

GENERAL NOTES - FINISH PLANS:

GENERAL NOTES THAT ARE APPLICABLE. 2. RE: FINISH LEGEND, AND FLOOR FINISH PLANS FOR SPECIFIC FINISH INFORMATION HOEFER WELKER

4622 PENNSYLVANIA AVENUE

SUITE 1400 KANSAS CITY. MO 64112

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3. RE: FINISH DETAILS SHEET Al501 FOR ADDITIONAL FINISH AND FLOOR TRANSITION

4. RE: FINISH DETAILS SHEET Al501 FOR ADDITIONAL WALL FINISH / WALL PROTECTION DETAILS. 5. FLOOR FINISHES SHOWN ARE FOR ACCENT

CLARIFICATION ONLY. RE: FINISH TAGS FOR ADDITIONAL INFORMATION. 6. FLOOR FINISH PATTERN SHALL BE CENTERED IN ROOM, UNLESS NOTED

7. ALIGN ALL WALL BASE JOINTS WITH FLOOR TILE JOINTS, UNLESS NOTED OR SHOWN 8. ALL CLOSETS AND ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL

HAVE THE SAME FLOOR FINISHES AS ADJOINING SPACES. 9. FLOOR FINISH MATERIAL AND/ OR PATTERN SHALL BE INSTALLED UNDER TOE KICKS OF CASEWORK/MILLWORK, UNDER OPEN

COUNTERTOPS, AND UNDER EQUIPMENT. 10. FLOOR MATERIAL/ COLOR TRANSITIONS TO BE CENTERED UNDER DOOR, UNLESS NOTED OR SHOWN OTHERWISE.

11. RE: Al501 FOR ALL FLOORING TRANSITION DETAILS & FINISH WALL PROTECTION 12. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING FOR WALL

PROTECTION ATTACHMENT. THIS INCLUDES, BUT IS NOT LIMITED TO: HANDRAILS. RE: MANUFACTURE'S GUIDELINES FOR 13. CONTRACTOR SHALL PROVIDE MANUFACTURER'S STANDARD ACCESSORY

MOLDING OR TRIM FOR WALL PROTECTION ITEMS, UNLESS NOTED OTHERWISE. 14. IF WALL IS LESS THAN 18" WIDE DO NOT PROVIDE HANDRAIL. HANDRAILS SHOULD STOP APPROXIMATELY 3" FROM THE OPEN SWING OF A DOOR. HANDRAILS SHOULD STOP APPROXIMATELY 3" FROM A CORNER GUARD. RE: SHEET Al501

FOR ALL WALL MOUNTED EQUIPMENT. RE G-021 FOR CLARIFICATION. 16. CONTRACTOR SHALL PROVIDE BLOCKING FOR SIGNS AS CALLED OUT ON

ROOM FINISH TAG KEY LEGEND FLOOR FINISH WALL BASE

WALL FINISH LEGEND GUARD (PC) ACCENT PAINT (WP) TILE (WT) FABRIC WRAPPED PANELS (SF) SPECIALTY WALLS (S-)

> NOT ALL WALL FINISHES ARE SHOWN GRAPHICALLY. REFER TO SHEETS A-601, A-602, A-603 AND SERIES A-45100 FOR SPECIFIC LOCATIONS AND MATERIALS

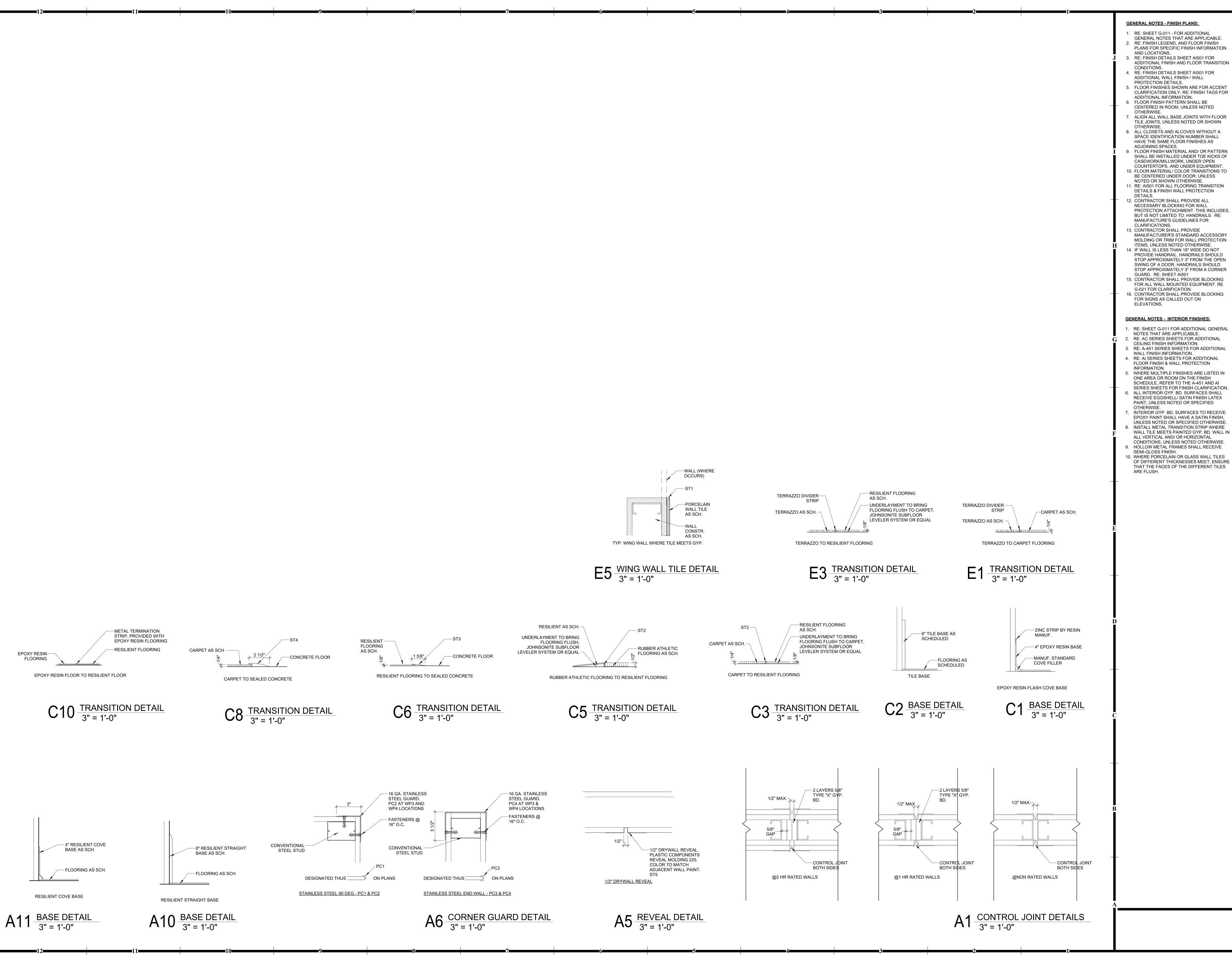
| FLOOR FINISH | H LEGEND |
|--------------|----------|
| | FA1/FC |
| | FA1/FVT2 |
| | FC |
| | FA2 |
| | FE |
| | FER |
| | FR |
| | FT |
| | FVT1 |
| | FVT2 |
| | FZ |

REVISION DATES: 3 ADDENDUM 3 11/18/2024

PROFESSIONAL SEAL

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MAIN LEVEL - FINISH PLAN



HOEFER WELKER

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KANSAS CITY, MO 64112

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REVISION DATES:

A-2016011211 II/1/2"

HOEFER WELKER #: 138191

FINISH DETAILS

PROFESSIONAL SEAL

| | | FINISH LEGEND | | |
|-------------------|---------------------------------------|--|--|--|
| SYMBOL | MATERIAL | FINISH SPEC | TYP. AREA / REMARKS | CONTACT |
| OOR FINISH FA1 | ACCESS FLOORING | MANF: TATE | DISPATCH/EOC | NAME: DOUG EVAK |
| 101 | ACCESS FLOORING | STYLE: CONCORE 1000 FINISH: PER FINISH PLAN | DIGITATORIEGO | PHONE: 331.300.5465 EMAIL: DEVAK@TATEINC.COM |
| | | COLOR: STANDARD UNFINISHED INSTALLATION: PER MANUFACTURER | | _ |
| FA2 | ACCESS FLOORING | MANF: TATE STYLE: CONCORE 2500/3000 FINISH: ESD STATIC DISSAPATIVE VINYL - FORBO | SERVER/STORAGE | NAME: DOUG EVAK PHONE: 331.300.5465 EMAIL: DEVAK@TATEINC.COM |
| | | COLOREX SD COLOR: SD 150240 ETNA | | EMAIL: DEVAR@TATEINC.COM |
| FC | MODULAR CARPET TILE | INSTALLATION: PER MANUFACTURER MANF: MILLIKEN | FIELD | NAME: JENNY WOLFF |
| | | STYLE: HEAVY META - FOUNDRY COLOR: TUNGSTEN FDR174-133 | | PHONE: 816.814.5890 EMAIL: JENNIFER.WOLFF@MILIKEN.COM |
| FE | ENTRANCE FLOORING | SIZE: 25CM X 1M INSTALLATION: VERTICAL ASHLAR MANF: INTERFACE | VESTIBULES | NAME: KATIE ALLEN |
| 1 - | ENTITATION LEGITING | STYLE: STEP REPEAT SR899 COLOR: 104941 ONYX | VESTIBULES | PHONE: 816.673.5771 EMAIL: KATIE.ALLEN@INTERFACE.COM |
| | | SIZE: 50CM X 50CM INSTALLATION: MONOLITHIC | | |
| FER | EPOXY RESIN FLOORING | MANF: DESCO STYLE: QUARTZ CERMONA SERIES COLOR: CUSTOM COLOR, S#0820-728TG | LOWER LEVEL LOCKER ROOM | NAME: BLAKE WOOD PHONE: 913.782.3330 EMAIL: BLAKE@DESCOCOATINGS.COM |
| | | FINISH: ORANGE PEEL SHEEN: SATIN | | Liwite. Bertite & Best State of the State of |
| FR | RUBBER ATHLETIC FLOOR - ROLLED GOODS | MANF: ECORE STYLE: PERFORMANCE RALLY | FITNESS | NAME: RYAN CLAVENNA PHONE: 815.341.2555 |
| | DUDDED CTAID TOTADO W/INTEGDAL DICED | COLOR: ES15A STEEL APPEAL 2 ROLL WIDTH: 48" WIDE SHEETS | | EMAIL: RLCLAVENNA@ECOREINTL.COM NAME: KATIE ALLEN |
| FS | RUBBER STAIR TREADS W/ INTEGRAL RISER | MANF: NORA BY INTERFACE STYLE: NORAMENT STAIRTREADS COLOR: STONE GREY | | PHONE: 816.673.5771 EMAIL: KATIE.ALLEN@INTERFACE.COM |
| FT | PORCELAIN TILE | TEXTURE: HAMMERED 0749 MANF: CROSSVILLE | | NAME: NIKKI VAN DYNE |
| | | STYLE: MOONSTRUCK COLOR: GEMINI SIZE: 12X24 | | PHONE: 913.620.6098 EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM |
| | | INSTALLATION: PER FINISH FLOOR PLAN GROUT: MAPEI KERAPOXY - 5009 GRAY | | |
| FVT1 | LUXURY VINYL FLOORING | MANF: INTERFACE STYLE: LEVEL SET - TEXTURED WOODGRAINS | MAIN LEVEL/ELEVATOR | NAME: KATIE ALLEN PHONE: 816.673.5771 |
| | | COLOR: A00422 RUSTIC HICKORY SIZE: 25CM X 1M | | EMAIL: KATIE.ALLEN@INTERFACE.COM |
| FVT2 | LUXURY VINYL FLOORING | INSTALLATION: ASHLAR MANF: PATCRAFT STYLE: ENERGIZE 1602V | LOWER LEVEL | NAME: SARAH JENKINS PHONE: 913.237.7586 |
| | | COLOR: INTENTION-V1 00700 SIZE: 9IN X 36IN | | EMAIL: SARAH.JENKINS@PATCRAFT.COM |
| FX | SEALED CONCRETE | INSTALLATION: STAGGER MANF: TBD | | |
| | DOUBED EDOW/ TERRA 770 | STYLE: TBD COLOR: CLEAR | LODDYAMAITING | NAME, MUCE PRANTEY |
| FZ | POURED EPOXY TERRAZZO | MANF: TERRAZZO & MARBLE SUPPLY COMPANY STYLE: TERRAZZO FLOORING COLOR: CUSTOM COLOR TM# 23-2490 2A | LOBBY/WAITING | NAME: MIKE BRAWLEY PHONE: 847.777.6754 EMAIL: MBRAWLEY@TMSUPPLY.COM |
| | | INTALLATION: TROWELED | | LIWILL MISTORNEL TO TWO STITE LT. SOW |
| LL BASE BE | EPOXY RESIN FLASH COVE W/ METAL | MANF: DESCO | AT FER LOCATIONS UNLESS NOTED | NAME: BLAKE WOOD |
| | TERMINATION STRIP | STYLE: QUARTZ CERMONA SERIES COLOR: CUSTOM COLOR, S#0820-728TG | OTHERWISE | PHONE: 913.782.3330 EMAIL: BLAKE@DESCOCOATINGS.COM |
| | | FINISH: ORANGE PEEL SHEEN: SATIN HEIGHT: 4" | | |
| BR1 | PROFILED RESILIENT BASE | MANF: ROPPE STYLE: CONTOURS PROFILED BASE - VERTICAL PV6065 | | NAME: WENDY BREMER PHONE: 630.277.1414 |
| | | COLOR: 193 BLACK BROWN HEIGHT: 6" | | EMAIL: WABREMER@ROPPE.COM |
| BR2 | RESILIENT COVE BASE | MANF: ROPPE STYLE: 700 SERIES PROFILE: TOE BASE | | NAME: WENDY BREMER PHONE: 630.277.1414 EMAIL: WABREMER@ROPPE.COM |
| | | COLOR: 193 BLACK BROWN HEIGHT: 4" | | LIMAIL. WADILLING NOFFE.COM |
| ВТ | TILE BASE | MANF: CROSSVILLE STYLE: MOONSTRUCK | AT FT LOCATIONS UNLESS NOTED OTHERWISE | NAME: NIKKI VAN DYNE PHONE: 913.620.6098 |
| | | COLOR: GEMINI HEIGHT: 12" X 24" TILE CUT TO 6" HIGH WITH MANUFACTURER'S EDGE FACING UP | | EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM |
| BZ | TERRAZZO WALL BASE | GROUT: MAPEI KERAPOXY - 5009 GRAY MANF: TERRAZZO & MARBLE SUPPLY COMPANY | AT FZ LOCATIONS UNLESS NOTED | NAME: MIKE BRAWLEY |
| | | STYLE: TERRAZZO FLOORING COLOR: CUSTOM COLOR TM# 23-2490 2A | OTHERWISE | PHONE: 847.777.6754 EMAIL: MBRAWLEY@TMSUPPLY.COM |
| | | INTALLATION: TROWELED HEIGHT: 6" | | |
| _L FINISH WC | EPOXY RESIN WALL FINISH | MANF: DESCO | SHOWERS | NAME: BLAKE WOOD |
| | | STYLE: QUARTZ CERMONA SERIES COLOR: CUSTOM COLOR, S#0820-728TG | 1 - 1 - 1 - 1 | PHONE: 913.782.3330 EMAIL: BLAKE@DESCOCOATINGS.COM |
| NA/E | DANIE | FINISH: ORANGE PEEL SHEEN: SATIN | | NAME, DETER VOET !! |
| WE | PAINT - EPOXY | MANF: SHERWIN WILLIAMS STYLE: EPOXY, SATIN FINISH COLOR: FIRST STAR SW7646 | | NAME: PETER KREMM PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM |
| WP1 | PAINT - LATEX | MANF: SHERWIN WILLIAMS STYLE: LATEX, EG-SHEL FINISH | FIELD | NAME: PETER KREMM PHONE: 303.902.7239 |
| WP2 | PAINT - LATEX | COLOR: FIRST STAR SW7646 MANF: SHERWIN WILLIAMS | | EMAIL: PETER.KREMM@SHERWIN.COM NAME: PETER KREMM |
| MEC | DANKE LATEN | STYLE: LATEX, EG-SHEL FINISH COLOR: SILVERPLATE SW7649 | | PHONE: 303.902.7239 EMAIL: PETER KREMM@SHERWIN.COM |
| WP3 | PAINT - LATEX | MANF: SHERWIN WILLIAMS STYLE: LATEX, EG-SHEL FINISH COLOR: CITYSCAPE SW7067 | | NAME: PETER KREMM PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM |
| WP4 | PAINT - LATEX | MANF: SHERWIN WILLIAMS STYLE: LATEX, EG-SHEL FINISH | ACCENT PAINT AS NOTED IN DRAWINGS & PAINT USED FOR | NAME: PETER KREMM PHONE: 303.902.7239 |
| | | COLOR: IRON ORE SW7069 | EXPOSED INTERIOR METAL COLUMNS | EMAIL: PETER.KREMM@SHERWIN.COM |
| WP5 | PAINT - LATEX | MANF: SHERWIN WILLIAMS STYLE: LATEX, EG-SHEL FINISH | | NAME: PETER KREMM PHONE: 303.902.7239 |
| WT1 | PORCELAIN WALL TILE | COLOR: SEA SERPANT SW7615 MANF: CROSSVILLE STYLE: MOONSTRUCK | | EMAIL: PETER.KREMM@SHERWIN.COM NAME: NIKKI VAN DYNE PHONE: 913 620 6008 |
| | | STYLE: MOONSTRUCK COLOR: JUNO SIZE: 12X24 | | PHONE: 913.620.6098 EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM |
| WT2 | CERAMIC WALL TILE | GROUT: MAPEI KERAPOXY - 5093 WARM GRAY MANF: ANATOLIA | | NAME: NIKKI VAN DYNE |
| | | STYLE: TERAMODA COLOR: STONE, GLOSSY FINISH | | PHONE: 913.620.6098 EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM |
| | | SIZE: 3X12 GROUT: MAPEI KERAPOXY - 5077 FROST INSTALLATION: BASKETWEAVE | | |
| WT3 | CERAMIC WALL TILE | MANF: ANN SACKS STYLE: SAVOY HIVE | | NAME: SONYA CAZENAVE PHONE: 303.282.9300 |
| | | COLOR: LANTERN SIZE: 13X11 MOSAIC | | EMAIL: SONYA.CASENAVE@ANNSACKS.COM |
| WT4 | GLASS MOSAIC WALL TILE | GROUT: MAPEI KERAPOXY - 5077 FROST MANF: TILEBAR STYLE: MATCHETLY | | NAME: LIZ LESTER |
| | | STYLE: MATCHSTIX COLOR: RAINSTORM | | PHONE: EMAIL: LLESTER@TILEBAR.COM |

| | | | | | GENERAL NOTES - INTERIOR FINISHES: 1. RE: SHEET G-011 FOR ADDITIONAL GENER |
|---------------------|---|--|--|--|---|
| | | FINISH LEGEND | | | NOTES THAT ARE APPLICABLE. 2. RE: AC SERIES SHEETS FOR ADDITIONAL |
| SYMBOL | MATERIAL | FINISH SPEC | TYP. AREA / REMARKS | CONTACT | CEILING FINISH INFORMATION. 3. RE: A-451 SERIES SHEETS FOR ADDITION WALL FINISH INFORMATION. |
| WALL PROTECTION PC1 | N STAINLESS STEEL CORNER GUARD - 90 DEGREE | MANE: CONSTRUCTION SPECIALTIES | | NAME: RICK STINGLEY | 4. RE: AI SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION |
| | 6' - 0" H | STYLE: CO-8 COLOR: STAINLESS STEEL, SATIN FINISH | | PHONE: 816.536.0229 EMAIL: RICK.S@CLOUTMANANDSTINGLEY.COM | INFORMATION. 5. WHERE MULTIPLE FINISHES ARE LISTED ONE AREA OR ROOM ON THE FINISH |
| DO0 | OTAINI FOO OTES! CORNER CHARR OF DECREE | SIZE: 3" WING INSTALLATION: INSTALL AT TOP OF WALL BASE | AT MIDO & MIDA I COATIONO | NAME DIOKOTINOLEY | SCHEDULE, REFER TO THE A-451 AND AI SERIES SHEETS FOR FINISH CLARIFICAT |
| PC2 | STAINLESS STEEL CORNER GUARD - 90 DEGREE 6' - 0" H | STYLE: CO-8 COLOR: METAL POWDER COAT - GRAY HAMMERTONE | AT WP3 & WP4 LOCATIONS | NAME: RICK STINGLEY PHONE: 816.536.0229 EMAIL: RICK.S@CLOUTMANANDSTINGLEY.COM | 6. ALL INTERIOR GYP. BD. SURFACES SHAL RECEIVE EGGSHELL/ SATIN FINISH LATE PAINT, UNLESS NOTED OR SPECIFIED |
| | | #004 SIZE: 3" WING | | | OTHERWISE. 7. INTERIOR GYP. BD. SURFACES TO RECE |
| PC3 | STAINLESS STEEL CORNER GUARD - END WALL, 6 | | | NAME: RICK STINGLEY | EPOXY PAINT SHALL HAVE A SATIN FINIS UNLESS NOTED OR SPECIFIED OTHERW |
| | - 0" H | STYLE: SCO-8 COLOR: STAINLESS STEEL, SATIN FINISH SIZE: 3 1/2" END WALL | | PHONE: 816.536.0229 EMAIL: RICK.S@CLOUTMANANDSTINGLEY.COM | 8. INSTALL METAL TRANSITION STRIP WHE WALL TILE MEETS PAINTED GYP. BD. WA ALL VERTICAL AND/ OR HORIZONTAL |
| PC4 | STAINLESS STEEL CORNER GUARD - END WALL, (| INSTALLATION: INSTALL AT TOP OF WALL BASE | AT WP3 & WP4 LOCATIONS | NAME: RICK STINGLEY | CONDITIONS, UNLESS NOTED OTHERWIS 9. HOLLOW METAL FRAMES SHALL RECEIV |
| | - 0" H | STYLE: SCO-8 COLOR: METAL POWDER COAT - GRAY HAMMERTONE | | PHONE: 816.536.0229 EMAIL: RICK.S@CLOUTMANANDSTINGLEY.COM | SEMI-GLOSS FINISH. 10. WHERE PORCELAIN OR GLASS WALL TIL OF DIFFERENT THICKNESSES MEET, ENS |
| | | #004 SIZE: 3 1/2" END WALL INSTALLATION: INSTALL AT TOP OF WALL BASE | | | THAT THE FACES OF THE DIFFERENT TIL ARE FLUSH. |
| LLWORK / CASEV | WORK | | | | REMARKS: |
| ML1 | PLASTIC LAMINATE | MANF: WILSONART STYLE: PREMIUM LAMINATE | | NAME: MANDY BRIDGES PHONE: 913.484.2691 | REFER TO TOILET ELEVATIONS ON SHEET A-402 FOR TYPICAL WALL TILE INSTALLAT |
| MLO | DI ACTIC I AMINIATE | COLOR: MANGALORE MANGO 7984-38 EDGEBAND: .018" PVC TO MATCH | | EMAIL: MANDY BRIDGES@VIRGINIATILE.COM | PATTERNS. |
| ML2 | PLASTIC LAMINATE | MANF: WILSONART STYLE: PREMIUM LAMINATE COLOR: SLATE GREY D91-60 | | NAME: MANDY BRIDGES PHONE: 913.484.2691 EMAIL: MANDY.BRIDGES@VIRGINIATILE.COM | |
| MQ | QUARTZ SURFACE | EDGEBAND: .018" PVC TO MATCH MANF: WILSONART | | NAME: MANDY BRIDGES | |
| | | STYLE: QUARTZ COLOR: HAIDA Q4008 THICKNESS: 3CM COUNTERTOPS, 2CM BACKSPLASHES | | PHONE: 913.484.2691 EMAIL: MANDY.BRIDGES@VIRGINIATILE.COM | ■ H |
| MS | GRANITE SURFACE | MANF: STONE SOURCE STYLE: GRANITE | EXTERIOR COUNTERTOP | NAME: MITCH KALMAR PHONE: 314.282.4858 | |
| | | COLOR: SILVER GREY THICKNESS: 3CM COUNTERTOP | | EMAIL: MKALMAR@STONESOURCE.COM | |
| MST | STAINLESS STEEL | MANF: - STYLE: SATIN | | | |
| EILING FINISH | | | | | |
| CA1 | ACOUSTICAL CEILING TILE W/ TEGULAR EDGE | MANF: ARMSTRONG CEILINGS STYLE: ULTIMA BEVELED TEGULAR 1952 COLOR: WHITE | | NAME: ELIZABETH MOON PHONE: 816.216.2890 EMAIL: EMOON@ARMSTRONGCEILINGS.COM | |
| | | SIZE: 24" X 24" X 3/4" GRID: 9/16" SUPRAFINE | | EWAIL. EWOONWARWS I RONGCEILINGS.COW | |
| CA2 | ACOUSTICAL CEILING TILE W/ TEGULAR EDGE | MANF: ARMSTRONG CEILINGS STYLE: ULTIMA HIGH NRC BEVELED TEGULAR 1942 | | NAME: ELIZABETH MOON PHONE: 816.216.2890 | |
| | | COLOR: WHITE SIZE: 24" X 24" X 7/8" GRID: 9/16" SUPRAFINE | | EMAIL: EMOON@ARMSTRONGCEILINGS.COM | G ■ |
| CE | GYPSUM BOARD CEILING - EPOXY | MANF: SHERWIN WILLIAMS STYLE: EPOXY, FLAT FINISH | | NAME: PETER KREMM PHONE: 303.902.7239 | |
| СМ | METAL CEILING PANEL | COLOR: HIGH REFLECTIVE WHITE SW7757 MANF: BERRIDGE | LOBBY/CANOPY PANELS TO BE | EMAIL: PETER.KREMM@SHERWIN.COM NAME: BRENT EAGLE | |
| | | STYLE: VEE-PANEL COLOR: WALNUT | PERFERATED AT INTERIOR APPLICATIONS WITH 6" ACOUSTICAL | PHONE:913.227.0855 EMAIL: BEAGLE@BERRIDGE.COM | |
| CP1 | GYPSUM BOARD CEILING | MANF: SHERWIN WILLIAMS STYLE: LATEX, FLAT FINISH | INSULATION ABOVE | NAME: PETER KREMM PHONE: 303.902.7239 | $\neg \bot$ |
| CP2 | GYPSUM BOARD CEILING | COLOR: HIGH REFLECTIVE WHITE SW7757 MANF: SHERWIN WILLIAMS | | EMAIL: PETER.KREMM@SHERWIN.COM NAME: PETER KREMM | |
| | | STYLE: LATEX, FLAT FINISH COLOR: SILVERPLATE SW7649 | | PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM | |
| CP3 | GYPSUM BOARD CEILING | MANF: SHERWIN WILLIAMS STYLE: LATEX, FLAT FINISH COLOR: CITYSCAPE SW7067 | | NAME: PETER KREMM PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM | |
| CX | EXPOSED TO STRUCTURE | - | | LIVIAIL. FLILIX.RIXLIVIIVI@3HLIXVIIV.GOW | F |
| ECIALTY ELEVATOR | COORDINATE W/ SPECS &/OR DRAWINGS | MANF: KONE | | NAME: JONNY RICHARDSON | |
| FINISHES | | WALLS: MANUFACTURER'S SPECIFIC BRUSHED STAINLESS STEEL | | PHONE: 816.337.2854 EMAIL: JONNY.RICHARDSON@KONE.COM | |
| SD1 | INTERIOR DOORS - WOOD | FLOOR: TO MATCH FVT1 MANF: TBD TYPE OF THE PROOF MATCHES BY AND SHOED (BOOK MATCHES) | | | |
| | | STYLE: CHERRY VENEER, PLAIN SLICED/BOOK MATCHEL COLOR: STAINED TO MATCH ML1 (WILSONART MANGALORE MANGO 7984) | | | |
| SD2 | INTERIOR DOORS - METAL | MANF: SHERWIN WILLIAMS STYLE: ALKYD | INTERIOR METAL DOORS AND INTERIOR FACE OF EXTERIOR | NAME: PETER KREMM PHONE: 303.902.7239 | |
| SD3 | EXTERIOR DOORS - METAL | COLOR: SILVERPLATE SW7649 MANF: SHERWIN WILLIAMS | DOORS EXTERIOR FACE OF EXTERIOR | EMAIL: PETER.KREMM@SHERWIN.COM NAME: PETER KREMM | |
| SD FRAME | INTERIOR HOLLOW METAL DOOR FRAMES | STYLE: ALKYD COLOR: IRON ORE SW7069 MANF: SHERWIN WILLIAMS | METAL DOORS | PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM NAME: PETER KREMM | |
| 3D FRAME | INTERIOR HOLLOW METAL DOOR FRAMES | STYLE: ALKYD COLOR: SILVERPLATE SW7649 | | PHONE: 303.902.7239 EMAIL: PETER.KREMM@SHERWIN.COM | E |
| SG | MIRROR | MANF: - STYLE: MIRRORED GLASS | | | |
| CI | METAL LOCKEDO | THICKNESS: 1/4" SIZE: PER ELEVATIONS MANE: TIEFIN METAL PRODUCTS | | | |
| SL | METAL LOCKERS | MANF: TIFFIN METAL PRODUCTS STYLE: TBD COLOR: GRAY SMOKE | | | |
| SO | OPERABLE PARTITION | MANF: KWIK-WALL - 3000 SERIES STYLE: 3050 | | NAME: KAYLEIGH ICENOGLE PHONE: - | |
| SP | TOILET PARTITIONS | COLOR: LINO, DRAPERIE, KCS-30 MANF: BRADLEY | | EMAIL: ICENOGLEK@KWIK-WALL.COM NAME: SARAH HACKETT | |
| 00 | INTERIOR WINDOW SILLS - SOLID SURFACE | STYLE: EURO STYLE PARTITIONS, HIGHRISE SERIES COLOR: PHENOLIC LT, COLOR SLATE GREY MANF: CORIAN | | PHONE: 816.221.3322 EMAIL: SARAH.HACKETT@PATTERSONSALES.BIZ NAME: KRISTY RINNE | |
| SS | HATEINION VVIINDOVV SILLS - SULID SURFACE | MANF: CORIAN THICKNESS: 1/2" COLOR: GLACIER ICE | | PHONE: 314.254.6634 EMAIL: KRINNE@HLLMARK.COM | |
| ST1 | METAL EDGE TRIM | NOTE: EASED EDGES AT ALL WINDOW SILLS MANF: SCHLUTER | | NAME: NIKKI VAN DYNE | |
| | | STYLE: JOLLY COLOR: SATIN ANODIZED ALUMINUM (AE) | | PHONE: 913.620.6098 EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM | |
| ST2 | METAL EDGE TRIM | MANF: SCHLUTER STYLE: SCHIENE COLOR: SATIN ANODIZED ALUMINUM (AE) | | NAME: NIKKI VAN DYNE PHONE: 913.620.6098 EMAIL: NIKKI.VANDYNE@VIRGINITALTILE.COM | |
| ST3 | RUBBER TRANSITION STRIP | MANF: ROPPE STYLE: #22 REDUCER STRIP 1/8" | | NAME: WENDY BREMER PHONE: 630.277.1414 | |
| ST4 | RUBBER TRANSITION STRIP | COLOR: 193 BLACK BROWN MANF: ROPPE | | EMAIL: WABREMER@ROPPE.COM NAME: WENDY BREMER | |
| | 0//00/18/ 05/ 5-1 | STYLE: #38 GLUE-DOWN CARPET EDGE 1/4" COLOR: 193 BLACK BROWN | | PHONE: 630.277.1414 EMAIL: WABREMER@ROPPE.COM | |
| ST5 | GYPSUM REVEAL INSERT/PLASTIC TRIM | MANF: PLASTIC COMPONENTS STYLE: DRYWALL REVEAL 225 SIZE: 1/2" | | | |
| SW1 | WINDOW TREATMENT - ROLLER SHADES | COLOR: PAINTED TO MATCH ADJACENT WALL MANF: MECHOSHADE | KEYNOTED IN RCP AS 12.24A | NAME: RYAN HELLING | |
| | | TYPE: MECHO/5 OPENNESS: 3% | | PHONE: 816.471.2559 EMAIL: RYAN@HARTKS.COM | C |
| OWO | WINDOW TREATMENT BOLLED OLLARS SOLIT | STYLE: THERMOVEIL - 1500 SERIES COLOR: GREY 1513 | VEVNOTED IN DOD 40 40 045 | NAME: DVAN UELLING | |
| SW2 | WINDOW TREATMENT - ROLLER SHADES DOUBLE POCKET | = MANF: MECHOSHADE TYPE: MECHO/5 DOUBLESHADE #15 TOP SHADE: CHELSEA BLACKOUT - 0250 SERIES, | KEYNOTED IN RCP AS 12.24B | NAME: RYAN HELLING PHONE: 816.471.2559 EMAIL: RYAN@HARTKS.COM | |
| | | GRAPHITE 0253 BOTTOM SHADE: THERMOVEIL - 1500 SERIES, GREY 151 | 4 | | |

MANF: SOLYX

STYLE: GLASS WINDOW FILM COLOR: TBD

DECORATIVE WINDOW FILM

BOTTOM SHADE: THERMOVEIL - 1500 SERIES, GREY 1513

AT GLASS TYPE 7 LOCATIONS AND INTERIOR SIDE OF EXTERIOR PHONE: 301.810.5903
WINDOW TYPE N EMAIL: CUSTOM@DECORATIVEFILM.COM

GENERAL NOTES - INTERIOR FINISHES:

- RE: SHEET G-011 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
 RE: AC SERIES SHEETS FOR ADDITIONAL
- CEILING FINISH INFORMATION. RE: A-451 SERIES SHEETS FOR ADDITIONAL
- WALL FINISH INFORMATION. RE: AI SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION
- INFORMATION. WHERE MULTIPLE FINISHES ARE LISTED IN ONE AREA OR ROOM ON THE FINISH
- SERIES SHEETS FOR FINISH CLARIFICATION.

 ALL INTERIOR GYP. BD. SURFACES SHALL
 RECEIVE EGGSHELL/ SATIN FINISH LATEX PAINT, UNLESS NOTED OR SPECIFIED
- OTHERWISE. INTERIOR GYP. BD. SURFACES TO RECEIVE EPOXY PAINT SHALL HAVE A SATIN FINISH,
- UNLESS NOTED OR SPECIFIED OTHERWISE. INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BD. WALL IN ALL VERTICAL AND/ OR HORIZONTAL CONDITIONS, UNLESS NOTED OTHERWISE.
- HOLLOW METAL FRAMES SHALL RECEIVE SEMI-GLOSS FINISH. WHERE PORCELAIN OR GLASS WALL TILES OF DIFFERENT THICKNESSES MEET, ENSURE THAT THE FACES OF THE DIFFERENT TILES ARE FLUSH.

REFER TO TOILET ELEVATIONS ON SHEET A-401 & A-402 FOR TYPICAL WALL TILE INSTALLATION PATTERNS.

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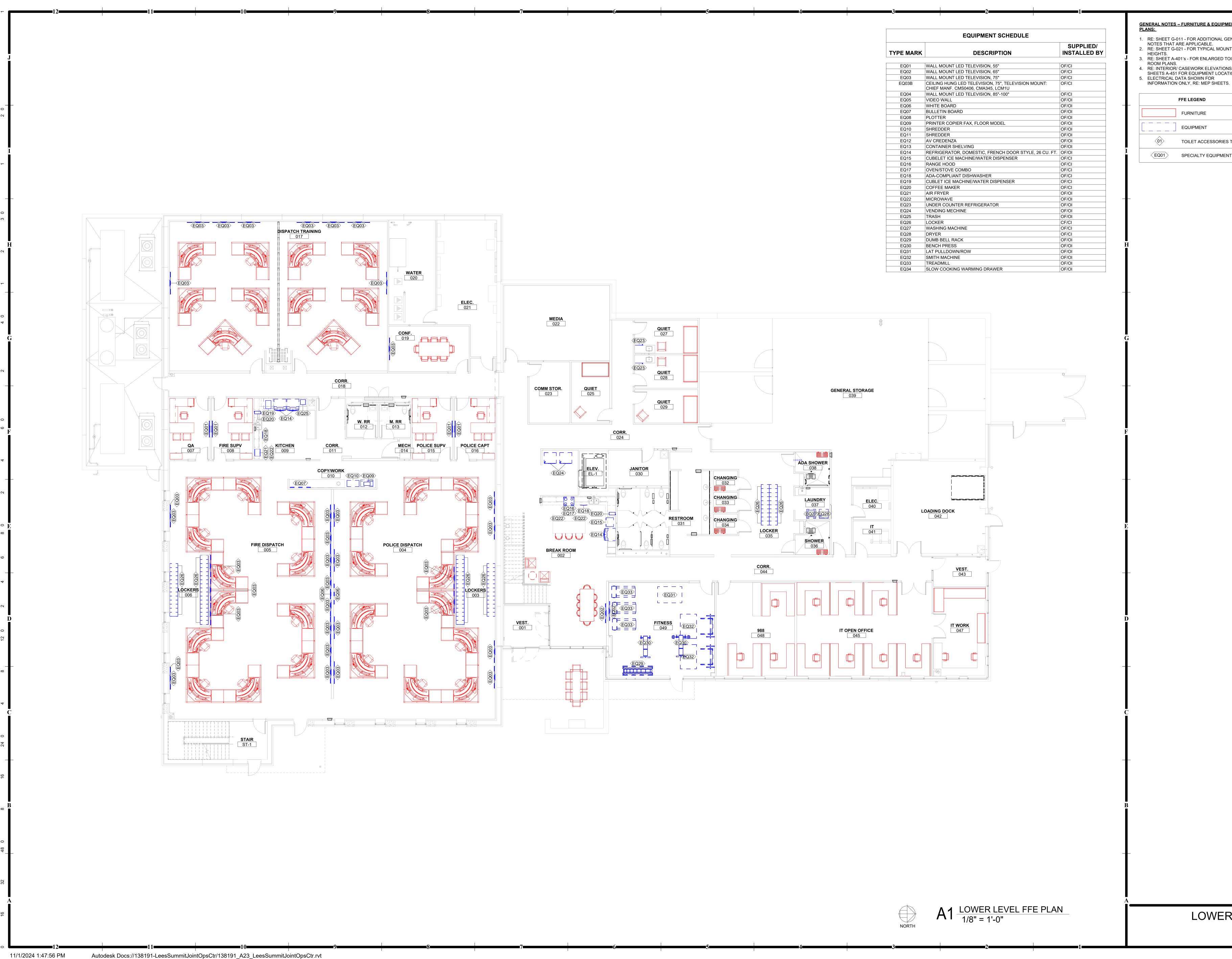
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ISSUE DATE: NOVEMBER 1, 2024
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FINISH LEGEND



GENERAL NOTES - FURNITURE & EQUIPMENT

1. RE: SHEET G-011 - FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE. 2. RE: SHEET G-021 - FOR TYPICAL MOUNTING

3. RE: SHEET A-401's - FOR ENLARGED TOILET 4. RE: INTERIOR/ CASEWORK ELEVATIONS ON SHEETS A-451 FOR EQUIPMENT LOCATIONS.

FFE LEGEND **FURNITURE EQUIPMENT** TOILET ACCESSORIES TAG EQ01 SPECIALTY EQUIPMENT TAG

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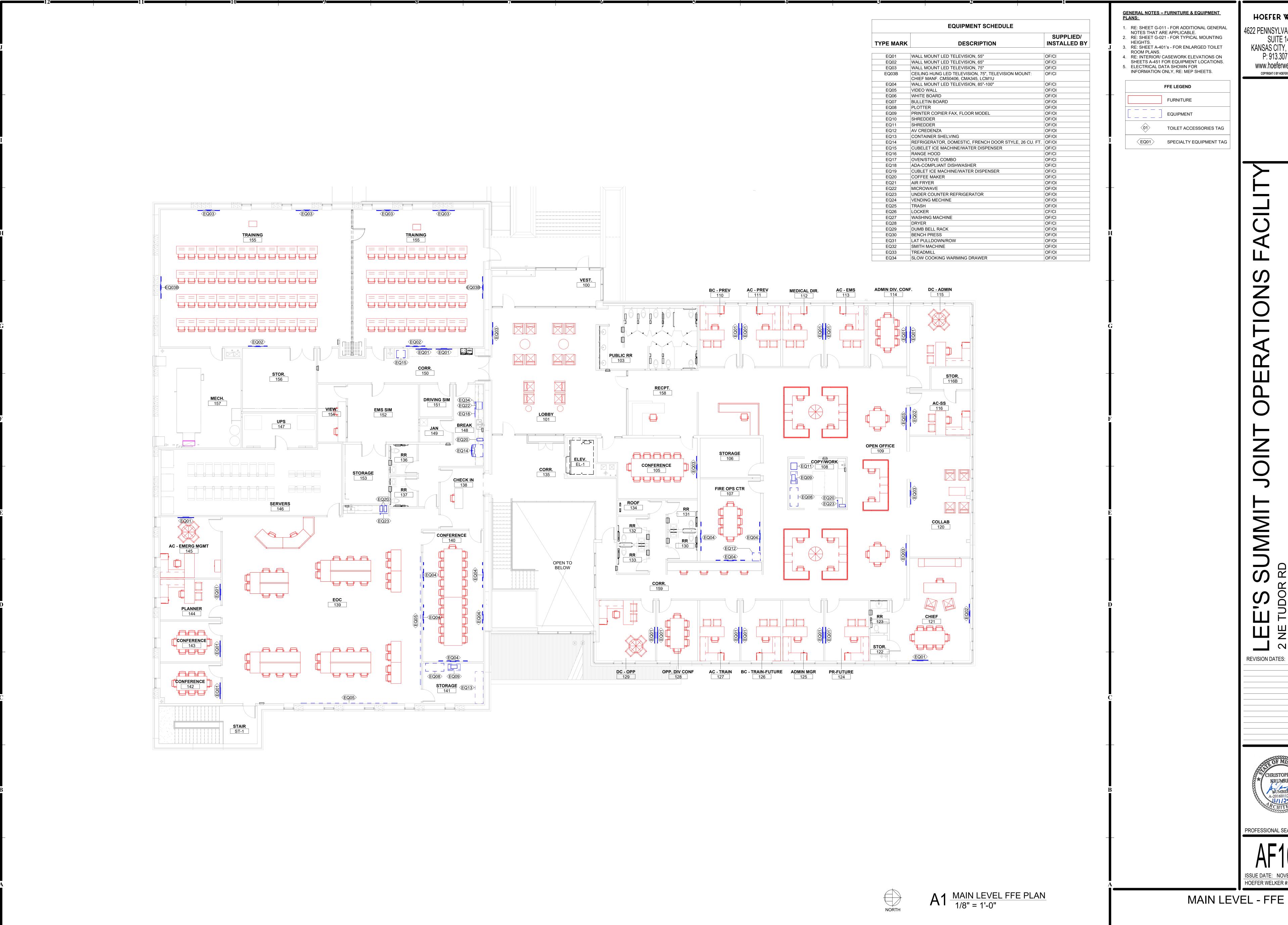
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LOWER LEVEL - FFE PLAN



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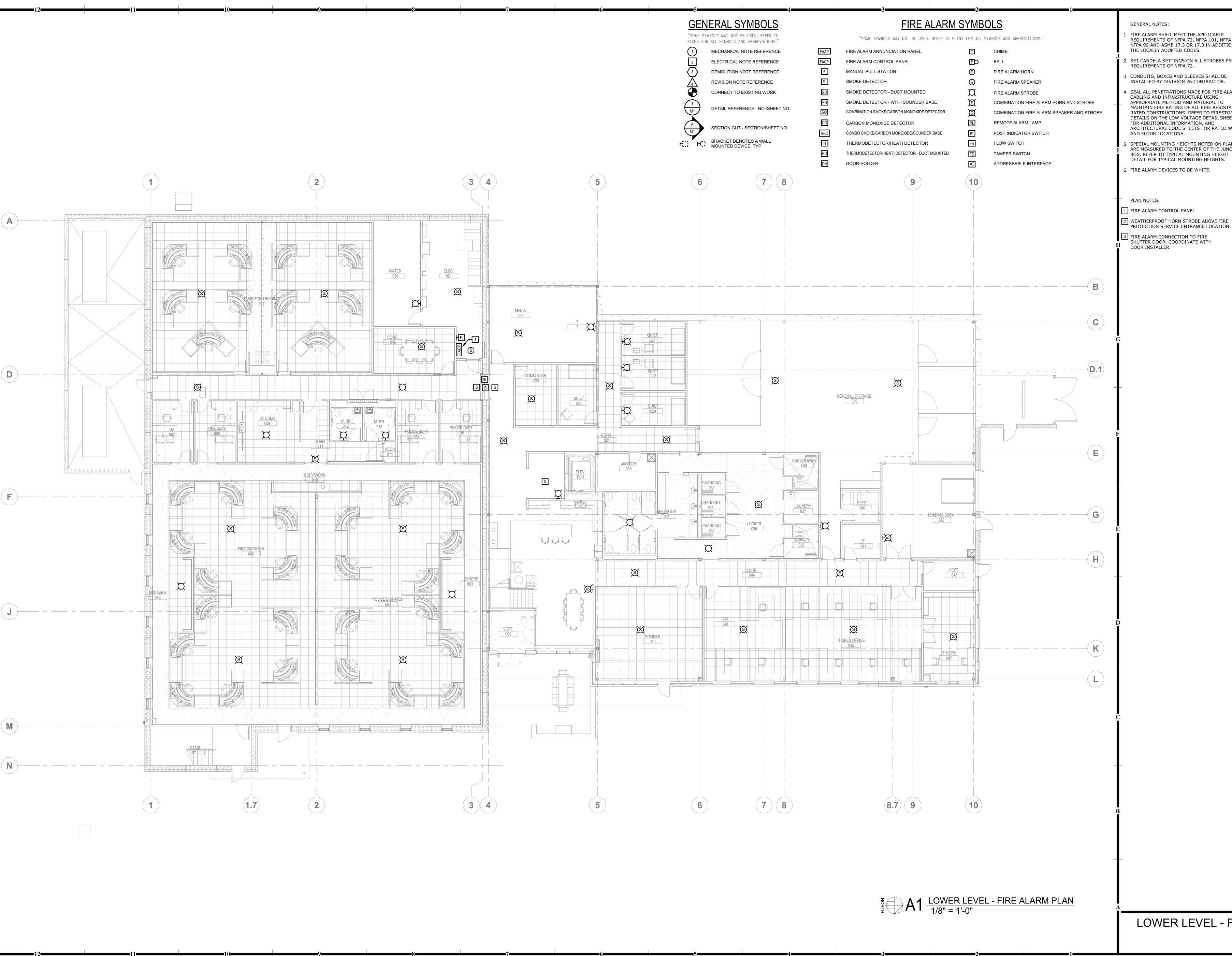
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MAIN LEVEL - FFE PLAN

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- . FIRE ALARM SHALL MEET THE APPLICABLE REQUIREMENTS OF NFPA 72, NFPA 101, NFPA 90A, NFPA 99 AND ASME 17.3 OR 17.3 IN ADDITION TO
- 2. SET CANDELA SETTINGS ON ALL STROBES PER TH
- REQUIREMENTS OF NFPA 72. . CONDUITS, BOXES AND SLEEVES SHALL BE
- . SEAL ALL PENETRATIONS MADE FOR FIRE ALARM CABLING AND INFRASTRUCTURE USING APPROPRIATE METHOD AND MATERIAL TO MAINTAIN FIRE RATING OF ALL FIRE RESISTANCE RATED CONSTRUCTIONS. REFER TO FIRESTOP DETAILS ON THE LOW VOLTAGE DETAIL SHEETS
- FOR ADDITIONAL INFORMATION, AND ARCHITECTURAL CODE SHEETS FOR RATED WALL AND FLOOR LOCATIONS. S. SPECIAL MOUNTING HEIGHTS NOTED ON PLANS ARE MEASURED TO THE CENTER OF THE JUNCTION

2 WEATHERPROOF HORN STROBE ABOVE FIRE

PROTECTION SERVICE ENTRANCE LOCATION.

3 FIRE ALARM CONNECTION TO FIRE SHUTTER DOOR. COORDINATE WITH HOEFER WELKER

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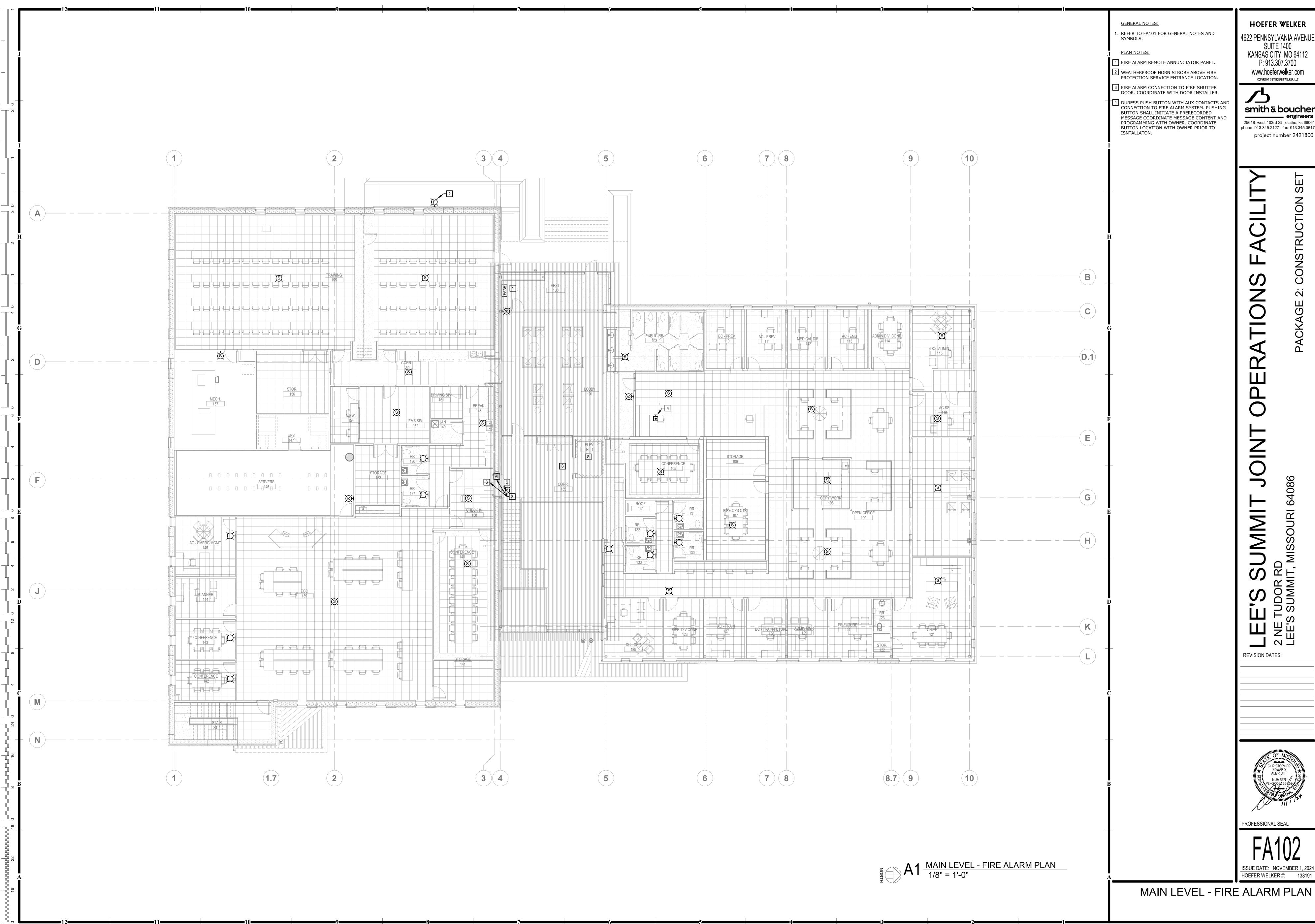


phone 913.345.2127 fax 913.345.0617 project number 2421800

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LOWER LEVEL - FIRE ALARM PLAN



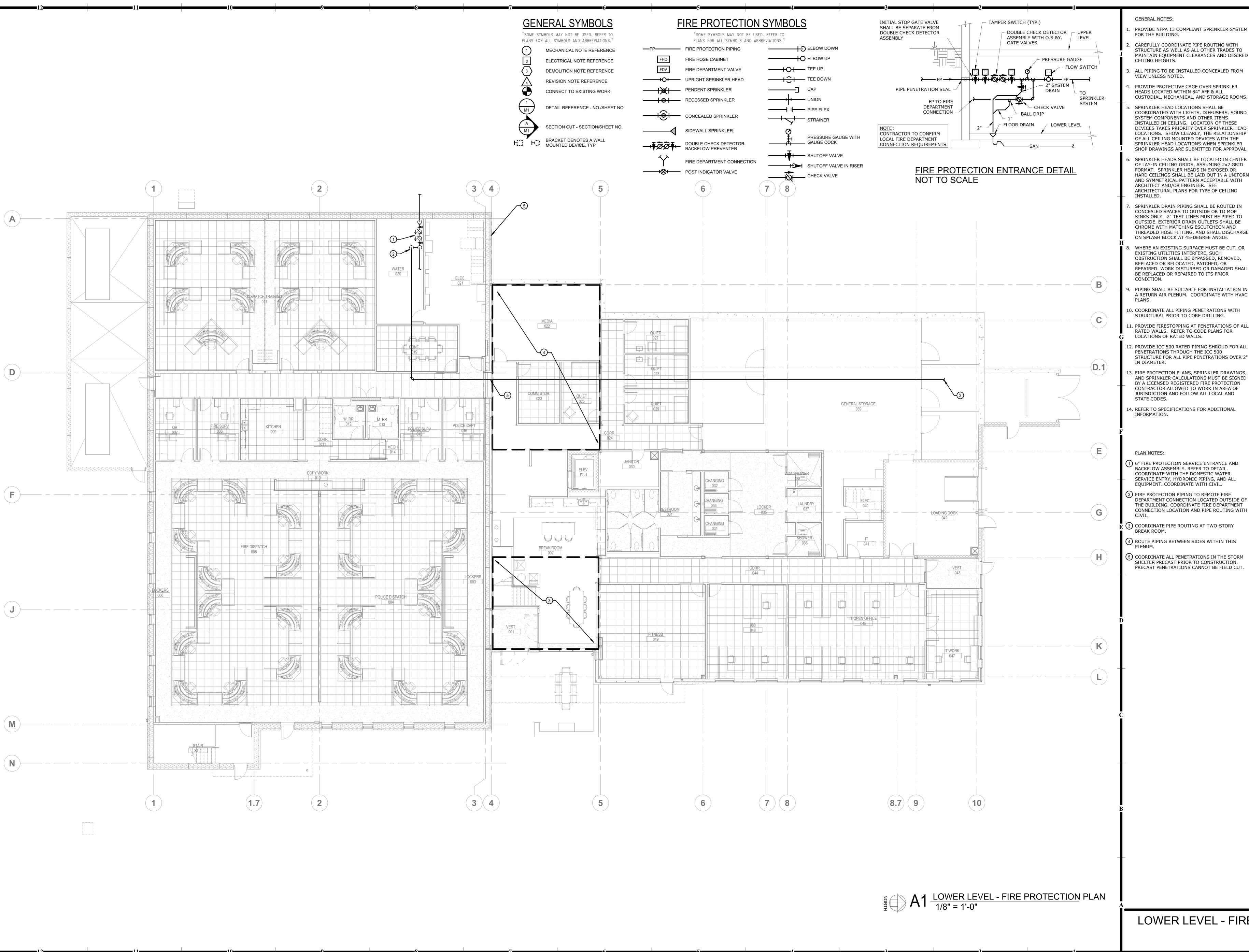
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smith & boucher 25618 west 103rd St olathe, ks 66061 phone 913.345.2127 fax 913.345.0617

project number 2421800

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ISSUE DATE: NOVEMBER 1, 2024 HOEFER WELKER #: 138191



PROVIDE NFPA 13 COMPLIANT SPRINKLER SYSTEM

FOR THE BUILDING. CAREFULLY COORDINATE PIPE ROUTING WITH

STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES AND DESIRED

ALL PIPING TO BE INSTALLED CONCEALED FROM VIEW UNLESS NOTED.

PROVIDE PROTECTIVE CAGE OVER SPRINKLER HEADS LOCATED WITHIN 84" AFF & ALL CUSTODIAL, MECHANICAL, AND STORAGE ROOMS.

SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH LIGHTS, DIFFUSERS, SOUND SYSTEM COMPONENTS AND OTHER ITEMS INSTALLED IN CEILING. LOCATION OF THESE DEVICES TAKES PRIORITY OVER SPRINKLER HEAD LOCATIONS. SHOW CLEARLY, THE RELATIONSHIP OF ALL CEILING MOUNTED DEVICES WITH THE SPRINKLER HEAD LOCATIONS WHEN SPRINKLER

SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF LAY-IN CEILING GRIDS, ASSUMING 2x2 GRID FORMAT. SPRINKLER HEADS IN EXPOSED OR HARD CEILINGS SHALL BE LAID OUT IN A UNIFORM AND SYMMETRICAL PATTERN ACCEPTABLE WITH ARCHITECT AND/OR ENGINEER. SEE ARCHITECTURAL PLANS FOR TYPE OF CEILING

SPRINKLER DRAIN PIPING SHALL BE ROUTED IN CONCEALED SPACES TO OUTSIDE OR TO MOP SINKS ONLY. 2" TEST LINES MUST BE PIPED TO OUTSIDE, EXTERIOR DRAIN OUTLETS SHALL BE CHROME WITH MATCHING ESCUTCHEON AND THREADED HOSE FITTING, AND SHALL DISCHARGE ON SPLASH BLOCK AT 45-DEGREE ANGLE.

WHERE AN EXISTING SURFACE MUST BE CUT, OR EXISTING UTILITIES INTERFERE, SUCH OBSTRUCTION SHALL BE BYPASSED, REMOVED, REPLACED OR RELOCATED, PATCHED, OR REPAIRED. WORK DISTURBED OR DAMAGED SHALL BE REPLACED OR REPAIRED TO ITS PRIOR

PIPING SHALL BE SUITABLE FOR INSTALLATION IN A RETURN AIR PLENUM. COORDINATE WITH HVAC

O. COORDINATE ALL PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO CORE DRILLING.

 PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.

> PENETRATIONS THROUGH THE ICC 500 STRUCTURE FOR ALL PIPE PENETRATIONS OVER 2" 3. FIRE PROTECTION PLANS, SPRINKLER DRAWINGS,

AND SPRINKLER CALCULATIONS MUST BE SIGNED BY A LICENSED REGISTERED FIRE PROTECTION CONTRACTOR ALLOWED TO WORK IN AREA OF JURISDICTION AND FOLLOW ALL LOCAL AND

14. REFER TO SPECIFICATIONS FOR ADDITIONAL

(1) 6" FIRE PROTECTION SERVICE ENTRANCE AND BACKFLOW ASSEMBLY. REFER TO DETAIL. COORDINATE WITH THE DOMESTIC WATER SERVICE ENTRY, HYDRONIC PIPING, AND ALL EQUIPMENT. COORDINATE WITH CIVIL.

DEPARTMENT CONNECTION LOCATED OUTSIDE OF THE BUILDING. COORDINATE FIRE DEPARTMENT CONNECTION LOCATION AND PIPE ROUTING WITH

(3) COORDINATE PIPE ROUTING AT TWO-STORY

4) ROUTE PIPING BETWEEN SIDES WITHIN THIS

(5) COORDINATE ALL PENETRATIONS IN THE STORM SHELTER PRECAST PRIOR TO CONSTRUCTION. PRECAST PENETRATIONS CANNOT BE FIELD CUT.

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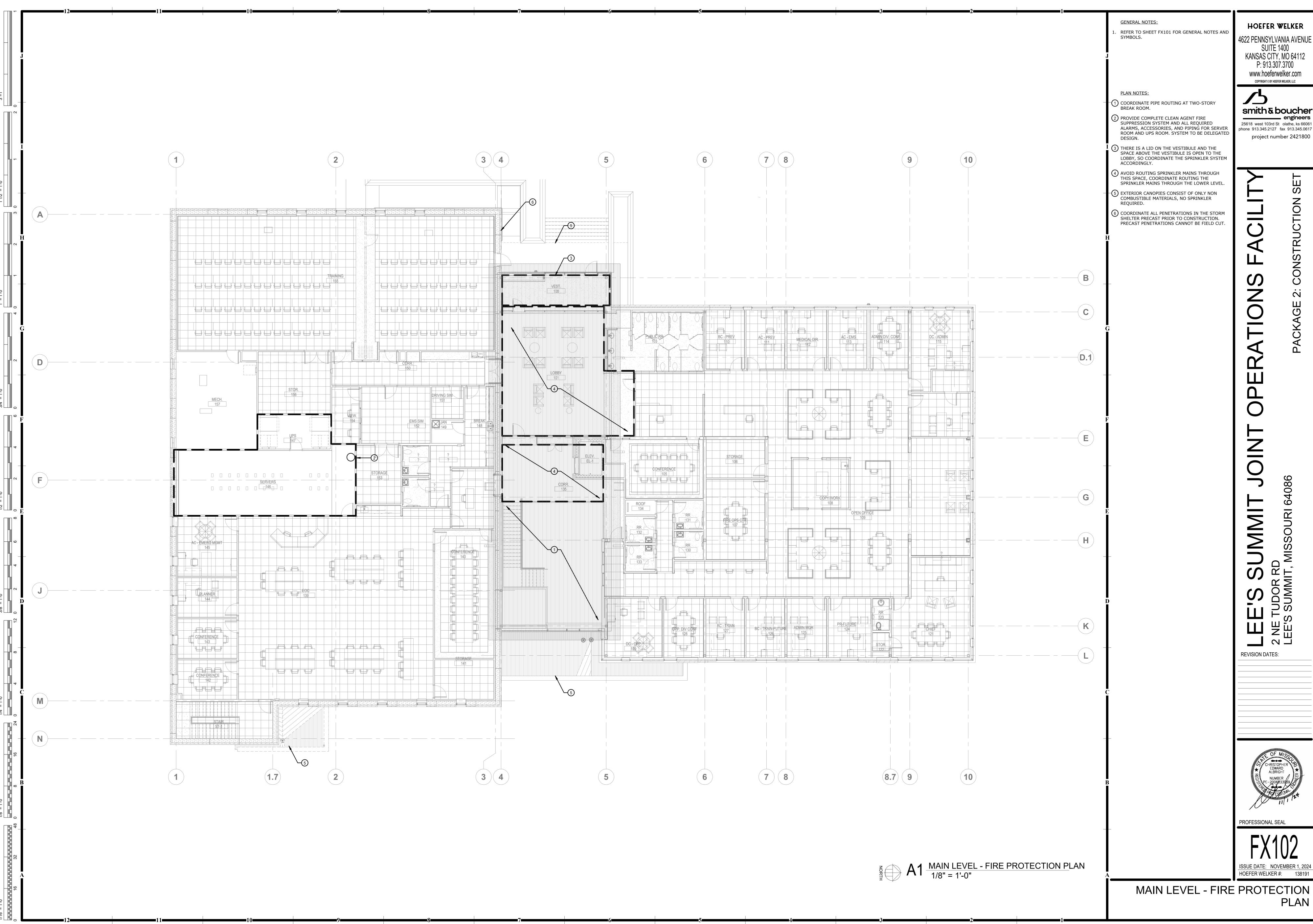
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LOWER LEVEL - FIRE PROTECTION PLAN



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MAIN LEVEL - FIRE PROTECTION PLAN

GENERAL PLUMBING NOTES

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO

FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.

- SUBMISSION OF BID. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES
- INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD.

OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.

- PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING
- DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- INSTALL NO PLASTIC PIPE IN THE CEILING RETURN AIR PLENUM.
- COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT. STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- CLEAN PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
- COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER
- WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE. PROVIDE WATER HAMMER ARRESTORS WHERE QUICK CLOSING VALVES ARE UTILIZED.

| PLUMBING SHEET INDEX | | | | | | | |
|----------------------|---|--|--|--|--|--|--|
| SHEET NUMBER | SHEET NAME | | | | | | |
| PG001 | PLUMBING LEGEND AND GENERAL NOTES | | | | | | |
| PS101 | PLUMBING SITE PLAN | | | | | | |
| P-101 | UNDERGROUND PLUMBING PLAN | | | | | | |
| P-111 | LOWER LEVEL - WASTE AND VENT PLAN | | | | | | |
| P-112 | MAIN LEVEL - WASTE AND VENT PLAN | | | | | | |
| P-113 | ROOF PLUMBING PLAN | | | | | | |
| P-114 | VEHICLE BAY PLUMBING PLAN | | | | | | |
| P-121 | LOWER LEVEL - WATER AND GAS PLAN | | | | | | |
| P-122 | MAIN LEVEL - WATER AND GAS PLAN | | | | | | |
| P-401 | ENLARGED LOWER LEVEL WASTE AND VENT PLANS | | | | | | |
| P-402 | ENLARGED MAIN LEVEL WASTE AND VENT PLANS | | | | | | |
| P-403 | ENLARGED LOWER LEVEL WATER PLANS | | | | | | |
| P-404 | ENLARGED MAIN LEVEL WATER PLANS | | | | | | |
| P-501 | PLUMBING DETAILS | | | | | | |
| P-601 | PLUMBING SCHEDULES | | | | | | |
| P-621 | PLUMBING WASTE AND VENT RISER | | | | | | |
| P-622 | PLUMBING WASTE AND VENT RISER | | | | | | |

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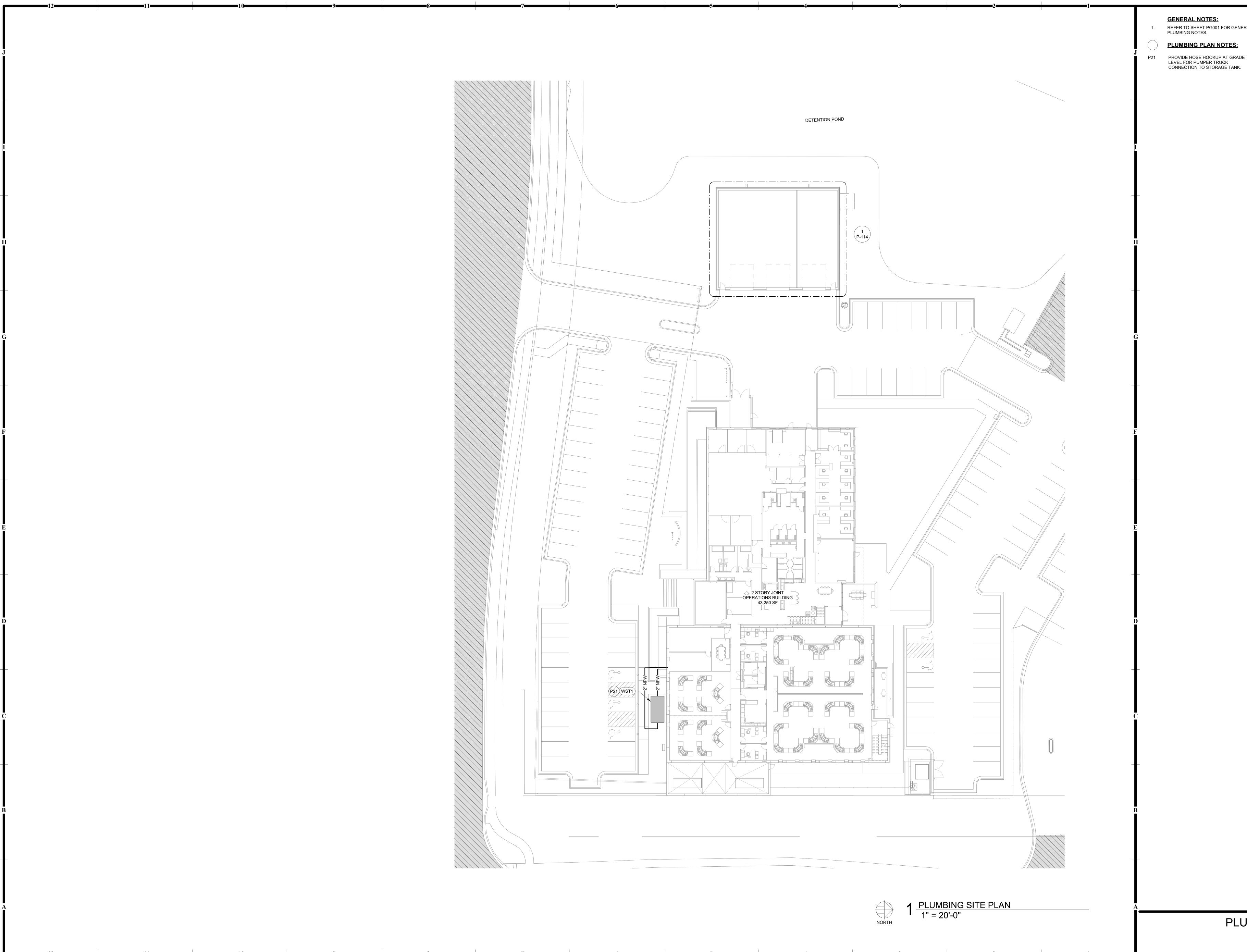
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PLUMBING LEGEND AND GENERAL NOTES

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REFER TO SHEET PG001 FOR GENERAL PLUMBING NOTES.

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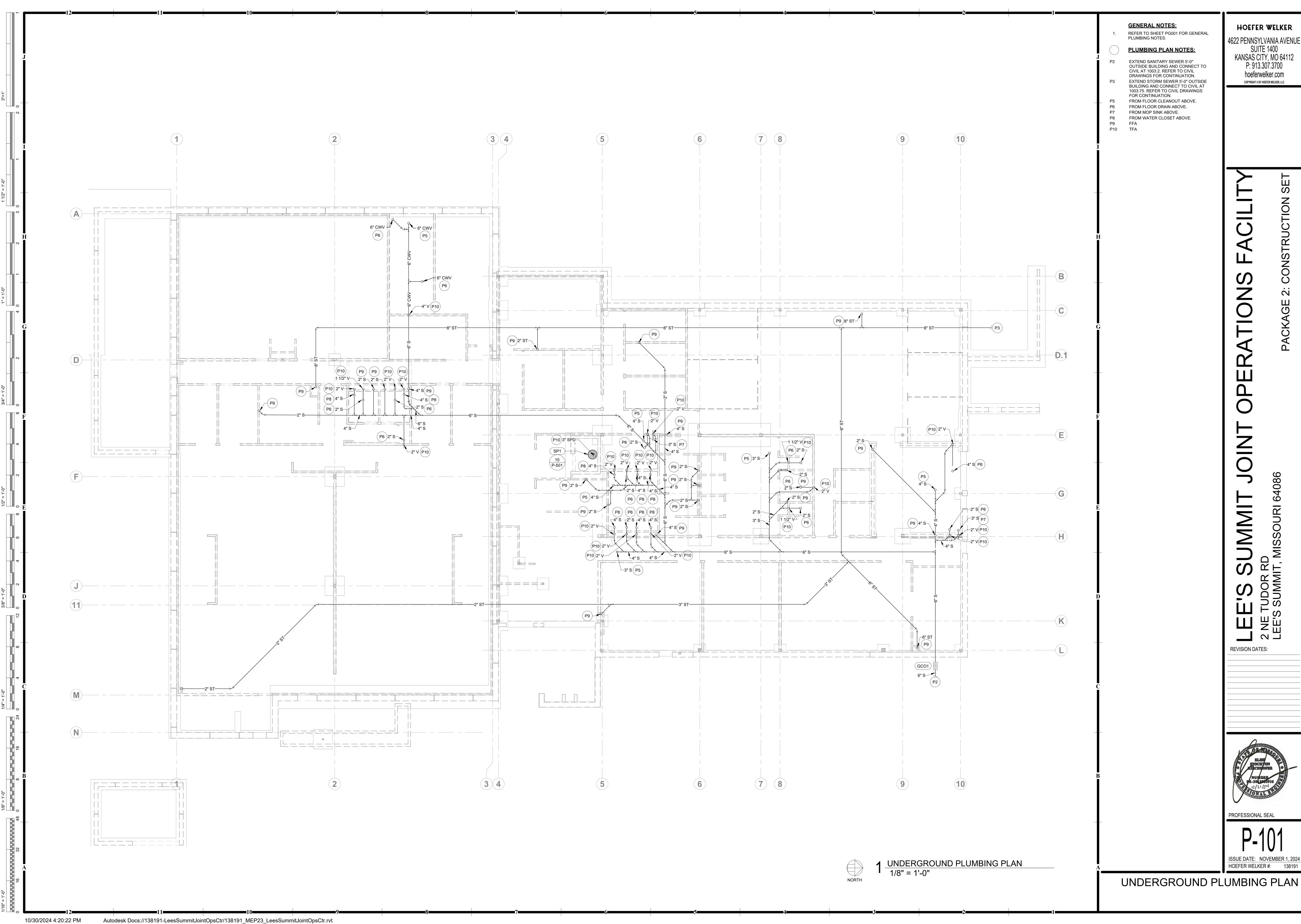
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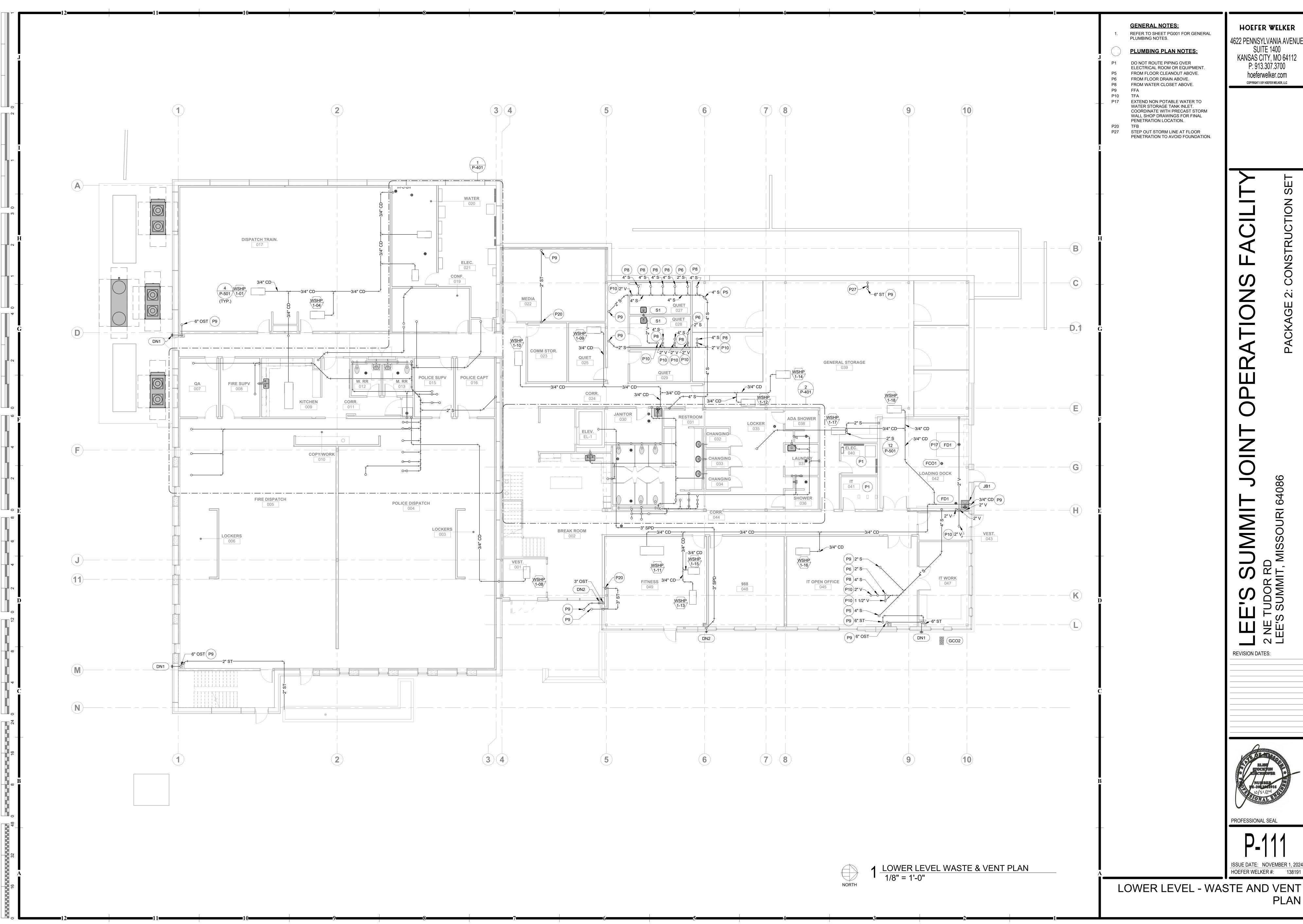
PLUMBING SITE PLAN

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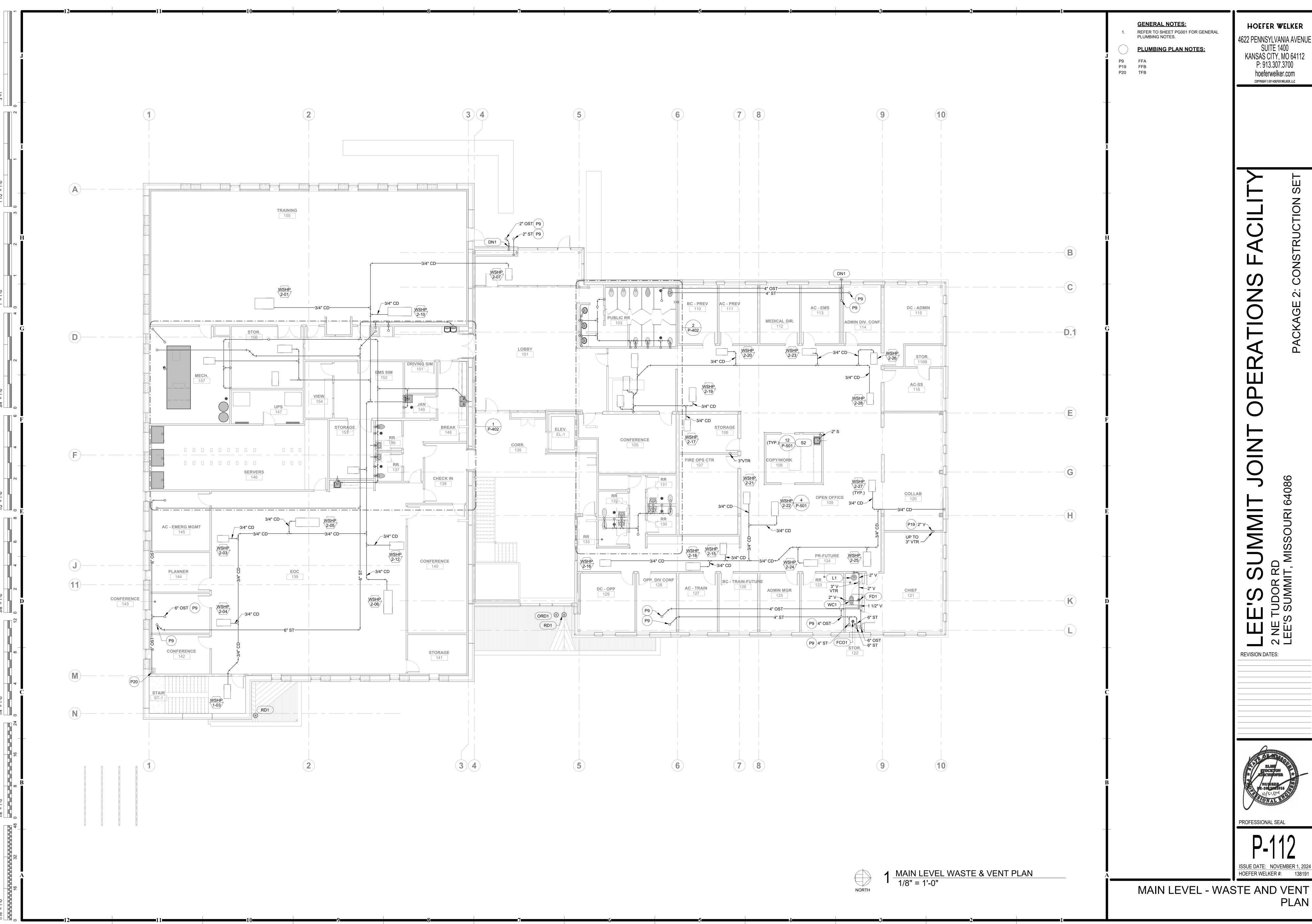
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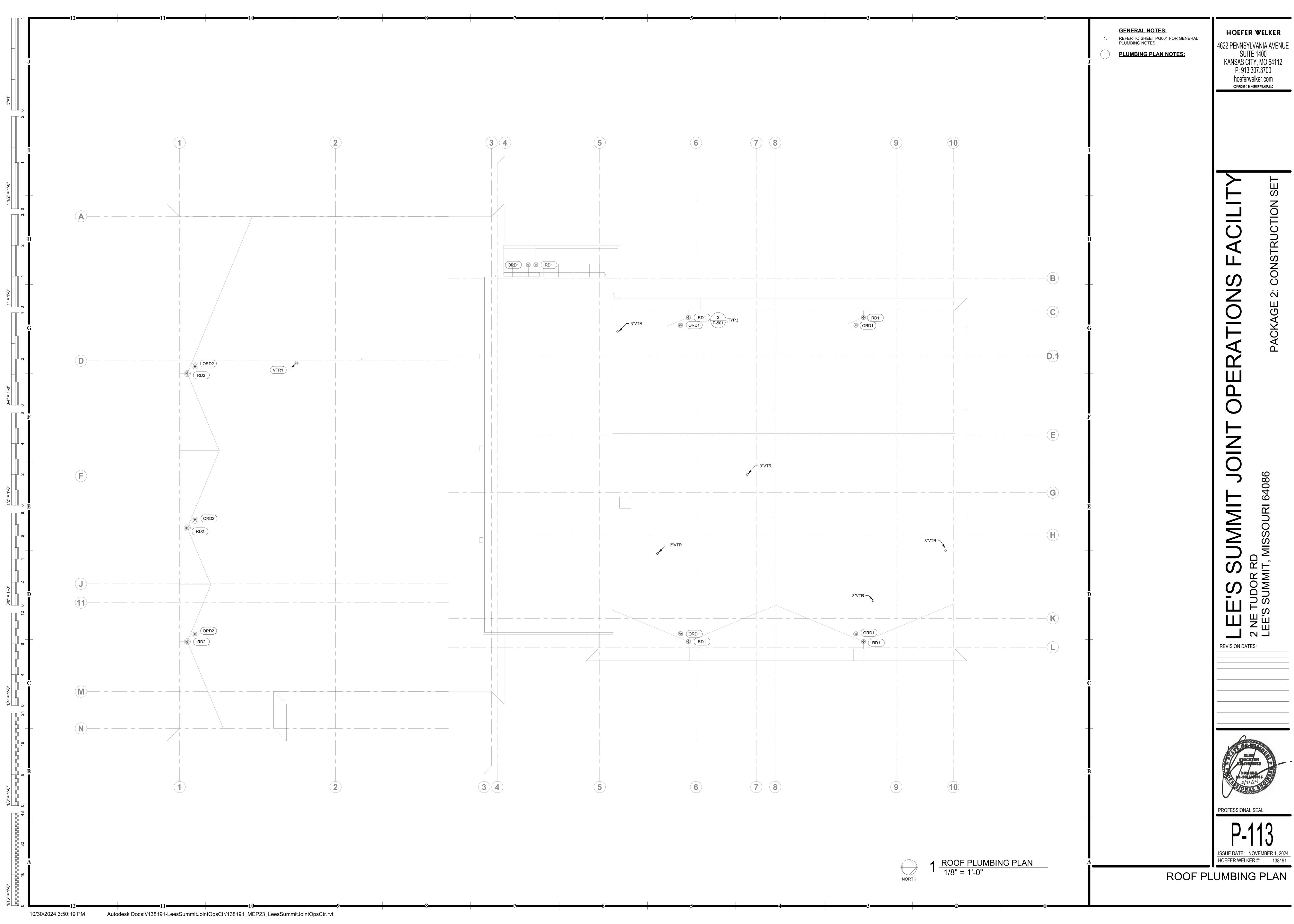
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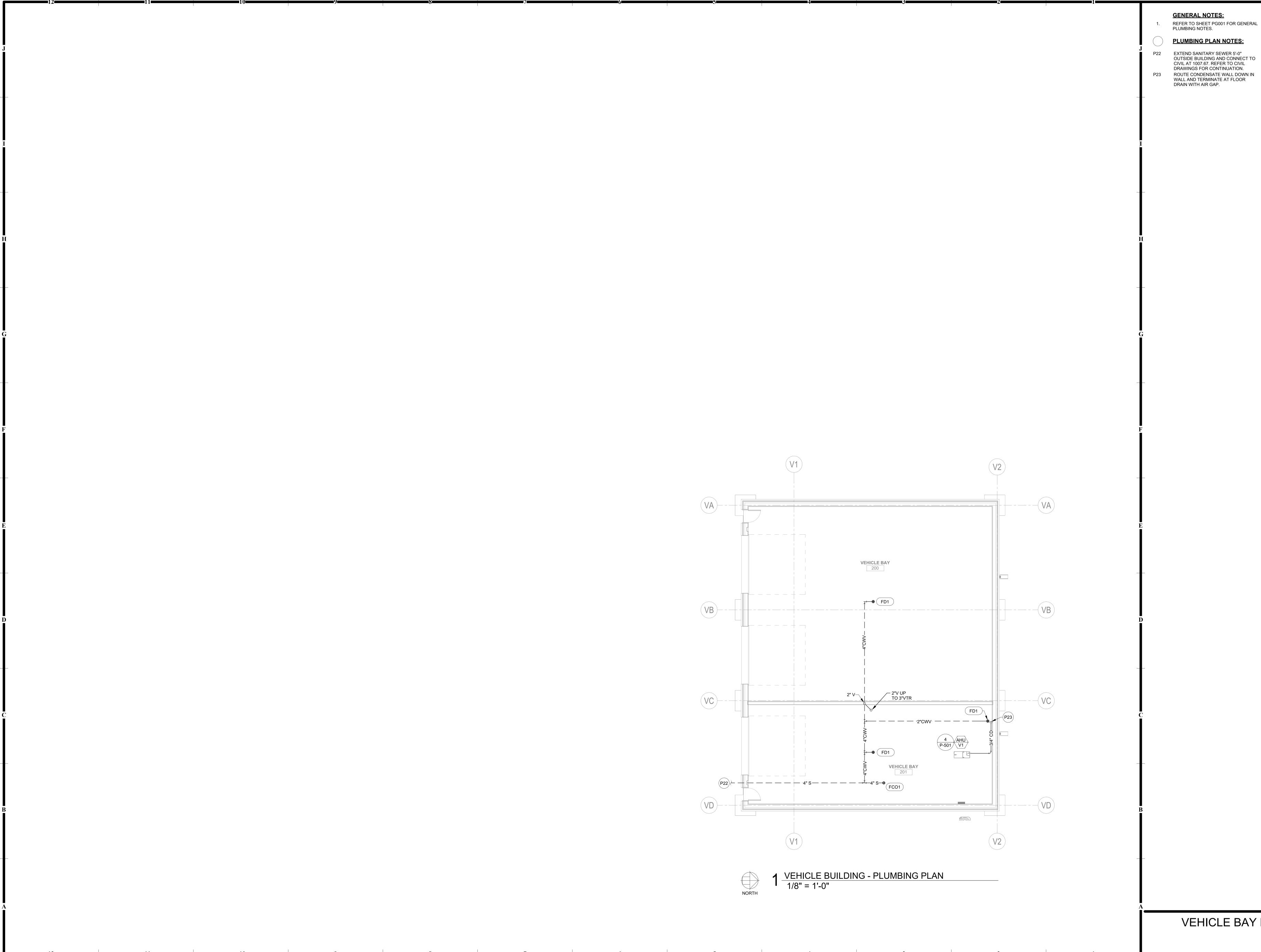
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MAIN LEVEL - WASTE AND VENT PLAN

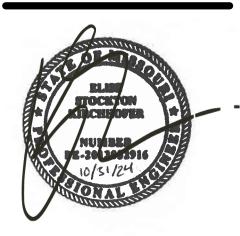




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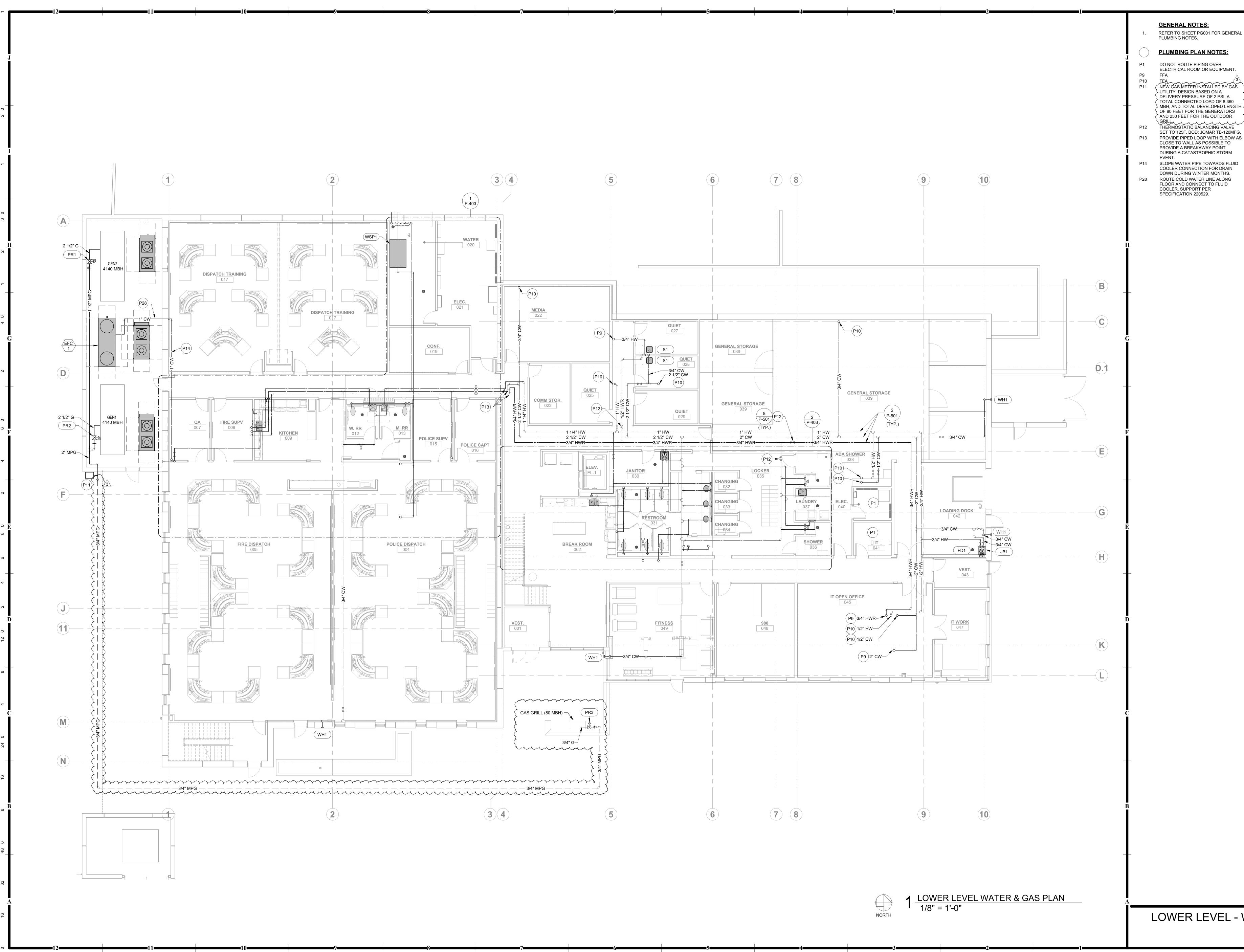
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VEHICLE BAY PLUMBING PLAN



PLUMBING PLAN NOTES:

DO NOT ROUTE PIPING OVER ELECTRICAL ROOM OR EQUIPMENT. TEA

NEW GAS METER INSTALLED BY GAS UTILITY. DESIGN BASED ON A DELIVERY PRESSURE OF 2 PSI, A

TOTAL CONNECTED LOAD OF 8,360 MBH, AND TOTAL DEVELOPED LENGTH -OF 80 FEET FOR THE GENERATORS AND 250 FEET FOR THE OUTDOOR PROVIDE PIPED LOOP WITH ELBOW AS

CLOSE TO WALL AS POSSIBLE TO PROVIDE A BREAKAWAY POINT DURING A CATASTROPHIC STORM

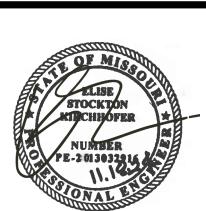
P14 SLOPE WATER PIPE TOWARDS FLUID COOLER CONNECTION FOR DRAIN DOWN DURING WINTER MONTHS. ROUTE COLD WATER LINE ALONG FLOOR AND CONNECT TO FLUID COOLER. SUPPORT PER

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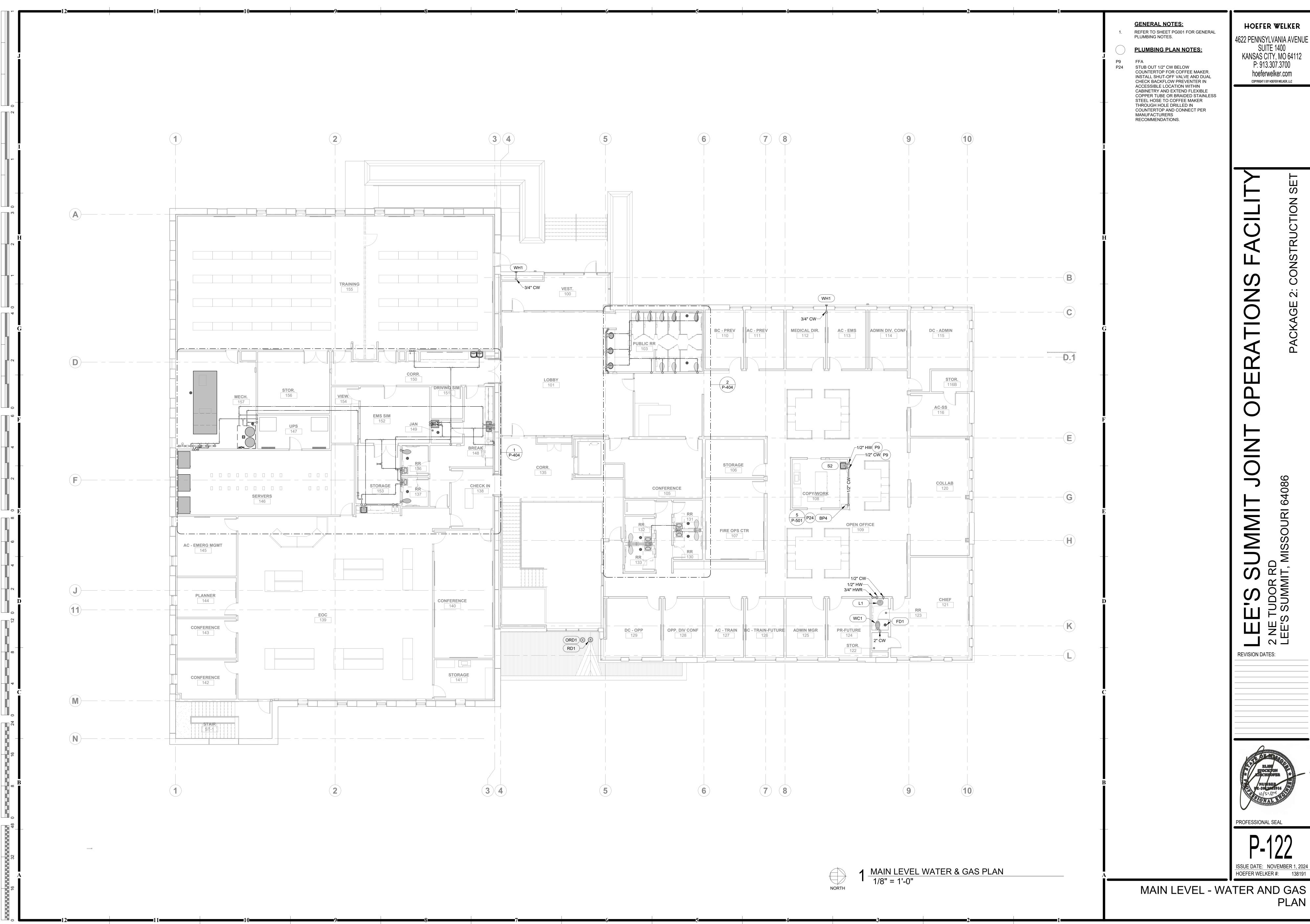
3 ADDENDUM #3 11/18/2024



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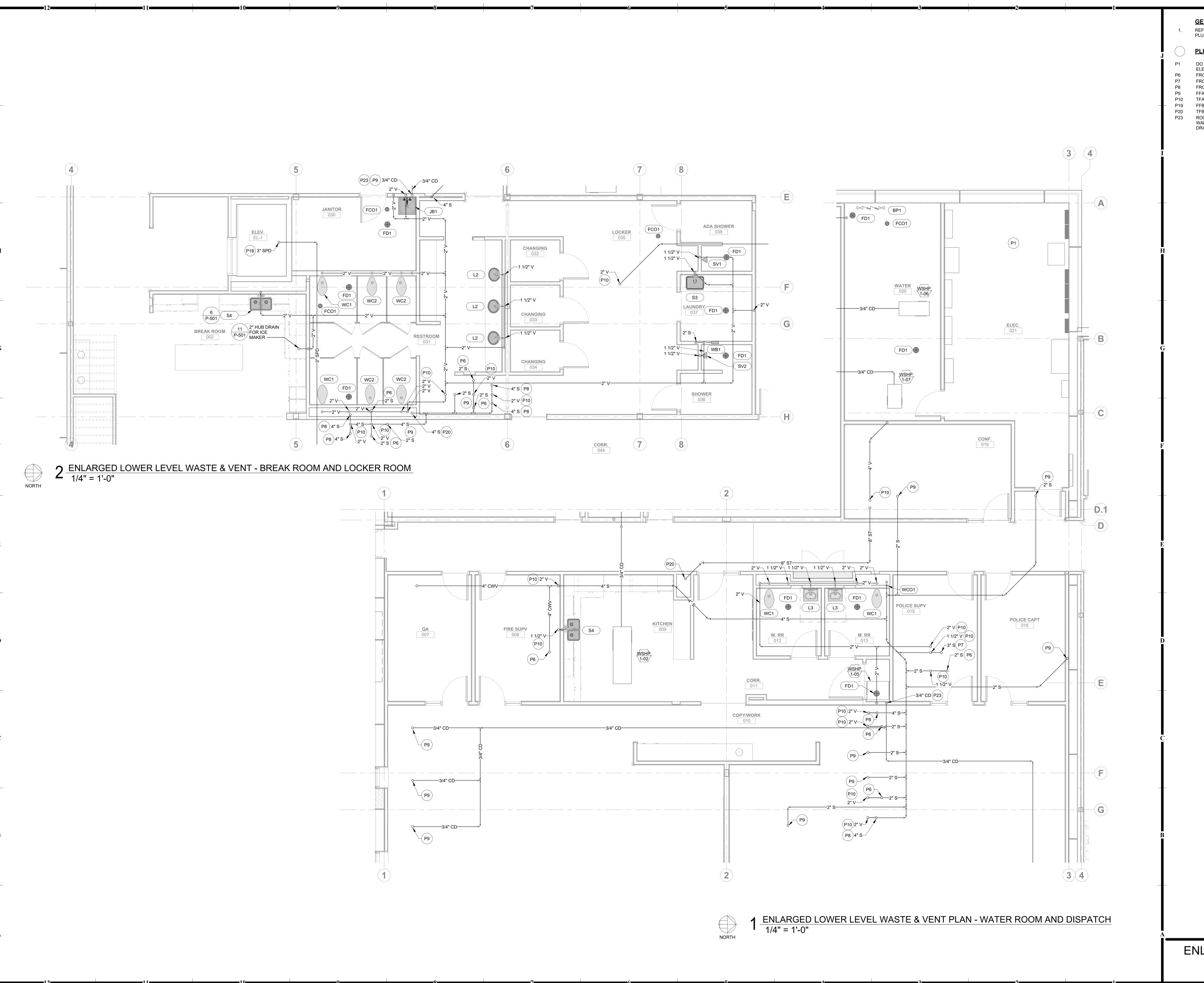
LOWER LEVEL - WATER AND GAS PLAN



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PLAN



GENERAL NOTES:

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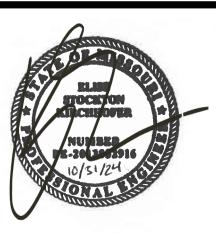
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PLUMBING PLAN NOTES:

DO NOT ROUTE PIPING OVER ELECTRICAL ROOM OR EQUIPMENT.

FROM FLOOR DRAIN ABOVE. FROM MOP SINK ABOVE. FROM WATER CLOSET ABOVE.

ROUTE CONDENSATE WALL DOWN IN WALL AND TERMINATE AT FLOOR DRAIN WITH AIR GAP.

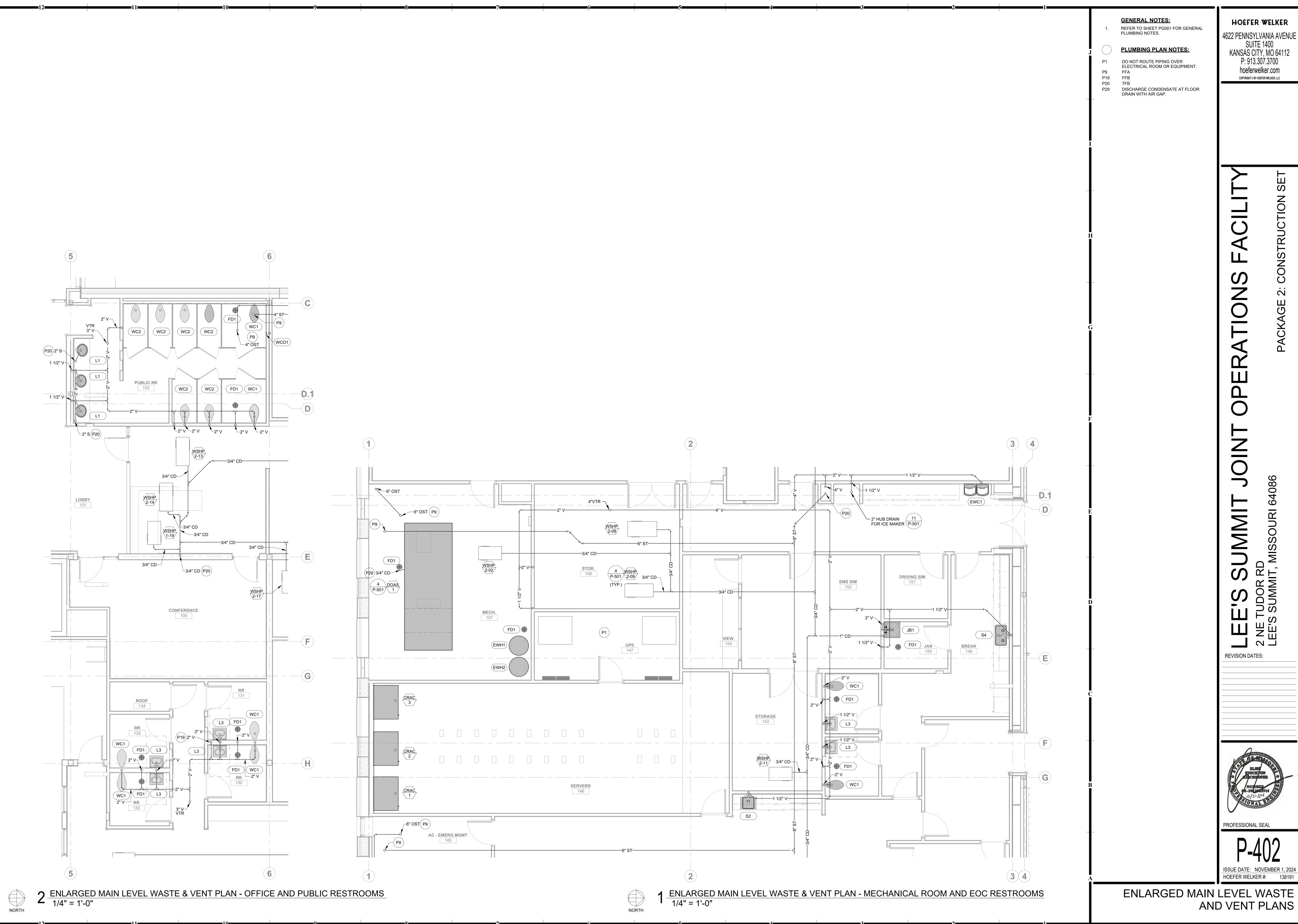


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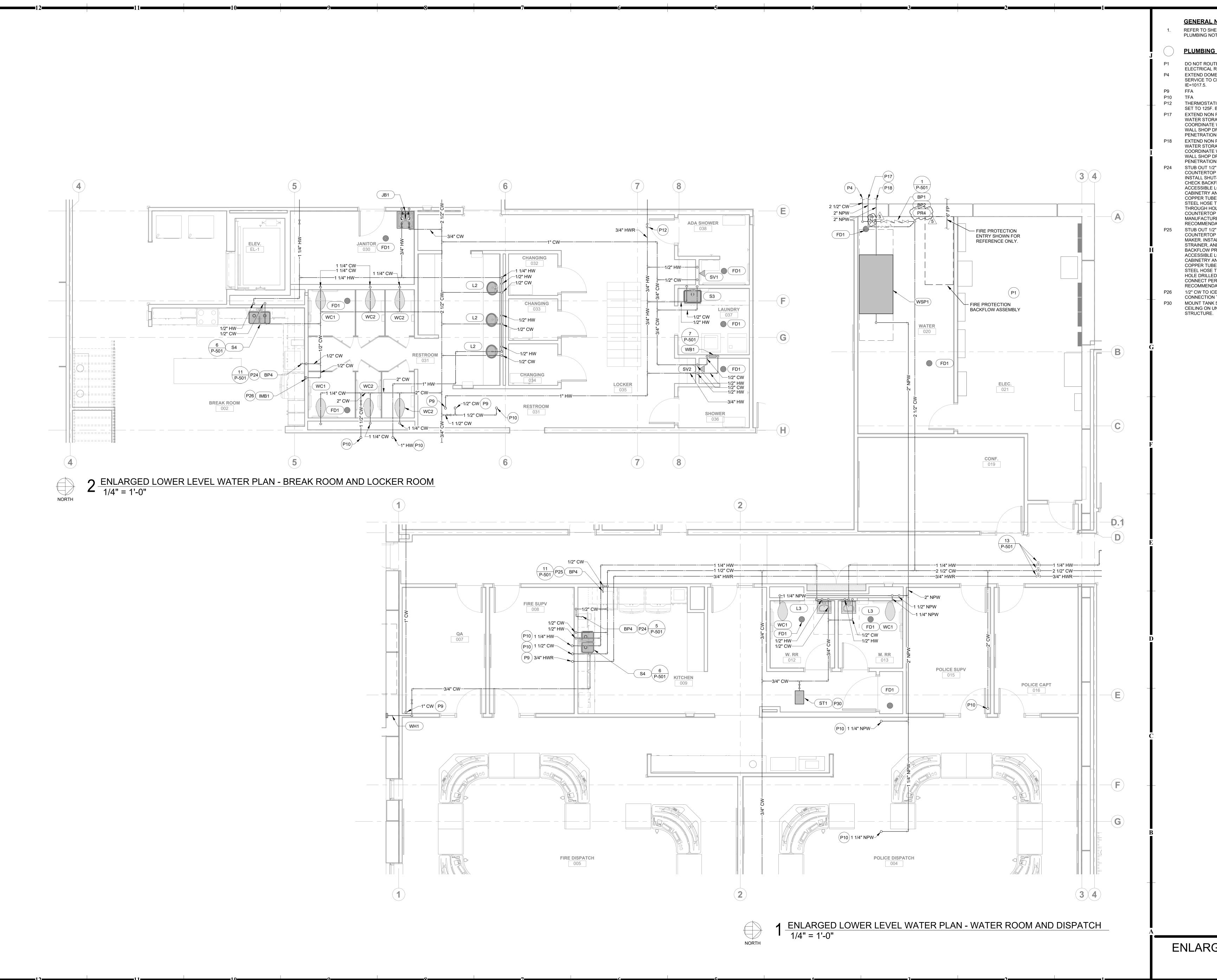
ENLARGED LOWER LEVEL WASTE AND VENT PLANS

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AND VENT PLANS



GENERAL NOTES:

REFER TO SHEET PG001 FOR GENERAL PLUMBING NOTES.

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PLUMBING PLAN NOTES: DO NOT ROUTE PIPING OVER ELECTRICAL ROOM OR EQUIPMENT. EXTEND DOMESTIC COLD WATER

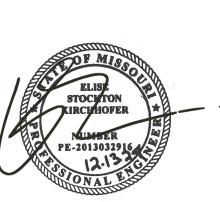
SERVICE TO CIVIL AND CONNECT AT

THERMOSTATIC BALANCING VALVE SET TO 125F. BOD: JOMAR TB-120MFG. P17 EXTEND NON POTABLE WATER TO WATER STORAGE TANK INLET. COORDINATE WITH PRECAST STORM WALL SHOP DRAWINGS FOR FINAL PENETRATION LOCATION. P18 EXTEND NON POTABLE WATER TO WATER STORAGE TANK OUTLET. COORDINATE WITH PRECAST STORM WALL SHOP DRAWINGS FOR FINAL PENETRATION LOCATION. COUNTERTOP FOR COFFEE MAKER. INSTALL SHUT-OFF VALVE AND DUAL CHECK BACKFLOW PREVENTER IN

STUB OUT 1/2" CW BELOW ACCESSIBLE LOCATION WITHIN CABINETRY AND EXTEND FLEXIBLE COPPER TUBE OR BRAIDED STAINLESS STEEL HOSE TO COFFEE MAKER THROUGH HOLE DRILLED IN COUNTERTOP AND CONNECT PER MANUFACTURERS RECOMMENDATIONS. STUB OUT 1/2" CW BELOW COUNTERTOP FOR COUNTERTOP ICE MAKER. INSTALL SHUT-OFF VALVE, STRAINER, AND DUAL CHECK BACKFLOW PREVENTER IN ACCESSIBLE LOCATION WITHIN CABINETRY AND EXTEND FLEXIBLE COPPER TUBE OR BRAIDED STAINLESS STEEL HOSE TO ICE MAKER THROUGH HOLE DRILLED IN COUNTERTOP AND CONNECT PER MANUFACTURERS

RECOMMENDATIONS. 1/2" CW TO ICE MAKER BOX FOR CONNECTION TO REFRIGERATOR. P30 MOUNT TANK SIDEWAYS ABOVE CEILING ON UNISTRUT ATTACHED TO

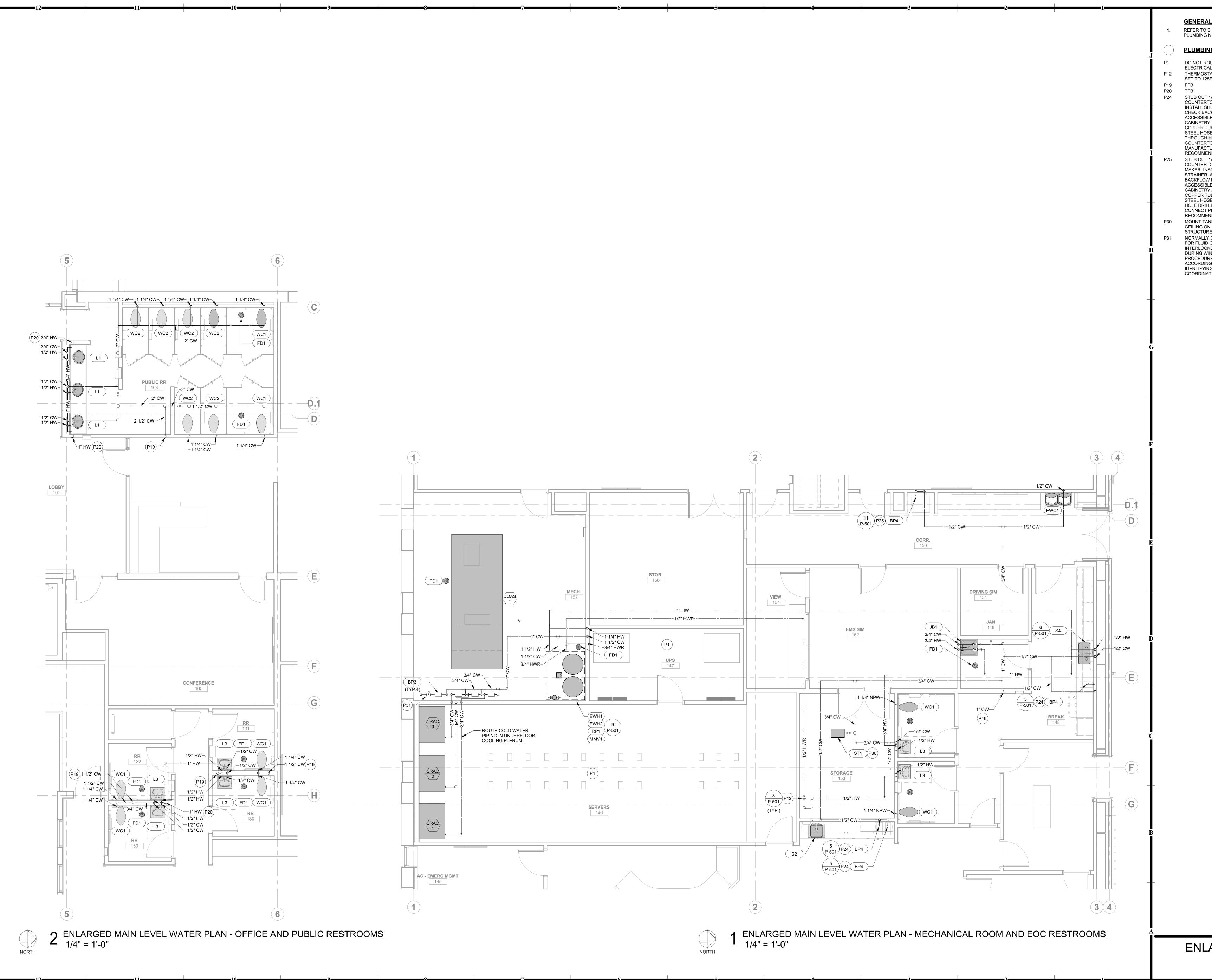
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ENLARGED LOWER LEVEL WATER **PLANS**



GENERAL NOTES:

REFER TO SHEET PG001 FOR GENERAL PLUMBING NOTES.

PLUMBING PLAN NOTES: DO NOT ROUTE PIPING OVER ELECTRICAL ROOM OR EQUIPMENT. HOEFER WELKER

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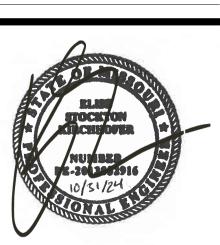
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P12 THERMOSTATIC BALANCING VALVE SET TO 125F. BOD: JOMAR TB-120MFG.

P24 STUB OUT 1/2" CW BELOW COUNTERTOP FOR COFFEE MAKER. INSTALL SHUT-OFF VALVE AND DUAL CHECK BACKFLOW PREVENTER IN ACCESSIBLE LOCATION WITHIN CABINETRY AND EXTEND FLEXIBLE COPPER TUBE OR BRAIDED STAINLESS STEEL HOSE TO COFFEE MAKER THROUGH HOLE DRILLED IN COUNTERTOP AND CONNECT PER MANUFACTURERS RECOMMENDATIONS. STUB OUT 1/2" CW BELOW COUNTERTOP FOR COUNTERTOP ICE MAKER. INSTALL SHUT-OFF VALVE, STRAINER, AND DUAL CHECK

BACKFLOW PREVENTER IN ACCESSIBLE LOCATION WITHIN CABINETRY AND EXTEND FLEXIBLE COPPER TUBE OR BRAIDED STAINLESS STEEL HOSE TO ICE MAKER THROUGH HOLE DRILLED IN COUNTERTOP AND CONNECT PER MANUFACTURERS RECOMMENDATIONS. P30 MOUNT TANK SIDEWAYS ABOVE CEILING ON UNISTRUT ATTACHED TO STRUCTURE.

NORMALLY OPEN SOLENOID VALVE FOR FLUID COOLER SHALL BE INTERLOCKED WITH BAS TO SHUT OFF DURING WINTERIZATION PROCEDURES. PROVIDE VALVE TAG ACCORDING TO SPECIFICATIONS IDENTIFYING VALVE AS "SV1." COORDINATE WITH DIVISION 23.



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HOEFER WELKER #: 138191

ENLARGED MAIN LEVEL WATER **PLANS**

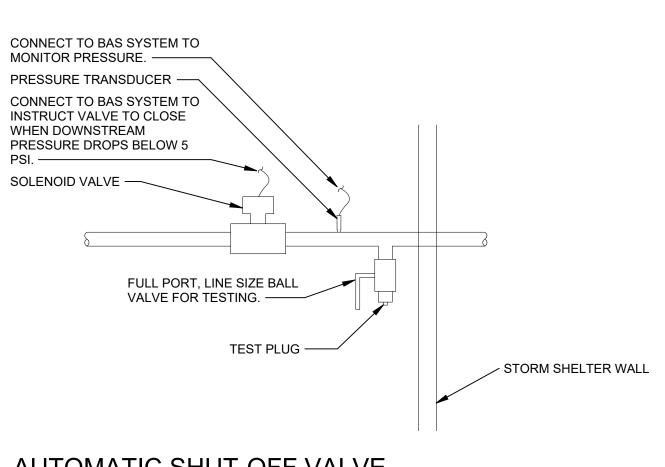
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HOEFER WELKER

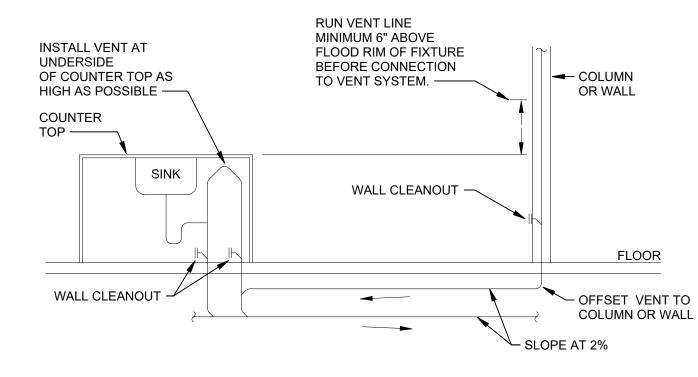
PROFESSIONAL SEAL

HOEFER WELKER #: 138191

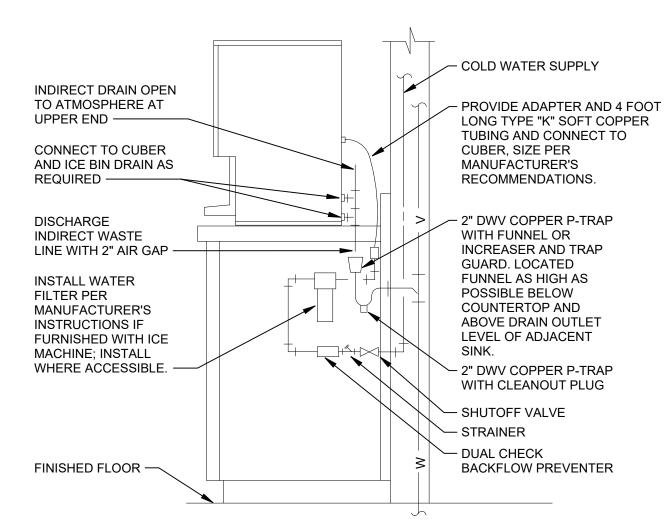
PLUMBING DETAILS



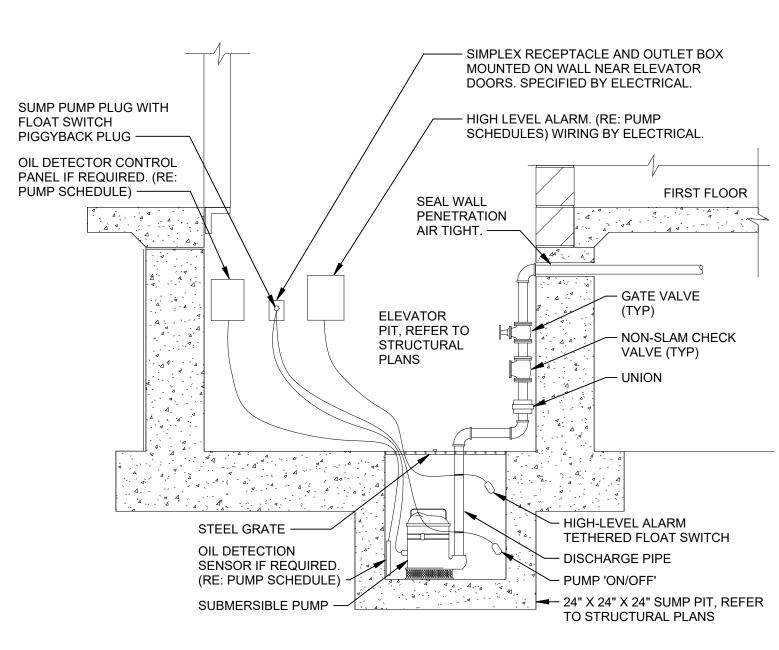
13 AUTOMATIC SHUT-OFF VALVE NOT TO SCALE



12 ISLAND VENT PIPING NOT TO SCALE



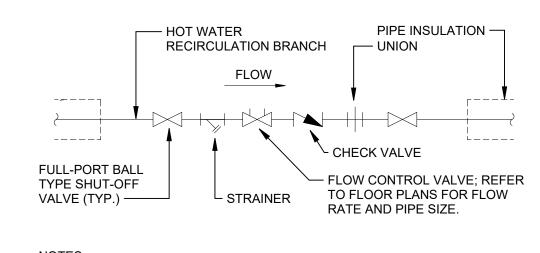
11 COUNTERTOP ICE MAKER CONNECTIONS NOT TO SCALE



10 ELEVATOR SUMP PUMP PIPING BELOW FLOOR NOT TO SCALE

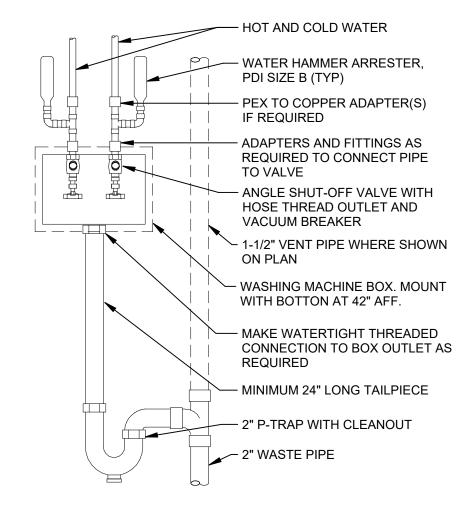
- CIRCULATING HOT WATER BRANCH - BALANCING VALVE (TYP EACH BRANCH) - CIRCULATING PUMP CHECK VALVE AQUASTAT — RELIEF VENT MIXING VALVE -THERMOMETER -PIPED HEAT TRAP 12"X12" SQUARE **←** EQ. **←** EQ. **← ←** EQ. **►** EQ. **►** PROVIDE EQUAL -LENGTH MANIFOLDS SHUT-OFF VALVE ----UNION -RELIEF VALVE ---ROUTE RELIEF TO FD TERMINATE 4" AFF → WATER WATER HEATER HEATER DRAIN VALVE -HOUSEKEEPING PAD ---

9 ELECTRIC WATER HEATER PIPING NOT TO SCALE

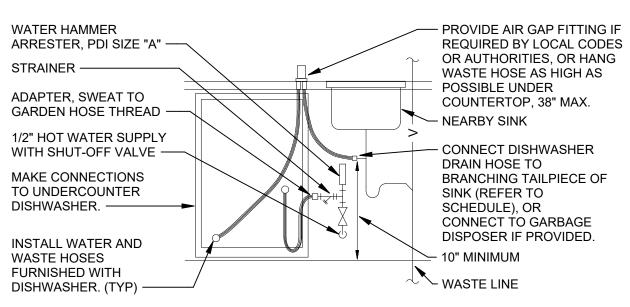


1. FULL FLOW CONTROL VALVE TRAIN SHALL BE ACCESSIBLE FOR SERVICE. COORDINATE WITH ARCHITECT FOR ACCESS.

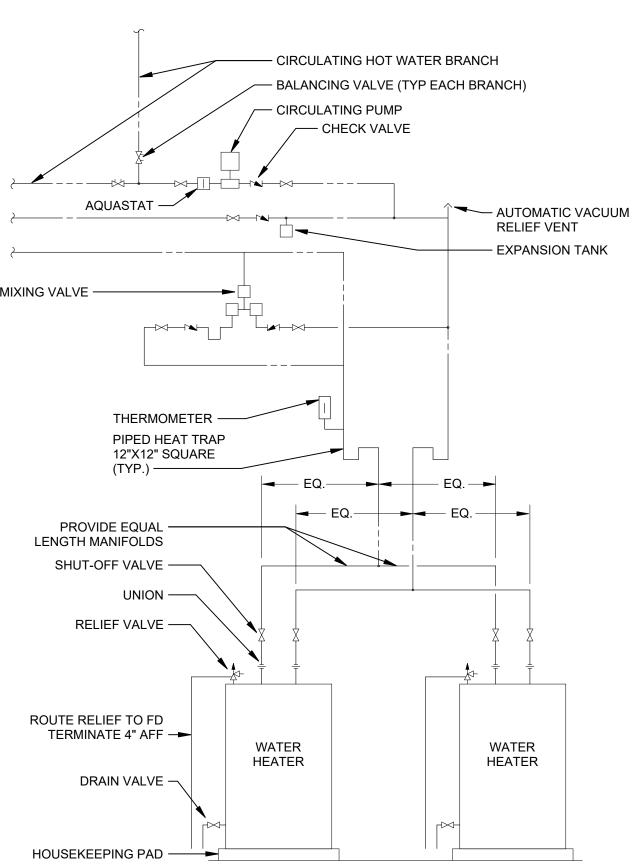
8 TYPICAL HOT WATER FLOW CONTROL VALVE TRAIN NOT TO SCALE

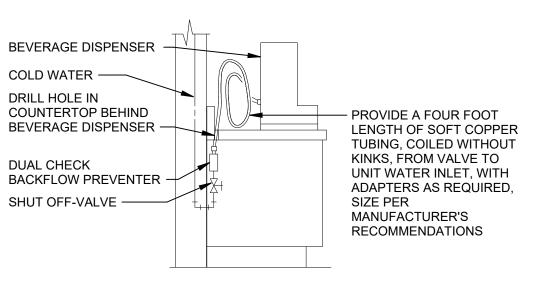


7 WASHING MACHINE BOX

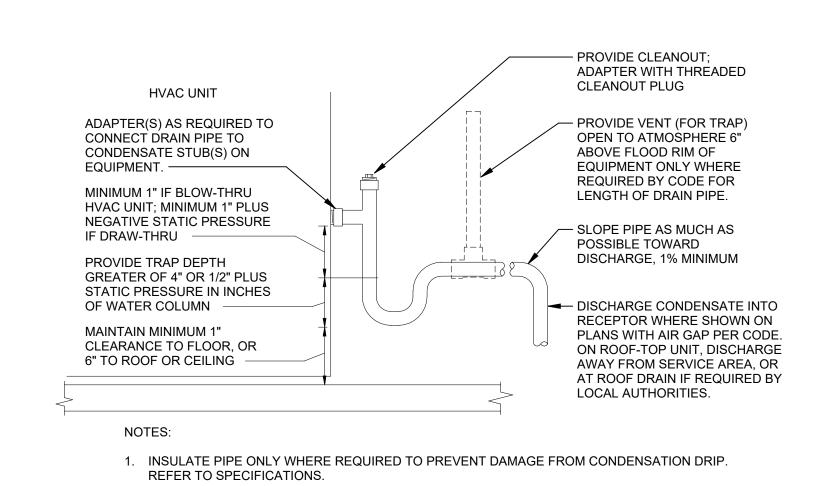


RESIDENTIAL DISHWASHER CONNECTION NOT TO SCALE

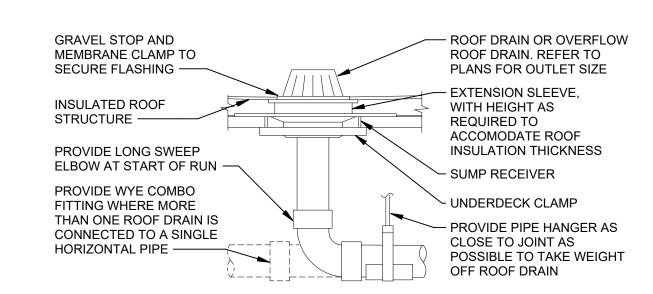




5 BEVERAGE DISPENSER CONNECTIONS NOT TO SCALE



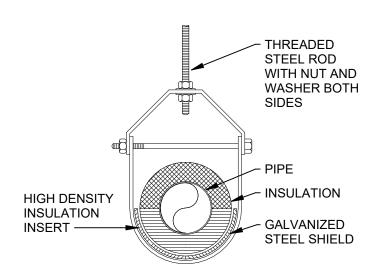
4 CONDENSATE DRAIN INSTALLATION NOT TO SCALE



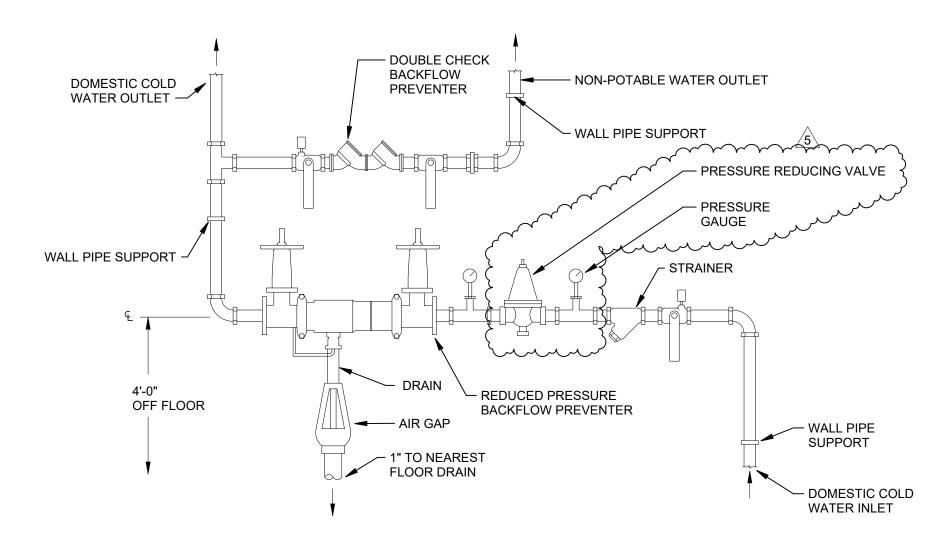
BODY IS CAST INTO CONCRETE ROOF. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. INSULATE ROOF DRAIN SUMP AND PIPE PER SPECIFICATIONS LOCATE DRAINS WHERE SHOWN ON ARCHITECTURAL PLANS. VERIFY WITH STRUCTURAL PLANS FOR ROOF LOW POINTS. COORDINATE WITH STRUCTURAL DRAWINGS REGARDING PROVISION FOR SUPPLEMENTARY STEEL FRAMING AROUND ROOF OPENING. COORDINATE ROOF DRAIN INSTALLATION WITH ARCHITECTURAL DETAILS AND ROOFING INSTALLATION. SET OVERFLOW DRAIN WEIR ELEVATION 2"

3 ROOF DRAIN INSTALLATION NOT TO SCALE

ABOVE PRIMARY ROOF DRAIN WEIR ELEVATION.



2 INSULATED PIPE AT HANGER NOT TO SCALE



DOMESTIC WATER ENTRY

NOT TO SCALE

| | | | | | GAS PRESSURE RE | EGULATOR SCHEDULE | <u> </u> | | | |
|-----------|-------------------|---------|-------------|--------------------|--------------------|-----------------------|----------------------------|-----------------|---------|-------|
| PLAN MARK | MANUFACTURER | MODEL | SYSTEM | MIN CAPACITY (MBH) | MAX CAPACITY (MBH) | INLET PRESSURE (PSIG) | OUTLET PRESSURE (IN. W.C.) | VALVE SIZE (IN) | OPTIONS | NOTES |
| PR1 | PIETRO FIORENTINI | 31156/F | NATURAL GAS | 0 | 4140 | 2 | 7 | 2.5 | | |
| PR2 | PIETRO FIORENTINI | 31156/F | NATURAL GAS | 0 | 4140 | 2 | 7 | 2.5 | | |
| PR3 | PIETRO FIORENTINI | 31052 | NATURAL GAS | 0 | 80 | 2 | 7 | 0.75 | | |

| | | | WATI | ER PRESSURE REGUL | ATOR SCHEDULE | | | |
|-----------|--------------|--------|------------------------|-----------------------|------------------------|-----------------|---------|-------|
| PLAN MARK | MANUFACTURER | MODEL | SYSTEM | INLET PRESSURE (PSIG) | OUTLET PRESSURE (PSIG) | VALVE SIZE (IN) | OPTIONS | NOTES |
| PR4 | WATTS | LFF115 | DOMESTIC WATER SERVICE | 62 | 60 | 2 | | |

| | | | | | | | | WATER STORA | AGE PUMP/FI | LTRATION S | CHEDULE | | | | | | | | |
|--------|-----------------|-----------------|--------------|--------|-----------|-----------|----------------|---------------------|-------------|------------|-------------|------------|----------------|------------|------|--------|-------|---------|---------|
| | | | | | | PUMP | | | | PRO | CESSING | | | ELECTRICAL | | | | | |
| PLAN | | ! | | | NUMBER OF | FLOW RATE | OUTLET | BLADDER TANK | | FILTRATION | SANITATION | SANITATION | | | | 1 | ' | | |
| MARK | SERVICE | UNIT TYPE | MANUFACTURER | MODEL | PUMPS | (GPM) | PRESSURE (PSI) | VOLUME (GAL) | FILTER TYPE | LEVEL | TYPE | LEVEL | VOLTAGE | PHASE | MOCP | LENGTH | WIDTH | OPTIONS | NOTES |
| WSP1 | EMERGENCY WATER | PUMP/FILTRATION | WAHASO | CUSTOM | 2 | 50 | 60 | 26 | BAG FILTER | 5 MICRON | ULTRAVIOLET | 40 mJ/cm2 | 480 | 3 | 30 | 84 | 48 | | 1,2,3,4 |
| | STORAGE | SKID | | | | 1 | | | | 1 | | | | | | | , | | |
| IOTES: | , | <u> </u> | | | | | · | | | | | | | | | | | | |

MANUFACTURER TO MOUNT BOOSTER PUMP, FILTRATION, AND CONTROLS ON SINGLE SKID. SKID TO BE PRE-PIPED AND WIRED AT THE FACTORY.

CONTROLS TO MONITOR AND REPORT TANK LEVEL TO CONTROL PANEL AND BAS, OPERATE PUMPS AND VFDs, MONITOR DIFFERENTIAL PRESSURE ACROSS FILTERS, TRACK HOURS OF USAGE AND REMAINING LIFE OF UV BULBS, AND TRACK TOTAL GALLONS OF WATER USED. SYSTEM TO PREVENT STAGNATION WITH RECIRCULATION OF WATER. RECIRC WATER TO BE TREATED BY FILTRATION AND SANITATION.

PLC-BASED CONTROLS WITH BACNET INTEGRATION.

| PLUMBING STORAGE TANK SCHEDULE | | | | | | | | | |
|--------------------------------|-------------------------|--------------|--------|--------------|-------------|------------|-------------|---------|-------|
| PLAN MARK | SERVICE | MANUFACTURER | MODEL | VOLUME (GAL) | LENGTH (IN) | WIDTH (IN) | HEIGHT (IN) | OPTIONS | NOTES |
| WST1 | EMERGENCY WATER STORAGE | WAHASO | CUSTOM | 3000 | 192 | 96 | 62 | | |

| | | | P | LUMBING PRESSURIZE | D STORAGE TANK SCHED | ULE | | | |
|-----------|--------------|----------|-------------------------|--------------------|----------------------|--------------------------|---------------|------------|-------------|
| PLAN MARK | MANUFACTURER | MODEL | MOUNTING | VOLUME (GAL) | DRAWDOWN (GAL) | OPERATING PRESSURE (PSI) | DIAMETER (IN) | HEIGHT(IN) | WEIGHT (LB) |
| ST1 | FLEXCON | FT 35(S) | SIDEWAYS, ABOVE CEILING | 9 | 2.16 | 60 | 12.5 | 19 | 90 |
| ST2 | FLEXCON | FT 35(S) | SIDEWAYS, ABOVE CEILING | 9 | 2.16 | 60 | 12.5 | 19 | 90 |

| | BING ABBREVIATION LIST |
|----------------|--|
| GENERAL NO | |
| 1 | THE MANUFACTURER LISTED SHALL |
| | BE CONSIDERED THE BASIS OF DESIGN. EQUIPMENT AND |
| | ACCESSORIES SHALL BE SUPPLIED |
| | IN ACCORDANCE WITH THE |
| | SCHEDULED VALUES, NOTES, |
| | DETAILS, AND SPECIFICATIONS. |
| | THE MECHANICAL CONTRACTOR |
| | SHALL BE RESPONSIBLE FOR ALL |
| | ADDITIONAL COST AND |
| | COORDINATION WHEN NON BASIS |
| | OF DESIGN EQUIPMENT IS |
| ODTIONS | PROVIDED. |
| OPTIONS AE5 | 0.5 GPM AERATOR |
| AES | PROVIDE ADJUSTABLE, SURFACE |
| ^3 | MOUNTED AQUASTAT - HONEYWELL |
| 1 | L6006C. SET AQUASTAT TO SHUT |
| 1 | OFF RECIRCULATION PUMP AT 130F |
| | AND ON AT 125F. |
| BF | BOTTLE FILLER |
| BGD | INSINKERATOR BADGER 5XP, 3/4 HP |
| 1 | GARBAGE DISPOSAL AND 73274K |
| | CHROME FINISH SINK TOP SWITCH |
| | BUTTON OPERATOR. |
| BS | BASKET STRAINER |
| cc | CAST IRON BODY AND CLAMPING COLLAR |
| DSB | DRAIN SEDIMENT BUCKET |
| ESLC | WHITE ELONGATED OPEN FRONT |
| | SEAT LESS COVER |
| ET | PROVIDE AMTROL ST-30VC-DD |
| | EXPANSION TANK. PRE-CHARGE |
| | EXPANSION TANK TO EQUAL THE |
| | COLD WATER STATIC PRESSURE AT WATER HEATER. |
| FG | FULL GRATE |
| GD | GRID DRAIN |
| HG | HALF GRATE |
| HSP | OPERATING TEMPERATURE SHALL |
| | BE SET TO 140F |
| MSP | MIXING TEMPERATURE SHALL BE |
| | SET TO 130F |
| NBR | NICKEL BRONZE RIM |
| NBS | 6" NICKEL BRONZE STRAINER |
| PS | PIPE SHROUD |
| SB | SAFETY BUBBLER |
| SV | QUARTER TURN STOP VALVES |
| Т | TRAP |
| TG | PROVENT TRAP GUARD. |
| TMV | PROVIDE WITH POWERS LFE480-00 |
| | THERMOSTATIC MIXING VALVE SET |
| 1 | TO 105F FOR LAVATORIES AND 115F |

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1 ADDEADUM #3 11/18/2024

1 ADDEADUM #3 11/18/2024

ELISE STOCKTON KIRCHHOFER

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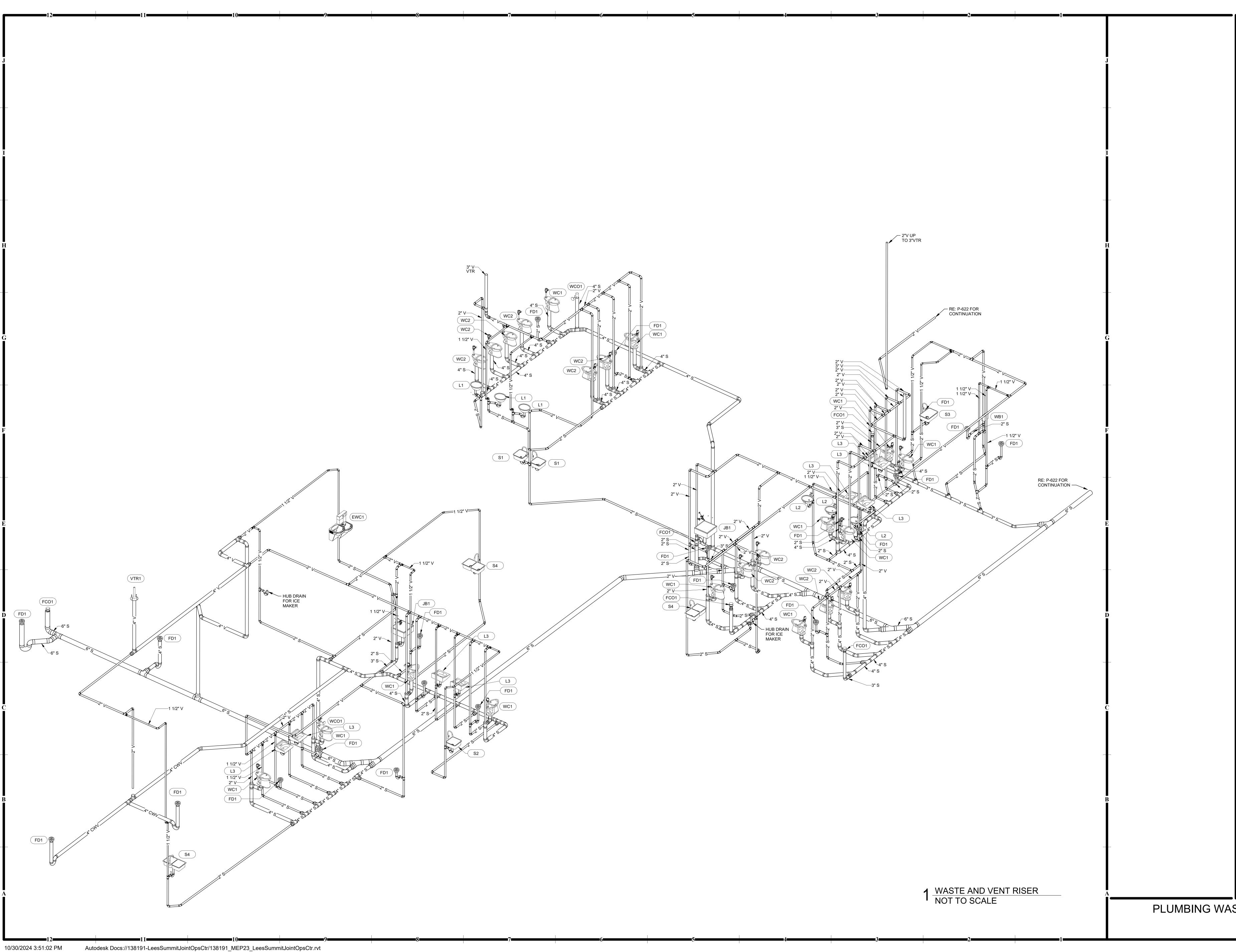
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PROFESSIONAL SEAL

P-601

ISSUE DATE: NOVEMBER 1, 2024
HOEFER WELKER #: 138191

PLUMBING SCHEDULES



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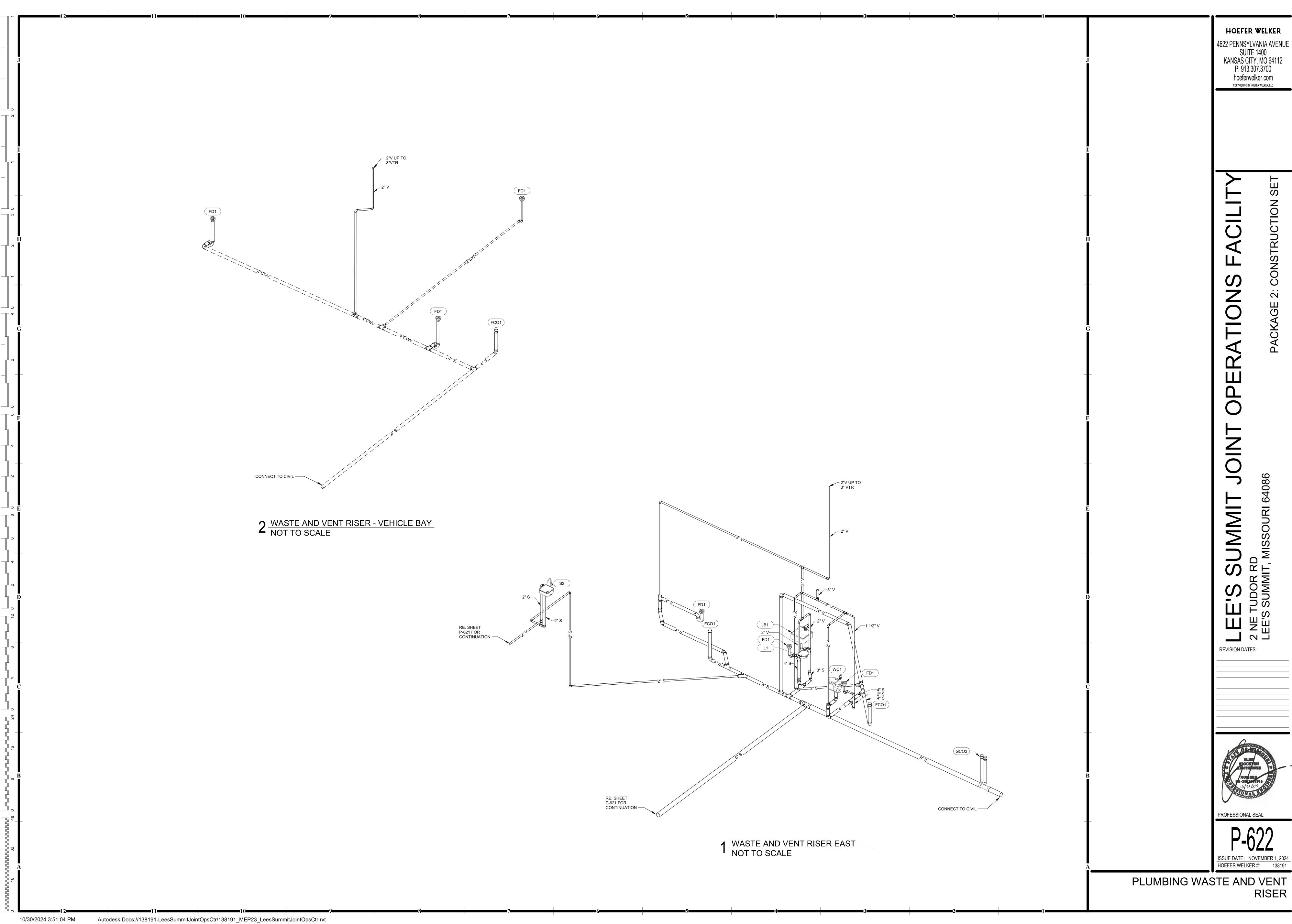
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PROFESSIONAL SEAL

ISSUE DATE: NOVEMBER 1, 2024
HOEFER WELKER #: 138191

PLUMBING WASTE AND VENT RISER

Autodesk Docs://138191-LeesSummitJointOpsCtr/138191_MEP23_LeesSummitJointOpsCtr.rvt



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PLUMBING WASTE AND VENT RISER

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OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL

BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES. SPECIFICATIONS AND

GENERAL MECHANICAL NOTES:

PIPING LINETYPES

-----HPS------

———PD———

——HWS-----

— —HCR— —

— —HPWR— —

LINETYPE LEGEND

EXISTING —

DEMOLISH — — — —

——CD—— CONDENSATE DRAIN (CD)

----NPW----- NON-POTABLE WATER (NPW)

— G— MATURAL GAS ON ROOF (G)

FOS—FUEL OIL SUPPLY (FOS)

FOR—FUEL OIL RETURN (FOR)

LIQUEFIED PETROLEUM GAS (LPG)

——CHWS—— CHILLED WATER SUPPLY (CHWS)

HCS—HOT / CHILLED WATER SUPPLY (HCS)

——CWR—— CONDENSER WATER RETURN (CWR)

——HPWS—— HEAT PUMP WATER SUPPLY (HPWS)

REFRIGERANT DISCHARGE (HOT GAS) (RD)

REFRIGERANT DISCHARGE BYPASS (RDB)

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN

COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS

EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK

AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE.

INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING,

RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION

LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE,

NEW ————

FUTURE — — — —

DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD

ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING

THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE

VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT

WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR

RS—RS—REFRIGERANT SUCTION (RS)

RV—RV—REFRIGERANT VENT (RV)

BFW—BOILER FEED WATER (BFW)

FOV—FOV—FUEL OIL VENT (FOV)

———G——— NATURAL GAS (G)

ACD——ACD——AUXILIARY CONDENSATE DRAIN (ACD)

——MPG—— MEDIUM PRESSURE NATURAL GAS (MPG)

MEDIUM PRESSURE NATURAL GAS ON ROOF (MGP)

HIGH PRESSURE STEAM SUPPLY (HPS)

LOW PRESSURE STEAM SUPPLY (LPS)

CONDENSATE PUMP DISCHARGE (PD)

HEATING HOT WATER SUPPLY (HWS)

HEATING HOT WATER RETURN (HWR)

HOT / CHILLED WATER SUPPLY (HCR)

CONDENSER WATER SUPPLY (CWS)

HEAT PUMP WATER RETURN (HPWR)

CHILLED WATER RETURN (CHR)

HIGH PRESSURE STEAM CONDENSATE (HPC)

MEDIUM PRESSURE STEAM SUPPLY (MPS)

LOW PRESSURE STEAM CONDENSATE (LPC)

MEDIUM PRESSURE STEAM CONDENSATE (MPC)

NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE

REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.

COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACÉ INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. PROVIDE FILTERS OVER ANY RETURN OR TRANSFER OPENINGS DURING CONSTRUCTION.

WHERE HVAC SYSTEMS ARE REQUIRED TO STAY OPERATIONAL TO SERVE OTHER AREAS OF THE BUILDING, PLACE FILTER MEDIA OVER ALL SUPPLY AND RETURN AIR OPENINGS, TRANSFER DUCTS AND FIRE/SMOKE DAMPERS.

INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.

COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.

SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS. FOR HYDRONIC. PIPING TO EQUIPMENT, MINIMUM ACCEPTABLE SIZE FOR STEEL AND COPPER

PIPE IS 3/4 INCH. USE THIS CRITERIA WHERE PIPE SIZES ARE NOT SHOWN ON PLAN.

CONTRACTOR SHALL DRAIN, FLUSH, AND REFILL ALL PIPING SYSTEMS NECESSARY TO PERFORM THE WORK. REFERENCE SPECIFICATIONS FOR FLUSHING PERFORMANCE REQUIREMENTS AND SUBMIT FLUSHING PLAN TO ENGINEER FOR REVIEW. PROVIDE CHEMICAL TREATMENT FOR ALL

COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.

ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.

PIPING SYSTEMS AFTER FLUSHING AND REFILLING THE SYSTEM.

DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.

PROVIDE FIRE OR FIRE/SMOKE DAMPERS, AS APPLICABLE, IN DUCTWORK AT CEILINGS AND WALLS AT LOCATIONS SHOWN ON THE PLANS. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. COORDINATE SLEEVE LENGTH WITH REQUIREMENTS OF INSTALLED

PROVIDE WALL OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO FIRE AND FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 10" BY 10" AND SHALL BE INSTALLED WITHIN 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 10" BY 10" ACCESS DOOR.

LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALL ATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.

COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF

PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.

PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH

DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS

OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT

SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.

FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL

PROVIDE EQUIPMENT VENTS AND FLUES PER EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND EQUIPMENT SPECIFICATIONS. KEEP PENETRATIONS THROUGH ROOF A MINIMUM OF 25'-0" FROM HVAC EQUIPMENT FRESH AIR INLETS AND 3'-0" FROM ROOF PARAPETS.

PROVIDE WALL MOUNTED LOUVERS AND DAMPERS WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.

PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.

| OUEET MUMBER | OUEST NAME |
|--------------|-------------------------------------|
| SHEET NUMBER | SHEET NAME |
| ИG001 | MECHANICAL LEGEND AND GENERAL NOTES |
| MS101 | MECHANICAL SITE PLAN |
| M-101 | LOWER LEVEL - HVAC PLAN |
| M-102 | MAIN LEVEL - HVAC PLAN |
| M-103 | VEHICLE BUILDING - HVAC PLAN |
| M-111 | LOWER LEVEL - PIPING PLAN |
| M-112 | MAIN LEVEL - PIPING PLAN |
| M-501 | MECHANICAL DETAILS |
| M-502 | MECHANICAL DETAILS |
| M-503 | MECHANICAL DETAILS |
| M-601 | MECHANICAL SCHEDULES |
| M-602 | MECHANICAL SCHEDULES |
| M-621 | MECHANICAL CONTROLS |
| M-622 | MECHANICAL CONTROLS |
| M-623 | MECHANICAL CONTROLS |
| M-624 | ONE LINE DIAGRAM |

HOEFER WELKER #: 138191 MECHANICAL LEGEND AND

GENERAL NOTES

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Autodesk Docs://138191-LeesSummitJointOpsCtr/138191_MEP23_LeesSummitJointOpsCtr.rvt

MECHANICAL SYMBOLS

MECHANICAL PLAN NOTE CALLOUT

SECTION CUT DESIGNATION

DIFFUSER DESIGNATION:

NECK SIZE

AIRFLOW

PLAN MARK (EXISTING)

CONTROL DEVICES- THERMOSTATS, SENSORS, ETC. (TOP OF DEVICE) 48"

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNLESS NOTED

OTHERWISE IN THE SPECIFICATIONS OR ELSEWHERE. MOUNTING HEIGHTS

LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG)

TO TOP OF DEVICE. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH

MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR

DETAIL REFERENCE. UPPER NUMBER INDICATES DETAIL

LDB

NOM

OBD

PICV

QTY

RPM

RTU

SCP

SOW

STM

TCP

TFA

TFB

UNO

VAV

VFD

W/O

NUMBER LOWER NUMBER INDICATES SHEET NUMBER

CONNECTION POINT OF NEW WORK TO EXISTING

FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)

STANDARD MOUNTING HEIGHT

CURRENT ADA AND LOCAL REQUIREMENTS.

ANNOTATION

S1(E)

ABBREVIATIONS

AIR CONDITIONING

AIR COOLED CHILLER

AIR COOLED CONDENSING

ABOVE FINISHED CEILING

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

ALITHORITY HAVING

AIR PRESSURE DROP

AMERICAN WIRE GAUGE

BUILDING AUTOMATION

BACKDRAFT DAMPER

BELOW FINISHED CEILING

BELOW FINISHED FLOOR

BELOW FINISHED GRADE

BOTTOM OF STRUCTURE

CUBIC FEET PER MINUTE

BRITISH THERMAL UNIT

CONDENSATE PUMP

CONDITIONING UNIT

COMPUTER ROOM UNIT

CONTROL POWER

TRANSFORMER COMPUTER ROOM AIR

COOLING TOWER

CONDENSING UNIT

DECIBEL AVERAGE

DIGITAL INPUT

DUCT SILENCER

EXHAUST AIR

ENTERING

DIRECT EXPANSION

AIR TEMPERATURE

ENTERING DRY BULB

ENERGY MANAGEMENT

EXTERNAL STATIC

EXISTING TO REMAIN

ENTERING WATER

FROM FLOOR ABOVE

FROM FLOOR BELOW

GENERAL CONTRACTOR

GALLONS PER MINUTE

HAND-OFF-AUTOMATIC

FINISHED FLOOR

FEET PER MINUTE

FINS PER INCH

HORSEPOWER

HEATING

TEMPERATURE

FAN COIL UNIT

ENTERING WET BULB

EXHAUST DUCT

EXHAUST FAN

EFFICIENCY

SYSTEM

PRESSURE

DISCONNECT

CHILLED WATER PUMP

DIRECT DIGITAL CONTROL ST

CONTROL VALVE

CONDENSER

WATER PUMP

DECIBELS

BRAKE HORSEPOWER

BOILER FEED PUMP

JURISDICTION

ANALOG INPUT

ACCESS PANEL

BOIL FR

BACKBONE

BLOWDOWN

BINARY INPUT

CFM

CPT

CWP

DBA

DISC

EFF

EMS

ESP

HOA

HTG

BINARY OUTPUT

BOTTOM OF DUCT

AIR HANDLING UNIT

ANALOG OUTPUT

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED

HWP HEATING WATER PUMP

IN WC INCHES OF WATER

LOUVER

MAXIMIIM

NOMINAL

LEAVING AIR

TEMPERATURE

LOW PRESSURE

LEAVING WATER

TEMPERATURE

MAKE-UP AIR UNIT

1000 BTU PER HOUR

MOTORIZED DAMPER

MANUFACTURER

NOT APPLICABLE

NORMALLY CLOSED

NORMALLY OPEN

NOT IN CONTRACT

PRESSURE INDEP.

CONTROL VALVE

PROVIDE FURNISH AND INSTALL

QUANTITY

RELIEF AIF

RETURN AIR

ROOM CRITERIA

RETURN DUCT

RETURN FAN

REFRIGERANT

ROOF HOOD

ROOFTOP UNIT

SUPPLY AIR

SUPPLY DUCT

SCOPE OF WORK

STATIC PRESSURE

TO BE DETERMINED

SUPPLY FAN

STEAM TRAP

CONTRACTOR

TRANSFER FAN

TEMPERATURE

TRANSMITTAL

UNDERFLOOR

UNDERSLAB

VELOCITY

VOLUME

WITHOUT

WET BULB

XP EXPLOSION PROOF

WITH

UNIT HEATER

VRV VARIABLE REFRIGERANT

WATER COLUMN

WPD WATER PRESSURE DROP

UNDERGROUND

TYPICAL

TO FLOOR ABOVE

TO FLOOR BELOW

TOTAL HEAT CAPACITY

TOTAL STATIC PRESSURE

UNLESS NOTED OTHERWISE

VARIABLE AIR VOLUME

VARIABLE FREQUENCY

VARIABLE REFRIGERANT

STEAM

RELATIVE HUMIDITY

REVOLUTIONS PER MINUTE

STEAM CONDENSATE PUMP

SENSIBLE HEAT CAPACITY

TEMPERATURE CONTROLS

TEMPERATURE CONTROL

SMOKE DUCT DETECTOR

OPPOSED BLADE DAMPER

NOISE CRITERIA

NON-FUSED

OUTSIDE AIR

LEAVING DRY BULB

LEAVING WET BULB

HVAC DUCTWORK AND ACCESSORIES

LINER INFORMATION.

ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS.

LINEAR SLOT DIFFUSER

ELBOW WITH TURNING VANES

SUPPLY AIR DUCT UP

S1 (PLAN MARK)

10" (NECK SIZE)

E1 (PLAN MARK)

24x24 (NECK SIZE)

MANUAL VOLUME DAMPER

(SD=SUPPLY/RD=RETURN)

RISER DESIGNATION

FIRE SMOKE DAMPER

SMOKE DAMPER

VOLUME DAMPER

MOTORIZED DAMPER

BACKDRAFT DAMPER

BLANKED OFF)

HVAC CONTROL DEVICES

CO2

HUMIDISTAT

THERMOSTAT

FLOW SWITCH

PULL STATION

HUMIDITY SENSOR

STATIC PRESSURE SENSOR

CARBON MONOXIDE SENSOR

DIFFERENTIAL PRESSURE SENSOR

CARBON DIOXIDE SENSOR

TEMPERATURE SENSOR

BLANKED OFF DIFFUSER (SHADED SECTION IS

FIRE DAMPER

SQUARE TO ROUND TRANSITION

DUCT MOUNTED SMOKE DETECTOR

800 CFM (CFM OF EXHAUST GRILLE)

SUPPLY AIR DUCT DOWN

INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)

BRANCH DUCT WITH 45° RECTANGLE-ROUND

BRANCH DUCT WITH BELL-MOUTH FITTING &

RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP

RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN

EQUIPMENT WITH FLEXIBLE DUCT CONNECTION

300 CFM (CFM OF SUPPLY DIFFUSER OR REGISTER)

MANUAL VOLUME CONTROL DAMPER

BRANCH FITTING AND MANUAL VOLUME DAMPER

REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND

PIPING SYMBOLS

■ DIRECTION OF FLOW

THREE-WAY CONTROL VALVE

BALANCING VALVE WITH PRESSURE PORTS

TRIPLE DUTY VALVE WITH PRESSURE PORTS

RELIEF / SAFETY VALVE

THERMOSTATIC MIXING VALVE

SOLENOID VALVE

PRESSURE REDUCING VALVE

GAS PRESSURE REGULATOR

BACKFLOW PREVENTER

PIPE GUIDE

BUCKET TRAP

PIPING SUPPORT

- PIPE ANCHOR

— EXPANSION JOINT

—— THERMOSTATIC TRAP

PRESSURE GAUGE

VACUUM RELIEF VALVE

AUTOMATIC AIR VENT

PRESSURE / VACUUM SWITCH

ELBOW UP WITH SHUT-OFF VALVE (SOV)

TEE UP WITH SHUT-OFF VALVE (SOV)

ELBOW DOWN WITH SHUT-OFF VALVE (SOV)

MANUAL AIR VENT

CLEANOUT

ELBOW UP

TEE UP

P-TRAP

TOP BEAM CLAMP

/ TRAPEZE HANGER

- GAS COCK

ELBOW DOWN

TEE DOWN WITH SHUT-OFF VALVE (SOV)

- RECIRCULATION PUMP

PRESSURE AND TEMPERATURE TEST PLUG

THERMOMETER

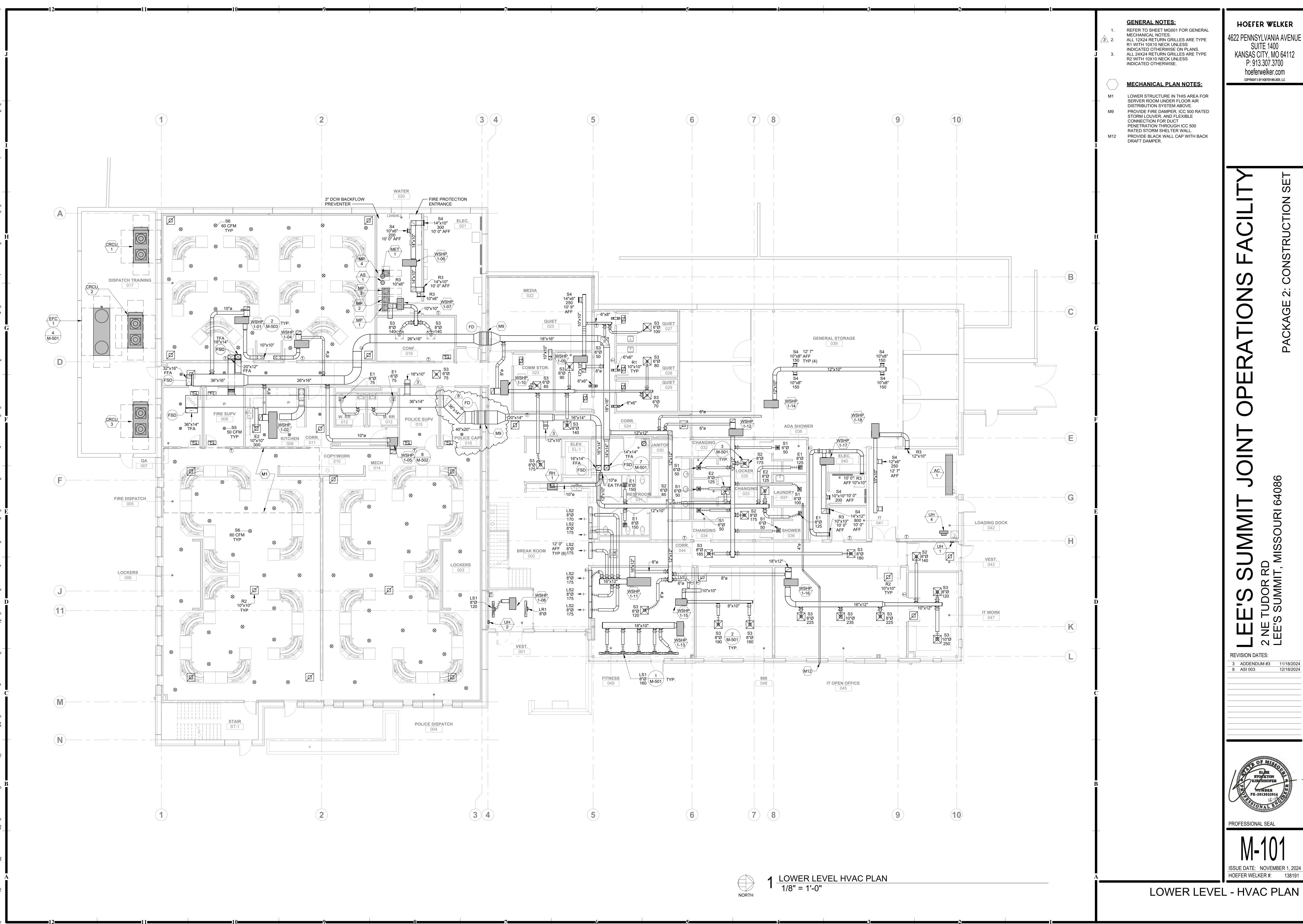
STRAINER WITH BLOWDOWN VALVE

CONTROL VALVE

→ SHUTOFF VALVE

————— CHECK VALVE

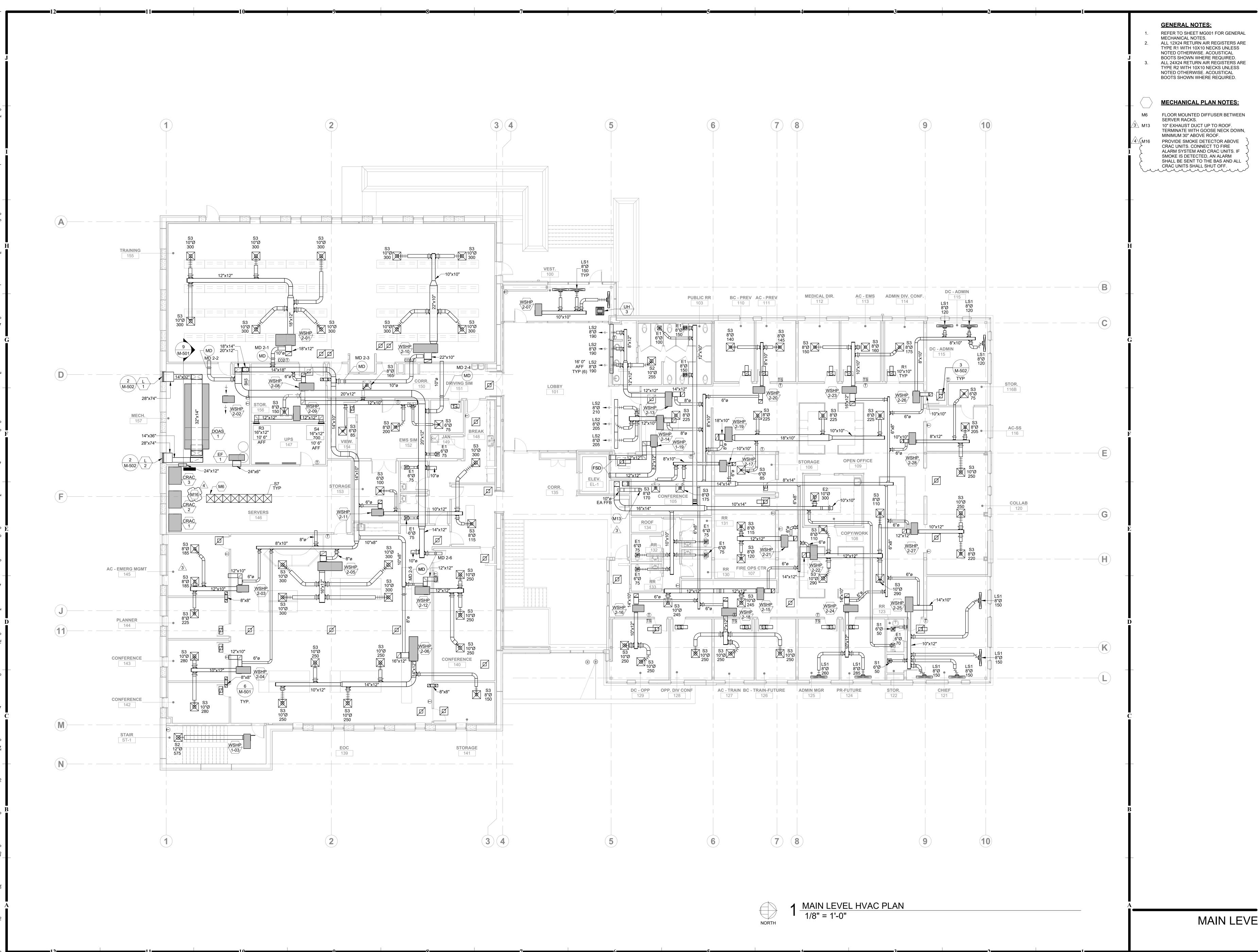




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3 ADDENDUM #3 11/18/2024 8 ASI 003 12/18/2024

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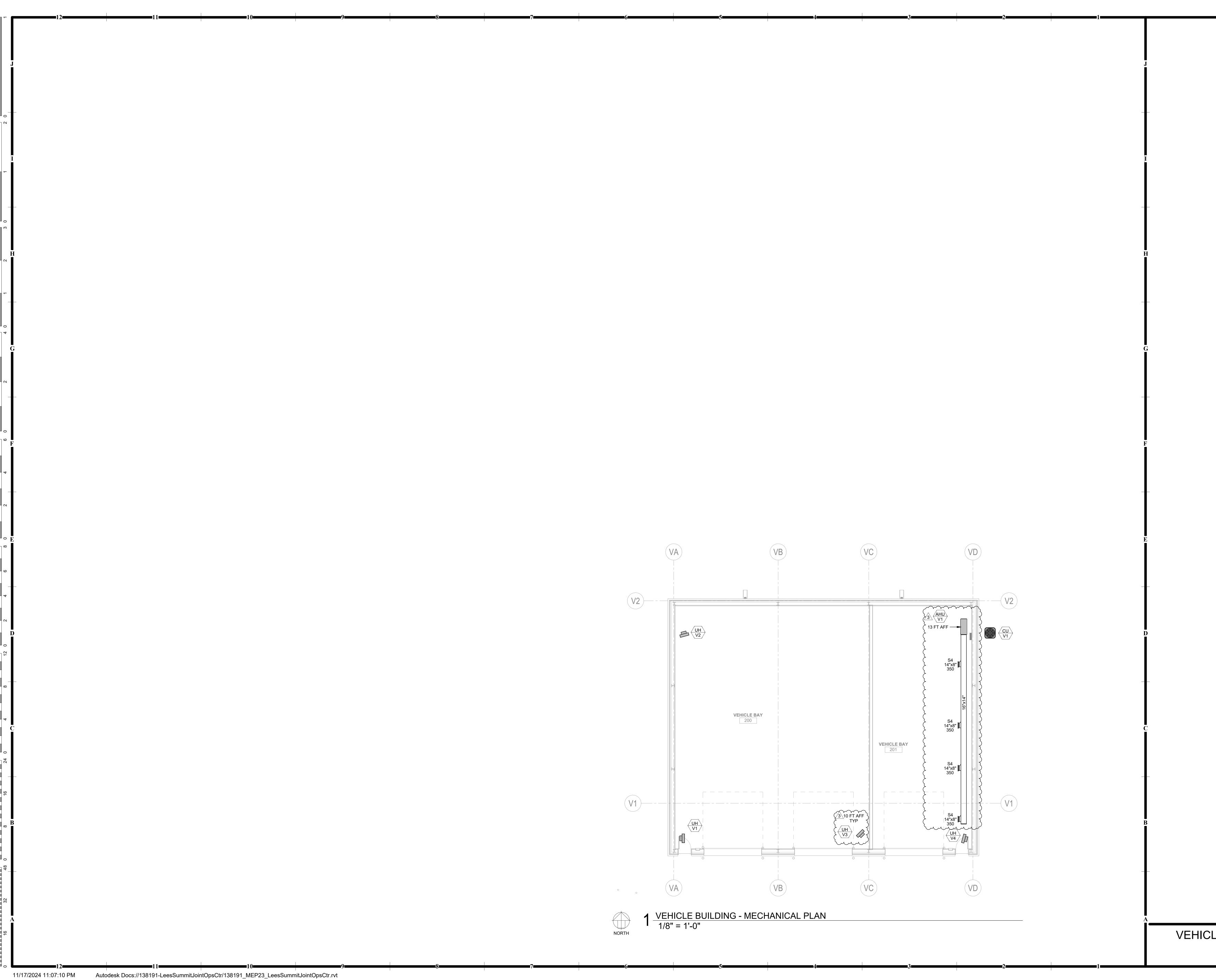
3 ADDENDUM #3 11/18/2024 4 ADDENDUM #4 11/26/2024



PROFESSIONAL SEAL

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MAIN LEVEL - HVAC PLAN



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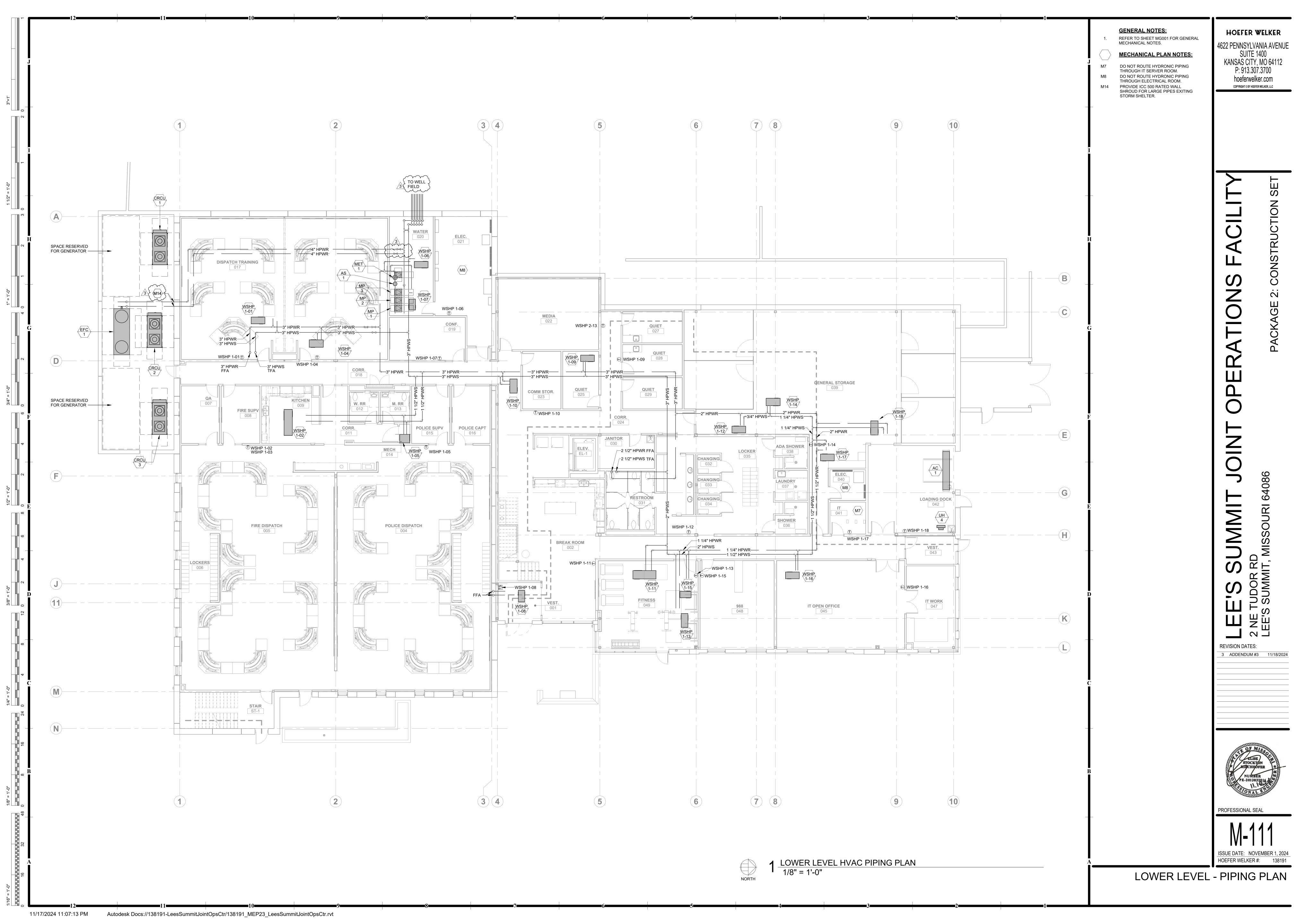
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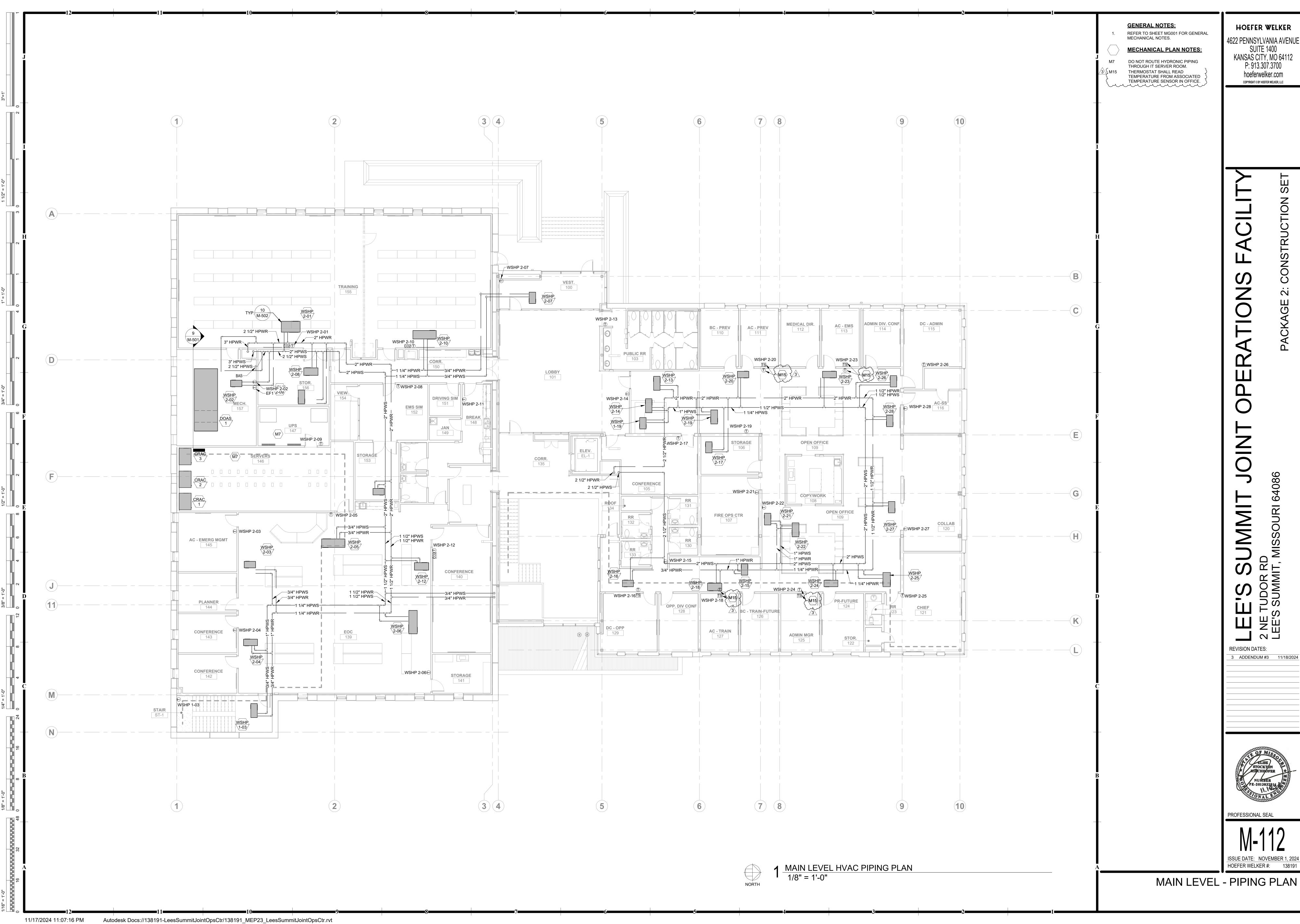
PELISE STOCKTON MIRCHHOFER AND PE-2013032215

PROFESSIONAL SEAL

ISSUE DATE: NOVEMBER 1, 2024
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VEHICLE BUILDING - HVAC PLAN





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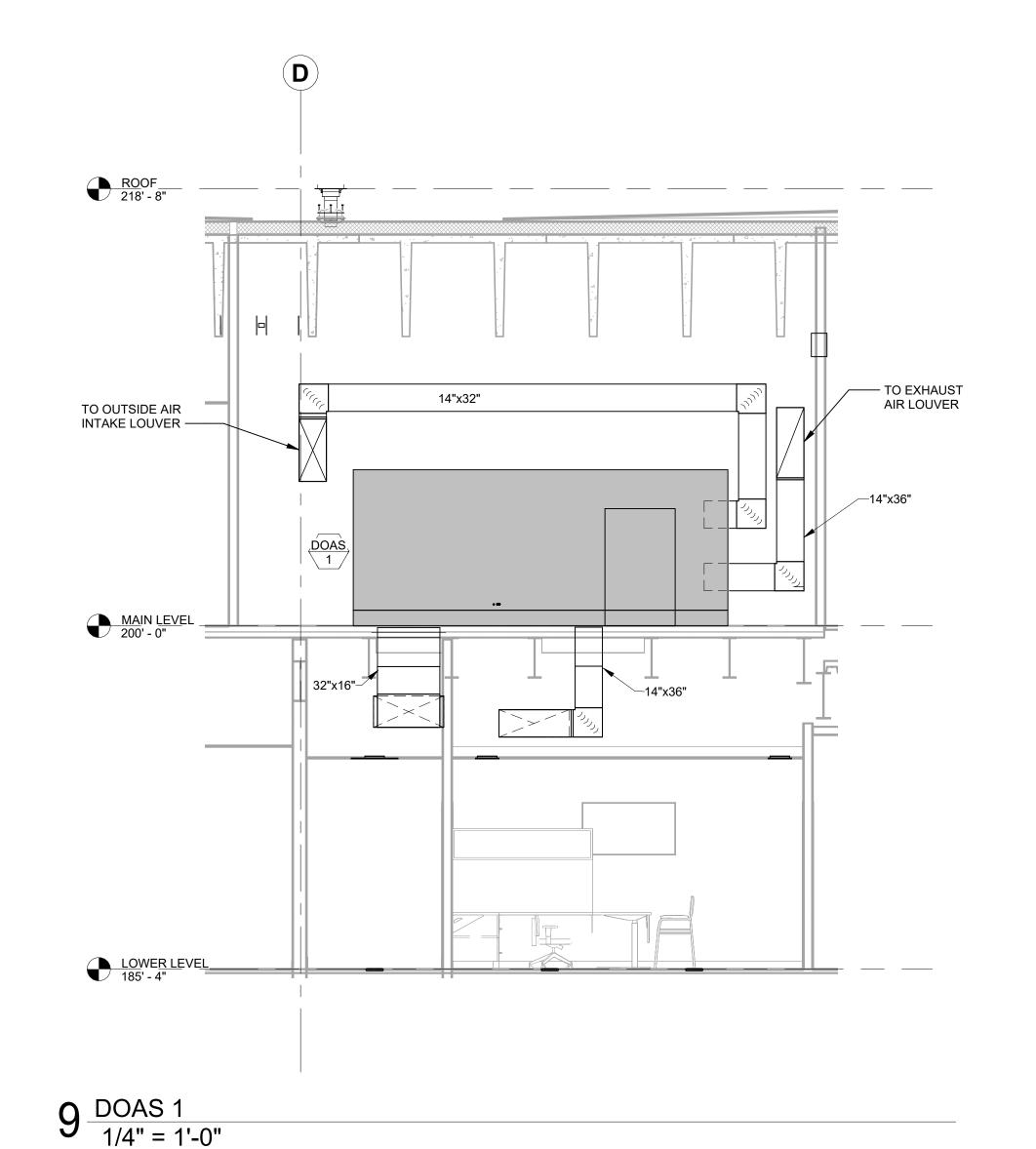
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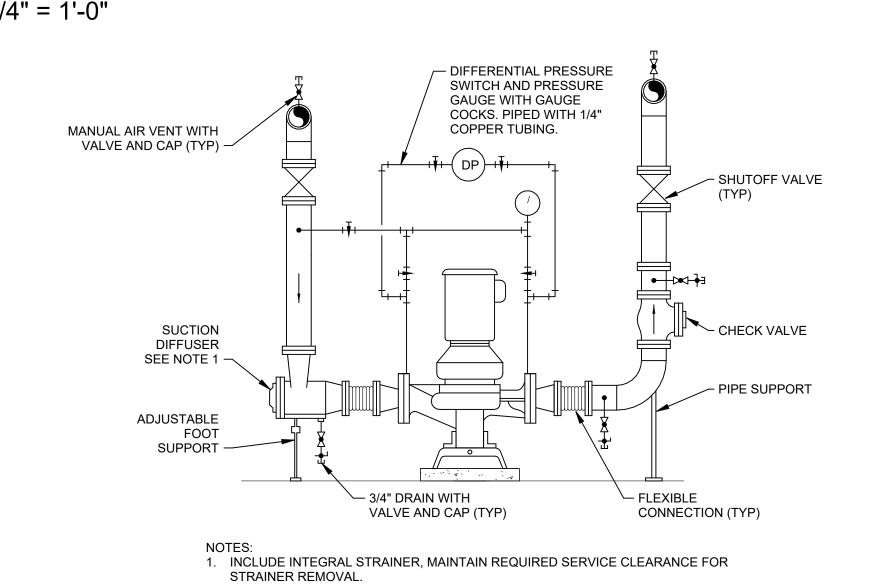
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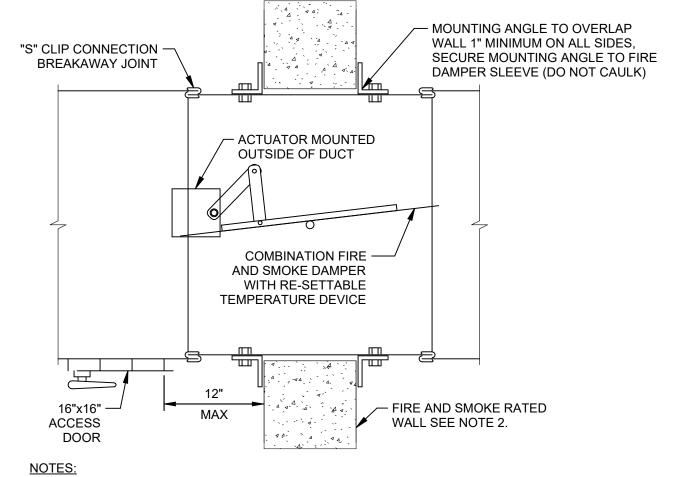
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MECHANICAL DETAILS



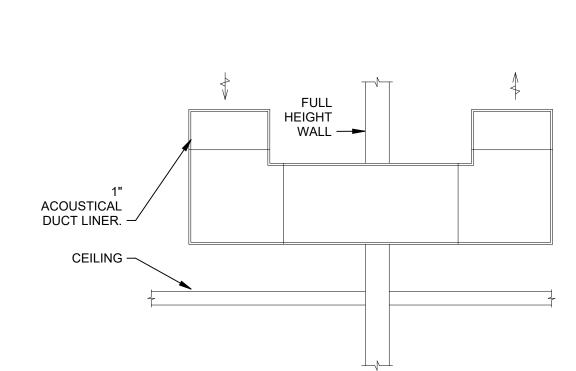


8 FLOOR MOUNTED IN-LINE PUMP NOT TO SCALE

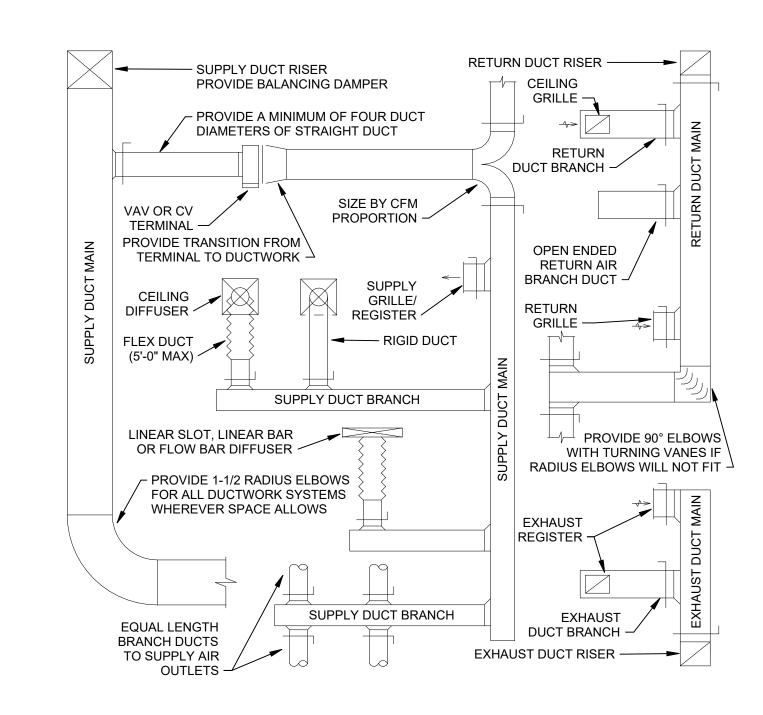


INSTALL FIRE/SMOKE DAMPER PER MANUFACTURERS RECOMMENDATION AND NFPA STANDARDS
 MAKE WALL OPENING 1/8" PER FOOT LARGER THAN DAMPER DIMENSIONS WITH 1/4" MINIMUM REQUIRED, MAXIMUM 1".
 DIVISION 15 CONTRACTOR SHALL PROVIDE CONTROL AIR CONNECTION TO ALL SMOKE DAMPERS. DIVISION 16 CONTRACTOR SHALL PROVIDE POWER CONNECTION TO ALL

7 FIRE/SMOKE DAMPER DETAIL NOT TO SCALE



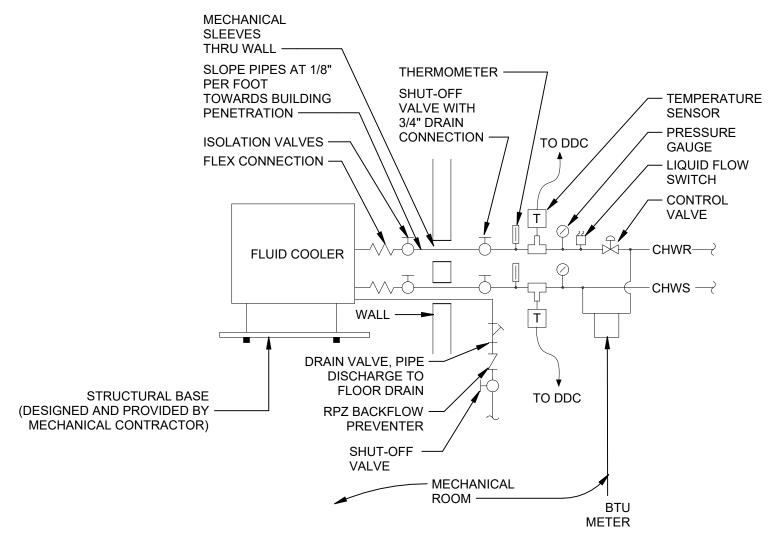
6 TRANSFER DUCT DETAIL NOT TO SCALE



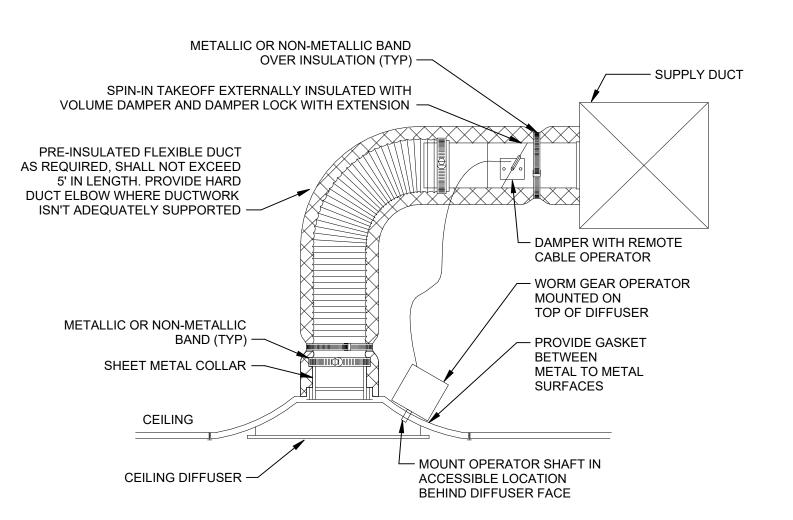
- NOTES:
 1. REFER TO HVAC FLOOR PLANS FOR DUCT SIZES.
 2. REFER TO SCHEDULES FOR GRILLES, REGISTERS, DIFFUSERS AND TERMINAL SIZES AN
- REFER TO SCHEDULES FOR GRILLES, REGISTERS, DIFFUSERS AND TERMINAL SIZES AND TYPES.
 PROVIDE A MANUAL TYPE BALANCING DAMPER FOR EACH SUPPLY OUTLET AND RETURN IN ET.
- ALL DUCT RUNOUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK SIZE, UNLESS OTHERWISE NOTED.
 FLEX DUCT WILL NOT BE ALLOWED ON RETURN OR EXHAUST DUCTWORK SYSTEMS.
 PROVIDE 12" AIR CUSHION AT THE END OF EACH SUPPLY MAIN AND BRANCH DUCT.

INDIVIDUAL BRANCH BALANCING DAMPERS NOT REQUIRED FOR SUPPLY OR EXHAUST

5 DUCTWORK INSTALLATION DIAGRAM NOT TO SCALE



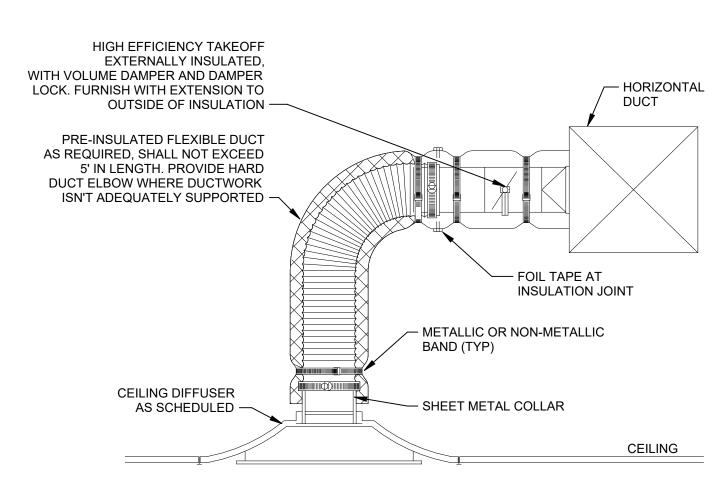
4 FLUID COOLER DETAIL NOT TO SCALE



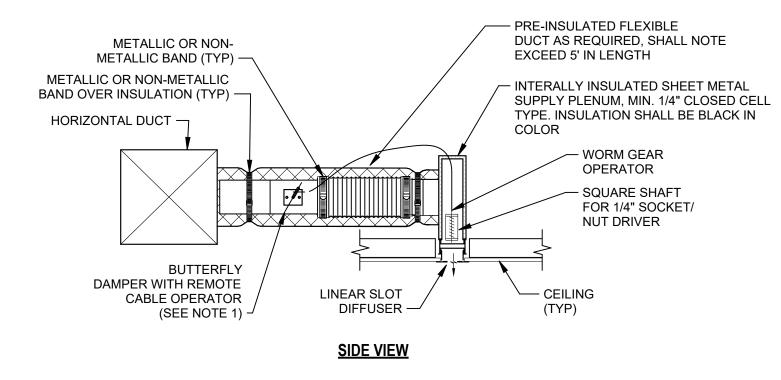
NOTES:

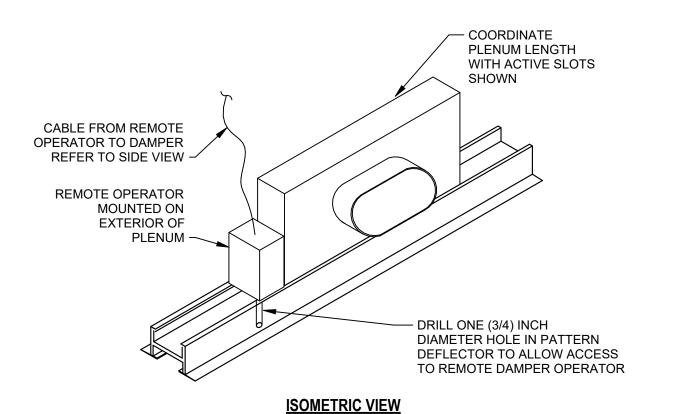
1. FURNISH REMOTE CABLE OPERATORS WHERE BALANCING DAMPERS ARE LOCATED IN-ACCESSIBLE LOCATIONS SUCH AS ABOVE HARD CEILINGS.

3 HARD CEILING DIFFUSER DETAIL NOT TO SCALE



2 LAY-IN CEILING DIFFUSER DETAIL NOT TO SCALE





NOTES:

1. FURNISH REMOTE CABLE OPERATORS WHERE BALANCING DAMPERS ARE LOCATED IN-ACCESSIBLE LOCATIONS SUCH AS ABOVE HARD CEILINGS.

2. COORDINATE EXACT LENGTH AND LOCATION OF SLOT DIFFUSER WITH ARCHITECT'S REFLECTED CEILING PLAN.

1 LINEAR SLOT DIFFUSER DETAIL NOT TO SCALE

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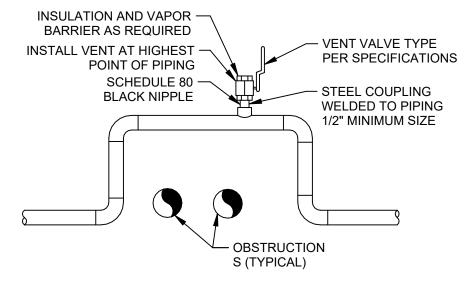
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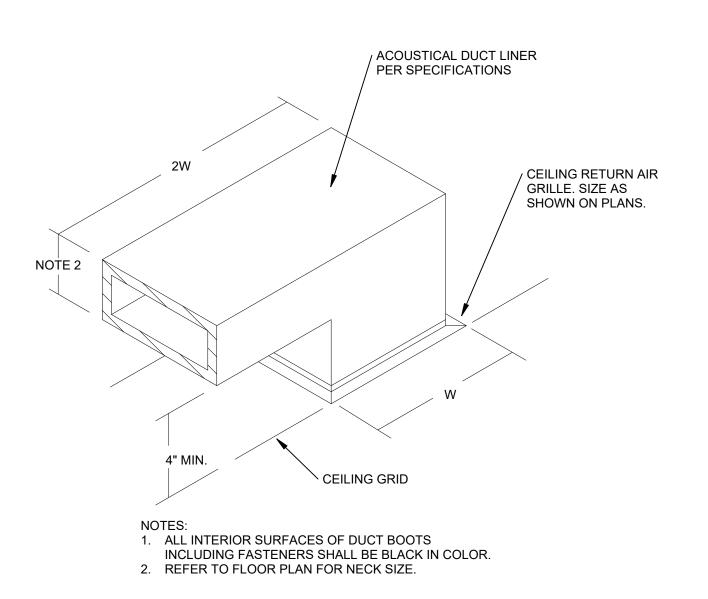
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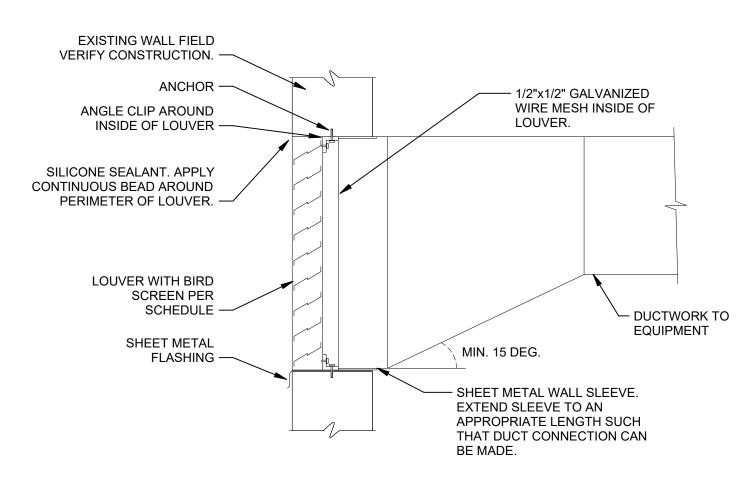
MECHANICAL DETAILS



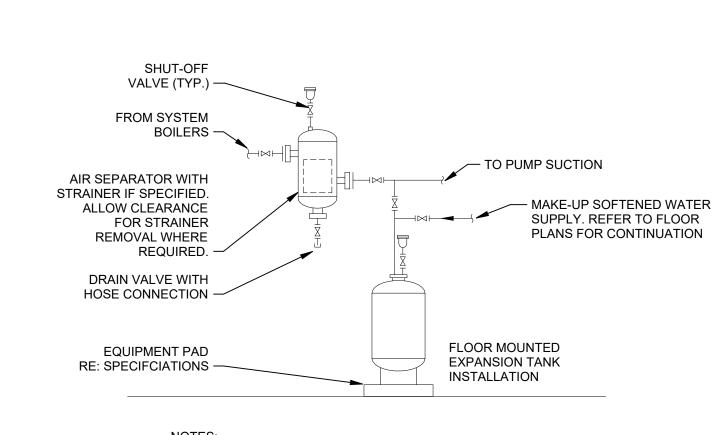
4 HIGH POINT MANUAL AIR VENT - STEEL PIPE NOT TO SCALE



3 RETURN AIR BOOT DETAIL NOT TO SCALE



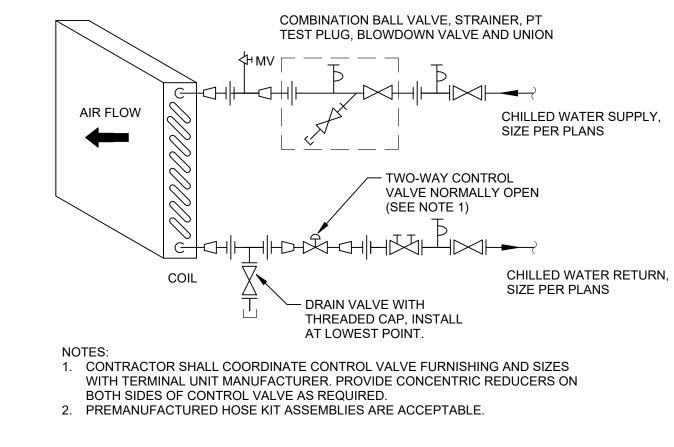
2 LOUVER ASSEMBLY DETAIL NOT TO SCALE



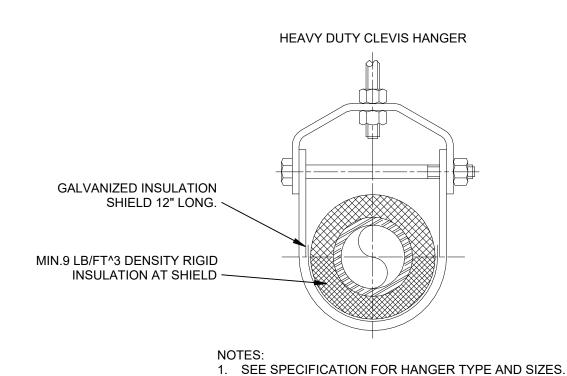
NOTES:

1. REFER TO SCHEDULE FOR EXPANSION TANK TYPE AND MOUNTING
2. INSULATE COMPONENTS PER SPECIFICATIONS. PROVIDE
REMOVABLE ACCESS TO STRAINERS, VALVES AND VENTS

1 EXPANSION TANK WITH AIR SEPARATOR DETAIL NOT TO SCALE

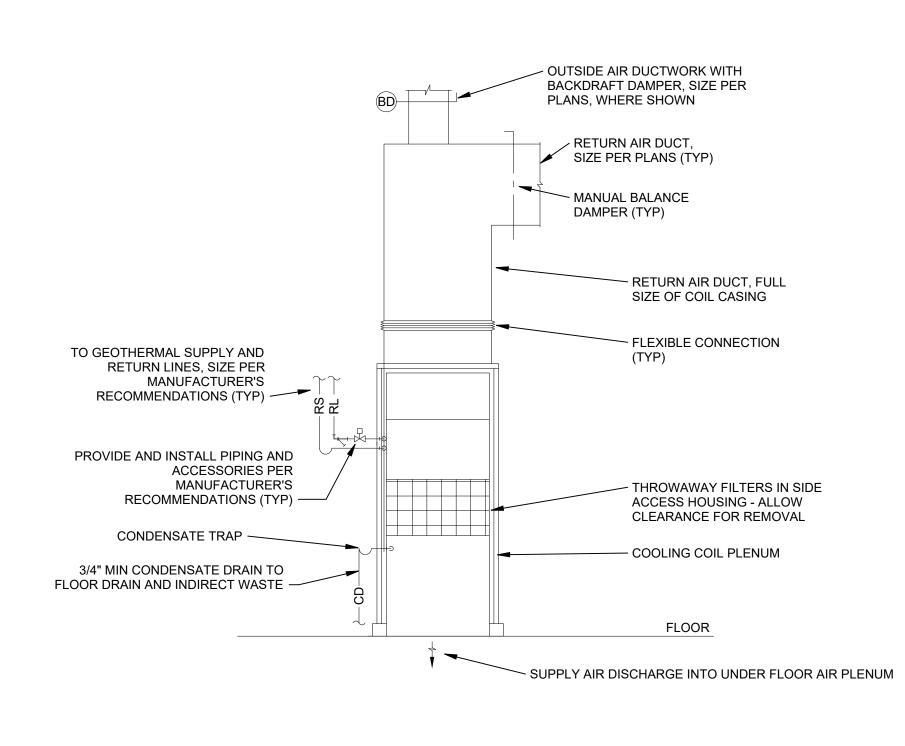


10 WSHP PIPING DET NOT TO SCALE

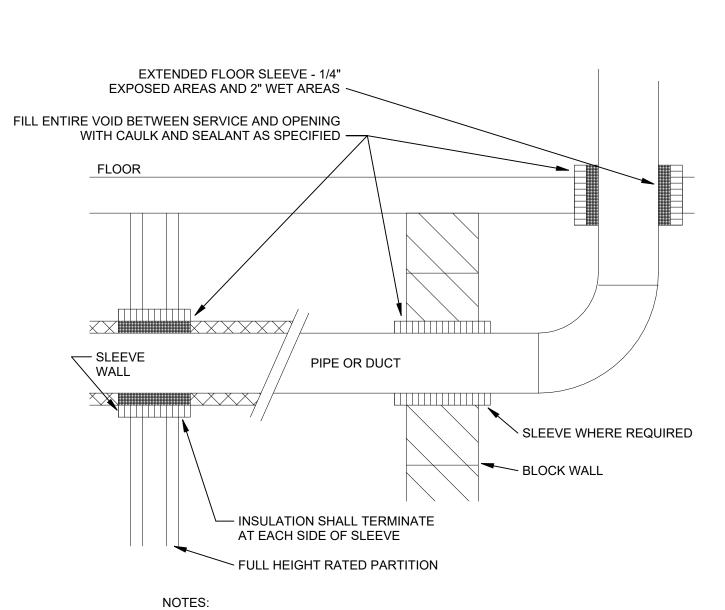


1. GEE OF EOIL TOATION FOR TIANC

9 PIPE SUPPORT DETAIL NOT TO SCALE



8 FLOOR MOUNTED WHSP DETAIL NOT TO SCALE



REFER TO NOTE 2

RECTANGULAR DUCT, SEE FLOOR PLAN FOR SIZE

1. INSTALL FIRE DAMPER PER MANUFACTURERS RECOMMENDATION AND NFPA

2. DIVISION 23 CONTRACTOR TO COORDINATE FLOOR OPENING WITH DIVISION 01

FLOOR

CONTRACTOR TO ALLOW DAMPER CURTAIN TO BE INSTALLED OUTSIDE AIRSTREAM.

6" MAX

ALL SIDES

FLOOR SLAB

STANDARDS.

NOT TO SCALE

FUNNEL WITH 1"Ø

MIN OPENING -

MANUAL

AIR VENT -

3/4" FROM PUMP

DISCHARGE LINE -

FLOW INDICATOR —

6 CHEMICAL SHOT FEEDER DETAIL NOT TO SCALE

7 FLOOR FIRE DAMPER DETAIL

─ 'S' CLIP CONNECTION

FOR DUCTS UP TO 36"

LARGER THAN 36"

 MOUNTING ANGLE TO OVERLAP FLOOR 1"

SECURE MOUNTING

CAULK. (TYP.)

- BALANCING

VALVE (TYP.)

→ 3/4" TO PUMP SUCTION LINE

MINIMUM ON ALL SIDES,

ANGLE TO FIRE DAMPER SLEEVE (TYP) DO NOT

(TYPICAL) BREAKAWAY JOINT

- SLEEVE, MINIMUM 16 GAUGE

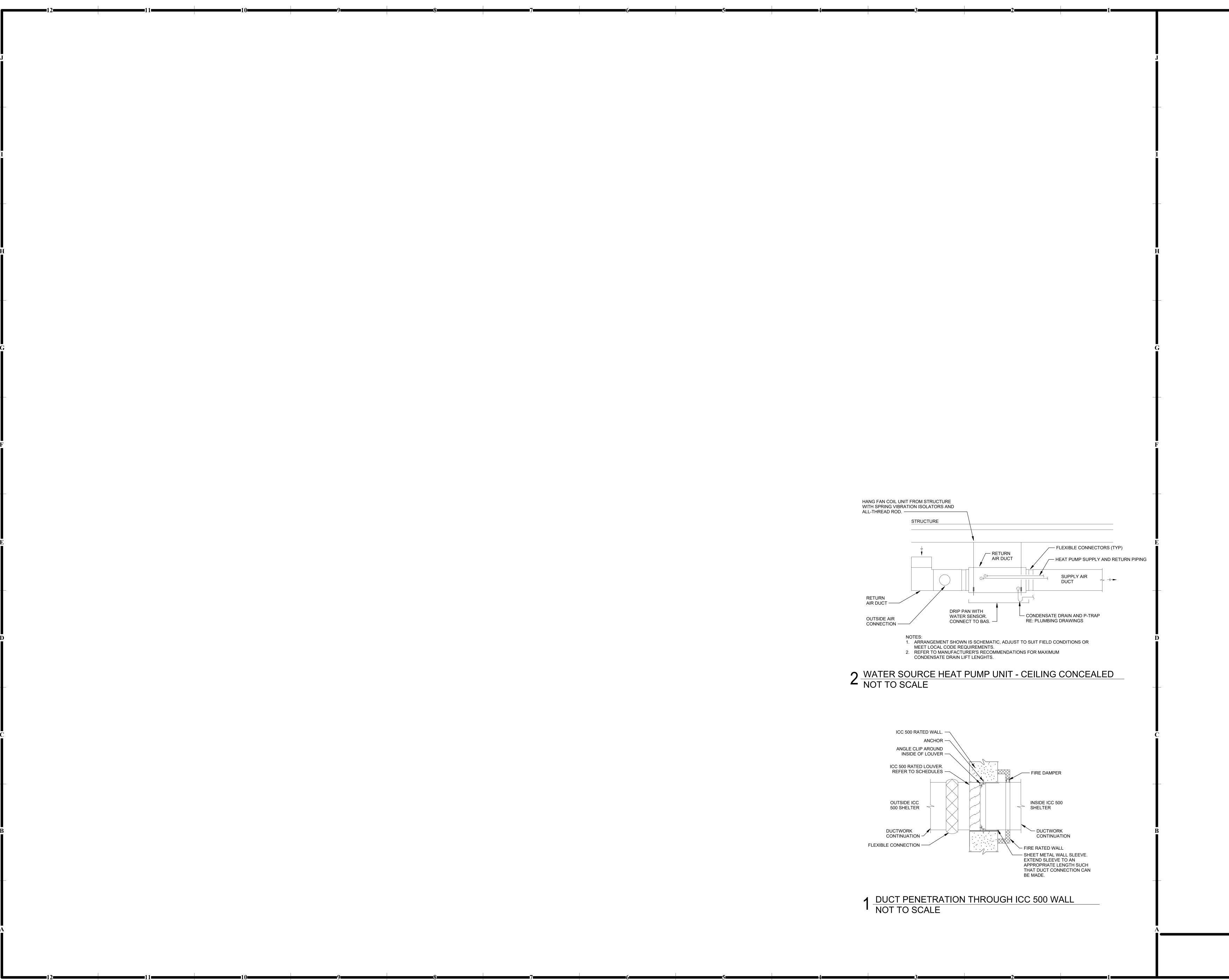
WIDE 14 GAUGE FOR DUCTS

NOTES:

1. VAPOR BARRIER (WHERE REQUIRED) AND INSULATION
TO BE FITTED TIGHT TO SLEEVE. SEAL WITH
CONTINUOUS BEAD OF NON-HARDENING CAULKING.

5 DUCT/PIPE WALL/FLOOR PENETRATION DETAIL NOT TO SCALE

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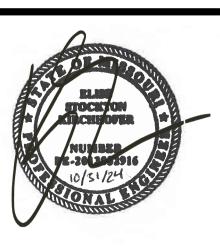
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MECHANICAL DETAILS

HK HOSE KIT IC INSULATED CABINET MDC MAGNETIC DOOR CONTROLLER OAH OUTDOOR AIR HOOD PC PLUG CONNECTIONS FOR ELECTRIC

RD RADIATION DAMPER RDS REFRIGERANT DETECTION SYSTEM RMB 2" RECESSED MOUNTING BOX SC SPEED CONTROLLER SFS SELF CONTAINED FIRE SUPPRESION SG STANDARD GRILLE

SMB SURFACE MOUNTING BOX SPP SINGLE POINT POWER ENTRY KIT SS STAINLESS STEEL SSDP STAINLESS STEEL DRAIN PAN STC SMART TOUCH CONTROLLER

4622 PENNSYLVANIA AVENUE SUITE 1400 KANSAS CITY, MO 64112 1 THE MANUFACTURER LISTED SHALL BE CONSIDERED THE BASIS OF DESIGN. EQUIPMENT AND ACCESSORIES SHALL BE SUPPLIED IN ACCORDANCE WITH THE SCHEDULED VALUES, NOTES, DETAILS,

AND SPECIFICATIONS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL COST AND COORDINATION WHEN NON BASIS OF DESIGN EQUIPMENT IS PROVIDED. ALL PERFORMANCE SHALL BE BASED ON EQUIPMENT OPERATING AT AN

ELEVATION OF 1,086 FEET ABOVE SEA 3 SPECIFIED FAN ESP INCLUDES DUCT AND EQUIPMENT LOSSES EXTERNAL TO UNIT. SCHEDULED FAN TSP INCLUDES EXTERNAL LOSSES PLUS INTERNAL UNIT LOSSES DUE TO COILS, FILTERS AT DIRTY CONDITIONS, ETC. AC ALUMINUM CONSTRUCTION AS AIRFLOW SWITCH ASD AIR SCOOP DEVICE

MECHANICAL ABBREVIATION LIST

NOTES

BS BIRDSCREEN BSK BREAKER SEAL KIT CAB COMPRESSOR ACCOUSTICAL BLANKET CL COLOR BY ARCHITECT CPE | CONDENSATE PUMP - EXTERNAL EQUAL CPI CONDENSATE PUMP - INTEGRAL

DMK DOWNFLOW MOUNTING KIT AND CONDENSATE MANAGEMENT KIT

DP DRAIN PAN DSE DISCONNECT BY E/C DSF FUSED DISCONNECT - FACTORY MOUNTED

DSN NON-FUSED DISCONNECT - FACTORY MOUNTED DSR DUPLEX SERVICE RECEPTACLE -FACTORY MOUNTED AND POWERED DSRE DUPLEX SERVICE RECEPTACLE BY E/C EEF EXTERNAL EXHAUST FAN GBD GRAVITY BACKDRAFT DAMPER

HG HAIL GUARD

PFB POWER FUSE BLOCK

TEV THERMAL EXPANSION VALVE

UIT USER INTERFACE TOUCHPAD WS WALL SLEEVE WSH WEATHERSHIED HOOD

ENERGY RECOVERY WHEEL SCHEDULE WINTER **EXHAUST** O/A EXHAUST O/A SUPPLY DIRTY SP DIRTY SP DB WB DB WB DB TH DB DB DB TH NOTES MARK MANUFACTURER MODEL (CFM) (CFM) MERV LOSS (IN) MERV LOSS (IN) (DEG.F) **OPTIONS** DOAS1 YORK ECW 484 4900 3900 8 0.4 8 0.4 75.0 64.0 96.0 75.3 84.6 69.7 140 70.0 0.0 37.5 276 1-4

PHYSICAL PROPERTIES

LENGTH WIDTH HEIGHT WEIGHT

TOTAL ENERGY RECOVERY WHEEL SHALL BE INTEGRATED INTO DOAS 1 SHOWN ABOVE. PROVIDE VFD DEFROST CONTROL AND BYPASS DAMPERS. COOLING EFFECTIVENESS: TOTAL=72%, SENSIBLE=74%. HEATING EFFECTIVENESS: TOTAL=77%, SENSIBLE=80%.

HEATING COIL

FILTERS

OA FILTER RA FILTER

FILTERS

PREFILTER

DIRTY SP

ELECTRICAL

| | | | | | | | | | | | | | W | ATER S | OURCE | HEAT | PUMP | SCHE | DULE | | | | | | | | | | | | | |
|----------------------------|--------|-----------|-------|------|-------|----------|---------|---------|----------|----------|-------|------|---------|--------|---------|---------|--------------|---------|--------|---------------|---------|---------|-------|--------|----------|------|-------|----------|--------|--------|-----------------------|-------|
| | | SUPPL | LY FA | N | | | | COOL | ING COIL | _ | | | | | | | HEATING | COIL | | | | | ELEC | TRICAL | <u> </u> | | PH | YSICAL P | ROPERT | TIES | | |
| | | | | | | | E | AT | L | ΑT | FLOW | EWT | | MIN. | | | | | MAX | | MIN O/A | | | | | | | | | | | |
| | | AIRFLOW E | | | | SENSIBLE | DB | WB | DB | WB | 1 1 | ` | | OUTPUT | EAT | LAT | EWT | LWT | WPD | CONTROL | AIRFLOW | | | | | | ENGTH | WIDTH I | | WEIGHT | | |
| PLAN MARK MANUFACTURER | MODEL | (, | , | TYPE | (MBH) | (MBH) | (DEG.F) | (DEG.F) | | (DEG.F) | (GPM) | | (DEG.F) | (BTUH) | (DEG.F) | (DEG.F) | (DEG.F) | (DEG.F) | (FT) (| (STAGED/MOD) | (CFM) | VOLTAGE | PHASE | FLA | MCA | MOCP | (IN) | (IN) | (IN) | (LBS) | OPTIONS 3 | NOTES |
| WSHP 1-01 CLIMATE MASTER | SC-024 | | 0.5 | ECM | 20.3 | 18.0 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | 80.0 | 90.0 | 8.4 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 110 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-02 CLIMATE MASTER | SE-060 | | 0.5 | ECM | 45.5 | 38.8 | 75.0 | 63.0 | 55.0 | 53.0 | 12.5 | 80.0 | 90.0 | 5.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 345 | 460 | 3 | 12.5 | | 15 | 81" | 26" | 22" | 475 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-03 CLIMATE MASTER | SC-015 | | 0.5 | ECM | 12.1 | 7.7 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 11.7 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 6.9 | | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-04 CLIMATE MASTER | SC-018 | | 0.5 | ECM | 16.1 | 14.3 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 4.8 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 110 | 277 | 1 | 8.4 | 1 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-05 CLIMATE MASTER | SE-048 | | 0.5 | ECM | 31.8 | 28.0 | 75.0 | 63.0 | 55.0 | 53.0 | 10.0 | 80.0 | 90.0 | 3.6 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 310 | 460 | 3 | 11.6 | 13.3 | 15 | 55" | 31" | 26" | 450 | DP,DSN,ESM,HK,PFB,RDS | 1,3-8 |
| WSHP 1-06 CLIMATE MASTER | SC-015 | | 0.5 | ECM | 10.4 | 10.1 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 3.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 55 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-07 CLIMATE MASTER | SC-009 | | 0.5 | ECM | 7.0 | 5.0 | 75.0 | 63.0 | 55.0 | 53.0 | 1.9 | 80.0 | 90.0 | 1.6 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 90 | 277 | 1 | 5.9 | + | 15 | 34" | 20" | 12" | 110 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-08 CLIMATE MASTER | SC-006 | | 0.5 | ECM | 3.7 | 2.0 | 75.0 | 63.0 | 55.0 | 53.0 | 1.3 | 80.0 | 90.0 | 1.4 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 4.9 | 10.0 | 15 | 36" | 20" | 12" | 110 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-09 CLIMATE MASTER | SC-015 | | 0.5 | ECM | 11.0 | 9.5 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 7.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 135 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-10 CLIMATE MASTER | SC-018 | | 0.5 | ECM | 16.3 | 13.3 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 5.4 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 150 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-11 CLIMATE MASTER | SC-036 | | 0.5 | ECM | 21.7 | 20.0 | 75.0 | 63.0 | 55.0 | 53.0 | 7.5 | 80.0 | 90.0 | 13.9 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 100 | 460 | 3 | 9.3 | 10.4 | 15 | 72" | 26" | 22" | 360 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-12 CLIMATE MASTER | SC-024 | | 0.5 | ECM | 19.8 | 18.7 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | 80.0 | 90.0 | 8.5 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 100 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-13 CLIMATE MASTER | SC-024 | | 0.5 | ECM | 23.8 | 14.4 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | 80.0 | 90.0 | 8.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 180 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-14 CLIMATE MASTER | SC-018 | 750 0 | 0.5 | ECM | 13.8 | 13.4 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 8.1 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 195 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-15 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 7.9 | 6.8 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 2.7 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 60 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-16 CLIMATE MASTER | SC-024 | 900 0 | 0.5 | ECM | 19.4 | 16.7 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | 80.0 | 90.0 | 10.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 150 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-17 CLIMATE MASTER | SC-024 | 900 0 | 0.5 | ECM | 16.7 | 16.1 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | 80.0 | 90.0 | 1.0 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 0 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-18 CLIMATE MASTER | SC-018 | 750 0 | 0.5 | ECM | 17.9 | 8.9 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 10.7 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 1-19 CLIMATE MASTER | SC-012 | 400 0 | 0.3 | ECM | 10.7 | 10.6 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 0.5 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 1,3-8 |
| WSHP 2-01 CLIMATE MASTER | SE-048 | 1600 0 | 0.5 | ECM | 49.0 | 36.4 | 0.0 | 63.0 | 55.0 | 53.0 | 10.0 | 80.0 | 90.0 | 20.0 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 490 | 460 | 3 | 11.6 | 13.3 | 15 | 58" | 33" | 21" | 450 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-02 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 6.4 | 6.0 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 4.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-03 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 10.4 | 9.1 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 6.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 50 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-04 CLIMATE MASTER | SC-015 | 700 0 | 0.5 | ECM | 13.4 | 9.8 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 5.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 125 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-05 CLIMATE MASTER | SC-036 | 1350 0 | 0.5 | ECM | 27.1 | 21.6 | 75.0 | 63.0 | 55.0 | 53.0 | 7.5 | 80.0 | 90.0 | 8.0 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 160 | 460 | 3 | 9.3 | 10.4 | 15 | 72" | 26" | 22" | 360 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-06 CLIMATE MASTER | SC-036 | 1350 0 | 0.5 | ECM | 27.9 | 23.0 | 75.0 | 63.0 | 55.0 | 53.0 | 7.5 | 80.0 | 90.0 | 14.5 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 170 | 460 | 3 | 9.3 | 10.4 | 15 | 72" | 26" | 22" | 360 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-07 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 8.4 | 8.1 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 4.6 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 0 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-08 CLIMATE MASTER | SC-018 | 750 0 | 0.5 | ECM | 15.6 | 13.7 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 7.5 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 125 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-09 CLIMATE MASTER | SC-015 | 700 0 | 0.5 | ECM | 12.9 | 12.5 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 0.0 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 50 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-10 CLIMATE MASTER | SC-036 | 1350 0 | 0.5 | ECM | 36.5 | 27.0 | 75.0 | 63.0 | 55.0 | 53.0 | 7.5 | 80.0 | 90.0 | 12.9 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 360 | 460 | 3 | 9.3 | 10.4 | 15 | 72" | 26" | 22" | 360 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-11 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 9.5 | 7.1 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 4.7 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 60 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-12 CLIMATE MASTER | SC-018 | 750 0 | 0.5 | ECM | 7.4 | 7.1 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | 80.0 | 90.0 | 2.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 165 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-13 CLIMATE MASTER | SC-015 | 700 0 | 0.5 | ECM | 14.4 | 13.3 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 5.6 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 60 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-14 CLIMATE MASTER | SC-015 | 700 0 | 0.5 | ECM | 12.0 | 10.8 | 75.0 | 63.0 | 55.0 | 53.0 | 3.1 | 80.0 | 90.0 | 2.8 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 95 | 277 | 1 | 6.9 | 8.2 | 15 | 43" | 20" | 18" | 155 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-15 CLIMATE MASTER | SC-012 | 400 0 | 0.5 | ECM | 8.9 | 8.0 | 75.0 | 63.0 | 55.0 | 53.0 | 2.5 | 80.0 | 90.0 | 7.0 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 55 | 277 | 1 | 6.5 | 7.6 | 15 | 35" | 20" | 12" | 120 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-16 CLIMATE MASTER | SC-009 | 300 0 | 0.5 | ECM | 8.2 | 7.5 | 75.0 | 63.0 | 55.0 | 53.0 | 1.9 | 80.0 | 90.0 | 5.3 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 50 | 277 | 1 | 5.9 | 6.8 | 15 | 34" | 20" | 12" | 110 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-17 CLIMATE MASTER | SC-009 | 300 0 | 0.5 | ECM | 8.8 | 6.1 | 75.0 | 63.0 | 55.0 | 53.0 | 1.9 | 80.0 | 90.0 | 1.8 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 90 | 277 | 1 | 5.9 | 6.8 | 15 | 34" | 20" | 12" | 110 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-18 CLIMATE MASTER | SC-018 | 750 0 | 0.5 | ECM | 14.8 | 13.1 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | | 90.0 | 8.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 1 | 60 | 277 | 1 | 8.4 | 10.0 | 15 | 44" | 23" | 18" | 160 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-19 CLIMATE MASTER | SC-024 | | 0.5 | ECM | 20.9 | 17.3 | 75.0 | 63.0 | 55.0 | 53.0 | 5.0 | | 90.0 | 8.2 | 68.0 | 90.0 | 50.0 | 40.0 | 11.0 | 2 | 150 | 460 | 3 | 5.0 | 6.0 | 15 | 43" | 21" | 18" | 175 | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-20 CLIMATE MASTER | SC-012 | | 0.5 | ECM | 9.2 | 8.0 | 75.0 | 63.0 | 55.0 | 53.0 | + | | | 5.1 | 68.0 | 90.0 | 50.0 | | 11.0 | 1 | 50 | 277 | 1 | | 7.6 | 15 | 35" | 20" | 12" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-21 CLIMATE MASTER | SC-006 | | | ECM | 5.8 | 4.5 | 75.0 | 63.0 | 55.0 | 53.0 | | | | 1.6 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 60 | 277 | 1 | | 5.6 | | 36" | 20" | 12" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-22 CLIMATE MASTER | SC-024 | | 0.5 | ECM | 21.2 | 16.7 | 75.0 | 63.0 | 55.0 | | 5.0 | | | 7.1 | 68.0 | 90.0 | 50.0 | 40.0 | | 2 | 140 | 460 | 3 | | 6.0 | 15 | 43" | 21" | 18" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-23 CLIMATE MASTER | SC-015 | | | ECM | 14.3 | 12.6 | 75.0 | 63.0 | 55.0 | | 3.1 | | | 8.2 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 55 | 277 | 1 | | 8.2 | 15 | 43" | 20" | 18" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-24 CLIMATE MASTER | SC-015 | | | ECM | 10.9 | 9.6 | 75.0 | 63.0 | 55.0 | | | | | 6.0 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 50 | 277 | 1 | | 8.2 | 15 | 43" | 20" | 18" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-25 CLIMATE MASTER | SC-018 | | 0.5 | ECM | 9.7 | 9.0 | 75.0 | 63.0 | 55.0 | 53.0 | 3.8 | | | 8.8 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 50 | 277 | 1 | | 10.0 | | 44" | 23" | 18" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-26 CLIMATE MASTER | SC-012 | | 0.5 | ECM | 8.0 | 7.3 | 75.0 | 63.0 | 55.0 | | 2.5 | | | 6.4 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 50 | 277 | 1 | | 7.6 | | 35" | 20" | 12" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-27 CLIMATE MASTER | SC-012 | | | ECM | 10.5 | 8.3 | 75.0 | 63.0 | | | 2.5 | | | 5.4 | 68.0 | 90.0 | 50.0 | 40.0 | | 1 | 80 | 277 | 1 | | 7.6 | | 35" | 20" | 12" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| WSHP 2-28 CLIMATE MASTER | SC-012 | 400 0 | | ECM | 9.3 | 4.1 | 75.0 | | 55.0 | <u> </u> | | | | | 68.0 | | | 40.0 | | <u>·</u> 1 | 75 | 277 | 1 | | | 15 | 35" | 20" | 12" | | DP,DSN,ESM,HK,PFB,RDS | 2-8 |
| NOTES: | V.L | .55 0 | | | 3.0 | | | | _ 55.6 | | | 55.0 | 20.0 | | 30.0 | 30.0 | . 55.6 | 10.0 | , | • | | | | 1 0.0 | | . • | | | | | | |

UNIT SHALL BE FLOOR MOUNTED WITH DOWN FLOW DISCHARGE INTO UNDER FLOOR AIR PLENUM. REFER TO DETAIL XXX.

UNIT SHALL BE HUNG FROM STRUCTURE WITH HORIZONTAL DISCHARGE. REFER TO DETAIL XXX. FURNISH WITH 1" FILTER RACK. PROVIDE MERV 11 FILTER. CONTRACTOR TO CONFIRM IF RACK OR FRAME FILTERS ARE NECESSARY FOR EACH UNIT. FURNISH WITH TERMINAL STRIP FOR BACNET CONNECTION TO BAS. BAS SHALL MONITOR UNIT POINTS. REFER TO CONTROLS SHEETS.

DEDICATED OUTDOOR AIR SUPPLY UNIT SCHEDULE

COOLING COIL

LAT FLOW EWT

 MARK
 MANUFACTURER
 MODEL
 UNIT TYPE
 TYPE
 QUANTITY
 (CFM)
 (IN)
 (IN)
 (IP)
 (I

QUANTI AIRFLO ESP (ESP MAX BRAK STARTE TOTAL SENSIBLE DB WB DB WB RATE (DEG. LWT WPD VELOCITY AIRFLOW OUTPUT EAT LAT RATE EWT LWT CONTROL

UNIT EFFICIENCIES: EER = 15, COP = 4.9 UNITS ARE SIZED FOR 100% WATER. NO GLYCOL.

CONTRACTOR TO VERIFY AIRFLOW DIRECTIONS AND CONTROLS LOCATIONS WITH FLOOR PLANS. HOSE KIT TO INCLUDE: STAINLESS STEEL BRAIDED FLEXIBLE HOSE, 2 SHUT OFF VALVES, MOTORIZED BALANCING VALVE, AND Y STRAINER.

| | | | | | | | RAN | GE HOOD | SCHE | DULE | | | | | | | |
|-------------------|---|-----------|------------------|----------|------|-------|----------|---------|-------|--------|-----|------|--------|---------|--------|--------------------|-----|
| | | | | | | UNIT | OUTLET | | ELEC. | ΓRICAL | - | | PHYSIC | AL PROP | ERTIES | | |
| PLAN | | | | AIRFLOW | ESP | WIDTH | DIAMETER | | | | | | | | HEIGHT | | |
| MARK | MANUFACTURER | MODEL | UNIT TYPE | (CFM) | (IN) | (IN) | (IN) | VOLTAGE | PHASE | FLA | MCA | MOCP | (IN) | (IN) | (IN) | OPTIONS | NOT |
| RH 1 | GREENHECK | GRRS | WALL MOUNTED | 250 | 0.3 | 30" | 8" | 120 | 1 | 1.6 | 1.6 | 15 | 20" | 30" | 28" | DSN,EEF,SFS,SS,UIT | 1-4 |
| NOTES 1. 2. | S: HOOD SHALL BE W HOOD SHALL BE CO | 'ALL MOUN | TED 30" FROM TOP | ØF COOKT | OP. | | • | | | ' | | | | | | | " |

| | | | | | | | F | AN SCH | IEDUI | LE | | | | | | | | |
|------|--------------------|-------------------------------------|--------------|----------|---------|------|-------|--------|-------|-------|---------|----------|----------|-----|------|-----|---------|-------|
| PLAN | | | | | AIRFLOW | ESP | | BRAKE | MIN | FAN | STARTER | i i | ELECTRIC | CAL | | | | |
| MARK | AREA SERVED | MANUFACTURER | MODEL | MOUNTING | (CFM) | (IN) | DRIVE | HP | HP | RPM | TYPE | VOLTAGE | PHASE | FLA | MOCF | • | OPTIONS | NOTES |
| EF 1 | MECH RM | GREENHECK | CSP-A3300-VG | SUSPEND | 2000 | 0.5 | DD | 0.39 | 0.39 | 1080 | ECM | 277 | 1 | 8.0 | 15 | DSN | | 1,2 |
| | FURNISH NECESS | SARY MOUNTING BI D BY THERMOSTAT | | | | | | | —. | GREES | SORLOWE | <u>3</u> | | | | | | |

| | | | | | OVERALL | MAX | | | | F | LECTRIC | :AL | | | |
|--------------|--------------|--------------|----------|-------------------|---------|------|-----------------|-----------------|-------------|---------|---------|-----|------|-------------|-------|
| PLAN MARK | AREA SERVED | MANUFACTURER | MODEL | MOUNTING LOCATION | | | NOMINAL (KW) | FAN QUANTITY | MOTOR HP | VOLTAGE | | | МОСР | OPTIONS | NOTES |
| AC 1 | LOADING DOCK | POWERED AIRE | MP-2-120 | SUSPEND | 120" | 3218 | 0.0 | 2 | 0.20 | 120 | 1 | 8.8 | 15 | DSN,MDC,STC | 1-2 |

| | | | | | | LOUV | ER SCHE | DULE | | | | | |
|--------------|-------------|---------|--------------|---------|---------------|----------------|------------------|-----------------------|--------------------------|--------------------|-------|---------|-------|
| PLAN MARK | AREA SERVED | SERVICE | MANUFACTURER | MODEL | WIDTH (IN) | HEIGHT (IN) | AIRFLOW (CFM) | MIN FREE AREA (SF) | MAX VELOCITY (FPM) | MAX APD (IN WC) | | OPTIONS | NOTES |
| L 1 | DOAS | INTAKE | RUSKIN | AFL 501 | 30" | 76" | 4500 | 7.41 | 800 | 0.10 | AC,BS | | 1-3 |
| L 2 | DOAS | RELIEF | RUSKIN | AFL 501 | 30" | 76" | 4500 | 7.41 | 800 | 0.10 | AC,BS | | 1-3 |

| PLAN | | | | MOUNTING | AIRFLOW | NOMINAL | E | LECTRIC | CAL | | | | |
|-------|---------------|--------------|-------|---------------------|---------|---------|---------|---------|------|------|--------|---------|-------|
| MARK | AREA SERVED | MANUFACTURER | MODEL | TYPE | (CFM) | (KW) | VOLTAGE | PHASE | FLA | MOCP | | OPTIONS | NOTES |
| UH 1 | VEST 043 | RAYWALL | AFA | WALL | 175 | 1.5 | 277 | 1 | 4.1 | 15 | DSN,TI | | 1,2 |
| UH 2 | VEST 001 | RAYWALL | AFA | WALL | 175 | 1.5 | 277 | 1 | 4.1 | 15 | DSN,TI | | 1,2 |
| UH 3 | MAIN FLR VEST | RAYWALL | RCH | CEILING RECESSED | 600 | 2.0 | 277 | 1 | 7.2 | 15 | DSN,TI | | 1,2 |
| UH 4 | LOADING DOCK | RAYWALL | 5100 | SUSPEND | 400 | 3.3 | 277 | 1 | 11.9 | 15 | DSN,TI | | 1,3,4 |
| JH V1 | VEHICLE BAY | RAYWALL | F3FUH | SUSPEND | 575 | 7.5 | 208 | 3 | 20.8 | 30 | DSN,TI | | 1,3,4 |
| JH V2 | VEHICLE BAY | RAYWALL | F3FUH | SUSPEND | 575 | 7.5 | 208 | 3 | 20.8 | 30 | DSN,TI | | 1,3,4 |
| JH V3 | VEHICLE BAY | RAYWALL | F3FUH | SUSPEND | 575 | 7.5 | 208 | 3 | 20.8 | 30 | DSN,TI | | 1,3,4 |
| JH V4 | VEHICLE BAY | RAYWALL | F3FUH | SUSPEND | 400 | 3.3 | 208 | 3 | 9.2 | 15 | DSN,TI | | 1,3,4 |

NUMBER
OPE-2013032916
NI Ale: 30

PROFESSIONAL SEAL

REVISION DATES:

4 ADDENDUM #4 11/26/2024

HOEFER WELKER #: 138191

MECHANICAL SCHEDULES

11/25/2024 4:48:27 PM

Autodesk Docs://138191-LeesSummitJointOpsCtr/138191_MEP23_LeesSummitJointOpsCtr.rvt

SUPPLY FAN

FURNISH FACTORY MOUNTED VARIABLE FREQUENCY DRIVE PER FAN. VARIABLE FREQUENCY DRIVE TO BE FURNISHED BY DIVISION 23 CONTRACTOR.

PROVIDE SMOKE DETECTOR IN SUPPLY AIR AND RETURN AIR DUCT. SEE CONTROLS SHEETS FOR SEQUENCE OF OPERATION.

PROVIDE INTERAL ELECTRIC RESISTANCE HEATER FOR BACK UP HEAT WHEN ERW IS IN FROST CONTROL. SIZE 45 KW.

UNIT SHALL BE DRAW THRU CONFIGURATION.

EFFICIENCIES: EER = 21.8, COP 3.8

REFRIGERANT - R454B.

CONTROLS SHALL BE FACTORY INSTALLED. REFER TO CONTROLS DRAWINGS.

PROVIDE WITH MODULATING HOT GAS REHEAT FOR DEHUMIDIFICATION CONTROL.

COMPRESSORS AND FANS SHALL HAVE VIBRATION ISOLATION FOR NOISE CONTROL.

PROVIDE WITH ENERGY RECOVERY WHEEL. SEE ENERGY RECOVERY WHEEL SCHEDULE BELOW.

AIRFLOW ESP TSP MAX BRAKE STARTER

MOUNT DOAS ON CONCRETE PAD. SUPPLY AND RETURN CONNECTIONS SHALL EXIT THE UNIT VERTICALLY DOWN THROUGH CONCRETE PAD. CONTRACTOR TO VERIFY SIZE AND LOCATION OF OPENINGS BEFORE POURING SLAB.

UNIT HANDING AND DUCT CONNECTION ORIENTATION SHALL BE BASED ON STANDING INSIDE THE UNIT FACING FORWARD WITH AIRFLOW HITTING YOU IN THE BACK OF THE HEAD.

EXHAUST FAN

4622 PENNSYLVANIA AVENUE

SUITE 1400 KANSAS CITY, MO 64112

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MECHANICAL ABBREVIATION LIST

1 THE MANUFACTURER LISTED SHALL BE CONSIDERED THE BASIS OF DESIGN. EQUIPMENT AND ACCESSORIES SHALL BE SUPPLIED IN ACCORDANCE WITH THE SCHEDULED VALUES, NOTES, DETAILS, AND SPECIFICATIONS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE

FOR ALL ADDITIONAL COST AND

COORDINATION WHEN NON BASIS OF DESIGN EQUIPMENT IS PROVIDED. 2 ALL PERFORMANCE SHALL BE BASED ON EQUIPMENT OPERATING AT AN ELEVATION OF 1,086 FEET ABOVE SEA

3 SPECIFIED FAN ESP INCLUDES DUCT AND EQUIPMENT LOSSES EXTERNAL TO UNIT.

SCHEDULED FAN TSP INCLUDES EXTERNAL LOSSES PLUS INTERNAL UNIT LOSSES DUE TO COILS, FILTERS AT DIRTY

CAB COMPRESSOR ACCOUSTICAL BLANKET

CPE CONDENSATE PUMP - EXTERNAL EQUAL

TO ??

CPI CONDENSATE PUMP - INTEGRAL DMK DOWNFLOW MOUNTING KIT AND CONDENSATE MANAGEMENT KIT

DSF FUSED DISCONNECT - FACTORY

DSR DUPLEX SERVICE RECEPTACLE -

MDC MAGNETIC DOOR CONTROLLER

PC PLUG CONNECTIONS FOR ELECTRIC

RDS REFRIGERANT DETECTION SYSTEM

SFS | SELF CONTAINED FIRE SUPPRESION

SPP SINGLE POINT POWER ENTRY KIT

RMB 2" RECESSED MOUNTING BOX

EEF EXTERNAL EXHAUST FAN GBD GRAVITY BACKDRAFT DAMPER

DSN NON-FUSED DISCONNECT - FACTORY

FACTORY MOUNTED AND POWERED DSRE DUPLEX SERVICE RECEPTACLE BY E/C

CONDITIONS, ETC.

AS AIRFLOW SWITCH ASD AIR SCOOP DEVICE BS BIRDSCREEN BSK BREAKER SEAL KIT

CL COLOR BY ARCHITECT

DP DRAIN PAN

HG HAIL GUARD HK HOSE KIT

HEATER RD RADIATION DAMPER

IC INSULATED CABINET

OAH OUTDOOR AIR HOOD

SC SPEED CONTROLLER

SG STANDARD GRILLE

SS STAINLESS STEEL

WS WALL SLEEVE

WSH WEATHERSHIED HOOD

SMB SURFACE MOUNTING BOX

SSDP STAINLESS STEEL DRAIN PAN STC SMART TOUCH CONTROLLER TEV THERMAL EXPANSION VALVE UIT USER INTERFACE TOUCHPAD

DSE DISCONNECT BY E/C

AC ALUMINUM CONSTRUCTION

GENERAL NOTES

| OF MISSOLI |
|----------------------|
| STOCKTON ATTACHHOFER |
| NUMBER PE-2013032916 |
| TO NAL ENGE |

PROFESSIONAL SEAL

HOEFER WELKER #: 138191

MECHANICAL SCHEDULES

| | | | | | | | | | | | | | | EVAPO | RATIVE FLU | UID COOLER | SCHEDUL | E. | | | | | | | | | | | | | | |
|-----------------|---------|--------------|-----------|----------|----------|---------|--------|----------|------|----------|-----------|--------|----------|---------------|-------------|-------------|---------|-----|-------------|----------------------|---------|-------|----------|-----|------|------------|-----------|--------------|--------------|-----|---------|-------|
| | | | | | | OUTDOOR | RFAN | | | | PUMPS | | | COOLNO | GOIL | | | WA | TER REQUIRE | EMENTS | | E | LECTRICA | L | | | PHYSICA | L PROPERTIES | | | | |
| | | | | | FAN | AIRFLOW | | | | PUMP | FLOW RATE | | | LOW AMB | HIGH AMB DB | HIGH AMB WB | | | | DOMESTIC WATER | | | | | | MAX LENGTH | MAX WIDTH | MAX HEIGHT | | | | |
| PLAN MARK SERVI | /ICE M. | IANUFACTURER | MODEL | FAN TYPE | QUANTITY | (CFM) | MAX HP | BRAKE HP | RPM | QUANTITY | (GPM) | MAX HP | TH (MBH) | TEMP (DEG. F) | (DEG. F) | (DEG. F) | EWT L | LWT | WPD (FT) | CONNECTION SIZE (IN) | VOLTAGE | PHASE | FLA | MCA | MOCP | (FT) | (FT) | (FT) | WEIGHT (LBS) |) | OPTIONS | NOTES |
| EFC 1 GSH | HP | MARLEY | LWA048ME1 | DIRECT | 3 | 26500 | 22.5 | 22.5 | 1200 | 1 | 150 | 1.5 | 600 | 50 | 95 | 76 | 90 | 80 | 9.3 | 0" | 480 | 3 | 17 | 22 | 25 | 12' - 0" | 4' - 2" | 10' - 4" | 7500 | DSE | | 1-3 |

| | | | | | | | | | | | | | | | | | SPL | LIT SY | STEM | AIR HAI | NDLER | SCHED | ULE | | | | | | | | | | | | | | | | | | |
|----------------|--|--------------------------------------|------------|-----------|------|-------|------|---------|--------|----------|--------|----------|---------|-----------|----------|----------|-------|--------|--------|---------|---------|-----------|--------|---------|-------|----------|----------|----------------|-------|---------|--------|---------|------------------|--------|--------|------------|---------|--------|---------|-----|-------|
| | | | | | | | SI | UPPLY F | AN | | | | | COOLING (| COIL | | | | | HEATIN | NG COIL | | | | | FILT | ΓER | | ELEC | ΓRICAL | | | DUCT NECTIONS | | PHYSIC | CAL PROPER | RTIES | | | | |
| PLAN | | | | | | | I | TSP | MAX BR | AKE STAI | | | | | | | | RFLOW | тн | NOMINAL | | | | D/ AIRF | FLOW | | IRTY SP | | | | | | | | TH WIE | OTH HEIGH | IT WEIC | ЭНТ | | | |
| MARK | SERVICE | MANUFACTURER | MODEL | UNIT TYPE | TYPE | (CFM) | (IN) | (IN) | HP H | IP TY | /PE (B | TUH) (B1 | TUH) (D | EG.F) (DE | G.F) (DE | G.F) (DE | EG.F) | CFM) | (BTUH) | (KW) | (DEG.I | F) (DEG.F | MOD |) (CI | FM) M | /IERV LO | OSS (IN) | VOLTAGE | PHASE | FLA M | CA MOC | P SUPPL | Y RETUR | N (IN) |) (IN | 1) (IN) | (LB | S) | OPTIONS | | NOTES |
| AHU V1 | VEHICLE BAY | TRANE | TEM4A0C048 | SINGLE | DD | 1600 | 0.5 | 0.0 | 0.75 | INTE | GRAL 4 | 8800 34 | 500 | 80.0 | 7.0 5 | 5.0 53 | 3.0 1 | 1600 | 36800 | 10.8 | 60.0 | 81.0 | 1 STAG | SE | 0 | 8 | 0.4 | 208 | 1 | 68.0 91 | .0 100 | FRON' | Γ REAF | 21" | " 23 | 3" 51" | 30′ | DSE,IC | | 1-5 | |
| 2. 3. 4. | JNIT SHALL BE BLO FURNISH 1" FILTER | R COIL BASED ON A OW THRU CONFIGU | RATION. | | | | | | | TEMPERA- | | | | |) /\ | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | AMB | | ELECT | RICAL | _ | | | | | |
|--------------|-------------|--------------|----------|-------------|--------------|--------------|-----------------|---------|-------|-------|------|------|-------------|--------|---------|-------|
| PLAN MARK | SERVICE | MANUFACTURER | MODEL | REFRIGERANT | TH (BTUH) | SH (BTUH) | TEMP (DEG.F) | VOLTAGE | | | | МОСР | MIN SEER | | OPTIONS | NOTES |
| CU V1 | VEHICLE BAY | TRANE | 4TTA3048 | R454B | 48800 | 34500 | 105 | 208 | 3 | 18.0 | 18.0 | 30 | 14 | DSE,HG | | 1,2 |

| | | | | | | | | | | COMPU | JTER ROOM | CONDENSI | IG UNIT SCH | EDULE | | | | | | | | | | |
|-----------|-------------|--------------|-------------|-------------|----------|---------|--------|------|----------|---------------|---------------|-------------|---------------------|---------|-------|-------|------|------------|------------|------------|------------|-----|--------|-------|
| | | | | | | OUTDO | OR FAN | | | COOLING COIL | - | CONNEC | TION SIZES | | ELECT | RICAL | | | PHYSICAL F | PROPERTIES | | | | |
| | | | | | FAN | AIRFLOW | | | | LOW AMB | HIGH AMB | LIQUID LINE | HOT GAS LINE | | | | | MAX LENGTH | MAX WIDTH | MAX HEIGHT | MAX WEIGHT | | | |
| PLAN MARK | AREA SERVED | MANUFACTURER | MODEL | REFRIGERANT | QUANTITY | (CFM) | MAX HP | RPM | TH (MBH) | TEMP (DEG. F) | TEMP (DEG. F) | (IN) | (IN) | VOLTAGE | PHASE | MCA | MOCP | (IN) | (IN) | (IN) | (LBS) | О О | PTIONS | NOTES |
| CRCU 1 | SERVER 146 | STULZ | SCS-252-SEC | 407C | 2 | 18400 | 7.7 | 1500 | 204 | -15 | 105 | 1 1/8" | 1 3/8" | 460 | 3 | 9.3 | 15 | 9' - 1" | 4' - 0" | 3' - 5" | 500 | DSN | | 1-3 |
| CRCU 2 | SERVER 146 | STULZ | SCS-252-SEC | 407C | 2 | 18400 | 7.7 | 1500 | 204 | -15 | 105 | 1 1/8" | 1 3/8" | 460 | 3 | 9.3 | 15 | 9' - 1" | 4' - 0" | 3' - 5" | 500 | DSN | | 1-3 |
| CRCU 3 | SERVER 146 | STULZ | SCS-252-SEC | 407C | 2 | 18400 | 7.7 | 1500 | 204 | -15 | 105 | 1 1/8" | 1 3/8" | 460 | 3 | 9.3 | 15 | 9' - 1" | 4' - 0" | 3' - 5" | 500 | DSN | | 1-3 |

| | | | | SUPPLY | FAN | CO | OLING | HUMIDIFCATION | | | ELECTRI | CAL | | | |
|--------------|--------------|-----------------|-----------|------------------|-------------|----------------|-------------------|----------------------|----------------|---------|---------|------|------|-------|----------|
| PLAN MARK | MANUFACTURER | MODEL | UNIT TYPE | AIRFLOW (CFM) | ESP (IN) | TOTAL (MBH) | SENSIBLE (MBH) | CAPACITY (LBS/HR) | FILTER MERV | VOLTAGE | PHASE | MCA | МОСР | ОРТІО | NS NOTES |
| CRAC 1 | STULZ | COS-120-AR-D-EC | DOWNFLOW | 4800 | 0.5 | 111 | 92 | 15 | 11 | 480 | 3 | 33.7 | 50 | DSN | 1-2 |
| CRAC 2 | STULZ | COS-120-AR-D-EC | DOWNFLOW | 4800 | 0.5 | 111 | 92 | 15 | 11 | 480 | 3 | 33.7 | 50 | DSN | 1-2 |
| CRAC 3 | STULZ | COS-120-AR-D-EC | DOWNFLOW | 4800 | 0.5 | 111 | 92 | 15 | 11 | 480 | 3 | 33.7 | 50 | DSN | 1-2 |

| | | | | | | | | | EDULE | | | | | | |
|----------------------------|--|--|--|--|---------------------------------------|------------------------------------|---------------------------|----------------------|------------------------|-----------------------|----------------|------------------|---------|---------|-------|
| | | | | FLOW | | | | | | ELEC1 | RICA | L | | | |
| PLAN MARK | SERVICE MANUFACTURER | MODEL | MOUNTING | RATE (GPM) | HEAD (FT) | NPSH (FT) | MAX HP | RPM | VOLTAGE | PHASE | FLA | MCA | МОСР | OPTIONS | NOTES |
| MP 1 | GSHP GRUNDFOS | DELTA HCU 3CREH32-1 | FLOOR | 125.0 | 63 | 0 | 5 | 3600 | 480 | 3 | 19.6 | 24.7 | 30 | DSN | 1-7 |
| MP 2 | GSHP GRUNDFOS | DELTA HCU 3CREH32-1 | FLOOR | 125.0 | 63 | 0 | 5 | 3600 | 480 | 3 | 19.6 | 24.7 | 30 | DSN | 1-7 |
| MP 3 | GSHP GRUNDFOS | DELTA HCU 3CREH32-1 | FLOOR | 125.0 | 63 | 0 | 5 | 3600 | 480 | 3 | 19.6 | 24.7 | 30 | DSN | 1-7 |
| MP 4 | GSHP GRUNDFOS | TPE3 D 80-120 | FLOOR | 150.0 | 21 | 9 | 1.5 | 2650 | 480 | 3 | 2.1 | 0.0 | 15 | DSN | 1-4,8 |
| IOTES | | | | | | | | | | | | | | | |
| 2. 3. | : MAX OPERATING PRESSURI PROVIDE PACKAGED SYSTE PUMPS TO BE PROVIDED W PROVIDE UNIT MOUNTED IN | M WITH PUMPS, BASE, V TH PERMANENT MAGNE | ALVES, GAUG T, TEFC MOTO | ES, PRES ORS WITH | SURE TI | RANSDI AL VFD | JCERS . MOTC | , SUCTION AND | VFD ASSEM | IBLY TO I | MEET | IE5 EFI | | | |
| 1. 2. 3. 4. 5. | MAX OPERATING PRESSURI PROVIDE PACKAGED SYSTE PUMPS TO BE PROVIDED W | M WITH PUMPS, BASE, V ITH PERMANENT MAGNE LET AND OUTLET PRESS WER WITH FACTORY-WIR | ALVES, GAUG T, TEFC MOTC URE SENSOR ED AND TEST | ES, PRES ORS WITH WITH DR ED PUMP | SURE TI INTEGR Y RUN P CONTR | RANSDI AL VFD ROTEC OLLER | JCERS . MOTO TION A | , SUCTION AND NO OVE | VFD ASSEM R PRESSUF | IBLY TO I RIZATION | MEET I FEAT | IE5 EFI URES. | FICIENC | | |

| | | | | | MECHA | NICAL E | EXPANSION | TANK S | SCHED | JLE | | | |
|--------------|---------|--------------|-----------|----------|----------|---------|---------------------|------------------------|------------------------|---------------------------|-----------------|---------|-------|
| PLAN MARK | SERVICE | MANUFACTURER | MODEL | LOCATION | MOUNTING | | ACCEPTANCE (GAL) | MIN TEMP (DEG.F) | MAX TEMP (DEG.F) | MIN PRESSURE (PSIG) | WEIGHT (LBS) | OPTIONS | NOTES |
| MET 1 | GSHP | AMTROL | AX-40V-DD | MECH RM | FLOOR | 23 | 11 | 40 | 100 | 18 | 200 | | 1-3 |

| | | | | AIN SEF | ARATOR SC | IILDULL | | |
|--------------|--------|--------------|-------|-----------------------|-----------------------|--------------|---------|-------|
| PLAN MARK | SYSTEM | MANUFACTURER | MODEL | FLOW RATE (GPM) | PRESSURE DROP (FT) | SIZE (IN) | OPTIONS | NOTES |
| AS 1 | WSHP | AMTROL | 4-ADS | 250.0 | 1.0 | 4" | | 1,2 |

| PLAN | | | | MOUNTING | | | FACE | MAX PRESS | MAX | | |
|------|--------------|-------|----------------------|----------------|-------|-------|--------------|--------------|-----|---------|-------|
| MARK | MANUFACTURER | MODEL | FACE TYPE | LOCATION | COLOR | OBD | SIZE (IN) | DROP (IN WC) | NC | OPTIONS | NOTES |
| E1 | PRICE | 80 | EGG CRATE | GYP CEILING | WHITE | YES | 12"x12" | 0.1 | 30 | | 1,5 |
| E2 | PRICE | 80 | EGG CRATE | GYP CEILING | WHITE | MVOLT | 24"x24" | 0.1 | 30 | | 1 |
| LR1 | PRICE | SDR | LINEAR | CEILING | WHITE | NO | 48"x6" | 0.1 | 30 | | 7 |
| LS1 | PRICE | SDS | LINEAR | CEILING | WHITE | NO | 48"x6" | 0.1 | 30 | FFI | 1,6 |
| LS2 | PRICE | SDS | LINEAR | CEILING | WHITE | NO | 48"x6" | 0.1 | 30 | FFI | 1,8 |
| R1 | PRICE | 80 | EGG CRATE | LAY-IN | WHITE | NO | 24"x12" | 0.1 | 30 | | 9 |
| R2 | PRICE | 80 | EGG CRATE | LAY-IN | WHITE | NO | 24"x24" | 0.1 | 30 | | 9 |
| R3 | PRICE | 530 | DOUBLE DEFLECTION | WALL | WHITE | NO | SEE DWG | 0.1 | 30 | | 1,4 |
| S1 | PRICE | SPD | PLAQUE | GYP CEILING | WHITE | YES | 12"x12" | 0.1 | 30 | | 1,2,5 |
| S2 | PRICE | SPD | PLAQUE | GYP CEILING | WHITE | YES | 24"x24" | 0.1 | 30 | | 1,2 |
| S3 | PRICE | SPD | PLAQUE | LAY-IN | WHITE | NO | 12"x12" | 0.1 | 30 | | 1,2 |
| S4 | PRICE | 520 | DOUBLE DEFLECTION | WALL | WHITE | YES | SEE DWG | 0.1 | 30 | | 1,3,4 |
| S5 | PRICE | MFD | DISPLACEMENT | FLOOR | BLACK | YES | 8 INCHES | 0.1 | 30 | | 10 |
| S6 | PRICE | MFD | DISPLACEMENT | FLOOR | BLACK | YES | 10 INCHES | 0.1 | 30 | | 10 |
| S7 | PRICE | PDDR | PERFORATED | FLOOR | WHITE | NO | 24"x24" | 0.1 | 30 | | 11 |

NECK SIZE SHOWN ON DRAWINGS - BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE NOTED. 4-WAY THROW PATTERN UNLESS OTHERWISE SHOWN ON DRAWINGS AND LEGEND. DOUBLE DEFLECTION BARS SHALL BE ADJUSTABLE. ADJUST TO DEFLECT AIR DOWN AND EVENLY TO THE SIDE. FRONT BLADES PARALLEL TO LONG DIMENSION.

- ALUMINUM CONSTRUCTION.
- SINGLE SLOT DIFFUSER, 1.5" WIDE. PROVIDE SDB PLENUM. SINGLE SLOT DIFFUSER, 1.5" WIDE. PROVIDE LIGHT SHIELD.
- ACOUSTICAL BOOTS. PROVIDE BASKET AND FACE OPERATED DAMPER.
 PERFORATED FLOOR TILE SHALL INTEGRATE INTO MANFUACTURE'S FLOOR PLENUM SYSTEM. TILE SHALL BE CAPABLE OF WALKING ON.
- TWO SLOT DIFFUSER, 1.5" WIDE. PROVIDE SDB PLENUM. PROVIDE ACOUSTICAL BOOTS FOR ALL RETURN REGISTERS WHERE SHOWN ON DRAWINGS. PROVIDE LIGHT SHIELDS FOR ALL REGISTER NOT UTILIZING

FURNISH UNIT WITH TERMINAL STRIP AND 7-DAY PROGRAMMABLE THERMOSTAT. SET UNIT TO MAINTAIN TEMPERATURE BETWEEN 60 AND 78 DEGREES. 🛂

MOUNT ON CONCRETE PAD WITH NEOPRENE VIBRATION ISOLATION PAD AND PER MANUFACTUER IOM INSTRUCTIONS.

COOLING COILS BASED ON NET CAPACITIES.

UNIT SIZED FOR PURE WATER, 0% GLYCOL. UNIT WILL NOT OPERATE FOR 6 MONTHS OF THE YEAR. SEE CONTROLS DRAWINGS FOR WINTERIZATION DRAINDOWN SEQUENCE. SET AUTOMATIC CONTROL VAVLE MINIMUM POSITION TO CALCULATED BLOWDOWN AS REQUIRED BY MANUFACTURER.

BUILDING AUTOMATION SYSTEM INTERFACE: 1. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER HEAT/COOL MODES. THE BAS SHALL ALSO SEND THE DISCHARGE AIR TEMPERATURE SETPOINT AND THE DUCT STATIC PRESSURE SETPOINT. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

BASIC OPERATION: 1. THE SUPPLY FAN AND EXHAUST FAN SHALL RUN CONTINUOUSLY.

2. THE ENERGY RECOVERY WHEEL, HEAT PUMP, AND THE ELECTRIC HEAT SHALL CONTROL TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE AND HUMIDITY SETPOINT. IF THE DISCHARGE AIR TEMPERATURE SENSOR FAILS, THE DOAS SHALL CONTINUE TO OPERATE IN THE CURRET STATE, AND AN ALARM SHALL ANNUNCIATE AT THE BAS.

HEAT/COOL MODE: WHEN THE DISCHARGE AIR TEMPERATURE RISES ABOVE THE COOLING SETPOINT THE MODE SHALL TRANSITION TO COOLING. WHEN THE DISCHARGE AIR TEMPERATURE FALLS BELOW THE HEATING SETPOINT THE MODE SHALL TRANSITION TO HEATING. WHEN THE DISCHARGE AIR TEMPERATURE IS ABOVE THE COOLING SETPOINT OR BELOW THE HEATING SETPOINT THE MODE SHALL REMAIN IN ITS LAST STATE. IF THE DISCHARGE AIR TEMPERATURE SENSOR FAILS THE MODE SHALL REMAIN IN ITS LAST STATE AND AN ALARM SHALL ANNUNCIATE AT THE BAS. IF THE LOCAL AND COMMUNICATED SETPOINTS FAIL THE CONTROLLER SHALL DISABLE THE SUPPLY FAN AND AN ALARM SHALL ANNUNCIATE AT THE BAS.

DISCHARGE AIR TEMPERATURE RESET CONTROL: 1. THE DISCHARGE AIR TEMPERATURE SHALL BE CONTROLLED TO A FIXED SETPOINT. THE DISCHARGE AIR TEMPERATURE SHALL NOT BE RESET BASED UPON SPACE CONDITIONS OR OUTDOOR AIR CONDITIONS.

1. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AND ITS SPEED SHALL BE MODULATED TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT. THE DUCT STATIC PRESSURE SETPOINT SHALL BE SENT BY THE BAS 2. IF THE SUPPLY FAN FAILS TO PROVE STATUS FOR 30 SECONDS (ADJ.), THE FAN SHALL BE COMMANDED OFF. ALL HEATING AND COOLING SHALL BE DISABLED. AND AN ALARM SHALL ANNUNCIATE AT THE BAS. A MANUAL RESET SHALL BE REQUIRED TO RESTART THE FAN. A HARDWIRED, HIGH STATIC PRESSURE CUT-OFF SWITCH SHALL BE ELECTRICALLY INTERLOCKED WITH THE VARIABLE SPEED DRIVE. IF THE HIGH STATIC PRESSURE CUT-OFF SWITCH IS TRIPPED THE FAN SHALL BE COMMANDED OFF, HEATING AND COOLING SHALL BE DISABLED, AND AN ALARM SHALL ANNUNCIATE AT THE BAS. A MANUAL RESET OF THE HIGH STATIC PRESSURE CUT-OFF SWITCH SHALL BE REQUIRED TO RESTART THE FAN.

EXHAUST FAN: 1. THE EXHAUST FAN SHALL RUN CONTINUOUSLY, AND THE FAN SPEED SHALL BE CONTROLLED BASED OFF OF THE SUPPLY FAN SPEED. 2. IF THE EXHAUST FAN FAILS TO PROVE STATUS FOR 30 SECONDS (ADJ.), THE FAN SHALL BE COMMANDED OFF, ALL HEATING AND COOLING SHALL BE DISABLED, AND AN ALARM SHALL ANNUNCIATE AT THE BAS, A

MANUAL RESET SHALL BE REQUIRED TO RESTART THE FAN. A MANUAL RESET OF THE HIGH STATIC

INTERLOCKED VIA SOFTWARE, A FAILURE OF EITHER SHALL DISABLE BOTH.

PRESSURE CUT-OFF SWITCH SHALL BE REQUIRED TO RESTART THE FAN. SUPPLY AND EXHAUST FANS ARE

SEQUENCE OF OPERATION - CONT.

1. A HARDWIRED, LOW LIMIT TEMPERATURE SWITCH SHALL BE ELECTRICALLY INTERLOCKED WITH THE VARIABLE SPEED DRIVE. IF THE LOW LIMIT TEMPERATURE SWITCH IS TRIPPED 38.0 DEG. F (ADJ.). THE FAN SHALL BE COMMANDED OFF AND THE OUTSIDE AIR DAMPER SHALL CLOSE. ALL VALVES SHALL BE COMMANDED OPEN TO 100% (ADJUST PER CLIMATE). THE ELECTRIC HEATING SHALL BE DISABLED. AN ALARM SHALL ANNUNCIATE AT THE BAS AND MANUAL RESET OF THE LOW LIMIT TEMPERATURE SWITCH SHALL BE REQUIRED TO RESTART THE FAN.

FILTER STATUS: 1. DIFFERENTIAL PRESSURE SWITCHES SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER(S) WHEN THE FAN IS RUNNING. IF ANY SWITCH CLOSES DURING NORMAL OPERATION A DIRTY FILTER ALARM SHALL ANNUNCIATE AT THE BAS.

PREHEAT CONTROL: 1. WHEN THE FAN IS OFF, IF THE OUTDOOR AIR TEMPERATURE IS BELOW 40.0 DEG. F (ADJ.) OR THE OUTSIDE AIR TEMPERATURE SENSOR IS FAILED, THE PREHEAT VALVE SHALL FULLY OPEN AND MODULATE THE FACE AND BYPASS DAMPERS TO MAINTAIN A MIXED AIR TEMPERATURE OF 45.0 DEG. F (ADJ.). IF THE OUTDOOR AIR TEMPERATURE IS ABOVE 40.0 DEG. F (ADJ.) AND THE OUTDOOR AIR TEMPERATURE SENSOR IS NOT FAILED THE PREHEAT VALVE SHALL BE CLOSED AND THE BYPASS DAMPER(S) OPEN TO THE FACE OF THE COIL. IF THE MIXED AIR TEMPERATURE SENSOR FAILS THE PREHEAT VALVE SHALL BE FULLY OPEN AND THE FACE

AND BYPASS DAMPER(S) SHALL MODULATE TO 50% OPEN (ADJ.). 2. WHEN THE FAN IS ON, THE PREHEAT VALVE SHALL FULLY OPEN AND THE FACE AND BYPASS DAMPER(S) SHALL MODULATE TO MAINTAIN A LEAVING PREHEAT TEMPERATURE OF 45.0 DEG. F (ADJ.). IF THE PREHEAT TEMPERATURE SENSOR FAILS AND THE MIXED AIR TEMPERATURE IS BELOW 45.0 DEG. F (ADJ.) THE PREHEAT VALVE SHALL BE FULLY OPEN AND THE BYPASS DAMPER(S) SHALL OPEN TO 50% (ADJ.) TO THE FACE OF THE COIL. IF THE PREHEAT TEMPERATURE SENSOR FAILS AND THE MIXED AIR TEMPERATURE IS ABOVE 50.0 DEG. F (ADJ.) THE PREHEAT VALVE SHALL BE COMMANDED OPEN AND THE BYPASS DAMPER(S) SHALL CLOSE TO 0% (ADJ.) TO THE FACE OF THE COIL. AN ALARM SHALL ANNUNCIATE AT THE BAS IF THE LEAVING PREHEAT TEMPERATURE SENSOR, THE MIXED AIR TEMPERATURE SENSOR OR THE OUTSIDE AIR TEMPERATURE SENSOR ARE FAILED.

HUMIDITY CONTROL: 1. IF THE EXHAUST AIR RELATIVE HUMIDITY IS GREATER THAN 55% (ADJ.), THE DX COOLING SHALL CONTROL TO MAINTAIN RELATIVE HUMIDITY SETPOINT OF 50% (ADJ.) AND THE HOT GAS REHEAT SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. MODE SHALL TERMINATE WHEN THE EXHAUST AIR RELATIVE HUMIDITY FALLS BELOW THE RELATIVE HUMIDITY SETPOINT OF 50% (ADJ.). IF THE EXHAUST AIR RELATIVE HUMIDITY SENSOR FAILS THE DEHUMIDIFICATION SEQUENCE SHALL BE TERMINATED AND AN ALARM SHALL ANNUNCIATE AT THE BAS.

ENERGY RECOVERY OPERATION: 1. WHEN THE OUTSIDE AIR DRY-BULB TEMPERATURE IS HIGHER THAN THE RELIEF AIR DRY-BULB TEMPERATURE. THE FIXED-PLATE HX FACE-AND-BYPASS DAMPERS SHALL BE POSITIONED FOR 0% BYPASS WHEN THE OUTSIDE AIR DRY-BULB TEMPERATURE IS LESS THAN THE RELIEF AIR DRY-BULB TEMPERATURE AND THE AHU IS COOLING (OR AIRSIDE ECONOMIZING), THE FACE-AND-BYPASS DAMPERS SHALL BE POSITIONED FOR 100% BYPASS.

2. WHEN THE AHU IS HEATING, THE FIXED-PLATE HX FACE-AND-BYPASS DAMPERS SHALL MODULATE (AS NECESSARY) TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT (ADJ.). IF THE TEMPERATURE LEAVING THE RELIEF SIDE OF THE FIXED-PLATE HX DROPS BELOW THE FROST THRESHOLD SETPOINT (ADJ.), THE FROST PREVENTION DAMPER SHALL CLOSE.

CONDENSATE OVERFLOW MONITORING: 1. IF THE CONDENSATE LEVEL REACHES THE TRIP POINT, A CONDENSATE OVERFLOW DIAGNOSTIC SHALL ANNUNCIATE AT THE BAS. TO PREVENT THE CONDENSATE DRAIN PAN FROM OVERFLOWING AND CAUSING WATER DAMAGE TO THE BUILDING THE FAN SHALL BE DISABLED AND THE HEAT PUMP COOLING SHALL BE

SMOKE DETECTOR SHUTDOWN: 1. THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTORS INDICATING THE PRESENCE OF SMOKE. THE SMOKE DETECTORS SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTORS SHALL BE REQUIRED TO RESTART THE UNIT.

LATCH SENSOR DISPLAY SOFTWARE HARDWIRE **ANALOG** ANALOG POINT ID POINT DESCRIPTION POINT INTERLOCK LIMIT LIMIT BINARY DIAGNOSTIC FAIL FAIL GRAPHIC DISCHARGE AIR COOLING SETPOINT DA HTG SP DISCHARGE AIR HEATING SETPOINT Χ DA H SP DISCHARGE AIR HUMIDITY SETPOINT MA LLT SP MIXED AIR TEMPERATURE LOW LIMIT SETPOINT DA SP SP DISCHARGE AIR STATIC PRESSURE SETPOINT Χ DA HSP SP DISCHARGE AIR HIGH STATIC ALARM SETPOINT DA LSP SP DISCHARGE AIR LOW STATIC ALARM SETPOINT EA LSP SP EXHAUST AIR LOW STATIC ALARM SETPOINT DISCHARGE AIR TEMPERATURE OW EAT OUTDOOR WHEEL ENTERING AIR TEMPERATURE OW LAT OUTDOOR WHEEL LEAVING AIR TEMPERATURE EW EAT EXHAUST WHEEL ENTERING AIR TEMPERATURE EXHAUST WHEEL LEAVING AIR TEMPERATURE EW LAT Χ DA H DISCHARGE AIR HUMIDITY OW EAH OUTDOOR WHEEL ENTERING AIR RELATIVE HUMIDITY OW LAH OUTDOOR LEAVING AIR RELATIVE HUMIDITY Χ EW EAH EXHAUST WHEEL ENTERING AIR RELATIVE HUMIDITY EW LAH EXHAUST WHEEL LEAVING AIR RELATIVE HUMIDITY DA SP DISCHARGE AIR STATIC PRESSURE RA SP RETURN DUCT STATIC PRESSURE Χ CMP CMD COMPRESSOR 1 COMMAND (?-STAGE) CLG CL LAT COOLING COIL LEAVING TEMPERATURE CLG CL CMD COOLING COIL VALVE COMMAND (MOD) CLG CL P COOLING COIL VALVE POSITION Χ HTG CL LAT HEATING COIL LEAVING AIR TEMPERATURE Χ Χ HTG CL CMD HEATING COIL COMMAND (MOD) HTG CL P HEATING COIL POSITION Χ SF FLW SUPPLY FAN AIR FLOW SF SPD SUPPLY FAN SPEED (VAR) SF CMD SUPPLY FAN COMMAND (START/STOP) SUPPLY FAN STATUS EF FLW EXHAUST FAN AIR FLOW EF SPD EXHAUST FAN SPEED (VAR) AO EF CMD EXHAUST FAN COMMAND (START/STOP) EF ST EXHAUST FAN STATUS EPH LAT ELECTRIC PREHEAT LEAVING COIL TEMPERATURE Х ELECTRIC PREHEAT OUTPUT COMMAND (MOD) EW CMD ENERGY WHEEL COMMAND EW OA BPD ENERGY WHEEL OUTDOOR AIR BYPASS DAMPER COMMAND EW ELF BPD ENERGY WHEEL EXHAUST-SIDE BYPASS DAMPER COMMAND AO X FBYP CMD FACE AND BYPASS ACTUATOR COMMAND HX FST DPR CMD HEAT EXCHANGER ENTERING OUTDOOR AIR FROST DAMPER COMMAND AO X HX FST TMP HEAT EXCHANGER LEAVING RETURN AIR FROST AVOIDANCE TEMPERATURE Χ DA FIL ST DISCHARGE AIR FILTER STATUS BI X OA FIL ST OUTDOOR AIR FILTER STATUS BI X EXHAUST AIR FILTER STATUS BI X EXHAUST SMOKE DETECTOR INPUT DISCHARGE SMOKE DETECTOR INPUT Χ SF HSP ALM SUPPLY FAN HIGH STATIC ALARM SF LSP ALM SUPPLY FAN LOW STATIC ALARM Χ SF HSP INTLK HIGH STATIC ALARM INTERLOCK MIXED AIR LOW TEMPERATURE CUTOUT ALARM SUPPLY FAN FAILURE

POINTS LIST

FEF LSP ALM (BI) EF LSP INTLK (HDW) EAF (AO) EAW LAT (AI) BPD EAF (BO) EAW LAH (AI) (AO) EAW EAH (AI) - SF HSP ALM (BI) SF LSP ALM (BI) — SF LSP INTLK (HDW) SF HSP INTLK (HDW) OAW EAH (AI) SAW LAH (AI) EW (BO) CLG CL CMD (AO) CLG CL P (AI) SF CMD (BO) SF SPD (AO) HTG CL CMD (AO) SF FLW (AI) HTG CL P (AI) -

2 DOAS1 CONTROL DIAGRAM NOT TO SCALE

| | | | ı | POINTS | | | | AL | ARMS | | | |
|-----------|---|------|--------------------|----------------|-----------------------|-------------------------|------------------------|--------|---------------------|----------------|---------------|-------|
| POINT ID | POINT DESCRIPTION | ТҮРЕ | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| EWH 1 ST | HEAT PUMP WATER HEATER "EWH 1" STATUS | BI | Х | | | | | | | | | |
| EWH 2 ST | HEAT PUMP WATER HEATER "EWH 2" STATUS | BI | Х | | | | | | | | | |
| MMV 1 LWT | MASTER MIXING VALVE "MMV 1" LEAVING WATER TEMPERATURE | Al | Х | | | Х | Х | | | | | |
| RP 1 CMD | HOT WATER RECIRCULATION PUMP "RP 1" COMMAND | ВО | Х | | | | | | | | | |
| RP 1 ST | HOT WATER RECIRCULATION PUMP "RP 1" STATUS | BI | Х | | | | | | | | | |
| SP 1 HL | ELEVATOR SUMP PUMP "SP 1" HIGH LEVEL | BI | Х | | | Х | | | | | | |
| GEN CP ST | GENERATOR MASTER CONTROL PANEL STATUS | BI | Х | | | | | Х | | | | |
| ATS ST | AUTOMATIC TRANSFER SWITCH "ATS" STATUS | BI | Х | | | | | Х | | | | |
| MTS ST | AUTOMATIC TRANSFER SWITCH "MTS" STATUS | BI | Х | | | | | Х | | | | |
| GEN PL AL | GENERATOR CONTROL PANEL STATUS | BI | Х | | | | | Х | | | | |
| UPSA ST | UNINTERUPTIBLE POWER SUPPLY "A" STATUS | BI | Х | | | | | Х | | | | |
| UPSB ST | UNINTERUPTIBLE POWER SUPPLY "B" STATUS | BI | Х | | | | | Х | | | | |
| WST1 TL | WATER STORAGE TANK "1" TANK LEVEL | Al | Х | | | | Х | | | Х | | |
| WSP1 ST | WATER STORAGE PUMP STATUS | Al | Х | | | | | | | Х | | |
| WSP1 CMD | WATER STORAGE PUMP COMMAND | ВО | Х | | | | | | | | | |
| UV ST | UV LIGHT STATUS | Al | Х | | | Х | | | | Х | | |
| WSP1 V | WATER STORAGE PUMP TOTAL WATER VOLUME (IN GALLONS) | Al | Х | | | | | | | | | |

WATER HEATER

1. THE BAS SHALL MONITOR THE STATUS OF THE WATER HEATER CONTROL PANELS.

MASTER MIXING VALVE

1. THE BAS SHALL MONITOR THE STATUS OF THE MASTER MIXING VALVE CONTROL PANEL. THE BAS SHALL ANNUNCIATE AN ALARM WHEN THE LEAVINIG WATER TEMPERATURE IS OUTSIDE OF THE SETPOINT RANGE

1. THE BAS SHALL ENGAGE THE DOMESTIC HOT WATER RECIRCULATION PUMPS WHEN THE BUILDING IS IN OCCUPIED MODE. THE BAS SHALL DISABLE THE DOMESTIC HOT WATER RECIRCULATION PUMPS WHEN THE BUILDING IS IN UNOCCUPIED MODE. THE BAS SYSTEM SHALL MONITOR AND INDICATE STATUS.

THE BAS SHALL MONITOR AND REPORT TANK LEVEL TO CONTROL PANEL, OPERATE PUMPS AND VFDs.

STORAGE TANK, PUMP, AND FILTRATION SKID

MISC. EQUIPMENT CONTROL DIAGRAM

MONITOR DIFFERENTIAL PRESSURE ACROSS FILTERS, TRACK HOURS OF USAGE AND REMAINING LIFE OF UV BULBS, AND TRACK TOTAL GALLONS OF WATER USED.

ELEVATOR SUMP PUMP

NOT TO SCALE

1. THE BAS SHALL ANNUNCIATE AN ALARM WHEN THE HIGH LEVEL SENSOR IS REACHED

GENERATOR MASTER CONTROL PANEL

1. THE BAS SHALL MONITOR THE GENERATOR CONTROL PANEL STATUS. THE BAS SHALL ANNUNCIATE AN ALARM FOR THE FOLLOWING: A. OVERCRANK

B. LOW WATER TEMPERATURE HIGH ENGINE TEMPERATURE (PREALARM)

HIGH ENGINE TEMPERATURE . LOW LUBE OIL PRESSURE

G. LOW FUEL MAIN TANK H. LOW COOLANT LEVEL LOW CRANKING VOLTAGE

J. FUEL TANK DERANGEMENT K. FUEL TANK HIGH-LEVEL SHUTDOWN OF FUEL SUPPLY

L. LOW-CRANKING VOLTAGE

1. THE BAS SHALL MONITOR THE FOLLOWING:

D. FAILURE OF COMMUNICATION LINK

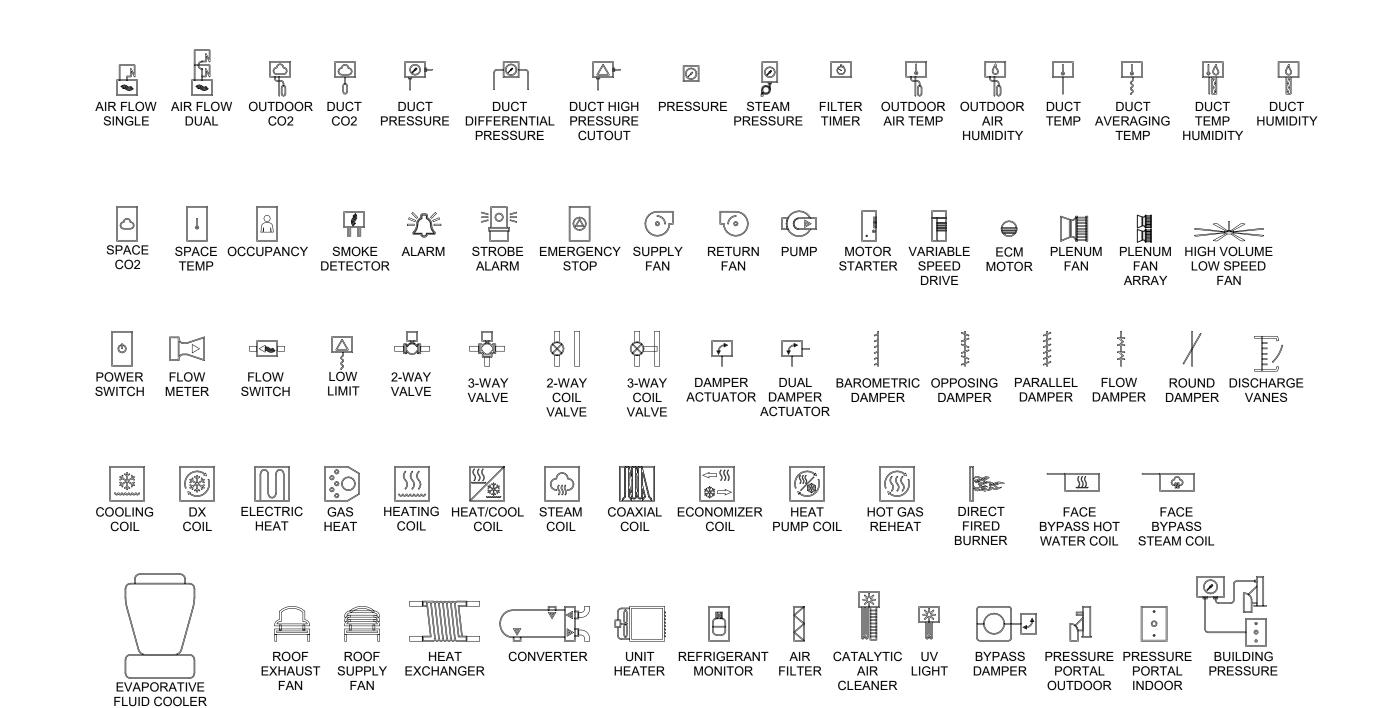
AUTOMATIC TRANSFER SWITCHES

A. SOURCES AVAILABLE B. SWITCH POSITION SWITCH IN TEST MODE

UNINTERUPTIPLE POWER SUPPLIES . THE BAS SHALL MONITOR THE FOLLOWING: A. UPS AVAILABLE

B. UPS CHARGE C. UPS IN TEST MODE

D. FAILUE OF COMMUNICATION LINK



Χ

CONTROLS LEGEND NOT TO SCALE

EXHAUST FAN FAILURE

EF LSP ALM

EXHAUST FAN LOW STATIC ALARM

BAS COMMUNICATION STATE

HOEFER WELKER **4622 PENNSYLVANIA AVENUE**

NOTES

50 % RH

FIELD VERIFY

FIELD VERIFY

FIELD VERIFY

FIELD VERIFY

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REVISION DATES:

VE-300 2003316

PROFESSIONAL SEAL

HOEFER WELKER #: 138191

MECHANICAL CONTROLS

HOEFER WELKER #: 138191

MECHANICAL CONTROLS

SEQUENCE OF OPERATION:

- BUILDING AUTOMATION SYSTEM INTERFACE: 1. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL MONITOR THE POINTS SHOWN IN THE POINTS LIST AND SEND THE CRAC UNITS ENABLE AND DISABLE COMMANDS.
- 1. THE SUPPLY FAN SHALL RUN CONTINUOUSLY. THE DX COOLING SHALL CONTROL TO MAINTAIN THE ACTIVE

BAS. A MANUAL RESET SHALL BE REQUIRED TO RESTART THE FAN.

- SPACE TEMPERATURE SETPOINT. SUPPLY FAN OPERATION: 1. IF THE SUPPLY FAN FAILS THE FAN SHALL BE COMMANDED OFF AND AN ALARM SHALL ANNUNCIATE AT THE
- FILTER STATUS 1. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES DURING NORMAL OPERATION A DIRTY FILTER ALARM SHALL ANNUNCIATE AT THE BAS.
- HUMIDIFICATION: 1. HUMIDIFICATION SHALL BE ENABLED START UP DELAY HAS TERMINATED AND HUMIDITY IS BELOW SETPOINT. THE STEAM HUMIDIFIER SHALL CONTROL TO THE HUMIDIFIER OUTPUT COMMAND TO MAINTAIN SETPOINT. HUMIDIFICATION SHALL BE DISABLED WHEN THE HUMIDITY RISES ABOVE THE SETPOINT PLUS THE DEADBAND OF 5% (ADJ).
- LEAD/LAG AND N+1 REDUNDANT OPERATION: 1. THE CRAC LEAD/LAG AND N+1 SEQUENCE SHALL BE BASED ON A WEEKLY SCHEDULE. FROM THE BAS, AN
- OPERATOR SHALL BE ABLE TO MANUALLY CHANGE THE LEAD/LAG SEQUENCE. 2. TWO CRAC UNITS SHALL BE IN OPERATION AT ANY ONE TIME. IF ONE CRAC UNIT FAILS, THAT UNIT SHALL BE COMMANDED OFF, THE THIRD CRAC UNIT SHALL BE COMMANDED ON, AND AN ALARM SHALL ANNUNCIATE AT
- 3. IF THE SPACE TEMPERATURE RISES 3 DEG (ADJ) ABOVE THE SPACE TEMPERATURE SETPOINT AND TWO CRAC UNITS ARE IN OPERATION, THE THIRD CRAC UNIT SHALL BE COMMANDED ON UNTIL THE SPACE TEMPERATURE IS 3 DEG (ADJ) BELOW THE SPACE TEMPERATURE SETPOINT.

| | | | POINTS | LIST | | | | | | | | |
|-----------|----------------------------------|------|--------------------|----------------|-----------------------|-------------------------|------------------------|--------|---------------------|----------------|---------------|-------|
| | | | i | POINTS | | | | AL | ARMS | | | |
| POINT ID | POINT DESCRIPTION | ТҮРЕ | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| SP T SP | SPACE TEMPERATURE SETPOINT | | | Х | | | | | | | | 78 F |
| SP H SP | SPACE HUMIDITY SETPOINT SETPOINT | | | Х | | | | | | | | 40 % |
| SP T | SPACE TEMPERATURE | Al | X | | | Х | Х | | | Х | | |
| SP H | SPACE HUMIDITY | Al | Х | | | Х | | | | Х | | |
| DA T | DISCHARGE TEMPERATURE | Al | Х | | | Х | Х | | | Х | | |
| DA H | DISCHARGE HUMIDITY | Al | Х | | | Х | | | | Х | | |
| CMP CMD | COMPRESSOR COMMAND (1-STAGE) | ВО | Х | | | | | | | | | |
| HUM CMD | HUMIDITY COMMAND | ВО | Х | | | | | | | | | |
| SF CMD | SUPPLY FAN COMMAND (START/STOP) | ВО | Х | | | | | | | | | |
| SF ST | SUPPLY FAN STATUS | BI | X | | | | | | | | | |
| RA FIL ST | RETURN AIR FILTER STATUS | BI | Х | | | | | | | | | |
| SF FAIL | SUPPLY FAN FAILURE | | X | Х | | | | Х | | | | |
| BAS COM | BAS COMMUNICATION STATE | | | Х | | | | | | | X | |

| | RA FIL ST (BI) | | | SF ST (BI) | FL T (AI) FL H (AI) | SPT(AI) SPTSP(AI) |
|------|-------------------|---------|---------|---------------|------------------------|---------------------------|
| RA 📗 | | | | | DA | |
| | | CMP CMD | HUM CMD | SF CMD | | SP H (AI) SP H SP (AI) |

SEQUENCE OF OPERATION

BUILDING AUTOMATION SYSTEM INTERFACE: 1. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED, AND UNOCCUPIED COMMANDS. THE BAS MAY ALSO SEND A HEAT/COOL MODE, PRIORITY SHUTDOWN COMMANDS, SPACE TEMPERATURE AND/OR SPACE TEMPERATURE SETPOINT. IF COMMUNICATION IS LOST WITH THE BAS, THE

CONTROLLER SHALL OPERATE USING ITS LOCAL SETPOINTS.

- 1. NORMAL OPERATING MODE FOR OCCUPIED SPACES OR DAYTIME OPERATION. WHEN THE UNIT IS IN THE OCCUPIED MODE THE VAV SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE OCCUPIED HEATING OR COOLING SETPOINT. APPLICABLE VENTILATION AND AIRFLOW SETPOINTS SHALL BE ENFORCED. THE OCCUPIED MODE SHALL BE THE DEFAULT MODE OF THE VAV.
- OCCUPIED STANDBY (SEE NOTES): 1. THE OCCUPANCY SENSOR SHALL BE USED TO INDICATE THAT THE SPACE IS UNOCCUPIED, EVEN THOUGH THE BAS HAS SCHEDULED THE SPACE AS OCCUPIED. IN THE OCCUPIED STANDBY MODE, THE ACTIVE COOLING AND HEATING SETPOINTS SHALL BE RELAXED (SEE COOLING AND HEATING MODE) AND BOTH THE VENTILATION AIRFLOW AND MINIMUM AIRFLOW SETPOINTS SHALL BE LOWERED (SEE VAV SCHEDULE).
- 1. NORMAL OPERATING MODE FOR UNOCCUPIED SPACES OR NIGHTTIME OPERATION. WHEN THE UNIT IS IN UNOCCUPIED MODE THE WSHP CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE STORED UNOCCUPIED HEATING OR COOLING SETPOINT REGARDLESS OF THE PRESENCE OF A HARDWIRED OR COMMUNICATED SETPOINT. WHEN THE SPACE TEMPERATURE EXCEEDS THE ACTIVE UNOCCUPIED SETPOINT THE WSHP FAN HEATING AND COOLING SHALL BE DISABLED.
- 1. MODE USED TO TEMPORARILY PLACE THE UNIT INTO THE OCCUPIED OPERATION. TENANTS SHALL BE ABLE TO OVERRIDE THE UNOCCUPIED MODE FROM THE SPACE SENSOR. THE OVERRIDE SHALL LAST FOR A MAXIMUM OF 4 HOURS (ADJ.). THE TENANTS SHALL BE ABLE TO CANCEL THE OVERRIDE FROM THE SPACE SENSOR AT ANY TIME. DURING THE OVERRIDE THE UNIT SHALL OPERATE IN OCCUPIED MODE.
- HEAT/COOL MODE: 1. THE HEAT/COOL MODE SHALL BE SET BY A COMMUNICATED VALUE OR AUTOMATICALLY BY THE VAV. IN STANDALONE OR AUTO MODE THE VAV SHALL COMPARE THE PRIMARY AIR TEMPERATURE WITH THE CONFIGURED AUTO CHANGEOVER SETPOINT TO DETERMINE IF THE AIR IS "HOT"" OR ""COLD"". HEATING MODE IMPLIES THE PRIMARY AIR TEMPERATURE IS HOT. COOLING MODE IMPLIES THE PRIMARY AIR TEMPERATURE IS COLD."
- 1. THE SPACE TEMPERATURE SETPOINT SHALL BE DETERMINED EITHER BY A LOCAL (E.G., THUMBWHEEL) SETPOINT, THE WSHP DEFAULT SETPOINT OR A COMMUNICATED VALUE. THE VAV SHALL USE THE LOCALLY STORED DEFAULT SETPOINTS WHEN NEITHER A LOCAL SETPOINT NOR COMMUNICATED SETPOINT IS PRESENT. IF BOTH A LOCAL SETPOINT AND COMMUNICATED SETPOINT EXIST, THE VAV SHALL USE THE COMMUNICATED VALUE.
- 1. WHEN THE UNIT IS IN COOLING MODE, THE WSHP CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE COOLING SETPOINT BY FIRST ACTIVATING THE FAN. AND THEN ACTIVATING THE COOLING. THE WSHP SHALL USE THE MEASURED SPACE TEMPERATURE AND THE ACTIVE COOLING SETPOINT TO DETERMINE THE REQUESTED COOLING CAPACITY OF THE UNIT IF THE UNIT HAS MULTIPLE STAGES. THE OUTPUTS WILL BE CONTROLLED BASED ON THE UNIT CONFIGURATION AND THE REQUESTED COOLING

SEQUENCE OF OPERATION - CONT.

- **HEATING MODE:** 1. WHEN THE UNIT IS IN HEATING MODE, THE WSHP CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE HEATING SETPOINT BY FIRST ACTIVATING THE FAN AIRFLOW AND THEN ACTIVATING THE HEATING. THE VAV CONTROLLER SHALL USE THE MEASURED SPACE TEMPERATURE AND THE ACTIVE HEATING SETPOINT TO DETERMINE THE REQUESTED HEATING CAPACITY OF THE UNIT IF THE UNIT HAS MULTIPLE STAGES. THE OUTPUTS WILL BE CONTROLLED BASED ON THE UNIT CONFIGURATION AND THE REQUESTED HEATING CAPACITY.
- INTERMITTENT FAN CONTROL: 1. FANS SHALL RUN AT A MINIMUM 10 MIN PER HOUR.
- DEMAND CONTROL VENTILATION (WHERE REQUIRED): 1. WHEN THE OCCUPANCY SENSOR DETECT OCCUPANCY OR THE CO2 SENSOR INDICATES A CO2 LEVEL ABOVE 800 PPM, THE DEMAND CONTROL VENTILATION SEQUENCE SHALL ACTIVATE. THE WSHP SHALL ENTER THE OCCUPIED MODE AND THE MOTORIZED CONTROL VALVES ON THE OUTSIDE AIR AND EXHAUST
- AIR DUCTS SHALL OPEN. 2. WHEN THE OCCUPANCY SENSOR HAS NOT DETECTED OCCUPANCY FOR 30 MIN (ADJ), OR THE CO2 LEVEL FALLS BELOW 800 PPM (ADJ), THE WSHP SHALL DISABLE DEMAND CONTROL VENTILATION MODE AND
- RESUME NORMAL OPERATION. 3. EACH WSHP WITH DCV CONTROLS SHALL ENTER THE OCCUPIED MODE EVERYDAY AT 8AM (ADJ) FOR A PERIOD OF 1 HR (ADJ).
- 1. IF THERE IS A FAULT WITH THE OPERATION OF THE ZONE SENSOR AN ALARM SHALL BE ANNUNCIATED AT THE BAS. SPACE SENSOR FAILURE SHALL CAUSE THE WSHP TO RUN THE FAN CONTINUOUSLY IF THE WSHP IS IN THE OCCUPIED MODE, OR DISABLE THE FAN IF THE WSHP IS IN THE UNOCCUPIED MODE. THE WSHP HEATING AND COOLING SHALL BE DISABLED ON SPACE SENSOR FAILURE.
- 1. IF THE UNIT IS IN THE OCCUPIED MODE AND THE SPACE TEMPERATURE IS OUTSIDE THE HIGH OR LOW LIMIT ALARM SETPOINTS, THE BAS SHALL VISUALLY INDICATE THAT THE WSHP IS NOT MAINTAINING TEMPERATURE. IF THIS IS ACCOMPLISHED VIA NOTIFICATION TO THE OPERATOR, THE ALARM SHALL ONLY BE SENT AFTER THE SPACE HAS BEEN OUTSIDE TEH HIGH OR LOW LIMITS FOR A CONTINUOUS 30 MIN (ADJ).

- ROOMS WITH DCV CONTROLS, CO2 SENSORS, AND OCCUPANCY SENSORS: 1. TRAINING 155 SOUTH
- A. WSHP 2-01 B. MD 2-1 C. MD 2-2
- 2. TRAINING 155 NORTH A. WSHP 2-10
- B. MD 2-3 C. MD 2-4 3. CONFERENCE 140
- A. WSHP 2-12 B. MD 2-5

ROOMS WITH SPECIAL TEMPERATURE SETPOINTS:

- 1. WSHP 1-02, 1-05, 2-13, AND 2-14 SHALL ALWAYS BE IN THE OCCUPIED MODE, AND SHALL ALWAYS MAINTAIN 70-75 DEGREES (ADJ). THE FANS FOR THESE WSHPS SHALL RUN CONTINOUSLY.
- 2. WSHP 1-14 AND 18 SHALL ALWAYS OPERATE IN THE UNOCCUPIED MODE.

| | | | POINTS | LIS I | | | | | | | | |
|--------------|---|------|--------------------|----------------|-----------------------|-------------------------|------------------------|--------|---------------------|----------------|---------------|----------|
| | | | | POINTS | | | | AL | ARMS | | | |
| POINT ID | POINT DESCRIPTION | TYPE | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| SP T SP | SPACE TEMPERATURE SETPOINT | Al | Х | Х | | | | | | | | 70-75 F |
| OCC BYP TMR | OCCUPIED BYPASS TIMER | | Х | Х | | | | | | | | 4 HR |
| OCC CLG SP | OCCUPIED COOLING SETPOINT | | Х | Х | | | | | | | | 75 F |
| OCC HTG SP | OCCUPIED HEATING SETPOINT | | Х | Х | | | | | | | | 70 F |
| UNOCC CLG SP | UNOCCUPIED COOLING SETPOINT | | Х | Х | | | | | | | | 78 F |
| UNOCC HTG SP | UNOCCUPIED HEATING SETPOINT | | Х | Х | | | | | | | | 65 F |
| SP CO2 SP | SPACE CO2 SETPOINT | | Х | Х | | | | | | | | 1000 PPM |
| SP T | SPACE TEMPERATURE | Al | Х | | | Х | Х | | | | | 68-77 F |
| SP CO2 | SPACE CO2 CONCENTRATION | Al | Х | | | Х | | | | | | |
| SP OCC | SPACE OCCUPANCY | Al | Х | | | | | | | | | |
| DA T | DISCHARGE AIR TEMPERATURE | Al | Х | | | | | | | | | |
| HP ST | HEAT PUMP STATUS | Al | Х | | | | | | | | | |
| SF CMD | SUPPLY FAN COMMAND (START/STOP) | ВО | Х | | | | | | | | | |
| HP CMD | HEAT PUMP COMMAND (STAGED) | ВО | Х | | | | | | | | | |
| OAD CMD | OUTSIDE AIR DAMPER COMMAND (2 POSITION) | ВО | Х | | | | | | | | | |
| EAD CMD | EXHAUST AIR DAMPER COMMAND (2 POSITION) | ВО | Х | | | | | | | | | |
| BAS COM | BAS COMMUNICATION STATE | | | Х | | | | | | | Х | |

SEE NOTES FOR UNITS REQUIRED CO2 SENSORS. SF CMD HP CMD (BO) SENSORS SHALL ALSO UTILIZE OCC SENSORS

WSHP CONTROL DIAGRAM NOT TO SCALE

PROFESSIONAL SEAL

HOEFER WELKER #: 138191

MECHANICAL CONTROLS

SEQUENCE OF OPERATION HEAT PUMP FLOW BYPASS VALVE: SYSTEM GENERAL OPERATION:: 1. THE GROUND SOURCE HEAT PUMP SYSTEM IS CONTROLLED AND MONITORED BY THE BAS. 2. THE GROUND SOURCE HEAT PUMP SYSTEMS CONSIST OF 3 SUPPLY PUMPS, AN EVAPORATIVE FLUID

3. THE HEAT PUMP SYSTEM INCLUDES FLOWMETERING CAPABILITIES WITH MINIMUM FLOW BYPASS CONTROL. 4. THE SUPPLY PUMPS ARE CONFIGURED AS A PACKAGED SKID WITH THEIR OWN CONTROLS FOR OPTIMUM EFFICIENCY. THE BAS SHALL MONITOR THE PUMP STATUS AND COMMUNICATE WITH THE PUMP CONTROLS.

COOLER, A FLUID COOLER PUMP, MULTIPLE WATER SOURCE HEAT PUMPS, AND THE WELL FEILD.

1. THE SUPPLY PUMPS SHALL RUN CONTINUOUSLY AT THE MINIMUM FLOW SETPOINT. 2. THE SUPPLY PUMPS SHALL INCREASE IN SPEED LINEARLY TO THE MAX FLOW SETPOINT AS THE HEAT PUMP RETURN TEMPERATURE INCREASES OR DECREASES AS FOLLOWS: A. BETWEEN 55-70 DEGREES (ADJ) THE PUMPS SHALL BE AT MINIMUM SPEED.

B. AT 45 DEGREES (ADJ) AND LOWER THE PUMPS SHALL BE AT THE MAXIMUM FLOW SETPOINT. C. AT 85 DEGREES (ADJ) AND HIGHER, THE PUMPS SHALL BE AT THE MAXIMUM FLOW SETPOINT.

EVAPORATIVE FLUID COOLER CONTROLS: FLUID COOLER ISOLATION VALVE:

- A. THE FLUID COOLER ISOLATION VALVE SHALL FULLY OPEN AND THE FLUID COOLER BASIN ISOLATION VALVE SHALL FULLY CLOSE ON MAY 1ST (ADJ) OR ON COMMAND FROM THE BAS OPERATOR. B. THE FUILD COOLER ISLOATION VALVE SHALL FULLY CLOSE AND THE FLUID COOLER BASIN ISOLATION VALVE SHALL FULLY OPEN ON NOVEMBER 1ST (ADJ), ON COMMAND FROM THE BAS OPERATOR, OR IF THE OUTSIDE AIR TEMPERATURE DROPS BELOW 35 DEGREES (ADJ).
- C. AN ALERT SHALL BE SENT TO THE BUILDING OPERATOR 7 DAYS BEFORE THE ISOLATION VALVE IS PROGRAMMED TO OPEN OR CLOSE INFORMING THE OPERATOR OF THE UPCOMING ACTION, AND NOTIFYING THAT ADDITIONAL WINTERIZATION MAINTENANCE MAY BE REQUIRED. 2. THE EVAPORATIVE FLUID COOLER SHALL ENABLE WHEN THE FLUID COOLER ISOLATION VALVE IS
- CONFIRMED CLOSED AND THE GEOTHERMAL SUPPLY TEMPERATURE IS GREATER THAN 85 DEGREES. A. BETWEEN THE HOURS OF MIDNIGHT AND 6AM (ADJ), THE FLUID COOLER SHALL ENABLE WHEN THE FLUID COOLER VALVE IS CONFIRMED CLOSED AND THE GEOTHERMAL SUPPLY TEMPERATURE IS GREATER THAN 80 DEGREES.
- B. WHEN THE FLUID COOLER IS ENABLED, FOLLOWING ACTIONS WILL TAKE PLACE: a. FLUID COOLER PUMP 4 WILL ENABLE. b. ALL FLUID COOLER FANS WILL ENABLE.
- c. THE FLUID COOLER INTERNAL PUMP SHALL ENABLE FOR EVAPORATIVE COOLING. C. THE FLUID COOLER WILL DISABLE WHEN THE GEOTHERMAL SUPPLY TEMPERATURE IS BELOW 80 DEG (ADJ) FOR 1 HOUR (ADJ).
- 1. THE FLOW METER SHALL MONITOR THE GEOTHERMAL WATER SUPPLY AND RETURN FLOW. THE FLOW MEASURED SHALL BE USED TO ADJUST THE POSITION OF THE GEOTHERMAL BYPASS CONTROL VALVE. THE GEOTHERMAL BYPASS CONTROL VALVE SHALL MODULATE OPEN WHEN THE GEOTHERMAL WATER SUPPLY IS GREATER THAN 150 GPM (ADJ). THE GEOTHERMAL BYPASS CONTROL VALVE SHALL MODULATE CLOSED WHEN THE GEOTHERMAL SUPPLY FLOW IS LESS THAN 150 GPM.

SEQUENCE OF OPERATION - CONT.

- 1. WHEN THE LEAD BUILDING PUMP REACHES MINIMUM SPEED, THE PUMP SKID FLOW METER SHALL MEASURE THE SYSTEM GPM. THE MINIMUM FLOW BYPASS VALVE SHALL BE MODULATED TO MAINTAIN THE MINIMUM NEEDED FLOW THROUGH THE PUMPS AS MEASURED BY THE PUMP SKID FLOW METERS.
- HEAT PUMP WATER DISTRIBUTION PUMP START/STOP: 1. THE SYSTEM SHALL START A HEAT PUMP WATER PUMP THROUGH A CONTACT CLOSURE OF THE PUMP 'S VARIABLE FREQUENCY DRIVE (VARIABLE SPEED DRIVE) RUN-ENABLE CONTACTS.
- HEAT PUMP WATER DISTRIBUTION PUMP LEAD/LAG:
- 1. THE HEAT PUMP WATER PUMP LEAD/LAG SEQUENCE SHALL BE BASED ON A WEEKLY SCHEDULE. FROM THE BAS, AN OPERATOR SHALL BE ABLE TO MANUALLY CHANGE THE LEAD/LAG SEQUENCE. 2. IF THE LEAD PUMP SPEED FALLS BELOW 65% (ADJ.) FOR MORE THAN 5 MINUTES (ADJ.) THE LAST OPERATING PUMP IN THE SEQUENCE SHALL BE DISABLED.
- HEAT PUMP WATER DISTRIBUTION PUMP FAILURE: 1. IF THE LEAD START/STOP RELAY IS ENABLED AND THE CURRENT SWITCH STATUS IS OFF FOR MORE THAN 30 SECONDS (ADJ.), THE SYSTEM SHALL ANNUNCIATE A HEAT PUMP WATER PUMP FAILURE ALARM TO THE BAS AND START THE LAG PUMP. WHEN A PUMP FAILURE EXISTS, LEAD/LAG AUTOMATION SHALL BE DISABLED AND THE CURRENTLY RUNNING PUMP BECOMES THE LEAD PUMP. ONCE THE PROBLEM HAS BEEN CORRECTED, THE OPERATOR SHALL BE ABLE TO CLEAR THE ALARM FAILURE FROM THE BAS. THIS ACTION SHALL RE-ENABLE THE LEAD/LAG SEQUENCE.

FROM GEOTHERMAL HEADER

| | | | F | POINTS | | | | AL | ARMS | | | |
|-------------|--|------|--------------------|----------------|-----------------------|---------------------------------------|------------------------|--------|---------------------|----------------|---------------|-------|
| POINT ID | POINT DESCRIPTION | ТҮРЕ | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| OA T | OUTSIDE AIR TEMPERATURE | | X | | X | | | | | | | |
| FC CP | FLUID COOLER CONTROL PANEL | | Х | | X | | | | | | | 1 |
| HPP CP | HEAT PUMP PUMP CONTROL PANEL | | Х | | X | | | | | | | 2 |
| HPS T | HEAT PUMP SUPPLY TEMPERATURE | Al | X | | | Χ | X | | | | | |
| HPR T | HEAT PUMP RETURN TEMPERATURE | Al | X | | | Χ | X | | | | | |
| GTS FLW | GEOTHERMAL SUPPLY FLOW METER | Al | X | | | | | | | X | | |
| GTR FLW | GEOTHERMAL RETURN FLOW METER | Al | X | | | | | | | X | | |
| GTS T | GEOTHERMAL SUPPLY TEMPERATURE | Al | X | | | Χ | X | | | X | | |
| GTR T | GEOTHERMAL RETURN TEMPERATURE | Al | X | | | Χ | X | | | X | | |
| GT BYPV CMD | GEOTHERMAL BYPASS VALVE COMMAND | AO | X | | | | | | | | | |
| GT BYPV P | GEOTHERMAL BYPASS VALVE POSITION | Al | X | | | | | | | | | |
| HP BYPV CMD | HEAT PUMP BYPASS VALVE COMMAND | AO | X | | | | | | | | | |
| HP BYPV P | HEAT PUMP BYPASS VALVE POSITION | Al | X | | | · · · · · · · · · · · · · · · · · · · | | | | | | |
| FC1 ISO CMD | FLUID COOLER 1 ISOLATION VALVE COMMAND | ВО | Х | | | | | | | | | |
| FCB ISO CMD | FLUID COOLER BASIN ISOLATION VALVE COMMAND | AO | X | | | <u> </u> | | | | | | |
| FC1 FLW | FLUID COOLER 1 FLOW SWITCH | BI | X | | | <u> </u> | | | | X | | |
| FCS T | FLUID COOLER SUPPLY TEMPERATURE | Al | Х | | | Х | X | | | X | | |
| FCR T | FLUID COOLER RETURN TEMPERATURE | AI | X | | | X | X | | | Χ | | |

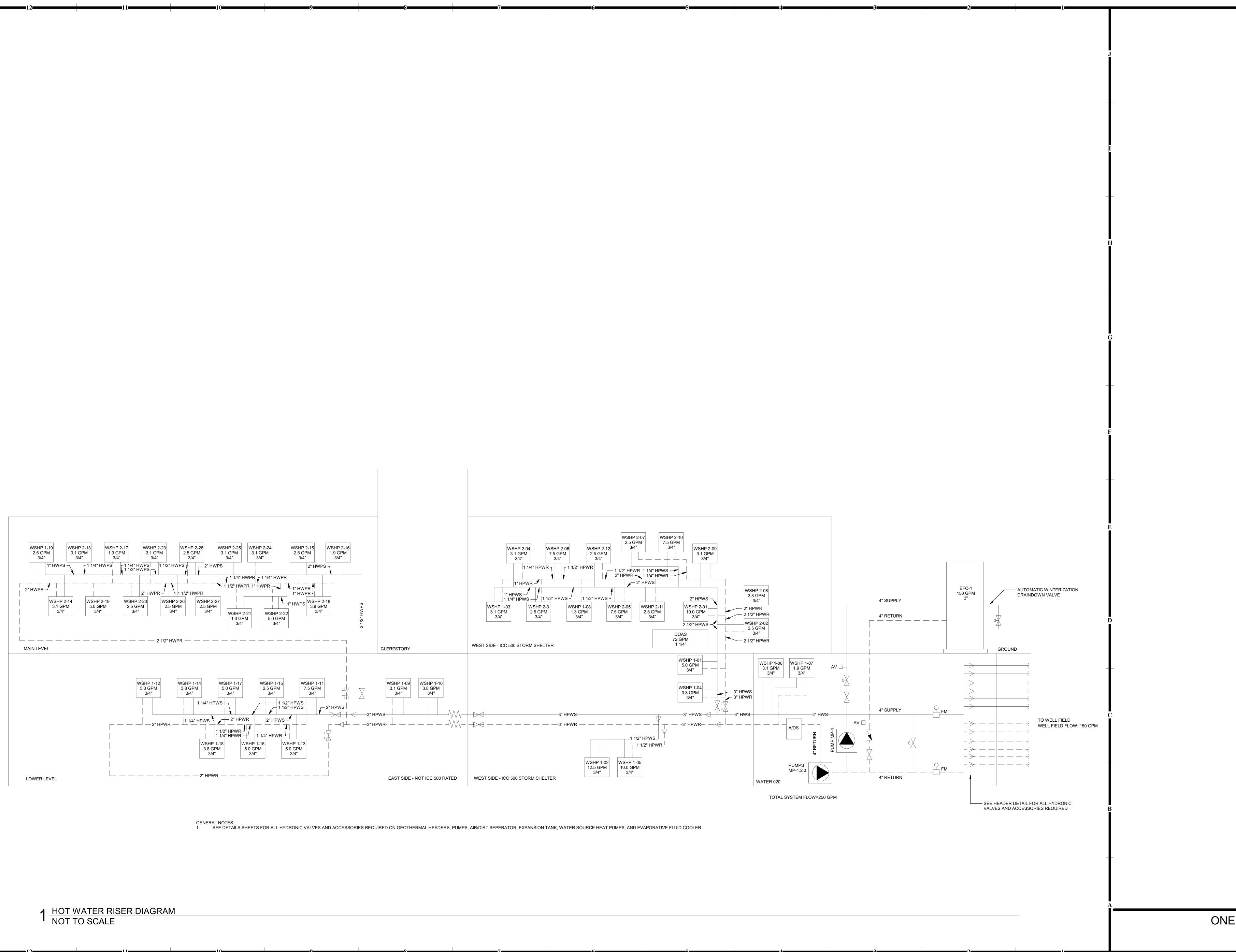
| | | POINTS | | | | | | AL | ARMS | | | |
|-------------|---|--------|--------------------|----------------|-----------------------|-------------------------|------------------------|--------|---------------------|----------------|---------------|-------|
| POINT ID | POINT DESCRIPTION | ТҮРЕ | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| EFC1 F1 CMD | FLUID COOLER 1 FAN 1 ENABLE COMMAND | AO | Х | | | | | | | | | |
| EFC1 F2 CMD | FLUID COOLER 1 FAN 2 ENABLE COMMAND | AO | Х | | | | | | | | | |
| EFC1 F3 CMD | FLUID COOLER 1 FAN 3 ENABLE COMMAND | AO | Х | | | | | | | | | |
| EFC1 IP CMD | FLUID COOLER 1 INTERNAL PUMP ENABLE COMMAND | AO | Х | | | | | | | | | |
| EFC1 STS | FLUID COOLER 1 STATUS | BI | Х | | | | | | | | | |
| EFC1 ALM | FLUID COOLER 1 ALARM | BI | Х | | | | | Х | | | | |
| EFC1 FLW | FLUID COOLER 1 FLOW SWITCH | BI | Х | | | | | | | | | |
| EFC1 SW T | FLUID COOLER 1 SUPPLY WATER TEMPERATURE | Al | Х | | | Х | Х | | | | | |
| EFC1 RW T | FLUID COOLER 1 RETURN WATER TEMPERATURE | Al | Х | | | Х | Х | | | | | |

| | | | | POINTS | | | | AL | ARMS | | | |
|-----------|------------------------------------|------|--------------------|----------------|-----------------------|-------------------------|------------------------|--------|---------------------|----------------|---------------|-------|
| POINT ID | POINT DESCRIPTION | ТҮРЕ | DISPLAY GRAPHIC | SOFTWARE POINT | HARDWIRE INTERLOCK | HIGH ANALOG LIMIT | LOW ANALOG LIMIT | BINARY | LATCH DIAGNOSTIC | SENSOR FAIL | COMM. FAIL | NOTES |
| HPP1 CMD | HEAT PUMP PUMP 1 ENABLE COMMAND | AO | X | | | | | | | | <u> </u> | |
| HPP1 ST | HEAT PUMP PUMP 1 STATUS | BI | Х | | | | | | | | İ | |
| HPP1 SPD | HEAT PUMP PUMP 1 SPEED OUTPUT | ВО | Х | | | | | | | | | |
| HPP2 CMD | HEAT PUMP PUMP 2 ENABLE COMMAND | AO | Х | | | | | | | | | |
| HPP2 ST | HEAT PUMP PUMP 2 STATUS | BI | Х | | | | | | | | | |
| HPP2 SPD | HEAT PUMP PUMP 2 SPEED OUTPUT | ВО | Х | | | | | | | | | |
| HPP3 CMD | HEAT PUMP PUMP 3 ENABLE COMMAND | AO | Х | | | | | | | | | |
| HPP3 ST | HEAT PUMP PUMP 3 STATUS | BI | Х | | | | | | | | | |
| HPP3 SPD | HEAT PUMP PUMP 3 SPEED OUTPUT | ВО | Х | | | | | | | | | |
| FCP4 CMD | FLUID COOLER PUMP 4 ENABLE COMMAND | AO | Х | | | | | | | | | |
| FCP4 ST | FLUID COOLER PUMP 4 STATUS | BI | X | | | | | | | | İ | |
| FCP4 SPD | FLUID COOLER PUMP 4 SPEED OUTPUT | ВО | Х | | | | | | | | | |
| HPP LEAD | HPP LEAD | | Х | Х | | | | | | | | |
| HPP1 FAIL | HEAT PUMP PUMP 1 FAILURE | | Х | Х | | | | Х | | | <u> </u> | |
| HPP2 FAIL | HEAT PUMP PUMP 2 FAILURE | | Х | Х | | | | Х | | | i | |
| HPP3 FAIL | HEAT PUMP PUMP 3 FAILURE | | Х | Х | | | | Х | | | | |
| FCP4 FAIL | FLUID COOLER PUMP 4 FAILURE | | Х | Х | | | | Х | | | | |

| HP BYPV CMD (AO) HP BYPV P (AI) GT BYPV CMD (AO) GT BYPV P (AI) HP RYPV P (AI) | GTR FLW (AI) GTS T |
|---|---|
| HP BYPV P (AI) (AI) FCR T (AI) HPP1 CMD (AO) HPP1 ST (BO) HPP1 ST (BO) HPP1 SPD (BI) FCP4 FCP4 | GTS T (AI) TO GEOTHERMAL HEADER GTS FLW (AI) CMD (AO) ST (BO) SPD (BI) EVAPORATIVE FLUID COOLER FCB ISO CMD (AO) |

GROUND SOURCE HEAT PUMP CONTROL DIAGRAM

NOT TO SCALE



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RIAN STOCKYON CHICAGO IN TO A

PROFESSIONAL SEAL

ISSUE DATE: NOVEMBER 1, 2024
HOEFER WELKER #: 138191

ONE LINE DIAGRAM

SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE. THE MEANING IS

SIMILAR WHEN USED IN COMBINATION WITH OTHER DEVICE TYPES.

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR ADDITIONAL

INFORMATION, INCLUDING DEVICE AND TYPE SPECIFICATIONS.

GENERAL ELECTRICAL NOTES:

- FEDERAL, STATE, LOCAL, MUNICIPAL AND UTILITY COMPANY CODES, RULES AND REGULATIONS APPLY UNLESS EXCEEDED BY THIS DESIGN.
- NO WORK SHALL BE PERFORMED PRIOR TO REVIEW AND APPROVAL OF ALL REQUIRED SHOP DRAWINGS, PRODUCT MATERIAL AND EQUIPMENT SUBMITTALS. ANY WORK INSTALLED PRIOR TO MEETING THESE REQUIREMENTS SHALL BE REMOVED BY CONTRACTOR WHERE DIRECTED BY CONTRACT ADMINISTRATOR.
- PRIOR TO SUBMITTING BID. THE CONTRACTOR AND SUB-CONTRACTORS SHALL VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR REVIEW OF THE GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY CONTRACT ADMINISTRATOR OF ANY DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK.
- THE DRAWINGS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ALL DIMENSIONS AND SIZES SHALL BE FIELD VERIFIED. SMALL DEVIATIONS BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS ENCOUNTERED SHALL BE RECONCILED DURING THE PERFORMANCE OF THE WORK AND SHALL NOT CONSTITUTE REASON FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. NOTIFY THE CONTRACT ADMINISTRATOR IF ACTUAL CONDITIONS DEVIATE SUBSTANTIALLY FROM THOSE INDICATED ON THE DRAWINGS.
- ALL FEES AND OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS A PART OF THIS CONTRACT.
- COORDINATE WITH ALL OTHER TRADES, MAKE ADJUSTMENTS AND OFFSETS WHERE NEEDED FOR CLEARANCE REQUIREMENTS. REFER TO ALL OTHER DISCIPLINE DRAWINGS FOR COORDINATION.
- COORDINATE ALL OPENINGS IN WALLS, FLOORS, ROOFS AND FOUNDATIONS WITH OTHER CONTRACTORS. PROVIDE UL RATED FIRE STOPPING ASSEMBLIES AT ALL PENETRATIONS OF FIRE

RATED CONSTRUCTION. SEAL ALL PENETRATIONS OF SMOKE WALLS SMOKE TIGHT.

- CONTRACTOR SHALL REPAIR ALL DAMAGE TO THE BUILDING, FIXTURES AND FINISHES CAUSED BY CONTRACTOR DURING THE PERFORMANCE OF THE WORK. REPAIRS SHALL BE PERFORMED BY QUALIFIED TRADESMEN AND SHALL BE COMPLETED IN A MANNER ACCEPTABLE TO THE
- REFER TO ARCHITECTURAL PLANS ELEVATIONS AND DETAILS FOR EXACT MOUNTING REQUIREMENTS OF ELECTRICAL DEVICES PRIOR TO ROUGH-IN.

CONTRACT ADMINISTRATOR.

- PROVIDE A SEPARATE CODE SIZED GREEN EQUIPMENT GROUND CONDUCTOR IN ALL CONDUITS
- AND RACEWAYS CONTAINING LINE VOLTAGE CIRCUITS.
- NEUTRALS SHALL NOT BE SHARED FOR ANY WIRING UNLESS FOR SYSTEMS FURNITURE REQUIRING A SHARED NEUTRAL. PROVIDE HANDLE TIE BREAKERS FOR THESE INSTANCES. SPECIAL ATTENTION SHALL BE GIVEN TO ALL RACEWAYS WITHIN FINISHED AREAS WITHOUT
- CEILING AND EXPOSED TO STRUCTURE. IN GENERAL, ALL RACEWAYS SHALL BE CONCEALED WITHIN WALLS, BELOW FLOOR SLABS. WHERE EXPOSED CONDITIONS ARE NECESSARY OR UNAVOIDABLE DUE TO OTHER CONDITIONS, THE BID SHALL INCLUDE ANY REASONABLE MEANS TO MINIMIZE THE AMOUNT OF SURFACE MOUNTED EQUIPMENT. PRIOR TO ROUGH-IN, COORDINATE ALL EXPOSED RACEWAY AND BOX CONDITIONS WITH ARCHITECT PRIOR TO CONSTRUCTION OF WALLS, FLOOR SLABS, OR ROOF DECK.
- NON-COMPLIANT INSTALLATIONS OF RACEWAY AND CABLE WILL NOT BE ACCEPTED AND WILL BE REQUIRED TO BE BROUGHT TO COMPLIANCE AT NO COST TO THE OWNER PRIOR TO COMPLETION
- ALL EXPOSED CONDUIT AND BOXES WITHIN EXPOSED CEILING SPACES SHALL BE PAINTED TO MATCH SURROUNDING CEILING AND STRUCTURE. PROVIDE CONDUIT PARALLEL TO STRUCTURAL LINES IN A NEAT MANNER.
- ALL CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILINGS SHALL BE CENTERED WITHIN THE ACOUSTICAL TILE.

REQUEST DIMENSIONED LOCATIONS OF ALL FLOOR DEVICES FROM ARCHITECT PRIOR TO ROUGH-

- ALL DEVICES SHOWN DIRECTLY ADJACENT TO EACH OTHER SHALL BE INSTALLED DIRECTLY ADJACENT TO EACH OTHER. ADJACENT DEVICES OF SIMILAR TYPE SHALL BE PROVIDED WITH SINGLE FACEPLATE WHERE FEASIBLE.
- DEVICES SHOWN BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF TWELVE (12) INCHES TO

PROVIDE A NEUTRAL CONDUCTOR TO ALL WALL MOUNTED LIGHT SWITCH LOCATIONS.

- REDUCE SOUND TRANSMISSION. PROVIDE ALL MISCELLANEOUS STEEL AS REQUIRED FOR THE PROPER INSTALLATION OF
- ELECTRICAL EQUIPMENT AND SYSTEMS.
- WHERE SPARE CONDUITS ARE INDICATED FOR FUTURE USE, PROVIDE PULL STRINGS IN
- CONDUITS AND PROTECTIVE BUSHINGS AT OPENINGS. CAP CONDUITS WHERE LOCATED BELOW GRADE OR EXPOSED TO THE ELEMENTS.

| SHEET NUMBER | SHEET NAME |
|--------------|-------------------------------------|
| EG001 | ELECTRICAL LEGEND AND GENERAL NOTES |
| ES101 | ELECTRICAL SITE PLAN |
| E-100 | LOWER LEVEL - POWER PLAN |
| E-101 | MAIN LEVEL - POWER PLAN |
| E-102 | ROOF - ELECTRICAL PLAN |
| E-110 | LOWER LEVEL - LIGHTING PLAN |
| E-111 | MAIN LEVEL - LIGHTING PLAN |
| E-401 | ENLARGED ELECTRICAL PLANS |
| E-501 | ELECTRICAL DETAILS |
| E-502 | ELECTRICAL DETAILS |
| E-601 | PANELBOARD SCHEDULES |
| E-602 | PANELBOARD SCHEDULES |
| E-621 | ELECTRICAL SCHEDULES |
| E-641 | ELECTRICAL ONE-LINE DIAGRAM |

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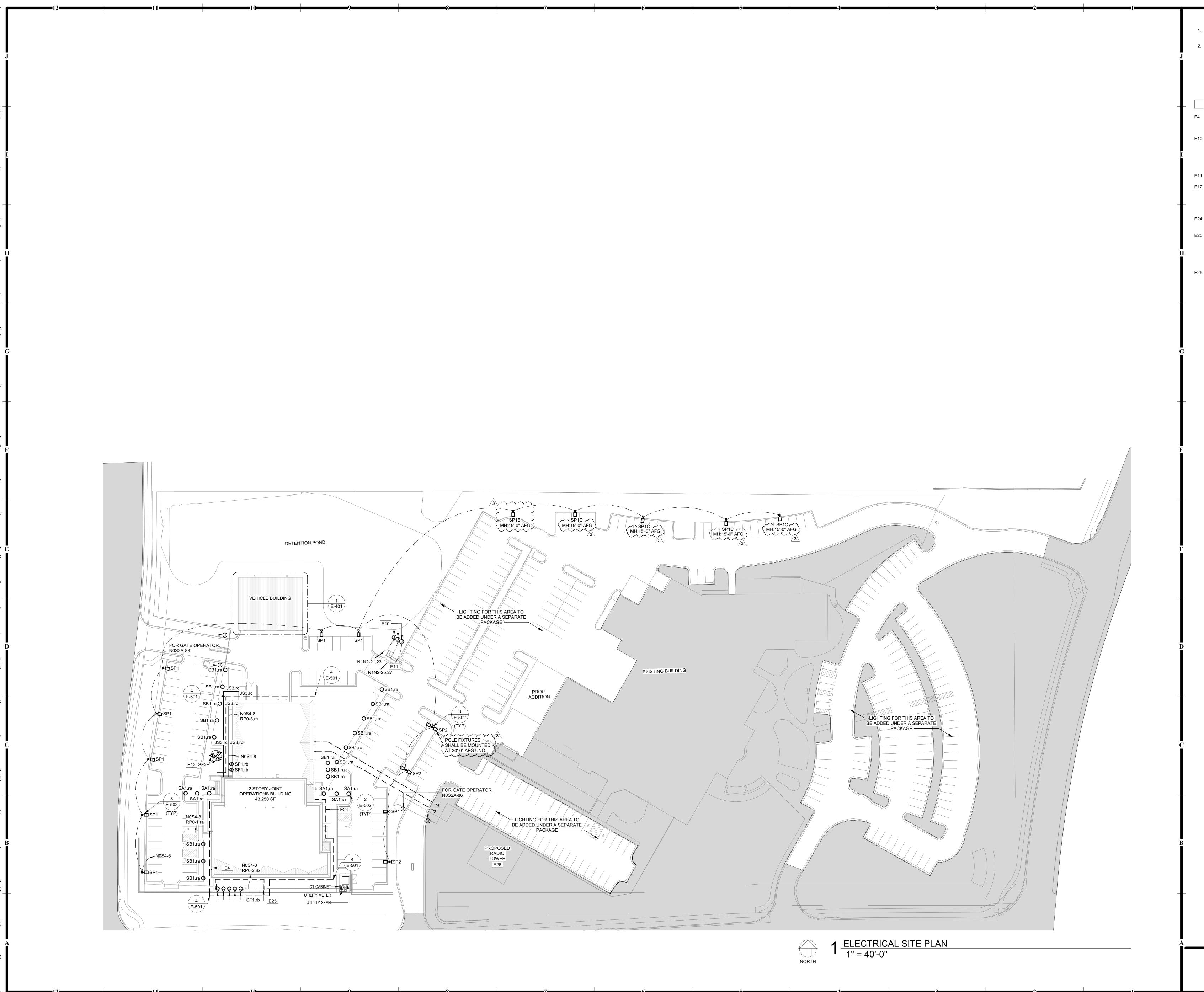
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PROFESSIONAL SEAL

HOEFER WELKER #: 138191

ELECTRICAL LEGEND AND **GENERAL NOTES**

SECTION CUT DESIGNATION



GENERAL NOTES:

REFER TO SHEET EG001 FOR GENERAL ELECTRICAL NOTES.

2. ALL EXTERIOR LIGHTING SHALL COMPLY WITH THE STANDARDS UNDER ARTICLE 8 OF THE CITY'S UNIFIED DEVELOPMENT ORDINANCE (UDO). MORE SPECIFICALLY, COMPLIANCE WITH THE LIGHTING STANDARDS OF UDO SECTIONS 8.220, 8.230, 8.250, 8.260 AND 8.270 SHALL TAKE PLACE AT THE TIME OF FINAL DEVELOPMENT PLAN.

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ELECTRICAL PLAN NOTES:

E4 TEMPORARY GENERATOR QUICK
CONNECT PANEL. REFER TO ONE-LINE
DIAGRAM AND SPECIFICATIONS FOR
ADDITIONAL INFORMATION.
E10 PROVIDE POWER AND DATA TO FUEL
PUMP. CONDUIT ABOVE GRADE SHALL
BE RIGID. ALL FITTINGS AND JUNCTION
BOXES SHALL BE EXPLOSION PROOF
AND SEALED PER CODE. COORDINATE

EXACT LOCATION AND REQUIREMENTS
WITH OWNER.

E11 PROVIDE 1-1/2" C. FROM SERVER (146)
TO FUEL PUMP.

E12 PROVIDE DEDICATED LINE VOLTAGE

PROVIDE DEDICATED LINE VOLTAGE
PHOTOCELL FOR FLAG LIGHTING.
INSTALL PHOTOCELL IN AN
INCONSPICUOUS LOCATION.
COORDINATE FINAL LOCATION WITH
ARCHITECT PRIOR TO INSTALLATION.

E24 BUILDING GROUND RING. REFER TO
2/E-641 AND SPECIFICATIONS FOR
ADDITIONAL INFORMATION

2/E-641 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

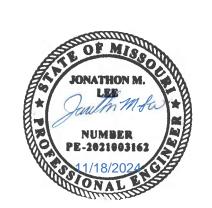
E25 EQUIPMENT ENCLOSURE GROUND RING. BOND ALL EQUIPMENT IN THE EQUIPMENT ENCLOSURE TO THE GROUND RING WITH #2 BONDING CONDUCTOR. REFER TO 2/E-641 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

TWO (2) CONNECTIONS ARE REQUIRED TO BOND THE RADIO TOWER GROUNDING SYSTEM TO THE BUILDING GROUNDING SYSTEM. PROVIDE (2) 4" CONDUITS UNDER ROADWAY FOR GROUNDING CONDUCTORS. BONDING CONDUCTORS SHALL BE PROVIDED BY RADIO TOWER INSTALLER.

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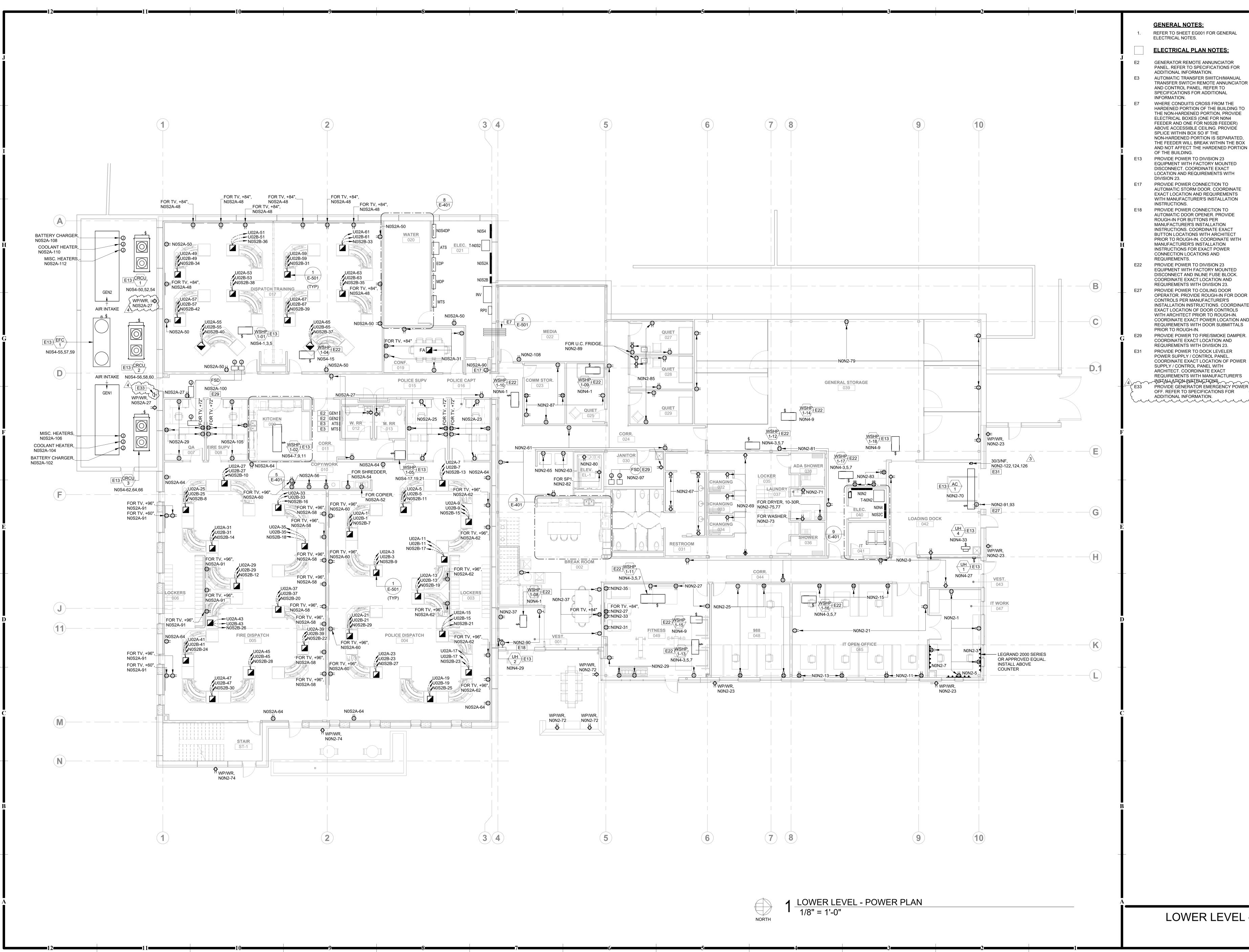


PROFESSIONAL SEAL

ES101

ISSUE DATE: NOVEMBER 1, 2024
HOEFER WELKER #: 138191

ELECTRICAL SITE PLAN



GENERAL NOTES:

REFER TO SHEET EG001 FOR GENERAL

ELECTRICAL PLAN NOTES:

E2 GENERATOR REMOTE ANNUNCIATOR PANEL. REFER TO SPECIFICATIONS FOR

> AND CONTROL PANEL. REFER TO SPECIFICATIONS FOR ADDITIONAL WHERE CONDUITS CROSS FROM THE HARDENED PORTION OF THE BUILDING TO THE NON-HARDENED PORTION, PROVIDE ELECTRICAL BOXES (ONE FOR N0N4 FEEDER AND ONE FOR N0S2B FEEDER) ABOVE ACCESSIBLE CEILING. PROVIDE SPLICE WITHIN BOX SO IF THE NON-HARDENED PORTION IS SEPARATED,

PROVIDE POWER TO DIVISION 23 EQUIPMENT WITH FACTORY MOUNTED DISCONNECT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH

E17 PROVIDE POWER CONNECTION TO AUTOMATIC STORM DOOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MANUFACTURER'S INSTALLATION E18 PROVIDE POWER CONNECTION TO AUTOMATIC DOOR OPENER. PROVIDE ROUGH-IN FOR BUTTONS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE EXACT

BUTTON LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN. COORDINATE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT POWER CONNECTION LOCATIONS AND REQUIREMENTS. PROVIDE POWER TO DIVISION 23 **EQUIPMENT WITH FACTORY MOUNTED** DISCONNECT AND INLINE FUSE BLOCK. COORDINATE EXACT LOCATION AND

REQUIREMENTS WITH DIVISION 23. PROVIDE POWER TO COILING DOOR OPERATOR. PROVIDE ROUGH-IN FOR DOOR CONTROLS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE EXACT LOCATION OF DOOR CONTROLS WITH ARCHITECT PRIOR TO ROUGH-IN. COORDINATE EXACT POWER LOCATION AND REQUIREMENTS WITH DOOR SUBMITTALS PRIOR TO ROUGH-IN. PROVIDE POWER TO FIRE/SMOKE DAMPER.

COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 23. PROVIDE POWER TO DOCK LEVELER POWER SUPPLY / CONTROL PANEL. COORDINATE EXACT LOCATION OF POWER SUPPLY / CONTROL PANEL WITH ARCHITECT. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER'S PROVIDE GENERATOR EMERGENCY POWER OFF. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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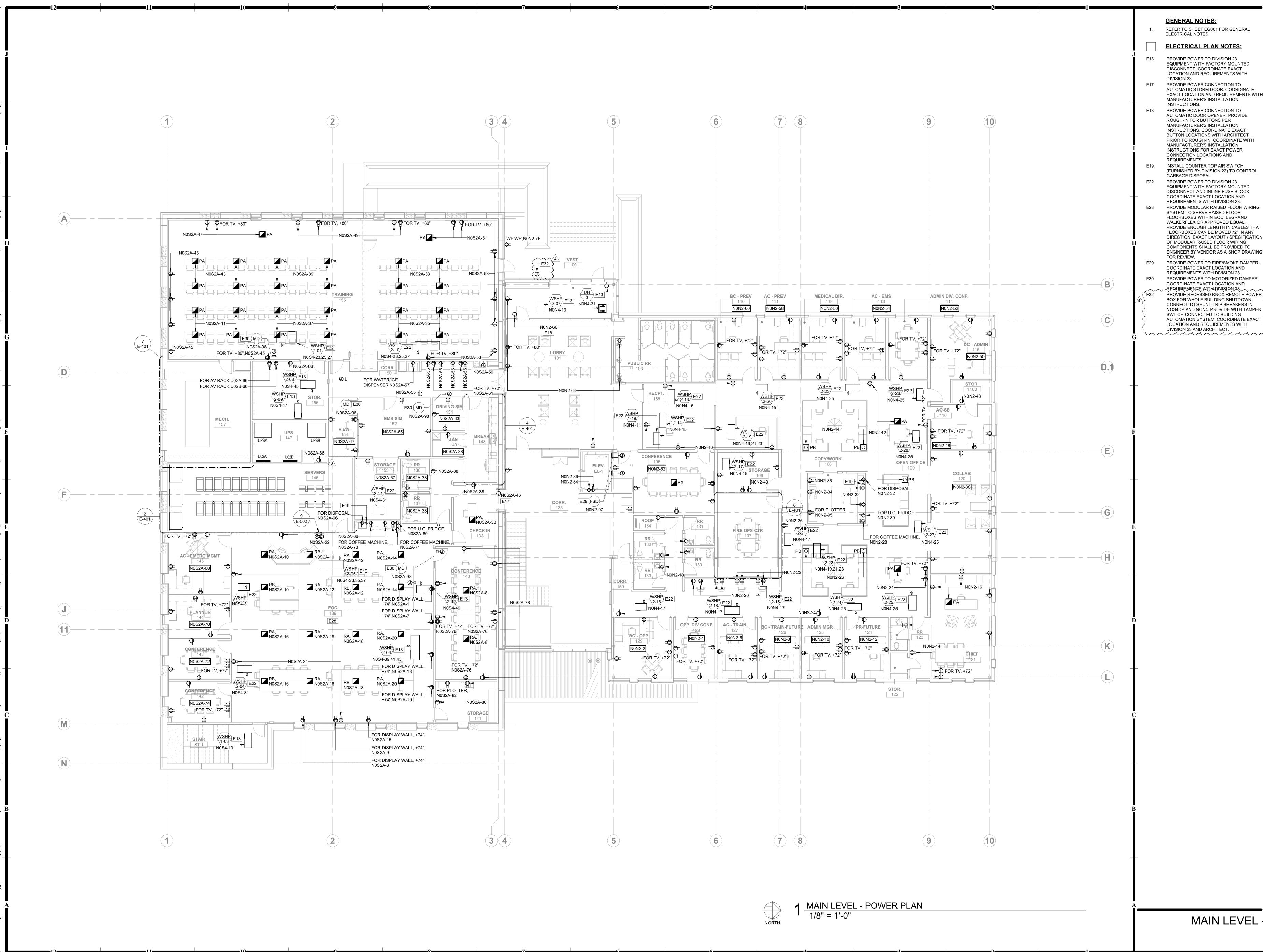
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LOWER LEVEL - POWER PLAN



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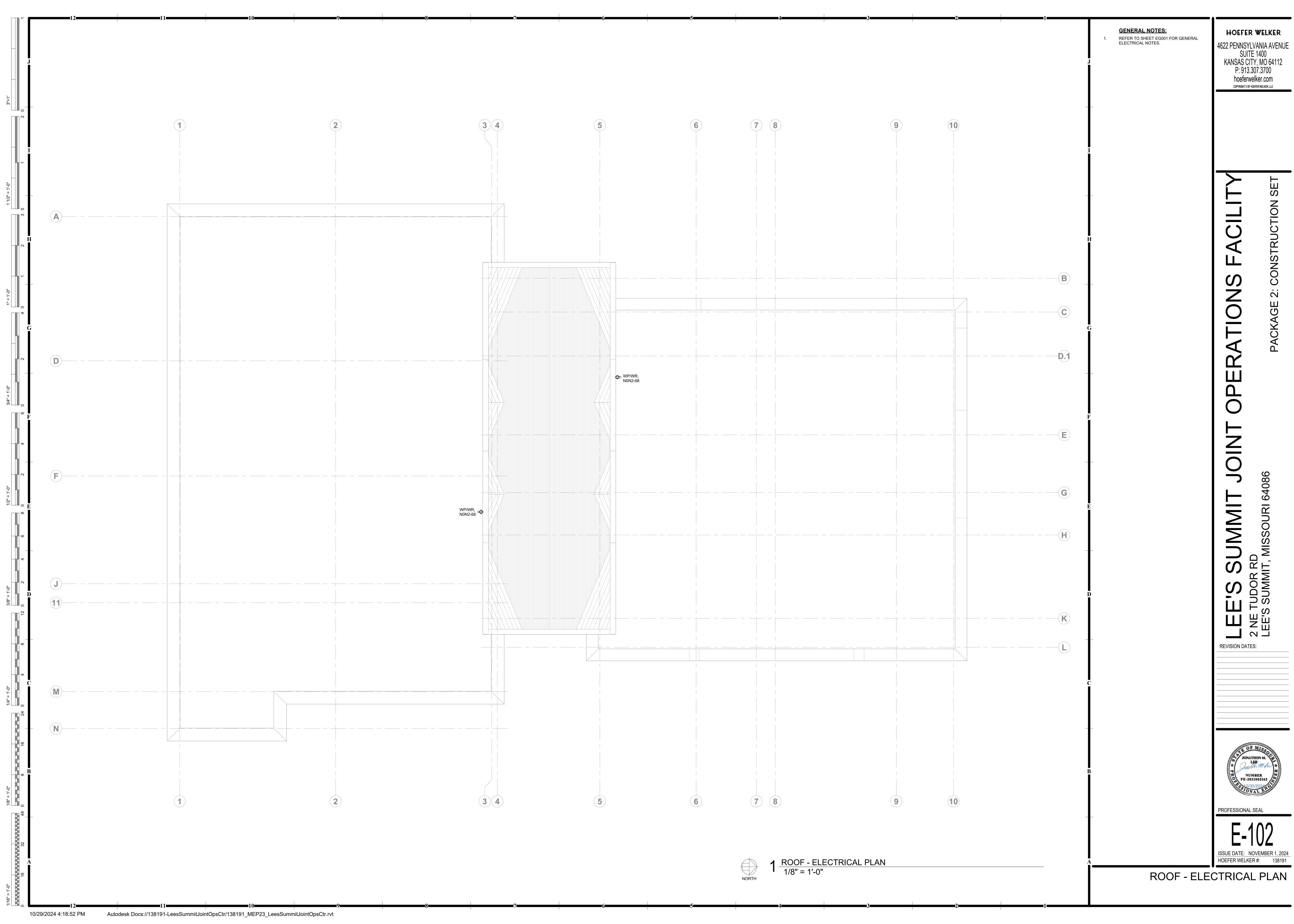
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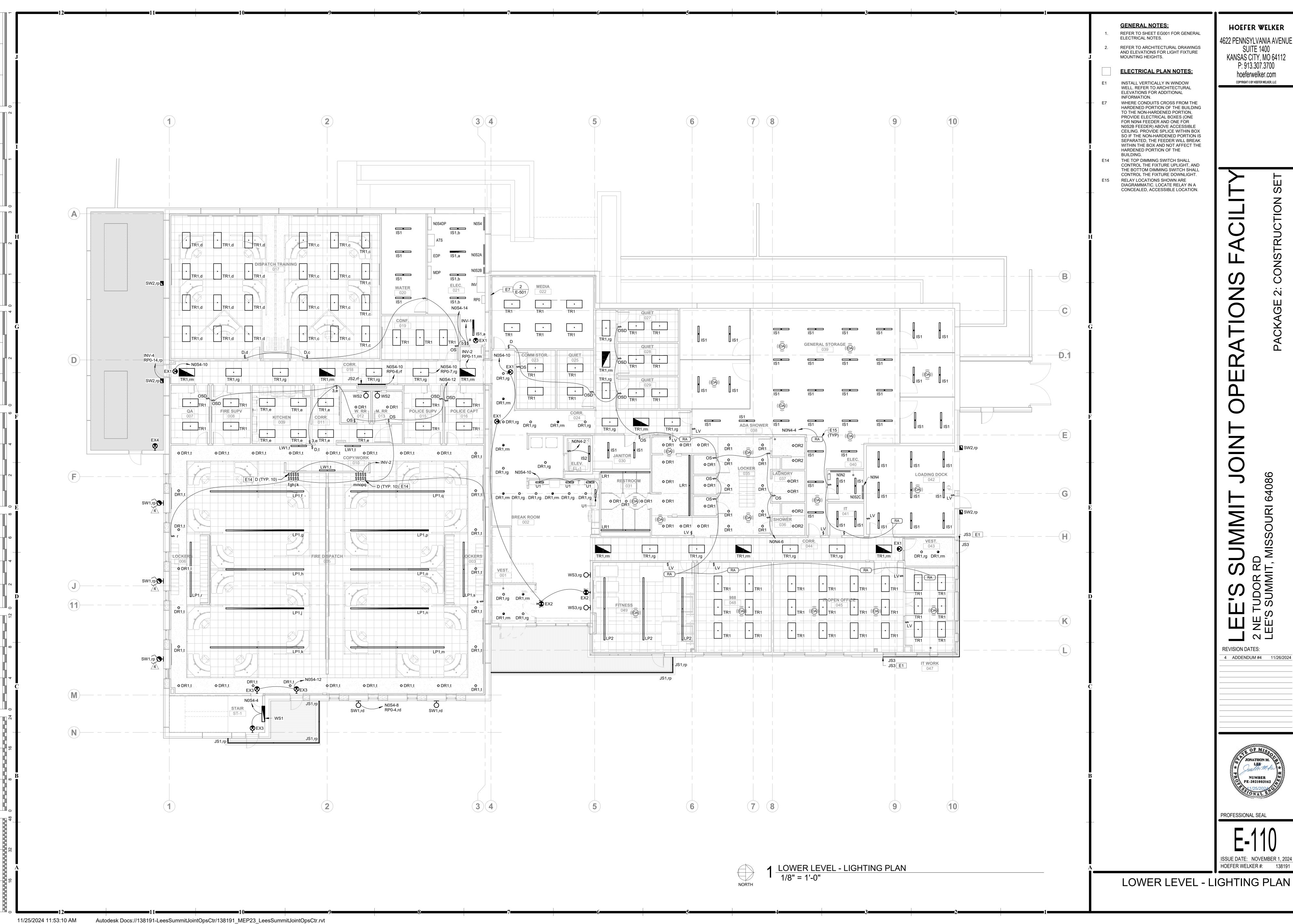


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MAIN LEVEL - POWER PLAN





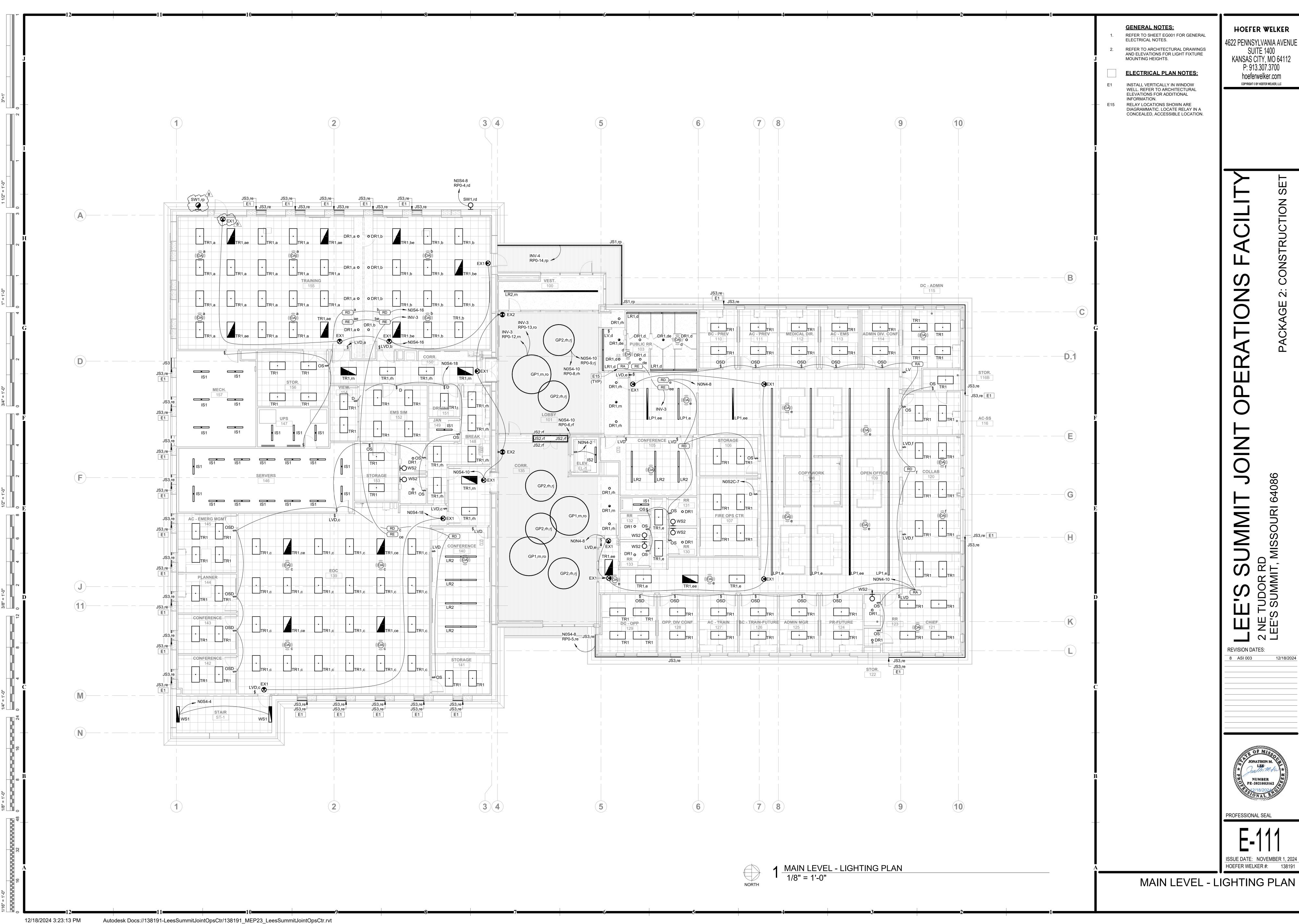
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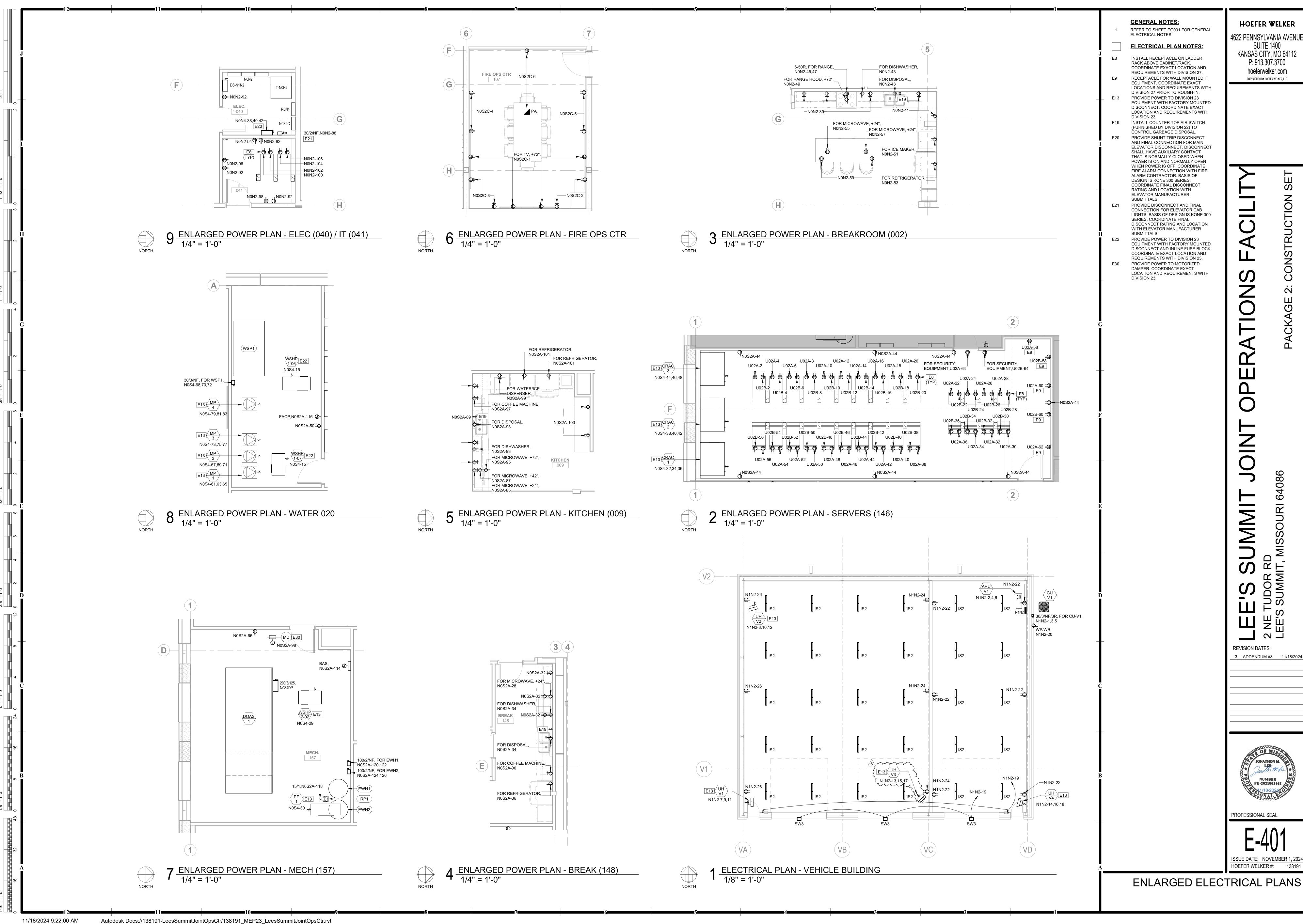
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ELECTRICAL PLAN NOTES: INSTALL RECEPTACLE ON LADDER RACK ABOVE CABINET/RACK.

COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 27. RECEPTACLE FOR WALL MOUNTED IT EQUIPMENT. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 27 PRIOR TO ROUGH-IN. PROVIDE POWER TO DIVISION 23 **EQUIPMENT WITH FACTORY MOUNTED** DISCONNECT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH

E19 INSTALL COUNTER TOP AIR SWITCH (FURNISHED BY DIVISION 22) TO CONTROL GARBAGE DISPOSAL. E20 PROVIDE SHUNT TRIP DISCONNECT AND FINAL CONNECTION FOR MAIN ELEVATOR DISCONNECT. DISCONNECT SHALL HAVE AUXILIARY CONTACT THAT IS NORMALLY CLOSED WHEN POWER IS ON AND NORMALLY OPEN WHEN POWER IS OFF. COORDINATE

FIRE ALARM CONNECTION WITH FIRE ALARM CONTRACTOR. BASIS OF DESIGN IS KONE 300 SERIES. COORDINATE FINAL DISCONNECT RATING AND LOCATION WITH ELEVATOR MANUFACTURER PROVIDE DISCONNECT AND FINAL CONNECTION FOR ELEVATOR CAB

LIGHTS. BASIS OF DESIGN IS KONE 300 SERIES. COORDINATE FINAL DISCONNECT RATING AND LOCATION WITH ELEVATOR MANUFACTURER PROVIDE POWER TO DIVISION 23 **EQUIPMENT WITH FACTORY MOUNTED** DISCONNECT AND INLINE FUSE BLOCK.

COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 23. PROVIDE POWER TO MOTORIZED DAMPER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH

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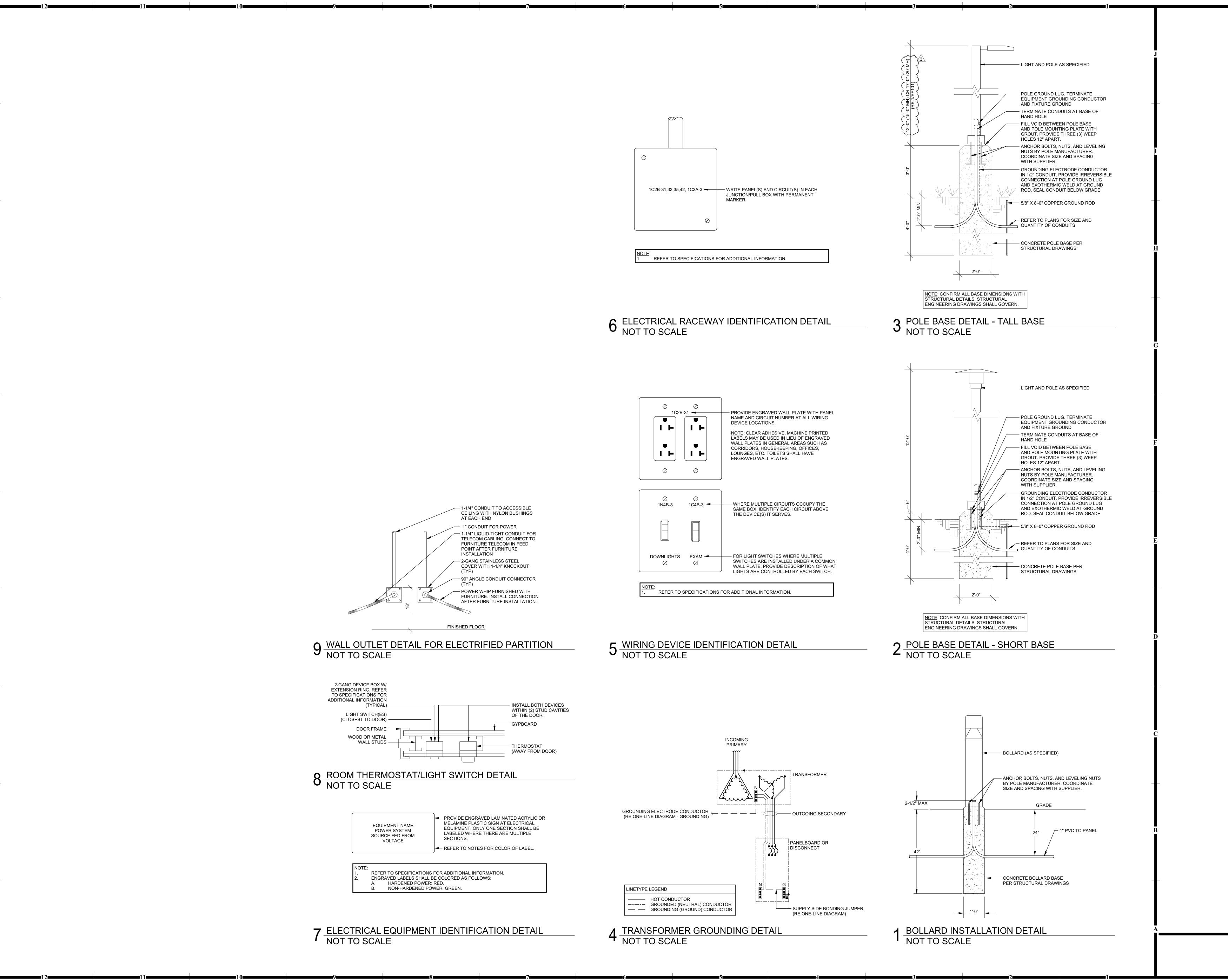
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ELECTRICAL DETAILS



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NUMBER PE-2021003162 11/18/2024 C

PROFESSIONAL SEAL

HOEFER WELKER #: 138191

ELECTRICAL DETAILS

11/14/2024 8:13:10 AM

PANELBOARD NOTES:

BREAKER.

ON CLAMP.

EX EXISTING TO REMAIN.

BREAKER.

LO HANDLE ON CLAMP.

GROUPING.

INFORMATION.

1 TOGETHER, ETC.).

THIS IS A MASTER LIST THAT APPLIES TO ALL

NUMBER PE-2021003162 PE-2021003162

N0N4 N0S4 N0N2 N0S2A

PROFESSIONAL SEAL HOEFER WELKER #: 138191

PANELBOARD SCHEDULES

| | IELBOARD: N BUS AMPS: 24 | | | Λ | | | | ΔIC | RATING: 2 | 22,000 AIC | | | | | | | | | | |
|------------|-----------------------------|------------|-----------|-----------|-------|------------|----------|----------|-------------|-------------|-----------|-----------|-------|---|------------|------|------|-------|----------------------------|----------|
| | MAIN SIZE/TYPE: 4 | | HIINT TR | 1D) | | | | | JRRENT: | | | | | | | | | | | |
| | VOLTS/PHASE: 4 | 50×12771/3 | | ילי!! | | | | | T. DROP: 1 | • | | | | | | | | | | |
| | | | DF11, 4VV | | | | · | | | | | | | | | | | | | |
| | SUPPLIED BY: M | /115 | | | | | | | UNTING: S | | | | | | | | | | | |
| | | | | | | | | LO | CATION: [| ELEC. 040 | | | | | | | | | | |
| СКТ | | | | WIRE | | | | | | | | | | | | | WIRE | | | CH |
| NO. | DESCRIPTION | 1 | NOTES | SIZE | SIZE | AMP | Р | | Α | I | В | | С | Р | AMP | SIZE | SIZE | NOTES | DESCRIPTION | NO |
| | P 1-08, 09, 10 | | | 10 | 10 | 30 | 1 | 5595 | 84 | | | | | 1 | 20 | | | | LTG-ELEVATOR SHAFT | 2 |
| 3 | | | | | | | | | | 8106 | 1575 | | | 1 | 20 | | | | LTG-GENERAL STORAGE | 4 |
| | P 1-11, 12, 13, 16, 17 | | | 8 | 10 | 40 | 3 | | | | | 8106 | 2631 | 1 | 20 | | | | LTG-LOWER LEVEL | 6 |
| 7 | | | | | | | | 8106 | 2731 | | | | | 1 | 20 | | | | LTG-OPEN OFFICE | 8 |
| | P 1-14, 15, 18 | | | 10 | 10 | 30 | | | | 6454 | 1954 | | | 1 | 20 | | | | LTG-PERIMETER OFFICES | 10 |
| 11 WSHF | | | | | | 15 | | | | | | 1801 | 0 | 1 | 20 | | | | SPARE | 12 |
| 13 WSHF | | | | | 4.0 | 15 | | 1801 | 0 | 7057 | | | | 1 | 20 | | | | SPARE | 14 |
| | P 2-13, 14, 17, 20 | | | 8 | 10 | 40 | | | | 7257 | 0 | 7440 | | 1 | 20 | | | | SPARE | 10 |
| | P 2-15, 16, 18, 21 | | | 8 | 10 | 40 | 1 | 0707 | | | | 7119 | 0 | 1 | 20 | | | | SPARE | 18 |
| 19 | 2.0.40.00 | | | | | 4.5 | | 2767 | 0 | 0707 | 0 | | | 1 | 20 | | | | SPARE | 20 |
| 21 WSHF | 2-19, 22 | | | | | 15 | 3 | | | 2767 | 0 | 0707 | | 1 | 20 | | | | SPARE | 22 |
| 23 WSUI | 2 2-23, 24, 25, 26, 27, 28 | | | 6 | 10 | 5 0 | 1 | 11135 | 0 | | | 2767 | 0 | 1 | 20 | | | | SPARE SPARE | 24 |
| 27 UH-1 | 2-23, 24, 25, 20, 27, 26 | | | 0 | 10 | 50 15 | | 11133 | U | 1500 | 0 | | | 1 | 20 | | | | SPARE | 28 |
| 29 UH-2 | | | | | | 15 | | | | 1300 | U | 1500 | 0 | 1 | 20 | | | | SPARE | 30 |
| 31 UH-3 | | | | | | 15 | 1 | 997 | 0 | | | 1300 | | 1 | 20 | | | | SPARE | 32 |
| 33 UH-4 | | | | | | 15 | | 301 | | 3300 | 0 | | | 1 | 20 | | | | SPARE | 34 |
| 35 SPAR | F | | | | | 20 | | | | 0000 | | 0 | 0 | 1 | 20 | | | | SPARE | 36 |
| 37 | <u> </u> | | | | | | <u> </u> | 46491 | 5478 | | | | | | | | | | 0171112 | 38 |
| 39 T-N0N | 12 | | OL | 250 | | 200 | 3 | 10101 | 0.110 | 45074 | 5478 | | | 3 | 50 | 10 | 6 | | ELEVATOR EL-1 | 40 |
| 41 | | | - | | | | | | | | 00 | 40488 | 5478 | | | . • | | | | 42 |
| | | L | | | TOTA | L LO | AD: | 8518 | 35 VA | 8346 | 55 VA | | 90 VA | | | | | | | |
| | | | | | TOTA | | | | 5 A | | 9 A | | 52 A | | | | | | | |
| | | | | 1. | DAD B | | | | 32% | | 55% | | .06% | + | | | | | | |
| | | | l | L | JAD B | ALAN | ICE. | 9.0 | DZ 70 | 7.0 | 0070 | -12 | .00% | | | | | | | |
| | | CONN. | DEMANI | D ES | TIMAT | ED | | | | | | | | | | | | | | |
| LOAD CLAS | SIFICATION | LOAD | FACTOR | R ∣ D | EMAN | D P | ANE | LBOARD (| GENERAL | NOTES: | | | | | | | | | PANELBOARD TOTALS | |
| COOLING | | 6480 VA | 100.00 |)% | 6480 | VA A. | WIRE | AND GRO | UND SIZE SH | HALL BE #12 | UNLESS OT | HERWISE N | OTED. | | | | | | TOTAL CONN. LOAD: | 238540 \ |
| HEATING | | 43897 VA | 100.00 |)% 4 | 43897 | VΑ | | | | | | | | | | | | | TOTAL EST. DEMAND LOAD: | 209230 |
| IGHTING | | 10437 VA | 125.00 | | 13046 | VΑ | | | | | | | | | | | | | TOTAL CONN. CURRENT: | 287 |
| MOTORS | | 7675 VA | 100.00 | | 7675 | | | | | | | | | | | | | 7 | TOTAL EST. DEMAND CURRENT: | 252 |
| RECEPTACL | ES | 73840 VA | 56.77 | 7% 4 | 41920 | VΑ | | | | | | | | | | | | | - | |
| MISC EQUIP | | 96211 VA | 100.00 | | 96211 | | | | | | | | | | | | | | | |

| | BUS AMPS: 400 A MAIN SIZE/TYPE: 400A N VOLTS/PHASE: 208Y/ SUPPLIED BY: T-N0S | 120 V, 3PH, 4W | | | , | FAULT CU CUM. VOLT MO | | 4,876 A 1.25% SURFACE | | | | | | | | 60A, 3P SUBFEED B | REAKE |
|----------------------|--|----------------|-----|-------|-------------------------------|-----------------------------|---------------------|------------------------------------|---------------------|-----------|---------------------|---|----------|---------------|-------|---|----------|
| CKT NO. | DESCRIPTION | NOTES | | | BKR AMP P | | Α | | В | | | | | GND WIRE SIZE | NOTES | DESCRIPTION | CK |
| | RCPT-139-EOC DISP. WALL N. A RCPT-139-EOC DISP. WALL E. A | | | | 20 1 | 460 | 0 | 460 | 0 | | | 3 | 30 | | | SPD | 2 |
| 5 | SPARE | | | | 20 1 | | | 460 | U | 0 | 0 | 3 | | | | | 6 |
| | RCPT-139-EOC DISP. WALL N. B RCPT-139-EOC DISP. WALL E. B | | | | 20 1 | 460 | 720 | 460 | 1080 | | | 1 | 20 | | | RCPT - CONFERENCE 140 FLR RCPT-139-EOC FLR A | 10 |
| 11 | SPARE | | | | 20 1 | | | 100 | 1000 | 0 | 1080 | 1 | 20 | | | RCPT-139-EOC FLR B | 12 |
| | RCPT-139-EOC DISP. WALL N. C RCPT-139-EOC DISP. WALL E. C | | | | 20 1 | 460 | 720 | 460 | 1080 | | | 1 | 20 20 | | | RCPT-139-EOC FLR C RCPT-139-EOC FLR D | 14 |
| 17 | SPARE | | | | 20 1 | 100 | | | | 0 | 1080 | 1 | 20 | | | RCPT-139-EOC FLR E | 18 |
| | RCPT-139-EOC DISP. WALL N. D SPARE | | | | 20 1 | 460 | 720 | 0 | 500 | | | 1 | 20 20 | | | RCPT-139-EOC FLR F RCPT-139-EOC DESK | 20 |
| 23 | RCPT-016-POLICE CAPT. | | | | 20 1 | 1000 | | | | 1260 | 720 | 1 | 20 | | | RCPT-139-EOC | 24 |
| | RCPT-015-POLICE SUPV RCPT-011-CORR./012-013 RR | | | | 20 1 | 1260 | 0 | 1440 | 1200 | | | 1 | 20 | | | SPARE RCPT-148-BREAK MICROWAVE | 28 |
| 29 | RCPT-007-QA | | | | 20 1 | 1000 | 5.10 | | | 1260 | 1500 | 1 | 20 | | | RCPT-148-BREAK COFFEE | 30 |
| | RCPT-019-CONFERENCE RCPT-155-TRAINING FLR BXS 1 | | | | 20 1 | 1260 | 540 | 1440 | 1380 | | | 1 | 20 20 | | | RCPT-148-BREAK COUNTER RCPT-148-BREAK DISHWASHER | 32 |
| 35 | RCPT-155-TRAINING FLR BXS 2 | | | | 20 1 | 1110 | 1110 | | | 1440 | 800 | 1 | 20 | | | RCPT-148-BREAK FRIDGE | 36 |
| | RCPT-155-TRAINING FLR BXS 3 RCPT-155-TRAINING FLR BXS 4 | | | | 20 1 | 1440 | 1440 | 1440 | 0 | | | 1 | 20 20 | | | RCPT-136,137,138,149 SPARE | 38 |
| 41 | RCPT-155-TRAINING FLR BXS 5 | | | | 20 1 | | 1000 | | | 1440 | 0 | 1 | 20 | | | SPARE | 42 |
| | RCPT-155-TRAINING FLR BXS 6 RCPT-155-SOUTH WALL | | | | 20 1 | 1440 | 1260 | 1080 | 600 | | | 1 | 20 20 | | | RCPT-146-SERVER GENERAL PWR-135/138 STORM DOOR | 40 |
| 47 | RCPT-155-S.W. DISPLAY/PODIUM | | | | 20 1 | 1000 | | | | 900 | 1440 | 1 | 20 | | | RCPT-017-TRAINING TVs | 48 |
| | RCPT-155-WEST WALL/DISPLAY RCPT-155-N.W. DISPLAY/PODIUM | | | | 20 1 | 1080 | 1440 | 900 | 1200 | | | 1 | 20 | | | RCPT-017-DISPATCH TRAINING RCPT-010-COPIER | 5: |
| 53 | RCPT-155 NORTH WALL | | | | 20 1 | | | | | 1080 | 1200 | 1 | 20 | | | RCPT-010-SHREDDER | 5 |
| | RCPT-150-CORR. CREDENZA RCPT-150-CORR. WATER/ICE DISP | _ | | | 20 1 | 900 | 540 | 800 | 1440 | | | 1 | 20 | | | RCPT-010-COPY/WORK RCPT-005-FIRE DISPATCH N TVs | 50 |
| 59 | RCPT-150-CORR. WATER/FILLER | GF | | | 20 1 | 700 | 1000 | | | 600 | 900 | 1 | 20 | | | RCPT-004-POLICE DISPATCH S TVs | 6 |
| | RCPT-150-CORR. DISPLAYS RCPT-151-DRIVING SIM | | | | 20 1 | 720 | 1080 | 540 | 1440 | | | 1 | 20 | | | RCPT-004-POLICE DISPATCH N TVs RCPT-004,005-DISPATCH GEN | 62 |
| 65 | RCPT-152-EMS SIM 1 | | | | 20 1 | | 1000 | | | 720 | 1080 | 1 | 20 | | | RCPT-147 UPS/156 STOR. | 60 |
| | RCPT-154-VIEWING RCPT-139-EOC U.C. FRIDGE | | | | 20 1 | 900 | 1260 | 400 | 1080 | | | 1 | 20 | | | RCPT-145 AC - EMERG. MGMT RCPT-144-PLANNER | 68 |
| 71 | RCPT-139-EOC COFFEE 1 | | | | 20 1 | | | 100 | 1000 | 1600 | 1080 | 1 | 20 | | | RCPT-143-CONFERENCE | 7 |
| | RCPT-139-EOC COFFEE 2 SPARE | | | | 20 1 | 1600 | 1080 | 0 | 1080 | | | 1 | 20 20 | | | RCPT-142-CONFERENCE RCPT-140-CONF. DISP. | 74 |
| 77 | SPARE | | | | 20 1 | | | | | 0 | 1080 | 1 | 20 | | | RCPT-140-CONFERENCE | 7 |
| 79 81 | SPARE SPARE | | | | 20 1 | 0 | 360 | 0 | 1200 | | | 1 | 20 | | | RCPT-141-STORAGE COPIER RCPT-141-PLOTTER | 8: |
| 83 | SPARE | | | | 20 1 | 1000 | | | | 0 | 0 | 1 | 20 | | | SPARE | 84 |
| | RCPT-009-MICROWAVE 3 RCPT-009-MICROWAVE 2 | | | | 20 1 | 1200 | 600 | 1200 | 600 | | | 1 | 20 | | | PWR-EAST GATE PWR-WEST GATE | 88 |
| 89 | RCPT-009-COUNTER RCPTS | | | | 20 1 | 1000 | | | | 540 | 600 | 1 | 20 | | | PWR - STORM DOOR | 9 |
| | RCPT-005-FIRE DISPATCH S TVs RCPT-009-DISHWASHER | | | | 20 1 | 1260 | 0 | 1380 | 0 | | | 1 | 20 | | | SPARE SPARE | 92 |
| 95 | RCPT-009-MICROWAVE 1 | | | | 20 1 | 153 | | .000 | | 1200 | 0 | 1 | 20 | | | SPARE | 96 |
| | RCPT-009-COFFEE RCPT-009-WATER/ICE DISPENSER | | | | 20 1 | 1500 | 300 | 180 | 200 | | | 1 | 20 | | | PWR - MOTORIZED DAMPERS PWR - FIRE/SMOKE DAMPERS | 10 |
| 101 | RCPT-009-FRIDGE 1 | | | | 20 1 | 200 | 4500 | | | 1600 | 1200 | 1 | 20 | | | GEN 1 - BATTERY CHARGER | 10 |
| | RCPT-009-COUNTER RCPTS 2 RCPT-009-FIRE SUPV | | | | 20 1 | 360 | 1500 | 1260 | 500 | | | 1 | 20 | | | GEN 1 - COOLANT HEATER GEN 1 - MISC HEATERS | 10 |
| 107 | SPARE | | | | 20 1 | | 1500 | | | 0 | 1200 | 1 | 20 | | | GEN 2 - BATTERY CHARGER | 10 |
| | EQUIPPED SPACE EQUIPPED SPACE | | | | <u>1</u> | | 1500 | | 500 | | | 1 | 20 | | | GEN 2 - COOLANT HEATER GEN 2 - MISC HEATERS | 11 11 |
| 113 | EQUIPPED SPACE | | | | 1 | | | | | | 600 | 1 | 20 | | | PWR-157-BAS | 11 |
| | EQUIPPED SPACE EQUIPPED SPACE | | | | 1 | | 500 | | 600 | | | 1 | 20 15 | | | PWR-020-FACP RP1 & AQUASTAT | 11 |
| 119 | EQUIPPED SPACE | | | | 1 | | 2005 | | | | 6000 | 2 | 80 | | | EWH1 | 12 |
| | EQUIPPED SPACE EQUIPPED SPACE | | | | <u>1</u> | | 6000 | | 6000 | | | | | | | | 12 |
| | EQUIPPED SPACE | | | | 1 | | | | | | 6000 | 2 | 80 | | | EWH2 | 12 |
| | | | L | тот | AL LOAD AL AMPS BALANCE | : 34 | 30 VA 1 A 37% | 29 | 10 VA 9 A 12% | 35 | 80 VA 8 A 94% | | | | | | |
| .OAD .IGHT | CLASSIFICATION LO | | R D | | ID PANE | ELBOARD (| | NOTES: | UNI FSS OT | HERWISE N | OTED | - | | | | PANELBOARD TOTALS TOTAL CONN. LOAD: 11 | 18400 |
| | | 20 VA 56.2 | | 44760 | | 11.12 01.00 | JILL 01 | // // // // // // // // // // // / | | | - | | | | | | 83680 |
| | EQUIP 387 | | | 38720 | | | | | | | | | | | - | TOTAL CONN. CURRENT: | 329 |

| MAIN SIZE/TYPE VOLTS/PHASE SUPPLIED BY | : 208Y/120 V, | 3PH, 4W | | | | FAULT C CUM. VOL MC | RATING: 1 URRENT: 4 T. DROP: 1 DUNTING: 5 DCATION: E | 1,520 A 1.79% SURFACE | | | | | | | |
|---|---------------|------------------|------|-------------------|-------|---------------------------|--|-----------------------------|--------------|------------|-------------|----------------------|---|--|------------|
| KT O. DESCRIPTION | | | | GND I | | P | A | | В | (| C | BKR GNI P AMP SIZ | | S DESCRIPTION | CKT NO. |
| RCPT - IT WORK ROOM RCPT - IT PLUGMOLD 1 | | | | | 20 | 1 1440 | 1440 | 360 | 1080 | | | 1 20 1 20 | | RCPT-129-DC-OPP RCPT-128-OPP. DIV CONF ROOM | 2 |
| RCPT - IT PLUGMOLD 2 | | | | | 20 | - | | 300 | 1000 | 360 | 1080 | 1 20 | | RCPT-123-OFF: DIV CONT ROOM | 6 |
| RCPT - IT PLUGMOLD 3 | DOOK | | | | 20 | 1 360 | 1080 | 4000 | 1000 | | | 1 20 | | RCPT-126-BC - TRAIN-FUT. | 8 |
| RCPT - CORR./VEST/ LOAD RCPT - IT/TRAFFIC WRKST | | | | | | 1 | | 1080 | 1080 | 360 | 1080 | 1 20 | | RCPT-125-ADMIN MGR RCPT-124-PR - FUTURE | 10 12 |
| RCPT - IT/TRAFFIC WRKST | NS 2 | | | | 20 | | 900 | | | | | 1 20 | | RCPT-121-CHIEF | 14 |
| RCPT - IT/TRAFFIC WRKST SPARE | NS 3 | | | | | 1 | | 540 | 900 | 0 | 1080 | 1 20 | | RCPT-121-CHIEF'S DESK RCPT-130-133-RR/134 ROOF | 16 18 |
| SPARE | | | | | 20 | 1 0 | 1080 | | | | 1000 | 1 20 | | RCPT-159-CORR. WORKSTATIONS 1 | 20 |
| RCPT - IT/TRAFFIC OPEN C | FFICE | | | | 20 | 1 | | 360 | 1080 | 700 | 4000 | 1 20 | | RCPT-159-CORR. WORKSTATIONS 2 | 22 |
| RCPT - N.E. EXTERIOR RCPT - 988 | | | | | 20 | <u>'</u> | 360 | | | 720 | 1080 | 1 20 | | RCPT-109-OPEN OFFICE N.E CORNEF RCPT-109-OPEN OFFICE WRKSTN 2 | R 24 26 |
| RCPT - FITNESS 1 | | | | | 20 | 1 | | 720 | 1500 | | | 1 20 | | RCPT-108-COFFEE | 28 |
| RCPT - FITNESS 2 RCPT - FITNESS EQUIP. 1 | | | | | 20 | 1 1200 | 540 | | | 720 | 400 | 1 20 | | RCPT-108-U.C. FRIDGE RCPT-108-COUNTER | 30 32 |
| RCPT - FITNESS EQUIP. 2 | | | | | 20 | 1 | 0-10 | 1200 | 800 | | | 1 20 | | RCPT-108-COPIER | 34 |
| RCPT - FITNESS EQUIP. 3 RCPT - BREAKROOM | | | | | 20 | 1 900 | 1440 | | | 1200 | 360 | 1 20 | | RCPT-108-COPY/WORK RCPT-120-COLLAB | 36 38 |
| RCPT - BREAKROOM RCPT - BRKRM COUNTER | 1 | | | | | 1 900 | 1440 | 540 | 1260 | | | 1 20 | | RCPT-120-COLLAB RCPT-106-STORAGE | 40 |
| RCPT - BRKRM COUNTER 2 | | | | | 20 | 1 | | | | 360 | 900 | 1 20 | | RCPT-109-OPEN OFFICE N.W CORNEL | |
| RCPT - BRKRM DISHWASH | ER | | | | 20 | 1 1000 | 360 | 90 | 1440 | | | 1 20 | | RCPT-109-OPEN OFFICE WRKSTN 1 RCPT-158-RECEPTION | 44 |
| RCPT - BRKRIVI RANGE | | | 6 | 10 | 50 | | | | 1110 | 90 | 1440 | 1 20 | | RCPT-116-AC-SS | 48 |
| RCPT - BRKRM RANGE HO RCPT - BRKRM ICE MAKER | | | | | 20 | 1 180 | 1080 | 400 | 1080 | | | 1 20 | | RCPT-115-DC - ADMIN RCPT-114-ADMIN DIV CONF. | 50 52 |
| RCPT - BRKRM REFRIGERA | | | | | 20 | 1 | | 400 | 1000 | 800 | 1080 | 1 20 | | RCPT-114-ADMIN DIV CONF. | 54 |
| RCPT- BRKRM MICROWAV | | | | | 20 | 1 1200 | 1080 | 1000 | 1000 | | | 1 20 | | RCPT-112-MED. DIRECTOR | 56 |
| RCPT- BRKRM MICROWAV RCPT - BRKRM ISLAND | E 2 | | | | | 1 | | 1200 | 1080 | 360 | 1080 | 1 20 | | RCPT-111-AC - PREV RCPT-110-BC - PREV | 58 60 |
| RCPT - BRKRM/CORR. 024 | | | | | 20 | 1 1080 | 1620 | | | | 1000 | 1 20 | | RCPT-105-CONFERENCE | 62 |
| RCPT - BRKRM VENDING 1 RCPT - BRKRM VENDING 2 | | | | | 20 | 1 | | 800 | 1260 | 800 | 1000 | 1 20 | | RCPT-101/103 - LOBBY/RR PWR - W VEST. DOORS | 64 66 |
| RCPT - RESTROOM COUNT | | | | | | 1 720 | 360 | | | 600 | 1000 | 1 20 | | RCPT - ROOF | 68 |
| RCPT - LOCKER/CHANGING | 3 | | | | 20 | 1 | | 900 | 1056 | 400 | 5.10 | 1 15 | | AC-1 | 70 |
| RCPT - LAUNDRY RCPT - WASHER | | | | | | 1 1000 | 360 | | | 180 | 540 | 1 20 | | RCPT - E. EXTERIOR PATIO RCPT - E. EXTERIOR DISPATCH | 72 74 |
| BODT DRVER | | | 10 | | 30 2 | | 333 | 400 | 180 | | | 1 20 | | RCPT - W. EXTERIOR | 76 |
| RCPT - GEN. STOR. PERIM | ETED | | 10 | 10 | 20 | | 180 | | | 400 | 360 | 1 20 | | RCPT-135-CORR RCPT-EL-1-ELEVATOR PIT | 78 80 |
| RCPT - GEN. STOR. HALLW | | | | | | 1 1000 | 100 | 360 | 360 | | | 1 20 | | RCPT-EL-1-SP1 | 82 |
| RCPT - GEN. STOR. COUNT | | | | | | 1 | 100 | | | 1080 | 180 | 1 20 | | RCPT-EL-1-TOP OF SHAFT | 84 |
| RCPT - QUIET 027, 028, 029 RCPT - COMM. SOTR. / QUI | | | | | 20 | 1 1440 1 | 180 | 1440 | 200 | | | 1 20 | | RCPT-EL-1-ELEVATOR COMM LTG-EL-1-CAB LIGHTS | 86 88 |
| RCPT - UC FRIDGES 027, 0 | | | | | | 1 | | 1110 | 200 | 360 | 1000 | 1 20 | | PWR-001-VEST AUTO OPENERS | 90 |
| PWR - LOADING DOCK DOC | OR . | | | | 20 2 | 2 250 | 720 | 250 | 360 | | | 1 20 | | RCPT-040/041-ELEC, IT RCPT-041-IT W. WALL | 92 94 |
| RCPT - PLOTTER 108 | | | | | 20 | 1 | | 230 | 300 | 1200 | 360 | 1 20 | | RCPT-041-IT W. WALL | 96 |
| PWR - FIRE/SMOKE DAMPE | RS | | | | 20 | | 360 | | 222 | | | 1 20 | | RCPT-041-IT E. WALL | 98 |
| SPARE 1 SPARE | | | | | 20 | - | | 0 | 360 | 0 | 360 | 1 20 | | RCPT-041-RACK 1 A RCPT-041-RACK 1 B | 100 102 |
| 3 SPARE | | | | | 20 | 1 0 | 360 | | | | | 1 20 | | RCPT-041-RACK 2 A | 104 |
| 5 SPARE 7 SPARE | | | | | | 1 | | 0 | 360 | 0 | 180 | 1 20 | | RCPT-041-RACK 2 B RCPT-022-MEDIA | 106 108 |
| 9 SPARE | | | | | | 1 0 | 0 | | | U | 100 | 1 20 | | SPARE | 110 |
| 1 SPARE | | | | | 20 | • | | 0 | 0 | ^ | | 1 20 | | SPARE | 112 |
| 3 SPARE 5 SPARE | | | | | 20 | 1 0 | 0 | | | 0 | 0 | 1 20 | | SPARE SPARE | 114 116 |
| 7 SPARE | | | | | 20 | 1 | | 0 | 0 | | | 1 20 | | SPARE | 118 |
| 9 SPARE | | | | | 20 | | 2040 | | | 0 | 0 | 1 20 | | SPARE | 120 |
| 1 SPARE 3 SPARE | | | | | 20 | 1 0 1 | 2018 | 0 | 2018 | | | 3 20 | | PWR - DOCK LEVELER | 122 124 |
| 5 SPARE | | | | | 20 | 1 | | | | 0 | 2018 | | | | 126 |
| | | | _ | TOTA | L AMP | S : 2 | 08 VA 48 A | 23 | 94 VA 9 A | | 5 A | - | | | |
| | | | | OAD BA | | ⊑: 9. | 10% | 5.0 |)1% | -9.9 | 91% | | 1 | | |
| D CLASSIFICATION | CONN. LOAD | DEMANI FACTOR | | STIMATE DEMAND | | IELBOARD | GENERAL | NOTES: | | | | | | PANELBOARD TOTALS | |
| HTING | 200 VA | 125.00 | _ | | _ | IRE AND GRO | OUND SIZE SH | HALL BE #12 | UNLESS OTH | HERWISE NO | OTED. | <u> </u> | | | 1871 VA |
| TORS | 6415 VA | 100.00 | | 6415 V | | | | | | | | | | | 1171 VA |
| CEPTACLES | 71500 VA | | _ | 40750 V | | | | | | | | | | TOTAL CONN. CURRENT: | 227 A |
| C EQUIP | 3756 VA | 100.00 | J 70 | 3756 V | ^ | | | | | | | | | TOTAL EST. DEMAND CURRENT: | 142 A |

PANELBOARD: N0S4

DESCRIPTION

NO.

3 WSHP 1-01

9 WSHP 1-02

13 WSHP 1-03

19 WSHP 1-05

29 WSHP 2-02 31 WSHP 2-03, 04, 11

35 WSHP 2-05

41 WSHP 2-06

45 WSHP 2-08 47 WSHP 2-09 49 WSHP 2-12 51 EQUIPPED SPACE 53 EQUIPPED SPACE

57 EFC-1

63 MP-1

69 MP-2

75 MP-3

81 MP-4

LIGHTING

MOTORS

RECEPTACLES

LOAD CLASSIFICATION

15 WSHP 1-04, 06, 07

25 WSHP 2-01, 10

BUS AMPS: 600 A

SUPPLIED BY: N0S4DP

VOLTS/PHASE: 480Y/277 V, 3PH, 4W

MAIN SIZE/TYPE: MLO

AIC RATING: 22,000 AIC

MOUNTING: SURFACE

LOCATION: ELEC. 021

NOTES | SIZE | SIZE | AMP | P | A | B | C | P | AMP | SIZE | SIZE | AMP | P | A | B | C | P | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | AMP | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE | SIZE |

409 A

-3.82%

432 A

1.40%

DESCRIPTION

LTG-STAIR (ST-1)

LTG-CORRIDORS

LTG-TRAINING LTG-EOC & SUPPORT

EQUIPPED SPACE

PANELBOARD TOTALS

TOTAL CONN. CURRENT:

TOTAL EST. DEMAND CURRENT:

TOTAL CONN. LOAD: 353823 V/

TOTAL EST. DEMAND LOAD: 303408 VA

LTG-EXTERIOR PARKING

LTG-EXTERIOR AREA & FLAG

LTG-LOWER LEVEL DISPATCH

LTG-LOWER LEVEL TRAINING

FAULT CURRENT: 20,071 A

CUM. VOLT. DROP: 0.94%

TOTAL AMPS: 442 A

LOAD BALANCE: 3.96%

14110 VA 100.00% 14110 VA A. WIRE AND GROUND SIZE SHALL BE #12 UNLESS OTHERWISE NOTED.

LOAD FACTOR DEMAND PANELBOARD GENERAL NOTES:

CONN. DEMAND ESTIMATED

18983 VA 125.00% 23728 VA

60379 VA 100.00% 60379 VA

120320 VA 54.16% 65160 VA

PANELBOARD NOTES:

BREAKER.

ON CLAMP.

4622 PENNSYLVANIA AVENUE KANSAS CITY, MO 64112

NUMBER PE-2021003162 PROFESSIONAL SEAL

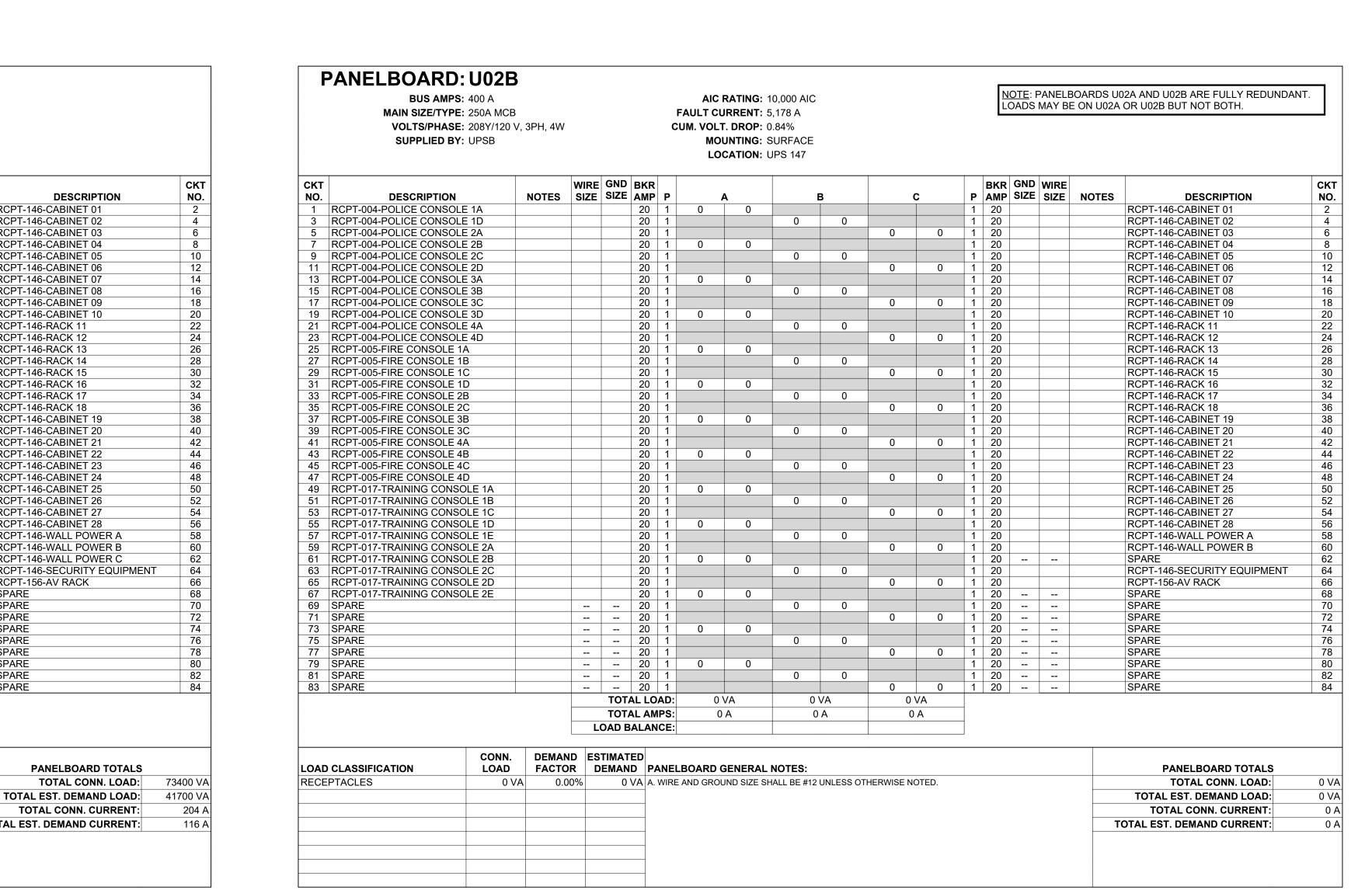
U02B N1N2 HOEFER WELKER #: 138191

U02A

N0S2B

NOS2C

PANELBOARD SCHEDULES



| | BUS AMPS: MAIN SIZE/TYPE: VOLTS/PHASE: SUPPLIED BY: | 100A MCB 208Y/120 V, 3PH, 4W | | | | | FAULT CU UM. VOLT MOU | RATING: 1 IRRENT: 3 I. DROP: 1 JNTING: S CATION: E | I.48% SURFACE | | | | | | | | | |
|------------|---|---------------------------------|-------|-------|------------|------|-----------------------------|--|------------------|-----------|-----------|-------|---|----|-------------|-----------|------------------------------|------------|
| CKT NO. | DESCRIPTION | NOTES | WIRE | | BKR AMP | Р | | Δ | | | | | Р | | GND SIZE | NOTES | DESCRIPTION | CKT NO. |
| 1 | DECORN TION | NOTEG | OIZL | 0 | Airii | • | 0 | 0 | • | | | | 1 | 20 | | NOTES | SPARE | 2 |
| 3 | SPD | | | | 30 | 3 | U | U | 0 | 0 | | | 1 | 20 | | | SPARE | 4 |
| 5 | | | | | | | | | | J | 0 | 0 | 1 | 20 | | | SPARE | 6 |
| 7 | RCPT-004-POLICE CONSOLE | 1A | | | 20 | 1 | 1200 | 1200 | | | | | 1 | 20 | | | RCPT-005-FIRE CONSOLE 1A | 8 |
| 9 | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | 1200 | 1200 | 1200 | 1200 | | | 1 | 20 | | | RCPT-005-FIRE CONSOLE 1B | 10 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | 1200 | 1200 | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 1C | 12 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | 1200 | 1200 | | | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 1D | 14 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | 1200 | 1200 | 1200 | 1200 | | | 1 | 20 | | | RCPT-005-FIRE CONSOLE 2B | 16 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | 1200 | 1200 | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 2C | 18 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | 1200 | 1200 | | | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 3B | 20 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | 1200 | 1200 | | | 1 | 20 | | | RCPT-005-FIRE CONSOLE 3C | 22 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | | .200 | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 4A | 24 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | 1200 | 1200 | | | | .=00 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 4B | 26 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | 1200 | 1200 | | | 1 | 20 | | | RCPT-005-FIRE CONSOLE 4C | 28 |
| | RCPT-004-POLICE CONSOLE | | | | 20 | 1 | | | | | 1200 | 1200 | 1 | 20 | | | RCPT-005-FIRE CONSOLE 4D | 30 |
| | RCPT-017-TRAINING CONSOL | | | | 20 | 1 | 1200 | 0 | | | | | 1 | 20 | | | SPARE | 32 |
| 33 | RCPT-017-TRAINING CONSOL | E 2B | | | 20 | 1 | | | 1200 | 1200 | | | 1 | 20 | | | RCPT-017-TRAINING CONSOLE 1A | 34 |
| 35 | RCPT-017-TRAINING CONSOL | E 2C | | | 20 | 1 | | | | | 1200 | 1200 | 1 | 20 | | | RCPT-017-TRAINING CONSOLE 1B | 36 |
| 37 | RCPT-017-TRAINING CONSOL | E 2D | | | 20 | 1 | 1200 | 1200 | | | | | 1 | 20 | | | RCPT-017-TRAINING CONSOLE 1C | 38 |
| 39 | RCPT-017-TRAINING CONSOL | _E 2E | | | 20 | 1 | | | 1200 | 1200 | | | 1 | 20 | | | RCPT-017-TRAINING CONSOLE 1D | 40 |
| 41 | SPARE | | - | | 20 | 1 | | | | | 0 | 1200 | 1 | 20 | | | RCPT-017-TRAINING CONSOLE 1E | 42 |
| | | | | TOT | AL LO | AD: | 1320 | 0 VA | 1440 | 0 VA | 1320 | 00 VA | | | | | | |
| | | | | TOT | AL AM | PS: | 110 | 0 A | 120 | 0 A | 11 | 0 A | | | | | | |
| | | | L | OAD E | BALAN | CE: | -2.8 | | 5.9 | | - | 87% | | | | | | |
| | | CONN. DEMAI | ND ES | TIMA | ED | | | | | | | | | | | | | |
| LOAD | CLASSIFICATION | LOAD FACTO | DR C | EMAN | ID PA | NEL | BOARD G | SENERAL | NOTES: | | | | | | | | PANELBOARD TOTALS | |
| RECE | PTACLES | 40800 VA 62.2 | 25% | 25400 | VA A. | WIRE | AND GROU | JND SIZE SH | HALL BE #12 | UNLESS OT | HERWISE N | OTED. | | | | | TOTAL CONN. LOAD: | 40800 V |
| | | | | | | | | | | | | | | | | | | 25400 V |
| | | | | | | | | | | | | | | | | | TOTAL CONN. CURRENT: | 113 / |
| | | | | | | | | | | | | | | | | _ | | |
| | | | | | | | | | | | | | | | | | OTAL EST. DEMAND CURRENT: | 71 / |

AIC RATING: 10,000 AIC

MOUNTING: SURFACE

0 0 1

23200 VA

193 A

-5.11%

1 0 0 0 1 20 -- --1 0 0 0 1 20 -- --1 0 0 0 1 20 -- --1 0 0 0 1 20 -- --

23300 VA

194 A

-4.63%

C P AMP SIZE SIZE NOTES

DESCRIPTION

RCPT-146-CABINET 01

RCPT-146-CABINET 02

RCPT-146-CABINET 03

RCPT-146-CABINET 04

RCPT-146-CABINET 05

RCPT-146-CABINET 06

RCPT-146-CABINET 07

RCPT-146-CABINET 08

RCPT-146-CABINET 09

RCPT-146-CABINET 10

RCPT-146-RACK 11

RCPT-146-RACK 12

RCPT-146-RACK 13

RCPT-146-RACK 14

RCPT-146-RACK 15

RCPT-146-RACK 16

RCPT-146-RACK 17

RCPT-146-RACK 18

RCPT-146-CABINET 1

RCPT-146-CABINET 20

RCPT-146-CABINET 2

RCPT-146-CABINET 2

RCPT-146-CABINET 23

RCPT-146-CABINET 24

RCPT-146-CABINET 25

RCPT-146-CABINET 26

RCPT-146-CABINET 27

RCPT-146-CABINET 28

RCPT-156-AV RACK

RCPT-146-WALL POWER A

RCPT-146-WALL POWER B

RCPT-146-WALL POWER C

RCPT-146-SECURITY EQUIPMENT

PANELBOARD TOTALS

TOTAL CONN. CURRENT:

TOTAL EST. DEMAND CURRENT:

LOCATION: UPS 147

FAULT CURRENT: 5,130 A

CUM. VOLT. DROP: 1.36%

| | BUS AMPS: 60 A | | | | | AIC | RATING: | | | | | | | | | | | | |
|--------------|-------------------------|------------|-------|-------|-----------|-----------|-------------|-------------|-----------|------------|------|---|-----|-----|------|-------|-----------|------------------|-------------|
| | MAIN SIZE/TYPE: MLO | | | | | FAULT C | URRENT: 1 | 1,268 A | | | | | | | | | | | |
| | VOLTS/PHASE: 208Y/120 | V. 3PH. 4W | | | | CUM. VOL | T. DROP: 1 | 1.98% | | | | | | | | | | | |
| | SUPPLIED BY: N0S2A | , - , | | | | | UNTING: S | | | | | | | | | | | | |
| | | | | | | | CATION: | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| СКТ | | | WIRE | GND | BKR | | | | | | | | BKR | GND | WIRE | | | | СКТ |
| NO. | DESCRIPTION | NOTES | | | AMP P | | Α | | В | С | | | | | SIZE | NOTES | | DESCRIPTION | NO. |
| | 7-FIRE OPS CTR DISPLAYS | | | | 20 1 | 1440 | 360 | | | | | 1 | 20 | | | | RCPT-107- | FIRE OPS 1 | 2 |
| 3 RCPT-107 | 7-FIRE OPS 2 | | | | 20 1 | | | 360 | 360 | | | 1 | 20 | | | | RCPT-107- | FIRE OPS 3 | 4 |
| | 7-FIRE OPS 4 | | | | 20 1 | | | | | 540 | 540 | 1 | 20 | | | | | FIRE OPS 5 | 6 |
| | FIRE OPS CTR | | | | 20 1 | 160 | 0 | | | | | 1 | 20 | | | | SPARE | | 8 |
| 9 SPARE | | | | | 20 1 | | | 0 | 0 | | | 1 | 20 | | | | SPARE | | 10 |
| 11 SPARE | | | | | 20 1 | | | | | 0 | 0 | 1 | 20 | | | | SPARE | | 12 |
| 13 SPARE | | | | | 20 1 | 0 | 0 | | | | | 1 | 20 | | | | SPARE | | 14 |
| 15 SPARE | | | | | 20 1 | | | 0 | 0 | | | 1 | 20 | | | | SPARE | | 16 |
| 17 SPARE | | | | | 20 1 | | | | | 0 | 0 | 1 | 20 | | | | SPARE | | 18 |
| | | | | TOT | AL LOAD | : 196 | 80 VA | 720 | AV C | 1080 | VA | | | | | | | | |
| | | | | TOT | AL AMPS | : 1 | 7 A | 6 | 6 A | 9 / | 4 | | | | | | | | |
| | | | L | OAD E | ALANCE | | .92% | -42 | .51% | -9.34 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | CONN. | DEMAN | ND ES | TIMAT | ED | | | | | | | | | | | | | | |
| OAD CLASSIFI | CATION LOAD | FACTO | DR D | EMAN | D PANE | LBOARD | GENERAL | NOTES: | | | | | | | | | PA | NELBOARD TOTALS | |
| IGHTING | 160 V | VA 125.0 | 00% | 200 | VA A. WIF | E AND GRO | UND SIZE SH | HALL BE #12 | UNLESS OT | HERWISE NO | TED. | | | | | | Т | OTAL CONN. LOAD: | 3760 VA |
| RECEPTACLES | 3600 V | VA 100.0 | 00% | 3600 | VA | | | | | | | | | | | | TOTAL E | ST. DEMAND LOAD: | 3800 V |
| | | | | | | | | | | | | | | | | | TOTA | L CONN. CURRENT: | 10 <i>A</i> |
| | | | | | | | | | | | | | | | | I | _ | | |

| PANELBOARD: N | J1N2 | | | | | | | | | | | | | | | | | |
|---|----------|--------|------|-------|---------|----------|---------------|-------------|-----------|------------|-------|---|-----|-----|------|-------|-----------------------------|---------|
| BUS AMPS: 22 | | | | | | 1 | IC RATING: | 10 000 AIC | | | | | | | | | | |
| MAIN SIZE/TYPE: M | | | | | | | CURRENT: 2 | • | | | | | | | | | | |
| VOLTS/PHASE: 20 | | PH. 4W | | | | | OLT. DROP: | | | | | | | | | | | |
| SUPPLIED BY: D | • | , | | | | | MOUNTING: | | | | | | | | | | | |
| | | | | | | | LOCATION: | | AY 201 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| кт | | \ | WIRE | GND | BKR | | | | | | | | BKR | GND | WIRE | | | СКТ |
| O. DESCRIPTION | NO. | | | | AMP I | • | Α | | В | (| 3 | P | | | SIZE | NOTES | DESCRIPTION | NO. |
| 1 | | | | | | 216 | 0 4020 | | | | | | | | | | | 2 |
| <u>CU-V1</u> | | | 10 | 10 | 30 3 | 3 | | 2160 | 4020 | 0400 | 4000 | 3 | 100 | 8 | 3 | | AHU-V1 | 4 |
| 7 | | | | | | 250 | 0 2500 | | | 2160 | 4020 | | | | | | | 6 8 |
| 0 0 UH-V1 | | | 10 | 10 | 30 | | 2500 | 2500 | 2500 | | | 3 | 30 | 10 | 10 | | UH-V2 | 10 |
| 1 | | | 10 | 10 | | , | | 2000 | 2000 | 2500 | 2500 | 1 | | 10 | 10 | | 011 12 | 12 |
| 3 | | | | | | 250 | 0 1100 | | | | | | | | | | | 14 |
| 5 UH-V3 | | | 10 | 10 | 30 3 | 3 | | 2500 | 1100 | | | 3 | 15 | | | | UH-V4 | 16 |
| 7 | | | | | | 100 | 100 | | | 2500 | 1100 | | | | | | DODT EXTERIOR | 18 |
| 9 LTG-BAYS & EXTERIOR 11 PWR-FUEL PUMP A | | | | | 20 | | 3 180 | 600 | 1080 | | | 1 | 20 | | | | RCPT-EXTERIOR RCPT-BAY A | 20 |
| PWR-FUEL PUMP A PWR-FUEL PUMP B | | | | | 20 | | | 000 | 1000 | 600 | 540 | 1 | 20 | | | | RCPT-BAY B | 24 |
| 05 | | | | | | 520 | 540 | | | 000 | 010 | 1 | 20 | | | | RCPT-BAY C | 26 |
| PWR-FUEL PUMP C | | | | | 20 2 | 2 | | 520 | 0 | | | 1 | 20 | | | | SPARE | 28 |
| 9 SPARE | | | | | 20 | | | | | 0 | 0 | 1 | 20 | | | | SPARE | 30 |
| | | | | | AL LOAI | | 7283 VA | | 30 VA | 1592 | 20 VA | | | | | | | |
| | | | | | L AMP | | 145 A | | 3 A | | 3 A | | | | | | | |
| | | | LC | DAD B | ALANC | Ε: | 4.37% | 2.5 | 6% | -4.7 | 76% | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | _ | DEMAND | _ | | l l | | | | | | | | | | | | | |
| DAD CLASSIFICATION | | FACTOR | _ | | | | RD GENERAL | | = 00 0= | | | | | | | | PANELBOARD TOTALS | 5040034 |
| OOLING | 6480 VA | 100.00 | | | | RE AND G | ROUND SIZE SI | HALL BE #12 | UNLESS OT | HERWISE NO | JIED. | | | | | | TOTAL CONN. LOAD: | 50183 V |
| ATING | 36600 VA | 100.00 | | 36600 | | | | | | | | | | | | | TOTAL EST. DEMAND LOAD: | 50499 V |
| GHTING | 1263 VA | 125.00 | _ | 1579 | | | | | | | | | | | | | TOTAL CONN. CURRENT: | 139 / |
| OTORS | 1260 VA | 100.00 | | 1260 | | | | | | | | | | | | Т | OTAL EST. DEMAND CURRENT: | 140 A |
| ECEPTACLES | 2340 VA | 100.00 | | 2340 | | | | | | | | | | | | | | |
| ISC EQUIP | 2240 VA | 100.00 | % | 2240 | VA I | | | | | | | | | | | | | |

10/30/2024 2:38:32 PM

Autodesk Docs://138191-LeesSummitJointOpsCtr/138191_MEP23_LeesSummitJointOpsCtr.rvt

PANELBOARD: U02A

DESCRIPTION

1 RCPT-004-POLICE CONSOLE 1/

3 RCPT-004-POLICE CONSOLE 1D

5 RCPT-004-POLICE CONSOLE 2A

9 RCPT-004-POLICE CONSOLE 20

RCPT-004-POLICE CONSOLE 2B

1 RCPT-004-POLICE CONSOLE 2D

13 RCPT-004-POLICE CONSOLE 3A

5 RCPT-004-POLICE CONSOLE 3B

17 RCPT-004-POLICE CONSOLE 3C

19 RCPT-004-POLICE CONSOLE 3D

21 RCPT-004-POLICE CONSOLE 4A

23 RCPT-004-POLICE CONSOLE 4D

25 RCPT-005-FIRE CONSOLE 1A

RCPT-005-FIRE CONSOLE 1B

29 RCPT-005-FIRE CONSOLE 1C

33 RCPT-005-FIRE CONSOLE 2B

35 RCPT-005-FIRE CONSOLE 2C

37 RCPT-005-FIRE CONSOLE 3B

39 RCPT-005-FIRE CONSOLE 3C

41 RCPT-005-FIRE CONSOLE 4A

43 RCPT-005-FIRE CONSOLE 4B

45 RCPT-005-FIRE CONSOLE 4C

47 RCPT-005-FIRE CONSOLE 4D

49 RCPT-017-TRAINING CONSOLE 1A

51 RCPT-017-TRAINING CONSOLE 1B

53 RCPT-017-TRAINING CONSOLE 10

55 RCPT-017-TRAINING CONSOLE 10

57 RCPT-017-TRAINING CONSOLE 1F

59 RCPT-017-TRAINING CONSOLE 2A

61 RCPT-017-TRAINING CONSOLE 2B

63 RCPT-017-TRAINING CONSOLE 2C

65 RCPT-017-TRAINING CONSOLE 2D

67 RCPT-017-TRAINING CONSOLE 2E

75 SPARE

77 SPARE

79 SPARE

81 SPARE

LOAD CLASSIFICATION

RECEPTACLES

31 RCPT-005-FIRE CONSOLE 1D

BUS AMPS: 400 A

VOLTS/PHASE: 208Y/120 V, 3PH, 4W

NOTES SIZE SIZE AMP P

TOTAL AMPS:

LOAD FACTOR DEMAND PANELBOARD GENERAL NOTES:

CONN. DEMAND ESTIMATED

LOAD BALANCE: 10.09%

224 A

73400 VA 56.81% 41700 VA A. WIRE AND GROUND SIZE SHALL BE #12 UNLESS OTHERWISE NOTED.

MAIN SIZE/TYPE: 250A MCB

SUPPLIED BY: UPSA

TOTAL EST. DEMAND CURRENT: 21 A

| LOCKERS, RESTROOMS, TOILETS | 10 | | | | | | | |
|------------------------------|------|------|----------|-------|----------------|---------------------------------------|-------------|--|
| , , | | | | | | | DIMM | MING CODES: |
| OPEN OFFICES | 30 | | • | • | | | 0-10V PH | / 0-10V DIMMING PHASE DIMMING |
| SIMULATORS | 30 | • | • | | | | DMX RGB | DMX DIMMING CONTROL DMX DIMMING AND COLOR (RGB, RGBA, RGBW, ETC.) CONTROL |
| LIGHTING CONTROLS SEQUENCE O | | | | | | DDO//DED DUE TO 0405 0.0 EVOEDTION 4 | | TROL CODES: |
| | | | | | | PROVIDED DUE TO C405.2.2 EXCEPTION 1. | MC | MANUAL CONTROL |
| B. MANUAL ON/OFF CONTROL: MA | NUAL | CONT | ROL LOCA | TED \ | WITHIN THE SPA | CE FOR OCCUPANT ON/OFF LIGHTING | os | OCCUPANCY SENSOR CONTROL |

- MANUAL ON/OFF/DIMMING CONTROL: MANUAL CONTROL LOCATED WITHIN THE SPACE FOR OCCUPANT ON, OFF, RAISE, AND LOWER LIGHTING CONTROL. OCCUPANCY SENSOR, AUTO ON (100%): UPON DETECTING OCCUPANCY, LIGHTS SHALL AUTOMATICALLY TURN ON AT FULL OUTPUT (ADJ), EITHER PER C405.2.1.1 EXCEPTION OR FOR OPEN OFFICES. UPON NOT DETECTING
- OCCUPANCY FOR 20 MINUTES, LIGHTS SHALL AUTOMATICALLY TURN OFF. OCCUPANCY SENSOR, AUTO ON (50%): UPON DETECTING OCCUPANCY, LIGHTS SHALL AUTOMATICALLY TURN ON AT
- 50% OUTPUT (ADJ, MAX 50%). UPON NOT DETECTING OCCUPANCY FOR 20 MINUTES, LIGHTS SHALL AUTOMATICALLY
- VACANCY SENSOR: LIGHTS SHALL NOT TURN ON AUTOMATICALLY. UPON NOT DETECTING OCCUPANCY FOR 20 MINUTES, LIGHTS SHALL AUTOMATICALLY TURN OFF. INTERIOR (INT.) DIMMING SCHEDULE CONTROLS: LIGHT FIXTURES SHALL BE ON 24/7. DURING DAYLIGHT HOURS,
- LIGHTS SHALL BE ON AT 100% OUTPUT (ADJ). DURING **NIGHT HOURS**, LIGHTS SHALL DIM TO 75% OUTPUT (ADJ). DIMMING SHALL OCCUR OVER A 10-MINUTE (ADJ) INTERVAL. EXTERIOR (EXT.) DIMMING SCHEDULE CONTROLS: DURING DAYLIGHT HOURS, LIGHTS SHALL BE OFF. DURING EARLY NIGHT HOURS, LIGHTS SHALL AUTOMATICALLY TURN ON TO 100% OUTPUT (ADJ). DURING LATE NIGHT
- HOURS, LIGHTS SHALL AUTOMATICALLY DIM TO LEVELS NOTED PER LEE'S SUMMIT UNIFIED DEVELOPMENT ORDINANCE 8.250(K). DIMMING SHALL OCCUR OVER A 10-MINUTE (ADJ) INTERVAL. EMERGENCY LIGHTING CONTROL: UPON A LOSS OF NORMAL POWER (BROWNOUT OR BLACKOUT), LIGHTS DESIGNATED AS EMERGENCY SHALL TURN ON TO FULL OUTPUT UNTIL POWER IS FULLY RESTORED. UPON RESTORATION OF NORMAL POWER, NORMAL LIGHTING CONTROL SHALL RESUME. EMERGENCY POWER IS PROVIDED BY BATTERIES INTEGRAL TO LIGHT FIXTURES.
- LIGHTING CONTROLS SEQUENCE OF OPERATION NOTES: EXTERIOR AREA AND POLE-MOUNTED LIGHT FIXTURES SHALL DIM TO 65% OUTPUT (ADJ). EXTERIOR FACADE SPOTLIGHTS AND SCONCES SHALL DIM TO 50% OUTPUT (ADJ).
- EXTERIOR PLATER AND WINDOW WELL LIGHTS SHALL DIM TO 30% OUTPUT (ADJ).
- 4. TOTAL WATTAGE DIMMED VS UNDIMMED SHALL EQUAL 50% PER UDO 8.250(K).
- <u>LIGHTING CONTROLS SEQUENCE OF OPERATION SCHEDULES</u>: DAYLIGHT HOURS: DAWN TO DUSK. NIGHT HOURS: DUSK TO DAWN.
- LATE NIGHT HOURS: MIDNIGHT TO DAWN.

CONTROL.

• EARLY NIGHT HOURS: DUSK TO MIDNIGHT.

| LABEL | MANUFACTURER | MODEL | APPROVED EQUIVALENT | DESCRIPTION | NOTES |
|--------|--------------------|----------------|-----------------------------------|--|-------|
| | OLTAGE DIMMERS | | | | |
| D | LEVITON | DS710-10Z | ACUITY, HUBBEL, LUTRON | 0-10V DIMMING SWITCH. | |
| LOW V | OLTAGE SWITCHES | - | 1 | | 1 |
| LV | ACUITY nLIGHT | nPODMA | ETC NX CONTROLS WATTSTOPPER | LOW VOLTAGE WALL SWITCH WITH ON/OFF BUTTONS AND INDICATOR LIGHT. | 1 |
| LVD | ACUITY nLIGHT | nPODMA DX | ETC NX CONTROLS WATTSTOPPER | LOW VOLTAGE SWITCH WITH ON/OFF, RAISE, AND LOWER BUTTONS AND INDICATOR LIGHTS. | 1 |
| OCCUF | PANCY SENSORS | | | | |
| OA | ACUITY nLIGHT | rCM PDT 10 RJB | ETC NX CONTROLS WATTSTOPPER | DUAL TECHNOLOGY, LOW VOLTAGE CEILING OCCUPANCY SENSOR. | 1 |
| RELAY | S | | | | |
| RA | ACUITY nLIGHT | nPP16 | ETC NX CONTROLS WATTSTOPPER | ON/OFF ROOM CONTROLLER. | 1 |
| RD | ACUITY nLIGHT | nPP16 D | ETC NX CONTROLS WATTSTOPPER | 0-10V DIMMING ROOM CONTROLLER. | 1 |
| RE | ACUITY nLIGHT | nPP16 D ER | ETC NX CONTROLS WATTSTOPPER | UL924 ROOM CONTROLLER WITH 0-10V DIMMING OVERRIDE. | 1 |
| WALL S | SWITCH OCCUPANCY S | SENSORS | | | |
| OS | ACUITY nLIGHT | nWSX PDT LV | | DUAL TECHNOLOGYH OCCUPANCY SENSOR WITH INTEGRAL ON/OFF SWITCH. | 1 |
| OSD | ACUITY nLIGHT | nWSX PDT D | ETC NX CONTROLS WATTSTOPPER | DUAL TECHNOLIGY OCCUPANCY SENSOR WITH RAISE/LOWER BUTTONS. | 1 |

UL924 EMERGENCY LIGHTING OVERRIDE CONTROL (YES OR NO)

PHOTOCELL CONTROL

TIMECLOCK CONTROL

CIRCADIAN RHYTHM CONTROL

| | OSD | ACUITY nLIGHT | nWSX PDT D | ETC NX CONTROLS WATTSTOPPER | DUAL TECHNOLIGY OCCUPANCY SENSOR WITH RAISE/LOWER BUTTONS. | 1 |
|---|--------|------------------|---------------------------------------|-----------------------------------|---|---------|
| ſ | LIGHTI | NG CONTROL DEVIC | E SCHEDULE GENERAL | NOTES: | | |
| | A. | SHALL ONLY BE AC | CEPTED IF SUBMITTED | WITH AN APPROVED SUB | AND MODELS OR APPROVED EQUIVALENTS. ADDITIONAL CO STITUTION FORM. LIGHTING CONTROLS BID WITHOUT BEING OVAL OF THE ARCHITECT AND ENGINEER ARE AT THE CONTR | LISTED |
| | B. | ADJUST SENSOR SE | ETTINGS AND LOCATIO | NS FOR PROPER LIGHTING | G CONTROL. | |
| | C. | | OCCUPANCY SENSORS OTHER CEILING-MOUNT | | ED WITHIN FOUR FEET OF DIFFUSERS, CEILING MOUNTED | |
| | D. | COORDINATE ALL S | ETTINGS, PROGRAMMI | NG, AND SENSOR LOCATI | ONS WITH OWNER PRIOR TO SUBSTANTIAL COMPLETION. CO | ONTROLS |

| INVERT | ER: INV | | | | | | | | | |
|---------------------|----------------------|-------------|-----------|-------------|-------------|--------------------|------------|------------|---------|----------------------------|
| MANUFACT | URER: IOTA | | | | AIC RA | TING: 65,00 | 0 AIC | | A | CCESSORIES & OPTIONS |
| M | ODEL: IISCN 80 | 00 277IN 27 | OUT 90M | F | AULT CURF | * | | | | YPASS, BACNET |
| VOLTS/PHA | SE IN : 277 V | | | | SUPPLIE | D BY : N0S4 | | | | · |
| VOLTS/PHASE | E OUT : 277 V | | | | MOUN | TING: SURF | ACE | | | |
| WAT | TAGE: 8 KW | | | | LOCA | TION: ELEC | . 021 | | | |
| | | | | | NO. | TRIP | | | | |
| СКТ | | SCRIPTION | | | POLES | RATING | WIRE SIZE | GND SIZE | LOAD | NOTES |
| 1 LTG-MAIN ELI | ECTRICAL (021) | | | | 1 | 20 A | | | 70 | |
| 2 LTG-LOWER I | _EVEL EM | | | | 1 | 20 A | | | 1566 | |
| 3 LTG-MAIN LEV | VEL EM | | | | 1 | 20 A | | | 2316 | |
| 4 LTG-EXTERIC | R EM | | | | 1 | 20 A | | | 703 | |
| 5 SPARE | | | | | 1 | 20 A | | | 0 | |
| 6 SPARE | | | | | 1 | 20 A | | | 0 | |
| 7 SPARE | | | | | 1 | 20 A | | | 0 | |
| 8 SPARE | | | | | 1 | 20 A | | | 0 | |
| · | | | | | | | ТО | TAL LOAD: | 4655 VA | |
| | | | | | | | ТО | TAL AMPS: | 17 A | |
| | CONN. | DEMAND | ESTIMATED | | | | | | | |
| LOAD CLASSIFICATION | LOAD | FACTOR | DEMAND | INVERTER | GENERAL N | IOTES: | | | | INVERTER TOTALS |
| LIGHTING | 4655 VA | 125.00% | 5818 VA | A. WIRE & C | SND SIZE TO | D BE #12 UN | LESS OTHE | RWISE NOTE | D. | TOTAL CONN. LOAD: 4655 VA |
| | | | | B. REFER T | O SPECIFIC | CATIONS FO | R ALTERNAT | ΓΕ MANUFAC | TURERS. | TOTAL EST. DEMAND: 5818 VA |
| | | | | | | | | | | TOTAL CONN. CURRENT: 17 A |
| | | | | | | | | | | |

DEVICES SHALL BE BY A SINGLE MANUFACTURER AND COMPATIBLE AS A SYSTEM.

SHALL BE TESTED AND FULLY COMMISSIONED.

LIGHTING CONTROL DEVICE SCHEDULE NOTES:

| | BASIS OF I | DESIGN | | NUMBER OF | | | | | |
|------|-----------------|---|---|-------------------------------------|-------------------------------------|--------------------------------------|-----------------------|---|-------|
| TYPE | MANUFACTURER | MODEL | COMPARTMENTS | DUPLEX RECEPTACLES | DATA KNOCKOUTS | COVER | ACCESSORIES | DESCRIPTION | NOT |
| FA | LEGRAND | EFB45S-OG | 4 | 2 | 2 | EFB45BTC##TR | EFB8-MB | ON GRADE FLOOR BOX. SURFACE STYLE COVER WITH SOLID LID. | 1,2 |
| PA | LEGRAND | 6ATCSP | 2 | 2 | 2 | 6AT2PPCR## | EFB8-MB | FIRE RATED POKE-THRU. PRE-WIRED DUPLEX RECEPTACLE OUTLETS AND CENTER BRACKET FOR DATA. | 1 |
| PB | LEGRAND | 6ATCFF | 2 | 0 | 0 | 6CFFTCFF## | 5PTHA, 12FFHA, 575CHA | FIRE RATED POKE-THRU. FURNITURE FEED COVER. | 1,2 |
| RA | LEGRAND | AF2KC2111PA | 4 | 2 | 2 | N/A | N/A | RAISED FLOOR BOX. FLUSH STYLE COVER WITH CARPET LID INSERT. | 1,2,3 |
| RB | LEGRAND | NCW111AL_M | 0 | 0 | 0 | N/A | N/A | FURNITURE POWER WHIP FROM RAISED FLOOR. | 1,2,3 |
| ۹. | WITHOUT THE WRI | OKE-THRUS LIST ITTEN APPROVA S REFERS TO TH | TED ARE THE BASIS AL OF THE ARCHITE HE MAXIMUM NUMB | ECT AND ENGINEER ER OF DATA OUTL | R ARE AT THE COI ETS THAT MAY BE | NTRACTOR'S RISH E INSTALLED IN TH | ζ. | QUIREMENTS MAY BE SUBMITTED FOR REVIEW. CONTROL DEVICES AND CABLING PROVIDED BY OTHERS UNLESS OTHERWISE NOT | |

| SA1 | LUMINIS | EC803-L1W30R1-R5-277V-BKT-K3-ECM | ARCHITECTURAL AREA LIGHTING SLD2, HEPER TERRA, SOLERA OTAY | LED | 0-10V | 3700 lm | 3000 K | 277 V | 38 VA | POST TOP LED FIXTURE WITH DECORATIVE TOP COVER. EXTERIOR RATED. PROVIDE WITH 10'-0" TALL, 4" DIAMETER ROUND POLE. BLACK FINISH. |
|---------|--------------------------|---|---|-----|----------|----------|--------|-------|--------|---|
| SB1 | LUMINIS | LQ627-L1L10-R5-277V-BKT-K3 | BEGA B84063, HEPER NORMA, SOLERA SSQB | LED | 0-10V | 1200 lm | 3000 K | 277 V | 13 VA | SQUARE LED BOLLARD. EXTERIOR RATED. 6" SQUARE BY 42" TALL. BLACK FINISH. |
| SF1 | ERCO | 35702.023 | HEPER VEGA, LUMENPULSE LQS, TARGETTI DAM | LED | 0-10V | 2000 lm | 3000 K | 277 V | 19 VA | SURFACE MOUNTED LED WALL WASH FLOOD. EXTERIOR RATED. BLACK FINISH. |
| | ERCO | 35174.023 | GRIVEN MOON, HEPER ZEROX S HYBRID, JARGETH KPL | LED | 0-10V | 950 lm | 3000 K | 277 V | 8 VA | AIMABLE LED WELL LIGHT. NARROW SPOT. EXTERIOR RATED. BLACK FINISH. |
| | LITHONIA | DSX1-P2-30K-T4M-MVOLT-SPA-NLTAIR 2-PIRH-DBLXD-G1 | | LED | WIRELESS | 8000 lm | 3000 K | 277 V | 70 VA | RECTANGULAR LED AREA LIGHT. EXTERIOR RATED. TYPE 4 DISTRIBUTION. BLACK FINISH. PROVIDE WITH 6" WIDE SQUARE POLE. POLE HEIGHT, INCLUDING CONCRETE BASE, SHALL NOT EXCEED 15'-0" OR 20'-0" AFG (RE:ES101). WIRELESS CONTROLS FOR AUTOMATIC DIMMING. |
| SP1B | LITHONIA | DSX1-P1-30K-T4M-MVOLT-SPA-NLTAIR 2-PIR-HS-DBLXD-G1 | BEACON VP, COOPER GALN, LSI MRM | LED | WIRELESS | 6000 lm | 3000 K | 277 V | 54 VA | SIMILAR TO TYPE SP1, EXCEPT LOWER LUMEN PACKAGE AND HOUSE SIDE SHIELD. |
| SP1C | LITHONIA | DSX1-P1-30K-TFTM-MVOLT-SPA-NLTAI R2-PIR-HS-DBLXD-G1 | | LED | WIRELESS | 6000 lm | 3000 K | 277 V | 54 VA | SIMILAR TO TYPE SP1, EXCEPT LOWER LUMEN PACKAGE, TYPE FORWARD THROW DISTRIBUTION, AND HOUSE SIDE SHIELD. |
| SP2 | LITHONIA | DSX1-P2-30K-T4M-MVOLT-SPA-NLTAIR 2-PIRH-DBLXD-G1 | | LED | WIRELESS | | 3000 K | 277 V | 140 VA | SIMILAR TO TYPE SP1, EXCEPT WITH (2) HEADS AT 180 DEGREES ON THE SAME POLE. |
| SW1 | CAMMAN LIGHTING | OW610-60-30K-CLV-MV-PSB | LIGHTWAY BLCW, | LED | 0-10V | 4400 lm | 3000 K | 277 V | 50 VA | VERTICAL WALL SCONCE WITH FLAT METAL BODY. |
| SW2 | LITHONIA | WDGE2 LED P2 30K 90CRI VW MVOLT SRM DMG DBLXD | SOLERA SLIM BEACON VPW1, LSI XWS SIL, SPITZER LIGHTING WPFP | LED | 0-10V | 2000 lm | 3000 K | 277 V | 15 VA | EXTERIOR RATED. BLACK FINISH. LED EXTERIOR WALL PACK. BLACK FINISH. |
| SW3 | LITHONIA | WDGE2 LED P2 30K 90CRI VW MVOLT SRM PE DMG DBLXD | BEACON VPW1, LSI XWS SIL, SPITZER LIGHTING WPFP | LED | 0-10V | 2000 lm | 3000 K | 120 V | 15 VA | SIMILAR TO TYPE SW2, EXCEPT WITH INTEGRAL PHOTOCELL FOR ON/OFF CONTROL. |
| INITEDI | | | | | | | | | | |
| | OR LIGHT FIXTURES GOTHAM | IVO4S D 15LM 35K 90CRI MD MIN1 MVOLT ZT NCH P AR LSS F | INTENSE LIGHTING LD4, PRESCOLITE LFR-4RDS, WILLIAMS 4PR | LED | 0-10V | 1500 lm | 3500 K | 277 V | 16 VA | ROUND 4" LED DOWNLIGHT. CLEAR SEMI SPECULAR REFLECTOR AND TRIM. |
| DR2 | GOTHAM | EVO4SH 35/15 DFR SOL MVOLT EZ1 90CRI | ALPHABET NU4, INTENSE LIGHTING LD4, WILLIAMS 4PR | LED | 0-10V | 1500 lm | 3500 K | 277 V | 14 VA | SIMILAR TO TYPE DR1, EXCEPT RATED FOR SHOWERS. |
| EX1 | LITHONIA | EDGR 1 R EL | DUAL-LITE LE, LSL LSX, MULE CEL | LED | | | | 277 V | 5 VA | EDGE LIT LED EXIT SIGN WITH RED LETTERS ON A MIRROR PANEL. INTEGRAL BATTERY POWER.TOP MOUNTED TO CEILING ABOVE AND CENTERED ABOVE DOOR. REFER TO DRAWINGS FOR NUMBER AND DIRECTION OF CHEVRONS. |
| EX2 | LITHONIA | EDG 2 RMR EL | DUAL-LITE LES, LSL LSX, MULE CEL | LED | | | | 277 V | 5 VA | EDGE LIT LED EXIT SIGN WITH RED LETTERS ON A MIRROR PANEL. INTEGRAL BATTERY POWER. SIDE MOUNTED TO WALL. REFER TO DRAWINGS FOR NUMBER AND DIRECTION OF CHEVRONS. |
| EX3 | LITHONIA | EDG 1 R EL | DUAL-LITE LES, LSL LSX, MULE CEL | LED | | | | 277 V | 5 VA | EDGE LIT LED EXIT SIGN WITH RED LETTERS ON A MIRROR PANEL. INTEGRAL BATTERY POWER. BACK MOUNTED TO WALL ABOVE AND CENTERED ABOVE DOOR. REFER TO DRAWINGS FOR NUMBER AND DIRECTION OF CHEVRONS. |
| GP1 | ALW | MR3 D5 SS HI 90 3500K V00 LENS MIN 90 3500K V00 N SB UNV N N | BASO CIRCLE 2.5, GLIGHTING GL-2308, LUMENWERX CURV3RIP, OCL SL1 | LED | 0-10V | 17700 lm | 3500 K | 277 V | 183 VA | 5 FOOT RADIUS, CIRCULAR DECORATIVE PENDANT. SEPARATE CONTROLS FOR DIRECT AND INDIRECT. BLACK FINISH. |
| GP2 | ALW | MR3 D4 SS HI 90 3500K V00 LENS MIN 90 3500K V00 N SB UNV N N | BASO CIRCLE 2.5, GLIGHTING GL-2307, LUMENWERX CURV3RIP, OCL SL1 | LED | 0-10V | 14200 lm | 3500 K | 277 V | 145 VA | SIMILAR TO TYPE GP1, EXCEPT 4 FOOT RADIUS. |
| IS1 | LITHONIA | CSS L48 4000LM MVOLT 35K 80CRI | COLUMBIA MPS, SIGNIFY SDS, WILLIAMS FS | LED | 0-10V | 4000 lm | 3500 K | 277 V | 35 VA | 4 FOOT SURFACE MOUNTED STRIPLIGHT WITH LENS. |
| IS2 | LITHONIA | CSVT L48 5000LM MVOLT 35K 80CRI | COLUMBIA LXEM, DAY-BRITE V3W, WILLIAMS 96 | LED | NON-DIM | 5000 lm | 3500 K | MVOLT | 42 VA | 4 FOOT VAPORTIGHT STRIPLIGHT WITH LENS. |
| JS2 | LUMINII | LL42-SO-35K-SL, K45V-F CHANNEL, PS010V-96-24-LOG | DIODELED DI24VBLBSC1, KELVIX UNI3, TIVOLI TPLE | LED | 0-10V | 100 lm | 3500 K | 277 V | 1 VA | TAPE LIGHT WITH 45 DEGREE FROSTED LENSED CHANNEL. 1,2 PROVIDE WITH POWER SUPPLY SIZED FOR TOTAL LENGTH. |
| LP1 | CORONET | LS1 SHARP UPDN XX 35 MED MED UNV DB W AC AVI BAT WFL NA DC SJ-WHT | AXIS TB2DILED, NULITE LP13-B, SIGNIFY TM0 | LED | 0-10V | 1200 lm | 3500 K | 277 V | 14 VA | SUSPENDED LINEAR LED WITH 2" APERTURE AND LOUVERS 1,2 FOR CUTOFF. SEPARATE CONTROLS FOR DIRECT AND INDIRECT. WHITE FINISH. |
| LP2 | CORONET | LS3 XX 35 HIGH UNV DB W AC FL NA NA SJ-WHT | AXIS TB3DLED, LUX ILLUMINAIRE EOS 3.0m-P-D, NULITE RP44 | LED | 0-10V | 800 lm | 3500 K | 277 V | 8 VA | SUSPENDED LINEAR LED WITH 3" APERTURE. WHITE FINISH. 1,2 |
| LR1 | ALW | SP4R/PR3 MUD S MIN 90 3500K V01 CR/ASY SW | AXIS BBPRLED, LEDALITE 3901L, LUMENWERX VIA4R | LED | 0-10V | 350 lm | 3500 K | 277 V | 3 VA | RECESSED LED PERIMETER LINEAR WITH ASYMMETRIC OUTPUT. AIM ASYMMETRIC OUTPUT OUT FROM WALL. 1,2 |
| LR2 | CORONET | LS1R SHARP XX 35 MED UNV DB W W | | LED | 0-10V | 609 lm | 3500 K | 277 V | 7 VA | RECESSED LINEAR LED WITH 2" APERTURE AND LOUVERS 1,2 FOR CUTOFF. WHITE FINISH |
| | LUMINII | RUNW 48" 60X2HO 35K F 6 WN | OCL DA1 | LED | 0-10V | 400 lm | 3500 K | 277 V | 7 VA | WALL MOUNTED AIMABLE SIGN LIGHT. BRUSHED NICKEL 1,2 FINISH. 6" STAND OFFS. |
| | LITHONIA | 2ALL4 48L EZ1 LP835 | COLUMBIA LCAT24-S, FINELITE HPR, PINNACLE TR24, SIGNIFY FFX | LED | 0-10V | 4750 lm | 3500 K | MVOLT | 40 VA | RECESSED LED 2x4 TROFFER WITH CENTER ACRYLIC LENS. |
| U1 | | UNLE 2 35K WH TDE-WH UN100i | AXIS BCUC, SSL LINC, VODE LIGHTING 707-Z2 | LED | 0-10V | 600 lm | 3500 K | 277 V | 12 VA | LED UNDERCABINET LIGHT FIXTURE WITH INTEGRAL ON/OFF SWITCH. 24" LONG. PROVIDE ALL ACCESSORIES NECESSARY FOR A COMPLETE AND FUNCTIONAL INSTALLATION. |
| | LITHONIA | WL4 30L EZ1 LP835 MSD7 DIM1 EL7L | COLUMBIA MPS, SIGNIFY FLP, WILLIAMS SLF | LED | NON-DIM | 3000 lm | 3500 K | 277 V | 28 VA | SURFACE MOUNTED LED STRIP FIXTURE FOR STAIRWELL LIGHTING. INTEGRAL OCCUPANCY SENSOR. LIGHT FIXTURE SHALL DIM TO 10% WHEN NO OCCUPANCY DETECTED BUT SHALL NOT TURN OFF. INTEGRAL EMERGENCY BATTERY. |
| WS2 | ASL | VBOM-22-18-DV-3CCT-BRUSHED NICKEL | DALS LEDVAN003, VISUAL COMFORT & CO 700BCBAU | LED | 0-10V | 1400 lm | 3500 K | 277 V | 18 VA | HORIZONTAL WALL SCONCE WITH FLAT METAL BODY. NICKEL FINISH. |
| WS3 | CAMMAN LIGHTING | OW610-36-35K-CLV-MV-PNL | LIGHTWAY BLCW, OCL IL1, SOLERA SLIM | LED | 0-10V | 2400 lm | 3500 K | 277 V | 30 VA | VERTICAL WALL SCONCE WITH FLAT METAL BODY. NICKEL FINISH. |
| LIGHT | FIXTURE SCHEDULE G | ENERAL NOTES: | | 1 | l | I | 1 | ı | | |

PROVIDE LIGHT FIXTURES FROM THE LIST OF MANUFACTURERS AND MODELS OR APPROVED EQUIVALENTS. ADDITIONAL LIGHT FIXTURES SHALL ONLY BE ACCEPTED IF SUBMITTED WITH AN APPROVED SUBSTITUTION FORM. LIGHT FIXTURES BID WITHOUT BEING LISTED AS AN APPROVED EQUIVALENT AND WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT AND ENGINEER ARE AT THE CONTRACTOR'S RISK. PROVIDE ALL MOUNTING AND SUPPORT HARDWARE AS REQUIRED PER THE MANUFACTURER INSTALLATION REQUIREMENTS AND TO MEET SPECIFIED MOUNTING HEIGHTS. PROVIDE UNSWITCHED HOT CONDUCTOR TO ALL LIGHT FIXTURES AND EXIT SIGNS WITH EMERGENCY BATTERY BACK-UP POWER.

FINAL LIGHT FIXTURE FINISHES SHALL BE CONFIRMED BY ARCHITECT PRIOR TO ORDERING.

LIGHT FIXTURE SCHEDULE NOTES: LUMENS AND VA ARE PER FOOT. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LENGTH.

HOEFER WELKER 4622 PENNSYLVANIA AVENUE KANSAS CITY, MO 64112 P: 913.307.3700

NOTES

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REVISION DATES: 3 ADDENDUM #3 11/18/2024

NUMBER PE-2021003162 PE-2021003162 NALESSONA

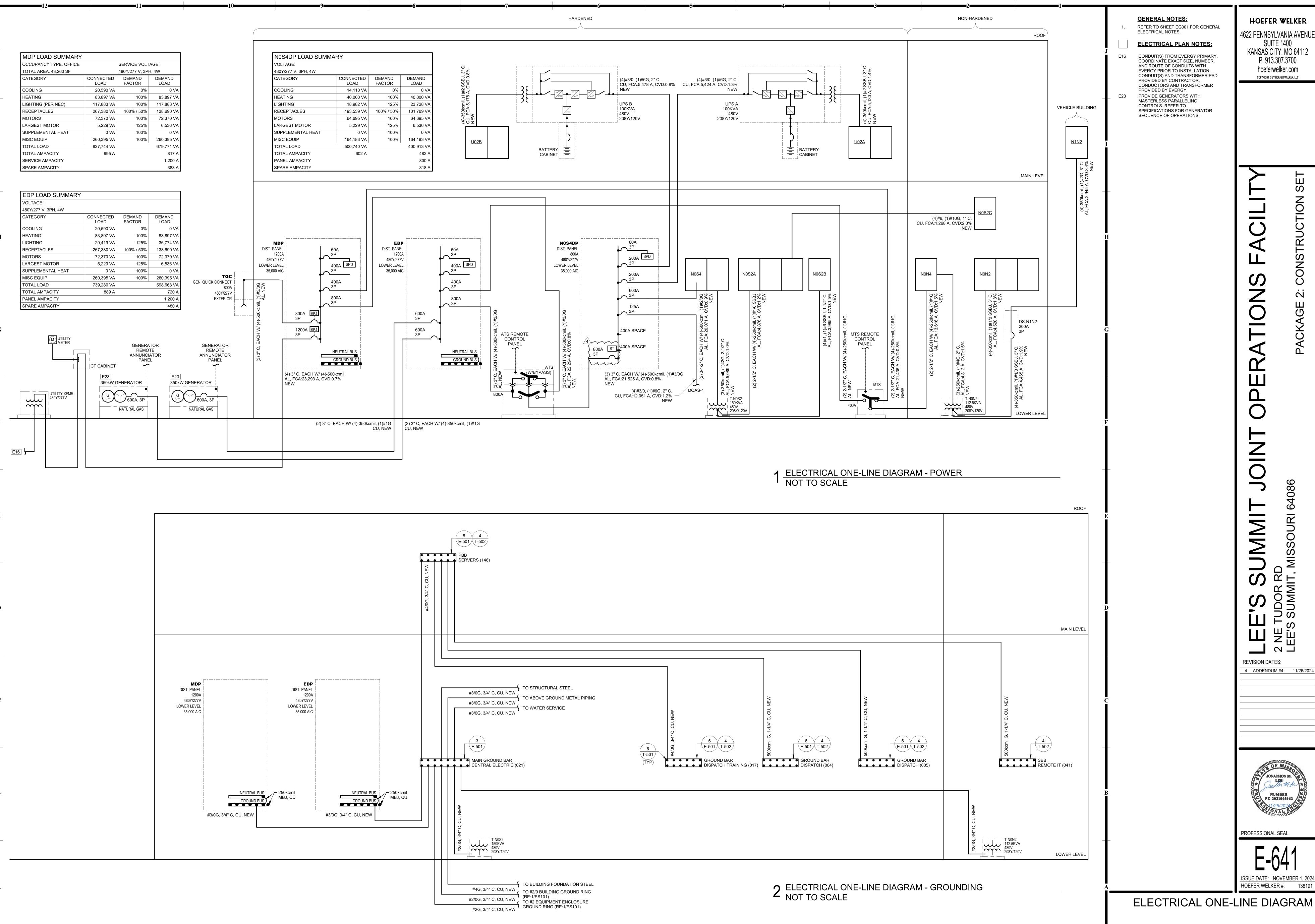
PROFESSIONAL SEAL

HOEFER WELKER #: 138191

ELECTRICAL SCHEDULES

COORDINATE EXACT A/V BRACKET WITH A/V VENDOR PRIOR TO ORDERING.

PROVIDE WITH MODULAR RAISED FLOOR WIRING SYSTEM. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.



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REVISION DATES: 4 ADDENDUM #4 11/26/2024



PROFESSIONAL SEAL

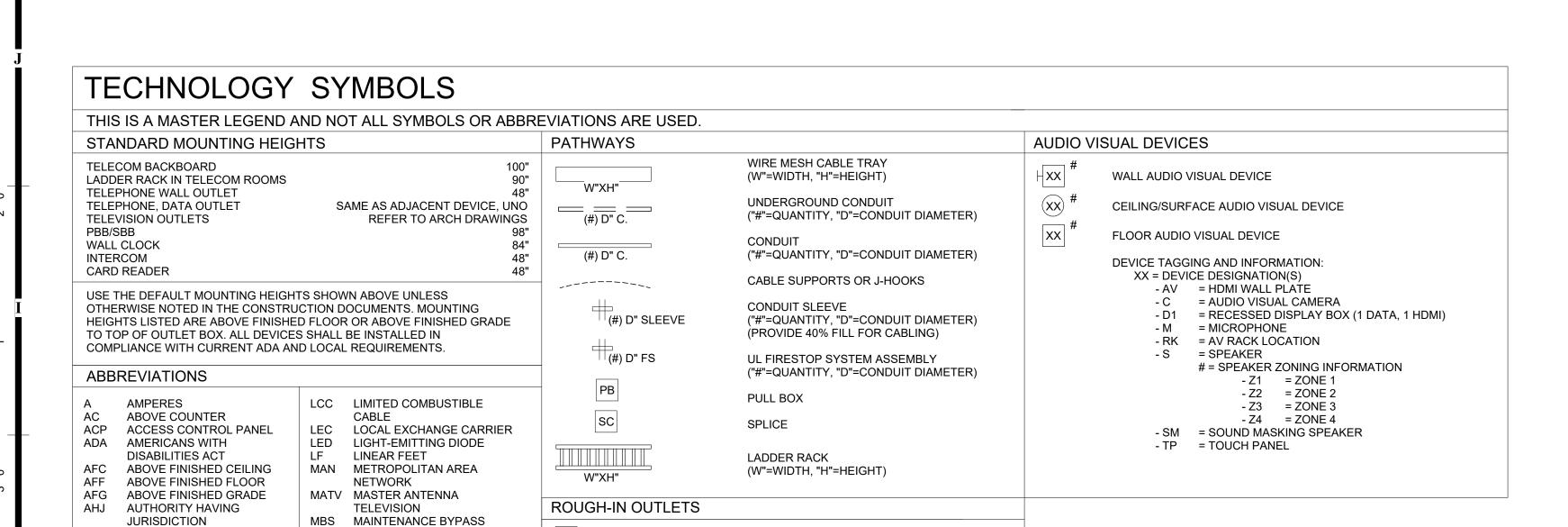
4622 PENNSYLVANIA AVENUE

KANSAS CITY, MO 64112

PROFESSIONAL SEAL

HOEFER WELKER #: 138191

TECHNOLOGY LEGEND AND **GENERAL NOTES**



WALL BOX ROUGH-IN

CEILING ROUGH-IN

FLOOR BOX ROUGH-IN

POKE THROUGH ROUGH-IN

DEVICE TAGGING AND INFORMATION

XX = DEVICE DESIGNATION(S)

- AV = AUDIOVISUAL

- CR = CARD READER

- F = FURNITURE FEED

- IC = VIDEO INTERCOM

- MD = MOTION DETECTOR

- MP = MICROPHONE

- PB = PANIC BUTTON

- RE = REQUEST TO EXIT

WALL PHONE OUTLET, "XX" INDICATES NUMBER OF PHONE

WALL PHONE/DATA OUTLET. "P" INDICATES NUMBER OF

- D = DATA

- KP = KEYPAD

- S = SPEAKER

TELECOM SYMBOLS LEGEND

PORTS.

EQUIPMENT SYMBOLS LEGEND

SECURITY SYMBOLS LEGEND

WALL MOUNT SYMBOL

PEDESTAL MOUNT SYMBOL

CEILING/SURFACE MOUNT SYMBOL

DEVICE TAGGING AND INFORMATION XX = DEVICE DESIGNATION(S)

CAMERA, ARC REPRESENTS VIEWING ANGLE AND DIRECTION

ZZ: CAMERA HEIGHT (IF APPLICABLE)

-AR = RESCUE ASSISTANCE TWO-WAY

= CARD READER DESIGNATION(S)

- 1 = MULLION MOUNT CARD READER

- 2 = SINGLE GANG CARD READER

-DS = DOOR CONTACT/DOOR POSITION SWITCH

- 2 = VIDEO INTERCOM W/ CARD READER

-TP = TRAFFIC ARM PUSHBUTTON - OPEN/CLOSE

= VIDEO INTERCOM DESIGNATION(S)

= INTRUSION ALARM SPEAKER

- 1 = VIDEO INTERCOM

COMMUNICATOR -CR = PROXIMITY CARD READER

= DOOR RELEASE

-ER = EMERGENCY PHONE

-IC = VIDEO INTERCOM

-GB = GLASS BREAK SENSOR

-IH = INTRUSION ALARM HUB -IK = INTRUSION ALARM KEYPAD

-MD = MOTION DETECTOR -PB = PANIC BUTTON

-VD = VEHICLE DETECTOR

-RE = REQUEST TO EXIT

- XX: CAMERA NUMBER

- TV = TELEVISION

- AR = RESCUE ASSISTANCE

- CAM = SECURITY CAMERA

| | PHONE PORTS, "D" INDICATES NUMBER OF DATA PORTS. | | |
|----|---|----------------|--------------------------|
| | WALL DATA OUTLET, "XX" INDICATES TYPE/NUMBER OF DATA PORTS. | | |
| | CEILING DATA OUTLET, "XX" INDICATES TYPE/NUMBER OF DATA PORTS. | | |
| | WIRING DEVICE TAGGING AND INFORMATION: XX = DEVICE DESIGNATION(S) | DEVICE TYPE | DEVICE DE |
| | - #D = DISPATCH FEED, # INDICATES NUMBER OF | DEVIOLITIE | 2 PORT DATA FLOOR OUTL |
| | PORTS | 2 | 2 PORT DATA WALL OUTLE |
| | - #F = FURNITURE FEED, # INDICATES NUMBER OF | <u>-</u> 4 | 4 PORT DATA FLOOR OUTL |
| | PORTS | <u>+</u> 4F | 4 PORT DATA FURNITURE I |
| | - DW - DIGFLAT WALL AV BACKBOX | | 5 PORT DATA WALL OUTLE |
| | - TV = 2 PORT DATA WITH 1 COAX FOR TELEVISION WAP = 2 PORT DATA FOR WIRELESS ACCESS POINT | 7 | 7 PORT DATA WALL OUTLE |
| | MIDO MALL BUONE OUTLET | | |
| | | 3D | 8 PORT DATA FLOOR FEED |
| | I | BF DD | 8 PORT DATA FURNITURE I |
| | <u> </u> | | 9 PORT DATA WALL OUT |
| | EL COR RATA CUITUET HUM INDICATECANI MARER OF RATA | 10 | 10 PORT DATA WALL OUTL |
| | DORTS | 11 | 11 PORT DATA WALL OUTL |
| | <u> </u> | 16F | 16 PORT DATA FLOOR FUR |
| | | AV | AV BACKBOX (2 DATA, 1 HD |
| | DUONE DODTO HOUNDIOATECANIADED OF DATA DODTO | 0 | AUDIO VISUAL CAMERA |
| | <u> </u> | CR1 | MULLION CARD READER |
| | | CR2 | SINGLE GANG CARD READ |
| ΕN | TO THIS OLD LLOCKS | OW | 2 PORT DATA WALL OUTLE |
| | <u> </u> | ED | EXTERIOR DOME CAMERA |
| | <u> </u> | C2 | VIDEO INTERCOM WITH CA |
| | WALL PANEL "XX" INDICATES TYPE CHECK ABBREVIATIONS | D | INTERIOR DOME CAMERA |
| | LIST FOR TYPE. | RK | AV RACK LOCATION |
| | | 3 | SPEAKER |
| П | | SM | SOUND MASKING SPEAKER |
| | 4-PUST RAUN | ГР | WALL MOUNT TOUCHPANE |
| | | ΓV | 2 PORT DATA WALL OUTLE |
| Ш | 3\(\[\] | NAP | 3 PORT DATA OUTLET FOR |
| | | NPO | 1 PORT DATA WALL PHONE |
| | 2-POST RACK | | |
| Υ | SYMBOLS LEGEND | | |
| | | | |

| DEVICE TYPE | DEVICE DESCRIPTION | INFRASTRUCTURE BOX | INFRASTRUCTURE CONDUIT |
|--------------------|--|--|---|
| 2 | 2 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| 2 | 2 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKED | OX(1) 1" C. TO ACCESSIBLE CEILING |
| 4 | 4 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| 4F | 4 PORT DATA FURNITURE FEED | N/A | (1) 1" C. TO ACCESSIBLE CEILING |
| 5 | 5 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| 7 | 7 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| 8D | 8 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY |
| 8F | 8 PORT DATA FURNITURE FEED | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY |
| 9D | 9 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY |
| 10 | 10 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(2) 1" C. TO ACCESSIBLE CEILING |
| 11 | 11 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(2) 1" C. TO ACCESSIBLE CEILING |
| 16F | 16 PORT DATA FLOOR FURNITURE FEED | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(2) 1" C. TO ACCESSIBLE CEILING |
| AV | AV BACKBOX (2 DATA, 1 HDMI) | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(2) 1" C. TO ACCESSIBLE CEILING |
| С | AUDIO VISUAL CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| CR1 | MULLION CARD READER | N/A | (1) 1" C. TO ACCESSIBLE CEILING |
| CR2 | SINGLE GANG CARD READER | 1 GANG, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX | (1) 1" C. TO ACCESSIBLE CEILING |
| DW | 2 PORT DATA WALL OUTLET FOR DISPLAY WALL | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| ED | EXTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| IC2 | VIDEO INTERCOM WITH CARD READER | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| ID | INTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| RK | AV RACK LOCATION | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(2) 1" C. TO ACCESSIBLE CEILING |
| S | SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO ACCESSIBLE CEILI |
| SM | SOUND MASKING SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO ACCESSIBLE CEILI |
| TP | WALL MOUNT TOUCHPANEL | INSTALL AV PROVIDER'S BOX INCLUDED WITH TOUCH PANEL | (2) 1" C. TO ACCESSIBLE CEILING |
| TV | 2 PORT DATA WALL OUTLET FOR TELEVISION | CHIEF #WMPAC526 BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING |
| WAP | 3 PORT DATA OUTLET FOR WIRELESS ACCESS POINT | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |
| WPO | 1 PORT DATA WALL PHONE OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBO | OX(1) 1" C. TO ACCESSIBLE CEILING |

| | | SCOPE AND RESPONS | IBILITY MAT | RIX | | | |
|-------------------|--------------------------------|---|-------------|----------|---------|---------|--|
| CATEGORY | SYSTEM | DESCRIPTION | DESIGN | DOCUMENT | FURNISH | INSTALL | COMMENTS |
| | ROUGH-IN | UNDERGROUND CONDUITS, MANHOLES | GC | HW | GC | GC | XX |
| SITE UTILITIES | CABLING | FIBER | VENDOR | HW | VENDOR | VENDOR | VENDOR IS MARTIN UNDERGROUND |
| | COORDINATION | COORDINATION WITH SERVICE PROVIDER | OWNER | | I. | XX | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX |
| | CABLING | HORIZONTAL & VERTICAL CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | xx |
| ELECOMMUNICATIONS | RACK INFRASTRUCTURE | RACKS, CABINETS, PATCH PANELS | HW | HW | GC | GC | XX |
| | EQUIPMENT | SERVERS AND SWITCHES | OWNER | OWNER | OWNER | OWNER | XX |
| | UPS | UPS EQUIPMENT | HW/OWNER | HW | GC | GC | XX |
| | FIBER | ROUTE/ACCESS TO BUILDING | VENDOR | HW | VENDOR | VENDOR | HW TO DOCUMENT CONDUIT ONLY CONDUIT WITH INTERDUCT |
| | PHONE SYSTEM | VOIP CABLING AND INFRASTRUCTURE | | HW | GC | GC | XX |
| | WIRELESS DATA/INTERNET (WI-FI) | -FI) WIRELESS ACCESS POINTS | | HW | OWNER | OWNER | INFRASTRUCTURE AND CABLING B |
| | CELLULAR WIRELESS (DAS) | ROUGH-IN, EQUIPMENT, AND CABLING | VENDOR | HW | VENDOR | VENDOR | XX |
| 540 | RADIO TOWER | TOWER, STRUCTURE, ECT. | VENDOR | VENDOR | VENDOR | VENDOR | XX |
| DAS | EMERGENCY RESPONDER (DAS) | ROUGH-IN, EQUIPMENT, AND CABLING FOR POLICE, FIRE, AMBULANCE COMMUNICATIONS | VENDOR | HW | VENDOR | VENDOR | xx |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX |
| | POWER SUPPLIES | 120V/24V OR 12V | VENDOR | HW | VENDOR | VENDOR | XX |
| CECUDITY CYCTEMO | CABLING | SECURITY CABLING | VENDOR | HW | GC | GC | XX |
| SECURITY SYSTEMS | EQUIPMENT | CAMERAS, CARD READERS, SENSORS, ECT. | VENDOR | HW | VENDOR | VENDOR | XX |
| | SOFTWARE | APPLICATIONS | OWNER | | 1 | XX | |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | OWNER | | | XX | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX |
| | CABLING | CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | XX |
| ALIDIOA/ICHAI | RACK INFRASTRUCTURE | RACKS, CABINETS, PATCH PANELS | HW | HW | GC | GC | XX |
| AUDIO/VISUAL | EQUIPMENT | SERVERS, TELEVISIONS, PAGING, ECT. | HW | HW | GC | GC | XX |
| | SOFTWARE | APPLICATIONS, PROGRAMMING | OWNER | | | | XX |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | GC/VENDOR | | | XX | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE |
| | CABLING | CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE |
| COUND MACKING | RACK INFRASTRUCTURE | DSP/AMP | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE |
| SOUND MASKING | EQUIPMENT | SPEAKERS/EMITTERS | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE |
| | SOFTWARE | APPLICATIONS, PROGRAMMING | | 1WO | NER | ı | SOUND MASKING IS AN ALTERNATE |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | | GC/VE | NDOR | | SOUND MASKING IS AN ALTERNATE |

| | INFRASTRUCTURE SCHEDULE | | | | | | |
|-------------|--|---|--|--|--|--|--|
| DEVICE TYPE | DEVICE DESCRIPTION | INFRASTRUCTURE BOX | INFRASTRUCTURE CONDUIT | | | | |
|) | 2 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| 2 | 2 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| ļ | 4 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| ŀF | 4 PORT DATA FURNITURE FEED | | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| 5 | 5 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| 7 | 7 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| BD | 8 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | | | | |
| BF | 8 PORT DATA FURNITURE FEED | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | | | | |
|)D | 9 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | | | | |
| 10 | 10 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| 1 | 11 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| 16F | 16 PORT DATA FLOOR FURNITURE FEED | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| ٨V | AV BACKBOX (2 DATA, 1 HDMI) | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| 2 | AUDIO VISUAL CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| CR1 | MULLION CARD READER | N/A | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| CR2 | SINGLE GANG CARD READER | 1 GANG, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| OW | 2 PORT DATA WALL OUTLET FOR DISPLAY WALL | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| D | EXTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| C2 | VIDEO INTERCOM WITH CARD READER | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| D | INTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| RK | AV RACK LOCATION | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| 3 | SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO ACCESSIBLE CEILIN | | | | |
| SM | SOUND MASKING SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO ACCESSIBLE CEILIN | | | | |
| Р | WALL MOUNT TOUCHPANEL | INSTALL AV PROVIDER'S BOX INCLUDED WITH TOUCH PANEL | (2) 1" C. TO ACCESSIBLE CEILING | | | | |
| V | 2 PORT DATA WALL OUTLET FOR TELEVISION | CHIEF #WMPAC526 BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| VAP | 3 PORT DATA OUTLET FOR WIRELESS ACCESS POINT | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |
| VPO | 1 PORT DATA WALL PHONE OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACKBOX | (1) 1" C. TO ACCESSIBLE CEILING | | | | |

| | SCOPE AND RESPONSIBILITY MATRIX | | | | | | | | | |
|--------------------|---------------------------------|---|----------|--------|--------|--------|--|--|--|--|
| CATEGORY | | | | | | | | | | |
| | ROUGH-IN | UNDERGROUND CONDUITS, MANHOLES | GC | HW | GC | GC | XX | | | |
| SITE UTILITIES | CABLING | FIBER | VENDOR | HW | VENDOR | VENDOR | VENDOR IS MARTIN UNDERGROUND | | | |
| | COORDINATION | COORDINATION WITH SERVICE PROVIDER | | OWI | NER | | XX | | | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX | | | |
| | CABLING | HORIZONTAL & VERTICAL CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | xx | | | |
| TELECOMMUNICATIONS | RACK INFRASTRUCTURE | RACKS, CABINETS, PATCH PANELS | HW | HW | GC | GC | XX | | | |
| | EQUIPMENT | SERVERS AND SWITCHES | OWNER | OWNER | OWNER | OWNER | XX | | | |
| | UPS | UPS EQUIPMENT | HW/OWNER | HW | GC | GC | XX | | | |
| | FIBER | ROUTE/ACCESS TO BUILDING | VENDOR | HW | VENDOR | VENDOR | HW TO DOCUMENT CONDUIT ONLY. (4)-4" CONDUIT WITH INTERDUCT | | | |
| | PHONE SYSTEM | VOIP CABLING AND INFRASTRUCTURE | OWNER/HW | HW | GC | GC | XX | | | |
| | WIRELESS DATA/INTERNET (WI-FI) | WIRELESS ACCESS POINTS | OWNER | HW | OWNER | OWNER | INFRASTRUCTURE AND CABLING BY GC | | | |
| | CELLULAR WIRELESS (DAS) | ROUGH-IN, EQUIPMENT, AND CABLING | VENDOR | HW | VENDOR | VENDOR | XX | | | |
| DAS | RADIO TOWER | TOWER, STRUCTURE, ECT. | VENDOR | VENDOR | VENDOR | VENDOR | XX | | | |
| DAG | EMERGENCY RESPONDER (DAS) | ROUGH-IN, EQUIPMENT, AND CABLING FOR POLICE, FIRE, AMBULANCE COMMUNICATIONS | VENDOR | HW | VENDOR | VENDOR | xx | | | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX | | | |
| | POWER SUPPLIES | 120V/24V OR 12V | VENDOR | HW | VENDOR | VENDOR | XX | | | |
| SECURITY SYSTEMS | CABLING | SECURITY CABLING | VENDOR | HW | GC | GC | XX | | | |
| SECORITI STSTEMS | EQUIPMENT | CAMERAS, CARD READERS, SENSORS, ECT. | VENDOR | HW | VENDOR | VENDOR | XX | | | |
| | SOFTWARE | APPLICATIONS | | OWNER | | | XX | | | |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | OWNER | | | XX | | | | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | XX | | | |
| | CABLING | CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | XX | | | |
| AUDIO/VISUAL | RACK INFRASTRUCTURE | RACKS, CABINETS, PATCH PANELS | HW | HW | GC | GC | XX | | | |
| NODIO/ VIOO/ L | EQUIPMENT | SERVERS, TELEVISIONS, PAGING, ECT. | HW | HW | GC | GC | XX | | | |
| | SOFTWARE | APPLICATIONS, PROGRAMMING | OWNER | | | | XX | | | |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | | GC/VE | NDOR | | XX | | | |
| | ROUGH-IN | RACEWAYS, BOXES | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE | | | |
| | CABLING | CABLING, CABLE TERMINATIONS, FACE PLATES | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE | | | |
| SOUND MASKING | RACK INFRASTRUCTURE | DSP/AMP | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE | | | |
| JOURD MACKING | EQUIPMENT | SPEAKERS/EMITTERS | HW | HW | GC | GC | SOUND MASKING IS AN ALTERNATE | | | |
| | SOFTWARE | APPLICATIONS, PROGRAMMING | | OWI | NER | | SOUND MASKING IS AN ALTERNATE | | | |
| | COMMISSIONING | VERIFY OPERATION AFTER INSTALLATION | | GC/VE | NDOR | | SOUND MASKING IS AN ALTERNATE | | | |
| | | | | | | | | | | |

| | | | | | OVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING |
|------------|---|---|--|--------------------|--|
| | | | | | |
| | | INFRASTRUCTURE SCHEDULE | | | TECHNOLOGY SHEET INDEX |
| EVICE TYPE | DEVICE DESCRIPTION | INFRASTRUCTURE BOX | INFRASTRUCTURE CONDUIT | SHEET NUME | SHEET NAME |
| | 2 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | TG001 | TECHNOLOGY LEGEND AND GENERAL NOTES |
| | 2 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | TS100 | TECHNOLOGY SITE PLAN |
| | 4 PORT DATA FLOOR OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | T-100 | LOWER LEVEL - TECHNOLOGY PLAN |
| | 4 PORT DATA FURNITURE FEED | N/A | (1) 1" C. TO ACCESSIBLE CEILING | T-101 | MAIN LEVEL - TECHNOLOGY PLAN |
| | 5 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | T-110 | LOWER LEVEL - TECHNOLOGY CABLE TRAY PLAN |
| | 7 PORT DATA WALL OUTLET | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | T-111 | MAIN LEVEL - TECHNOLOGY CABLE TRAY PLAN |
|) | 8 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | T-120 | LOWER LEVEL - TECHNOLOGY UNDERFLOOR CABLE TRAY |
| | 8 PORT DATA FURNITURE FEED | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | | PLAN |
|) | 9 PORT DATA FLOOR FEED FOR DISPATCH STATION | N/A | (1) 2" C. TO UNDERFLOOR RACEWAY | T-121 | MAIN LEVEL - TECHNOLOGY UNDERFLOOR CABLE TRAY |
| | 10 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(2) 1" C. TO ACCESSIBLE CEILING | | PLAN |
| | 11 PORT DATA WALL OUTLET | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(2) 1" C. TO ACCESSIBLE CEILING | T-200 | LOWER LEVEL - TECHNOLOGY ALTERNATE PLAN |
| F | 16 PORT DATA FLOOR FURNITURE FEED | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(2) 1" C. TO ACCESSIBLE CEILING | T-201 | MAIN LEVEL - TECHNOLOGY ALTERNATE PLAN |
| / | AV BACKBOX (2 DATA, 1 HDMI) | 4 SQUARE WITH 2 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(2) 1" C. TO ACCESSIBLE CEILING | T-401 | ENLARGED TECHNOLOGY PLANS |
| | AUDIO VISUAL CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | T-501 | TECHNOLOGY DETAILS |
| R1 | MULLION CARD READER | N/A | (1) 1" C. TO ACCESSIBLE CEILING | T-502 | TECHNOLOGY DETAILS |
| R2 | SINGLE GANG CARD READER | 1 GANG, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX | (1) 1" C. TO ACCESSIBLE CEILING | | |
| V | 2 PORT DATA WALL OUTLET FOR DISPLAY WALL | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | | |
|) | EXTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | | |
| 2 | VIDEO INTERCOM WITH CARD READER | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | | |
| | INTERIOR DOME CAMERA | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(1) 1" C. TO ACCESSIBLE CEILING | | |
| (| AV RACK LOCATION | 4 SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BAG | CKBOX(2) 1" C. TO ACCESSIBLE CEILING | | |
| | SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO | ACCESSIBLE CEILING | |
| Л | SOUND MASKING SPEAKER | INSTALL AV PROVIDER'S SPEAKER BACK CAN | (1) 3/4" C. BETWEEN DEVICES AND (1) 3/4" C. HOMERUN TO | ACCESSIBLE CEILING | |
| | | | | | |

| SHEET NUMBER | SHEET NAME |
|--------------|---|
| TG001 | TECHNOLOGY LEGEND AND GENERAL NOTES |
| TS100 | TECHNOLOGY SITE PLAN |
| T-100 | LOWER LEVEL - TECHNOLOGY PLAN |
| T-101 | MAIN LEVEL - TECHNOLOGY PLAN |
| T-110 | LOWER LEVEL - TECHNOLOGY CABLE TRAY PLAN |
| T-111 | MAIN LEVEL - TECHNOLOGY CABLE TRAY PLAN |
| T-120 | LOWER LEVEL - TECHNOLOGY UNDERFLOOR CABLE TRAY PLAN |
| T-121 | MAIN LEVEL - TECHNOLOGY UNDERFLOOR CABLE TRAY PLAN |
| T-200 | LOWER LEVEL - TECHNOLOGY ALTERNATE PLAN |
| T-201 | MAIN LEVEL - TECHNOLOGY ALTERNATE PLAN |
| T-401 | ENLARGED TECHNOLOGY PLANS |
| T-501 | TECHNOLOGY DETAILS |
| T-502 | TECHNOLOGY DETAILS |

GENERAL LOW VOLTAGE NOTES:

EXCEEDED BY THIS DESIGN.

SUBMISSION OF BID.

1. FEDERAL, STATE, LOCAL, MUNICIPAL AND UTILITY COMPANY CODES, RULES AND REGULATIONS APPLY UNLESS

REQUIREMENTS SHALL BE REMOVED BY CONTRACTOR WHERE DIRECTED BY CONTRACT ADMINISTRATOR.

3. PRIOR TO SUBMITTING BID, THE CONTRACTOR AND SUB-CONTRACTORS SHALL VISIT THE JOB SITE AND BECOME

THE CONSTRUCTION DOCUMENTS. NOTIFY CONTRACT ADMINISTRATOR OF ANY DISCREPANCIES PRIOR TO

5. THE DRAWINGS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ALL DIMENSIONS AND SIZES

ENCOUNTERED SHALL BE RECONCILED DURING THE PERFORMANCE OF THE WORK AND SHALL NOT CONSTITUTE

PROVIDE UL RATED FIRE STOPPING ASSEMBLIES AT ALL PENETRATIONS OF FIRE RATED CONSTRUCTION. SEAL ALL

9. CONTRACTOR SHALL REPAIR ALL DAMAGE TO THE BUILDING, FIXTURES AND FINISHES CAUSED BY CONTRACTOR

10. REFER TO ARCHITECTURAL PLANS ELEVATIONS AND DETAILS FOR EXACT MOUNTING REQUIREMENTS OF LOW

EXPOSED TO STRUCTURE. IN GENERAL, ALL RACEWAYS SHALL BE CONCEALED WITHIN WALLS, BELOW FLOOR

SLABS. WHERE EXPOSED CONDITIONS ARE NECESSARY OR UNAVOIDABLE DUE TO OTHER CONDITIONS, THE BID

12. NON-COMPLIANT INSTALLATIONS OF RACEWAY AND CABLE WILL NOT BE ACCEPTED AND WILL BE REQUIRED TO BE

SHALL INCLUDE ANY REASONABLE MEANS TO MINIMIZE THE AMOUNT OF SURFACE MOUNTED EQUIPMENT. PRIOR

11. SPECIAL ATTENTION SHALL BE GIVEN TO ALL RACEWAYS WITHIN FINISHED AREAS WITHOUT CEILING AND

TO ROUGH-IN, COORDINATE ALL EXPOSED RACEWAY AND BOX CONDITIONS WITH ARCHITECT PRIOR TO

SURROUNDING CEILING AND STRUCTURE. PROVIDE CONDUIT PARALLEL TO STRUCTURAL LINES IN A NEAT

14. ALL CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILINGS SHALL BE CENTERED WITHIN THE

16. ALL DEVICES SHOWN DIRECTLY ADJACENT TO EACH OTHER SHALL BE INSTALLED DIRECTLY ADJACENT TO EACH

17. DEVICES SHOWN BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF TWELVE (12) INCHES TO REDUCE SOUND

18. PROVIDE PULL STRINGS IN ALL CONDUITS AND PROTECTIVE BUSHINGS AT OPENINGS. CAP CONDUITS WHERE

20. IF THE ENCLOSURE, BOXES, AND CABINETS SPECIFIED ARE NOT PROVIDED FROM THE MANUFACTURER WITH THE

21. INSTALL ALL EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SEISMIC CODES.

AND INDUSTRY ACCEPTED RIGGING PRACTICES. SUPPORT EQUIPMENT WEIGHT FROM STRUCTURE ABOVE

REQUIRED KNOCKOUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCKOUTS TO TERMINATE THE

OTHER. ADJACENT DEVICES OF SIMILAR TYPE SHALL BE PROVIDED WITH SINGLE FACEPLATE WHERE FEASIBLE.

DURING THE PERFORMANCE OF THE WORK. REPAIRS SHALL BE PERFORMED BY QUALIFIED TRADESMEN AND

REASON FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. NOTIFY THE CONTRACT ADMINISTRATOR IF

6. ALL FEES AND OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC.

7. COORDINATE WITH ALL OTHER TRADES, MAKE ADJUSTMENTS AND OFFSETS WHERE NEEDED FOR CLEARANCE

8. COORDINATE ALL OPENINGS IN WALLS, FLOORS, ROOFS AND FOUNDATIONS WITH OTHER CONTRACTORS.

CONTRACTORS SHALL BE RESPONSIBLE FOR REVIEW OF THE GENERAL NOTES, SPECIFICATIONS AND ALL OTHER

DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF

2. NO WORK SHALL BE PERFORMED PRIOR TO REVIEW AND APPROVAL OF ALL REQUIRED SHOP DRAWINGS, PRODUCT MATERIAL AND EQUIPMENT SUBMITTALS. ANY WORK INSTALLED PRIOR TO MEETING THESE

FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. THE CONTRACTOR AND SUB-

SHALL BE FIELD VERIFIED. SMALL DEVIATIONS BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS

4. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK.

ACTUAL CONDITIONS DEVIATE SUBSTANTIALLY FROM THOSE INDICATED ON THE DRAWINGS.

REQUIREMENTS. REFER TO ALL OTHER DISCIPLINE DRAWINGS FOR COORDINATION.

SHALL BE COMPLETED IN A MANNER ACCEPTABLE TO THE CONTRACT ADMINISTRATOR.

BROUGHT TO COMPLIANCE AT NO COST TO THE OWNER PRIOR TO COMPLETION OF WORK.

13. ALL EXPOSED CONDUIT AND BOXES WITHIN EXPOSED CEILING SPACES SHALL BE PAINTED TO MATCH

15. REQUEST DIMENSIONED LOCATIONS OF ALL FLOOR DEVICES FROM ARCHITECT PRIOR TO ROUGH-IN.

LOCATED BELOW GRADE OR EXPOSED TO THE ELEMENTS IF RESERVED FOR FUTURE USE.

19. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.

ARE TO BE INCLUDED AS A PART OF THIS CONTRACT.

PENETRATIONS OF SMOKE WALLS SMOKE TIGHT.

CONSTRUCTION OF WALLS, FLOOR SLABS, OR ROOF DECK.

QUANTITY AND SIZE OF THE SPECIFIED CONDUITS.

VOLTAGE DEVICES PRIOR TO ROUGH-IN.

| | LEGEND | | | | |
|-----|------------------------------------|--|--|--|--|
| NER | OWNER SUPPLY CHAIN | | | | |
| W | HOEFER WELKER | | | | |
| С | GENERAL CONTRACTOR/SUB CONTRACTORS | | | | |
| V | LOW VOLTAGE DESIGNER | | | | |
| DOR | EQUIPMENT VENDOR | | | | |
| NK) | NOT APPLICABLE TO THIS PROJECT | | | | |
| | | | | | |

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ANSI AMERICAN NATIONAL

AUDIO-VIDEO

AWG AMERICAN WIRE GAUGE

BAS BUILDING AUTOMATION

BD BUILDING DISTRIBUTOR

BDF BUILDING DISTRIBUTION

BFC BELOW FINISHED CEILING

BIOMETRIC READER

CONTROL SYSTEM

CAMPUS DISTRIBUTOR

CATV COMMUNITY ANTENNA

TELEVISION

TELEVISION

CMP COMMUNICATIONS

SYSTEM

DECIBELS

EXISTING

ECIA ELECTRONIC

ELECTRICAL

CONTRACTOR

ASSOCIATION EMI ELECTROMAGNETIC

INTERFERENCE

EMS ENERGY MANAGEMENT

EMT ELECTRICAL METALLIC

ER EQUIPMENT ROOM

FAAP FIRE ALARM

FLR FLOOR

ETR EXISTING TO REMAIN

FACP FIRE ALARM CONTROL

FD FLOOR DISTRIBUTOR

FOR FIBER OPTIC RACK

FS FIRE STOP SYSTEM

(SHIELDED)

READER

GYP GYPSUM BOARD

CONNECT

HCM HORIZONTAL CABLE

ICS INTERCOM CONTROL

MANAGER

HH HAND HOLE

HERTZ

SYSTEM IMC INTERMEDIATE METAL

CONDUIT

KEY PAD

JB JUNCTION BOX

J-BOX JUNCTION BOX

ANNOTATION

ISP INTERNET SERVICE PROVIDER

F/UTP SCREEN TWISTED PAIR

DOOR FRAME MOUNTED

ANNUNCIATOR PANEL

FMC FLEXIBLE METAL CONDUIT

GENERAL CONTRACTOR GROUNDING EQUALIZER

GUARD TOUR CARD

HORIZONTAL CROSS-

INTERNET PROTOCOL

INSIDE PLANT CABLE

KVM KEYBOARD VIDEO MOUSE

LAN LOCAL AREA NETWORK

TECHNOLOGY PLAN CALLOUT

CONNECTION POINT OF NEW WORK TO EXISTING

THROUGHOUT THE DRAWINGS DIFFERENT LINE-TYPES ARE USED IN

COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS

FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO

THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT

INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING,

RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION

LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE,

FUTURE

DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD

ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING

WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR

EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF THE NEW

WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE

DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER. LOWER NUMBER INDICATES SHEET NUMBER

1 EQUIPMENT DESIGATION

1 SECTION CUT DESIGNATION

LINETYPE LEGEND

EXISTING

DEMOLISH — — — —

ELECTRICALLLY OPERATED BY KEY

DEMO DEMOLITION

PLENUM JACKET

DAS DISTRIBUTED ANTENNA

DCS DOOR CONTROL SYSTEM

DSP DIGITAL VIDEO RECORDER

DVR DIGITAL VIDEO RECORDER

COMPONENTS INDUSTRY

CMR COMMUNICATIONS RISER

CCTV CLOSED CIRCUIT

CENTRAL CONTROL DOOR

AP ACCESS POINT

SYSTEM

CONDUIT

CAT CATEGORY

STANDARDS INSTITUTE

MC MAIN CROSS-CONNECT

MFR MANUFACTURER MH MAINTENANCE HOLE

N/A NOT APPLICABLE

NEC NATIONAL ELECTRICAL

ASSOCATION

TESTING LAB

NIC NOT IN CONTRACT

NVR NETWORK VIDEO

OSP OUTSIDE PLANT

PBX PRIVATE BRANCH

SERVICE

PSTN PUBLIC SWITCHED

QTY QUANTITY

RCDD REGISTERED

STATION

RU RACK UNIT

EXCHANGE

RECORDER

nm NANOMETER

OC ON CENTER

MM MULTIMODE

MTD MOUNTED

MDF MAIN DISTRIBUTION FRAME

MPOE MAIN POINT OF ENTRANCE

MPOP MAIN POINT OF PRESENCE

NFPA NATIONAL FIRE PROTECTION

NRTL NATIONALLY RECOGNIZED

OSHA OCCUPATIONAL SAFETY

AND HEALTH ADMINISTRATION

POE POWER OVER ETHERNET

POTS PLAIN OLD TELEPHONE

PON PASSIVE OPTICAL NETWORK

TELEPHONE NETWORK

DISTRIBUTION DESIGNER

COMMUNICATIONS

RMC RIGID METAL CONDUIT

RMS REMOTE MONITORING

SBB SECONDARY BONDING

SCS STRUCTURED CABLING

TBB TELECOMMUNICATIONS

TIA TELECOMMUNICATIONS

TGB TELECOMMUNICATIONS

GROUND BUS BAR TMGB TELECOMMUNICATIONS

GROUND BUS BAR

TR TELECOMMUNICATIONS

UL UNDERWRITER

SUPPLY

SYSTEM

V VOLT(S)

UNO UNLESS NOTED OTHERWISE

LABORATORIES, INC.

UPS UNINTERRUPTIBLE POWER

UPSDP UNINTERRUPTIBLE POWER

SUPPLY DISRTRIBUTION

U/UTP UNSHIELDED TWISTED PAIR

VCM VERTICAL CABLE MANAGER

VCS VIDEO CONTROL SYSTEM

VMS VIDEO MANAGEMENT

WAN WIDE AREA NETWORK

WAO WORK AREA OUTLET WAP WIRELESS ACCESS POINT

WPO WALL PHONE OUTLET

WR WEATHER RESISTANT

XP EXPLOSION-PROOF

WP WEATHER PROOF

BONDING BACKBONE

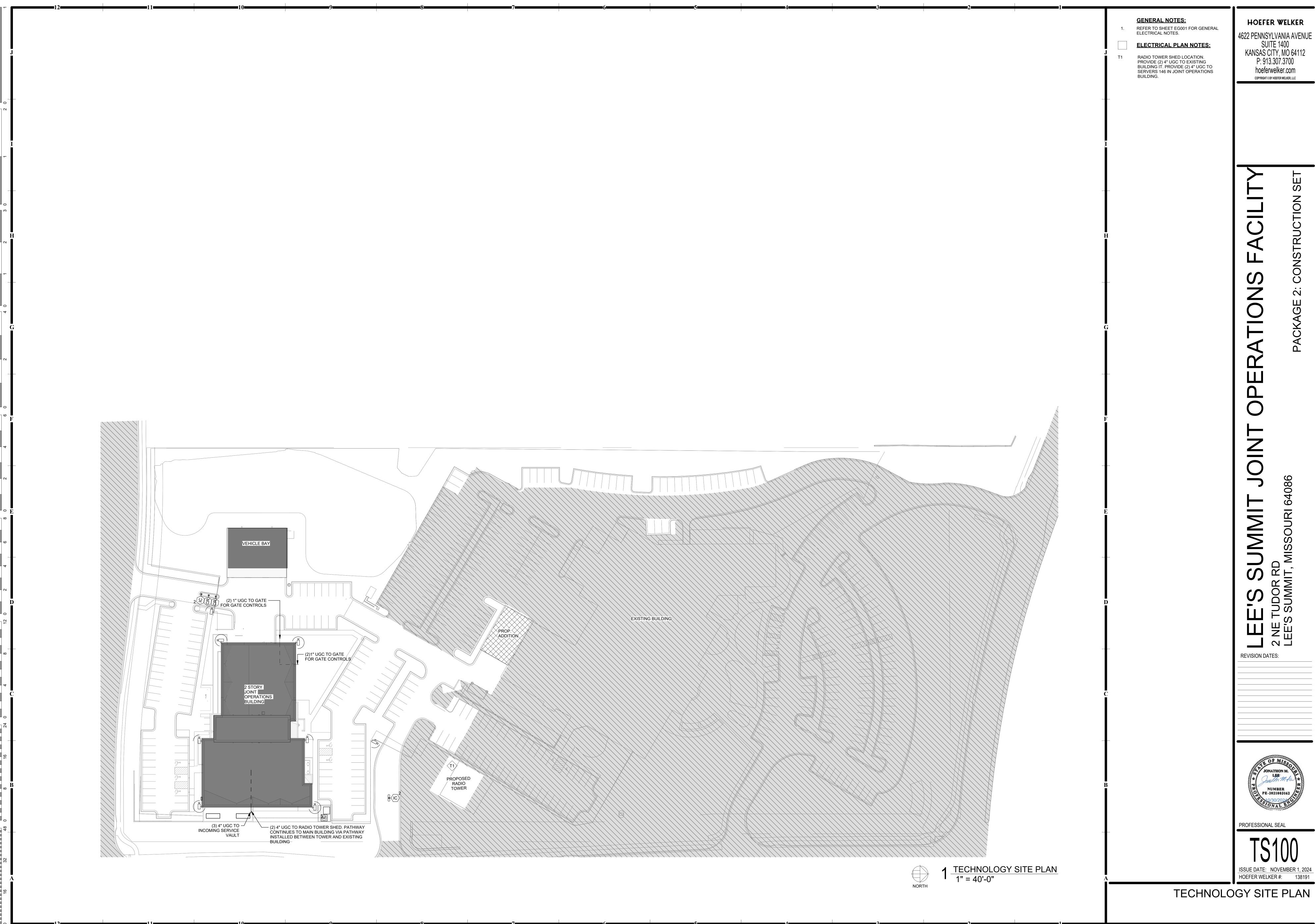
INDUSTRY ASSOCIATION

SQUARE FEET

SINGLEMODE SCRAMBLE PAD

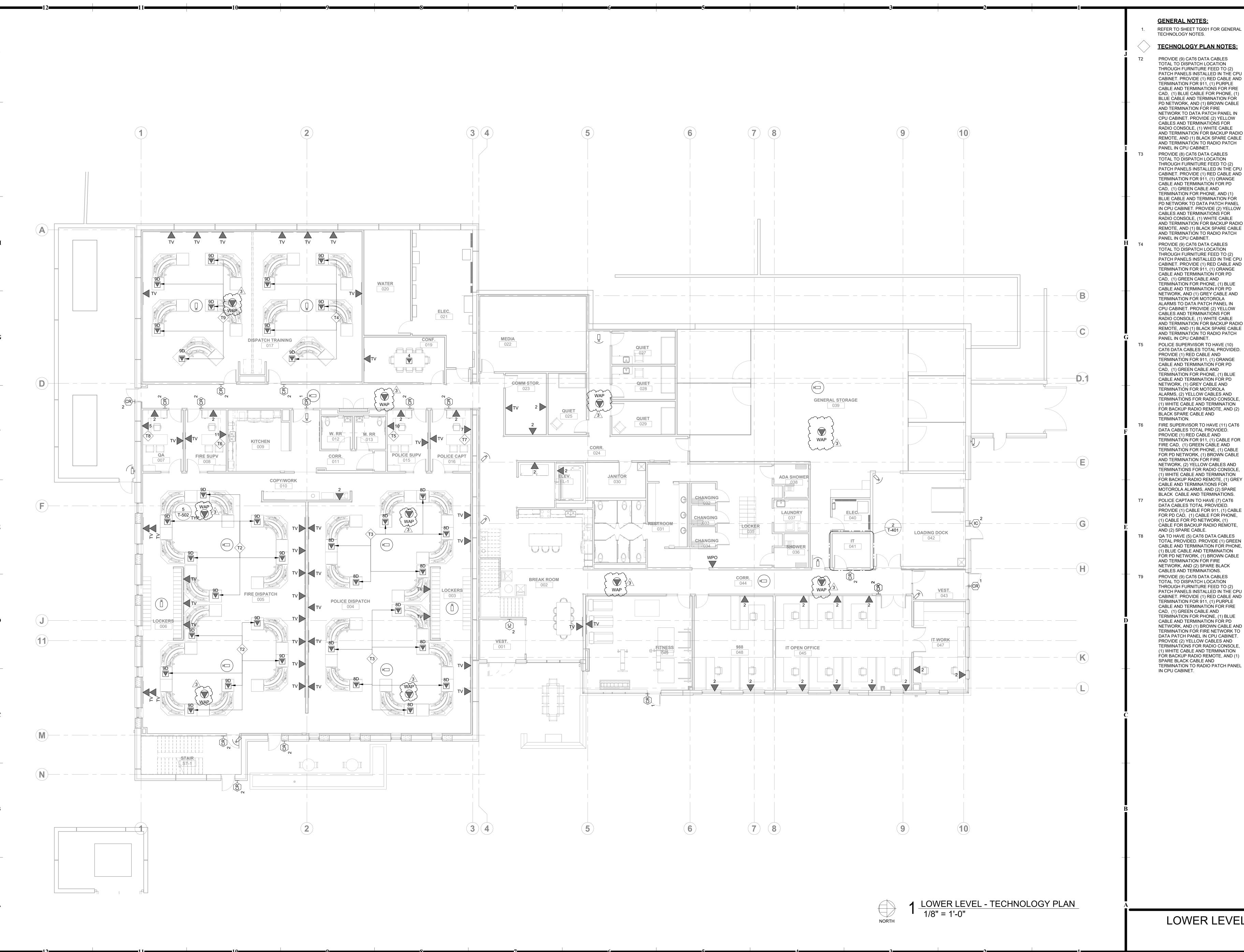
PBB PRIMARY BONDING BUSBAR

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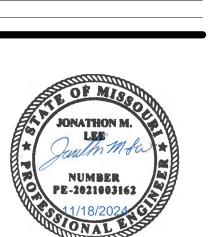
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TECHNOLOGY NOTES.

TECHNOLOGY PLAN NOTES:

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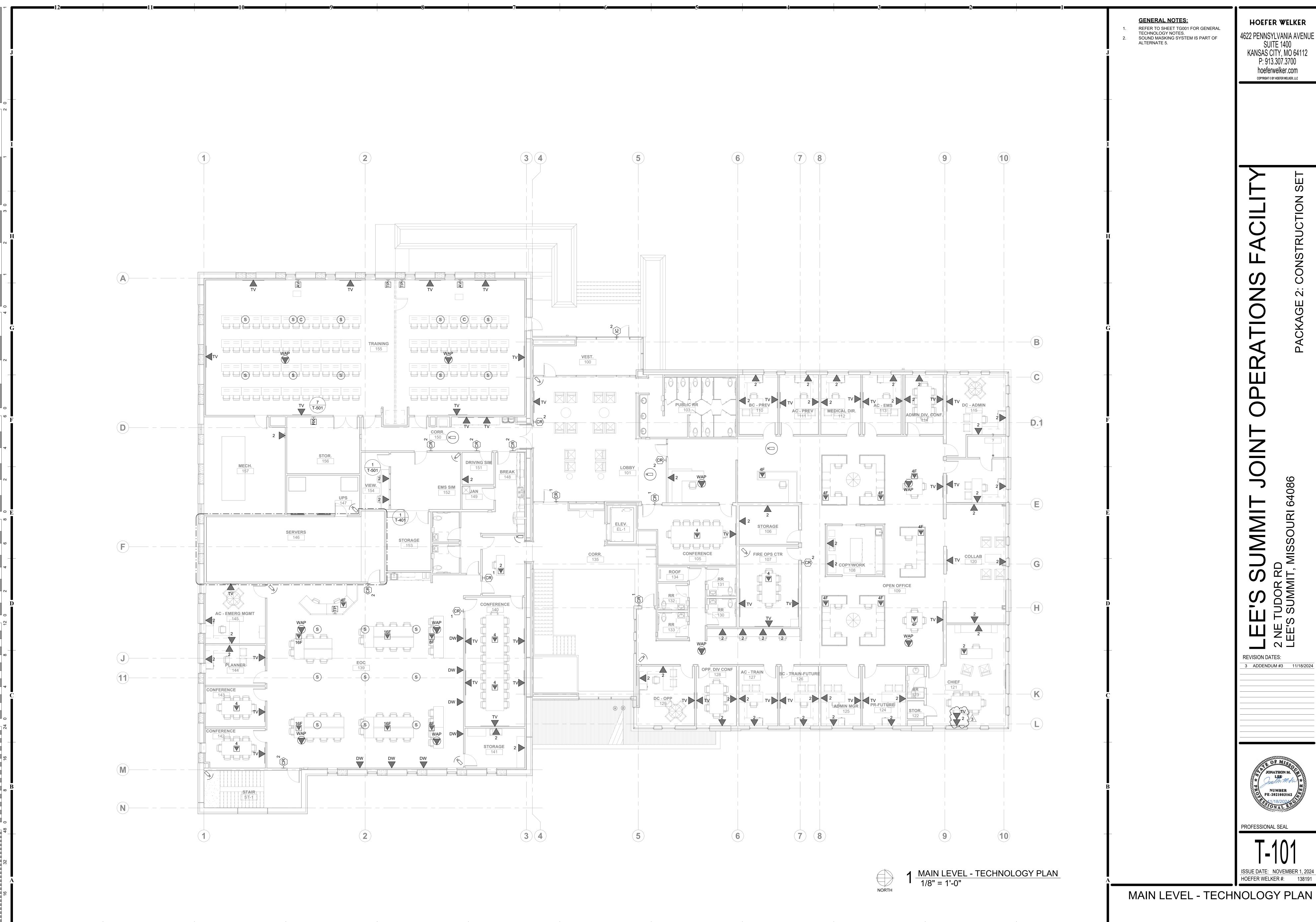


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LOWER LEVEL - TECHNOLOGY PLAN

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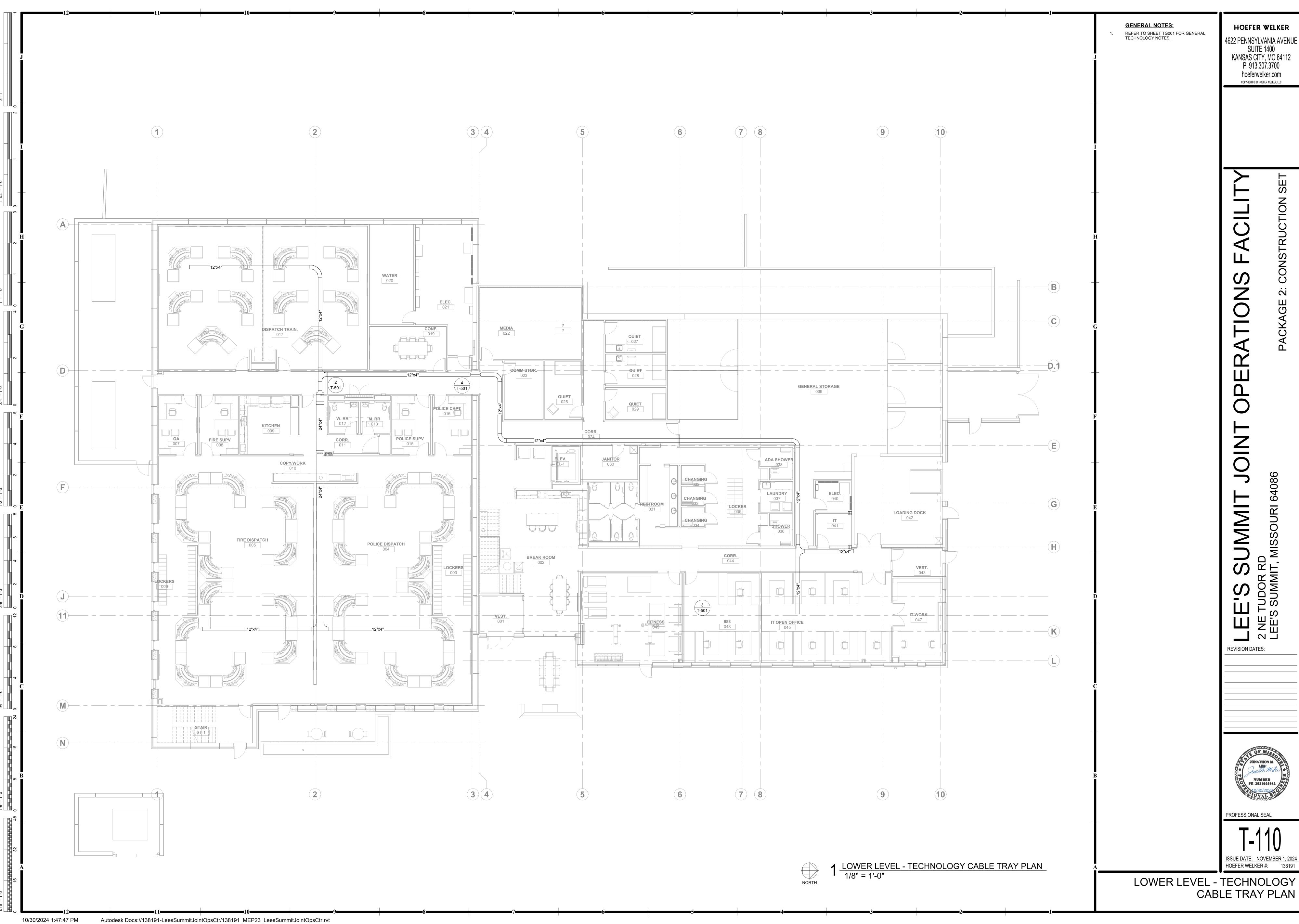
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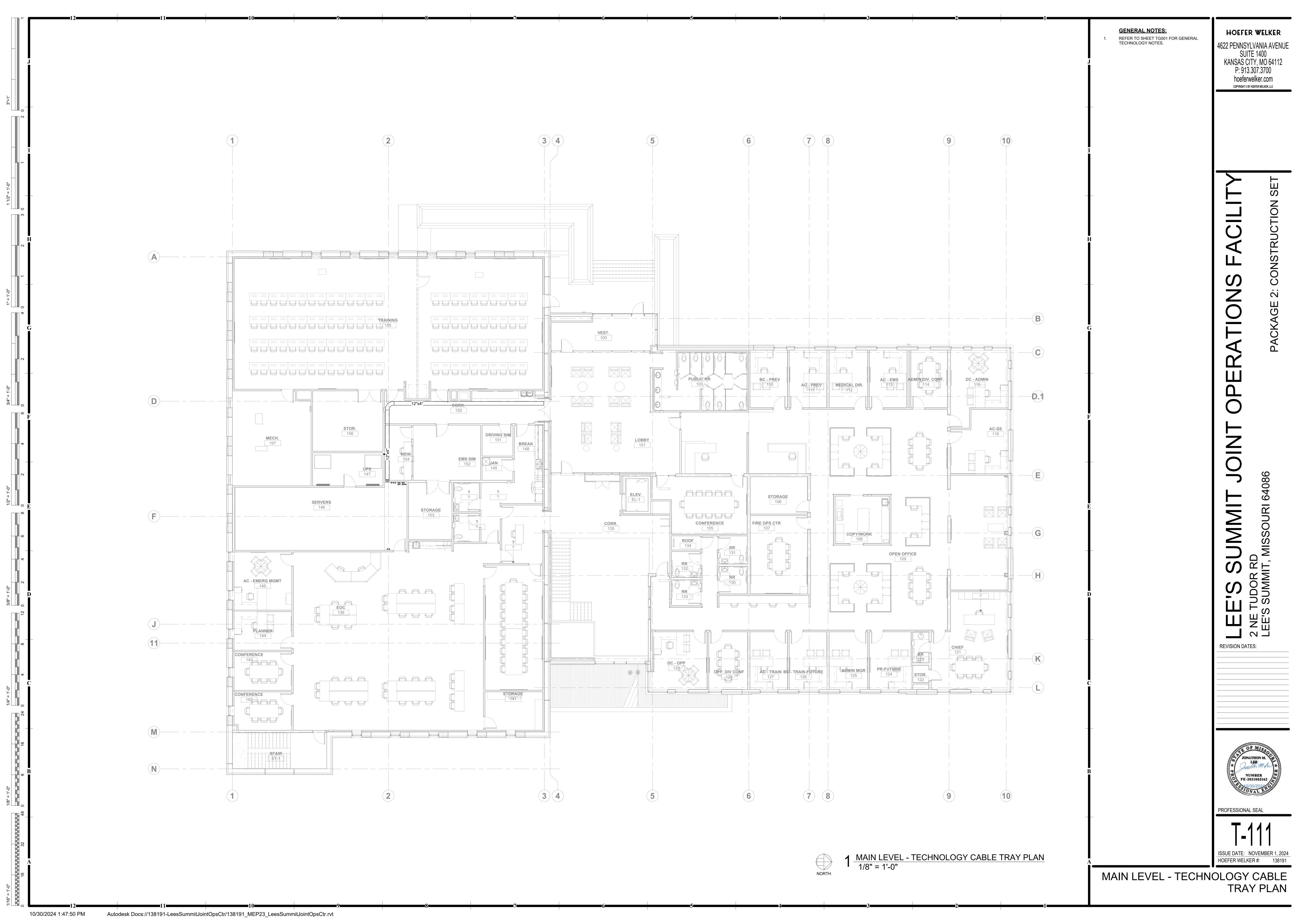
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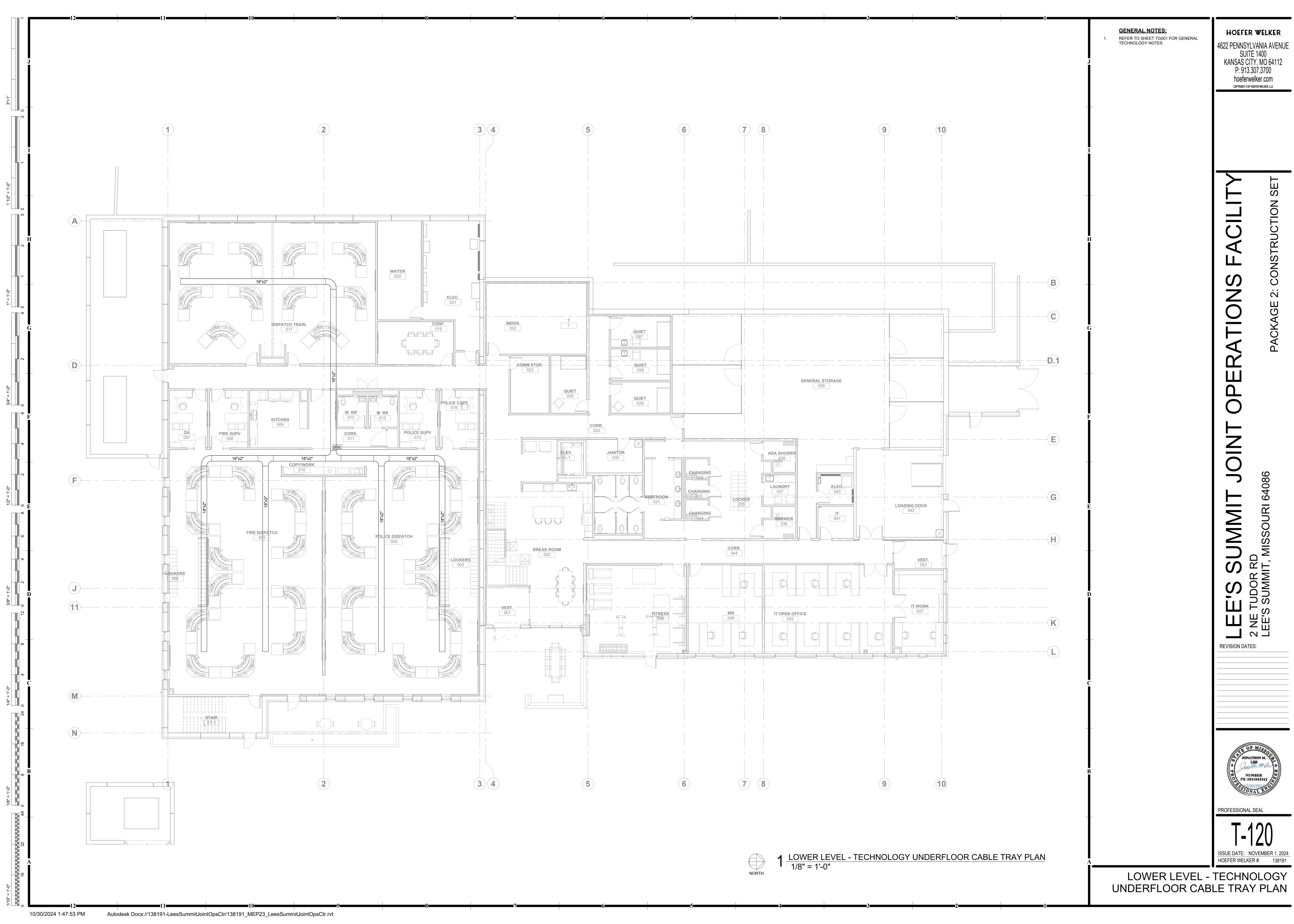
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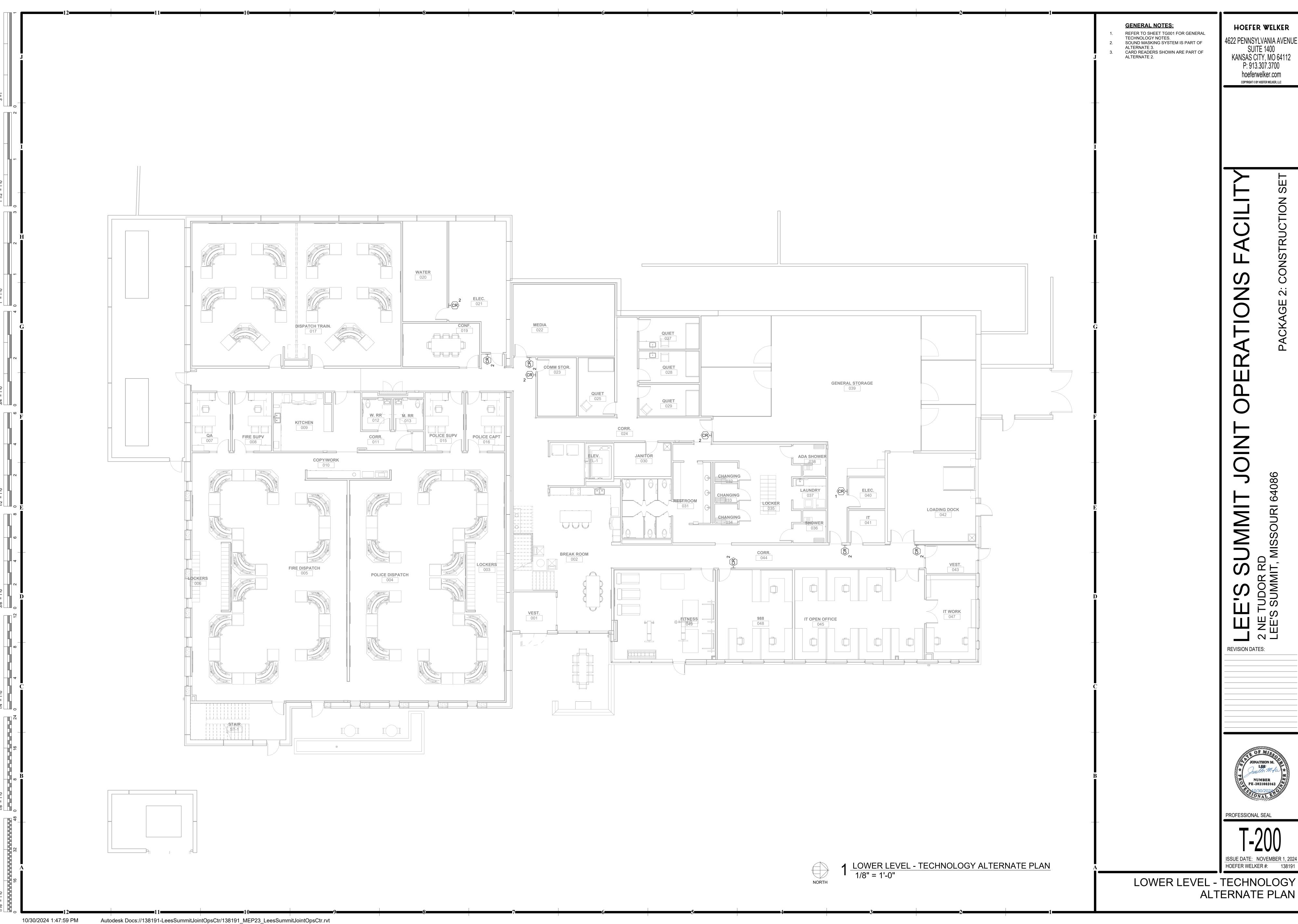




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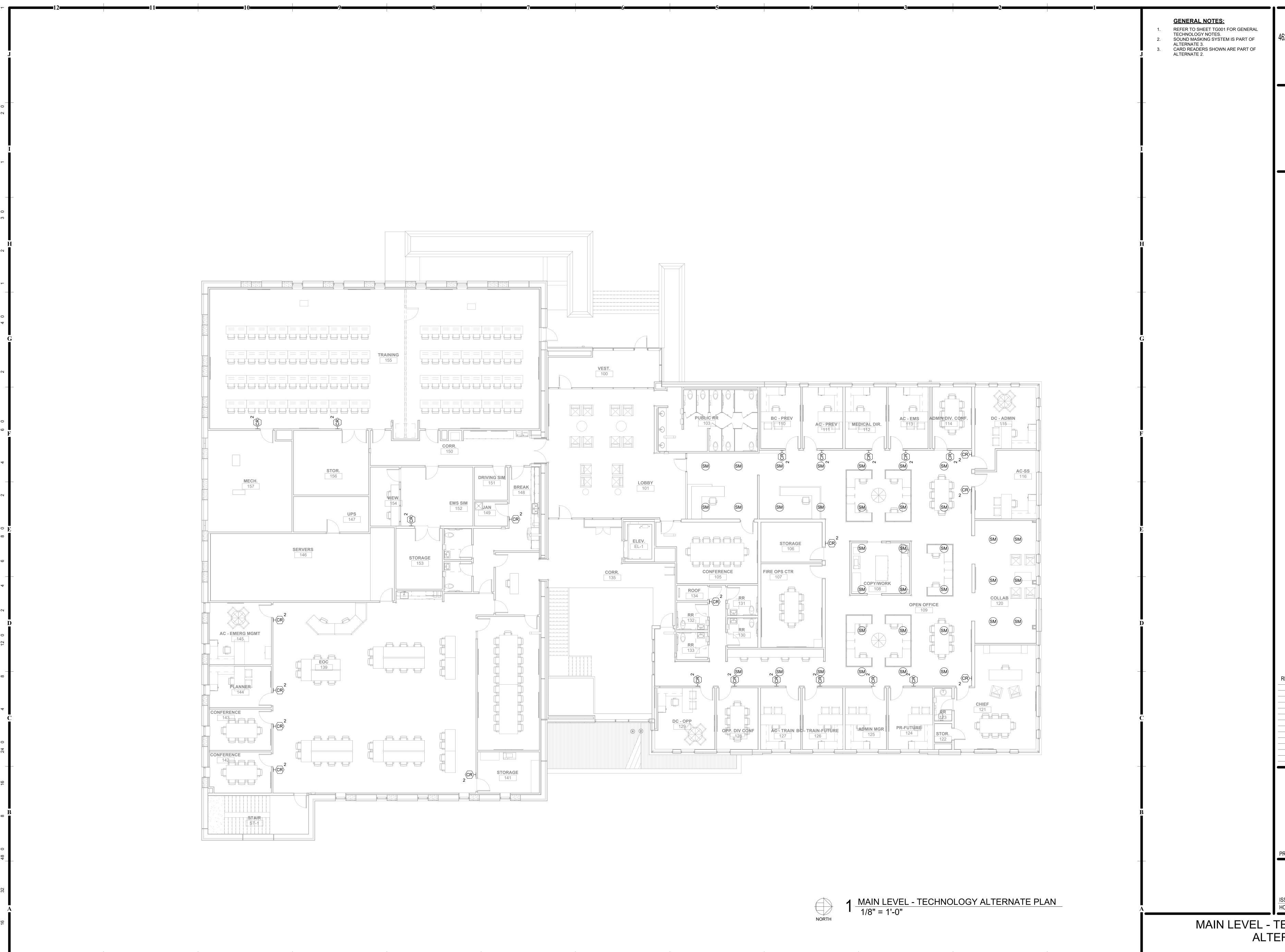
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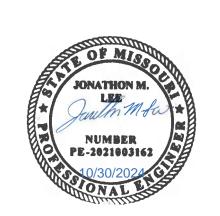


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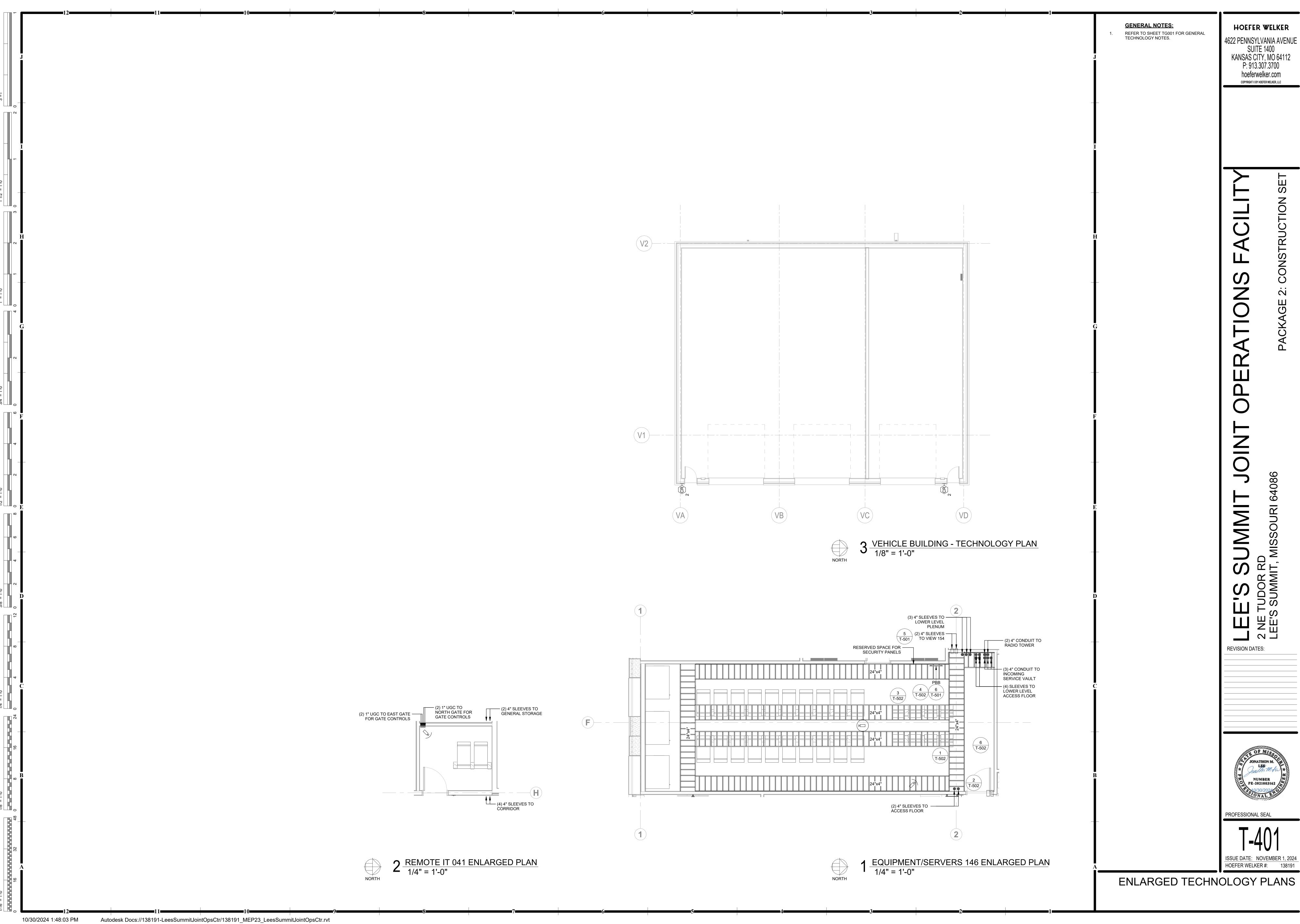


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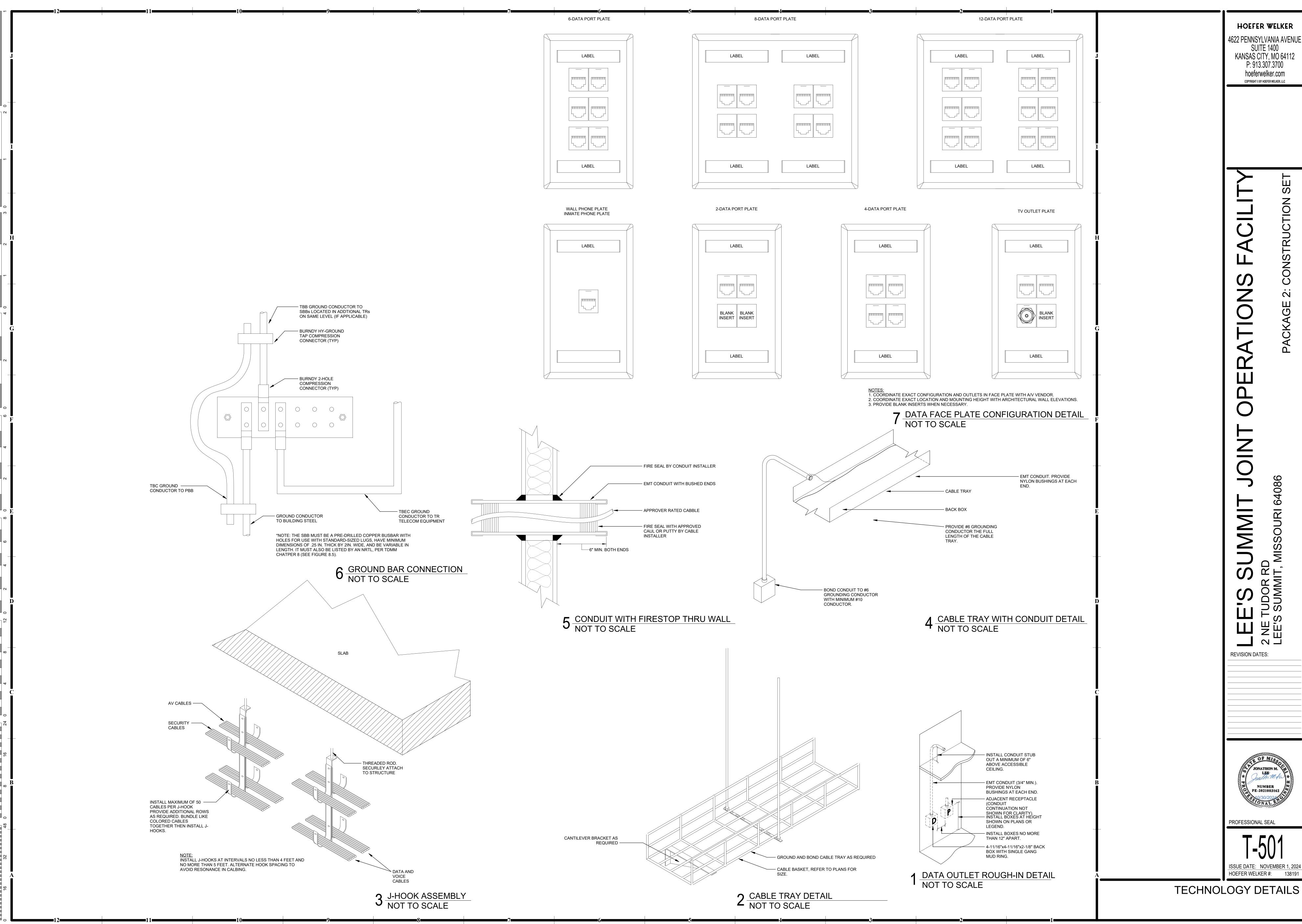
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MAIN LEVEL - TECHNOLOGY ALTERNATE PLAN

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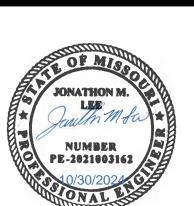
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RUCTION SET

PACKAGE 2: CONSTRUCTION SET

2 NE TUDOR RD LEE'S SUMMIT, MISSOURI 64086

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JONATHON M.

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TECHNOLOGY DETAILS