

UTES 1 BLDG. 2 RESTORATION

PELHAM RANGE, ALABAMA

ARMORY COMMISSION OF ALABAMA
ACA IFB NO. AC-22-B-0036-S

BID DOCUMENTS



DESIGN TEAM

ARCHITECTS

PWBA / ARCHITECTS, INC.
529 S. PERRY STREET, SUITE 15
MONTGOMERY, AL 36104

CIVIL ENGINEERS

LARRY E. SPEAKS &
ASSOCIATES, INC.
535 HERRON STREET
MONTGOMERY, AL 36104

MECHANICAL ENGINEERS

HHB ENGINEERS, P.C.
104 JOSIE LANE
PRATTVILLE, AL 36066

ELECTRICAL ENGINEERS

HCS GROUP, P.C.
8401 CROSSLAND LOOP
MONTGOMERY, AL 36117

ROOFING CONSULTANT

ROOF ASSET MANAGEMENT
4950 WOODFIELD DRIVE
MILLBROOK, AL 36054

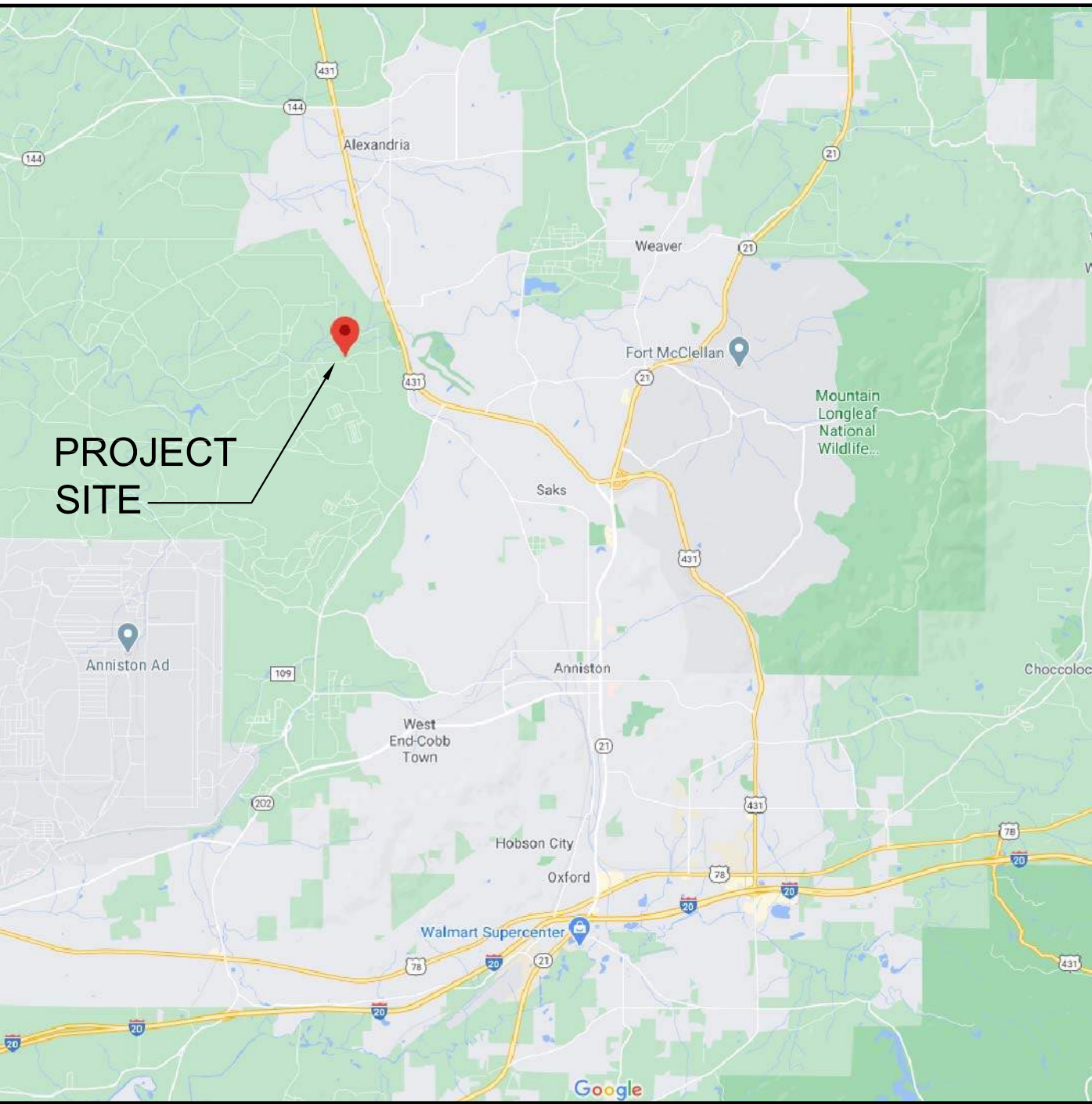
HARDWARE CONSULTANT

ALLEGION, PLC
MONTGOMERY, AL 36104

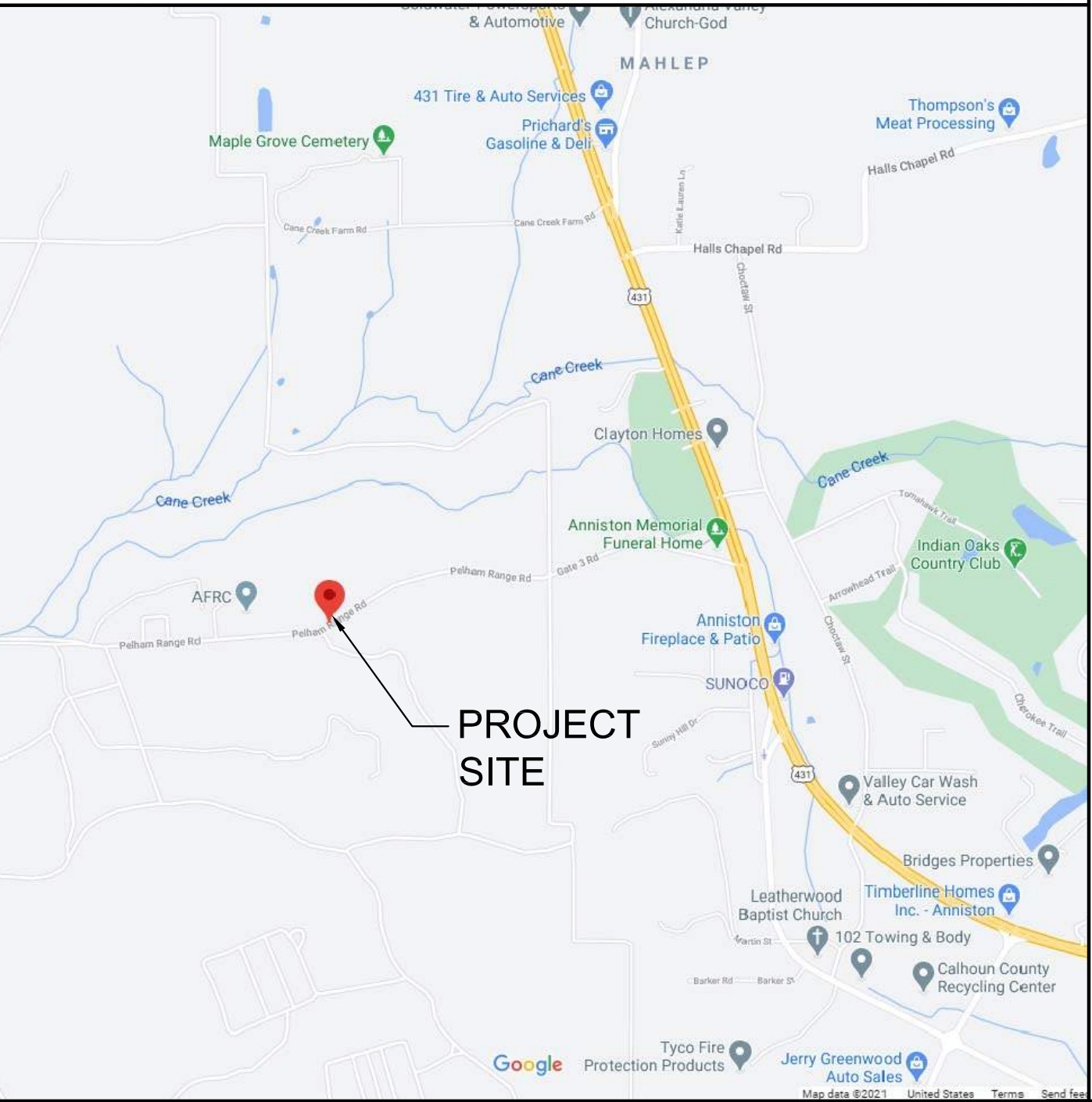
ABBREVIATIONS

ACOUST.	— ACOUSTICAL	H.M.	— HOLLOW METAL
A.F.F.	— ABOVE FINISH FLOOR	HT.	— HEIGHT
ALUM.	— ALUMINUM	INSUL.	— INSULATION
ARCH.	— ARCHITECTURAL	INT.	— INTERIOR
ATTEN.	— ATTENUATION	MANUF.	— MANUFACTURER
BOT.	— BOTTOM	MBL.	— MARBLE
C.H.	— COAT HOOK	MBL.TH.	— MARBLE THRESHOLD
C.G.	— CORNER GUARD	MECH.	— MECHANICAL
C.J.	— CONTROL JOINT	M.O.	— MASONRY OPENING
CL	— CENTER LINE	MIN.	— MINIMUM
CMU	— CONCRETE MASONRY UNIT	M.R.	— MOISTURE RESISTANT
CONC.	— CONCRETE	M.T.	— METAL THRESHOLD
DIA.	— DIAMETER	N.I.C.	— NOT IN CONTRACT
DS	— DOWNSPOUT	NO.	— NUMBER
DN	— DOWN	O.C.	— ON CENTER
EA.	— EACH	OF/GCI	— OWNER FURNISHED/GC INSTALLED
ELEC.	— ELECTRICAL	P.E.J.	— PREMOULDED EXPANSION JOINT
E.J.	— EXPANSION JOINT	PLUMB.	— PLUMBING
EQ.	— EQUAL	PNL	— POWER PANEL (SEE ELECTRICAL)
EW	— ELECTRIC WATER COOLER	RD	— ROOF DRAIN
EX.	— EXISTING	REF.	— REFRIGERATOR
EXIST.	— EXISTING	REINF.	— REINFORCING
EXT.	— EXTERIOR	SCHED.	— SCHEDULE
F.E.	— FIRE EXTINGUISHER	SIM.	— SIMILAR
F.E.C.	— FIRE EXTINGUISHER CABINET	STOR.	— STORAGE
F.D.	— FLOOR DRAIN	STRUCT.	— STRUCTURAL
FIN.	— FINISH	TBD	— TO BE DETERMINED
F.R.	— FIRE RESISTANT	THRESH	— THRESHOLD
F.S.	— FLOOR SINK	TYP.	— TYPICAL
FT	— FOOT	VCT	— VINYL COMPOSITION TILE
G.C.	— GENERAL CONTRACTOR	VTR	— VENT THROUGH ROOF
GCF/GCI	— GC FURN/GC INSTALLED	W/	— WITH
GYP. BD.	— GYPSUM BOARD	WB	— WHITE MARKER BOARD
GPM	— GALLONS PER MINUTE	W.H.	— WALL HYDRANT

VICINITY MAP



PROJECT LOCATION MAP



INDEX TO DRAWINGS

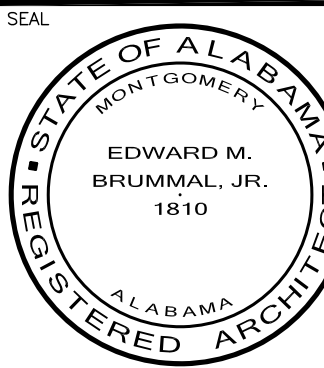
SHEET NO.	SHEET TITLE
T001	TITLE SHEET, VICINITY MAPS, AND INDEX TO DRAWINGS
CIVIL	
C0.1	EXISTING CONDITIONS AND DEMOLITION PLAN
C1.0	OVERALL SITE PLAN
C2.0	GRADING AND BEST MANAGEMENT PRACTICES PLAN
C3.0	MISCELLANEOUS DETAILS
ELECTRICAL	
E001	ELECTRICAL SYMBOL LEGEND AND ABBREVIATIONS
E002	GENERAL ELECTRICAL DESIGNATIONS
E003	GENERAL ELECTRICAL AND DEMOLITION NOTES AND SCHEDULES
E101	LIGHTING DEMOLITION FLOOR PLAN
E102	POWER AND AUXILIARY DEMOLITION FLOOR PLAN
E201	LIGHTING FLOOR PLAN
E202	LIGHTING CONTROL FLOOR PLAN
ARCHITECTURAL	
A001	SITE DEMOLITION PLAN AND NEW SITE PLAN
A002	ENLARGED PARTIAL SITE PLAN; SITE DETAILS
A003	EXISTING/DEMOLITION FLOOR PLAN
A004	EXISTING/DEMO. ROOF PLAN AND REFLECTED CEILING PLAN
A101	NEW FLOOR PLAN
A102	NEW ROOF PLAN AND REFLECTED CEILING PLAN
A200	EXISTING/DEMOLITION EXTERIOR ELEVATIONS
A300	BUILDING SECTIONS
A400	INTERIOR ELEVATIONS AND DETAILS
A601	FINISH SCHEDULE, DOOR SCHEDULE, SIGNAGE SCHEDULE
MECHANICAL	
P100	PLUMBING DEMOLITION PLAN
P200	PLUMBING PLAN
M001	MECHANICAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS
M002	MECHANICAL SCHEDULES AND DETAILS
M003	MECHANICAL DETAILS
M100	MECHANICAL DEMOLITION PLAN
M200	MECHANICAL PLAN
ELECTRICAL	
ES100	ELECTRICAL SITE LEGEND AND NOTES
ES101	ELECTRICAL SITE PLAN - DEMOLITION
ES201	ELECTRICAL SITE PLAN - NEW WORK
FA001	FIRE ALARM / MASS NOTIFICATIONS REQUIREMENTS
FA201	FIRE ALARM / MASS NOTIFICATION FLOOR PLANS

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION OF ALABAMA
ALEXANDRIA, ALABAMA

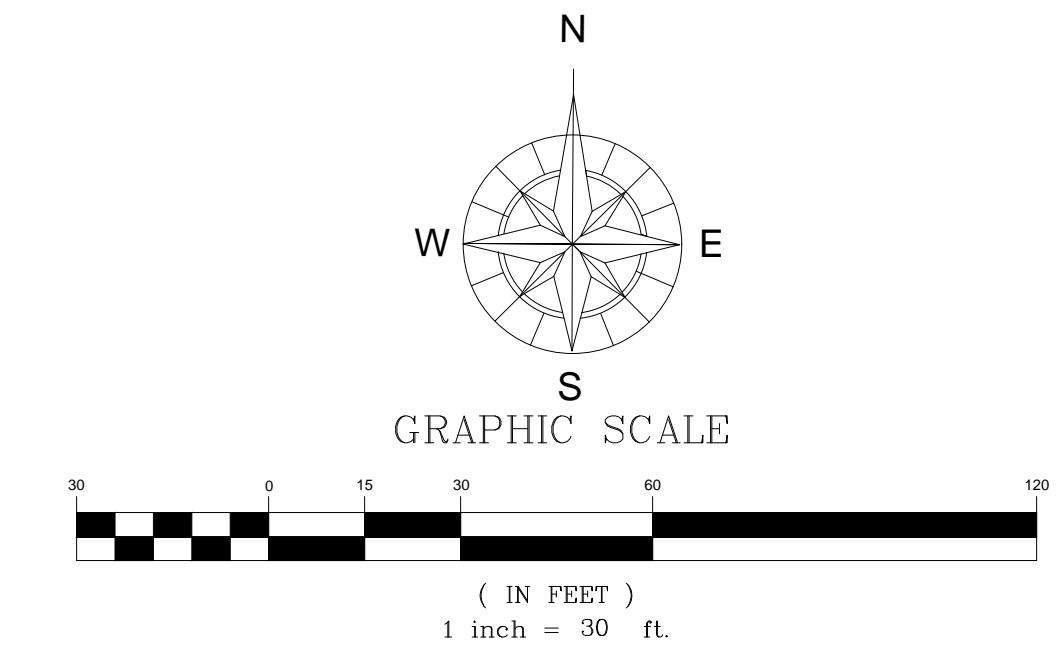
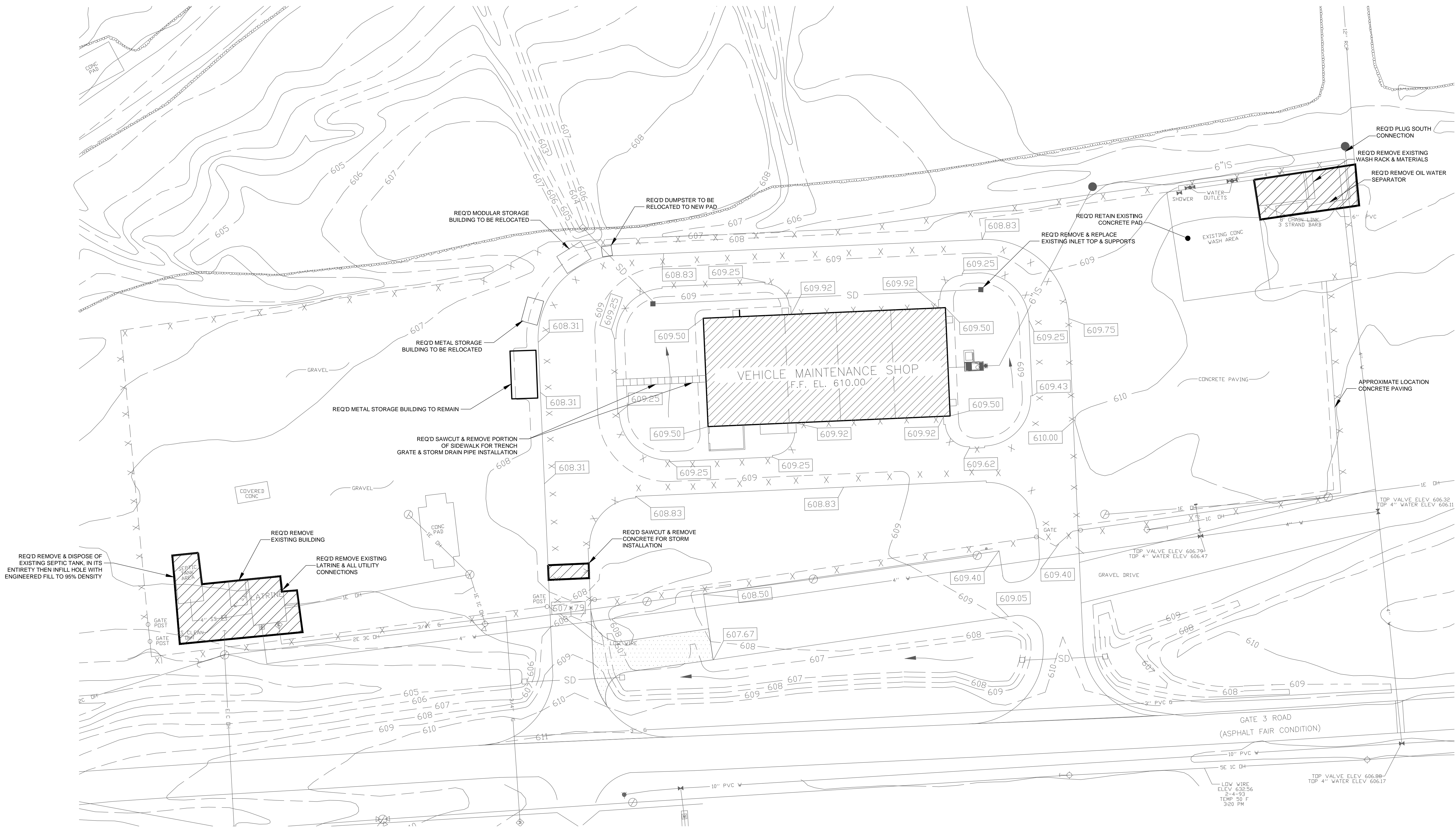
PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN AJN	CHECKED
SHEET TITLE TITLE SHEET, VICINITY MAPS, AND INDEX TO DRAWINGS	
SHEET NUMBER T001	
SET NO.	



PWBA Architects, Inc.
529 SOUTH PERRY STREET • SUITE 15
MONTGOMERY, ALABAMA 36104
(334) 244-4980



NO.	REVISION DESCRIPTION	DATE



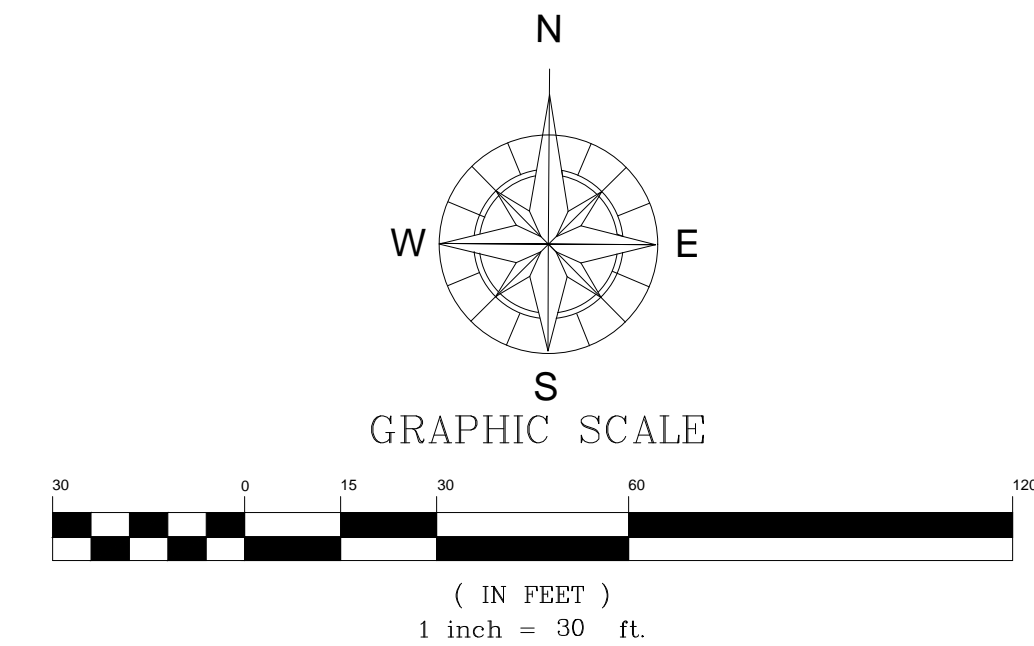
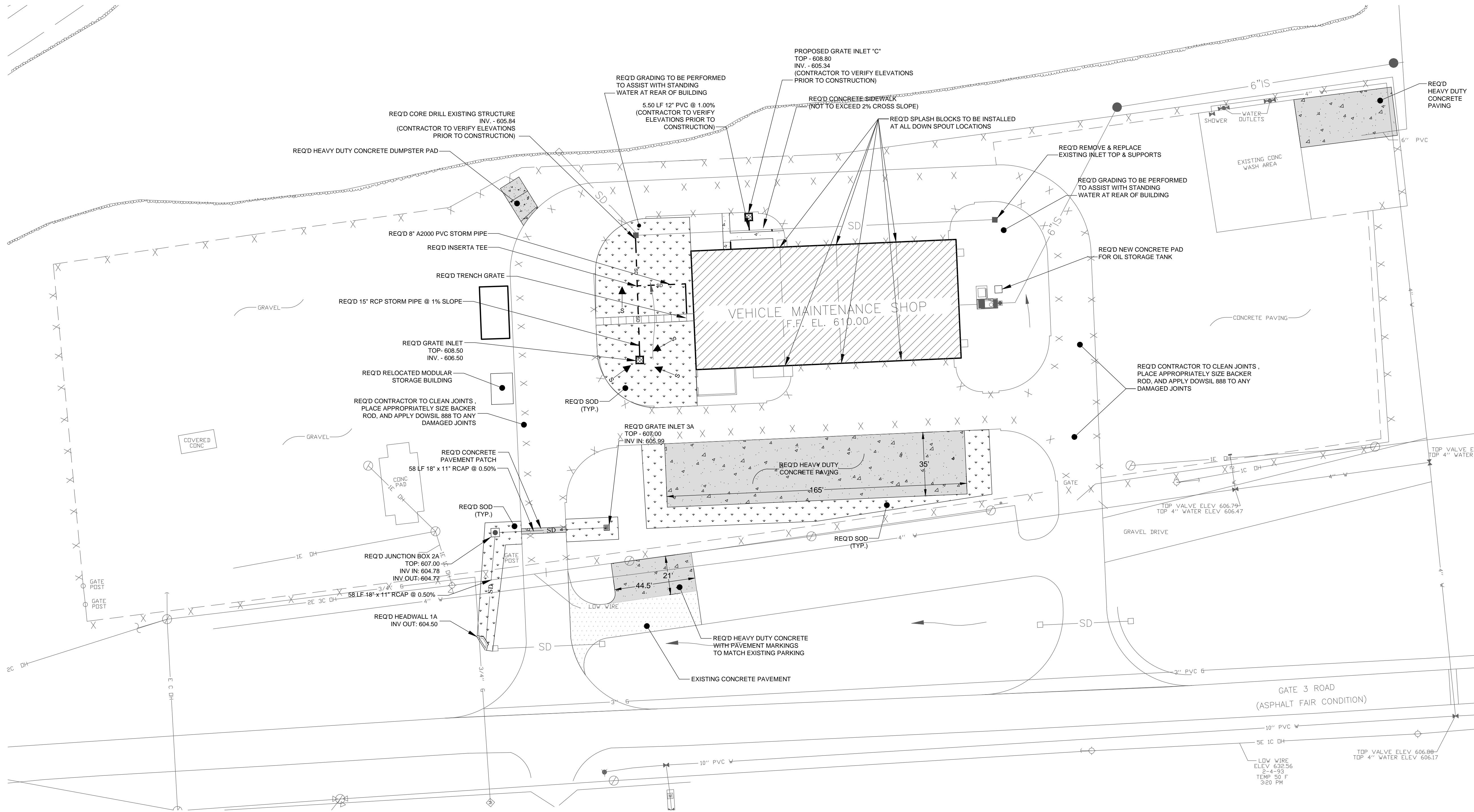
LEGEND:	
EXISTING	PROPOSED
GRAVEL	HEAVY DUTY CONCRETE PAVING
EXISTING CONTOUR	ASPHALT PAVING
TREE	SILT FENCE
FOUND IRON PIN	CONTOUR
CALCULATED POINT	SPOT ELEVATION
WATER LINE	SLOPE ARROW
METER	STORM DRAIN PIPE
WATER VALVE	
SPOT ELEVATION (DESIGN)	
CHAIN LINK FENCE	

NOTE: EXISTING SITE AND TOPOGRAPHIC INFORMATION SHOWN TAKEN FROM ASBUILT DRAWINGS OF THE FORT MCLELLAN, ALABAMA VEHICLE MAINTENANCE SHOP BY THE U.S. ARMY ENGINEER DISTRICT, MOBILE, CORPS OF ENGINEERS, DATED DEC. 1993.

NOTE: WHEN ARCHAEOLOGICAL FEATURES OR ARTIFACTS ARE DISCOVERED DURING CONSTRUCTION, THE CONTRACTOR IS TO IMMEDIATELY STOP WORK AND NOTIFY THE ARCHITECT & OWNER. ARCHAEOLOGICAL FEATURES ARE STAINS IN THE SOIL THAT INDICATE DISTURBANCE BY HUMAN ACTIVITY, SUCH AS POST HOLES, BUILDING FOUNDATIONS, TRASH PITS, OR HUMAN BURIALS. ARCHAEOLOGICAL ARTIFACTS INCLUDE OBJECTS MADE, USED, OR MODIFIED BY HUMANS, SUCH AS ARROWHEADS, BROKEN PIECES OF POTTERY OR GLASS, STONE IMPLEMENTS, METAL FASTENERS, OR TOOLS, ETC.

NOTE: ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. SEED MIX SHALL UTILIZE NATIVE SEED ONLY.

NOTE: CONTRACTOR IS TO REMOVE AND REPLACE ALL DAMAGED OR FAILED CONCRETE PAVEMENT JOINT MATERIALS. IT IS THE CONTRACTORS RESPONSIBILITY TO SURVEY THE SITE AND QUANTIFY MATERIALS PRIOR TO BIDDING. CONTRACTOR TO USE APPROPRIATELY SIZED BACKER ROD AND DOWSIL 888 FOR ALL REPAIRED JOINTS. IF NEW JOINT FALLS ON EXISTING SAW CUT JOINT, USE SLIPPED OR GREASED DOWELS.



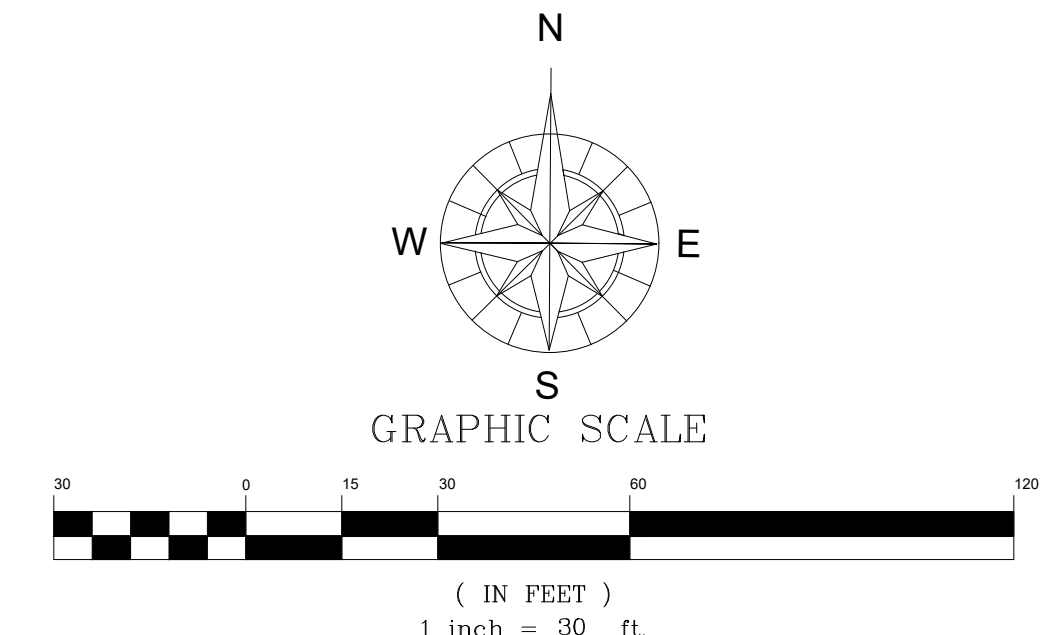
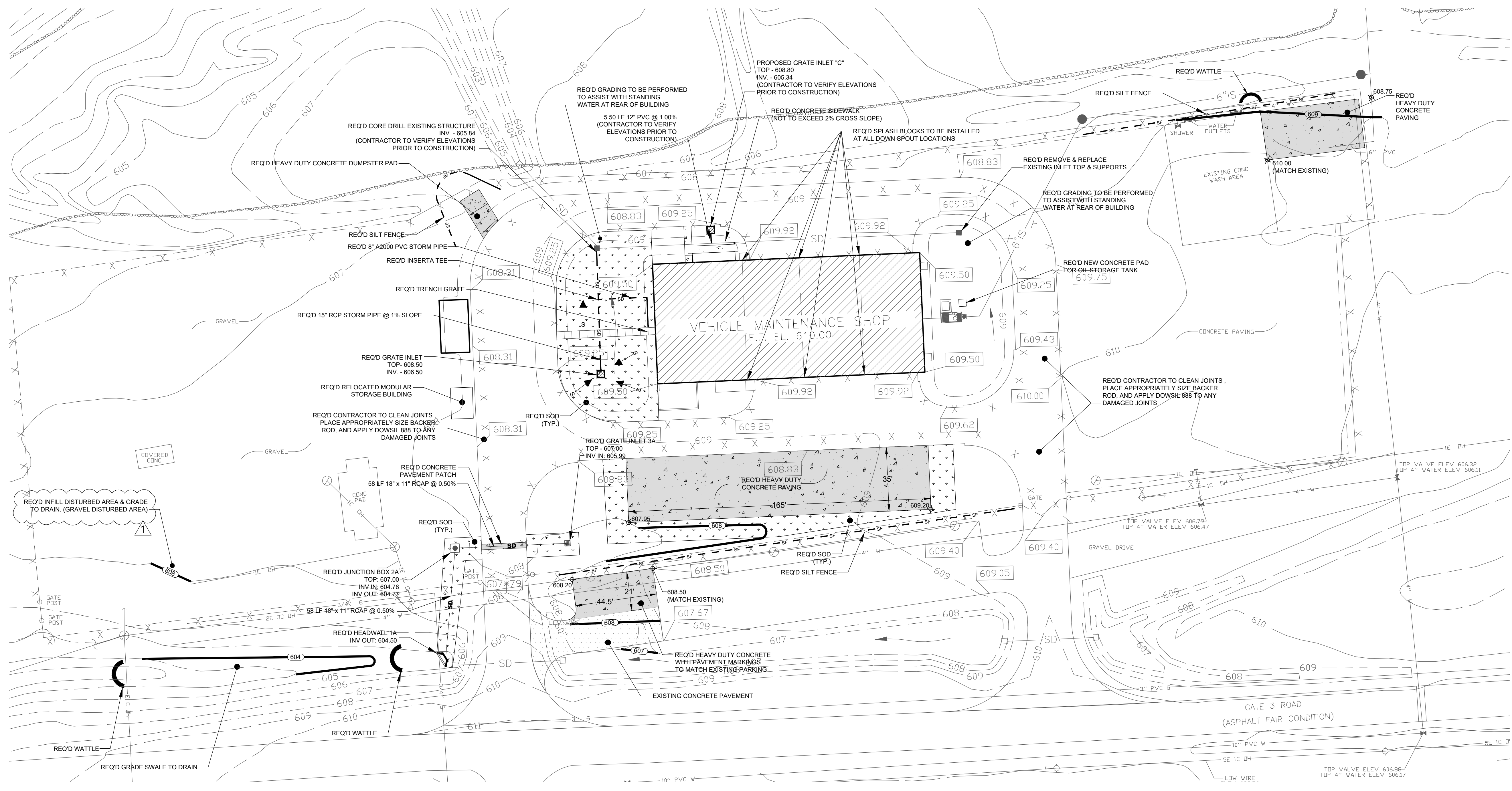
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EXISTING	PROPOSED
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ARCHITECTS

PWBA Architects, Inc.
529 SOUTH PERRY STREET • SUITE 15
MONTGOMERY, ALABAMA 36104
(205) 244-4950 (205) 244-4971 FAX



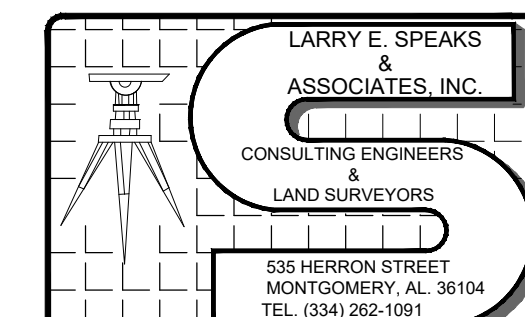
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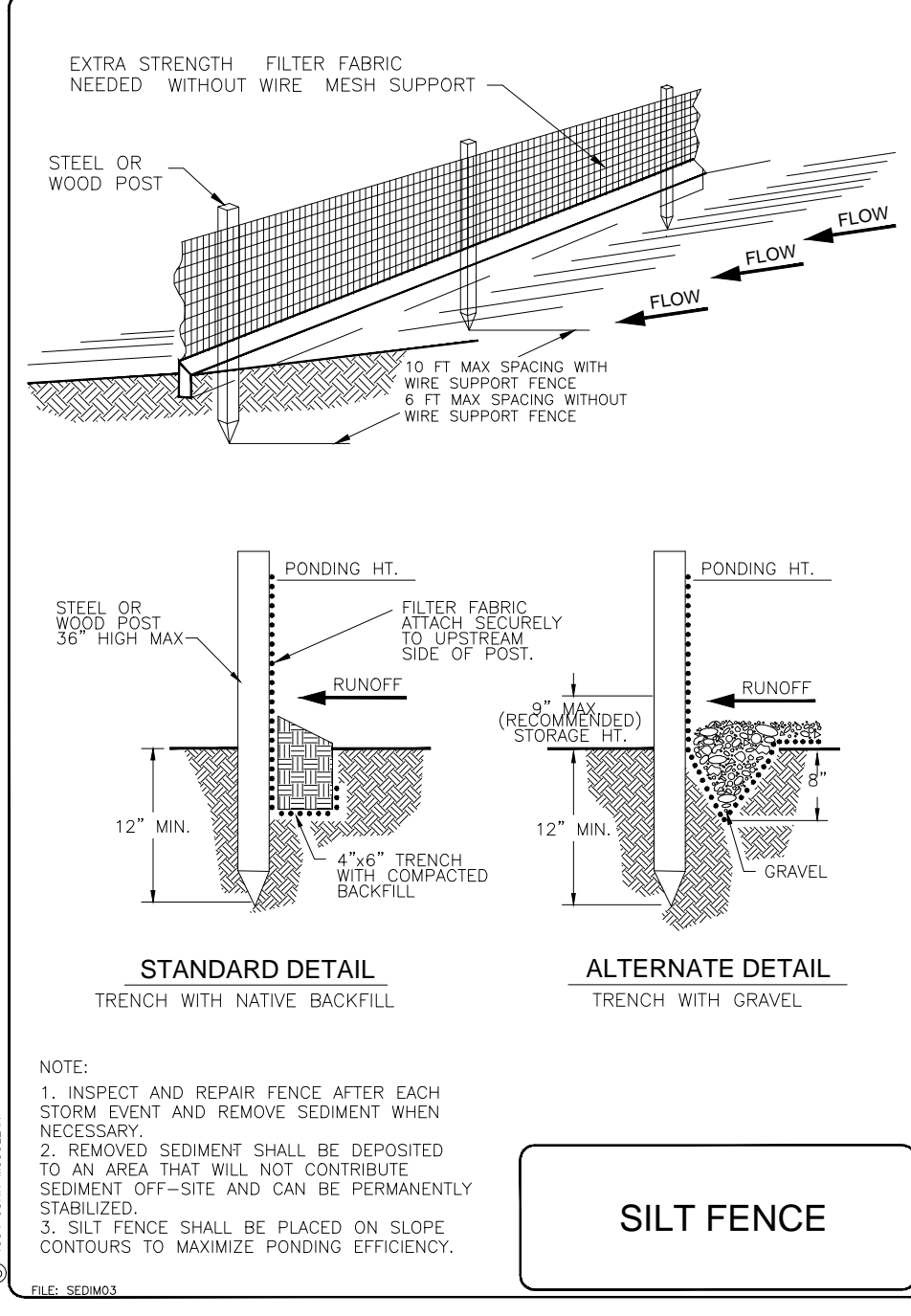
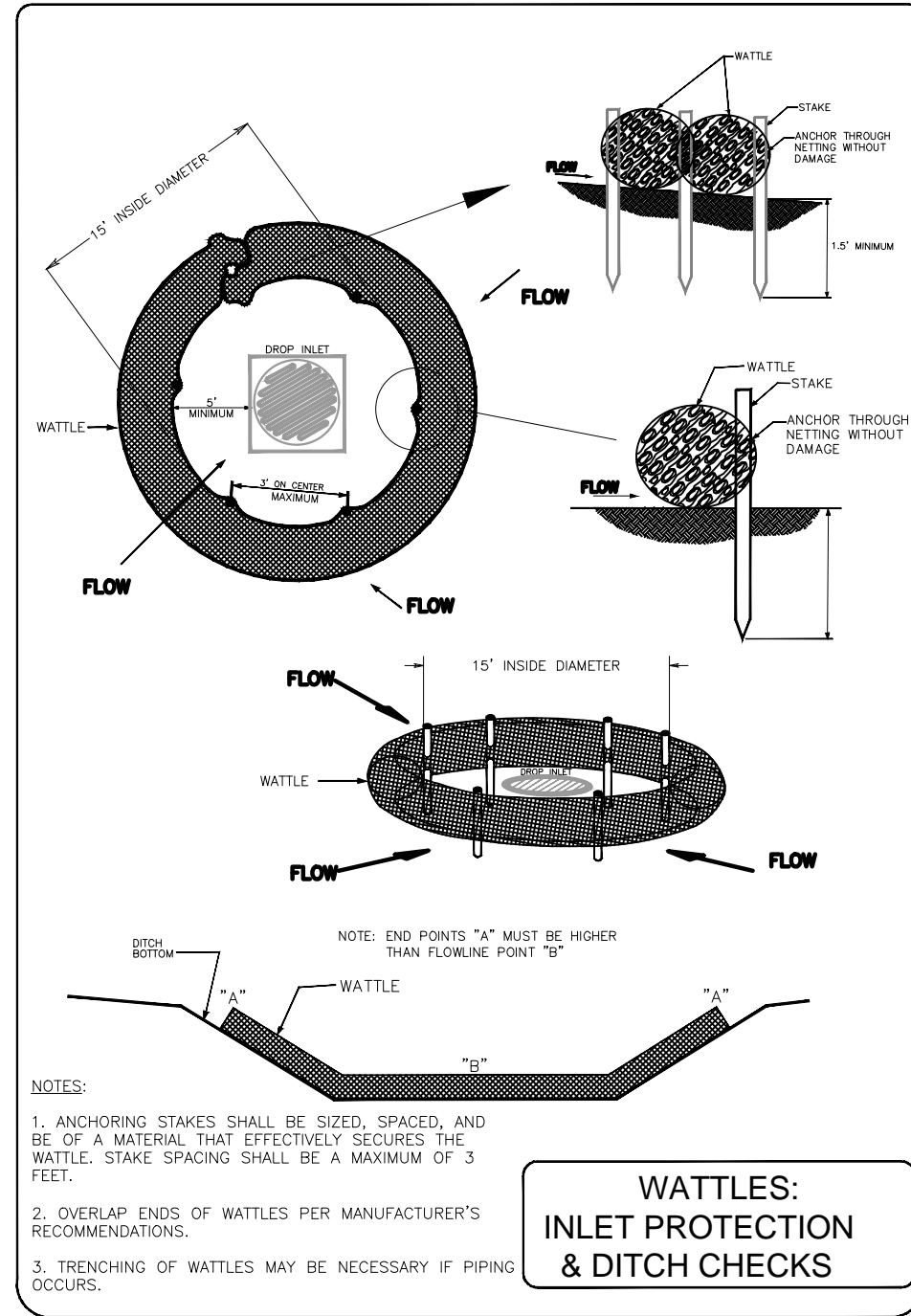
PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION OF ALABAMA
ALEXANDRIA, ALABAMA

PROJECT NUMBER 2020-0804	ORIGINAL DATE X/X/XX
DRAWN WW	CHECKED JPM

SHEET TITLE
GRADING & BEST
MANAGEMENT
PRACTICES PLAN

SHEET NUMBER C2.0





Construction Specifications

The height of a silt fence shall not exceed 36 inches. Storage height shall never exceed 18".

The fence line shall follow the contour as closely as possible.

If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum 6-inch overlap and both ends securely fastened to the post.

Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.

Turn the ends of the fence uphill.

A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line of posts and upslope from the barrier.

When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.

The standard-strength filter fabric shall be stapled or wired to the fence, and 6 inches of the fabric shall extend into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts.

The trench shall be backfilled and the soil compacted over the toe of the filter fabric.

Silt fences placed at the toe of a slope shall be set at least 6 feet from the toe in order to increase ponding volume.

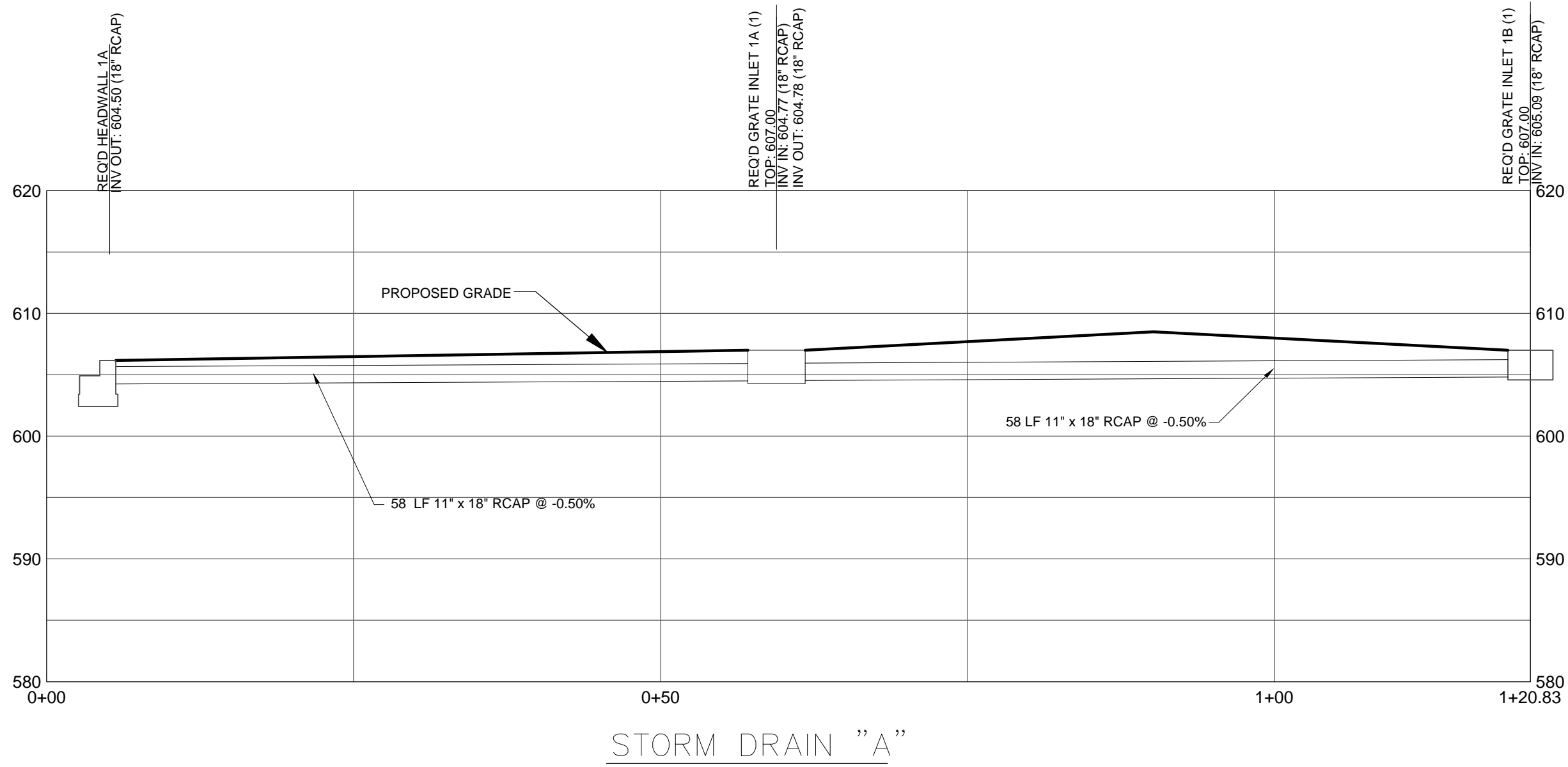
Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized, and any sediment stored behind the silt fence has been removed.

Inspection and Maintenance

Silt fences and filter barriers shall be inspected weekly and after each significant storm (1" or greater). Any required repairs shall be made immediately.

Sediment shall be removed when it reaches 1/3 height of the fence or 5 inches maximum.

The removed sediment shall be stabilized or otherwise stabilized.

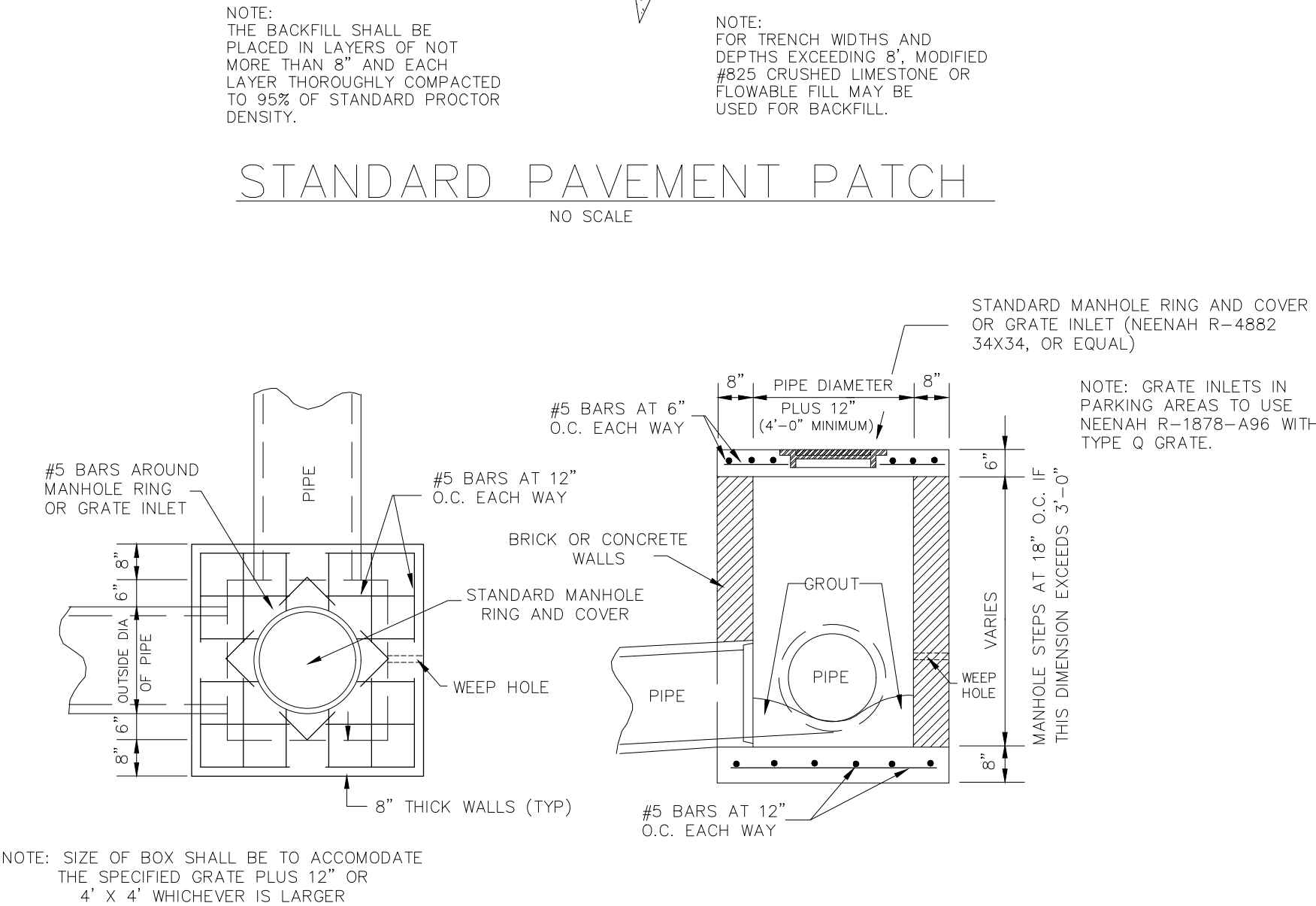
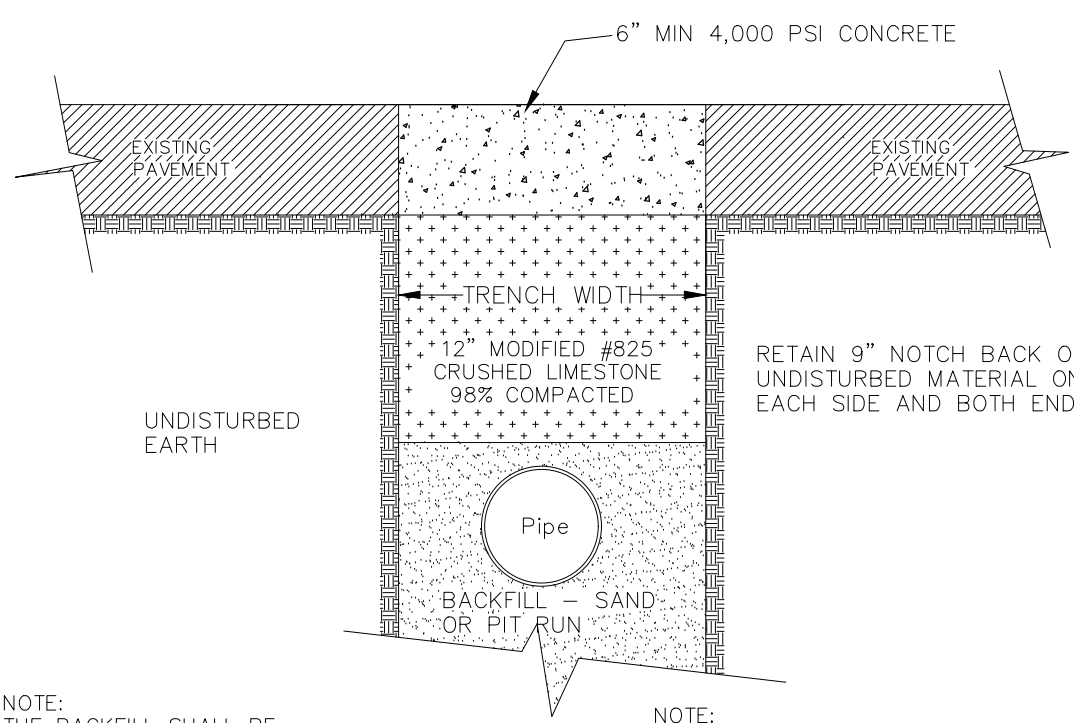


- 7" 4,000 psi Compressive Strength Concrete, (Max. 4" Slump),(6"x6"x#10 W.W.M.)
- 5" ALDOT Section 825B Crushed Aggregate Base (98% Standard Density)
- Tensor TX160 Geogrid
- Nonwoven Geotextile Fabric
- 6" ALDOT Section 230 Modified Roadbed (95% Standard Density)

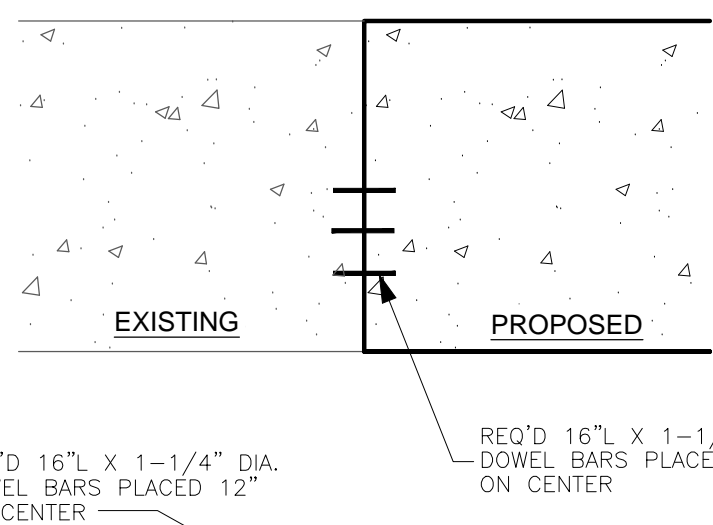
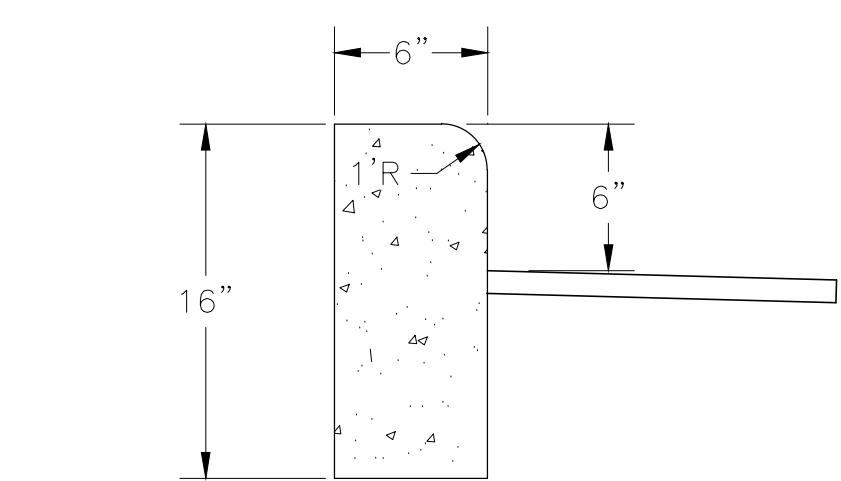
CONCRETE PAVEMENT BUILDUP

NOTE: CONTRACTION JOINTS SHOULD BE FORMED BY SAWING AS SOON AS THE CONCRETE HAS HARDENED ENOUGH TO PREVENT RAVELING. THESE JOINTS SHOULD EXTEND TO A DEPTH OF AT LEAST 1/3 OF THE PAVEMENT THICKNESS AND BE PLACED ON A 12 FOOT SPACING. THE DESIGN AND LOCATION OF ALL PAVEMENT JOINTS SHOULD BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE PORTLAND CEMENT ASSOCIATION (PCA) AND ACI 330.

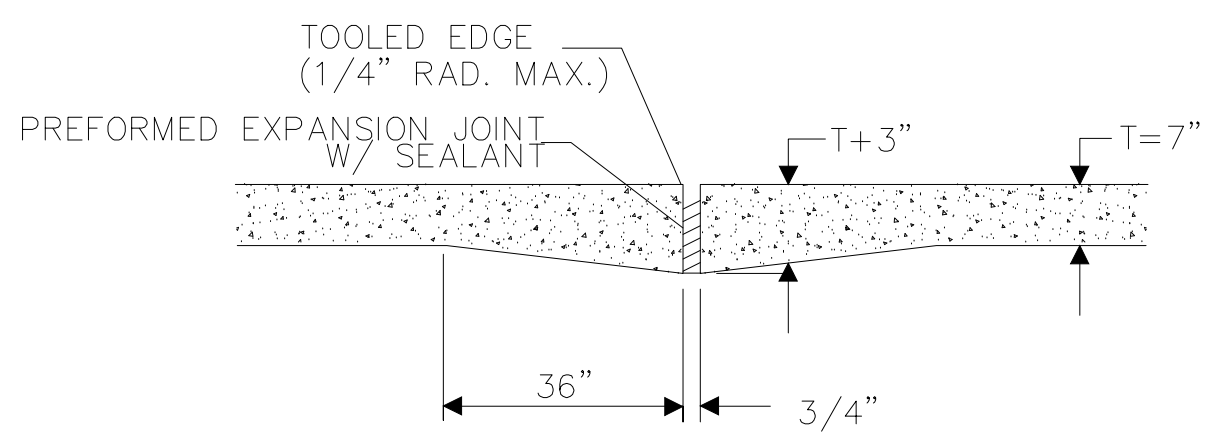
ISOLATION JOINT MATERIAL SHOULD COMPLY WITH ASTM D-1571 OR D-1752. THE UPPER ONE INCH OF THE JOINT MATERIAL SHOULD BE REMOVED AND THE JOINT SEALED WITH A SELF-LEVELLING FLEXIBLE JOINT SEALANT IMMEDIATELY AFTER THE CURING PERIOD AND PRIOR TO OPENING TO TRAFFIC. CONSTRUCTION JOINTS SHOULD BE PROPERLY CLEANED AND SEALED WITH THE SAME TYPE OF JOINT SEALANT. DOWEL SIZING AND SPACING FOR CONSTRUCTION JOINTS SHOULD CONFORM TO THE RECOMMENDATIONS OF ACI 330.



CONCRETE CURB

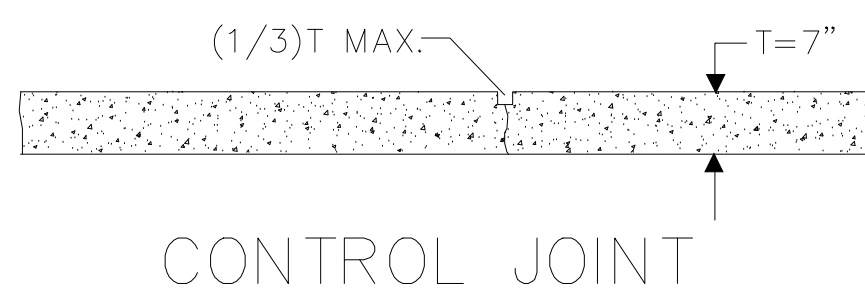


- CONCRETE REQUIREMENTS:
4000 PSI @ 28 DAYS
4" MAX SLUMP
- MAXIMUM JOINT SPACING: 12'
- CONTRACTOR SHALL APPLY AN APPROVED CURING COMPOUND IMMEDIATELY AFTER PLACING CONCRETE.



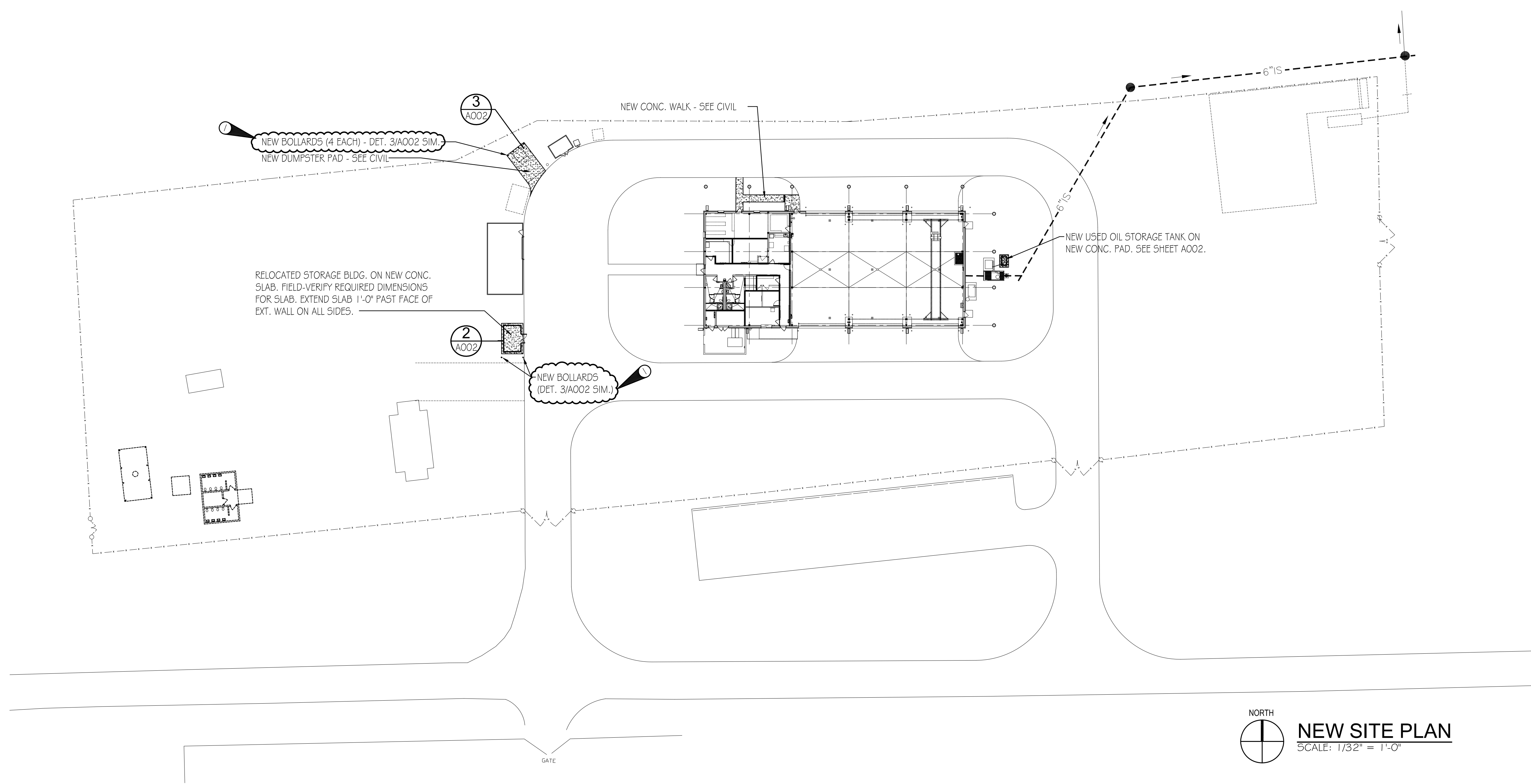
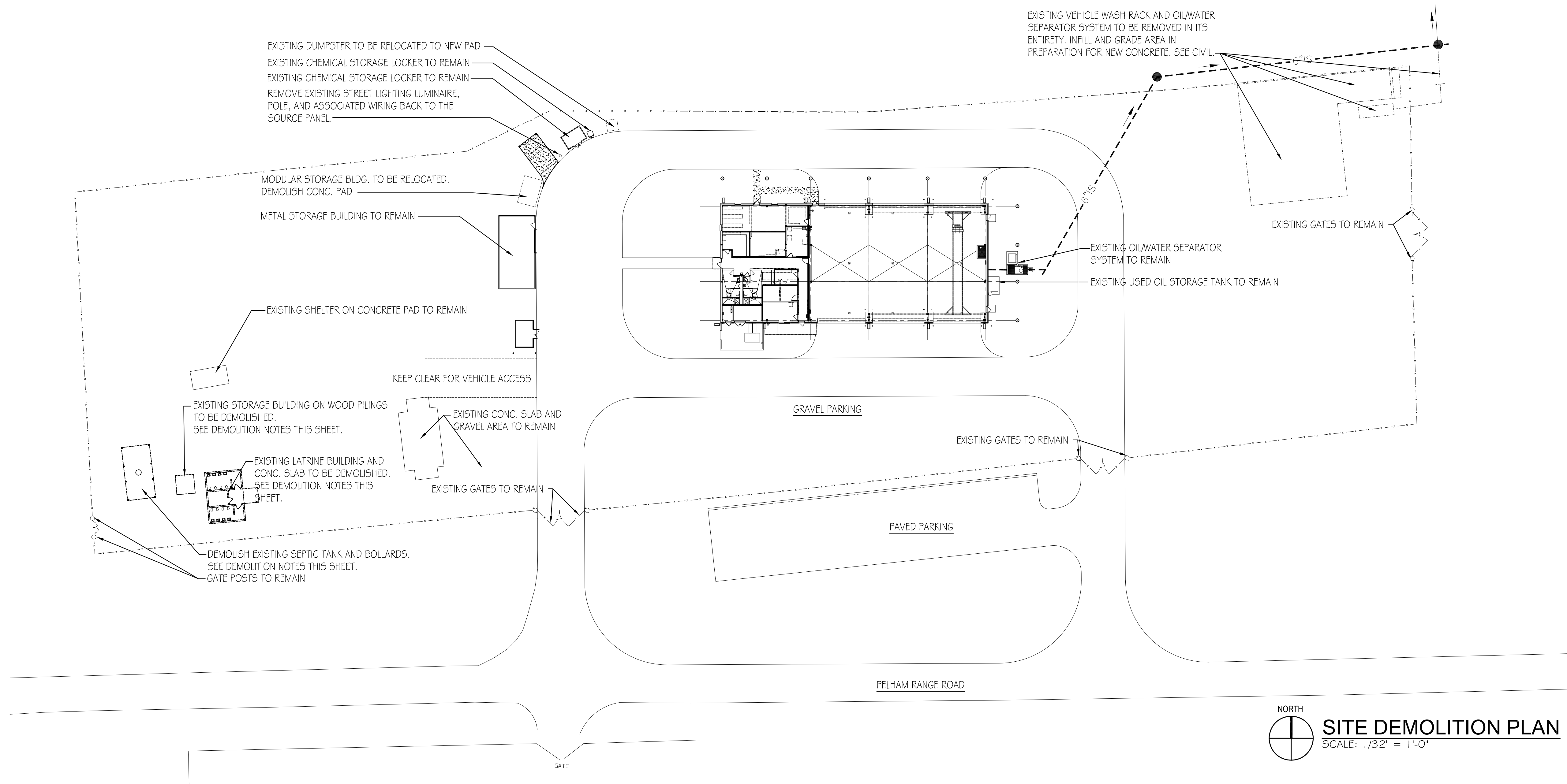
CONCRETE DETAILS

(FOR SIDEWALK, CONCRETE PADS AT DOORWAYS) NOT TO SCALE



- MAXIMUM JOINT SPACING: 12'
- CONTRACTOR SHALL APPLY AN APPROVED CURING COMPOUND IMMEDIATELY AFTER PLACING CONCRETE.
- THE LOCATION OF ALL CONTROL/CONSTRUCTION JOINTS SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR HAS THE OPTION BETWEEN CONSTRUCTING THE CONTROL JOINT VERSES THE CONSTRUCTION JOINT.
- PROVIDE 4 MIL POLY VAPOR BARRIER UNDER ALL EXTERIOR WORK.
- IF NEW JOINT FALLS ON EXISTING SAW CUT JOINT, USE SLIPPED OR GREASED DOWELS.





- LATRINE BLDG. DEMOLITION NOTES - ALSO SEE CIVIL AND SPECIFICATIONS:**
1. PELHAM RANGE ACCESS IS RESTRICTED. GENERAL CONTRACTOR IS TO COORDINATE GATE ACCESS TIMES AND ADHERE TO ALL SAFETY PROTOCOLS AS DIRECTED BY THE OWNER THROUGHOUT THE PROJECT DURATION.
 2. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY AND DISCONNECT POWER SERVICE TO THE FACILITY. REMOVE ALL THE WAY BACK TO THE POINT OF SERVICE. PROVIDE ALL LABOR AND MATERIALS TO HAVE POWER DISCONNECTED FROM THE FACILITY. CONTRACTOR SHALL COORDINATE AND DISCONNECT ALL OTHER ELECTRICAL SOURCES TO THE FACILITY. ALL ELECTRIC POWER SHALL BE SAFELY DISCONNECTED FROM FACILITY PRIOR TO BEGINNING DEMOLITION WORK.
 3. RECAPTURE ANY REFRIGERANT IN DEMOLISHED HVAC SYSTEMS.
 4. DEMOLISH PLUMBING FIXTURES, TRIM, PIPING, ETC.
 5. DEMOLISH LIGHTING FIXTURES, ELECTRICAL DEVICES, ELECTRICAL PANELS, ELECTRICAL WIRING, ETC.
 6. DEMOLISH ENTIRE STRUCTURE TO INCLUDE CMU WALLS, CONCRETE FLOOR SLAB, CONCRETE FOUNDATIONS, CONCRETE STRUCTURAL FRAME, AND ROOF SYSTEM.
 7. REMOVE AND DISPOSE OF SEPTIC TANK, ACCESS, AND BOLLARDS IN THEIR ENTIRETY AND INFILL HOLE WITH ENGINEERED FILL TO 95% DENSITY.
 8. ALL MATERIALS ARE TO BE REMOVED OFF-SITE TO APPROPRIATE DISPOSAL FACILITIES AS APPROVED BY AUTHORITIES IN THE LOCAL JURISDICTION.

P
W
B
A

ARCHITECTS

PWBA Architects, Inc.

529 SOUTH PERRY STREET • SUITE 15
MONTGOMERY, ALABAMA 36104
(334) 244-4980

SEAL

STATE OF ALABAMA
EDWARD M. BRUMMALL, JR.
1910
REGISTERED ARCHITECT

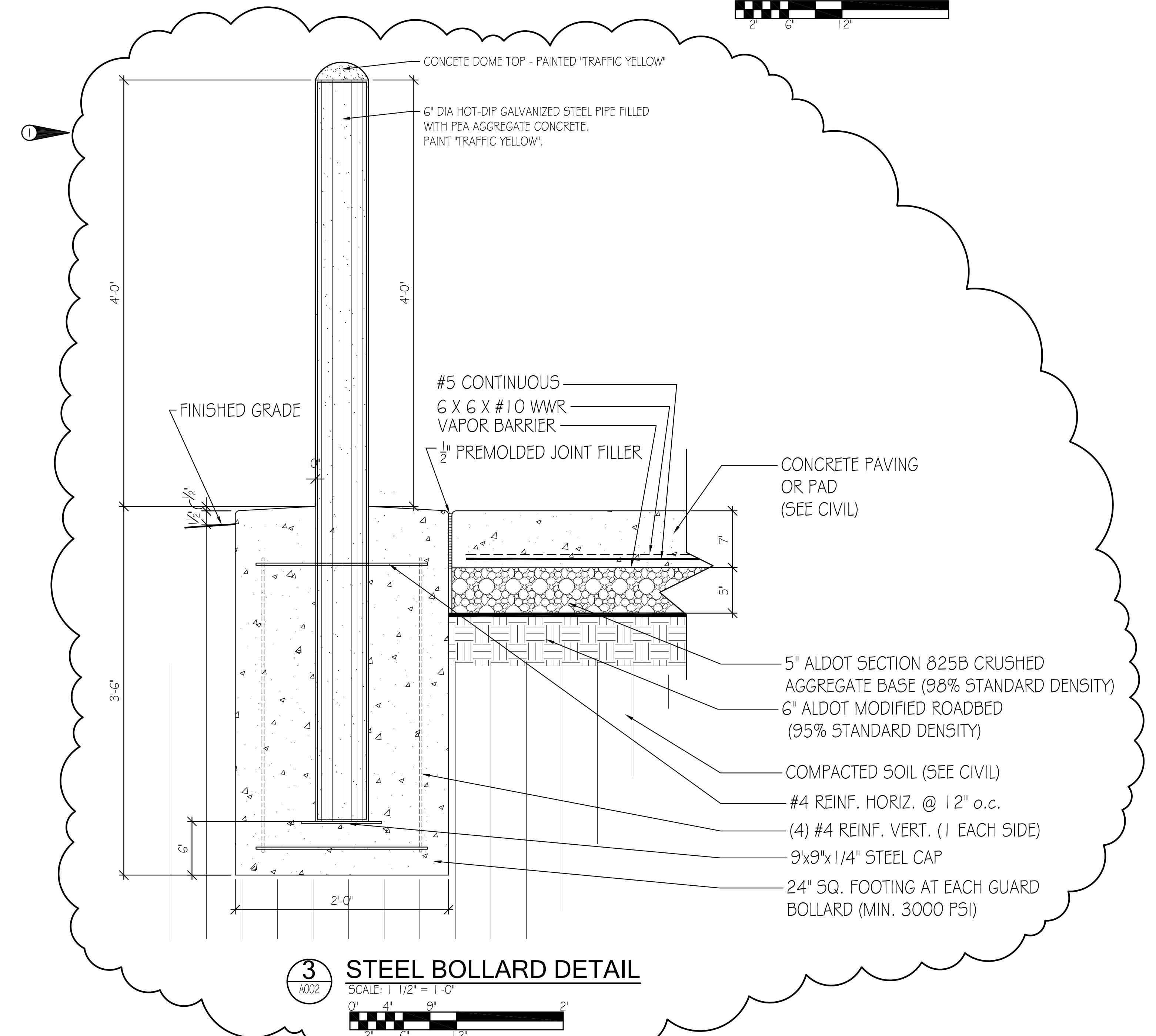
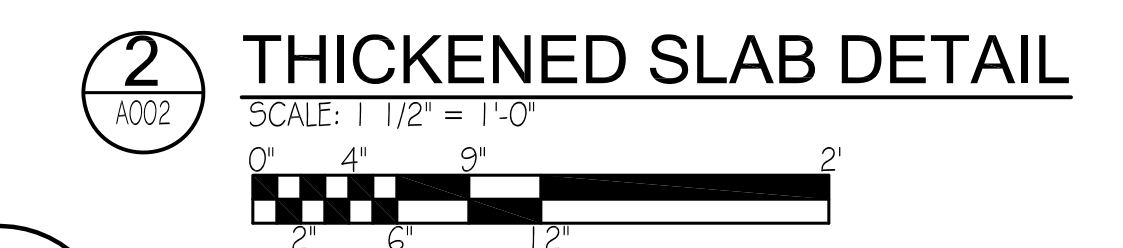
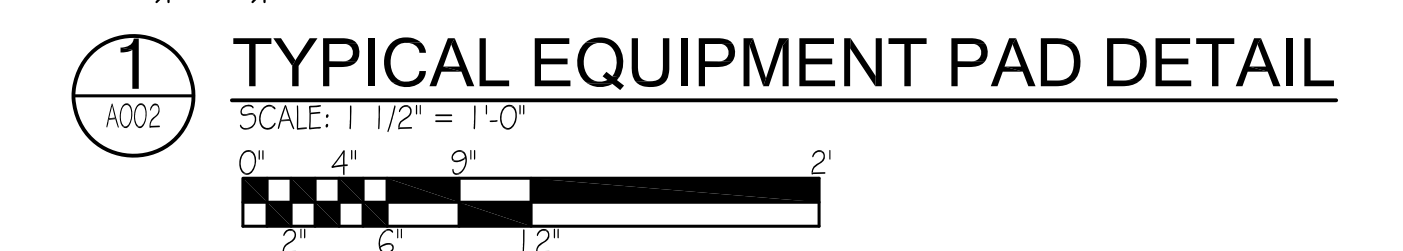
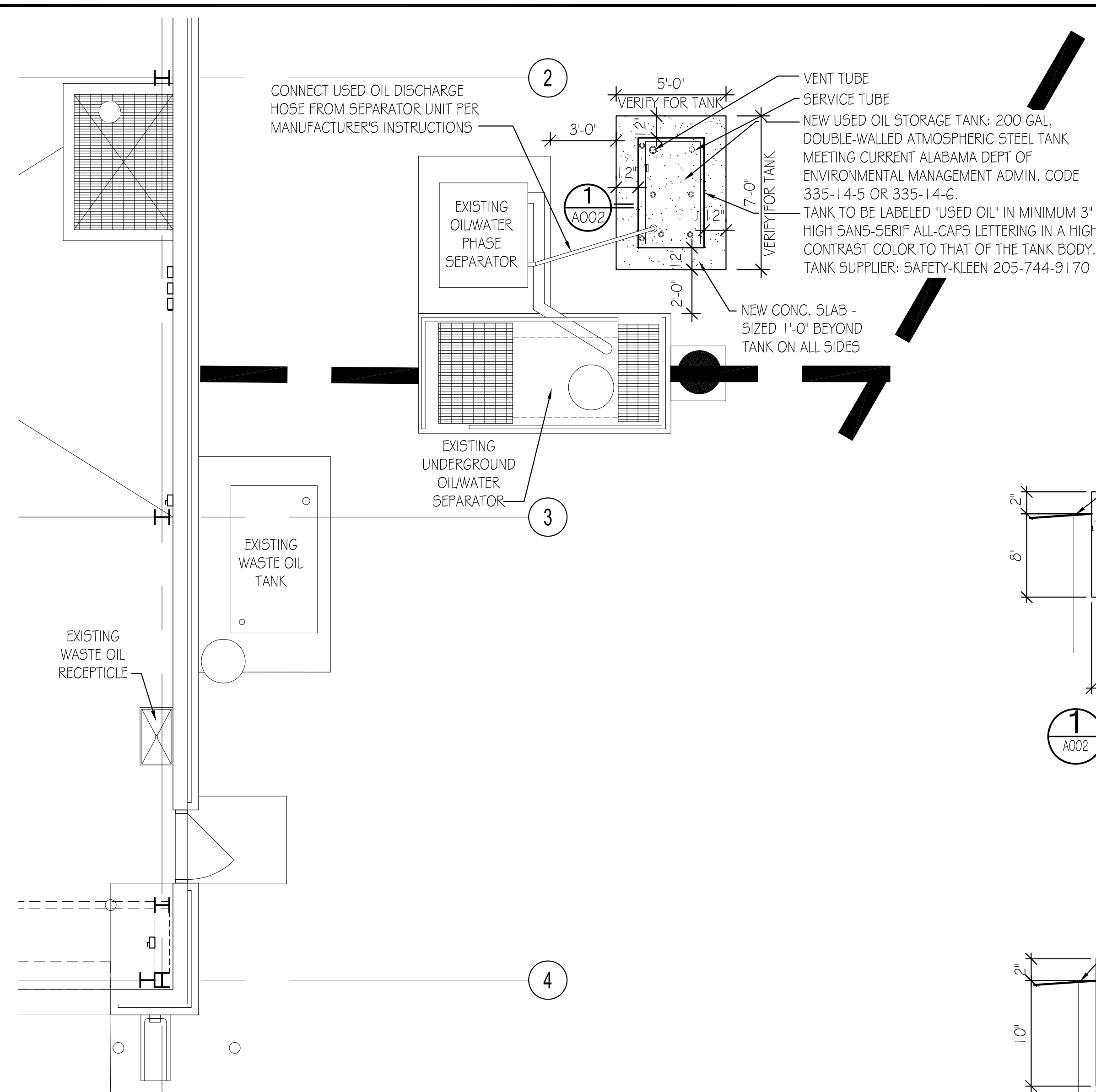
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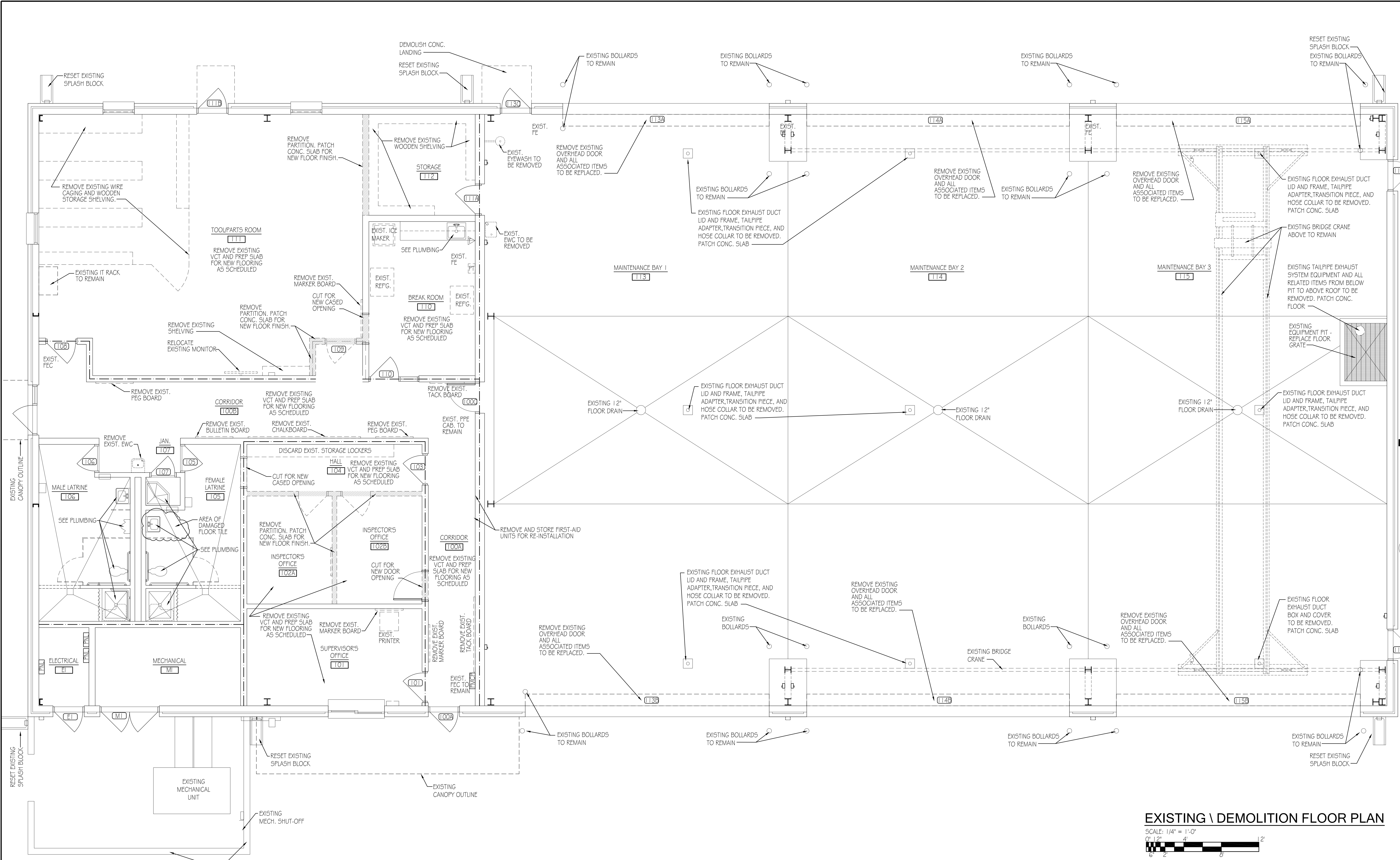
PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION

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ALEXANDRIA, ALABAMA

PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN	CHECKED
SHEET TITLE SITE DEMOLITION PLAN AND NEW SITE PLAN	
SHEET NUMBER A001	

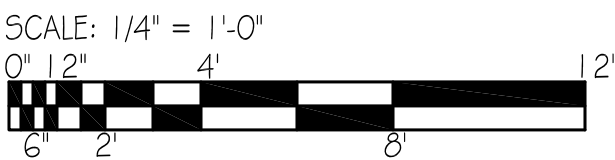




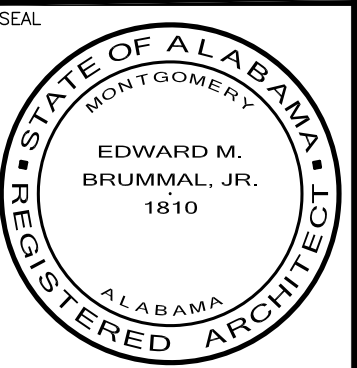
LEGEND

EXISTING PARTITION TO BE DEMOLISHED

EXISTING / DEMOLITION FLOOR PLAN



PWBA Architects, Inc.
520 SOUTH PERRY STREET • SUITE 101
MONTGOMERY, ALABAMA 36104
(205) 244-4890



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PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION ARMORY COMMISSION OF ALABAMA ALEXANDRIA, ALABAMA

PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
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SHEET TITLE
EXISTING / DEMOLITION FLOOR PLAN

SHEET NUMBER

A003

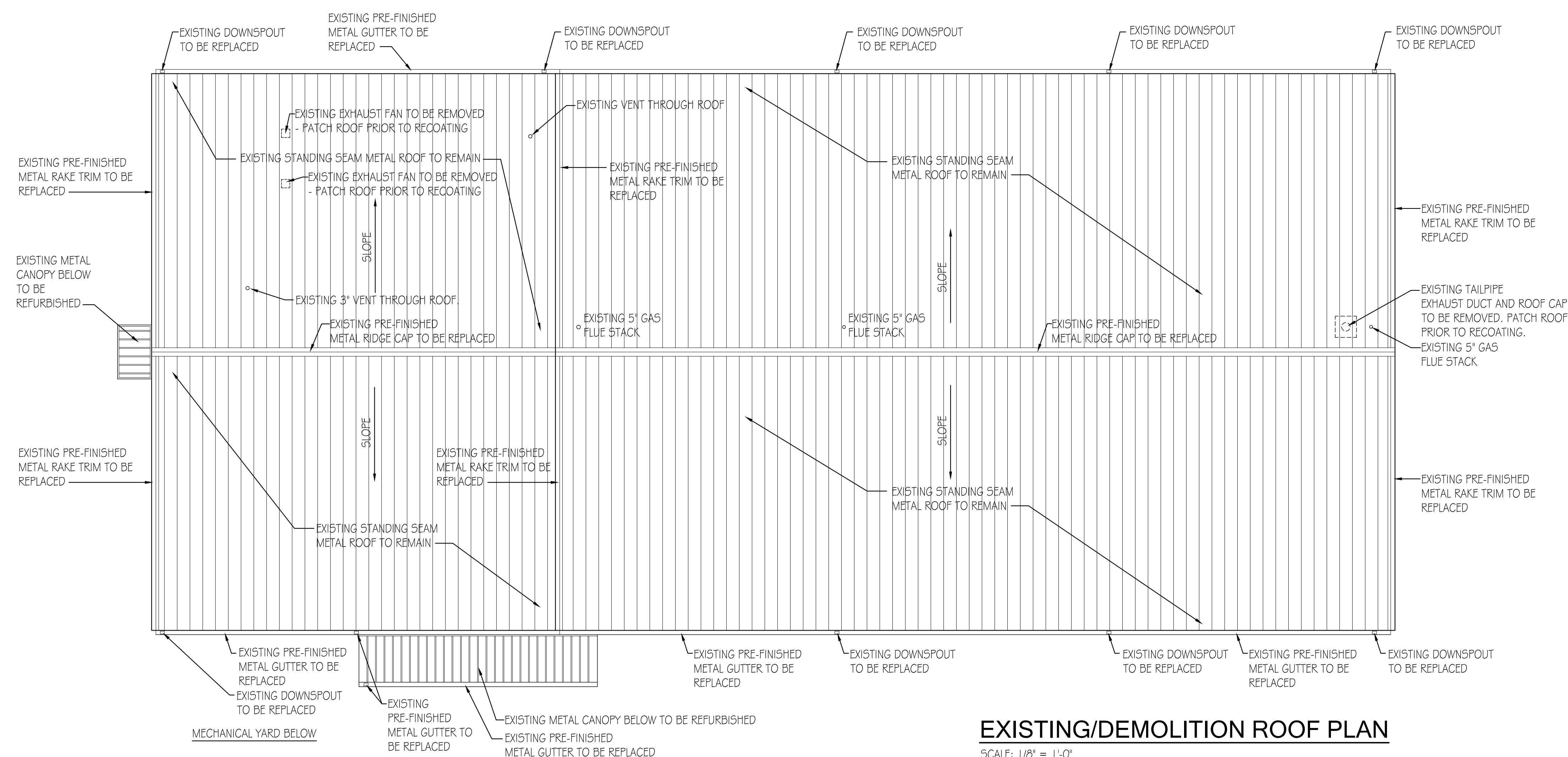
**PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION OF ALABAMA**

PROJECT NUMBER	ORIGINAL DATE
2020-0804	7/28/22
DRAWN	CHECKED

SHEET TITLE
EXISTING \
DEMOLITION
ROOF PLAN AND
REFLECTED
CEILING PLAN

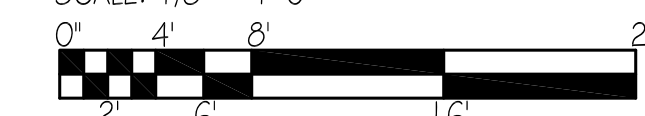
SHEET NUMBER

A004
















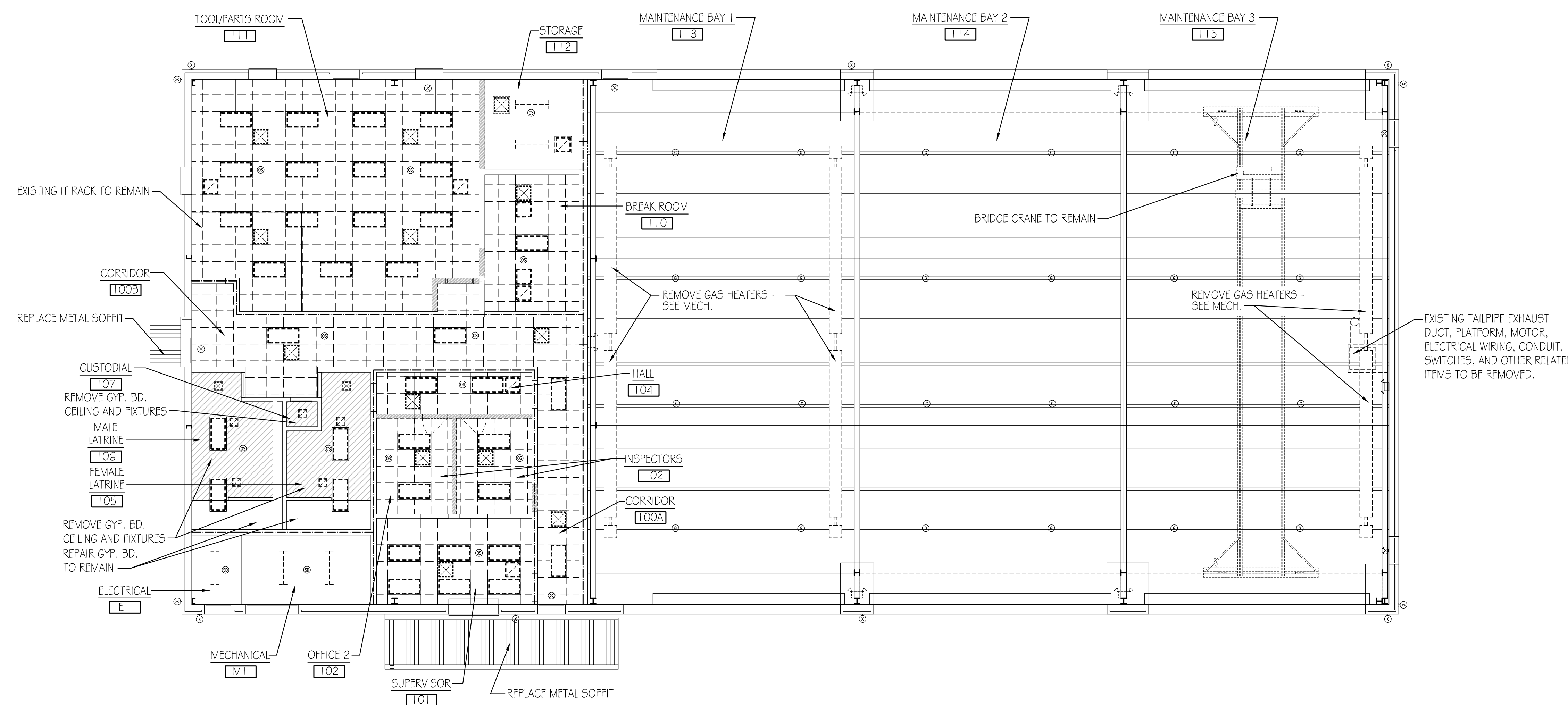
EXISTING/DEMOLITION ROOF PLAN

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



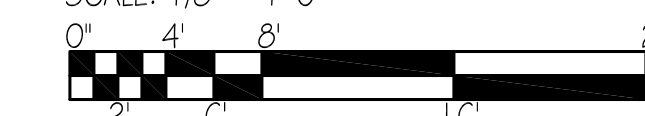
LEGEND VERIFY DEMOLITION WITH MECHANICAL AND ELECTRICAL

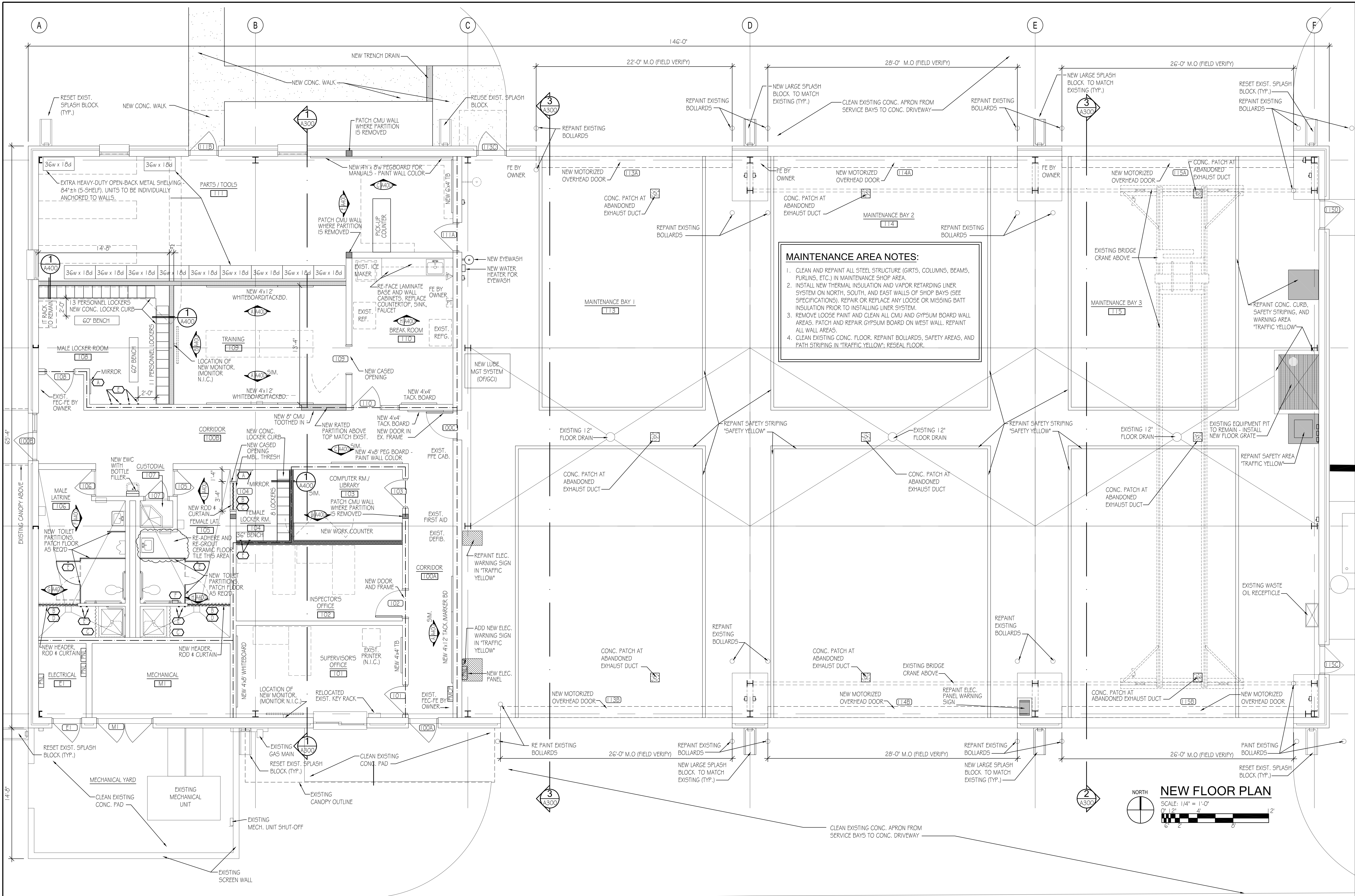
- | | |
|---|--|
|  | EXISTING 2x4 FLUORESCENT FIXTURE TO BE REMOVED |
|  | EXISTING 1x4 FLUORESCENT STRIP FIXTURE TO BE REMOVED |
|  | EXISTING LIGHTED EXIT SIGN TO BE REMOVED |
|  | EXISTING EMERGENCY LIGHTING PACK TO BE REMOVED |
|  | EXISTING EXTERIOR WALL LIGHTING PACK TO BE REMOVED |
|  | EXISTING SUPPLY AIR DIFFUSER TO BE REMOVED |
|  | EXISTING AIR RETURN GRILLE TO BE REMOVED |
|  | EXISTING OCCUPANCY SENSOR |
|  | EXISTING SMOKE DETECTOR |
|  | EXISTING FIRE ALARM |
|  | EXISTING CEILING GRID AND TILE TO BE DEMOLISHED |
|  | EXISTING GYP. BD. CEILING TO BE DEMOLISHED |
|  | EXISTING PARTITION TO BE DEMOLISHED |



EXISTING/DEMOLITION REFLECTED CEILING PLAN

SCAFF: $1/8'' = 1' \cdot 0$



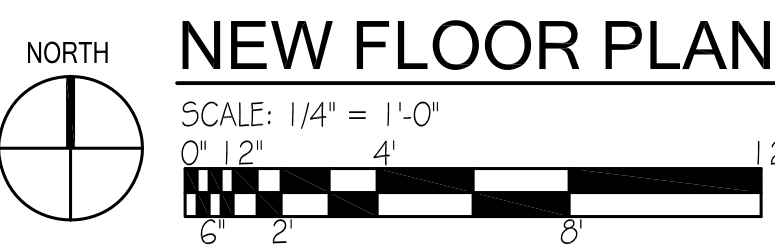


PARTITION SCHEDULE

- EXISTING 1-HOUR PARTITION - 6", 8", OR 12" CONCRETE MASONRY UNITS. EXISTING FIRE-RATED WALLS ARE TO BE REPAIRED TO MEET CODE, THIS IS TO INCLUDE EXISTING OPENINGS AS WELL AS NEW CREATED BY CONSTRUCTION.
- NEW 1-HOUR PARTITION - 8" CMU TO 9'-4" A.F.F. w/ GYP. BOARD PARTITION ABOVE 9'-4" A.F.F. (MATCH EXISTING CONSTRUCTION)
- NEW 6" CMU PARTITION TO 9'-4" A.F.F. PROVIDE #4S DOWELED INTO FLOOR AT 48" o.c., FILL CELLS AT DOWEL LOCATIONS TO TOP OF WALL. BRACE TOP OF WALL TO ROOF STRUCTURE AT 48" o.c. AND ALTERNATE DIRECTIONS EVERY 48" o.c.
- NEW PARTITION - 3-5/8" METAL STUDS WITH 1 LAYER 5/8" GYPSUM BOARD EACH SIDE TO 1'-0" ABOVE DROPPED CEILING. PROVIDE ACOUSTICAL BATTS FULL HEIGHT OF GYP BOARD.
- NEW 1-HR RATED PARTITION - 3-5/8" METAL STUDS WITH 1 LAYER 5/8" FR GYPSUM BOARD EACH SIDE TO UNDERSIDE OF DECK. PROVIDE FIRESTOPPING AT ALL PENETRATIONS AS REQUIRED BY CODE.

MAINTENANCE AREA NOTES:

1. CLEAN AND REPAINT ALL STEEL STRUCTURE (GIRTS, COLUMNS, BEAMS, PURLINS, ETC.) IN MAINTENANCE SHOP AREA.
2. INSTALL NEW THERMAL INSULATION AND VAPOR RETARDING LINER SYSTEM ON NORTH, SOUTH, AND EAST WALLS OF SHOP BAYS (SEE SPECIFICATIONS). REPAIR OR REPLACE ANY LOOSE OR MISSING BATT INSULATION PRIOR TO INSTALLING LINER SYSTEM.
3. REMOVE LOOSE PAINT AND CLEAN ALL CMU AND GYPSUM BOARD WALL AREAS. PATCH AND REPAIR GYPSUM BOARD ON WEST WALL. REPAINT ALL WALL AREAS.
4. CLEAN EXISTING CONC. FLOOR. REPAINT BOLLARDS, SAFETY AREAS, AND PATH STRIPING IN "TRAFFIC YELLOW"; RESEAL FLOOR.



PWBA

ARCHITECTS

PWBA Architects, Inc.
529 SOUTH PERRY STREET • SUITE 11
MONTGOMERY, ALABAMA 36104
(334) 244-4990

SEAL
STATE OF ALABAMA
MONTGOMERY
EDWARD M. BRUNHAM, JR.
1910
REGISTERED ARCHITECT
ALABAMA

NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION

ARMORY COMMISSION of ALABAMA

ALEXANDRIA, ALABAMA

PROJECT NUMBER
2020-0804

ORIGINAL DATE
7/28/22

DRAWN
AJN

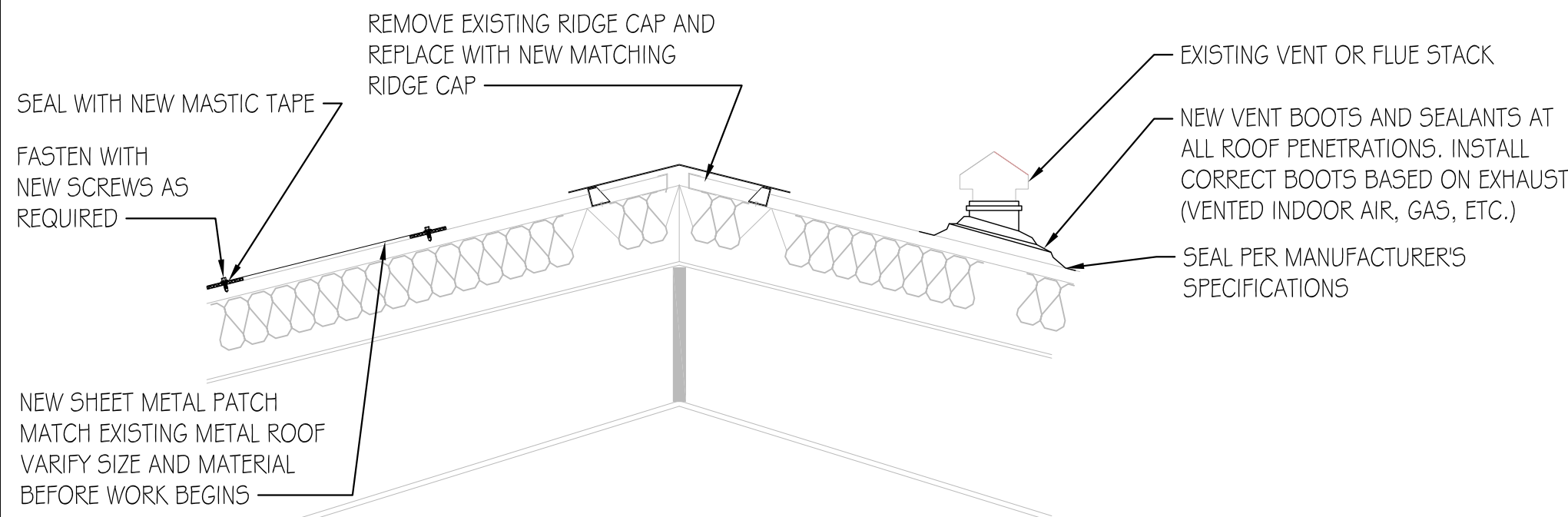
CHECKED
EMB

SHEET TITLE
NEW FLOOR PLAN

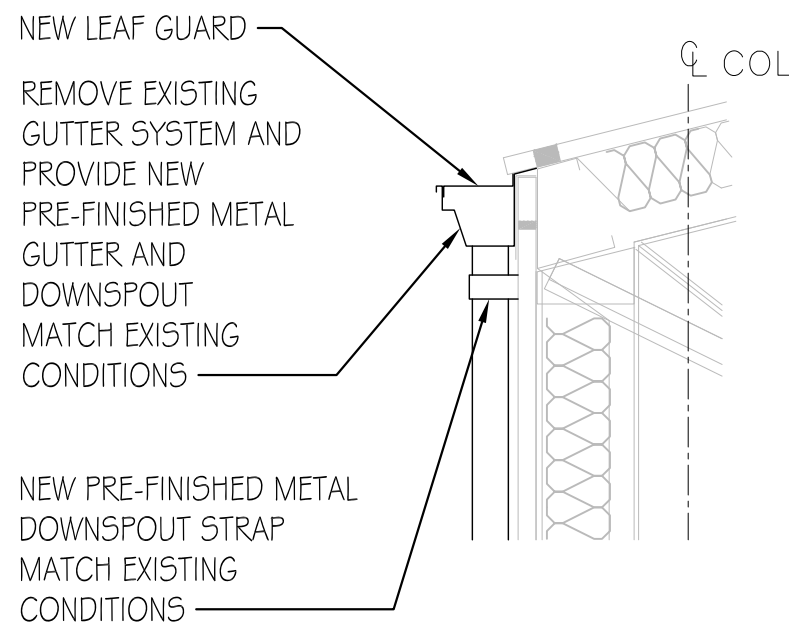
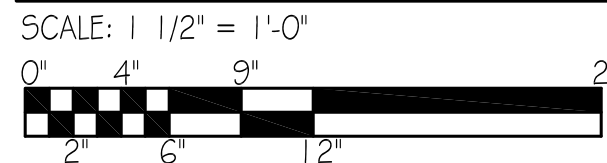
SHEET NUMBER
A101

ROOF RESTORATION NOTES (ALSO SEE SPECIFICATIONS)

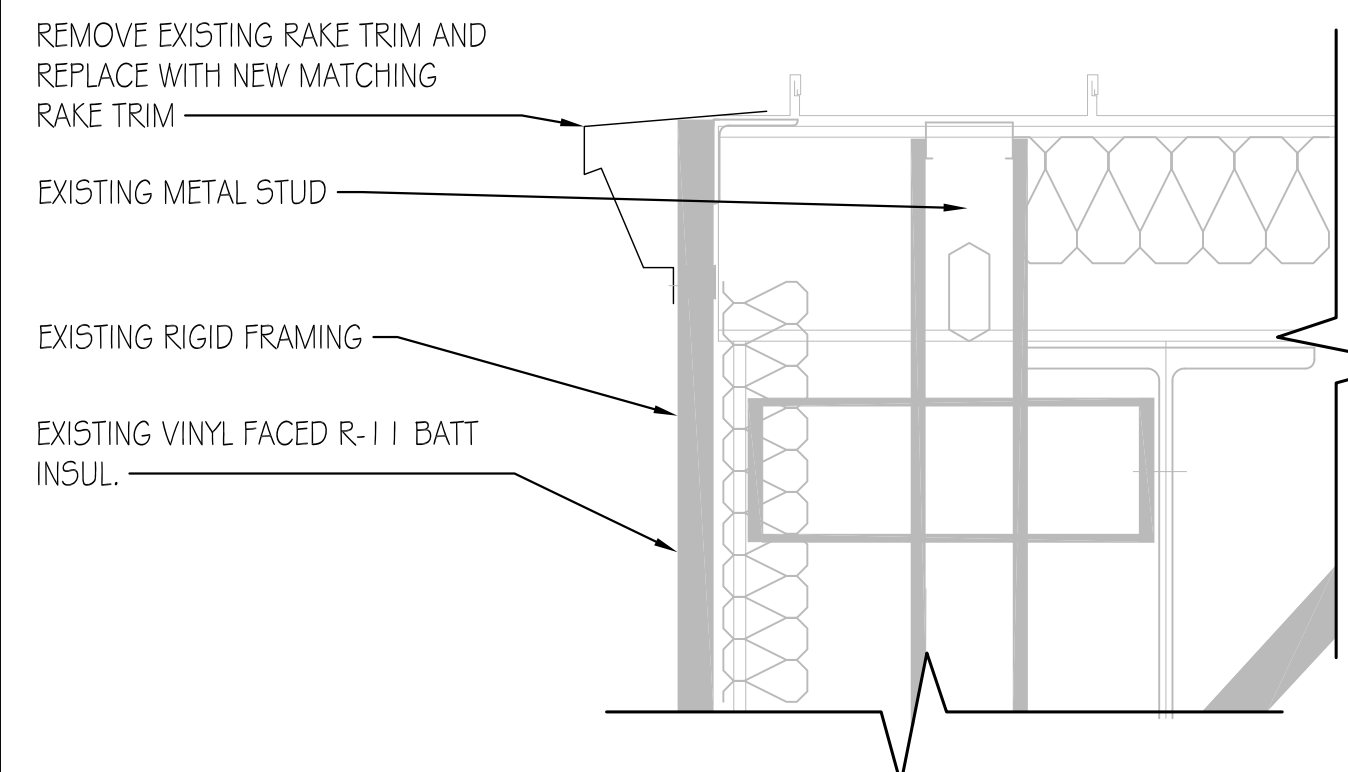
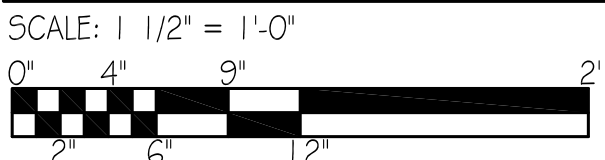
1. PRESSURE WASH ENTIRE ROOF SYSTEM TO REMOVE DIRT, ALGAE AND OXIDATION.
2. RE-FLASH AND SEAL ALL ROOF PENETRATIONS (i.e. VENTS, MECHANICAL EQUIP., ETC.) (TYPICAL)
3. RE-FLASH ALL ROOF CURBS USING NEW OVERSIZED FASTENERS AND NEW SEALANTS BETWEEN THE ROOF PANELS AND CURB FLANGES. PAINT CURBS TO MATCH ROOF COLOR (TYPICAL).
4. REPLACE ALL RAKE EDGE COMPONENTS USING NEW OVERSIZED FASTENERS AND NEW SEALANTS BETWEEN THE ROOF PANELS AND EDGE FLASHINGS.
5. REPLACE ALL EXPOSED FASTENERS AND SEALANTS AT THE LIGHTNING PROTECTION ROD BRACKETS.
6. REPLACE ALL EXPOSED LIGHTNING PROTECTION CABLE FASTENERS AND SEALANTS IN THE FIELD OF THE ROOFS.
7. REPLACE THE EXISTING GUTTERS, DOWNSPOUTS, AND METAL EDGE ROOF FLASHINGS (EAVE TRIM) AND SEALANTS INSTALLED BETWEEN THE ROOF PANELS AND EAVE TRIM. ENSURE THE NEW GUTTERS ARE PROPERLY SIZED TO PROVIDE ADEQUATE DRAINAGE. FORM THE EXTERIOR GUTTER EDGE LOWER THAN THE ROOF PANELS FOR EMERGENCY OVERFLOW PROTECTION.
8. REPAIR SMALL ROOF LEAK OVER NEW TOOL STORAGE AREA. LEAK APPEARS TO BE AT A ROOF VENT.



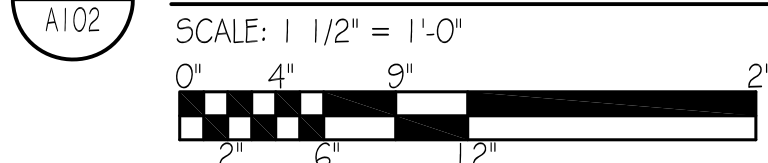
1 ROOF PATCH DETAIL/
NEW VTR FLASHING DETAIL



2 NEW GUTTER AND DOWNSPOUT



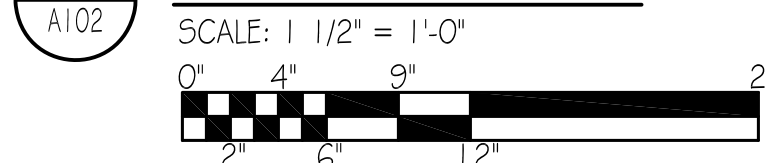
4 NEW RAKE TRIM DETAIL



PARTITION SCHEDULE

- EXISTING 1-HOUR PARTITION - 6", 8", OR 12" CONCRETE MASONRY UNITS. EXISTING FIRE-RATED WALLS ARE TO BE REPAIRED TO MEET CODE. THIS IS TO INCLUDE EXISTING OPENINGS AS WELL AS NEW CREATED BY CONSTRUCTION.
- NEW 1-HOUR PARTITION - 8" CMU TO 9'-4" A.F.F. w/ GYP. BOARD PARTITION ABOVE 9'-4" A.F.F. (MATCH EXISTING CONSTRUCTION)
- NEW 6" CMU PARTITION TO 9'-4" A.F.F. PROVIDE #4s DOWELED INTO FLOOR AT 48" o.c., FILL CELLS AT DOWEL LOCATIONS TO TOP OF WALL. BRACE TOP OF WALL TO ROOF STRUCTURE AT 48" o.c. AND ALTERNATE DIRECTIONS EVERY 48" o.c.
- NEW PARTITION - 3-5/8" METAL STUDS WITH 1 LAYER 5/8" GYPSUM BOARD EACH SIDE TO 4'-0" ABOVE DROPPED CEILING. PROVIDE ACOUSTICAL BATTS FULL HEIGHT OF GYP BOARD.
- NEW 1-HR RATED PARTITION - 3-5/8" METAL STUDS WITH 1 LAYER 5/8" FR GYPSUM BOARD EACH SIDE TO UNDERSIDE OF DECK. PROVIDE FIRESTOPPING AT ALL PENETRATIONS AS REQUIRED BY CODE.

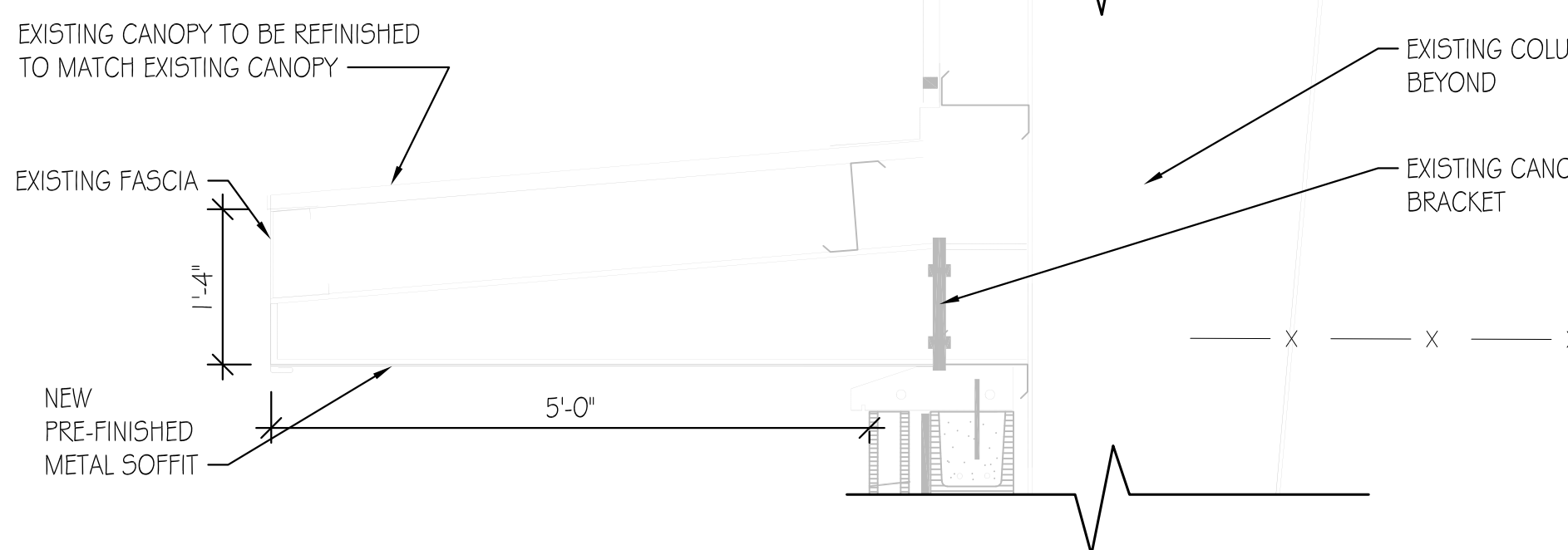
6 NEW GAS VTR



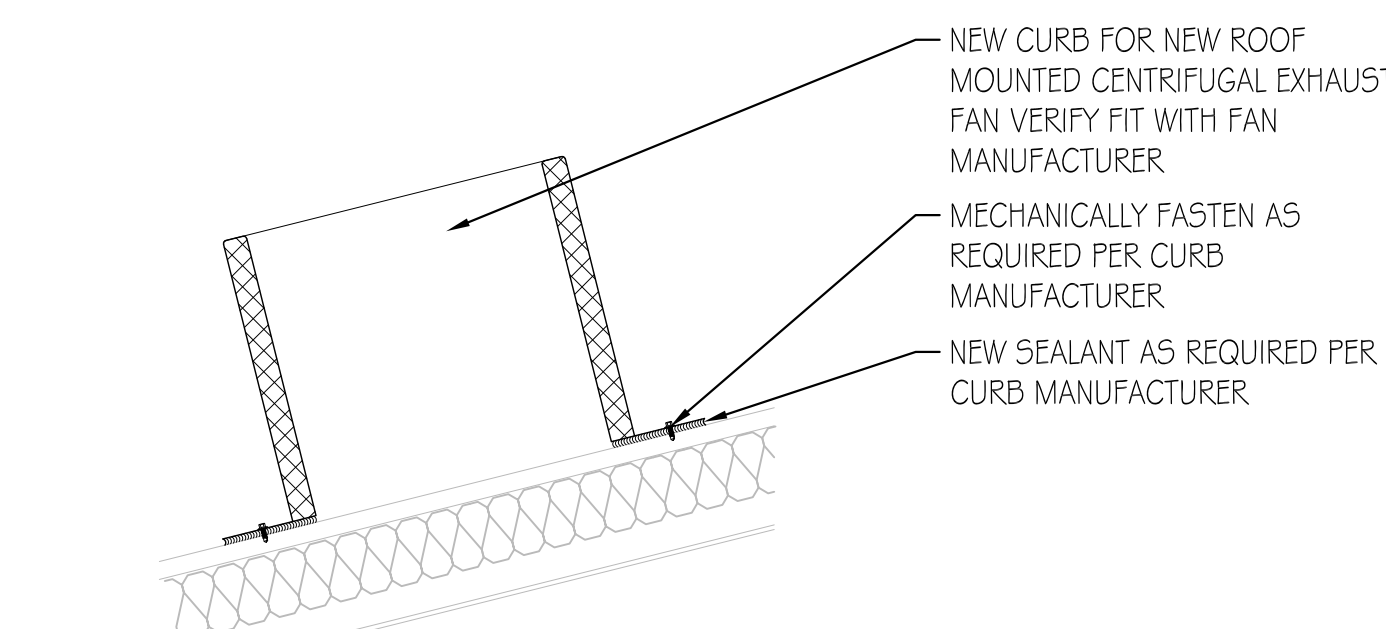
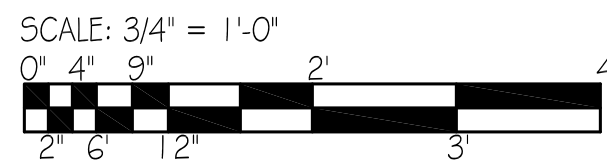
LEGEND

FIELD-VERIFY EXISTING LIGHTING AND MECHANICAL LOCATIONS. COORDINATE WITH ENGINEERING DRAWINGS.

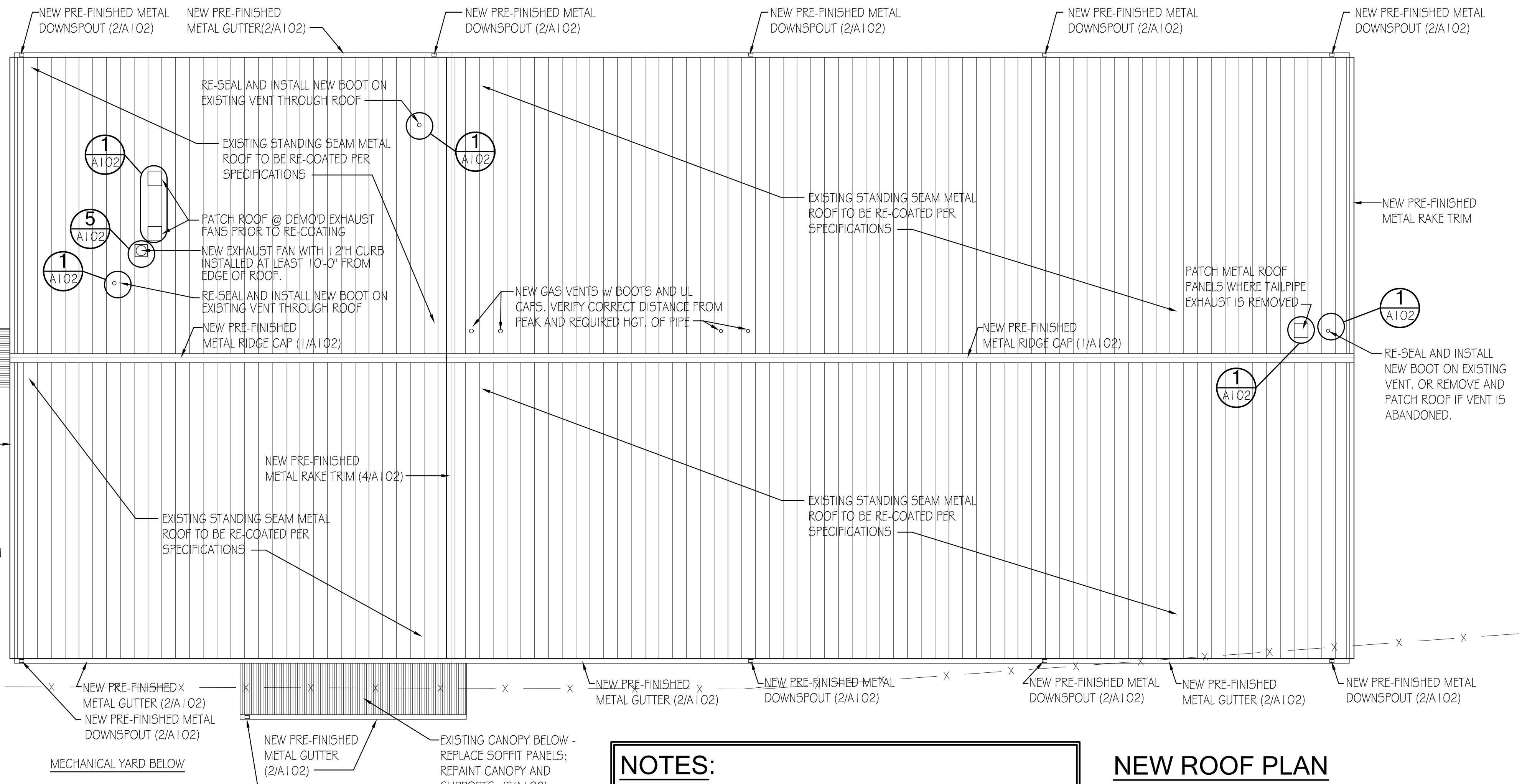
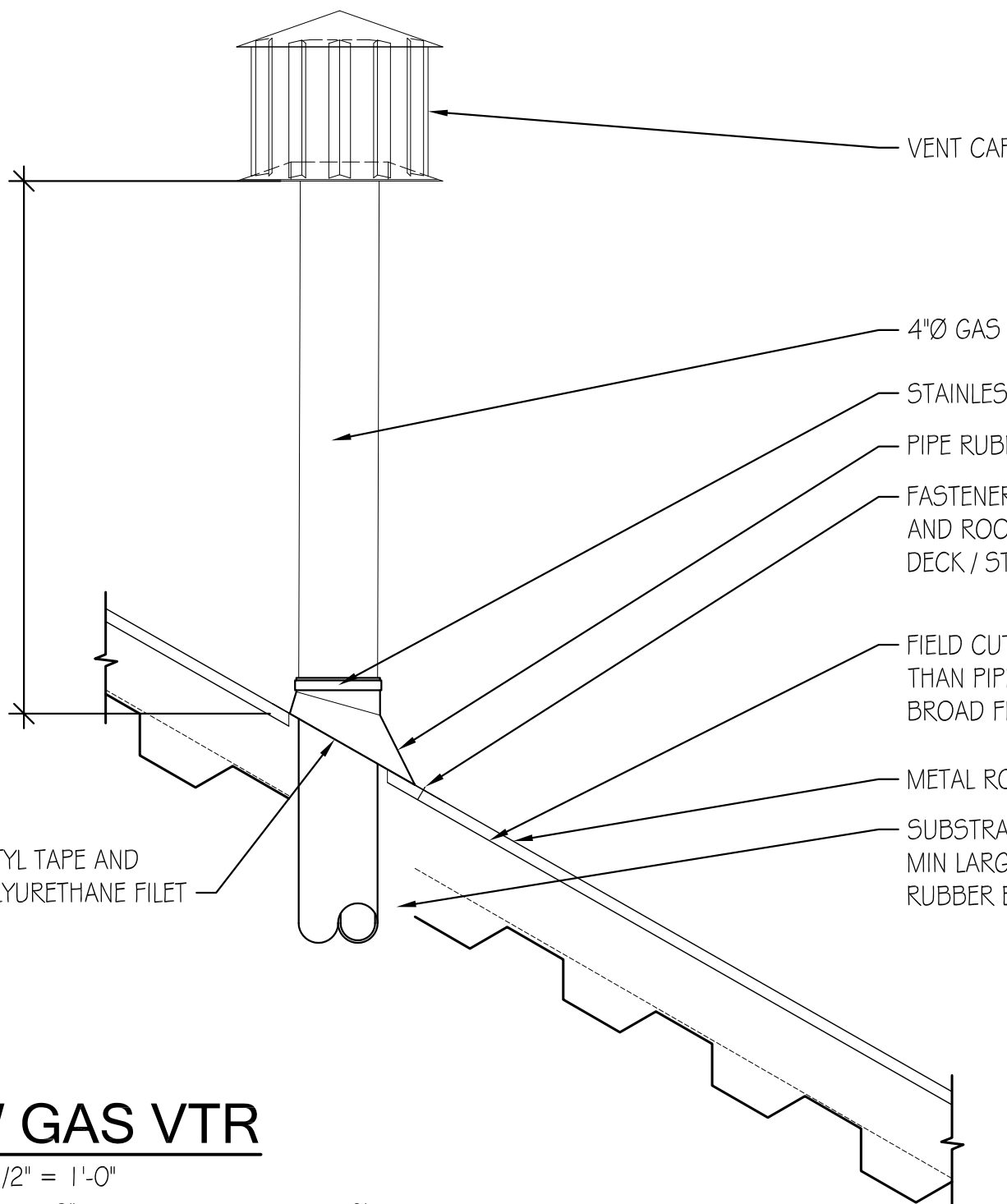
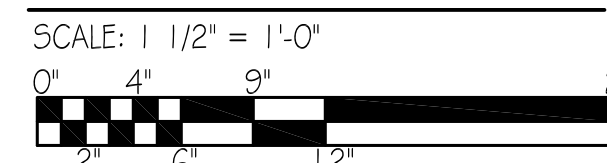
- 2x4 FIXTURE
- 1x4 FIXTURE
- WALL BRACKET FIXTURE
- WALL BRACKET FIXTURE
- PENDANT FIXTURE
- STRIP FIXTURE
- OCCUPANCY SENSOR
- LIGHTED EXIT SIGN
- FAN SENSOR
- FIRE ALARM
- SUPPLY AIR DIFFUSER
- RETURN AIR GRILLE
- EXHAUST FAN GRILLE
- OF OWNER FURNISHED
- CI CONTRACTOR INSTALLED



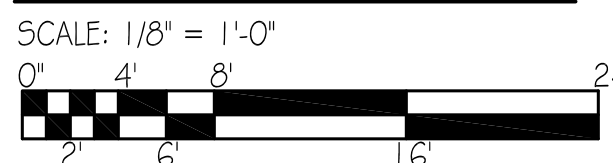
3 EXISTING CANOPY



5 NEW ROOF CURB

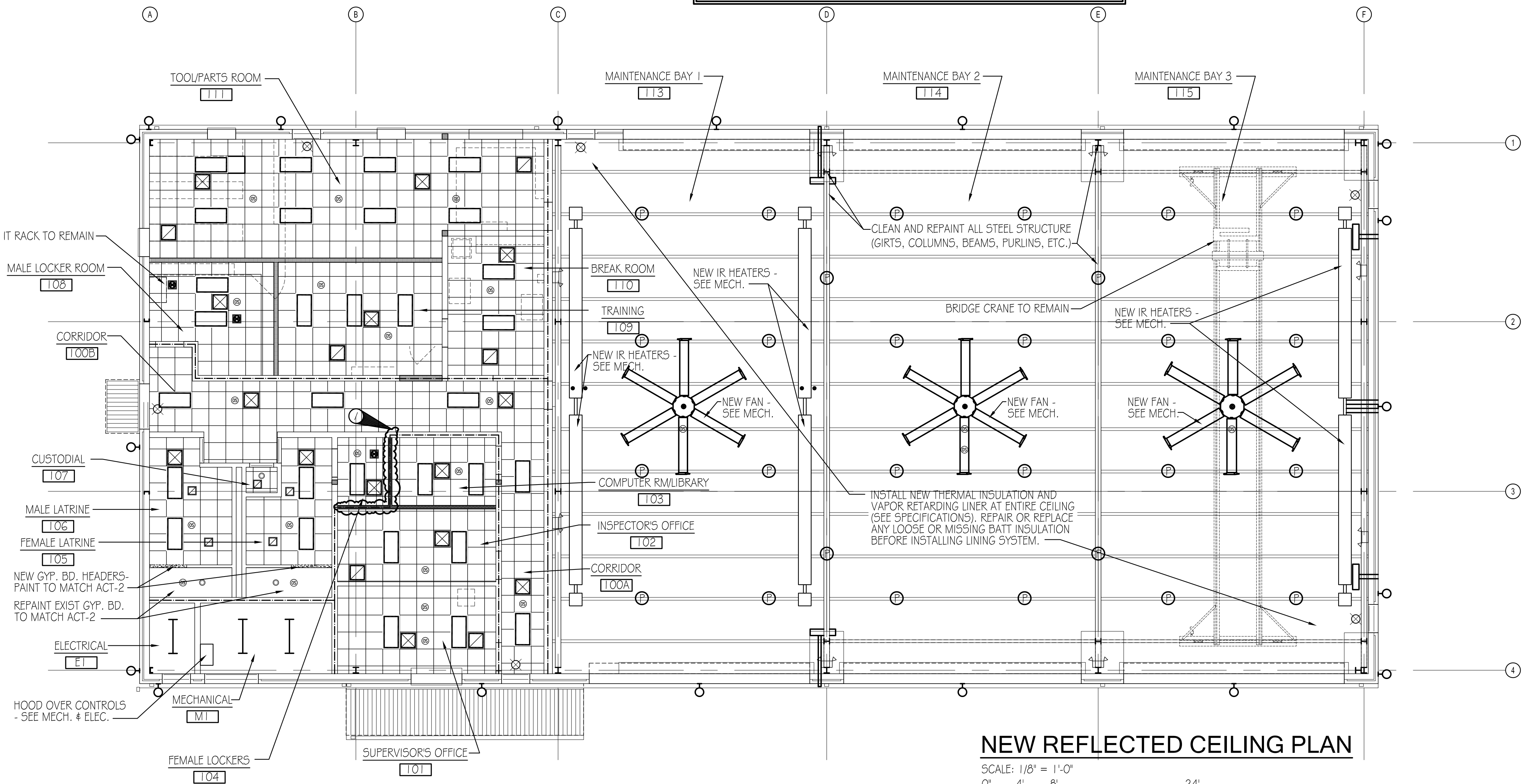


NEW ROOF PLAN

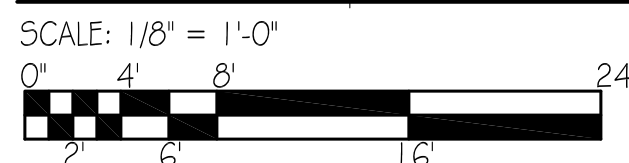


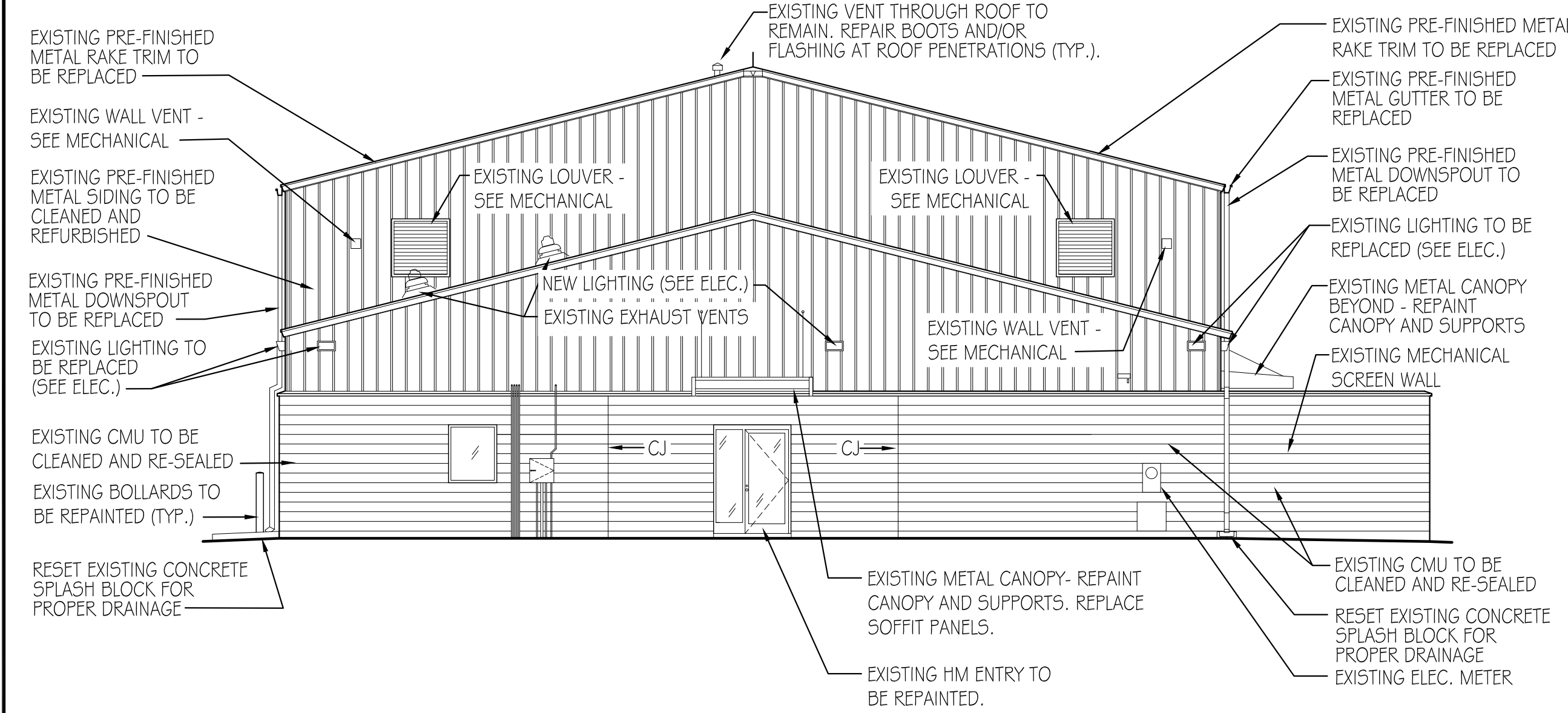
NOTES:

1. SPECIFIED WARRANTY OF INSTALLED ROOFING SYSTEM MUST BE MAINTAINED. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR INSTALLATIONS OF THEIR PRODUCTS IN EACH APPLICATION. IN CASE OF DISCREPANCIES IN APPLICATION DETAILS, CONSULT ARCHITECT PRIOR TO INSTALLATION.
2. THESE DRAWINGS HAVE BEEN PRODUCED WITHOUT PERFORMING A PANEL DEFLECTION/FASTENING ANALYSIS. PLEASE PROVIDE THE APPLICABLE DESIGN CRITERIA (BUILDING CODE, WIND SPEED, EXPOSURE, IMPORTANCE FACTOR, ETC.) OR THE APPLICABLE POSITIVE/NEGATIVE WIND PRESSURES FOR THE COMPONENTS AND CLADDING SO THAT A PANEL DEFLECTION/FASTENING ANALYSIS MAY BE COMPLETED. PANEL ANALYSIS MAY BE REQUIRED PRIOR TO THE RELEASE OF THE FINAL SUBMITTAL DRAWINGS.
3. ALL PATCHING AND FASTENING REPLACEMENT WORK TO BE DONE PRIOR TO APPLYING NEW ROOF COATING SYSTEM.

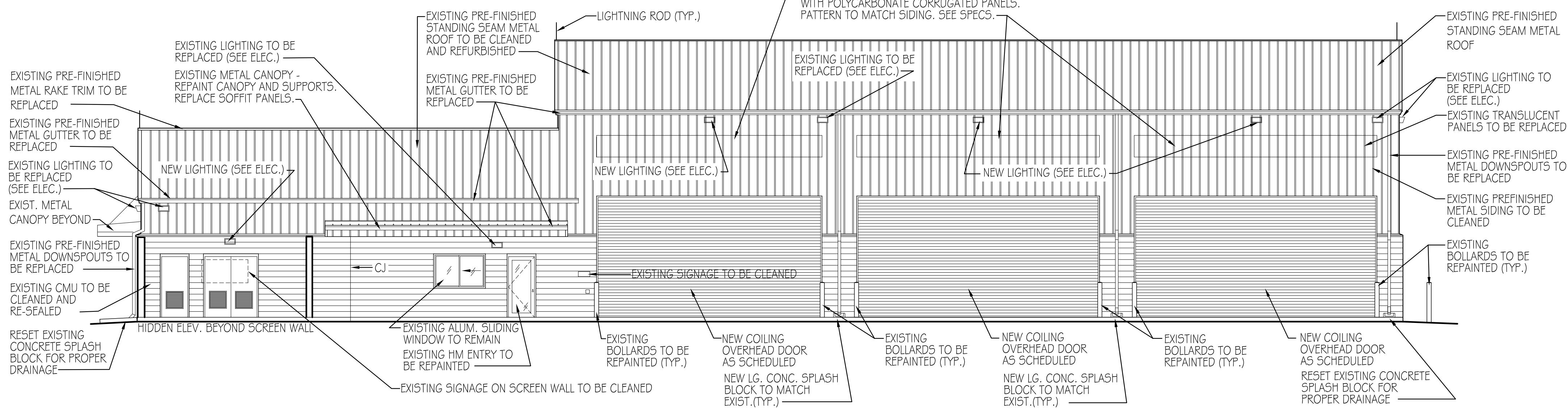
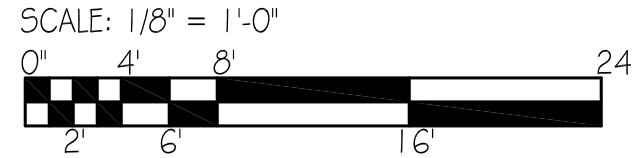


NEW REFLECTED CEILING PLAN

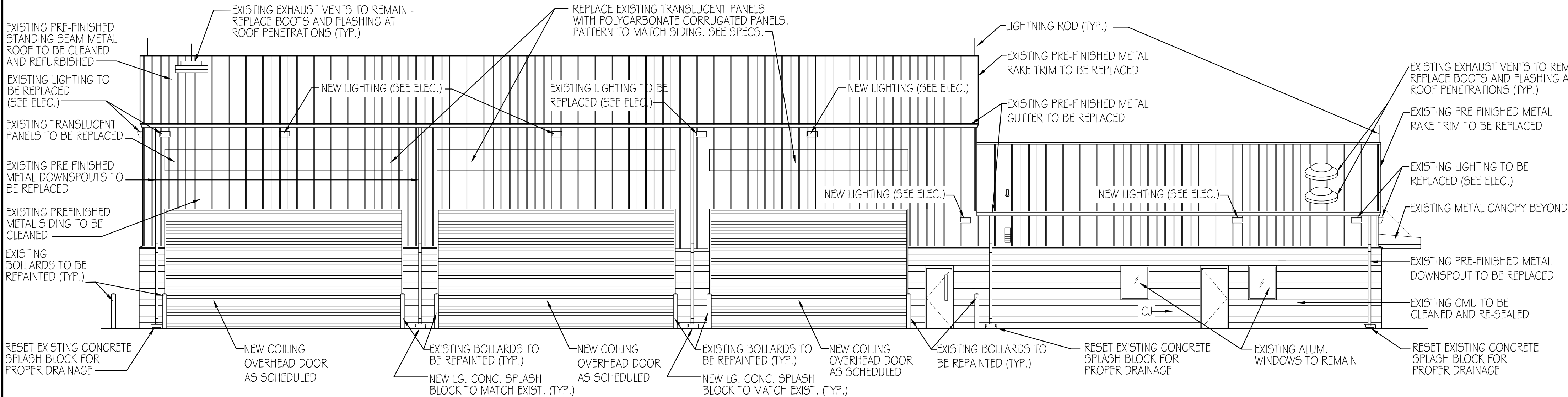
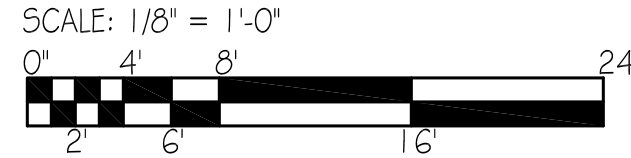




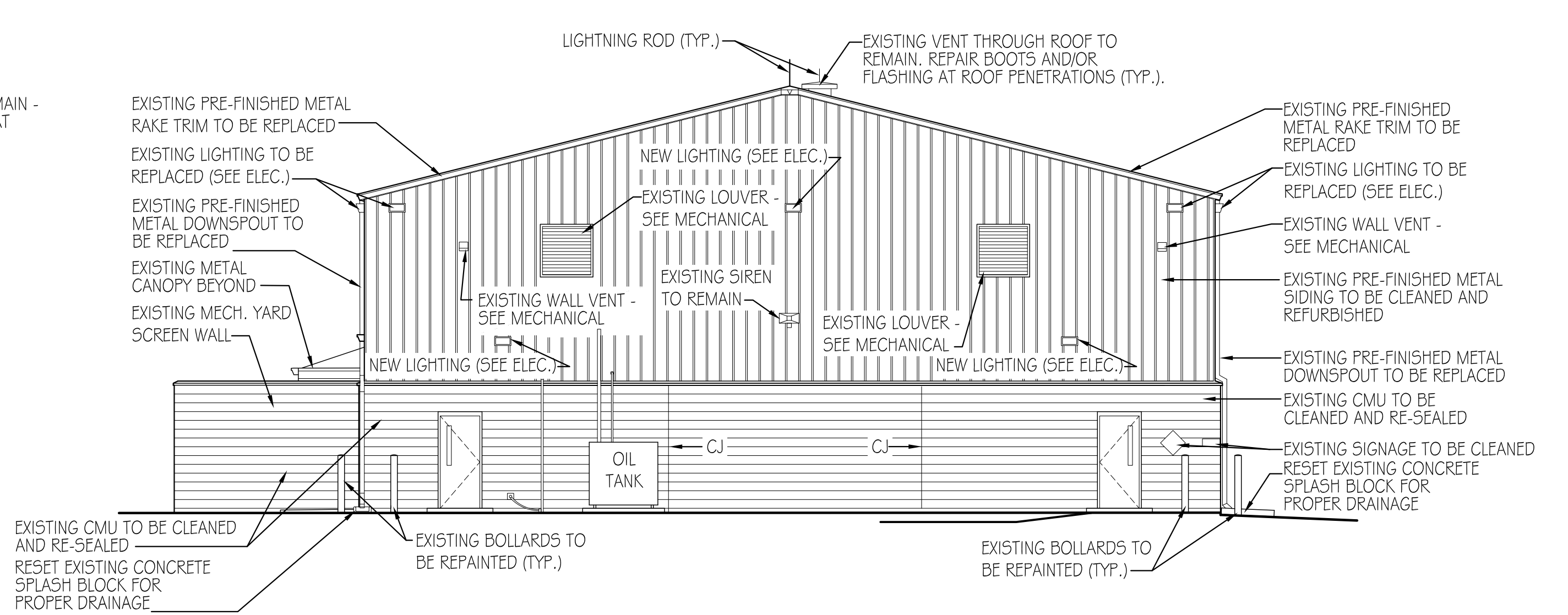
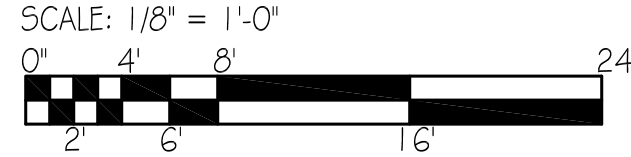
WEST ELEVATION



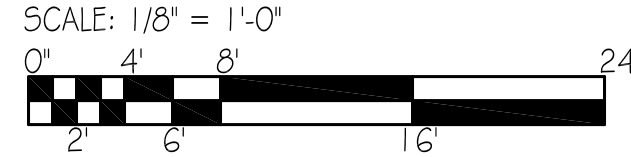
SOUTH ELEVATION



NORTH ELEVATION

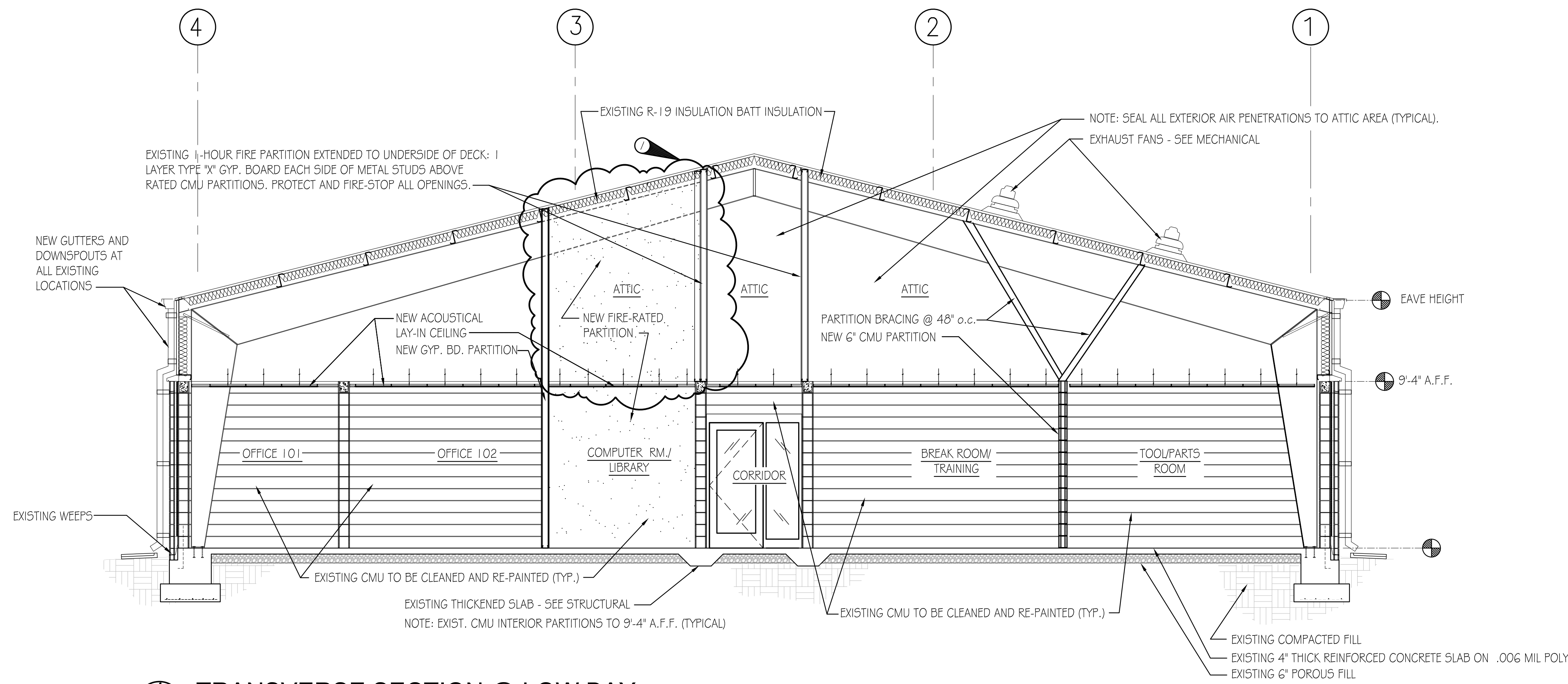


EAST ELEVATION

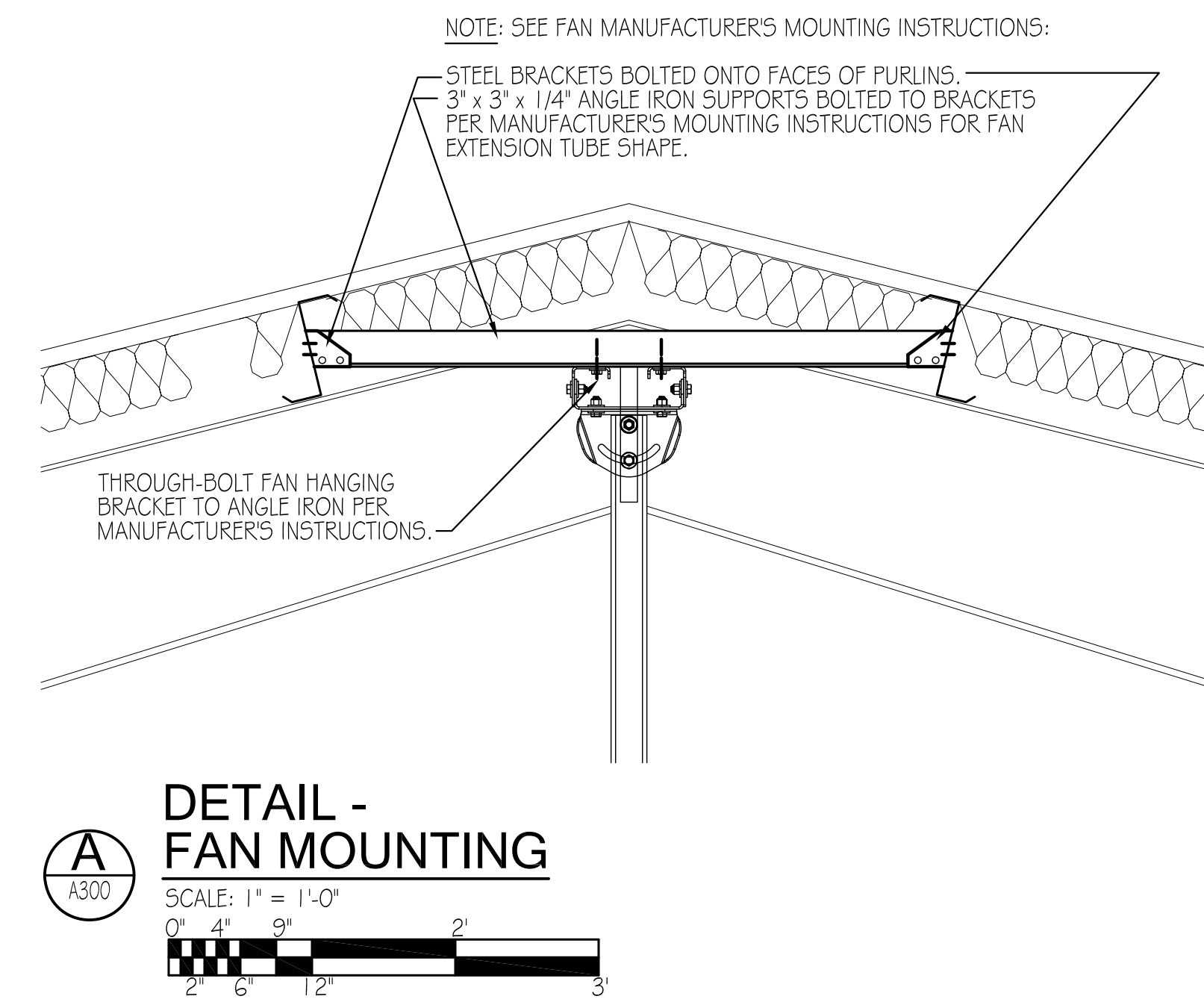
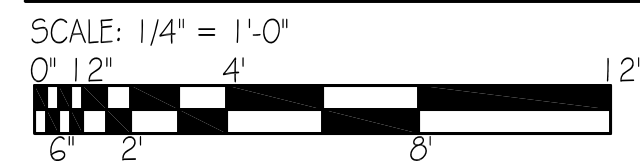


ENVELOPE RESTORATION NOTES:

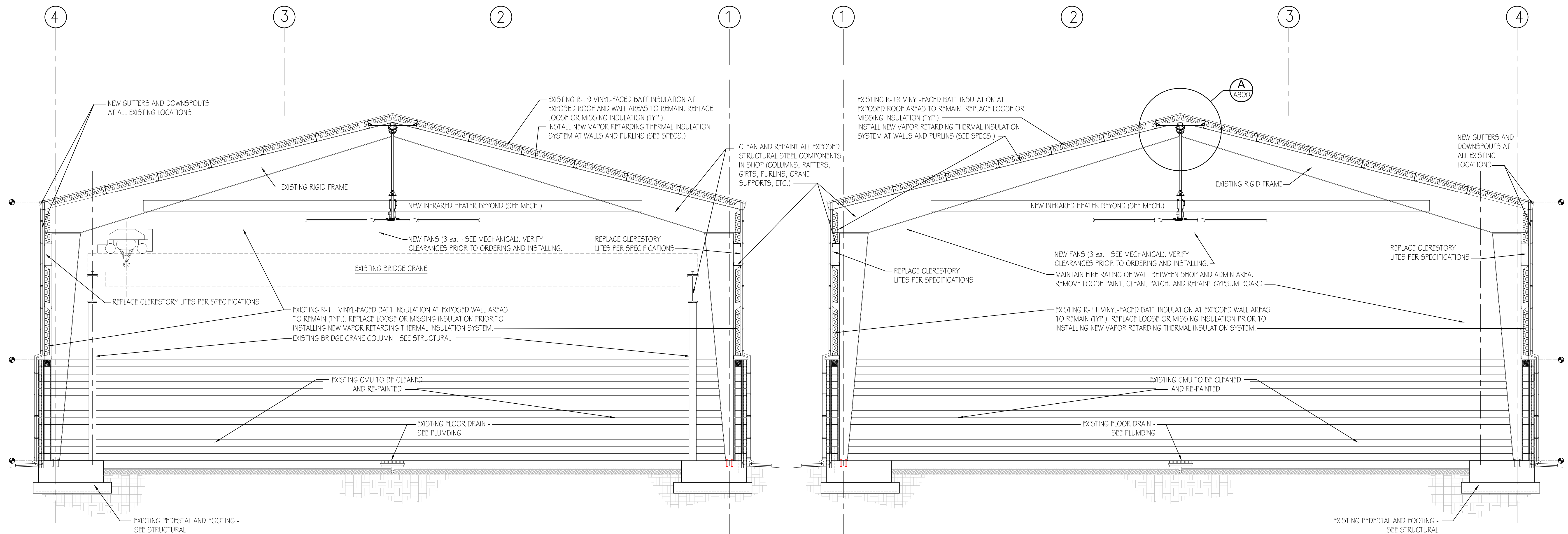
1. PRESSURE WASH ALL ELEMENTS OF EXTERIOR BUILDING ENVELOPE (METAL PANELS, CMU, CANOPIES, ROOF SYSTEM, ETC.) TO REMOVE DIRT, ALGAE, AND OXIDATION. PREPARE SURFACES FOR ANY NEW FINISHES, SEALANTS, COATINGS, ETC. AS SPECIFIED.
2. REMOVE EXISTING SEALANT AND BACKER ROD AT ALL EXISTING MASONRY CONTROL JOINTS AND INSTALL NEW SEALANT AND BACKER ROD.
3. REPAIR AND REPAINT ALL EXTERIOR HOLLOW METAL DOORS AND FRAMES. PATCH ANY DENTS AND HOLES AND SMOOTH ANY SCRATCHES PRIOR TO REPAINTING.
4. PREP AND REPAINT ALL EXISTING BOLLARDS 'TRAFFIC YELLOW'.
5. REMOVE EXISTING OVERHEAD COILING DOORS AND OPERATING EQUIPMENT AS REQUIRED FOR INSTALLATION OF NEW COILING OVERHEAD DOORS AND OPERATING EQUIPMENT AS SPECIFIED.
6. PREP AND REPAINT ALL EXISTING MECHANICAL LOUVERS TO REMAIN. PAINT ALL EXISTING AND NEW LOUVERS AS INDICATED ON THE FINISH SCHEDULE AND IN SPECIFICATIONS.
7. PRESSURE WASH ALL EXTERIOR CONCRETE SIDEWALKS, LANDINGS, EQUIPMENT PADS, AND CONCRETE APRONS IN FRONT OF SERVICE BAYS. EXISTING DRIVEWAYS ARE NOT TO BE PRESSURE WASHED.



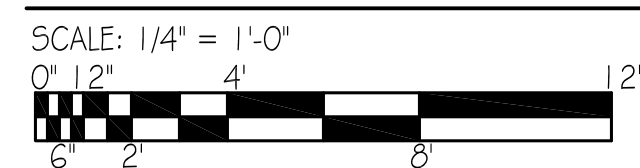
1 TRANSVERSE SECTION @ LOW BAY



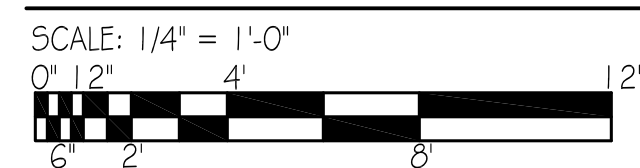
DETAIL - FAN MOUNTING
SCALE: 1" = 1'-0"
0' 1/2' 1' 2' 4' 8'

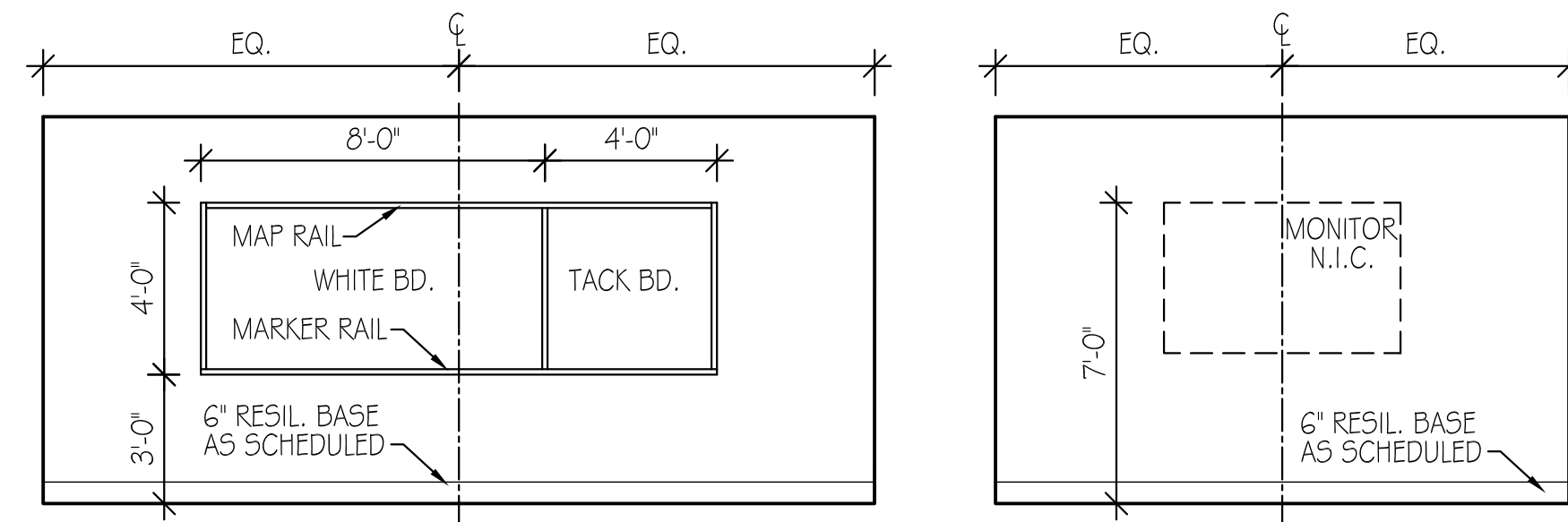


2 TRANSVERSE SECTION @ HIGH BAY



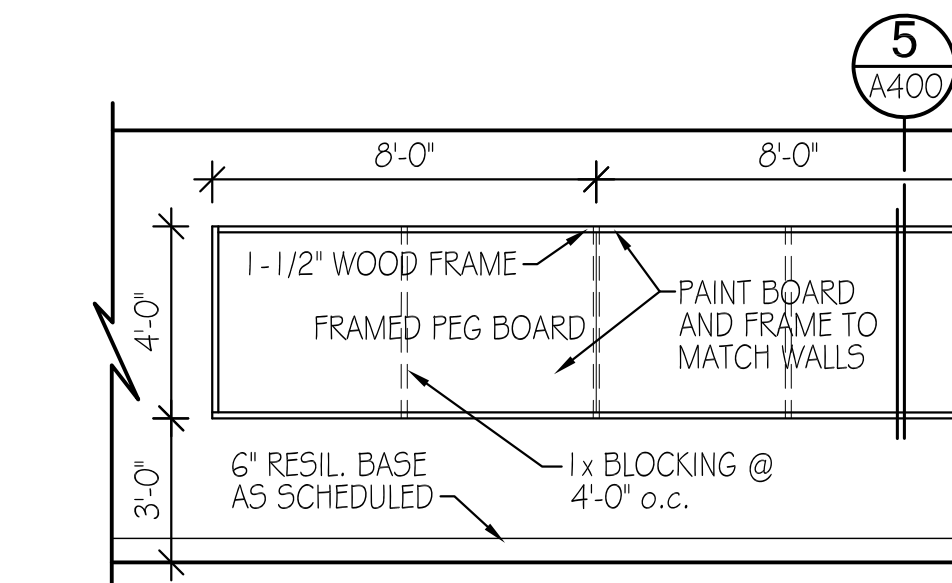
3 TRANSVERSE SECTION @ HIGH BAY



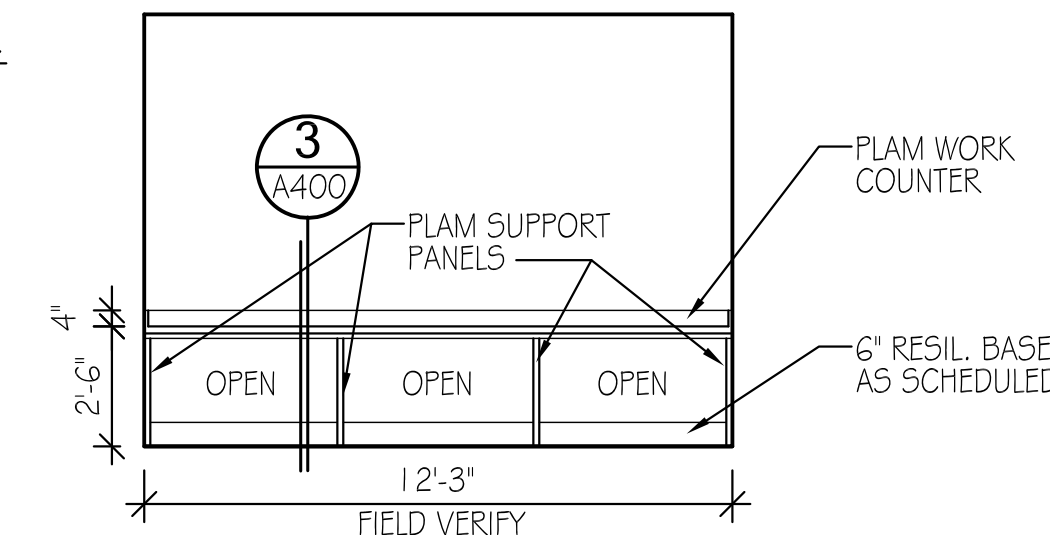


**ELEVATION -
TRAINING 109**

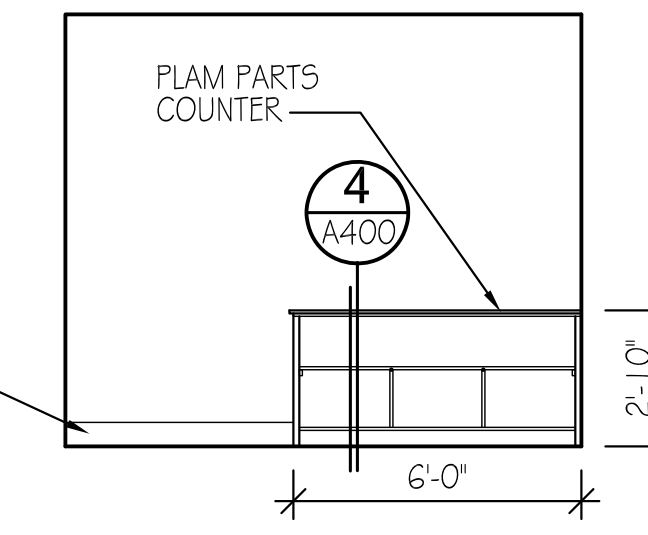
**ELEVATION -
TRAINING 109**



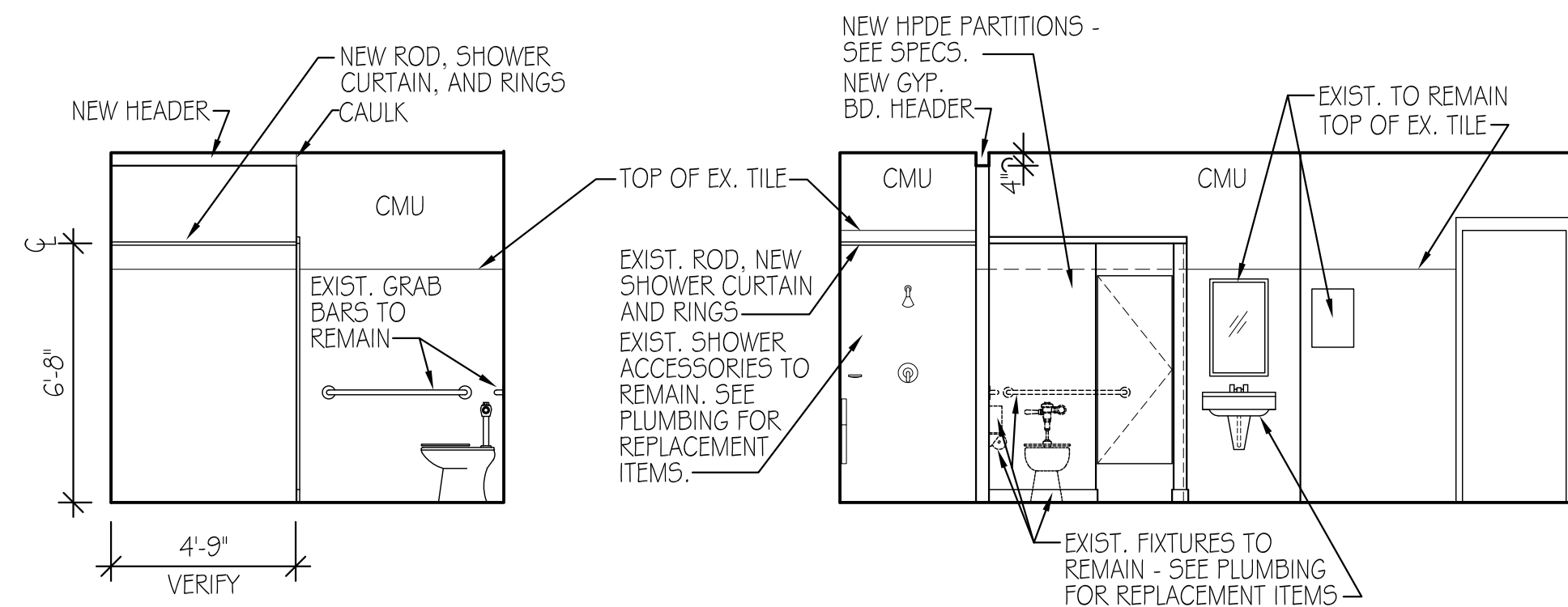
**ELEVATION -
PARTS / TOOLS 111**



**ELEVATION -
COMP. RM./LIBRARY 103**

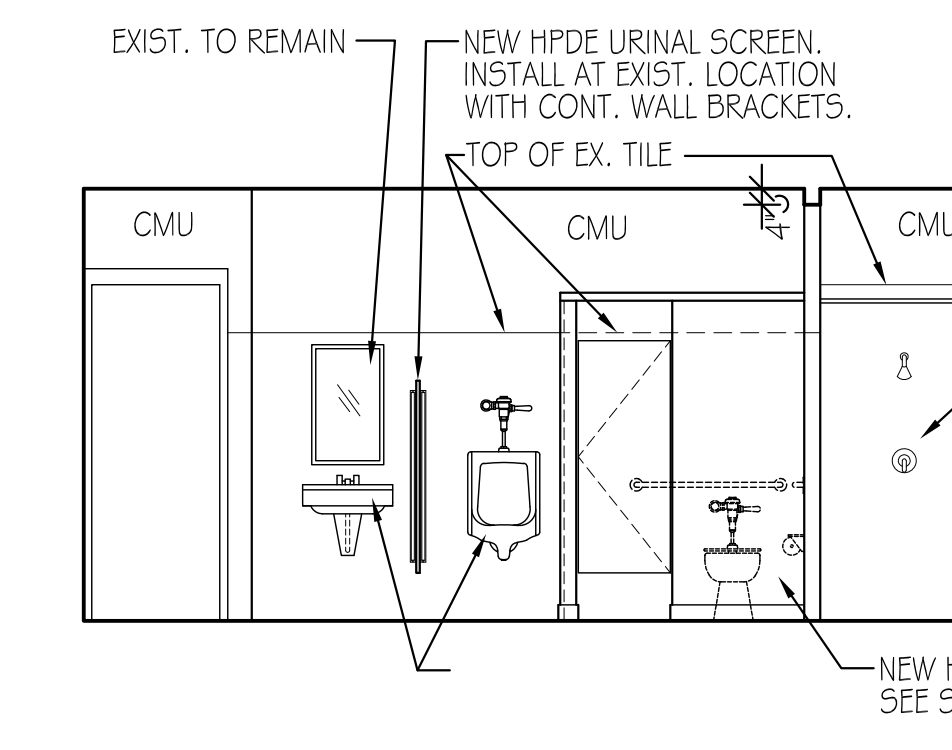


**ELEVATION -
PARTS/TOOLS 111**

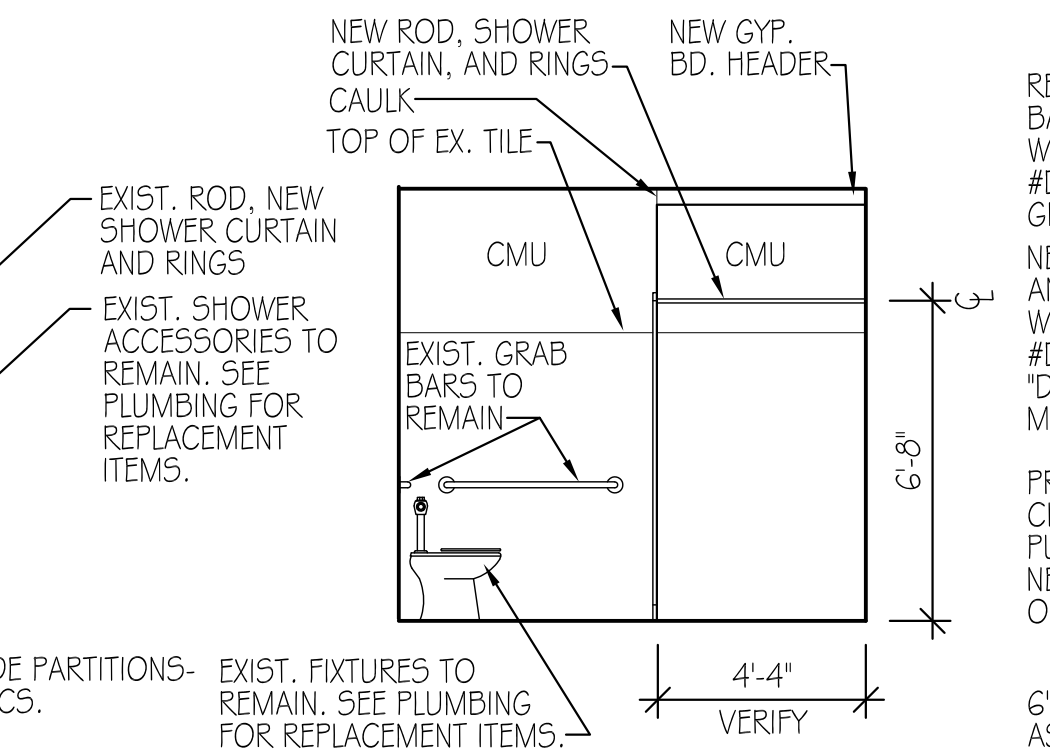


**ELEVATION -
FEMALE LATRINE 105**

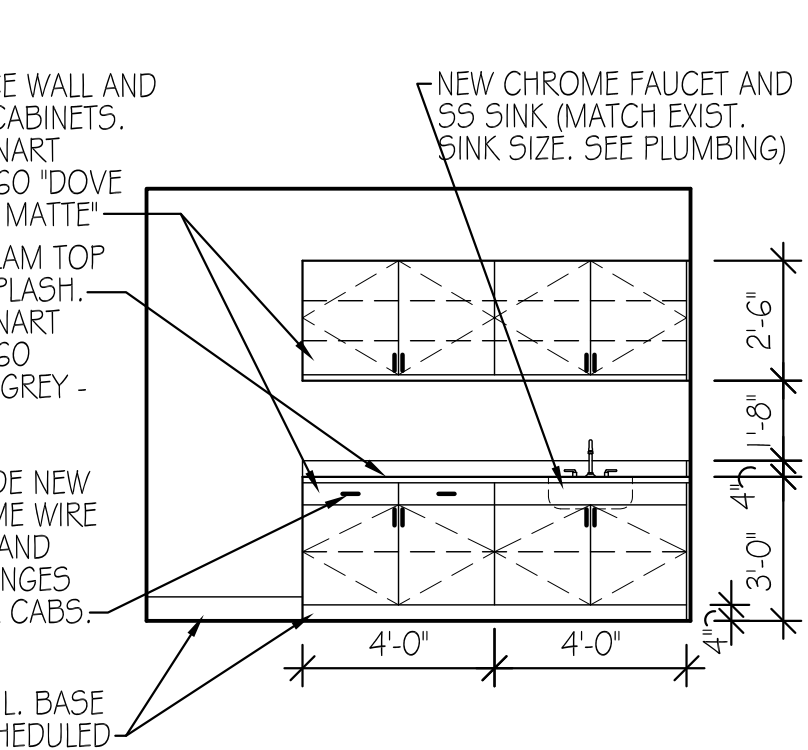
**ELEVATION -
FEMALE LATRINE 105**



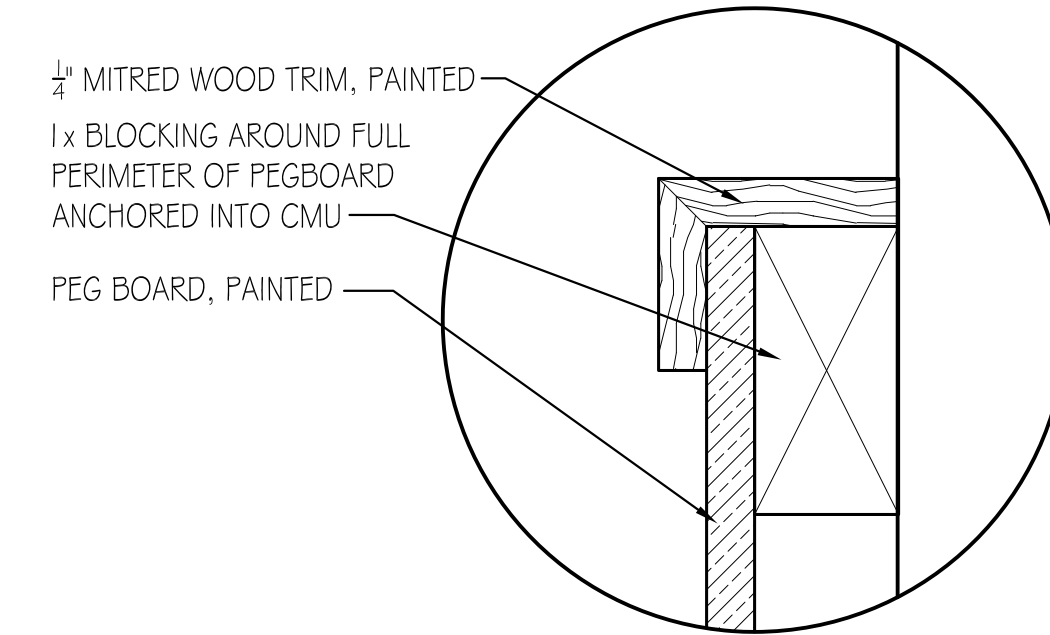
**ELEVATION -
MALE LATRINE 105**



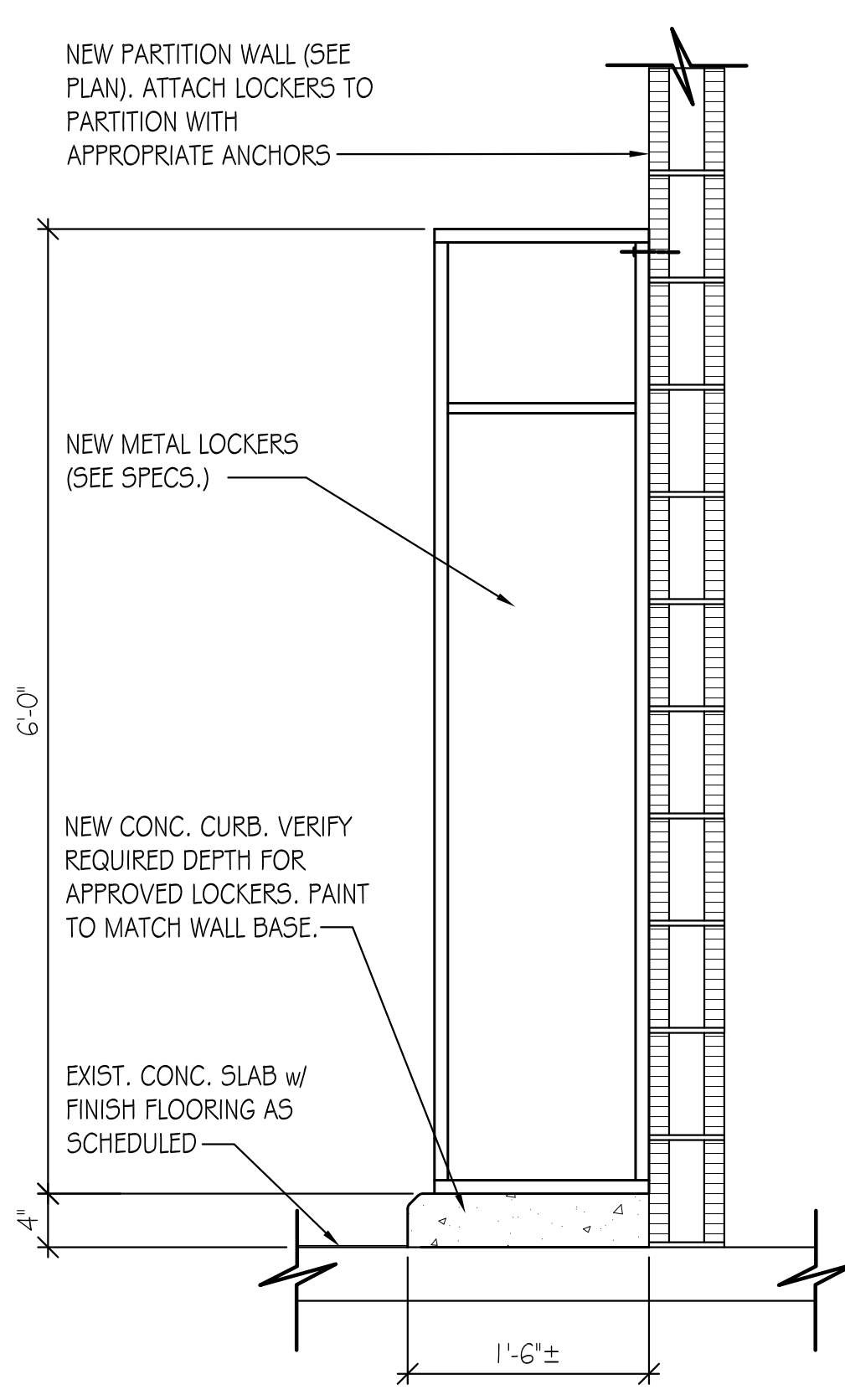
**ELEVATION -
MALE LATRINE 105**



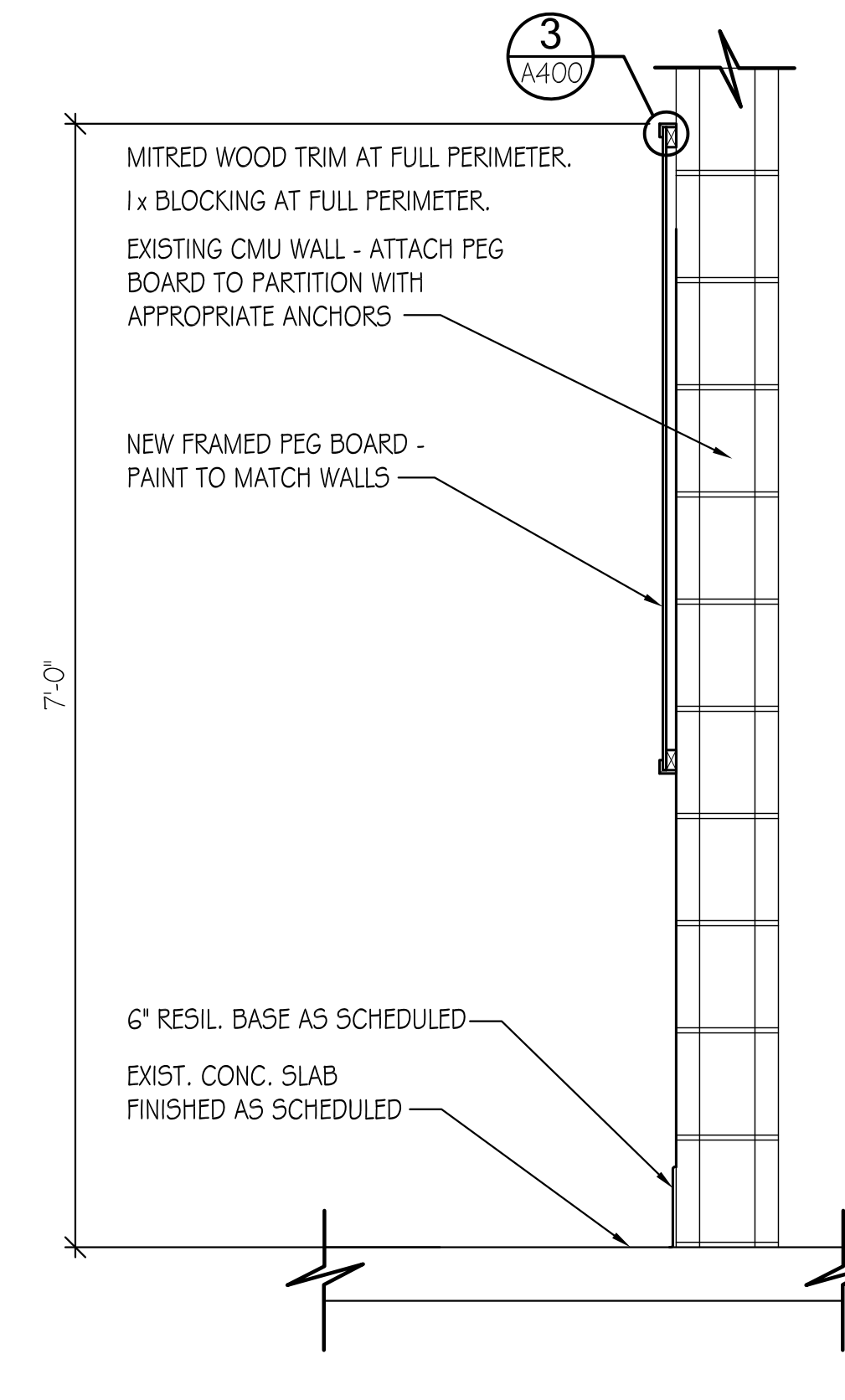
**ELEVATION -
BREAK ROOM 110**



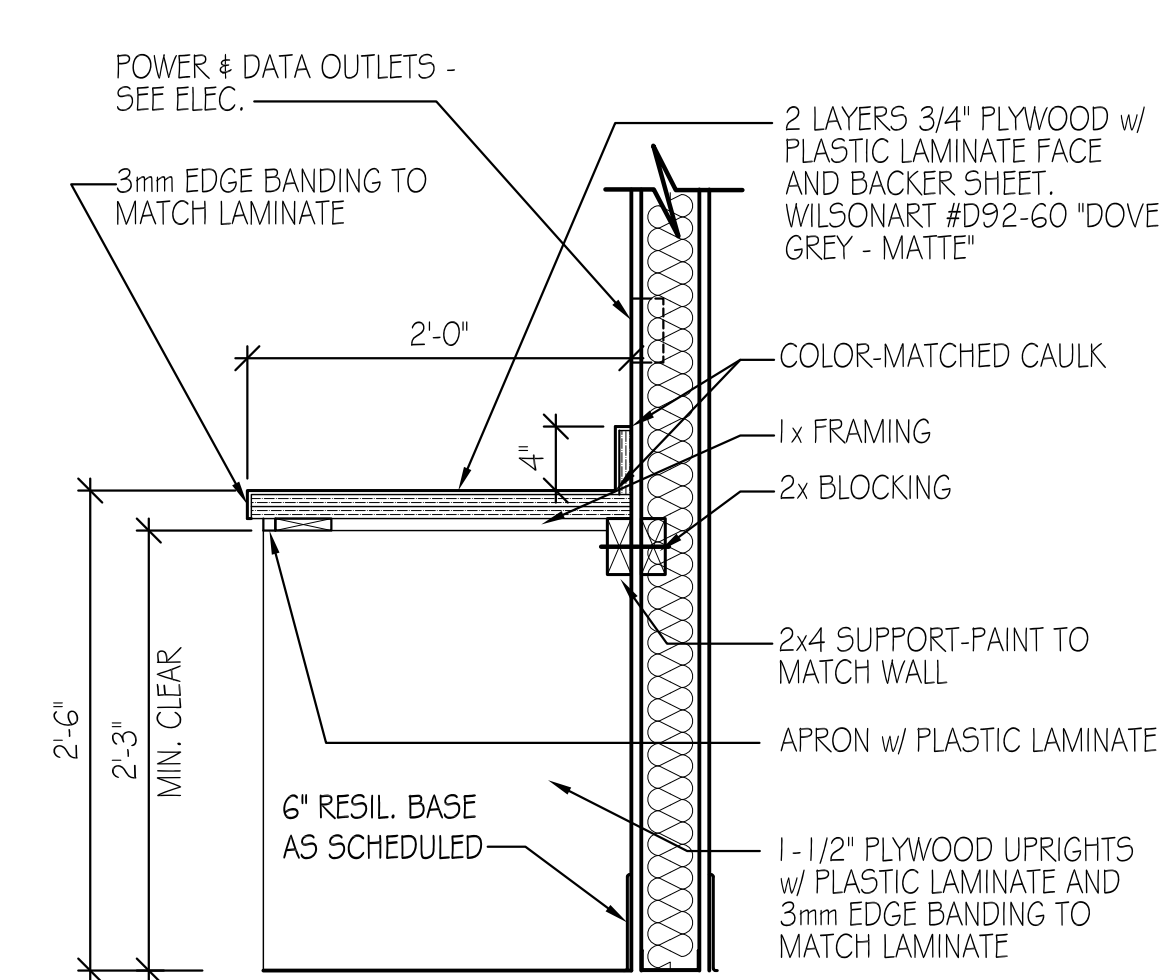
**DETAIL -
PEG BOARD FRAME**



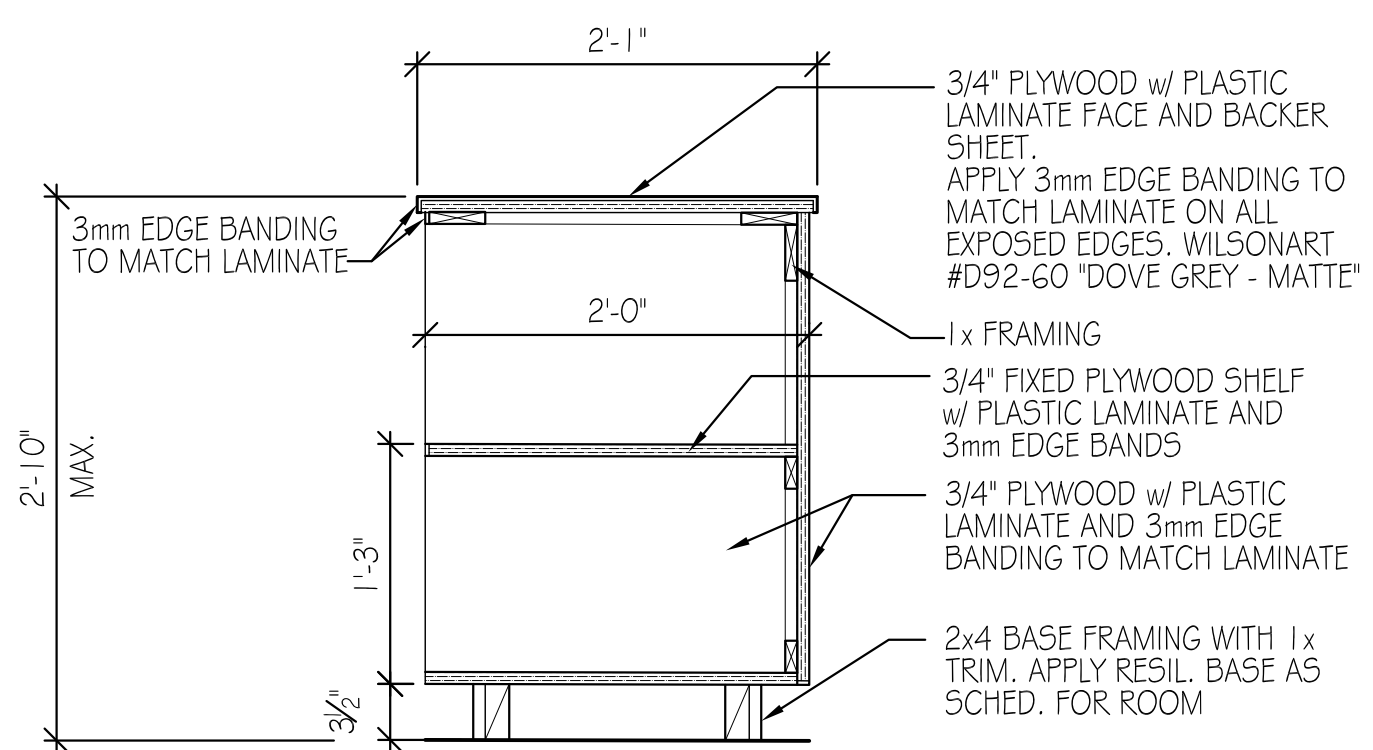
DETAIL - LOCKERS



DETAIL - PEG BOARD



DETAIL - WORK COUNTER



DETAIL - PARTS COUNTER

FINISH SCHEDULE															
ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL		SOUTH WALL		EAST WALL		WEST WALL		CEILING			REMARKS
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
100A	CORRIDOR	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
100B	CORRIDOR	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
101	SUPERVISOR'S OFFICE	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
102	INSPECTOR'S OFFICE	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
103	COMPUTER RM/LIBRARY	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
104	FEMALE LOCKER ROOM	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	
105	FEMALE LATRINE	XPTF-1	XCT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-2 GYP. BD.	9'-0"	RE-ADHERE LOOSE FLOOR TILE AND RE-GROUT TO MATCH EXISTING.
106	MALE LATRINE	XPTF-1	XCT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-2 GYP. BD.	9'-0"	
107	CUSTODIAL	XPTF-1	XCT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-2	9'-0"	
108	MALE LOCKER ROOM	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
109	TRAINING	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
110	BREAK ROOM	VCT-1	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND PREP SLAB FOR NEW FINISH.
111	PARTS / TOOLS	XCONC	RB-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	CMU	PNT-1	NEW GRID	ACT-1	9'-0"	REMOVE ANY EXISTING FLOORING AND ADHESIVE. CLEAN AND RESEAL CONCRETE.
112	NOT USED														
113	MAINTENANCE BAY 1	XCONC	---	CMU	PNT-1	CMU INSUL. FNLS	PNT-1	CMU	PNT-1	CMU	PNT-1	INSUL. FNLS.		OPEN TO STRUCT.	CLEAN AND RESEAL CONCRETE PER SPECIFICATIONS
114	MAINTENANCE BAY 2	XCONC	---	GYP. BD.	PNT-1	CMU INSUL. FNLS	PNT-1	CMU	PNT-1	CMU	PNT-1	INSUL. FNLS.		OPEN TO STRUCT.	CLEAN AND RESEAL CONCRETE PER SPECIFICATIONS
115	MAINTENANCE BAY 3	XCONC	---	CMU	CMU	CMU INSUL. FNLS	PNT-1	CMU	PNT-1	CMU	PNT-1	INSUL. FNLS.		OPEN TO STRUCT.	CLEAN AND RESEAL CONCRETE PER SPECIFICATIONS
M1	MECHANICAL	XCONC	---	CMU	---	CMU	---	CMU	---	CMU	---	---	---	OPEN TO STRUCT.	
E1	ELECTRICAL	XCONC	---	CMU	---	CMU	---	CMU	---	CMU	---	---	---	OPEN TO STRUCT.	

DOOR AND SIGNAGE SCHEDULE

X- = EXISTING

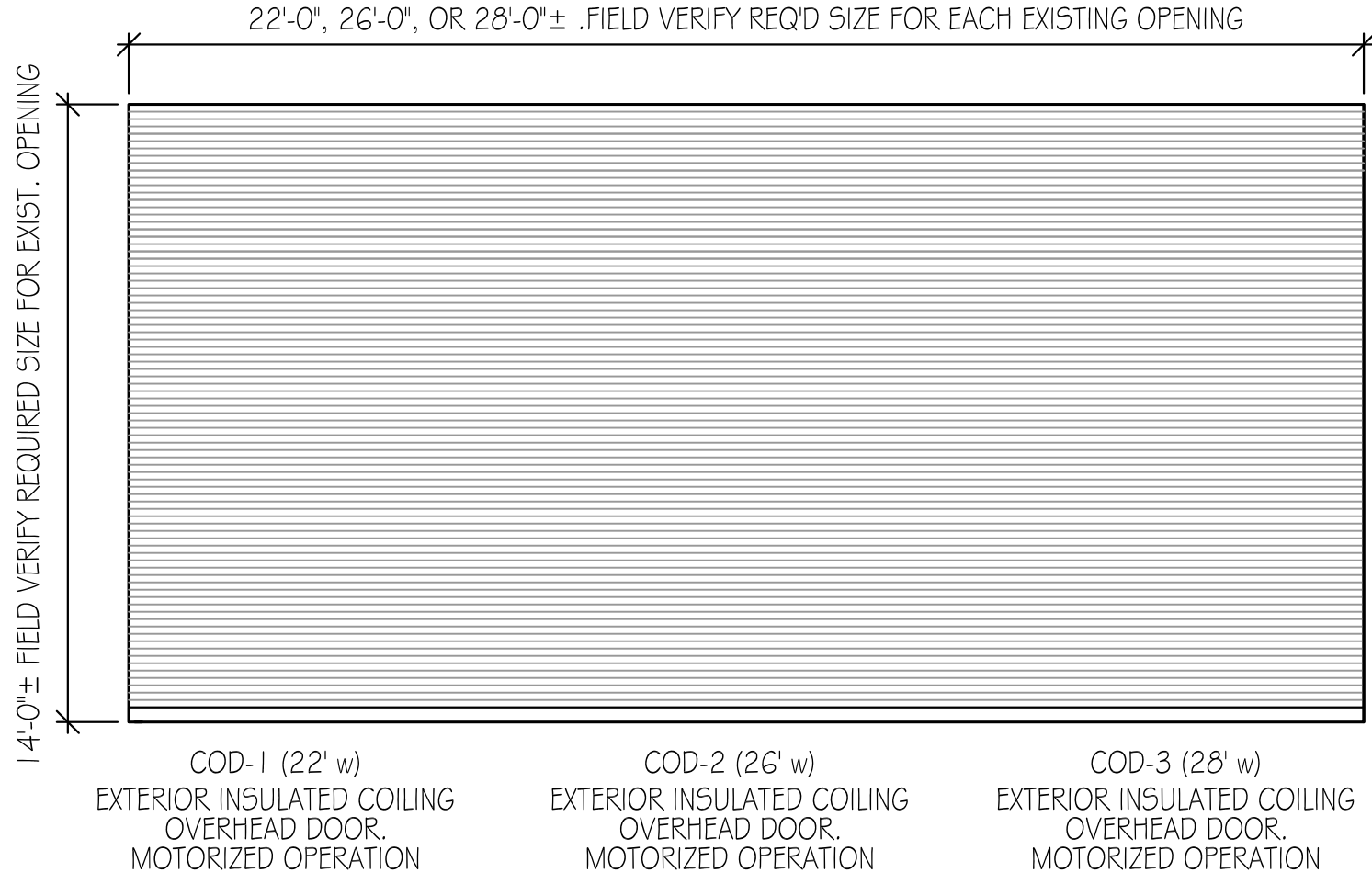
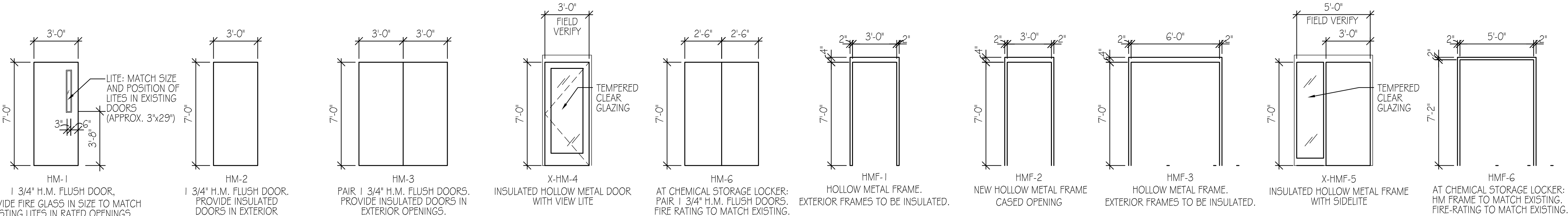
DOORS							FRAMES			DETAIL REFERENCES				REMARKS		SIGNAGE		
DOOR NUMBER	TYPE	DIMENSIONS			MATERIAL	FINISH	CORE	TYPE	MATERIAL	FINISH	HEAD	JAMB	THRESH.	HDW/SET	LABEL	DOOR TYPES AND FRAMES PREFIXED WITH 'X-' ARE EXISTING DOORS TO BE REFURBISHED.	TYPE	MESSAGE
		WIDTH	HEIGHT	THICK														
100A	X-HM-4	3'-0"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT	---	---
100B	X-HM-4	5'-4"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-5	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT	---	---
100C	HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	45 MIN.	REPLACE DOOR. DOOR AND FRAME TO BE INSULATED AND HAVE WEATHER SEALS	---	---
101	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	20 MIN.		A	OFFICE 101
102	HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	HMF-1	HM	PNT	4"	5'-3/4"	---	---	20 MIN.	NEW RATED HM DOOR AND FRAME	A	OFFICE 102
103	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	20 MIN.		A	OFFICE 103
104	---	---	---	---	---	---	---	HMF-2	HM	PNT	4"	8'-3/4"	---	---	---	NEW CASED OPENING	---	---
105	X-HM-2	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	---		RR	FEMALE LATRINE
106	X-HM-2	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	---		RR	MALE LATRINE
107	X-HM-2	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	---		B	CUSTODIAL
108	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	20 MIN.	APPLY OPAQUE FILM TO LITE (COLOR: SANDBLASTED GLASS)	B	MALE LOCKER ROOM
109	---	---	---	---	---	---	---	HMF-2	HM	PNT	4"	8'-3/4"	---	---	---	NEW CASED OPENING	---	---
110	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	20 MIN.		A	BREAK ROOM/ TRAINING 110
111A	X-HM-1	5'-4"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	5'-3/4"	---	---	45 MIN.	DOOR AND FRAME TO BE INSULATED AND HAVE WEATHER SEALS	B	PARTS / TOOLS 111
111B	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT. DOOR AND FRAME TO BE INSULATED AND HAVE WEATHER SEALS	---	---
113A	COD-1	22'-0"	14'-0"	---	STEEL	FACTORY	---	X-HMF-1	HM	PNT	BY MANUF.	---	---	---	---		---	---
113B	COD-2	26'-0"	14'-0"	---	STEEL	FACTORY	---	X-HMF-1	HM	PNT	BY MANUF.	---	---	---	---		---	---
113C	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT	---	---
114A	COD-3	28'-0"	14'-0"	---	STEEL	FACTORY	---	BY MANUF.	STEEL	FACTORY	BY MANUF.	---	---	---	---		---	---
114B	COD-3	28'-0"	14'-0"	---	STEEL	FACTORY	---	BY MANUF.	STEEL	FACTORY	BY MANUF.	---	---	---	---		---	---
115A	COD-2	28'-0"	14'-0"	---	STEEL	FACTORY	---	BY MANUF.	STEEL	FACTORY	BY MANUF.	---	---	---	---		---	---
115B	COD-2	28'-0"	14'-0"	---	STEEL	FACTORY	---	BY MANUF.	STEEL	FACTORY	BY MANUF.	---	---	---	---		---	---
115C	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT	---	---
115D	X-HM-1	3'-0"	7'-0"	1 3/4"	HM	PNT	INSUL.	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---	REQUIRED EXIT	---	---
E1	X-HM-2	3'-0"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-1	HM	PNT	4"	6'-3/4"	MTL	---	---		---	---
M1	PAIR X-HM-3	6'-4"	7'-0"	1 3/4"	HM	PNT	---	X-HMF-3	HM	PNT	4"	6'-3/4"	MTL	---	---		---	---
CSL-1	PAIR HM-6	5'-0" VERIFY	7'-0" VERIFY	1 3/4"	HM	PNT	---	HMF-6	HM	PNT	VERIFY	VERIFY	MTL VERIFY	---	---	REPLACE DRIP EDGE OVER DOOR AND PAINT TO MATCH DOORS	---	---
MSB-1	HM-2	3'-0"	7'-0"	1 3/4"	HM	PNT	---	HMF	HM	PNT	VERIFY	VERIFY	MTL VERIFY	---	---	AT METAL STORAGE BUILDING: REPLACE DOOR , FRAME, AND HARDWARE AS SCHEDULED.	---	---

DOOR AND FRAME TYPES

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

NOTES:

- FIELD-VERIFY ALL EXISTING DIMENSIONS PRIOR TO ORDERING NEW DOORS.
- ALL EXISTING HOLLOW METAL DOOR AND WINDOW FRAMES ARE TO HAVE DENTS, HOLES, AND SCRATCHES REPAIRED PRIOR TO REPAINTING.
- PREP AND REPAINT ALL EXISTING HOLLOW METAL DOORS, WINDOW, AND FRAMES.
- ALL ALUMINUM WINDOW FRAMES ARE TO BE REPAIRED, PREPPED, AND REPAINTED.
- ALL EXISTING LOUVERS, VENTS, AND GRILLES TO REMAIN ARE TO BE PREPPED AND REPAINTED TO MATCH ADJACENT SURFACES.
- EXTERIOR FRAMES TO BE INSULATED AND WEATHERSTRIPPING.



FINISH SCHEDULE LEGEND

CONC	CONCRETE WITH SEALER	PNT	PAINT
EXP. STRUCT.	EXPOSED DECK AND STRUCTURE	XQTF	EXISTING QUARRY TILE FLOOR
GYP. BD.	NEW OR RESURFACED GYPSUM WALLBOARD	XQTB	EXISTING QUARRY TILE BASE
M.R.	MOISTURE RESISTANT	WO	WOOD
PTW	PORCELAIN TILE WALL	X"	PREFIX DESIGNATES EXISTING FINISH TO REMAIN
PTB	PORCELAIN TILE BASE		

INTERIOR FINISHES

FLOORS

CONC	NEW CONCRETE FLOORS: CLEAR SEALER (SEE SPECIFICATIONS)
XCONC	EXISTING CONCRETE WITH CLEAR SEALER. CLEAN AND RESEAL AS SPECIFIED.
EPOXY	EPOXY COATING - SEE SPECIFICATIONS
PTF-1	2" x 2" PORCELAIN MOSAICS: RE-ADHER LOOSE EXISTING TILE AND RE-GROUT TO MATCH EXISTING. ADHESIVE:
XPTF-1	EXISTING 2" x 2" PORCELAIN MOSAICS: RE-ADHER LOOSE EXISTING TILE AND RE-GROUT TO MATCH EXISTING
VCT-1	VINYL COMPOSITION TILE: 12"x12"x ¹ / ₈ " ARMSTRONG 'STANDARD EXCELO' #51927 'FIELD GREY'

WALL BASE

RB-1	6"h RUBBER COVE BASE: ROPPE 'PINNACLE' #175 SLATE
XCT-1	EXISTING 4.25" x 4.25" GLAZED CERAMIC TILE

WALLS

PNT-1	COLOR: SHERWIN WILLIAMS #5W 7043 'WORLDLY GREY', EGGSHELL SHEEN
INSUL. FNLS.	VAPOR BARRIER AND INSULATION SYSTEM. COLOR: WHITE

CEILINGS, SOFFITS, BULKHEADS

ACT-1	2' x 2' x 3/4" ARMSTRONG 'ULTIMA HIGH NRC' #1940; SQUARE EDGE; GRID: 15/1 6" PRELUDE XL, COLOR: WHITE.
ACT-2	2' x 2' x 1" ARMSTRONG 'ULTIMA HEALTH ZONE HIGH NRC' #1445; SQUARE EDGE; GRID: 15/1 6" PRELUDE PLUS XL FIREGRAD (ALUMINUM CAPS), COLOR: WHITE.
GYP.BD.	UNLESS NOTED OTHERWISE: SHERWIN WILLIAMS WHITE TO MATCH ADJACENT LAY-IN CEILING TILE, EGGSHELL SHEEN
XGYP.BD.	

EXPOSED STRUCTURE AND DECK: SHERWIN WILLIAMS #5W 7043 'WORLDLY GREY', SEMI-GLOSS SHEEN
INSUL. FNLS.: VAPOR BARRIER AND INSULATION SYSTEM. COLOR: WHITE

MISCELLANEOUS

ALL NEW AND EXISTING INTERIOR H.M. DOORS AND H.M. FRAMES: PATCH DENTS AND SCRATCHES ON ALL DOORS AND FRAMES TO REMAIN. UNLESS NOTED OTHERWISE, PAINT TO MATCH ADJACENT WALL COLOR; SEMI-GLOSS SHEEN

TOILET PARTITIONS: SOLID HPDE SCRANTON PRODUCTS 'HINY HIDERS' COLOR: 'CHARCOAL GREY'
--

LOCKER ROOM BENCHES: SOLID HPDE TOPS, PAINTED METAL PEDESTALS. COLOR: SCRANTON 'CHARCOAL GREY'
--

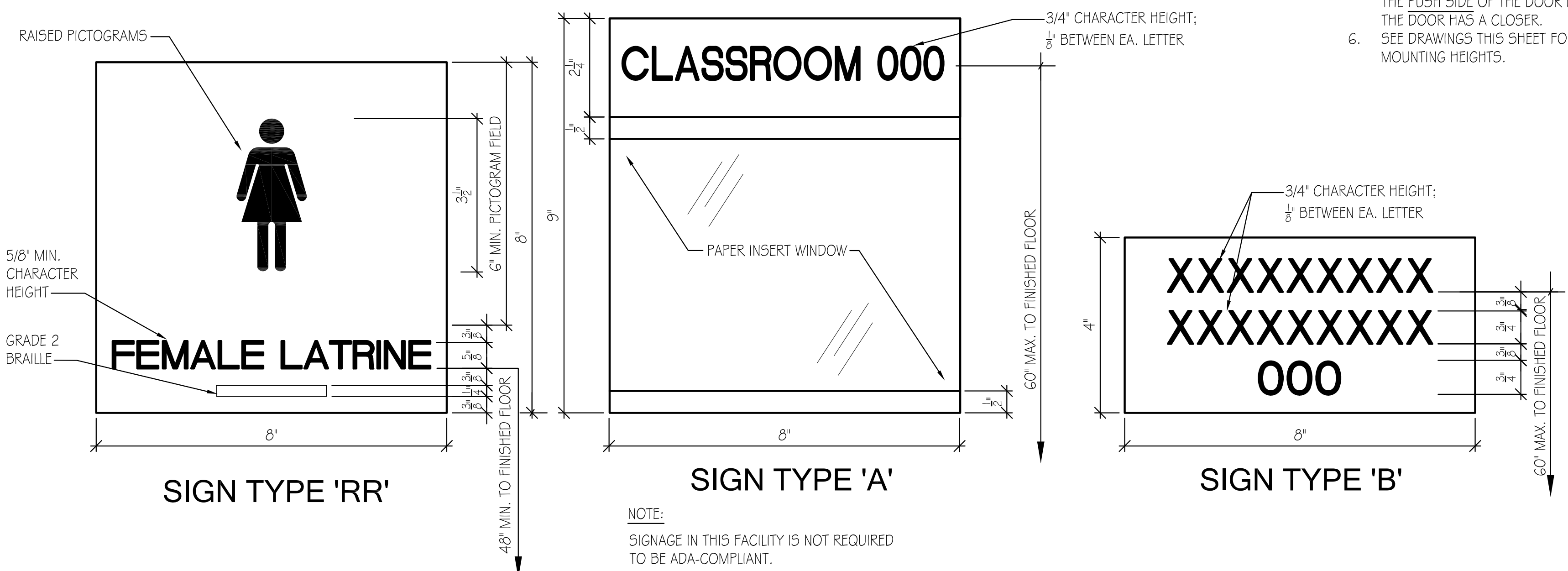
LOCKERS: 12" w x 16" d FULLY-WELDED LOCKERS; COLOR T.B.D. FROM MANUFACTURER'S STANDARDS, PROVIDE 6" h x 17" d CONC. BASE WITH RADIUS EDGES. APPLY CONC. SEALER TO TOP AND VERTICAL FACES PER SPECIFICATIONS.
--

FLOOR TRANSITIONS:

MBLTH. NEW MARBLE THRESH. AT EXISTING TILE, FILL GAPS BETWEEN TILE AND THRESH WITH SEALANT COLOR-MATCHED TO GROUT.
TS-1 VCT-TO-CONCRETE TRANSITION: ROPPE #175 SLATE

GENERAL NOTES:

- ALL INTERIOR WALLS ARE TO BE PATCHED, REPAIRED, AND PREPPED AS REQUIRED AND PAINTED AS SCHEDULED.
- ALL EXISTING CONCRETE FLOORS ARE TO BE PATCHED AS NOTED AND CLEANED. RESEAL WHERE INDICATED ON THE FINISH SCHEDULE. SEE SPECIFICATIONS FOR SEALANTS.
- ALL EXISTING FLOOR TILE AND GROUT TO REMAIN ARE TO BE CLEANED. RE-SEAL ALL EXISTING GROUT.
- ALL EXISTING WALL TILE AND GROUT TO REMAIN ARE TO BE CLEANED. RE-SEAL ALL EXISTING GROUT.
- ALL EXISTING CEILING TILE AND GRID IS TO BE REPLACED.
- AT ALL DOOR FRAMES, APPLY COLOR-MATCHED SEALANT AT FLOORING SO NO GAPS REMAIN.



TOILET ACCESSORIES

EXISTING ACCESSORIES ON DEMOLISHED TOILET PARTITIONS ARE TO BE SALVAGED, STORED, AND REUSED ON NEW PARTITIONS.

- FRAMED MIRROR WITH 1/2" FLOAT GLASS: BRADLEY MODEL 781 24" x 60". MOUNT MINIMUM 20" ABOVE FINISHED FLOOR.
- 1" o DIA. STAINLESS STEEL SHOWER ROD + CURTAIN. BRADLEY #9536; CONCEALED MOUNTING; SATIN STAINLESS STEEL. MOUNT 60" ABOVE FINISHED FLOOR TO CENTER OF ROD. TRIM LENGTH TO FIT OPENING.
- BRADLEY #9536 - 72"L x 48"W ANTIMICROBIAL VINYL SHOWER CURTAIN, WHITE; #9536 SHOWER CURTAIN HOOKS.
- BRADLEY #9533 - 72"L x 72"W ANTIMICROBIAL VINYL SHOWER CURTAIN, WHITE; #9536 SHOWER CURTAIN HOOKS.
- COAT/ROBE HOOK: BRADLEY 'HEAVY DUTY ROBE HOOK' MODEL 9119. CONCEALED MOUNTING; SATIN FINISH CHROME OVER FORGED BRASS. ADA: ROBE HOOKS IN ACCESSIBLE STALLS SHALL NOT EXCEED 48" AFF TO TOP OF HOOK.
- NAPKIN DISPOSAL: BRADLEY MODEL 4781-11 (4.25' x 8'). SATIN FINISH STAINLESS STEEL. SURFACE-MOUNTED. DISCARD EXISTING AND MOUNT IN LOCATION OF EXISTING RECEPTACLE.

NOTE: EXISTING MIRRORS, PAPER TOWEL DISPENSERS, SEMI-RECESSED WASTE RECEPTACLES, GRAB BARS, TISSUE DISPENSERS, SHOWER RODS, AND MISC. ACCESSORIES MOUNTED ON TILE WALLS TO REMAIN.

EXTERIOR FINISHES

EXISTING METAL ROOF SYSTEM

CLEAN ALL EXISTING METAL ROOF SYSTEM PANELS, TRIM, ETC. RECOAT ROOF AS SPECIFIED. SEE DRAWINGS AND SPECIFICATIONS.

NEW METAL ROOF SYSTEM COMPONENTS

MATCH COLOR OF EXISTING COMPONENTS AS CLOSELY AS POSSIBLE (LIGHT TAN)

GUTTERS AND DOWNSPOUTS

MANUFACTURER'S PRE-FINISHED STANDARD TO MATCH ORIGINALS AS CLOSELY AS POSSIBLE (LIGHT TAN)

ALL EXTERIOR H.M. DOORS AND H.M. FRAMES (NEW AND EXISTING)

PATCH DENTS AND SCRATCHES ON ALL DOORS AND FRAMES TO REMAIN. UNLESS NOTED OTHERWISE, PAINT SHERWIN WILLIAMS #5W 7034/243-C7 'STATUS BRONZE'.

ALL EXTERIOR METAL CANOPIES

CLEAN AND REPAINT CANOPIES AND SUPPORTS. PAINT SHERWIN WILLIAMS #5W 7034/243-C7 'STATUS BRONZE'. REPLACE SOFFIT PANELS AS SPECIFIED.

ALL EXTERIOR METAL PANELS

CLEAN ALL EXISTING METAL PANELS AT MAIN BUILDING AND OUTBUILDINGS.

EXISTING ARCHITECTURAL CMU

SEE SPEC'S FOR JOINT RESTORATION, CLEANING, AND NEW WATER REPELLANT. ALL SOFT JOINT SEALANT AND BACKER ROD IS TO BE REMOVED AND REPLACED.

BRONZE

RAL #7013 BROWN GREY (BRONZE)

NEW OVERHEAD DOORS

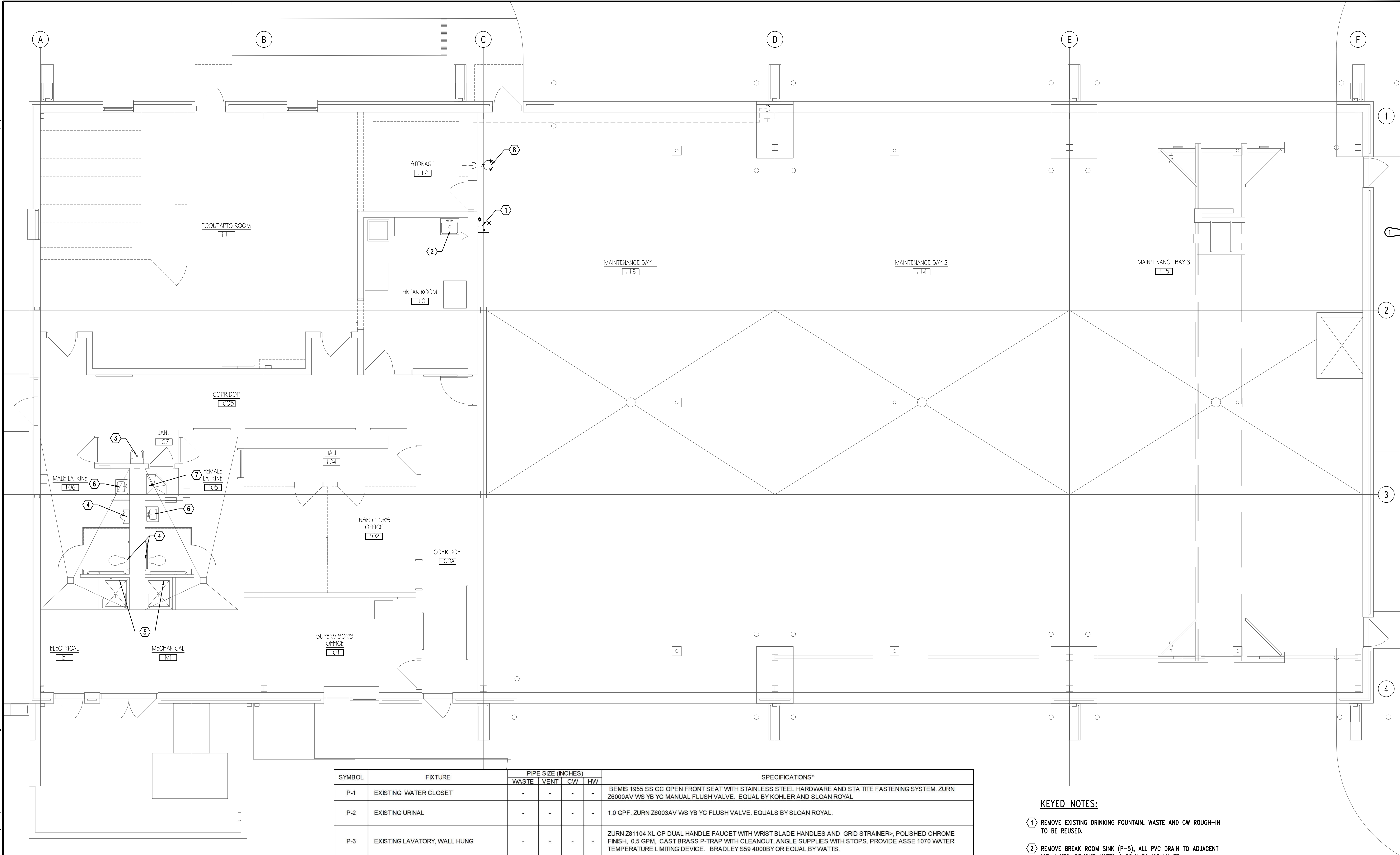
RAL #7013 BROWN GREY (BRONZE)

NEW LOUVERS

SIGNAGE TYPES

SCALE: HALF FULL SIZE

- | | | |
|--|--|---|
| ATTACHMENTS:
1. INTERIOR SIGNAGE IN CONDITIONED SPACE MAY BE ATTACHED WITH ADHESIVE TAPE.
2. EXTERIOR SIGNAGE AND SIGNAGE IN UNCONDITIONED SPACES MUST USE MECHANICAL ATTACHMENTS. | COPY:
1. PERMANENT COPY AND PICTOGRAMS TO BE FURNISHED BY SIGNAGE MANUFACTURER.
2. INSERTS BY OWNER. | SIGN LOCATION:
1. TACTILE SIGNS SHALL BE LOCATED SO THERE IS AN 18"x18" CLEAR FLOOR SPACE CENTERED ON THE TACTILE CHARACTERS.
2. SINGLE DOORS - TACTILE SIGNAGE IS TO BE LOCATED ON THE WALL TO THE LATCH SIDE OF THE DOOR.
3. DOUBLE DOORS - TACTILE SIGNAGE IS TO BE LOCATED ON THE WALL TO THE RIGHT OF THE DOORWAY.
4. IF THERE IS NO WALL SPACE ADJACENT TO THE DOOR, MOUNT TACTILE SIGNS ON NEAREST ADJACENT WALL.
5. TACTILE SIGNS MAY BE MOUNTED ON THE PUSH SIDE OF THE DOOR FACE IF THE DOOR HAS A CLOSER.
6. SEE DRAWINGS THIS SHEET FOR MOUNTING HEIGHTS. |
|--|--|---|




  **PLUMBING DEMOLITION PLAN**
1/4" = 1'-0"

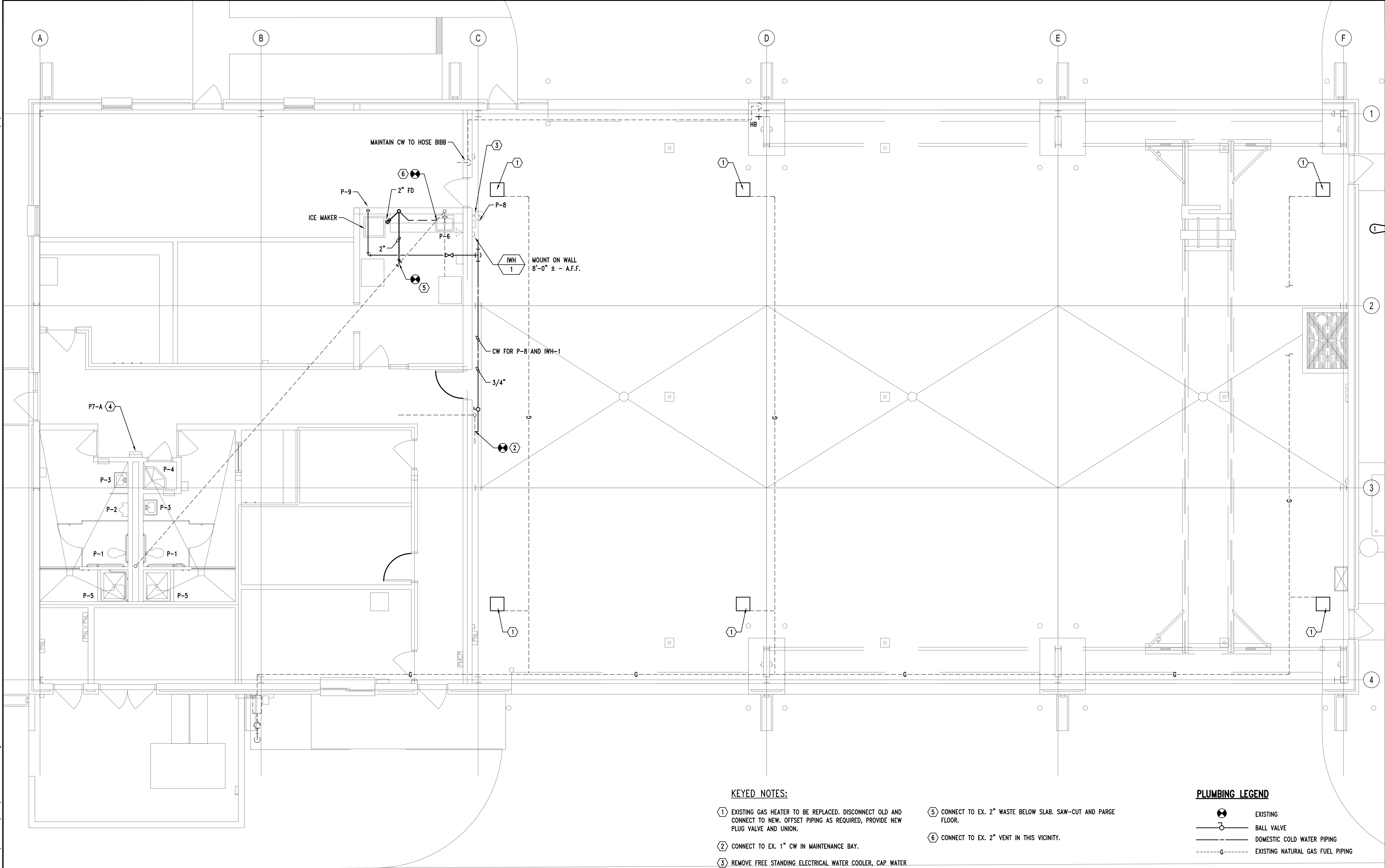
SYMBOL	FIXTURE	PIPE SIZE (INCHES)				SPECIFICATIONS*
		WASTE	VENT	CW	HW	
P-1	EXISTING WATER CLOSET	-	-	-	-	BEMIS 1955 SS CC OPEN FRONT SEAT WITH STAINLESS STEEL HARDWARE AND STA TITE FASTENING SYSTEM. ZURN Z6000AV WS YB YC MANUAL FLUSH VALVE. EQUAL BY KOHLER AND SLOAN ROYAL.
P-2	EXISTING URINAL	-	-	-	-	1.0 GPF. ZURN Z6003AV WS YB YC FLUSH VALVE. EQUALS BY SLOAN ROYAL.
P-3	EXISTING LAVATORY, WALL HUNG	-	-	-	-	ZURN Z81104 XL CP DUAL HANDLE FAUCET WITH WRIST BLADE HANDLES AND GRID STRAINER>. POLISHED CHROME FINISH. 0.5 GPM. CAST BRASS P-TRAP WITH CLEANOUT, ANGLE SUPPLIES WITH STOPS. PROVIDE ASSE 1070 WATER TEMPERATURE LIMITING DEVICE. BRADLEY S59 4000BY OR EQUAL BY WATTS.
P-4	EXISTING MOP BASIN	-	-	-	-	STERN WILLIAMS T-10-VB FAUCET WITH VACUUM BREAKER, BUCKET HOOK AND TOP BRACE, T-35 HOSE AND WALL BRACKET, T-40 MOP HANGER. EQUAL UNIT BY ACORN.
P-5	EXISTING SHOWER	-	-	-	-	REPLACE MIXING VALVE WITH ZURN Z7300 SS MT TEMPTROL 3 SERIES PRESSURE BALANCING MIXING VALVE WITH LEVER HANDLE, INTEGRAL FLOW LIMITING, COMBINATION CHECK STOPS, VOLUME CONTROL AND WALL FLANGE, 2.5 GPM SHOWER HEAD. MIXING VALVE TO MEET ASSE 1016 REQUIREMENTS.
P-6	SINK, BAR	1-1/2	1 1/2	1/2	1/2	ELKAY ELUH-2115 SINGLE COMPARTMENT UNDERMOUNT, 18 GA. STAINLESS STEEL. FAUCET HOLES PUNCHED ON 4" CENTERS. ZURN Z812 B4 XL RIGID GOOSENECK FAUCET WITH DUAL 4" WRIST BLADE HANDLES, WITH CRUMB CUP STRAINER, POLISHED CHROME FINISH. CAST BRASS P-TRAP WITH CLEANOUT, ANGLE SUPPLIES WITH STOPS. PROVIDE ASSE 1070 WATER TEMPERATURE LIMITING DEVICE.
P-7A	ELECTRIC WATER COOLER, BLEVEL, ADA	1-1/2	1-1/2	1/2	-	ELKAY EZH20 BOTTLE FILLING STATION AND BLEVEL ADA COOLER, FILTERED, 8 GPH, LIGHT GRAY, BARRIER FREE, SPLIT LEVEL, SURFACE MOUNT, 120 VOLT/1 PHASE/60 HZ, 8 GPH, ANGLE SUPPLY WITH STOP, CAST BRASS P-TRAP WITH CLEANOUT. PROVIDE PROPER ADA SKIRTS ON UPPER LEVEL OF THE EQUIPMENT.
P-8	EMERGENCY FIXTURE (EYEWASH)	1-1/2	-	3/4	3/4	GUARDIAN G1750, EYE/FACE WASH, 11-1/2" STAINLESS STEEL BOWL, WALL MOUNTED, WITH STAINLESS BOWL COVER, THERMOSTATIC MIXING VALVE SET AT 65 °F
P-9	ICE MAKER CONNECTION	-	-	1/2	-	GUY GRAY BM875AB, ICE MAKER HOOK-UP, WALL BOX, 1/2" FIP INLET X 1/4"OD OUTLET COMPRESSION ANGLE VALVE. SUPPLY CONNECTION 1/2" MPT OR 5/8" OD SWEAT CONNECTION. RECESSED IN EXISTING WALL.

KEYED NOTES:

- 1 REMOVE EXISTING DRINKING FOUNTAIN. WASTE AND CW ROUGH-IN TO BE REUSED.
- 2 REMOVE BREAK ROOM SINK (P-5). ALL PVC DRAIN TO ADJACENT ICE MAKER. REMOVE WATER SUPPLY TO ICE MAKER.
- 3 REMOVE EXISTING WALL HUNG WATER COOLER. WASTE AND CW ROUGH-IN TO BE REUSED.
- 4 REMOVE FLUSH VALVE.
- 5 REMOVE SHOWER HEAD.
- 6 REMOVE LAVATORY FAUCET, SUPPLY, ANGLE STOPS, TRAP AND WASTE ARM.
- 7 REMOVE MOP SINK FAUCET.
- 8 REMOVE FLOOR MOUNTED SAFETY SHOWER/EYEWASH.

SCALE: 1/4" = 1'-0"
0 2' 4' 8'

 **HHB Engineers, P.C.**
CONSULTING ENGINEERS
PRATTVILLE, AL 334/358-2707



KEYED NOTES:

1. EXISTING GAS HEATER TO BE REPLACED. DISCONNECT OLD AND CONNECT TO NEW. OFFSET PIPING AS REQUIRED, PROVIDE NEW PLUG VALVE AND UNION.

2. CONNECT TO EX. 1" CW IN MAINTENANCE BAY.

3. REMOVE FREE STANDING ELECTRICAL WATER COOLER, CAP WATER. FLUSH WITH WALL. REUSE WASTE FOR NEW P-8.

4. REMOVE EXISTING WALL HUNG WATER FOUNTAIN AND REPLACE.
5. CONNECT TO EX. 2" WASTE BELOW SLAB. SAW-CUT AND PARGE FLOOR.

6. CONNECT TO EX. 2" VENT IN THIS VICINITY.

PLUMBING LEGEND

1. EXISTING

2. BALL VALVE

3. DOMESTIC COLD WATER PIPING

4. EXISTING NATURAL GAS FUEL PIPING

SHEET NOTES:

1. FOR INFRARED HEATER, PROVIDE CSA LISTED AND CERTIFIED/UL 536 FLEXIBLE METAL CONNECTOR, STAINLESS STEEL HOSE AND BRAID WITH CARBON STEEL THREADED CONNECTION. ALL WORK TO COMPLY WITH 2015 INTERNATIONAL FUEL CODE.

2. ALL WORK TO COMPLY WITH 2015 INTERNATIONAL PLUMBING CODE. ALL WATER PIPING TO BE TYPE L COPPER WITH LEAD FREE SOLDERED JOINTS. PROVIDE 1" FLEXIBLE CELLULAR INSULATION WITH ALUMINUM JACKET. BALL VALVE TO BE 2 PIECE WITH STAINLESS STEEL BALL AND TRIM, THREADED CONNECTIONS.

POINT-OF-USE ELECTRIC WATER HEATER SCHEDULE										
MARK		SERVICE	WATER				ELECTRICAL			
			SUPPLY TEMP (°F)	MIN FLOW RATE (GPM)	DESIGN FLOW RATE (GPM)	TEMP RISE (°F)	KW	VOLTS	PHASE	HZ
IWH	1	EMERGENCY EYE WASH	110	0.3	0.5	48	8.3	208	1	60
1. BASIS EEMAX SPEX8208T EE (MEETS ANSI Z358.1 TEPID WATER REQUIREMENTS, MAX TEMP 90-F)										

1 PLUMBING PLAN
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
0 2' 4' 8'

HHB Engineers, P.C.
CONSULTING ENGINEERS
PRATTVILLE, AL 334/358-2707

NA:202006-4:220050(Drawings):MECH(Uprgrade Vehicle Maint. Facility Pelham Range - Army Nat. Guard)Sheet(M001)MECHANICAL GENERAL NOTES, ABBREV. & LEGENDS.dwg 6/23/2022 11:09 AM Andrew Robinson

MECHANICAL GENERAL NOTES

- ALL DUCT DIMENSIONS SHOWN ARE NET INTERNAL.
- INSTALL OPPOSED BLADE BALANCING DAMPERS IN ALL NEW DIFFUSERS AND GRILLES.
- THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE HVAC SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES, AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL REQUIREMENTS OF THESE DOCUMENTS SHALL BE STRICTLY CONFORMED TO. ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE HVAC SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED. WITHOUT INCURRING ANY ADDITIONAL COST TO THE CONTRACT. CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS.
- COORDINATE DUCTWORK AND PIPING WITH STRUCTURAL, PLUMBING AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS AS REQUIRED TO CLEAR STRUCTURAL MEMBERS, ETC. COORDINATE WITH OTHER TRADES WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- REFER TO ARCHITECTURAL CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES; COORDINATE EXACT LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS WITH ARCHITECTURAL AND INTERIOR REFLECTED CEILING PLANS AND LIGHTING FIXTURES. FOR PARTICULAR ITEMS NOT SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN, PREPARE A DRAWING AND PRESENT IT TO THE ARCHITECT FOR HIS REVIEW AND/OR APPROVAL.
- COORDINATE ALL WALL PENETRATIONS WITH THE ARCHITECT.
- PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES, REGISTERS, AND DIFFUSERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
- CONTRACTOR SHALL COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING.
- CONTRACTOR TO COORDINATE ALL CEILING TYPES WITH DIFFUSERS. ALL DIFFUSERS IN GYPSUM CEILING SHALL INCLUDE PLASTER FRAME.
- ALL DISTRIBUTION DEVICES SHALL HAVE FACE OPERABLE DAMPERS. ALL DIFFUSER RUNOUTS SHALL INCLUDE SPIN-IN WITH DAMPER IN ROUND DUCTS.
- DUCTWORK SHALL BE GALVANIZED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
- FLEXIBLE DUCT (SUPPLY RUNOUTS ONLY) TO BE FACTORY PRE-INSULATED WITH CORRUGATED ALUMINUM LINER. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT RUNOUT TO BE 6'-0". WHERE LENGTH REQUIRED EXCEEDS 6'-0", INSTALL EXTERNALLY INSULATED ROUND SNAPLOCK DUCT FOR BALANCE OF DISTANCE TO SPIN-IN TAP AT MAIN TRUNK DUCT.
- ALL SUPPLY AIR DUCTWORK TO BE SINGLE WALL, LOW PRESSURE RECTANGULAR SMACNA STATIC PRESSURE CLASS 1" W.G. SEAL CLASS "B", EXTERNALLY INSULATED WITH 1-1/2" THICK FIBERGLASS DUCT WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
- EXHAUST AIR DUCTWORK TO BE SINGLE WALL, LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1" W.G. SEAL CLASS "B".
- EXHAUST FAN CONTROL RELAYS SHALL BE FUNCTIONAL DEVICES "LON RIB" (OR EQUAL) WIRED TO THE NORMALLY CLOSED CONTACTS TO ALLOW THE FANS TO OPERATE IN THE EVENT THAT THE DDC CONTROLS ARE OFFLINE. EXHAUST FAN STATUS SHALL BE BY CURRENT SENSING CT SENSORS. EXHAUST FANS SHALL BE CONTROLLED BY THE BUILDING SCHEDULE.

DDC SYSTEM NOTES

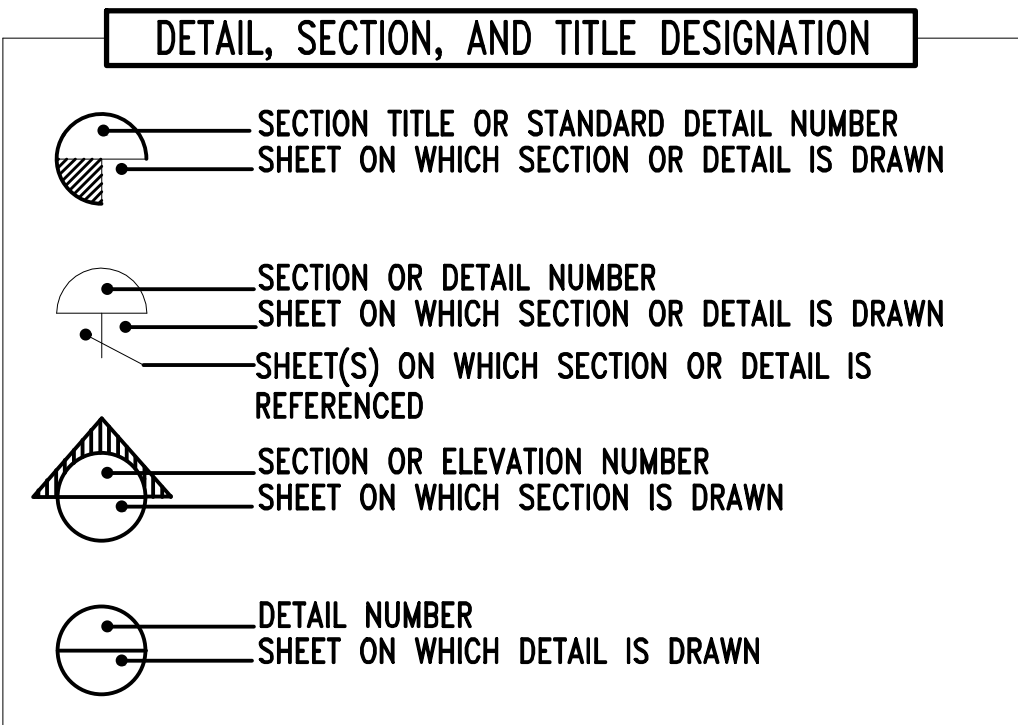
- PROVIDE NEW HONEYWELL BUILDING AUTOMATION SYSTEM FOR SPACE TEMPERATURE MONITORING ONLY, TO INCLUDE: TWO HONEYWELL SPACE TEMPERATURE SENSORS; ONE OUTDOOR AIR TEMPERATURE SENSOR; ONE HONEYWELL SPYDER PROGRAMMABLE CONTROLLER; AND ONE N4 JACE 8000.
- ALL CONTROLS COMPONENTS INCLUDING SENSORS, DAMPERS, ETC. SHALL BE LABELED TO MATCH THE DEVICE ID TAGS ON THE AS-BUILT DRAWINGS.
- ALL CONTROL CABLES SHALL BE LABELED ON EACH END OF THE CABLE WITH PRINTED LABELS OF EITHER HEAT SHRINK TUBING, FLAGS OR SELF-LAMINATING CABLE WRAPS. LABELS SHALL MATCH THE CABLE ID TAGS ON THE AS-BUILT DRAWINGS.
- ALL IP ADDRESSES SHALL BE LABELED.
- ALL CONTROL PANELS SHALL BE LABELED.
- LAMINATED DDC CONTROL AS-BUILT DRAWINGS SHALL BE INSTALLED AT JACE CONTROL PANELS.
- ALL JACE CONTROL PANELS PANEL SHALL INCLUDE BATTERY BACKUP UPS.
- DDC JACE CONTROL PANEL SHALL INCLUDE INDUSTRIAL GRADE DIM RAIL MOUNTED ETHERNET SWITCH WITH SUFFICIENT PORTS TO ACCOMMODATE ALL BACNET IP DEVICES INTEGRATED INTO THE SECONDARY PORT OF THE JACE, PLUS AT LEAST ONE UNUSED PORT FOR SERVICE ACCESS.
- DDC SYSTEM JACE CONTROLLER SHALL BE PROVIDED WITH A DISCONNECT SWITCH INSIDE THE JACE PANEL TO PROVIDE THE MEANS TO POWER CYCLE THE JACE CONTROLLER.
- COORDINATE DDC CONTROLLER TERMINAL ASSIGNMENTS WITH AANG DDC STANDARDS AND PRACTICES.
- ALL CONTROL CABLES SHALL BE LABELED ON EACH END OF THE CABLE WITH PRINTED LABELS OF EITHER HEAT SHRINK TUBING, FLAGS OR SELF-LAMINATING CABLE WRAPS. LABELS SHALL MATCH THE TAG ID'S ON THE AS BUILT DRAWINGS.

ABBREVIATIONS

ACU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFS	RETROFIT VAV AIR FAN/DAMPER
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP, INCHES
AS	AIR SEPARATOR
BVP	BACKFLOW PREVENTER
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONN	CONNECTION
CR	CONDENSATE RETURN
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DB	DRY BULB
DTR	DUAL TEMPERATURE RETURN
DTS	DUAL TEMPERATURE SUPPLY
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FD	FIRE DAMPER
FG	FLOOR GRILLE
FLA	FULL LOAD AMPERES
FPM	FEET PER MINUTE
FT	FEET (OR FOOT)
FV	FACE VELOCITY
GA	GAUGE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
H	HUMIDIFIER
HC	HEATING COIL
HP	HORSEPOWER
HR	HEAT RECOVERY
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LPS	LOW PRESSURE STEAM
LTS	LOW TEMPERATURE CHILLED WATER SUPPLY
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BTU PER HOUR
MU	MAKE-UP (WATER)
MVD	MANUAL VOLUME DAMPER
OA	OUTSIDE AIR
OED	OPEN ENDED DUCT
P	PUMP
PA	PIPE ANCHORS
RAG	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RLA	RATED LOAD AMPS
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
SP	STATIC PRESSURE
SS	STAINLESS STEEL
SWD	SIDE WALL DIFFUSER
TB	TERMINAL BOX
TSP	TOTAL STATIC PRESSURE
UC	UNDERCUT DOOR, 3/4"
U.G.	UNDERGROUND
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
WB	WET BULB
WPD	WATER PRESSURE DROP, FEET

HVAC LEGEND

	POSITIVE PRESSURE DUCT OR DEVICE
	NEGATIVE PRESSURE DUCT OR DEVICE
	ELBOW WITH TURNING VANES
	SPLITTER/DAMPER
	DUCTWORK TO BE REMOVED
	DUCTWORK TO REMAIN
	ROUND BRANCH DUCT WITH VOLUME DAMPER
	DROP IN DUCT
	RISE IN DUCT
	DIAMETER
	FLAT OVAL DUCT
	THERMOSTAT MOUNT
	HUMIDISTAT, MOUNT
	THERMOSTAT WITH UNIT DESIGNATION
	DDC SPACE SENSOR
	HUMIDISTAT WITH LOCATION DESIGNATION
	NIGHT LOW LIMIT THERMOSTAT
	MARK-TIME SWITCH
	LIMIT OF DEMOLITION
	CONNECTION OF NEW TO EXISTING
	LOW PRESSURE STEAM
	LOW PRESSURE CONDENSATE
	STEAM TRAP
	CONDENSATE DRAIN
	REFRIGERANT SUCTION
	REFRIGERANT LIQUID
	RELIEF VALVE
	GLOBE VALVE
	GATE VALVE
	FLANGE
	UNION
	CHECK VALVE
	STRAINER WITH BLOWDOWN
	MAKE-UP WATER
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	HOT WATER SUPPLY
	HOT WATER SUPPLY
	BALL VALVE
	THERMOMETER
	PRESSURE GAUGE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	CIRCUIT SETTER
	BUTTERFLY VALVE
	AUTOMATIC AIR VENT WITH COCK
	HORIZONTAL INSTALLED FIRE DAMPER WITH ACCESS
	VERTICAL INSTALLED FIRE DAMPER WITH ACCESS
	MOTION SENSOR
	ROOM OCCUPANCY SENSOR
	DUCT STATIC PRESSURE SENSOR
	ROUND NECK DIFFUSER
	SQUARE OR RECTANGULAR NECK DIFFUSER, REGISTER, OR GRILLE
	EQUIPMENT DESIGNATION
	ACCESS DOOR
	SMOKE DAMPER
	COMBINATION FIRE AND SMOKE DAMPER



P
W
B
A

ARCHITECTS

PWBA Architects, Inc.

525 SOUTH PERRY STREET #SUITE10
MONTGOMERY, ALABAMA 36104
(334) 244-4990 (334) 244-4971 FAX

SEAL

NO.	REVISION DESCRIPTION	DATE

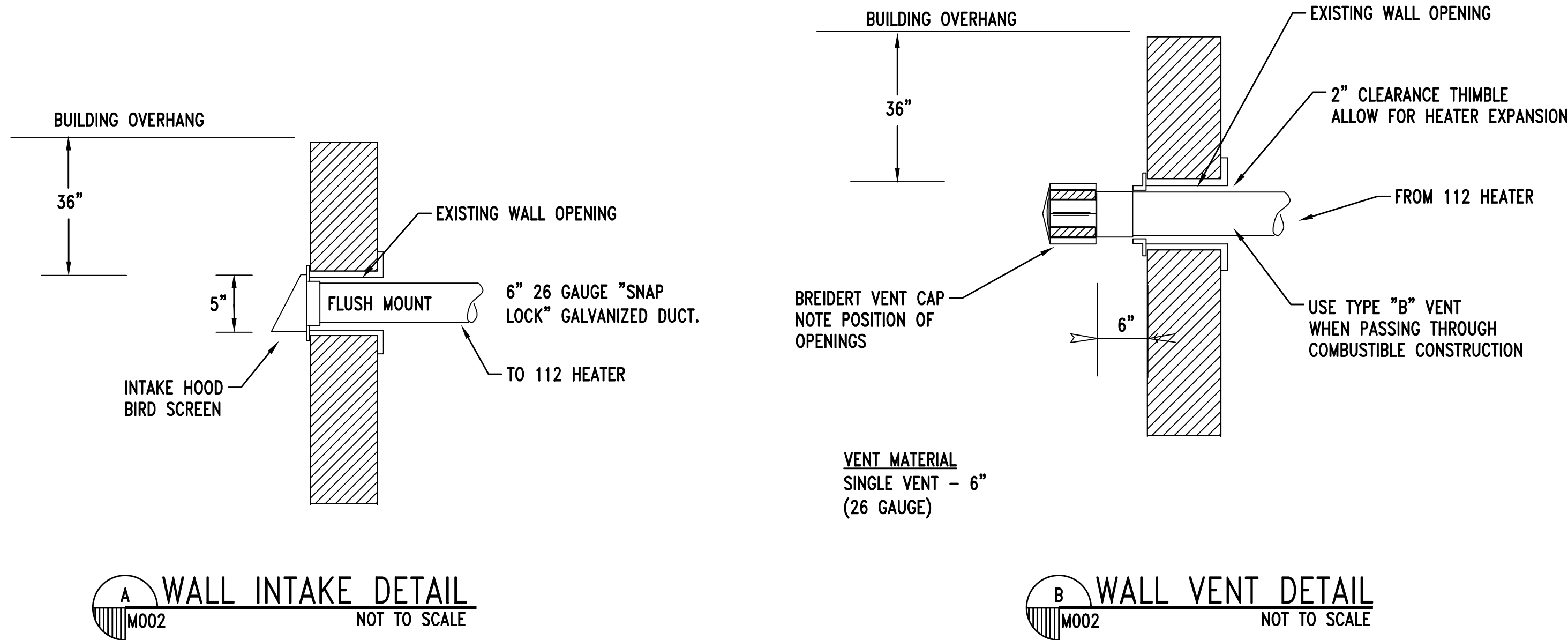
PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION - 95% SUBMITTAL

ARMORY COMMISSION OF ALABAMA

ALEXANDRIA, ALABAMA

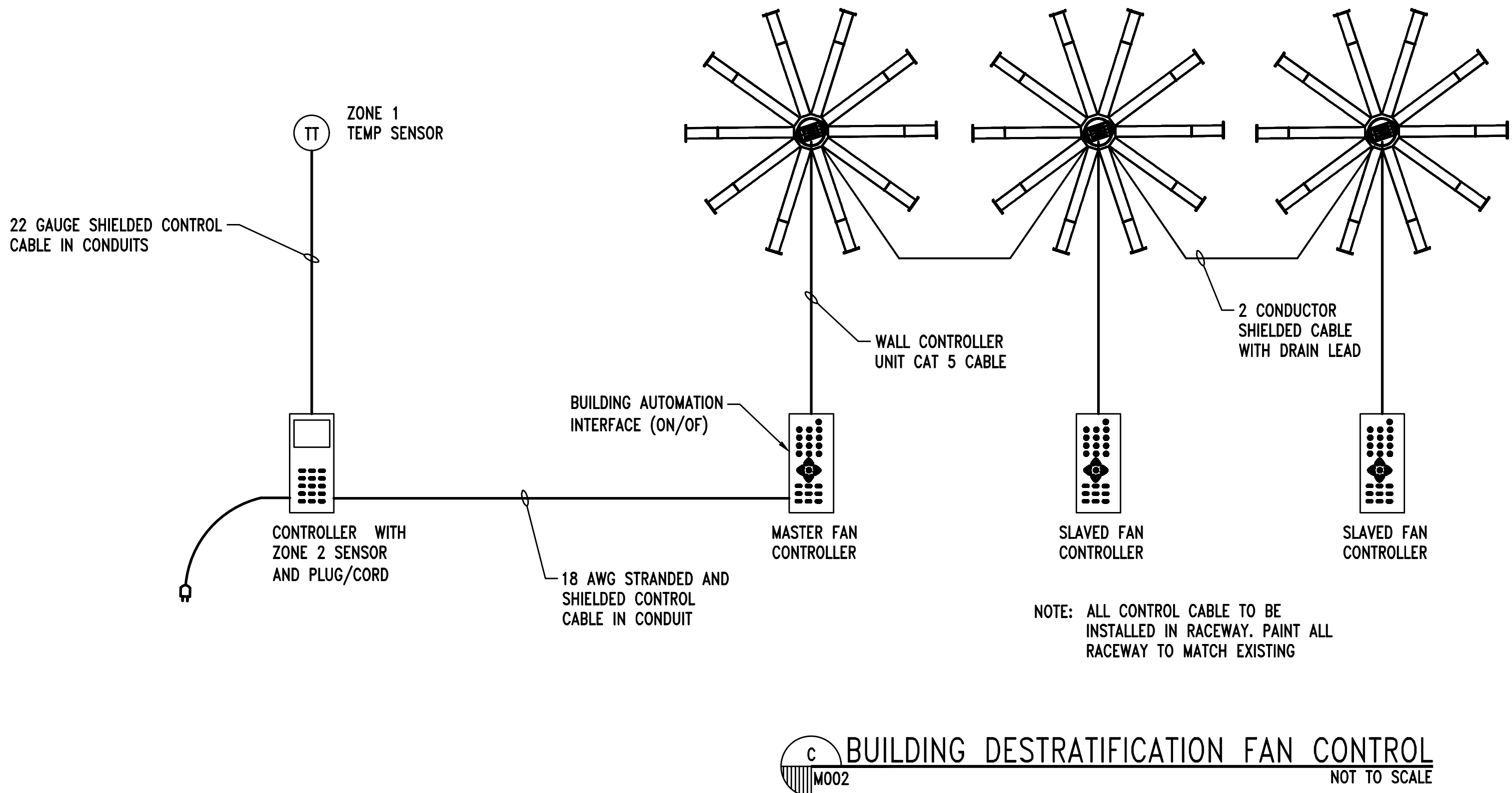
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SHEET TITLE MECHANICAL GENERAL NOTES, ABBREV. & LEGENDS	
SHEET NUMBER	

MO01



DE-STRATIFICATION FAN SEQUENCE

1. WINTER MODE
IN WINTER MODE, THE CONTROLLER MONITORS THE DIFFERENCE IN TEMPERATURES AT THE FLOOR (INTEGRAL WITH CONTROLLER) AND AT UPPER BAY (ZONE 1). FAN SPEED TO BE MODULATED TO MAINTAIN A UNIFORM TEMPERATURE BETWEEN THE FLOOR AND CEILING (FULL DESTRATIFICATION) WHILE USING THE LOWEST FAN SPEED POSSIBLE.
2. SUMMER MODE
IN SUMMER MODE, THE CONTROLLER MONITORS ONLY THE TEMPERATURE AT THE FLOOR LEVEL. BASED ON THIS READING, FAN SPEED MODULATED ACCORDING TO THE USER-DEFINED TEMPERATURE AND SPEED SETTING.
3. SET-UP AND PROGRAMMING
FAN/CONTROLLER MANUFACTURER TO PROVIDE ON-SITE PROGRAMMING AND OWNER TRAINING, AND TO PROVIDE RECOMMENDED SET POINTS FOR MAXIMUM WINTER SPEED, SUMMER SETPOINT AND GENERAL RECOMMENDATIONS FOR A VEHICLE MAINTENANCE BAY.
4. START/STOP
CONTROLLER SHALL ACCEPT EXTERNAL START/STOP SIGNAL FROM THE BUILDING AUTOMATION SYSTEM AND FROM THE FIRE ALARM SYSTEM.



DIFFUSER, GRILLE, AND REGISTER SCHEDULE							
MARK	SERVICE	TYPE	CFM RANGE	NECK SIZE	RUNOUT SIZE	MAX NC	NOTES
C6	SUPPLY	CEILING	0-95	9X9	6"DIA	25	1,2,4
C8	SUPPLY	CEILING	100-225	9X9	8"DIA	25	1,2,4
C10	SUPPLY	CEILING	230-400	12X12	10"DIA	25	1,2,4
C12	SUPPLY	CEILING	405-600	15X15	12"DIA	25	1,2,4
C14	SUPPLY	CEILING	605-750	15X15	14"DIA	25	1,2,4
C16	SUPPLY	CEILING	755-875	18X18	16"DIA	25	1,2,4
S8	SUPPLY	SIDE WALL	0-175	8X8	8X8	25	1,4
S12	SUPPLY	SIDE WALL	180-275	12X8	12X8	25	1,4
S18	SUPPLY	SIDE WALL	280-425	18X8	18X8	25	1,4
S24	SUPPLY	SIDE WALL	425-535	24X10	24X10	25	1,4
S36	SUPPLY	SIDE WALL	540-900	36X10	36X10	25	1,4
R8	RETURN	CEILING OR WALL	0-175	8X8	8X8	25	1,3,4
R12	RETURN	CEILING OR WALL	0-400	12X12	12X12	25	1,3,4
R16	RETURN	CEILING OR WALL	0-650	16X16	16X10	25	1,3,4
R20	RETURN	CEILING OR WALL	0-1000	20X20	20X12	25	1,3,4
E8	EXHAUST	CEILING OR WALL	0-175	8X8	8X8	25	1,3,4
E12	EXHAUST	CEILING OR WALL	0-400	12X12	12X12	25	1,3,4
E16	EXHAUST	CEILING OR WALL	0-650	16X16	16X10	25	1,3,4
E20	EXHAUST	CEILING OR WALL	0-1000	20X20	20X12	25	1,3,4

*NC SHALL INCLUDE ADJUSTMENT FOR SQUARE TO ROUND ADAPTER
1 - COORDINATE BORDER TYPE REQUIREMENTS WITH ARCHITECTURAL PLANS. T-BAR MOUNTED DIFFUSERS, GRILLES, AND REGISTERS SHALL HAVE A 24X24 EXTENDED PANEL FOR ALL LAY-IN TYPE CEILINGS.
2 - 4-WAY THROW UNLESS OTHERWISE INDICATED ON THE PLANS. SQUARE TO ROUND ADAPTER FOR DIFFUSERS WITH ROUND RUNOUTS.
3 - MAX VELOCITY 500 FPM
4 - PROVIDE RUNOUT SIZE SHOWN UNLESS OTHERWISE NOTED ON PLANS.

TAILPIPE EXHAUST REEL WITH FAN SCHEDULE										
MARK	DIA	LENGTH	UNIT MOUNTED FAN							
			CFM	ESP	R.P.M.	H.P.	VOLTS	PHASE	HZ	REMARKS
ERF-1	8"	25'	1400	6"	2500	3	208	3	60	1
ERF-2	8"	25'	1400	6"	2500	3	208	3	60	1
ERF-3	8"	25'	1400	6"	2500	3	208	3	60	1
ERF-4	8"	25'	1400	6"	2500	3	208	3	60	1

1. BASIS VENTAIRE UVSD FAN, HRA800 POWERED REEL, WALL CONTROL

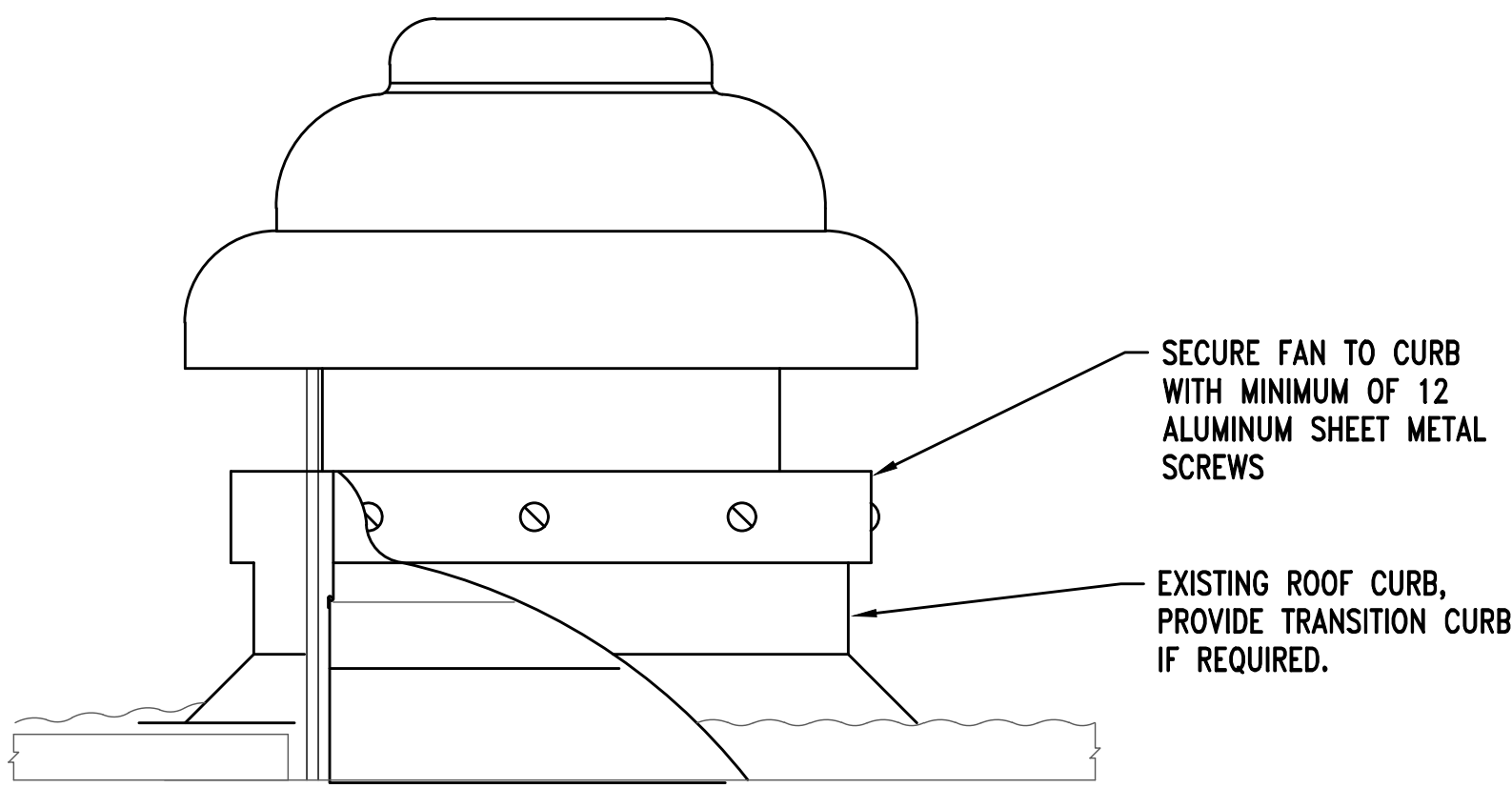
GAS FIRED INFRARED HEATER SCHEDULE									
MARK	TYPE OF GAS	OUTPUT MBH	LENGTH FT	MOUNTING HT-FT	MIN GAS BURNER INLET PRESSURE "WC"	ELEC. DATA V/PH/HZ	AMPS	REMARKS	
IR-1	NATURAL	50	20	23	7	115/1/60	5	1	
IR-2	NATURAL	50	20	23	7	115/1/60	5	1	
IR-3	NATURAL	50	20	23	7	115/1/60	5	1	
IR-4	NATURAL	50	20	23	7	115/1/60	5	1	
IR-5	NATURAL	50	20	23	7	115/1/60	5	1	
IR-6	NATURAL	50	20	23	7	115/1/60	5	1	

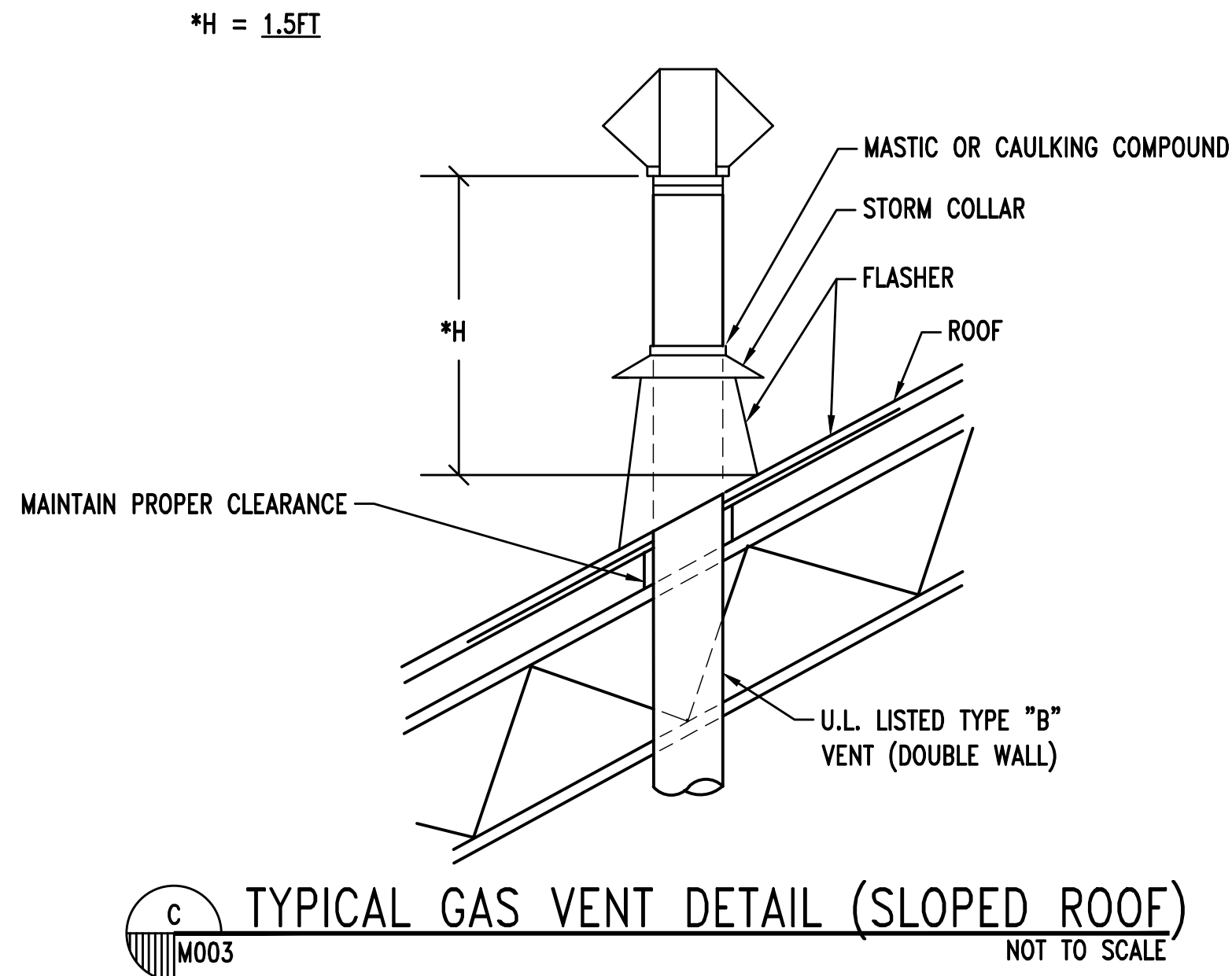
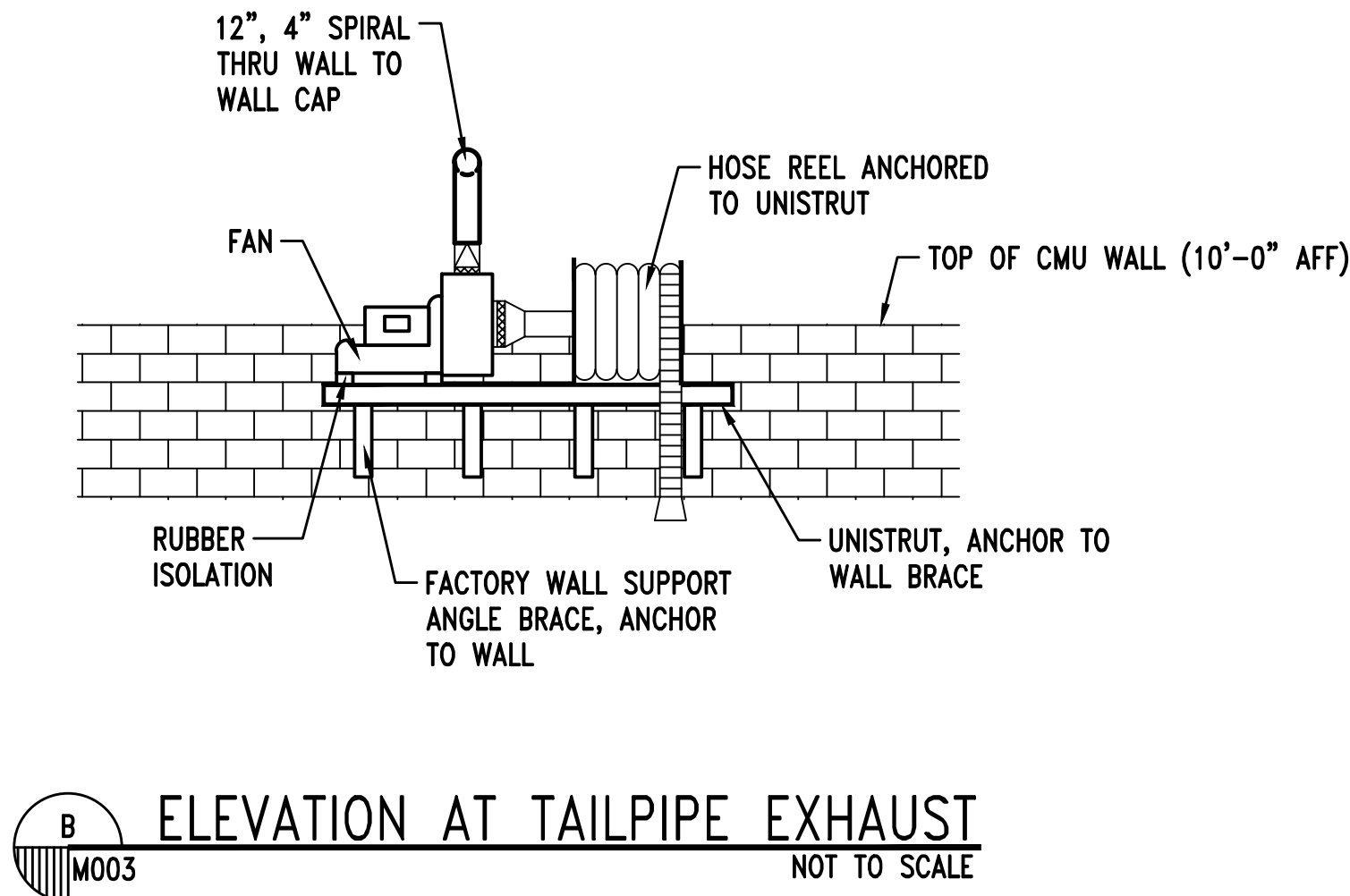
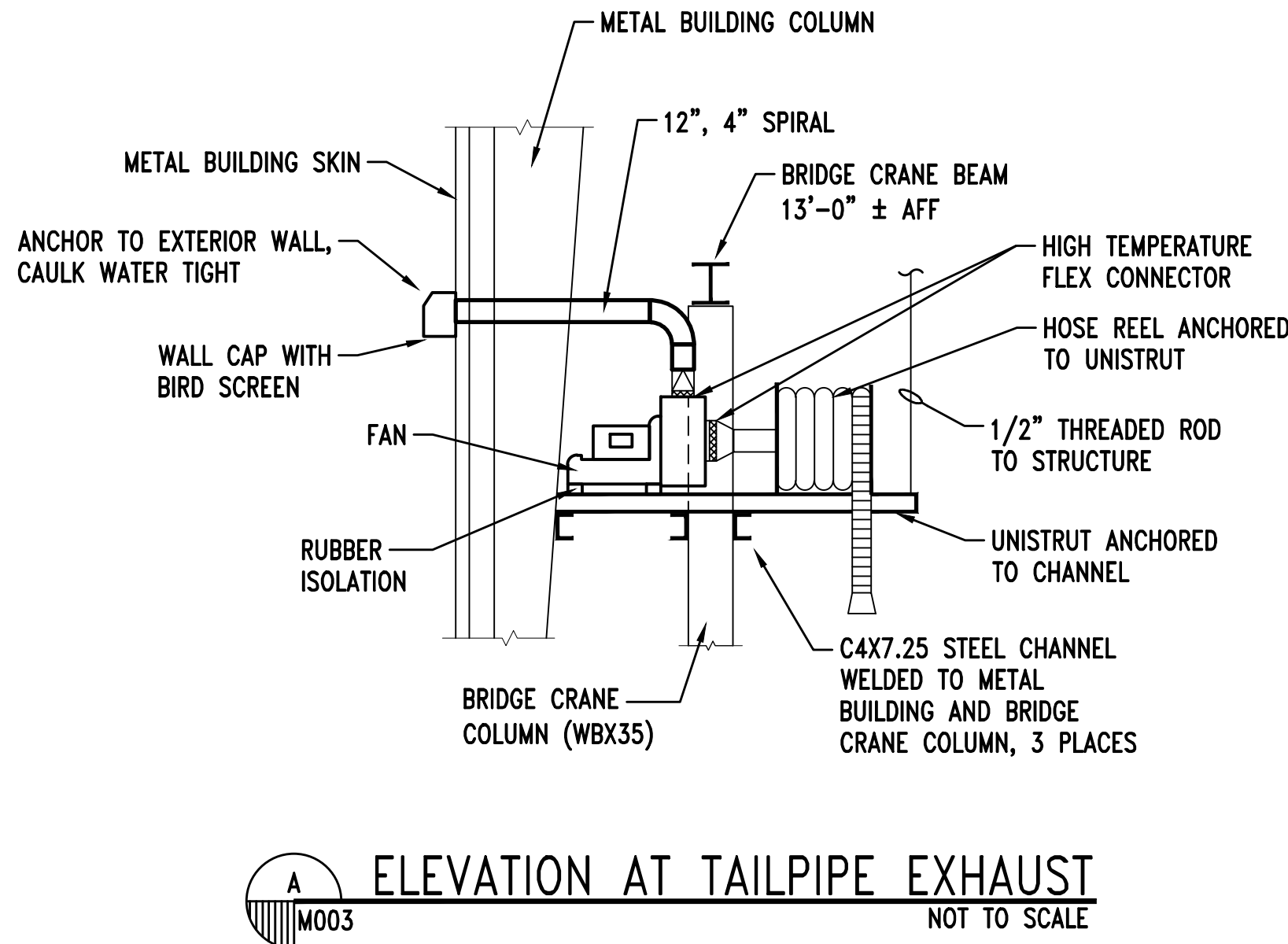
1. STRAIGHT-TUBE TYPE, RE-VERBER-RAY HL3 SERIES
2. 6" TYPE "B" VENT THROUGH ROOF

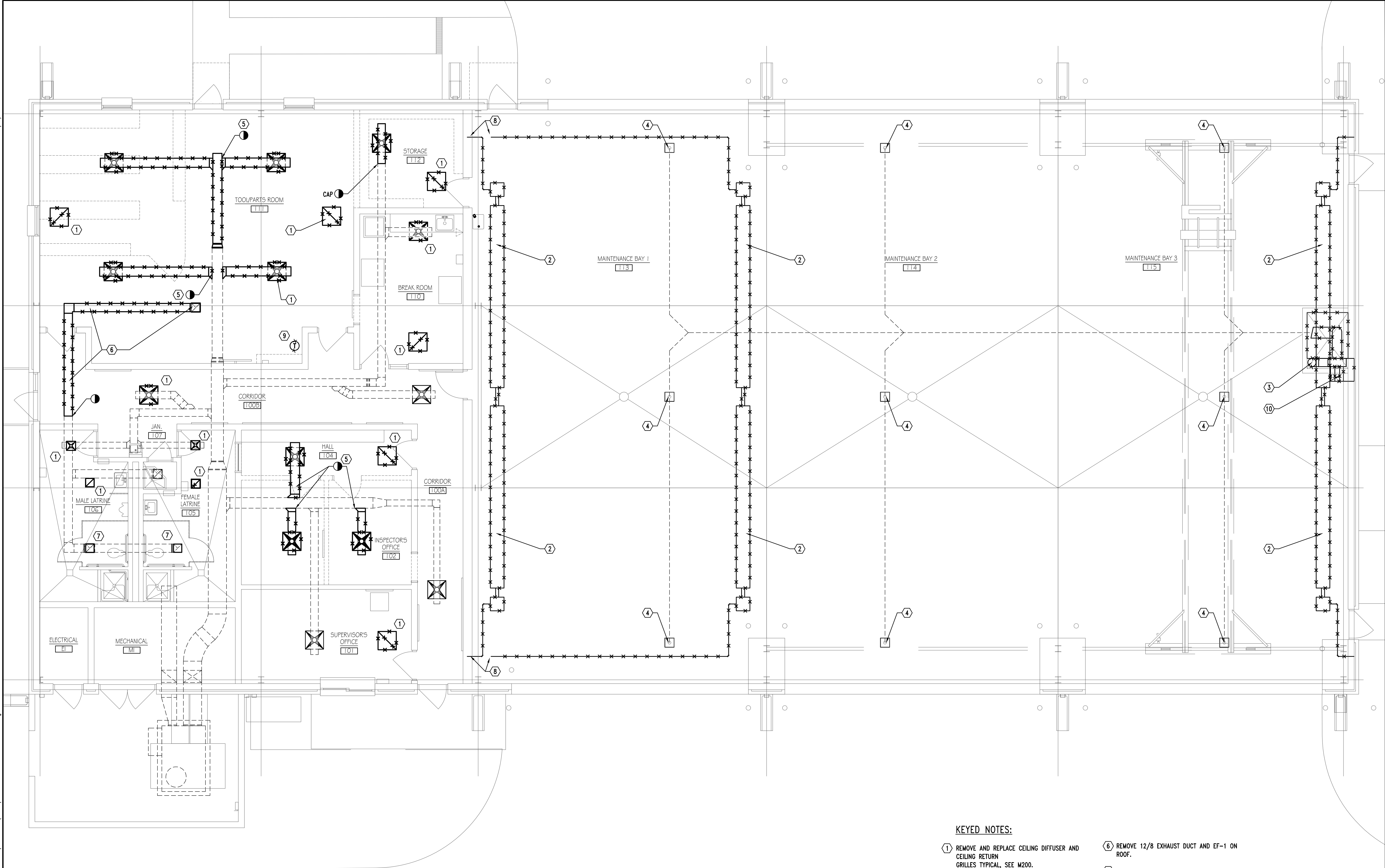
FAN SCHEDULE												
MARK	AREA SERVED	STATIC PRESS.		MAX SPEED FAN RPM	DRIVE	INTERLOCK WITH	POWER				TYPE	REMARKS
		CFM	IN H2O				H.P. (W)	VOLTS	PHASE	CYCLE		
EF-1	LATRINES/LOCKERS	600	0.38	1,150	BELT	EXISTNG HVAC UNIT	1/4	120	1	60	ROOF MOUNTED, CENTRIFUGAL	1,2
REMARKS: 1)REMOVE EXISTNG ROOF CURB AND INSTALL NEW 12" HIGH ROOF CURB 2) POSITION MINIMUM 10-FEET FROM EDGE OF ROOF												

DESTRATIFICATION FAN SCHEDULE										
MARK	SERVICE	CFM	MAX RPM	DIA FT	# BLADES	MOTOR DATA			WEIGHT (LBS)	BASIS
						HP	RPM	VOLT/PHASE		
DS-1	MAINTENANCE BAY	12,500	135	12	6	2	1750	208/3	240	BIGASS FAN BASIC 6
DS-2	MAINTENANCE BAY	40,000	110	16	6	2	1750	208/3	240	BIGASS FAN BASIC 6
DS-3	MAINTENANCE BAY	40,000	110	16	6	2	1750	208/3	240	BIGASS FAN BASIC 6

NOTES
1. PROVIDE 3-FOOT EXTENSION
2. PROVIDE CONTROL RELAY TO ALLOW SHUT-DOWN BY FIRE ALARM AND BY BUILDING AUTOMATION SYSTEM







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

KEYED NOTES:

- ① REMOVE AND REPLACE CEILING DIFFUSER AND CEILING RETURN GRILLES TYPICAL, SEE M200.
- ② REMOVE GAS TUBE-TYPE INFRARED HEATER, INTAKE AND GAS VENT. REMOVE THERMOSTATS.
- ③ REMOVE TAILPIPE SYSTEM EXHAUST FAN, ALL DUCTWORK BELOW FLOOR DUCT TO BE ABANDONED.
- ④ REMOVE TAILPIPE FUME EXTRACTION BOX AND COVER. SEE ARCHITECTURAL FLOOR PLAN FOR FLOOR PATCH.
- ⑤ REMOVE DIFFUSER AND BRANCH DUCT TO POINT SHOWN, CAP.
- ⑥ REMOVE 12/8 EXHAUST DUCT AND EF-1 ON ROOF.
- ⑦ REMOVE AND REPLACE EXHAUST GRILLE TYPICAL, SEE M200.
- ⑧ REPLACE WALL COMBUSTION AIR INTAKE VENT.
- ⑨ REMOVE EXISTING THERMOSTAT (PACKAGED HVAC UNIT).
- ⑩ REMOTE CONTROL PANEL AND STARTER ON TAILPIPE EXHAUST.

SCALE: 1/4" = 1'-0"
0 2' 4' 8'

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MECHANICAL PLAN

1/4" = 1'-0"

SHEET NOTES:

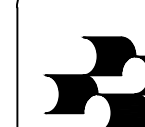
POSITION DS-1, DS-2, AND DS-3 BETWEEN EXISTING SUSPENDED LIGHT FIXTURES, AND SPACING APPROX. 15'-0".

KEYED NOTES:

- REPLACE INTAKE DAMPER AND ACTUATOR AT LOUVER, 48"X48".
- EXISTING TRANSFER AIR OPENING AT CORRIDOR WALL, REPLACE FIRE DAMPER, SIZE SHOWN.
- NEW 18X12 TRANSFER OPENINGS THRU CMU RATED CORRIDOR WITH FIRE DAMPER.
- OFFSET TYPE 'B' GAS VENT TO NORTH SIDE OF ROOF PEAK. PROVIDE UL VENT CAP.
- THRU-WALL VENT WITH UL VENT CAP.
- 12" EXHAUST DISCHARGE THROUGH WALL.
- DS-1, DS-2, AND DS-3 CONTROLLER.
- REMOTE START/STOP SWITCH WIRED TO ERF MOTOR STARTER. PROVIDE ENGRAVED LABEL.
- SLAVED DS FAN CONTROLLER.
- INSTALL JACE CONTROL PANEL ON WALL IN MECHANICAL ROOM.
- REPLACE EXISTING CARBON MONOXIDE MONITOR/PANEL WITH NEW. NEW PANEL TO HAVE LOW LEVEL, HIGH LEVEL INDICATOR AND ALARMS TO MATCH EXISTING.
- NEW BACNET PROGRAMMABLE THERMOSTAT FOR EXISTING PACKAGED HVAC UNIT.
- SPACE SENSOR CONNECTED TO NEW DDC CONTROLLER USED FOR TEMPERATURE MONITORING.

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

0 2' 4' 8'



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ELECTRICAL SYMBOL LEGEND

WIRING AND MISCELLANEOUS DEVICES

CEILING OUTLET - RECESS LUMINAIRE
CEILING OUTLET - HIGH BAY LUMINAIRE
CEILING OUTLET - SQUARE SURFACE LUMINAIRE
CEILING OUTLET - SURFACE LUMINAIRE
CEILING OUTLET - SURFACE OR PENDANT INDUSTRIAL LUMINAIRE
CEILING OUTLET - SURFACE OR PENDANT INDUSTRIAL LUMINAIRE WITH EMERGENCY BACKUP
CEILING OUTLET - TYPICAL LUMINAIRE WITH EMERGENCY BACKUP
CEILING OUTLET - EXIT LIGHT LUMINAIRE, SINGLE FACE
CEILING OUTLET - EXIT LIGHT LUMINAIRE, DOUBLE FACE

WALL OUTLET - WITH FLUORESCENT BRACKET LUMINAIRE
WALL OUTLET - WITH BRACKET LUMINAIRE
WALL OUTLET - WITH BRACKET LUMINAIRE, EMERGENCY
WALL OUTLET - WITH EXIT LIGHT LUMINAIRE
WALL OUTLET - DUPLEX RECEPTACLE, NEMA 5-20R
WALL OUTLET - DUPLEX RECEPTACLE, NEMA 5-20R GFCI TYPE
WALL OUTLET - DOUBLE DUPLEX RECEPTACLE, TWO NEMA 5-20R
WALL OUTLET - SINGLE RECEPTACLE, 15-50R, 208V, 3PH, 50A
WALL OUTLET - SINGLE RECEPTACLE, 15-30R, 208V, 3PH, 30A
ADDITIONAL RECEPTACLE INFORMATION/SUFFIXES:
AC= ABOVE COUNTER IG= ISOLATED GROUND TYPE
S = 1/2 SWITCHED TL= TWIST LOCK TYPE
WP= WEATHERPROOF

WALL SWITCH - TOGGLE TYPE, 20 AMPERE, SPST
WALL SWITCH - TOGGLE TYPE, 20 AMPERE, DPST
WALL SWITCH - TOGGLE TYPE, 20 AMPERE, 3-WAY
WALL SWITCH - TOGGLE TYPE, 20 AMPERE, 4-WAY
ADDITIONAL SWITCHES INFORMATION/SUFFIXES:
LV= LOW VOLTAGE, TYPES INDICATED ON SHEET E600
M = MOTOR RATED SWITCH
WP= WEATHER PROOF

OCCUPANCY SENSOR - LOW VOLTAGE, CEILING MOUNTED (DUAL TECH TYPE)
DAYLIGHT SENSOR - LOW VOLTAGE, CEILING MOUNTED

JUNCTION BOX - SIZE NOTED OR REQUIRED
JUNCTION BOX - SIZE NOTED OR REQUIRED, WALL MTD
JUNCTION BOX - SIZE NOTED OR REQUIRED, FLUSH WALL MTD
JUNCTION BOX - SIZE NOTED OR REQUIRED WITH EQUIPMENT CONNECTION
JUNCTION BOX - SIZE NOTED OR REQUIRED PULL BOX

BRANCH CIRCUIT - CONCEALED ABOVE CEILING OR IN WALL (#12 AWG UNLESS NOTED OTHERWISE OR REQ)
BRANCH CIRCUIT - CONCEALED BELOW GRADE, SLAB OR FLOOR (#12 AWG UNLESS NOTED OTHERWISE OR REQ)
BRANCH CIRCUIT - EXPOSED (#12 AWG UNLESS NOTED OTHERWISE OR REQ)
BRANCH CIRCUIT - WITH CONDUIT BODY, TYPE NOTED OR REQUIRED
BRANCH CIRCUIT - CIRCUIT RISER UP
BRANCH CIRCUIT - CIRCUIT RISER DOWN
BRANCH CIRCUIT - SAME AS ABOVE EXCEPT NO. 10 AWG
BRANCH CIRCUIT - SAME AS ABOVE EXCEPT NO. 8 AWG
BRANCH CIRCUIT - EMPTY CONDUIT
BRANCH CIRCUIT - FLEXIBLE CONDUIT
BRANCH CIRCUIT - HOMERUN TO PANEL TO 20A/1P BREAKER UNLESS NOTED OTHERWISE
BRANCH CIRCUIT - EMERGENCY SYSTEM
BRANCH CIRCUIT - NON-LINEAR LOAD CIRCUIT (WITH HARMONIC CURRENT)
BRANCH CIRCUIT - SURFACE METALLIC RACEWAY

EQUIPMENT

SERVICE ENTRANCE PANELBOARD
DISTRIBUTION PANELBOARD
LIGHTING OR POWER BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED
LIGHTING OR POWER BRANCH CIRCUIT PANELBOARD FLUSH MOUNTED
DISCONNECT SWITCH - NONFUSIBLE
DISCONNECT - FUSIBLE
ENCLOSED CIRCUIT BREAKER
CONTACTOR
TIME SWITCH
PHOTO-CELL
MOTOR - SIZE AND CHARACTERISTICS INDICATED
EXHAUST FAN
UNIT HEATER
VARIABLE FREQUENCY DRIVE
MOTOR STARTER - PUSHBUTTON CONTROL STATION

MISCELLANEOUS DEVICES

CONTROL PANEL
MULTIOUTLET ASSEMBLY
EMERGENCY LIGHTING PACK WITH ADJUSTABLE HEADS
SURGE PROTECTIVE DEVICE
LIGHTING ROOM CONTROLLER - SEE DETAIL SHEET E601
POWER PACK - FOR POWERING LOW VOLTAGE CONTROL DEVICES. SEE SHEET E601.

GROUNDING

GROUNDING ELECTRODE CONNECTION
SURGE ARRESTOR WITH GROUNDING CONNECTION
SURGE PROTECTIVE DEVICE
BARE CU GRD CONDUCTOR BELOW GRADE
DRIVEN GRD ROD CONNECTED TO GRD CONDUCTOR

GENERAL LEGEND DEFINITIONS

CEILING OUTLET - BOX, FLANGE, SUPPORT, ETC.
WALL OUTLET - BOX, FLANGE, SUPPORT WITH LUMINAIRE OR DEVICE & DEVICE PLATE.
WALL SWITCH - BOX, FLANGE, SUPPORT, DEVICE & DEVICE PLATE.
JUNCTION BOX - BOX, SUPPORT & COVER.
BRANCH CIRCUIT - CONDUIT, CONDUCTORS & CONTINUOUS GROUNDING PATH.
(SEE DESIGNATION BLOCKS)
EQUIPMENT GROUND - CONDUCTOR FOR CONNECTING NONCURRENT - CARRYING METAL PARTS OF EQUIPMENT, ENCLOSURES, RACEWAYS, ETC., SIZED IN ACCORDANCE WITH NFPA 70, CURRENT N.E.C.

ABBREVIATIONS

0 & 1PH 2WAY 2/C 3/C 3PH 3WAY 4/C 4OUT 4PDT 4PST 4W 4WAY AB AC A/C ACB AFC AFF AFG AFS AHJ AMFERS ALUM AMP APPROX ARCH ASC ATS AWG BIL BKBD BRKR BLDG CAB CCU CF CFE CF/CI CF/OI CMT CL CLG CND CP CPT CPU CT CTRL CTV CU CW CWP DB DC DEG DETD DIR DISC DN DPST DPDT EA EES EIMS EMCP EMER ENMT EPRF ES EWC EXH FA FACP FIN FLR FLA FLC FLMT FMC GA GALV GCB GFI GFCI GRC GRD HD HDSS HH HOA HP HV HVAC HWP HZ I/O ICCB IEC IG IMC J-BX K KCML KV KVA KW LED LFMD LFNC LGT LTC LTNG LV LVPCB MFR MAX AT AND SINGLE-PHASE SINGLE POLE ONE-WAY TWO-CONDUCTOR TWO-WAY THREE-CONDUCTOR THREE-PHASE THREE-WAY FOUR-CONDUCTOR QUADRUPE RECEPTACLE OUTLET FOUR-POLE DOUBLE THROW FOUR-POLE SINGLE THROW FOUR-WIRE FOUR-WAY ABOVE ALTERNATING CURRENT/ARMORED CABLE AIR CONDITIONING AIR CIRCUIT BREAKER ABOVE FINISH CEILING ABOVE FINISH FLOOR ABOVE FINISH GRADE ABOVE FINISH SLAB AUTHORITY HAVING JURSDICTION AMPERE INTERRUPTING CAPACITY ALUMINUM AMPERE APPROXIMATE(Y) ARCHITECT(URAL) ABOVE SUSPENDED CEILING AUTOMATIC TRANSFER SWITCH AUX AUXILIARY AMERICAN WIRE GAGE BASIC IMPULSE LEVEL BACKBOARD BREAKER BUILDING CABINET CENTRAL CONTROL UNIT CONTRACTOR FURNISHED CONTRACTOR FURNISHED EQUIPMENT CONTRACTOR FURNISHED & CONTRACTOR INSTALLED CONTRACTOR FURNISHED & OWNER INSTALLED CIRCUIT CURRENT LIMITING CEILING CONDUIT CONTROL PANEL CONTROL POWER TRANSFORMER CENTRAL PROCESS UNIT CURRENT TRANSFORMER CONTROL CABLE TELEVISION COPPER COLD WATER PIPING COLD WATER PIPE DIRECT BURIAL DIRECT CURRENT DEGREE DUAL ELEMENT TIME DELAY DIRECTION DISCONNECT SWITCH DOWN DOUBLE POLE - SINGLE THROW DOUBLE POLE - DOUBLE THROW EACH ESSENTIAL ELECTRICAL SYSTEM ENERGY MANAGEMENT CONTROL SYSTEM ENERGY MONITORING CONTROL PANEL EMERGENCY ELECTRICAL METALLIC TUBING EXPLOSION PROOF EQUIP EQUIPMENT ENERGY SAVINGS ELECTRIC WATER COOLER EXHAUST FUSE FIRE ALARM FIRE ALARM CONTROL PANEL FINISH FLOOR FULL LOAD AMPERES (NAME PLATE DATA) FULL LOAD CURRENT (CODE TABLES) FLUSH MOUNT FLEXIBLE METAL CONDUIT GAUGE GALVANIZED GAS CIRCUIT BREAKER GROUND FAULT INTERRUPTER GROUND FAULT CIRCUIT INTERRUPTER GALVANIZED RIGID CONDUIT GROUND HEAVY DUTY HEAVY DUTY DISCONNECT SWITCH HANDHOLE HAND-OFF-AUTOMATIC HORSEPOWER (254 FOOT-POUNDS OF WORK PER MINUTE) HIGH VOLTAGE HEATING, VENTILATION, AND AIR CONDITIONING HOT WATER PIPE HERTZ (CYCLES PER SECOND) INPUT/OUTPUT INSULATED CASE CIRCUIT BREAKER I INSIDE DIAMETER INTERNATIONAL ELECTROTECHNICAL COMMISSION ISOLATED GROUND INTERMEDIATE METAL CONDUIT JUNCTION BOX KILO (1000) KILO CIRCULAR MILS KILO VOLTS KILO VOLT - AMPERES KILO WATTS LIGHT EMITTING DIODE LIQUIDTIGHT FLEXIBLE METAL CONDUIT LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT LIGHTING LOAD TAP CHANGING LIGHTNING LOW VOLTAGE LOW VOLTAGE POWER CIRCUIT BREAKER MANUFACTURER MAXIMUM MCB MCC MCCB MCH MECH MH MIN MINIMUM MISC MISCELLANEOUS MLO MAIN LUGS ONLY MTD MOUNTED MTG MOUNTING MTS MANUAL TRANSFER SWITCH MV MEDIUM VOLTAGE NEUTR NEUT NA NOT APPLICABLE NEC NORMALLY CLOSED N.E.C. NATIONAL ELECTRICAL CODE NFPA NATIONAL ELECTRICAL MANUFACTURER'S ASSO. NFPA NATIONAL FIRE PROTECTION ASSOCIATION NL NIGHT LIGHT N.O. NORMALLY OPEN NO. OR # NUMBER OCPD OVER CURRENT PROTECTION DEVICE OD OUTSIDE DIAMETER OL OVER LOAD P POLE PCC POINT OF COMMON COUPLING PCS POWER CONTROL SYSTEM PF POWER FACTOR PH OR # PHASE PLC PROGRAMMABLE LOCK CONTROLLER PMS PAD MOUNTED SWITCH PMT PAD MOUNTED TRANSFORMER PRI PRIMARY PROVIDE FURNISH AND INSTALL PT POTENTIAL TRANSFORMER PVC POLYVINYL CHLORIDE PW PART WINDING REFERENCE REQUIRED REOD RATED LOAD AMPERES RM ROOM RMC RIGID METALLIC CONDUIT RNC RIGID NONMETALLIC CONDUIT ROR RATE-OF-RISER RT RAINLIGHT SC SHORT CIRCUIT SCADA SUPERVISORY CONTROL AND DATA ACQUISITION SCC SHORT CIRCUIT CAPACITY SCOR SHORT CIRCUIT CURRENT RATING SCHED SCHEDULE SD SERVICE DROP SE SERVICE ENTRANCE SEC SECONDARY SFS SULFUR HEXAFLUORIDE SHEET SHI INTERNATIONAL SYSTEM OF UNITS SI SERVICE LATERAL SL SINGLE LINE DIAGRAM SLD SURFACE METALLIC RACEWAY SMR SOLID NEUTRAL SPD SURGE PROTECTIVE DEVICE SPECS SPECIFICATIONS SPDT SINGLE POLE - DOUBLE THROW SPST SINGLE POLE - SINGLE THROW SS STAINLESS STEEL STATCOM STATIC REACTIVE COMPENSATION STS STATIC TRANSFER SWITCH SVC STATIC VAR COMPENSATION SW SWITCH SWBD SWITCH BOARD SWGR SWITCHGEAR TB TERMINAL BACKBOARD TEL TELEPHONE TEMP TEMPERATURE THD TOTAL HARMONIC DISTORTION TYP TYPICAL UL UNDERWRITER'S LABORATORY ULSE UNDERWRITER'S LABORATORY SERVICE ENTRANCE UPS UNINTERRUPTIBLE POWER SUPPLY V VOLT V VOLTAGE VAC VOLTS ALTERNATING CURRENT VDC VOLTS DIRECT CURRENT VENT VENTILATION VR VOLTAGE REGULATOR W WIRE W/ WITH WP WEATHERPROOF WT WATERTIGHT Z ZONE Z FEET " INCHES

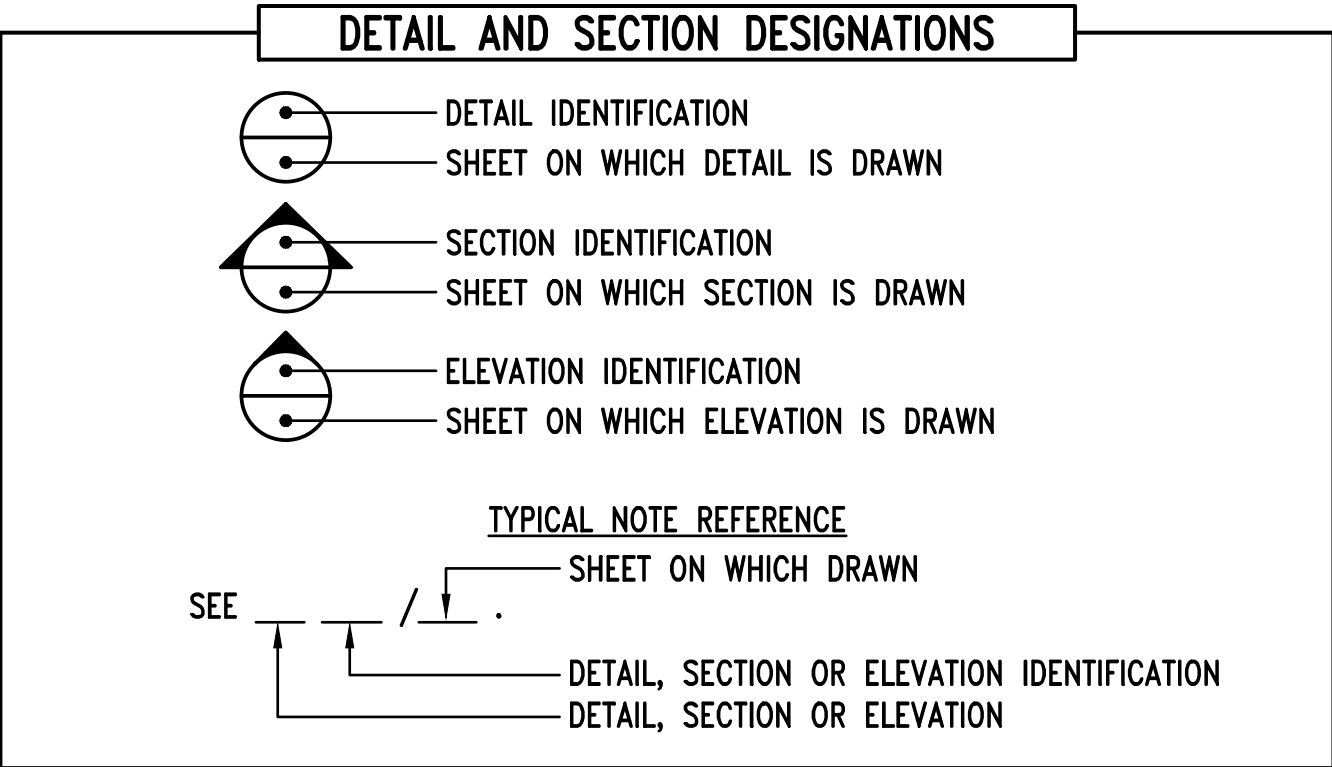
CONDUCTOR SCHEDULE & PROPERTIES DESIGNATIONS			
SIZE AWG OR kCMIL	AREA		NOTES
	mm ² (NOTE 4)	CIRCULAR MILS	
18	1.0	1,620	1. UNLESS NOTED OTHERWISE ALL LOW VOLTAGE CONDUCTORS SHALL BE RATED AT 600 VOLTS AND THE INSTALLATION BASED UPON AN AMBIENT TEMPERATURE OF 30°C AS FOLLOWS: • METAL – COPPER • INSULATION – SEE SPECIFICATIONS • TEMPERATURE RATING – 75°C • LOCATION – WET OR DRY 2. CONDUCTORS SHALL BE IDENTIFIED BY SURFACE MARKINGS FROM THE MANUFACTURER: • MANUFACTURER'S IDENTIFICATION • CONDUCTOR SIZE AND METAL • VOLTAGE RATING • UL LISTING 3. CONDUCTORS SHALL BE LABELED BY THE CONTRACTOR, FOR ANY CIRCUIT 60 AMPERES AND HIGHER, IN EACH PULLBOX, J-BOX OR WIREWAY AS FOLLOWS: • PANEL SOURCE & CIRCUIT BREAKER SIZE • DESTINATION (LOAD SERVED) 4. THE mm ² VALUE INDICATED ARE ACTUAL TRADE SIZES THAT CAN BE PURCHASED AND CONSIDERED EQUAL. THEY ARE NOT THE ACTUAL MEASURED AREA.
16	1.5	2,580	
14	2.5	4,110	
12	4	6,530	
10	6	10,380	
8	10	16,510	
6	16	26,240	
4	25	41,740	
2	35	66,360	
1/0	50	105,600	
2/0	70	133,100	
3/0	95	167,800	
4/0	120	211,600	
300	150	300,000	
350	185	350,000	
500	240	500,000	
600	300	600,000	
750	400	750,000	

GENERAL BRANCH CIRCUIT DESIGNATIONS – SI	
	2-4mm2 & 1-4mm2 GRD - 16mmC
	3-4mm2 & 1#4mm2 GRD - 16mmC
	4-4mm2 & 1-4mm2 GRD - 21mmC
	5-4mm2 & 1-4mm2 GRD - 21mmC, ETC.
	2-6mm2 & 1-6mm2 GRD - 16mmC
	3-6mm2 & 1-6mm2 GRD - 21mmC, ETC.
	2-10mm2 & 1-6mm2 GRD - 21mmC
	3-10mm2 & 1-6mm2 GRD - 27mmC, ETC.
	3-16mm2 & 1-6mm2 GRD - 27mmC, ETC.
NOTES: 1. LARGER SIZE CONDUCTORS SHALL BE USED WHEN INDICATED AND AS REQUIRED FOR DERATING. 2. ALL CIRCUITS SHALL CONTAIN A GREEN EQUIPMENT GRD CONDUCTOR. 3. EQUIPMENT GROUND CONDUCTOR SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED: • 4mm2 CIRCUIT – 4mm2 GRD • 6mm2 CIRCUIT – 6mm2 GRD • 10mm2 CIRCUIT – 6mm2 GRD 4. UNLESS OTHERWISE INDICATED, CONDUIT SIZE IS BASED UPON MAX NO. ALLOWED BY NEC UTILIZING A MAX ALLOWABLE PERCENTAGE FILL OF 40%. SEE CHAPTER 9 OF NEC. 5. METRIC DESIGNATORS ARE BASED UPON INDUSTRY STANDARDS. SEE CONDUIT AND TUBING SCHEDULE.	

GENERAL BRANCH CIRCUIT DESIGNATIONS – ENG	
	2#12 & 1#12 GRD - 1/2"
	3#12 & 1#12 GRD - 1/2"
	4#12 & 1#12 GRD - 3/4"
	5#12 & 1#12 GRD - 3/4", ETC..
	2#10 & 1#10 GRD - 1/2"
	3#10 & 1#10 GRD - 3/4", ETC.
	2#8 & 1#10 GRD - 3/4"
	3#8 & 1#10 GRD - 1", ETC.
	3#6 & 1#10 GRD - 1", ETC.
NOTES: 1. LARGER SIZE CONDUCTORS SHALL BE USED WHEN INDICATED AND AS REQUIRED FOR DERATING. 2. ALL CIRCUITS SHALL CONTAIN A GREEN EQUIPMENT GRD CONDUCTOR. 3. EQUIPMENT GROUND CONDUCTOR SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED: • #12 AWG CIRCUIT – #12 GRD • #10 AWG CIRCUIT – #10 GRD • #8 AWG CIRCUIT – #10 GRD 4. UNLESS OTHERWISE INDICATED, CONDUIT SIZE IS BASED UPON MAX NO. ALLOWED BY NEC UTILIZING A MAX ALLOWABLE PERCENTAGE FILL OF 40%. SEE CHAPTER 9 OF NEC. 5. METRIC DESIGNATORS ARE BASED UPON INDUSTRY STANDARDS. SEE CONDUIT AND TUBING SCHEDULE.	

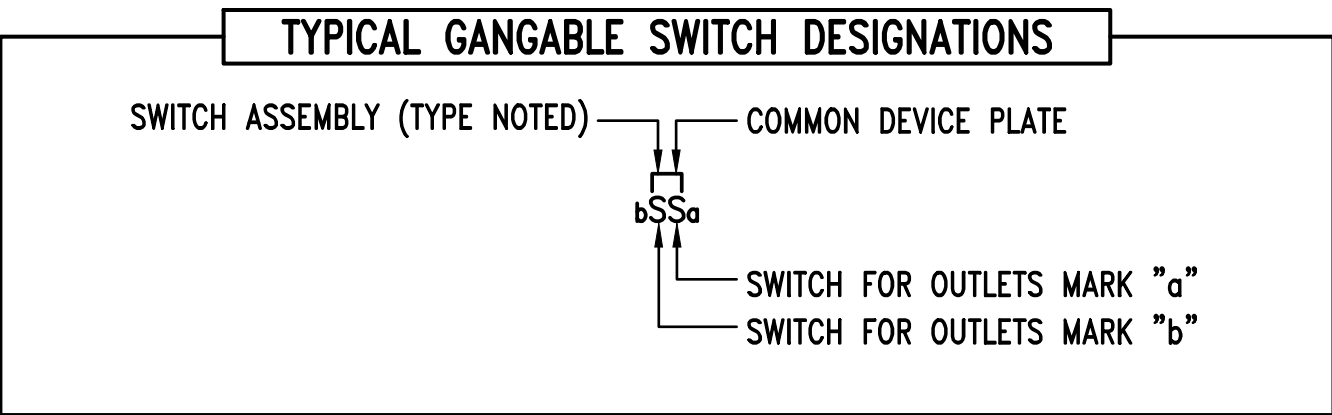
TYPICAL FEEDER DESIGNATIONS	
NUMBER OF CIRCUIT CONDUCTORS SIZE OF CIRCUIT CONDUCTORS "AWG UNLESS NOTED kCMIL"	
NOTES: 1. CONDUCTOR INSULATION TO BE 600V UNLESS OTHERWISE INDICATED. 2. SEE FEEDER SCHEDULE	PROTECTIVE DEVICE TO WHICH THE CIRCUIT IS CONNECTED CONDUIT SIZE SIZE OF GROUNDING CONDUCTOR

CONDUIT & TUBING SCHEDULE DESIGNATIONS		
CONDUIT SIZE		NOTES
METRIC DESIGNATOR (mm)	NEC TRADE SIZE REF. NO.	
12	3/8	
16	1/2	
21	3/4	
27	1	
35	1 1/4	
41	1 1/2	
53	2	
63	2 1/2	
78	3	
91	3 1/2	
103	4	
129	5	
155	6	



KEY DESIGNATIONS		
MARK	PURPOSE	NOTES
Ⓐ	DIMENSION REFERENCE	SEE CORRESPONDING DIMENSION BLOCK APPLICABLE LETTER INDICATED
①	KEY NOTE REFERENCE	SEE CORRESPONDING KEY NOTE APPLICABLE NUMBER INDICATED
⊕	EQUIPMENT REFERENCE	SEE CORRESPONDING EQUIPMENT SCHEDULE COORDINATE WITH APPLICABLE DIVISIONS
Ⓐ	FEEDER REFERENCE	SEE CORRESPONDING FEEDER SCHEDULE APPLICABLE LETTER INDICATED

TYPICAL LUMINAIRE, DEVICE AND CIRCUIT DESIGNATIONS	
Ⓐ ① A	LUMINAIRE TYPE 'A', CIRCUIT NO. 1, CONTROLLED BY SWITCH "a"
FT2 ② b	LUMINAIRE TYPE 'FT2', CIRCUIT NO. 2, CONTROLLED BY SWITCH "b"
2 ⊕	WALL OUTLET WITH RECEPTACLE NOTED, CONNECT TO CIRCUIT NO. 2
L-1	HOMERUN TO PANEL 'L', CONNECT TO CIRCUIT NO 1
1 ①	EQUIPMENT CONNECTION – CONNECT TO CIRCUIT NO. 1



GENERAL ELECTRICAL NOTES

1. THE GENERAL SCOPE OF WORK IS TO FURNISH AND INSTALL THE ELECTRICAL SYSTEMS, COMPONENTS AND MATERIALS COMPLETE IN ACCORDANCE WITH PLANS, SPECIFICATIONS AND MANUFACTURER'S PUBLISHED DATA. COORDINATE AND SUPPLY ALL SERVICE RELATED REQUIREMENTS AS FOLLOWS:
- PRIMARY SERVICE SYSTEM (MEDIUM VOLTAGE MULTI-GROUNDED)
12,470Y/7,200 VOLT, 3 PHASE, 4 WIRE
SECONDARY SERVICE SYSTEM (LOW VOLTAGE)
208Y/120 VOLT, 3 PHASE, 4 WIRE
2. THE UTILITY SUPPLY CONNECTION SHALL BE MADE IN ACCORDANCE WITH ALL UTILITY CRITERIA, CODES AND DETAILS. THE FOLLOWING SHALL BE COORDINATED AS A MINIMUM:
- SPECIFIED NOMINAL VOLTAGE ESTABLISHED
 - SPECIFIED INSULATION VOLTAGE CLASS UTILIZED
 - PROPER PHASE & PHASE SEQUENCE ESTABLISHED
 - AVAILABLE FAULT CURRENT ESTABLISHED & PROPER EQUIP SCOR COORDINATION ESTABLISHED
- ALL SERVICE RELATED COMPONENTS SHALL BE RATED PER THESE REQUIREMENTS.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RE-AFFIRM WITH THE UTILITY COMPANY THAT THE LOCATION, ARRANGEMENT, VOLTAGE, PHASE AND AVAILABLE FAULT CURRENT RATINGS AND CONNECTIONS AS SHOWN ON DRAWINGS ARE COORDINATED WITH AND IN COMPLIANCE WITH THE CURRENT UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS. THE CONTRACT PRICE SHALL INCLUDE, AT NO ADDITIONAL COST, ALL ADDITIONAL COSTS REQUIRED TO MEET THE UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS WHICH ARE FOUND TO BE AT VARIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
3. INSTALLATION AS A MINIMUM SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL ELECTRICAL SAFETY CODE (NESC). IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL WORK IN AN "ELECTRICAL SAFE WORKING CONDITION" AS DEFINED BY NFPA 70E. THE CONTRACTOR SHALL UTILIZE "QUALIFIED PER" AS DEFINED IN NFPA 70 (NEC).
4. ALL CLEARANCES SHALL BE MAINTAINED PER NEC, NESC AND UL. ALL PARTS, DEVICES, EQUIPMENT, ETC. WHICH REQUIRE MAINTENANCE, ADJUSTMENT, OPERATION OR EXAMINATION DURING NORMAL NETWORK OPERATION SHALL BE ARRANGED SO AS TO BE ACCESSIBLE BY THE PROVISION OF ADEQUATE WORKING SPACES, WORKING FACILITIES AND CLEARANCES. UNLESS NOTED OTHERWISE ALL CLEARANCES ARE MEASURED FROM SURFACE TO SURFACE.
5. ALL DIMENSIONS INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD. GENERALLY DIMENSIONS ARE SHOWN IN THE METRIC STANDARD AND ENGLISH EQUIVALENT WHEN APPLICABLE. VARIOUS CONVERSIONS ARE ROUNDED OFF, HOWEVER STANDARD MANUFACTURING AND INDUSTRY PRACTICES SHALL BE UTILIZED.
- EXAMPLE:
CONVERSION: 1'-0" \approx 10.3048m
STANDARD NOTATION: 305mm (ROUNDED) = 1'-0"
SI UNITS OF LENGTH ARE GENERALLY GIVEN AS FOLLOWS:
m = meter
km = kilometer (10 m)
hm = hectometer (10 m)
dm = decimeter (10 m)
cm = centimeter (10 m)
mm = millimeter (10 m)
ENGLISH UNITS OR LENGTHS ARE GENERALLY GIVEN AS FOLLOWS: '-"- (FT-INCHES) WHEN SI AND ENGLISH UNITS ARE REFERENCED IN A NOTE, THE SI VERSION SHALL BE SHOWN FIRST WITH ENGLISH FOLLOWING IN PARENTHESIS.
EXAMPLE:
305mm (1')
9m (30')
COORDINATE WITH DIMENSION BLOCKS SHOWN ON DRAWINGS. ALL TRADE SIZE CONDUITS ARE NEMA AND INDUSTRY STANDARD IN ACCORDANCE WITH THEIR ROUNDED NOMINAL METRIC DESIGNATOR DIAMETER EQUIVALENT TO THE ENGLISH STANDARD AS INDICATED IN THE CONDUIT SCHEDULE.
6. PRIOR TO ANY ROUGH-IN THE CONTRACTOR SHALL SUBMIT SCALED DRAWINGS FOR APPROVAL FOR MAJOR ELECTRICAL EQUIPMENT INSTALLATIONS INDICATING ALL PROPER CLEARANCES PER THE NEC AND FOR MAINTENANCE. DRAWINGS SHALL INCLUDE MECHANICAL, PLUMBING AND STRUCTURAL DEVICES WITHIN THE SPACE OR AREA. DO NOT INSTALL ANY ELECTRICAL EQUIPMENT OR DEVICES UNTIL PROPER CLEARANCES ARE ESTABLISHED. PROVIDE FLOOR PLANS AND ELEVATION VIEWS FOR THE FOLLOWING:
- PANELBOARDS
 - DISCONNECT SWITCHES
 - AUXILIARY SYSTEM BACKBOARDS
 - AUXILIARY SYSTEM CABINETS
6. COMPLETE CONTRACT DRAWINGS AND DETAILS SHALL BE EXAMINED FOR LOCATING ALL EQUIPMENT. COMPLETE SHOP DRAWING DATA (ALL TRADES) SHALL BE EXAMINED FOR EXACT DIMENSIONAL DATA. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR THE ACTUAL EQUIPMENT TO BE INSTALLED AND SHALL SECURE DIMENSIONAL DATA THAT WILL ASSIST IN DETERMINING ADEQUATE SPACE REQUIREMENTS FOR INSTALLING ALL ELECTRICAL EQUIPMENT, LUMINAIRES, DEVICES, ROUGH-IN REQUIREMENTS, ETC. ADJUST ACTUAL LOCATION OF ELECTRICAL PROVISIONS ACCORDINGLY. ADVISE ALL TRADES CONCERNING INSTALLATION OF PIPING, DUCTS, DEVICES, ETC., ABOVE ELECTRICAL EQUIPMENT AND TO MAINTAIN ADEQUATE CLEARANCES IN ACCORDANCE WITH THE NEC AND THE REQUIREMENTS OF THIS CONTRACT. NAMEPLATE DATA OR MANUFACTURER'S WRITTEN DATA OF ACTUAL EQUIPMENT INSTALLED SHALL BE USED TO DETERMINE EXACT UNIT OR DEVICE PROTECTION, CONDUCTOR TERMINATION REQUIREMENTS, ETC. ALL DEVICES SHALL BE COORDINATED FOR THE PROPER VOLTAGE, OPERATION, CONTACT RATINGS, COLOR CODING, ETC.
7. ALL OUTLETS AND DEVICES TO SUPPLY EQUIPMENT ITEMS SHALL BE COORDINATED WITH THE SPECIFIC EQUIPMENT REQUIREMENTS AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. REVIEW ALL SHOP DRAWINGS PRIOR TO ROUGH-IN.
- INSTALL PEDESTAL OUTLETS OR STUB-UPS AT EQUIPMENT LOCATIONS ACCESSIBLE AND CLEAR OF OBSTRUCTIONS.
8. ROUGH-IN OF OUTLET BOXES FOR DEVICES, EQUIPMENT CONNECTIONS, ETC., SHALL BE IN ACCORDANCE TO THEIR SPECIFIC PURPOSE AND COORDINATED WITH THE LATEST ARCHITECTURAL FLOOR PLANS AND ELEVATIONS AND APPROVED MILL WORK DRAWINGS.
- FLUSH OUTLETS SHALL BE MTD FLUSH WITH THE FINAL FINISHED SURFACE. ALLOW FOR COMPLETE SURFACE TREATMENTS, EXTENSIONS, ETC.
 - CLG MTD AND WALL MTD EQUIPMENT OR DEVICES SHALL BE LOCATED TO MAINTAIN PROPER ACCESS FOR USE AND MAINTENANCE.
 - CLG MTD AND WALL MTD EQUIPMENT OR DEVICES SHALL BE LOCATED TO AVOID DOOR SWINGS WHERE REQUIRED.
 - AVOID CONFLICT WITH COUNTER TOP TRIM, SPLASH BOARDS, UPPER CABINETS, SINKS, ETC.
 - BOXES OVER 10.32 SQUARE MM (16 SQUARE INCHES) IN SMOKE AND FIRE WALLS SHALL BE FIVE SIDED WITH SAME RATED CONSTRUCTION AS WALL SYSTEM.
9. ARRANGE FOR CHASES, SLOTS AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR ELECTRICAL INSTALLATIONS. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
10. CONDUIT SYSTEMS IN GENERAL SHALL BE CONCEALED UNLESS INDICATED OTHERWISE.
- ALL UNDERGROUND CONDUIT RUNS ENTERING THE BUILDING SHALL BE SEALED TO PREVENT THE ENTRANCE OF MOISTURE AND GASES
 - FLEX CONDUIT INSTALLED ON EXTERIOR, IN WET LOCATIONS OR ANY MECHANICAL ROOM SHALL BE LIQUID TIGHT WITH SUITABLE FITTINGS.
 - INSTALL CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR CONDUITS PASSING THROUGH EXPANSION JOINTS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
 - ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULLWIRE
 - ALL GENERAL BRANCH CIRCUIT CONDUIT SYSTEMS SHALL BE RUN OVERHEAD UNLESS NOTED OTHERWISE.
 - MINIMUM SIZE CONDUIT SHALL BE 16mm UNLESS NOTED OTHERWISE
 - SEE CONDUIT & TUBING SCHEDULE
11. CONDUCTOR SYSTEMS IN GENERAL SHALL BE INSTALLED WITHIN AN APPROVED RACEWAY SYSTEM.
- CONDUCTORS SHALL BE COPPER (THW OR THHN/THWN)
 - BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG
 - CONDUCTORS NO. 8 & LARGER SHALL BE STRANDED
 - CONDUCTORS NO. 10 & SMALLER SHALL BE SOLID
 - INSTALL AN INSULATED (IDENTIFIED) EQUIPMENT GROUNDING CONDUCTOR WITH EACH BRANCH CIRCUIT AND FEEDER
 - SEE CONDUCTOR SCHEDULE & PROPERTIES
 - SEE FEEDER SCHEDULE
12. THE PROPER SIZED JUNCTION AND/OR PULL BOXES SHALL BE INSTALLED AS REQUIRED FOR RACEWAY TRANSITIONS AND PROPER WIRE PULLING REQUIREMENTS. THE FOLLOWING APPLIES FOR ALL BRANCH CIRCUIT AND FEEDER BOXES:
- LABEL EACH BOX ON COVERPLATE; THE PANEL AND CIRCUIT NUMBERS THAT ARE ROUTED THROUGH THE BOX.
13. ALL NON-CURRENT CARRYING METALLIC PORTIONS OF THE ELECTRICAL SYSTEM, DEVICES, COMPONENTS, ENCLOSURES, OUTLET & JUNCTION BOXES, SUPPORTS, ETC. SHALL BE BONDED TO THE FACILITY GROUNDING SYSTEM.
14. MOUNTING HEIGHTS OF WALL OUTLETS SHALL BE AS INDICATED IN THE MOUNTING HEIGHT SCHEDULE.

MOUNTING HEIGHT SCHEDULE

DESCRIPTION	SI	ENG	REMARKS
RECEPTACLE-GENERAL	45.7cm	1'-6"	OR AS DIRECTED
RECEPTACLE-TOILET AREAS	1.22m	4'-0"	
RECEPTACLE-ABOVE COUNTERS	10.16cm	0'-4"	ABOVE SPLASH BOARD OR AS DIRECTED
RECEPTACLE-EXTERIOR	45.7cm	1'-6"	MINIMUM ABOVE FINISHED GRADE
WALL SWITCH-GENERAL	1.22m	4'-0"	
WALL BRACKET-GENERAL	2.06m	6'-8"	OR ABOVE MIRRORS
WALL BRACKET-EXIT LIGHT	2.31m	7'-6"	OR ABOVE DOOR
TELECOM OUTLET-GENERAL	45.7cm	1'-6"	
TELECOM OUTLET-WALL PHONE	1.54m	5'-0"	
TELEVISION OUTLET-GENERAL	45.7cm	1'-6"	

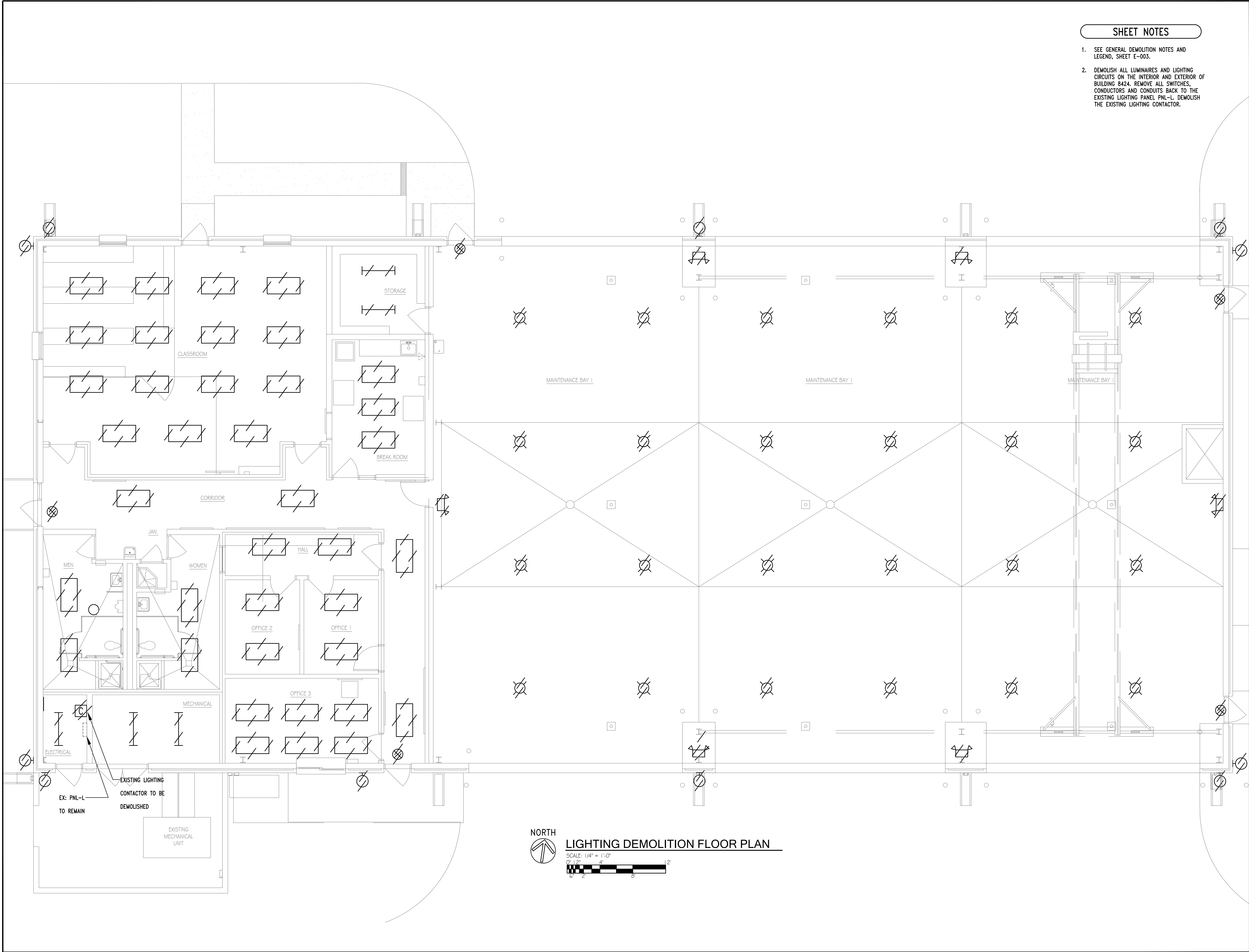
NOTE:
1. ALL DIMENSIONS ARE FROM FLOOR TO CENTERLINE OF DEVICE.

GENERAL DEMOLITION NOTES

1. ALL ITEMS SHOWN DASHED INDICATE ITEMS TO BE DEMOLISHED OR SALVAGED. SEE KEYED NOTES FOR ADDITIONAL INFORMATION. REFER TO ALL OTHER DISCIPLINE DRAWINGS FOR ADDITIONAL DEMOLITION NOTES AND REQUIREMENTS.
2. DEPICTION OF EXISTING CONDITIONS ARE BASED ON OWNER-FURNISHED DOCUMENTS AND LIMITED FIELD OBSERVATIONS. EXISTING ELEMENTS AND CONDITIONS CONCEALED BY IN-PLACE EQUIPMENT AND FINISHES WERE NOT OBSERVED OR INVESTIGATED. ONCE CUTTING AND SELECTIVE DEMOLITION WORK IS COMPLETE, REPORT ANY CONFLICTS. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AND/OR ALTERATIONS AS NECESSARY TO INSTALL COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH THE CODES HAVING JURISDICTION AT NO ADDITIONAL COST.
3. ALL OPENINGS AND SURFACES MADE BARE BY DEMOLITION AND/OR REMOVAL OF MATERIALS SHALL BE REPAIRED AND/OR PATCHED TO MATCH ADJACENT FINISH AND RATING. PREPARE SURFACES TO RECEIVE NEW FINISH(S).
4. CONTRACTOR TO DEVELOP AND PUBLISH SAFETY PLAN FOR APPROVAL PRIOR TO BEGINNING THEIR WORK.
5. PROTECT AND MAINTAIN EXISTING FIRE STOPPING AND EXISTING APPLIED FIREPROOFING. RESTORE TO EXISTING RATING WHERE DAMAGED OR REMOVED AS PART OF THE WORK.
6. PLANNED INTERRUPTIONS OF UTILITY SERVICE TO ANY FACILITY OR AREAS WITHIN ANY FACILITY AFFECTED BY THIS CONTRACT, SHALL BE CAREFULLY PLANNED AND COORDINATED IN ADVANCE OF THE REQUESTED INTERRUPTION. THE CONTRACTOR SHALL NOT INTERRUPT SERVICES UNTIL SPECIFIED APPROVAL HAS BEEN GRANTED. THE REQUEST SHALL INDICATE SERVICES AND AREAS TO BE AFFECTED, DATE AND TIME OF INTERRUPTION AND DURATION OF OUTAGE. REQUEST FOR INTERRUPTION OF SERVICE WILL NOT BE APPROVED UNTIL ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE COMPLETION OF THAT PARTICULAR PHASE OF WORK ARE ON THE JOB SITE.
7. ALL EXCAVATIONS AND/OR DEMOLITION WORK REQUIRED SHALL BE PERFORMED WITH CARE SO AS NOT TO INTERRUPT OTHER EXISTING SERVICES (WATER, GAS, ELECTRICAL, SEWER, SPRINKLERS, ETC.). IF ACCIDENTAL UTILITY INTERRUPTION, DAMAGE, ETC., RESULTS FROM WORK PERFORMED BY THE CONTRACTOR, THE AFFECTED UTILITY OR SERVICE SHALL BE RETURNED TO ITS ORIGINAL CONDITION WITHOUT DELAY, BY AND AT THE EXPENSE OF THE CONTRACTOR, USING SKILLED WORKMEN OF THE TRADE INVOLVED.
8. REMOVE ALL ELECTRICAL LUMINAIRES, EQUIPMENT, SYSTEMS, DEVICES, OUTLETS, SWITCHES, PULL BOXES, JUNCTION BOXES, ETC., AS REQUIRED TO COMPLETELY REMOVE THE ELECTRICAL ITEMS SHOWN UNLESS NOTED TO REMAIN. DISCONNECT AND REMOVE ALL ELECTRICAL PROVISIONS TO EQUIPMENT BEING REMOVED.
9. IN GENERAL, THE WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
- PROVIDE ALL DEMOLITION AS REQUIRED OF EXISTING SYSTEMS REMOVING ALL ITEMS THAT CONFLICT WITH FINISHED DESIGN INTENT AS INDICATED ABOVE.
 - MODIFY, REPLACE, REPAIR, REVISE ETC., EXISTING SYSTEMS AND/OR EQUIPMENT AS INDICATED.
 - EXTEND EXISTING SYSTEMS AS REQUIRED TO FUNCTION AS SPECIFIED AND IN ACCORDANCE WITH SYSTEM REQUIREMENTS.
 - NEW SYSTEM COMPONENTS SHALL MATCH EXISTING SYSTEMS PROVISIONS AND BE COMPLETELY COMPATIBLE AND IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. WHEN REQUIRED, APPROVAL FROM A SYSTEM MANUFACTURER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO INSTALLING ANY NEW EQUIPMENT OR DEVICES TO AN EXISTING SYSTEM.
 - ALL EQUIPMENT, DEVICES, OUTLETS, COMPONENTS, ETC., TO BE REUSED SHALL BE CLEANED, REPAIRED AND PLACED IN OPERATING CONDITION. LUMINAIRES NOTED TO BE REUSED SHALL BE CLEANED, REPAIRED, PROVIDED WITH NEW LAMPS AND PLACED IN OPERATING CONDITION.
 - EXISTING OUTLET BOXES MAY BE USED AS NOTED IF OF THE PROPER CONFIGURATION AND SIZE REQUIRED. MODIFICATIONS SHALL BE MADE WHEN REQUIRED SUCH AS PROVIDING EXTENSION RINGS, LOCKNUTS, BUSHINGS, ETC.
 - EXISTING PANELBOARDS SHALL BE UTILIZED TO THE EXTENT SHOWN ON THE DRAWINGS AND MODIFIED AS REQUIRED TO FACILITATE THE NEW REQUIREMENTS AS INDICATED HEREIN OR SHOWN ON THE DRAWINGS. NEW CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURER, FRAME SIZE, SHORT CIRCUIT RATING AND TYPE AS EXISTING. WHERE APPLICABLE, THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND INSTALL ADDITIONAL MOUNTING HARDWARE AS REQUIRED BY THE MANUFACTURER.
 - WHEN EXISTING DEVICES, SWITCHES, EQUIPMENT ETC., ARE NOTED TO BE REMOVED AND THE CIRCUIT(S) SERVING SUCH ITEMS SERVES OTHER ITEMS OR DEVICES WHICH ARE TO BE MAINTAINED, THE CONTRACTOR SHALL REROUTE, EXTEND, MODIFY, ETC., EXISTING CIRCUITS AS REQUIRED TO MAINTAIN COMPLETE AND OPERATING SYSTEMS.
 - INSTALL TEMPORARY DUST AND DEBRIS BARRIERS AND VESTIBULES IN ACCORDANCE WITH INFECTION CONTROL PLAN. TEMPORARY BARRIERS ARE NOT TO RESTRICT REQUIRED MEANS OF EGRESS PATHS AND WIDTHS.

DEMOLITION LEGEND (TYP.)

	TYPICAL LUMINAIRE TO BE REMOVED
	TYPICAL WALL OUTLET TO BE REMOVED
	TYPICAL WALL SWITCH TO BE REMOVED
	TYPICAL JUNCTION BOX TO BE REMOVED
	TYPICAL BRANCH CIRCUIT OR FEEDER TO BE REMOVED
	TYPICAL EQUIPMENT TO BE REMOVED
-EX--	EXISTING BRANCH CIRCUIT OR FEEDER TO REMAIN
EX	EXISTING TO REMAIN
EX-R	EXISTING REMOVE
EX-RC	EXISTING TO BE RECONNECTED
EX-RD	EXISTING RELOCATED
EX-RL	EXISTING TO BE RELOCATED
EX-RP	EXISTING REPLACE
EX-RW	EXISTING TO BE REWORKED



SHEET NOTES

1. SEE GENERAL DEMOLITION NOTES AND LEGEND, SHEET E-003.
2. DEMOLISH ALL LUMINAIRES AND LIGHTING CIRCUITS ON THE INTERIOR AND EXTERIOR OF BUILDING 8424. REMOVE ALL SWITCHES, CONDUCTORS AND CONDUITS BACK TO THE EXISTING LIGHTING PANEL PNL-L. DEMOLISH THE EXISTING LIGHTING CONTACTOR.



PWBA Architects, Inc.
520 SOUTH PERRY STREET • SUITE 10
MONTGOMERY, ALABAMA 36104
(334) 244-6990



NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION OF ALABAMA
ALEXANDRIA, ALABAMA

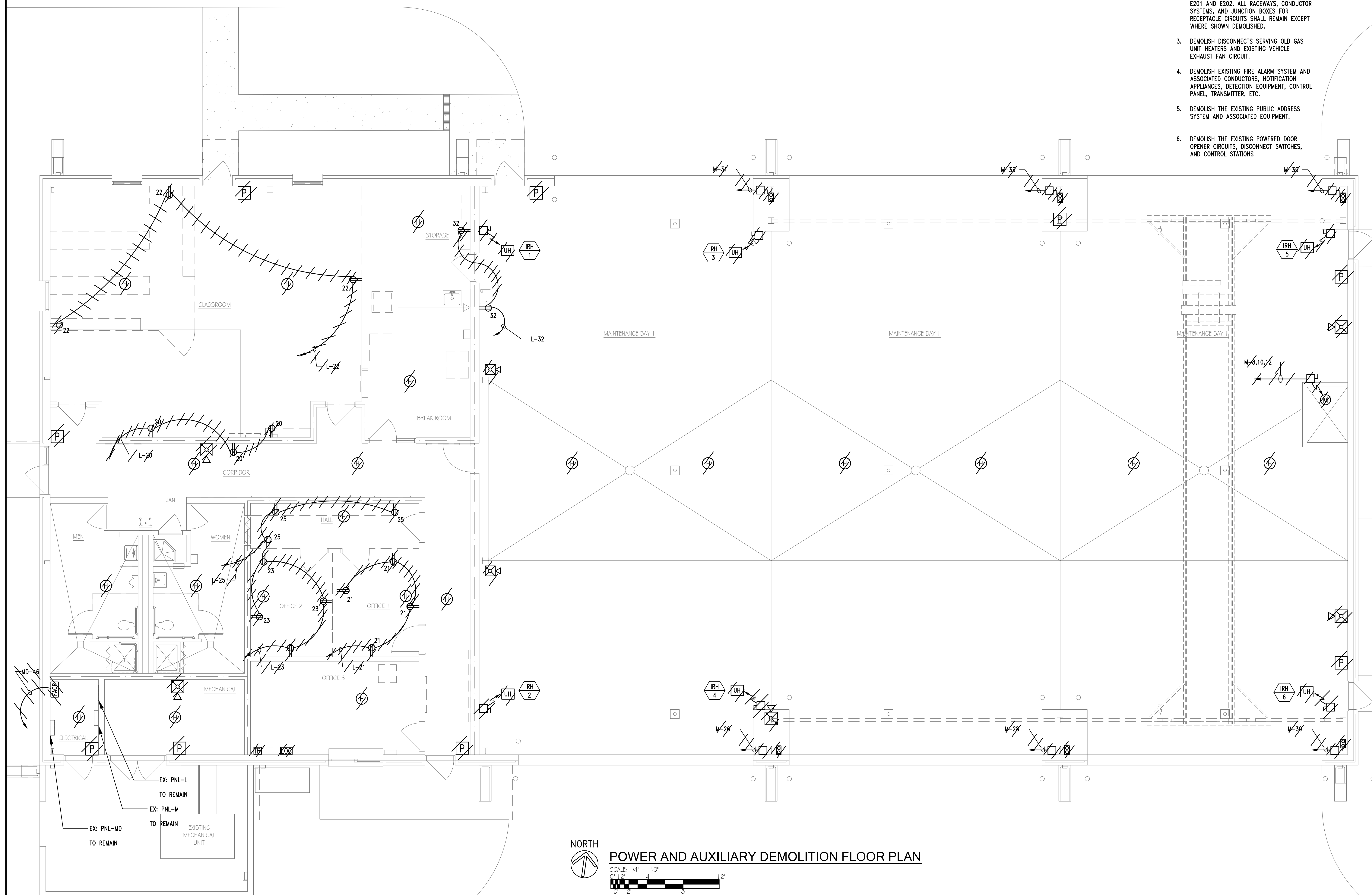
PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN TAT	CHECKED JDW
SHEET TITLE LIGHTING DEMOLITION FLOOR PLAN	

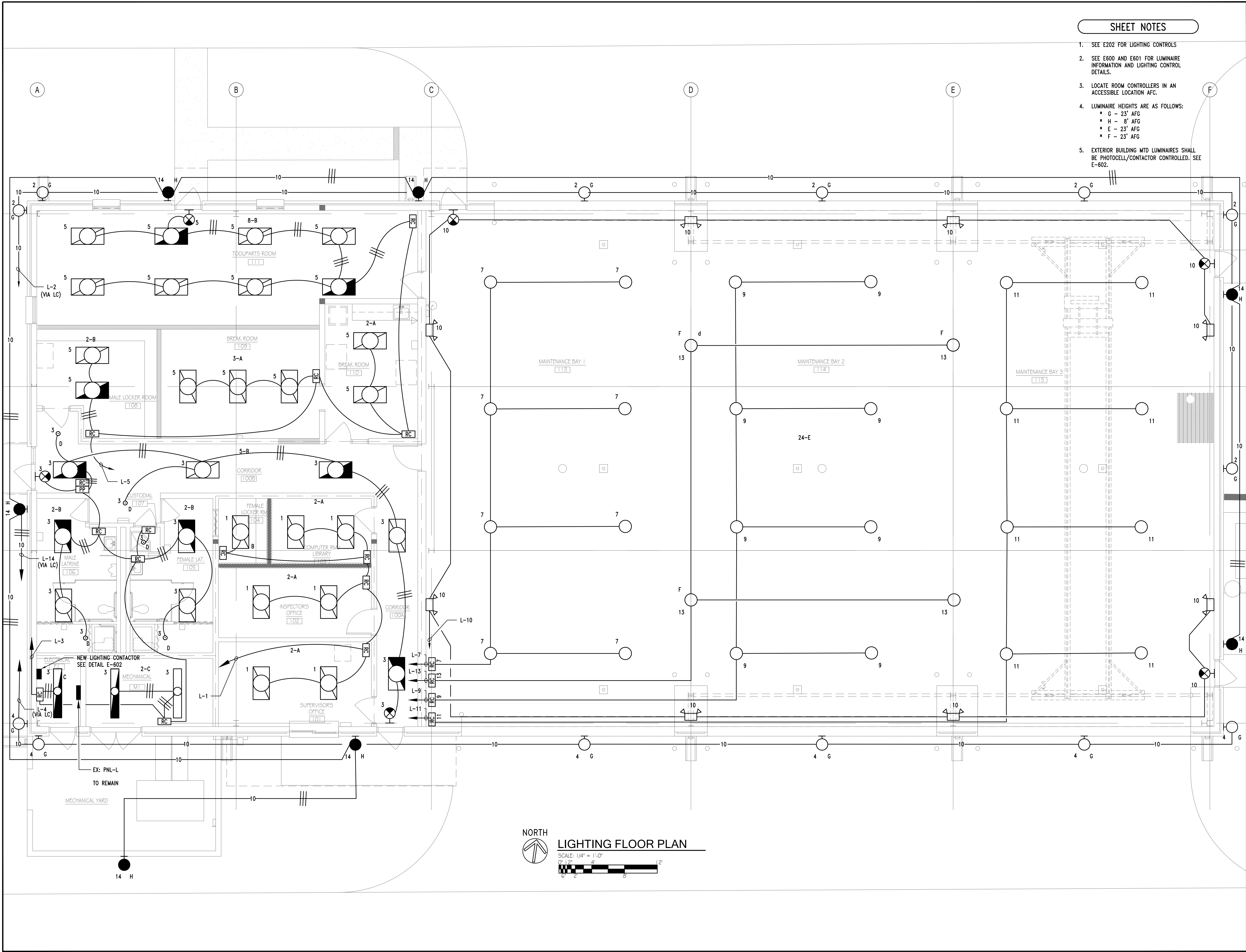
SHEET NUMBER
E101

SHEET NUMBER

E102

1. SEE GENERAL DEMOLITION NOTES AND LEGEND, SHEET E-003
2. REMOVE AND REPLACE ALL REMAINING RECEPTACLES AND SWITCHES, GFCI DEVICES, AND DEVICE COVER PLATES. SEE SHEETS E201 AND E202. ALL RACEWAYS, CONDUCTOR SYSTEMS, AND JUNCTION BOXES FOR RECEPTACLE CIRCUITS SHALL REMAIN EXCEPT WHERE SHOWN DEMOLISHED.
3. DEMOLISH DISCONNECTS SERVING OLD GAS UNIT HEATERS AND EXISTING VEHICLE EXHAUST FAN CIRCUIT.
4. DEMOLISH EXISTING FIRE ALARM SYSTEM AND ASSOCIATED CONDUCTORS, NOTIFICATION APPLIANCES, DETECTION EQUIPMENT, CONTROL PANEL, TRANSMITTER, ETC.
5. DEMOLISH THE EXISTING PUBLIC ADDRESS SYSTEM AND ASSOCIATED EQUIPMENT.
6. DEMOLISH THE EXISTING POWERED DOOR OPENER CIRCUITS, CONNECT SWITCHES, AND CONTROL STATIONS.





SHEET NOTES

1. SEE E202 FOR LIGHTING CONTROLS
2. SEE E600 AND E601 FOR LUMINAIRE INFORMATION AND LIGHTING CONTROL DETAILS.
3. LOCATE ROOM CONTROLLERS IN AN ACCESSIBLE LOCATION AFC.
4. LUMINAIRE HEIGHTS ARE AS FOLLOWS:
 - * G - 23' AFG
 - * H - 8' AFG
 - * E - 23' AFG
 - * F - 23' AFG
5. EXTERIOR BUILDING MTD LUMINAIRE SHALL BE PHOTOCELL/CONTACTOR CONTROLLED. SEE E-602.

PWBA

ARCHITECTS

PWBA Architects, Inc.

520 SOUTH PERRY STREET • SUITE 101

MONTELODY, ALABAMA 36104

(334) 244-4990

ALABAMA REGISTERED PROFESSIONAL ARCHITECT

7-25-22

David D. Williams

CONSULTING ARCHITECT

NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION

ARMORY COMMISSION OF ALABAMA

ALEXANDRIA, ALABAMA

PROJECT NUMBER	ORIGINAL DATE
2020-0804	7/28/22

DRAWN	CHECKED
TAT	JDW

SHEET TITLE
LIGHTING FLOOR PLAN

SHEET NUMBER

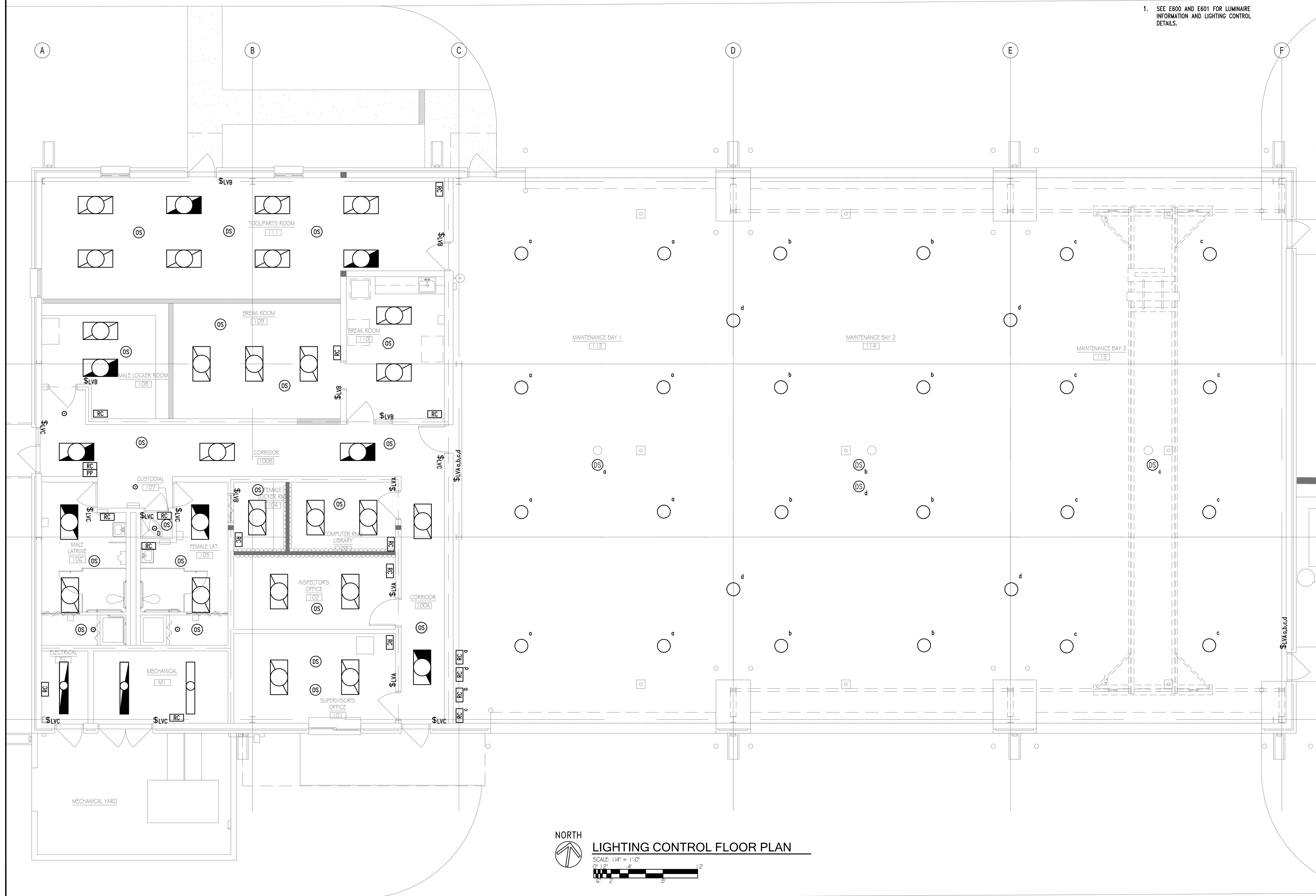
E201

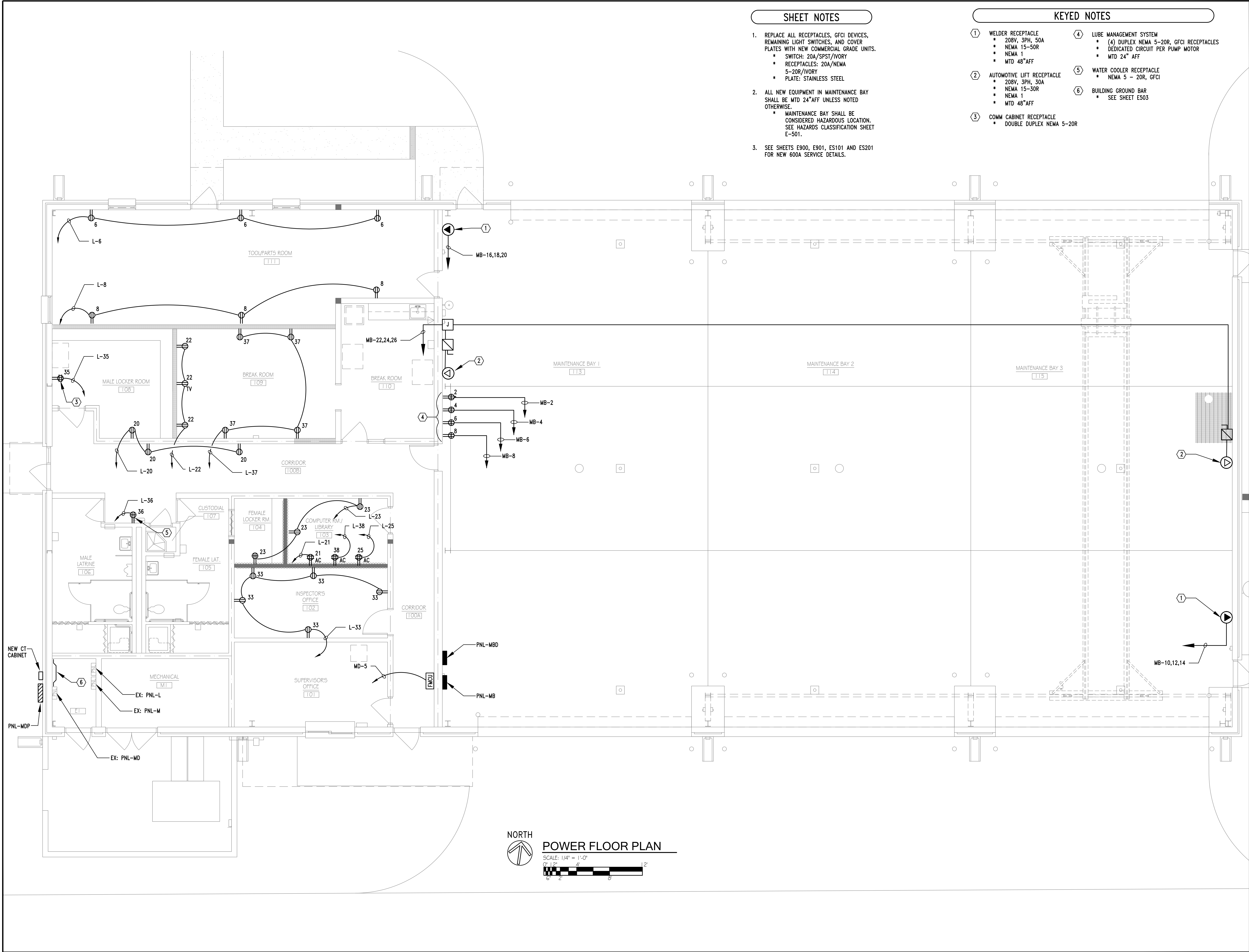
PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/20
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SHEET TITLE LIGHTING CONTR FLOOR PLAN	

SHEET NUMBER

E202

1. SEE E600 AND E601 FOR LUMINAIRE INFORMATION AND LIGHTING CONTROL DETAILS.





SHEET NOTES

1. REPLACE ALL RECEPTACLES, GFCI DEVICES, REMAINING LIGHT SWITCHES, AND COVER PLATES WITH NEW COMMERCIAL GRADE UNITS.
 - * SWITCH: 20A/SPST/IVORY
 - * RECEPTACLES: 20A/NEMA 5-20R/IVORY
 - * PLATE: STAINLESS STEEL
2. ALL NEW EQUIPMENT IN MAINTENANCE BAY SHALL BE MTD 24" AFF UNLESS NOTED OTHERWISE.
 - * MAINTENANCE BAY SHALL BE CONSIDERED HAZARDOUS LOCATION. SEE HAZARDS CLASSIFICATION SHEET E-501.
3. SEE SHEETS E900, E901, ES101 AND ES201 FOR NEW 600A SERVICE DETAILS.

KEYED NOTES

1. WELDER RECEPTACLE
 - * 208V, 3PH, 50A
 - * NEMA 15-50R
 - * NEMA 1
 - * MTD 48" AFF
2. AUTOMOTIVE LIFT RECEPTACLE
 - * 208V, 3PH, 30A
 - * NEMA 15-30R
 - * NEMA 1
 - * MTD 48" AFF
3. COMM CABINET RECEPTACLE
 - * DOUBLE DUPLEX NEMA 5-20R
4. LUBE MANAGEMENT SYSTEM
 - * (4) DUPLEX NEMA 5-20R, GFCI RECEPTACLES
 - * DEDICATED CIRCUIT PER PUMP MOTOR
 - * MTD 24" AFF
5. WATER COOLER RECEPTACLE
 - * NEMA 5 - 20R, GFCI
6. BUILDING GROUND BAR
 - * SEE SHEET E503

PWBA

ARCHITECTS

PROJECT NUMBER

2020-0804

ORIGINAL DATE

7/28/22

DRAWN

TAT

CHECKED

JDW

SHEET TYPE

POWER FLOOR PLAN

SHEET NUMBER

E203

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION

ARMORY COMMISSION of ALABAMA

ALEXANDRIA, ALABAMA

ALABAMA REGISTERED PROFESSIONAL ENGINEER

7-25-22

David D. Williams

1002 D. WILLIAMS

NO.

REVISION DESCRIPTION

DATE

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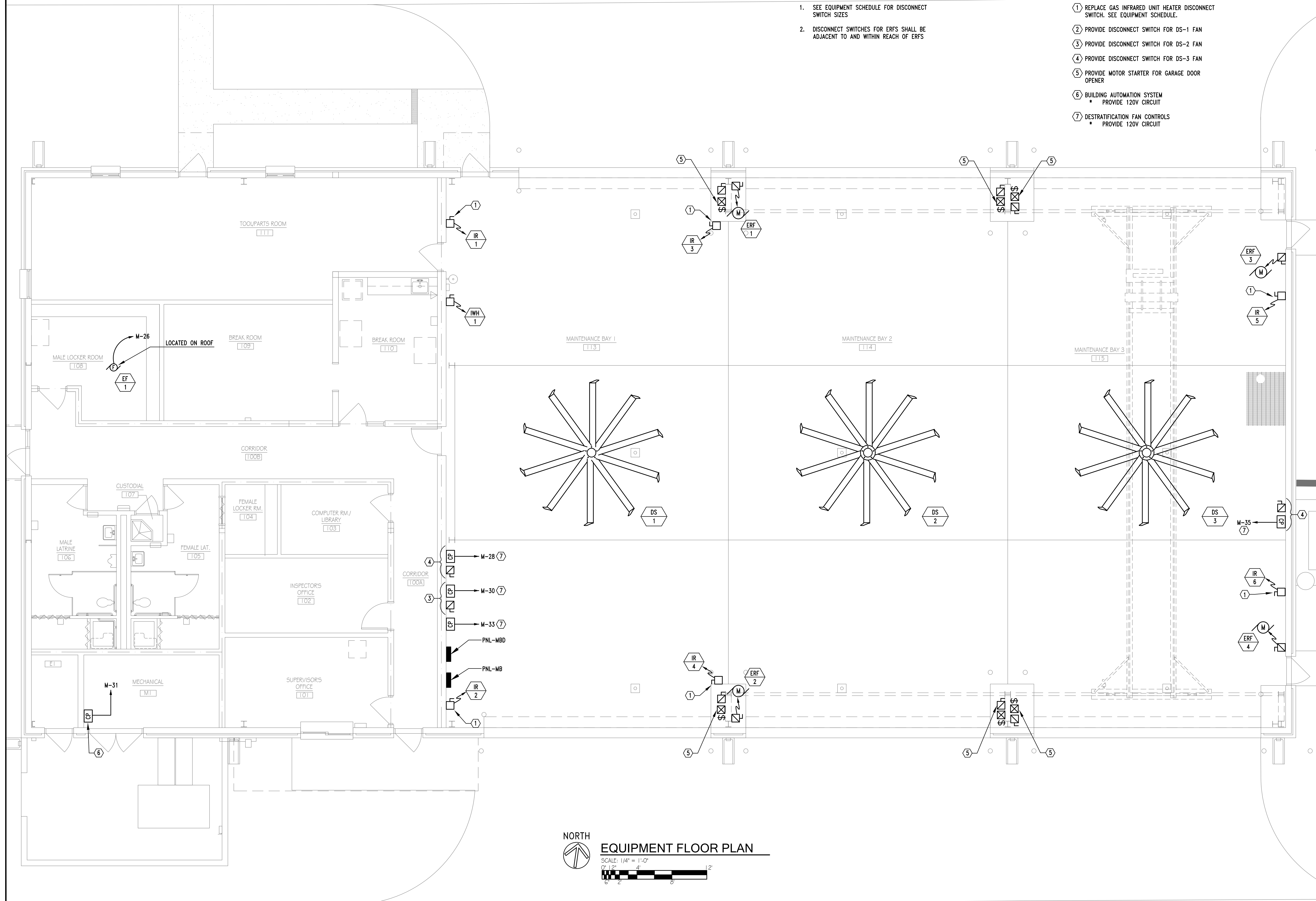
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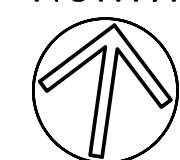
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KEYED NOTES

- ① REPLACE GAS INFRARED UNIT HEATER DISCONNECT SWITCH. SEE EQUIPMENT SCHEDULE.
- ② PROVIDE DISCONNECT SWITCH FOR DS-1 FAN
- ③ PROVIDE DISCONNECT SWITCH FOR DS-2 FAN
- ④ PROVIDE DISCONNECT SWITCH FOR DS-3 FAN
- ⑤ PROVIDE MOTOR STARTER FOR GARAGE DOOR OPENER
- ⑥ BUILDING AUTOMATION SYSTEM
 - * PROVIDE 120V CIRCUIT
- ⑦ DESTRATIFICATION FAN CONTROLS
 - * PROVIDE 120V CIRCUIT



NORTH

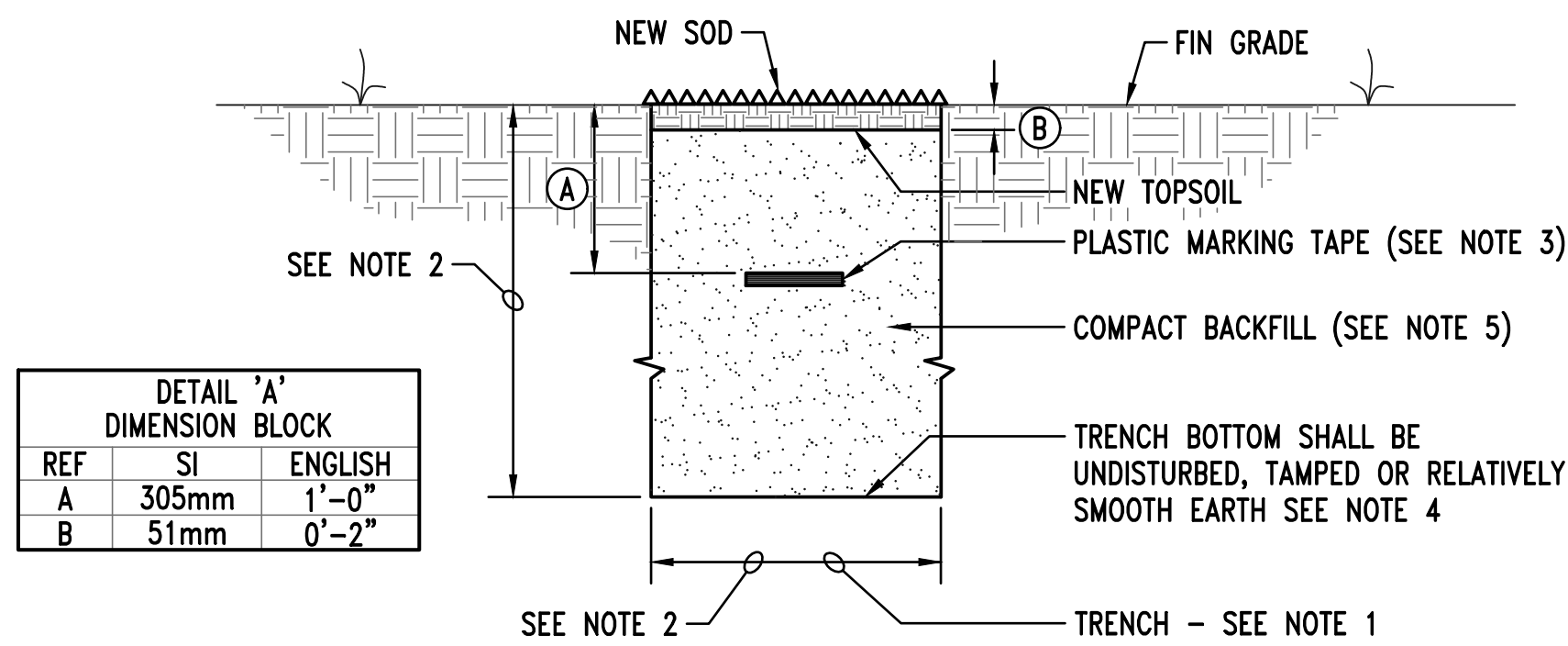


EQUIPMENT FLOOR PLAN

SCALE: $1/4" = 1'-0"$
 0' 12" 4' 8'

GENERAL UNDERGROUND UTILITY PROJECT NOTES

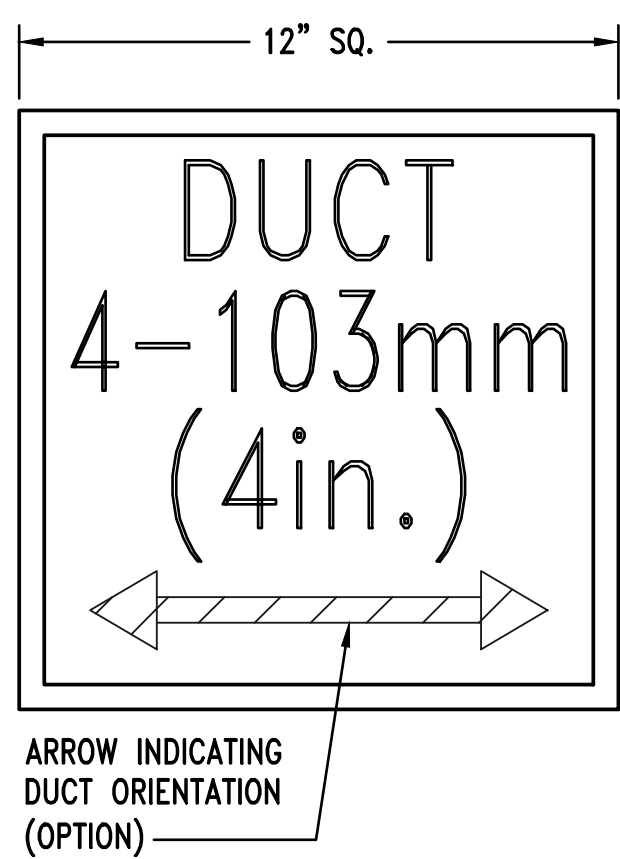
- THE UNDERGROUND UTILITY PORTION OF THIS PROJECT CONSISTS OF BUT IS NOT LIMITED TO:
 - TRENCHING/BACKFILLING FOR RACEWAY LINES AND CONDUIT SYSTEMS
 - RACEWAY BANK INSTALLATIONS
 - LOW VOLTAGE CONDUCTOR INSTALLATION
 - PATCH/REPAIR ALL DAMAGED SURFACES AS A RESULT OF TRENCHING AND RACEWAY BANK INSTALLATIONS
 - DEMOLITION AND REMOVAL AS NOTED
- INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL SAFETY CODE (NEC) AND THE NATIONAL ELECTRICAL CODE (NEC). FURNISH AND INSTALL DANGER AND WARNING SIGNS IN ACCORDANCE WITH ALL APPLICABLE CODE REQUIREMENTS INCLUDING ARC FLASH CATEGORIZED AND WARNINGS.
- ALL CONDUCTIVE PARTS OF EQUIPMENT, ENCLOSURES, SUPPORTS, FRAMES, CASES, CONDUIT SYSTEMS AND SURGE ARRESTORS, CABLE SHEATHS, CABLE SHIELDS, COMMON NEUTRALS, ETC., SHALL BE GROUNDED. UNLESS NOTED OTHERWISE CONNECTIONS BELOW GRADE SHALL BE FUSION-WELDED AND ABOVE GRADE FUSION-WELDED OR BOLTED SOLDERLESS. ALL GROUND CONDUCTORS SHALL BE COPPER AND PROTECTED FROM DAMAGE.
- ALL CLEARANCES SHALL BE MAINTAINED PER NEC AND NEC. ALL PARTS, DEVICES, EQUIPMENT, ETC. WHICH REQUIRE MAINTENANCE, ADJUSTMENT, OPERATION OR EXAMINATION DURING NORMAL NETWORK OPERATION SHALL BE ARRANGED SO AS TO BE ACCESSIBLE BY THE PROVISION OF ADEQUATE WORKING SPACES, WORKING FACILITIES AND CLEARANCES. UNLESS NOTED OTHERWISE ALL CLEARANCES ARE MEASURED FROM SURFACE TO SURFACE.
- ALL DIMENSIONS INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
- UNLESS OTHERWISE SHOWN OR DIRECTED RACEWAY LINES SHALL NOT BE LOCATED DIRECTLY UNDER STRUCTURES AND NOT DIRECTLY UNDER OR OVER OTHER SUBSURFACE STRUCTURES. WHERE RACEWAY LINES ARE REQUIRED TO CROSS OTHER UTILITIES SUCH AS SEWERS, WATER LINES, OTHER POWER LINES, COMMUNICATION LINES, ETC., ADEQUATE SUPPORT SHALL BE PROVIDED ON EACH SIDE OF THE CROSSING TO PREVENT TRANSFERRING ANY DIRECT LOAD ONTO THE OTHER LINE. RACEWAY LINES SHALL BE SO INSTALLED AS TO PREVENT HEAT TRANSFER BETWEEN ANY HEAT PRODUCING LINES AND/OR EQUIPMENT TO RACEWAY LINES.
 - ROUTING SHOWN ON DRAWINGS IS TYPICAL AND THE CONTRACTOR SHALL PROPOSE FINAL ROUTING BASED UPON ACTUAL FIELD DIMENSIONS, CONDITIONS AND EXISTING UNDERGROUND UTILITIES AND STRUCTURES.
 - PRIOR TO TRENCHING, THE CONTRACTOR SHALL STAKE OUT THE ENTIRE NEW NETWORK ARRANGEMENT. ONE GRADE A WOODEN STAKE WITH RED FLAG SHALL BE DRIVEN EVERY 15m (50'-0") AND AT EACH CHANGE OF DIRECTION. FOUR STAKES SHALL BE DRIVEN TO OUTLINE EQUIPMENT AND/OR MANHOLE LOCATIONS. ON PAVEMENTS RED PAINT SHALL BE USED TO OUTLINE THE AREAS TO BE CUT. SECURE EXISTING UNDERGROUND UTILITY INFORMATION PRIOR TO PERFORMING ANY TRENCHING. THE DATA SHALL CONTAIN UTILITY INFORMATION FROM ALL UTILITY SOURCES.
 - DEPTHS INDICATED FOR INSTALLATION ARE MINIMUM. ACTUAL DEPTHS MAY VARY DUE TO TERMINATIONS, COMPENSATIONS FOR RADIUS OF VERTICAL TRANSITIONS, EXISTING UTILITY CROSSINGS, ETC. APPROVAL SHALL BE OBTAINED FOR ANY DEPTH LESS THAN INDICATED. TRENCHES SHALL BE OVER-EXCAVATED AS NECESSARY TO ALLOW FOR PROPER TRENCH PREPARATION, RACEWAY BANK CONSTRUCTION, FORMING AND/OR BACKFILLING REQUIREMENTS.



SECTION – TYP TRENCH/BACKFILLING ON GRADE
NO SCALE

DETAIL 'A' NOTES

- TRENCH/CUT EXISTING SURFACES. BACKFILL/PATCH/REPAIR AND INSTALL NEW SOD.
- TRENCH DEPTH AND WIDTH SHALL BE AS REQUIRED FOR THE INSTALLATION OF THE RACEWAY LINE SPECIFIED. SEE APPLICABLE RACEWAY LINE SECTIONS.
- PLASTIC MARKER TAPE SHALL BE RED AND CONTAIN FOIL BACKING OR EQUIVALENT TO ENABLE DETECTION BY A METAL DETECTOR. SEE SPECIFICATIONS.
- WHERE ROCK IS PRESENT INSTALL A PROTECTIVE LAYER OR CLEAN TAMPED BACKFILL
- ALL BACKFILL SHALL BE FREE OF MATERIAL THAT MAY DAMAGE RACEWAYS. BACKFILL WITHIN 150mm(6") OF THIS RACEWAY SHOULD BE FREE OF SOLID MATERIAL GREATER THAN 100mm(4") IN MAX DIMENSIONS OR WITH SHARP EDGES. THE REMAINDER OF BACKFILL SHOULD BE FREE OF SOLID MATERIAL GREATER THAN 200mm(8") IN MAX DIMENSIONS.

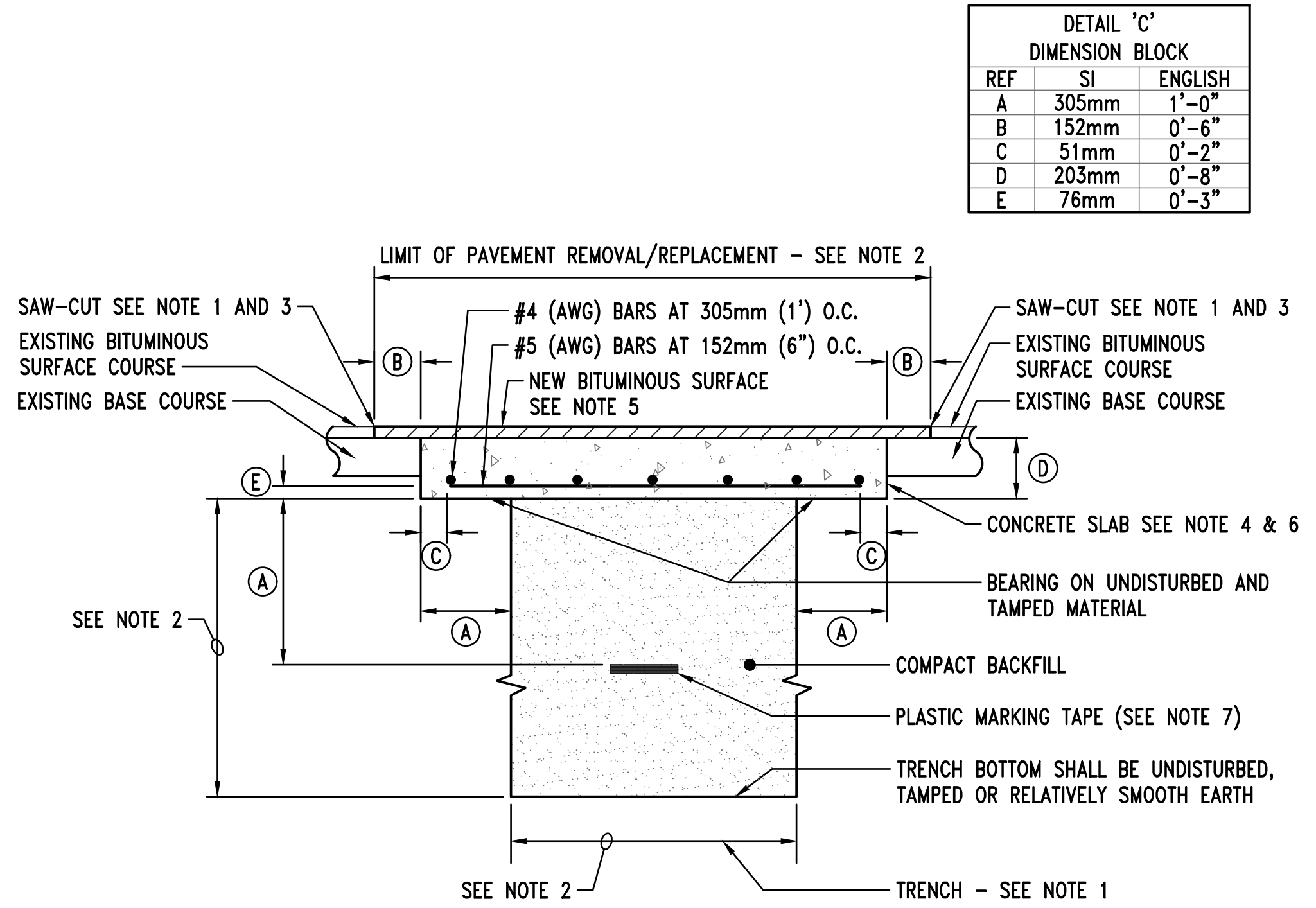


DUCT MARKER

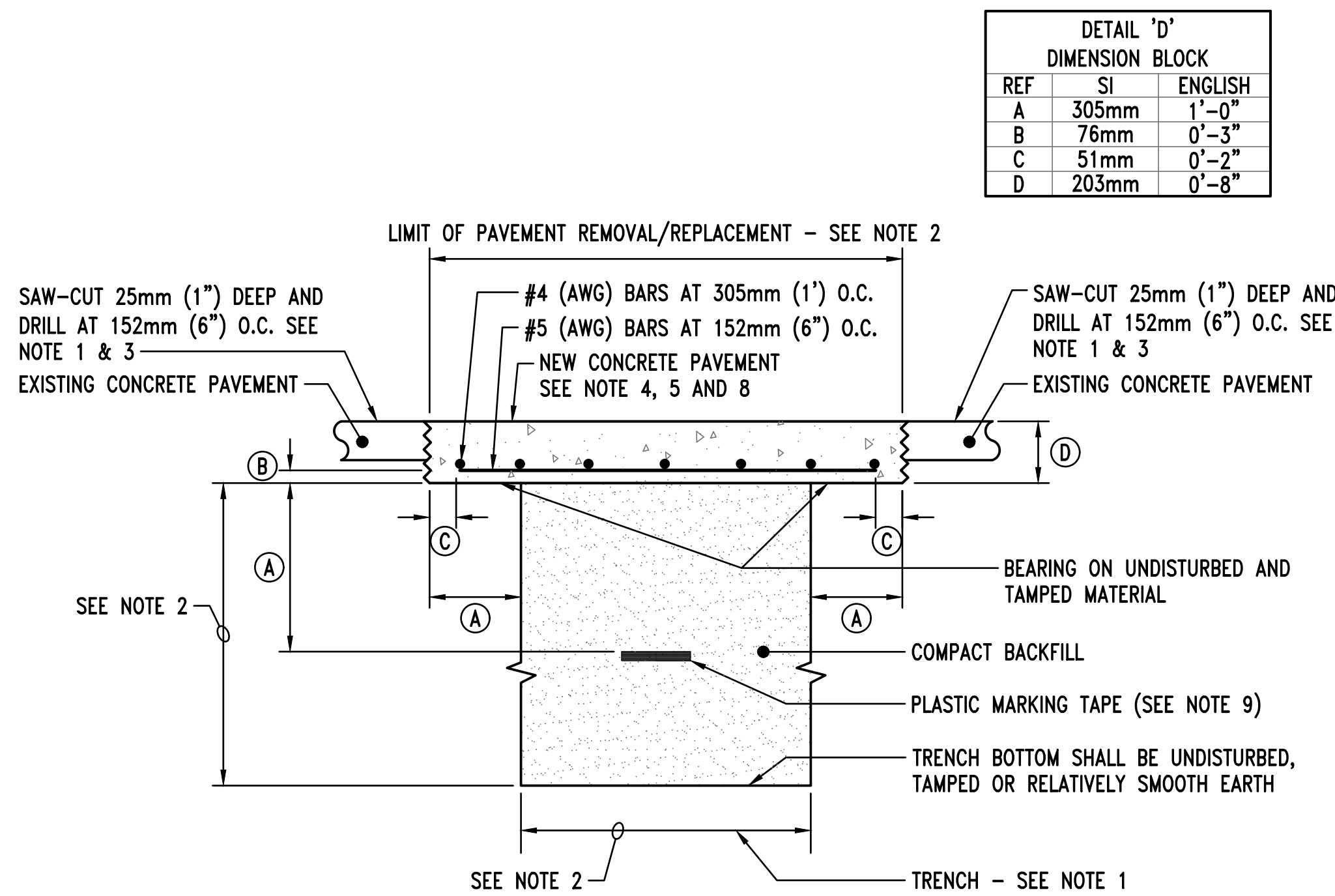
DETAIL – DUCT MARKERS
NO SCALE

DETAIL 'B' NOTES

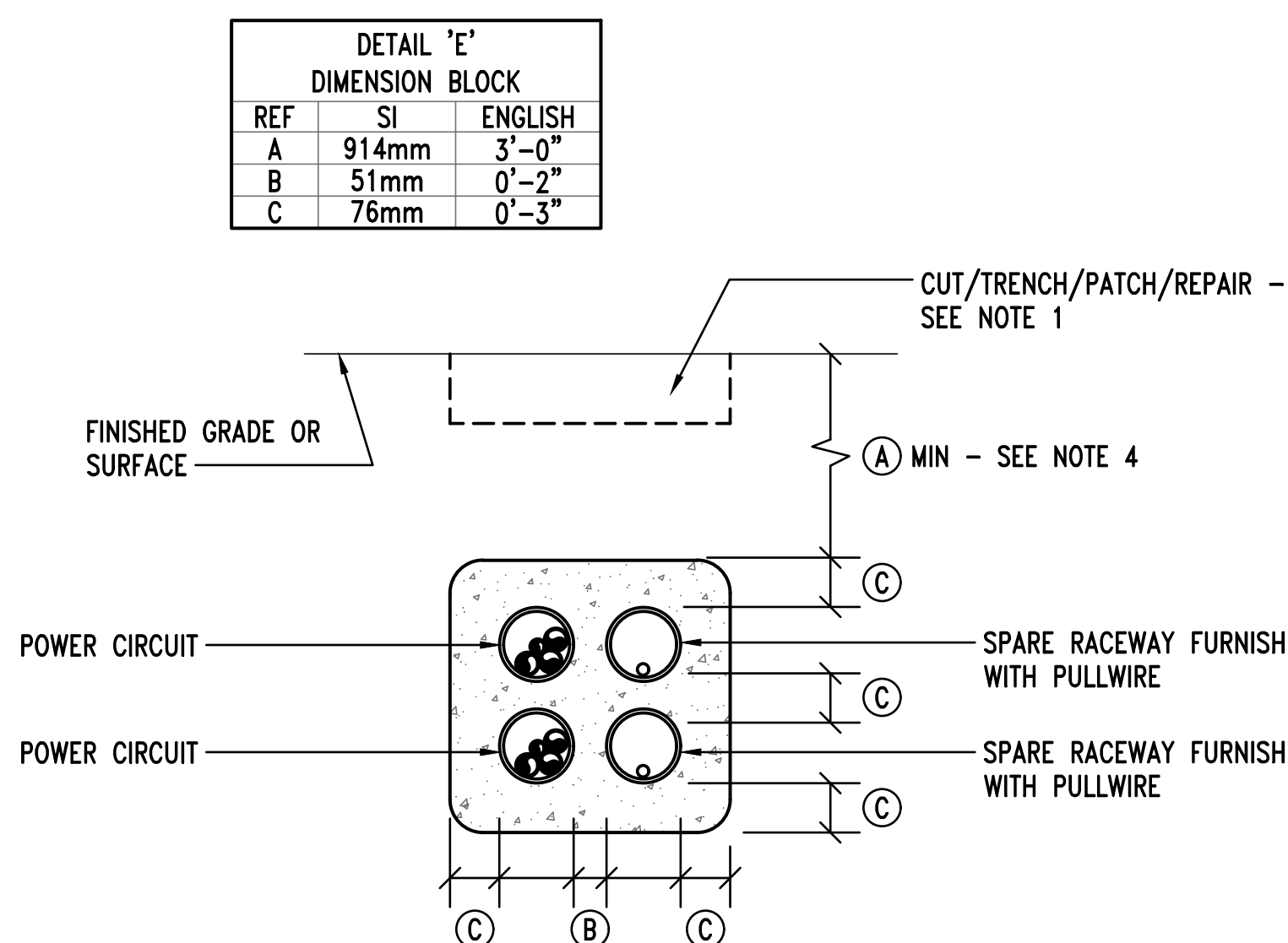
- HAND LETTERING NOT ALLOWED ON MARKERS. LETTERING IS TO BE BOLDLY IMPRESSED. LINE WIDTH AND DEPTH SHALL BE 12.7mm(1/2") MINIMUM.
- ARROW ON CABLE MARKER TO INDICATE DIRECTION OF CABLES (WHERE APPLICABLE).
- DUCT MARKER SHALL INDICATE NUMBER AND SIZE OF DUCTS INSTALLED IN DUCT BANK. (4-103mm(4in.) SHOWN FOR EXAMPLE)
- ALL MARKERS SHALL BE CONCRETE WITH A MINIMUM OF 103mm(4") IN THICKNESS.



SECTION – TYP TRENCH/BACKFILLING/REPAIR FLEXIBLE PAVEMENT
NO SCALE



SECTION – TYP TRENCH/BACKFILLING/REPAIR RIGID PAVEMENT
NO SCALE



SECTION – CONCRETE ENCASED RACEWAY LINE (2-WAY)
NO SCALE

DETAIL 'C' NOTES

- TRENCH/CUT EXISTING SURFACES. BACKFILL/PATCH/REPAIR ALL SURFACES AS SHOWN.
- TRENCH DEPTH AND WIDTH SHALL BE AS REQUIRED FOR THE INSTALLATION OF THE RACEWAY LINE SPECIFIED. SEE APPLICABLE RACEWAY LINE SECTION.
- PAVEMENT REMOVAL SHALL BE COMPLETE FROM THE SITE AND EXTEND BEYOND THE TRENCH WIDTH AS INDICATED.
- CONCRETE SHALL BE CLASS A.
- MATCH THICKNESS OF EXISTING BITUMINOUS SURFACE, OR 38mm (1.5") MINIMUM, WHICHEVER IS GREATER.
- REINFORCING BARS SHALL MEET ASTM A615, A616 OR A617, GRADE 40. REINFORCING BARS SHALL BE INSTALLED THE CONTINUOUS LENGTH OF CONCRETE SLAB.
- PLASTIC MARKER TAPE SHALL BE RED AND CONTAIN FOIL BACKING OR EQUIVALENT TO ENABLE DETECTION BY A METAL DETECTOR. SEE SPECIFICATIONS.

DETAIL 'D' NOTES

- TRENCH/CUT EXISTING SURFACES. BACKFILL/PATCH/REPAIR ALL SURFACES AS SHOWN.
- TRENCH DEPTH AND WIDTH SHALL BE AS REQUIRED FOR THE INSTALLATION OF THE RACEWAY LINE SPECIFIED. SEE APPLICABLE RACEWAY LINE SECTION.
- PAVEMENT REMOVAL SHALL BE COMPLETE FROM THE SITE AND EXTEND BEYOND THE TRENCH WIDTH AS INDICATED.
- CONCRETE SHALL BE CLASS A.
- MATCH THICKNESS OF EXISTING CONCRETE PAVEMENT 8" (20.32cm) MIN.
- LEAVE DRILLED FACE OF EXISTING PAVEMENT IRREGULAR TO INSURE KEY TO NEW CONCRETE PAVEMENT.
- ALL EXISTING JOINTS TO BE RE-ESTABLISHED.
- REINFORCING BARS SHALL MEET ASTM A615, A616 OR A617, GRADE 40. REINFORCING BARS SHALL BE INSTALLED THE CONTINUOUS LENGTH OF CONCRETE PAVEMENT.
- PLASTIC MARKER TAPE SHALL BE RED AND CONTAIN FOIL BACKING OR EQUIVALENT TO ENABLE DETECTION BY A METAL DETECTOR. SEE SPECIFICATIONS.

DETAIL 'E' NOTES

- COORDINATE WITH APPLICABLE TRENCH/BACKFILL SECTIONS THIS SHEET.
- CONCRETE SHALL BE CLASS B.
- RACEWAY SYSTEM SHALL BE NON-METALLIC FOR ALL HORIZONTAL RUNS. ALL VERTICAL CHANGES IN DIRECTION SHALL BE MADE WITH A LONG SWEEP TREATED GRC (CONDUIT SYSTEM) ELBOW. ALL VERTICAL RISER SECTIONS SHALL BE TREATED GRC BELOW GRADE. PROVIDE PVC TO GRC ADAPTORS AS APPLICABLE.
- DEPTH OF INSTALLATION MAY BE INCREASED DUE TO RACEWAY CONNECTION REQUIREMENTS AT MANHOLES, UTILITY CROSSINGS, AND/OR VERTICAL TRANSITION DUE TO RADIUS OF ELBOWS.

GENERAL UNDERGROUND TERMINOLOGY AND DEFINITIONS

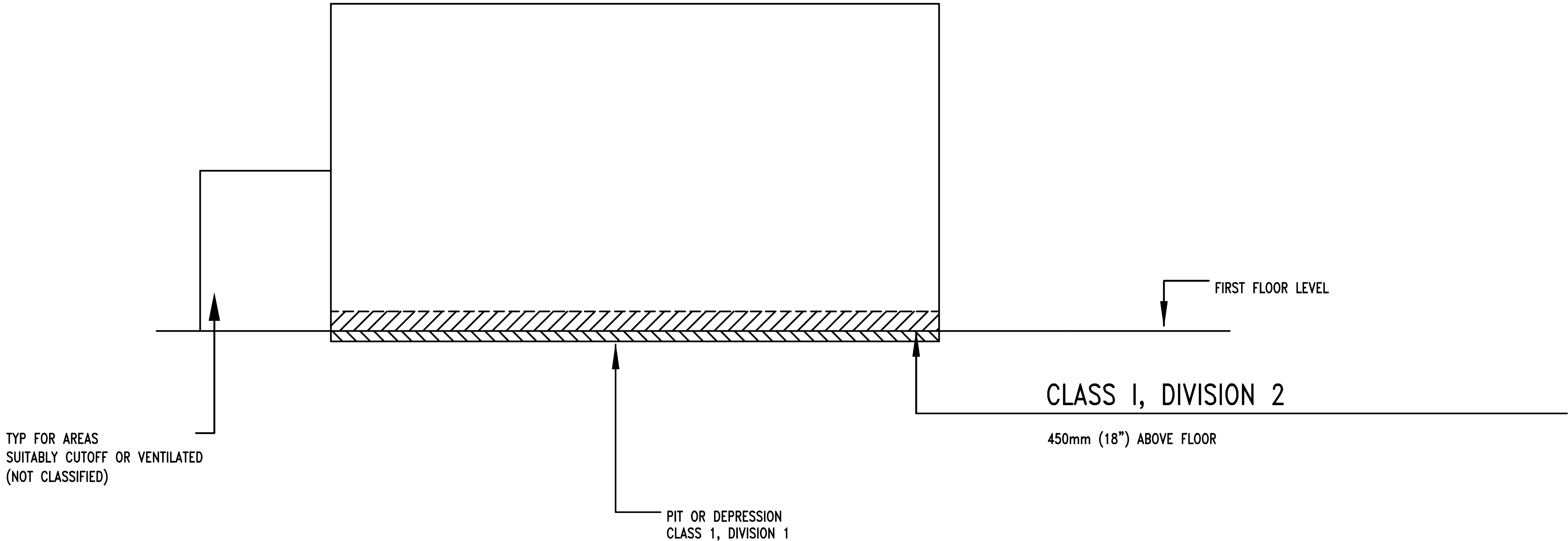
BIL:	BASIC IMPULSE LEVEL
CONCRETE PAD:	REINFORCED CONCRETE PAD DESIGNED FOR SPECIFIC EQUIPMENT
SUBMERSIBLE:	DESIGNED FOR SUBSURFACE PLACEMENT AND OPERATION
PAD MOUNTED:	DESIGNED FOR SURFACE PLACEMENT AND OPERATION
URD:	UNDERGROUND RESIDENTIAL DISTRIBUTION
HDPE:	HIGH-DENSITY POLYETHYLENE
PVC:	POLYVINYL CHLORIDE

UNDERGROUND UTILITY TRENCHING AND BACKFILL REQUIREMENTS

- ALL UNDERGROUND UTILITY TRENCHES SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING GUIDES:
 - CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
 - ALL DAMAGE TO EXISTING UTILITIES, CIRCUITS, STRUCTURES, ETC. SHALL BE REPAIRED AND/OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- DURING UNDERGROUND UTILITY WORK, CONSIDERATION SHALL BE GIVEN AND SOLUTIONS PROVIDED FOR THE FOLLOWING:
 - EARTH EXCAVATION AND POTENTIAL EROSION. PROVIDE EROSION BARRIERS AS REQUIRED.
 - EARTH AND VEGETATION DAMAGE FROM HEAVY EQUIPMENT.
 - CAREFUL AND SPECIFICALLY PLANNED ROUTING TO MINIMIZE EXCAVATION EXTENT AND DAMAGE TO OTHER UTILITIES AND ENVIRONMENTAL IMPACT.
 - POTENTIAL EXCAVATION DAMAGE TO VEGETATION AND/OR ROOTS.
 - HAND TRENCHES SHALL BE USED FOR HEAVY VEGETATION AND UTILITY CONGESTED AREAS, TO MINIMIZE POSSIBLE DAMAGE TO THE ENVIRONMENT, UTILITIES, EQUIPMENT AND SYSTEMS.
- CONTRACTOR SHALL BE REQUIRED TO SECURE GROUND PENETRATING RADAR(GPR) SERVICES AS NEEDED TO PROPERLY LOCATE AND IDENTIFY EXISTING UNDERGROUND UTILITIES, CIRCUITS, STRUCTURES, ETC. PRIOR TO TRENCHING AND/OR DIRECTIONAL BORING.
- ALL UNDERGROUND UTILITY WORK SHALL BE LOCATED IN A CONVENIENT ACCESSIBLE LOCATION AT AN APPROVED EASEMENT LOCATION.
- THE GEOTECHNICAL TESTING SHALL BE IN ACCORDANCE WITH ASTM D698. THE BOTTOM OF ALL EXCAVATIONS TO ACHIEVE 85% TO 95% OF MAXIMUM DRY DENSITY, PRIOR TO CONCRETE PLACEMENT.

HAZARDOUS (CLASSIFIED) LOCATIONS INSTALLATION NOTES

1. LOCATIONS INDICATED SHALL BE CLASSIFIED DEPENDING ON THE PROPERTIES OF THE FLAMMABLE VAPORS, LIQUIDS OR GASES PRESENT. ALL ELECTRICAL AND ELECTRONIC EQUIPMENT AND DEVICES SHALL BE UL LISTED FOR INSTALLATION IN THE CLASSIFICATION INDICATED AND INSTALLED WITH THE PROPER WIRING SYSTEMS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), ARTICLES 500 THROUGH 505.
2. ALL EQUIPMENT AND DEVICES SHALL BE UL APPROVED FOR THE PROPER CLASS, DIVISION AND GROUP CLASSIFICATION AND INSTALLED IN ACCORDANCE WITH IT'S LISTED USE.

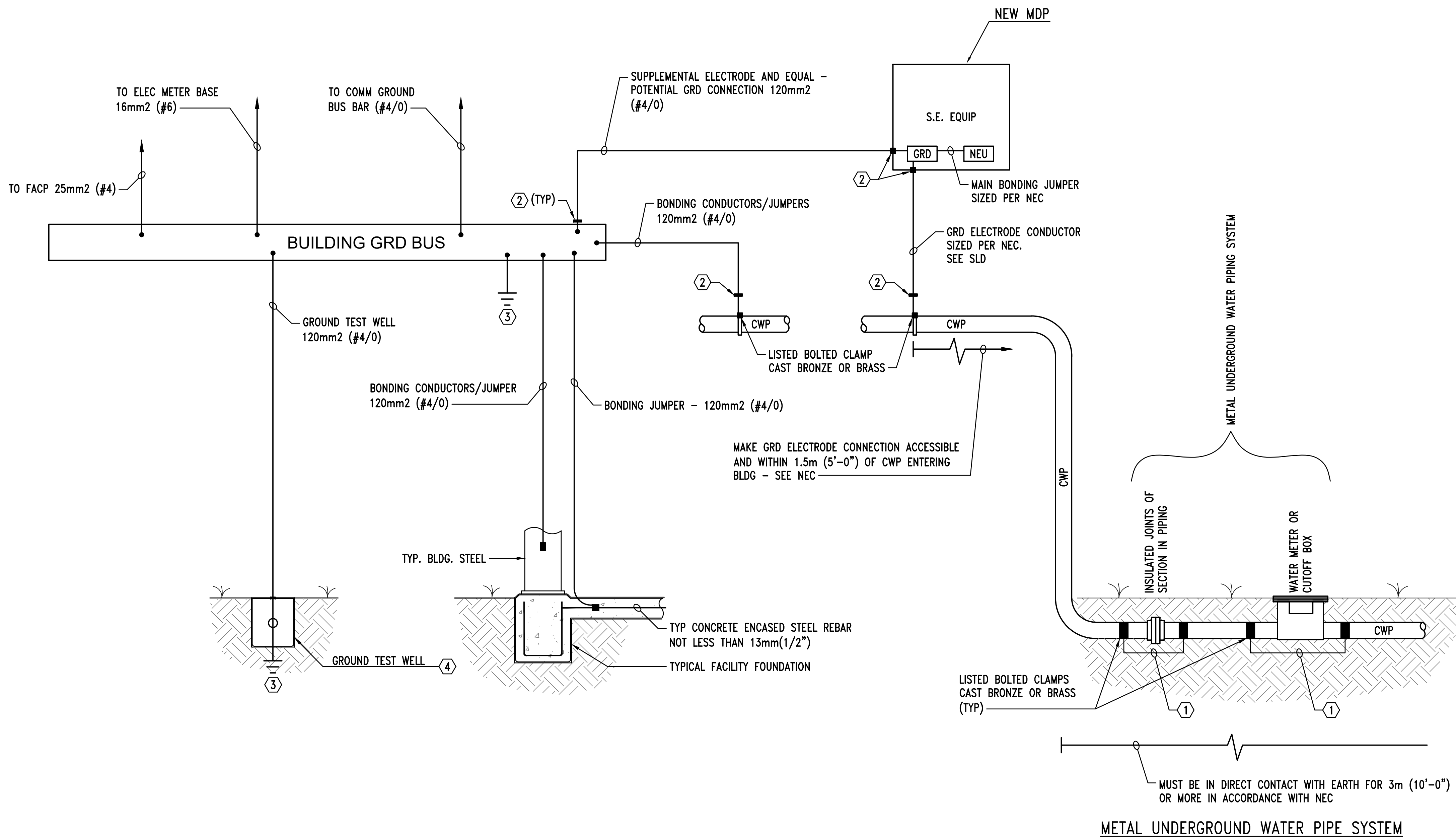


- NOTES:
1. THIS DIAGRAM IS TYPICAL PER THE NEC REQUIREMENTS
2. IN GENERAL RUN CONDUIT OVERHEAD AWAY FROM HAZ AREAS AND INSTALL ALL DEVICES ABOVE THE 450mm (18") CLASSIFICATION.

A

E-501

DETAIL – HAZARDOUS CLASSIFICATIONS – VEHICLE MAINTENANCE FACILITY
NO SCALE



SHEET NOTES

1. ALL GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH THE NEC, NESC, IEEE, ANSI AND UL STANDARDS.
2. ALL DIMENSIONING INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
3. THE PURPOSE OF THE GROUNDING AND BONDING SYSTEM IS TO ESTABLISH ALL EQUIPMENT ENCLOSURES, NON-CURRENT CARRYING METALLIC PORTIONS OF THE ELECTRICAL DISTRIBUTION SYSTEM, METAL PIPING, METAL BUILDING FRAME, ETC., AT A ZERO POTENTIAL RELATIVE TO THE EARTH GROUND AND PROVIDE FOR A SAFE, LOW IMPEDANCE RETURN PATH FOR GROUND-FAULT CURRENT. THIS SHALL BE ACCOMPLISHED IN THE FOLLOWING MANNER:
 - a. PROVIDE A SOLIDLY GROUND SECONDARY SYSTEM.
 - b. INTER-CONNECT ALL GROUND BUSES AND POINTS IN THE SYSTEM WITH A COPPER GRD CONDUCTOR (BUS) SYSTEM.
 - c. ALL METALLIC RACEWAYS SHALL BE UL APPROVED AND MADE-UP TIGHT AT ALL COUPLINGS AND TERMINATIONS.
 - d. ALL GROUND CONDUCTORS IN CIRCUITS SHALL BE CONTAINED WITHIN THE SAME RACEWAY AS CURRENT CARRYING CONDUCTORS.
 - e. ALL SPLICES AND TERMINATIONS SHALL BE MADE TIGHT AND AS SUCH TO PROVIDE LOW IMPEDANCE AND SHALL HAVE THE SAME SHORT-TIME CURRENT-CARRYING CAPABILITY AS THE CONDUCTOR IT IS CONNECTED TO.
 - f. ALL GRD ELECTRODES OR BONDING CONDUCTORS INSTALLED ALONE WITHIN A RACEWAY SHALL UTILIZE GRC WITH GROUNDING BUSHINGS AT EACH END. THIS GROUND CONDUCTOR SHALL LOOP THROUGH THE BUSHING LUG PRIOR TO TERMINATION. INSTALL GROUNDING JUMPERS TO GROUND BUS AS APPLICABLE.
4. ALL GRD CONDUCTORS SHALL BE CONTINUOUS AND UNBROKEN FROM EACH LOCATION INDICATED. INSTALL IN GRC WITH GRD BUSH ON EACH END.
5. GRD ELECTRODE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NEC.
6. MADE AND OTHER GRD SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH NEC.
7. ALL EQUIP NOT SUPPLIED WITH A GRD LUG SHALL BE PROVIDED WITH A LUG SIZED FOR THE GRD CONNECTION INDICATED AND PROVIDED WITH A TAP CONNECTION TO BOND EQUIP ENCLOSURE.
8. GROUNDING CONNECTIONS SHALL BE UL LISTED AND AS FOLLOWS:
BELOW GRADE: EXOTHERMIC WELDING
ABOVE GRADE: EXOTHERMIC WELDING, PRESSURE CONNECTORS
GRD RODS (ABOVE/BELOW GRADE): EXOTHERMIC WELDING
GRD BUS: PRESSURE CONNECTORS
EQUIP AND DEVICES: MECHANICAL LUG
9. IN ADDITION TO THE BONDING PROVISIONS INDICATED IN THIS DETAIL PROVIDE A BONDING JUMPER FROM CWP TO HWP CONNECTIONS AT EACH WATER HEATER, BOILER, ETC., TO CONTINUE EQUAL-POTENTIAL GROUNDING AROUND EQUIPMENT.

KEYED NOTES

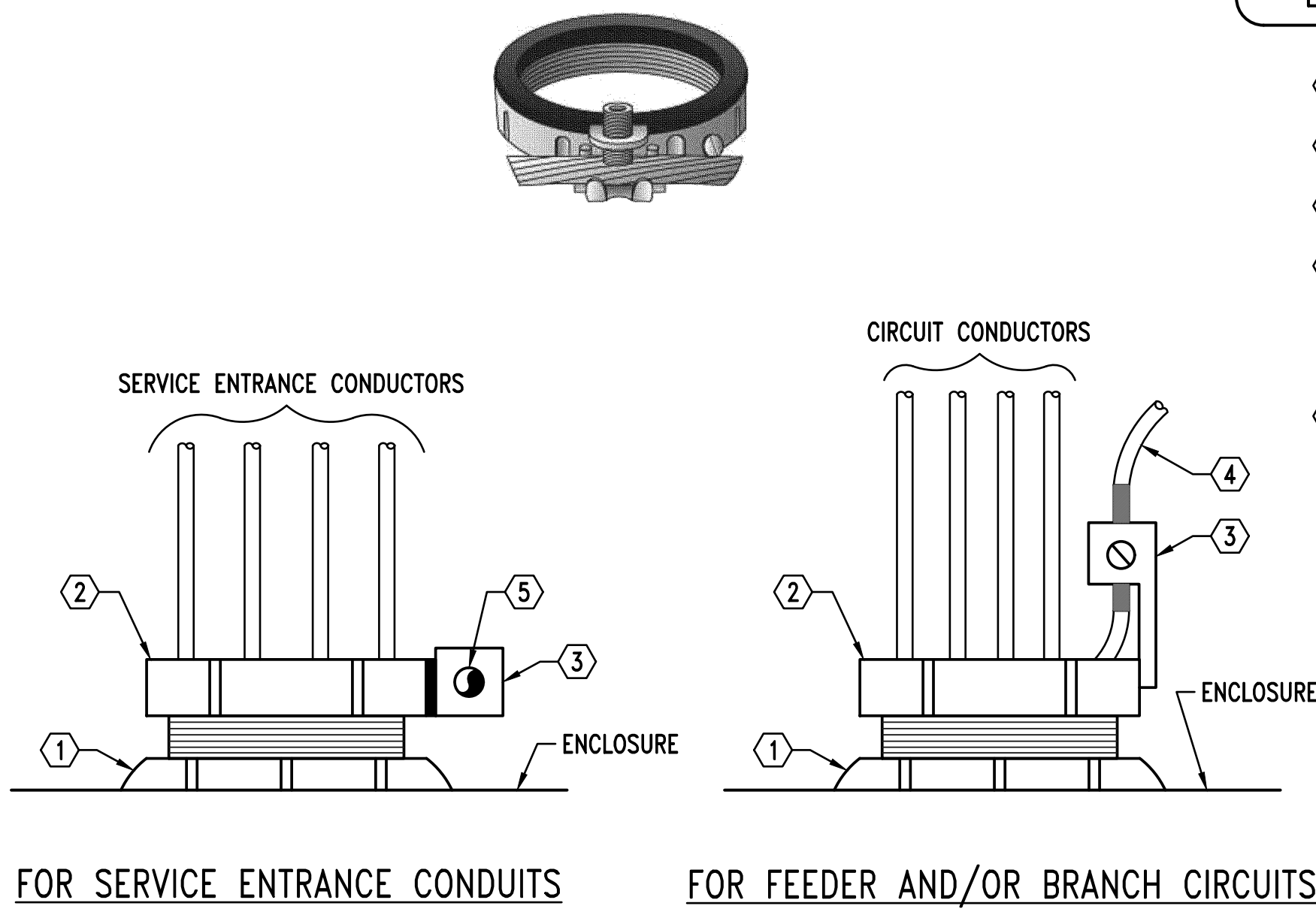
- ① FOR BONDING JUMPERS AROUND WATER METERS, INSULATED JOINTS, EQUIP, ETC. ASSOCIATED WITH THE GROUND ELECTRODE THE FOLLOWING APPLIES:
LENGTH: AS REQ TO PERMIT REMOVAL OF DEVICE WHILE RETAINING GROUNDING INTEGRITY. SEE NEC REQUIREMENTS.
SIZE: SAME AS GRD ELECTRODE CONDUCTOR. SEE SLD.
- ② INSTALL GROUND BUSHINGS. GRD CONDUCTOR SHALL CONNECT TO BUSHING AS IT EXITS CONDUIT SYSTEMS. PROVIDE JUMPERS TO GRD BUS AS APPLICABLE.
- ③ (3) 20' DRIVEN GROUND ROD IN DELTA CONFIGURATION. (SEE SHEET E902)
- ④ GROUND TEST WELL. SEE DETAIL E504.

SHEET NOTES

- SEE SHEET NOTES ON E502.
- DIMENSIONS INDICATED ON THIS SHEET ARE TYPICAL. PROVIDE MANUFACTURER'S STANDARD.

DETAIL KEYED NOTES

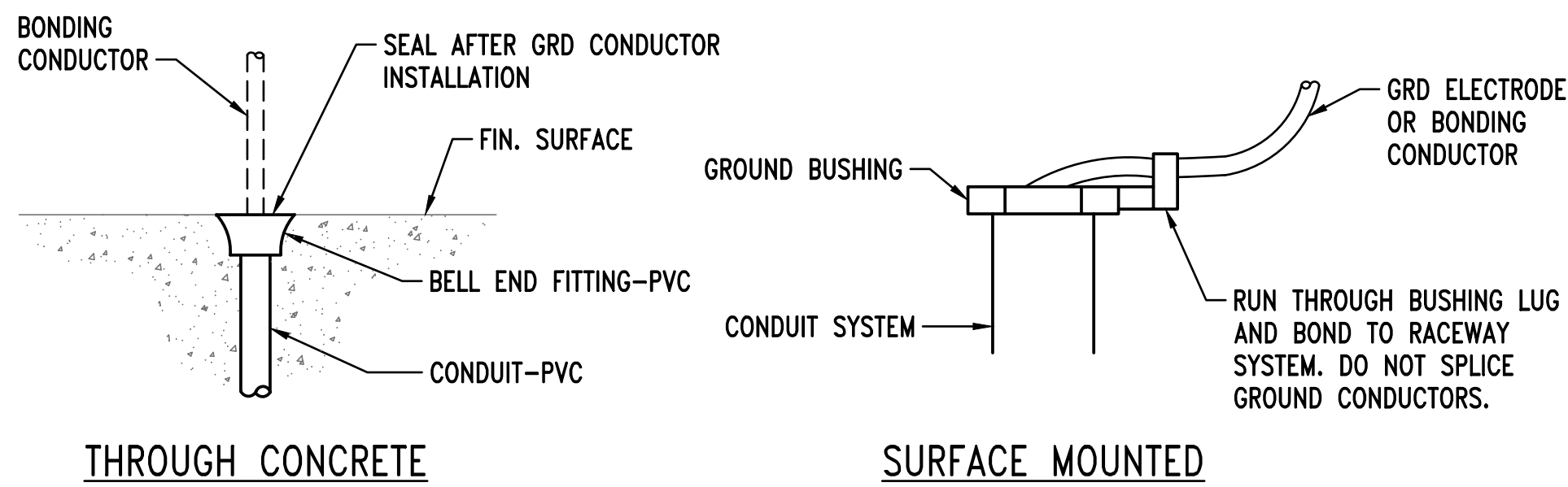
- LOCK-NUT ASSEMBLIES
- METAL GROUNDING BUSHING
- COPPER GROUND LUG
- COPPER GROUND CONDUCTOR. REMOVE INSULATION AT BUSHING, RUN THROUGH BUSHING LUG AND BOND TO RACEWAY SYSTEM. DO NOT SPLICE OR TAP.
- CONTINUOUS COPPER GROUND CONDUCTOR FROM GROUND BUS THROUGH EACH BUSHING. DO NOT SPLICE OR TAP.



DETAIL – TYPICAL GROUND BUSHING INSTALLATION
NO SCALE

DETAIL NOTES

- ALL GROUND ELECTRODE CONDUCTORS, SYSTEM BONDING CONDUCTORS, ETC., RUN SEPARATELY SHALL BE PROTECTED BY A CONDUIT SYSTEM.
- ALL SYSTEM GROUNDING OR BONDING CONDUCTORS SHALL GENERALLY BE ENCLOSED BY A RMC CONDUIT. PROVIDE GROUND BUSHINGS ON EACH END AND BOND CONDUCTORS TO RACEWAY SYSTEM.
- SYSTEM BONDING CONDUCTORS THAT PENETRATE CONCRETE SLABS SHALL BE ENCLOSED BY A PVC CONDUIT. PROVIDE BELL END FITTING ON EACH END AND SEAL. THOSE TERMINATING AT A STUB-UP SHALL BE FLUSH WITH FLOOR.

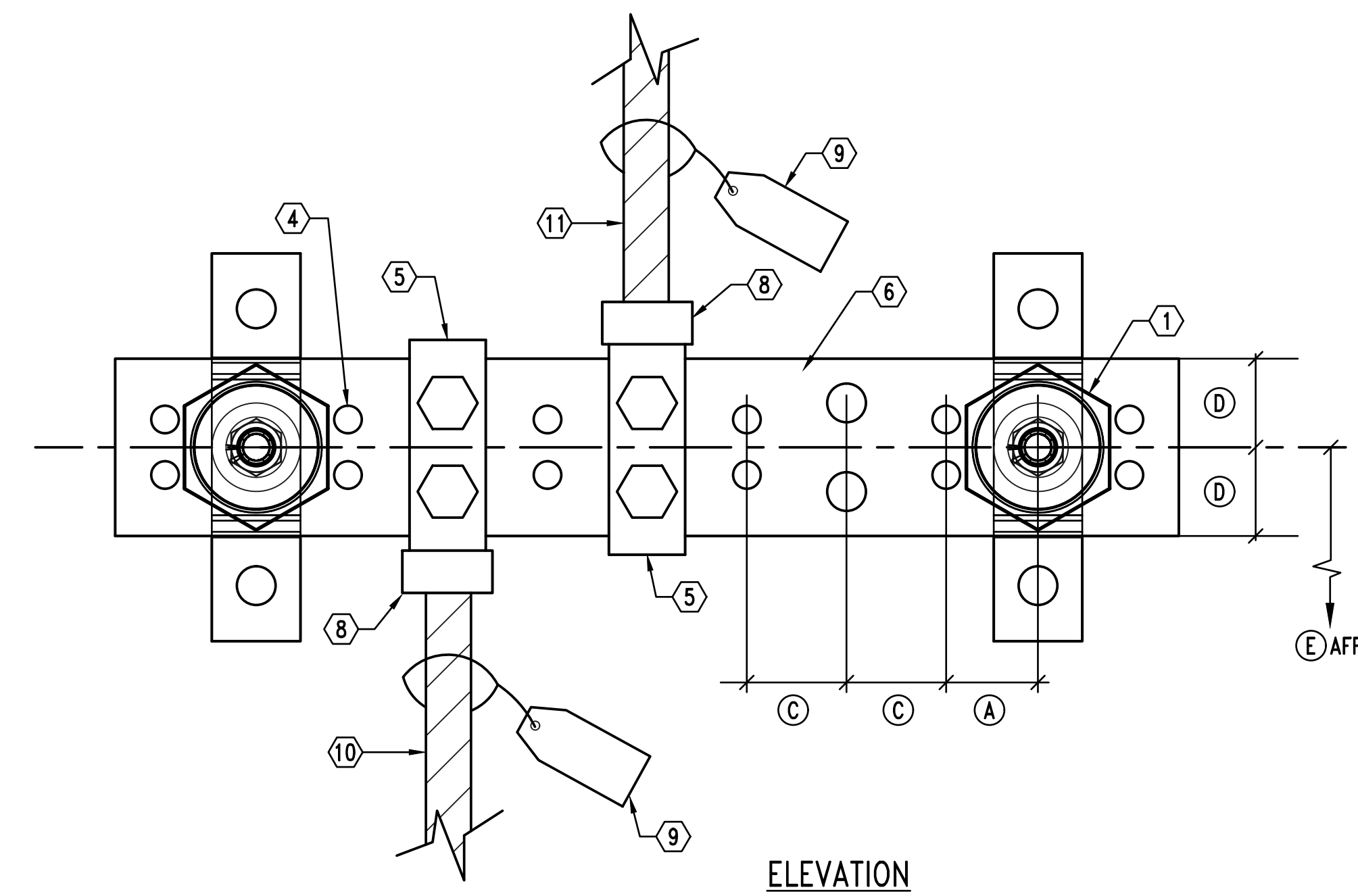
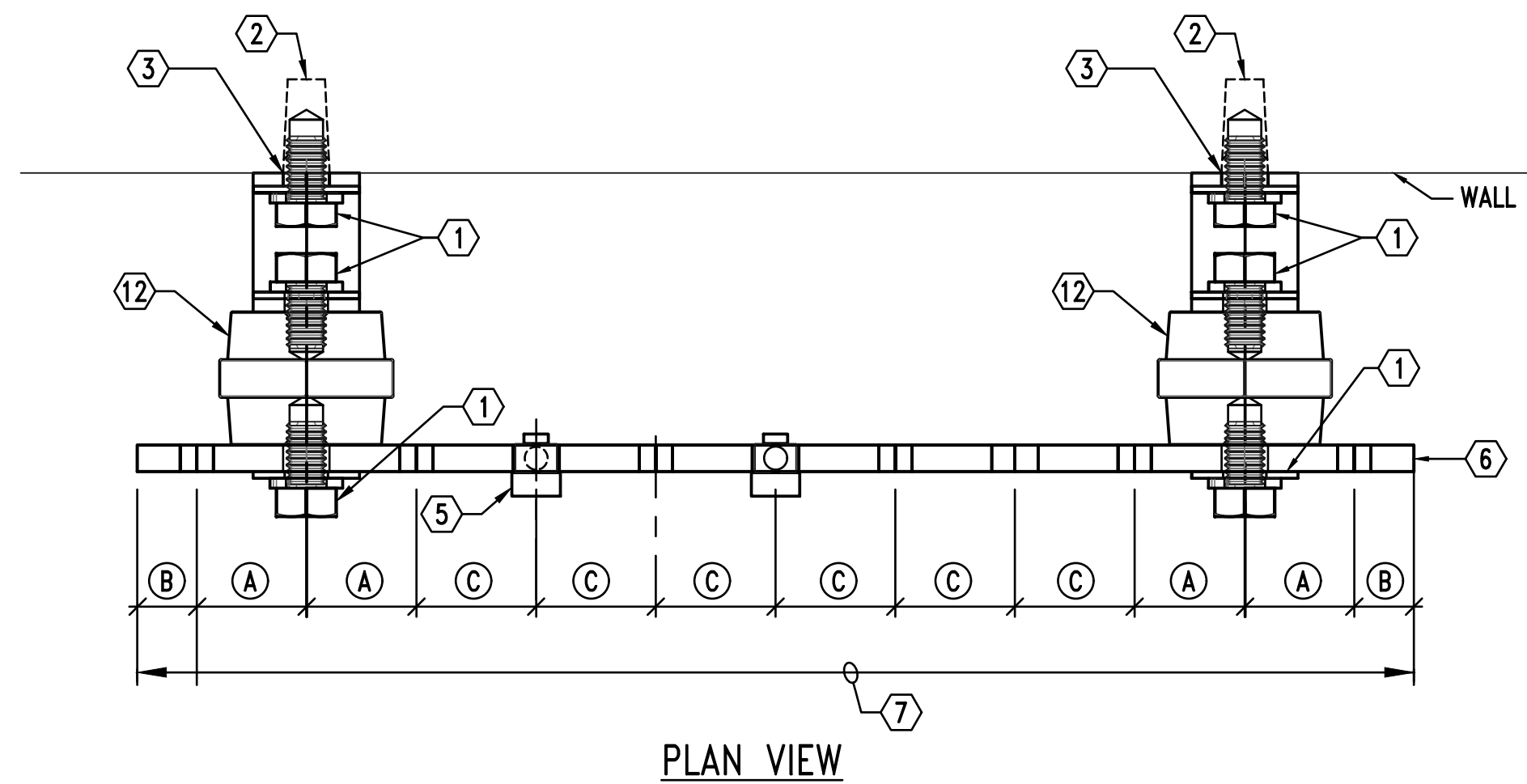


DETAIL – TYPICAL GROUND CONDUCTOR IN CONDUIT SYSTEM
NO SCALE

DIMENSION BLOCK		
REF	SI	ENGLISH
A	26.3mm	1-1/16"
B	14.22mm	9/16"
C	28.58mm	1-1/8"
D	25.4mm	1"
E	457mm	1'-6"

GROUND BUS NOTES

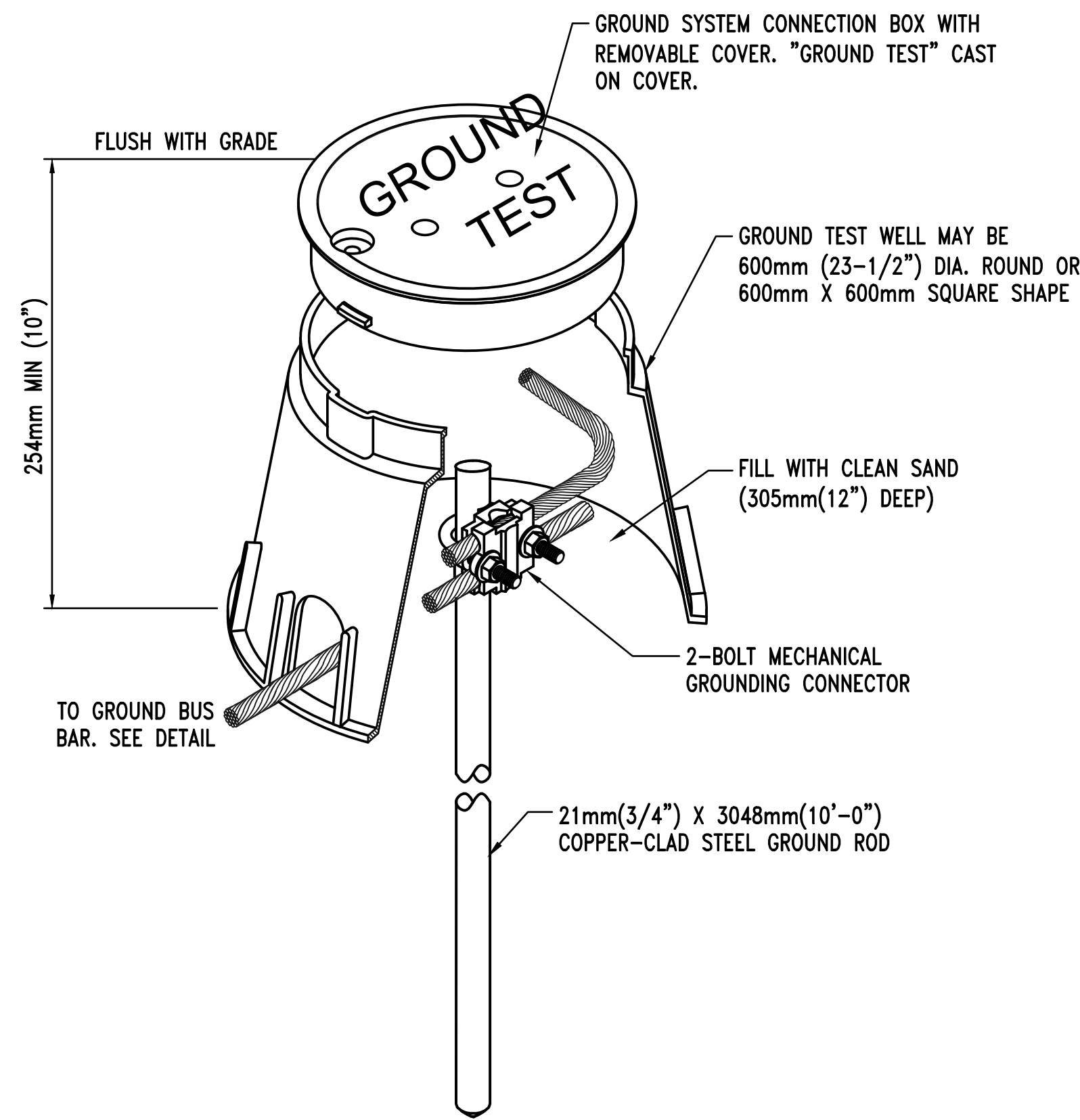
- GROUND BUS INSTALLATION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND AS INDICATED ON THE DRAWINGS.



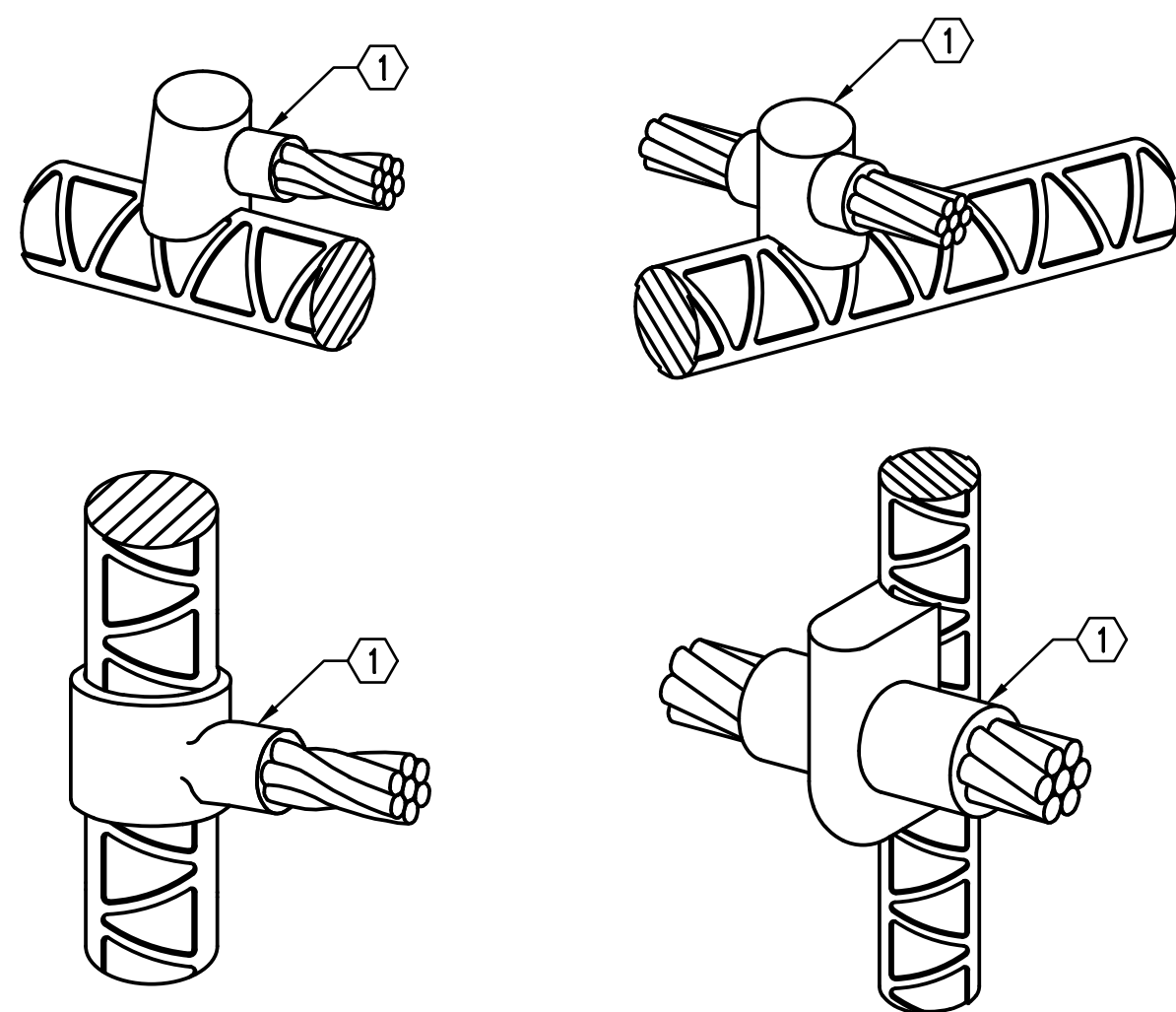
DETAIL – TYPICAL GROUND BUS PROVISIONS
NO SCALE

DETAIL KEYED NOTES

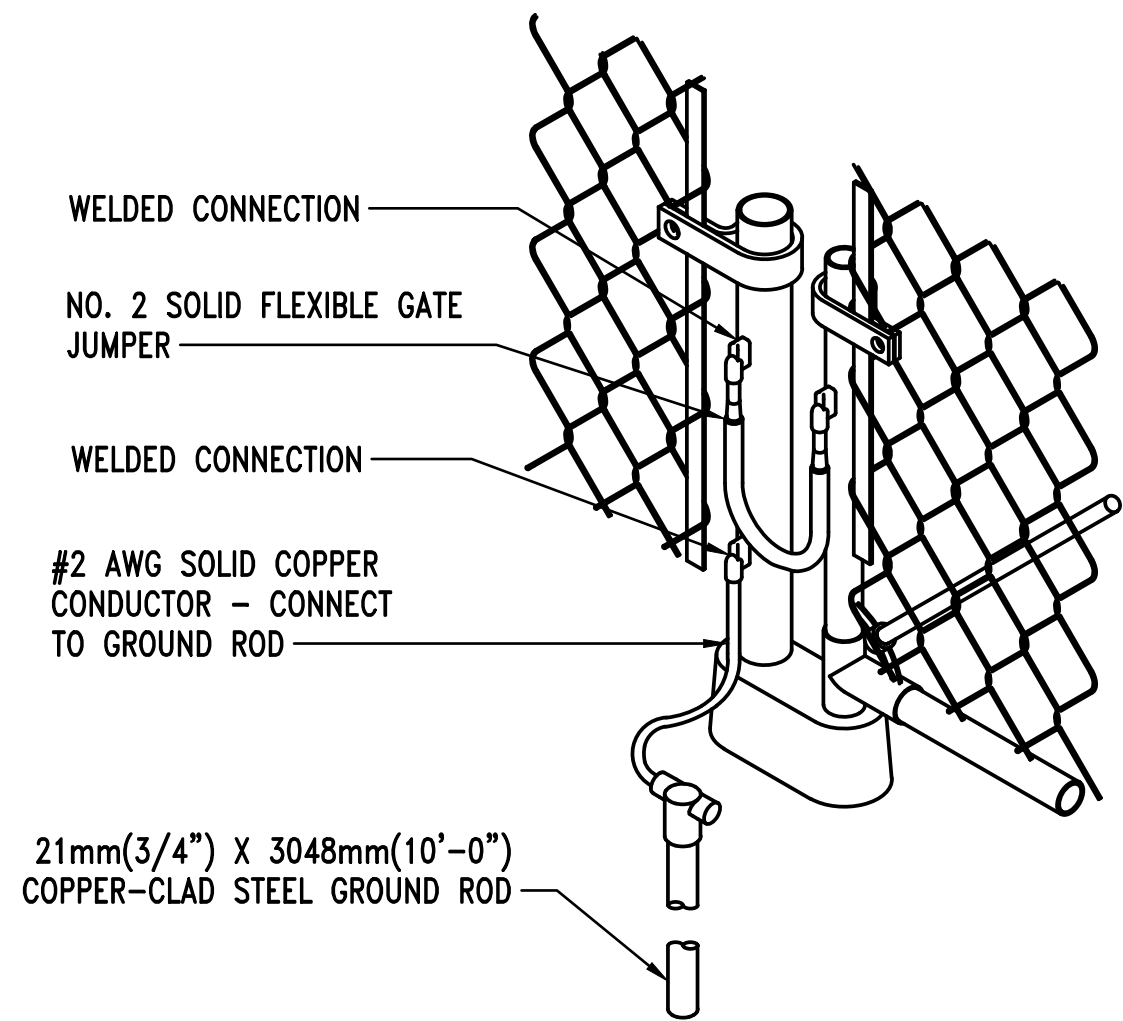
- 9.52mm (3/8") X 38.1mm (1 1/2") SILICON-BRONZE MACHINE BOLT & SILICON-BRONZE WASHER
- 9.52mm (3/8") EXPANSION ANCHOR
- 14.29mm (9/16"Ø) HOLE IN BAR SUPPORT
- DRILLED DOUBLE CONNECTOR HOLES
- FLAT, TWO-HOLE CU CABLE CONNECTOR
#6 TO #2 (DOUBLE LUGS)
#1 TO #4/0 (SINGLE LUGS ONLY)
- 50.8mm (2") WIDE, 6.35mm (1/4") DEEP COPPER BUS BAR.
- LENGTH AS REQUIRED BY NUMBER OF CONDUCTOR CONNECTIONS OR AS SPECIFICALLY INDICATED ON DRAWINGS. PROVIDE INTERMEDIATE WALL SUPPORTS AS REQUIRED. SUPPORT 609.6mm (24") ON CENTER (MAX).
- TYP CU GRD CONDUCTOR CONNECTION
- DESCRIPTION TAG, STATE SIZE OF CONDUCTOR AND TO WHAT IT IS CONNECTED TO.
- TYP GRD CONNECTION FROM BELOW. SEE APPLICABLE DETAILS FOR SLAB PENETRATIONS.
- TYP GRD CONNECTION FROM ABOVE. SEE APPLICABLE DETAILS FOR RMC INSTALLATIONS.
- INSULATED NON-CONDUCTIVE STANDOFF(S).



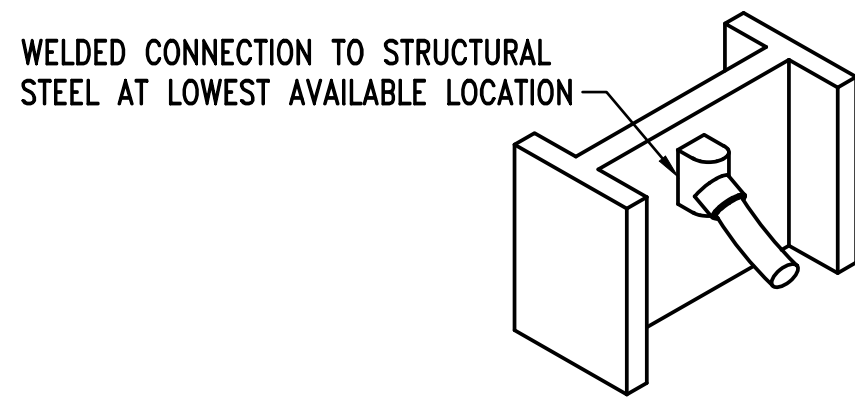
INSPECTION HANDHOLE/GROUND WELL SYSTEM
TEST AND SPLICE POINT DETAIL



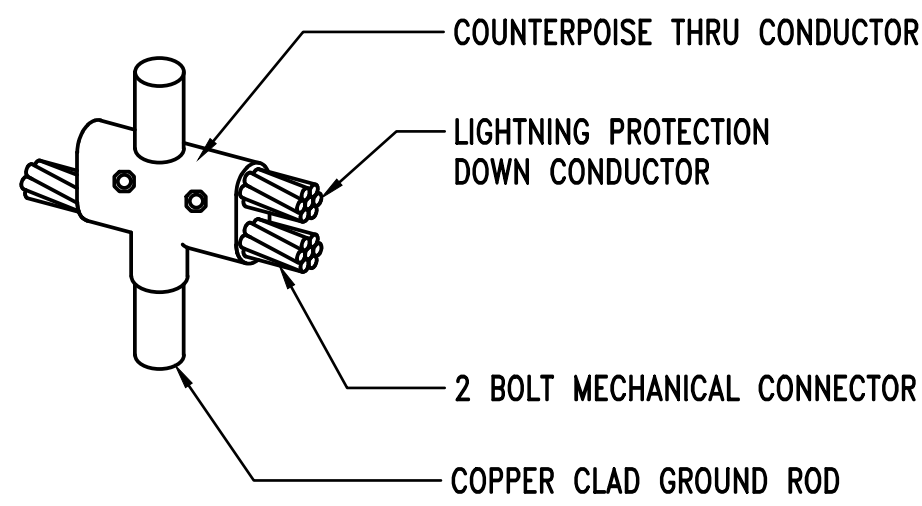
REBAR CONNECTIONS
GENERAL REBAR GROUNDING DETAILS



FENCE & GATE GROUNDING DETAIL "FG"

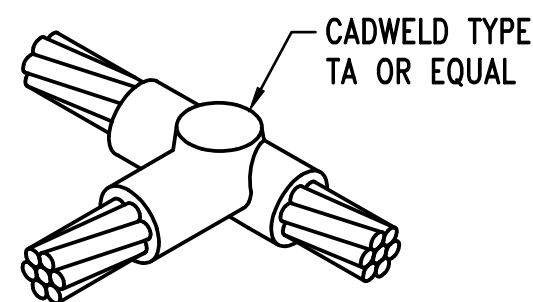


GENERAL STRUCTURAL STEEL GROUNDING DETAIL

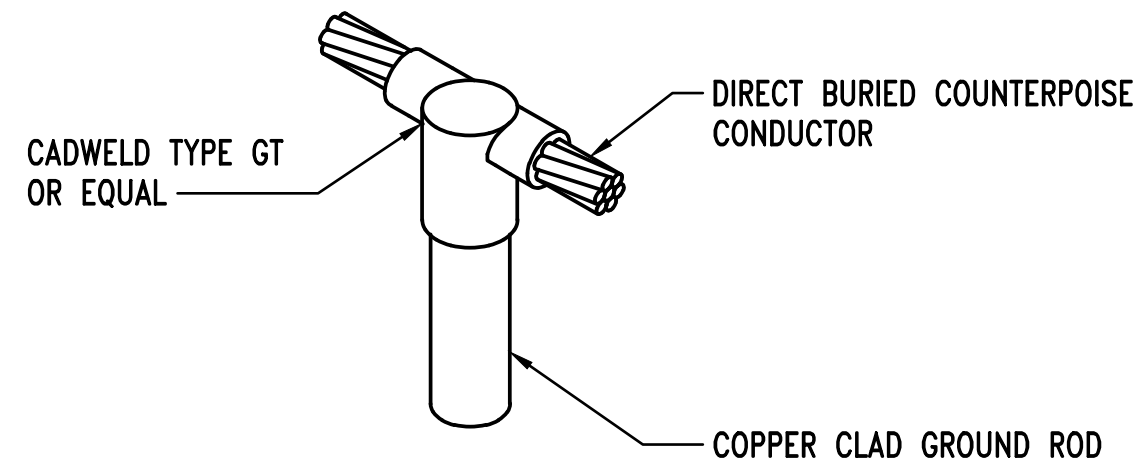


DETAIL NOTES:
1. THRU AND TAP CONDUCTOR TO TOP OF A GROUND ROD.
THE ROD END CAN BE EITHER PLAIN OR THREADED USE
2 BOLT CONNECTOR FOR GROUND RODS AT TEST WELLS

THREE CONDUCTOR TO ROD DETAIL (TYP)



GROUND CONDUCTOR TAP DETAIL (TYP)



DETAIL NOTES:
1. THE ROD END CAN BE EITHER PLAIN OR THREADED.
2. CAN BE USED AS A DEAD END BY LETTING THE CONDUCTOR EXTEND ENOUGH PAST THE ROD TO EXIT THE MOLD ON THAT SIDE.

CONDUCTOR TO ROD DETAIL (TYP)

SHEET NOTES

- SEE SHEET NOTES ON E502.
- DIMENSIONS INDICATED ON THIS SHEET ARE TYPICAL. PROVIDE MANUFACTURER'S STANDARD.

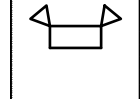
KEYED NOTES

- ALL WELDS TO BE EXOTHERMIC TYPE. MAKE ALL CONNECTIONS AS CLOSE TO THE END OF REBAR AS POSSIBLE.
- BRONZE COVER WITH #10 BRASS BALL CHAIN ATTACHMENT.
- BRASS PIN SUITABLE FOR ALLIGATOR CLIP CONNECTION.
- THREADED HUB BASE TO RECEIVE 19.05mm (3/4") SECTIONAL GROUND ROD.
- 3.048m (10'-0") COPPER-CLAD STEEL, SECTIONAL TYPE GROUND ROD.
- EXOTHERMICALLY WELD-(ROD TO CONDUCTOR)-PROVIDE PROPER ROD TO CABLE CONNECTOR.
- EXOTHERMICALLY WELD-(CONDUCTOR TO CONDUCTOR) X CROSSING TYPE.
- CAST BRONZE ENCLOSURE.

A
E504

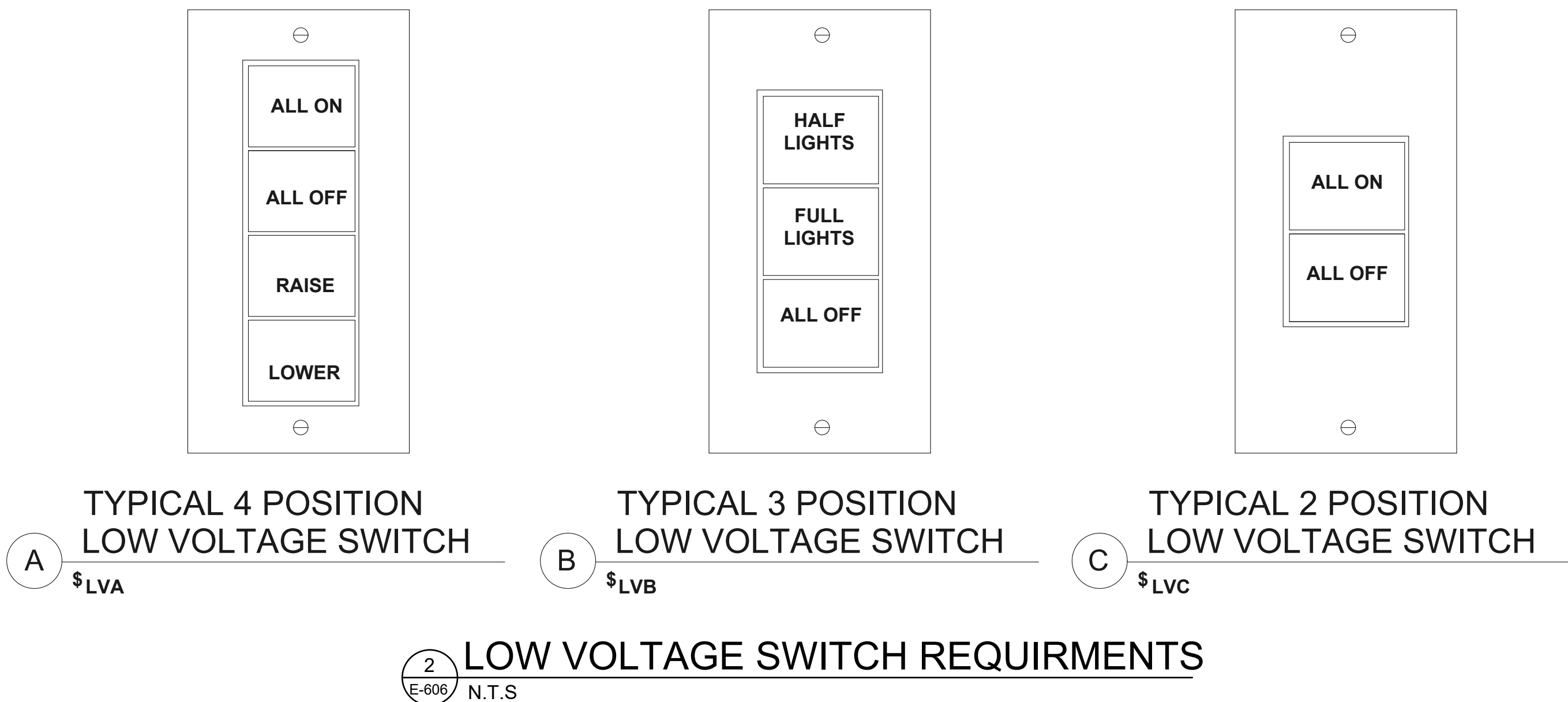
GENERAL GROUNDING CONNECTION DETAILS

NO SCALE

LUMINAIRE SCHEDULE						
MARK	DESCRIPTION			VOLTS	MOUNTING	REMARKS
	TYPE	LUMENS	MANUFACTURER AND CATALOG NUMBER			
A	61W LED	6250	METALUX NO. 24FPS12SC13-3500K-H LITHONIA NO. CPANL-2X4-60LM-35K M2 COLUMBIA NO. CBT24-LS35-5500	UNV	RL	LED 2 X 4 FLAT PANEL TROFFER WITH MOUNTING FOR CEILING GRID. LUMINAIRE SHALL BE EQUIPPED WITH 0-10V DIMMING, HAVE ACRYLIC POLYCARBONATE LENS, AND COMPATABLE NETWORK CONTROLS.
B	311W LED	3540	METALUX NO. 24FPS12SC13-3500K-LOW LITHONIA NO. CPANL-2X4-40LM-35K M2 COLUMBIA NO. CBT24-LS35-3300	UNV	RL	LED 2 X 4 FLAT PANEL TROFFER WITH MOUNTING FOR CEILING GRID. LUMINAIRE SHALL BE EQUIPPED WITH 0-10V DIMMING, HAVE ACRYLIC POLYCARBONATE LENS, AND COMPATABLE NETWORK CONTROLS.
C	511W LED	7000	METALUX NO. 4ILED4LDS-7-W-UNV-L835-CD1-U LITHONIA NO. ZLIF-L48-6000LM-MVOLT-35K COLUMBIA NO. CSL4-LSCS-HIGH-3500K	UNIV	CH	LED INDUSTRIAL LINEAR STRIP WITH ACRYLIC LENS AND WIDE DISTRIBUTION. LUMINAIRE SHALL BE EQUIPPED WITH 0-10V DIMMING AND COMPATABLE NETWORK CONTROLS. PROVIDE WITH EMERGENCY BATTERY PACK WHEN NOTED.
D	10W LED	1000	METALUX NO. H0810D010-HM612835-61MDW LITHONIA NO. LDN6-35-10L06-AR-MVOLT-G210 COLUMBIA NO. LTR-6RD-HSL10-LDM1	UNIV	C	6" LED DOWNLIGHT WITH MOUNTING FOR CEILING GRID WITH CLEAR LENS AND WET LOCATION RATED. EQUIPPED WITH 0-10V DIMMING AND COMPATABLE NETWORK CONTROLS.
E	112W LED	15,120	METALUX NO. VHB-15-W-UNV-L835-CD-U LITHONIA NO. CPHB-1500LM-SEF-GCL-WD-MVOLT-G210-35K-80CRI-DWH COLUMBIA NO. CLB40-MM-W-ED-U	UNIV	P	LED HIGH BAY WITH WHITE ENAMEL FINISH AND WIDE DISTRIBUTION OPTICS. PROVIDE WITH HIGH IMPACT POLYCARBONATE LENS, 0-10V DIMMING, AND COMPATABLE NETWORK CONTROLS.
F	112W LED	15,120	METALUX NO. VHB-15-N-UNV-L835-CD-U LITHONIA NO. CPHB-1500LM-SEF-GCL-ND-MVOLT-G210-35K-80CRI-DWH COLUMBIA NO. CLB40-MM-N-ED-U	UNIV	P	LED HIGH BAY WITH WHITE ENAMEL FINISH AND NARROW DISTRIBUTION OPTICS. PROVIDE WITH HIGH IMPACT POLYCARBONATE LENS, 0-10V DIMMING, AND COMPATABLE NETWORK CONTROLS.
G	102W LED	12,000	METALUX NO. XTOR12B-W-PC1 LITHONIA NO. LDN6-35-10L06-AR-MVOLT-G210 COLUMBIA NO. RWL1-18L-4K7-3-UNV-7PR-E	UNIV	W	LED EXTERIOR PERIMETER LIGHTING LUMINAIRE WITH FULL CUTOFF OPTICS.
H	58W LED	6,000	METALUX NO. XTOR68-W-PC1-CBP LITHONIA NO. WPX2-LED-40K-MVOLT-V14WC-PE COLUMBIA NO. RWL1-48L-4K7-3-UNV-7PR-E	UNIV	W	LED EXTERIOR WALLPACK WITH FULL CUTOFF OPTICS. PROVIDE WITH INTEGRATED EMERGENCY BATTERY PACK.
	1.8W LED	-	LITHONIA NO. EUZLEDM12 EMERGH-LITE NO. EL 2SQ L LED DUAL-LITE NO. EZ-2	UNIV	U	LED EMERGENCY LIGHTING WALL PACK WITH TWO ADJUSTABLE HEADS. PROVIDE WITH WIRE GUARD.
EM	2.5W LED	-	LITHONIA NO. LQM 3 S W 3 R 120/277 DUAL LITE NO. LX U R W EMERGH-LITE NO. W PREM U R	UNIV	U	EXIT LIGHT WITH LED STENCIL FACE. WHITE HOUSING WITH RED LETTERS. PROVIDE DIRECTIONAL ARROWS AS REQUIRED. SHALL BE UL LISTED FOR WET LOCATION.
NOTES: 1. PROVIDE WITH EMERGENCY BATTERY PACK WHEN NOTED.						

LIGHTING CONTROL SEQUENCE OF OPERATIONS										
	AUTO ON	MANUAL ON (VACANCY)	AUTO OFF (15 MIN MAX)	AUTO PARTIAL OFF	MANUAL ON/OFF	MANUAL DIMMING CONTROL	MANUAL BI-LEVEL REDUCTION	AUTO CONT'D DIM	LOW VOLTAGE SWITCH TYPE (SEE BELOW)	
ROOM TYPE	OCCUPANCY SENSOR			MANUAL CONTROL			DAYLIGHT CTL	SEQUENCE OF OPERATIONS		
INDIVIDUAL OFFICES (WITH DAYLIGHT)		X	X		X	X		X	A	MANUAL ON TO 70% OUTPUT. OCC SENSOR TIME OUT. CONT'D DIMMING WITH DAYLIGHT.
INDIVIDUAL OFFICES (NO DAYLIGHT)		X	X		X	X			A	MANUAL ON TO 70% OUTPUT. PROVIDE WITH DIMMING CONTROL. OCC SENSOR TIME OUT.
TOOL/PARTS ROOM		X	X		X		X	X	B	AUTO ON WITH OCC SENSOR TO 50% OUTPUT WITH MANUAL BI-LEVEL INCREASE TO 100%. CONT'D DIMMING WITH DAYLIGHT. OCC SENSOR TIME OUT.
CORRIDOR (NO DAYLIGHT)	X			X	X				C	AUTO ON WITH OCC SENSOR TO 100%. OCC SENSOR REDUCES TO 50% WITH VACANCY. MANUAL ON/OFF CONTROL.
LOCKER ROOM		X	X		X		X		B	MANUAL ON TO 100% OUTPUT. CONT'D DIMMING WITH DAYLIGHT. MANUAL DIMMING CONTROLS SHALL OVERRIDE DAYLIGHT SENSOR.
BREAK ROOM (NO DAYLIGHT)		X	X		X		X		B	AUTO ON WITH OCC SENSOR TO 50% OUTPUT WITH MANUAL BI-LEVEL INCREASE TO 100%. OCC SENSOR TIME OUT.
STORAGE ROOM		X	X		X				C	MANUAL ON. OCC SENSOR TIME OUT.
RESTROOM	X		X		X				C	AUTO ON WITH OCC SENSOR TO 100% OUTPUT. OCC SENSOR TIME OUT.
COMMUNICATIONS ROOM					X				C	MANUAL ON/OFF. NO AUTOMATIC CONTROL.
MECH/ELEC/UTILITY SPACES					X				C	MANUAL ON/OFF. NO AUTOMATIC CONTROL.
VEHICLE MAINTENANCE BAY		X			X	X		X	A	MANUAL ON TO 100% OUTPUT. CONT'D DIMMING WITH DAYLIGHT. MANUAL DIMMING CONTROLS SHALL OVERRIDE DAYLIGHT SENSOR.
CLASSROOM / TRAINING		X	X		X	X			A	MANUAL ON TO 50% OUTPUT WITH MANUAL BI-LEVEL INCREASE TO 100% OCC SENSOR TIME OUT.
NOTES:										
1. LIGHTING CONTROLS SHALL BE PROGRAMMED AS SHOWN.										
2. SEQUENCE OF OPERATIONS REFERENCE UFC 3 - 350 - 01 , ASHRAE 90.1 - 2013, AND AMD ELECTRICAL DESIGN GUIDE.										

DETAIL - TYPICAL BUILDING INTERIOR
LOW VOLTAGE LIGHTING SYSTEM REQUIREMENTS



LUMINAIRE AND DRIVER NOTES

- LUMINAIRE AND LUMINAIRE INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 70, ARTICLE 410. ALL LUMINAIRES SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THE UL LISTING "FIXTURE MARKING GUIDE" AND SUPPORTED BY MEANS DESIGNED FOR THAT LISTED INSTALLATION. ALL CLEARANCES REQUIRED BY CODE SHALL BE MAINTAINED. LUMINAIRES INSTALLED IN UNUSUAL CONDITIONS SUCH AS DAMP, WET, ETC., LOCATIONS SHALL BE MARKED AND LABELED FOR THE PURPOSE.
- EACH LUMINAIRE SHALL BE FURNISHED COMPLETE WITH THE PROPER DRIVER, SURGE SUPPRESSION, DIMMING CONTROLS, WIRING COMPONENTS, SUPPORTING FRAMES AND/OR DEVICES, ETC., FOR A COMPLETE INSTALLATION SUITABLE WITH THE AMBIENT CONDITIONS ENCOUNTERED. ALL DEVICES, COMPONENTS, FITTINGS, SUPPORTS, ETC., SHALL BE COORDINATED TO PROVIDE A COMPLETE UL LISTED INSTALLATION.
- EACH LUMINAIRE SHALL BE FURNISHED WITH GROUNDING PROVISIONS AND BE GROUNDED TO THE GROUNDING PROVISIONS OF THE WIRING SYSTEM.
- LUMINAIRES SHALL NOT BE INSTALLED IN CONTACT WITH COMBUSTIBLE MATERIALS. ADEQUATE SPACE FOR AIR CIRCULATION AND CODE COMPLIANCE SHALL BE PROVIDED AS A MINIMUM. FURNISH SPACERS, WASHERS, SUPPORT DEVICES, ETC., AS REQUIRED TO MAINTAIN PROPER CLEARANCES. LUMINAIRES SHALL BE CONSTRUCTED, INSTALLED AND EQUIPPED SUCH THAT ADJACENT MATERIAL WILL NOT BE SUBJECTED TO TEMPERATURES IN EXCESS OF 90°C (194°F).
- OUTLET BOXES, CONDUCTORS, SPLICES AND TERMINATIONS SHALL BE ACCESSIBLE. ONLY CONDUCTORS RATED FOR THE ENVIRONMENTAL CONDITIONS, CURRENT, VOLTAGE AND TEMPERATURES ENCOUNTERED SHALL BE USED.
- CEILING MOUNTED LUMINAIRES SHALL BE SUITABLE FOR THE CEILING TYPES SPECIFIED AND PROVIDED WITH THE PROPER LISTED SUPPORTS.
 - PROVIDE DEVICES FOR SECURING EACH RECESS LAY-IN LUMINAIRE AT TWO LOCATIONS TO CEILING GRID. PROVIDE BOLTS, SCREWS, RIVETS OR APPROVED CLIPS IDENTIFIED FOR USE WITH THE TYPE CEILING AND LUMINAIRE INSTALLED.
 - PROVIDE SUPPORTING FRAME, ADJUSTABLE MOUNTING BRACKETS, PROPER TRIM AND ADEQUATE SUPPORT TO CEILING GRID FOR SECURING EACH RECESS LUMINAIRE INSTALLED WITHIN CEILING TILES OF LAY-IN TYPE CEILINGS.
 - PROVIDE PLASTER FRAMES AND PROPER SUPPORT FROM STRUCTURE FOR SECURING EACH RECESS LUMINAIRE INSTALLED IN PLASTER AND/OR HARD CEILINGS.
 - THE CONTRACTOR SHALL COORDINATE WITH ALL STRUCTURAL MEMBERS AND/OR DEVICES, ARCHITECTURAL CEILING PLANS AND TYPES, OTHER CEILING MOUNTED DEVICES AND SYSTEM COMPONENTS. INSTALL LUMINAIRES ACCORDING TO LIGHTING AND REFLECTED CEILING PLANS TO PROVIDE A SYMMETRICAL LAYOUT IN CONJUNCTION WITH ALL CEILING COMPONENTS.
- LUMINAIRES SHOWN IN MECHANICAL AND ELECTRICAL ROOMS SHALL BE ADJUSTED ACCORDING TO FINAL EQUIPMENT, DEVICE, DUCT, ETC., INSTALLATION TO ILLUMINATE SPACE ADEQUATELY. SUSPEND BELOW DUCTS WHERE CONFLICTS OCCUR.
- ALL ADJUSTABLE LUMINAIRES SHALL BE ADJUSTED FOR FINAL APPROVAL DURING NON-DAYLIGHT HOURS.
- LED MODULE/DRIVER CONTROL COMBINATIONS SHALL BE COMPATIBLE IN ACCORDANCE WITH MANUFACTURER'S TESTING DATA AND RECOMMENDATIONS.
 - * DRIVERS SHALL MEET 47 CFR, PART 18, FOR RFI EMISSIONS.
 - * DRIVERS SHALL NOT EXCEED 20% TOTAL HARMONIC DISTORTION (THD)
 - * DRIVERS SHALL BE COMPATIBLE WITH DIMMING AND SWITCHING SCHEMES.
- LED LUMINAIRE'S LUMEN MAINTENANCE SHALL MEET OR EXCEED THE LATEST VERSION OF IES LM-80 TESTING STANDARDS. LUMINAIRE PHOTOMETRICS SHALL COMPLY WITH THE LATEST VERSION OF IESNA LM-79 TESTING CRITERIA.
- ALL LUMINAIRES SHALL COMPLY WITH MINIMUM ENERGY EFFICIENCY REQUIREMENTS OF APPLICABLE CODES.
- LED MODULES/DRIVERS SHALL BE ACCESSIBLE AND UPGRADABLE.
- LUMINAIRES SHALL HAVE INTEGRAL SURGE SUPPRESSION WHEN APPLICABLE.

LED SPECIFICATIONS

LED LUMINAIRES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RATINGS. LUMINAIRE MANUFACTURER SHALL HAVE BEEN ENGAGED IN MANUFACTURING LUMINAIRES AND ACCESSORIES FOR 10 YEARS PRIOR TO BID OPENING. LUMINAIRES SHALL HAVE BEEN IN SATISFACTORY COMMERCIAL OR INDUSTRIAL USE FOR TWO YEARS PRIOR TO BID OPENING. ALL LUMINAIRES SHALL MEET ANY NATIONAL, LOCAL OR LEED REGULATIONS.

TYPE	COLOR TEMP	LUMEN OUTPUT	CRI	LUMENS PER WATT	LUMEN MAINTENANCE PERCENTAGE	LUMEN MAINTENANCE HOUR INTERVAL
RECESSED FLAT PANEL DOWNLIGHTS	3,500K	4,800	-	102	90	60,000
	3,500K	1,500	-	85	70	50,000
HIGH/BAY	4,000K	15,000	80	110	70	100,000
EXTERIOR WALL PACK	4,000K	11,500	67	110	70	100,000

LUMINAIRE SCHEDULE AND LAMP/BALLAST CHART – KEY LEGEND & TERMINOLOGY

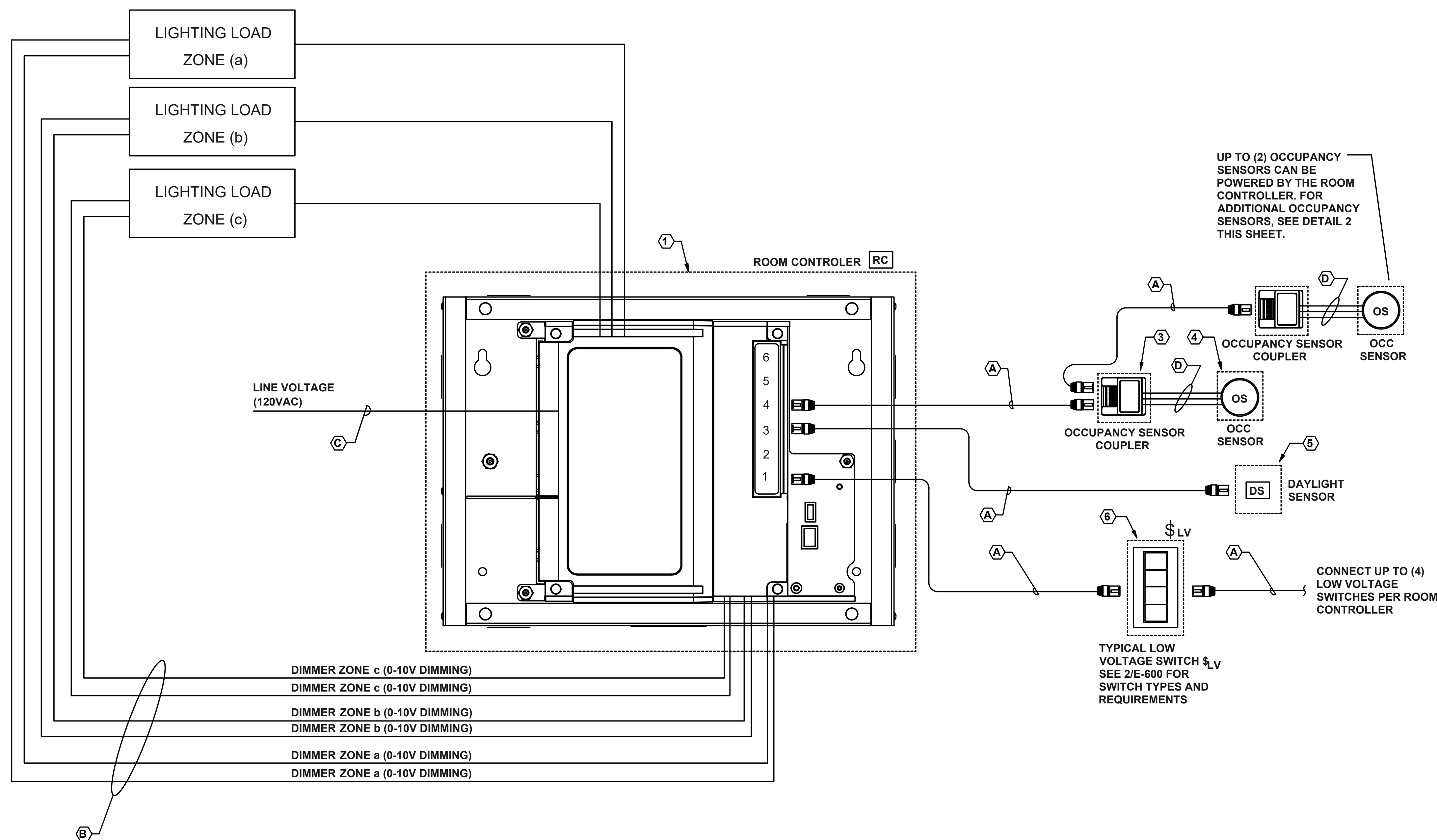
LAMP TYPES		LAMP DESIGNATION	LUMINAIRE MOUNTING	IES LIGHTING TERMS
LED	LIGHT EMITTING DIODE	A – LAMP	C CEILING	CCT COLOR CORRECTED TEMPERATURE
		FL FLOOD	CB CONCRETE BASE	CRI COLOR RENDERING INDEX
		MFL MEDIUM FLOOD	CH CHAIN HANG	CU COEFFICIENT OF UTILIZATION
		NFL NARROW FLOOD	D DESK	CDC CANDLE POWER DISTRIBUTION CURVE
		WFL WIDE FLOOD	F FLOOR	CBCP CENTER BEAM CANDLE POWER
		HO HIGH OUTPUT	G GRADE	FC FOOTCANDLES
		IF INSIDE FROSTED	P PENDANT	K DEGREES KELVIN
		MR MIRRORED REFLECTOR	PT POST TOP	LUX METRIC FOOTCANDLE (Fc X 10.8)
		PAR PARABOLIC ALUMINUM REFLECTOR	R RECESS	RCR ROOM CAVITY RATIO
		SP SPOT	RL RECESS LAY – IN	LUMENS MEASURED OUTPUT OF LAMP, LUMINAIRE, OR BOTH
		VHO VERY HIGH OUTPUT	RF RECESS FLANGE	LUMINAIRE COMPLETE LIGHTING UNIT, INCLUDING LAMP, REFLECTOR, AND HOUSING
		W WATT	RW RECESS WALL	
			S SURFACE	
			SR SEMI – RECESS	
			T TRACK	
			U UNIVERSAL	
			UC UNDERCABINET	
			W WALL	

DETAIL NOTES

- PRODUCTS SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS & UL LISTING.
- THE LOW VOLTAGE LIGHTING SYSTEM SHALL BE FURNISHED COMPLETE WITH PROPER SWITCHES, SENSORS, POWER PACKS, CONDUCTORS, CABLING, COUPLERS, ADAPTERS, ETC. FOR A COMPLETE INSTALLATION SUITABLE FOR CONDITIONS/SCENARIOS SHOWN.

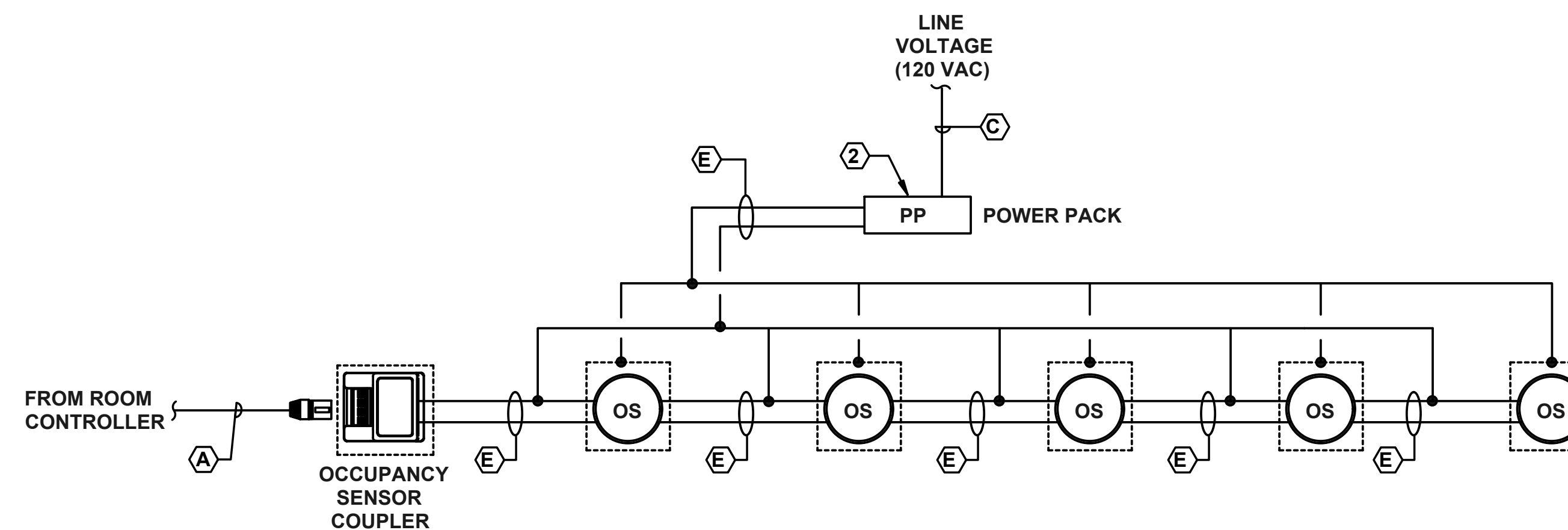
KEYED NOTES

- ROOM CONTROLLER**
 - PROVIDES LIGHTING AND RECEPTACLE CONTROL
 - (3) LIGHTING ZONES WITH (3) 0-10V DIMMING OUTPUTS
 - 120V, 20A INPUT, PLENUM RATED
 - INPUTS FOR OCCUPANCY AND DAYLIGHT SENSORS. PROVIDES POWER FOR UP TO (2) OCCUPANCY SENSORS
 - INPUTS FOR LOW VOLTAGE WALL SWITCHES
 - OUTPUTS FOR RECEPTACLE POWERPACKS UP TO (5) RECEPTACLE POWERPACKS CAN BE CONNECTED TO A ROOM CONTROLLER
- POWER PACK**
 - PROVIDES LOW VOLTAGE POWER FOR ROOM SENSORS
 - 120V, 20A INPUT, PLENUM RATED
 - 120V, 20A, CONTACTS FOR RECEPTACLE CONTROL
 - 24VDC, 225mA LOW VOLTAGE OUTPUT
 - POWERS UP TO (5) OCCUPANCY SENSORS
- OCCUPANCY SENSOR COUPLER**
 - PROVIDES POWER TO OCCUPANCY SENSOR THROUGH CAT5E CABLING
 - (2) RJ45 PORTS
 - (4) LOW VOLTAGE POWER OUTPUTS FOR OCCUPANCY SENSOR
- OCCUPANCY SENSOR**
 - LOW VOLTAGE INPUT (10-30VDC) FROM LIGHTING POWER PACK OR ROOM CONTROLLER
 - DUAL TECH SENSING (PIR AND US)
 - TIME DELAY SETTINGS FOR 5, 15, OR 30 MIN.
- DAYLIGHT SENSOR**
 - LOW VOLTAGE INPUT (24VDC) FROM ROOM CONTROLLER
 - OPEN LOOP TYPE WITH (3) DIFFERENT PRESET LIGHT LEVELS
- LOW VOLTAGE SWITCH**
 - INTERFACE WITH ROOM CONTROLLER VIA CAT5E CABLING AND (2) RJ45 CONNECTIONS
 - SWITCHES SHALL BE PREDEFINED AS SHOWN ON 2/E-600.

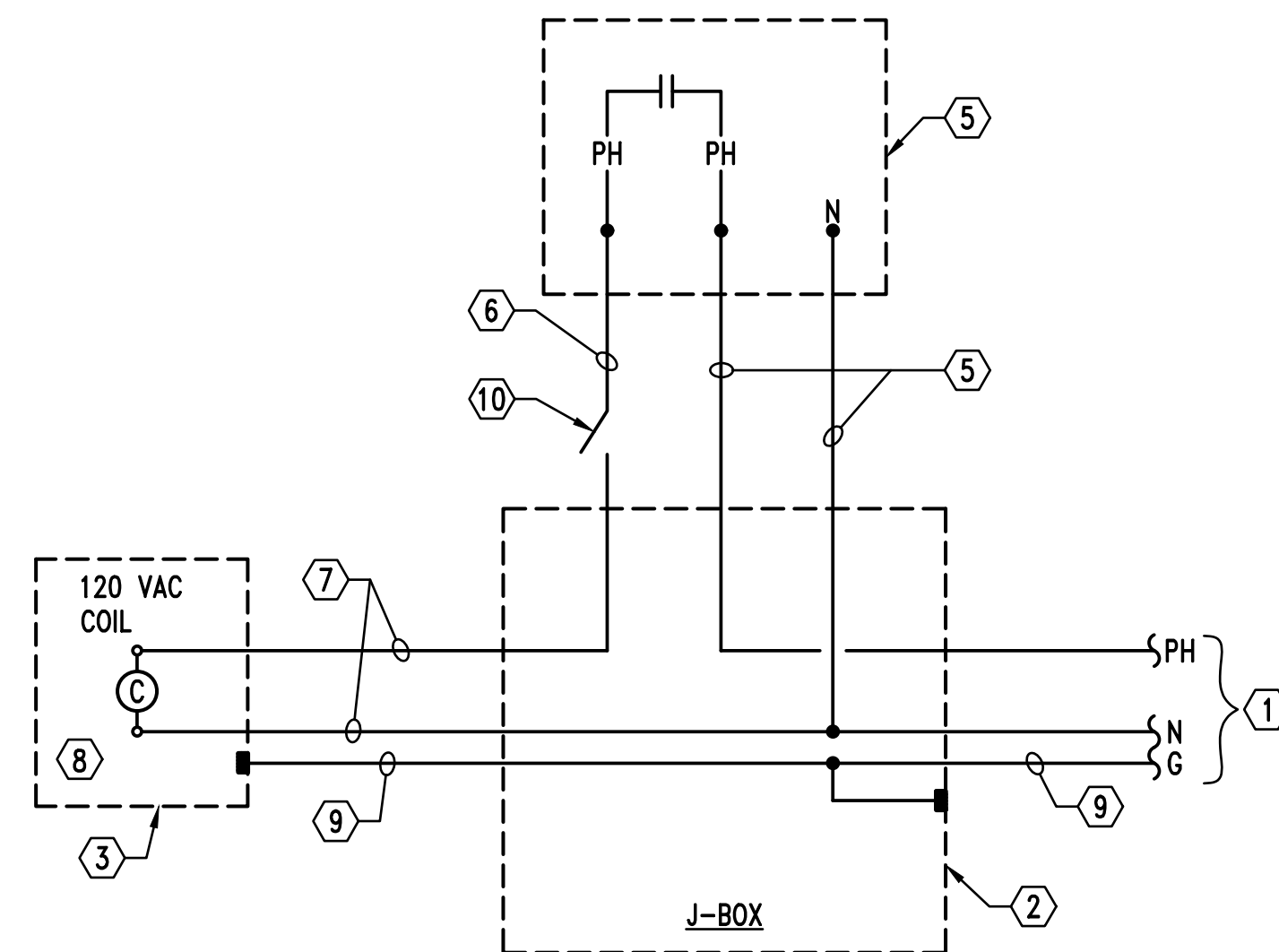


1
E-601
LIGHTING CONTROLS - TYPICAL ROOM CONTROLLER/DEVICE LAYOUT
NOT TO SCALE

FEEDER SCHEDULE				
MARK	CONDUCTORS	CONDUIT		REMARKS
		SI	ENGLISH	
A	CAT 5E	16mm	1/2"	CONTROL CABLING
B	2 #16	16mm	1/2"	0 - 10V DIMMING
C	2 #12 & 1 #12 GRD (UNLESS OTHERWISE NOTED)	16mm	1/2"	LINE VOLTAGE
D	3 #18	16mm	1/2"	OCCUPANCY SENSOR (1-2 SENSORS)
E	2 #18	16mm	1/2"	OCCUPANCY SENSOR (MORE THAN 2 SENSORS)



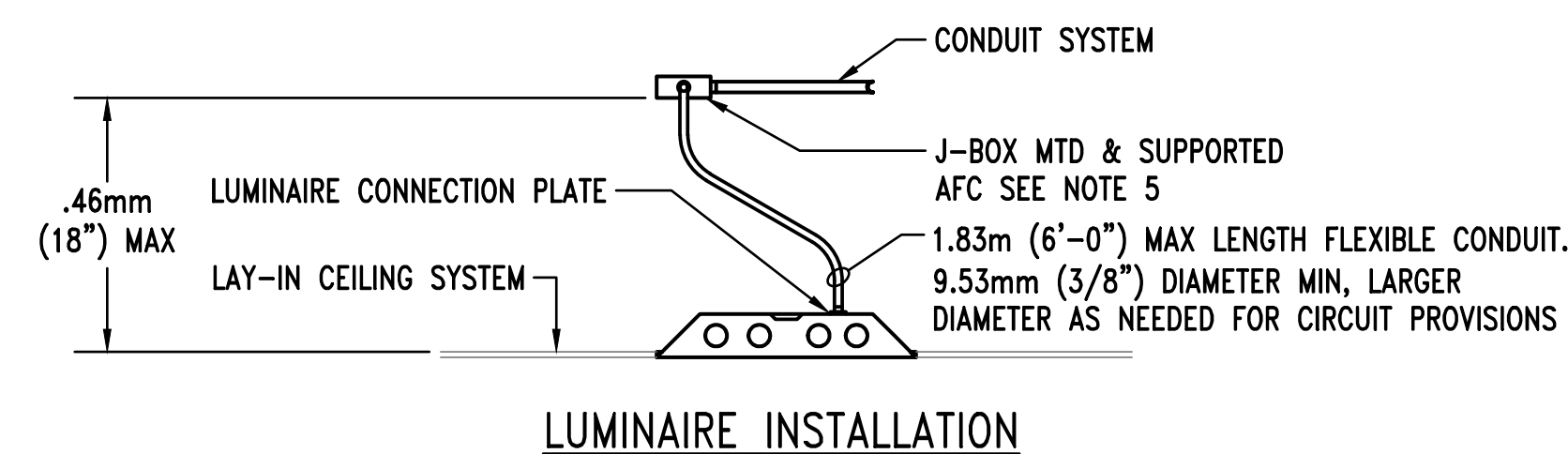
2
E-601
MULTIPLE OCCUPANCY SENSORS (3-5)
NOT TO SCALE



DETAIL - TYPICAL OPERATION OF PHOTO-CELL CONTACTOR CONTROL
NO SCALE

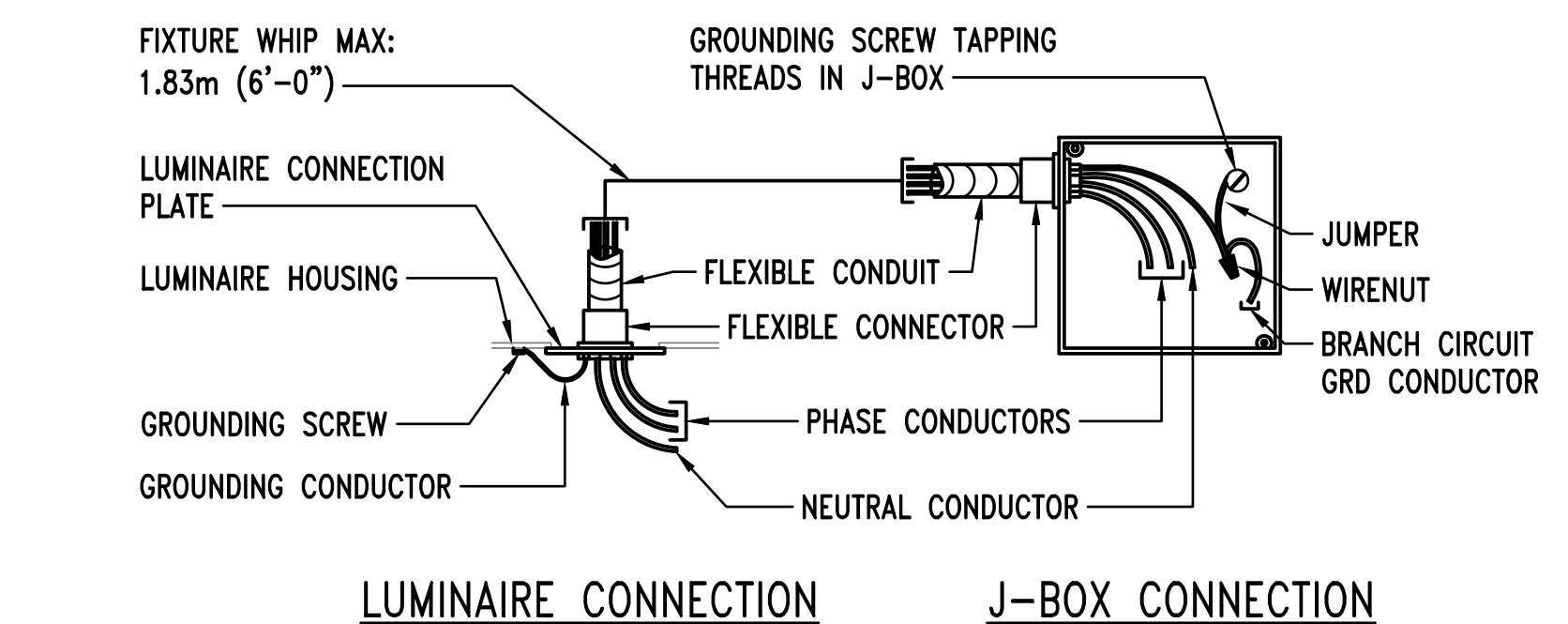
DETAIL 'A' KEY NOTES

- POWER SUPPLY - 120V, 1PH, 60HZ
- JUNCTION BOX
- CONTACTOR ENCLOSURE - NEMA 1 UNLESS NOTED OTHERWISE
- POWER TAP TO PHOTO-CELL IN GRC
- TURN-LOCK PHOTO-CELL, SEE DETAIL B/E-602
- SWITCH LEG RETURN IN GRC
- POWER TO CONTACTOR COIL
- LIGHTING CONTACTOR AS FOLLOWS: - NEMA ICS 2-211B INDUSTRIAL DUTY TYPE - ELECTRICALLY OPERATED - ELECTRICALLY HELD - RATING AND NUMBER OF POLES INDICATED - CONTACTS SHALL BE SILVER ALLOY, DOUBLE-BREAK, SUITABLE FOR TUNGSTEN, BALLAST LIGHTING, RESISTANCE AND MOTOR LOADS-FUSING FOR CONTROL CIRCUIT.
- GROUND CONDUCTOR - BOND TO EACH ENCLOSURE AND INSTALL IN EACH CONDUIT SYSTEM.
- MANUAL SWITCH OVER-RIDE (20A, SPST)



DETAIL 'C' NOTES

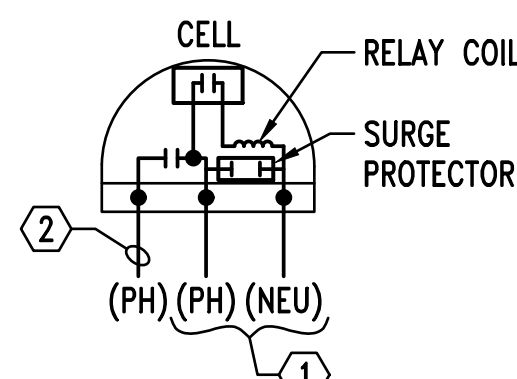
- ALL LAY-IN LUMINAIRES SHALL BE CONNECTED FROM A J-BOX AS SHOWN.
- UP TO TWO LUMINAIRES MAY BE CONNECTED TO ONE J-BOX.
- THROUGH WIRING OF LUMINAIRES IS NOT ACCEPTABLE. PROVIDE ADDITIONAL J-BOXES AS REQUIRED.
- CIRCUIT CONDUCTORS FROM J-BOX TO LUMINAIRE SHALL ALWAYS CONTAIN AN INSULATED GREEN GROUND WIRE, WITH NEUTRAL AND PHASE CONDUCTORS REQ'D FOR THE CIRCUITING AND SWITCHING REQUIREMENTS INDICATED.
- J-BOXES SHALL BE ACCESSIBLE & LOCATED WITHIN 0.46m (18") ABOVE LAY-IN CLG INSTALLATION. PROVIDE PENDANT ALL-THREAD RODS AND/OR STRUT ASSEMBLIES TO MEET THIS REQUIREMENT WHERE DROP CLG IS MORE THAN 0.46m (18") FROM STRUCTURE.



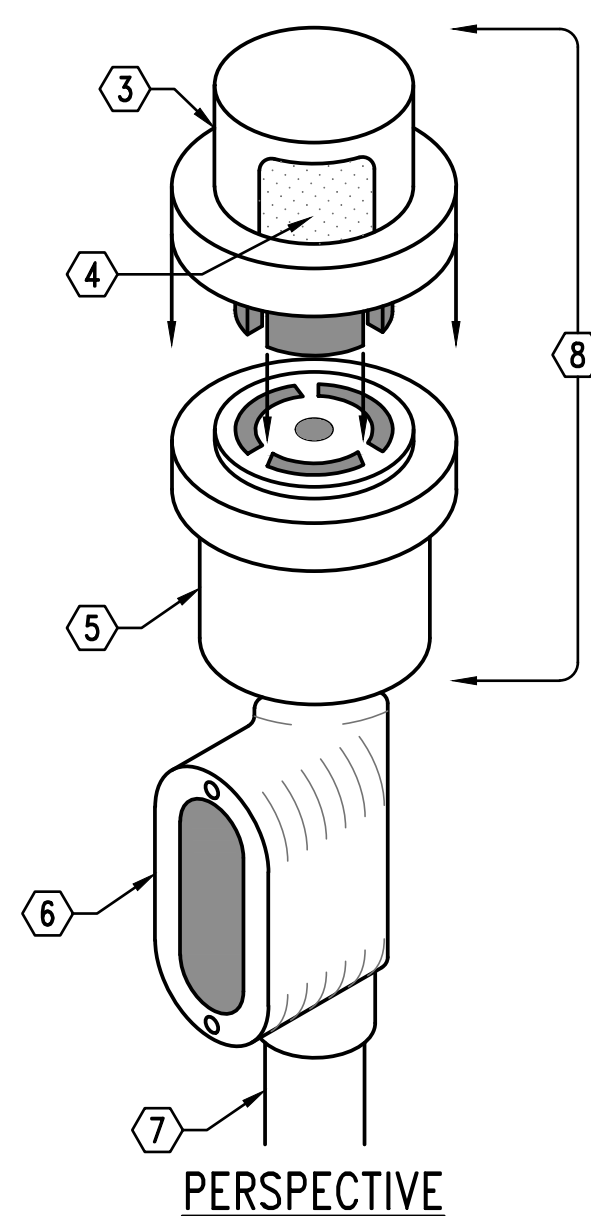
DETAIL - TYPICAL LAY-IN FIXTURE INSTALLATION
NO SCALE

DETAIL 'B' LIGHTING CONTROL NOTES

- LIGHTING CONTROL DEVICES AND SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND MANUFACTURER'S INSTRUCTIONS.
- ALL NON-CURRENT CARRYING METALLIC PARTS OF DEVICES AND SYSTEMS, ENCLOSURES, OUTLET BOXES, SUPPORTS, ETC., SHALL BE BONDED THROUGH THE INTERIOR GROUNDING SYSTEM. FACE PLATES AND COVERS SHALL BE EFFECTIVELY GROUNDED PER MANUFACTURERS UL LISTING.
- TOGGLE SWITCHES SHALL BE GROUPED AND GANGED TOGETHER UNDER COMMON DEVICE PLATES WHERE APPLICABLE. DO NOT GANG SWITCHES IN ENCLOSURES WHERE VOLTAGE BETWEEN ADJACENT SWITCHES CAN EXCEED 300 VOLTS UNLESS ENCLOSURES ARE EQUIPPED WITH PERMANENTLY INSTALLED BARRIERS BETWEEN ADJACENT SWITCHES.
- TOGGLE SWITCHES SHALL BE RATED AT THE BRANCH CIRCUIT PROTECTIVE DEVICE RATING OF THE CIRCUIT TO WHICH IT IS CONNECTED.
- ALL COMPONENTS OR SYSTEMS SHALL BE COORDINATED FOR THE PROPER VOLTAGE, OPERATION, CONTACT RATINGS, ETC.



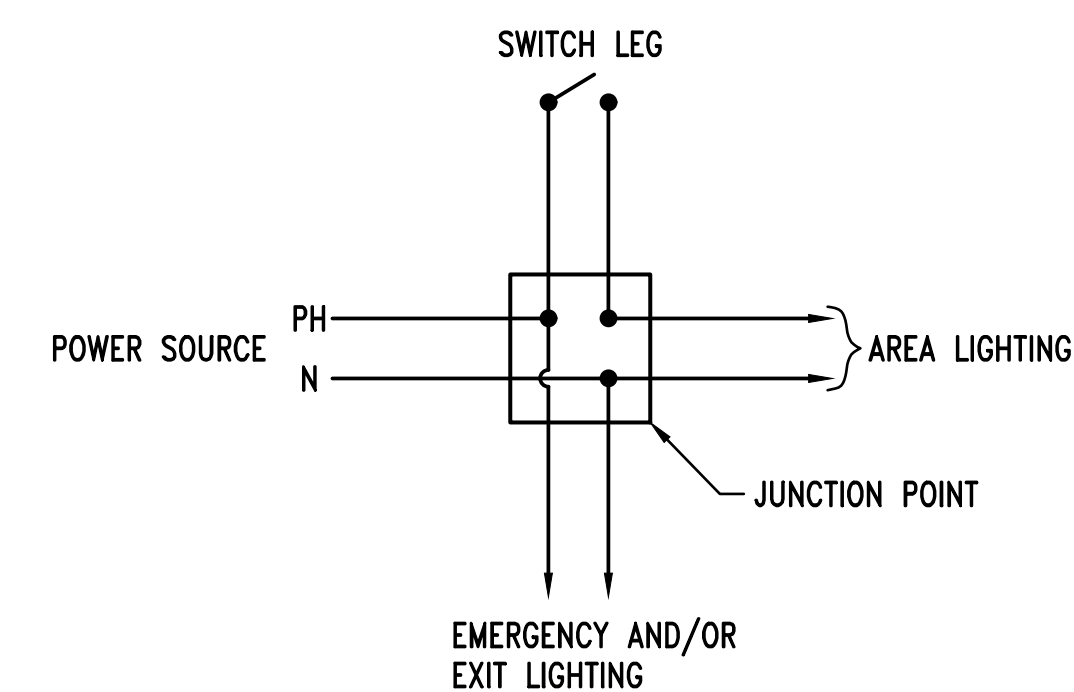
WIRING DIAGRAM



PERSPECTIVE

DETAIL 'B' KEYED NOTES

- POWER SUPPLY
- SWITCH LEG RETURN
- TURN-LOCK PHOTO CONTROL DEVICE WITH SURGE PROTECTOR.
- CADMIUM SULFIDE CELL (FACE NORTH).
- TURN-LOCK PHOTO CONTROL RECEPTACLE: RAINLIGHT WITH 12.5mm (1/2") NIPPLE AND 304.8mm (12") LEADS.
- 12.5mm (1/2") CAST 'C' CONDUIT BODY, GASKETED AND WEATHERPROOF
- 12.5mm (1/2") GRC WITH ADEQUATE SUPPORT
- COMPLETE ASSEMBLY TO BE U.L. LISTED FOR WET LOCATIONS.
- THE UNIT SHALL BE TOTALLY SELF-CONTAINED WITH MORE THAN 15 SECOND DELAY AND BE RATED AS FOLLOWS:
CAPACITY: 1500 WATTS TUNGSTEN
: 1800 VOLT-AMPERES
MERCURY VAPOR AND HID
CONTACTS: SPST, NORMALLY CLOSED
PRESET: AT 1 TO 3 FOOTCANDLES
TEMPERATURE: -50 TO +60 DEGREES CELSIUS



DETAIL - TYPICAL DIAGRAM OF CONNECTION AHEAD OF LOCAL SWITCHING
NO SCALE

DETAIL - TYPICAL PHOTO-CELL INSTALLATION
NO SCALE

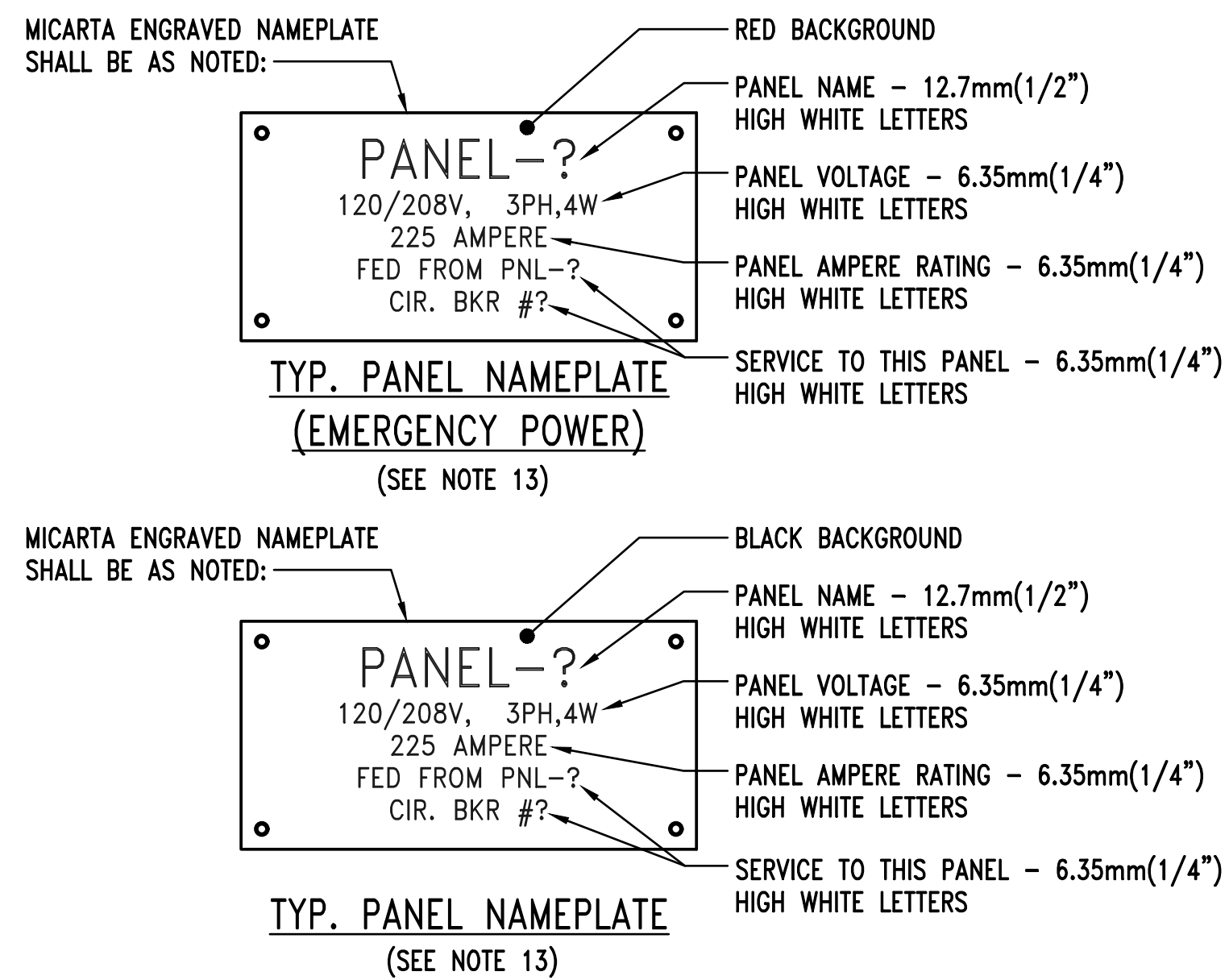
PANELBOARD SCHEDULE & DETAIL – KEY LEGEND

MOUNTING		ELECTRICAL		MAINS & CIRCUIT BREAKERS		MISC. TERMS	
F	FLUSH	A	AMPERE	GF	GROUND FAULT CIRCUIT INTERRUPTER	AIC	AMPERE INTERRUPTING CAPACITY
FS	FREE STANDING	PH	PHASE	L	LOCKHANDLE TYPE	BCB	BOLT-ON CIRCUIT BREAKER
S	SURFACE	V	VOLTAGE	MCB	MAIN CIRCUIT BREAKER	SCCR	SHORT CIRCUIT CURRENT RATING
		W	WIRE	MLO	MAIN LUGS ONLY	FUS	FUSIBLE SWITCH
		Y	WYE	SD	SWITCH DUTY	LC	LOAD CENTER
		Δ	DELTA	ST	SHUNT TRIP TYPE	SE	SERVICE ENTRANCE

DIMENSION BLOCK		
REF	SI	ENGLISH
A	1m	3'-6"
B	.38m	1'-3"
C	2.0m	6'-7"
D	1.82m	6'-0"

PANELBOARD SCHEDULE AND DETAIL NOTES

- PANELBOARD & PANELBOARD INSTALLATION TO BE IN ACCORDANCE WITH NFPA 70, CURRENT NEC. ALL PANELBOARDS SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THIS LISTING AND FULLY SUPPORTED BY MEANS DESIGNED FOR THAT LISTED INSTALLATION. ALL CLEARANCES REQUIRED BY CODE SHALL BE MAINTAINED AS A MINIMUM.
- EACH PANELBOARD SHALL BE FURNISHED COMPLETE WITH THE PROPERLY SIZED CAN, INTERNAL HARDWARE, DEVICES, COMPONENTS, SUPPORTING STRUCTURES, ETC., FOR A COMPLETE INSTALLATION TO PROVIDE THE DESIGNED PERFORMANCE UNDER THE AMBIENT CONDITIONS ENCOUNTERED. ALL DEVICES, COMPONENTS, FITTINGS, SUPPORTS, ETC., SHALL BE COORDINATED TO PROVIDE A COMPLETE UL LISTED INSTALLATION. ALL DEVICES INSTALLED SHALL HAVE AN INTERRUPTING RATING GREATER THAN OR EQUAL TO THE SPECIFIED SCCR.
- EACH PANELBOARD SHALL BE FURNISHED WITH A GROUND BAR BONDED TO THE PANEL ENCLOSURE. THIS GROUND BUS SHALL BE UTILIZED TO BOND ALL GROUNDING PROVISIONS IN ORDER TO ESTABLISH EQUAL POTENTIAL TO ALL GROUNDED COMPONENTS OF THE POWER SYSTEM NETWORK.
- PANELBOARD CANS SHALL BE RIGID AND CONTAIN KNOCK-OUT PROVISIONS TO FACILITATE THE TERMINATION OF THE NUMBER AND SIZE OF CONDUIT SYSTEMS REQUIRED.
- THE TERMINATION POINT OF THE FEEDER SERVING EACH ASSEMBLY SHALL BE AT THE NEAREST POINT OF FEEDER ENTRY TO MINIMIZE CONDUCTOR FILL IN THE CAN. COORDINATE TOP/BOTTOM FEED PANELBOARD PROVISIONS WITH EACH FEEDER INSTALLATION.
- PROVIDE THE PROPERLY SIZED CONDUCTOR TERMINATION POINTS OR LUGS (MULTIPLE LUGS WHEN PARALLEL FEEDERS ARE USED) FOR THE NUMBER AND SIZE CIRCUITS INDICATED.
- CONDUCTORS, SPLICES AND TERMINATIONS SHALL BE ACCESSIBLE. ONLY CONDUCTORS RATED AND SIZED FOR THE TEMPERATURE OF THE TERMINATION SHALL BE USED.
- PANELBOARDS SHALL NOT BE INSTALLED IN CONTACT WITH COMBUSTIBLE MATERIALS. ADEQUATE SPACE FOR AIR CIRCULATION AND CODE COMPLIANCE SHALL BE PROVIDED AS A MINIMUM. FURNISH SPACERS, WASHERS, SUPPORT DEVICES, ETC., AS REQUIRED TO MAINTAIN PROPER CLEARANCES. EXTERIOR PANELS SHALL CONTAIN AT LEAST 15mm(0.6") OF AIR SPACE BETWEEN THE CABINET AND SURFACE.
- EACH PANELBOARD SHALL BE FURNISHED WITH THE FOLLOWING ACCESSORIES:
 - * DOOR – IN – DOOR TRIM
 - * TWO KEYS
 - * ONE-HALF PINT CONTAINER OF TOUCH-UP PAINT FOR EACH SURFACE MOUNTED PANELBOARD
 - * METAL DIRECTORY FRAME WITH TYPED DIRECTORY
 - * FILLER PLATES FOR KNOCK-OUT SPACES FOR UNUSED OPENINGS
- ALL FLUSH MOUNTED PANELBOARDS SHALL BE PROVIDED WITH FOUR (4) 27mm(1") EMPTY SPARE CONDUITS TO ABOVE THE NEAREST ACCESSIBLE CEILING.
- PROVIDE ARC-FLASH HAZARD WARNING SIGNS PER NFPA 70 & 70E.
 - * REFER TO ANSI Z535.4
 - * LOCATE ON FRONT OF DOOR.
- EACH PANELBOARD SERVING NON-LINEAR LOADS SHALL BE UL LISTED FOR THIS PURPOSE AND CONTAIN A NEUTRAL BUS BAR 1.7 TIMES GREATER THAN (NOMINALLY 2 TIMES GREATER THAN) THE SIZE OF THE PHASE BUS LOAD SIZE REQUIREMENTS.
- EACH PANELBOARD NOTED FOR FUNGUS-PROOFING SHALL CONTAIN A PERMANENT FUNGICIDE AL TREATMENT FOR INTERIOR AND COMPONENTS INCLUDING CIRCUIT BREAKERS.
- ISOLATED GROUND BUSES SHALL BE PROVIDED WHEN NOTED. THESE BUSES ARE IN ADDITION TO AND SHALL BE ISOLATED FROM THE EQUAL-POTENTIAL BUS NOTED IN NOTE 3 ABOVE.
- PROVIDE NAMEPLATES FOR EACH PANEL AS SPECIFIED AND DETAILED. ADD ADDITIONAL INFORMATION AS NEEDED WHEN THE FOLLOWING APPLIES:
 - * "SUITABLE FOR NON-LINEAR LOADS"
 - * "ISOLATED GROUND BUS"



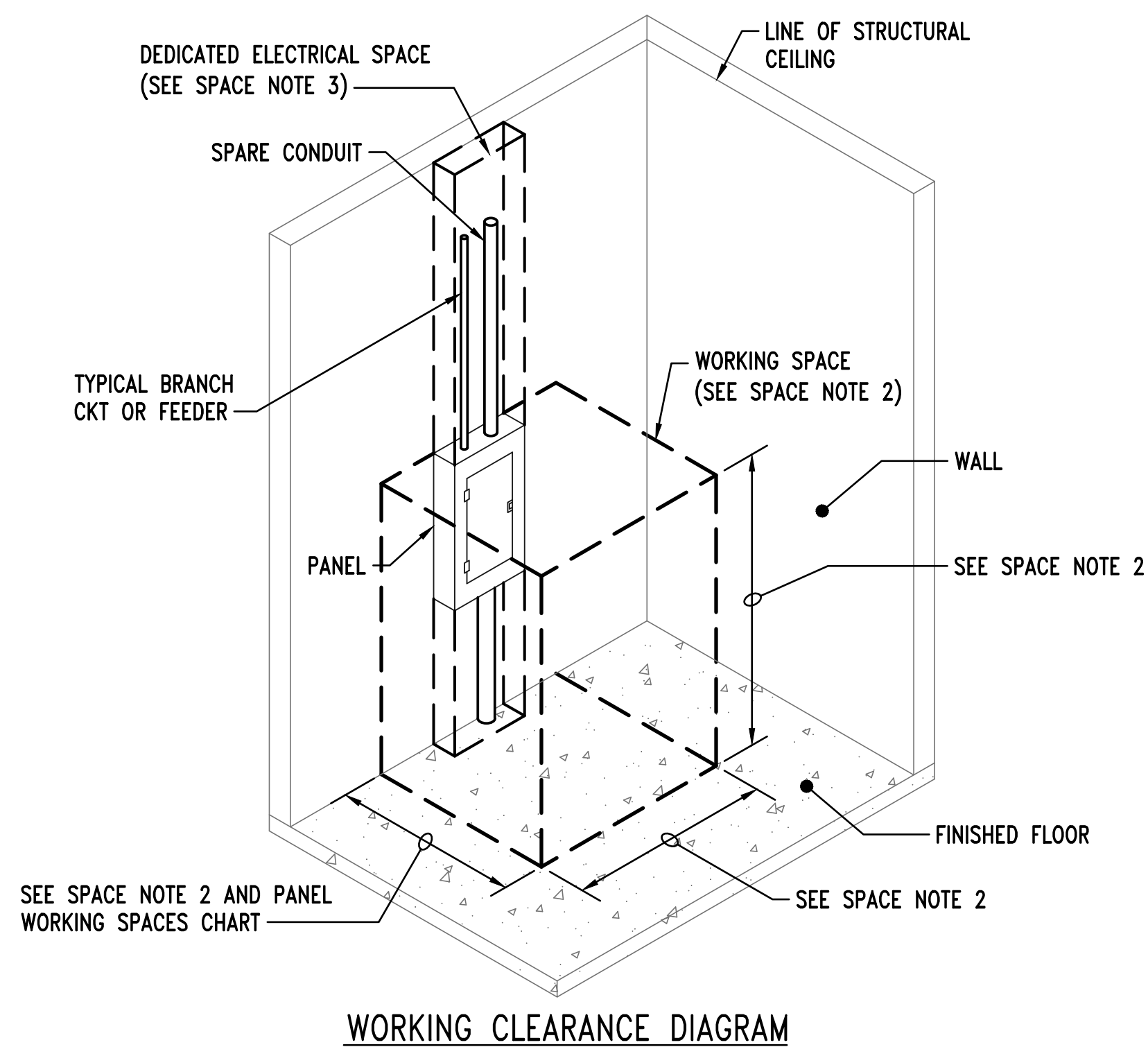
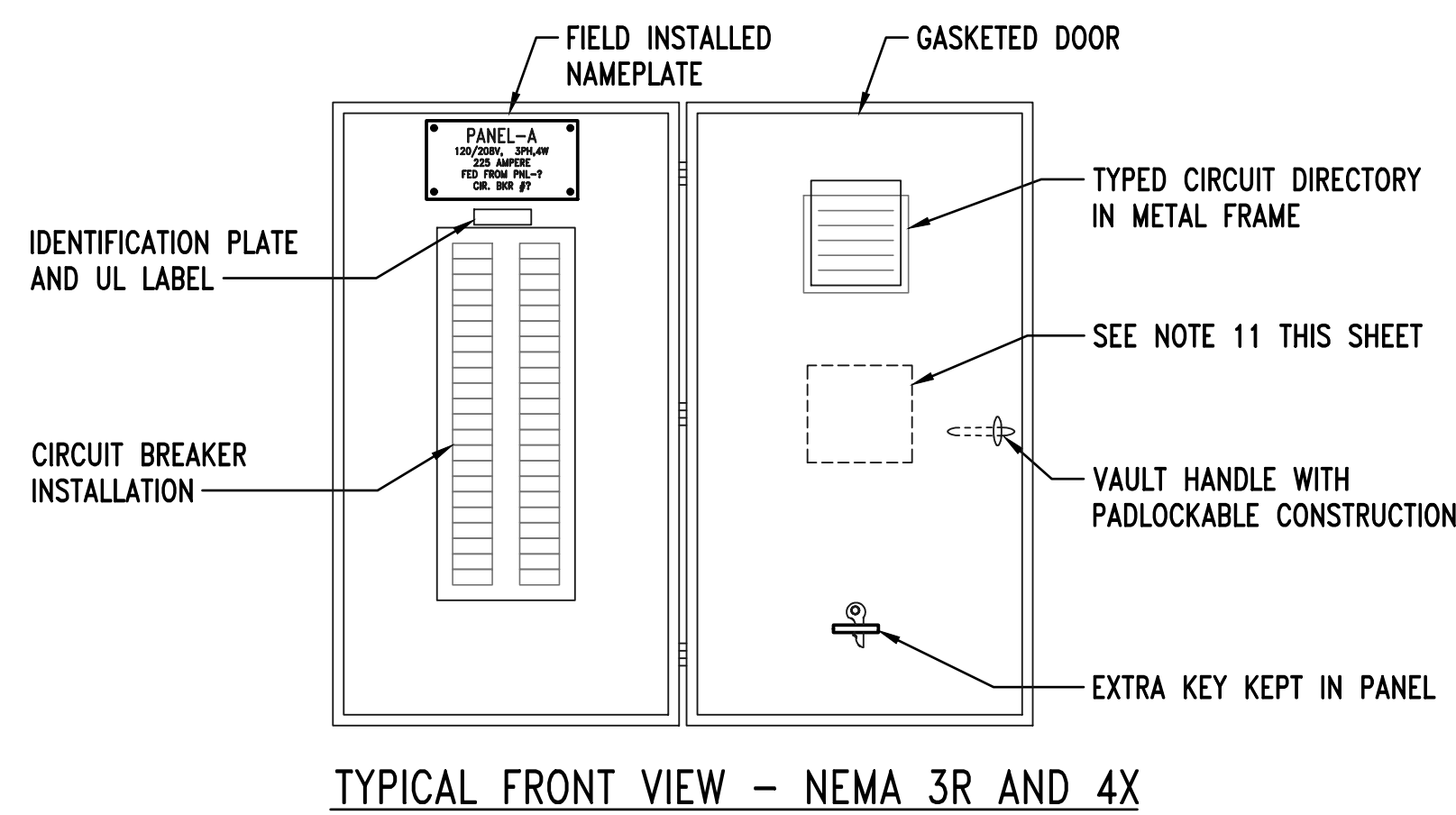
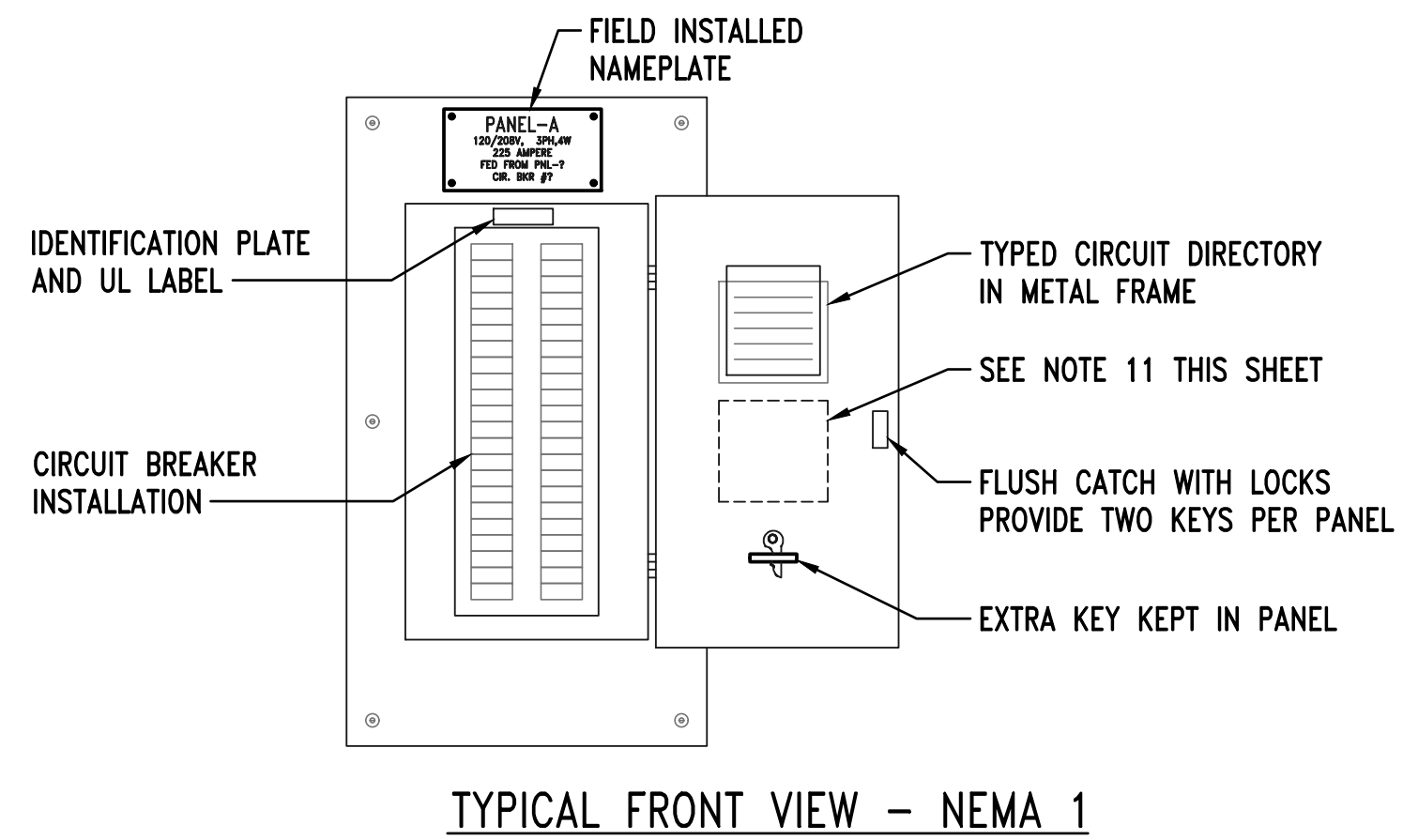
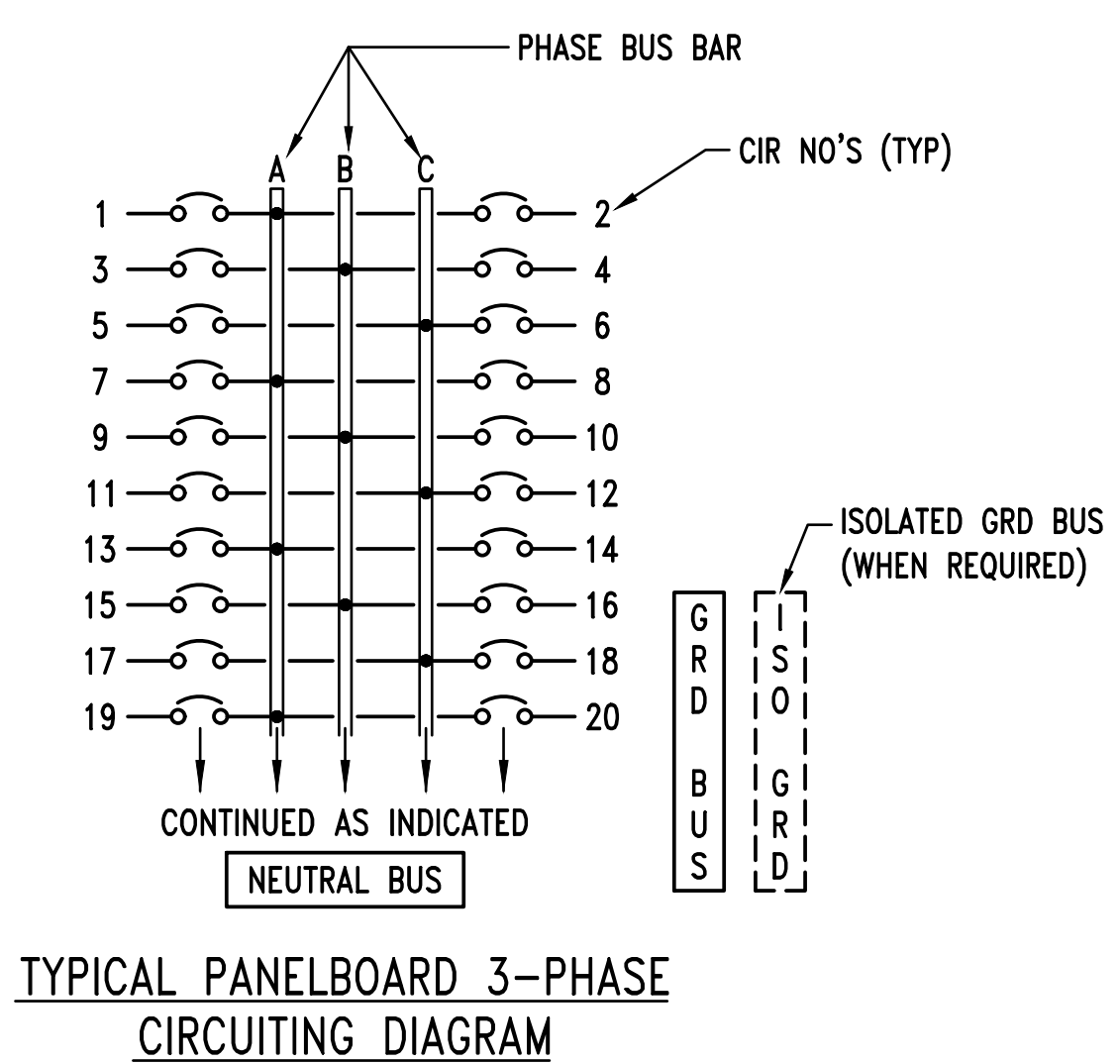
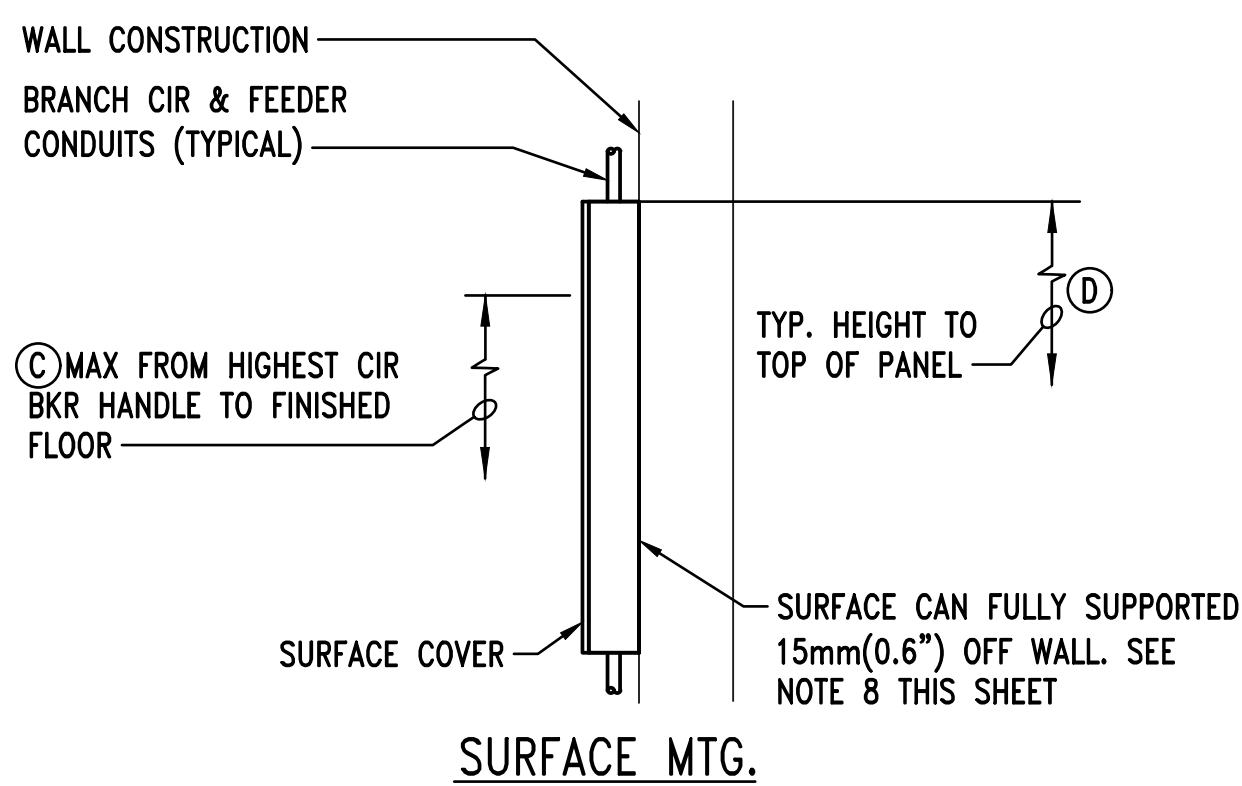
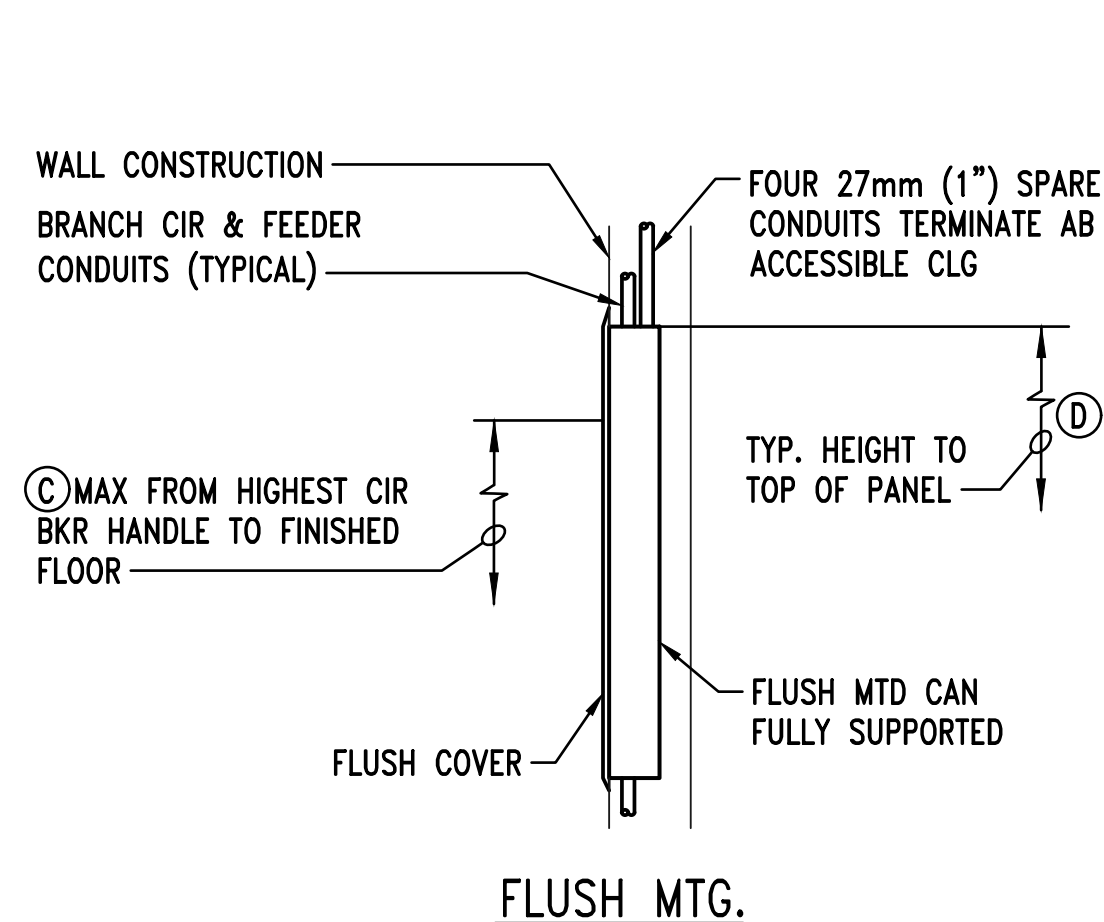
PANEL WORKING SPACES

NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE		
	CONDITION 1	CONDITION 2	CONDITION 3
0-150	914mm (3')	914mm (3')	914mm (3')
151-600	914mm (3')	1.07m (3'-6")	1.22m (4')

NOTE:
WHERE THE CONDITIONS ARE AS FOLLOWS:
• CONDITION 1 – EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.
• CONDITION 2 – EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.
• CONDITION 3 – EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.

SPACE NOTES:

- DIMENSIONS SHOWN ARE MINIMUM.
- WORKING SPACE IS DEFINED AS THE SPACE IN FRONT OF THE PANEL FOR EXAMINATION, ADJUSTMENTS, SERVICING AND/OR MAINTENANCE WHILE ENERGIZED. IN ALL CASES WORK SPACES SHALL PERMIT AT LEAST A 90 DEG. OPENING OF EQUIPMENT DOORS OR HINGED PANELS.
 - * WIDTH: 762mm(30") OR WIDTH OF EQUIPMENT (WHICHEVER IS GREATER)
 - * HEIGHT: 2.0m(6'-6") FROM FLOOR OR HEIGHT OF EQUIPMENT. (WHICHEVER IS GREATER)
 - * DEPTH: DEPENDS ON CONDITIONS OUTLINED IN PANEL WORKING SPACES CHART.
- DEDICATED ELECTRICAL SPACE IS DEFINED AS THE SPACE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT, EXTENDING FROM FLOOR TO A HEIGHT OF 1.8m(6'-0") ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING. (WHICHEVER IS LOWER)
- SEE NFPA 70, CURRENT NEC.



DETAIL – TYPICAL PANELBOARD PROVISIONS

NO SCALE

TYPICAL PANELBOARD DETAILS AND REQUIREMENTS

N.T.S.

PANELBOARD SCHEDULE														
NEW PANEL : MDP			MAINS: 600 AMP MAIN BREAKER - ULSE						SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE					
TYPE: BOLT - ON			AIC: 22,000 AMPERES						MOUNTED: SURFACE, NEMA 3R					
LOAD DIRECTORY	VOLT AMPERE LOAD			CIRCUIT BREAKERS						VOLT AMPERE LOAD			LOAD DIRECTORY	
	PHASE A	PHASE B	PHASE C	TRIP	POLE	CIR. #	CIR. #	TRIP	POLE	PHASE A	PHASE B	PHASE C		
PANEL MD	44,460	=====	=====	400		1	2	225		27,734	=====	=====	PANEL MB	
	=====	44,975	=====			3	4			=====	26,734	=====		
	=====	=====	44,380		3	5	6		3	=====	=====	22,584		
MBD	7,656	=====	=====	100		7	8	40		=====	=====	=====	SPD	
	=====	7,656	=====			9	10			=====	=====	=====		
	=====	=====	7,656		3	11	12		3	=====	=====	=====		
SPACE WITH BUSSING	=====	=====	=====			13	14			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			15	16			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			17	18			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			19	20			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			21	22			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			23	24			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			25	26			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			27	28			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			29	30			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			31	32			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			33	34			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			35	36			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			37	38			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			39	40			=====	=====	=====	SPACE WITH BUSSING	
SPACE WITH BUSSING	=====	=====	=====			41	42			=====	=====	=====	SPACE WITH BUSSING	
SUB TOTAL	52,116	52,631	52,036							27,734	26,734	22,584	SUB TOTAL	
CONNECTED LOAD PHASE A			79,850 VA			PANELBOARD NOTES:								
CONNECTED LOAD PHASE B			79,365 VA			1. PANEL SHALL BE UL LISTED FOR SERVICE ENTRANCE.								
CONNECTED LOAD PHASE C			74,620 VA											
TOTAL CONNECTED LOAD			233,835 VA =			650 AMPS								

MODIFIED PANELBOARD SCHEDULE														
EXISTING PANEL : M			MAINS: 225 AMP MAIN LUGS						SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE					
TYPE: BOLT - ON			AIC: 22,000 AMPERES						MOUNTED: SURFACE					
LOAD DIRECTORY	VOLT AMPERE LOAD			CIRCUIT BREAKERS						VOLT AMPERE LOAD			LOAD DIRECTORY	
				TRIP	POLE	CIR #	CIR #	TRIP	POLE					
	PHASE A	PHASE B	PHASE C							PHASE A	PHASE B	PHASE C		
AC-1	7,000			70		1	2	60		4,000			AIR COMPRESSOR 2	
						3	4							
						3	5	6		3				
BRIDGE CRANE	7,000			100		7	8	40					SPARE	
						9	10							
						3	11	12		3				
EF-3	500			15		13	14	15		500			EF-4	
						15	16							
						3	17	18		3				
EUH-1	1,700			20		19	20	20	1	500			IRH 1,2,3,4 IRH 5.6 EF 2-1,2	
						21	22	20	1					
						3	23	24	20	1				
AIR COMPRESSOR 1	4,000			60		25	26	20	1	700			* EF-1 * DS FAN CONTROLLER * DS FAN CONTROLLER	
						27	28	20	1					
						3	29	30	20	1				
* BAS CONNECTION	500			20	1	31	32	20	1	1,920			AIR DRYER	
* DS FAN CONTROLLER		500		20	1	33	34						SPACE WITH BUSSING	
* DS FAN CONTROLLER			500	20	1	35	36						SPACE WITH BUSSING	
SPACE WITH BUSSING						37	38						SPACE WITH BUSSING	
SPACE WITH BUSSING						39	40						SPACE WITH BUSSING	
SPACE WITH BUSSING						41	42						SPACE WITH BUSSING	
SUB TOTAL	20,700	20,700	20,700							7,620	5,500	5,300	SUB TOTAL	
CONNECTED LOAD PHASE A			28,320 VA			PANELBOARD NOTES:								
CONNECTED LOAD PHASE B			26,200 VA			* PROVIDE NEW BREAKER THAT IS COMPATIBLE WITH PANELBOARD.								
CONNECTED LOAD PHASE C			26,000 VA											
TOTAL CONNECTED LOAD			80,520 VA			= 224 AMPS								

PANELBOARD SCHEDULE														
NEW PANEL : MB			MAINS: 200 AMP MAIN LUGS						SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE					
TYPE: BOLT - ON			AIC: 22,000 AMPERES						MOUNTED: SURFACE					
LOAD DIRECTORY	VOLT AMPERE LOAD			CIRCUIT BREAKERS						VOLT AMPERE LOAD			LOAD DIRECTORY	
	PHASE A	PHASE B	PHASE C	TRIP	POLE	CIR #	CIR #	TRIP	POLE	PHASE A	PHASE B	PHASE C		
ERF - 1	1,276			20		1	2	20	1	1,000			LUBE MGT SYS	
						3	4	20	1		1,000		LUBE MGT SYS	
			1,276		3	5	6	20	1			1,000	LUBE MGT SYS	
ERF - 2	1,276			20		7	8	20	1	1,000			LUBE MGT SYS	
						9	10	50			5,000		* WELDER	
			1,276		3	11	12					5,000		
ERF - 3	1,276			20		13	14		3	5,000				
						15	16	50			5,000		* WELDER	
			1,276		3	17	18					5,000		
ERF - 4	1,276			20		19	20		3	5,000				
						21	22	60			3,780		** AUTOMOTIVE LIFT	
			1,276		3	23	24					3,780		
IWH - 1	4,150			50		25	26		3	3,780				
					2	27	28	15			900		DS-3	
DS-1			900	15		29	30					900		
						31	32		3	900				
			900		3	33	34						SPACE WITH BUSSING	
DS-2				15		35	36						SPACE WITH BUSSING	
			900			37	38						SPACE WITH BUSSING	
			900		3	39	40						SPACE WITH BUSSING	
SPACE WITH BUSSING						41	42						SPACE WITH BUSSING	
SUB TOTAL	11,054	11,054	6,904							16,680	15,680	15,680	SUB TOTAL	
CONNECTED LOAD PHASE A			27,734 VA			PANELBOARD NOTES:								
CONNECTED LOAD PHASE B			26,734 VA			* Provide a 50 Amp, 3 pole GFCI Breaker								
CONNECTED LOAD PHASE C			22,584 VA			** Provide a 60 Amp, 3 pole GFCI Breaker								
TOTAL CONNECTED LOAD			77,052 VA =			214 AMPS								

MODIFIED PANELBOARD SCHEDULE													
EXISTING PANEL : MD			MAINS: 400 AMP MAIN CIRCUIT BREAKER						SERVICE: 120/208 VOLTS, 3 PHASE, 4 WIRE				
TYPE: BOLT - ON			AIC: 22,000 AMPERES						MOUNTED: SURFACE				
LOAD DIRECTORY	VOLT AMPERE LOAD			CIRCUIT BREAKERS						VOLT AMPERE LOAD			LOAD DIRECTORY
	PHASE A	PHASE B	PHASE C	TRIP	POLE	CIR #	CIR #	TRIP	POLE	PHASE A	PHASE B	PHASE C	
	1,200	=====	=====	100		1	2	50		5,000	=====	=====	
FUEL PNL	=====	1,200	=====			2 <td>3</td> <td>4</td> <td></td> <td>=====</td> <td>5,000</td> <td>=====</td> <td>WELDER BAY 1-3</td>	3	4		=====	5,000	=====	WELDER BAY 1-3
* FMCU	=====	=====	1,000	20	1	5	6		3	=====	=====	5,000	
PNL - L	7,940	=====	=====	150		7	8	20	1	1,000	=====	=====	EXTERIOR LIGHTS
	=====	8,075	=====			9	10	20	1	=====	1,000	=====	EXTERIOR LIGHTS
	=====	=====	7,880		3	11	12	20	1	=====	=====	1,000	EXTERIOR LIGHTS
PNL - M	28,320	=====	=====	225		13	14	20	1	1,000	=====	=====	EXTERIOR LIGHTS
	=====	26,200	=====			15	16			=====	=====	=====	
	=====	=====	26,000		3	17	18			=====	=====	=====	
SPACE WITH BUSSING	=====	=====	=====			19	20			=====	=====	=====	
PARTS WASHER	=====	1,000	=====	100		21	22	30		=====	2,500	=====	ICE MAKER
	=====	=====	1,000			23	24		2	=====	=====	2,500	
SPACE WITH BUSSING	=====	=====	=====			25	26			=====	=====	=====	
SPACE WITH BUSSING	=====	=====	=====			27	28			=====	=====	=====	
SPACE WITH BUSSING	=====	=====	=====			29	30			=====	=====	=====	
SPACE WITH BUSSING	=====	=====	=====			31	32			=====	=====	=====	SPACE WITH BUSSING
SPACE WITH BUSSING	=====	=====	=====			33	34			=====	=====	=====	SPACE WITH BUSSING
SPACE WITH BUSSING	=====	=====	=====			35	36			=====	=====	=====	SPACE WITH BUSSING
SPACE WITH BUSSING	=====	=====	=====			37	38			=====	=====	=====	SPACE WITH BUSSING
SPACE WITH BUSSING	=====	=====	=====			39	40			=====	=====	=====	SPACE WITH BUSSING
SUB TOTAL	37,460	36,475	35,880							7,000	8,500	8,500	SUB TOTAL
CONNECTED LOAD PHASE A				44,460 VA				PANELBOARD NOTES:					
CONNECTED LOAD PHASE B				44,975 VA				* PROVIDE NEW BREAKER THAT IS COMPATIBLE WITH PANELBOARD.					
CONNECTED LOAD PHASE C				44,380 VA									
TOTAL CONNECTED LOAD				133,815 VA = 372 AMPS									

TELECOMMUNICATION LEGEND

- TYP COMM DROP,
- TV TYP COMM DROP, TV HEIGHT
- AC TYP COMM DROP, ABOVE COUNTER

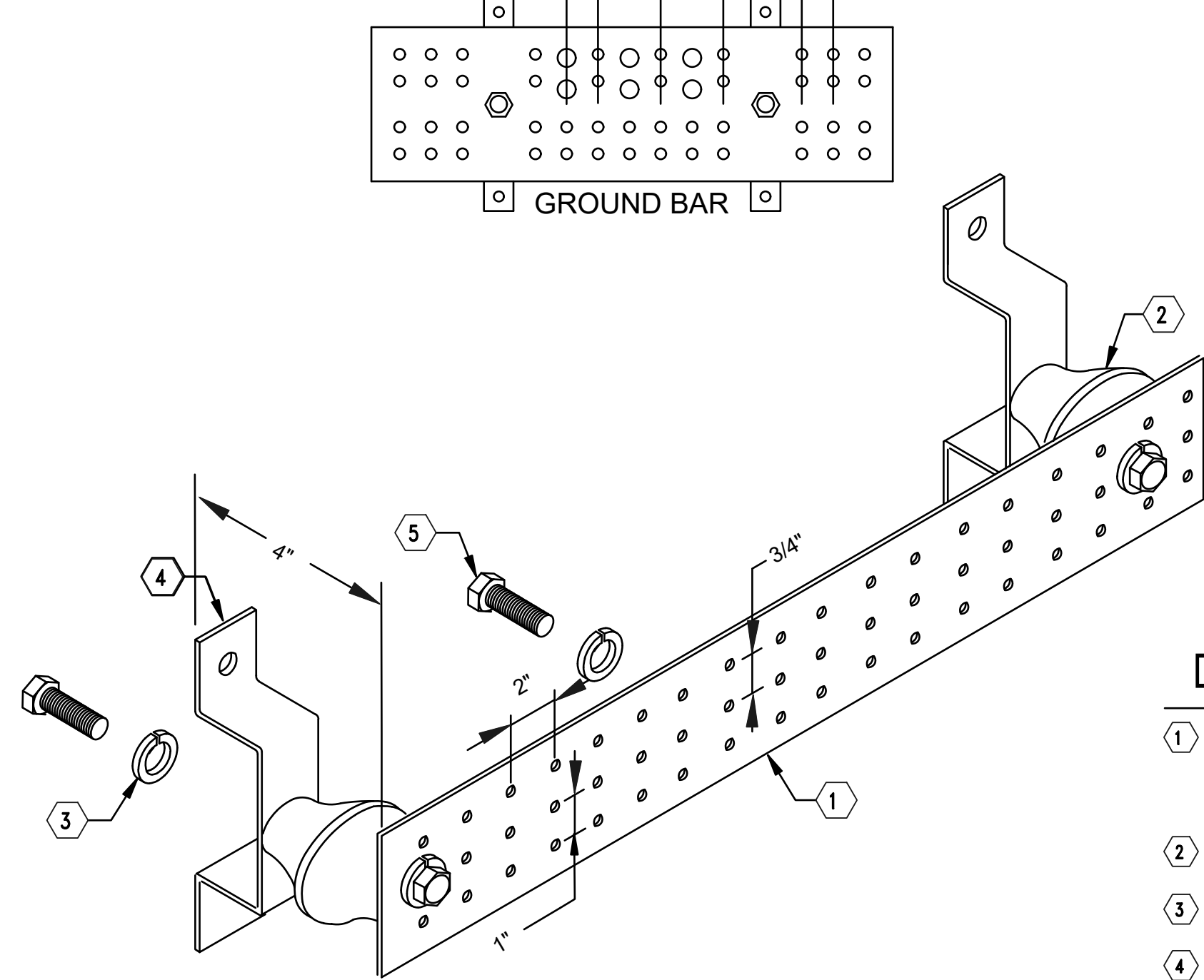
CONNECT TO BUILDINGS COMMON GROUND ELECTRODE SYSTEM

#4/0

CONNECT TO ALL SECTIONS OF CABLE RACK TRAY AND CAMBE TRAY

CONNECT TO ALL DATA RACKS

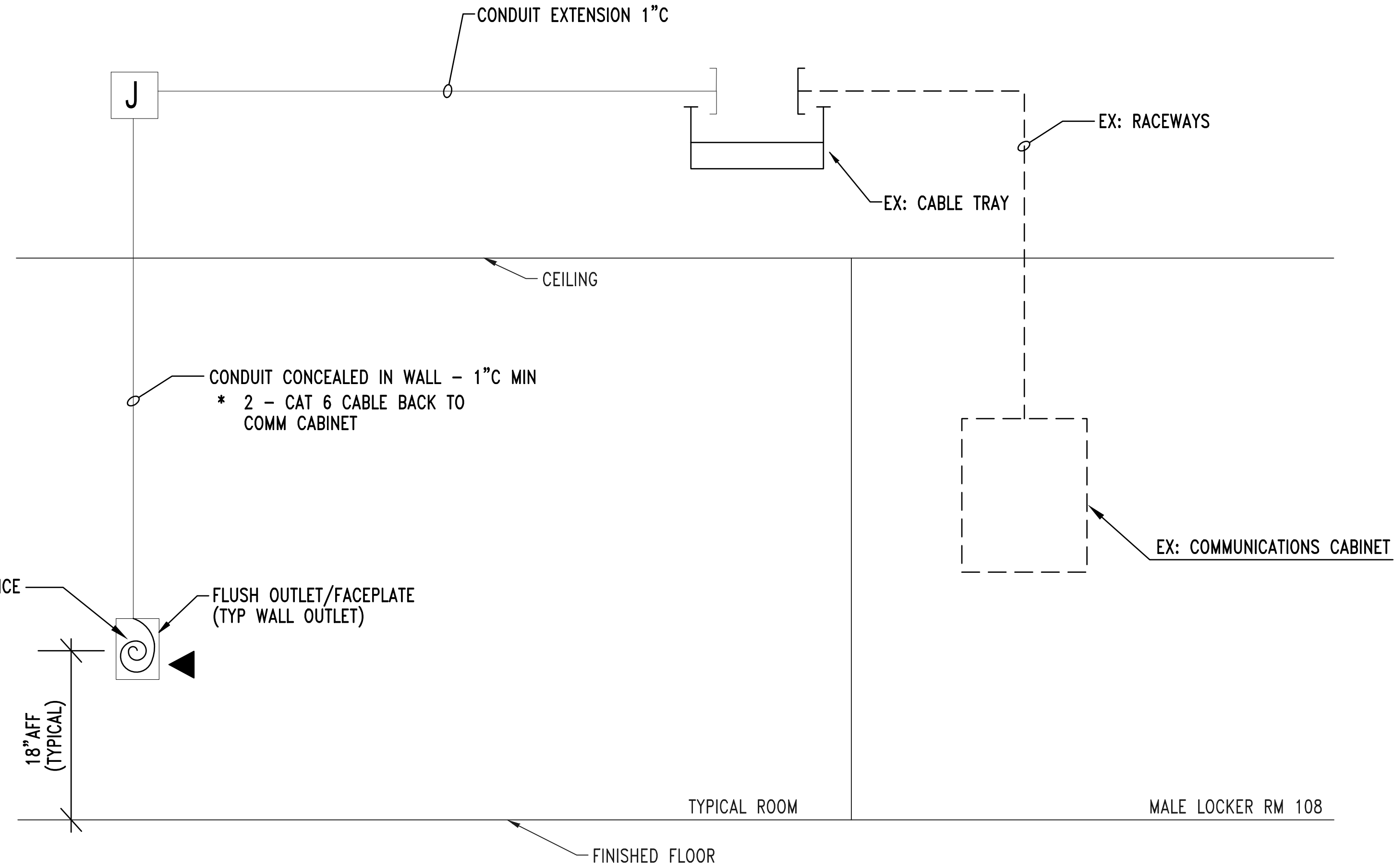
CONNECT TO RISER CABLE SHEATHS



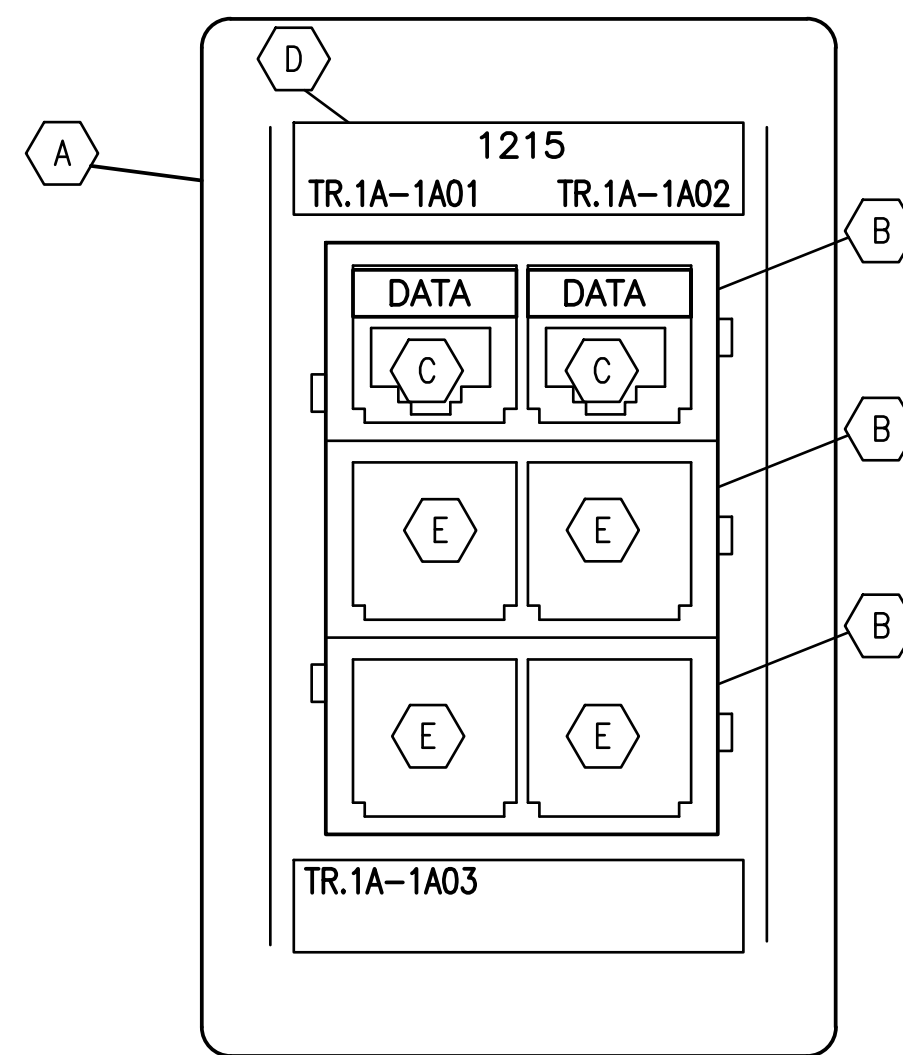
DETAIL KEYED NOTES

- COPPER GROUND BAR, 1/4" x 4" x 35.5". HOLE CENTERS MATCH NEMA DOUBLE LUG CONFIGURATION.
- STAND-OFF INSULATORS
- LOCKWASHERS
- WALL MOUNTING BRACKET
- HHCS BOLTS

A
E-800
DETAIL - TYPICAL COMMUNICATIONS GROUNDING BUSBAR
NO SCALE



B
E-800
DETAIL - TYPICAL COMMUNICATIONS OUTLET (CO) DROPS
NO SCALE



TYPE "D3" CO KEY NOTES

- COMMUNICATIONS OUTLET FACEPLATE, (FACEPLATE COLOR WHITE).
- FLAT BEZEL TYPE, MODULE INSERT FOR FACEPLATE, COLOR TO MATCH FACEPLATE
- SNAP-IN COUPLER WITH 8-PIN MODULAR JACK ASSEMBLY. ORANGE COUPLERS FOR (3) DATA JACKS.
- COMMUNICATIONS OUTLET IDENTIFIER (SEE "CO IDENTIFICATION NOMENCLATURE") ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.
- SNAP-IN BLANK MODULE, COLOR TO MATCH FACEPLATE COLOR.

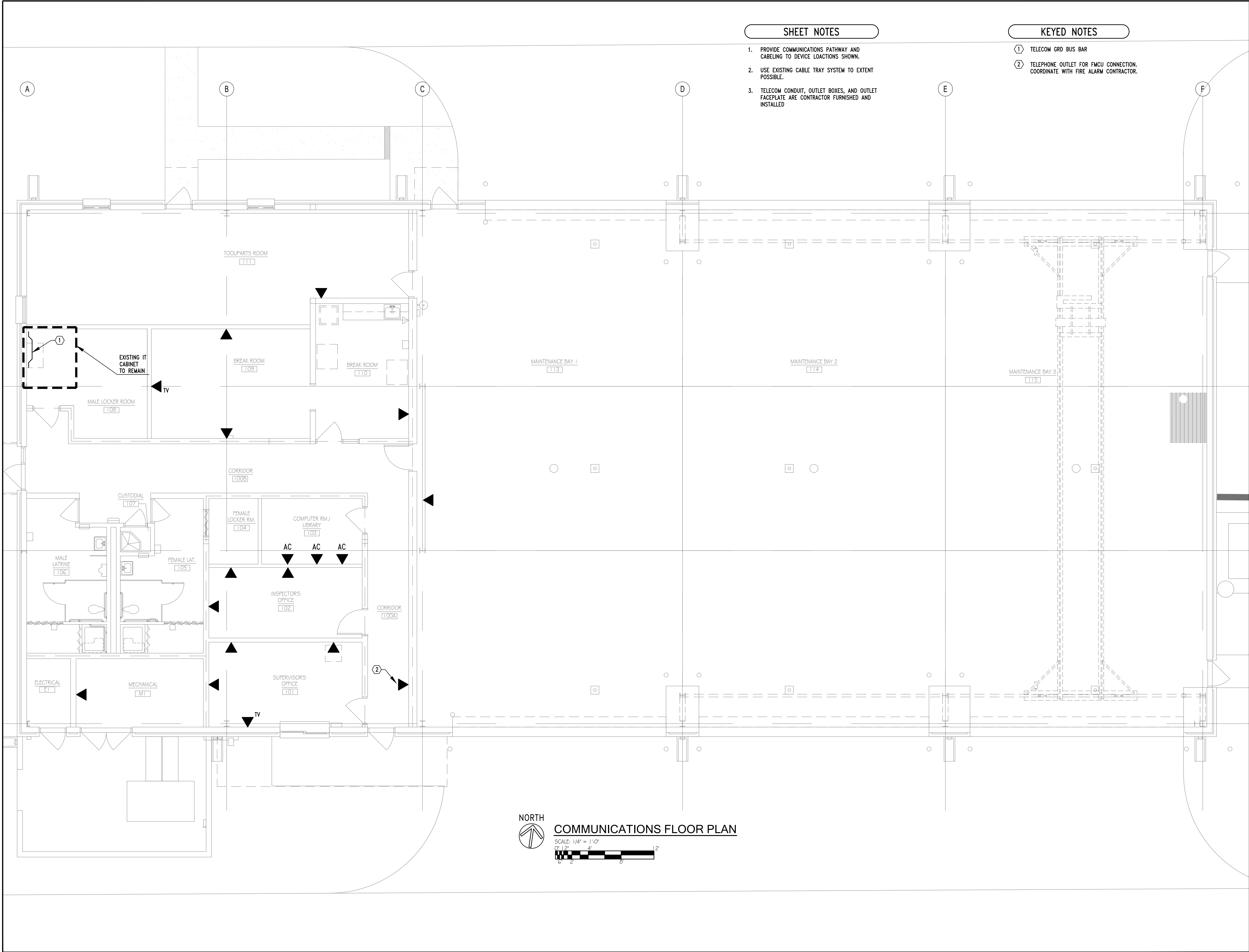
NOTE:
ALL LABELING TO ADHERE TO UFC 03-580-01 AND EIA/TIA 606-B.

CO GENERAL NOTES

- SECURE CAT 6 CABLES TO JACK ASSEMBLIES USING FACTORY FURNISHED CABLE-TIE EYELETS AND CABLE TIES FOR CABLE MANAGEMENT AND STRAIN RELIEF. CONFORM TO MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- SEE B/E800 FOR TYPICAL INSTALLATION OF COMMUNICATIONS OUTLETS.

TYPICAL COMMUNICATIONS OUTLET (CO) - FACEPLATE DETAIL

C
E-800
NO SCALE



SHEET NOTES

1. PROVIDE COMMUNICATIONS PATHWAY AND CABELING TO DEVICE LOACTIONS SHOWN.
2. USE EXISTING CABLE TRAY SYSTEM TO EXTENT POSSIBLE.
3. TELECOM CONDUIT, OUTLET BOXES, AND OUTLET FACEPLATE ARE CONTRACTOR FURNISHED AND INSTALLED

KEYED NOTES

- 1 TELECOM GRD BUS BAR
- 2 TELEPHONE OUTLET FOR FMCU CONNECTION. COORDINATE WITH FIRE ALARM CONTRACTOR.

NORTH
↑

COMMUNICATIONS FLOOR PLAN

SCALE: 1/4" = 1'-0"
0" 12" 4" 12"

PWBA

ARCHITECTS

PWBA Architects, Inc.
520 SOUTH PERRY STREET • SUITE 10
MONTGOMERY, ALABAMA 36104
(334) 244-4990

ALABAMA
REGISTERED
7-25-22
PROFESSIONAL
ARCHITECT
David D. Willis
D. WILLIS

NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION of ALABAMA
ALEXANDRIA, ALABAMA

PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN TAT	CHECKED JDW
SHEET TITLE COMMUNICATIONS FLOOR PLAN	

SHEET NUMBER
E801

NOTES:

1. ALL CONDUCTOR SIZES ARE INDICATED IN AMERICAN WIRE GAUGE (AWG) OR "KCMIL" UNLESS NOTED OTHERWISE.
2. UNLESS NOTED OTHERWISE LOW VOLTAGE CONDUCTORS SHALL BE RATED AT 600 VOLTS BASED UPON AN AMBIENT TEMPERATURE OF 30 DEGREES C AND AS FOLLOWS:
 - COPPER
 - INSULATED (THW OR THHN/THWN TYPE)
 - TEMPERATURE RATING - 75 DEGREES C
3. SEE "CONDUCTOR SCHEDULE & PROPERTIES DESIGNATIONS"

FUSE SCHEDULE - LOW VOLTAGE

NOTES:
FUSES SHALL BE IN ACCORDANCE WITH ANSI C97.1 AND THE ANSI/UL 198 SERIES. THE NONRENEWABLE TYPE, AND SHALL BE APPLIED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND CONTRACT DOCUMENTS.

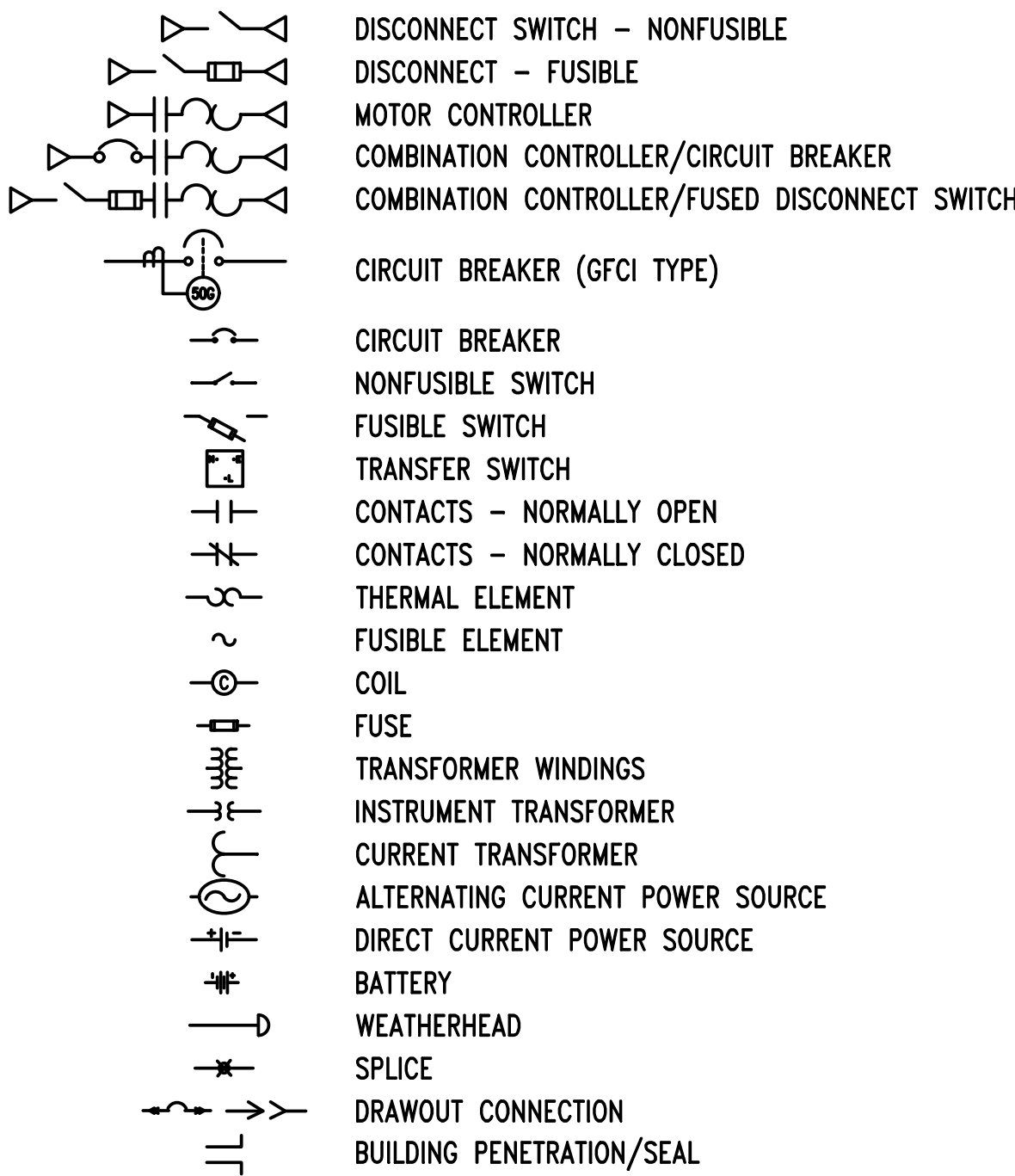
UTILITY INFORMATION

PRIMARY VOLTAGE	12,470
SECONDARY VOLTAGE	120/208Y
AVAILABLE FAULT CURRENT	19,856

CIRCUIT BREAKER SCHEDULE

NOTES:
1. LOW VOLTAGE CIRCUIT BREAKERS SHALL BE IN ACCORDANCE WITH ANSI C37.100 AND UL 489.

DIAGRAM SYMBOLS

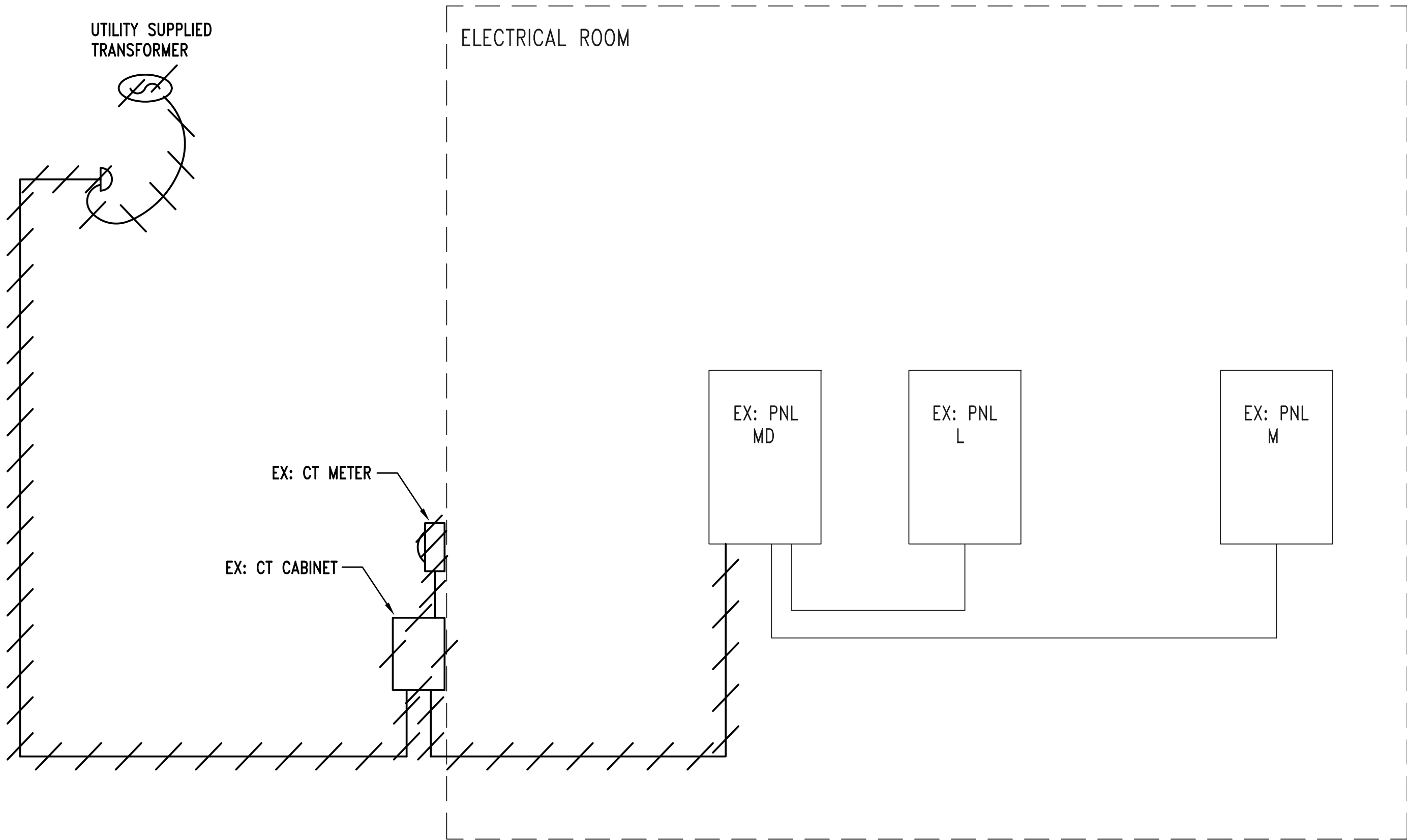


SINGLE LINE DIAGRAM NOTES

- OVERCURRENT
• SHORT CIRCUIT
• GROUND-FAULT
• OVERLOAD
- FOLLOWING TYPES OF DEVICES ARE TO BE USED AND COORDINATED FOR THIS PROJECT:
- CIRCUIT BREAKERS
 - FUSES
 - GROUND-FAULT SENSING DEVICES
- COORDINATION, INSTALLATION AND CONNECTION OF ALL DEVICES SHALL BE IN ACCORDANCE WITH THE NEC, MANUFACTURER'S RECOMMENDATIONS AND CONTRACT REQUIREMENTS.
- EQUIPMENT LOADS AND PROTECTION ARE TYPICAL AND BASED UPON DESIGN INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN INFORMATION FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND VERIFY WITH ALL DIVISIONS THE ACTUAL NAMEPLATE DATA OF ALL EQUIPMENT AND DEVICES SUPPLIED ON THIS PROJECT. BASE BID SHALL INCLUDE PROVIDING THE PROPER PROTECTIVE DEVICES FOR ALL COMPONENTS OF THE ELECTRICAL SYSTEM IN ACCORDANCE WITH NOTE 3 ABOVE AND AS PER EQUIPMENT MANUFACTURER'S NAMEPLATE DATA OR INSTRUCTIONS. THE CONTRACT DRAWINGS MAY NOT REFLECT THE ACTUAL FUSE SIZE FOR CERTAIN SYSTEMS AND THE CONTRACTOR SHALL BE RESPONSIBLE TO SIZE IN ACCORDANCE WITH NAMEPLATE DATA AND FURNISH INFORMATION WITH THE AS-BUILT DRAWINGS.
- CIRCUIT BREAKERS SHALL BE CONNECTED AND PROTECTED WITH PROPER OVER-CURRENT PROTECTION. SHORT CIRCUIT PROTECTION DEVICES IN ACCORDANCE WITH THE FOLLOWING:
- NAMEPLATE DATA OR MANUFACTURER'S WRITTEN DATA FOR ACTUAL MOTOR SUPPLIED
 - MANUFACTURER'S TERMINAL MARKINGS
 - NEMA CODE LETTER
 - CORRECT ROTATION
- CIRCUIT BREAKERS SHALL BE INSTALLED AS INDICATED RATED FOR THE PROPER VOLTAGE POTENTIAL, CURRENT, FREQUENCY, AND THE INTERRUPTING RATING INDICATED. CIRCUIT BREAKERS SHALL BE INSTALLED IN UL LISTED ENCLOSURES IN THE ENVIRONMENTAL LIMITATION LISTED OF THE UNIT, SUCH AS AMBIENT TEMPERATURE, HUMIDITY, CLEAN & FREE FROM CONTAMINANTS. CIRCUIT BREAKERS SHALL PROVIDE SIMULTANEOUS DISCONNECTION OF ALL PHASE CONDUCTORS DURING OPERATION. ALL LOW VOLTAGE CIRCUIT BREAKERS WITHIN THE SYSTEM SHALL BE OF THE SAME MANUFACTURER SO THAT COORDINATION UP AND DOWN STREAM CAN BE MAINTAINED.
- CIRCUIT BREAKERS SHALL BE INSTALLED AS INDICATED, RATED FOR THE PROPER VOLTAGE, CURRENT, FREQUENCY, MAXIMUM PEAK LET THROUGH, MAXIMUM CLEARING ENERGY (I²t), AND THE INTERRUPTING RATING INDICATED. FUSES SHALL BE INSTALLED IN UL LISTED ENCLOSURES WITHIN THE ENVIRONMENTAL LIMITATION LISTED OF THE UNITS, SUCH AS AMBIENT TEMPERATURE, HUMIDITY, CLEAN & FREE FROM CONTAMINANTS. ALL FUSES WITHIN THE SYSTEM SHALL BE OF THE SAME MANUFACTURER SO THAT COORDINATION UP AND DOWN STREAM CAN BE FACILITATED. WHEN APPLYING AND INSTALLING PROTECTIVE DEVICES THE CONTRACTOR SHALL TAKE INTO CONSIDERATION THE FOLLOWING:
- STEADY STATE CONTINUOUS CURRENT
 - IN-RUSH CURRENT FROM MOTOR STARTING
 - IN-RUSH CURRENT FROM TRANSFORMER MAGNETIZING UNDER LOAD
 - SHORT CIRCUIT WITHSTAND RATINGS-NEC 110-10 AND 240-1
 - INTERRUPTING RATINGS-NEC 110-9 AND 230-65
 - CURRENT LIMITING LET THROUGH CURRENTS-NEC 240-11
- THE CONTRACTOR IS TOTALLY RESPONSIBLE FOR THE INSTALLATION, MARKING AND TESTING OF ALL POWER CONDUCTORS FOR THE PROPER PHASE SEQUENCE AND RATED VOLTAGE. PHASE METERS SHALL BE USED TO TEST EACH FEEDER AND BRANCH CIRCUIT PRIOR TO CONNECTING LOADS.
- THE CONTRACTOR SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS:
- UL 1449 LISTED
 - MIN SURGE CURRENT CAPABILITY - 160kA/PH
 - SUPPRESSION VOLTAGE RATING NOT TO EXCEED -
 - * L-N: 330V
 - * L-G: 330V
 - * N-G: 330V
 - * MCOV: 150V

SHEET NOTES

- 1. SEE DEMOLITION REQUIREMENTS ON E003.
- 2. SEE SLD NOTES ON E900.



SINGLE LINE DIAGRAM - DEMOLITION

NO SCALE

NO.	REVISION DESCRIPTION	DATE

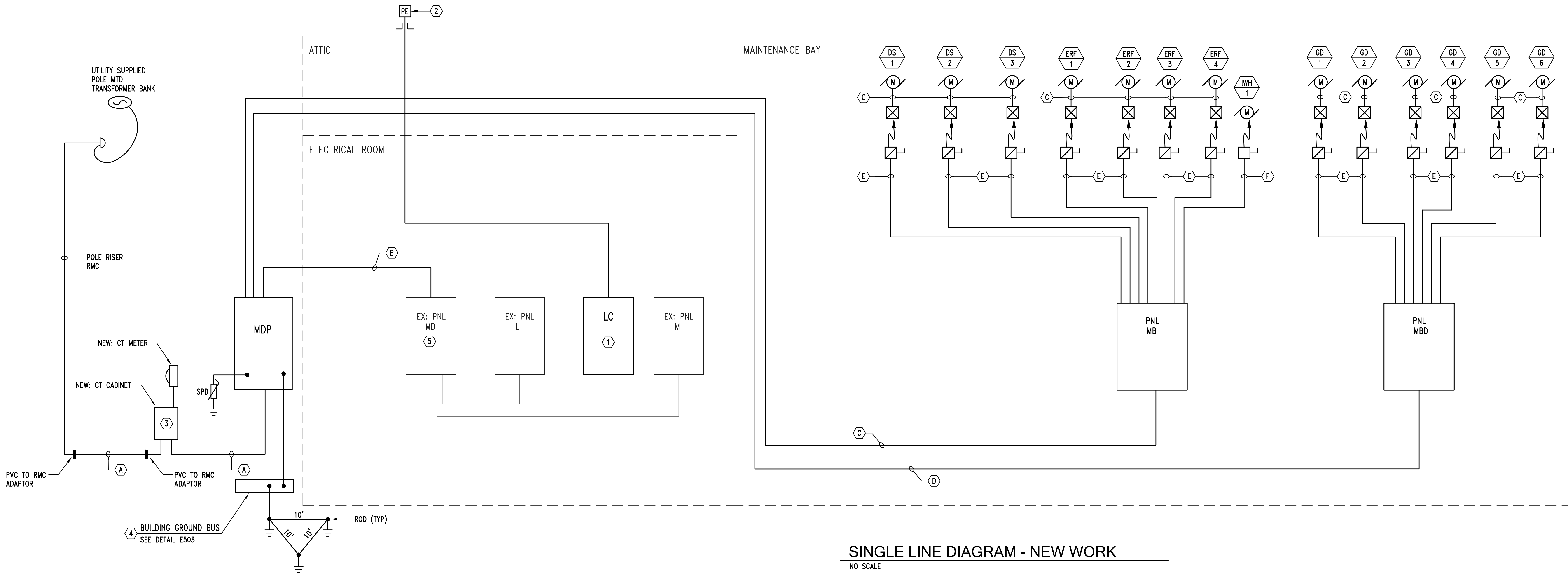
PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN TAT	CHECKED JDW
SHEET TITLE SINGLE LINE DIAGRAM - DEMOLITION	



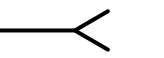
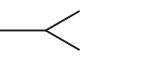
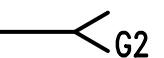
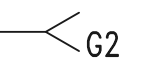







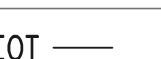

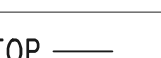

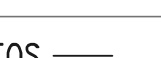
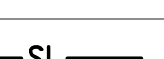
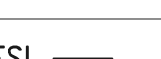
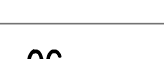
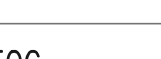
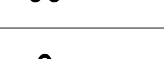
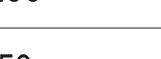


GENERAL EQUIPMENT SCHEDULE									GENERAL EQUIPMENT SCHEDULE								
EQUIPMENT DATA						DISCONNECT SWITCH		REMARKS	EQUIPMENT DATA						DISCONNECT SWITCH		REMARKS
MARK	EQUIPMENT DESCRIPTION	VOLTAGE/PHASE	LOAD HP	INFORMATION KVA	AMPS	CHARACTERISTICS	NEMA TYPE ENCLOSURE		MARK	EQUIPMENT DESCRIPTION	VOLTAGE/PHASE	LOAD HP	INFORMATION KVA	AMPS	CHARACTERISTICS	NEMA TYPE ENCLOSURE	
ERF 1	EXHAUST REEL FAN #1	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH	IWH 1	INSTANTANEOUS WATER HEATER	208V/1PH	-	8.3	40	60A/2P	1	NON-FUSED
ERF 2	EXHAUST REEL FAN #2	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH	DS 1	DISTRATIFICATION FAN	208V/3PH	2	-	7.5	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
ERF 3	EXHAUST REEL FAN #3	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH	DS 2	DISTRATIFICATION FAN	208V/3PH	2	-	7.5	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
ERF 4	EXHAUST REEL FAN #4	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH	DS 3	DISTRATIFICATION FAN	208V/3PH	2	-	7.5	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 1	INFRARED UNIT HEATER #1	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 1	GARAGE DOOR #1	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 2	INFRARED UNIT HEATER #2	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 2	GARAGE DOOR #2	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 3	INFRARED UNIT HEATER #3	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 3	GARAGE DOOR #3	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 4	INFRARED UNIT HEATER #4	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 4	GARAGE DOOR #4	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 5	INFRARED UNIT HEATER #5	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 5	GARAGE DOOR #5	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
IR 6	INFRARED UNIT HEATER #6	120V/1PH	-	-	5	30A/1P	1	NON-FUSED	GD 6	GARAGE DOOR #6	208V/3PH	3	-	10.6	30A/3P	1	FUSIBLE/MOTOR STARTER/STOP-START SWITCH
									<p>NOTES:</p> <p>1. ALL EQUIPMENT CONNECTIONS, TERMINATIONS, PROTECTION, ETC., SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED DATA OR NAMEPLATE DATA.</p> <p>2. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY, HORSEPOWER RATED, WITH 200,000 AIC. CL REJECTION KITS SHALL BE PROVIDED WHEN CURRENT LIMITING FUSES ARE UTILIZED. NOMINAL VOLTAGE RATING OF EACH DISCONNECT SWITCH SHALL BE AS FOLLOWS: 250 VOLT - 240 VOLT SYSTEMS AND BELOW 600 VOLT - 480 VOLT SYSTEMS</p> <p>3. FUSES SHALL BE INSTALLED IN EACH FUSIBLE DISCONNECT SWITCH IN ACCORDANCE WITH THE FUSE SCHEDULE, SINGLE LINE DIAGRAM AND/OR EQUIPMENT CRITERIA.</p> <p>*" INDICATES WHEN THE CONTRACTOR IS RESPONSIBLE FOR SIZING THE PROPER FUSE PER THE NAMEPLATE DATA OF THE ACTUAL EQUIPMENT SUPPLIED.</p>								











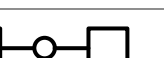





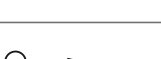
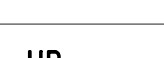


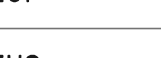


SHEET NOTES



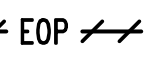
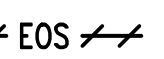

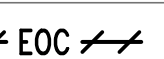
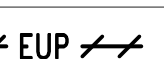
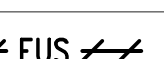
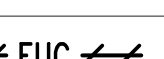

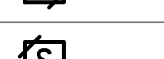
- SEE SLD NOTES ON E900.

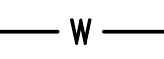

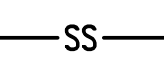
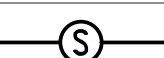
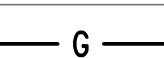
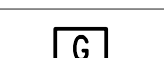
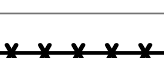
- KEYED NOTES
- NEW LIGHTING CONTACTOR PANEL. PROVIDE WITH THE FOLLOWING FEATURES:
 - 120V, 4 POLE, 1PH, 20A
 - SEE A/E-602
 - NEW PHOTOCCELL MOUNTED ABOVE ROOF AND FACE NORTH.
 - SEE B/E-602
 - INSTALL NEW CT CABINET AND METER.
 - (3) 600/5 CT
 - PROVIDE GROUND LUG
 - INSTALL GROUNDING ELECTRODE SYSTEM
 - 1/0 TO CWP
 - 1/0 TO BLDG GRD BUS
 - SEE SHEET E-502
 - REMOVE EXISTING MAIN BONDING JUMPER FROM PANEL MD TO ISOLATE NEUTRAL BAR FROM EQUIPMENT GROUNDING BAR.



AERIAL SITE LEGEND		
NEW	EXISTING	DESCRIPTION
		UTILITY POLE - SEE POLE SCHEDULE
		SINGLE DOWN GUY AND ANCHOR ASSEMBLY
		DOUBLE DOWN GUY AND ANCHOR ASSEMBLIES
		POLE MTD TRANSFORMER
		GROUP OPERATED POLE MTD SWITCH ASSEMBLY
		CUTOUT SWITCH ASSEMBLY
		OVERHEAD TRANSMISSION LINE
		OVERHEAD PRIMARY
		OVERHEAD SECONDARY
		OVERHEAD STREET LIGHT CIRCUIT
		OVERHEAD COMMUNICATIONS CIRCUIT
		OVERHEAD GUY SPAN
		OVERHEAD SHIELD WIRE
		FLOOD LIGHT ASSEMBLY

UNDERGROUND SITE LEGEND		
NEW	EXISTING	DESCRIPTION
		PAD MOUNTED TRANSFORMER (PMT)
		PAD MOUNTED SWITCH (PMS)
		MANHOLE
		HANDHOLE
		SINGLE UNIT LIGHTING STANDARD - TYPE NOTED
		DOUBLE UNIT LIGHTING STANDARD - TYPE NOTED
		LIGHTING STANDARD LUMINAIRE - NIGHT LIGHT
		LIGHTING BOLLARD
		GRADE MOUNTED FLOOD LIGHT - TYPE NOTED
		UNDERGROUND PRIMARY
		UNDERGROUND SECONDARY
		UNDERGROUND COMMUNICATIONS

SITE DEMOLITION LEGEND	
	EXISTING UTILITY POLE TO BE REMOVED
	EXISTING POLE MTD LUMINAIRE TO BE REMOVED
	EXISTING OVERHEAD PRIMARY CIRCUIT TO BE REMOVED
	EXISTING OVERHEAD SECONDARY CIRCUIT TO BE REMOVED
	EXISTING OVERHEAD STREET LIGHT CIRCUIT TO BE REMOVED
	EXISTING OVERHEAD COMMUNICATION CIRCUIT TO BE REMOVED
	EXISTING UNDERGROUND PRIMARY CIRCUIT TO BE REMOVED
	EXISTING UNDERGROUND SECONDARY CIRCUIT TO BE REMOVED
	EXISTING UNDERGROUND COMMUNICATION CIRCUIT TO BE REMOVED
	EXISTING PAD MOUNTED TRANSFORMER TO BE REMOVED
	EXISTING PAD MOUNTED SWITCH TO BE REMOVED

MISCELLANEOUS SITE LEGEND	
	WATER LINE
	FIRE HYDRANT
	SANITARY SEWER LINE
	SANITARY SEWER MANHOLE
	GAS LINE
	GAS METER
	FENCING

SITE NOTES

1. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING SITE CONDITIONS. ANY EXISTING BURIED OR OVERHEAD UTILITY SYSTEMS IN DIRECT CONFLICT WITH PROPOSED SITE IMPROVEMENTS SHALL BE RELOCATED BY THE CONTRACTOR.
2. PROPER CARE SHALL BE TAKEN TO ENSURE CONTINUOUS CONTINUITY OF ALL UTILITY SYSTEMS. ALL SYSTEM DISRUPTIONS SHALL BE SCHEDULED AND APPROVED IN WRITING PRIOR TO DISCONNECTING. ANY DAMAGED UTILITY SYSTEMS SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY AT THE CONTRACTORS EXPENSE. SEE GENERAL DEMOLITION NOTE 6.

GENERAL SITE DEMOLITION NOTES

1. PLANNED INTERRUPTIONS OF UTILITY SERVICE TO ANY FACILITY OR AREAS WITHIN ANY FACILITY AFFECTED BY THIS CONTRACT, SHALL BE CAREFULLY PLANNED AND COORDINATED WITH THE OWNER IN ADVANCE OF THE REQUESTED INTERRUPTION. THE CONTRACTOR SHALL NOT INTERRUPT UTILITIES OR SERVICES UNTIL SPECIFIED APPROVAL HAS BEEN GRANTED. THE REQUEST SHALL INDICATE SERVICES AND AREAS TO BE AFFECTED, DATE AND TIME OF INTERRUPTION AND DURATION OF OUTAGE. REQUEST FOR INTERRUPTION OF SERVICE WILL NOT BE APPROVED UNTIL ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE COMPLETION OF THAT PARTICULAR PHASE OF WORK ARE ON THE JOB SITE.
2. ALL EXCAVATIONS AND/OR DEMOLITION WORK REQUIRED SHALL BE PERFORMED WITH CARE SO AS NOT TO INTERRUPT OTHER EXISTING SERVICES (WATER, GAS, ELECTRICAL, SEWER, SPRINKLERS, ETC.). IF ACCIDENTAL UTILITY INTERRUPTION, DAMAGE, ETC., RESULTS FROM WORK PERFORMED BY THE CONTRACTOR, THE AFFECTED UTILITY OR SERVICE SHALL BE RETURNED TO ITS ORIGINAL CONDITION WITHOUT DELAY, BY AND AT THE EXPENSE OF THE CONTRACTOR, USING SKILLED WORKMEN OF THE TRADE INVOLVED.
3. SYMBOLS SHOWN ARE TYPICAL AND LOCATIONS ARE APPROXIMATE AND ARE NOT INTENDED TO LIMIT THE AMOUNT OF DEMOLITION. COORDINATE WITH EXISTING CONDITIONS AND THESE NOTES AND REMOVE ALL APPLICABLE SYSTEMS AND COMPONENTS CONFLICTING WITH FINISHED DESIGN INTENT.
4. TRENCH, CUT AND REMOVE EXISTING SURFACES AS REQUIRED FOR THE INSTALLATION OF ALL NEW ELECTRICAL PROVISIONS.
5. IN GENERAL, THE WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
 - a. PROVIDE ALL DEMOLITION AS REQUIRED OF EXISTING SYSTEMS REMOVING ALL ITEMS THAT CONFLICT WITH FINISHED DESIGN INTENT AS INDICATED ABOVE.
 - b. MODIFY, REPLACE, REPAIR, REVISE ETC., EXISTING SYSTEMS AND/OR EQUIPMENT AS INDICATED.
 - c. EXTEND EXISTING SYSTEMS AS REQUIRED TO FUNCTION AS SPECIFIED AND IN ACCORDANCE WITH SYSTEM REQUIREMENTS.
 - d. NEW SYSTEM COMPONENTS SHALL MATCH EXISTING SYSTEMS PROVISIONS AND BE COMPLETELY COMPATIBLE AND IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. WHEN REQUIRED, APPROVAL FROM A SYSTEM MANUFACTURER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO INSTALLING ANY NEW EQUIPMENT OR DEVICES TO AN EXISTING SYSTEM.
6. TEN(10) WORKING DAYS ADVANCE NOTIFICATION IS REQUIRED FOR OUTAGE APPROVAL.



ARCHITECTS

PWBA Architects, Inc.
529 SOUTH PERRY STREET • SUITE 15
MONTGOMERY, ALABAMA 36104
(205) 244-4990



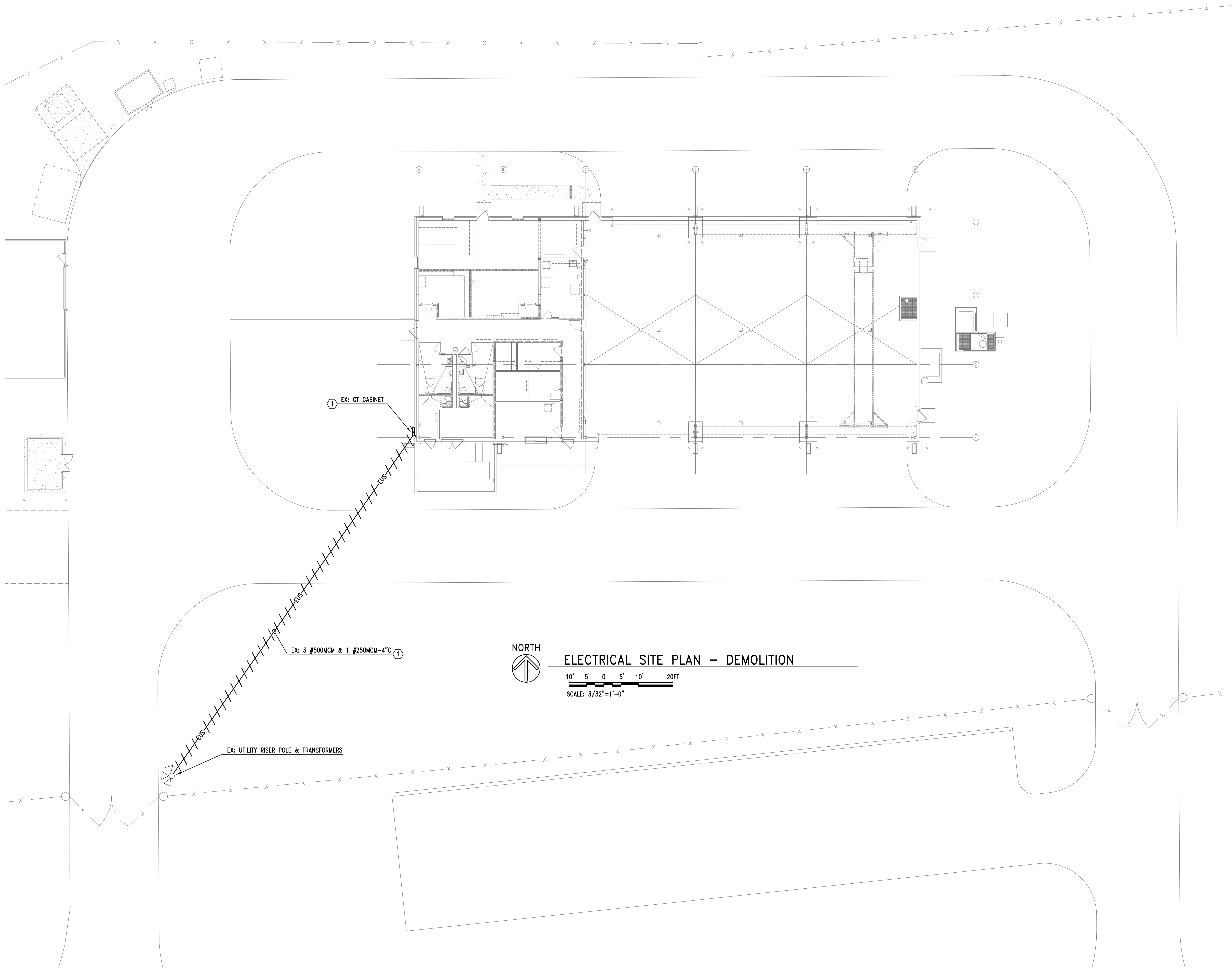
NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION
ARMORY COMMISSION OF ALABAMA
ALEXANDRIA, ALABAMA

PROJECT NUMBER 2020-0804	ORIGINAL DATE 7/28/22
DRAWN TAT	CHECKED JDW

SHEET TITLE
ELECTRICAL SITE
LEGEND AND
NOTES

SHEET NUMBER
ES100



KEYED NOTES

- ① DISCONNECT AND REMOVE EXISTING 400A SERVICE ENTRANCE UNDERGROUND CONDUIT, CONDUCTORS, CT CABINET AND CT METER.



ARCHITECTS

PWBA Architects, Inc.
520 SOUTH PERRY STREET • SUITE 10
MONTGOMERY, ALABAMA 36104
(334) 244-4990

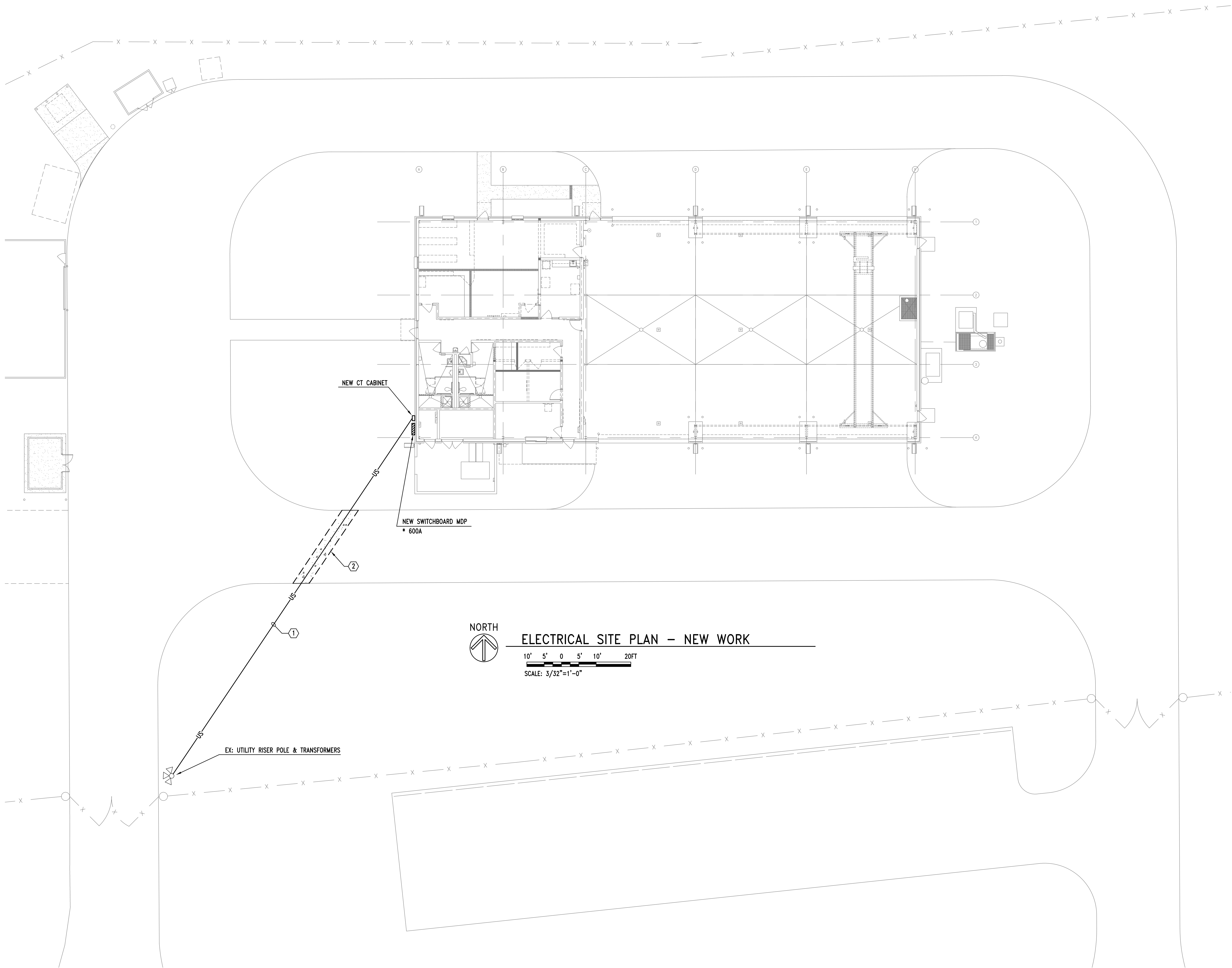


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SHEET TITLE ELECTRICAL SITE PLAN - DEMOLITION	

SHEET NUMBER
ES101



KEYED NOTES

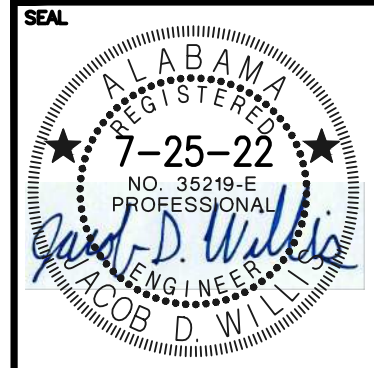
- ① INSTALL NEW 600A SERVICE ENTRANCE POLE RISER, UNDERGROUND CONDUIT, CT CABINET, CT METER, AND NEW 600A NEMA 3R SWITCHBOARD.
* SEE SHEET E202
* SEE SHEET E900 FOR CONDUIT AND WIRE SIZES.
- ② SEE B/E402 FOR CONCRETE PATCH AND REPAIR.

SHEET NOTES

1. SEE E400 FOR TRENCHING, BACKFILLING AND REPAIR REQUIREMENTS.



PWBA Architects, Inc.
529 SOUTH PERRY STREET • SUITE 10
MONTGOMERY, ALABAMA 36104
(334) 244-4990



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SHEET TITLE ELECTRICAL SITE PLAN - NEW WORK	

SHEET NUMBER
ES201

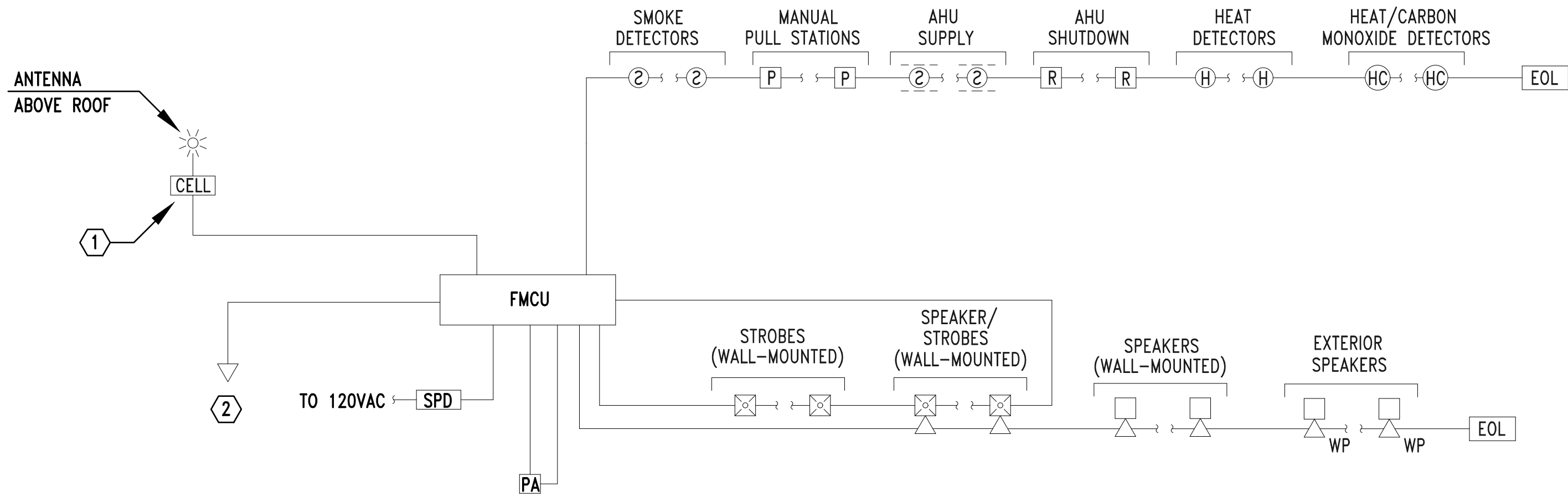
FIRE ALARM/MASS NOTIFICATION / PUBLIC ADDRESS SYSTEM SEQUENCE OF OPERATION MATRIX													
DEVICE	ALARM AT FMCU	SUPERVISORY AT FMCU	TROUBLE AT FMCU	ALARM AT RECEIVING STATION	SUPERVISORY AT RECEIVING STATION	TROUBLE AT RECEIVING STATION	ACTIVATE SPEAKER STROBES & FIRE ALARM MESSAGE	ACTIVATE SPEAKERS STROBES & MNS MESSAGE	SILENCE SPEAKERS AND STROBES	SHUTDOWN AHU	OVERRIDE PA MESSAGE	OVERRIDE FA MESSAGE	ACTIVATE SPEAKERS
MANUAL PULL STATION	●			●			●						
SMOKE OR HEAT DETECTOR	●			●			●						
DUCT SMOKE DETECTOR	●			●			●			●			
CARBON MONOXIDE DETECTOR		●			●		●						
FIRE ALARM TROUBLE CONDITIONS (OPENS, GROUND, SHORTS)			●			●							
ALARM SILENCE AT FMCU OR FSA			●			●			●				
INPUT RECEIVED FROM MASS NOTIFICATION SYSTEM		●			●			●			●	●	
PUBLIC ADDRESS MICROPHONE													●

SEQUENCE OF OPERATIONS

SCALE: NONE

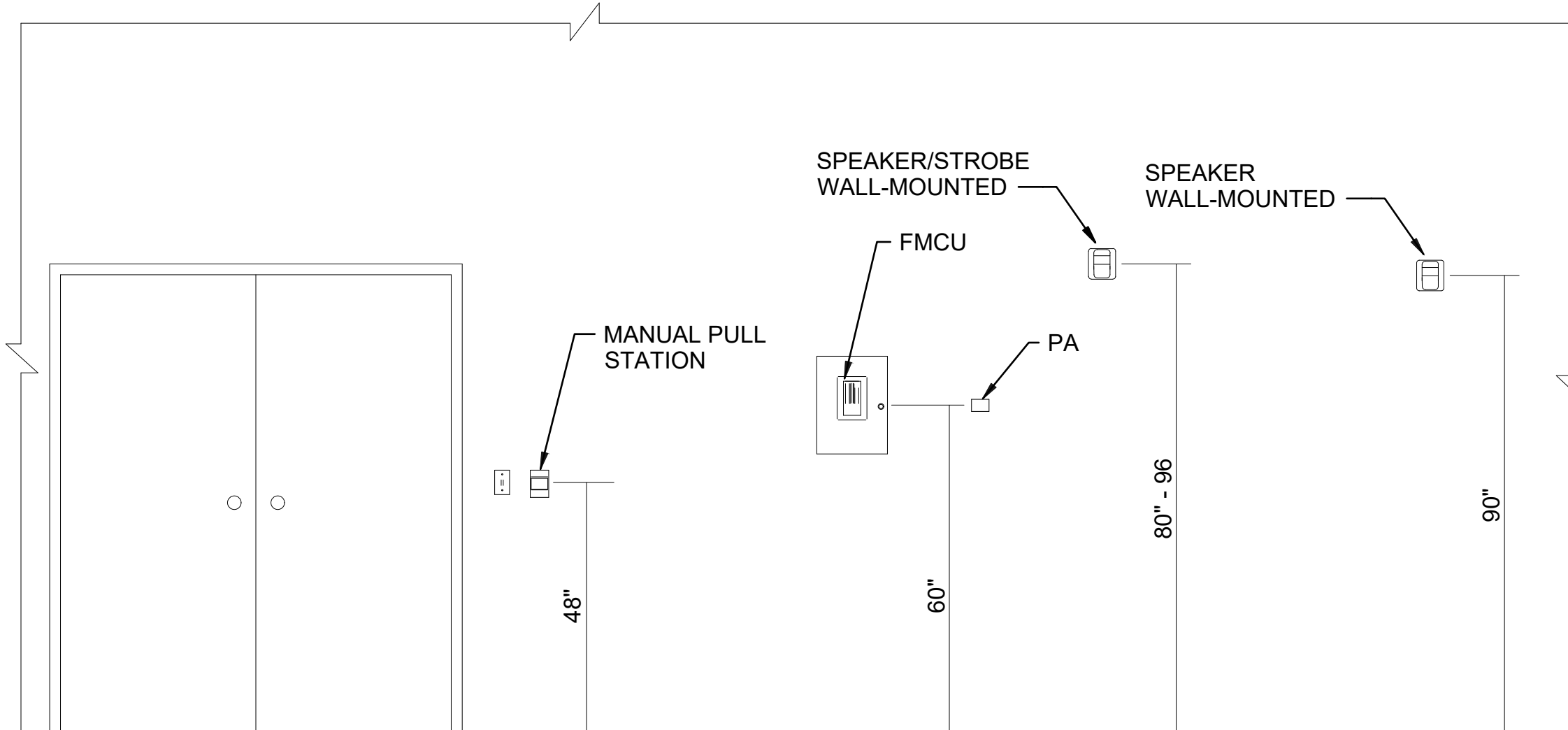
KEYED NOTES

- CELLULAR MODEM CONNECTION TO ALNG OFF-SITE MONITORING AGENCY RECEIVING STATION.
- DIAL-OUT CONNECTION TO PELHAM RANGE CONTROL OFFICE CENTRAL STATION.



FIRE ALARM DIAGRAM

SCALE: NONE



FIRE ALARM/MASS NOTIFICATION/PUBLIC ADDRESS ELEVATION

SCALE: NONE

SHEET NOTES

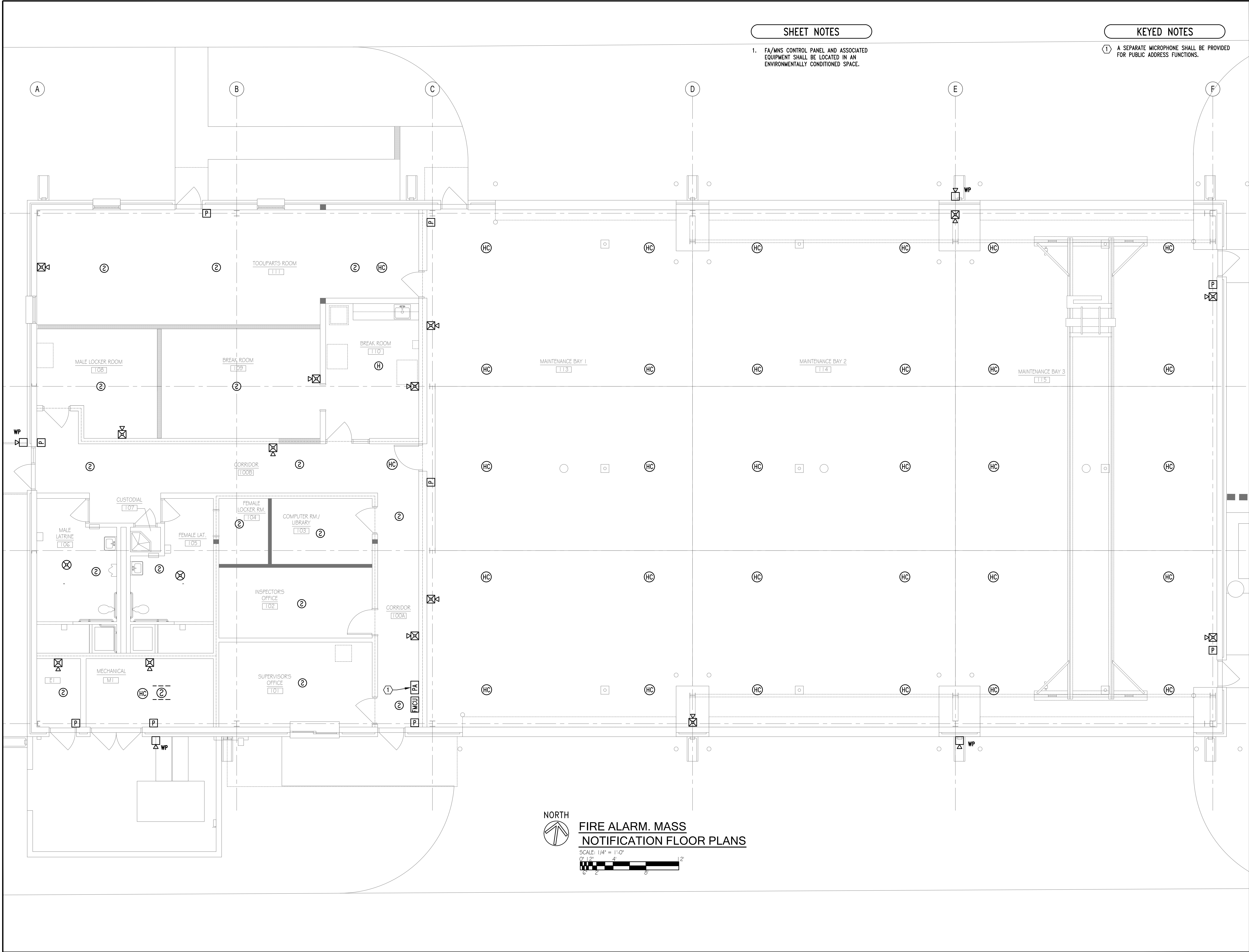
- REPLACE THE EXISTING FIRE ALARM SYSTEM WITH A NEW NETWORKED COMBINATION FIRE ALARM/MASS NOTIFICATION SYSTEM AS NOTED ON THE DRAWINGS AND SPECIFICATIONS AND IN ACCORDANCE WITH NFPA 72, NFPA 101, UFC 3-600-01, UFC 4-021-01, AND THE SCOPE OF WORK DOCUMENTS. THE FIRE ALARM SYSTEM SHALL BE ABLE TO RELAY OUTPUTS FROM THE RECEIVER OVER THE VOICE EVACUATION SYSTEM TO THE SPEAKERS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO ENSURE THE RECEIVER IS COMPATIBLE WITH THE MONITORING AGENCY RECEIVING STATION. MASS NOTIFICATION SIGNALS SHALL TAKE PRECEDENCE OVER FIRE ALARM SIGNALS.
- THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW SYSTEM IS TESTED AND ACCEPTED BY THE OWNER OR THE OWNER'S DESIGNATED REPRESENTATIVE.
- AFTER THE NEW COMBINATION FIRE ALARM/MASS NOTIFICATION SYSTEM IS APPROVED BY THE OWNER OR THE OWNER'S DESIGNATED REPRESENTATIVE, DEMOLISH THE EXISTING SYSTEM IN ITS ENTIRETY. SEE SHEET E102.
- NOT ALL DEVICES TO BE DEMOLISHED ARE SHOWN. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL DEVICES NO LONGER IN SERVICE.
- ALL SOFTWARE, HARDWARE, PASSWORDS, ETC REQUIRED FOR THE MAINTENANCE, TESTING, AND REPROGRAMMING OF THE FIRE ALARM SYSTEM SHALL BE UNCONDITIONALLY TURNED OVER TO THE OWNER, AND THE ABOVE NOTED SOFTWARE, HARDWARE, PASSWORDS, ETC WILL BECOME THE UNCONDITIONAL PROPERTY OF THE OWNER. SOFTWARE TURNED OVER TO THE OWNER SHALL BE ORIGINAL SOFTWARE ON COMPACT DISK (CD) WITH JEWELLED CASE. COPIES OF SOFTWARE SHALL NOT BE ACCEPTABLE. SOFTWARE AND CD SHALL BE BRAND NEW AND UNUSED. PROVIDE AN 8-HOUR BLOCK OF TRAINING ON SOFTWARE, REGARDING MAINTENANCE, TESTING, AND REPROGRAMMING OF THE FIRE ALARM SYSTEM FOR 6 PERSONNEL. TRAINING SHALL BE PROVIDED ON SITE.
- AIR HANDLING UNITS OVER 2000CFM SHALL HAVE DUCT SMOKE DETECTOR INSTALLED ON THE SUPPLY DUCTS
- PROGRAMMING SOFTWARE AND CONNECTION CABLES & ADAPTERS FOR ALL FIRE PANELS, DEVICES, AND SYSTEMS, TO INCLUDE; SMOKE DETECTIONS, ETC., SHALL BE TURNED OVER TO THE OWNER AFTER THE CONTRACTOR'S FINAL AND BEFORE THE OWNERS INSPECTIONS. THESE SHOULD BE ON THE LAPTOP ALONG WITH THE FIRE SYSTEMS.
- THE FIRE ALARM/MASS NOTIFICATION SYSTEM SHALL REPORT ALL CONDITIONS TO THE SPECIFIED MONITORING AGENCIES AS REQUIRED. THE CONTRACTOR SHALL COORDINATE MONITORING AGENCY REQUIREMENTS WITH THE OWNER TO ENSURE THE SYSTEM IS COMPATIBLE AND THAT 24 HOUR MONITORING REQUIREMENTS HAVE BEEN MET.
- THE FIRE ALARM LAYOUT IS DIAGRAMMATICAL ONLY. THE ACTUAL BUILDING LAYOUT MAY VARY FROM THE DRAWINGS. THE CONTRACTOR SHALL VERIFY CEILING HEIGHTS, WALL AND PARTITION LOCATIONS AND DOOR LOCATIONS PRIOR TO INSTALLATION.
- FIRE ALARM DEVICES SHALL BE INSTALLED CENTER OF TILE WHEN INSTALLED IN ACOUSTIC CEILING TILE.
- ALL INTERIOR AND EXTERIOR WALLS, CEILINGS AND FLOORS THAT ARE DAMAGED OR ALTERED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
- ALL FIRE ALARM AND MASS NOTIFICATION SYSTEM CONDUCTORS SHALL BE SOLID COPPER AND SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BE FACTORY PAINTED RED.
- THE FIRE ALARM SYSTEM AND ALL SHOP DRAWINGS SHALL BE IAW UFC 3-600-01 COMPLIANT WITHOUT EXCEPTIONS.
- THE FMCU SHALL HAVE PUBLIC ADDRESS (PA) CAPABILITY WITH THE PROVISIONS OF A SEPARATE MICROPHONE. THE PA PAGING FUNCTION SHALL NOT OVERRIDE AN ALARM OR NOTIFICATION FUNCTIONS.
- ACTIVATION OF EACH MNS MESSAGE BUTTON LOCATED AT THE LOC AND AT THE MASS NOTIFICATION CONTROL PANEL, SHALL TRANSMIT A UNIQUE ADDRESS AND DESCRIPTION FOR EACH MESSAGE TO THE RECEIVING STATION. THIS SHALL BE ACCOMPLISHED EITHER THROUGH PROGRAMMING OF THE FIRE ALARM AND MASS NOTIFICATION CONTROL PANEL OR VIA MONITOR MODULES LOCATED AT THE LOC AND/OR MASS NOTIFICATION CONTROL PANEL. DEPENDENT ON THE FIRE ALARM AND MASS NOTIFICATION SYSTEM MANUFACTURER. THE MNS MESSAGES WILL BE IN ACCORDANCE WITH ALNG STANDARDS.
- ALL SLC, IDC, AND NAC CIRCUITS MUST BE CLASS B.
- CONDUCTORS SHALL BE SPLICE FREE AND RUN CONTINUOUS FROM DEVICE TO DEVICE. THE USE OF WIRE NUTS, CRIMPED CONNECTIONS, OR TWISTING OF CONDUCTORS IS PROHIBITED.
- ALL TERMINATIONS SHALL BE MADE AT A TERMINAL STRIP OR DEVICE SCREW TERMINALS. TERMINAL STRIPS ARE ONLY PERMITTED WHERE DIRECT CONNECTION TO DEVICE IS NOT POSSIBLE.

LEGEND

- | | | | |
|-------------|---|-------------|---|
| P | - MANUAL PULL STATION | ② | - PHOTOELECTRIC SMOKE DETECTOR |
| ⊘ | - SPEAKER & CLEAR STROBE - LABELED "ALERT" MN AND FA (WALL-MOUNTED) | H | - HEAT DETECTOR |
| ⊗ | - CLEAR STROBE - LABELED "ALERT"/MN AND FA (WALL-MOUNTED) | FMCU | - FIRE ALARM/MASS NOTIFICATION CONTROL UNIT |
| ⊗ | - CLEAR STROBE - LABELED "ALERT"/MN AND FA (CEILING MOUNTED) | FSA | - REMOTE ANNUNCIATOR |
| ⊗ | - SPEAKER MN/FA (WALL MOUNTED) | LOC | - LOCAL OPERATOR CONSOLE WITH HVAC SHUTDOWN |
| WP | - EXTERIOR SPEAKER MN & FA WEATHER PROOF (WALL-MOUNTED) | EOL | - END OF LINE RESISTOR |
| ② | - DUCT SMOKE DETECTOR | SPD | - SURGE PROTECTION DEVICE |
| R | - RELAY MODULE | MM | - MONITOR MODULE |
| CELL | - CELLULAR DIAL-OUT COMMUNICATOR | PA | - PUBLIC ADDRESS MICROPHONE |
| ▽ | - FMCU DIAL-OUT TELEPHONE CONNECTION. PROVIDE DEDICATED PHONE LINE. | HC | - HEAT/CARBON MONOXIDE DETECTOR |

PHASING PLAN

- ALL FUNCTIONAL FIRE ALARM SYSTEMS SHALL REMAIN FULLY OPERATIONAL FOR THE DURATION OF THE INSTALLATION OF THE NEW SYSTEM.
- THE CONTRACTOR SHALL INSTALL CONDUITS, CABLING, MONITORING AND RELAYING COMPONENTS, DETECTION DEVICES AND NOTIFICATION DEVICES.
- NEW DEVICES WILL BE INSTALLED THROUGHOUT THE FACILITY IN PARALLEL WITH THE EXISTING DEVICES.
- ANY DEVICES WHETHER NEW OR EXISTING, THAT ARE INSTALLED BUT ARE NOT FUNCTIONAL OR BEING MONITORED BY THE REPORTING FIRE ALARM SYSTEM WILL BE TAGGED AS "NOT IN SERVICE."
- THE CONTRACTOR SHALL REQUEST FINAL FUNCTIONAL PERFORMANCE TESTING BY THE AHJ. THE CONTRACTOR SHALL PROVIDE IN WRITING THAT THE NEW FIRE ALARM SYSTEM COMPONENTS HAVE BEEN FULLY TESTED AND FUNCTIONED AS REQUIRED.
- THE NEW FIRE ALARM SYSTEM SHALL UNDERGO FULL FUNCTIONAL PERFORMANCE TESTING TO ENSURE ALL SYSTEMS AND DEVICES ARE FUNCTIONING AS INTENDED.
- THE NEW FIRE ALARM SYSTEM SEQUENCE OF OPERATIONS SHALL BE MADE FUNCTIONAL AS DESIGNED.
- THE CONTRACTOR SHALL DEPROGRAM ALL FUNCTIONS AND THEN REMOVE THE EXISTING FIRE ALARM SYSTEM IN ITS ENTIRETY.



SHEET NOTES

1. FA/MNS CONTROL PANEL AND ASSOCIATED EQUIPMENT SHALL BE LOCATED IN AN ENVIRONMENTALLY CONDITIONED SPACE.

KEYED NOTES

- ① A SEPARATE MICROPHONE SHALL BE PROVIDED FOR PUBLIC ADDRESS FUNCTIONS.



FIRE ALARM. MASS NOTIFICATION FLOOR PLANS

SCALE: 1/4" = 1'-0"
0" 12" 4" 8" 12"

PWBA

ARCHITECTS

PWBA Architects, Inc.

520 SOUTH PERRY STREET • SUITE 101

MONTGOMERY, ALABAMA 36104

(205) 244-6990

ALABAMA REGISTERED

7-25-22

NO. 48348-E

PROFESSIONAL

ARCHITECT

David D. Willis

DAVID D. WILLIS

NO.	REVISION DESCRIPTION	DATE

PELHAM RANGE - UTES 1, BUILDING 2 RESTORATION

ARMORY COMMISSION of ALABAMA

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2020-0804	7/28/22

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TAT	JDW

SHEET TITLE
FIRE ALARM/MASS NOTIFICATION FLOOR PLANS

SHEET NUMBER

FA201