



PROFESSIONAL ENGINEER

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Digitally signed by
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Dates of Record
Project Start Date: #####
Issued On Issued For
31 Aug 2021 Tenant's Review & Approval
and Construction

Sheet Contents PLUMBING PLAN AND NOTES

Project Team
Project Number 21386
Sheet Mark
P1.1

PLUMBING GENERAL NOTES

GENERAL

SCOPE
THE INTENT OF THE SPECIFICATION AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE PLUMBING WORK.

SITE EXAMINATION
THE PLUMBING CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS WHERE FIXTURES, EQUIPMENT, AND PIPING WILL BE INSTALLED AND WILL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE PLUMBING WORK.

STANDARDS
EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ASME, ASTM, UL, NEMA, ANSI, ASHRAE, NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.

CODES
ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST.

PERMITS AND FEES
THE PLUMBING CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK.

WARRANTY
THE PLUMBING CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.

PIPING

SOIL, WASTE AND VENT PIPING
SOIL, WASTE AND VENT PIPING 10" AND SMALLER SHALL BE SERVICE WEIGHT, HUBLESS, CAST IRON PIPE AND FITTINGS CONFORMING WITH THE REQUIREMENTS OF CISPI STD 301, ASTM A888 OR ASTM A74, WITH NEOPRENE GASKET AND STAINLESS STEEL SHIELD AND CLAMP. PROVIDE HUB-TYPE PIPE AND FITTINGS BELOW GRADE WHERE REQUIRED BY LOCAL CODES. PIPE AND FITTINGS SHALL BE MARKED WITH THE CISPI TRADEMARK. HORIZONTAL RUNS SHALL DRAIN AT A GRADE OF 1/4 INCH PER FOOT WHERE POSSIBLE BUT IN NO CASE LESS THAN 1/8" PER FOOT. COORDINATE WITH LOCAL AUTHORITIES FOR DRAINAGE REQUIREMENTS FOR EQUIPMENT DESIGNATED WITH INDIRECT WASTE TO FLOOR DRAINS. PROVIDE PIPED DRAIN TO SANITARY IF REQUIRED BY LOCAL JURISDICTION.

DOMESTIC WATER PIPING
DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE COPPER TUBE WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH LEAD FREE SOLDER. PROVIDE TYPE "L" COPPER TUBE ABOVE GRADE AND TYPE "K" BELOW GRADE. PRESS-FIT FITTINGS ARE NOT PERMITTED.

HANGERS & SUPPORTS
THE PLUMBING CONTRACTOR SHALL FURNISH ALL PIPE SUPPORTS REQUIRED FOR HIS EQUIPMENT AND MATERIAL. HANGERS AND PIPE ATTACHMENTS TO BE FACTORY FABRICATED WITH GALVANIZED COATINGS; NONMETALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING.

CONNECTIONS
INSTALL UNIONS ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. SCREW JOINT STEEL PIPING UP TO AND INCLUDING 1-1/2". WELD PIPING USE LEAD FREE SOLDER FOR SOLDERING DOMESTIC WATER COPPER PIPE.

CLEANOUTS
PROVIDE J.R. SMITH OR EQUIVALENT FLOOR AND WALL CLEANOUTS AS INDICATED ON THE DRAWINGS OR WHERE REQUIRED IN ALL SOIL, WASTE, AND DRAIN LINES. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE

SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.

INSTALLATION
INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.

TESTING
ALL PIPES SHALL BE TESTED BY AN APPROVED METHOD BEFORE THEY ARE BACKFILLED OR CONCEALED.

VALVES

GENERAL
PLUMBING CONTRACTOR TO PROVIDE VALVES WHERE INDICATED ON PLANS AND AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT. PROVIDE BRAIDED STAINLESS STEEL HOSE (UNLESS OTHERWISE NOTED) BETWEEN VALVE AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.

VALVES
PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.

INSULATION

WATER PIPING
PROVIDE THERMAL INSULATION ON ALL HOT & COLD WATER PIPING. USE SELF-SEALING CLOSED CELL FOAM OR JACKETED FIBERGLASS INSULATION WITH MANUFACTURER APPROVED ADHESIVES, SEALERS, AND COATINGS. ALL MATERIALS USED SHALL NOT EXCEED 25 FOR FLAME SPREAD, 50 FOR FUEL CONTRIBUTED, OR 50 FOR SMOKE DEVELOPED.

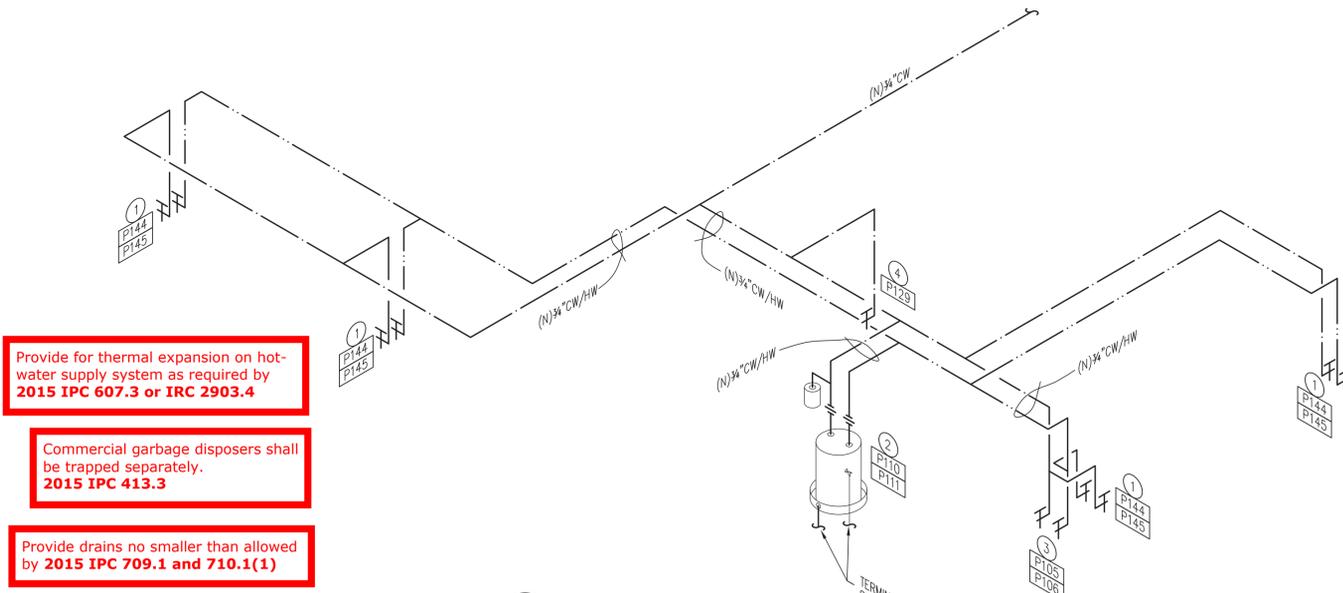
SAFETY COVERS
INSTALL NO-SCALD SAFETY COVERS WITH INSULATED FOAM LINER AND TAMPER PROOF STRAP AT ALL EXPOSED HOT WATER & WASTE PIPING.

MISC PLUMBING FIXTURES

OWNER FURNISHED CONTRACTOR INSTALLED PLUMBING FIXTURES/EQUIPMENT (E.G., ICE MAKER, ETC.)

THE PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO EQUIPMENT INCLUDING REQUIRED MATERIAL SUCH AS PIPING, VALVES, FILTERS, TRAPS, CHECKS VALVES, VACUUM BREAKERS, AND FLEXIBLE AND RIGID TUBING.

| PLUMBING FIXTURE SCHEDULE | | | | | | | | |
|---------------------------|--------------------|---------------|-----------|------|------|----|----|--|
| MARK | DESCRIPTION | MANUFACTURER | MODEL | CW | HW | TW | W | REMARKS |
| P105 | BREAK ROOM SINK | ELKAY | LRAD2521 | | | | 2" | PROVIDE IN-SINK-ERATOR DISPOSER BADGER V, 1/2 HP |
| P106 | SINK FAUCET | DELTA | 9159-DST | 1/2" | 1/2" | | | |
| P110 | WATER HEATER | A.O. SMITH | DEL-10 | 3/4" | 3/4" | | | 120V, 3KW, PROVIDE WATTS LFN36 VAC. RELIEF VALVE. |
| P111 | EXPANSION TANK | AMTROL | ST-5 | 1/2" | | | | |
| P129 | WATER ROUGH-IN BOX | IPS WATERTITE | AB9700HA | 3/8" | | | | W/ WATER HAMMER ARRESTOR. PROVIDE ASSE 1022 BACKFLOW PREVENTER |
| P144 | EXAM ROOM SINK | DXV | D20105000 | | | | 2" | CANVAS WHITE |
| P145 | FAUCET | GROHE | 2303600A | 1/2" | 1/2" | | | SINGLE HANDLE |



Provide for thermal expansion on hot-water supply system as required by 2015 IPC 607.3 or IRC 2903.4

Commercial garbage disposers shall be trapped separately. 2015 IPC 413.3

Provide drains no smaller than allowed by 2015 IPC 709.1 and 710.1(1)

The dry vent must rise 6" vertically above the flood level rim of the highest trapped fixture being vented. 2015 IPC 905.4

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Bobby McKinzie
Date: Oct 03, 2021
2015 INTERNATIONAL CODES & 2020 NEC

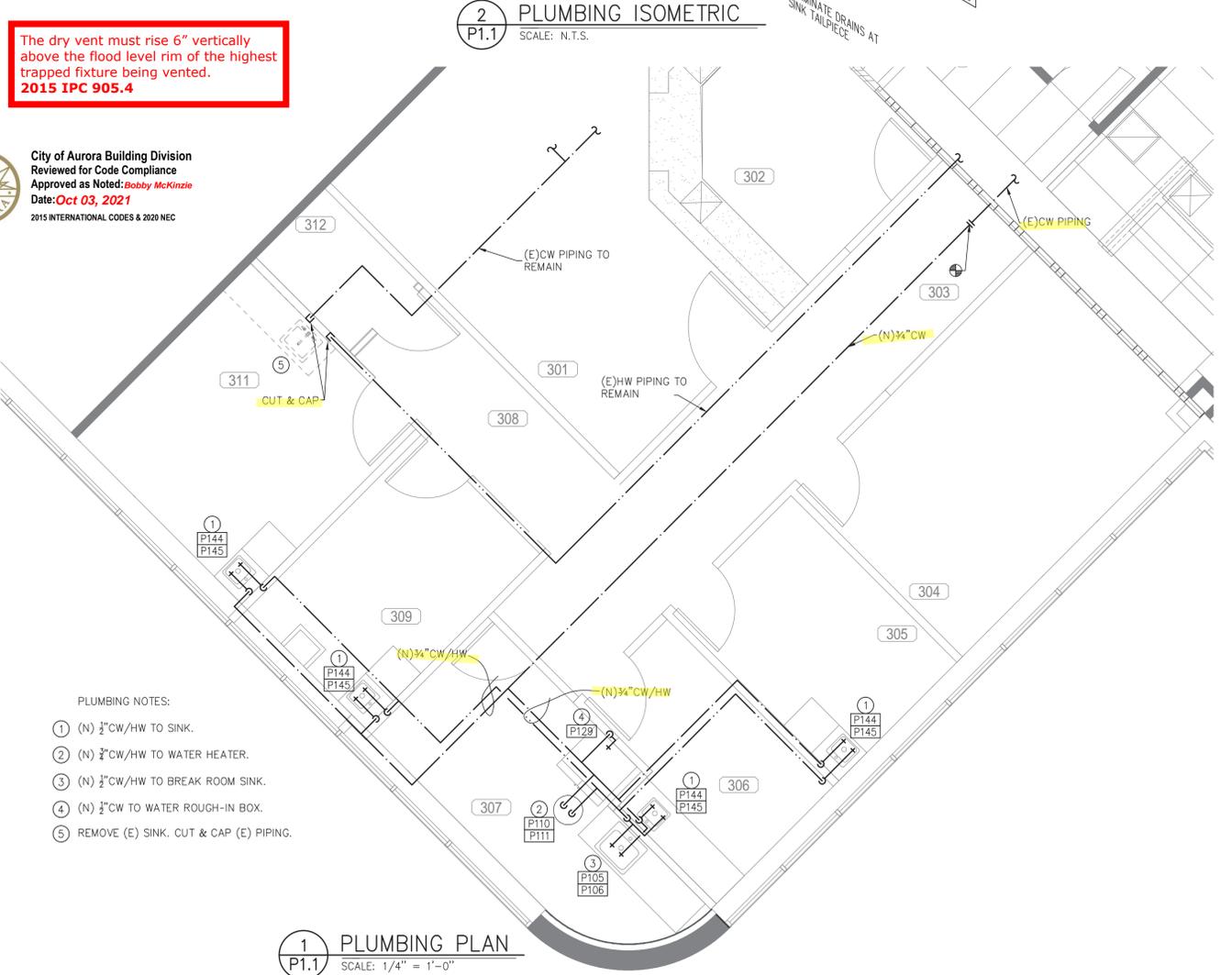
| MINIMUM HYDRONIC & DOMESTIC HOT WATER PIPE INSULATION THICKNESS (IN INCHES) | | | | | | | |
|---|---|-----------------------------|------------------------------------|--------------|--------------|----------|-----|
| FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F) | INSULATION CONDUCTIVITY | | NOMINAL PIPE OR TUBE SIZE (INCHES) | | | | |
| | CONDUCTIVITY BTU - IN. / (H - FT ² - °F) | MEAN RATING TEMPERATURE, °F | LESS THAN 1 | 1 TO < 1-1/2 | 1-1/2 TO < 4 | 4 TO < 8 | ≥ 8 |
| 201 - 250 | 0.27 - 0.30 | 150 | 2.5 | 2.5 | 2.5 | 3.0 | 3.0 |
| 141 - 200 | 0.25 - 0.29 | 125 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 |
| 105 - 140 | 0.21 - 0.28 | 100 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 |
| 40 - 60 | 0.21 - 0.27 | 75 | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 |

| PIPE HANGER SPACING REQUIREMENTS | | | |
|----------------------------------|----------|------------------------|----------------------|
| MATERIAL | SIZE | MAX HORIZONTAL SPACING | MAX VERTICAL SPACING |
| ABS | ALL | 4' | 10' |
| CAST IRON < 10" | ALL | 5' | 15' |
| CAST IRON - 10" | ALL | 10' | 15' |
| COPPER | < 1-1/2" | 6' | 10' |
| COPPER | ≥ 1-1/2" | 10' | 10' |
| PEX | ALL | 32" | 10' |
| PVC | ALL | 4' | 10' |

| PLUMBING SYMBOLS LEGEND | |
|-------------------------|---------------------|
| | WASTE PIPING |
| | VENT PIPING |
| | COLD WATER PIPING |
| | HOT WATER PIPING |
| | GAS PIPING |
| | BALL VALVE |
| | HOSE BIBB |
| | WALL CLEANOUT |
| | FLOOR CLEANOUT |
| | FLOOR DRAIN |
| | CONNECT TO EXISTING |

| PIPE SIZE EQUIVALENTS | | | | |
|-----------------------|---------------------|-------------|--------------------|----------|
| DESIGN SIZE | NOMINAL COPPER TUBE | NOMINAL PEX | NOMINAL BLACK IRON | CSST EHD |
| 1/2" | 1/2" | 1/2" | 1/2" | 18 |
| 3/4" | 3/4" | 1" | 3/4" | 23 |
| 1" | 1" | 1 1/4" | 1" | 31 |
| 1 1/4" | 1 1/4" | 1 1/2" | 1 1/4" | 37 |
| 1 1/2" | 1 1/2" | 2" | 1 1/2" | 47 |
| 2" | 2" | - | 2" | 60 |

| Room Schedule | | | |
|---------------|-----------------|-----|----------------|
| 300 | Elevator Lobby | 307 | Breakroom |
| 301 | Waiting Room | 308 | Tenant Hallway |
| 302 | Reception | 309 | Exam |
| 303 | Tenant Hallway | 310 | Exam |
| 304 | Consultation | 311 | Exam |
| 305 | Exam | 312 | I.T. Storage |
| 306 | Lab / Prep Room | | |



- PLUMBING NOTES:
- (N) 1/2" CW/HW TO SINK.
 - (N) 1/2" CW/HW TO WATER HEATER.
 - (N) 1/2" CW/HW TO BREAK ROOM SINK.
 - (N) 1/2" CW TO WATER ROUGH-IN BOX.
 - REMOVE (E) SINK, CUT & CAP (E) PIPING.

1 P1.1
SCALE: 1/4" = 1'-0"



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QC Kinetix

Dates of Record

Project Start Date: #####

| Issued On | Issued For |
|-------------|------------------------------|
| 31 Aug 2021 | Tenant's Review & Approval: |
| 28 Sep 2021 | and Construction Plan Review |

Sheet Contents WASTE PLAN AND ISOMETRICS

Project Team
 Project Number 21386
 Sheet Mark **P1.2**

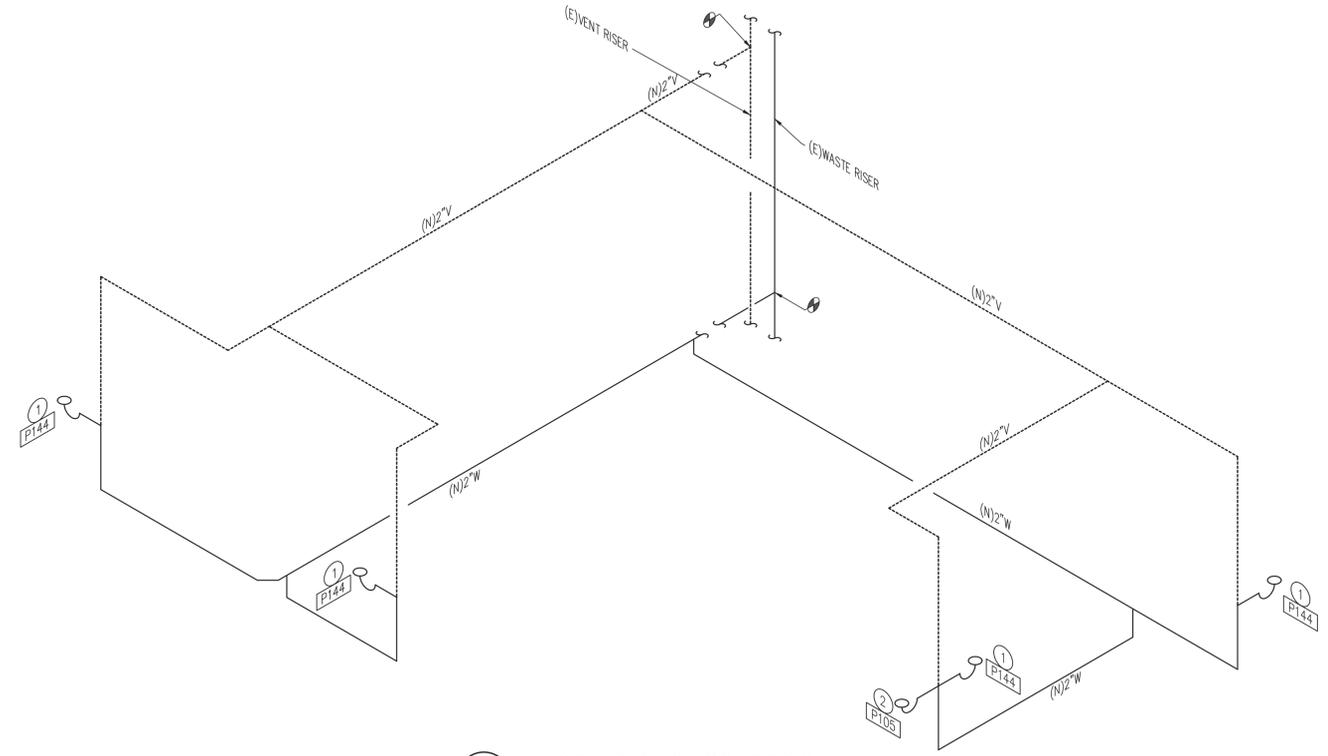
Provide drains no smaller than allowed by **2015 IPC 709.1 and 710.1(1)**

The dry vent must rise 6" vertically above the flood level rim of the highest trapped fixture being vented. **2015 IPC 905.4**

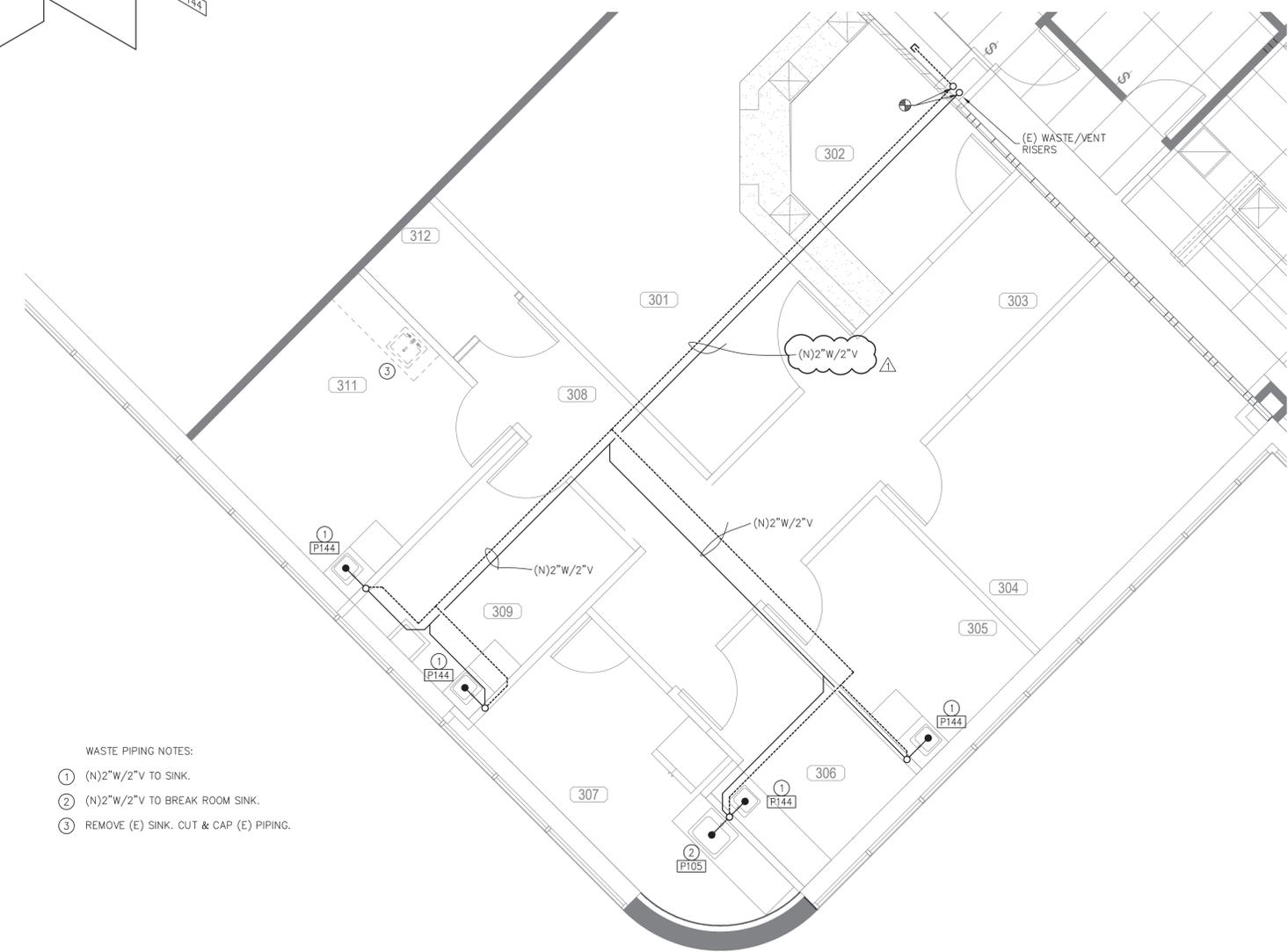
City of Aurora Building Division
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 Approved as Noted: *Bobby McKinzie*
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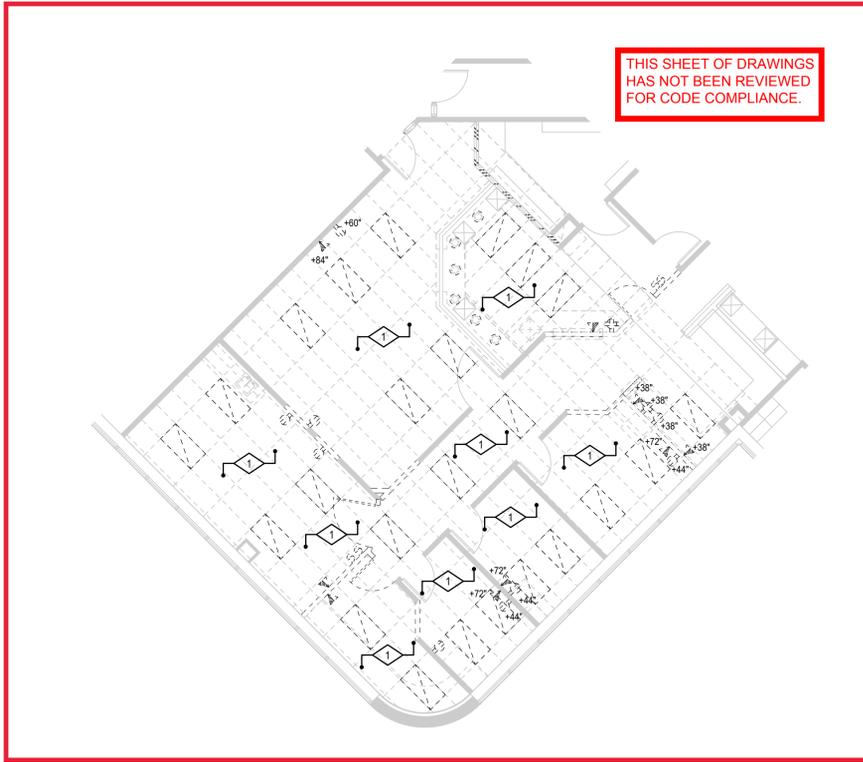


2 WASTE PIPING ISOMETRIC
 P1.2 SCALE: NTS



- WASTE PIPING NOTES:
- ① (N)2" W/2" V TO SINK.
 - ② (N)2" W/2" V TO BREAK ROOM SINK.
 - ③ REMOVE (E) SINK. CUT & CAP (E) PIPING.

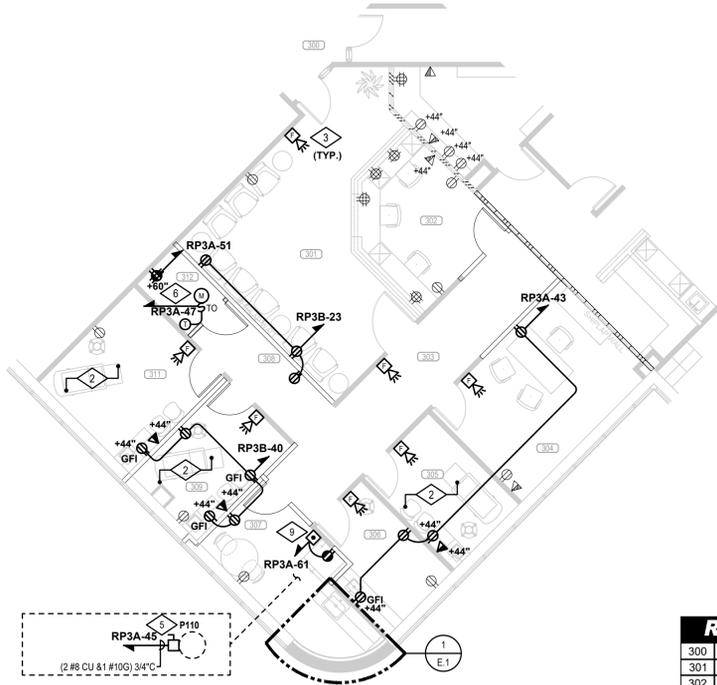
1 WASTE PLAN
 P1.2 SCALE: 1/4" = 1'-0"



DEMOLITION PLAN
SCALE: 1/8"=1'-0"

- GENERAL NOTES:
- REMOVED ITEMS SHOWN AS DASHED AND LIGHT
 - E.C. TO REMOVE ALL ABANDONED CONDUIT/CABLING/WIRING FROM SPACE INCLUDING ABOVE THE CEILING BACK TO SOURCE. ANY CIRCUITS MADE SPARE TO BE TURNED OFF AND LABELED AS SUCH WITH NEW TYPED PANEL SCHEDULES.
 - RETURN LIGHTING FIXTURES NOT REUSED TO PROPERTY MANAGEMENT STOCK.
 - PROTECT CIRCUITS AFFECTED BY DEMOLITION THAT HAVE DEVICES REMAINING AFTER DEMOLITION.
 - PROTECT ANY DEMOLISHED FIRE ALARM DEVICES AND EXIT SIGNS FOR RELOCATION. RETURN ANY UNUSED DEVICES TO BUILDING MANAGEMENT.

- DETAIL NOTES**
- ALL LIGHTING TO BE DEMOLISHED. RETURN LIGHTING FIXTURES TO BUILDING MANAGEMENT.
 - ALL EXISTING LOW VOLTAGE WIRING TO BE REMOVED AND PROVIDED WITH BLANK COVER PLATE.



POWER PLAN
SCALE: 1/8"=1'-0"

- GENERAL NOTES:
- NEW AND RELOCATED ITEMS SHOWN AS BOLD
 - EXISTING ITEMS SHOWN AS LIGHT

- DETAIL NOTES**
- PROVIDE ADHESIVE LABEL WITH CIRCUIT NUMBER ON RECEPTACLES. COORDINATE STYLE OF LABEL WITH PROPERTY MANAGEMENT PRIOR TO INSTALLING. SEE TYPICAL DEVICE LABELING DETAIL.
 - PROVIDE HOSPITAL-GRADE RECEPTACLES FOR ALL DEVICES IN THIS ROOM. ALL BRANCH CIRCUITS IN THIS AREA SHALL BE RUN ENTIRELY IN EMT CONDUIT IN ORDER TO UTILIZE CONDUIT AS REDUNDANT GROUND (PER NEC 517.13) OR PROVIDE GREEN HOSPITAL-GRADE AC/MC CABLE FOR REDUNDANT GROUND. PROVIDE GFCI DEVICES THROUGHOUT. PROVIDE EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT.
 - NEW/RELOCATED FIRE ALARM DEVICE. SEE FIRE ALARM GENERAL NOTES. UTILISE DEMOLISHED DEVICES AND COORDINATE WITH BUILDING ENGINEER FOR DEVICES IN BUILDING STOCKPILE PRIOR TO ORDERING NEW.
 - E.C. TO PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL OFFICES, WAITING ROOMS, PATIENT CARE SPACE, AND CORRIDORS THROUGHOUT PER NEC 406.12.
 - NEW 3000W WATER HEATER, 120V. CONNECT THROUGH NEW DISCONNECT SWITCH. SEE MECHANICAL PLANS FOR DETAILS.
 - TRANSFER FAN CONNECTED TO M.C. SUPPLIED LINE VOLTAGE THERMOSTAT. THERMOSTAT WIRED/INSTALLED BY E.C. CONNECT FAN THROUGH THERMAL SWITCH USING 2-#12 CU AND #12 GND IN 3/4". SEE MECHANICAL PLANS FOR DETAILS. COORDINATE FINAL LOCATION WITH ARCHITECT/TENANT.
 - PROVIDE SWITCHED GFI DUPLEX OUTLET FOR DISPOSAL. PROVIDE GROMMETS AND CORD AND CAPS AS NECESSARY. SEE MECHANICAL PLANS FOR DETAILS.
 - E.C. TO ENSURE RECEPTACLES WITHIN 6" OF SINK EDGE HAVE ACCESSIBLE GFCI PROTECTION. PROVIDE IF NEEDED. MAINTAIN EXISTING CIRCUITS.
 - PROVIDE ABOVE COUNTER DEADFRONT GFI DEVICE AHEAD OF KITCHEN OUTLET TO PROVIDE AN ACCESSIBLE GFI PROTECTION FOR KITCHEN DEVICE. PROVIDE ADHESIVE LABEL TO COVER INDICATING DEVICE SERVED, P&S MODEL 2085 OR EQUAL.

SEPARATE FIRE ALARM PERMIT REQUIRED.
Due to the proposed work the general contractor is required to obtain the services of a fire alarm contractor to determine if a separate alarm permit is required. If it is determined that the spacing of the fire alarm devices is not in compliance, then a separate fire alarm permit is required. Approval of the documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be issued by the Building Division without this fire protection system. 2015 IFC, Section 105.7.6.

Room Schedule

| | | | |
|-----|-----------------|-----|----------------|
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LIGHTING PLAN
SCALE: 1/8"=1'-0"

- GENERAL NOTES:
- NEW AND RELOCATED ITEMS SHOWN AS BOLD
 - EXISTING ITEMS SHOWN AS LIGHT
 - LOWER CASE LETTERING INDICATED ON SWITCHES AND FIXTURES IF SHOWN, WHICH SWITCHES CONTROL WHICH FIXTURES.

- DETAIL NOTES**
- CONNECT TO LOCAL LIGHTING CIRCUIT (AND CONTROLS, AS APPLICABLE). E.C. TO VERIFY NO MORE THAN 70% LOAD ON A SINGLE 277V LIGHTING CIRCUIT.
 - DAYLIGHT DIMMING NOT APPLIED. FIXTURES IN DAYLIGHT ZONE ARE LESS THAN 150W TOTAL PER SPACE.
 - PROVIDE HOSPITAL-GRADE DEVICES IN THIS ROOM. ALL BRANCH CIRCUITS IN THIS AREA SHALL BE RUN ENTIRELY IN EMT CONDUIT IN ORDER TO UTILIZE CONDUIT AS REDUNDANT GROUND PER CODE REQUIREMENTS OR PROVIDE GREEN HOSPITAL-GRADE AC/MC CABLE FOR REDUNDANT GROUND. PROVIDE EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT.
 - NEW SPEAKER LOCATION. COORDINATE WITH LOW VOLTAGE CONTRACTOR.

LIGHTING FIXTURE SCHEDULE

| ID | TYPE | SIZE | DESCRIPTION | MANUFACTURER | MODEL | CATALOG NUMBER | MOUNTING | DIMMING | LUMENS (LM) | TEMP (K) | CRI | VOLTS (V) | WATTS (W) | NOTES |
|----|------|---------|-----------------------------|-------------------|---------------------------|------------------------|-----------|-------------|-------------|----------|-----|-----------|-----------|-------|
| A | LED | 2' X 4' | RECESSED TROFFER | H.E. WILLIAMS | LT-24 | LT-24-L40R35-AF | RECESSED | 10% (0-10V) | 4000 | 3500 | 80+ | 277 | 33.7 | |
| B | LED | d = 5" | DOWNLIGHT | SYLVANIA | 65474 | LEDRT56/R3C/900UD/95CB | RECESSED | 10% (0-10V) | 900 | 3500 | 80+ | 277 | 12 | |
| X | LED | - | EXIT SIGN, GREEN WITH WHITE | LITHONIA LIGHTING | UNIVERSAL MOUNT EXIT SIGN | LITHONIA EDG-W#-GW-EL | UNIVERSAL | - | - | - | - | 277 | - | [EX] |

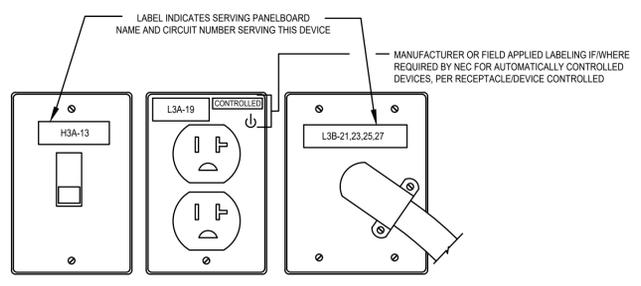
PROVIDE ALL PARTS AND PIECES AS NEEDED FOR COMPLETE INSTALLATION. COORDINATE FINAL LOCATIONS, MOUNTING HEIGHTS, AND FIXTURE OPTIONS WITH ARCHITECT AND/OR TENANT. FIXTURES ON SCHEDULE MAY BE SHOWN FOR REFERENCE ONLY. VERIFY FIXTURE QUANTITIES WITH DRAWINGS PRIOR TO ORDERING.
 * COORDINATE OPTION WITH ARCHITECT/TENANT.
 PROVIDE EG FIXTURES WITH 90-MIN UL924 SWITCHABLE BATTERY BACKUP AND TEST SWITCH AND CIRCUIT TO LOCAL LIGHTING CIRCUIT AHEAD OF MANUAL CONTROL, BUT NOT SENSORS.
 EG CONNECT SWITCH LEADS SO POWER FAILURE OVERRIDES SENSOR CONTROL.
 [EX] PROVIDE EXIT SIGNS WITH 90-MIN BATTERY BACKUP AND CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF CONTROL.

2015 IECC CONTROL MATRIX

| SPACE TYPE | MAN. ON | MAN. OFF | MAN. DIM | OVRD. SW. (TC) | TC OFF | OCC. SENS. ON | OCC. SENS. OFF | 12PM-6AM DIM 30% DOWN | DAY-LTG. DIM | 90-MIN BATT./ GENRTR. | EXT. PHOTO CELL | REMARKS: |
|--|---------|----------|----------|----------------|--------|---------------|----------------|-----------------------|--------------|-----------------------|-----------------|--|
| PRIVATE OFFICE/EXAM ROOM | X | X | * | ** | ** | X | X | | | | | DUAL LEVEL CONTROL THIS AREA. ONLY 50% TO BE AUTO ON. SEPARATE SWITCH FROM OTHER ZONES |
| OPEN OFFICE AREA | X | X | * | ** | ** | X | X | | | | | |
| DAYLIGHT ZONES | X | X | * | ** | ** | X | X | | | | | |
| WALK IN COOLER/FREEZER | X | X | * | ** | ** | X | X | | X | | | |
| TRAINING/CLASS/CONFERENCE/BREAK/COPYWORK/LAB/LOCKER | X | X | * | ** | ** | X | X | | | | | |
| STORAGE/CLOSED/TS/DATA | X | X | * | ** | ** | X | X | | | | | |
| HALLWAY/SLOBIES | X | X | * | ** | ** | X | X | | | | | |
| ENTRY VESTIBULES/STAIRWELLS | X | X | * | ** | ** | X | X | | | | | NIGHTLIGHT BASED ON SAFETY/SECURITY EXCEPTION |
| RESTROOMS | X | X | * | ** | ** | X | X | | | | | |
| ELECTRICAL/MECHANICAL ROOMS | X | X | * | ** | ** | X | X | | | | | PROVIDE OVERRIDE SWITCH FOR SENSOR CONTROL |
| COMMERCIAL KITCHEN | X | X | * | ** | ** | X | X | | | | | |
| PHARMACY/DRUG BINARY | X | X | * | ** | ** | X | X | | | | | |
| WAREHOUSE - AISLES | X | X | * | ** | ** | X | X | | | | | DUAL LEVEL CONTROL THIS AREA. ONLY 50% TO BE AUTO ON. EACH AISLE INDEPENDENT |
| WAREHOUSE - OPEN AREA | X | X | * | ** | ** | X | X | | | | | DUAL LEVEL CONTROL THIS AREA. ONLY 50% TO BE AUTO ON. |
| RETAIL/RESTAURANT SEATING | X | X | * | ** | ** | X | X | | | | | DUAL LEVEL CONTROL MINIMUM, UNLESS DIMMED |
| SPECIFIC APPLICATION CONTROL | X | X | * | ** | ** | X | X | | | | | MANUAL ONLY PER IECC |
| FACTORY/INDUSTRIAL | X | X | * | ** | ** | X | X | | | | | DUAL LEVEL CONTROL THIS AREA. ONLY 50% TO BE AUTO ON. |
| EXTERIOR SITE LIGHTING | | | | | | | | X | | | | |
| EXTERIOR FAÇADE/WALL PACKS | | | | | | | | X | | | | |
| LOADING DOCK | | | | | | | | X | | | | |
| EXTERIOR EG WALL PACKS | | | | | | X | X | | | X | X | UL924/SWITCHED LEADS |
| INTERIOR EG NON-UL | | | | | | ** | ** | | | X | X | UL924/SWITCHED LEADS. SENSOR IN PARALLEL WITH TC |
| INTERIOR EG NL (EXIT SIGNS / FIXTURES DESIGNATED NL) | | | | | | ** | ** | | | X | X | NIGHTLIGHT BASED ON SAFETY/SECURITY EXCEPTION |

NOTE: E.C. TO PROVIDE SHOP DRAWINGS AND SUBMITTALS THROUGH THE APPROPRIATE LIGHTING CONTROLS MANUFACTURER REPRESENTATIVE TO MEET THE ABOVE CONTROL INTENT. SEE OCCUPANCY VACANCY/DAYLIGHT SENSOR SCHEDULE ON COVERSHEET FOR MORE DETAILS. PROVIDE ADDITIONAL POWER PACKS WHERE CONTROLLING MULTIPLE/ADDITIONAL VOLTAGES.
 * MANUAL DIMMING WHERE REQUIRED BY PLANS.
 ** OVERRIDE SWITCH AND TIME CLOCK CONTROL WHERE IF NOTED ON PLANS.
 *** PROVIDE SECOND OCCUPANCY POWER PACK WHERE CONTROLLED IN ROOMS WITH VACANCY SENSORS.

Every circuit and circuit modification shall be legibly identified as to it's clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others. 2020 NEC 408.4



TYPICAL DEVICE LABELING DETAIL
SCALE: NONE

GENERAL NOTES:

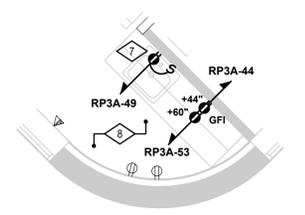
- E.C. TO PROVIDE DESCRIPTION OF USE/FUNCTION OF ANY ALL CONTROLLED RECEPTACLES TO TENANT.

Install electrical connections per 2020 NEC 110.14, Identify disconnects per 2020 NEC 110.22 and provide working space around Electrical equipment per 2020 NEC 110.26

Provide Emergency Illumination Equipment That complies with 2020 NEC 700.12(F) or NEC 700.

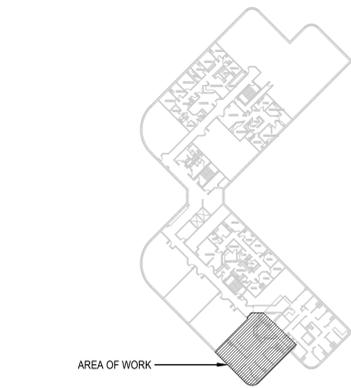
Suspended Ceiling Systems and the Luminaires They support shall meet the requirements of 410.36(B) 2020 NEC

Wiring in air handling space must comply with 2020 NEC 300.22. Firestop penetrations per 2020 NEC 300.21. Secure and support equipment per 2020 NEC 300.11.



ENLARGED BREAK AREA
SCALE: 1/4"=1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Bobby McKinzie
Date: Sep 19, 2021
2015 INTERNATIONAL CODES & 2020 NEC



KEY PLAN



SUPPLIED FROM: PANEL "RP3"

| TYPE | DESCRIPTION | BKR | CIR | LOAD (VOLT AMPS)/PHASE | | | CIR | BKR | DESCRIPTION | TYPE | | |
|----------------------------|-------------|-------------------|-----|--|----------------|------------------|-------------|-------------------|------------------|------|------------|-------|
| | | | | A | B | C | | | | | | |
| 2 | R | RECEPTS-320B | 20 | 43 | 540 | 1000 | 44 | 20 | MICROWAVE-320B | K | | |
| 2 | G | WATER HEATER-320B | 35 | 48 | | 3000 540 | 46 | 20 | RECEPTS-300 | R | | |
| 2 | M | TRANSFER FAN-320B | 20 | 47 | | 80 180 | 48 | 20 | RECEPT-RTU | R | | |
| 2 | K | DISPOSAL-320B | 20 | 49 | 660 | 720 | 50 | 20 | RECEPTS-350 | R | | |
| 2 | G | SERVER-320B | 20 | 51 | | 800 720 | 52 | 20 | RECEPTS-350 | R | | |
| 2 | K | MICROWAVE-320B | 20 | 53 | | 1000 540 | 54 | 20 | RECEPTS-360 | R | | |
| R | R | RECEPT-COMPUTER | 20 | 58 | 360 | 360 | 56 | 20 | RECEPTS-360 | R | | |
| R | R | RECEPTS-320 | 20 | 57 | | 720 540 | 58 | 20 | RECEPTS-360 | R | | |
| R | R | RECEPTS-360 | 20 | 59 | | 720 500 | 60 | 20 | EXISTING LOAD | G | | |
| 1 | K | REFRIGERATOR-320B | 20 | 61 | 1000 | 1200 | 62 | 20 | WATER HEATER-360 | G | | |
| R | R | RECEPTS-300 | 20 | 63 | | 720 500 | 64 | 20 | EXISTING LOAD | G | | |
| R | R | RECEPTS-340 | 20 | 65 | | 720 720 | 66 | 20 | RECEPTS-300 | R | | |
| R | R | RECEPTS-300 | 20 | 67 | 720 | 540 | 68 | 20 | RECEPTS-300 | R | | |
| R | R | RECEPTS-300 | 20 | 69 | | 540 720 | 70 | 20 | RECEPTS-300 | R | | |
| R | R | RECEPTS-340 | 20 | 71 | | 540 720 | 72 | 20 | RECEPTS-300 | R | | |
| R | R | RECEPTS-340 | 20 | 72 | 720 | 540 | 74 | 20 | RECEPTS-330 | R | | |
| R | R | RECEPTS-300 | 20 | 78 | | 540 500 | 76 | 20 | EXISTING LOAD | G | | |
| R | R | RECEPTS-320 | 20 | 77 | | 360 360 | 78 | 20 | RECEPTS-330 | R | | |
| R | R | RECEPTS-370 | 20 | 79 | 900 | 8020 | 80 | 70 | PANEL RP3B | LRMG | | |
| R | R | RECEPTS-370 | 20 | 81 | | 540 8180 | 82 | 70 | PANEL RP3B | LRMG | | |
| R | R | RECEPTS-370 | 20 | 83 | | 720 7780 | 84 | 3P | | LRG | | |
| | | | | 17470 | 16560 | 14920 | | | | | | |
| | | | | A | B | C | ALL PHASES | A | B | C | ALL PHASES | |
| LOAD TYPE | | | | CONNECTED KVA | TOTAL | | | FACTOR | DEMAND KVA | | | TOTAL |
| | | | | A | B | C | ALL PHASES | A | B | C | ALL PHASES | |
| LIGHTING / EV CHARGERS | | | | 1.1 | 1.1 | 0.5 | 2.7 | 125% | 1.4 | 1.4 | 0.6 | 3 |
| RECEPTACLE (10KVA OR LESS) | | | | 3.3 | 3.3 | 3.3 | 10.0 | 100% | 3.3 | 3.3 | 3.3 | 10 |
| RECEPTACLE (OVER 10KVA) | | | | 7.3 | 7.8 | 8.4 | 23.5 | 50% | 3.6 | 3.9 | 4.2 | 12 |
| HVAC/MOTOR | | | | 0.0 | 0.0 | 0.0 | 0.0 | 100% | 0.0 | 0.0 | 0.0 | 0 |
| MOTOR (LARGEST) | | | | 0.5 | 0.5 | 0.1 | 1.1 | 125% | 0.6 | 0.6 | 0.1 | 1 |
| KITCHEN EQUIPMENT | | | | 2.9 | 0.0 | 1.0 | 3.9 | 80% | 2.3 | 0.0 | 0.8 | 3 |
| MISCELLANEOUS | | | | 2.4 | 5.8 | 1.7 | 9.9 | 100% | 2.4 | 5.8 | 1.7 | 10 |
| TOTAL KVA | | | | 17.5 | 18.6 | 14.9 | 51.0 | TOTAL KVA | 13.7 | 15.0 | 10.7 | 39 |
| WITH GROUND BUS | | | | TOTAL AMPS | | | 113.8 | 125.4 | 88.9 | 109 | | |
| LEGEND | | | | L = LTG / EV | R = RECEPTACLE | M = HVAC / MOTOR | K = KITCHEN | G = MISCELLANEOUS | | | | |
| | | | | MAX PERCENT DIFFERENCE BETWEEN PHASES (A,B,C): 20% | | | | | | | | |

1 CIRCUIT REVISED THIS CONTRACT, LOAD ADDED TO PREVIOUSLY SPARE BREAKER.
 2 PROVIDE AND INSTALL NEW BREAKER TO MATCH PANEL MANUFACTURER AND AIC RATING, COORDINATE WITH MANUFACTURER'S REP.

SUPPLIED FROM: BUSSED GUTTER VIA 200A FUSE

| TYPE | DESCRIPTION | BKR | CIR | LOAD (VOLT AMPS)/PHASE | | | CIR | BKR | DESCRIPTION | TYPE | | |
|----------------------------|--------------------|-----|-----|--|----------------|------------------|-------------|-------------------|------------------------|------|------------|-------|
| | | | | A | B | C | | | | | | |
| L | LOUNGE LIGHTING | 20 | 1 | 640 | 360 | | 2 | 20 | RECEPTS-RESTROOM | R | | |
| L | LOUNGE LIGHTING | 20 | 3 | | | | 4 | 20 | RECEPTS | R | | |
| L | LOBBY LIGHTING | 20 | 5 | | | | 6 | 20 | RECEPTS-RESTROOM | R | | |
| R | LOUNGE RECEPTS | 20 | 7 | 360 | 320 | | 8 | 20 | LIGHTING-RESTROOM | L | | |
| R | LOUNGE RECEPTS | 20 | 9 | | | | 10 | 20 | LIGHTING-RESTROOM | L | | |
| R | LOUNGE RECEPTS | 20 | 11 | | | | 12 | 20 | RECEPT-HVAC | R | | |
| R | LOUNGE RECEPTS | 20 | 13 | 360 | 640 | | 14 | 20 | LIGHTING-ELECTRICAL RM | L | | |
| R | LOUNGE RECEPTS | 20 | 16 | | | | 16 | 20 | RECEPT-PHONE BOARD | R | | |
| R | LOUNGE RECEPTS | 20 | 17 | | | | 18 | 20 | RECEPTS-340 | R | | |
| G | EXISTING LOAD | 20 | 19 | 500 | 500 | | 20 | 20 | RECEPTS-340 | G | | |
| R | RECEPTS-SOUTH HALL | 20 | 21 | | | | 22 | 20 | RECEPTS-340 | R | | |
| R | RECEPTS-370 | 20 | 23 | | | | 24 | 20 | RECEPTS-340 | R | | |
| L | LIGHTING-370 | 20 | 25 | 640 | 500 | | 26 | 20 | RECEPTS-340 | G | | |
| G | RECEPTS-370 | 20 | 27 | | | | 28 | 20 | EXISTING LOAD | R | | |
| L | LIGHTING-370 | 20 | 29 | | | | 30 | 20 | RECEPTS-320 | R | | |
| G | EXISTING LOAD | 20 | 31 | 500 | 360 | | 32 | 20 | RECEPTS-370 | R | | |
| G | WATER HEATER | 30 | 33 | | | | 34 | 20 | EXISTING LOAD | G | | |
| G | - | 2P | 35 | | | | 36 | 20 | RECEPTS-370 | R | | |
| R | RECEPTS-310 | 20 | 37 | 720 | 720 | | 38 | 20 | RECEPTS-370 | R | | |
| R | RECEPTS-310 | 20 | 39 | | | | 40 | 20 | RECEPTS-370 | R | | |
| R | RECEPTS-310 | 20 | 41 | | | | 42 | 20 | EXISTING LOAD | G | | |
| | | | | RP3 | 7120 | 7480 | 6360 | | | | | |
| | | | | RP3A | 17470 | 16560 | 14920 | | | | | |
| TOTAL | | | | 24590 | 26040 | 23300 | | | | | | |
| LOAD TYPE | | | | CONNECTED KVA | TOTAL | | | FACTOR | DEMAND KVA | | | TOTAL |
| | | | | A | B | C | ALL PHASES | A | B | C | ALL PHASES | |
| LIGHTING / EV CHARGERS | | | | 3.3 | 2.1 | 1.7 | 7.1 | 125% | 4.2 | 2.6 | 2.2 | 9 |
| RECEPTACLE (10KVA OR LESS) | | | | 3.3 | 3.3 | 3.3 | 10.0 | 100% | 3.3 | 3.3 | 3.3 | 10 |
| RECEPTACLE (OVER 10KVA) | | | | 10.2 | 12.2 | 13.8 | 36.1 | 50% | 5.1 | 6.1 | 6.9 | 18 |
| HVAC/MOTOR | | | | 0.0 | 0.0 | 0.0 | 0.0 | 100% | 0.0 | 0.0 | 0.0 | 0 |
| MOTOR (LARGEST) | | | | 0.5 | 0.5 | 0.1 | 1.1 | 125% | 0.6 | 0.6 | 0.1 | 1 |
| KITCHEN EQUIPMENT | | | | 2.9 | 0.0 | 1.0 | 3.9 | 80% | 2.3 | 0.0 | 0.8 | 3 |
| MISCELLANEOUS | | | | 4.4 | 8.0 | 3.4 | 15.8 | 100% | 4.4 | 8.0 | 3.4 | 16 |
| TOTAL KVA | | | | 24.6 | 26.0 | 23.3 | 73.9 | TOTAL KVA | 19.9 | 20.6 | 16.7 | 57 |
| WITH GROUND BUS | | | | TOTAL AMPS | | | 165.8 | 171.7 | 138.9 | | | 159 |
| LEGEND | | | | L = LTG / EV | R = RECEPTACLE | M = HVAC / MOTOR | K = KITCHEN | G = MISCELLANEOUS | | | | |
| | | | | MAX PERCENT DIFFERENCE BETWEEN PHASES (A,B,C): 11% | | | | | | | | |

PANEL SHOWN FOR REFERENCE ONLY.

SUPPLIED FROM: RP3A

| TYPE | DESCRIPTION | BKR | CIR | LOAD (VOLT AMPS)/PHASE | | | CIR | BKR | DESCRIPTION | TYPE | | |
|----------------------------|--------------------|-----|-----|---|----------------|------------------|-------------|-------------------|-------------------|------|------------|-------|
| | | | | A | B | C | | | | | | |
| M | TREADMILL-360 | 20 | 1 | 500 | 360 | | 2 | 20 | RECEPTS-330 BREAK | R | | |
| M | TREADMILL-360 | 20 | 3 | | | | 4 | 20 | RECEPTS-330 BREAK | R | | |
| R | RECEPTS-360 | 20 | 5 | | | | 6 | 20 | RECEPTS-330 | R | | |
| L | LIGHTS-ROOF | 20 | 7 | 460 | 720 | | 8 | 20 | RECEPTS-330 | R | | |
| L | LIGHTS-ROOF | 20 | 9 | | | | 10 | 20 | RECEPTS-330 | R | | |
| L | LIGHTS-S. CORRIDOR | 20 | 11 | | | | 12 | 20 | RECEPTS-330 | R | | |
| L | LIGHTS-S. CORRIDOR | 20 | 13 | 640 | 540 | | 14 | 20 | RECEPTS-330 | R | | |
| L | LIGHTS-N. CORRIDOR | 20 | 15 | | | | 16 | 20 | RECEPTS-330 | R | | |
| R | RECEPTS-340 | 20 | 17 | | | | 18 | 20 | RECEPTS-330 | R | | |
| R | RECEPTS-360 | 20 | 19 | 360 | 540 | | 20 | 20 | RECEPTS-330 | R | | |
| R | RECEPTS-360 | 20 | 21 | | | | 22 | 20 | RECEPTS-330 | R | | |
| R | RECEPTS-320B | 20 | 23 | | | | 24 | 30 | WATER HEATER-330 | G | | |
| R | RECEPTS-375 | 20 | 25 | 540 | 1200 | | 26 | 2P | EXISTING LOAD | G | | |
| R | RECEPTS-375 | 20 | 27 | | | | 28 | 20 | EXISTING LOAD | G | | |
| R | RECEPTS-375 | 20 | 29 | | | | 30 | 20 | RECEPTS-365 | R | | |
| R | RECEPTS-375 | 20 | 31 | 720 | 720 | | 32 | 20 | RECEPTS-330 | R | | |
| R | RECEPTS-375 | 20 | 33 | | | | 34 | 20 | EXISTING LOAD | G | | |
| R | RECEPTS-375 | 20 | 35 | | | | 36 | 20 | RECEPTS-380 | R | | |
| R | RECEPTS-380 | 20 | 37 | 360 | 360 | | 38 | 20 | RECEPTS-360 | R | | |
| R | RECEPTS-380 | 20 | 39 | | | | 40 | 20 | RECEPTS-320B | R | | |
| R | RECEPTS-380 | 20 | 41 | | | | 42 | 20 | RECEPTS-380 | R | | |
| | | | | 8020 | 8180 | 7780 | | | | | | |
| LOAD TYPE | | | | CONNECTED KVA | TOTAL | | | FACTOR | DEMAND KVA | | | TOTAL |
| | | | | A | B | C | ALL PHASES | A | B | C | ALL PHASES | |
| LIGHTING / EV CHARGERS | | | | 1.1 | 1.1 | 0.5 | 2.7 | 125% | 1.4 | 1.4 | 0.6 | 3 |
| RECEPTACLE (10KVA OR LESS) | | | | 3.3 | 3.3 | 3.3 | 10.0 | 100% | 3.3 | 3.3 | 3.3 | 10 |
| RECEPTACLE (OVER 10KVA) | | | | 1.9 | 2.3 | 2.8 | 6.9 | 50% | 0.9 | 1.1 | 1.4 | 3 |
| HVAC/MOTOR | | | | 0.0 | 0.0 | 0.0 | 0.0 | 100% | 0.0 | 0.0 | 0.0 | 0 |
| MOTOR (LARGEST) | | | | 0.5 | 0.5 | 0.0 | 1.0 | 125% | 0.6 | 0.6 | 0.0 | 1 |
| KITCHEN EQUIPMENT | | | | 0.0 | 0.0 | 0.0 | 0.0 | 100% | 0.0 | 0.0 | 0.0 | 0 |
| MISCELLANEOUS | | | | 1.2 | 1.0 | 1.2 | 3.4 | 100% | 1.2 | 1.0 | 1.2 | 3 |
| TOTAL KVA | | | | 8.0 | 8.2 | 7.8 | 24.0 | TOTAL KVA | 7.5 | 7.5 | 6.5 | 21 |
| WITH GROUND BUS | | | | TOTAL AMPS | | | 62.3 | 62.1 | 54.9 | | | 59 |
| LEGEND | | | | L = LTG / EV | R = RECEPTACLE | M = HVAC / MOTOR | K = KITCHEN | G = MISCELLANEOUS | | | | |
| | | | | MAX PERCENT DIFFERENCE BETWEEN PHASES (A,B,C): 5% | | | | | | | | |

1 CIRCUIT REVISED THIS CONTRACT, LOAD ADDED TO PREVIOUSLY SPARE BREAKER.
 2 PROVIDE AND INSTALL NEW BREAKER TO MATCH PANEL MANUFACTURER AND AIC RATING, COORDINATE WITH MANUFACTURER'S REP.

3PH FAULT CALCULATION

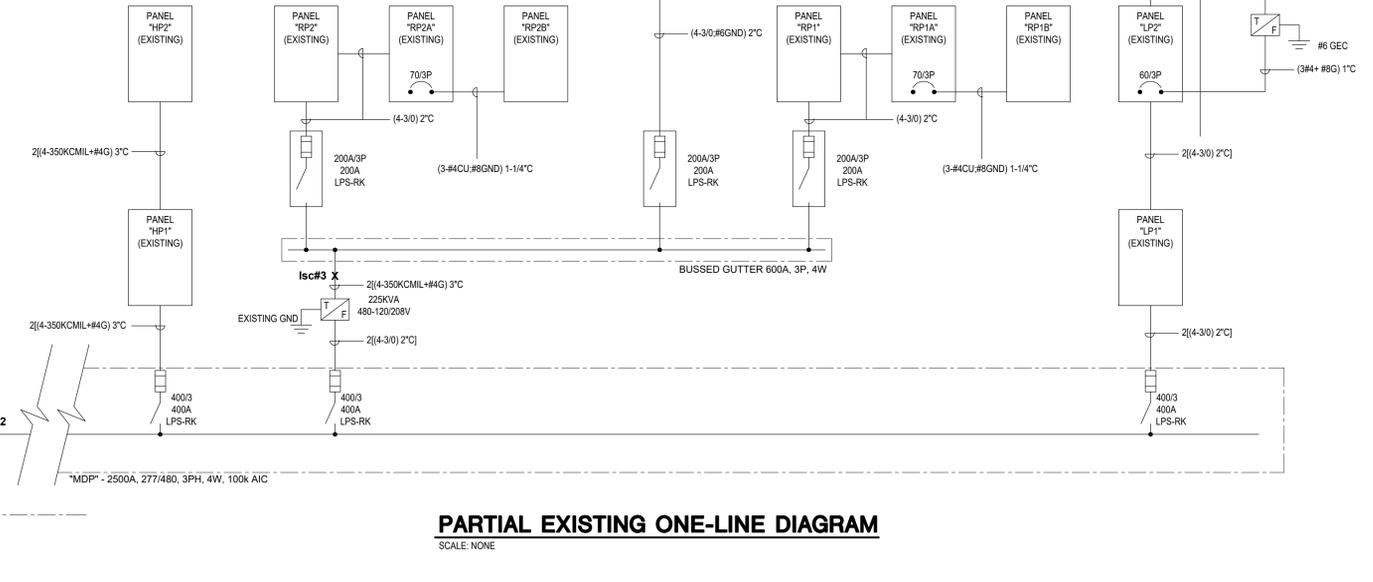
POINT #1, AT THE 750KVA UTILITY TRANSFORMER;
 $I_{sc} = 16,900 \text{ A}$

POINT #2, AT THE MAIN DISCONNECT;
 $f = 1.73 \times \text{Length} \times I_{sc}(\text{source}) / \text{L-L Volts} \times \text{Wire Factor}$
 $f = 1.73 \times 125 \times 16900 \text{ A} / 480 \times 186942$
 $f = 0.04$
 $M = 1 / 1 + f = 1 / 1 + 0.04 = 0.96$
 $I_{sc} = M \times I_{sc}(\text{source}) = 0.96 \times 16900 \text{ A} = 16,239 \text{ A}$

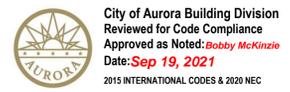
POINT #3, THROUGH THE 225 KVA TRANSFORMER;
 $f = [I_p \times V_p \times 73 \times \%Z / 100,000 \times \text{KVA}]$
 $f = [16239 \text{ A} \times 480 \text{ V} \times 1.73 \times 5.60]$
 $f = 3.09$
 $M = 1 / 1 + f = 1 / 1 + 3.09 = 0.24$
 $I_{sc} = (V_p / V_s) \times M \times I_{sc} = (480 \text{ V} / 208 \text{ V}) \times 0.24 \times 16239 \text{ A}$
 $I_{sc} = 9,151 \text{ A}$

Every circuit and circuit modification shall be legibly identified as to its clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others. 2020 NEC 408.4

Service Equipment shall be permanently and legibly marked to show the available fault current and date. 2020 NEC 110.24(A)(B)



PARTIAL EXISTING ONE-LINE DIAGRAM
 SCALE: NONE



City of Aurora Building Division
 Reviewed for Code Compliance
 Approved as Noted: Bobby McKinzie
 Date: Sep 19, 2021
 2015 INTERNATIONAL CODES & 2020 NEC



Dates of Record
 Project Start Date: 21 Jun 2021
 Issued On: Issued For:
 05 August 2021 Tenant's Review & Approval and Construction

COMcheck Software Version 4.1.5.1
Interior Lighting Compliance Certificate

Project Information
 Energy Code: 2015 IECC
 Project Title: QC Kinetix
 Project Type: Alteration

Construction Site: 1550 S. Potomac St. Suite 320 Aurora, CO 80012
 Owner/Agent: Tenant Planning Services 1660 Lincoln St. Suite 100 Denver, CO 80264 303.861.4800
 Designer/Contractor: Robert Clark Corey Electrical Engineering Inc. 7822 S. Wheeling Ct. Suite B Englewood, CO 80112 303.696.1257 rclark@coreyeng.com

| Allowed Interior Lighting Power | | | |
|---|---------------------------------|----------------------|-------------------------|
| A Area Category | B Floor Area (ft ²) | C Allowed Watts / R2 | D Allowed Watts (B X C) |
| 1-Common Space Types:Office - Open Plan | 1672 | 0.98 | 1639 |
| Total Allowed Watts = | | | 1639 |

| Proposed Interior Lighting Power | | | | |
|--|------------------|-----------------|-----------------|-----------|
| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixtures | D Fixture Watt. | E (C X D) |
| Common Space Types:Office - Open Plan (1672 sq.ft.) | | | | |
| LED 1: LED Linear 33W: | 1 | 25 | 32 | 792 |
| LED 2: LED A Lamp 12W: | 1 | 7 | 12 | 84 |
| Total Proposed Watts = | | | 876 | |

Interior Lighting PASSES

Interior Lighting Compliance Statement
 Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Robert Clark, Project Engineer
 Name - Title: _____ Signature: _____ Date: 08/27/2021

Project Title: QC Kinetix Report date: 09/01/21
 Data filename: F:\DATA\ACAD\21 Archives\21200 - 21299\21273 QC Kinetix Suite 320\Design\IECC-Comcheck\21273.cck Page 1 of 5

COMcheck Software Version 4.1.5.1
Inspection Checklist
 Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the COMcheck software
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---------------------------|---|--|----------------------|
| C103.2 [PR4] ¹ | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: QC Kinetix Report date: 09/01/21
 Data filename: F:\DATA\ACAD\21 Archives\21200 - 21299\21273 QC Kinetix Suite 320\Design\IECC-Comcheck\21273.cck Page 2 of 5

| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|--|---|--|----------------------|
| C405.2.1 [EL15] ¹ | Lighting controls installed to uniformly reduce the lighting load by at least 50%. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.1 [EL18] ¹ | Occupancy sensors installed in required spaces. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.1, C405.2.2, 3 [EL23] ¹ | Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.2.1 [EL22] ¹ | Automatic controls to shut off all building lighting installed in all buildings. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.3 [EL16] ¹ | Daylight zones provided with individual controls that control the lights independent of general area lighting. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.3.1, C405.2.3.2 [EL20] ¹ | Primary sidelighted areas are equipped with required lighting controls. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.3.1, C405.2.3.3 [EL21] ¹ | Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.4 [EL4] ¹ | Separate lighting control devices for specific uses installed per approved lighting plans. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.4 [EL8] ¹ | Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.3 [EL6] ¹ | Exit signs do not exceed 5 watts per face. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: QC Kinetix Report date: 09/01/21
 Data filename: F:\DATA\ACAD\21 Archives\21200 - 21299\21273 QC Kinetix Suite 320\Design\IECC-Comcheck\21273.cck Page 3 of 5

| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|--|---|--|--|
| C303.3, C408.2.5.2 [F117] ¹ | Furnished O&M instructions for systems and equipment to the building owner or designated representative. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.4.1 [F118] ¹ | Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Interior Lighting fixture schedule for values. |
| C408.2.5.1 [F116] ¹ | Furnished as-built drawings for electric power systems within 90 days of system acceptance. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.3 [F133] ¹ | Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: QC Kinetix Report date: 09/01/21
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QC Kinetix

Dates of Record
 Project Start Date: 21 Jun 2021
 Issued On: 05 August 2021
 Issued For: Tenant's Review & Approval, and Construction

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