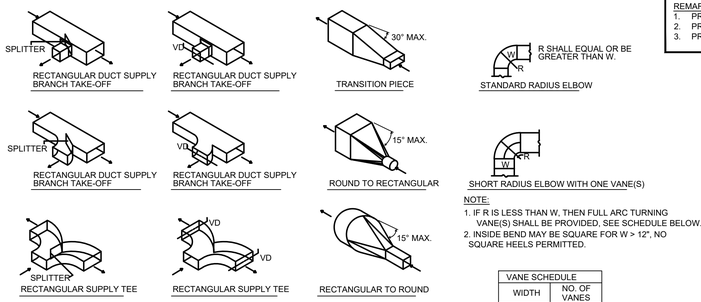
1% COOLING: 89.7°/74.4°F DB/WB
99.6% HEATING: -1.8°F DB

INDOOR DESIGN CONDITION

SUMMER: 75°F DB/50% RH
WINTER: 70°F DB

MECHANICAL ABBREVIATIONS

X	EXISTING TO REMAIN
XO	EXISTING TO BE DEMOLISHED
XRR	EXISTING TO BE RELOCATED
XR	EXISTING RELOCATED
N	NEW



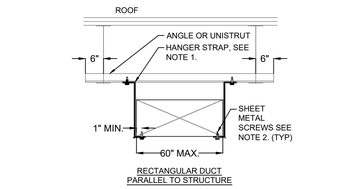
NOTES:
1. PROVIDE STANDARD RADIUS ELBOWS WHEN POSSIBLE - SHORT RADIUS WHERE REQUIRED.
2. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED & FASTENED AS RECOMMENDED BY SMACNA.
3. NO SQUARE OR RECTANGULAR HEEL ELBOWS SHALL BE ALLOWED.

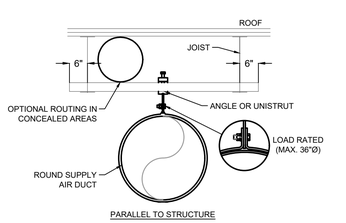
NOTE:
1. IF R IS LESS THAN W, THEN FULL ARC TURNING VANE(S) SHALL BE PROVIDED, SEE SCHEDULE BELOW.
2. INSIDE BEND MAY BE SQUARE FOR W > 12", NO SQUARE HEELS PERMITTED.

VANE SCHEDULE	
WIDTH	NO. OF VANES
≤ 12"	1
12"-24"	2
24"-36"	3
36"-60"	4
60"-84"	5
> 84"	6

1 RECTANGULAR DUCTWORK TRANSITIONS AND FITTINGS

N.T.S. MECHANICAL



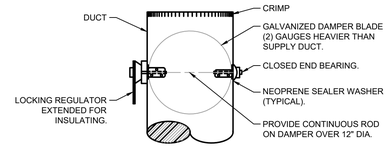


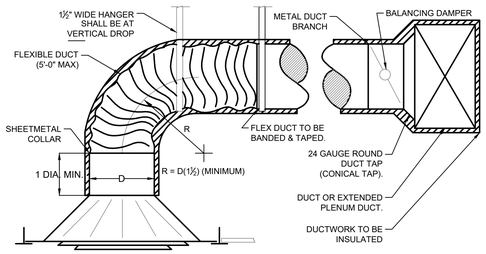
NOTE:
1. USE THREADED ROD FOR ALL DUCTS LARGER THAN 60" WIDE.
2. SHEET METAL SCREWS MAY BE OMITTED IF HANGER STRAP IS CONTINUOUS AND LOOPS UNDER ENTIRE DUCT.

NOTE:
1. FOR DUCTS LARGER THAN 36"Ø, USE TWO HANGER RODS, WIRES OR STRAPS TO SUPPORT DUCT FROM EACH SIDE.

3 DUCT SUPPORT DETAIL

N.T.S. MECHANICAL





NOTES:
1. CEILING DIFFUSER SHALL BE SQUARE FACE, ROUND NECK & SIMILAR TO; TITUS TMS, CARNES SFTA, OR KRUEGAR 1400.
2. DIFFUSER FRAME WITH EXTENDED PANELS NOT ACCEPTED.
3. PROVIDE LAY-IN TYPE DIFFUSER FRAMES FOR INVERTED T-BAR CEILING.
4. PROVIDE SURFACE MOUNTING FLANGE FOR GYP BOARD CEILING AND OTHER SPECIAL CEILING.
5. FLEX DUCT SHALL BE BANDED AND TAPED. PROVIDE BEAD ON METAL COLLAR IF DUCT SIZE EXCEEDS 12" DIAMETER.
6. LOW PRESSURE DUCTWORK ONLY.
7. OMIT VOLUME DAMPER ABOVE GYP BOARD CEILING AND USE DAMPER BEHIND CEILING DIFFUSER FOR BALANCE.
8. THE HANGERS SUPPORTING FLEX DUCT SHALL BE NOT LESS THAN 1-1/2" WIDE IN DIRECT CONTACT WITH DUCT.

MINIMUM CONICAL TAP METAL GAUGE		
TAP DIA. (IN.)	GAUGE - GALV. STOCK	DAMPER GAUGE
8 AND BELOW	24	22
9 - 14	24	22
15 - 16	22	20
27 - 36	20	18
37 - 50	18	16

2 CEILING DIFFUSERS AND BRANCH DUCTS

N.T.S. MECHANICAL

stromsland + de young + prybys
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815-727-1311
L.N.: 184-000437
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REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. WRIGHT
062-069190
STATE OF ILLINOIS
DATE: 05.11.23 EXP. 11.30.23

E.H.S. OFFICE REMODELING

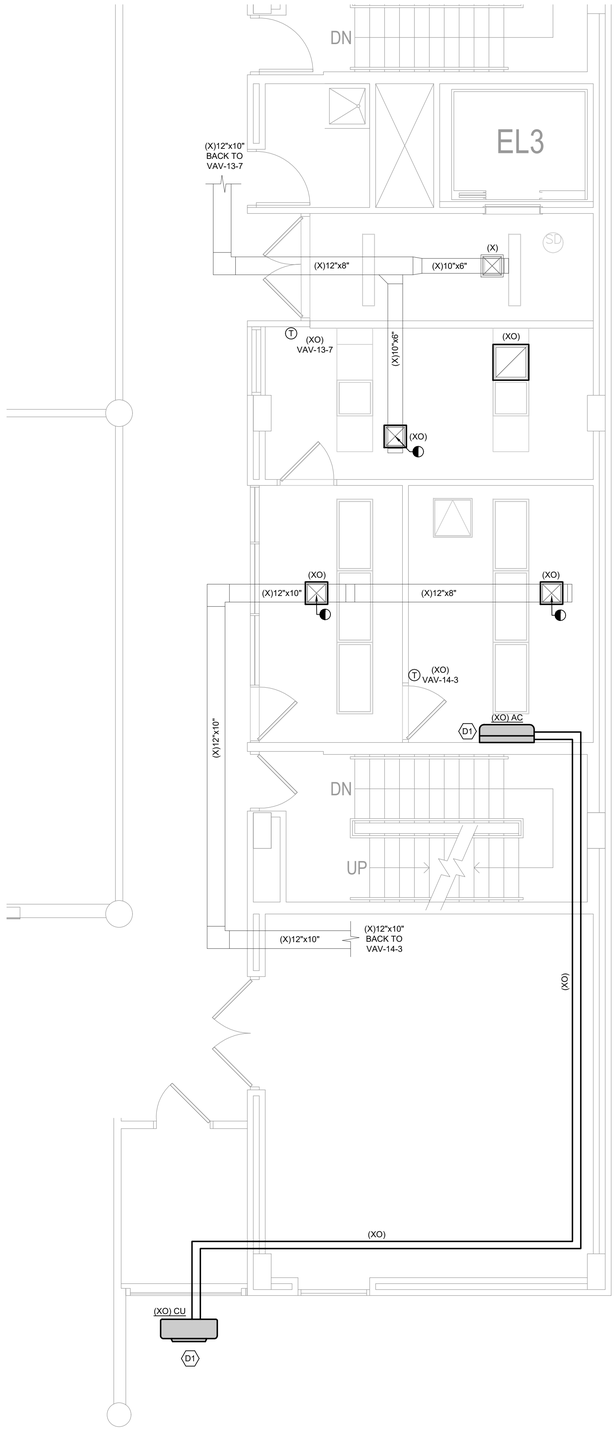
JOLIET JUNIOR COLLEGE – BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 05-11-2023
REVISED:

PROJECT NO. 2304-02

SHEET NUMBER M0

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING
THREE SIXTY MEP, PLLC #184-0008463-0002



GENERAL DEMOLITION NOTES

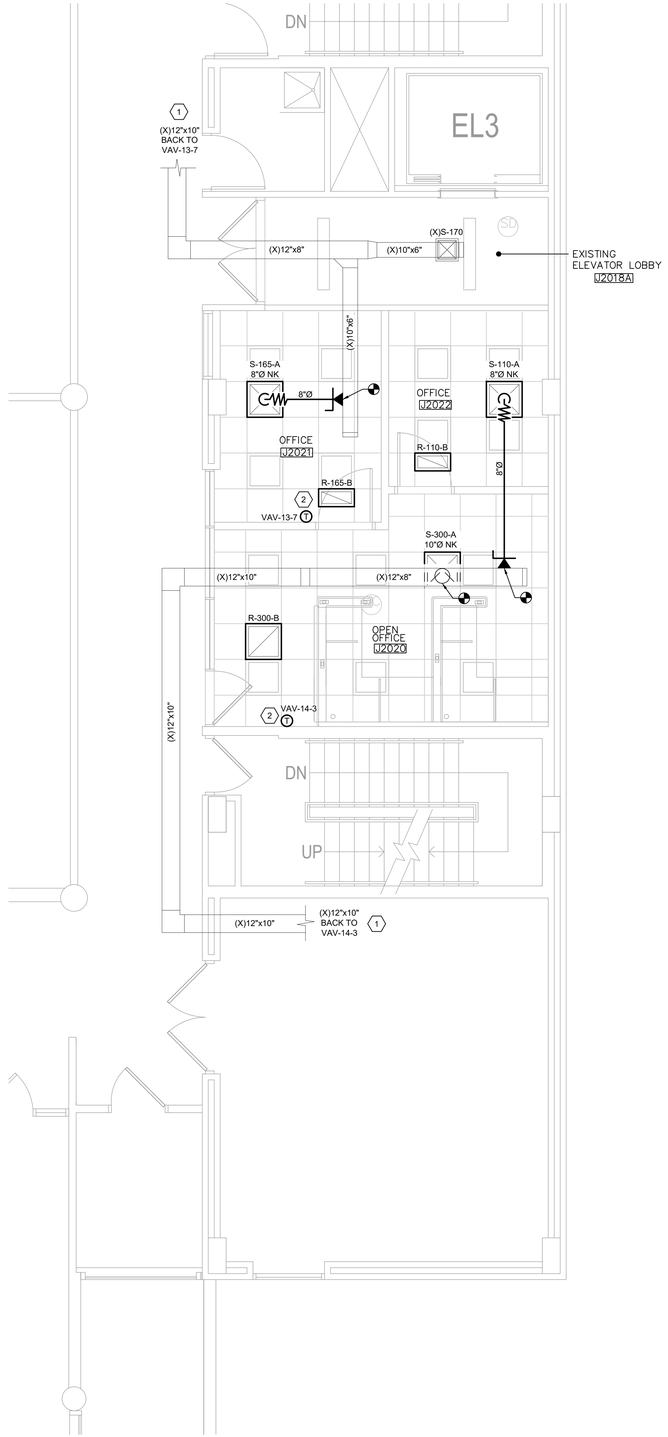
1. BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A COMPLETE BID WITHIN THE SCOPE OF THE PLANS AND SPECIFICATIONS. WHEN UNCLEAR, VERIFY THE EXTENT OF REMOVALS PRIOR TO BID. BRING TO THE ATTENTION OF THE ENGINEER ANY QUESTIONS IN REGARD TO THE EXTENT OF WORK OR ANY OTHER ISSUES RELATING TO THIS PROJECT.
2. REMOVE ALL EXISTING MATERIAL AND EQUIPMENT INDICATED ON PLAN. THE OWNER SHALL HAVE FIRST RIGHTS TO ALL EQUIPMENT TO BE REMOVED. DISPOSE OF ALL EQUIPMENT AND MATERIAL THAT IS NOT WANTED BY OWNER IN AN APPROVED MANNER PER LOCAL AUTHORITY.
3. WHEN THE EXTENT OF REMOVALS IS UNCLEAR, REQUEST CLARIFICATION FROM THE ENGINEER PRIOR TO COMMENCING WORK.
4. WHEN MECHANICAL SYSTEMS ARE BEING REMODELED, COVER AND SEAL OPENINGS IN DUCTWORK, PIPING, OR MECHANICAL EQUIPMENT IN OPERATION THROUGH THE REMAINDER OR THE PROJECT.
5. REPAIR ALL DAMAGE TO WALLS, CEILING, ETC. IN A WORKLIKE MANNER. SEAL ALL WALL AND CEILING OPENINGS WITH MATCHING MATERIAL.
6. THE LOCATION OF EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON SITE OBSERVATIONS AND THE THE BEST AVAILABLE INFORMATION AT THE TIME OF DRAWING PREPARATION AND SOME DISCREPANCIES MAY EXIST. VERIFY EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED IN THE FIELD AND REQUEST CLARIFICATION FROM THE ENGINEER WHEN LOCATION OR EXISTENCE DIFFERS FROM PLANS.
7. COORDINATE WITH OWNER PRIOR TO REMOVING PIPING, DUCTWORK, EQUIPMENT, ETC... THAT MAY AFFECT OPERATIONS OUTSIDE OF TENANT SPACE.
8. REMOVE ALL REMAINING UNUSED DUCTWORK, PIPING, ETC., NOT BEING REUSED BY TENANT. VERIFY THAT DUCTWORK OR PIPING IS NOT BEING USED OUTSIDE OF TENANT SPACE PRIOR TO REMOVAL.
9. IN AREAS WHERE CEILINGS OR OTHER ARCHITECTURAL SYSTEMS ARE BEING REWORKED, TEMPORARILY REMOVE AND STORE AIR DEVICES OR OTHER EQUIPMENT AS NECESSARY.

KEYED NOTES

D1 REMOVE EXISTING DUCTLESS SPLIT SYSTEM INCLUDING ALL REFRIGERANT PIPING, CONDENSATE PIPING, WIRING, CONDENSING UNIT, THERMOSTAT, SUPPORTS, ETC. PATCH ALL WALL OPENINGS WHERE EQUIPMENT IS REMOVED.

LEGEND	
X	EXISTING TO REMAIN
XO	EXISTING TO BE REMOVED
XRR	EXISTING TO BE RELOCATED
XR	EXISTING RELOCATED
N	NEW
◑	POINT OF DISCONNECT
◔	POINT OF NEW CONNECTION

2 MECHANICAL - DEMO PLAN
1/4" = 1'-0"
0 1' 2' 4' 6' 10'
N



GENERAL NOTES

1. REFER TO GENERAL MECHANICAL NOTES AND SCHEDULES ON SHEET M0.
2. BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A COMPLETE BID WITHIN THE SCOPE OF THE PLANS AND SPECIFICATIONS. WHEN UNCLEAR, VERIFY THE EXTENT OF REMOVALS PRIOR TO BID. BRING TO THE ATTENTION OF THE ENGINEER ANY QUESTIONS IN REGARD TO THE EXTENT OF WORK OR ANY OTHER ISSUES RELATING TO THIS PROJECT.
3. FLEX DUCT SHALL NOT EXCEED 5'-0".
4. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIFFUSER AIRFLOWS AS SHOWN ON PLAN. PROVIDE A DETAILED TEST & BALANCE REPORT PRIOR TO CLOSEOUT.
5. DIFFUSER NECK SIZES SHALL BE THE SAME AS ROUND DUCT THAT CONNECTS TO IT. PROVIDE RECTANGULAR TO ROUND TRANSITIONS WHERE NEEDED.
6. CONTRACTOR SHALL VERIFY FOR EXACT LOCATION OF ALL STRUCTURAL MEMBERS AND COORDINATE NEW DUCT SIZES/ROUTING ACCORDINGLY. IDENTIFY ANY CONFLICTS PRIOR TO INSTALLATION.
7. COORDINATE HEIGHT OF DUCTWORK AND DIFFUSERS WITH ARCHITECTURAL PLANS AND ALL OTHER TRADES. ADJUST AS NECESSARY.
8. CONTRACTOR SHALL PROVIDE & INSTALL ALL CODE REQUIRED FIRE DAMPERS WHERE DUCTWORK PENETRATES FIRE RATED ASSEMBLIES.
9. EXPOSED DUCTWORK SHALL BE INTERNALLY LINED AND SEALED IN A NEAT MANNER. ALL EXPOSED DUCTWORK SHALL HAVE A NEAT FINISHED APPEARANCE.
10. ALL CONCEALED SUPPLY AND RETURN DUCTWORK SHALL BE WRAPPED WITH R-6 INSULATION
11. ALL TRANSFER DUCTS SHALL HAVE ½" DUCT LINER FOR SOUND ATTENUATION.
12. PROVIDE NEW ENERGY CODE COMPLIANT, 24/7 PROGRAMMABLE THERMOSTATS FOR ALL UNITS.
13. VENTILATION SYSTEMS SHALL BE BALANCED BY AN APPROVED METHOD. PROVIDE A TEST AND BALANCE REPORT TO THE MUNICIPALITY PRIOR TO THE FINAL INSPECTION FOR THEIR FILE. ALSO PROVIDE A COPY TO THE FIELD INSPECTOR AT TIME OF FINAL INSPECTION.
14. CONTRACTOR SHALL PROVIDE OPENINGS IN FULL HEIGHT WALLS IN ORDER TO MAINTAIN A CONTINUOUS RETURN AIR PLENUM BACK TO AIR HANDLER RETURN INLET. (V.I.F.)

KEYED NOTES

1 REBALANCE EXISTING VAV BOX AS NECESSARY.
2 NEW TEMPERATURE SENSOR TO MATCH TYPICAL BUILDING SENSOR. COORDINATE EXACT TYPE AND LOCATION WITH BUILDING ENGINEER, MOUNT AT 48" A.F.F.

LEGEND	
X	EXISTING TO REMAIN
XO	EXISTING TO BE REMOVED
XRR	EXISTING TO BE RELOCATED
XR	EXISTING RELOCATED
N	NEW
◑	POINT OF DISCONNECT
◔	POINT OF NEW CONNECTION

1 MECHANICAL - FLOOR PLAN
1/4" = 1'-0"
0 1' 2' 4' 6' 10'
N

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING
THREE SIXTY MEP, PLLC #184-0008463-0002

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LICENSED PROFESSIONAL ENGINEER
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E.H.S. OFFICE REMODELING
JOLIET JUNIOR COLLEGE – BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 05–11–2023
REVISED:

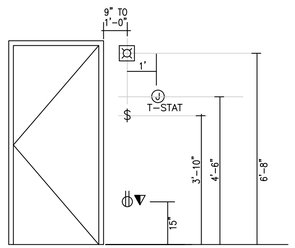
PROJECT NO. 2304–02

SHEET NUMBER
M1

GENERAL NOTES

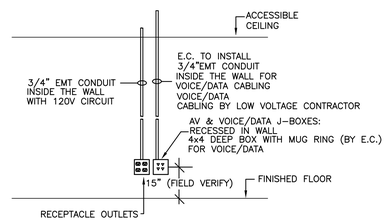
1. THIS INSTALLATION SHALL BE IN COMPLIANCE WITH THE JOLIET, IL CODES OF ORDINANCES, AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO: NEC2014, IECC2018, IBC2015, NFPA72.
2. BEFORE COMMENCING WORK THE CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY INFORM HIMSELF OR HERSELF OF ALL CONDITIONS THAT AFFECT THE WORK, EXAMINE THE DRAWINGS AND SPECIFICATIONS SHEET, AND SUBMIT ANY QUESTIONS IN WRITING TO THE ARCHITECT AND ENGINEER.
3. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION SHEET AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
4. THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT SPECIFICATIONS BEFORE COMMENCING ANY WORK. THE PROJECT SPECIFICATIONS AND DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, THE MOST STRICT METHOD GOVERN UNLESS THE ARCHITECT/ENGINEER DIRECTS OTHERWISE.
5. THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND SPECIFICATION SHEET THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION, CONTROL DEVICE, POWER WIRING DEVICE, ETC...IS OMITTED. HE/SHE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH EQUIPMENT AND LABOR.
6. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
7. INSTALL ELECTRICAL DEVICES AS INDICATED IN THIS SET OF DRAWINGS. ADJUST FINAL DEVICE LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. COORDINATE WITH ALL TRADES INVOLVED AND WITH ARCHITECTURAL CASEWORK AND ELEVATIONS DRAWINGS. NOTIFY THE ENGINEER AND/OR THE ARCHITECT IF ANY CONFLICTS ARE FOUND PRIOR TO BIDDING PROJECT. INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
8. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
9. CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY THE ARCHITECT.
10. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.
11. ADJACENT POWER AND DATA DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
12. ALL RECEPTACLES, VOICE AND DATA OUTLETS SHALL BE MOUNTED PER MOUNTING HEIGHT LEGEND, UNLESS OTHERWISE NOTED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. ALL DEVICES SHALL BE NEW. REFER TO ARCHITECTURAL CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR EXACT DEVICES MOUNTING HEIGHTS.
13. DETERMINE, IN ADVANCE OF PURCHASE, THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL FIT INTO THE ROOM OR SPACE ALLOCATED, AS INDICATED ON THE DRAWINGS, ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OF RELATED EQUIPMENT, INCLUDING THAT OF OTHER TRADES.
14. ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED. COLOR OF GROUNDING CONDUCTOR SHALL BE GREEN. SIZE OF GROUNDING CONDUCTOR SHALL BE AS REQUIRED PER NEC ARTICLE 250.122.
15. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED UNLESS OTHERWISE INDICATED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE.
16. ALL CONDUCTOR SHALL BE MADE OF COPPER. MINIMUM WIRE SIZE SHALL BE #12AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12AWG AND STRANDED CONDUCTOR FOR GAGES #10AWG AND LARGER.
17. SPECIAL RECEPTACLES PLUG CONFIGURATION REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT PLUG REQUIREMENTS PRIOR TO INSTALLATION.
18. ALL FEEDER AND BRANCH CIRCUIT WIRING INSTALLED INDOORS SHALL USE THHN INSULATION (90°C). ALL WIRING INSTALLED OUTDOORS SHALL USE THWN INSULATION (75°C). REFER TO SPECIFICATION SHEET FOR COLOR CODED REQUIREMENTS.
19. ALL POWER WIRING SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. MINIMUM RACEWAY SIZE SHALL BE 3/4"C UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUITS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY. WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN THE SAME CONDUIT AND AMBIENT TEMPERATURES ADJUSTMENT FACTORS PER ELECTRICAL CODE TABLES 310.15(B)(2)(A). 310.15(B)(3)(A) SHALL BE APPLIED.
20. ALL CIRCUITS SERVING EMERGENCY EXIT SINGS, NIGHT LIGHTS AND EXTERIOR LIGHTS SHALL UTILIZE #10 WIRE TO MINIMIZED VOLTAGE DROP UNLESS OTHERWISE INDICATED.
21. DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARDS, SHALL BE LABELED WITH PANEL NAME AND ALSO HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM FOR COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.
22. DISTRIBUTION PANELS, BRANCH PANELBOARDS, DISCONNECT SWITCHES, ETC. SHALL BE LABEL WITH A READILY VISIBLE LABEL PER NFPA 70E, STANDARD FOR SAFETY IN THE WORKPLACE, LABEL SHALL BE CLEARLY VISIBLE TO PERSONNEL AND SHALL READ "CAUTION ARC FLASH HAZARD" ALSO LABELS SHALL INDICATE VOLTAGE, PHASES, SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.
23. ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE DONE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. INSTALL GREEN GROUNDING CONDUCTOR.
24. ALL FINAL BREAKERS AND CONDUCTORS SIZES SERVING MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH MECHANICAL SHOP DRAWINGS AND CONTRACTOR PRIOR TO INSTALLATION. E.C. SHALL COORDINATE WITH HVAC CONTRACTORS EXACT POINT OF CONNECTION TO THE EQUIPMENT PRIOR TO ROUGH-IN.
25. ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.
26. INSTALL CONDUIT FROM THE TOP OF THE BAR JOIST.
27. LABEL ALL J-BOXES COVER PLATES, RECEPTACLES COVER PLATES WITH CIRCUIT INFORMATION AND PANEL SOURCE. UTILIZE P-TOUCH LABEL OR APPROVED EQUAL.
28. ALL MOUNTING HEIGHTS OF DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS OR ARCHITECT PRIOR TO ROUGH-IN.
29. DO NOT INSTALL DEVICES IN DIFFERENT ROOMS BACK TO BACK. PROVIDE 6" SIDE BY SIDE IN BETWEEN.
30. COORDINATE EXACT FURNITURE POWER AND VOICE/DATA FEEDING CONNECTIONS AT EACH LOCATION PRIOR TO ROUGH-IN.
31. GENERAL USE RECEPTACLES SHALL BE WHITE IN COLOR WITH STEEL COVER PLATES. FINAL COLOR OF RECEPTACLES & COVER PLATES SHALL BE AS SELECTED BY THE ARCHITECT OR OWNER.
32. E.C. SHALL INSTALL J-BOX AND CONDUIT FOR MECHANICAL THERMOSTATS. COORDINATE EXACT LOCATIONS WITH M.C. E.C. SHALL FURNISH AND INSTALL WIRING AND TERMINATE ALL LINE VOLTAGE THERMOSTATS.
33. FIRE PROOF ALL PENETRATIONS THRU WALLS AND FLOORS TO RE-STABLISH THE FIRE RATING OF PARTITION.
34. PROVIDE MULTI-GANG J-BOX FOR INSTALLATION OF WIRING DEVICES LOCATED AT THE SAME LOCATION UNLESS OTHERWISE INDICATED ON THE FLOOR PLANS. PROVIDE METALLIC DIVIDER PLATES BETWEEN DIFFERENT CIRCUITS IN THE SAME BOX.
35. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER ELECTRICAL CODE ARTICLE 314, TABLES 314.16 BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX.
36. VOICE/DATA/AUDIO VISUAL (AV) SYSTEMS CABLING AND EQUIPMENT SHALL BE PROVIDED BY LOW VOLTAGE CONTRACTOR. EC SHALL PROVIDE REQUIRED JUNCTION BOXES, CONDUIT, AND PULL STRING FOR ALL LOCATIONS.
37. FOR THE AREA OF WORK WITH DAMAGED, DETERIORATED, COMPROMISED OR MISSING FIREPROOFING CREATED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED TO FULL PROTECTIVE CAPACITY.
38. ALL NEW AND EXISTING HVAC ROOFTOP UNITS: A.) OVERCURRENT PROTECTION DEVICE TYPE AND SIZE SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S NAMEPLATE DATA. B.) MINIMUM CIRCUIT AMPACITY SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S NAMEPLATE DATA.
39. PROVIDE ARC-FLASH HAZARD WARNING MARKING ON ALL PANELS IN ACCORDANCE WITH NEC 110.16.
40. WHEREVER CIRCUIT AND FEEDERS CONDUCTORS ARE SPLICED IN A JUNCTION BOX, ANY ASSOCIATED EQUIPMENT GROUNDING CONDUCTORS (EGC) SHALL BE BONDED ("PIGTAILED") TO THE BOX.
41. PROPER CLEARANCES FOR THE ELECTRICAL PANEL SHALL BE MAINTAINED PER NEC 110.26

MOUNTING HEIGHTS



NOTES:
1. ALL HEIGHTS FOR OUTLETS ARE AS INDICATED. COORDINATE WITH INTERIOR ARCHITECTURAL DRAWINGS. WHERE DIFFERENCES EXIST, USE ARCHITECTURAL MOUNTING HEIGHTS.

ELECTRIC AND VOICE/DATA OUTLETS



NOTE:
1-ADJACENT POWER AND DATA/PHONE DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED.

2-ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS

ELECTRICAL SYMBOL LIST

- DUPLEX RECEPTACLE, # INDICATES CIRCUIT
- SIMPLEX RECEPTACLE
- C — SIMPLEX RECEPTACLE CLOCK STYLE
- GFI — DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- U — DUPLEX RECEPTACLE, W/2 USB PORTS
- # — QUAD RECEPTACLE (# INDICATES CIRCUIT)
- AC — QUAD RECEPTACLE MOUNTED ABOVE THE COUNTER. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT
- AS — DUPLEX RECEPTACLE MOUNTED AT SWITCH HEIGHT
- SPECIAL RECEPTACLE COORDINATE EXACT REQUIREMENTS WITH EQUIP. SERVING
- FLUSH MOUNTED FLOOR BOX WITH DUPLEX RECEPTACLE
- FB — FLOOR BOX (REFER TO FLOOR PLAN FOR REQUIREMENTS: PWR, VOICE/DATA & AV
- PT — POKE THRU SEE DRAWING FOR REQUIREMENTS
- PB — PULL BOX
- $ — TOGGLE SWITCH SPECIFICATION GRADE
- $D — TOGGLE SWITCH WITH DIMMER
- $3 — 3-WAY TOGGLE SWITCH
- $K — KEYED SWITCH
- $P — RED PILOT LIGHT SWITCH (ON IN THE ON POSITION)
- $OS — WALL SWITCH OCCUPANCY SENSOR
- OS — CEILING MOUNTED OCCUPANCY SENSOR.
- DL — DAY LAY SENSOR
- PC — PHOTOCELL FOR OVERRIDE TIME CLOCK FUNCTION
- HEAVY DUTY FUSIBLE DISCONNECT SWITCH
- HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH
- SPJ — JUNCTION BOX
- SINGLE POLE DISCONNECT SWITCH TOGGLE STYLE
- T — CONTROL TRANSFORMER WITH DISCONNECT SWITCH
- MOTOR WITH MOTOR RATED DISCONNECT SWITCH.
- HOT, NEUTRAL, GROUND CONDUCTOR IN RACEWAY
- RACEWAY STUB UP TO ABOVE ACCESSIBLE CEILING WITH END BUSHING
- CONDUIT CONCEALED IN WALL/ABOVE THE CEILING
- CONDUIT IN CONCRETE SLAB/UNDERGROUND
- EXPOSED CONDUIT
- FLEXIBLE METAL CONDUIT
- SLEEVE WITH END BUSHINGS ACC SIZE AS INDICATED IN DRAWINGS
- C2 — VOICE/DATA OUTLET (2-PORT) (C3;3-PORTS; C4;4PORTS, ETC) (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP
- VOICE OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP
- VOICE/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP
- AV TV — AUDIO/VISUAL/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 1 1/4"C. STUB UP TO ACC WITH END BUSHING)
- WAP — WIRELESS ACCESS POINT
- SEC. CAMERA BY SEC. CONTRACTOR (E.C TO ROUGH-IN 3/4"C UP TO ABOVE ACC. COORD. WITH SECURITY CONTRACTOR PRIOR TO ROUGH-IN
- CR — ROUGH IN FOR CARD READER
- DC — PREPARE DOOR FOR SECURITY DOOR CONTACT
- REX — ROUGH IN FOR REQUEST TO EXIT DEVICE
- MS — WALL/CORNER/CEILING MOUNTED MOTION SENSOR
- OS — CEILING MOUNTED OCCUPANCY SENSOR
- ES — PREPARE DOOR FOR ELECTRIC HARDWARE
- ML — PREPARE DOOR FOR MAG-LOCK
- KP — ROUGH-IN FOR SECURITY KEY PAD
- FACP — FIRE ALARM CONTROL PANEL
- FAAP — FIRE ALARM REMOTE ANNUNCIATOR PANEL
- BPS — FIRE ALARM REMOTE BOOSTER POWER SUPPLY
- S — FIRE ALARM DOUBLE ACTION PULL STATION
- V — WALL MOUNTED FIRE ALARM STROBE (DEVICE W/ AN "C" IS CEILING MTD)
- AV — WALL MOUNTED FIRE ALARM HORN/STROBE (W/ AN "C" IS CEILING MTD)
- SD — FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
- HD — FIRE ALARM HEAT DETECTOR (SEE DRAWINGS FOR TYPE) 135FIX, 200FIX, RATE OF RISE (ROR)
- CO — FIRE ALARM CO DETECTOR
- DD — FIRE ALARM DUCT SMOKE DETECTOR
- RTS — FIRE ALARM DUCT DETECTOR REMOTE KEYED TEST SWITCH
- MM — FIRE ALARM MONITOR MODULE
- R — FIRE ALARM CONTROL RELAY
- FS — FIRE PROTECTION WATER FLOW SWITCH (INTERFACE WITH FACP VIA MM)
- TS — FIRE PROTECTION TAMPER SWITCH (INTERFACE WITH FACP VIA MM)
- K — KNOX BOX
- SC — CEILING MOUNTED SPEAKER
- ADA MOTORIZE DOOR OPENER PUSH BUTTON
- UNIVERSAL MOUNTED (CEILING/WALL) EXIT SIGN WITH CHEVRONS (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 4 SURFACE MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 4 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 2 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- NIGHT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- EMERGENCY LIGHT (SEE LIGHT FIXTURE SCHEDULE)
- SINGLE HEAD POLE LIGHT SYSTEM (SEE LIGHT FIXTURE SCHEDULE)
- AN — ANTENA
- PANELBOARD
- NEMA 3R DISCONNECT SWITCH WITH TWIST LOCK RECEPTACLE

ABBREVIATIONS

WP	WEATHER PROOF
WG	WIRE GUARD
AC	ABOVE THE COUNTER
C	CEILING MOUNTED DEVICE
NL	NIGHT LIGHT
CLG	CEILING
(R)	RETURN DUCTWORK
(S)	SUPPLY DUCTWORK
OHD	OVERHEAD DOOR
ACC	ABOVE ACCESSIBLE CEILING
VEL	VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
+42	DEVICE MOUNTED AT 42 INCHES AFF
AFF	ABOVE FINISH FLOOR
TR	TAMPER RESISTANT
TG	TAMPER GUARD
EWC	ELECTRICAL WATER COOLER
WP/ IN USE	METAL WHILE-IN-USE COVER WEATHER PROOF SIMILAR TO EATON WIUMH-1 SERIES
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
S.C.	SECURITY CONTRACTOR
WP	WEATHER PROOF
ATS	AUTOMATIC TRANFER SWITCH
AHJ	AUTHORITY HAVING JURISDICTION
HD	ELEC HAND DRYER - VERIFY EXACT MOUNTING HEIGHT
IWH	INSTANTANEOUS ELECTRICAL WATER HEATER
XO	EXISTING DEVICE TO BE DEMOLISHED
X	EXISTING DEVICE TO REMAIN
XRR	EXISTING DEVICE TO BE REMOVED AND RELOCATED
XR	EXISTING DEVICE RELOCATED
N	NEW DEVICE
LTS	LIGHTS

ELECTRICAL DRAWING LIST

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LICENSED PROFESSIONAL ENGINEER
MICHAEL S. WRIGHT
062-069190
STATE OF ILLINOIS
DATE:05.11.23 EXP.11.30.23

E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 05-11-2023
REVISED:

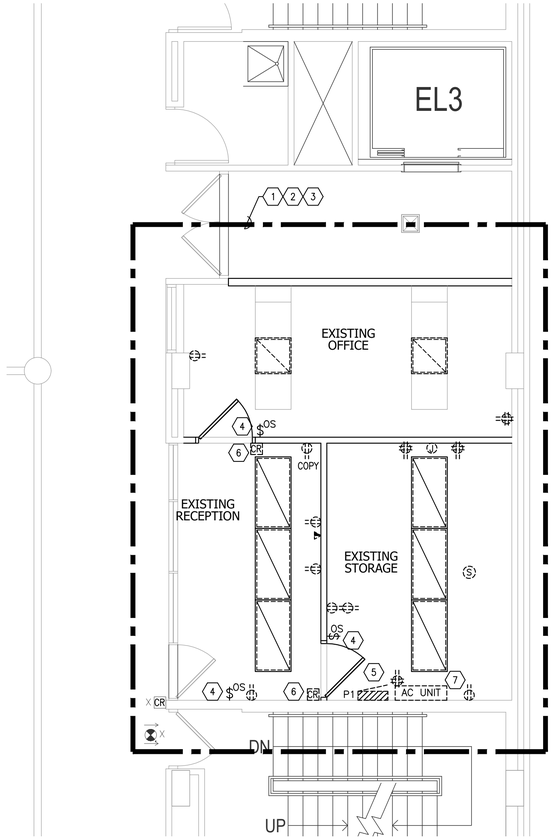
PROJECT NO. 2304-02

SHEET NUMBER
E0

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING
THREE SIXTY MEP, PLLC #184-0008463-0002

GENERAL DEMOLITION NOTES

1. EACH CONTRACTOR SHALL REVIEW THE EXISTING SYSTEMS IN THE FIELD ALONG WITH BID DOCUMENTS AND DETERMINE SELECTIVE DEMO AND ADDITION OF TEMPORARY SYSTEMS (IF REQUIRED) TO MAKE PHASED DEMO AND PROPOSED REMODELING. IT SHALL ASSURE UNINTERRUPTED SAFE OPERATION OF AREAS THAT ARE AFFECTED BY DEMO AND ADDITION OF PROPOSED SYSTEMS AT ALL TIMES. INCLUDE THE NECESSARY WORK TO ACCOMPLISH THIS AND COORDINATE PHASING ACCORDINGLY.
2. CONFIRM WITH THE MANUFACTURERS OF EXISTING EQUIPMENT THAT IS TO BE REUSED OR EXTENDED.
3. WHERE EXISTING ELECTRICAL WORK PREVENTS PROPER CONSTRUCTION OF NEW WORK AS INDICATED, REMOVE, REROUTE, RELOCATE, OR IN OTHER WAYS ALTER EXISTING WORK IN ORDER TO ACCOMMODATE.
4. WHERE EXISTING CONDUIT, WIRE, SUPPORTS, HANGERS AND OTHER ELECTRICAL WORK MUST BE REMOVED AS A RESULT OF THE ALTERATIONS, THEY SHALL BE COMPLETELY REMOVED, BACK TO THE FIRST OUTLET WHICH IS LEFT UNAFFECTED BY THE DEMOLITION. CONDUIT WHICH IS BURIED IN CONCRETE OR OTHERWISE INACCESSIBLY POSITIONED MAY BE ABANDONED. IN SUCH CASES, WIRE SHALL BE PULLED OUT AND THE CONDUIT SHALL BE PLUGGED AT EACH END.
5. EXISTING ELECTRICAL MATERIALS AND EQUIPMENT, INCLUDING LIGHTING FIXTURES, SWITCHES, RECEPTACLES, SIGNAL LIGHTS, SPEAKERS, INTERCOM EQUIPMENT, CONTROLS, CONDUIT OUTLETS, FITTINGS, AND OTHER DEVICES REMOVED AS A RESULT OF THE ALTERATIONS SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE REUSED WHERE INDICATED UNLESS OTHERWISE INDICATED.
6. EXAMINE THE CONDITION OF ANY SUCH MATERIALS AND EQUIPMENT TO MAKE A PRIOR DETERMINATION OF WHETHER IT IS SUITABLE FOR REUSE. PRESENT FINDINGS TO THE ENGINEER WHO WILL IN TURN MAKE THE FINAL DECISION REGARDING REUSABILITY. ALL WIRE AND CABLE FOR REUSED AND RELOCATED EQUIPMENT SHALL BE NEW.
7. IN ORDER TO COORDINATE THE WORK OF THE MECHANICAL AND ELECTRICAL TRADES, REMOVE EXISTING ELECTRICAL WORK IN AND ABOVE CEILING OF THESE AREAS (AS REQUIRED), AFTER WHICH INSTALL NEW WORK AND REINSTALL EXISTING WORK TO REMAIN, AS SHOWN ON THE DRAWINGS. EXISTING MATERIALS AND EQUIPMENT SHALL BE REUSED ONLY WHERE INDICATED.
8. SOME EXCEPTIONS MAY ARISE WHEREIN EQUIPMENT, EITHER IN ALTERED AREAS OR OTHER AREAS, MUST BE KEPT IN SERVICE, REQUIRING THAT FEEDERS, SIGNAL CONDUCTORS, CONDUITS, BOXES, ETC. SERVING SAME ALSO BE KEPT IN SERVICE. IN SUCH CASES, THOSE ELECTRICAL FEEDERS, SIGNAL CONDUCTORS, CONDUITS, ETC. SHALL BE REROUTED AND RECONNECTED BEFORE PRESENT WORK IS REMOVED. IF THIS IS NOT POSSIBLE, TEMPORARY WIRING SHALL BE PROVIDED, AFTER WHICH NEW WORK SHALL BE INSTALLED AND TEMPORARY WIRING REMOVED.
9. ANY ELECTRICAL EQUIPMENT THAT IS TAGGED TO BE DISPOSED OF SHALL BE DONE PER APPROVED METHOD IN ACCORDANCE WITH THE CONSTRUCTION PLAN AND LOCAL AUTHORITIES.
10. THIS DRAWING INDICATES AREAS THAT ARE BEING AFFECTED BY THE DEMOLITION. DASHED LINES SHOW EXISTING MATERIALS AND EQUIPMENT TO BE REMOVED. SOLID LINES SHOW EXISTING MATERIALS AND EQUIPMENT TO REMAIN (X). ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT AFFECTED BY THE DEMOLITION AND WILL KEEP REMAINING EQUIPMENT CONNECTED, POWERED TO THE EXISTING CIRCUITS AS REQUIRED.
11. THIS DRAWING SHOWS A REPRESENTATIVE SAMPLE OF DEMOLITION WORK THAT IS TO TAKE PLACE. NOTE THAT NOT EVERY DEVICE, LIGHTING FIXTURE, CONDUIT ETC. REQUIRED TO BE DEMOLISHED IS NECESSARILY INDICATED ON THIS PLAN. THE CONTRACTOR SHALL VISIT THE JOB SITE TO FAMILIARIZE HIMSELF/HERSELF WITH THE EXTENT OF EXISTING WORK TO BE DEMOLISHED.
12. ALL PROPOSED DEMOLITION WORK SHALL BE THOROUGHLY COORDINATED WITH ALL OTHER TRADES.
13. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS, FEEDERS AND BRANCH CIRCUITS PASSING THROUGH RENOVATED AREA AND SERVING UNDISTURBED AREAS.
14. ANY PORTION OF THE EXISTING CONDUIT SYSTEM THAT IS TO BE REUSED FOR THE NEW INSTALLATION SHALL BE CHECKED TO ENSURE THAT IT IS CLEAN, FREE OF DAMAGE, FREE OF CORROSION, AND ADEQUATELY SUPPORTED. REMOVED RACEWAY SHALL NOT BE RE-USE.
15. DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT, DEVICES AND CONDUITS IN WALLS, FLOORS AND CEILING SCHEDULED FOR DEMOLITION.
16. EXISTING ELECTRICAL SYSTEM IS DESCRIBED BASED ON SURVEYS OF EXISTING CONDITIONS THAT WERE VISIBLE DURING THE SURVEY. CONTRACTOR SHALL CONFIRM ALL SERVICES PRIOR TO PROCEEDING WITH DEMOLITION.
17. PATCH ALL HOLES IN SLABS, WALLS AND CEILING WHERE ELECTRICAL DEVICES AND/OR CONDUIT ARE REMOVED. IF THE REMOVAL OF CONDUIT, BOXES, EQUIPMENT, ETC. COMPROMISES THE FIRE RATING OF THESE ITEMS, THE CONTRACTOR SHALL SEAL OPENINGS WITH CODE APPROVED FIRE STOPPING MATERIAL TO RE-ESTABLISH THE ORIGINAL RATE OF PARTITION.
18. WHERE FEEDERS OR BRANCH CIRCUITS ARE DISCONNECTED AND REMOVED FROM EXISTING PANEL BOARDS, CONTRACTOR SHALL MARK THE AFFECTED BREAKERS IN THOSE PANEL BOARDS AS "SPARE". INSTALL NEW KNOCK-OUT BLANK INSERT IN PANEL BOX.
19. CONTRACTOR IS TO PERFORM DEMOLITION WORK IN A NEAT, SKILLFUL, AND CAREFUL MANNER SO AS NOT TO DAMAGE OR DEFACE EXISTING CONSTRUCTION THAT IS TO REMAIN.
20. VERIFY THAT REMOVAL OF DEVICES IN RENOVATED AREA DOES NOT AFFECT DEVICES IN OTHER AREAS THAT MAY BE FED FROM THE CIRCUIT BEING DISCONNECTED. BYPASS RACEWAY AND WIRING AS REQUIRED TO KEEP REMAINING DEVICES OPERATIONAL.
21. ALL ABANDONED AND/OR UNUSED COMPONENTS CREATED OR EXPOSED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO CABLES, WIRING, RACEWAY, J-BOXES AND ASSOCIATED SUPPORTS AND OR ATTACHMENTS SHALL BE REMOVED.
22. RETAIN EXISTING CONDUIT, JUNCTION BOXES, AND CIRCUITING AS APPLICABLE WHEN IT MAKE SENSE, AND WHEN IN GOOD CONDITIONS.
23. REMOVE ALL LOW VOLTAGE CABLING INDICATED UNDER DEMOLITION BACK TO THE SOURCE. ALL CABLING, HANGERS, TIES AND CONDUIT ARE TO BE REMOVED ENTIRELY. PROVIDE NEW CABLING, JACKS & COVER PLATES FOR ALL VOICE/DATA OUTLETS. CONFIRM CABLING REQUIREMENTS WITH OWNER.



1 FLOOR PLAN - ELECTRICAL DEMOLITION
1/4" = 1'-0"

N

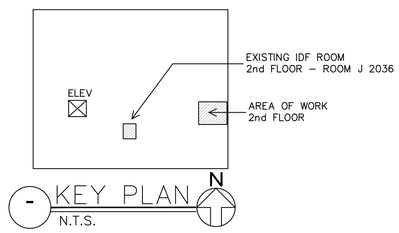
0 1' 2' 4' 6' 10'

ELECTRICAL PLAN NOTES

1. ELECTRICAL DEVICES INDICATED UNDER DEMOLITION (NOT TAGGED WITH "X") OR IN THE WAY OF NEW CONSTRUCTION SHALL BE DISCONNECTED AND REMOVED. REMOVED RACEWAY AND WIRING BACK TO SOURCE OR BACK TO UNAFFECTED AREA/DEVICES NOT INDICATED UNDER DEMOLITION FOR RECONNECTION TO NEW DEVICES. BYPASS RACEWAY AND WIRING AS REQUIRED TO KEEP REMAINING DEVICES OPERATIONAL. UPDATE PANEL CARD DIRECTORY TO REFLECT NEW CHANGES. DISPOSE OF LAMPS PER E.P.A. REQUIREMENTS. DEVICES LABELED "XRR" ARE EXISTING DEVICES TO BE REMOVED AND RELOCATED. RETAIN THOSE DEVICES FOR REINSTALLATIONS AT NEW LOCATIONS. ALL EMPTY CIRCUITS SHALL BE REMOVE BACK TO PANEL, TURN OFF BREAKER AND LABELED "SPARE".
2. VOICE AND DATA OUTLETS SHALL BE DISCONNECTED AND REMOVED BACK TO SOURCE. REMOVE ALL RACEWAY AND WIRING. CONTRACTOR CAN REUSE EXISTING J-BOX AND CONDUIT STUBS LOCATIONS IF THEY MATCH WITH THE NEW VOICE/DATA/HDMI LOCATIONS. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
3. LIGHT FIXTURES TO BE DISCONNECTED AND REMOVED. DISPOSED OF UNITS AS INDICATED BY THE OWNER. REMOVE RACEWAY AND WIRING BACK TO UNAFFECTED AREA FOR RECONNECTION TO NEW LIGHT FIXTURES. BYPASS RACEWAY AND WIRING AS REQUIRED TO KEEP REMAINING DEVICES OPERATIONAL.
4. REMOVE EXISTING CONTROL SWITCH AND ASSOCIATED POWER PACK. DISPOSED OF AS INDICATED BY THE OWNER. REMOVE RACEWAY AND WIRING BACK TO EQUIPMENT CONTROLLING. REFER TO PROPOSED LIGHTING PLAN FOR ADDITIONAL INFORMATION.
5. DISCONNECT, REMOVE EXISTING 6 CIRCUIT, 60AMP MAIN BREAKER BRANCH PANEL. REMOVE RACEWAY AND WIRING BACK TO SOURCE/LOADS. TURN OFF BREAKER AND LABEL "SPARE"
6. REMOVE EXISTING ACCESS CARD READER AND TURN BACK TO THE OWNER OR DISPOSED OF AS INDICATED BY THE OWNER. REMOVE RACEWAY AND WIRING BACK TO SOURCE. REFER TO PROPOSED PLAN FOR ADDITIONAL INFORMATION.
7. DISCONNECT EXISTING A/C MINI SPLIT UNIT INCLUDING BUT NOT LIMITED TO EVAPORATOR, CONDENSATE UNIT, CONDENSATE PUMP, ETC. EXISTING GFI SERVICE RECEPTACLE ON ROOF NEXT TO CONDENSING UNIT TO REMAIN ACTIVE.

ABBREVIATIONS

XO	EXISTING DEVICE TO BE DEMOLISHED
X	EXISTING DEVICE TO REMAIN
XRR	EXISTING DEVICE TO BE REMOVED AND RELOCATED
XR	EXISTING DEVICE RELOCATED
N	NEW DEVICE



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REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. WRIGHT
062-069190
STATE OF ILLINOIS
DATE:05.11.23 EXP.11.30.23

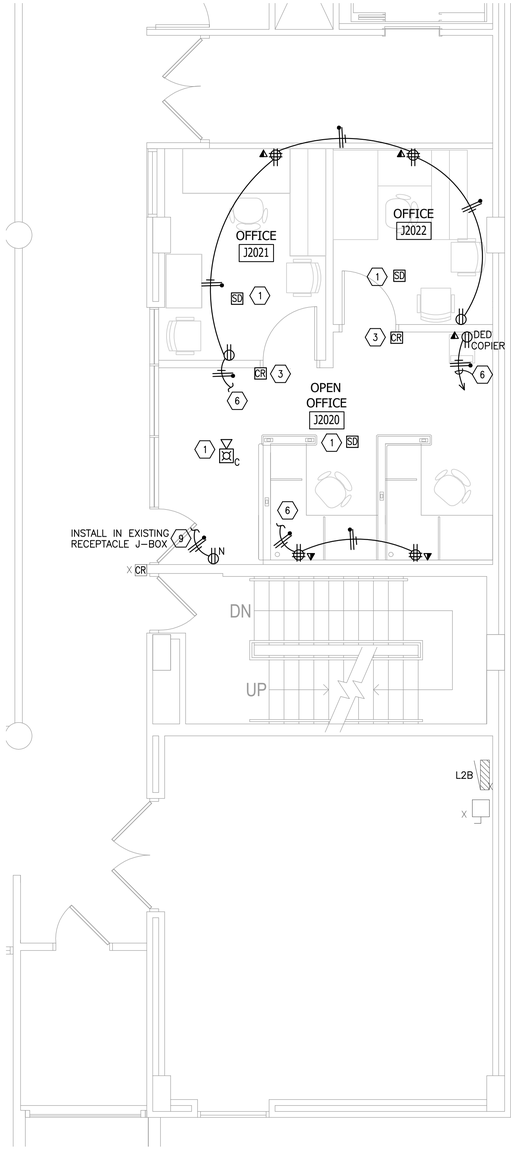
E.H.S. OFFICE REMODELING
JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 05-11-2023
REVISED:

PROJECT NO. 2304-02

SHEET NUMBER
ED1

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING
THREE SIXTY MEP, PLLC #184-0008463-0002

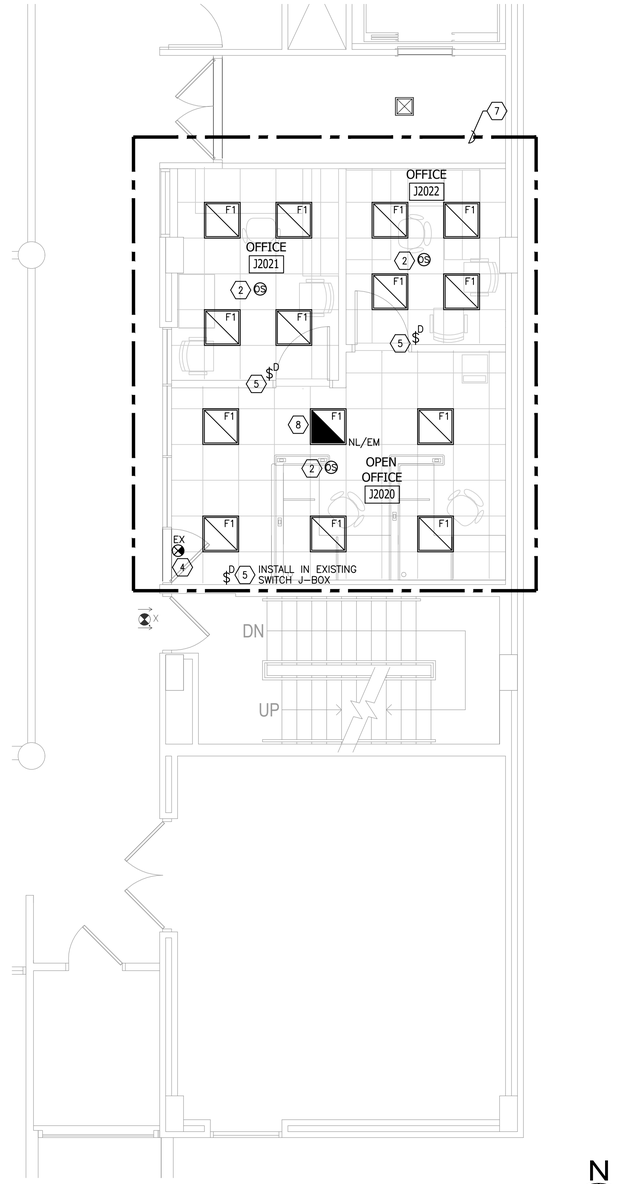


2 FLOOR PLAN - ELECTRICAL PROPOSED

1/4" = 1'-0"

0 1' 2' 4' 6' 10'

N



1 FLOOR PLAN - LIGHTING PROPOSED

1/4" = 1'-0"

0 1' 2' 4' 6' 10'

N

ELECTRICAL PLAN NOTES

1. FURNISH & INSTALL NEW FIRE ALARM DEVICE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM SERVING THE BUILDING. CONNECT NEW FIRE ALARM DEVICE TO SYSTEM.
2. LITHONIA OR LEVITON LED OCCUPANCY SENSOR, DUAL TECH: MIC+IR, 277V, WHITE LEV. PART #OSC10-MOW AND CONNECT TO LIGHT FIXTURES IN ROOM. PROVIDE POWER PACK
3. E.C. TO INSTALL CARD READER JUNCTION BOX AND CONDUIT STUBBED UP INTO ACCESSIBLE CEILING, THEN CONTRACTOR TO INSTALL OWNER PROVIDED CABLING FROM ACCESS BOX AND STUBBED INTO DOOR FRAME DOWN TO DOOR STRIKE LOCATION AND ALSO STUBBED INTO CARD READER BOX. FINAL DEVICE CONNECTIONS TO BE MADE BY OWNERS STAFF.
4. FURNISH AND INSTALL NEW BUILDING STANDARD EXIT SIGN & CONNECT TO EXISTING EMERGENCY GENERATOR CIRCUIT SERVING EXIT SIGNS IN AREA WITH SUFFICIENT SPARE CAPACITY TO CONNECT LOAD. MATCH EXISTING WIRING & RACEWAY SIZE AND TYPE CURRENTLY BEING USED.
5. FURNISH AND INSTALL NEW BUILDING STANDARD LITHONIA OR LEVITON LED DIMMER SWITCH, 277V, WHITE, LEV. PART #IP710-LF
6. CONNECT NEW RECEPTACLE(S) TO EXISTING RECEPTACLE CIRCUITS PREVIOUSLY ON/SERVING AREA WITH SUFFICIENT SPARE CAPACITY TO CONNECT THE NEW LOAD. PROVIDE NEW CONCEALED IN WALL RACEWAY AND WIRING. MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED.
7. FURNISH AND INSTALL NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT PREVIOUSLY ON / SERVING AREA WITH SUFFICIENT SPARE CAPACITY AND TO OPERATE AS INDICATED.
8. CONNECT NEW NIGHT LIGHTS/EMERGENCY FIXTURES TO EXISTING EMERGENCY CIRCUIT SERVING ROOM/AREA. WITH SUFFICIENT SPARE CAPACITY TO CONNECT THE NEW LOAD. MATCH EXISTING RACEWAY AND WIRING CURRENTLY BEING USED.
9. FURNISH AND INSTALL NEW RECEPTACLE IN PLACE OF EXISTING. CONNECT TO EXISTING WIRING PREVIOUSLY ON.

ABBREVIATIONS

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X	EXISTING DEVICE TO REMAIN
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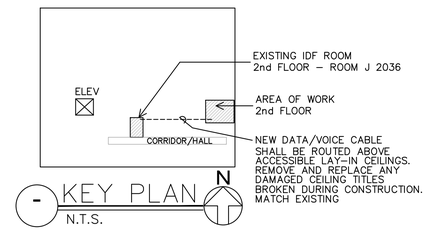

- KEY PLAN

N.T.S.

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E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE - BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE:
05-11-2023
REVISED:

PROJECT NO.
2304-02

SHEET NUMBER
E1

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING

THREE SIXTY MEP, PLLC #184-0008463-0002

EXISTING STGE. PANELBOARD (SURFACE MOUNTED)

PANEL: **P1** FRAME SIZE: **125A** VOLTAGE: **120 / 208**

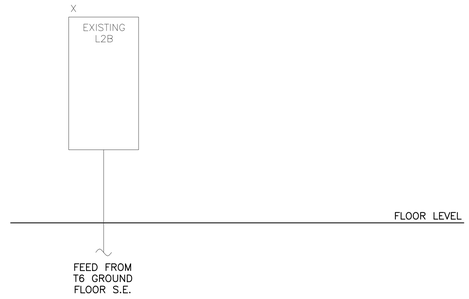
LOCATION: EXISTING RELOCATED TO MECH ROOM MAIN 60A PHASE: 1φ

FEEDER: EXISTING RELOCATED AIC: 10kAIC FULL WIRE: 3W

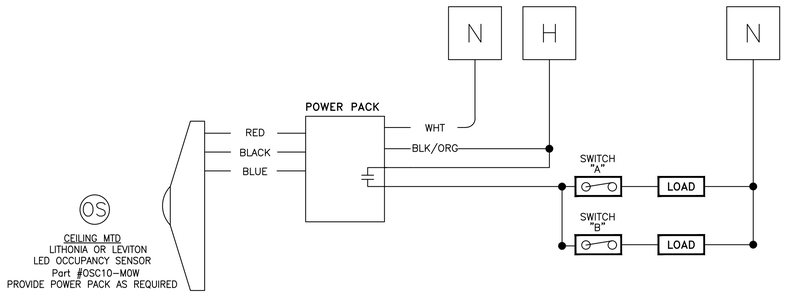
CKT NO.	BR	P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	CIRCUIT DESCRIPTION	FAULT C.B.	BR	P	CKT NO.
1	20	1	-	UNKNOWN			MAIN	-	60	2	5
2											6
3	20	1	-	UNKNOWN			UNKNOWN	-	40	2	7
4											8
TOTAL CONNECTED AND DEMAND LOADS (VA)					####	####					
TOTAL LOADS (VA)					#####	#####					
TOTAL AMPERAGE					######		-L.O. LOCK OUT				

EXISTING PANEL NOTES: E.C. MUST PERFORM THIS WORK

1. ELECTRICAL CONTRACTOR SHALL TRACE AND FIELD VERIFY EXACT CIRCUIT NUMBER INFORMATION PRIOR TO CONNECT CIRCUITS TO THE PANEL. CIRCUIT NUMBER INFORMATION AND DESCRIPTIONS HAVE BEEN GIVEN ONLY FOR INFORMATION PURPOSES BASED ON EXISTING PANEL CARD DIRECTORY AND SURVEY. E.C. MUST MODIFY CIRCUIT PANEL CONNECTIONS AND LABELING INFORMATION TO MATCH THE NEW ROOM NAMES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW UPDATED PANEL CARD DIRECTORIES AFTER ALL CONNECTIONS HAVE BEEN COMPLETED. EXISTING PANEL'S MARKER WRITING SHALL BE CLEANED SO THAT NOT MARKER WRITING IS VISIBLE. ALL NOT VALID INFORMATION SHALL BE DELETED.
3. UTILIZE EXISTING EMPTY CIRCUITS/MODIFY CIRCUIT INFORMATION GIVEN AS REQUIRED FOR CONNECTION OF LOADS.
4. PROVIDE UPDATED RECORD DOCUMENTS AFTER CONSTRUCTION IS DONE FOR FUTURE USE. FURNISH AND INSTALL NEW CARD DIRECTORIES WITH UPDATED INFORMATION.
5. FURNISH AND INSTALL NEW BREAKERS AS REQUIRED.
6. ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS.



PARTIAL EXISTING - ELECTRICAL RISER DIAGRAM



LINE VOLTAGE CEILING MOUNTED OCCUPANCY SENSORS

1 SCALE: NTS

LIGHTING FIXTURE SCHEDULE (PROVIDE SPECIFIED OR APPROVED EQUAL- MATCH EXISTING)

THIS DWG FIXTURE TAG	SYMBOL	MANUFACTURER	MODEL NUMBER	LAMPS	VOLTAGE	WATTAGE	MOUNTING	NOTES
F1	▨	COOPER HUBBELL LITHONIA	EPANL 2X2 3400LM 80CRI 40K MVOLT	LED 3400LM 4000K-80CRI	120V-277V	27W	RECESSED	FLAT PANEL EPANL LED 2X2.
EX	⊗ MATCH BUILDING STANDARD	CHLORIDE BY SIGNIFY	EXIT SIGN - EDGE GLOW SERIES RGLO-LED_ R SS	LED	120V-277V	5W	WALL/CEILING	LED EXIT SIGN - APPROVED BUILDING STANDARD BATTERY SHALL PROVIDE 90MIN OF ILLUMINATION.

LIGHTING FIXTURE SCHEDULE NOTES:

1. PROVIDE ALL NECESSARY ACCESSORIES FOR COMPLETE INSTALLATION AND OPERATION SYSTEM.
2. VERIFY ALL FINAL COLOR TEMPERATURE OF ALL LIGHT WITH ARCHITECT AND OWNER PRIOR TO ORDERING.
3. VERIFY EXACT FINISH AND COLOR WITH INTERIOR DESIGNER PRIOR TO ORDERING.

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threesixty:MEP
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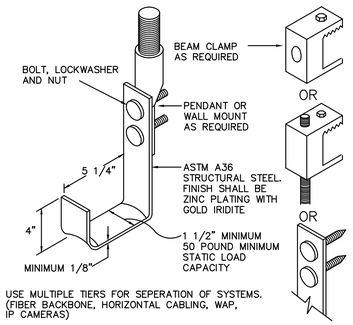


USE MULTIPLE TIERS FOR SEPERATION OF SYSTEMS. (FIBER BACKBONE, HORIZONTAL CABLING, WAP, IP CAMERAS)

J–HOOK DETAIL (BY CADDY)

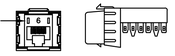
NO SCALE

FOR INSTALLATION ABOVE LAY–IN CEILINGS.

WIRING FORMAT

COLOR	CATALOG # T568B WIRING
DATA – BLUE	HXJ6B
VOICE – WHITE	HXJ6W

SEE CHART FOR OPTIONAL SNAP IN COLORED ICONS

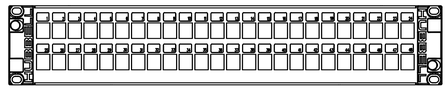


NOTES:
1. HXJ6 JACKS ARE UL (#E129878 AND CSA (#LR80837) LISTED.
2. JACK CONTACTS ARE BERYLLIUM COPPER AND GOLD PLATED.
3. MODULAR JACKS MEET OR EXCEDE F.C.C. PART 68.5.
4. JACK HOUSINGS ARE MADE OF HIGH IMPACT, 94 V–O RATED THERMOPLASTIC.
5. 110 CONTACTS ARE TIN LEAD PLATED IDC.
6. COMPATIBLE WIRE SIZES, 22–26 AWG AND A MAX INSULATION SIZE OF .050 INCH. SEE ABOVE FOR WIRING FORMATS.
7. FOR MORE INFORMATION CONTACT YOUR CUSTOMER SERVICE REPRESENTATIVE.

8 POSITION CATEGORY 6 PANDUIT SERIES MODULAR JACKS

NO SCALE

(USE FOR DATA/VOICE JACKS)



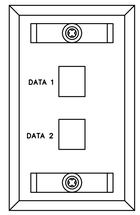
UTILIZE A MAXIMUM OF 40 PORTS PER PATCH PANEL. 8 PORTS SHALL REMAIN AS SPARE

NOTES:
1. PANEL ASSEMBLIES ARE INDIVIDUALLY BOXED WITH MOUNTING SCREWS, CABLE TIES, MANAGEMENT BARS, AND INSTRUCTION SHEETS. STUFFER CAPS CAN BE ORDERED SEPARATELY.
2. PANELS ARE BLACK ANODIZED ALUMINUM, FITS INDUSTRY STANDARD 19" RACKS. EXTENSIONS TO FIT LARGER RACK SIZES ARE AVAILABLE.
3. ADAPTERS EXCEED TIA/EIA–568–B CAT. 6 MINIMUM PERFORMANCE LEVELS AND ARE U.L. CERTIFIED.
4. TERMINATION TOOL NUMBER IS IPT110B. ANY OTHER INDUSTRY ACCEPTED 110 TERMINATION TOOL MAY BE USED.
5. U.L. #E129878 AND CSA #LR80837.

CATALOG # T568B WIRING
UDX48E – DATA/VOICE

PANDUIT UNLOADED CAT. 6A 48 PORT PATCH PANEL

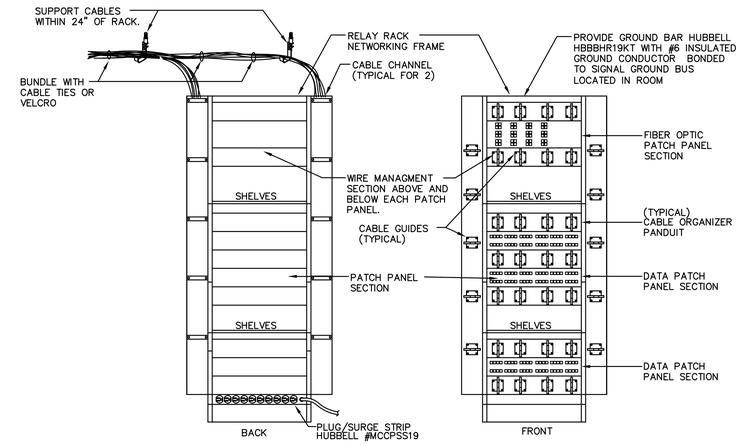
NO SCALE



COMPUTER JACK COVERPLATE #2 PORTS SERIES MOUNTED ON A SINGLE GANG BACK BOX WITH (1) 3/4"C STUB

PADUIT FACEPLATES

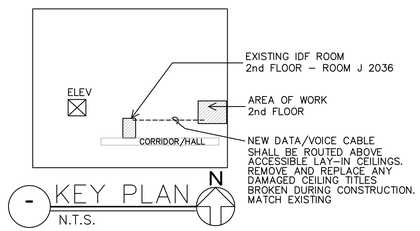
NO SCALE

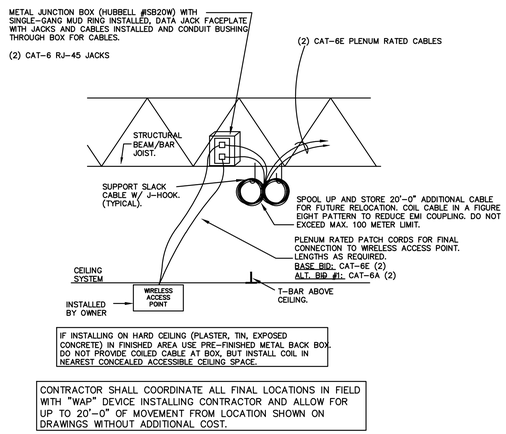


EXISTING IDF RACK CABLE MANAGMENT RELAY RACK

NO SCALE

"IDF" RACK

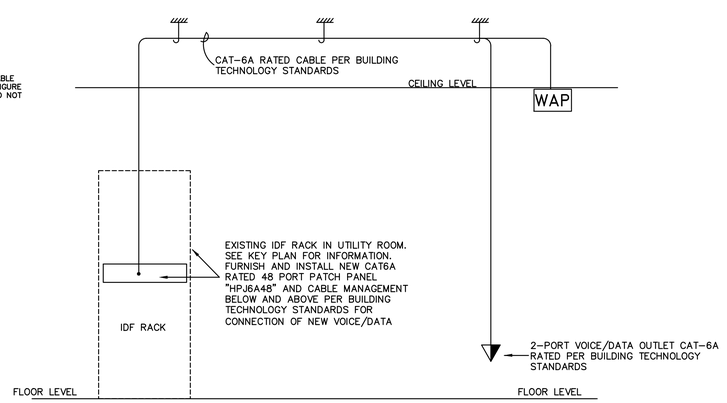




CONTRACTOR SHALL COORDINATE ALL FINAL LOCATIONS IN FIELD WITH "WAP" DEVICE INSTALLING CONTRACTOR AND ALLOW FOR UP TO 20'–0" OF MOVEMENT FROM LOCATION SHOWN ON DRAWINGS WITHOUT ADDITIONAL COST.

"WAP" CONNECTION DETAIL

NO SCALE



PARTIAL VOICE/DATA RISER DIAGRAM

NO SCALE

DATA CABLE & DATA JACK NOTES:

1. CABLES:
DATA CABLE SHALL BE PANDUIT 4-PAIR, CAT 6, #24 AWG UNSHIELDED CAT-6, PLENUM RATED DATA CABLE. PROVIDE ONE (1) CABLE TO EACH COMPUTER JACK SHOWN ON THE DRAWINGS. LEAVE 5'-0" OF SLACK OUT OF EACH JACK FOR TERMINATION ON RJ-45 JACK. COLOR OF CABLE TO BE WHITE.

LEAVE 5'-0" OF SLACK OUT OF EACH STATION FOR TERMINATION ON JACK.

2. JACKS:
ALL WALL DATA JACKS TO BE PANDUIT SERIES CAT-6A, RJ45 MODULAR JACK WITH 110 TERMINATION. COLOR TO BE BLACK.
DATA JACKS FOR WAP AND IP CAMERAS TO BE PANDUIT SERIES CAT-6A, RJ45 MODULAR JACK WITH 110 TERMINATION. COLOR TO BE PER BUILDING IT DEPARTMENT STANDARDS.

3. FACE PLATES:
REFER TO FACE PLATE DETAILS FOR FACE PLATE INFORMATION.
PROVIDE EQUAL AMOUNTS OF BLUE ICONS TO SATISFY AMOUNT OF JACKS.

6. PATCH CORDS:
PROVIDE PANDUIT SERIES CAT-6A PATCH CORDS, COLOR BLUE, FOR DATA JACKS AND PATCH PANEL JACKS INSTALLED.

COORDINATE EXACT LENGTH AND COLOR OF PATCH CORDS WITH BUILDING IT DEPARTMENT PRIOR TO ORDERING. PATCH CORDS MUST BE PANDUIT IN ORDER TO OBTAIN 25 YEAR WARRANTY.
PLEASE NOTE THAT PATCH CORDS WILL BE REQUIRED FOR ALL DATA JACKS AT BOTH JACK AND PATCH PANEL END ON A ONE FOR ONE BASIS.
EXAMPLE: FOR "TWO OUTLET JACKS" FOUR (4) PATCH CORDS WILL BE REQUIRED - (2) AT WORKSTATION, (2) AT PATCH PANEL. ALL PATCH CORDS INSTALLED ABOVE CEILINGS SHALL BE PLENUM RATED.

COORDINATE EXACT LENGTH AND COLOR OF PATCH CORD WITH OWNER PRIOR TO ORDERING. PATCH CORDS MUST BE PANDUIT IN ORDER TO OBTAIN 25 YEAR WARRANTY.

- COPPER PATCH PANEL CAT-6 DATA CORDS: QTY.: 100% OF THE AMOUNT OF PORTS TERMINATED; LENGTH: 6'-0" (COORDINATE WITH OWNER); COLOR: AS INDICATED.
- CAMERA/WIRELESS ACCESS POINT PATCH CORD: QTY.: 100% OF THE AMOUNT OF PORTS; LENGTH: AS REQUIRED TO REACH "WAP" DEVICE (MINIMUM 6'-0"); COLOR: BLACK. - PLENUM RATED.

COORDINATE EXACT QUANTITIES, LENGTH AND COLOR OF CORDS WITH THE OWNER PRIOR TO ORDERING.

7. RUN ALL CABLE ABOVE CEILING THROUGH CADDY CABLECAT "ORIGINAL" J-HOOKS (NO MORE THAN 4'-0" SPACING) SUITABLE FOR CAT-6e/CAT-6A CABLING AND CABLE TIES (DO NOT OVER FASTEN). KEEP CABLE SAG WITHIN 4"-12". UTILIZE CABLE TRAY WHEN SPECIFIED. DO NOT INSTALL CABLING ABOVE TOP CHORD OF BAR JOISTS. DO NOT USE WEBS OF BAR JOISTS FOR SUPPORTING CABLING. DO NOT SUPPORT CABLING FROM CEILING SUPPORT WIRES. DO NOT SUPPORT CABLING FROM OTHER SYSTEMS. DO NOT INSTALL ABOVE TOP CHORD OF BAR JOISTS WHERE ROOFING NAILS WILL DAMAGE CABLING.

8. PROVIDE SPARE RJ45 JACKS TO OWNER UPON COMPLETION OF JOB. REFER TO SPECIFICATIONS FOR QUANTITY.

9. ALL SYSTEMS SHALL MEET OR EXCEED PANDUIT REQUIREMENTS, STATE OR LOCAL CODES AND ORDINANCES AND U.L. STANDARDS. THE ENTIRE PANDUIT SYSTEM SHALL BE PROVIDED WITH A 25 YEAR WARRANTY AND SYSTEM PERFORMANCE GUARANTEE PROGRAM. ALL LABOR AND MATERIALS SHALL BE PROVIDED AT NO EXPENSES TO THE OWNER. GUARANTEE PERIOD SHALL BEGIN ON THE DAY OF ACCEPTANCE BY THE OWNER/ENGINEER.

10. INSTALLER SHALL BE A CERTIFIED COMPETENT INSTALLER IN THE FIELD OF COMPUTER DATA WIRING CABLE INSTALLATION.

11. INSTALLER SHALL HAVE A MINIMUM OF THREE YEARS OF EXPERIENCE INSTALLING 1 GIG AND 10 GIG UTP CABLING FOR COMPUTER DATA SYSTEMS.

12. THE DATA CABLING CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING THE DESIRED CABLING ROUTES (THROUGH THE BUILDING) TO EACH AREA'S RESPECTIVE MDF/IDF RACK TO MEET DISTANCE LIMITATION OF 100 METERS. ROUTINGS SHALL FOLLOW PRIMARY PATHWAYS (I.E. CORRIDORS), SHORTEST DISTANCE POSSIBLE AND BE CONCEALED ABOVE LAY-IN CEILINGS. ALTERNATE PATHWAYS (SPECIAL CONDITIONS) SHALL BE COORDINATED IN THE SHOP DRAWING STAGE WITH THE ENGINEER. PLEASE NOTE THAT ZONING OF BUILDING IS SHOWN ON THE DRAWINGS IDENTIFYING MDF/IDF RACK LOCATION SERVING AREA.

13. PROVIDE ALL NECESSARY WIRING, HARDWARE, ETC., FOR A COMPLETE SYSTEMS INSTALLATION. LABEL OUTLETS AND SYSTEM PER BUILDIGN IT DEPARTMENT STANDARDS.

14. PROVIDE ALL NECESSARY WIRING, AS NOTED ON DRAWINGS. ALL EXPOSED WIRING SHALL BE RUN IN RACEWAY, NO WIRING SHALL BE RUN EXPOSED ON CEILINGS, FLOORS, OR WALLS UNLESS APPROVED BY OWNER/ENGINEER OR INDICATED OTHERWISE ON DRAWINGS.

15. ALL JACKS, PATCH PANELS, WIRES (BOTH ENDS) AND OTHER ACCESSORIES SHALL BE CLEARLY & PERMANENTLY IDENTIFIED AND LABELED. PROVIDE A WIRING LOG BOOK SHOWING ALL TERMINATION AND WIRING CORRESPONDING TO EACH ROOM. COORDINATE WITH OWNER.

16. CONDUCT LINK TESTS & INSPECTIONS AFTER INSTALLATION HAS BEEN COMPLETED TO ASSURE THE OWNER'S REQUIREMENTS FOR INSTALLATION HAVE BEEN MET (FOLLOW TIA/EIA 568.C STANDARDS). UPON REQUEST, PRIOR TO OWNER'S ACCEPTANCE, ALLOW ACCESS BY THE OWNER TO TEST THE EQUIPMENT AND WIRING SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LINK TESTING EACH RUN "END-TO-END" AND CERTIFYING, IN WRITING, THAT THE CABLING MEETS 1 GIG / 10 GIG CATEGORY/LEVEL 6E/6A SPECIFICATIONS AND IS IN PROPER WORKING CONDITION. EACH UTP CABLE SHALL BE FULLY TESTED. A LANTEK II-500 OR FLUKE DTX-1800 SERIES TESTER, OR EQUIVALENT, SHALL BE USED TO TEST/CERTIFY EACH UTP CABLE (USE A LEVEL 4 TESTER). THE OUTPUT FROM EACH UTP CABLE TEST/CERTIFICATION SHALL BE PRINTED AND PROVIDED TO OWNER.

   a. REQUIRED TEST DATA FOR EACH UTP CABLE SHALL INCLUDE THE FOLLOWING: INSERTION LOSS (IL); NEAR END CROSSTALK (NEXT); POWER SUM NEAR END CROSSTALK (PS NEXT); ATTENUATION TO CROSSTALK RATIO - NEAR END (ACR-N); POWER SUM ATTENUATION TO CROSSTALK RATIO - NEAR END (PSACR-N); FAR END CROSSTALK (FEXT); ATTENUATION TO CROSSTALK RATIO - FAR END (ACR-F); POWER SUM ATTENUATION TO CROSSTALK RATIO - FAR END (PSACR-F); RETURN LOSS (RL); WIRE MAP; PROPAGATION DELAY; DELAY SKEW; LENGTH. PROVIDE A PRINT OUT AND DISKETTE TO ENGINEER AND PANDUIT SALES REPRESENTATIVE. TEST DATA MUST BE PROVIDED FOR BOTH HORIZONTAL AND BACKBONE LINKS. REFER TO PROJECT MANUAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ALL UTP CABLES FROM ROOM LOCATIONS TO COMMUNICATIONS RACK PATCH PANELS MUST BE WITHIN THE CAT-6E/6A DISTANCE OF 295 FEET.
THE CONTRACTOR SHALL NOTIFY OWNER OF ANY LOCATIONS THAT EXCEED THE DISTANCE LIMITATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLETE DETAILED DOCUMENTATION OF "AS INSTALLED" FOR THE DATA NETWORK WIRING SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING DOCUMENTATION CHECKLISTS PROVIDED BY THE OWNER. PROVIDE FINAL AS-BUILT DRAWINGS TO THE OWNER IN HARD COPY AND ELECTRONIC AUTOCAD AND PDF FORMATS.

18. ALL LABOR AND MATERIALS SHALL BE PROVIDED TO THE OWNER. GUARANTEE PERIOD SHALL BEGIN ON THE DAY OF ACCEPTANCE BY THE OWNER/ENGINEER.

19. CONTRACTOR SHALL CORE WALLS AS REQUIRED FOR INSTALLATION OF DATA CABLING. VERIFY ALL LOCATIONS OF CORES WITH OWNER/ENGINEER IN FIELD. ALL CORES SHALL BE SLEEVED WITH CONDUIT & FIRE PROOFED AS REQUIRED. FIELD VERIFY ALL EQUIPMENT & PIPING LOCATIONS BEFORE MAKING CORES. UNDER NO CIRCUMSTANCES WILL ANY STRUCTURAL MEMBER BE CUT IN THIS PROCESS. CONTRACTOR SHALL SIZE SLEEVES PER NEC 40% FILL REQUIREMENTS. ALL SLEEVES SHALL HAVE 50% SPARE CAPACITY FOR FUTURE CABLES, SIZE AS REQUIRED. FURNISH AND INSTALL FITTINGS AND END BUSHINGS AT ENDS OF SLEEVES IN ORDER TO PROTECT CABLING.

20. DO NOT INSTALL CABLES WITHIN 6'-0" OF ROOF DECK.

21. ALL CEILINGS SHALL BE REMOVED, REINSTALLED AND/OR REPLACED BY CONTRACTOR FOR INSTALLATION OF NEW CABLING. REPLACE ALL DAMAGED TILES WITH TYPE/STYLE TO MATCH EXISTING. COORDINATE REMOVAL OF SPLINE CEILING SYSTEMS WITH THE OWNER PRIOR TO REMOVAL. SPLINE CEILING ACCESS POINTS MAY ALREADY EXIST AND SHALL BE USED IN LIEU OF NEW ACCESS POINTS CREATED. ALL CEILINGS MUST BE PROFESSIONALLY RESTORED.

22. INSTALLATION PRACTICES:
STRIP BACK ONLY AS MUCH CABLE JACKET AS IS REQUIRED FOR TERMINATION AND MAINTAIN PAIR TWISTS AS CLOSE AS POSSIBLE TO THE POINT OF MECHANICAL TERMINATION. AT A MINIMUM, NEVER ALLOW UNTWISTING OF PAIRS TO EXCEED 0.5" MAXIMUM. MAINTAIN A MAXIMUM BEND RADIUS OF 4X THE CABLE DIAMETER (4-PAIR CABLES). 6X IF IN CONDUIT. APPLY CABLE TIES LOOSELY AND AT RANDOM INTERVALS. TRY TO MINIMIZE THE AMOUNT OF JACKET TWISTING. AVOID STRETCHING THE CABLE. USE APPROPRIATE METHODS FOR DRESSING AND SECURING CABLES (I.E. CABLE TIES, WIRE MANAGEMENT PANELS, CABLE SUPPORT BAR, RESEALABLE VELCRO STRAPS).

NEVER EXCEED A 90 DEGREE BEND. MINIMUM BEND RADIUS OF 4X CABLE O.D. REQUIRED. DO NOT OVER TIGHTEN CABLE TIES. DO NOT OVER TWIST CABLE (IT CAN LEAD TO TORN JACKETS). DO NOT EXCEED 25 lbs. OF PULLING TENSION. DO NOT USE STAPLE GUNS TO POSITION OR FASTEN CABLES.

23. WHEN STORING SLACK IN CABLES AS A SERVICE LOOP, STORE IN A FIGURE EIGHT PATTERN TO REDUCE EMI COUPLING.

24. COORDINATE ALL FINAL "WAP" LOCATIONS IN THE FIELD WITH "WAP" INSTALLING CONTRACTOR AND BUILDING IT ENGINEER PRIOR TO ROUGH-IN.

ALL CABLING TO BE PLENUM RATED.

ALL JUNCTION BOXES FOR TECHNOLOGY/AV

SHALL BE ROUGHED–IN AND STUBBED OUT TO ABOVE ACCESSIBLE CEILINGS. MINIMUM CONDUIT SIZE 3/4"C.

ALL BOXES FOR TECHNOLOGY AS INDICATED ABOVE SHALL BE:
12" BLOCK = USE 3 1/2" DEEP BOX WITH (2) 3/4" / 1" CONCENTRIC K.O. ON TOP.
8" BLOCK = USE 3 1/2" DEEP BOX WITH (2) 3/4" / 1" CONCENTRIC K.O. ON TOP.
6" BLOCK = USE 3 1/2" DEEP BOX WITH (2) 3/4" / 1" CONCENTRIC K.O. ON TOP.
4" BLOCK = USE 3 1/2" DEEP BOX WITH (2) 3/4" / 1" CONCNTRIC K.O. ON TOP.

BOX WIDTH AS REQUIRED TO ACCOMMODATE WIRING DEVICES/TECHNOLOGY FACEPLATES AS INDICATED THIS SHEET.

USE MULTIPLE GANG CONFIGURATION WHEN REQUIRED.
GYPSUM WALLS:

4" x 4" x 3 1/2" DEEP BOX WITH (2) 3/4" / 1" K.O. ON TOP WITH MUD RING AS REQUIRED TO ACCOMODATE WIRING DEVICES/TECHNOLOGY FACEPLATES INDICATED ON DRAWINGS.

ALL WALL TYPES SHALL BE COORDINATED WITH ARCHITECTURALS PRIOR TO ORDERING/ROUGH–IN AND COORDINATED WITH TECHNOLOGY CONTRACTORS ACTUAL FACEPLATE REQUIREMENTS.

PROVIDE MUD RINGS AS REQUIRED.

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E.H.S. OFFICE REMODELING

JOLIET JUNIOR COLLEGE – BUILDING J
1215 HOUBOLT ROAD
JOLIET, ILLINOIS

DATE: 05–11–2023
REVISED:

PROJECT NO. 2304–02

SHEET NUMBER
E3

threesixty:MEP
MECHANICAL ELECTRICAL PLUMBING
THREE SIXTY MEP, PLLC #184-0008463-0002

A. GENERAL REQUIREMENTS:

1. SCOPE OF WORK:

a. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DRAWINGS. THE INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL ESSENTIAL TO PROPER AND SATISFACTORY OPERATION, READY FOR USE AND IN CONDITION FOR SERVICE WHEN DELIVERED TO THE OWNER. ALL MANUFACTURED ITEMS SHALL BE ERECTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN.

b. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

2. APPROVALS:

a. OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR ELECTRICAL INSTALLATIONS REQUIRING SPECIFIC APPROVAL. PRINTS OF THE ELECTRICAL DRAWINGS, FOR THIS PURPOSE, WILL BE FURNISHED UPON REQUEST. REQUIRED WIRING DIAGRAMS SHALL BE PROVIDED AND SUBMITTED FOR APPROVAL BY THE CONTRACTOR. COPIES OF THE FINAL APPROVALS SHALL BE OBTAINED BEFORE COMMENCEMENT OF RELATED WORK.

3. CODES AND STANDARDS:

a. THE WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, MUNICIPAL, AND NATIONAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.

b. MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO LOCAL CODE AND STANDARDS, THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITER'S LABORATORIES (UL), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND ALL LAWS AND ORDINANCES OF LOCAL, STATE AND FEDERAL GOVERNING AGENCIES.

4. FEES:

a. ALL PERMIT FEES SHALL BE PAY BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED INSURANCE, INSPECTIONS, APPLICATIONS, PERMITS, LICENSES, ETC. RELATING TO THE ELECTRICAL WORK.

5. CONTRACTOR'S LIABILITY:

a. THE CONTRACTOR SHALL AGREE THAT THE OWNER, THE ARCHITECT AND THE ENGINEER SHALL NOT IN ANY FORM OR MANNER BE ANSWERABLE OR ACCOUNTABLE FOR ANY VIOLATION OF ORDINANCES, CODES OR REGULATIONS OF ANY AUTHORITIES, UTILITIES, INSURANCE COMPANIES AND GOVERNMENT AGENCIES HAVING JURISDICTION, OR FOR ANY ACCIDENTS, INJURY, LOSS OR DAMAGE TO ANY PERSON OR PERSONS AND THEIR PROPERTIES ARISING FROM NEGLIGENCE OR CARELESSNESS ON THE PART OF THE CONTRACTOR (NOR ANYONE IN HIS EMPLOY), ANY OF HIS SUBCONTRACTORS, OR ANY OTHER PARTIES OR AGENTS TO THIS CONTRACT.

b. THE CONTRACTOR SHALL AGREE TO MAKE GOOD TO SAID OWNER, ARCHITECT, AND ENGINEER ANY LOSS, DAMAGE OR EXPENSE SO INCURRED, TOGETHER WITH REASONABLE ATTORNEY'S FEES.

c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND COMPLYING WITH BOTH THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, OR CODES, THE REFERENCE WHICH PROVIDES THE MORE COMPLETE OR HIGHER STANDARD SHALL PREVAIL.

d. THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED TO THEM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. FIGURES MARKED ON DRAWINGS SHALL IN GENERAL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. LARGE SCALE DRAWINGS SHALL IN GENERAL GOVERN SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL COMPARE ALL DRAWINGS AND VERIFY THE FIGURES BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.

6. EXAMINATION OF DRAWINGS AND SITE:

a. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF ARCHITECTURAL AND ENGINEERING DOCUMENTS AND COORDINATE WITH MECHANICAL, PLUMBING, ARCHITECTURAL, CIVIL AND OTHER TRADES FOR EXACT DIMENSIONS, CLEARANCES, ROUGH-IN LOCATIONS, AND OTHER ADDITIONAL SCOPES OF WORK THAT MAY NOT BE SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER TO OTHER TRADES EQUIPMENT AND HARDWARE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROLS, FIRE, MOTORIZED DOORS, DAMPERS, POLE LIGHTS, AND OTHER SYSTEMS. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL PLANS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SAFETY DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT AND TRANSFORMERS UNLESS OTHERWISE INDICATED.

b. BY THE ACT OF HAVING SUBMITTED A BID, THE CONTRACTOR SHALL DEEM TO HAVE MADE SUCH AN EXAMINATION AND SHALL HAVE ACCEPTED THE PREVAILING CONDITIONS. NO SUBSEQUENT ALLOWANCE WILL BE MADE TO CONTRACTOR BECAUSE OF HIS NEGLECT IN COMPLYING WITH THE FOREGOING.

7. GUARANTEE:

a. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING ALL OF THE EQUIPMENT AND INSTALLATION FURNISHED UNDER THE CONTRACT AGAINST FAILURE FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. THE CONTRACTOR SHALL ASSUME THE LIABILITY OF ALL EQUIPMENT AND INSTALLATION COVERED IN THIS CONTRACT, INCLUDING ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT RENTALS REQUIRED.

b. ANY ADDITIONAL COSTS INCURRED IN THE REPAIR AND RECONSTRUCTION OF ALL OTHER INSTALLATIONS NOT PART OF THIS CONTRACT BUT WHICH MIGHT BE DAMAGED BY THE EQUIPMENT GUARANTEED OR AFFECTED BY THE REPAIR WORK COVERED UNDER THE GUARANTEE, SHALL BE PART OF THIS GUARANTEE.

8. INTERPRETATION OF THE DOCUMENTS:

a. CAREFULLY COMPARE THE DRAWINGS AND SPECIFICATIONS, CHECKING MEASUREMENTS AND CONDITIONS UNDER WHICH THIS INSTALLATION IS TO BE MADE. FOR CLARIFICATION BETWEEN VARIOUS DRAWINGS, BETWEEN DRAWINGS OR SPECIFICATION, OR BETWEEN SECTIONS OF THE SPECIFICATION, THE MATTER SHALL BE REFERRED TO THE ENGINEER BEFORE ANY WORK IS EXECUTED. THE CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY EXCEPTIONS NECESSARY TO MAKE THIS A COMPLETE, READY TO USE INSTALLATION. IF NOT STATED IN THE PROPOSAL, IT WILL NOT BE CONSIDERED EXTRA.

b. OMISSIONS FROM THE DRAWINGS, SPECIFICATION NOTES, OR DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

9. ELECTRICAL DRAWINGS:

a. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL DOORS, WALLS, FURNITURE, EQUIPMENT, ETC. THE LOCATION OF RACEWAY SYSTEM COMPONENTS IS SCHEMATIC. THE EXACT LOCATION OF RACEWAY SYSTEM COMPONENTS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE ACTUAL EQUIPMENT TO BE SUPPLIED FOR THIS PROJECT, AND VERIFY CLEARANCES AND ROUGH-INS PRIOR TO STARTING WORK.

10. SHOP DRAWINGS AND SUBMITTALS:

c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.

d. SUBMIT COMPLETE SHOP DRAWINGS FOR MANUFACTURED EQUIPMENT: CLEARLY MARK SUBMISSIONS FOR LIGHTING FIXTURES WITH THE TYPE ASSIGNED TO EACH FIXTURE IN THE FIXTURES SCHEDULE. INCLUDE SELECTION OF INTENDED PART. INCLUDE LAMPS AND BALLASTS.

e. PROVIDE SUFFICIENT INFORMATION AND DATA REQUIRED TO REASONABLY DETERMINE PROPER COMPLIANCE WITH THE SPECIFICATIONS.

f. IN ADDITION, THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS PROPOSED, GIVING THE MANUFACTURER'S NAME, CATALOG NUMBER, OR OTHER MEANS OF IDENTIFICATION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.

g. REVIEW OF SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY, AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS, NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF BASIC RESPONSIBILITY UNDER THE CONTRACT. SHOP DRAWINGS SHALL BE SUBMITTED ON, BUT NOT BE LIMITED TO THE FOLLOWING SYSTEMS: LIGHT FIXTURES AND ALL ASSOCIATED LIGHT FIXTURES HARDWARE INCLUDING LAMPS , WIRING DEVICES, COVER PLATES, ELECTRICAL GEAR, PANELS, BREAKERS, DISCONNECTS, BUSS DAVA/VOICE AND CABLING (WHEN INCLUDED IN THE PROJECT), CABLE (WHEN INDICATED), FIRE ALARM DEVICES, AUTOMATIC TRANSFER SWITCHES, GENERATOR, ETC.

B. MATERIAL AND EQUIPMENT:

1. GENERAL:

a. PROPOSALS SHALL BE BASED UPON THE FURNISHING OF ALL MATERIALS AND EQUIPMENT AS SPECIFIED, WHICH IN EVERY CASE SHALL BE NEW AND OF THE BEST GRADE AND QUALITY AVAILABLE. EQUIPMENT AND MATERIALS SHALL BE WITHOUT BLEMISH OR DEFECT AND SHALL NOT BE USED FOR TEMPORARY POWER PURPOSES, WITHOUT THE ENGINEER'S PRIOR WRITTEN AUTHORIZATION.

b. ALL ITEMS OF EQUIPMENT OF ONE TYPE, EXCEPT CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, WIRE, AND CABLE, SHALL BE THE PRODUCT OF ONE MANUFACTURER THROUGHOUT UNLESS OTHERWISE INDICATED OR ACCEPTED BY THE ENGINEER.

2. RACEWAYS:

a. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONS, PLUMBING EQUIPMENT, VOICE/DATA/CATV/AV OUTLETS AND ELECTRICAL EQUIPMENT IN GENERAL.

b. ALL PANEL AND SERVICE FEEDERS SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RGSC) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE UL LABELED. EMT SHALL BE ACCEPTABLE FOR BRANCH CIRCUITS RUN ABOVE SUSPENDED CEILINGS OR CONCEALED IN INTERIOR PARTITIONS. EMT CONNECTORS SHALL BE COMPRESSION TYPE UNLESS OTHERWISE INDICATED, SET SCREW FITTINGS ARE NOT PERMITTED. CONDUIT UNDER SLAB OR LOCATED IN THE EXTERIOR OF THE BUILDING SHALL BE RGSC.

c. MINIMUM SIZES OF CONDUIT SHALL BE 3/4" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTION OR TO INDIVIDUAL LIGHT SWITCHES AND FOR ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1"C SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.

d. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING.

e. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER'S CONSTRUCTION MANAGER. PAINTING OF CONDUITS WILL BE BY GENERAL CONTRACTOR.

f. FLEXIBLE METAL CONDUIT AND THEIR ASSOCIATED FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.

g. FLEXIBLE CONDUIT SHALL BE ACCEPTABLE FOR THE FOLLOWING APPLICATIONS AND SHALL NOT EXCEED 6 FEET IN LENGTH. INSTALL GREEN GROUNDING CONDUCTOR
- FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS, TRANSFORMERS, ETC SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
- FINAL INTER-CONNECTIONS BETWEEN LIGHT FIXTURES.
- FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.

l. PROVIDE POLY PULL-STRING IN ALL EMPTY CONDUITS.

m. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER CLEARANCE OF CEILING AND OTHER TRADES WORK. RACEWAYS SHALL BE SECURELY SUPPORTED BY APPROVED STRUCTURAL METHODS AT FIVE FOOT (5') INTERVALS.

n. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.

o. ALL CONDUITS MUST BE SIZED PER CODE.

p. WHERE RACEWAY IS SUBJECT TO MECHANICAL INJURY OR CORROSION UTILIZE RGSC OR INTERMEDIATE METAL CONDUIT (IMC), FITTINGS SHALL BE THREADED.

q. PROVIDE PULL BOXES IN RUNS OVER 100 FEET, WHEN MORE THAN THE EQUIVALENT OF THREE (3) 90° BENDS ARE USED, AND AS SHOWN ON DRAWINGS.

3. ELECTRICAL BOXES:

a. UNLESS OTHERWISE NOTED, OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVER PLATES.

b. UNUSED KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY ERROR SHALL BE CLOSED WITH SNAP-IN BLANKS.

c. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE NUMBER AND SIZE OF WIRES TO BE INSTALLED.

d. BOXES IN COVE AND LOCATED ABOVE SUSPENDED CEILING SHALL BE PLENUM RATED WHEN THE SPACE IS PLENUM RATED.

e. FLOOR BOXES: PROVIDE SYSTEMS PER DRAWINGS.

f. PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORTS, AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COVERS SHALL BE ACCESSIBLE. SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES.

g. JUNCTION BOXES AND COVERS SHALL BE FABRICATED FROM GALVANIZED NEC GAGE SHEET STEEL. OUTLET BOXES TO BE OF THE HOT-DIPPED GALVANIZED, PRESSED STEEL, KNOCKOUT TYPE. BOXES SHALL GENERALLY BE 4 INCHES SQUARE, 1-1/2"DEEP MINIMUM, EXCEPT WHERE NOTED OTHERWISE.

g. PULL BOXES, CABLE SUPPORT BOXES, AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE MADE OF CODE GAUGE STEEL. COVERS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST-INHIBITIVE PAINT.

e. BOXES SHALL BE AS MANUFACTURED BY: APPLETON, GARVIN, RACO (HUBBELL) & STEEL CITY.

4. SLEEVES:

a. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.

b. UNLESS OTHERWISE NOTED, ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THE FIRE RATING OF THE FLOOR OR WALL. CONFORM TO UL ASSEMBLY RATING OF FLOOR OR WALL.

c. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT BLACK STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL CONDUIT.

d. SLEEVES SHALL HAVE PLASTIC END BUSHES INSTALLED WHEN THEY ARE USE FOR THE INSTALLATION OF OPEN CABLING.

5. WIRING:

a. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS MINIMUM WIRE SIZE SHALL BE #12 UNLESS OTHERWISE INDICATED IN THE DRAWINGS. THE CONDUCTORS SHALL HAVE 600 VOLT INSULATION, TYPE THHW OR THHN.

b. CONDUCTORS SHALL BE STRANDED FOR SIZES #10AWG AND LARGER.

c. ALUMINUM CONDUCTORS ARE NOT PERMITTED.

d. ALL WIRING SHALL BE IN RACEWAY.

e. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #10 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #8 AWG AND LARGER. EQUALS BY BUCHANAN OR IDEAL ARE ACCEPTABLE.

f. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/240 VOLT SYSTEM	277/480 VOLT SYSTEM
NEUTRAL - WHITE	NEUTRAL - GRAY
PHASE A OR L1 - BLACK	PHASE A OR L1 - ORANGE
PHASE B OR L2 - ORANGE	PHASE B OR L2 - BROWN
PHASE C OR L3 - BLUE	PHASE C OR L3 - YELLOW
GROUND - GREEN	GROUND - GREEN

6. WIRING DEVICES:

a. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES AS SHOWN ON THE DRAWINGS AND AS NECESSARY FOR A COMPLETE INSTALLATION. COLOR OF DEVICES AND PLATES SHALL BE AS DIRECTED BY THE ARCHITECT. THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR EQUALS AS MANUFACTURED BY: PASS & SEYMOUR, HUBBELL, LEVITON, LEGRAND. WEATHERPROOF GFI RECEPTACLES SHALL BE INSTALLED WHERE SHOWN ON DRAWINGS OR AS REQUIRED BY CODE.
- TOGGLE SWITCHES: 20A-120V COMMERCIAL SPECIFICATION GRADE.
- DUPLEX RECEPTACLES: 20A-125V COMMERCIAL SPECIFICATION GRADE.
- GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE: 20A-125V, 5mA. COMMERCIAL SPECIFICATION GRADE.

b. 120 WALL SWITCHES SHALL BE MOUNTED IN SUITABLE OUTLET BOXES IN THE WALL OR PARTITIONS. THEY SHALL BE OF THE QUIET DESIGN, TOGGLE HANDLE.

c. RECEPTACLES SHALL BE GROUNDING TYPE, THREE WIRE (HOT, NEUTRAL WIRES PLUS EQUIPMENT GROUND) SINGLE, DUPLEX OR SPECIAL AS INDICATED ON THE DRAWINGS.

d. SPECIAL PURPOSE NEMA RECEPTACLES OTHER THAN 20 AMP CONVENIENCE RECEPTACLES SHALL BE AS SHOWN ON PLANS. FINAL PLUG CONFIGURATION SHALL BE COORDINATED WITH EQUIPMENT SELECTION.

e. COLOR OF WIRING DEVICES AND COVER PLATES SHALL BE SELECTED BY ARCHITECT.

7. WALL PLATES:

a. WALL PLATES SHALL BE AS SPECIFIED BY ARCHITECT AND/OR OWNER. WHERE STANDARD PLATES WILL NOT FIT WALL FINISH, UNPLASTERED BRICK OR SPECIAL FINISH WALLS, USE SPECIAL SIZE PLATES TO SUIT CONDITIONS. ALL WALL PLATES LINE UP AND FLUSH WITH MOUNTING SURFACE AND SECURELY ATTACHED IN PLACE.

b. WHERE SWITCHES, RECEPTACLES OR COMBINATIONS THEREOF ARE GROUNDED, USE GANG PLATES AND OUTLET BOXES TO SUIT THE SPECIFIC ARRANGEMENTS.

c. VERIFY MOUNTING HEIGHTS OF WIRING DEVICES WITH ARCHITECT/OWNER: IN GENERAL, RECEPTACLES 15" ABOVE FLOOR OR 4.5" ABOVE COUNTER TOP WHERE COUNTERS OCCUR, AND SWITCHES 3'-6" ABOVE FLOOR, EXCEPT WHERE SPECIFIC HEIGHTS ARE INDICATED. SPECIAL RECEPTACLE SHALL BE LOCATED AS DIRECTED BY ARCHITECT AND ENGINEER OR AS REQUIRED BY THE EQUIPMENT SERVING.

d. WALL PLATES SHALL BE OF THE SAME MANUFACTURER AS WIRING DEVICES.

8. POKE THRUS (WHEN INDICATED ON DRAWINGS):

a. PROVIDE SYSTEM, FIRE RATED POKE THROUGH PER DRAWINGS.

b. FURNISH AND INSTALL ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION SYSTEM.

c. ACCEPTED MANUFACTURERS: HUBBELL, WIREMOLD, OR APPROVED EQUAL.

9. LIGHT FIXTURES:

a. FIXTURES SHALL BE PROVIDED COMPLETE WITH ACCESSORIES SUCH AS PLASTER FRAMES, AND OTHER SUPPORTING DEVICES FOR: RECESSED, SURFACE, OR PENDANT MOUNT AS REQUIRED.

b. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED INSULATED "WIRE NUT" TYPE MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED.

c. EACH LIGHTING FIXTURE SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF (2) 12 GAGE STEEL WIRE. SEE DETAIL IN FRONT SHEET.

d. MANUFACTURER MODEL TYPES SHALL BE AS NOTED OR SCHEDULED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.

e. PROVIDE LAMPS FOR FIXTURES FROM: PHILLIPS, GENERAL ELECTRIC.

f. LED DRIVERS SHALL BE ELECTRONIC WITH A POWER FACTOR OF NOT LESS THAN 98 PERCENT, TOTAL HARMONIC DISTORTION OF NOT MORE THAT 10%. ACCEPTABLE MANUFACTURERS: AS PART OF THE LIGHT FIXTURE SYSTEM.

g. THIS CONTRACTOR SHALL FURNISH ADDITIONAL AUXILIARY SUPPORTING STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE AND FASTENED TO BUILDING STRUCTURE (MINIMUM TWO PER FIXTURE) FOR FIXTURES NOT MOUNTED ON BUILDING FRAMEWORK. FIXTURES SHALL NOT BE SUPPORTED SOLELY BY THE CEILING STRUCTURE.

h. THIS CONTRACTOR SHALL PROVIDE ANY NECESSARY FITTINGS, ACCESSORIES, ETC. AS NECESSARY TO MAKE A COMPLETE INSTALLATION.

i. REMOVE ALL DIRT, OIL OR GREASE FROM LIGHT FIXTURES. CLEAN ALL GLASS, LENSES, ETC. AND POLISH FIXTURES AND TRIM.

10. OCCUPANCY SENSORS (REFER TO DRAWING FOR INFORMATION).

8. PANELS (UTILIZE EXISTING PANELS WITH NEW BREAKERS WHEN INDICATED):

a. PANEL BOARDS SHALL BE OF THE DEAD-FRONT, SAFETY TYPE, WITH BOLTED-TYPE UL LISTED MOLDED CASE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL BE LISTED AS HID FOR LIGHTING CIRCUITS, HACR FOR HVAC LOADS, SWD FOR SWITCHING LOADS ON-OFF DIRECTLY FROM THE PANEL. VOLTAGE RATINGS, NUMBER OF POLES, FRAME SIZES, TRIP RATINGS, MAIN BREAKER, NEUTRAL BUS, AND EQUIPMENT GROUND BARS ARE AS SHOWN ON THE DRAWINGS. PANEL BOARDS ARE TO BE FULLY RATED FOR THE SHORT CIRCUIT RATING SHOWN ON THE DRAWINGS BUT NOT LESS THAN 10,000 AMPS. BUS BARS SHALL BE RECTANGULAR, SOLID COPPER, 1000 AMPS PER SQUARE INCH TYPE, SECURELY MOUNTED AND BRACED. ALL CONNECTIONS TO BUS BARS SHALL BE SECURELY BOLTED. CABINETS BOXES SHALL BE CONSTRUCTED OF CODE GRADE GALVANIZED STEEL, SIZED TO PROVIDE MINIMUM 4-INCH WIDE WIRING GUTTERS ON SIDES, TOPS AND BOTTOM. FRONTS SHALL BE CONSTRUCTED OF CODE GRADE STEEL, ADJUSTABLE INDICATING TRIM CLAMPS AND WITH DOOR PROVIDED WITH CONCEALED HINGES AND CYLINDER TYPE LOCK AND CATCH, PROVIDE DOOR WITHIN DOOR. TWO KEYS PER PANEL SHALL BE FURNISHED, AND ALL LOCKS KEYED ALIKE. FINISH SHALL BE ANSI 61 GRAY. ACCEPTABLE MANUFACTURERS: SQUARE D, CUTLER-HAMMER, PHILLIPS, GENERAL ELECTRIC.

b. IDENTIFICATION OF PANEL BOARDS. PANEL BOARD SHALL HAVE A TYPEWRITTEN CIRCUIT DIRECTORY, MOUNTED UNDER TRANSPARENT PLASTIC ON THE INSIDE OF DOOR TO IDENTIFY EACH CIRCUIT LOAD AND LOCATION. EACH PANEL BOARD SHALL HAVE A LAMINATED BAKELITE NAMEPLATE ATTACHED TO THE OUTSIDE OF THE PANEL BOARD. THE NAMEPLATE SHALL INCLUDE PANEL BOARD DESIGNATION, VOLTAGE, AND PHASE. NAMEPLATES SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.

12. DISCONNECT SWITCHES (HEAVY DUTY, REFER TO DRAWINGS FOR INFORMATION)

a. PROVIDE HEAVY DUTY SURFACE-MOUNTED SAFETY SWITCHES FOR MOTORS, TRANSFORMER, EQUIPMENT, ETC. UNLESS OTHERWISE INDICATED, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS AS INDICATED ON THE DRAWINGS. THE SWITCHES SHALL BE FUSED OR NON-FUSED AS INDICATED ON THE DRAWINGS AND SHALL BE MANUFACTURED BY SQUARE D, CUTLER HAMMER, EATON, PHILLIPS OR GENERAL ELECTRIC.

b. SWITCHES SHALL HAVE SWITCH BLADES WHICH SHALL BE FULLY VISIBLE IN THE OFF POSITION WHEN THE ENCLOSURE DOOR IS OPEN. CURRENT CARRYING PARTS SHALL BE PLATED COPPER AND SWITCH CONTACTS SHALL BE SILVER-TUNGSTEN. SWITCHES SHALL BE QUICK-MADE, QUICK-BREAK TYPE. THE OPERATING HANDLE SHALL BE AN INTEGRAL PART OF THE ENCLOSURE BASE AND SHALL BE PAD LOCKABLE IN THE OFF POSITION. THE HANDLE POSITION SHALL INDICATE WHETHER THE SWITCH IS ON OR OFF. SWITCHES SHALL BE HORSE POWER RATED FOR 250 AC OR DC OR 600 VOLTS AC AS REQUIRED.

13. FIRE ALARM SYSTEM (REFER TO FIRE ALARM SHEET FOR ADDITIONAL INFORMATION):

14. IDENTIFICATION:

a. PROVIDE TYPED DIRECTORIES IN PANEL BOARDS TO DEPICT ACTUAL EQUIPMENT CONNECTED TO INDIVIDUAL BREAKERS/SWITCHES.

b. LABEL EACH PIECE OF EQUIPMENT WITH EQUIPMENT NAME DESIGNATION, SOURCE, VOLTAGE, PHASES.

c. PROVIDE ORANGE LABELS WITH BLACK LETTER/NUMBERS INDICATING VOLTAGE SERVICE 120/208V-_PH-_W. ; 480/277V-_PH-_W.

d. FURNISH AND INSTALL OUTSIDE OF EQUIPMENT: DESIGNATION, SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.

C. INSTALLATION (VERIFY WITH G.C./MEANS AND METHODS SHOULD BE APPROVED BY GC AND ARCHITECT):

1. CUTTING AND PATCHING:

a. ALL CUTTING, DRILLING, PATCHING, ETC. NECESSARY FOR INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR.

b. ALL DISTURBED CONSTRUCTION AND FINISHED SHALL BE RETURNED TO ITS ORIGINAL STATE. HOLES IN CONCRETE WALLS AND FLOORS SHALL BE CORE DRILLED AND SLEEVED. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED.

2. INSTALLATION OF WORK:

a. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF THE OWNERS EMPLOYEES, BUILDING EMPLOYEES AND GUESTS, AS WELL AS THEIR OWN FORCES, BY ADEQUATELY PROTECTING ANY EXPOSED LIVE CONDUCTORS, OR DEVICES THROUGHOUT THE COURSE OF THIS WORK.

b. WIRE SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES, PULL BOXES, OUTLET BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.

c. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATION OF ALL EQUIPMENT AND IN CASE ANY OUTLETS DO NOT COME IN CORRECT LOCATION, HE SHALL MOVE SAME, DO NECESSARY CUTTING AND PATCHING.

d. OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS WITHIN 10'-0" RADIUS BEFORE WORK IS INSTALLED WITHOUT EXTRA COST.

e. CHECK WITH HVAC CONTRACTOR AS TO LOCATION OF UNITS, DUCTS AND GRILLES AND PLUMBING CONTRACTOR AS TO LOCATION OF PIPING BEFORE INSTALLING THE WORK.

f. CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND REVIEW THE PLANS TO VERIFY THE EXACT LOCATIONS OF ALL OUTLETS ARE ABOVE COUNTERS WHERE CABINET WORK OCCURS, AND VERIFY THAT SWITCHES ARE AT THE CORRECT SIDE OF DOOR SWINGS.

d. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT SUPPLIERS FOR THE CORRECT SIZES OF ALL OUTLETS IN SUFFICIENT TIME BEFORE WALL CONSTRUCTION.

e. FAILURE OF THE CONTRACTOR TO COMPLY WITH ALL OF THE ABOVE SHALL MAKE HIM/HER RESPONSIBLE FOR ANY RELOCATIONS AT HIS EXPENSE DUE TO CONFLICT WITH OTHER EQUIPMENT.

3. GROUNDING:

a. CONTRACTOR SHALL INSTALL ENTIRE CONDUIT SYSTEM, INCLUDING BOXES, CABINETS, PANELS, ETC. SO AS TO INSURE PROPER GROUND CONTINUITY THROUGHOUT THE SYSTEM WHICH INCLUDES BUT IS NOT LIMITED TO: PROVIDE COMPLETE WIRE GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CODE.

b. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL-TO-METAL JUST CONTACT BETWEEN THE DEVICES YOKE AND THE OUTLET BOX IS NOT SUFFICIENT AND IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDED WITH GREEN GROUNDING CONDUCTOR.

c. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PENN-UNION" OR EQUAL, SIMILAR TO "GPL" TYPE.

d. THE COMPLETE ELECTRICAL INSTALLATION SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE. EQUIPMENT GROUNDING SYSTEM CABLE SHALL BE COPPER.

e. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND ENCLOSURES WITHIN THE BUILDING.

f. ACCESSIBLE GROUNDING CONNECTIONS SHALL BE BOLTED OR CLAMP TYPE UNLESS OTHERWISE INDICATED. SOLDERED CONNECTIONS WILL NOT BE PERMITTED IN THE GROUNDING SYSTEM.

4. FIRE STOPPING (MEANS AND METHODS- SHOULD BE APPROVED BY G.C. AND ARCHITECT)

a. ALL PENETRATIONS IN WALL, FLOOR OR CEILINGS SHALL BE SUITABLY CLOSED UP AND SEALED WITH A FIRE STOPPING COMPOUND LISTED IN THE MOST RECENT FACTORY RESEARCH. FIRE STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M CO.

5. ELECTRICAL CONNECTIONS

a. ALL WIRE CONNECTIONS SHALL BE MADE BY MEANS OF SOLDERLESS CONNECTORS.

b. JOINT AND SPLICES SHALL BE COVERED WITH 3M ELECTRICAL TAPE TO 150% OF INSULATION VALUE.

c. NO SPLICES SHALL BE MADE IN THE CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR IN SPLICE BOXES.

6. EQUIPMENT CONNECTIONS

f. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND FOR ALL OWNER FURNISHED EQUIPMENT. PROVIDE A FLEXIBLE LIQUID TIGHT CONNECTIO TO ALL VIBRATION PRODUCING EQUIPMENT.

g. THE CONTRACTOR SHALL MAKE POWER CONNECTIONS TO ALL MOTORS AND EQUIPMENT FURNISHED BY OTHERS. SEE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS, AND DRAWING NOTES FOR ADDITIONAL INFORMATION

h. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.

i. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.

j. ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF RATED.

k. THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS.

l. BRANCH CIRCUITS TO RECEPTACLES, LIGHTING AND MISC. SMALL LOADS (20 AMP CIRCUITS), UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE 2-#12, 1-#12G, 3/4" C.

m. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, WIRE AND CABLE FURNISHED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INSTALLATION DRAWINGS AND WIRING DIAGRAMS FROM THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

n. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND TERMINATIONS TO THE OWNER, MECHANICAL, AND PLUMBING CONTRACTOR'S FURNISHED EQUIPMENT.

7. MISCELLANEOUS SUPPORTING MEMBERS

a. THE INSTALLATION OF ANGLES CHANNELS, AND OTHER MISCELLANEOUS STEEL, BOLTS, RODS, ETC. REQUIRED TO SUPPORT LIGHT FIXTURE, CONDUIT, RACEWAY, LADDER TRAY, OR OTHER ELECTRICAL EQUIPMENT OR DEVICES SHALL BE COORDINATED WITH THE G.C.

8. SPECIAL SYSTEMS:

a. VOICE/DATA/CABLE TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL CONDUITS AND J-BOXES. G.C. IS RESPONSIBLE FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.

b. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. TO PROVIDE LOW VOLTAGE CABLING, APPROPRIATE TAGS BACK TO MAIN DEMARC AREA.

9. GENERAL INSTALLATION NOTES .

a. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL ENGINEER.

b. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH THE SEISMIC REQUIREMENTS OF THE BUILDING CODE AND ALL LOCAL ORDINANCES.

c. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS AND PANELBOARDS (WHEN INDICATED AS NEW) REQUIRED FOR A COMPLETE INSTALLATION AND OPERATIONAL ELECTRICAL SYSTEM.

d. PROVIDE A EXTERNAL MANUAL DISCONNECTING MEANS AT ALL MOTORS OR PACKAGED MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. SOME UNITS ARE PROVIDED BY MECHANICAL CONTRACTOR A PART OF A MECHANICAL PACKAGE.

e. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING THROUGH FIRE RATED SEPARATIONS. THROUGH STOP FIRE SEALING OF CONDUITS SHALL BE MADE WITH 3M CP25WP+ CAULK ACCORDING TO UL APPLICATION.

f. LOCATIONS SHOWN ON THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE CONNECTIONS, WIRING DIAGRAMS AND AUXILIARY DEVICES.

g. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE AND CONNECTIONS FOR LINE VOLTAGE LIGHTING CONTROLS AND LOW VOLTAGE LIGHTING CONTROL UNLESS NOTED OTHERWISE ON DRAWINGS. THE CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS TO HVAC EQUIPMENT INCLUDING 120 VOLT POWER CONTROL, MONITORING, AND SIGNALING EQUIPMENT FURNISHED BY OTHER DISCIPLINES. COORDINATE WITH OTHER DISCIPLINES FOR REQUIREMENTS.

h. THE CONTRACTOR SHALL RECEIVE, STORE AND INSTALL ALL ELECTRICAL ITEMS FURNISHED BY THE OWNER.

i. REFER TO THE REFLECTED CEILING PLAN AND THE ARCHITECTURAL FLOOR PLANS FOR THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND DEVICES.

j. RECEPTACLES SHALL HAVE PRINTED LABELS WITH THE PANEL AND CIRCUIT NUMBER PLACED ON THE COVER. THE LABEL SHALL BE RED WITH BLACK LETTERS FOR EMERGENCY RECEPTACLES, AND WHITE WITH BLANK LETTERS FOR NORMAL RECEPTACLES.

k. THE CONTRACTOR SHALL PROVIDE A SET OF AS-BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL UNDERGROUND CONDUITS, INDICATE ALL CHANGES MADE DURING CONSTRUCTION, AND ANY DEVIATIONS FROM THE ELECTRICAL DRAWINGS.

l. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.

m. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND INFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE ELECTRICAL WORK INTERFACES WITH OTHER TRADES.

n. THIS CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSELF WITH CONSTRUCTION CONDITIONS. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY, ON THIS CONDITION, IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.

o. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS TO DETERMINE WHERE NEW WALLS AND CEILINGS ARE TO BE INSTALLED AND SHALL MAKE USE OF THESE AREAS TO CONCEAL CONDUIT. THE CONTRACTOR SHALL USE SURFACE RACEWAYS SUCH AS WIREMOLD WHERE NECESSARY (ONLY WHERE INDICATED OR AS DIRECTED).

10. TEMPORARY LIGHTING, POWER, FIRE, AND SAFETY

a. E.C. TO PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED IN AREAS UNDERGOING WORK DURING CONSTRUCTION.

b. E.C. SHALL COMPLY WITH NFPA 241 FOR SAFEGUARDING DURING CONSTRUCTION AND ALTERATION OPERATIONS.

11. BALANCING OF LOADS

a. UPON CONNECTING ALL CIRCUITS TO PANELS, THE CONTRACTOR SHALL BALANCE THE LOAD IN AMPERES TO +/- 20% BETWEEN PHASES FOR EACH PANEL OR PER OWNERS SATISFACTION.

12. TESTING AND INSPECTION:

a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE ENTIRE ELECTRICAL SYSTEM FOR GROUNDS, SHORTS AND PROPER GROUNDING RESISTANCE. A MAXIMUM OF 25 OHMS RESISTANCE FROM NEUTRAL CONDUCTOR AND CONDUIT TO EARTH GROUND SHALL BE PERMITTED. ONLY A GROUND RESISTANCE MEASURING METER OF APPROVED TYPE SHALL BE USED. A COMMON OHM METER IS NOT ACCEPTABLE.

b. THE ELECTRICAL CONTRACTOR SHALL SEE THAT LOCAL INSPECTION AUTHORITIES ARE NOTIFIED WHEN INSPECTIONS ARE REQUIRED BY CODE AND SHALL GIVE ALL NECESSARY ASSISTANCE TO THE INSPECTOR WHEN HE IS MAKING AN INSPECTION.

c. THE ELECTRICAL CONTRACTOR WILL SATISFY ALL REGULATIONS HAVING JURISDICTION ON THIS PROJECT.

d. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.

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MECHANICAL ELECTRICAL PLUMBING

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