Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements

ADDENDUM ACKNOWLEDGMENT

ADDENDUM NO. 01 Opening Date: July 13th, 2023 @3:00 pm

Dated: June 30th, 2023

NOTICE

It is the sole responsibility of the bidder to ensure that it has received any and all Addenda and the Philadelphia Redevelopment Authority may in their sole discretion reject any bid for which Addenda have not been executed and returned.

PROPOSAL FOR

Project No.: 16368E-02-03 Description: Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements

IS AMENDED AS FOLLOWS:

- 1. Amendments will be posted in [http://www.phdcphila.org]. Each Bidder shall ascertain prior to submitting a proposal that Bidder has received all Amendments issued and shall acknowledge their receipt in their proposal submission.
- 2. Attached Pre-Bid Meeting Sign-in Sheet(s). June 28th, 2023, posted on site.
- 3. SPECIFICATION CHANGE: Spec Sections "011200 Summary of the Work" is reissued by this Addendum and void and supersede the one previously issued.
- 4. TOC Not issued Vol 2 to be updated. (Switch titles of sections 02 4119 and 02 4120)
 - Section title 02 4119 Selective Demolition (SITE) becomes 02 4119 Selective Demolition (BUILDING)
 - Section title 02 4120 Selective Demolition (BUILDING) becomes 02 4120 Selective Demolition (SITE).
- 5. DRAWING SHEET CHANGES: Revised and Reissued Sheets: The following Sheets are revised and reissued by this Addendum. The revised Sheets void and supersede previously issued Sheets of like number:
 - G101-R.2 General Notes and Abbreviations
 - AD104-R.2 Demolition Plan Attic
 - A101-R.2 New Work Lower-Level Base
 - A102-R.2 Scope, New Work 1st
 - A103-R.2 New Work Plan 2nd Floor
 - A105-R.2 Interior Repair Lower Level,
 - A106-R.2 Interior Repair 1 St Fl,
 - A107-R.2 Interior Repair 2 Nd Fl
 - A201-R.2 Building Elevations East
 - A453-R.2 Vertical Circulation Elevator
 - A455-R.2 Mech Enclosures
 - A501-R.2 Interior Elevations
 - A811-R.2 Furniture Plans, Proposed Furniture Images
 - A812-R.2 Furniture Plans, Proposed Furniture Images
 - A13-R.2 Furniture Plans, Proposed Furniture Images

Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements

- A901-R.2 Window, Door, And Partition Schedules
- E100-R.2 Demolition Plan Lower Level
- E100B-R.2 Demolition Plan Lower Level
- E200-R.2 Proposed Plan Lower Level
- E200B-R.2 Proposed Plan Lower Level
- E501-R.2 Electrical Schedules
- E202-R.2 Proposed Plan Second Floor
- P201-R.2 Plumbing Proposed Drainage First Floor
- P301-R.2 Plumbing Proposed Supply First Floor
- P401-R.2 Plumbing Supply Riser Base Scope
- P401B-R.2 Plumbing Supply Riser Deduct Alt
- P401C-R.2 Plumbing Supply Riser Add Alt.
- P500-R.2 Plumbing Schedules
- P600-R.2 Plumbing Details
- T-101-R Telecom-Proposed First Floor
- T-301-R Telecom-Enlarged Plans
- T-501-R Telecom-Diagrams and Schedules
- C-607-R Site Improvement Plan South
- CS172-R.2 Pcsm /Utililtty Plan North
- 6. Abatement of Asbestos Report Containing Materials Kingsessing Recreation Center Building and Site Improvements Project

Bidder must acknowledge receipt of Addenda in their proposal submission.

Name of Firm:_____

Signature of Authorized Agent:

Date

y	PHILADELPHIA REDEVELOPMENT AUTHORITY
Kings	essing Recreation Center, Package No. 2 RFP - Sign in Sheet
	Pre-Bid Meeting, June 28, 2023 @ 10:00 AM
NAME:	Mark Thiel
PHONE:	2A Mechanical
ENAIL:	610-389-5212
	Mark & 2 Anech. com
NAME:	R. Ryan Spotts
COMPANY:	Gilbane puilding Co.
PHONE:	267-595-6378
	15 potto agilomikes. com
NAME:	JIM BROWN
COMPANY:	GILBANE BLAG CO
PHONE:	267.581-2156
	Jbrown 12@gilbaneco.com
NAME:	ROBART LABOUM
COMPANY:	PRAIPHDC
PHONE:	25-882-1025
EMAIL: ROP	SERT, LABRUM @ PHDC, PHILA. GOV
	is Mitchell
	borer's District Council
21	5-410-1719
a M.	itchell@Idc/hilly. ORG

Amendment #1, dated (6/30/23)

PHILADELPHIA REDEVELOPMENT AUTHORITY Kingsessing Recreation Center, Package No. 2 RFP - Sign in Sheet Pre-Bid Meeting, June 28, 2023 @ 10:00 AM NAME: Zayd Babb Aliber - Aron Clevelanc COMPANY: Aliber Management Inc. 267-339-5287 PHONE: EMAL: into 2 aliber mit. com NAME: Gil Rowland COMPANY: Local 57 PHONE: 215-600-6107 ENAL: Growland @laborers 57. org NAME: Nick Diffesquere Similary Construction COMPANY PHONE: 215-778-8045 FMAIL: Nick simimo 70 Ogmail.com NAME: John Thomas Browntown Group (SBA COMPANY EMAL: 215-287-8336 ohn@browntowngroup.com NAME: ivia Lakino COMPANY TECH INC (ZOP Monitor for Rebuild PHONE-1448591 FMAN allos orakir6a) promated inc. com

Amendment #1, dated (6/30/23) Tomatechipc.com

PHILADELPHIA REDEVELOPMENT AUTHORITY		
Kingsessing Recreation Center, Package No. 2 RFP - Sign in Sheet		
Pre-Bid Meeting, June 28, 2023 @ 10:00 AM		
NAME: CAMILLE N SIMPKINS COMPANY: PIDE		
PHONE: \$154968137		
EMAIL: LSIMPKINS@ PISCPHICA. LOM	y	
NAME: VOLANDE P. Reed		
PHONE: Re Buills Phile Delphen		
EMAIL: YOLANDA. Reed & Phila. 600		
NAME: Davi Bova		
COMPANY: KMA		
EMAIL: dbovackmarchitects.com		
NAME: Abby Freed		
PHONE:		
EMAIL: afreed@kmarch1tects.com		
NAME: Shaun Gurss		
COMPANY: City of Phila - Rebuild		
PHONE: 267-240-2010		
Shaun, guess @ phile, jov		

Amendment #1, dated (6/30/23)

•	PHILADELPHIA REDEVELOPMENT AUTHORITY
Kingsessing Recreation Center, Package No. 2 RFP - Sign in Sheet	
	Pre-Bid Meeting, June 28, 2023 @ 10:00 AM
NAME: COMPANY:	Luigi Sebastiani Resuild
PHONE:	Mesuria
EMAIL:	
NAME:	AN BOYER JR.
	ABORERS DISTRICT COUNCIL
	67-250-1723
EMAIL:	W. BOYER JR @ LDCPHILLY. DRG
NAME:	
COMPANY:	
PHONE:	
EMAIL:	
NAME:	
COMPANY:	
PHONE:	
EMAIL:	
NAME;	
COMPANY:	
PHONE:	
EMAIL:	

Amendment #1, dated (6/30/23)

SECTION 01 1200 SUMMARY OF THE WORK

PART 1—GENERAL

1.1 DESCRIPTION OF WORK

A. This Section summarizes construction operations required by the Contract Documents, defines aspects of Prime Contractor's relationship with City and lists special City requirements.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Applicable provisions of Bidding Requirements, Contract Requirements in Division 0 and all applicable Division 1 sections.

1.3 PROJECT DESCRIPTION

A. The work covers interior renovations, accessibility upgrades including elevator, lifts and accessible toilet rooms; new mechanical, electrical, plumbing, fire protection and telecom systems, a new sprinkler system; exterior upgrades including an artificial turf field, improved stormwater management, new playground with safety surface and accessible play equipment, improved internal pathways, lighting, gathering space and amenities; additional plantings and improvements to surface of courts.

Kingsessing Recreation Center Building and Site Improvements is located at 4901 Kingsessing Ave, Philadelphia, PA 19143.

For completed scope of work please refer to the Project Drawings and the Specifications. This project is part of the City's Rebuilding Community Infrastructure Program ("Rebuild").

1.4 CONTRACTS

- A. Construct Work under a Prime Contract for General Construction Work. The scope of Work for each Contract shall be as indicated below.
 - 1. Incidental Work provided by a one Prime Contractor but specified in a Division mainly the responsibility of a different Prime Contractor shall conform to the applicable specifications (i.e. earthwork required for Plumbing Work shall comply with the requirements of Division 2).
- B. General Construction Work: Provide all the Work of the Contract, no matter where the information is located, except as specifically indicated to be performed by one of the other Prime Contractors.
 - 1. Selective demolition and new construction as required for new Mechanical., Plumbing and Electrical Work but only if indicated on the Demolition or Architectural Drawings. Cutting and patching required by the other Prime Contractors and not specifically indicated on the drawings are the responsibility of the respective Prime.
 - a. Remove conduit runs with wiring, boxes and devices built into existing walls, floors or roof slabs which are to be removed.
 - 2. Install access doors and panels, anchors, embedments, bolts, plates, sleeves, boxes, etc. furnished under other Contracts.
 - 3. Provide blocking, backing, box-outs, openings, recesses, etc. required for the Work of other Contracts.
 - 4. Provide a dumpster for the use of all Contractors.

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS 01 1200-1 SUMMARY OF THE WORK

- 5. Provide periodic and final cleaning of building and site.
- 6. Normal patching of sprayed-on fireproofing required because of the installation of Work required in other Contracts.
- 7. Provide control lines and elevation benchmarks at central locations for the extension by other Prime Contractors.
- 8. Provide temporary site perimeter fence and sidewalk cover if required.
- 9. Provide temporary toilet facilities for all Contractors.
- 10. Provide base flashing of roof-mounted curbs and rails provided under other Prime Contracts.
- 11. Provide painting of all surfaces and equipment exposed to view in the finished Work, regardless of which Prime Contractor provided the surface or equipment.
- 12. Furnish starters and disconnects for electrical components of systems included in the General Construction Work for installation under the Electrical Contract.
- C. Contractor will also be responsible for Moving, storage, and return to facility of property including but not limited to:
 - 1. Boxes, sports and recreational equipment, maintenance equipment, appliances, and furniture. Type and quantity of items to be finalized prior to commencement of work.
 - 2. Bidder to provide an inventory of all items including quantity and condition to owner immediately after completing the move.
 - 3. Bidder to return all items in like condition immediately following issuance of Certificate of Substantial Completion.
 - 4. Bidders may propose to move items to an off-site secure (insured) location or provide a secure area on-site during construction for the storage of items, or propose a combination of on and off-site storage.
 - 5. Payment for moving and storage will be based on final inventory and invoices.
- D. Construction Sequencing
 - 1. The pool is to be opened for the 2024 season. The contractor is to schedule work to complete all elements required to allow safe operation of the pool, access to the pool, and egress from the pool. This includes, but is not limited to:
 - a. Repairs to the pool site wall: pointing, reconstruction at the southeast corner, and other crack repair as described on the drawings;
 - b. New pool egress ramp and gate (South side);
 - c. New pool entrance gate (North side);
 - d. Protected public access way from street to entry and from exits to public way;
 - e. All equipment, fixtures, finishes, MEP systems required for new toilet rooms Women's Toilet Rm 010 and Men's Toilet Rm 013 to be operational;
 - f. All services related to pool operation and maintenance such as water supply, power supply, and filter room and chlorine storage tank operations and access;

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS 01 1200-2 SUMMARY OF THE WORK

- g. Pool schedule is not currently known; allow for 3 months June 1 through August 31;
- h. Pool Power to open pool before CO: The pool equipment power comes directly from the MDP via 15-KVA step-up transformer. In order to operate the pool and toilet rooms (Toilet Room-010, -013, -022, and -024) before summer of 2024 ahead of the substantial completion of the rest of the construction, provide the following:
 - Install MDP and all new panels. Energize the new service with MDP and Panel PBW, PFW, PBE, and MBW.
 - Otherwise, provide temporary power to the pool equipment and Panel PBW, PFW, PBE, and MBW.

1.5 CONTRACTOR'S USE OF PREMISES

- A. Prime Contractors shall have complete and exclusive use of premises as required for execution of Work of this Contract only.
- B. Coordinate use of premises with Project Coordinator
- C. Protect products stored on-site
- D. Store products to avoid interference with operations of City or other Prime Contractors
- E. Secure and pay for additional storage and work areas if required by Contractor.
- F. Do not overload structure with stored materials.

END OF SECTION



KELLY MAIELLO ARCHITECTS 1420 Walnut Street, 15th Floor Philadelphia, PA 19102 www.kmarchitects.com

ADDENDUM NO. 1

PROJECT: KINGSESSING RECREACTION CENTER BUILDING AND SITE IMPROVEMENTS – PACKAGE 2: INTERIOR AND SITE

DATE OF ISSUANCE: 6/28/2023

OWNER: Rebuild Philadelphia / Philadelphia Parks and Recreation

These drawings, specifications and instructions form a part of and modify the Drawings, Specifications, and Instructions issued for Packages to the extent noted herein:

Careful note of these Drawings, Specifications, and Instructions shall be taken by all parties of interest so that proper allowance is made in all computations, estimates, and contracts so that all trades affected are fully advised in the performance of Work that will be required of them.

These Drawings, Specifications, and Instructions supersede all previous Drawings, Specifications, and Instructions pertaining to these items.

All Drawings, Specifications and Instructions not reissued as part of Addendum No. 1 dated 06/02/23 remain valid.

G101-R.2	GENERAL NOTES AND ABBREVIATIONS	REV: Construction Sequencing updates/revisions	
AD104-R.2	DEMOLITION PLAN – ATTIC	ADD: Portions of wall to be demolished for new duct work	
A101-R.2, A102-R.2	NEW WORK – LOWER LEVEL BASE SCOPE, NEW WORK – 1 ST	ADD: Keynote added to clean and patch glazed brick walls; assume 10% repointing. Lower level – various locations. First floor – gym & boxing ADD: Wall pads at gymnasium 121	
		ADD: AED Cabinet, Unit, And Signage	
A103-R.2	NEW WORK PLAN – 2 ND FLOOR	ADD: (N) IT cabinet at Computer Room	
A105-R.2,	INTERIOR REPAIR – LOWER LEVEL,	ADD: Repair scope expanded upon for the structural glazed tile	
A106-R.2, A107-R.2	INTERIOR REPAIR – 1 ST FL, INTERIOR REPAIR 2 ND FL	ADD: Repair scope description added for PL3	
		REV: PL3 Quantity on A105-R.2 corrected	
A201-R.2	BUILDING ELEVATIONS – EAST	REV: Update graphic of exterior water fountain to show bottle filler	
A453-R.2	VERTICAL CIRCULATION - ELEVATOR	ADD: Sump detail added	

DRAWINGS:

KM 21070 – Kingsessing Recreation Center Building and Site Improvements Package 2: Interior and Site ADD NO.1 NARRATIVE



A455-R.2	MECH ENCLOSURES	REV: Chain link added at mechanical enclosure roof.	
A433-h.2	MECHENCLOSORES	REV: Elevation, Section, and 3D view of new egress	
A501-R.2	INTERIOR ELEVATIONS	adjusted	
		ADD: Wall pads at gymnasium 121	
A811-R.2 – A812-R.2, A13-R.2	FURNITURE PLANS, PROPOSED FURNITURE IMAGES	Issued for information and coordination only.	
A901-R.2	WINDOW, DOOR, AND PARTITION SCHEDULES	REV: Details 8 and 13 Jamb and threshold details at new egress door and sill.	
E100-R.2 & E100B-R.2	DEMOLITION PLAN – LOWER LEVEL	REV. Provided clarification for existing dedicated receptacles for the pool equipment in the filter room to remain as is.	
E200-R.2 & E200B-R.2	PROPOSED PLAN – LOWER LEVEL	REV: Added a note to re-feed the existing pool dedicated receptacles for the pool equipment in the filter room to be re-fed from Panel MBW. Shifted the existing pool equipment in filter room to match existing drawings/ photos of pool equipment.	
E501-R.2	ELECTRICAL SCHEDULES	RE: Provided circuiting information in the new Panel MLB for the existing receptacles for pool chemical feeders.	
E202-R.2	PROPOSED PLAN - SECOND FLOOR	REV: Floor receptacles are moved to the walls to accommodate new furniture layout in computer room. DEL: Some convenience receptacles on the walls of the computer room are removed.	
P201-R.2	PLUMBING PROPOSED DRAINAGE - FIRST FLOOR	REV: Added a note to clarify water fountain drainage.	
P301-R.2	PLUMBING PROPOSED SUPPLY - FIRST FLOOR	REV: Changed note remove "refer to arch" and add equipment callout.	
P401-R.2	PLUMBING SUPPLY RISER BASE SCOPE	REV: Updated riser with correct fixture tag.	
P401B-R.2	PLUMBING SUPPLY RISER DEDUCT	REV: Updated riser with correct fixture tag.	
P401C-R.2	PLUMBING SUPPLY RISER ADD ALT.	REV: Updated riser with correct fixture tag.	
P500-R.2	PLUMBING SCHEDULES	REV: Added drinking fountain spec and notes.	
P600-R.2	PLUMBING DETAILS	REV: Added site drinking fountain detail	
T-101-R	TELECOM-PROPOSED FIRST FLOOR	DEL: Removed existing security cabinet	
T-301-R	TELECOM-ENLARGED PLANS	REV: Removed existing security cabinet, relocated security equipment to telecom rack inside telecom room 006.	



T-501-R	TELECOM-DIAGRAMS AND SCHEDULES	REV. Replaced 6 strand fiber with (6) CAT6A cables detail 1.	
T-501-R	TELECOM- DIAGRAMS AND SCHEDULES	REV. Revised detail 2 to include Genetec Video Management Server and Gentec Video Recorder. Change patch panel to 48 port.	
	TELECOM	Remainder of set reissued.	
C-607-R	SITE IMPROVEMENT PLAN SOUTH	Gazebo drawing - Revision to power at gazebo	
CS172-R.2	PCSM /UTILILTTY PLAN NORTH	ADD: empty conduit at new Elec. service	

SPECIFICATIONS:

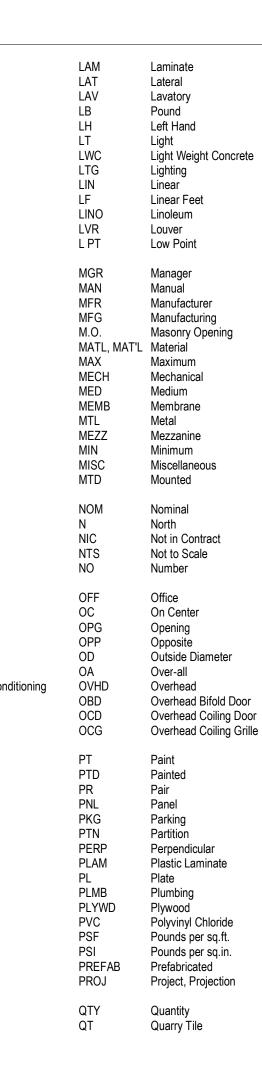
тос	Not issued – Vol 2 to be updated	Volume 2 only: Switch titles of sections 02 4119 and 02 4120: Section title 02 4119 Selective Demolition (SITE) becomes 02 4119 Selective Demolition (BUILDING) Section title 02 4120 Selective Demolition (BUILDING) becomes 02 4120 Selective Demolition (SITE).
01 1200	SUMMARY OF THE WORK	 ADD: Para 1.4 / D.1.h: Pool Power to open pool before CO: The pool equipment power comes directly from the MDP via 15-KVA step-up transformer. In order to operate the pool and toilet rooms (Toilet Room-010, -013, -022, and -024) before summer of 2024 ahead of the substantial completion of the rest of the construction, provide the following: Install MDP and all new panels. Energize the new service with MDP and Panel PBW, PFW, PBE, and MBW. Otherwise, provide temporary power to the pool equipment and Panel PBW, PFW, PBE, and MBW.

This is the last page of Addendum No. 1.

ABBREVIATIONS

ABV	Above
AFF	Above Finish Floor
A P	Access Panel
ACOUS	Acoustical
ACT	Acoustic Ceiling Tile
AD	Acrylic Diffuser
AGGR	Aggregate
ALLOW	Allowance
ALT	Alternate
AL, ALUM	Aluminum
ANOD	Anodized
ARCH	Architect(ural)
A D	Area Drain
ASPH	Asphalt
AVG	Average
B	Base
BSMT	Basement
BRG	Bearing
BET	Between
BIT	Bituminous
BLK	Block
BLK'G	Blocking
BD	Board
BOT	Bottom
BTU	British Thermal Units
BLDG	Building
BUR	Built-up Roofing
BBD	Builtetin Board
BO	By Others
CAB CR CPT CLG CTR CL C to C, C-C CER CT CHAM CIR CLR CLA CLR CLO CW COL CONC CONC CONC CONST CJ CONTR CG CONTR CG CORR CU FT CFM	Cabinet Card Reader Carpet Ceiling Center Centerline Center to Center Ceramic Tile Chamfer Circle Clear Closet Cold Water Column Concrete Comcrete Masonry Unit Construction Construction Joint Construction Joint Constructor Contractor Corridor Cubic Feet Cubic Feet per Minute
DEG DEMO DTL DIA DIM DW DISP DR DR DBL DN DR	Degree Demolition, Demolish Detail Diameter Dimension Dishwasher Dispenser Door Double Down Drain

	Each
0.S. EC /C	East Edge of Slab Electric, Electrical Electric Water Cooler
EV CL G	Elevation Elevator Enclosure Engineering
UIP H IST, EXTG	Equal Equipment Exhaust Existing
T W	Expansion Joint Exterior Face of Wall Feet
	Figure Finish Fier Extinguisher Cabinet Fire Hose Cabinet
AM R	Fireproof(ing) Flammable Floor Floor Drain
RG DUR G N	Flooring Flourescent Footing Foundation
LV N	Galvanize Gauge General Contractor Generator
COAT P /B	Glass Glazed Coating Gypsum Gypsum Wall Board
DR W	Handrail Hardware Head
AC R, HORIZ G	Heating, Ventilating & Air Co Height Hollow Metal Horizontal Hot Dip Galvanized Hot Water
CL CO	Inch Include Information Inside Diameter
SUL	Insulate Interior
N	Janitor's Closet Joint Junction Box
	Kitchen Knocked Down Knock Out



R RECD REF REF REF REG RFEC REINF RPP REQ'D RET RA REV RH R.D. RM RO	Radius, Riser, Rubber Recieved Receptacle Reference Refrigerate, Refrigerator Register Recessed Fire Extinguisher Cabinet Reinforce Reinforced Plastic Paneling Required Returned Returned Return Air Revision Right Hand Roof Drain Room Rough Opening
SAN	Sanitary
SND	Sanitary Napkin Dispenser
SCH	Schedule
SLD	Sealed
SECT	Section
SHT	Sheet
SIM	Similar
SK	Sketch
SLT	Slate
STC	Sound Transmission Coefficient
S	South
SPKR	Speaker
SPEC	Specification
SQ	Square
SS	Stainless Steel
STND	Standard
STL	Steel
STR, STRUC	Structural
SMFEC	Surface Mounted FEC
SUSP	Suspend, Suspended
TEL	Telephone
TEMP	Tempered
THK	Thick
THRU	Through
T&G	Tounge and Groove
T&B	Top and Bottom
TOS	Top of Steel, Top of Slab
T	Tread
TYP	Typical
UL	Underwriters' Laboratories, Inc.
VB	Vapor Barrier, Vinyl Base
VIF	Verify in Field
VERT	Vertical
V	Vinyl
VCT	Vinyl Composition Tile
WC	Watercloser
WP	Waterproofing
W	West, Wide Flange, Width
WD	Wood
W/	With
W/O	Without

SYMBOLS

NORTH ARROW

Drawing

DWG

<u>Room name</u> 150 SF	AREA TAG		REVISION TAG
A101 SIM	CALLOUT TAG	Room name	ROOM TAG (ALSO W/ AREA OR VOLUME)
Ę	CENTERLINE	1 SIM	SECTION HEAD - FILLED (ALSO UNFILLED)
(101)	DOOR TAG	A101	
1 Ref	ELEVATION MARK BODY_CIRCLE	1 A101 SIM	SECTION HEAD - NO ARROW
1 A101 1 1 Ref	(ALSO UNFILLED)		SECTION TAIL - FILLED
Kef View Name View Name	ELEVATION MARK BODY_SQUARE (ALSO UNFILLED)		SPAN DIRECTION (ONE AND TWO WAY)
Ref		$+ \bullet$	SPOT ELEVATION - CROSSHAIR/ TARGET
0	GRID HEAD - CIRCLE	20R @ 7 1/2"	STAIR RUN TAG
0	GRID HEAD - NO BUBBLE	Beam Type @ Spacing	STRUCTURAL BEAM SYSTEM TAG
?	KEYNOTE NUMBER - BOXED		
Name Elevation	LEVEL HEAD - CIRCLE	1i 1 / A101	STRUCTURAL FRAMING TAG - BOXED
Name Elevation	LEVEL HEAD - NO BUBBLE	1 View Name 1/8" = 1'-0"	VIEW TITLE
?	MATERIAL TAG	<1t>	WALL TAG
(\frown)			

(1t)

WINDOW TAG

STAMP AREA

GENERAL NOTES:

- 1. REFERENCE FINISH SCHEDULE FOR ALL ROOM FINISHES.
- 2. REFERENCE EXTERIOR BUILDING ELEVATIONS AND WINDOW SCHEDULE FOR NEW WORK AT WINDOWS.
- REFERENCE DOOR SCHEDULE FOR DOOR TYPES, HARDWARE, AND PROPOSED NEW WORK.
- 4. REFERENCE BUILDING ELEVATIONS FOR EXTENT OF EXTERIOR DOOR AND FACADE SCOPE.
- 5. COORDINATE ALL NEW SHAFT LOCATIONS WITH EXISTING STRUCTURAL BEAMS; REF S-DRAWINGS AND MEP-DRAWING
- 6. PATCH ALL PLASTER CRACKS . REPAIR AND REPLASTER ALL AREAS OF PLASTER DETERIORATION AT WALLS AND CEILINGS. ALL PLASTER PATCHES TO RECEIVE PRIMER. SEE PLANS AND INTERIOR ELEVATIONS FOR LOCATIONS. 7. THE CONTRACTOR SHALL INVESTIGATE JOB SITE TO COMPARE CONTRACT DOCUMENTS AND EXISTING CONDITIONS. INCLUDE
- COST FOR ALL WORK DESCRIBED IN CONTRACT DOCUMENTS AND REQUIRED OR IMPLIED BY EXISTING CONDITIONS. NOTIFY ARCHITECT OF ANY OMISSIONS OR CONFLICTS IN THE DRAWINGS AND ANY RESTRICTIONS RELATED TO THE EXECUTION OF THE WORK.
- 8. THE CONTRACTOR SHALL COMPLY AND COORDINATE ALL WORK WITH BUILDING OWNER REGARDING HEAT, WATER, ELECTRICITY, DELIVERIES, ACCESS, NOISE CONTROL, TRASH AND DEBRIS REMOVAL, HOISTING, AND ANY OTHER UTILITIES OR OWNER'S RULES AND REGULATIONS CONCERNING THE PROJECT SITE.
- 9. THE CONTRACTOR SHALL COORDINATE SCHEDULING, PROVISIONS FOR INSTALLATION, LOCATIONS AND THE ACTUAL INSTALLATION OF ITEMS FURNISHED BY OWNER OR BY OTHERS.
- 10. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND IS RESPONSIBLE FOR ALL PHASES INCLUDING BIDDING, FABRICATION, COORDINATION AND CONSTRUCTION. CONTRACT DRAWINGS ARE NOT INTENDED TO REPRESENT EXACT DIMENSIONS.
- 11. DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN. LARGE SCALE DETAILS GOVERN OVER SMALL SCALE DETAILS. 12. CHANGES IN DRAWINGS OR ACTUAL WORK MUST BE ISSUED BY THE ARCHITECT.
- 13. PERFORM ALL WORK AND INSTALL MATERIALS IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS AND IN A MANNER CONSISTENT WITH INDUSTRY STANDARD OF WORKMANSHIP.
- 14. THE CONTRACTOR SHALL EXAMINE ALL SURFACES TO DETERMINE THAT THEY ARE SOUND, DRY, CLEAN AND READY TO RECEIVE FINISHES PRIOR TO INSTALLATION. START OF INSTALLATION SHALL IMPLY ACCEPTANCE OF SUBSTRATE AND SHALL NOT BE GROUNDS FOR CLAIMS AGAINST IMPROPER PERFORMANCE OF INSTALLED MATERIALS. ADVISE ARCHITECT OF ANY EXISTING CONSTRUCTION NOT LEVEL, SMOOTH AND PLUMB WITHIN INDUSTRY STANDARDS PRIOR TO START OF CONSTRUCTION.
- 15. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL NECESSARY COVERINGS, PROTECTIVE ENCLOSURES, TEMPORARY DOORS AND PARTITIONS AND DUST BARRIERS TO PROTECT ALL OCCUPANTS AND EXISTING WORK AND FINISHES TO REMAIN. LOCATION OF SUCH PROTECTION SHALL BE VERIFIED WITH OWNER AND LOCAL CODE OFFICIALS FOR EGRESS CONFORMANCE, PRIOR TO COMMENCING WORK AND IN COORDINATION WITH PROGRESSION OF WORK SCHEDULE. PERFORM WORK IN A MANNER THAT WILL AVOID HAZARDS TO PERSONS IN ADJACENT AREAS AND THAT WON'T INTERFERE WITH WORK OR PASSAGE TO ANY OF THESE AREAS. REPAIR AND REPLACE ANY DAMAGES CAUSED BY IMPROPER PROTECTIONS AT NO ADDITIONAL CHARGE TO OWNER.
- 16. WORK DAMAGED DURING CONSTRUCTION OR NOT CONFORMING TO SPECIFIED STANDARDS, TOLERANCES OR MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION SHALL BE REPLACED, BY THE CONTRACTOR, AT NO ADDITIONAL CHARGE TO THE OWNER.
- 17. THE CONTRACTOR SHALL MAINTAIN ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES AND LIFE SAFETY SYSTEMS IN WORKING ORDER. CONTRACTOR TO PROVIDE TEMPORARY FIRE EXTINGUISHERS DURING THE COURSE OF CONSTRUCTION AS REQ'D BY THE AUTHORITIES HAVING JURISDICTION.
- 18. EXIT DOORS, EGRESS DOORS, AND OTHER DOORS REQUIRED FOR MEANS OF EGRESS SHALL BE OPERABLE FROM THE INSIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
- 19. CONTRACTOR SHALL FULLY ACQUAINT HIMSELF WITH THE CONDITIONS OF THE CONTRACT, LOCAL CONDITIONS RELATING TO LOCATION, ACCESSIBILITY AND GENERAL CHARACTER OF THE CONSTRUCTION SITE AND LOCAL LABOR CONDITIONS SO THAT HE UNDERSTANDS THE NATURE, EXTENT, DIFFICULTIES, AND RESTRICTIONS RELATED TO THE EXECUTION OF WORK. NOTIFY ARCHITECT OF ALL DISCREPANCIES PRIOR TO COMMENCING WORK.
- 20. ALL WOOD BLOCKING IN FIRE RATED ASSEMBLIES TO BE FIRE RETARDANT.
- 21. ALL WOOD ON EXTERIOR WALLS AND ROOF TO BE MOISTURE RESISTANT. 22. IN ALL INSTANCES WHERE WORK IS BEING CORRECTED OR REPAIRED, CONTRACTOR IS TO REPAINT ENTIRE WALL TO
- NEAREST CORNER OR BREAK- LINE WHERE WALL CHANGES DIRECTION. 23. CONTRACTOR TO COORDINATE WITH E.C. THE MOUNTING HEIGHT OF ALL SWITCHES AND OUTLETS AT MILLWORK, COUNTERS,
- SHELVING, SINKS, ETC. 24. CONTRACTOR IS TO PROVIDE ALL MISC. FRAMING, BLOCKING, ETC. TO HANG SCREENS, BULLETIN BOARDS, RAILS, TOILET
- ACCESSORIES, WOODWORK, ETC. 25. CONTROL JOINTS IN GYPSUM BOARD PARTITIONS AND GYPSUM BOARD CEILINGS SHALL BE SPACED AS FOLLOWS:
- A. PARTITIONS- 30 FT. MAXIMUM IN EITHER DIRECTION. INTERIOR CEILINGS- 30 FT. MAXIMUM IN EITHER DIRECTION.
- 26. ALL PENETRATIONS THROUGH RATED WALLS ARE TO BE SEALED TO MAINTAIN INTEGRITY OF WALL CONSTRUCTION AND RATING (ASTM E814 SYSTEM BY 3M, HILTI, OR SIM).
- 27. ALL INSULATION EXPOSED TO CEILING PLENUM IS TO BE FIRE AND DUST PROOF.
- 28. ALL NEW SUPPLY AIR AND RETURN GRILLES SHALL BE LOCATED IN THE CENTER LINE OF ACOUSTICAL TILES UNLESS OTHERWISE INDICATED ON PLANS. 29. CONTRACTOR SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS WHEN RELOCATING AND/OR INSTALLING ANY EQUIPMENT AND FURNISHINGS.
- 30. CONTRACTOR SHALL VERIFY EQUIPMENT LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- 31. ALL PENETRATIONS THROUGH DRYWALL AND MASONRY SURFACES INCLUDING BUT NOT LIMITED TO PIPE, CONDUIT, DUCTWORK, GRILLES, REGISTERS, DEVICE BOXES, HANGER RODS, ETC. SHALL HAVE THEIR COMMON JOINTS WITH DRYWALL AND/OR MASONRY CAULKED TO PROVIDE AN AIR-TIGHT SEAL.
- 32. CONTRACTOR TO REMOVE ANY STRAY PAINT, DIRT, OR STAINS INCURRED DURING THE CONSTRUCTION PROCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TEMPORARY EQUIPMENT COVERINGS USED DURING CONSTRUCTION AND HE SHALL ALSO BE RESPONSIBLE FOR REMOVING HIS TRASH OFF OF THE JOB SITE DAILY. 33. THE CONTRACTOR SHALL PERFORM ALL CUTTING AND WELDING IN COMPLIANCE WITH THE PUBLISHED STANDARDS OF NFPA.
- THE CONTRACTOR SHALL PROVIDE FIRE WATCHES FOR ALL CUTTING, GRINDING, AND WELDING OPERATIONS. THE TRAINING OF THESE FIRE WATCHES AND THE USE OF THE CONTRACTOR'S SUPPLIED FIRE EXTINGUISHERS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 34. REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR DETAILS OF UTILITY WALL PENETRATIONS.
- 35. ALL FIXTURES LABELED "" INDICATE HANDICAP ACCESSIBLE FIXTURES. 36. WHERE TWO DISSIMILAR METALS MEET, PAINT FACE OF ONE WITH BITUMINOUS PAINT.
- 37. ALL EXTERIOR ENTRANCE DOORS AND FRAMES TO RECEIVE PERIMETER WEATHER STRIPPING AS PER SPECIFICATIONS.
- 38. CONTRACTOR IS TO PROVIDE STUD BRACING AS REQUIRED FOR METAL STUD PARTITIONS ABOVE 10'-0".
- 39. ANY AREA OUTSIDE THE LIMITS OF CONSTRUCTION DISTURBED BY OPERATIONS OF THE CONTRACTOR SHALL BE RESTORED AT THE CONTRACTORS EXPENSE.
- 40. ALL CONCRETE WALKS, ASPHALT, CURBS AND LANDSCAPING DAMAGED DURING CONSTRUCTION ARE TO BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 41. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL WEEP JOINTS AROUND WINDOWS AND EXTRUDED ALUM. STORE FRONTS FREE OF CAULK. 42. CONTINUOUS BLOCKING SHALL BE PROVIDED AT DRYWALL PARTITIONS FOR ALL CABINET WORK AT TOP AND BOTTOM OF
- WALL MOUNTED UNITS AND UNDER COUNTER TOP LEVEL OF BASE CABINET. ALL OPEN-FACE SHELVING UNITS SHALL HAVE CONCEALED ANCHOR BRACKETS.
- 43. ALL EXTERIOR WINDOWS, DOORS, LOUVERS, VENTS, EXHAUST FANS, PIPE PENETRATIONS, AND ALL OTHER PENETRATIONS THRU EXTERIOR WALLS SHALL BE SEALED AROUND ENTIRE PERIMETER WITH SEALANT. (BOTH ON EXTERIOR AND INTERIOR SIDES), EXCEPT AS NOTED IN NOTE 38.
- 44. ALL INTERIOR PARTITIONS WHICH RECEIVE CERAMIC TILE SHALL BE FRAMED WITH 20 GA. MIN. STUDS AT 12" O.C. W/ HORIZONTAL COLD ROLLED STIFFENER CHANNELS AT 4'-0" O.C. (MAX.) AND EXTEND FROM FINISHED FLOOR TO STRUCTURE ABOVE. 20 GA. DIAGONAL STUD KICKERS MUST ALSO BE INSTALLED AT EVERY OTHER VERTICAL STUD ABOVE CEILING.
- 45. FIRE EXTINGUISHER CABINETS TO BE MOUNTED 4'-0" A.F.F. TO TOP MAXIMUM IN ACCORDANCE WITH REQUIREMENTS. (FIRE EXTINGUISHERS WITH GROSS WEIGHT OVER 40LBS. MUST BE MOUNTED 3'-6" MAX.). CLEARANCE BETWEEN THE BOTTOM OF THE FLOOR AND THE EXTINGUISHER MAY NOT BE LESS THAN 4".)
- 46. ALL DIMENSIONS ARE TO FACE OF FINISHED MATERIAL UNLESS OTHERWISE NOTED.

- GENERAL HISTORIC NOTES
- PROCEED WITHOUT APPROVAL OF THE MOCKUPS.
- 3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH THE WORK.
- THE COURSE OF THE WORK WHICH MAY AFFECT THE DESIGN MODIFICATIONS.
- PROTECTION. COLOR (AFTER CLEANING), AND DIMENSIONS EXACTLY.

- 10. SEE DWGS A201-R THORUGH A204-R FOR EXTERIOR MASONRY SCOPE OF WORK.
- AND LOCATIONS OF REPAIRS.
- DEMOLITION GENERAL NOTES:
- 2. REFERENCE FINISH SCHEDULE FOR ALL ROOM FINISHES
- SURFACES; COORDINATE WITH NEW WORK

SCHEDULE.

- ADDITIONAL REQUIREMENTS.
- 7. SEE MEP/FP DRAWING FOR REMOVALOF MEP/FP SYSTEMS.
- COORDINATE WITH OWNER.
- AGREED UPON.
- RESPONSIBILITY OF THE CONTRACTOR.
- OR OTHER IMPERFECTIONS IN THE WORK ADJACENT TO DEMOLITION AREAS.
- PROCEEDING.
- CEILINGS, ETC.) TO MATCH SURROUNDING CONDITIONS.
- OF WATER WILL NOT BE PERMITTED.
- MATERIALS DURING WORKING HOURS. AND MAKE AN EFFORT TO PROVIDE SAFE CONDITIONS FOR THE GENERAL PUBLIC AND WORKMEN. REFERENCE DIVISION 01 SPECIFICATION SECTION "CONSTRUCTION WASTE MANAGEMENT' FOR CONTRACTORS RESPONSIBILITY FOR WASTE REMOVAL I DISPOSAL
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL REMAINING ITEMS.
- SPECIFICATIONS MAY PROVIDE ADDITIONAL DEMOLITION REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH THESE DRAWINGS AND PROJECT SPECIFICATIONS AND ANY REQUIREMENTS PROVIDED BY THEM.
- 23. REFERENCE PARTIAL DEMOLITION PLANS FOR SPECIFIC DEMOLITION REQUIREMENTS. ADDITIONAL DEMOLITION REQUIREMENTS.
- 25. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DEMOLITION REQUIREMENTS WITH PROJECT PHASING. NOTIFY PROPER EXECUTION OF THE WORK

THE RECREATION CENTER IS LISTED ON THE PHILADELPHIA REGISTER OF HISTORIC PLACES. THE INTENT IS TO PROVIDE 100 YEAR REPAIRS TO THESE STRUCTURES. ALL WORK MUST CONFORM TO THE NATIONAL PARK SERVICE STANDARDS FOR REHABILITATION AND RESTORATION. ALL EXISTING HISTORIC BUILDING COMPONENTS ARE TO REMAIN IN PLACE TO THE GREATEST EXTENT POSSIBLE. HISTORIC BUILDING ELEMENTS ARE TO BE RESTORED WHENEVER POSSIBLE. IF REPLACEMENT IS NECESSARY, REPLACE WITH APPROVED MATERIALS, HAVING EXACT DIMENSIONS AND MATCHING HISTORIC MATERIALS, U.N.O. PROCEED WITH REPLACEMENT AFTER DIRECTION FROM ARCHITECT. DO NOT USE METHODS WHICH WILL RESULT IN UNNECESSARY LOSS OF DETAIL OR MATERIAL IN EXISTING SURFACES. WHEN IN QUESTION, REFER TO THE US DEPARTMENT OF THE INTERIOR GUIDELINES FOR THE RESTORATION OF HISTORIC STRUCTURES.

2. PROVIDE MOCK-UPS AND TEST PANELS AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. WORK SHALL NOT

4. A BINOCULAR SURVEY WAS CONDUCTED TO DETERMINE THE FAÇADE REPAIR AND CLEANING SCOPE; SELECT AREAS

WERE SURVEYED VIA PROBES AND HIGH-REACH VISUAL INSPECTION. THE CONTRACTOR SHALL INFORM DESIGN PROFESSIONAL, IN WRITING, OF ANY DISCREPANCIES ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK. 5. CONTRACTOR SHALL NOTIFY DESIGN PROFESSIONAL AT ONCE OF UNSEEN EXISTING CONDITIONS ENCOUNTERED DURING

6. THE CONTRACTOR SHALL PROVIDE REQUEST FOR CHANGE, JUSTIFICATION, SHOP DRAWINGS, PROJECT COST AND SCHEDULE IMPACT FOR PROPOSED MODIFICATIONS TO THE CONTRACT DRAWINGS. CONTRACTOR SHALL PROVIDE REPLACEMENT QUANTITIES. PROCEED WITH REPLACEMENT AFTER DIRECTION FROM ARCHITECT. PROVIDE TEMPORARY

7. ALL NEW ELEMENTS (WOOD, STONE, BRICK, TERRA COTTA REPLACEMENT, AND GFRC) TO MATCH EXISTING PROFILES,

8. RAKE OUT ALL EXISTING SEALANTS, BOND BREAKERS AND RELATED ITEMS FROM ALL CONTROL JOINTS, EXPANSION JOINTS AND FLASHING LOCATIONS WHERE INDICATED. PROVIDE PRIMERS, BOND BREAKERS, COMPRESSABLE FOAM ROD WHERE REQUIRED BY MANUFACTURER. APPLY SEALANT AT CONTROL JOINTS AND OTHER LOCATIONS, ALLOWING FOR PROPER SEALANT MOVEMENT. SEALANT COLORS TO BE SELECTED BY ARCHITECT.

9. SEE ELEVATIONS AND WINDOW SCHEDULE SHEETS FOR WINDOW REPLACEMENT SCOPE

11. SEE DWGS A104-R, A610-R, A611-R, A631-R, A632-R FOR ROOFING SCOPE.

12. SEE DWG A612-R FOR MASONRY REPAIR DETAILS; SEE ELEVATIONS NEW WORK DWGS A201-R THROUGH A204-R FOR TYPES

13. ALL SURFACE PREPARATION FOR PAINT AND SEALANT WORK SHALL MEET SSPC-SP2 HAND TOOL CLEANING

GENERAL INSTRUCTIONS TO BIDDERS

GYM WINGS: PKG 1 GC IS TO REMOVE BEAD BOARD (36"+/- PERPENDICULAR TO THE WALL / UNDER BUILT IN GUTTERS) FOR ROOF WORK IN PACKAGE 1. PKG 2 GC IS TO REINSTALL BEABBOARD AT PERIMETER (ASSUME 50% SALVAGED AND 50% NEW). OTHER BEADBOARD REMOVED FOR BLOWN-IN INSULATION WILL BE RINSTALLED BY PKG 1 GC, AND LEFT IN GOOD CONDITION. PKG 2 GC TO DO FINAL PREP FOR REFINISHING. NOTIFY THE ARCHITECT IMMEDIATELY IF SURFACES ARE NOT IN GOOD CONDIITON. PKG 2 GC SHALL BE RESPONSIBLE FOR FINISHING/PAINTING OF THIS BEAD BOARD, SO IT BLENDS IN WITH THE REST OF THE BEAD BOARD CEILING.

PKG 2 GC TO INSTALL NEW GYM/BOXING DORMER LOUVERS, NEW BEAD BOARD AND ASSOCIATED TRIM AND FINISH AS SCHEDULED.

OPENINGS.

PKG 1 GC TO INSTALL NEW WINDOWS / DOORS WITH SEALANT @ BOTH EXTERIOR AND INTERIOR LOCATIONS. ANY DAMAGE OF NEW WINDOWS/DOORS PRIOR TO PKG 2 GC WORK SHALL BE PHOTOGRAPHED AND BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE COMMENCEMENT OF PKG 2 WORK. ANY DAMAGE (REPAIR/TOUCH UP WORK) AFTER THE COMMENCEMENT OF PKG 2 WORK IS THE RESPONSIBILITY OF PKG 2 GC. AREA ADJACENT TO WINDOW INSTALLATION MUST BE CLEAN OF DEBRIS READY FOR MILLWORK INSTALLATION BY PKG 2 GC. SEE WNDOW DETAIL SHEETS A903-R.2 AND A904-R.2 FOR DEMARCATION OF PKG 1 AND PKG 2 WORK AT WINDOWS. SEE DOOR DETAIL SHEET A901-R.2 FOR DEMARCATION OF PKG 1 AND PKG 2 WORK AT NEW EXTERIOR DOOR

PKG 1 GC TO INSTALL NEW EXTERIOR DOORS AND FRAMES AT WEST WALLS (AT FUTURE PKG 2 EGRESS STAIRS). PKG 1 GC TO INSTALL TEMPORARY CONSTRUCTION DOORS AND LEAVE IN PLACE FOR PKG 2 GC. AT COMPLETION OF PROJECT, PKG 2 GC TO REMOVE TEMP/ORARY DOORS AND INSTALL FINAL STAINLESS STEEL DOORS & HARDWARE AND CONFIRM PROPER OPERATION.

THERE IS EXISTING BATT INSULATION AT THE ATTIC FLOOR. PKG 1 GC TO KEEP EXISTING AND ADD R-21 (5.5 IN) TO EXISTING. PKG 2 GC TO PROVIDE ADDITONAL WOOD FRAMING UNDER NEW ATTIC CATWALK TO RAISE CATWALK LEVEL AND ACCOMMODATE ADDITIONAL THICKNESS OF INSULATION THAT WAS ADDED IN PKG 1. THE CENTER ATTIC ABOVE THE AUDITORIUM HAS EXPOSED PLASTER CEILING; PKG 2 GC TO PROVIDE SCAFFOLDING AND/OR CATWALK AS REQUIRED FOR ALL WORK (NEW DUCTS, ETC) SO AS TO NOT DAMAGE PLASTER CEILING. PKG 2 GC TO REPAIR DAMAGE DUE TO CONSTRUCTION ACTIVITIES. CONSTRUCTION SEQUENCING

THE POOL IS TO BE OPENED FOR THE 2024 SEASON. THE CONTRACTOR IS TO SCHEDULE WORK TO COMPLETE ALL ELEMENTS REQUIRED TO ALLOW SAFE OPERATION OF THE POOL, ACCESS TO THE POOL, AND EGRESS FROM THE POOL. THIS INCLUDES, BUT IS NOT LIMITED TO: a. REPAIRS TO THE POOL SITE WALL: POINTING, RECONSTRUCTION AT THE SOUTHEAST CORNER, AND OTHER CRACK REPAIR AS DESCRIBED ON THE DRAWINGS; NEW POOL EGRESS RAMP AND GATE (SOUTH SIDE);

c. NEW POOL ENTRANCE GATE (NORTH SIDE);

 PROTECTED PUBLIC ACCESS WAY FROM STREET TO ENTRY AND FROM EXITS TO PUBLIC WAY; e. ALL EQUIPMENT, FIXTURES, FINISHES, MEP SYSTEMS REQUIRED FOR NEW TOILET ROOMS WOMEN'S TOILET RM 010 AND MEN'S TOILET RM 013 TO BE OPERATIONAL; ALL SERVICES RELATED TO POOL OPERATION AND MAINTENANCE SUCH AS WATER SUPPLY, POWER SUPPLY,

AND FILTER ROOM AND CHLORINE STORAGE TANK OPERATIONS AND ACCESS; POOL SCHEDULE IS NOT CURRENTLY KNOWN; ALLOW FOR 3 MONTHS JUNE 1 THROUGH AUGUST 31.

1. CONTRACTOR IS RESPONSIBLE FOR HAZARDOUS MATERIAL ABATEMENT. SEE ABATEMENT WORK PLAN & SPECIFICATIONS. PER REPORT, LEAD PAINT IS ALSO PRESENT AT WORK AREAS. ALL DISTURBANCE ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING OSHA 29 CFR 1926.62.

3. REMOVE EXISTING PLASTER WALLS AS INDICATED; SAW CUT JOINTS, PATCH AND REPAIR PLASTER TO MATCH ADJACENT

4. CAREFULLY REMOVE FLOOR FINISHES AS INDICATED; SAND, PREPARE, AND REFINISH WOOD FLOOR BELOW; REFERENCE FINISH

5. WORK SHALL BE CONDUCTED UNDER THE ASSUMPTION THAT ALL SURFACE COATINGS CONTAIN LEAD. ALL DISTURBANCE ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING OSHA 29 CFR 1926.62. WORK ACTIVITIES SHALL ENSURE AREAS BEYOND WORK AREA ARE NOT CONTAMINATED. REFER TO SECTION 01040 FOR ANY

6. REFERENCE DEMOLITION ELEVATIONS FOR EXTENT OF WINDOW AND FACADE DEMOLITION SCOPE.

8. OWNER WILL REMOVE ALL LOOSE FIXTURE, FURNITURE, AND EQUIPMENT ITEMS FROM BUILDING CONSTRUCTION AREAS, U.N.O.

9. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

10. BEFORE STARTING WORK, MAKE A THOROUGH EXAMINATION OF THOSE PORTIONS OF THE STRUCTURE IN WHICH THE WORK IS TO BE PERFORMED. CHECK ALL THE WORK ADJOINING OR AT UNDERLYING LOCATIONS. REPORT TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK. DO NOT START THE WORK UNTIL SUCH CONDITIONS HAVE BEEN EXAMINED AND A COURSE OF ACTION MUTUALLY

11. CONTRACTOR SHALL PERFORM ALL NECESSARY DEMOLITION AS REQUIRED FOR INSTALLATION OF NEW WORK AS SHOWN ON THE DRAWINGS. ALL DEMOLITION NOT SPECIFICALLY SHOWN BUT NECESSARY TO COMPLETE THE PROJECT AS SHOWN SHALL BE THE

12. PRIOR TO THE START OF DEMOLITION, THE CONTRACTOR SHALL CALL TO THE ATTENTION OF THE OWNER: ANY DAMAGE, CRACKS

13. CONTRACTORS SHALL INSPECT AND ASSESS EACH SPACE AND FULFILL THE INTENT OF THE WORK REQUIRED BY THE CONTRACT DOCUMENTS. DEVIATIONS REQUIRED BY FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE

14. ANY CUTTING AND REMOVAL INDICATED ON THE DRAWINGS ARE GENERAL INDICATIONS ONLY AND DO NOT NECESSARILY SHOW THE FULL EXTENT OF CUTTING AND REMOVAL WHICH MAY BE REQUIRED BY JOB CONDITIONS.

15. CONSTRUCTION AND EXISTING FINISHES SHALL REMAIN UNLESS NOTED OTHERWISE. DURING DEMOLITION WORK, PROPERLY PROTECT ALL EXISTING WORK SHOWN TO REMAIN. EXERCISE CARE WHEN REMOVING ADJACENT WORK. PROPERLY REPAIR TO THE ORIGINAL CONDITIONS. ANY DAMAGE TO ITEMS SHOWN TO REMAIN, CAUSED BY DEMOLITION PROCEDURES, TO THE SATISFACTION OF, AND AT NO ADDITIONAL COST, TO THE OWNER. PATCH SURFACE FINISHES BEHIND DEMOLITION WORK (I.E. FLOORS. WALLS.

16. BEFORE STARTING DEMOLITION OPERATIONS, PROVIDE THE NECESSARY PROTECTIVE BARRIERS AROUND TRAFFIC AREAS NEAR INTERIOR WORK AS REQUIRED AND IN STRICT ACCORDANCE WITH OSHA RULES AND REGULATIONS. PROTECT ALL EXISTING EQUIPMENT NOT DESIGNATED TO BE REMOVED. PERFORM ALL WORK REQUIRED TO PROTECT THE PUBLIC AND UTILITIES. 17. TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT FROM RISING BY WETTING DEMOLISHED DEBRIS. EXCESSIVE USE

18. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY, TEMPORARY BRACING AND I OR SHORING REQUIRED TO MAINTAIN THE INTEGRITY AND STRUCTURAL STABILITY OF THE BUILDING AND ITS INDIVIDUAL ELEMENTS. 19. EXCEPT WHERE NOTED OTHERWISE, REMOVE ALL DEMOLISHED MATERIALS FROM THE SITE. DO NOT BURN OR BURY MATERIALS ON THE SITE. AT THE COMPLETION OF WORK FOR EACH DAY, CLEAN THE ENTIRE AREA INVOLVED AND LEAVE IT IN A NEAT CONDITION, FREE OF DEBRIS AND RUBBISH. KEEP ALL ADJOINING PUBLIC AREAS CLEAN AND FREE OF DEBRIS OR CONSTRUCTION

20. THE OWNER WILL REMOVE ALL EXISTING ITEMS THAT THE OWNER WISHES TO SALVAGE PRIOR TO START OF DEMOLITION.

21. ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, SITE, AND LANDSCAPE DRAWINGS, AND PROJECT

22. PRIOR TO THE DEMOLITION OF THOSE ITEMS WHICH HAVE UTILITY CONNECTIONS (WATER, GAS, ELECTRICITY, STEAM, ETC.) THE CONTRACTOR SHALL ARRANGE WITH THE OWNER TO LOCATE SHUTOFF VALVES, PANEL BOXES AND OTHER CONTROL ELEMENTS, SO THAT WATER DAMAGE AND OTHER POTENTIALLY INCONVENIENT OR DANGEROUS SITUATIONS ARE AVOIDED.

24. REFERENCE DIVISION 01 SPECIFICATION SECTIONS FOR SELECTIVE DEMOLITION, CUTTING, AND PATCHING, TEMPORARY FACILITIES AND CONTROLS, SITE AND BUILDING DEMOLITION, CONSTRUCTION WASTE MANAGEMENT, AND RELATED SECTIONS FOR

ARCHITECT PRIOR TO START OF WORK WITH ANY CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT



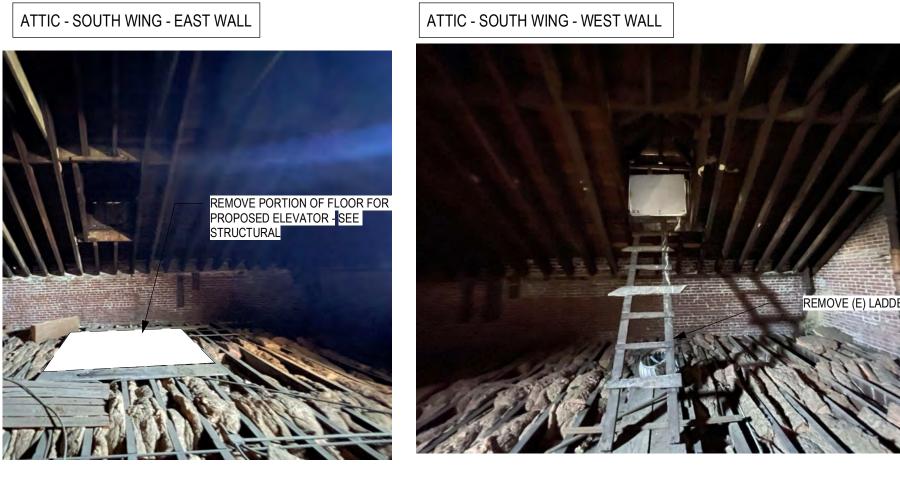
STAMP AREA

2 ATTIC PHOTOS 1" = 10'-0"

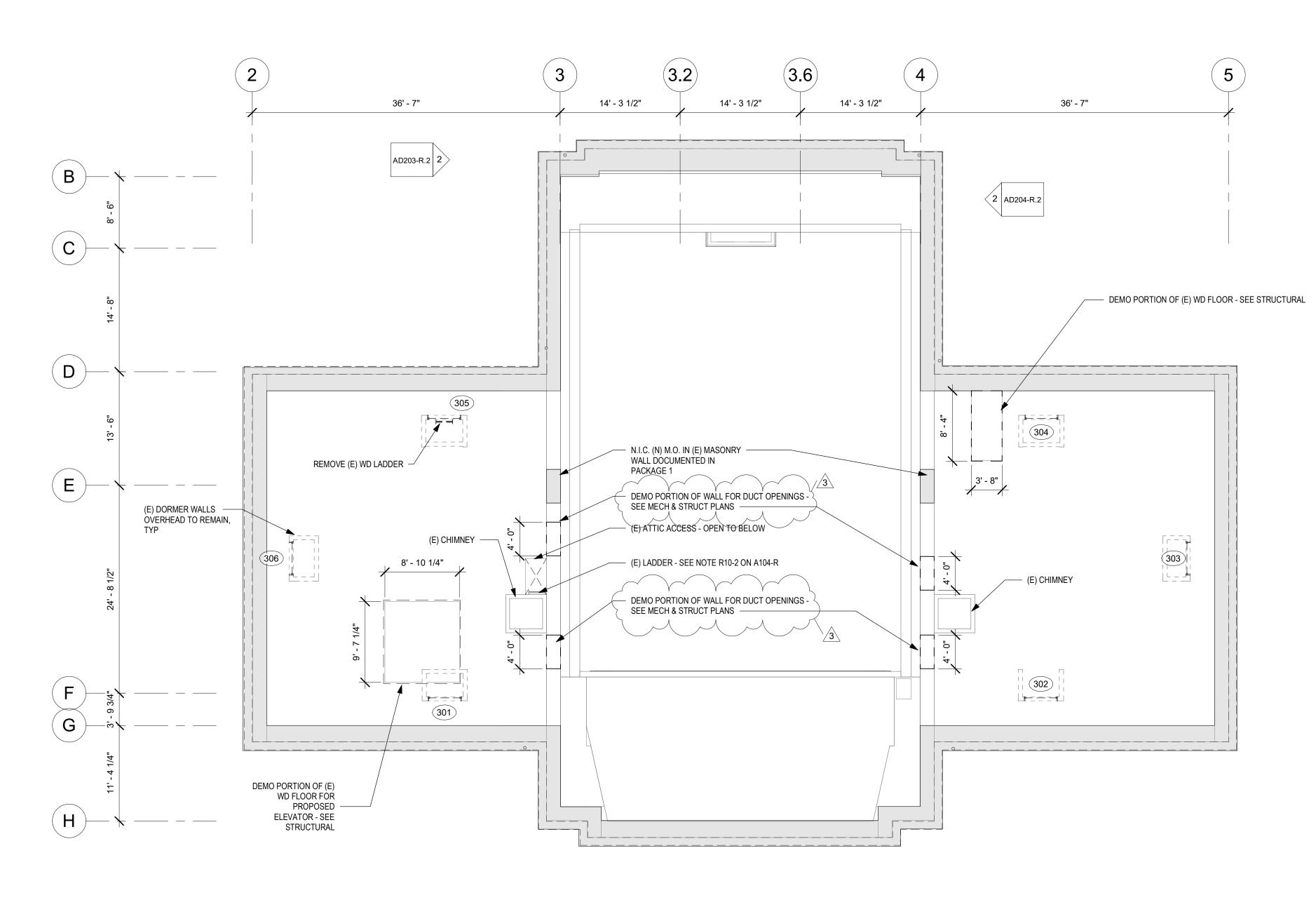
(E) LADDER - SEE NOTE R10-2 ON A104-R



ATTIC ACCESS FROM 2ND FLOOR



1 ATTIC DEMOLITION PLAN 1/8" = 1'-0"







GENERAL DEMO NOTES:

- SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR DEMOLITION OF HVAC, PLUMBING AND ELECTRICAL SYSTEMS.
- DEMO PORTION OF MASONRY WALL FOR CASED OPENINGS 4'W X 7'H SEE A104-R AND STRUCT DWGS
- 3. REMOVE PORTION OF FLOOR FOR PROPOSED ELEVATOR SEE STRUCTURAL

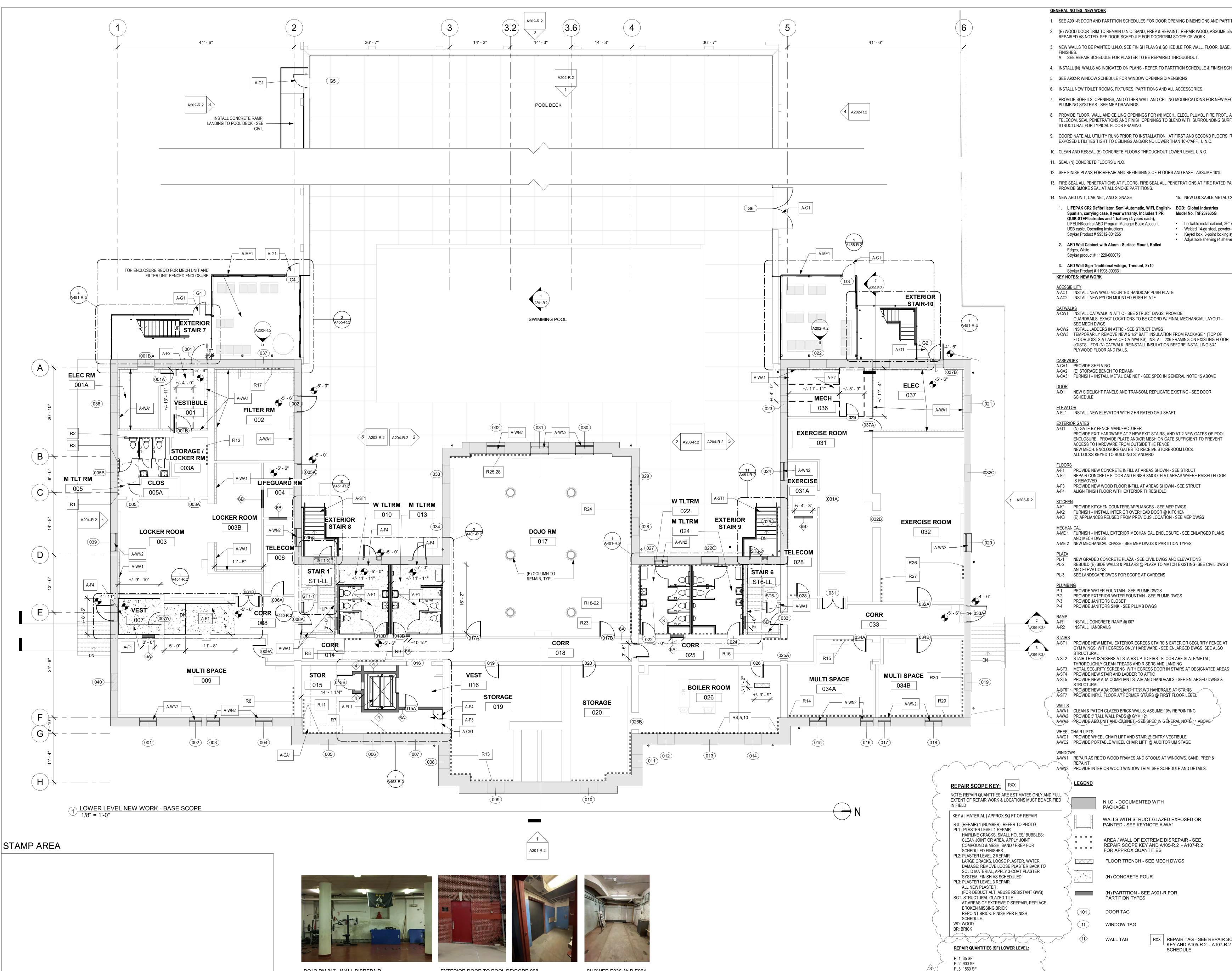


- (N) OPENING FROM PACKAGE 1

— (E) LADDER - SEE NOTE R10-2 ON A104-R

(E) ATTIC ACCESS - OPEN TO 2ND FLOOR BELOW







DOJO RM 017 - WALL DISREPAIR

SHOWER E036 AND E004

EXTERIOR DOOR TO POOL DE(CORR 008

1. SEE A901-R DOOR AND PARTITION SCHEDULES FOR DOOR OPENING DIMENSIONS AND PARTITION TYPES.

- 2. (E) WOOD DOOR TRIM TO REMAIN U.N.O. SAND, PREP & REPAINT. REPAIR WOOD, ASSUME 5% TO BE REPAIRED AS NOTED. SEE DOOR SCHEDULE FOR DOOR/TRIM SCOPE OF WORK.
- 3. NEW WALLS TO BE PAINTED U.N.O. SEE FINISH PLANS & SCHEDULE FOR WALL, FLOOR, BASE, & CEILING A. SEE REPAIR SCHEDULE FOR PLASTER TO BE REPAIRED THROUGHOUT.
- 4. INSTALL (N) WALLS AS INDICATED ON PLANS REFER TO PARTITION SCHEDULE & FINISH SCHEDULE
- 5. SEE A902-R WINDOW SCHEDULE FOR WINDOW OPENING DIMENSIONS
- 6. INSTALL NEW TOILET ROOMS, FIXTURES, PARTITIONS AND ALL ACCESSORIES.
- 7. PROVIDE SOFFITS, OPENINGS, AND OTHER WALL AND CEILING MODIFICATIONS FOR NEW MECH, ELEC,
- 8. PROVIDE FLOOR, WALL AND CEILING OPENINGS FOR (N) MECH., ELEC., PLUMB., FIRE PROT., AND TELECOM. SEAL PENETRATIONS AND FINISH OPENINGS TO BLEND WITH SURROUNDING SURFACES. SEE
- 9. COORDINATE ALL UTILIITY RUNS PRIOR TO INSTALLATION. AT FIRST AND SECOND FLOORS, RUN ALL EXPOSED UTILITIES TIGHT TO CEILINGS AND/OR NO LOWER THAN 10'-0"AFF. U.N.O.
- 10. CLEAN AND RESEAL (E) CONCRETE FLOORS THROUGHOUT LOWER LEVEL U.N.O.
- 12. SEE FINISH PLANS FOR REPAIR AND REFINISHING OF FLOORS AND BASE ASSUME 10%
- 13. FIRE SEAL ALL PENETRATIONS AT FLOORS. FIRE SEAL ALL PENETRATIONS AT FIRE RATED PARTITIONS;
- 15. NEW LOCKABLE METAL CABINET
- 1. LIFEPAK CR2 Defibrillator, Semi-Automatic, WIFI, English- BOD: Global Industries Spanish, carrying case, 8 year warranty. Includes 1 PR Model No. T9F237635G QUIK-STEP[®]ectrodes and 1 battery (4 years each), Lockable metal cabinet, 36" x 18" x 72", LIFELINKcentral AED Program Manager Basic Account, Welded 14-ga steel, powder-coat finish Keyed lock, 3-point locking system Adjustable shelving (4 shelves) 2. AED Wall Cabinet with Alarm - Surface Mount, Rolled

- GUARDRAILS. EXACT LOCATIONS TO BE COORD W/ FINAL MECHANCIAL LAYOUT -
- A-CW3 TEMPORARILY REMOVE NEW 5 1/2" BATT INSULATION FROM PACKAGE 1 (TOP OF FLOOR JOISTS AT AREA OF CATWALKS). INSTALL 2X6 FRAMING ON EXISTING FLOOR JOISTS FOR (N) CATWALK. REINSTALL INSULATION BEFORE INSTALLING 3/4"
- A-CA3 FURNISH + INSTALL METAL CABINET SEE SPEC IN GENERAL NOTE 15 ABOVE
- NEW SIDELIGHT PANELS AND TRANSOM, REPLICATE EXISTING SEE DOOR
- PROVIDE EXIT HARDWARE AT 2 NEW EXIT STAIRS, AND AT 2 NEW GATES OF POOL ENCLOSURE. PROVIDE PLATE AND/OR MESH ON GATE SUFFICIENT TO PREVENT ACCESS TO HARDWARE FROM OUTSIDE THE FENCE. NEW MECH. ENCLOSURE GATES TO RECEIVE STOREROOM LOCK.
- PROVIDE NEW CONCRETE INFILL AT AREAS SHOWN SEE STRUCT
- A-F3 PROVIDE NEW WOOD FLOOR INFILL AT AREAS SHOWN SEE STRUCT
- A-F4 ALIGN FINISH FLOOR WITH EXTERIOR THRESHOLD

KITCHEN A-K1 PROVIDE KITCHEN COUNTERS/APPLIANCES - SEE MEP DWGS A-K2 FURNISH + INSTALL INTERIOR OVERHEAD DOOR @ KITCHEN

A-K3 (E) APPLIANCES REUSED FROM PREVIOUS LOCATION - SEE MEP DWGS

MECHANICAL A-ME 1 FURNISH + INSTALL EXTERIOR MECHANICAL ENCLOSURE - SEE ENLARGED PLANS A-ME 2 NEW MECHANICAL CHASE - SEE MEP DWGS & PARTITION TYPES

- NEW GRADED CONCRETE PLAZA SEE CIVIL DWGS AND ELEVATIONS REBUILD (E) SIDE WALLS & PILLARS @ PLAZA TO MATCH EXISTING- SEE CIVIL DWGS
- PROVIDE EXTERIOR WATER FOUNTAIN SEE PLUMB DWGS
- PROVIDE NEW METAL EXTERIOR EGRESS STAIRS & EXTERIOR SECURITY FENCE AT GYM WINGS, WITH EGRESS ONLY HARDWARE - SEE ENLARGED DWGS. SEE ALSO
- THROROUGHLY CLEAN TREADS AND RISERS AND LANDING
- A-ST5 PROVIDE NEW ADA COMPLIANT STAIR AND HANDRAILS SEE ENLARGED DWGS &
- A-ST6 PROVIDENEW ADA COMPLIANT 1712", WD HANDRAILS AT STAIRS A-ST7 PROVIDE INFILL FLOOR AY FORMER STAIRS @ FIRST FLOOR LEVEL
- WALLS A-WA1 CLEAN & PATCH GLAZED BRICK WALLS; ASSUME 10% REPOINTING. A-WA3 PROVIDE AED UNIT AND CABINET SEE SPEC IN GENERAL NOTE 14 ABOVE
- WHEEL CHAIR LIFTS A-WC1 PROVIDE WHEEL CHAIR LIFT AND STAIR @ ENTRY VESTIBULE
- A-WN2 PROVIDE INTERIOR WOOD WINDOW TRIM. SEE SCHEDULE AND DETAILS.
 - N.I.C. DOCUMENTED WITH
 - WALLS WITH STRUCT GLAZED EXPOSED OR

AREA / WALL OF EXTREME DISREPAIR - SEE REPAIR SCOPE KEY AND A105-R.2 - A107-R.2

- FLOOR TRENCH SEE MECH DWGS
- (N) PARTITION SEE A901-R FOR

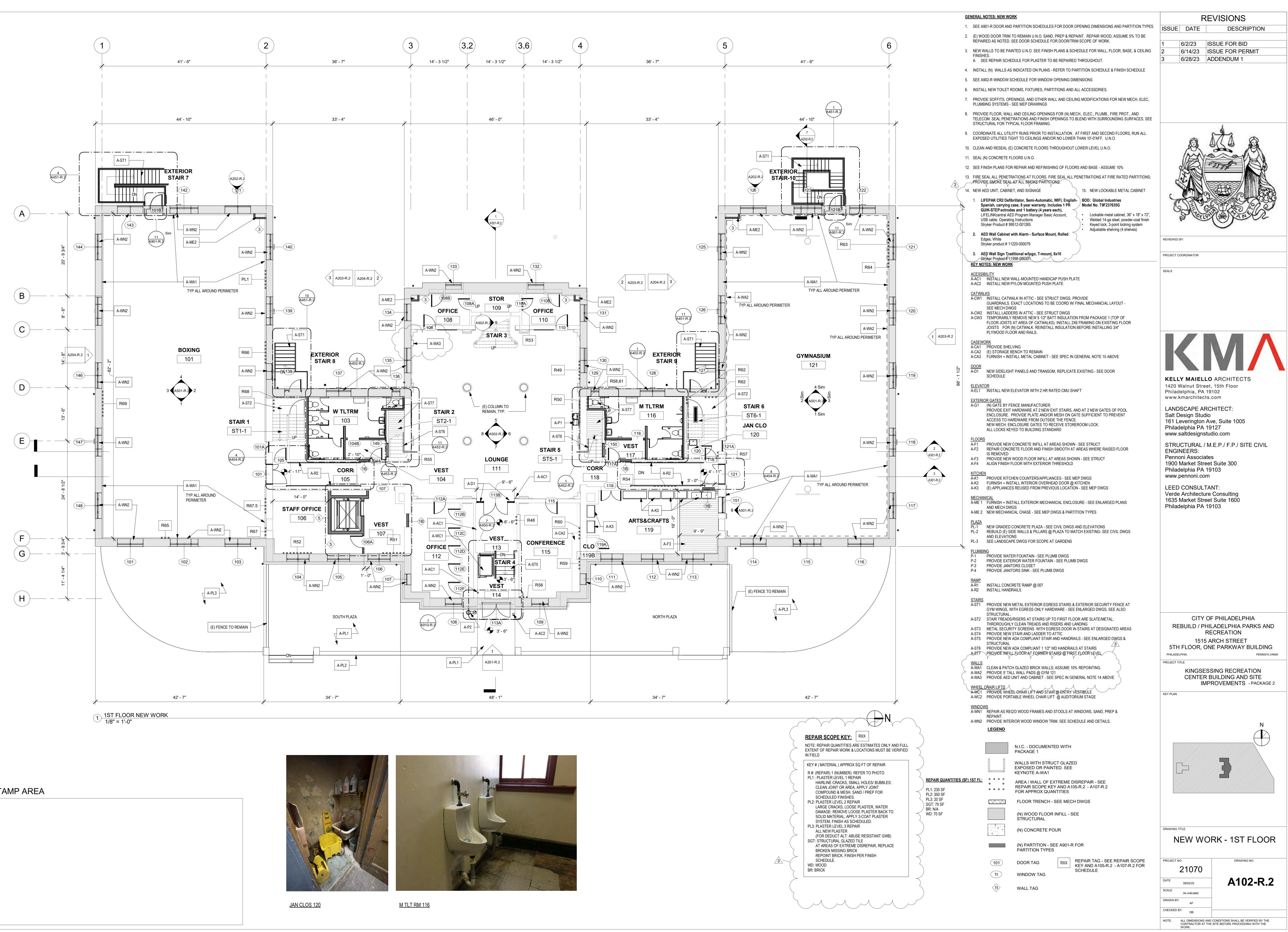
SGT: 20 SF

BR: 300 SF

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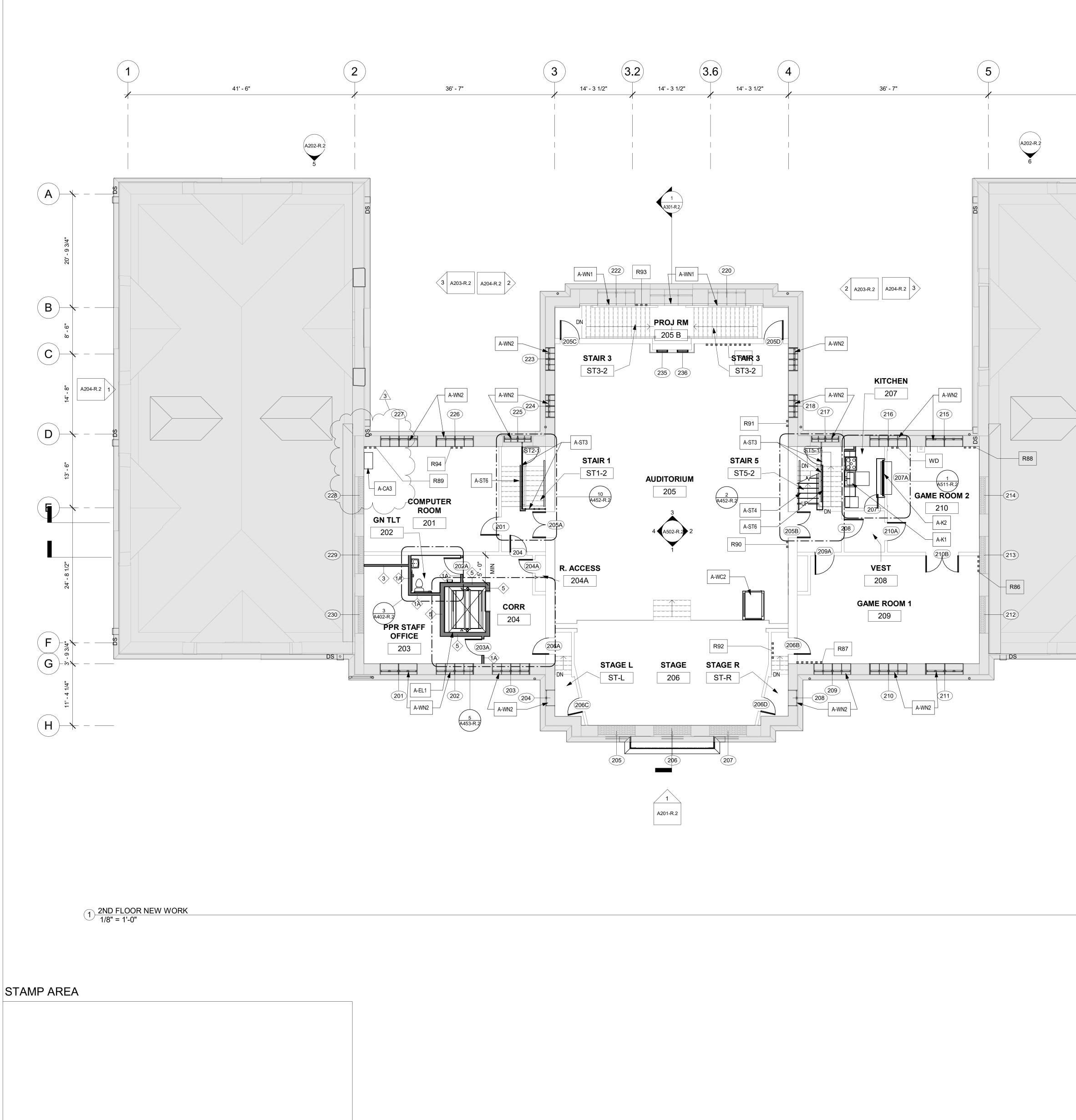
RXX REPAIR TAG - SEE REPAIR SCOPE └ KEY AND A105-R.2 - A107-R.2 FOR SCHEDULE

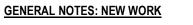




STAMP AREA







1. SEE A901-R DOOR AND PARTITION SCHEDULES FOR DOOR OPENING DIMENSIONS AND PARTITION TYPES.

- 2. (E) WOOD DOOR TRIM TO REMAIN U.N.O. SAND, PREP & REPAINT. REPAIR WOOD, ASSUME 5% TO BE REPAIRED AS NOTED. SEE DOOR SCHEDULE FOR DOOR/TRIM SCOPE OF WORK.
- 3. NEW WALLS TO BE PAINTED U.N.O. SEE FINISH PLANS & SCHEDULE FOR WALL, FLOOR, BASE, & CEILING FINISHES. A. SEE REPAIR SCHEDULE FOR PLASTER TO BE REPAIRED THROUGHOUT.
- 4. INSTALL (N) WALLS AS INDICATED ON PLANS REFER TO PARTITION SCHEDULE & FINISH SCHEDULE
- 5. SEE A902-R WINDOW SCHEDULE FOR WINDOW OPENING DIMENSIONS
- 6. INSTALL NEW TOILET ROOMS, FIXTURES, PARTITIONS AND ALL ACCESSORIES.
- 7. PROVIDE SOFFITS, OPENINGS, AND OTHER WALL AND CEILING MODIFICATIONS FOR NEW MECH, ELEC, PLUMBING SYSTEMS - SEE MEP DRAWINGS
- 8. PROVIDE FLOOR, WALL AND CEILING OPENINGS FOR (N) MECH., ELEC., PLUMB., FIRE PROT., AND TELECOM. SEAL PENETRATIONS AND FINISH OPENINGS TO BLEND WITH SURROUNDING SURFACES. SEE STRUCTURAL FOR TYPICAL FLOOR FRAMING.
- 9. COORDINATE ALL UTILIITY RUNS PRIOR TO INSTALLATION. AT FIRST AND SECOND FLOORS, RUN ALL EXPOSED UTILITIES TIGHT TO CEILINGS AND/OR NO LOWER THAN 10'-0"AFF. U.N.O.
- 10. CLEAN AND RESEAL (E) CONCRETE FLOORS THROUGHOUT LOWER LEVEL U.N.O.
- 11. SEAL (N) CONCRETE FLOORS U.N.O.
- 12. SEE FINISH PLANS FOR REPAIR AND REFINISHING OF FLOORS AND BASE ASSUME 10%
- 13. FIRE SEAL ALL PENETRATIONS AT FLOORS. FIRE SEAL ALL PENETRATIONS AT FIRE RATED PARTITIONS; PROVIDE SMOKE SEAL AT ALL SMOKE PARTITIONS.

15. NEW LOCKABLE METAL CABINET

Lockable metal cabinet, 36" x 18" x 72",

 Keyed lock, 3-point locking system Adjustable shelving (4 shelves)

Welded 14-ga steel, powder-coat finish

Model No. T9F237635G

- 14. NEW AED UNIT, CABINET, AND SIGNAGE
- 1. LIFEPAK CR2 Defibrillator, Semi-Automatic, WIFI, English- BOD: Global Industries Spanish, carrying case, 8 year warranty. Includes 1 PR QUIK-STEPlectrodes and 1 battery (4 years each), LIFELINKcentral AED Program Manager Basic Account, USB cable, Operating Instructions
- Stryker Product # 99512-001265 2. AED Wall Cabinet with Alarm - Surface Mount, Rolled Edges, White Stryker product # 11220-000079
- 3. AED Wall Sign Traditional w/logo, T-mount, 8x10 Stryker Product # 11998-000331
- KEY NOTES: NEW WORK

ACESSIBILIT A-AC1 INSTALL NEW WALL-MOUNTED HANDICAP PUSH PLATE

- A-AC2 INSTALL NEW PYLON MOUNTED PUSH PLATE
- A-CW1 INSTALL CATWALK IN ATTIC SEE STRUCT DWGS. PROVIDE GUARDRAILS. EXACT LOCATIONS TO BE COORD W/ FINAL MECHANCIAL LAYOUT -
- SEE MECH DWGS A-CW2 INSTALL LADDERS IN ATTIC - SEE STRUCT DWGS
- A-CW3 TEMPORARILY REMOVE NEW 5 1/2" BATT INSULATION FROM PACKAGE 1 (TOP OF FLOOR JOISTS AT AREA OF CATWALKS). INSTALL 2X6 FRAMING ON EXISTING FLOOR JOISTS FOR (N) CATWALK. REINSTALL INSULATION BEFORE INSTALLING 3/4"/ ^YPLYWOOD PLOOR AND RAILS.
- CASEWORK A-CA1 PROVIDE SHELVING A-CA2 (E) STORAGE BENCH TO REMAIN

CATWALKS

- DOOR A-D1 NEW SIDELIGHT PANELS AND TRANSOM, REPLICATE EXISTING SEE DOOR
- SCHEDULE

A-CA3 FURNISH + INSTALL METAL CABINET - SEE SPEC IN GENERAL NOTE 15 ABOVE

- A-EL1 INSTALL NEW ELEVATOR WITH 2 HR RATED CMU SHAFT
- EXTERIOR GATES A-G1 (N) GATE BY FENCE MANUFACTURER. PROVIDE EXIT HARDWARE AT 2 NEW EXIT STAIRS, AND AT 2 NEW GATES OF POOL ENCLOSURE. PROVIDE PLATE AND/OR MESH ON GATE SUFFICIENT TO PREVENT ACCESS TO HARDWARE FROM OUTSIDE THE FENCE. NEW MECH. ENCLOSURE GATES TO RECEIVE STOREROOM LOCK. ALL LOCKS KEYED TO BUILDING STANDARD
- FLOORS

 A-F1
 PROVIDE NEW CONCRETE INFILL AT AREAS SHOWN SEE STRUCT
 A-F2 REPAIR CONCRETE FLOOR AND FINISH SMOOTH AT AREAS WHERE RAISED FLOOR IS REMOVED
- A-F3 PROVIDE NEW WOOD FLOOR INFILL AT AREAS SHOWN SEE STRUCT A-F4 ALIGN FINISH FLOOR WITH EXTERIOR THRESHOLD
- KITCHENA-K1PROVIDE KITCHEN COUNTERS/APPLIANCES SEE MEP DWGSA-K2FURNISH + INSTALL INTERIOR OVERHEAD DOOR @ KITCHEN
- A-K3 (E) APPLIANCES REUSED FROM PREVIOUS LOCATION SEE MEP DWGS
- MECHANICAL A-ME 1 FURNISH + INSTALL EXTERIOR MECHANICAL ENCLOSURE SEE ENLARGED PLANS
- AND MECH DWGS A-ME 2 NEW MECHANICAL CHASE - SEE MEP DWGS & PARTITION TYPES
- <u>PLAZA</u> PL-1 NEW GRADED CONCRETE PLAZA - SEE CIVIL DWGS AND ELEVATIONS PL-2 REBUILD (E) SIDE WALLS & PILLARS @ PLAZA TO MATCH EXISTING- SEE CIVIL DWGS
- AND ELEVATIONS PL-3 SEE LANDSCAPE DWGS FOR SCOPE AT GARDENS
- PLUMBING P-1 P PROVIDE WATER FOUNTAIN - SEE PLUMB DWGS PROVIDE EXTERIOR WATER FOUNTAIN - SEE PLUMB DWGS P-2
- PROVIDE JANITORS CLOSET P-3 P-4 PROVIDE JANITORS SINK - SEE PLUMB DWGS
- RAMP A-R1 INSTALL CONCRETE RAMP @ 007

A-R2 INSTALL HANDRAILS

- STAIRS A-ST1 PROVIDE NEW METAL EXTERIOR EGRESS STAIRS & EXTERIOR SECURITY FENCE AT GYM WINGS, WITH EGRESS ONLY HARDWARE - SEE ENLARGED DWGS. SEE ALSO STRUCTURAL.
- A-ST2 STAIR TREADS/RISERS AT STAIRS UP TO FIRST FLOOR ARE SLATE/METAL; THROROUGHLY CLEAN TREADS AND RISERS AND LANDING A-ST3 METAL SECURITY SCREENS WITH EGRESS DOOR IN STAIRS AT DESIGNATED AREAS
- A-ST4 PROVIDE NEW STAIR AND LADDER TO ATTIC A-ST5 PROVIDE NEW ADA COMPLIANT STAIR AND HANDRAILS - SEE ENLARGED DWGS &
- STRUCTURAL A-ST6 PROVIDE NEW ADA COMPLIANT 1 1/2" WD HANDRAILS AT STAIRS A-ST7 PROVIDE INFILL FLOOR AT FORMER STAIRS @ FIRST FLOOR LEVEL
- WALLS A-WA1 CLEAN & PATCH GLAZED BRICK WALLS; ASSUME 10% REPOINTING. A-WA2 PROVIDE 5' TALL WALL PADS @ GYM 121 A-WA3 PROVIDE AED UNIT AND CABINET - SEE SPEC IN GENERAL NOTE 14 ABOVE
- WHEEL CHAIR LIFTS A-WC1 PROVIDE WHEEL CHAIR LIFT AND STAIR @ ENTRY VESTIBULE A-WC2 PROVIDE PORTABLE WHEEL CHAIR LIFT @ AUDITORIUM STAGE
- A-WN1 REPAIR AS REQ'D WOOD FRAMES AND STOOLS AT WINDOWS, SAND, PREP &

REPAINT. A-WN2 PROVIDE INTERIOR WOOD WINDOW TRIM. SEE SCHEDULE AND DETAILS.

LEGEND

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- N.I.C. DOCUMENTED WITH PACKAGE 1
- WALLS WITH STRUCT GLAZED EXPOSED OR PAINTED. SEE
- KEYNOTE A-WA1 AREA / WALL OF EXTREME DISREPAIR - SEE
- REPAIR SCOPE KEY AND A105-R.2 A107-R.2 FOR APPROX QUANTITIES
- \times FLOOR TRENCH - SEE MECH DWGS
 - (N) WOOD FLOOR INFILL SEE STRUCTURAL
 - (N) CONCRETE POUR
 - (N) PARTITION SEE A901-R FOR PÁRTITION TYPES
- (101) DOOR TAG
- (1t) WINDOW TAG

RXX

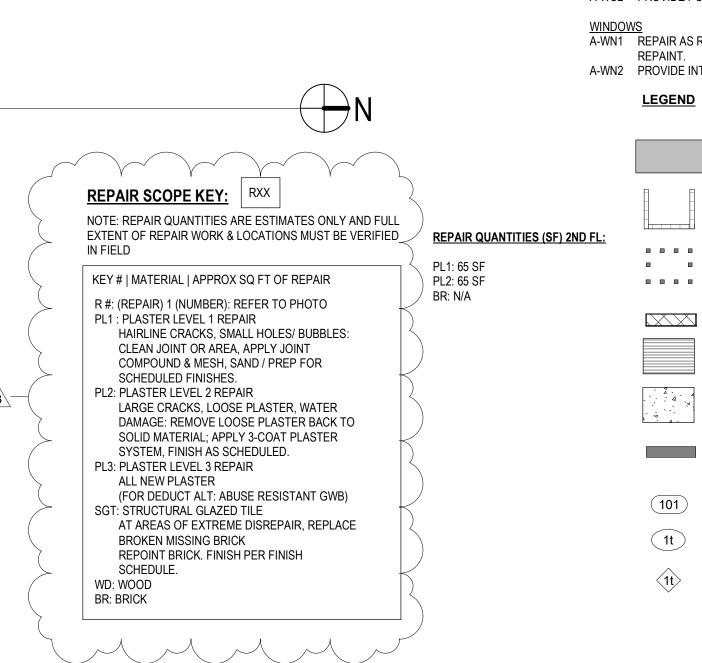
KEY AND A105-R.2 - A107-R.2 FOR SCHEDULE

REPAIR TAG - SEE REPAIR SCOPE

WALL TAG

6

41' - 6"



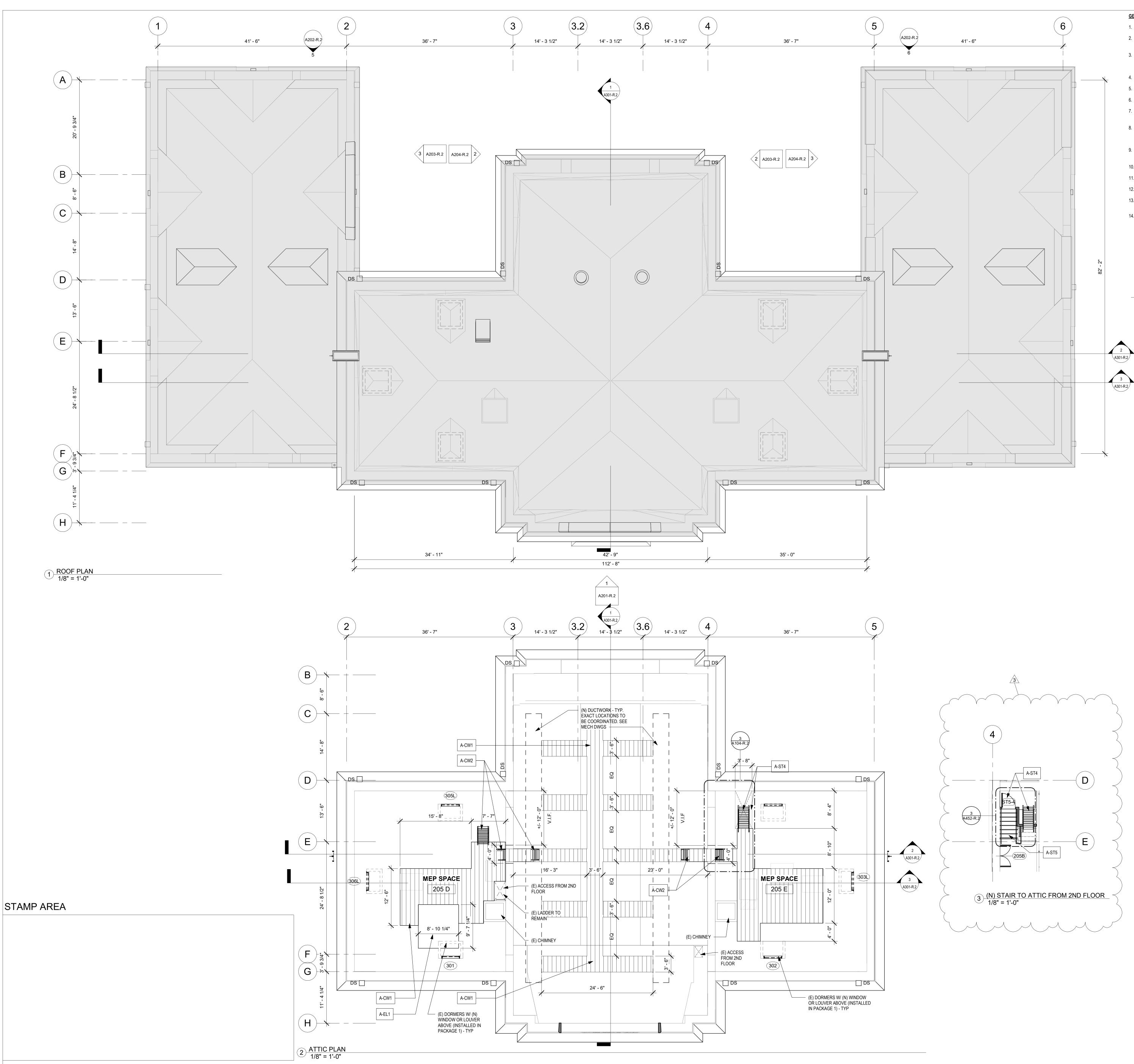
- 2 \A301-R.2/

3

\A301-R.2/

- 1 A203-R.2





GENERAL NOTES: NEW WORK

- 1. SEE A901-R DOOR AND PARTITION SCHEDULES FOR DOOR OPENING DIMENSIONS AND PARTITION TYPES. 2. (E) WOOD DOOR TRIM TO REMAIN U.N.O. SAND, PREP & REPAINT. REPAIR WOOD, ASSUME 5% TO BE
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- 5. SEE A902-R WINDOW SCHEDULE FOR WINDOW OPENING DIMENSIONS
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- 10. CLEAN AND RESEAL (E) CONCRETE FLOORS THROUGHOUT LOWER LEVEL U.N.O.
- 11. SEAL (N) CONCRETE FLOORS U.N.O.

12. SEE FINISH PLANS FOR REPAIR AND REFINISHING OF FLOORS AND BASE - ASSUME 10%

15. NEW LOCKABLE METAL CABINET

Lockable metal cabinet, 36" x 18" x 72",
Welded 14-ga steel, powder-coat finish

Keyed lock, 3-point locking system

Adjustable shelving (4 shelves)

- 13. FIRE SEAL ALL PENETRATIONS AT FLOORS. FIRE SEAL ALL PENETRATIONS AT FIRE RATED PARTITIONS; PROVIDE SMOKE SEAL AT ALL SMOKE PARTITIONS.
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- 3. AED Wall Sign Traditional w/logo, T-mount, 8x10 Stryker Product # 11998-000331
- KEY NOTES: NEW WORK

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A-AC2 INSTALL NEW PYLON MOUNTED PUSH PLATE

A-CW1 INSTALL CATWALK IN ATTIC - SEE STRUCT DWGS. PROVIDE GUARDRAILS. EXACT LOCATIONS TO BE COORD W/ FINAL MECHANCIAL LAYOUT -SEE MECH DWGS

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<u>CASEWORK</u> A-CA1 PROVIDE SHELVING

PLYWOOD FLOOR AND RAILS.

- A-CA2 (E) STORAGE BENCH TO REMAIN A-CA3 FURNISH + INSTALL METAL CABINET - SEE SPEC IN GENERAL NOTE 15 ABOVE
- NEW SIDELIGHT PANELS AND TRANSOM, REPLICATE EXISTING SEE DOOR
- SCHEDULE

ELEVATOR A-EL1 INSTALL NEW ELEVATOR WITH 2 HR RATED CMU SHAFT

EXTER	NOR GATES
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	PROVIDE EXIT HARDWARE AT 2 NEW EXIT STAIRS, AND AT 2 NEW GATES OF POOL
	ENCLOSURE. PROVIDE PLATE AND/OR MESH ON GATE SUFFICIENT TO PREVENT
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- FLOORS A-F1 PROVIDE NEW CONCRETE INFILL AT AREAS SHOWN SEE STRUCT A-F2 REPAIR CONCRETE FLOOR AND FINISH SMOOTH AT AREAS WHERE RAISED FLOOR
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- RAMP A-R1 INSTALL CONCRETE RAMP @ 007
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- A-ST6 PROVIDE NEW ADA COMPLIANT 1 1/2" WD HANDRAILS AT STAIRS A-ST7 PROVIDE INFILL FLOOR AT FORMER STAIRS @ FIRST FLOOR LEVEL
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- A-WA3 PROVIDE AED UNIT AND CABINET SEE SPEC IN GENERAL NOTE 14 ABOVE
- WHEEL CHAIR LIFTS A-WC1 PROVIDE WHEEL CHAIR LIFT AND STAIR @ ENTRY VESTIBULE A-WC2 PROVIDE PORTABLE WHEEL CHAIR LIFT @ AUDITORIUM STAGE
- <u>WINDOWS</u> A-WN1 REPAIR AS REQ'D WOOD FRAMES AND STOOLS AT WINDOWS, SAND, PREP & REPAINT. A-WN2 PROVIDE INTERIOR WOOD WINDOW TRIM. SEE SCHEDULE AND DETAILS.
 - N.I.C. DOCUMENTED WITH

PACKAGE 1

- (N) PARTITION SEE A901-R FOR
- (N) ATTIC CATWALK SEE

LEGEND

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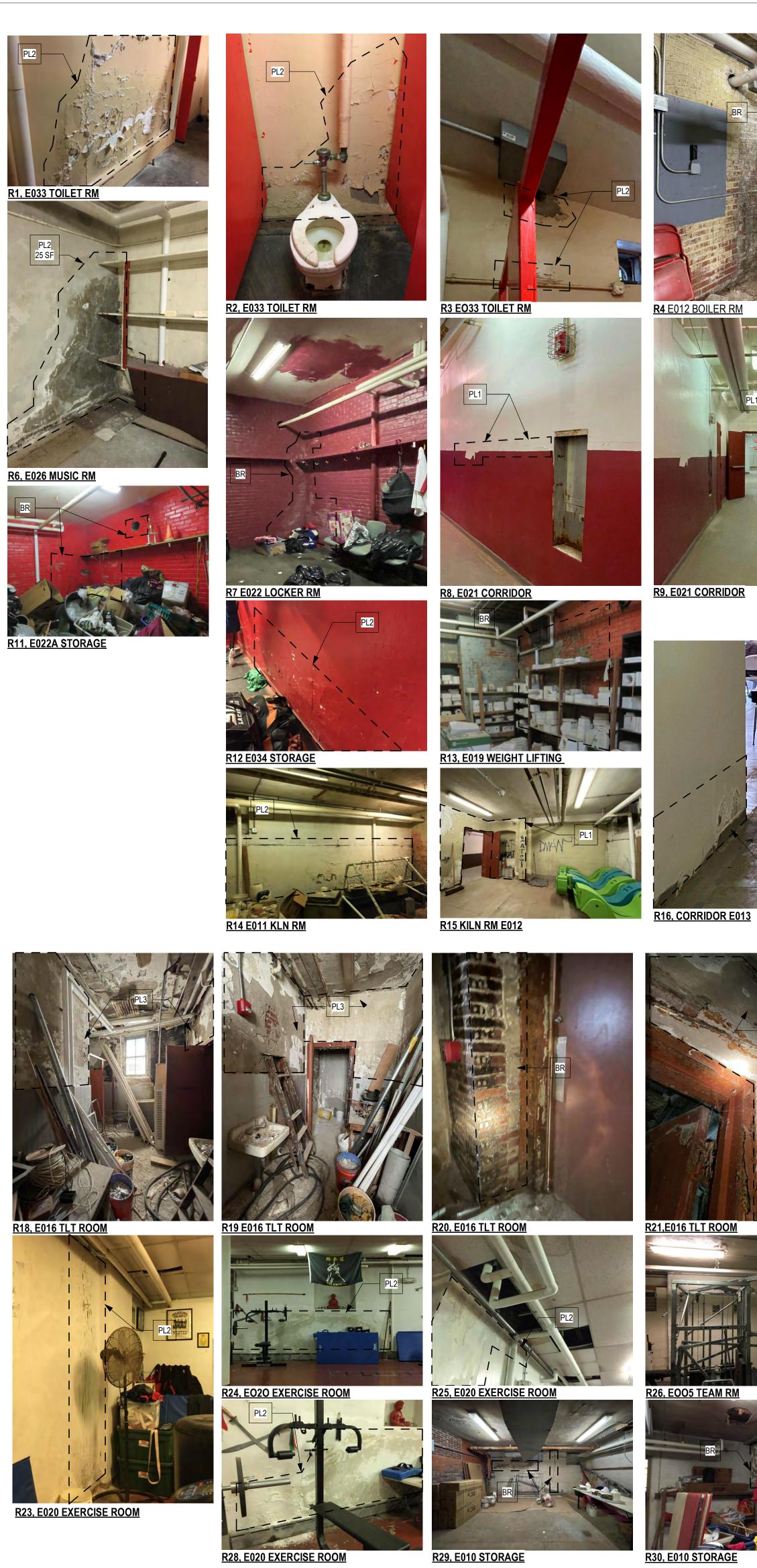
6/A651-R.2 AND STRUCTURAL DWGS

PARTITION TYPES

- DOOR TAG
- WINDOW TAG
- WALL TAG
- DOWNSPOUT INSTALLED IN PACKAGE 1; N.I.C.

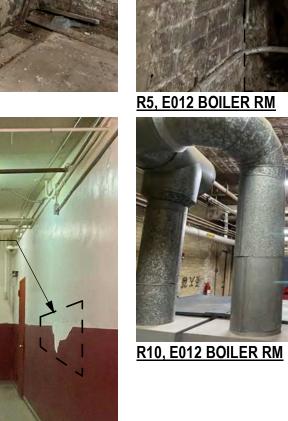
(N) ATTIC/CATWALK ACCESS LADDER - SEE 6/Á651-R.2 AND STRUCTURAL DWGS





STAMP AREA













R17,E037 FILTER RM



<u>R22, ST6-LL STAIR 6, (E)</u>



<u>R27, EOO5 TEAM RM</u>

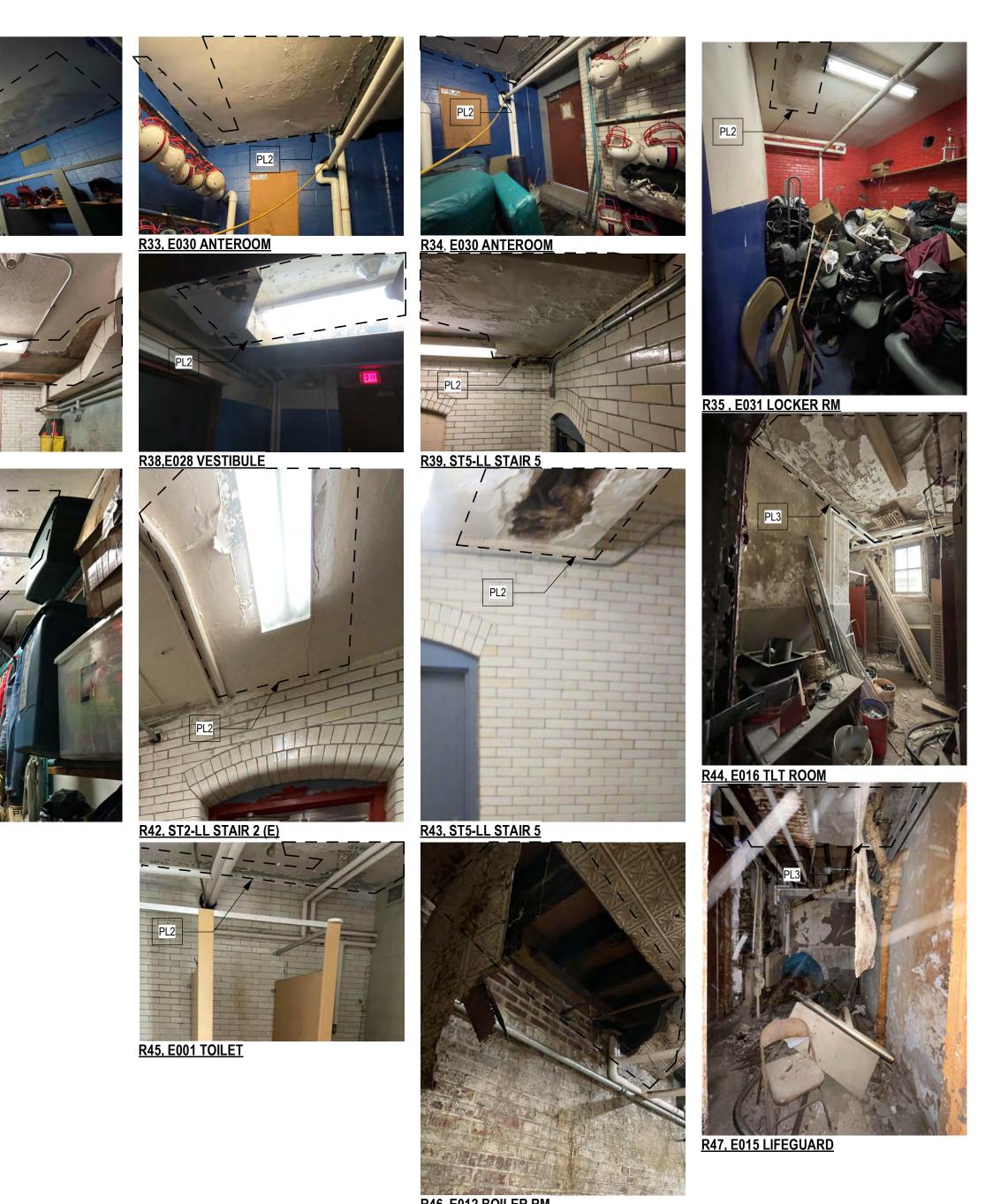
LOWER LEVEL WALLS



R40, E027 PASSAGE



<u>R41, E008 BAGS</u>



R46, E012 BOILER RM

LOWER LEVEL CEILING

REPAIR SCOPE KEY: RXX NOTE: REPAIR QUANTITIES ARE ESTIMATES ONLY AND FULL EXTENT OF REPAIR WORK & LOCATIONS MUST BE VERIFIED IN FIELD	~
KEY # MATERIAL APPROX SQ FT OF REPAIR	~
R #: (REPAIR) 1 (NUMBER): REFER TO PHOTO PL1 : PLASTER LEVEL 1 REPAIR HAIRLINE CRACKS, SMALL HOLES/ BUBBLES: CLEAN JOINT OR AREA, APPLY JOINT COMPOUND & MESH, SAND / PREP FOR SCHEDULED FINISHES. PL2: PLASTER LEVEL 2 REPAIR LARGE CRACKS, LOOSE PLASTER, WATER DAMAGE: REMOVE LOOSE PLASTER BACK TO SOLID MATERIAL; APPLY 3-COAT PLASTER SYSTEM, FINISH AS SCHEDULED. PL3: PLASTER LEVEL 3 REPAIR ALL NEW PLASTER (FOR DEDUCT ALT: ABUSE RESISTANT GWB) SGT: STRUCTURAL GLAZED TILE AT AREAS OF EXTREME DISREPAIR, REPLACE BROKEN MISSING BRICK REPOINT BRICK. FINISH PER FINISH SCHEDULE. WD: WOOD BR: BRICK	
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Ir	nterior Repair Schedule - I	Lower Level
MARK	REPAIR TYPE	QUANTITY
R1	PL2	50 SF
R2	PL2	20 SF
र3	PL2	5 SF
R4,5,10	BR	40 SF
R6	PL2	25 SF
R7	BR	10 SF
र8	PL1	3 SF
२९	PL1	4 SF
R11	BR	20 SF
R12	PL2	10 SF
R13	BR	80 SF
R14	PL2	25 SF
R15	PL1	25 SF
R16	PL2	10 SF
R17	SGT	5 SF
R18-22	PL3	800 SF
R23	PL2	15 SF
R24	PL2	85 SF
R25,28	PL2	20 SF
R26	PL2	20 SF
R27	PL2	10 SF
R29	BR	30 SF
२३०	BR	60 SF
R31	PL2	50 SF
R32	PL2	30 SF
R33,34	PL2	50 SF
R36	PL2	10 SF
R37	PL2	55 SF
२३८	PL2	50 SF
R40	PL2	20 SF
R41	PL2	40 SF
R42	PL2	20 SF
R43,39	PL2	50 SF
R44,47	PL3	450 SF
R45	PL2	40 SF

PL1: 35 SF PL2: 900 SF PL3: 1560 SF SGT: 20 SF BR: 300 SF





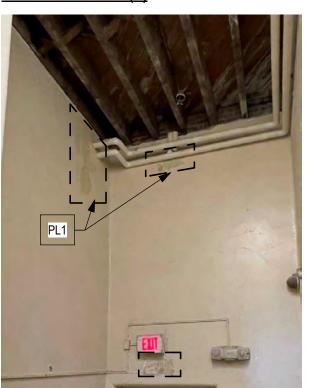
<u>R67.5, E118 BOXING</u>

STAMP AREA





<u>R57 ST5-1 STAIR 5 (E)</u>



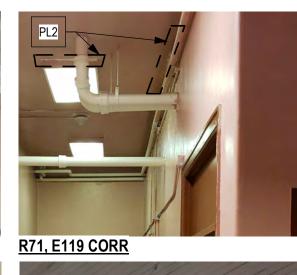
<u>R62, ST5-1 STAIR 5</u>



<u>R69, ST1-1 STAIR 1 (E)</u>

FIRST FLOOR WALLS







<u> R79 , ST4-1 STAIR 4 (E)</u>

<u>R83 , E105 GYM</u>







<u>R80,E118 BOXING</u>

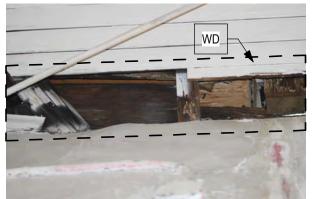
R84, E114 DIRECTOR



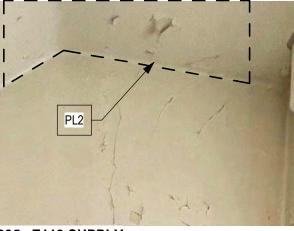
R73, E109 STORAGE



<u>R77, E118 BOXING</u>

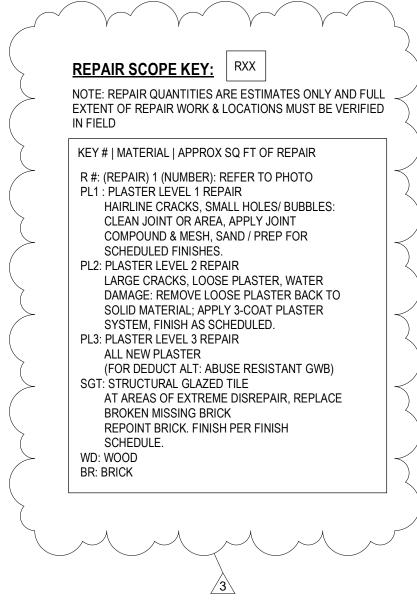


<u>R81, E118 BOXING</u>



<u>R85 , E112 SUPPLY</u>

FIRST FLOOR CEILING

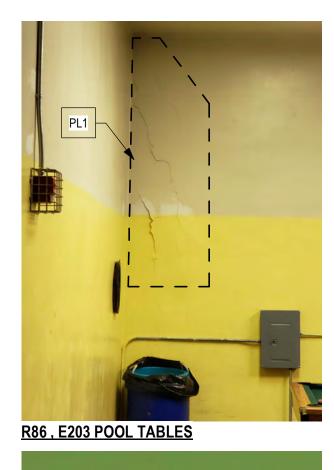


MARK	REPAIR TYPE	QUANTITY
PL1	PL1	15 SF
R48	PL1	9 SF
R49	PL1	8 SF
R50	PL1	12 SF
R51	PL1	21 SF
R52	PL2	6 SF
R53	PL2	10 SF
R54	PL1	22 SF
R55	WD	1 SF
R57	SGT	2 SF
R58	PL1	4 SF
R58,61	PL3	10 SF
R59	PL1	2 SF
R60	PL1	6 SF
R62	PL1	50 SF
R62	PL1	10 SF
R63	PL1	5 SF
R64	SGT	12 SF
R65	PL1	7 SF
R66	PL2	60 SF
R67	PL1	5 SF
R67.5	SGT	3 SF
R68	PL2	90 SF
R68	SGT	7 SF
R69	PL1	40 SF
R70	PL2	20 SF
R71	PL2	7 SF
R72	PL2	100 SF
R73,74	PL1	7 SF
R75	WD	25 SF
R76	WD	10 SF
R77,80,81	WD	10 SF
R82	WD	5 SF
R83	WD	5 SF
R84	PL2	30 SF
R85	PL2	7 SF

REPAIR QUANTITIES (SF) 1ST FL:



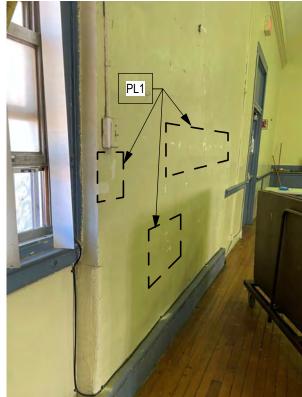




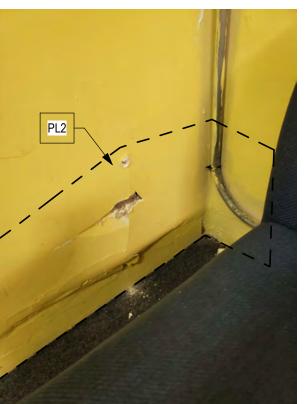


<u>R90, E202 STAGE</u>





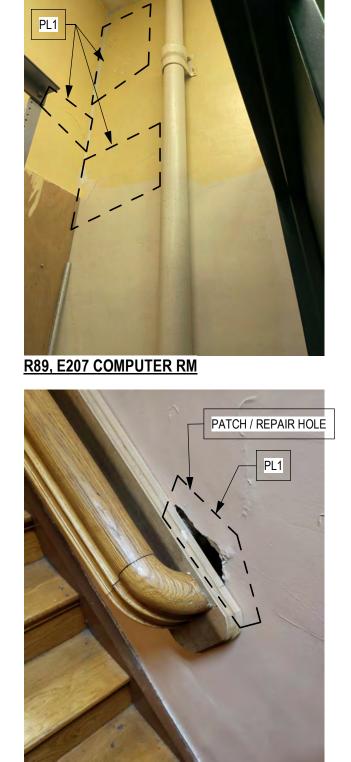
<u>R91, E202 STAGE</u>



R88, E204 LOUNGE

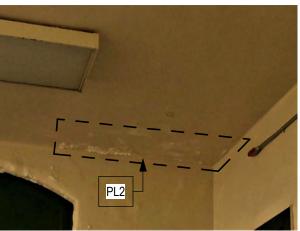


<u>R92, ST-R STAGE R (E)</u>

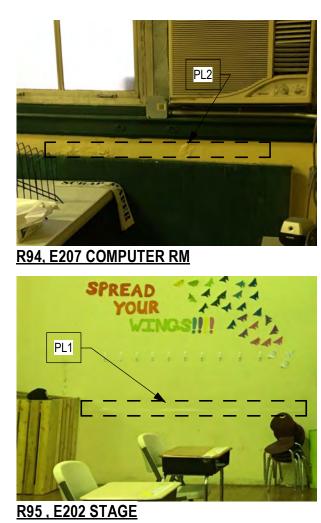


<u>R93 , ST1-2A STAIR 1 (E)</u>

STAMP AREA



R96, E203 POOL TABLES



2ND FLOOR WALLS



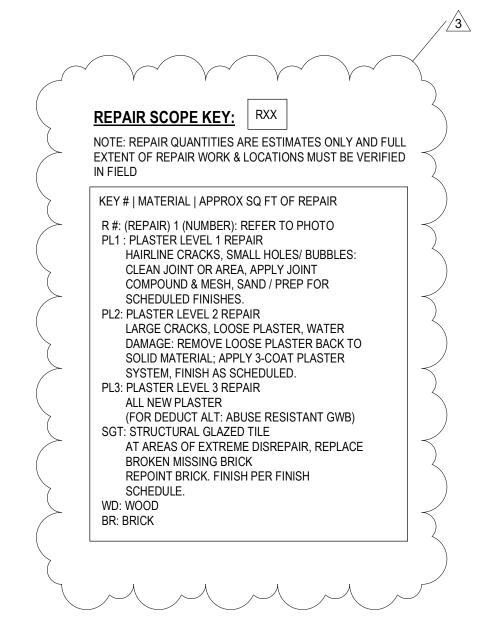
<u>R97, E204 LOUNGE</u>



R98, E204 LOUNGE



2ND FLOOR CEILING

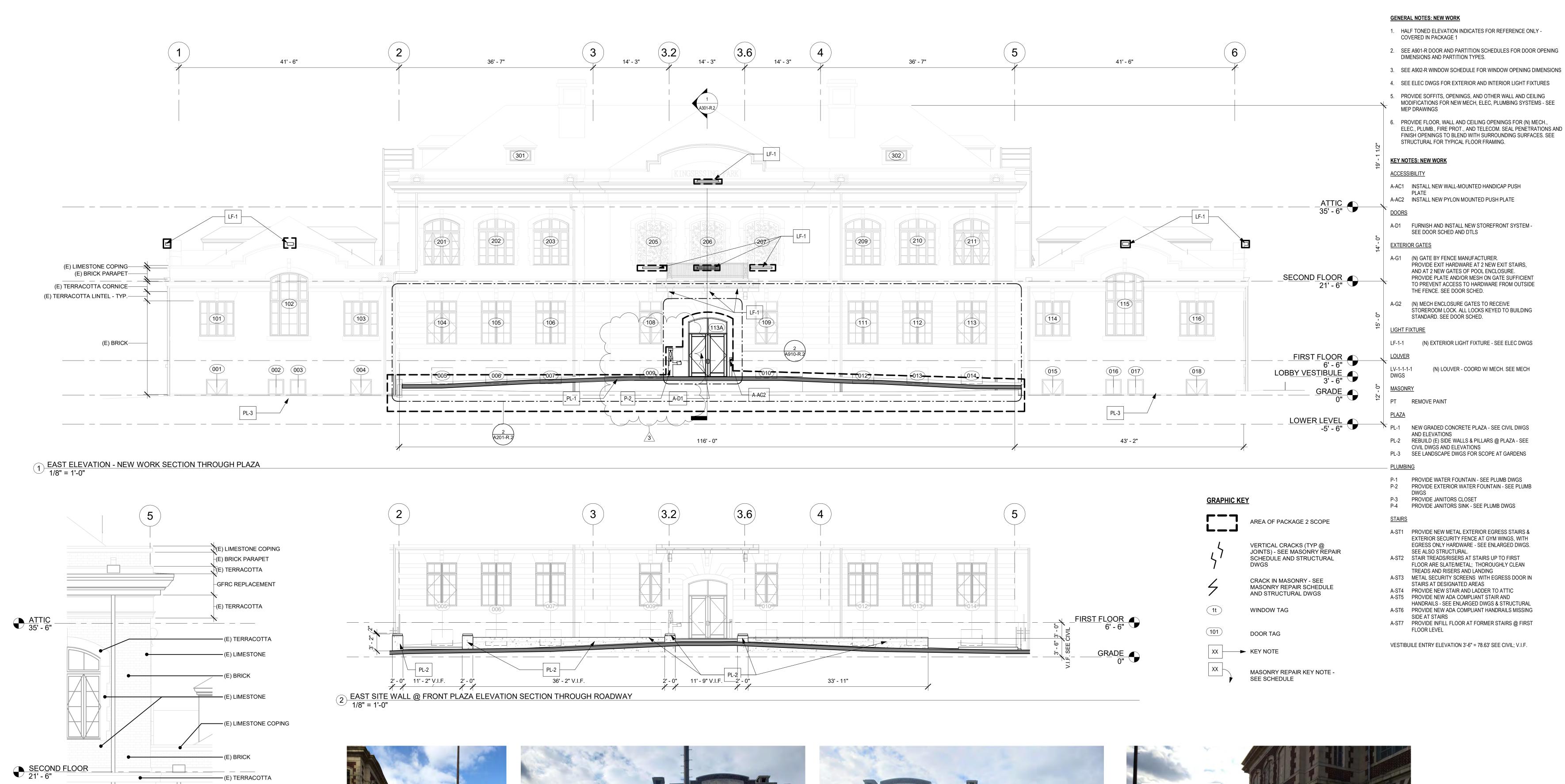


Interior Repair	Schedule - 2nd	Floor

	REPAIR	
MARK	TYPE	QUANTITY
R86	PL1	20 SF
R87	PL2	30 SF
R88	PL2	6 SF
R89	PL1	3 SF
R90	PL1	2 SF
R91	PL1	5 SF
R92	PL2	8 SF
R93	PL1	2 SF
R94	PL2	2 SF
R95	PL1	8 SF
R96	PL2	6 SF
R97	PL1	7 SF
R98	PL1	7 SF
R99	PL2	3 SF

REPAIR QUANTITIES (SF) 2ND FL: PL1: 65 SF PL2: 65 SF BR: N/A





GYM LEVEL 4' - 11 1/4" $\bigcirc MATERIAL CALLOUT - FOR REFERENCE ONLY \\ 1/4" = 1'-0"$

- (E) TERRACOTTA

- (E) LIMESTONE

- (E) BRICK

(E) BRICK

(E) GRANITE

STAMP AREA

FIRST FLOOR 6' - 6"

EXISTING EXTERIOR WALL

EXISTING EXTERIOR WALL

EVEL - SEE CIVIL

LEVEL - SEE CIVIL

NEW HEAVY DUTY CONCRETE PAVEMENT RAISED VESTIBULE

INSTALL NEW CONCRETE @ PLAZA

TO RAISE GRADE TO VESTIBULE

NEW STONE WALL -SEE CIVIL

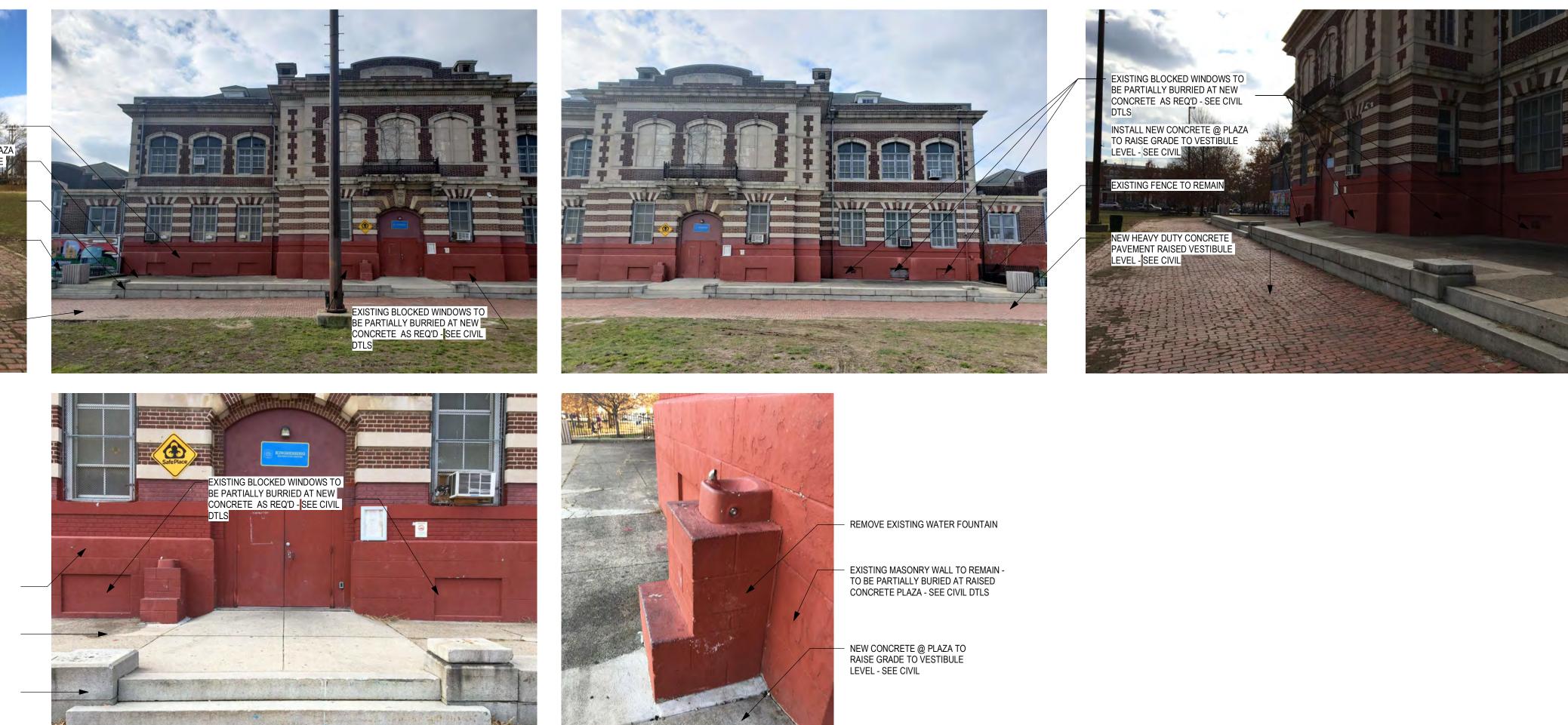
EXISTING FENCE TO REMAIN

NEW CONCRETE @ PLAZA TO RAISE GRADE TO VESTIBULE LEVEL - SEE CIVIL

NEW STONE WALL -SEE CIVIL NEW HEAVY DUTY CONCRETE

the start

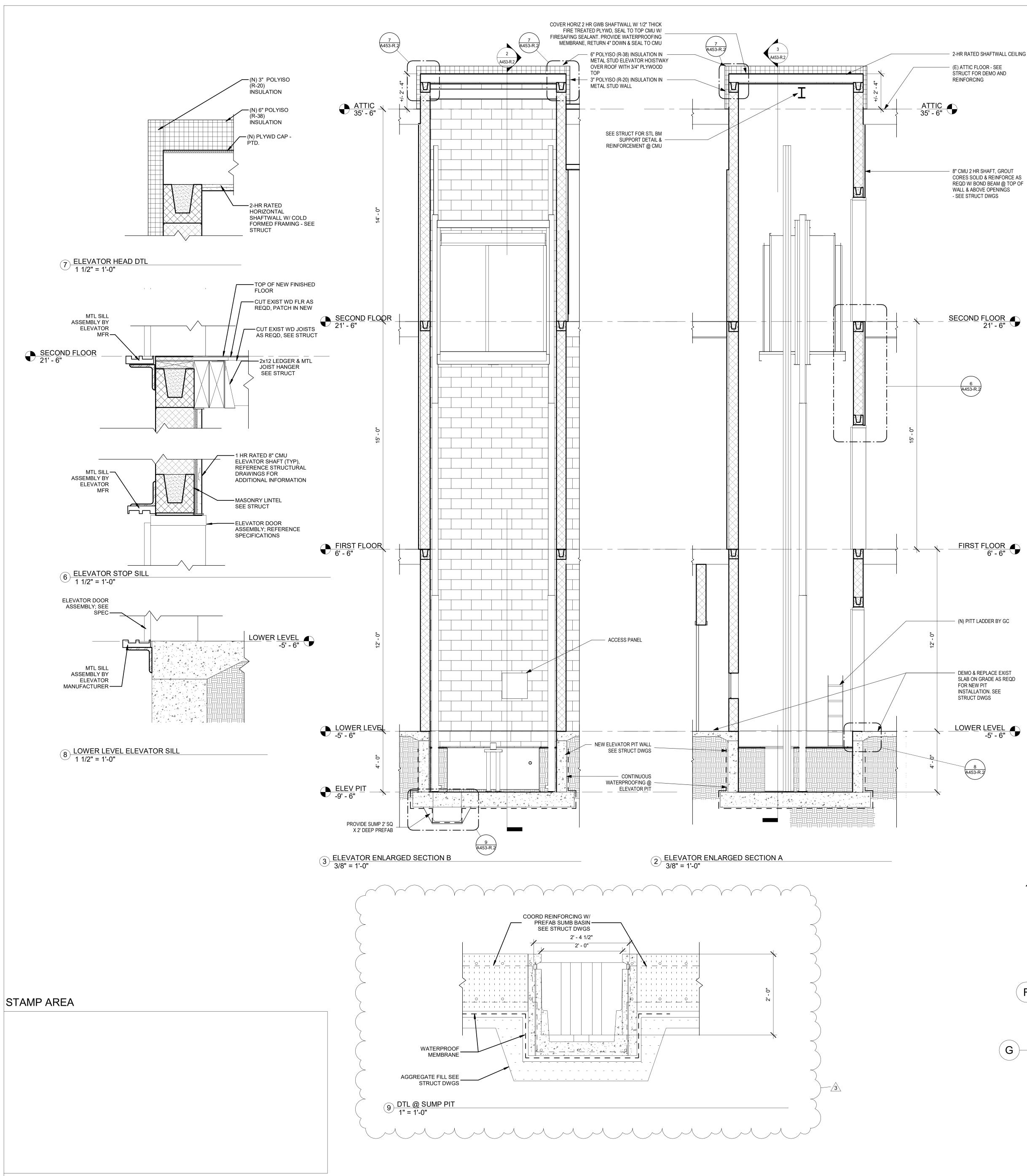
PAVEMENT RAISED VESTIBULE LEVEL - SEE CIVIL



<u>KEY PLAN</u>

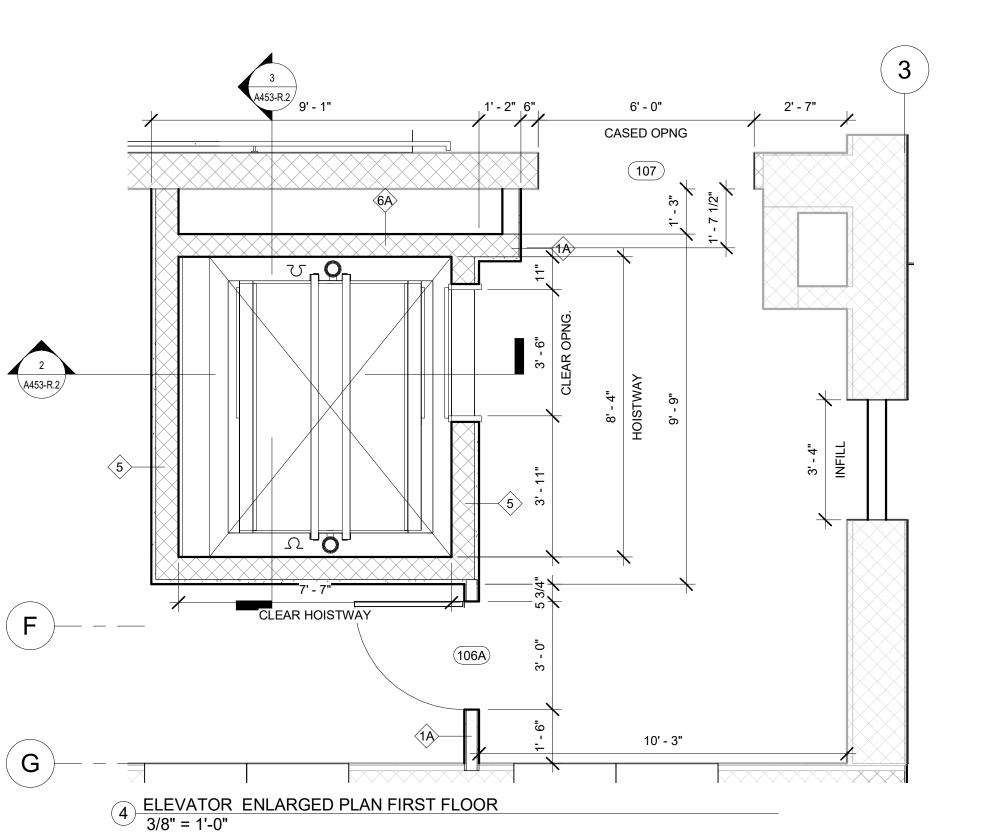
◀ ′





(3) $\times \times \times \times \times 1$ · · · · 2A453-R.2 CORR 204 7' <u>-</u> 7"_____ F CLEAR HOISTWAY (206A) (203A) PPR STAFF OFFICE 10' - 2 3/4" 203 9' - 1 1/4" G

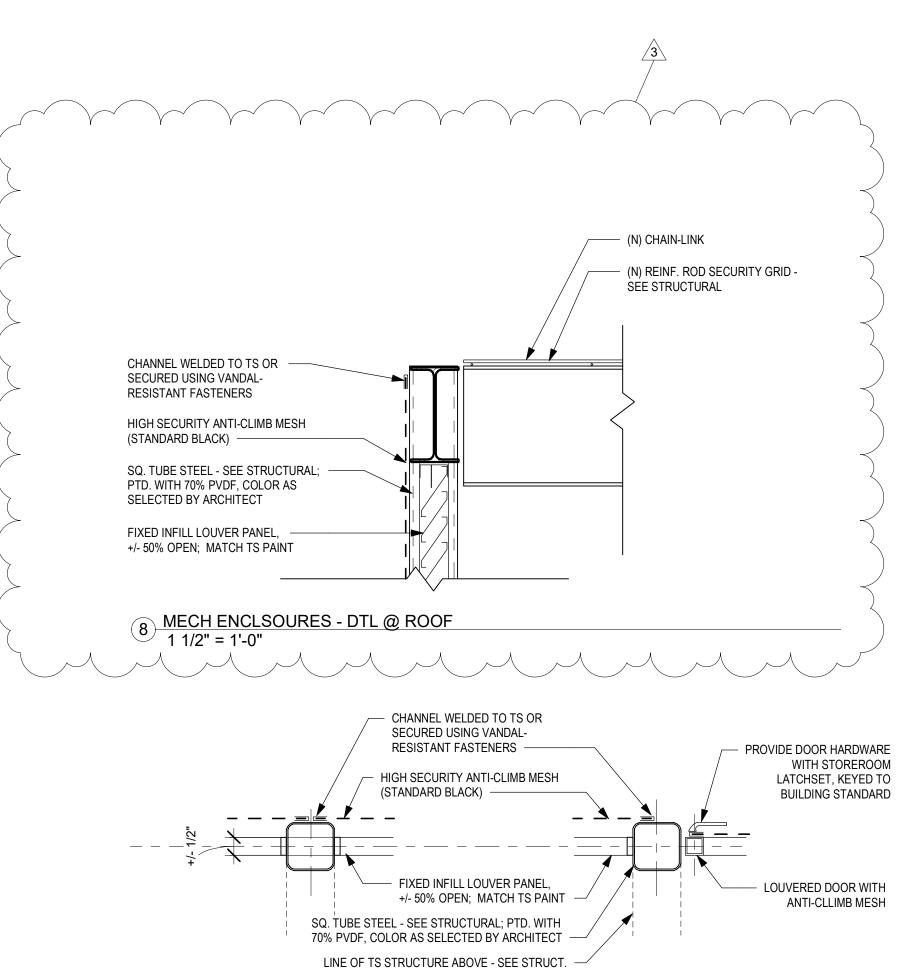




(3) A453-R. 6' - 0" 2' - 7" 1' - 9" ACCESS PANEL (N) PIT LADDER CASED OPNG 016 $\langle 4 \rangle$ **≺** 4 [____] (015B) **"**0 2 A453-R.2 -β | α . б VEST 016 STOR 1' - 6" CONTROL SPACE 015 015A PROVIDE SUMP 2' SQ X 2' DEEP PREFAB OR CAST IN PLACE $\times \times \times \times \times \times \times$ 0 F 4 7' - 7" CLEAR HOISTWAY 5' - 1 1/4" 2' - 2" 1' - 6" 3' - 0" 5' - 10" 8' - 10"

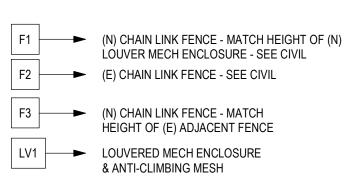
1 ELEVATOR ENLARGED PLAN LOWER LEVEL 3/8" = 1'-0"

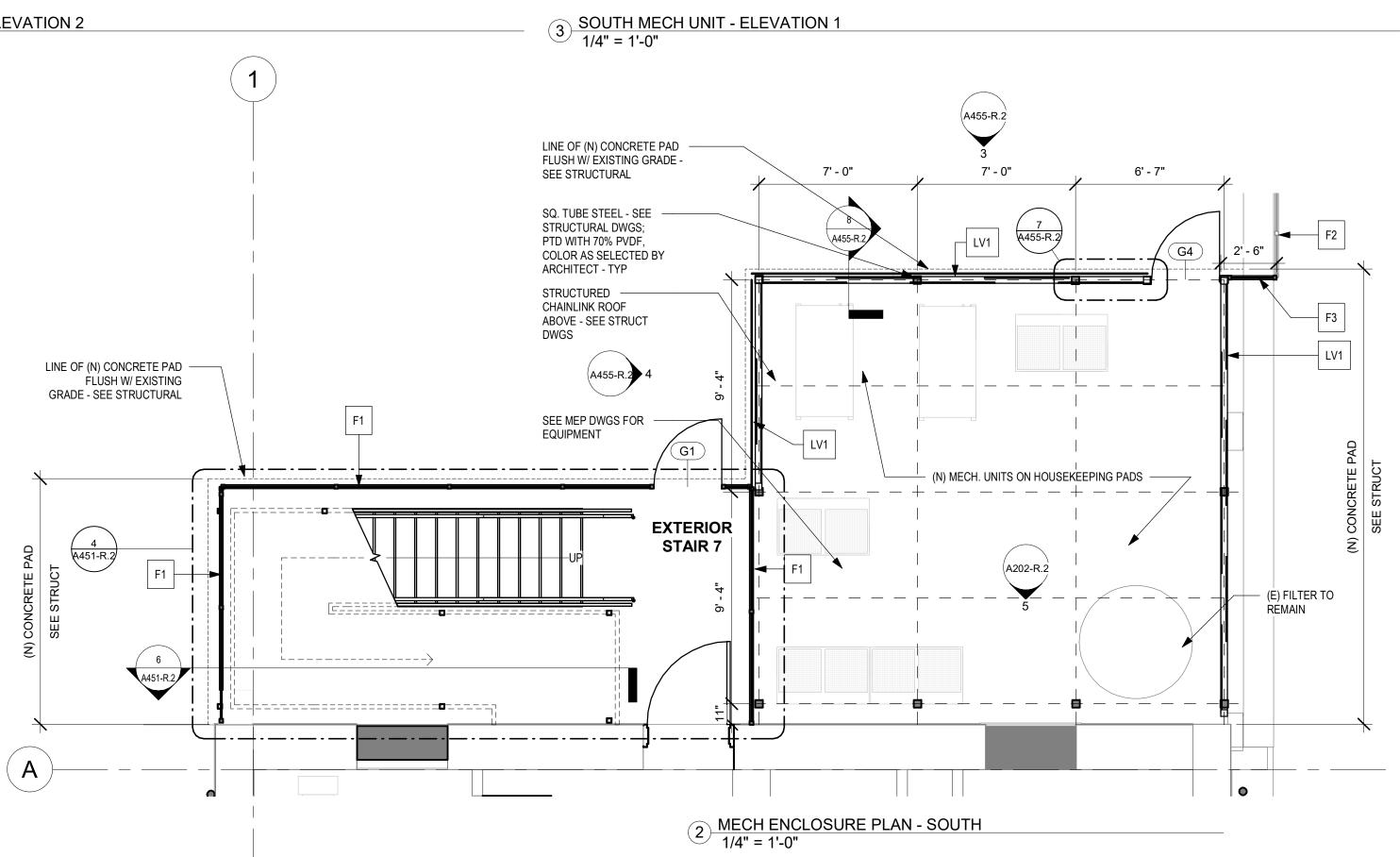




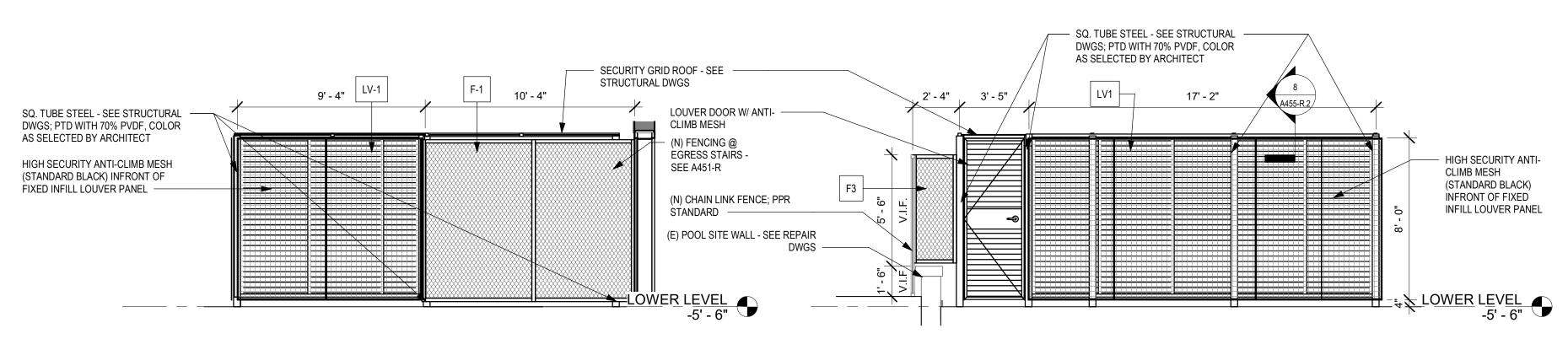
7 PLAN DETAIL AT POSTS - TYP. 1 1/2" = 1'-0"

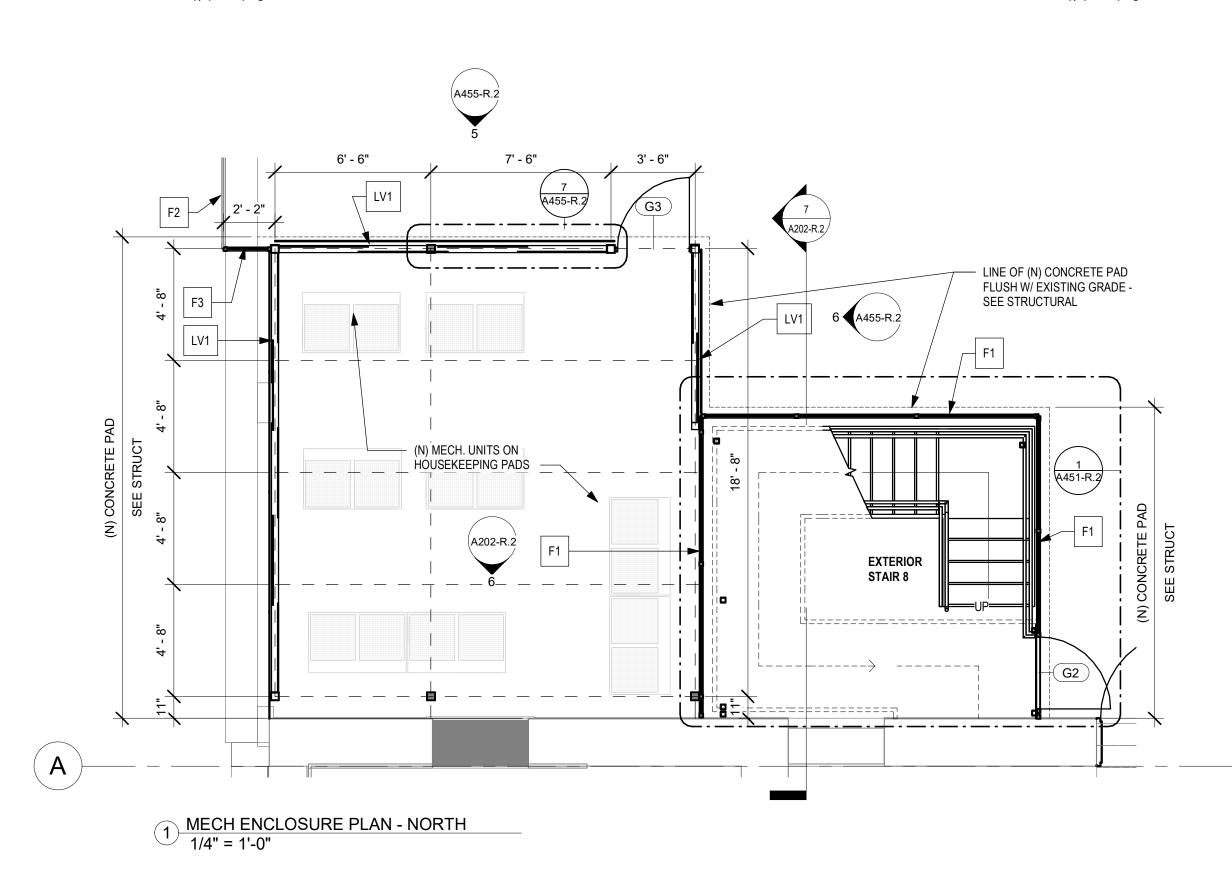
STAMP AREA





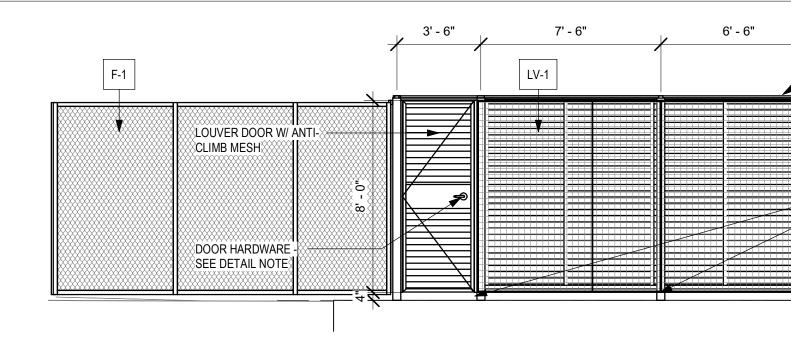
4 SOUTH MECH UNIT - ELEVATION 2 1/4" = 1'-0"



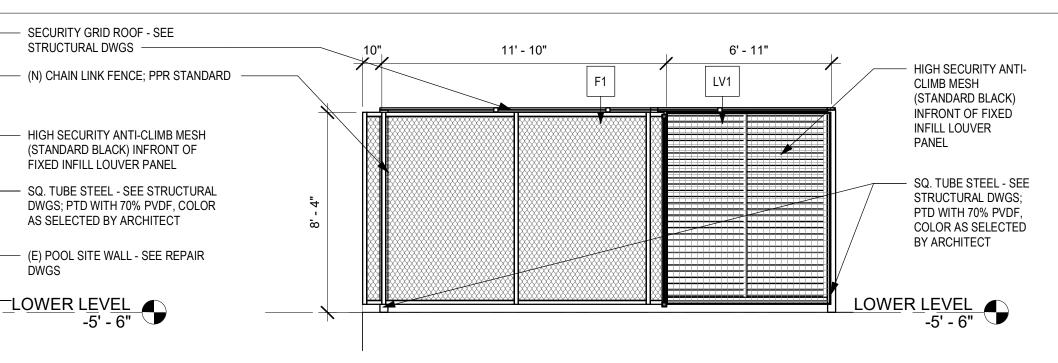


DWGS

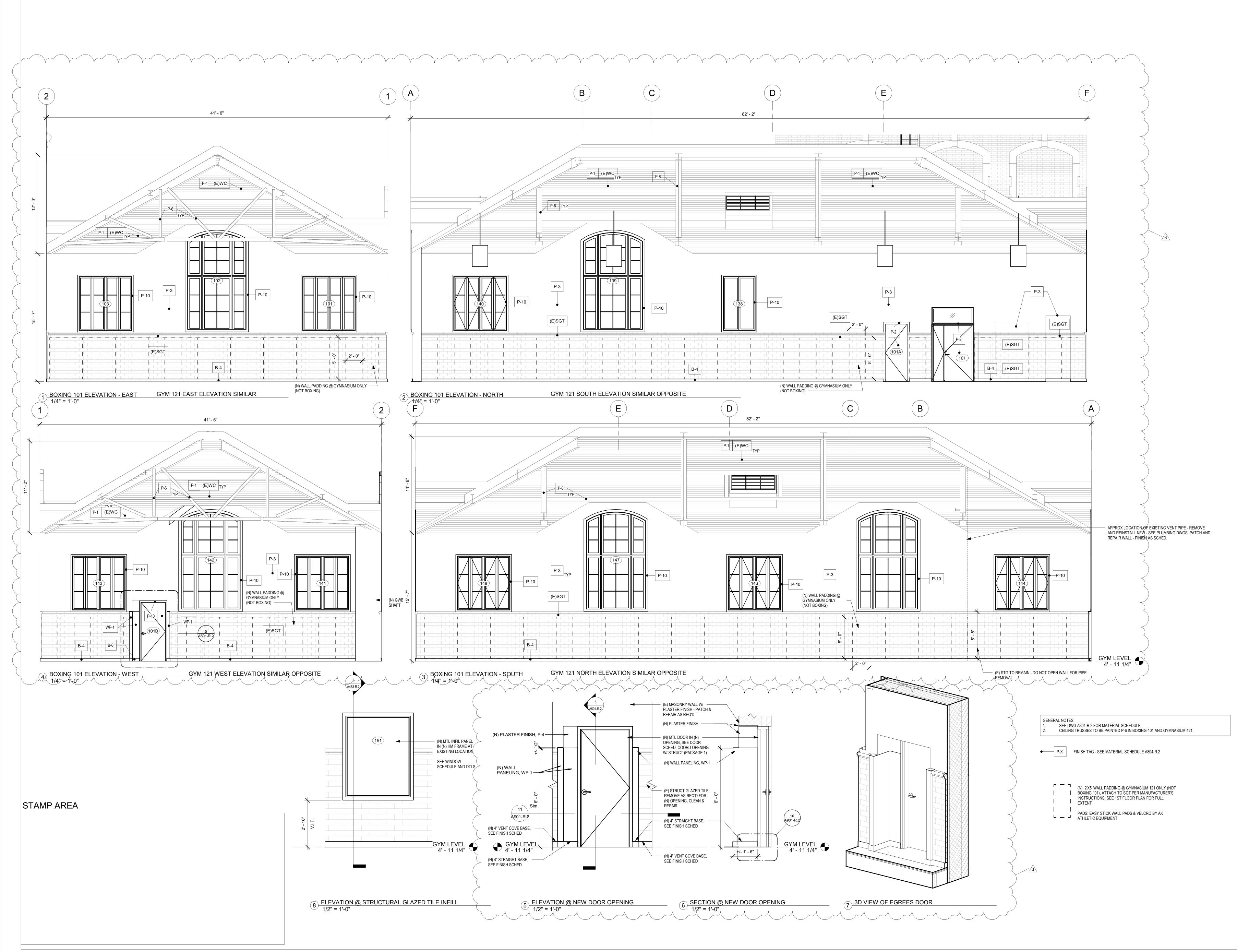
5 NORTH MECH UNIT - ELEVATION 1 1/4" = 1'-0"



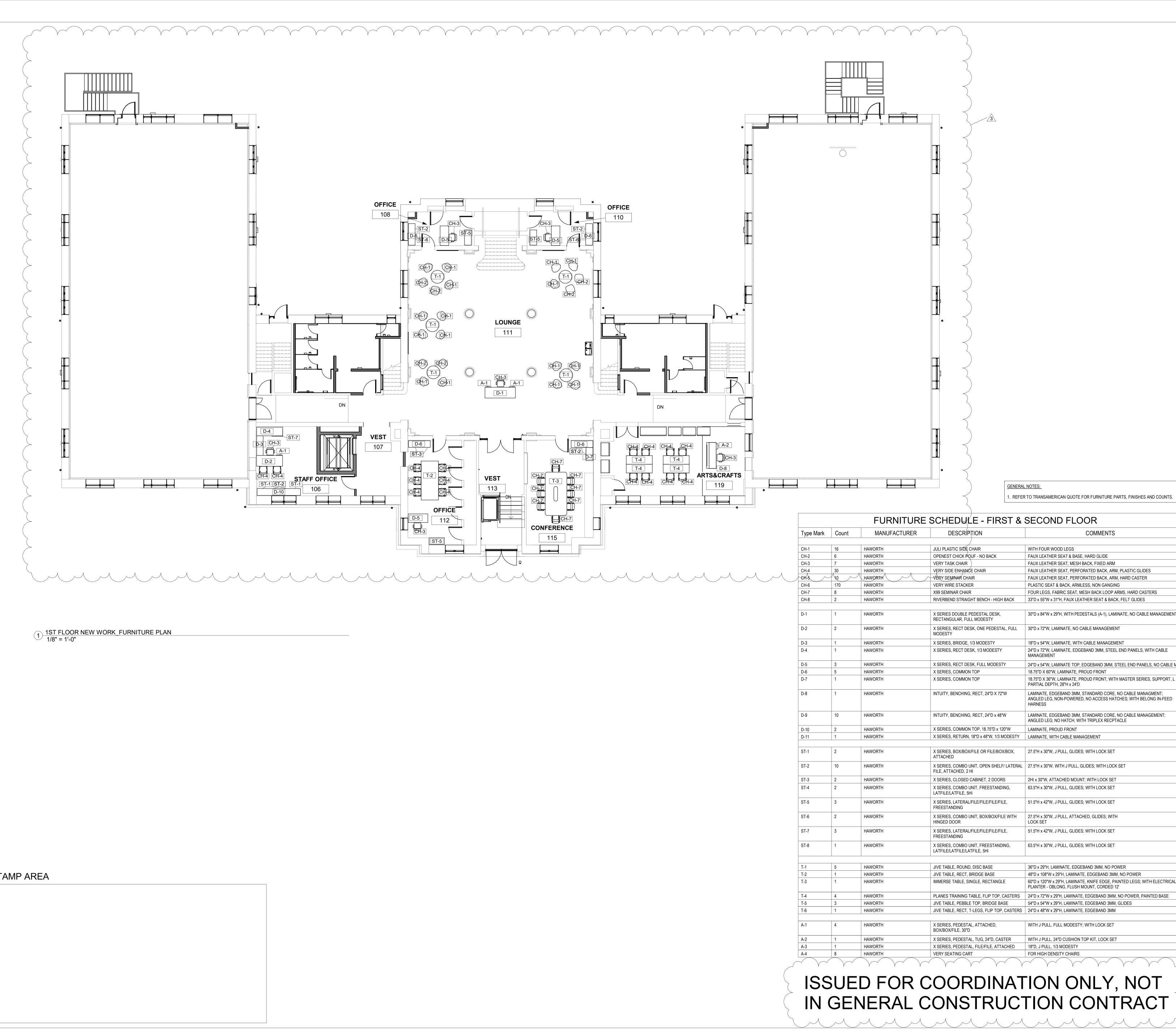
6 NORTH MECH UNIT - ELEVATION 2 1/4" = 1'-0"











STAMP AREA

ISSUED FOR COORDINATION ONLY, NOT IN GENERAL CONSTRUCTION CONTRACT

16	HAWORTH	JULI PLASTIC SIDE CHAIR	WITH FOUR WOOD LEGS
6	HAWORTH	OPENEST CHICK POUF - NO BACK	FAUX LEATHER SEAT & BASE, HARD GLIDE
7	HAWORTH	VERY TASK CHAIR	FAUX LEATHER SEAT, MESH BACK, FIXED ARM
30	HAWORTH		FAUX LEATHER SEAT, PERFORATED BACK, ARM, PLASTIC GLIDES
10 /	HAWORTH		FAUX LEATHER SEAT, PERFORATED BACK, ARM, HARD CASTER
170	HAWORTH	VERY WIRE STACKER	PLASTIC SEAT & BACK, ARMLESS, NON GANGING
8	HAWORTH	X99 SEMINAR CHAIR	FOUR LEGS, FABRIC SEAT, MESH BACK LOOP ARMS, HARD CASTERS
2	HAWORTH	RIVERBEND STRAIGHT BENCH - HIGH BACK	33"D x 55"W x 31"H, FAUX LEATHER SEAT & BACK, FELT GLIDES
1			
1	HAWORTH	X SERIES DOUBLE PEDESTAL DESK, RECTANGULAR, FULL MODESTY	30"D x 84"W x 29"H, WITH PEDESTALS (A-1), LAMINATE, NO CABLE MANAGEMENT
2	HAWORTH	X SERIES, RECT DESK, ONE PEDESTAL, FULL MODESTY	30"D x 72"W, LAMINATE, NO CABLE MANAGEMENT
1	HAWORTH	X SERIES, BRIDGE, 1/3 MODESTY	18"D x 54"W, LAMINATE, WITH CABLE MANAGEMENT
1	HAWORTH	X SERIES, RECT DESK, 1/3 MODESTY	24"D x 72"W, LAMINATE, EDGEBAND 3MM, STEEL END PANELS, WITH CABLE MANAGEMENT
3	HAWORTH	X SERIES, RECT DESK, FULL MODESTY	24"D x 54"W, LAMINATE TOP, EDGEBAND 3MM, STEEL END PANELS, NO CABLE MGT
5	HAWORTH	X SERIES, COMMON TOP	18.75"D X 60"W, LAMINATE, PROUD FRONT
1	HAWORTH	X SERIES, COMMON TOP	18.75"D X 36"W, LAMINATE, PROUD FRONT; WITH MASTER SERIES, SUPPORT, L - PARTIAL DEPTH, 28"H x 24'D
1	HAWORTH	INTUITY, BENCHING, RECT, 24"D X 72"W	LAMINATE, EDGEBAND 3MM, STANDARD CORE, NO CABLE MANAGMENT; ANGLED LEG, NON-POWERED, NO ACCESS HATCHES; WITH BELONG IN-FEED HARNESS
10	HAWORTH	INTUITY, BENCHING, RECT, 24"D x 48"W	LAMINATE, EDGEBAND 3MM, STANDARD CORE, NO CABLE MANAGEMENT; ANGLED LEG; NO HATCH; WITH TRIPLEX RECPTACLE
2	HAWORTH	X SERIES, COMMON TOP, 18.75"D x 120"W	LAMINATE, PROUD FRONT
1	HAWORTH	X SERIES, RETURN, 18"D x 48"W, 1/3 MODESTY	LAMINATE, WITH CABLE MANAGEMENT
2	HAWORTH	X SERIES, BOX/BOX/FILE OR FILE/BOX/BOX, ATTACHED	27.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
10	HAWORTH	X SERIES, COMBO UNIT, OPEN SHELF/ LATERAL FILE, ATTACHED, 2 HI	27.5"H x 30"W, WITH J PULL, GLIDES; WITH LOCK SET
2	HAWORTH	X SERIES, CLOSED CABINET, 2 DOORS	2HI x 30"W, ATTACHED MOUNT; WITH LOCK SET
2	HAWORTH	X SERIES, COMBO UNIT, FREESTANDING, LATFILE/LATFILE, 5HI	63.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
3	HAWORTH	X SERIES, LATERAL/FILE/FILE/FILE/FILE, FREESTANDING	51.5"H x 42"W, J PULL, GLIDES; WITH LOCK SET
2	HAWORTH	X SERIES, COMBO UNIT, BOX/BOX/FILE WITH HINGED DOOR	27.5"H x 30"W, J PULL, ATTACHED, GLIDES; WITH LOCK SET
3	HAWORTH	X SERIES, LATERAL/FILE/FILE/FILE/FILE, FREESTANDING	51.5"H x 42"W, J PULL, GLIDES; WITH LOCK SET
1	HAWORTH	X SERIES, COMBO UNIT, FREESTANDING, LATFILE/LATFILE/LATFILE, 5HI	63.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
I	1	1	
5	HAWORTH	JIVE TABLE, ROUND, DISC BASE	36"D x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER
1	HAWORTH	JIVE TABLE, RECT, BRIDGE BASE	48"D x 108"W x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER
1	HAWORTH	IMMERSE TABLE, SINGLE, RECTANGLE	60"D x 120"W x 29"H, LAMINATE, KNIFE EDGE, PAINTED LEGS; WITH ELECTRICAL PLANTER - OBLONG, FLUSH MOUNT, CORDED 12'
4	HAWORTH	PLANES TRAINING TABLE, FLIP TOP, CASTERS	24"D x 72"W x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER, PAINTED BASE
3	HAWORTH	JIVE TABLE, PEBBLE TOP, BRIDGE BASE	54"D x 54"W x 29"H, LAMINATE, EDGEBAND 3MM, GLIDES
1	HAWORTH	JIVE TABLE, RECT, T-LEGS, FLIP TOP, CASTERS	24"D x 48"W x 29"H, LAMINATE, EDGEBAND 3MM
1	1		
4	HAWORTH	X SERIES, PEDESTAL, ATTACHED, BOX/BOX/FILE, 30"D	WITH J PULL, FULL MODESTY; WITH LOCK SET
1	HAWORTH	X SERIES, PEDESTAL, TUG, 24"D, CASTER	WITH J PULL, 24"D CUSHION TOP KIT, LOCK SET
1	HAWORTH	X SERIES, PEDESTAL, FILE/FILE, ATTACHED	18"D, J PULL, 1/3 MODESTY
8	HAWORTH	VERY SEATING CART	FOR HIGH DENSITY CHAIRS

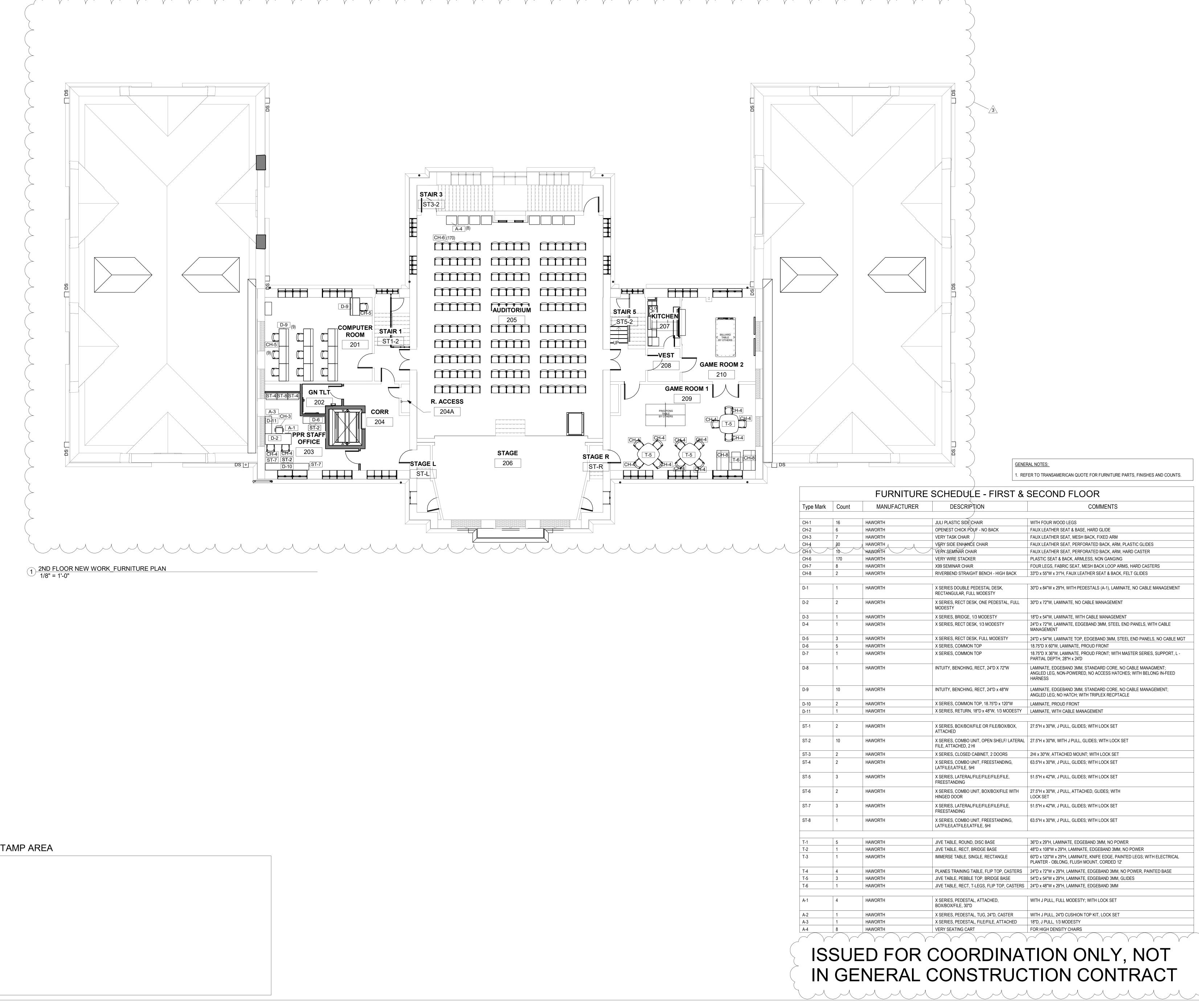
FURNITURE SCHEDULE - FIRST & SECOND FLOOR

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GENERAL NOTES: I. REFER TO TRANSAMERICAN QUOTE FOR FURNITURE PARTS, FINISHES AND COUNTS.

COMMENTS





STAMP AREA

ISSUED FOR COORDINATION ONLY, NOT IN GENERAL CONSTRUCTION CONTRACT

t	MANUFACTURER	DESCRIPTION	COMMENTS
	HAWORTH	JULI PLASTIC SIDE CHAIR	WITH FOUR WOOD LEGS
	HAWORTH	OPENEST CHICK POUF - NO BACK	FAUX LEATHER SEAT & BASE, HARD GLIDE
	HAWORTH	VERY TASK CHAIR	FAUX LEATHER SEAT, MESH BACK, FIXED ARM
	A HAWORTH A	VERY SIDE ENHANCE CHAIR	FAUX LEATHER SEAT, PERFORATED BACK, ARM, PLASTIC GLIDES
\sim	HAWORTH	VERY SEMINAR CHAIR	FAUX LEATHER SEAT, PERFORATED BACK, ARM, HARD CASTER
	HAWORTH	VERY WIRE STACKER	PLASTIC SEAT & BACK, ARMLESS, NON GANGING
	HAWORTH	X99 SEMINAR CHAIR	FOUR LEGS, FABRIC SEAT, MESH BACK LOOP ARMS, HARD CASTERS
	HAWORTH	RIVERBEND STRAIGHT BENCH - HIGH BACK	33"D x 55"W x 31"H, FAUX LEATHER SEAT & BACK, FELT GLIDES
	HAWORTH	X SERIES DOUBLE PEDESTAL DESK, RECTANGULAR, FULL MODESTY	30"D x 84"W x 29"H, WITH PEDESTALS (A-1), LAMINATE, NO CABLE MANAGEMENT
	HAWORTH	X SERIES, RECT DESK, ONE PEDESTAL, FULL MODESTY	30"D x 72"W, LAMINATE, NO CABLE MANAGEMENT
	HAWORTH	X SERIES, BRIDGE, 1/3 MODESTY	18"D x 54"W, LAMINATE, WITH CABLE MANAGEMENT
	HAWORTH	X SERIES, RECT DESK, 1/3 MODESTY	24"D x 72"W, LAMINATE, EDGEBAND 3MM, STEEL END PANELS, WITH CABLE MANAGEMENT
	HAWORTH	X SERIES, RECT DESK, FULL MODESTY	24"D x 54"W, LAMINATE TOP, EDGEBAND 3MM, STEEL END PANELS, NO CABLE MG
	HAWORTH	X SERIES, COMMON TOP	18.75"D X 60"W, LAMINATE, PROUD FRONT
	HAWORTH	X SERIES, COMMON TOP	18.75"D X 36"W, LAMINATE, PROUD FRONT; WITH MASTER SERIES, SUPPORT, L - PARTIAL DEPTH, 28"H x 24'D
	HAWORTH	INTUITY, BENCHING, RECT, 24"D X 72"W	LAMINATE, EDGEBAND 3MM, STANDARD CORE, NO CABLE MANAGMENT; ANGLED LEG, NON-POWERED, NO ACCESS HATCHES; WITH BELONG IN-FEED HARNESS
	HAWORTH	INTUITY, BENCHING, RECT, 24"D x 48"W	LAMINATE, EDGEBAND 3MM, STANDARD CORE, NO CABLE MANAGEMENT; ANGLED LEG; NO HATCH; WITH TRIPLEX RECPTACLE
	HAWORTH	X SERIES, COMMON TOP, 18.75"D x 120"W	LAMINATE, PROUD FRONT
	HAWORTH	X SERIES, RETURN, 18"D x 48"W, 1/3 MODESTY	LAMINATE, WITH CABLE MANAGEMENT
	HAWORTH	X SERIES, BOX/BOX/FILE OR FILE/BOX/BOX, ATTACHED	27.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, COMBO UNIT, OPEN SHELF/ LATERAL FILE, ATTACHED, 2 HI	27.5"H x 30"W, WITH J PULL, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, CLOSED CABINET, 2 DOORS	2HI x 30"W, ATTACHED MOUNT; WITH LOCK SET
	HAWORTH	X SERIES, COMBO UNIT, FREESTANDING, LATFILE/LATFILE, 5HI	63.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, LATERAL/FILE/FILE/FILE/FILE, FREESTANDING	51.5"H x 42"W, J PULL, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, COMBO UNIT, BOX/BOX/FILE WITH HINGED DOOR	27.5"H x 30"W, J PULL, ATTACHED, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, LATERAL/FILE/FILE/FILE/FILE, FREESTANDING	51.5"H x 42"W, J PULL, GLIDES; WITH LOCK SET
	HAWORTH	X SERIES, COMBO UNIT, FREESTANDING, LATFILE/LATFILE/LATFILE, 5HI	63.5"H x 30"W, J PULL, GLIDES; WITH LOCK SET
	HAWORTH	JIVE TABLE, ROUND, DISC BASE	36"D x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER
	HAWORTH	JIVE TABLE, RECT, BRIDGE BASE	48"D x 108"W x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER
	HAWORTH	IMMERSE TABLE, SINGLE, RECTANGLE	60"D x 120"W x 29"H, LAMINATE, KNIFE EDGE, PAINTED LEGS; WITH ELECTRICAL PLANTER - OBLONG, FLUSH MOUNT, CORDED 12'
	HAWORTH	PLANES TRAINING TABLE, FLIP TOP, CASTERS	24"D x 72"W x 29"H, LAMINATE, EDGEBAND 3MM, NO POWER, PAINTED BASE
	HAWORTH	JIVE TABLE, PEBBLE TOP, BRIDGE BASE	54"D x 54"W x 29"H, LAMINATE, EDGEBAND 3MM, ROT OWER, FAINTED DASE
	HAWORTH	JIVE TABLE, RECT, T-LEGS, FLIP TOP, CASTERS	24"D x 48"W x 29"H, LAMINATE, EDGEBAND 3MM
	HAWORTH	X SERIES, PEDESTAL, ATTACHED, BOX/BOX/FILE, 30"D	WITH J PULL, FULL MODESTY; WITH LOCK SET
	HAWORTH	X SERIES, PEDESTAL, TUG, 24"D, CASTER	WITH J PULL, 24"D CUSHION TOP KIT, LOCK SET
	HAWORTH	X SERIES, PEDESTAL, TUG, 24 D, CASTER X SERIES, PEDESTAL, FILE/FILE, ATTACHED	18"D, J PULL, 1/3 MODESTY
	HAWORTH		
		VERY SEATING CART	FOR HIGH DENSITY CHAIRS

FURNITURE SCHEDULE - FIRST & SECOND FLOOR

GENERAL NOTES: I. REFER TO TRANSAMERICAN QUOTE FOR FURNITURE PARTS, FINISHES AND COUNTS.





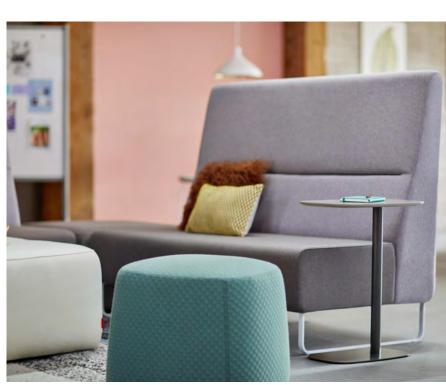
CH-1 HAWORTH - JULI CHAIR



CH-2 HAWORTH - OPENEST CHICK POUFS



CH-7 HAWORTH - X99 SEMINAR CHAIR



CH-8 HAWORTH - REIVERBEND BENCH - HIGH BACK





D-2, D-3, D-4, D-5, D-7, D-10, D-11, ST-1, ST-2, ST-3, ST-4, ST-5, ST-6, ST-7, ST-8, A-1, A-2, A-3 HAWORTH - X SERIES FURNITURE SYSTEM



T-3 HAWORTH - IMMERSE TABLE

STAMP AREA







CH-3 HAWORTH - VERY TASK CHAIR







D-1 HAWORTH - X SERIES FURNITURE SYSTEM







T-4 HAWORTH - PLANES TRAINING TABLE - FLIP TOP



T-5 HAWORTH - JIVE TABLE - NON-FLIP PEBBLE TOP





CH-5 HAWORTH - VERY SEMINAR CHAIR



CH-6 HAWORTH - VERY WIRE STACKER

D-8 HAWORTH - INTUITY BENCHING WITH PEDESTAL



D-9 HAWORTH - INTUITY BENCHING





T-1 HAWORTH - JIVE TABLE



T-2 HAWORTH - JIVE TABLE



T-6 HAWORTH - JIVE TABLE - FLIP TOP



A-4 HAWORTH - VERY STACKING CART



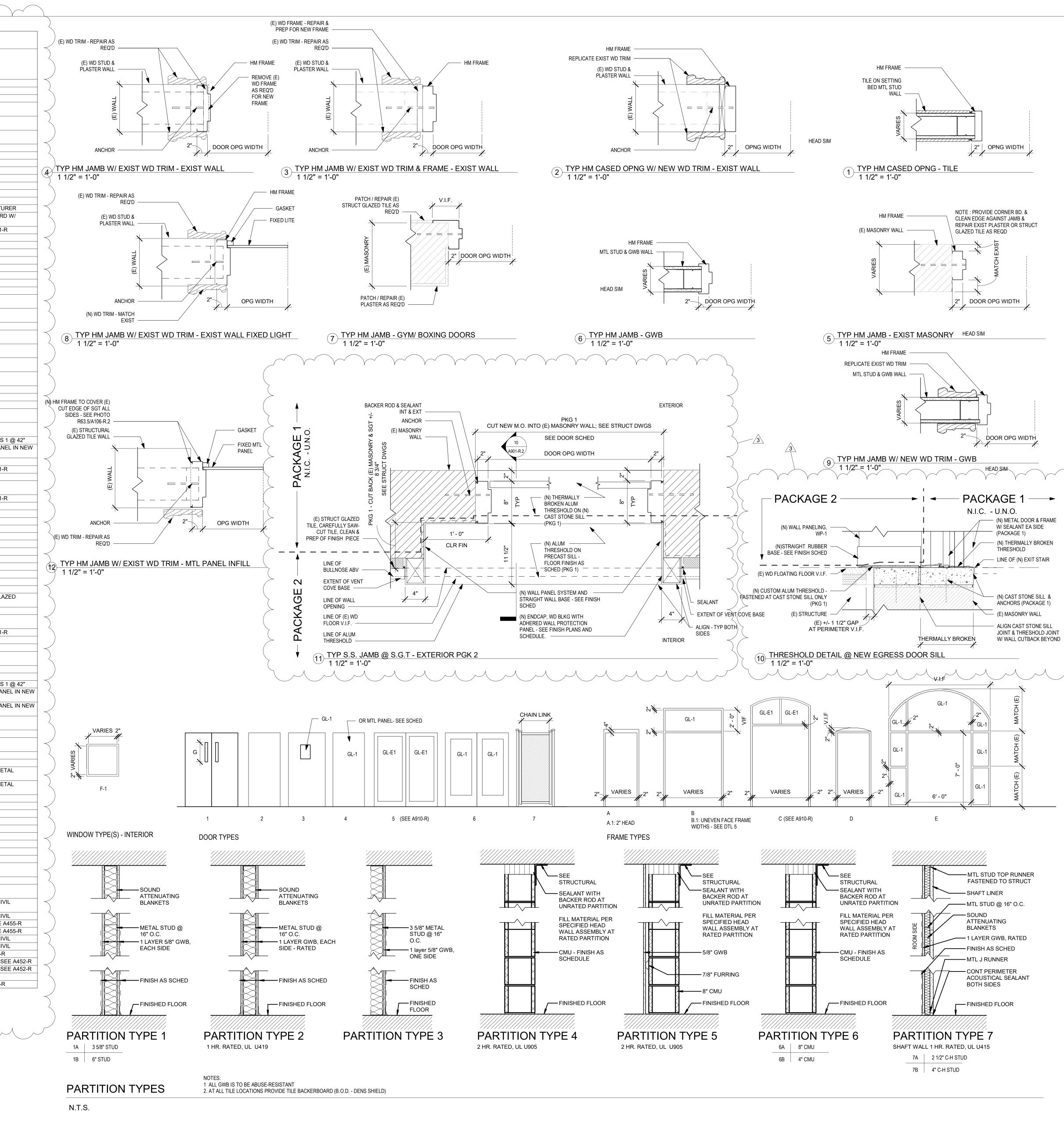
DOORS			DOORS	U		R SCHE				· <u>`_</u> ' *⊑	••	
DOOR NUMBER	To Room: Name	HEIGHT	SIZE WIDTH	THICK	TYPE	MATERIAL	Vision PANEL	TYPE		RATING	TREATMENT	NOTES
001A 001B	ELEC RM VESTIBULE	7' - 0" 7' - 0"	3' - 0" 4' - 3"	1 3/4" 1 3/4"	2	HM HM	-	A.1 A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
001B 003A	STORAGE /	7' - 0"	4 - 3 3' - 0"	1 3/4	-	-	-	-	-		-	MASONRY OPENING
003B	LOCKER	7' - 0"	5' - 0"	1 3/4"	1	НМ	-	A	НМ		-	SEE DTL 5/A901-R
005	LOCKER	6' - 8"	3' - 0"		-	-	-	-	-		-	MASONRY OPENING
005A	CLOS	7' - 0"	2' - 6"	1 3/4"		HM	-	A	HM		-	SEE DTL 5/A901-R
006A 007A	TELECOM VEST	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
008A 009A	STAIR 1 MULTI SPACE	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2	HM HM	-	D A	HM HM	SMOKE	-	SEE DTL 5/A901-R SEE DTL 5/A901-R
010B 013B	W TLTRM M TLTRM	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
015A 015B	STOR STOR	7' - 0" 7' - 0"	3' - 0" 3' - 6"	1 3/4" 1 3/4"	2 2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 5/A901-R COORD W/ ELEVATOR MANUFACTURER
015C	ELEVATOR ACCESS VEST	1' - 8" 7' - 0"	1' - 8" 6' - 0"		-	-	-	- A	- HM		-	ELEVATOR ACCESS PANEL - COORD W/ ELEVATOR MANUFACTURER CASED OPENING - SEE DTL 5/A901-R
017A 017B	DOJO RM DOJO RM	7' - 0" 7' - 0"	3' - 6" 3' - 6"	1 3/4" 1 3/4"	2 2	HM HM	-	A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
019 020	STORAGE STORAGE	7' - 0" 7' - 0"	3' - 2" 3' - 0"	1 3/4" 1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
022 024	W TLTRM M TLTRM	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM	-	A	HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
025	CORR	7' - 0"	3' - 0"	1 3/4"	2	НМ	-	A	HM		-	SEE DTL 5/A901-R
025A 026	CORR BOILER	7' - 0" 7' - 0"	5' - 0" 3' - 0"	1 3/4"	- 2	- MTL	-	- A	- HM		-	MASONRY OPENING SEE DTL 5/A901-R
026B	ROOM BOILER	6' - 8"	4' - 0"		-	-	-	-	-		-	MASONRY OPENING
028	ROOM TELECOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
031	EXERCISE ROOM	7' - 0"	5' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
031A	EXERCISE ROOM	6' - 8"	4' - 0"		-	-	-	-	-		-	MASONRY OPENING
032A	EXERCISE ROOM	7' - 0"	3' - 6"	1 3/4"	2	MTL	-	A	HM		-	MASONRY OPENING
032B	EXERCISE ROOM	6' - 8"	4' - 0"		-	-	-	-	-			MASONRY OPENING
033 034A	STAIR 6 MULTI SPACE	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	D A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
034B 036	MULTI SPACE EXERCISE	7' - 0" 7' - 0"	3' - 6" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A	HM HM		-	SEE DTL 5/A901-R SEE DTL 5/A901-R
037A	ROOM EXERCISE ROOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
101 101A	BOXING BOXING	7' - 0" 7' - 0"	5' - 1" 2' - 8"	2 1/2" 1 3/4"	2	HM HM	- MTL	B.1 A	HM HM		-	SEE DTL 7/A901-R - UNEVEN LEAFS 1 @ 42" SEE DTL 12/A901-R FIXED MTL PANEL IN NE
104A	VEST	7' - 0"	3' - 0"	1 3/4"	2	HM	PANEL	A	HM		2	HM FRAME SEE DTL 9/A901-R
104B 105	W TLTRM STAIR 1	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4"	- 2	- HM	-	- A	- HM	SMOKE	- 1	CASED OPENING - SEE DTL 1/A901-R SEE DTL 4/A901-R
105 106A	STAFF OFFICE	7 - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM	SMOKE	-	SEE DTL 4/A901-R SEE DTL 6/A901-R
107	VEST	10' - 0"	6' - 0"	4.0/4	-	-	-	A	HM		-	CASED OPENING - SEE DTL 2/A901-R
108 108A	OFFICE STOR	6' - 9" 6' - 1"	3' - 0" 2' - 10"	1 3/4" 1 3/4"	2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
108B 110	OFFICE OFFICE	7' - 0" 6' - 9"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
110A 110B	STOR OFFICE	6' - 1" 7' - 0"	2' - 10" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
112A 112B	OFFICE OFFICE	6' - 9" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A A.1	HM HM		1	SEE DTL 3/A901-R SEE DTL 6/A901-R
112C 112D	OFFICE OFFICE	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
112E 112F	OFFICE OFFICE	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2	HM	-	A.1 A.1	HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
113A	VEST	7 - 0" 8' - 0"	7' - 0"	2"	5	ALUM	- GL-E1	C	ALUM		-	EXTERIOR STOREFRONT WITH GLAZED TRANSOM - SEE A910-R
113B	VEST	7' - 0"	6' - 0"	1 3/4"	6	НМ	GL-1	E	HM		4	TWO SIDELIGHTS AND TRANSOM
115		6' - 9"	3' - 0"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 3/A901-R
116 117A	M TLTRM VEST	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4"	- 2	- HM	-	- A	HM HM		- 2	CASED OPENING - SEE DTL 1/A901-R SEE DTL 9/A901-R
118 119	STAIR 6 ARTS&CRAFT	7' - 0" 6' - 9"	3' - 0" 5' - 1"	1 3/4" 1 3/4"	2 2	HM HM	-	A A	HM HM	SMOKE	1 1	SEE DTL 4/A901-R SEE DTL 3/A901-R
119A	S CLO	7' - 0"	2' - 6"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
120 121	JAN CLO GYMNASIUM	7' - 0" 7' - 0"	2' - 6" 5' - 1"	1 3/4" 2 1/2"	2 2	HM HM	-	A B.1	HM HM		-	SEE DTL 5/A901-R SEE DTL 7/A901-R - UNEVEN LEAFS 1 @ 42"
121A	GYMNASIUM	7' - 0"	2' - 8"	1 3/4"	4	НМ	MTL PANEL	A	HM		-	SEE DLT 12/A901-R - FIXED MTL PANEL IN N HM FRAME
121C	GYMNASIUM	8' - 0"	3' - 0"	1' - 6"	4	НМ	MTL PANEL	A	НМ		-	SEE DLT 12/A901-R - FIXED MTL PANEL IN N HM FRAME
201	COMPUTER ROOM	8' - 0"	3' - 4"	1 3/4"	2	НМ	-	A	НМ	SMOKE	1	SEE DTL 3/A901-R
202A 203A	GN TLT PPR STAFF	7' - 0" 7' - 0"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2	HM HM	-	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
200/1	OFFICE STAIR 1	7' - 3"	3' - 1"	1 3/4"	2	HM		A	HM	SMOKE	1	SEE DTL 3/A901-R
204A	R. ACCESS	7' - 0"	2' - 6"	1 3/4"	2	НМ	-	A	HM		1	SEE DTL 3/A901-R
205A	AUDITORIUM	7' - 3"	4' - 9" 4' - 9"	1 3/4"	3	HM	-	B	HM	SMOKE	1	SEE DTL 3/A901-R - W/ HOLLOW METAL TRANSOM PANEL
205B	AUDITORIUM	7' - 3"	3' - 6"	1 3/4"	3		- GL-1			SMORE		SEE DTL 3/A901-R - W/ HOLLOW METAL TRANSOM PANEL
205C 205D	AUDITORIUM AUDITORIUM	7' - 0"	3' - 6"	1 3/4" 1 3/4"	3	HM HM	GL-1 GL-1	A.1 A.1	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
206A 206B	STAGE L STAGE R	7' - 6" 7' - 6"	3' - 0" 3' - 0"	1 3/4" 1 3/4"	2 2	HM HM	-	A A	HM HM		1 1	SEE DTL 4/A901-R SEE DTL 4/A901-R
206C 206D	STAGE L STAGE R	7' - 0" 7' - 0"	2' - 8" 2' - 8"	1 3/4" 1 3/4"	2 2	HM HM	-	A A	HM HM		-	SEE DTL 6/A901-R SEE DTL 6/A901-R
207 207A	KITCHEN KITCHEN	7' - 0" 4' - 6"	2' - 6" 6' - 0"	1 3/4"	2	HM MTL	-	A -	HM ALUM		-	SEE DTL 6/A901-R OVERHEAD COUNTER DOOR
208 209A	STAIR 5 GAME ROOM	7' - 6" 7' - 6"	3' - 6" 3' - 6"	1 3/4" 1 3/4"	2	HM	-	A	HM	SMOKE SMOKE	1	SEE DTL 3/A901-R SEE DTL 3/A901-R
209A 210A	1 VEST	8' - 0"	3' - 4"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
210A 210B	GAME ROOM	7' - 0"	6' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
G1	2 EXTERIOR STAIR 7	8' - 0"	3' - 0"	-	7	CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A451-R & CIVIL
G2	STAIR 10	7' - 8" 8' 0"	3' - 0"	-	7			-	-		-	EXTERIOR GATE - SEE A451-R & CIVIL
G3 G4	MECH UNIT	8' - 0" 8' - 0"	3' - 0" 3' - 0"	-	-	CHAINLINK CHAINLINK		-	-		-	EXTERIOR LOUVERED GATE - SEE A455-R EXTERIOR LOUVERED GATE - SEE A455-R
G5 G6	POOL DECK POOL DECK	8' - 0" 7' - 11 1/2"	10' - 0" 9' - 8"	-	7 7	CHAINLINK CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A202-R & CIVIL EXTERIOR GATE - SEE A202-R & CIVIL
ST1-1 ST2-1	STAIR 1 STAIR 2	7' - 0" 7' - 11"	2' - 6" 3' - 0"	1 3/4" -	1	HM SEC SCRN	-	A -	HM -		-	CLOSET IN STAIR SEE DTL 3/A901-R STAIR SECURITY SCREEN GATE - SEE A452
ST5-1 ST5-4	STAIR 5	7' - 11" 7' - 0"	3' - 0" 3' - 0"	- 1 3/4"	- 2	SEC SCRN HM	-	- A	- HM	1 HR	-	STAIR SECURITY SCREEN GATE - SEE A452 SEE A452-R
ST6-1	STAIR 6	7' - 0"	2' - 6"	1 3/4"	1	HM	-	A	HM		-	CLOSET IN STAIR SEE DTL 3/A901-R

NEW HM FRAME WITH NEW WOOD TRIM. REPLICATE EXISTING WOOD TRIM FROM ADJACENT DOORS NOTED IN TREATMENT TYPE 1 . REINSTALL (E) WOOD TRIM AND FINISH AS SCHEDULED

REMOVE (E) WOOD FRAME TO WIDEN OPENING. INSTALL NEW HM FRAME IN SAME OPENING

GLAZING TYPES: GL-E1: TEMPERED INSULATED GL-1: TEMPERED GL-2: LAMINATED W/ OBSCURED INNER LAYER

STAMP AREA



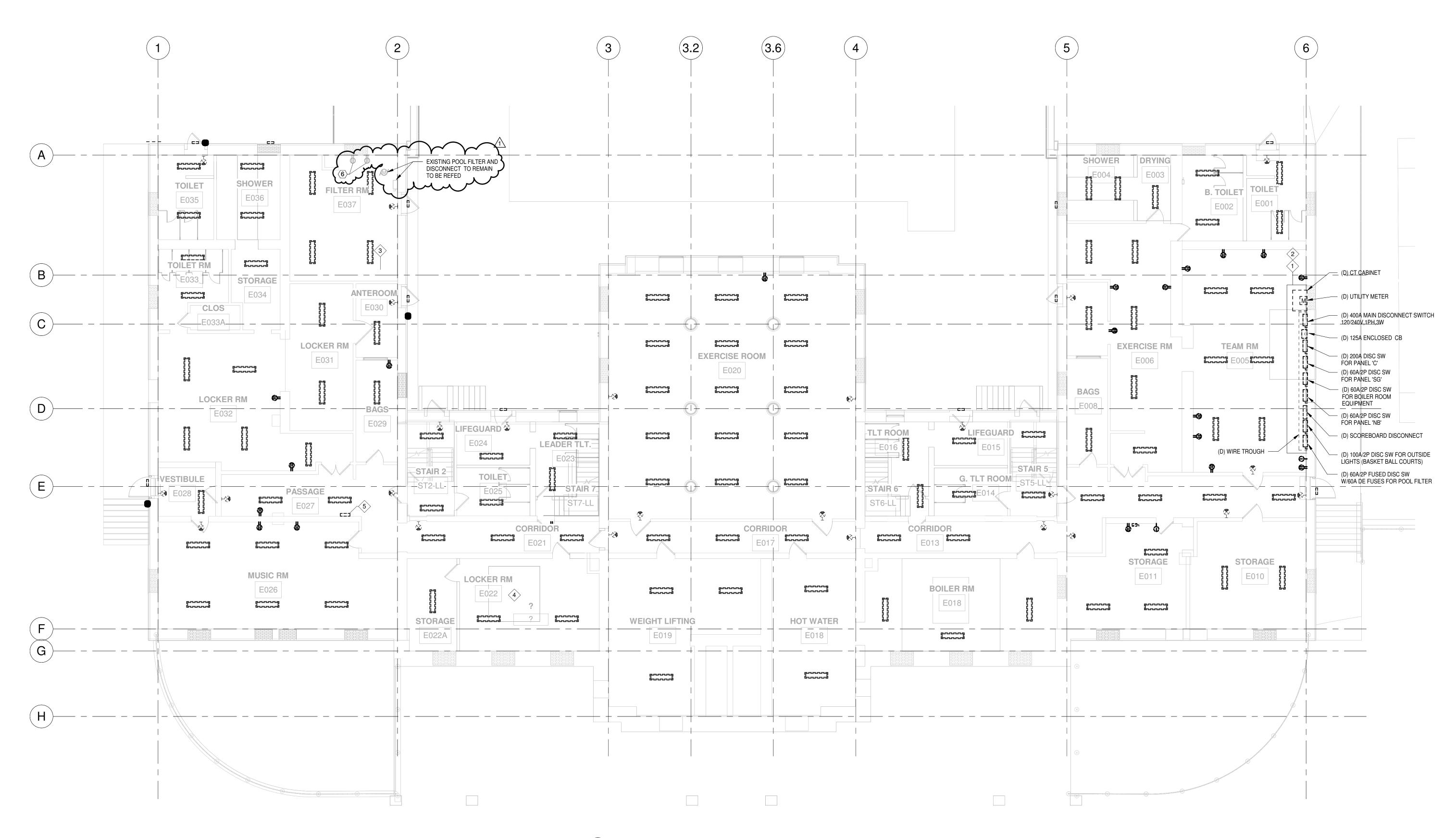
	WINDOW SCHEDULE INTERIOR											
	DIMENSION											
NO.	TYPE	HEIGHT	WIDTH	HEAD	JAMB	Sill	MATERIAL	GLAZING	TREATMENT	NOTES		
149	F-1	5' - 0"	3' - 6"	11/A901	11/A901	11/A901	HM	GL-2	-	(E) FRAME TO REMAIN		
150	F-1	5' - 0"	3' - 6"	11/A901	11/A901	11/A901	HM	GL-2	-	(E) FRAME TO REMAIN		
151	F-1	5' - 0"	4' - 0"	10/A901	10/A901	10/A901	HM	-	3	METAL PANEL INFILL		
235	F-1	6' - 0"	2' - 0"	11/A901	11/A901	11/A901	HM	GL-1	3			
236	F-1	6' - 0"	2' - 0"	11/A901	11/A901	11/A901	HM	GL-1	3			

TREATMENT TYPES: 1. NEW HM FRAME IN EXISTING WOOD FRAME AND TRIM REINSTALL (E) WOOD TRIM AND FINISH AS SCHEDULED

NEW HM FRAME WITH NEW WOOD TRIM. REPLICATE EXISTING WOOD TRIM FROM ADJACENT DOORS NOTED IN TREATMENT TYPE 1

4. REMOVE (E) WOOD FRAME TO WIDEN OPENING. INSTALL NEW HM FRAME IN SAME OPENING.





1 ELECTRICAL DEMOLITION - REC CENTER LOWER LEVEL - BASE SCOPE 1/8" = 1'-0"

GENERAL DEMOLITION NOTES

- 1. CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL QUANITITES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.
- 2. REPAIR ANY SURFACES DISTRUBED DURING REMOVAL OR REPLACEMENT OF EQUIPMENT AND DEVICES. PREPARE REPAIRED SURFACES FOR NEW FINISHES IN NEW WORK PHASE.
- 3. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES. NOTE RECEPTACLES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL RECEPTACLES, ASSOCIATED EQUIPMENT,CONDUIT AND WIRING BACK TO SOURCE.
- DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES. NOTE LIGHT FIXTURES SHOWN ON PLAN MAY NOT INCLUDE ALL FIXTURES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL LIGHT FIXTURES, ASSOCIATED EQUIPMENT, CONTROLS, CONDUIT AND WIRING BACK TO SOURCE.
 DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL CONNECTIONS SERVICING
- 5. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL CONNECTIONS SERVICING OUTSIDE AIR INTAKE FANS AND ANY OTHER MISCELLANEOUS EXISTING MECHANICAL \HVAC EQUIPMENT AS SHOWN ON THE MECHANICAL DEMOLITON PLANS. REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND WIRE BACK TO SOURCE.

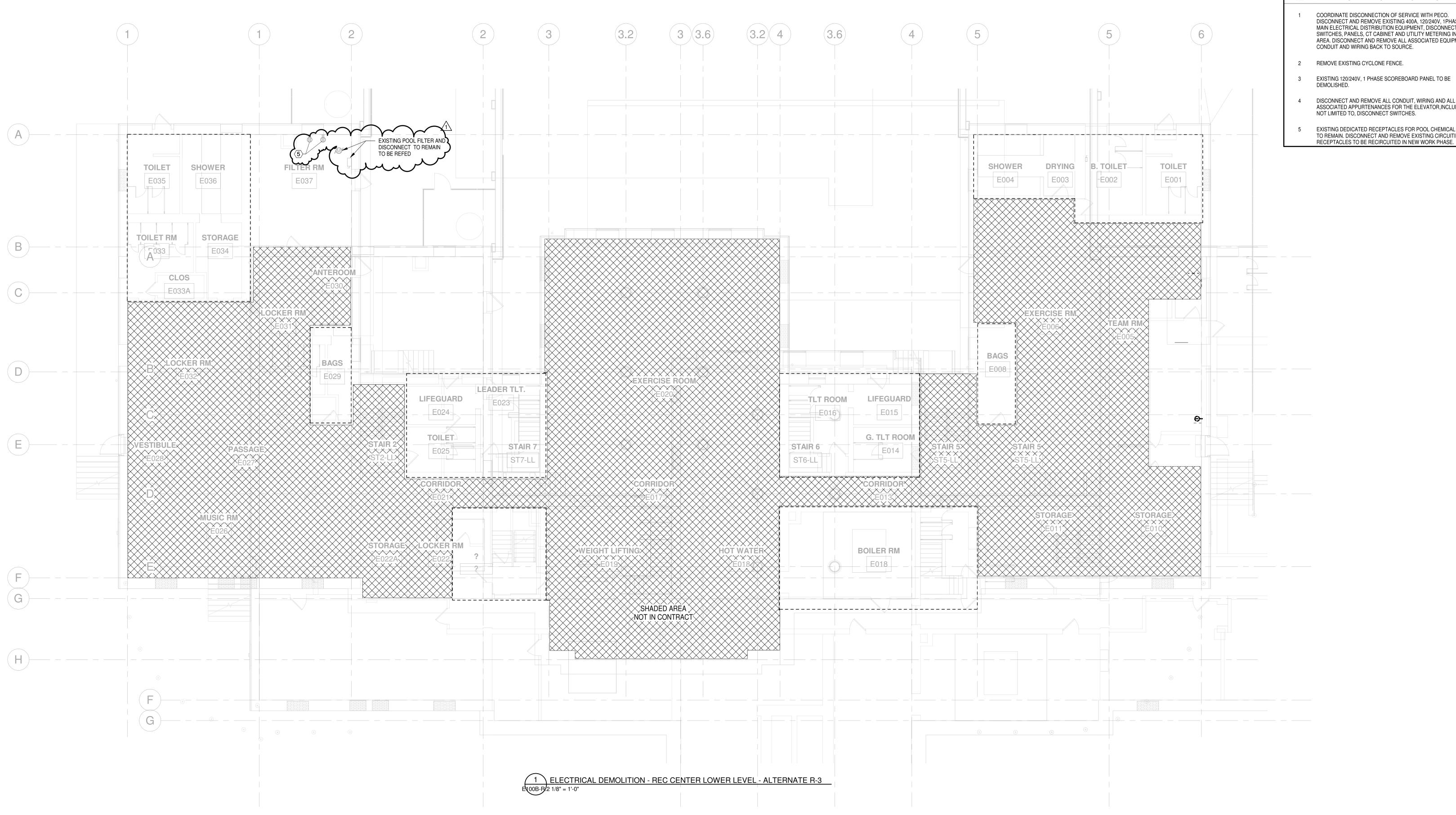
DEMOLITION NOTES

- COORDINATE DISCONNECTION OF SERVICE WITH PECO. DISCONNECT AND REMOVE EXISTING 400A, 120/240V, 1PHASE, 3W MAIN ELECTRICAL DISTRIBUTION EQUIPMENT, DISCONNECT SWITCHES, PANELS, CT CABINET AND UTILITY METERING IN THIS AREA. DISCONNECT AND REMOVE ALL ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- REMOVE EXISTING CYCLONE FENCE.
- DISCONNECT EXISTING POOL FILTER FROM UNFUSED DISCONNECT SWITCH ON THE LINE SIDE. REMOVE EXISTING WIRING BACK TO POINT OF ORIGIN. RETAIN CONDUIT FOR RE-USE. PROTECT EQUIPMENT DURING WORK.
- 4 DISCONNECT AND REMOVE ALL CONDUIT, WIRING AND ALL ASSOCIATED APPURTENANCES FOR THE ELEVATOR, INCLUDING BUT NOT LIMITED TO, DISCONNECT SWITCHES.

TO REMAIN. DISCONNECT AND REMOVE EXISTING CIRCUITING. RECEPTACLES TO BE RECIRCUITED IN NEW WORK PHASE.

DISCONNECT AND REMOVE DISTRIBUTION PANEL. EXISTING DEDICATED RECEPTACLES FOR POOL CHEMICAL FEEDERS





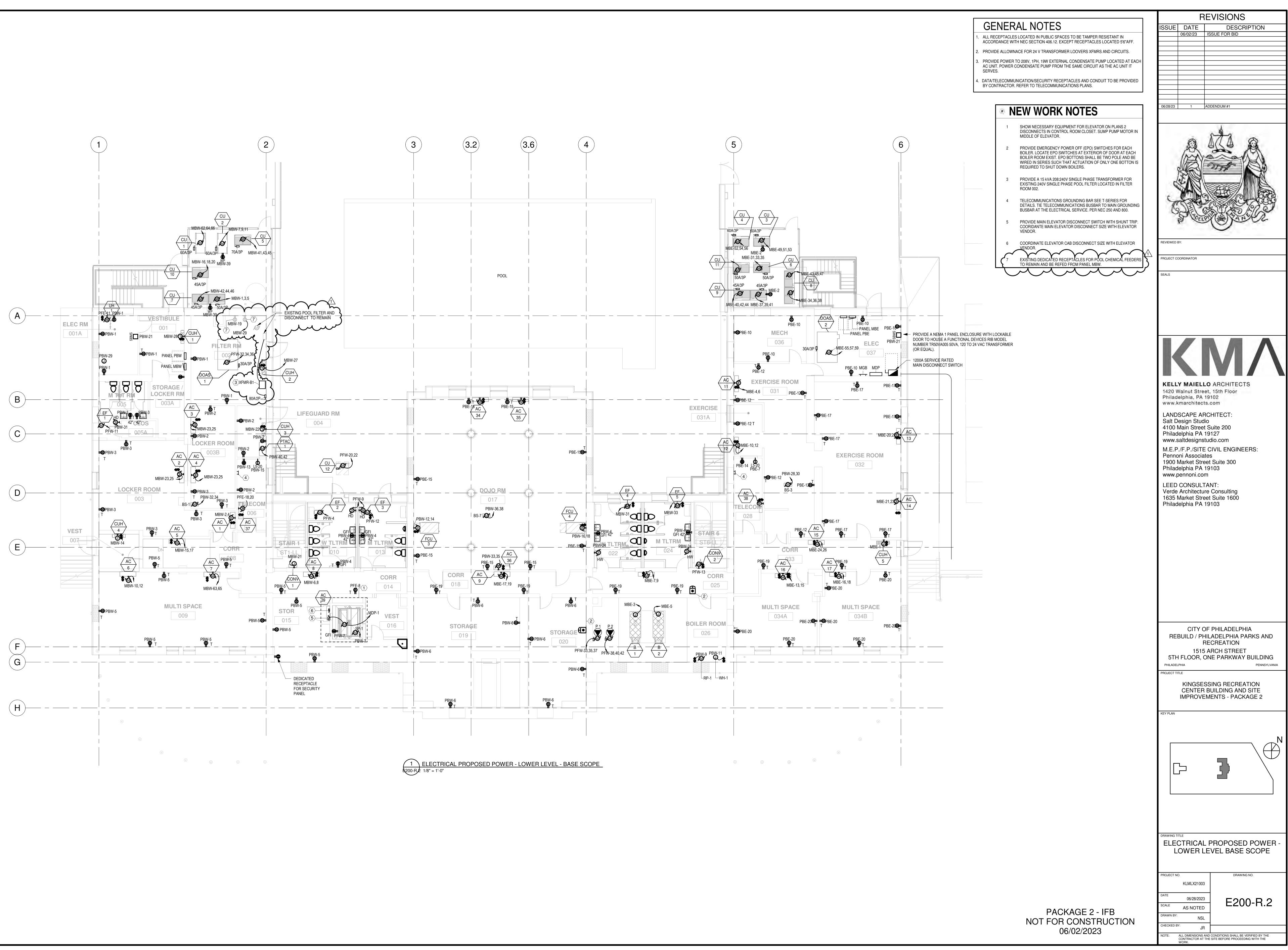
GENERAL DEMOLITON NOTES

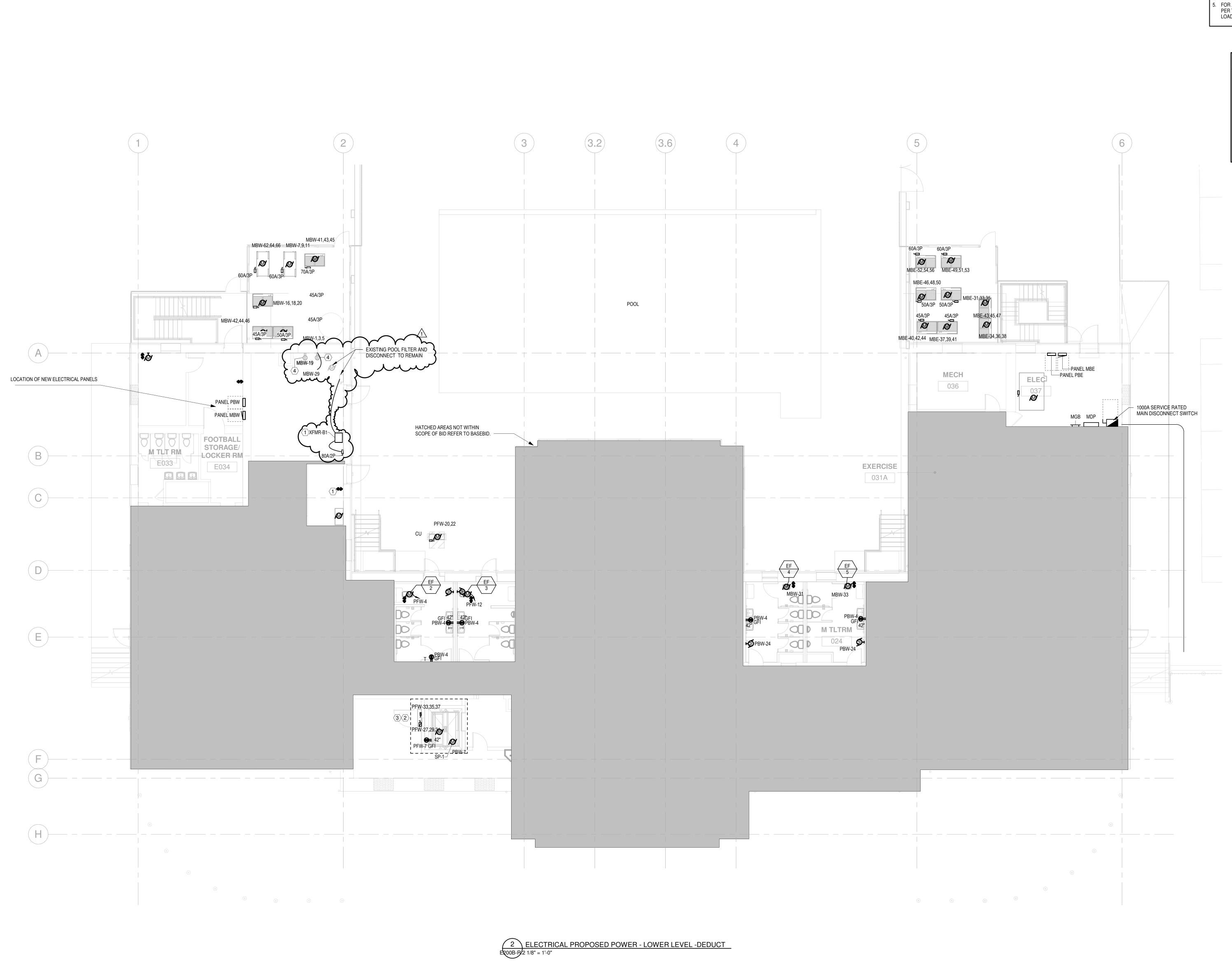
- CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL QUANITITES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.
- REPAIR ANY SURFACES DISTRUBED DURING REMOVAL OR REPLACEMENT OF EQUIPMENT AND DEVICES. PREPARE REPAIRED SURFACES FOR NEW FINISHES IN NEW WORK PHASE.
- DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES. NOTE RECEPTACLES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL RECEPTACLES, ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES. NOTE LIGHT FIXTURES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL LIGHT FIXTURES, ASSOCIATED EQUIPMENT, CONTROLS, CONDUIT AND WIRING BACK TO SOURCE.
- DISCONNECT AND REMOVE EXISTING EXIT SIGNS AND ASSOCIATED WIRING AND CONDUIT
- DISCONNECT AND REMOVE EXISTING EMERGENCY BATTERY UNITS AND ASSOCIATED WIRING AND CONDUIT.

DEMOLITION NOTES

- COORDINATE DISCONNECTION OF SERVICE WITH PECO. DISCONNECT AND REMOVE EXISTING 400A, 120/240V, 1PHASE, 3W MAIN ELECTRICAL DISTRIBUTION EQUIPMENT, DISCONNECT SWITCHES, PANELS, CT CABINET AND UTILITY METERING IN THIS AREA. DISCONNECT AND REMOVE ALL ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- 2 REMOVE EXISTING CYCLONE FENCE.
- EXISTING 120/240V, 1 PHASE SCOREBOARD PANEL TO BE DEMOLISHED.
- DISCONNECT AND REMOVE ALL CONDUIT, WIRING AND ALL ASSOCIATED APPURTENANCES FOR THE ELEVATOR, INCLUDING BUT NOT LIMITED TO, DISCONNECT SWITCHES.
- EXISTING DEDICATED RECEPTACLES FOR POOL CHEMICAL FEEDERS TO REMAIN. DISCONNECT AND REMOVE EXISTING CIRCUITING.







GENERAL NOTES

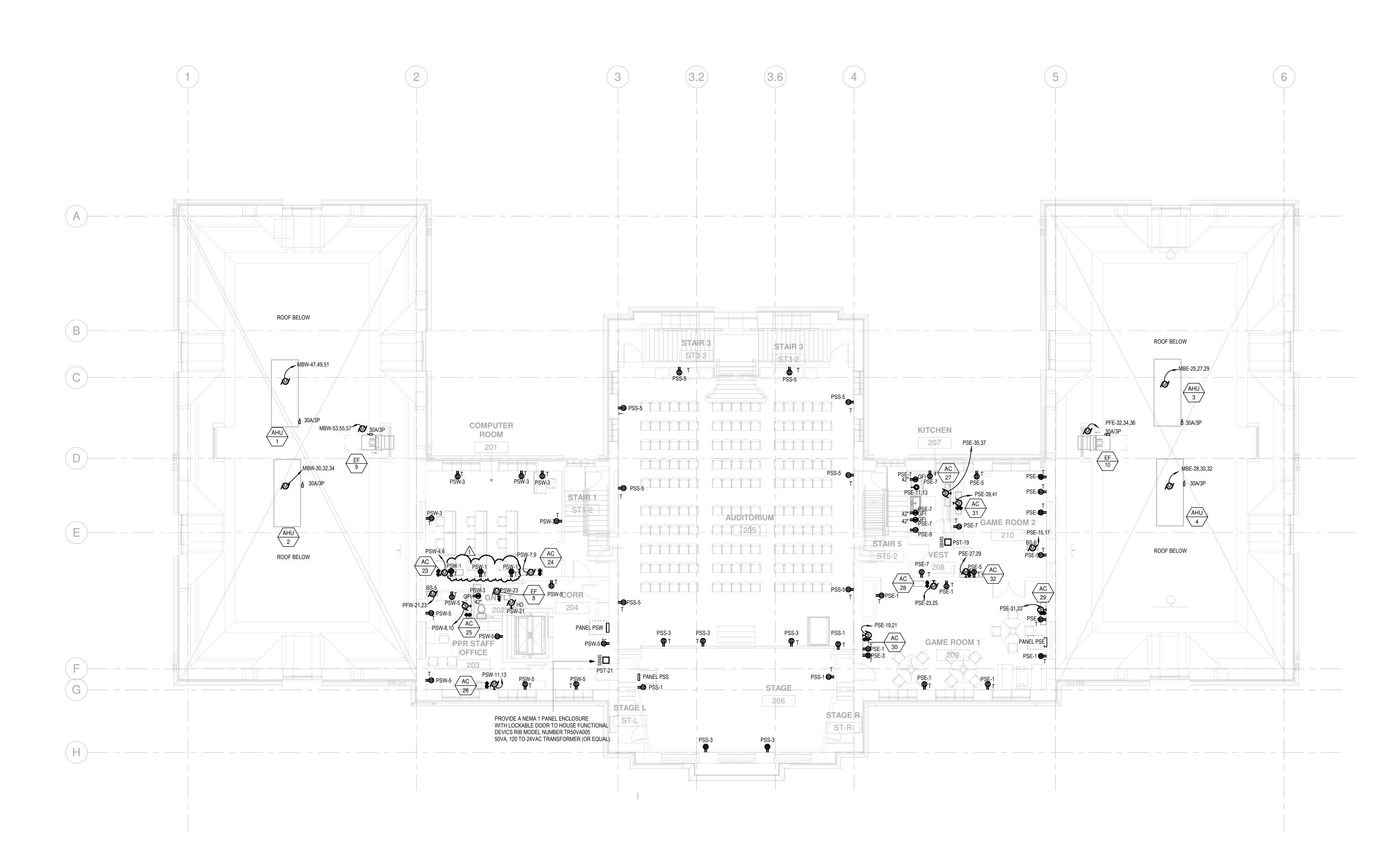
- ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- PROVIDE ALLOWNACE FOR 24 V TRANSFORMER LOOVERS XFMRS AND CIRCUITS.
- . PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES.
- 4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.
- 5. FOR ALTERNATIVE BID, CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL PANELS AS PER THE BASE BID AND UTILIZE NEW PANELS FOR EXISTING EQUIPMENT AND LIGHTING LOADS NOT REPLACED IN ALTERNATE BID.

NEW WORK NOTES

- PROVIDE A 15 kVA 208:240V SINGLE PHASE TRANSFORMER FOR EXISTING 240V SINGLE PHASE POOL FILTER LOCATED IN FILTER ROOM 002.
- mun PROVIDE MAIN ELEVATOR DISCONNECT SWITCH WITH SHUNT TRIP. COORIDANTE MAIN ELEVATOR DISCONNECT SIZE WITH ELEVATOR VENDOR.
- COORDINATE ELEVATOR CAB DISCONNECT SIZE WITH ELEVATOR VENDOR. EXISTING DEDICATED RECEPTACLES FOR POOL CHEMICAL FEEDE TO REMAIN AND BE REFED FROM PANEL MBW.

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1 ELECTRICAL PROPOSED POWER - REC CENTER SECOND FLOOR E202-R 2 1/8" = 1'-0"

GENERAL NOTES

- 1. ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- PROVIDE ALLOWNACE FOR 24 V CONTROL XFMRS AND CIRCUITS.
- PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES.

A. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.

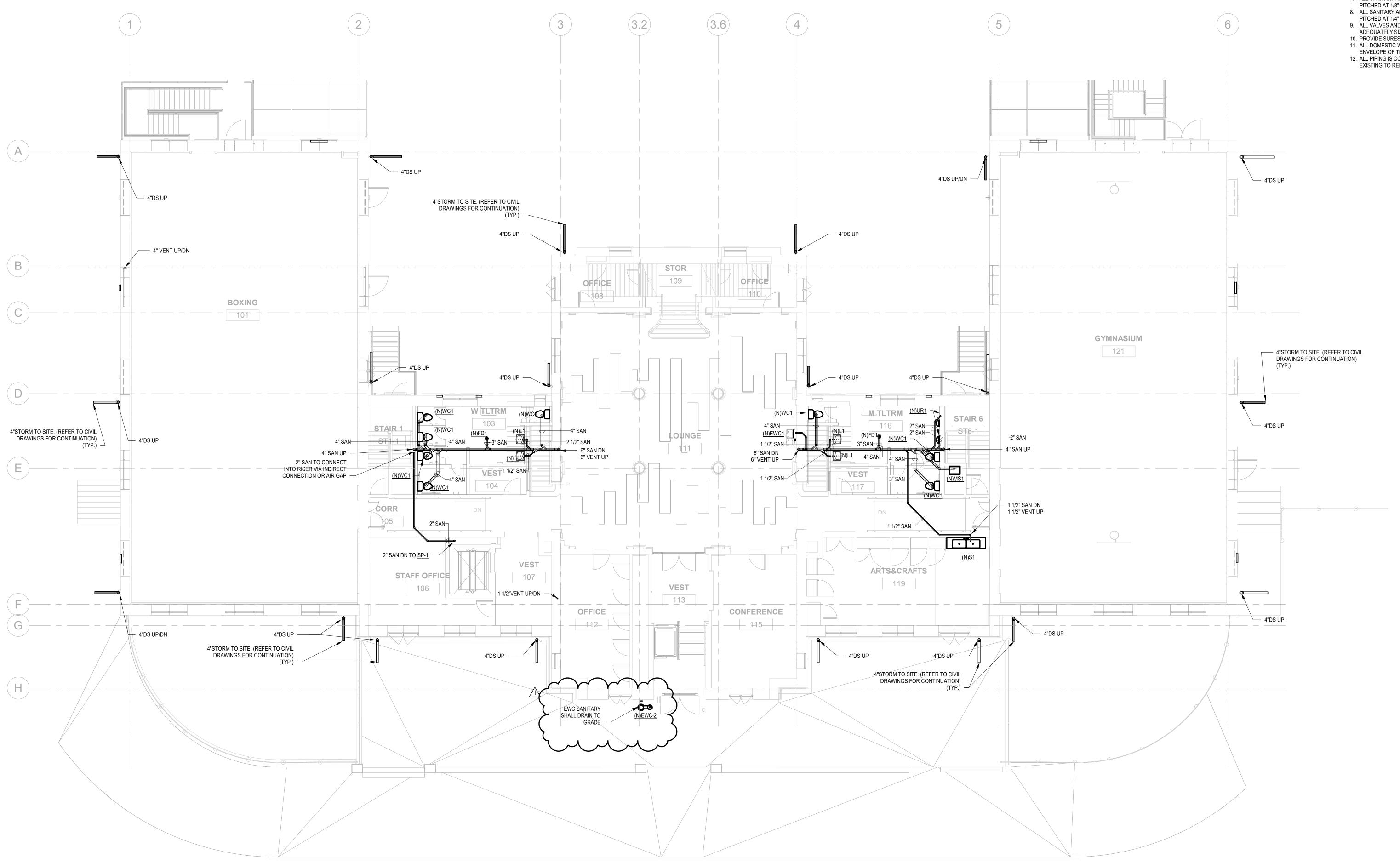


LOCA	TION:			VOLTS:	120/208 Wye	9					BUS:		800 A			
SUPPL	IED FROM:			PHASES:	3		GRO	UND:			MAIN:					
FEEDE	R SIZE:	Refer to Power Riser	Diagram	WIRES:	4		ISOL	ATED GR	OUND:		AIC:		42 kA			
MANU	FACTURER/MODEL:			MOUNTING: NEUTRAL: ARC F								LASH:				
скт		DESCRIPTION			FRAME	TRIP	POLES	Load	DEMAND CURRENT	СОМ	MENTS	6				
1	Elevator				200 A	200 A	3	41 kVA	114 A	40 HF	PELEV	ATOR MO	TOR ASSUME	D PEND	ING FINAL SEI	ECTION.
2																
3	PANEL 'P2'				100 A	100 A	3	5 kVA	15 A	_						
4 5	PANEL PFW PANEL PFE				150 A 150 A	150 A 150 A	3	17 kVA 16 kVA	47 A 44 A							
6	PANEL PBW				150 A	150 A	3	21 kVA	58 A							
7	PANEL PBE				150 A	150 A	3	16 kVA	45 A							
8	PANEL MFE				100 A	100 A	3	2 kVA	6 A							
9	PANEL MBW				600 A	600 A	3	135 kVA	375 A	MECI	HANICA	AL DEMAN	ID LOADS TO	BE CON	TROLLED	
10	(E) POOL FILTER				90 A	90 A	3	10 kVA	27 A							
11 12	PANEL PSS				150 A	150 A	3	8 kVA	21 A	_						
Elevato		CONNECTED LOAD 41.1 kVA	DEMAND FAC 100%	2	IAND LOAD 41.1 kVA								ONNECTED L		272 kVA	
Elevato LIGHT	or	41.1 kVA 0.162 kVA	100% 100%	0	41.1 kVA .162 kVA					·			ONNECTED LOAD		272 kVA 272 kVA	
Elevato LIGHT Motor	or	41.1 kVA 0.162 kVA 26.19 kVA	100% 100% 109%	0	41.1 kVA 0.162 kVA 08.59 kVA											
Elevato LIGHT Motor Other	or NG	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA	100% 100% 109% 100%	2 0 2 8	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA											
Elevato LIGHT Motor Other POWE	or NG R	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA	100% 100% 109% 100% 100%	2 0 2 8	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA		· · · · · · · · · · · · · · · · · · ·									755 A 754 A
Elevato LIGHT Motor Other POWE RECEI	or NG	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA	100% 100% 109% 100% 100% 88%	2 0 2 8 1	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA		·									
Elevato LIGHT Motor Other POWE RECEI HVAC	or NG R PTACLE	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA 136.56 kVA	100% 100% 109% 100% 100% 88% 100%	2 0 2 8 1 1	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA 36.56 kVA		·									
Elevato LIGHT Motor Other POWE RECEI HVAC	or NG R	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA	100% 100% 109% 100% 100% 88%	2 0 2 8 1 1	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA											
Elevato LIGHT Motor Other POWE RECEI HVAC Lightin	or NG R PTACLE	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA 136.56 kVA	100% 100% 109% 100% 100% 88% 100%	2 0 2 8 1 1 1 1 1 1 1 1	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA 36.56 kVA											
Elevato LIGHT Motor Other POWE RECEI HVAC Lightin Recep	or NG R PTACLE g - Interior	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA 136.56 kVA 11.975 kVA	100% 100% 109% 100% 100% 88% 100% 125%	2 0 2 8 1 1 1 1 1 1 1 1	41.1 kVA .162 kVA 8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA 36.56 kVA 4.969 kVA											
Elevato LIGHT Motor Other POWE RECEI HVAC Lightin Recep	or NG R PTACLE g - Interior acle - General	41.1 kVA 0.162 kVA 26.19 kVA 8.39 kVA 9.6 kVA 13.32 kVA 136.56 kVA 11.975 kVA 19.44 kVA	100% 100% 109% 100% 100% 88% 100% 125% 76%	2 0 2 8 1 1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2	41.1 kVA .162 kVA .8.59 kVA 3.39 kVA 9.6 kVA 1.66 kVA 36.56 kVA 4.969 kVA 4.72 kVA											

	Location: \ Supply: Mounting: Enclosure:	Flush	Bus Rating: 600 A Neutral: 100% Feed-Thru Lugs: Features & Modifications: -										Mains Rating: 600 A Mains FN/Note: - SCCR: 18 kA								
Ckt	Description	Custom Wire SizE	Trip (A)	Poles FN/Note		ase A Id (VA)		ise B I (VA)		ise C I (VA)	FN/Note	Poles	Trip (A)	Custom	Wire SizE	Description					
MBW-1	Description				6057	75	Lou		Loui		T N/NOLE	1 0103	(7)	Custom		Description					
MBW-3	CU-7A	3-#8, 1-#8, 1-#10	50	3			6057	75				2	15	2-#12, 1-	-#12, 1-#14	AC-1					
	00 //(0 10, 1 10, 1 110					0007	10	0057	75											
MBW-5									6057	75		2	15	2-#12, 1-	-#12, 1-#14	AC-8					
MBW-7					5813	75					-										
MBW-9	CU-2	3-#6, 1-#6, 1-#10	60	3			5813	75				2	15	2-#12, 1-	-#12, 1-#14	AC-6					
MBW-11									5813	75											
MBW-13	CUH-5	1-#12, 1-#12, 1-#12	20	1	180	250						1	20	1-#12, 1-	-#12, 1-#12	CUH-4					
MBW-15	AC-6	2-#12, 1-#12, 1-#12	20	2			75	5597													
MBW-17					\sim				75	5597		3	45	3-#8, 1-	-#8, 1-#10	CU-10					
MBW-19	(E) POOL CHEMICAL FEEDER RECEPTACLE	1-#12, 1-#12, 1-#12	20	1	240	5597															
MBW-21	CONV-1	1-#12, 1-#12, 1-#12	20	1 1	m		180	250				1	20	1-#12, 1-	-#12, 1-#12	CUH-3					
MBW-23									225	4800						15KVA TRANSFORMER	2				
MBW-25	AC-3	2-#12, 1-#12, 1-#14	15	2	225	4800						2	20	2-#12, 1-	-#12, 1-#12	FOR (E) POOL FILTER PUMP					
MBW-27	CUH-2	1-#12, 1-#12, 1-#12	20	1			700	250				1	20	1 #10 1	-#12, 1-#12	CUH-1					
	(E) POOL CHEMICAL			-	$\rightarrow \sim$	$ \sum $			\sim	A 4007		1	20	1-#12, 1-	-#12, 1-#12						
hun	FÉÉDER RECEPTACLE	1-#12, 1-#12, 1-#12		m	mun	h	m	hun	240	1 667											
MBW-31	EF-4	1-#12, 1-#12, 1-#12	20	1	170	1667					_	3	20	3-#12, 1-	-#12, 1-#12	AHU-2					
MBW-33	EF-5	1-#12, 1-#12, 1-#12	20	1			170	1667													
MBW-35																					
MBW-37																					
MBW-39	RECS: CU SERVIVE RECPT	1-#12, 1-#12, 1-#12	20	1			360														
MBW-41									7433	6057											
MBW-43	CU-5	3-#6, 1-#6, 1-#8	70	3	7433	6057						3	50	3-#8, 1-	-#8, 1-#10	CU-7B					
MBW-45							7433	6057													
MBW-47									1667												
MBW-49	AHU-1	3-#12, 1-#12, 1-#12	20	3	1667																
MBW-51							1667														
							1007		202												
MBW-53									333												
MBW-55	EF-9	3-#12, 1-#12, 1-#14	15	3	333																
MBW-57							333														
MBW-59																					
MBW-61						5813															
MBW-63	AC 7	0 #10 1 #10 1 #11	45				75	5813				3	60	3-#6, 1-	-#6, 1-#10	CU-1					
MBW-65	AC-7	2-#12, 1-#12, 1-#14	15	2					75	5813											
				Connected Loa Connected Curre		5 kVA 91 A		kVA i5 A		kVA 8 A	(Includes load	d connected	via feed-thru l	ugs.)			_				
Load Classi	fication			Connected		Factor			emand												
Motor Other				10.6 kVA 0.36 kVA		123% 100%		1	3 kVA 36 kVA		_		0	Panel nected Load:	Totals						
Receptacle -	Dedicated			0.48 kVA		100%		0.	48 kVA				Connec	cted Current:	375 A						
HVAC Electric Heat	t			121.85 kVA 1.45 kVA		100% 125%			.85 kVA 13 kVA					emand Load: and Current:							

Panel	board: PANE Location: Supply: Mounting: Enclosure:	SURFACE				Bus Ra	res &			Mains Type: 600A BREAKER Mains Rating: 600 A Mains FN/Note: - SCCR: 18 kA							
Ckt	Description	Wire Size	Trip (A)	Poles FN/Note		ase A d (VA)		se B I (VA)		ise C I (VA)	FN/Note Poles	Trip (A)	Wire Size	Description	Ckt		
MBE-1	CUH-6	1-#12, 1-#12, 1-#12	20	1	250	360	Luat		LUa			20		RECS: CU SERIVE RECPT	MBE-2		
MBE-3	BOILER 1	1-#12, 1-#12, 1-#14	15	1			460	75							MBE-4		
MBE-5	BOILER 2	1-#12, 1-#12, 1-#14	15	1					460	75	2	15	2-#12, 1-#12, 1-#14	AC-11	MBE-6		
MBE-7					75										MBE-8		
MBE-9	AC-10	2-#12, 1-#12, 1-#14	15	2			75	75							MBE-10		
MBE-11										75	- 2	15	2-#12, 1-#12, 1-#14	AC-12	MBE-12		
MBE-13					75										MBE-14		
MBE-15	AC-16	2-#12, 1-#12, 1-#14	15	2			75	75							MBE-16		
MBE-17									75	75	2	15	2-#12, 1-#12, 1-#14	AC-17	MBE-18		
MBE-19	AC-9	2-#12, 1-#12, 1-#14	15	2	75	75									MBE-20		
MBE-21							75	75			2	15	2-#12, 1-#12, 1-#14	AC-13	MBE-22		
MBE-23	AC-14	2-#12, 1-#12, 1-#14	15	2					75	75					MBE-24		
MBE-25					1667	75					2	15	2-#12, 1-#12, 1-#14	AC-15	MBE-26		
MBE-27	AHU-3	3-#12, 1-#12, 1-#12	20	3			1667	1667							MBE-28		
MBE-29									1667	1667	3	20	3-#12, 1-#12, 1-#12	AHU-4	MBE-30		
MBE-31					4573	1667									MBE-32		
MBE-33	CU-6	3-#8, 1-#8, 1-#10	45	3			4573	4573							MBE-34		
MBE-35									4573	4573	3	50	3-#8, 1-#8, 1-#10	CU-8A	MBE-36		
MBE-37					4573	4573									MBE-38		
MBE-39	CU-9A	3-#8, 1-#8, 1-#10	45	3			4573	4573							MBE-40		
MBE-41									4573	4573	3	45	3-#8, 1-#8, 1-#10	CU-9B	MBE-42		
MBE-43					5163	4573									MBE-44		
MBE-45	CU-8B	3-#8, 1-#8, 1-#10	50	3			5163	5597							MBE-46		
MBE-47									5163	5597	3	45	3-#8, 1-#8, 1-#10	CU-11	MBE-48		
MBE-49					236	5597									MBE-50		
MBE-51	CU-3	3-#6, 1-#6, 1-#10	60	3			236	236							MBE-52		
MBE-53									236	236	3	60	3-#6, 1-#6, 1-#10	CU-4	MBE-54		
MBE-55					383	236									MBE-56		
MBE-57	DOAS-2	3-#12, 1-#12, 1-#12	20	3			383								MBE-58		
MBE-59									383						MBE-60		
MBE-61															MBE-62		
MBE-63				Compact d	h 0.4		04		0.4						MBE-64		
				Connected Load Connected Current		kVA 85 A		kVA 5 A		kVA 5 A	(Includes load connected	d via feed-thru l	ugs.)				
Load Classific Motor	ation			Connected 1.15 kVA		Factor 125%			emand 138 kVA				Panel Totals				
HVAC Electric Heat				99.924 kVA 0.25 kVA		100% 125%		99.	924 kVA 813 kVA				nected Load: 103 kVA cted Current: 285 A				
				υ.23 ΚΥΑ		12070		0.0				D	emand Load: 103 kVA and Current: 286 A				
												Dem	anu Guireill: 200 A				
Notes:																	



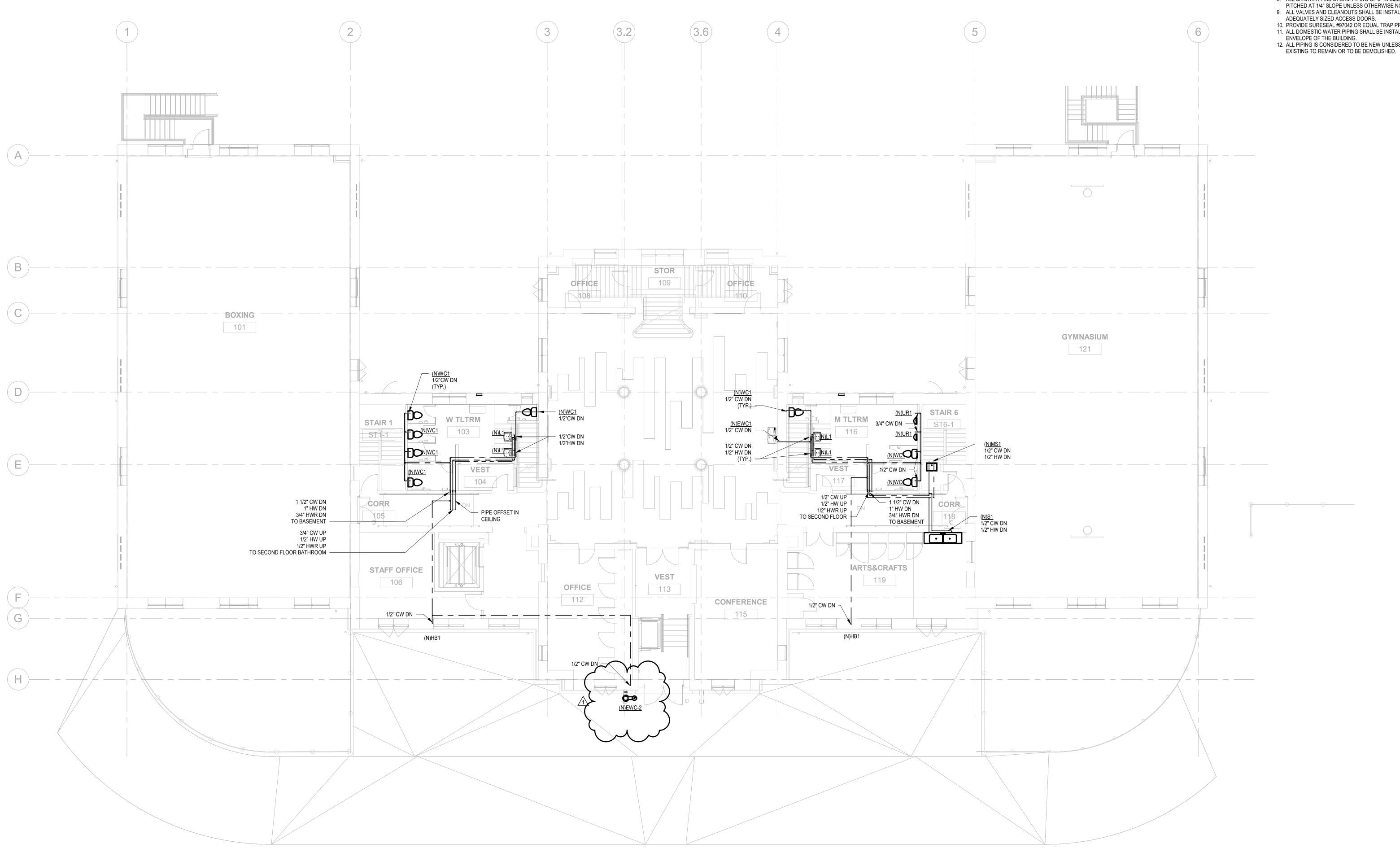


1 PLUMBING PROPOSED DRAINAGE - REC CENTER FIRST FLOOR R201-R2 1/8" = 1'-0"

PLUMBING NOTES:

- REFER TO P-0.1 FOR PLUMBING NOTES, LEGENDS AND ABBREVIATIONS.
 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS
- PROJECT.
 3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
- 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE
- WRITTEN INSTRUCTIONS.
 ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING
- CODE. 6. COORDINATE ELECTRICAL INSTALLATION WITH ELECTRICAL DESIGN
- DRAWINGS. 7. ALL SANITARY AND STORM PIPING OF 4" IN SIZE OR GREATER SHALL BE PITCHED AT 1/8" SLOPE UNLESS OTHERWISE NOTED.
- ALL SANITARY AND STORM PIPING OF 3" IN SIZE OR SMALLER SHALL BE PITCHED AT 1/4" SLOPE UNLESS OTHERWISE NOTED.
- 9. ALL VALVES AND CLEANOUTS SHALL BE INSTALLED AS ACCESSIBLE WITH ADEQUATELY SIZED ACCESS DOORS.
- PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
 ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL
- ENVELOPE OF THE BUILDING. 12. ALL PIPING IS CONSIDERED TO BE NEW UNLESS OTHERWISE IDENTIFIED AS EXISTING TO REMAIN OR TO BE DEMOLISHED.



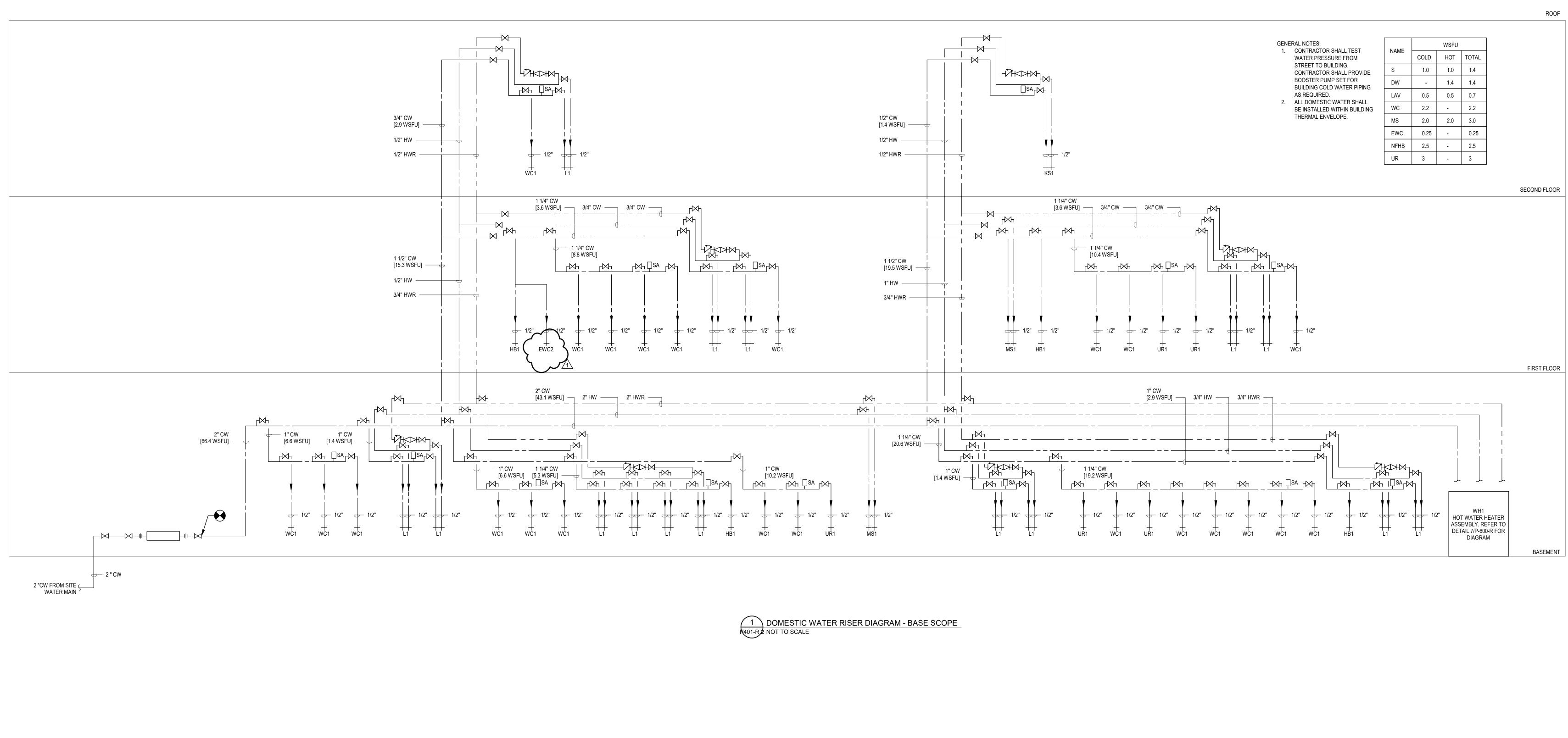


1 PLUMBING PROPOSED SUPPLY - REC CENTER FIRST FLOOR R301-R2 1/8" = 1'-0"

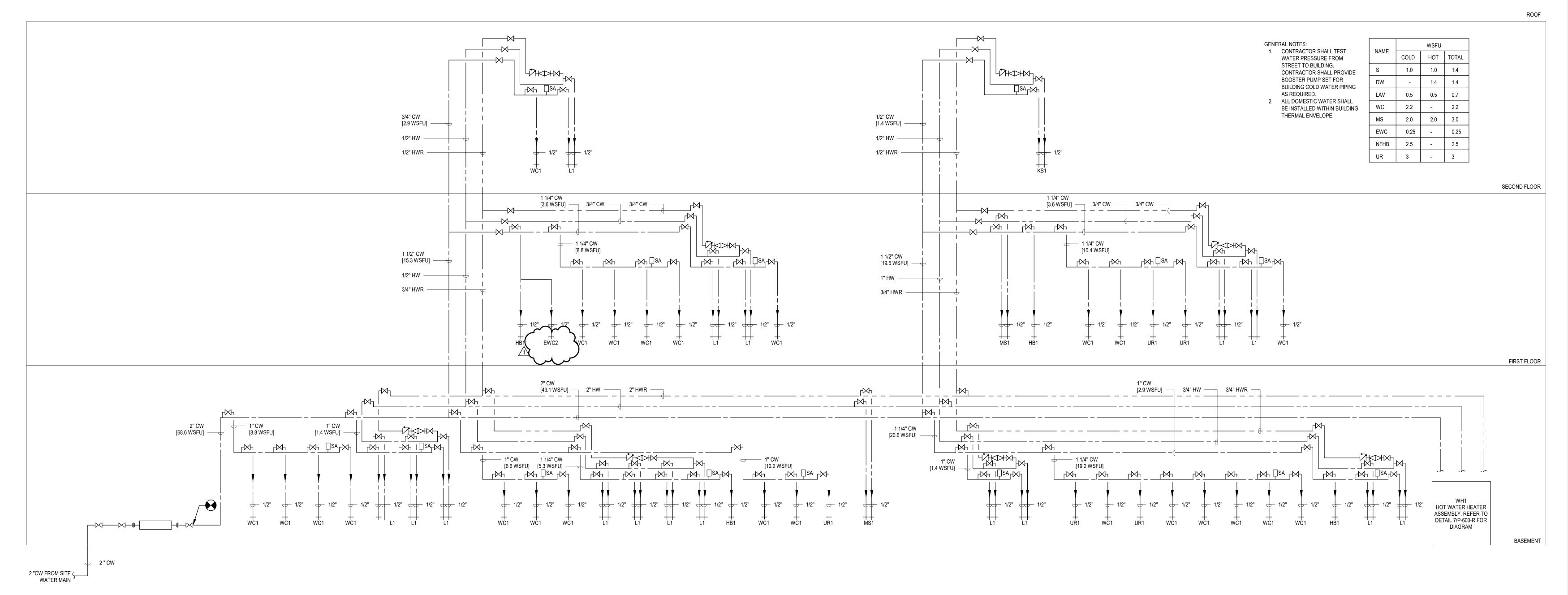
PLUMBING NOTES:

- REFER TO P-0.1 FOR PLUMBING NOTES, LEGENDS AND ABBREVIATIONS.
 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS
- PROJECT. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
- 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE
- WRITTEN INSTRUCTIONS. 5. ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING
- CODE. 6. COORDINATE ELECTRICAL INSTALLATION WITH ELECTRICAL DESIGN
- DRAWINGS. ALL SANITARY AND STORM PIPING OF 4" IN SIZE OR GREATER SHALL BE PITCHED AT 1/8" SLOPE UNLESS OTHERWISE NOTED.
- 8. ALL SANITARY AND STORM PIPING OF 3" IN SIZE OR SMALLER SHALL BE PITCHED AT 1/4" SLOPE UNLESS OTHERWISE NOTED.
- 9. ALL VALVES AND CLEANOUTS SHALL BE INSTALLED AS ACCESSIBLE WITH
- 10. PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS. 11. ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL
- ENVELOPE OF THE BUILDING. 12. ALL PIPING IS CONSIDERED TO BE NEW UNLESS OTHERWISE IDENTIFIED AS



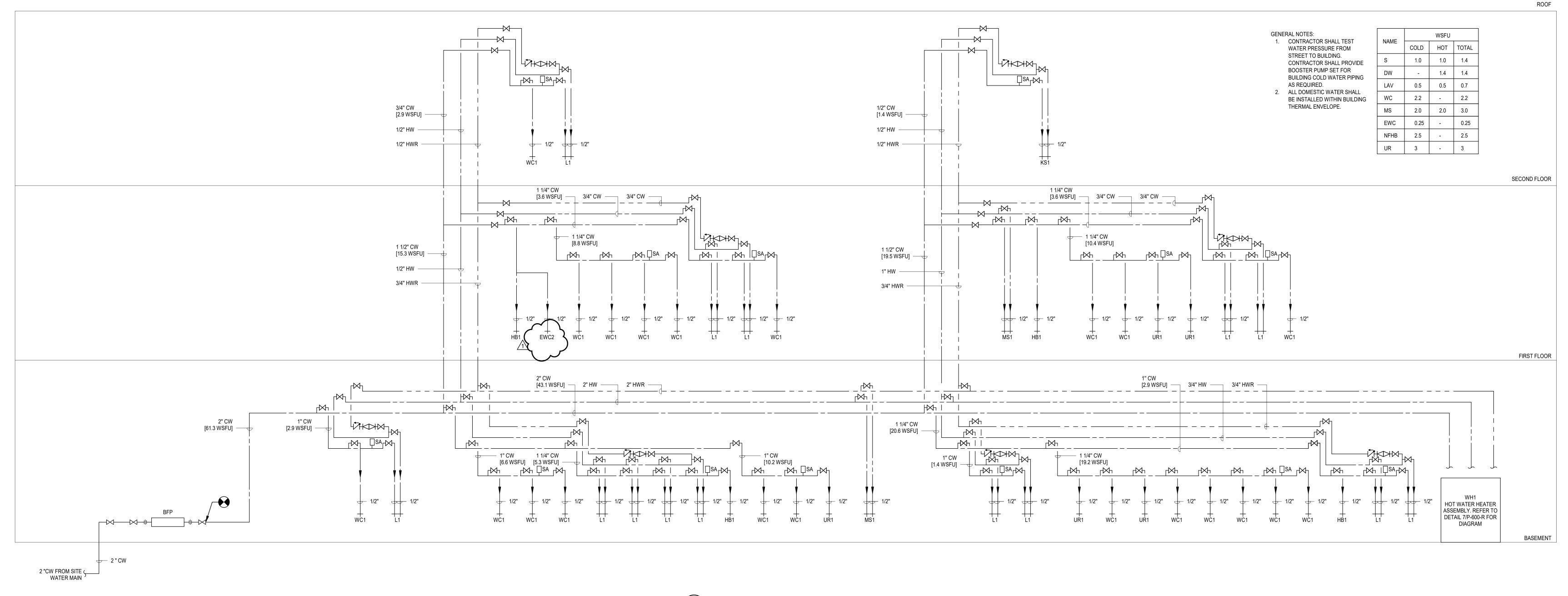






1 DOMESTIC WATER RISER DIAGRAM - DEDUCT ALT. P401B-R/2NOT TO SCALE





DOMESTIC WATER RISER DIAGRAM - ADD ALT. P101C-B2NOT TO SCALE



PIPE SCHEDULE						
SERVICE	SANITA	ARY/VENT/STORM	SANITARY/VENT/STORM			
OCATION TEMPERATURE	UN	IDERGROUND	ABOVE GROUND			
	PIPE SIZE	- MATERIAL/JOINTS	PIPE SIZE	- MATERIAL/JOINTS		
PIPE MATERIALS	2" & UP	ASTM A74, CISPI 310, C564 CAST IRON SOIL PIPE - HUB AND SPIGOT, NEOPRENE GASKET	1 1/4'' & UP	ASTM A888, CISPI 310 CAST IRON SOIL PIPE - HUB AND SPIGOT, STAINLESS STEEL CLAMPS		
	FITTINGS	HUB AND SPIGOT	FITTNGS	DWV HUBLESS		
	-	-	-	-		
MAX. OPERATING PRESSURE		150 PSIG		150 PSIG		
SEAMLESS/ERW		SEAMLESS		SEAMLESS		
-		-		-		
	PIPE SIZE	INSULATION THICKNESSS	PIPE SIZE	INSULATION THICKNESSS		
		(STORM ONLY)		(STORM ONLY)		
PIPE MINIMUM INSULATION	2"	1"	1-1/4" - 2"	1"		
THICKNESS	2-12/" - 4"	1"	2-1/2" - 4"	1"		
	6''	1"	6''	1''		
	8"	1"	8''	1"		
INSULATION TYPE		-		-		
JACKET		-		-		
WEATHERPROOFING		NONE		NONE		
MAXIMUM K-VALUE		-		-		
	PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE		
PIPE VALVES	-	-	-	-		
	-	-	-	-		
	-	-	-	-		

NOTES:

1. CONTRACTOR SHALL FOLLOW ALL REQUIRED LISTINGS & MANUFACTURES INSTALLATION REQUIREMENTS IN ORDER TO MAINTAIN ALL WARRANTIES 2. JOIN HUBLESS CAST-IRON SOIL PIPING AND FITTINGS ACCORDING TO CISPI 301 AND CISPI'S 'CAST IRON SOIL PIPE AND FITTING HANDBOOK' FOR HUBLESS-COUPLING JOINTS. 3. HUBLESS COUPLINGS SHALL BE, HEAVY-DUTY, CLASS 1, ASTM C-1540, ALL STAINLESS STEEL, NEOPRENE GASKET, 3/8" HEX-HEAD SCREW & 80 LBS, INSULATION TORQUE.

	F	IXTURES			ROU	GH INS		SUPPOR	RTS, CARRIERS		ACCESSORIES AND OR NOTES
NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	IW SA			/ HW		ТҮРЕ	MFR & MODEL NO.	SUPPLIES, DRAINS, TRAPS, TOILET SEATS ETC.
WC1	WATER CLOSET	AMERICAN STANDARD	MADERA 2857.128.020	4	1	2'' 1/2	"_	FLOOI	R MOUNTED	-	VITREOUS CHINA, ELONGATED FLOOR MOUNTED WATER CLO WITH 1.28 GPF, FLUSHVALVE. CONTRACTOR TO PROVIDE MAN ONLY FLUSH AND AMERICAN STANDARD ELGONATED SEAT 5901110T.020.
WC2	WATER CLOSET	AMERICAN STANDARD	EDGEMERE 204AA.104	4	I	2'' 1/2	" -	FLOOI	R MOUNTED	-	VITREOUS CHINA, ELONGATED FLOOR MOUNTED WATER CLO WITH 1.28 GPF, TANK TYPE. CONTRACTOR TO PROVIDE MAN ONLY FLUSH AND AMERICAN STANDARD ELGONATED SEAT 5901110T.020.
UR1	URINAL	AMERICAN STANDARD	WASHBROOK 6590503.020	2	' 1-	1/2" 1/2	" -	WALL	-MOUNTED	-	VITREOUS CHINA, WHITE, 0.125 GPF HIGH EFFICIENCY WITH MANUAL FLUSHVALVE.
L1	LAVATORY	AMERICAN STANDARD	LUCERNE 0355.012.020	1-1,	2" 1-	1/2" 1/2	" 1/2	" WALL	-MOUNTED	J.R. SMITH	VITREOUS CHINA, RECTANGLE WALL MOUNT LAVATORY WITH OVERFLOW. (20"x18") CONTRACTOR TO PROVIDE HANGERS. CONTRACTOR TO PROVIDE AMERICAN STANDARD RELIANT 3 7385.003 FAUCET WITH 0.5 GPM, CHROME, CENTER SET, SING HANDLE. MANUAL FAUCET ONLY, ASSE 1070 VALVE TO BE INCLUDED.
MS1	MOP SINK	MUSTEE	63M	3	' 1-	1/2" 1/2	" 3/4	" FLOOF	R-MOUNTED	-	FLOOR MOUNTED, 24"X24"X10" (HIGH) DURASTONE ONE PIE MOLDED CONSTRUCTION. FURNISH COMLETE WITH SERVICE FAUCET #63.600A. HOSE AND HOSE HOLDER 365.700 AND MU HANGER #63.600 ATTACHED TO 3"X24" S.S WALL PLATE,
											BUMPERS 363.401 AND DURAGAURD WALL GUARDS #67.242 REFRIGERATED DRINKING FOUNTAIN WITH MECHANICAL
WCI	ELECTRIC WATER COOLER	POASIS	PG8SBFSL	1-1	2"1	1/2 1/2	"/- -		ATA HUANG		ACTIVIATION SPORTS BOTTLE FILLER, BL-LEVEL ADA & GPN I PILTERED. PROVIDE GREVSTONE FINISH.
WC2	WATER COOLER	ELKAY	LK4420BF1UFRK	1-1,	2" 1-	1/2" 1/2	" -	FLOOI	R MOUNTED		NON-REFRIGERATED DRINKING FOUNTAIN WITH MECHANIC/ ACTIVIATION, BOTTLE FILLER, BI-LEVEL, ADA, 8 GPH, NON- FILTERED, VANDAL RESISTANT, COLOR SELECTED BY PPR.
H01	HOSE BIBB	J.R. SMITH			\checkmark		"	- Wa	HE RUNG		DACKFLOW REVENTER STAINLESS STEEL CASE AND KEY
KS1	SINK	AMERICAN STANDARD	18SB.10321800.075	1-1,	2" 1-	1/2" 1/2	" 1/2		JNTERTOP OUNTED	-	23x18 SINGLE BOWL STAINLESS STEEL SINK, 1 HOLE, AMERIC, STANDARD 4931.380.002 PULL DOWN KITCHEN FAUCET, 7. PROVIDE PROFLO PFPT107 P-TRAP, PROFLO STRAINER PF143 PROFLO PFTPB100 DRAIN EXTENSION AND PROFLO PFXCAZ33 SUPPLY KIT. PROVIDE KITCHEN SINK WITH GARBAGE DISBOSA REFER TO ARCHITECT DRAWINGS. MANUAL FAUCET ONLY.
S1	SINK	AMERICAN STANDARD	18DB.10332200.075	1-1,	2" 1-	1/2" 1/2	" 1/2		JNTERTOP OUNTED	-	33x22 DOUBLE BOWL STAINLESS STEEL SINK, 1 HOLE, AMER STANDARD 4931.380.002 PULL DOWN KITCHEN FAUCET, 7. PROVIDE PROFLO PFPT107 P-TRAP, PROFLO STRAINER PF14 PROFLO PFTPB100 DRAIN EXTENSION AND PROFLO PFXCA23

PLUME	BING SPECIALITY EQUIP	MENT SCHEDUL	E	
NO.	DESCRIPTION	MANUFACTURER	MODEL	ACCESSORIES AND/OR NOTES
FD1	FLOOR DRAIN	JAY R. SMITH	2005Y-A-P050	ROUND TOP, CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD.
SA1	SHOCK ABSORBER	JOSAM	#75001-S	SHOCK ABSORBER WITH WROUGHT COPPER SHELL, HYDRO-PNEUMATIC AIR CUSHION, TRIPLE OPISTON, WROUGHT COPPER ADAPTER AND MALE THREADED CONNECTION.
FCO	FLOOR CLEANOUT	JAY R. SMITH	4020 SERIES	CAST IRON BODY WITH ROUND ADJUSTABLE SCORIATED SECURED ROUND NICKEL BRONZE TOP
WCO	LINE CLEAN OUT	JAY R. SMITH	4710 SERIES	STAINLESS STEEL SHALLOW COVER WITH CENTER SCREW.

WATER HEATER SCHEDULE

FIXTURE	MANUFACTU	IRER AND MODEL NO.	STORAGE CAPCITY (Gallons)	RECOVERY CAPACITY	FIRST HO GPH	JR	ELECTRIC AND GAS REQUIREMENTS	APPROX DIMEN		LOCATION
	MFR:	BRADFORD WHITE		GPH: 261	GPH: 3	61	CFH: 199	HEIGHT:	60''	
WH1 MODEI		DDEL NO: EF-100T-199E-3N(A)	100	°F RISE: 90			VOLT: 120		20 1/4	BASEMENT
	MODEL NO:				°F RISE: 9	90	PHASE: 1ø	WIDTH: 28-:	20-1/4	

SUMP PUMP SCHEDULE

SP1 SE-50 50 GPM - 20 ET HD 1 1/2 3600 120/3/60 PUMP SHALL BE	FIXTU	RES	ND SYSTEM CAPACITY	PI	JMP				МО	TOR
SE-50 - 20 FT HD 1 1/2 3600 120/3/60		STANCOR		SUCTION PRESSURE	DISCHARGE PRESSURE	# OF MOTORS	MOTOR HP	MOTOR RPM	V/PH/HZS	
	SP	1 SE-50	50 GPM	-	20 FT HD	1	1/2	3600	120/3/60	PUMP SHALL BE SHUT OFF IN DET

NA	TURAL GAS	DOMES	STIC COLD WATER	DOMESTIC HOT WATER INDOORS		
INDOC	ORS/OUTDOORS		INDOORS			
	-		40-80 F		80-140 F	
PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS	
3/4"-3"	ASTM A53 SCH 80 STEEL/THREADED	1/2" - 4"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	1/2" - 4"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	
4'' & UP	ASTM A53 SCH 40 SEAMLESS STEEL/ANSI B16.9 BUTT WELD	-	-	-	-	
-	-	-	-	-	-	
	150 PSIG		150 PSIG	150 PSIG		
<u>c</u>	SEAMLESS		SEAMLESS	SEAMLESS		
	-		-	-		
PIPE SIZE	INSULATION THICKNESSS	PIPE SIZE	INSULATION THICKNESSS	PIPE SIZE	INSULATION THICKNESSS	
3/4" - 1-1/2"	-	3/4" - 1-1/2"	1''	3/4" - 1"	1"	
2'' - 4''	-	2" - 4"	1''	2" - 4"	1"	
6''	-	6''	1-1/2"	6''	1-1/2"	
8'' & UP	-	8'' & UP	1-1/2"	8'' & UP	1-1/2"	
-	-	-	-	-	-	
	-	MOLD	DED FIBERGLASS	MOLDED FIBERGLASS		
	-		ASJ		ASJ	
YELLOW AN	YELLOW ANTI-COROSION PAINT		IUM (OUTDOORS ONLY)	0.016 ALUMI	NUM (OUTDOORS ONLY)	
MAX PRESSU	IRE DROP - 0.3 in W.C.	Kmax = 0.23 A	T 60 DEG F MEAN TEMP	Kmax = 0.24 A	T 120 DEG F MEAN TEMP	
PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE	
3/4" - 2"	GATE VALVE/GLOBE VALVE	3/4" - 3"	BALL VALVE/BALL VALVE	3/4" - 3"	BALL VALVE/BALL VALVE	
2-1/2'' & UP	GATE VALVE/GLOBE VALVE	4'' & UP	BUTTERFLY VALVE/BALL VALVE	4'' & UP	BUTTERFLY VALVE/BALL VALVE	
_	_	_	-	_	-	

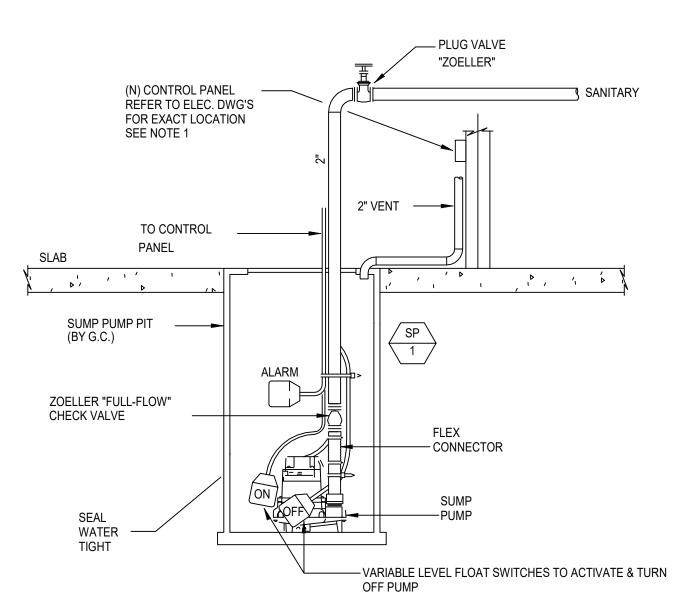
R HEAD. ON, TRIPLE O-RING SEALED BRONZE TOP.

NOTES

SHALL BE OIL MINDER OR INCLUDE FEATUR TO OFF IN DETECTION OF OIL, PROVIDE CHECK VALVE

HANGER SCHEDULE					
STEEL PIPE SIZE	SPACING OF SUPPORTS				
1/2''	6'-0''				
1/2" TO 1"	8'-0''				
1-1/4" & LARGER	10'-0''				





1 DETAIL - ELEVATOR SUMP PUMP

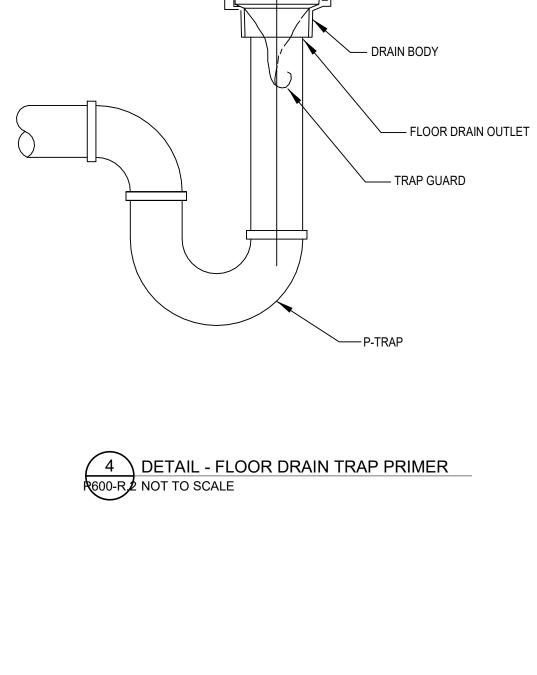
R600-R 2 NOT TO SCALE NOTES:

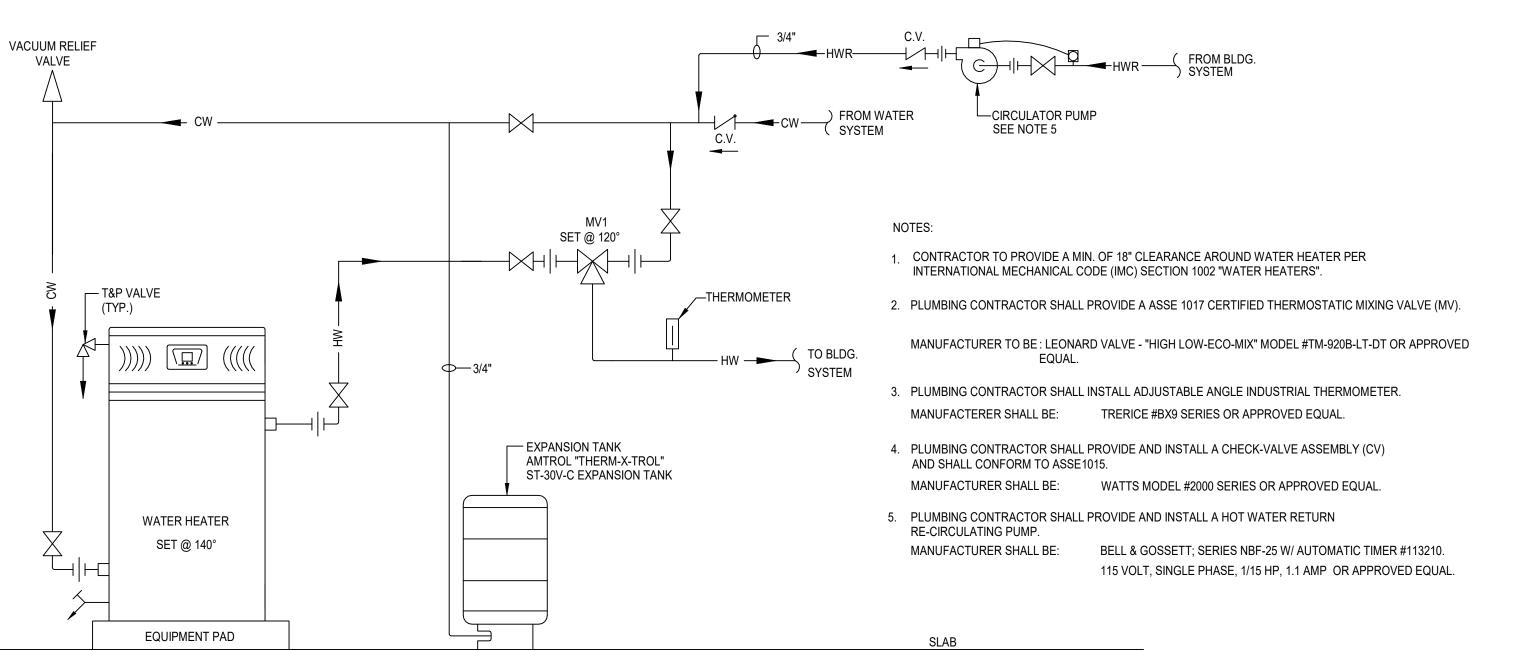
- 1. PLUMBING CONTRACTOR TO COORDINATE LOCATION OF SUMP PUMP CONTROL PANEL WITH THE ELECTRICAL DRAWING'S. PLUMBING CONTRACTOR TO WALL MOUNT CONTROL PANEL WITH THE ELECTRICAL CONTRACTOR MAKING THE FINAL CONNECTIONS.
- 2. PLUMBING CONTRACTOR TO INSTALL A CHECK VALVE ON THE DISCHARGE PIPING AT LEAST 12" ABOVE OUTLET OF THE PUMP.

-FLASHING COLLAR

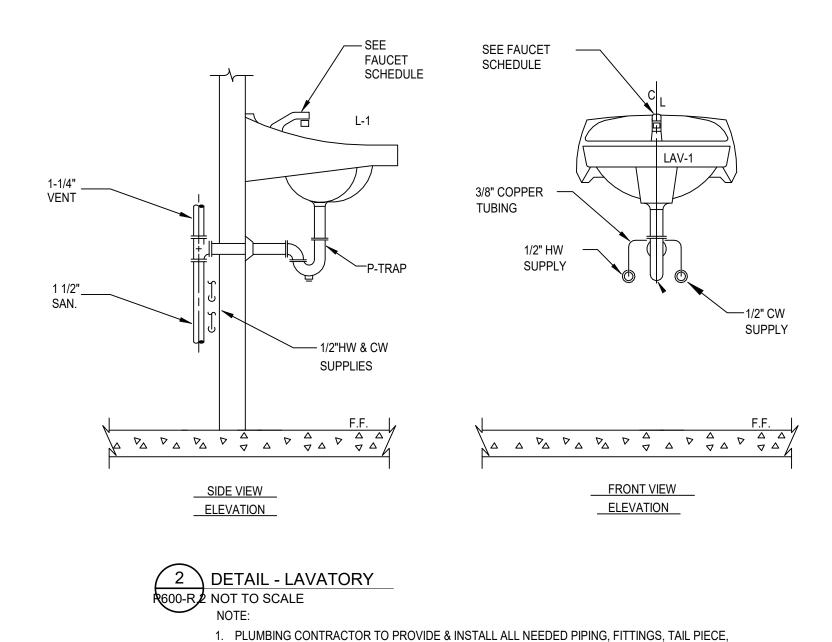
7 1 7

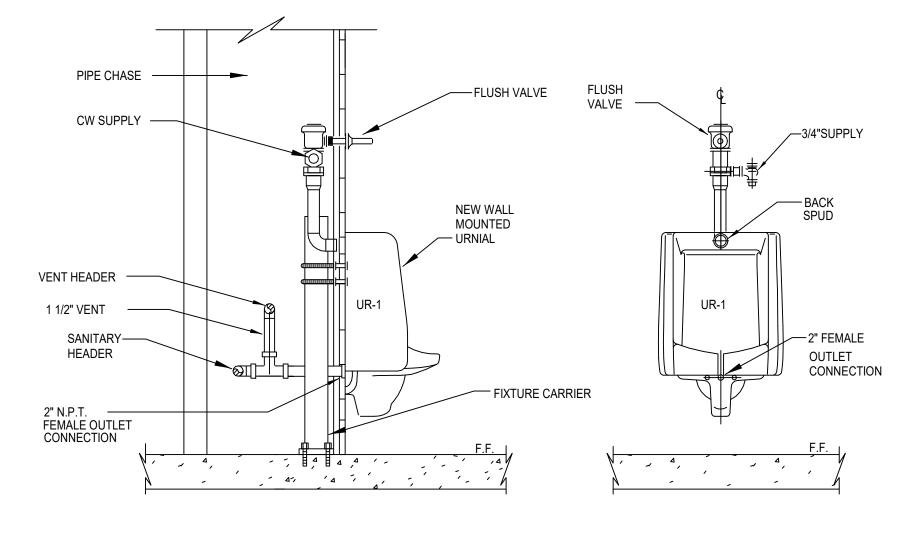
FINISHED FLOOR



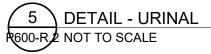


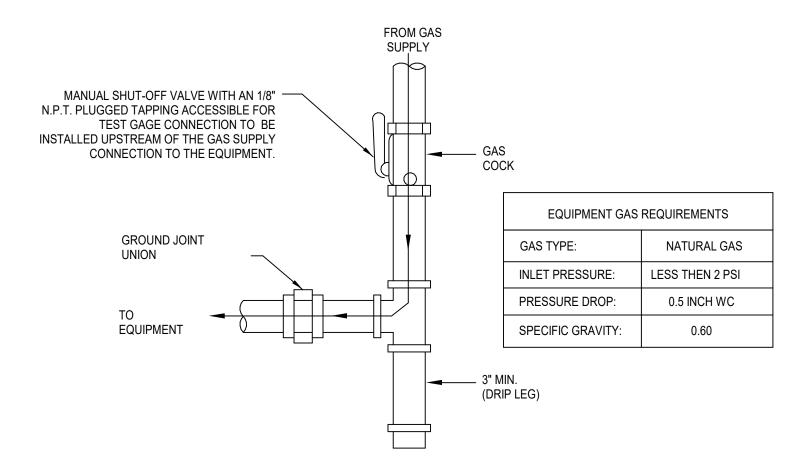
7 DETAIL - TYPICAL WATER HEAT WITH HOT WATER RECIRCULATION





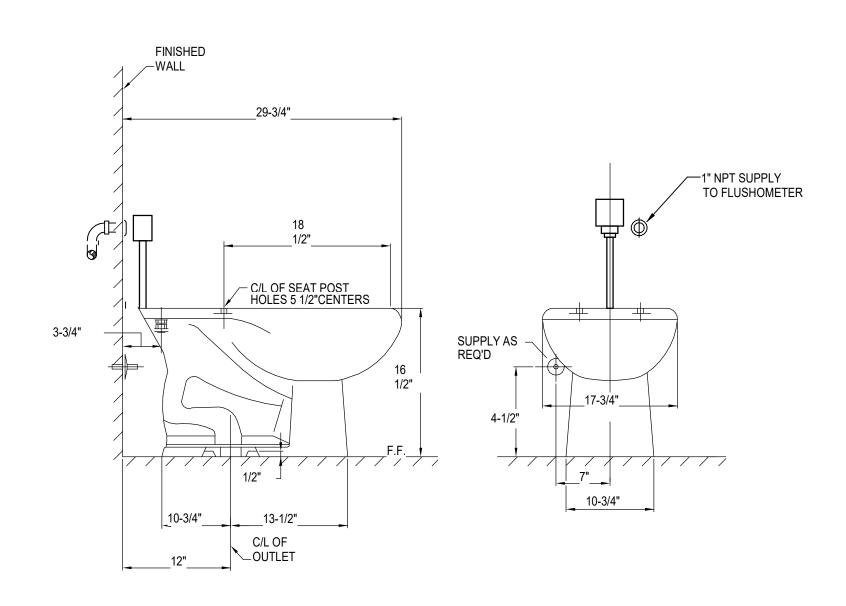
WATER SUPPLIES AND SHUT OFF VALVES FOR A COMPLETE AND FUNCTIONAL SYSTEM.



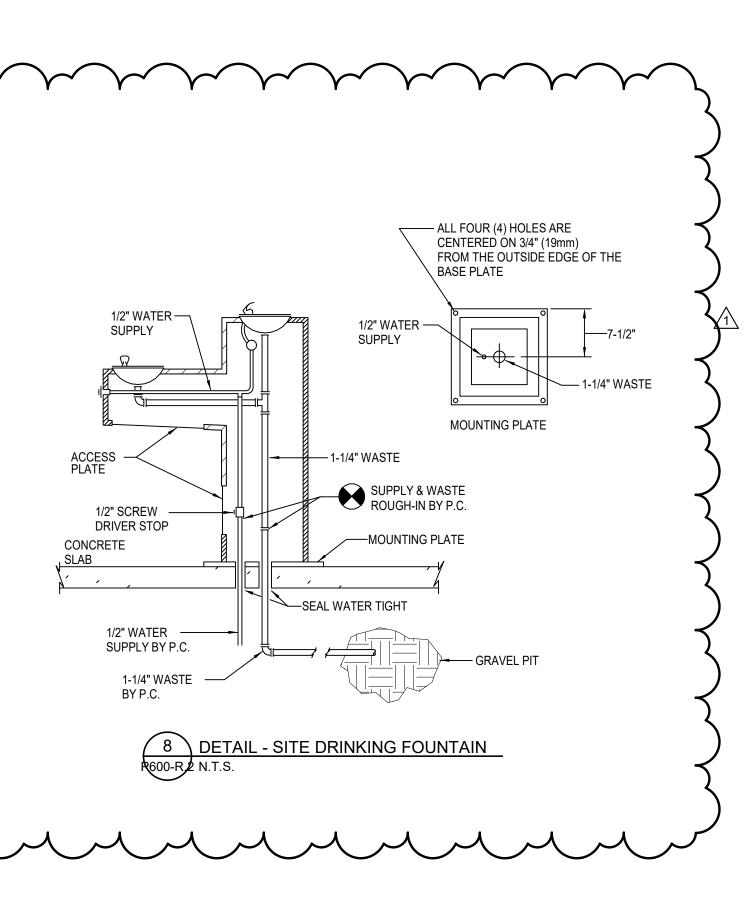


3 DETAIL - NATURAL GAS SEDIMENT TRAP R600-R NOT TO SCALE NOTE:

> 1. PLUMBING CONTRACTOR TO VERIFY THE GAS PRESSURE BEING SUPPLIED BY NATURAL GAS AUTHORITY AND IF REQUIRED, CONTRACTOR WILL FURNISH IN-LINE TYPE PRESSURE REGULATOR'S AT EQUIPMENT.



6 DETAIL - WATER CLOSET





GENERAL NOTES

- THESE DRAWINGS DESCRIBE THE GENERAL REQUIREMENTS FOR THE INSTALLATION OF TELECOMMUNICATIONS STRUCTURED CABLING SYSTEM, PUBLIC ADDRESS SYSTEM, AND SECURITY SYSTEM WITHIN THE FACILITIES OF KINGSESSING LIBRARY & REC CENTER (KNG). THE PROJECT INCLUDES FURNISHING, INSTALLATION AND TESTING OF THE COMPONENTS FOR THE OUTSIDE PLANT STRUCTURED CABLING AS DESCRIBED HEREIN AND IN THE SPECIFICATIONS.
- PRIOR TO ACCEPTANCE OF THE INSTALLATION, ALL SYSTEMS SHALL BE TESTED, AND OPERATED TO DEMONSTRATE TO THE OWNER. OR DESIGNATED REPRESENTATIVE. THAT THE INSTALLATION AND PERFORMANCE OF THESE SYSTEMS AND/OR PARTS THEREOF CONFORM TO THE DESIGN INTENT.
- CONTRACT DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE, DESIGN INTENT, AND GENERAL ARRANGEMENT ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES INCLUDING RESOLUTION OF FIELD CONFLICTS THAT MAY ARISE.
- CONTRACTOR SHALL BE RESPONSIBLE TO FIELD LOCATE AND IDENTIFY ALL EXISTING 4. UTILITIES AND CONDITIONS IN THE CONSTRUCTION AREA, WHETHER INDICATED ON DRAWINGS OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO EXISTING UTILITIES, CABLES AND/OR FACILITIES DAMAGED DURING CONSTRUCTION. NO REIMBURSEMENT WILL BE ALLOWED FOR REPAIR AND/OR REPLACEMENT OF DAMAGED FACILITIES/UTILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF UNDERGROUND UTILITIES WHICH PASS THROUGH THE CONSTRUCTION AREA BUT ARE NOT PART OF THE CONSTRUCTION SCOPE OF WORK. THE CONTRACTOR SHALL ENSURE THESE CABLES ARE PROTECTED AND THE SYSTEMS STAY FUNCTIONAL TO WHICH THEY ARE CONNECTED.
- THE INTEGRATION OF EXISTING SYSTEMS IS WORK OF A COMPLEX NATURE WHICH WILL REQUIRE ACCURATE PLANNING, CAREFUL PREPARATION AND EXECUTION, ATTENTION TO DETAIL AND CLOSE SUPERVISION BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO DO THIS WORK IN FULL COOPERATION WITH ALL SYSTEM INTEGRATORS AND SUBJECT TO SCHEDULING ARRANGED TO MINIMIZE DISRUPTION OF NORMAL ACTIVITIES OF THE REST OF THE AIRPORT. PHASING OF ALL WORK SHALL BE DONE IN COORDINATION WITH THE CONSTRUCTION PHASING PLAN OR AS INSTRUCTED BY THE CM.
- ALL CABLING, VAULTS, DEVICES AND BOXES INSTALLED SHALL BE TAGGED AND/OR MARKED AS IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
- WHERE UTILITIES, SYSTEMS, SWITCHES, PANELS, POWER SUPPLIES, ROUTERS AND/OR SERVICES REQUIRE SHUTDOWN, IN THE MAIN TERMINAL, FOR THE WORK TO BE PERFORMED, NOTIFY THE CM AND OWNER. REQUESTS FOR SYSTEMS SHUTDOWNS SHALL BE SUBMITTED TO THE OWNER, IN WRITING, A MIN. OF 1 WEEK PRIOR TO THE SCHEDULED SHUTDOWN. THE REQUEST MUST INCLUDE ALL SYSTEMS TO BE AFFECTED AND THE EXPECTED DISRUPTION DURATIONS.
- ALL MATERIALS SHALL COMPLY WITH APPLICABLE CODES, ORDINANCES AND 9. REGULATIONS AND APPLICABLE CONTRACT SPECIFICATIONS.
- PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTALS, METHODS AND SERVICES 10. REQUIRED TO INSTALL ALL WORK INDICATED COMPLETELY AND IN FULL OPERATION.
- 11. ALL WORK SHALL BE IN CONFORMANCE WITH THE LATEST AND ALL APPLICABLE LAWS, TIA CODES, AND REGULATIONS ADOPTED BY MUNICIPAL, COUNTY, STATE, FEDERAL AUTHORITIES, UTILITY COMPANIES, INSURANCE AGENCIES AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK, INCLUDING CURRENT ENVIRONMENTAL REGULATIONS, AND SHALL COMPLY WITH THE APPLICABLE LOCAL ELECTRICAL CODES, LATEST ADOPTED EDITION OF THE NEC AND ANY APPLICABLE INDUSTRIAL CODES: NECA, NEC, NESC, NFPA, IEEE, ANSI/TIA, NORTH CAROLINA AND LOCAL CODES.
- 12. THE CONTRACTOR SHALL GUARANTEE THE ENTIRE INSTALLATION FOR A PERIOD OF ONE YEAR (OR AS CONTRACTUALLY OBLIGATED) FROM THE DATE OF ACCEPTANCE OF THE SYSTEM(S) AS A WHOLE. ANY DEFECTS IN WORKMANSHIP, MATERIALS, MALFUNCTION OF EQUIPMENT OR UNSATISFACTORY PERFORMANCE, AND ALL OTHER WORK OR PARTS OF THE BUILDING DAMAGED THEREBY, AS A RESULT OF WORK OF THE PROJECT BY THE CONTRACTOR, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL PAY ALL REPAIR COSTS ACCORDINGLY WITHOUT ADDITIONAL COSTS TO THE OWNER.
- 13. UNLESS OTHERWISE NOTED, ALL PARTS, EQUIPMENT, AND MATERIALS SHALL BE NEW AND SHALL BE SAME AND/OR UL APPROVED.
- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING CABLING. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR FURNISHING AND INSTALLING CONDUIT FROM ALL EQUIPMENT DEVICE LOCATIONS TO DESIGNATED TERMINATION ROOMS. ALL NEW CABLING SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED.
- ALL OSP CABLING SHALL BE INSTALLED IN CONCRETE ENCASED SCHEDULE 40 PVC OR 15. RGS CONDUIT AS INDICATED IN DRAWINGS AND SPECS AND IN FABRIC INNERDUCT. ALL VERTICAL ELBOWS AND TRANSITIONS FROM UNDERGROUND TO ABOVE GROUND SHALL BE RGS. ALL SPARE CONDUITS SHALL CONTAIN FABRIC INTERDUCT AND/OR A PULL STRING AS INDICATED. PRIMARY AND SECONDARY BACKBONE CABLING SHALL NOT SHARE A PHYSICAL PATHWAY.
- CONTRACTOR SHALL PROVIDE FINAL CONNECTIONS TO OWNER PROVIDED 16. EQUIPMENT AS INDICATED ON THE PLANS.
- 17. INSTALLATION OF CATEGORY 6A CABLE SHALL BE IN ACCORDANCE WITH TIA GUIDELINES. CABLE INSTALLATION AND TERMINATIONS THAT DO NOT COMPLY SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE MAXIMUM PULLING TENSION FOR A SINGLE CABLE SHALL NOT EXCEED 25
 - POUNDS. THE MINIMUM BENDING RADIUS OF THE CABLE SHALL NOT BE LESS THAN 4X
 - THE OUTSIDE DIAMETER OF THE CABLE. THE CABLE SHALL BE INSTALLED WITHOUT KINKS OR TWISTS AND THE APPLICATION OF CABLE TIES SHALL NOT DEFORM THE CABLE BUNDLE. CONDUITS SHALL TRANSITION INTO CABLE TRAYS USING CONDUIT END BELLS, NO CABLE SHALL BE INSTALLED OVER ROUGH CONDUIT EDGES IN ANY
 - TRANSITION. STRIP BACK ONLY AS MUCH CABLE JACKET AS IS REQUIRED TO TERMINATE D THE CABLE. CABLE PAIRS SHALL NOT BE UNTWISTED MORE THAN 1/2 INCH. CABLES SHALL BE TESTED PER THE SPECIFICATIONS, CABLES WHICH DO NOT PASS TESTS SHALL BE REPLACED, OR RECTIFIED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- 18. THE CONTRACTOR SHALL NOT INSTALL ANY NEW CATEGORY 6A OR HIGHER DATA CABLE AT LENGTHS GREATER THAN 90 METERS FROM PATCH PANEL TO OUTLET BOX. THE CONTRACTOR SHALL BRING ANY CONDITIONS EXCEEDING THE CABLE LIMIT DISTANCE TO THE ENGINEERS ATTENTION.
- INSTALLATION OF FIBER OPTIC CABLES SHALL BE IN ACCORDANCE WITH TIA 19. GUIDELINES. CABLE INSTALLATION AND TERMINATIONS THAT DO NOT COMPLY SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE BEND RADIUS FOR HORIZONTAL OPTICAL FIBER CABLE SHALL NOT BE LESS
 - THAN 1 INCH UNDER NO-LOAD CONDITIONS. WHEN UNDER A MAXIMUM TENSILE LOAD OF 50 LBF, THE BEND RADIUS SHALL NOT BE LESS THAN 2 INCHES. THE BEND RADIUS FOR FIBER BACKBONE SHALL NOT BE LESS THAN THAT RECOMMENDED BY THE MANUFACTURER IF NO RECOMMENDATION IS KNOWN, THEN THE APPLIED BEND RADIUS SHALL NOT BE LESS THAN 12 TIMES THE CABLE OUTSIDE DIAMETER UNDER NO-LOAD CONDITIONS AND NOT LESS THAN
 - 15 TIMES THE CABLE OUTSIDE DIAMETER WHEN THE CABLE IS UNDER TENSILE THE BEND RADIUS FOR OUTSIDE PLANT OPTICAL FIBER BACKBONE CABLE SHALL NOT BE LESS THAN THAT RECOMMENDED BY THE MANUFACTURER IF NO RECOMMENDATION IS KNOWN, THEN THE APPLIED BEND RADIUS SHALL NOT BE
 - LESS THAN 10 TIMES THE CABLE OUTSIDE DIAMETER NO-LOAD CONDITIONS AND NOT LESS THAN 20 TIMES THE CABLE OUTSIDE DIAMETER WHEN THE CABLE IS UNDER A TENSILE LOAD.
- 20. ALL OUTSIDE PLANT COPPER CABLES SHALL INCLUDE A MINIMUM OF TWO SERVICE LOOPS IN ALL VAULTS, MANHOLES, HANDHOLES OR JUNCTION BOXES EQUIVALENT TO TWO PERIMETERS OF THE STRUCTURE THE CABLE IS PASSING THROUGH. UNLESS OTHERWISE SPECIFIED.
- 21. CONTRACTOR TO COORDINATE ALL UNDERGROUND UTILITY ROUTINGS. KEEP A MINIMUM OF 6-IN CLEAR FROM ALL FOUNDATIONS IN PLAN
- 22. CONTRACTOR TO COORDINATE UNDERGROUND UTILITY TO BE A MINIMUM OF 3" CLEAR BELOW THE BASE OF THE GRADE BEAMS WHEN PASSING BENEATH

ABBREVIATIONS:

AC

ACF

ACS

AFG

AMF

BHS

CFCI

CLR

СМ

CMP

CMR

CV

DC

FLP

FOC

FOPP G.C.

GRND

HORIZ

IDF

LAN

MAX

MDF

NEC

OSE

PBB

PG

RGS

SOC

STP

SCS

SMFO

SUSP

TGB

TΟ

TYP

UG

W/

UON

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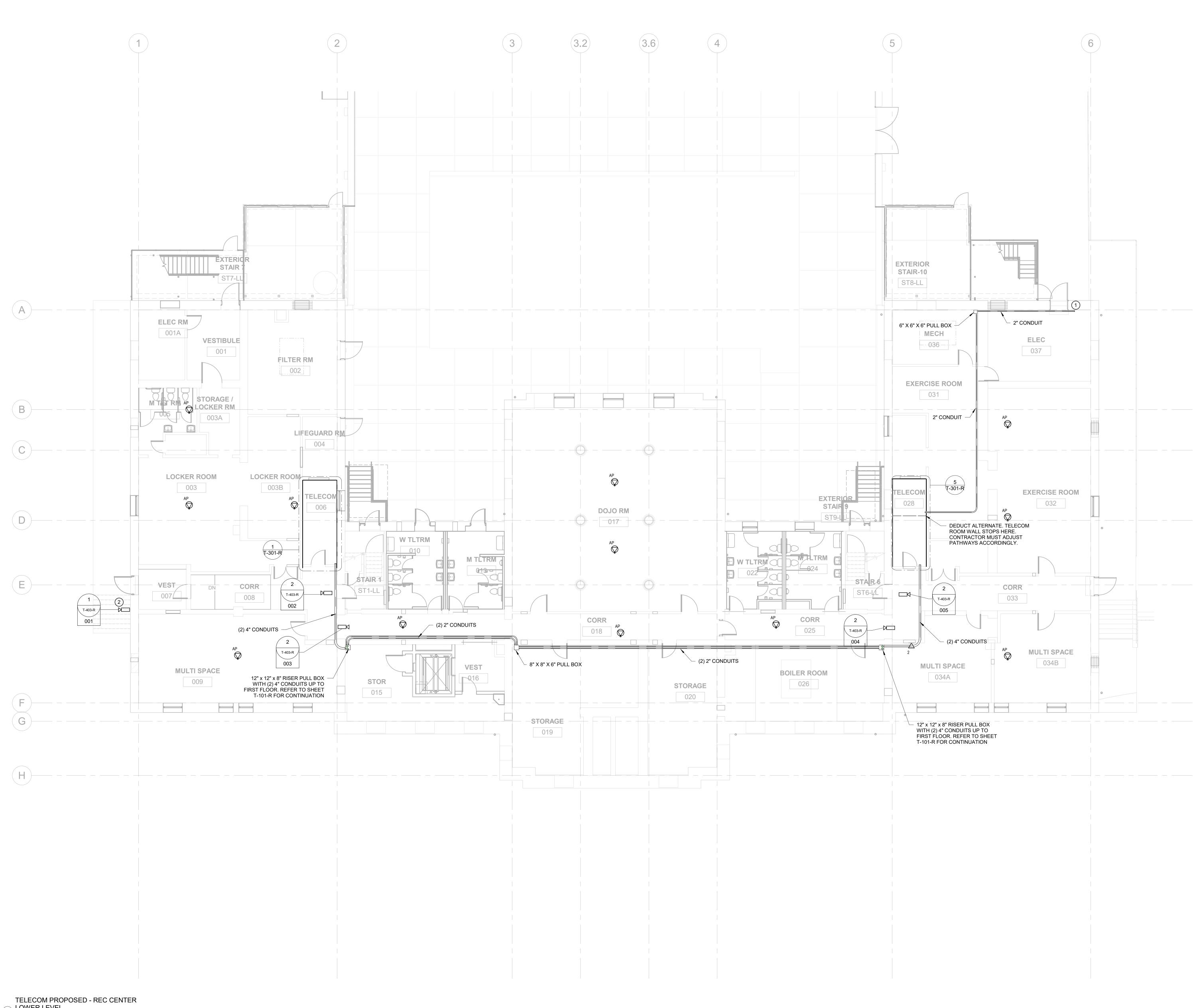
AWG

ALTERNATE CURRENT ACCESS CONTROL PANEL ACCESS CONTROL SYSTEM ABOVE FINISHED GRADE AMPLIFIER AMERICAN WIRE GAUGE BELOW FINISH CEILING BAGGAGE HANDLING SYSTEM CONDUIT CONTRACTOR FURNISHED CONTRACTOR INSTALLED CENTER LINE CI FAR CONSTRUCTION MANAGER PLENUM CABLE RISER CABLE CABLE TRAY COMMUNICATIONS VAULT DISTRIBUTED ANTENNA SYSTEM DIRECT CURRENT ELECTRICAL METALLIC TUBING FREE LIBRARY OF PHILADELPHIA FIBER OPTIC CABLE FIBER OPTIC PATCH PANEL GENERAL CONTRACTOR GROUND GROUND TRANSPORTATION HORIZONTAL(LY) IDENTIFICATION INSULATION DISPLACEMENT CONTACT INTERMEDIATE DISTRIBUTION FRAME INSIDE PLANT CABLE INFORMATION TECHNOLOGY JUNCTION BOX LOCAL AREA NETWORK MAXIMUM MAIN DISTRIBUTION FRAME MINIMUM NOT TO SCALE NATIONAL ELECTRIC CODE OWNER FURNISHED OWNER INSTALLED OUTSIDE PLANT CABLE PASSENGER BOARDING BRIDGE PASSENGER GATE RIGID GALVANIZED STEEL SYSTEM ON CHIP STRUCTURED CABLING SYSTEM SINGLE MODE FIBER OPTIC CABLE SHIELDED TWISTED PAIR SUSPENDED TERMINAL TO BE DETERMINED TELECOM TELECOMMUNICATIONS TELECOMMUNICATIONS GROUNDING BUSBAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION TELECOMMUNCIATION OUTLET TELECOMMUNICATIONS ROOM TYPICAL UNDERGROUND UNLESS OTHERWISE NOTED VOLTS VEHICLE GATE WITH

WALL FIELD

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SYMBOL DESCRIPTION Image: Symbol DETAIL REFERENCE: # = DETAIL NUMBER; TXXX = DRAWING NUMBER Image: Symbol LADDER STYLE CABLE TRAY Image: Symbol CONDUIT OR SLEEVE GOING UP Image: Symbol CONDUIT OR SLEEVE GOING DOWN Image: Symbol CONDUIT OR SLEEVE GOING DOWN Image: Symbol CONDUIT OR SLEEVE GOING OUTLINE Image: Symbol CONDUIT GOING THROUGH Image: Symbol TELECOM SPACES/ROOM OUTLINE Image: Symbol PULL BOX LL = LOWER LEVEL FF = FIRST FLOOR Image: Symbol ELEVATOR CALL BOX Image: Symbol PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX XX DEFINES SYSTEM. PROVIDE RJ.4S CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. Image: Symbol DESCRIPTION Image: Symbol DESCRIPTION Image: Symbol Sternes with Min 18/2 SHIELDED CABLE IN WILL BE CONNTECTED IN SEECURITY SYMBOLS Image: Symbol DESCRIPTION Image: Symbol DESCRIPTION Image: Symbol DESCRIPTION	CCTV	REFER TO SECURITY DRAWINGS FOR LOCATIONS, QUANTITIES AND MOUNTING DETAILS. PROVIDE (1) 4-PAIR UTP CATEGORY 6 CABLE, UON. MOUNTING REQUIREMENTS: - CEILING: ON NEAREST STRUCTURAL ELEMENT ABOVE ACCESSIBLE CEILINGS
Image: Txxx * Detail Reference: # = Detail NUMBER; Txxx = DRAWING NUMBER Image: Labder Style cable Tray Image: Conduit or Sleeve Going UP Image: Conduit or Sleeve Going Down Image: Conduit or Sleeve Going Down Image: Conduit or Sleeve Going HROUGH Image: Conduit Going Through Image: Conduit Going Through	PATHW	AYS & MISCELLANEOUS
** DETAIL NUMBER; TXXX = DRAWING ** LADDER STYLE CABLE TRAY • CONDUIT OR SLEEVE GOING UP • CONDUIT OR SLEEVE GOING DOWN • CONDUIT GOING THROUGH • CONDUIT GOING THROUGH • CONDUIT GOING THROUGH • TELECOM SPACES/ROOM OUTLINE • PULL BOX LL = LOWER LEVEL FF = FIRST FLOOR • ELEVATOR CALL BOX • INTERCOM MASTER MONITOR STATION • PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ.45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36° OF SLACK. • DESCRIPTION SYMBOL DESCRIPTION SECURITY SYMBOLS SYMBOL SYMBOL DESCRIPTION • SYMBOL • DESCRIPTION • FIXED CCTV CAMERA. BASIS OF DESIGN CAMERA MANUFACTURER IS	SYMBOL	DESCRIPTION
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Image: Construction of the second of the	<u></u>	LADDER STYLE CABLE TRAY
• CONDUIT GOING THROUGH TELECOM SPACES/ROOM OUTLINE □ PULL BOX LL = LOWER LEVEL FF = FIRST FLOOR □ PULL BOX LL = LOWER LEVEL FF = FIRST FLOOR □ INTERCOM MASTER MONITOR STATION □ INTERCOM MASTER MONITOR STATION ↓ PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ.45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. ▲V SYMBOLS SYMBOL ⑤ WALL MOUNTEDAV SPEAKER, SPEAKERS WILL BE CONNTECTED IN SERIES WITH MIN 18/2 SHIELDED CABLE IN FMC WITH ONE 18/2 CABLE HOMERUN TO AMPLIFIER IN MIN 3/4" CONDUIT SYMBOL DESCRIPTION SECURITY SYMBOLS SYMBOL DESCRIPTION		
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□ LL = LOWER LEVEL FF = FIRST FLOOR □ ELEVATOR CALL BOX □ INTERCOM MASTER MONITOR STATION □ INTERCOM MASTER MONITOR STATION ↓ PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ-45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. AV SYMBOLS SYMBOL DESCRIPTION ⑤ WALL MOUNTEDAV SPEAKER, SPEAKERS WILL BE CONNTECTED IN SERIES WITH MIN 18/2 SHIELDED CABLE IN FMC WITH ONE 18/2 CABLE HOMERUN TO AMPLIFIER IN MIN 3/4" CONDUIT SEECURITY SYMBOLS SYMBOL DESCRIPTION		
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SYMBOL DESCRIPTION FIXED CCTV CAMERA. BASIS OF DESIGN CAMERA MANUFACTURER IS	WP HJ XX AV SYM SYMBOL	INTERCOM MASTER MONITOR STATION PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ-45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. BOLS DESCRIPTION WALL MOUNTEDAV SPEAKER, SPEAKERS WILL BE CONNTECTED IN SERIES WITH MIN 18/2 SHIELDED CABLE IN FMC WITH ONE 18/2 CABLE
	WP HJ XX AV SYM SYMBOL S	INTERCOM MASTER MONITOR STATION PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ-45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. BOLS DESCRIPTION WALL MOUNTEDAV SPEAKER, SPEAKERS WILL BE CONNTECTED IN SERIES WITH MIN 18/2 SHIELDED CABLE IN FMC WITH ONE 18/2 CABLE HOMERUN TO AMPLIFIER IN MIN 3/4" CONDUIT
	WP HJ XX AV SYM SYMBOL S S SECURI	INTERCOM MASTER MONITOR STATION PROVIDE 4X4 EXTERIOR WEATHERPROOF JUNCTION BOX. XX DEFINES SYSTEM. PROVIDE RJ-45 CONNECTOR ON END OF CABLE AND PROVIDE MIN 36" OF SLACK. BOLS DESCRIPTION WALL MOUNTEDAV SPEAKER, SPEAKERS WILL BE CONNTECTED IN SERIES WITH MIN 18/2 SHIELDED CABLE IN FMC WITH ONE 18/2 CABLE HOMERUN TO AMPLIFIER IN MIN 3/4" CONDUIT TY SYMBOLS





^{1 &}lt;u>LOWER LEVEL</u> 1/8" = 1'-0"

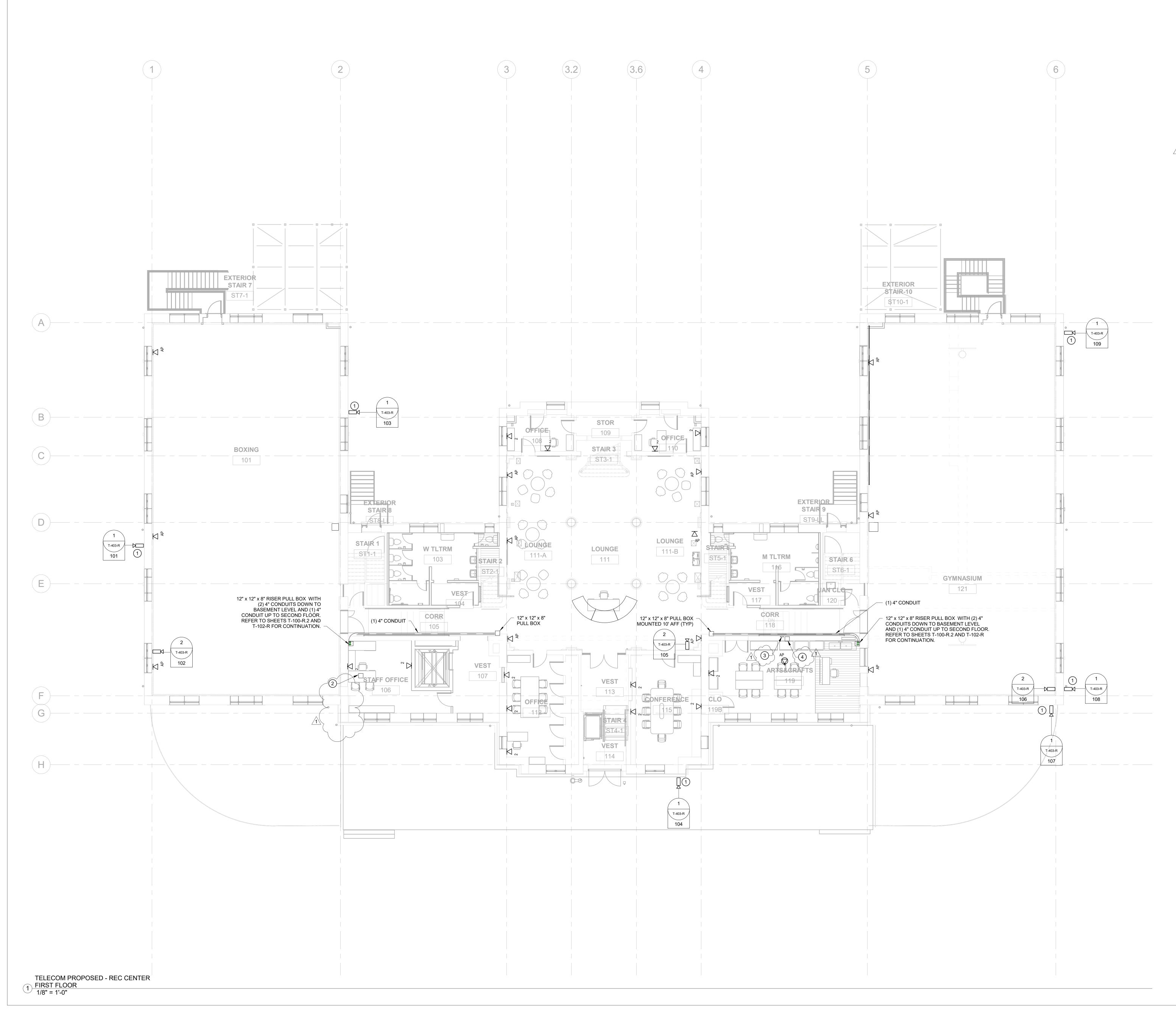


- 1. UNLESS OTHERWISED NOTED DEVICES SHOWN ARE CONTRACTOR FURNISHED CONTRACTOR INSTALLED (CFCI).
- 2. CONTRACTOR MUST PROTECT AND PRESERVE THE HISTORIC ELEMENTS AND STRUCTURES WHEN INSTALLING NEW PATHWAYS AND DEVICES. REFER TO ARCHITECT PLANS FOR ADDITIONAL DETAILS.
- 3. PROVIDE SURFACE MOUNTED RACEWAYS FOR BRANCH CONNECTIONS. ACCECPTABLE RACEWAYS ARE SERIES 4000 WIREMOLD OR CONDUIT.
- 4. AV SYSTEM EQUIPMENT FURNISHED AND INSTALLED BY OWNER.

KEYED NOTES:

- 1. EXISTING COMMUNICATIONS DEMARC.
- 2. EXTERIOR CAMERA. PROVIDE EXTERIOR HOUSING FOR CAMERA.





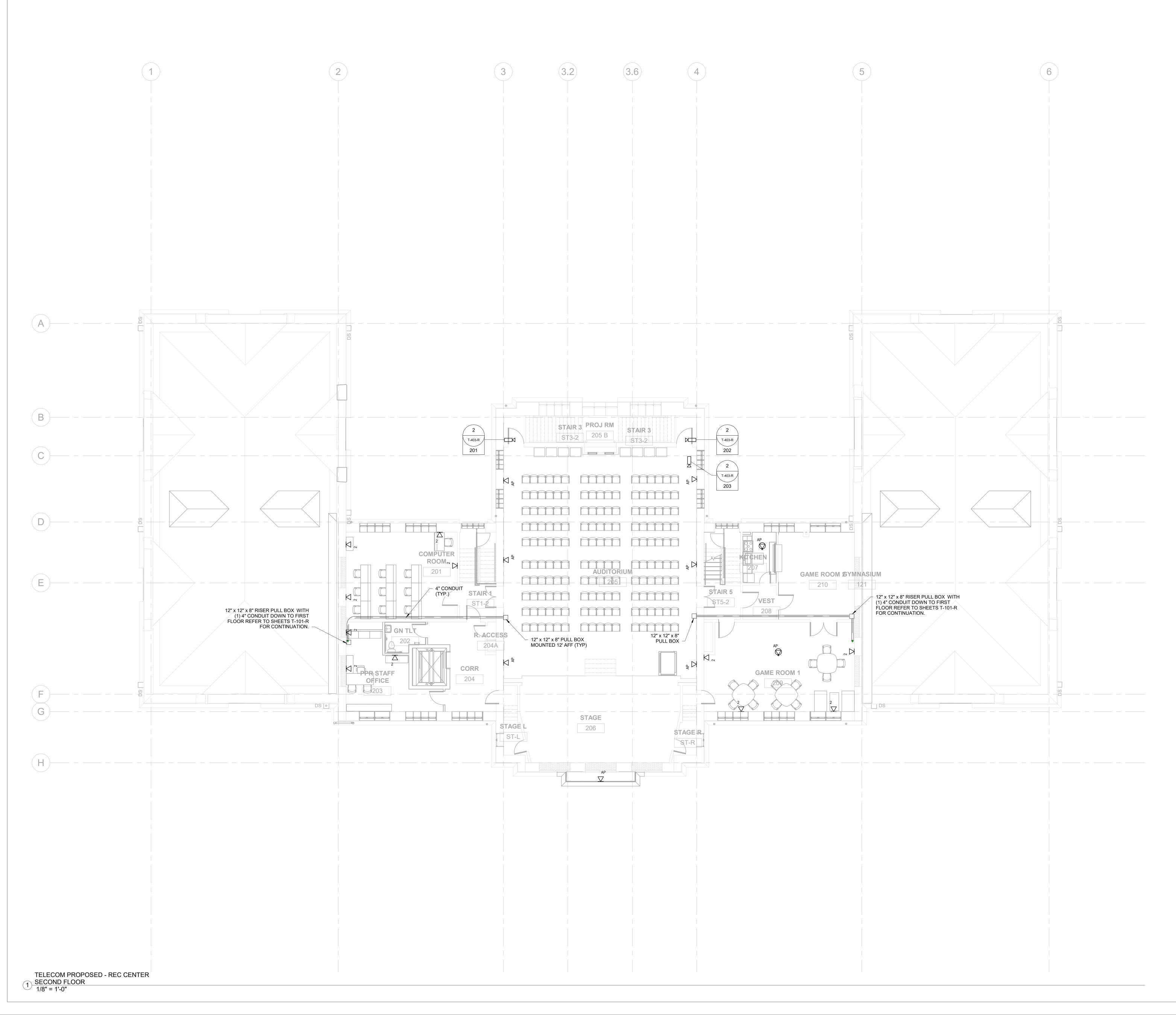
GENERAL NOTES:

- UNLESS OTHERWISED NOTED DEVICES SHOWN ARE CONTRACTOR FURNISHED CONTRACTOR INSTALLED (CFCI).
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- 3. PROVIDE SURFACE MOUNTED RACEWAYS FOR BRANCH CONNECTIONS. ACCECPTABLE RACEWAYS ARE SERIES 4000 WIREMOLD OR CONDUIT.
- 4. AV SYSTEM EQUIPMENT FURNISHED AND INSTALLED BY OWNER.
- 5. CONTRACTOR TO INSTALL WALL MOUNTED DEVICES ABOVE CROWN MOLDING.

KEYED NOTES: (#) 1. EXTERIOR C/CAMERA. 2. NEW CONTR. INSTALLED V A 2

- 1. EXTERIOR CAMERA. PROVIDE EXTERIOR HOUSING FOR CAMERA.
 - NEW CONTRACTOR FURNISHED CONTRACTOR INSTALLED VIDEO MONITORING WORKSTATION.
 - EXISTING SECURITY WORKSTATION TO BE DEMOLISHED. EXISTING SECURITY CABINET TO BE DEMOLISHED. CONTRACTOR REMOVE EXISTING SECURITY EQUIPMENT AND RETURN TO OWNER.

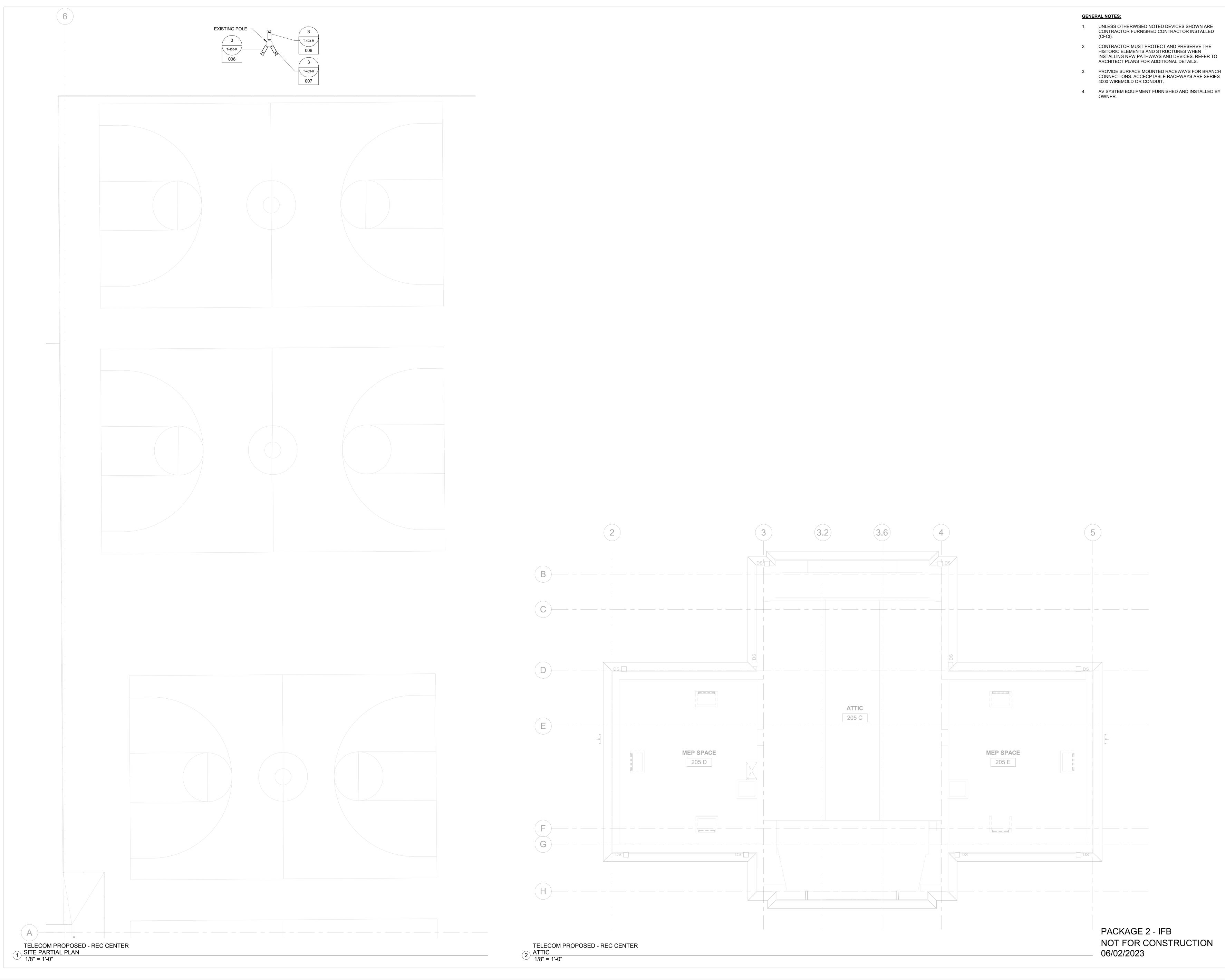




GENERAL NOTES:

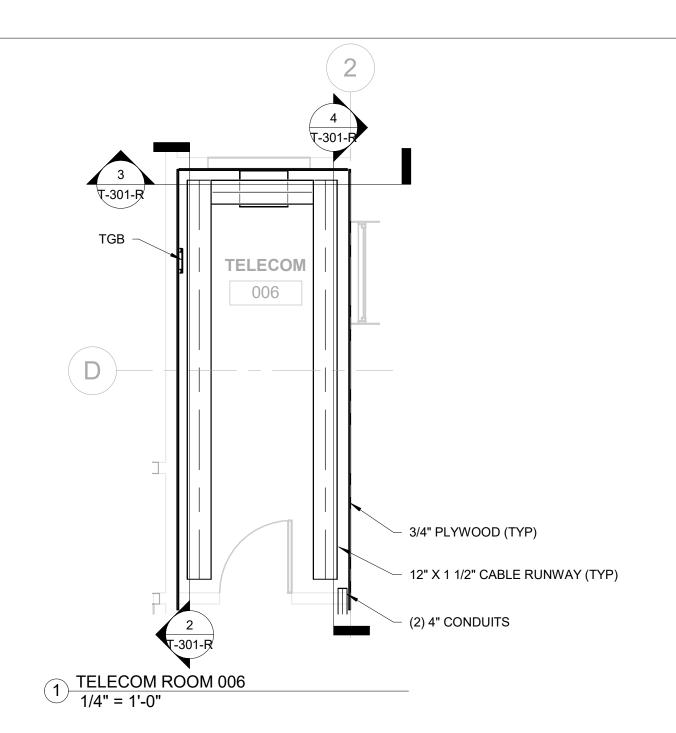
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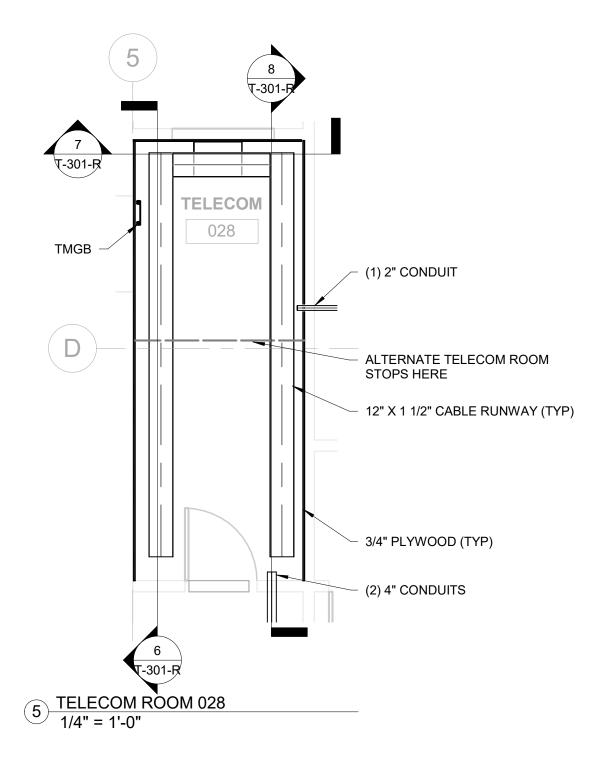


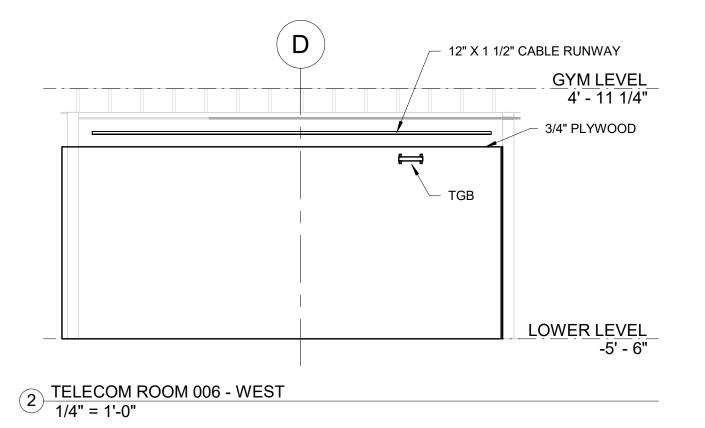


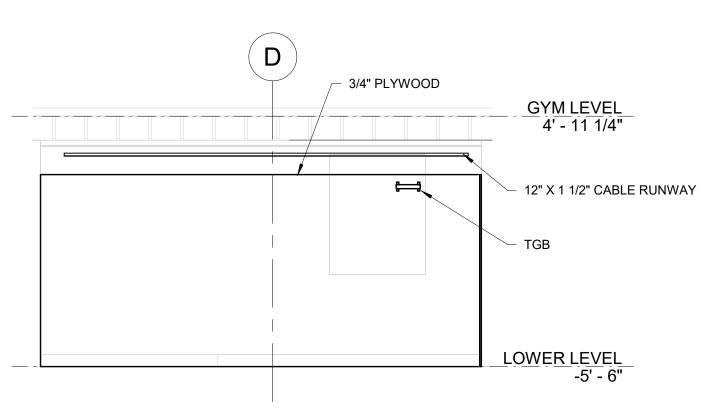
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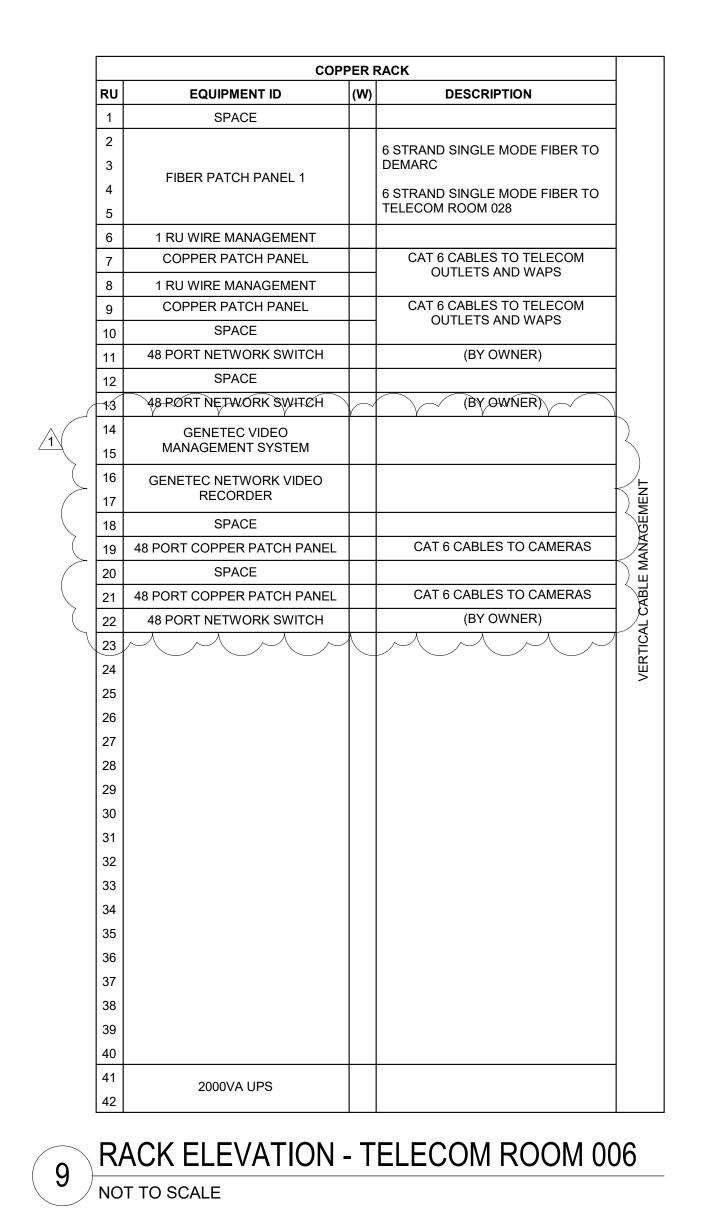






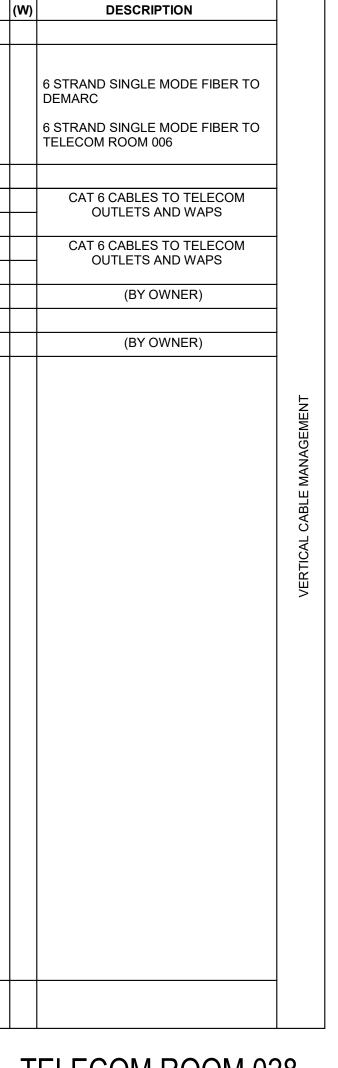


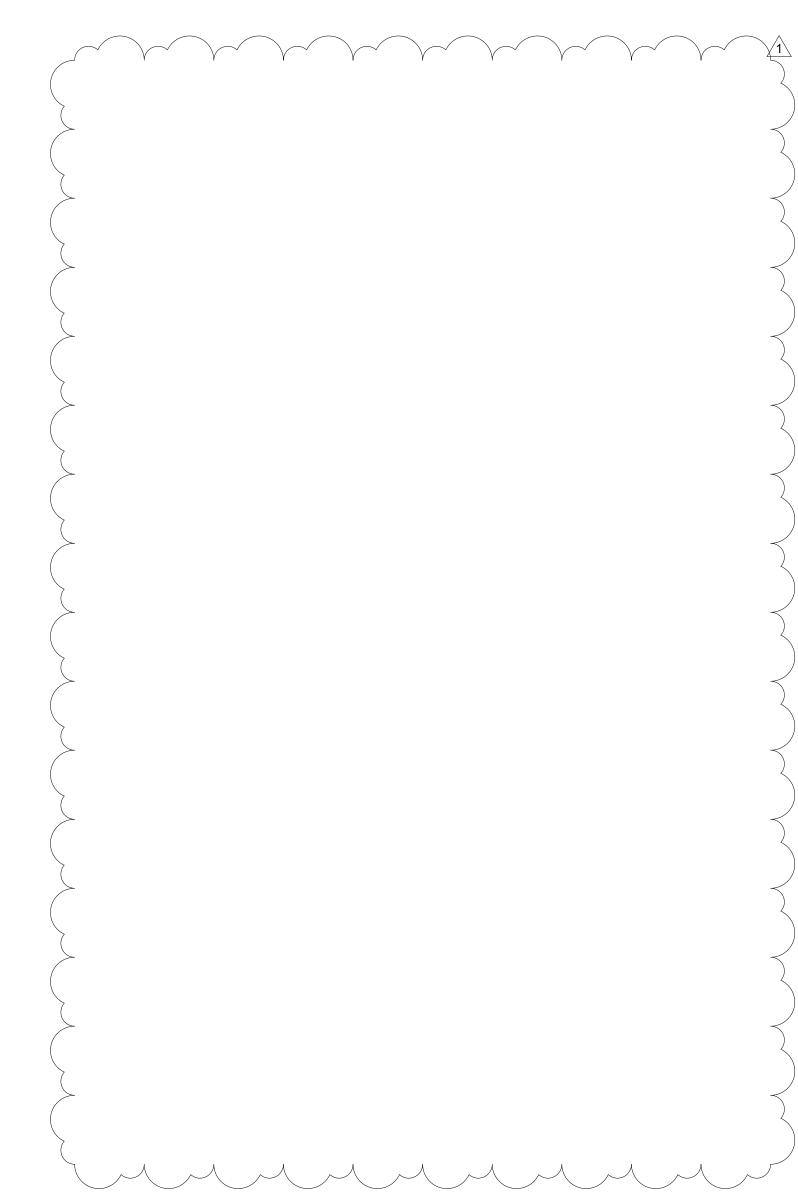


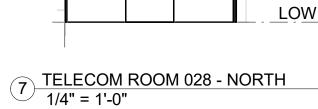


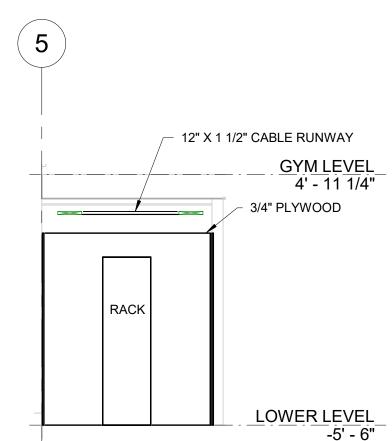
RU	EQUIPMENT ID	(W)	
1	SPACE		
2			
3			6 S
4	FIBER PATCH PANEL 1		DE
5			6 S
6			TEI
7	1 RU WIRE MANAGEMENT		
8	COPPER PATCH PANEL		
9	1 RU WIRE MANAGEMENT		
10	COPPER PATCH PANEL		
11	SPACE		
12	48 PORT NETWORK SWITCH		
13	SPACE		
14	48 PORT NETWORK SWITCH		
15			
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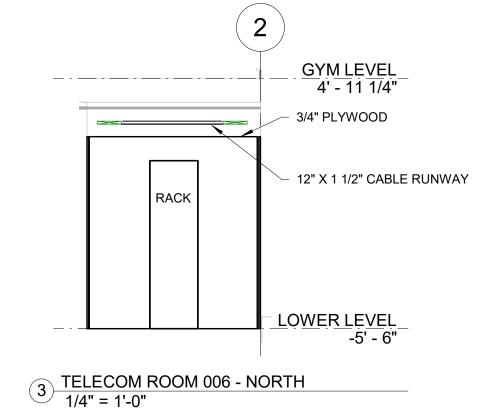
10 RACK ELEVATION - TELECOM ROOM 028 NOT TO SCALE



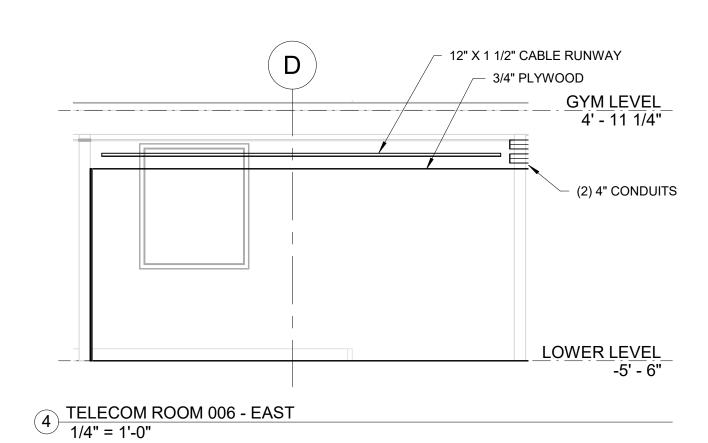












- (1) 2" CONDUIT

- 12" X 1 1/2" CABLE RUNWAY

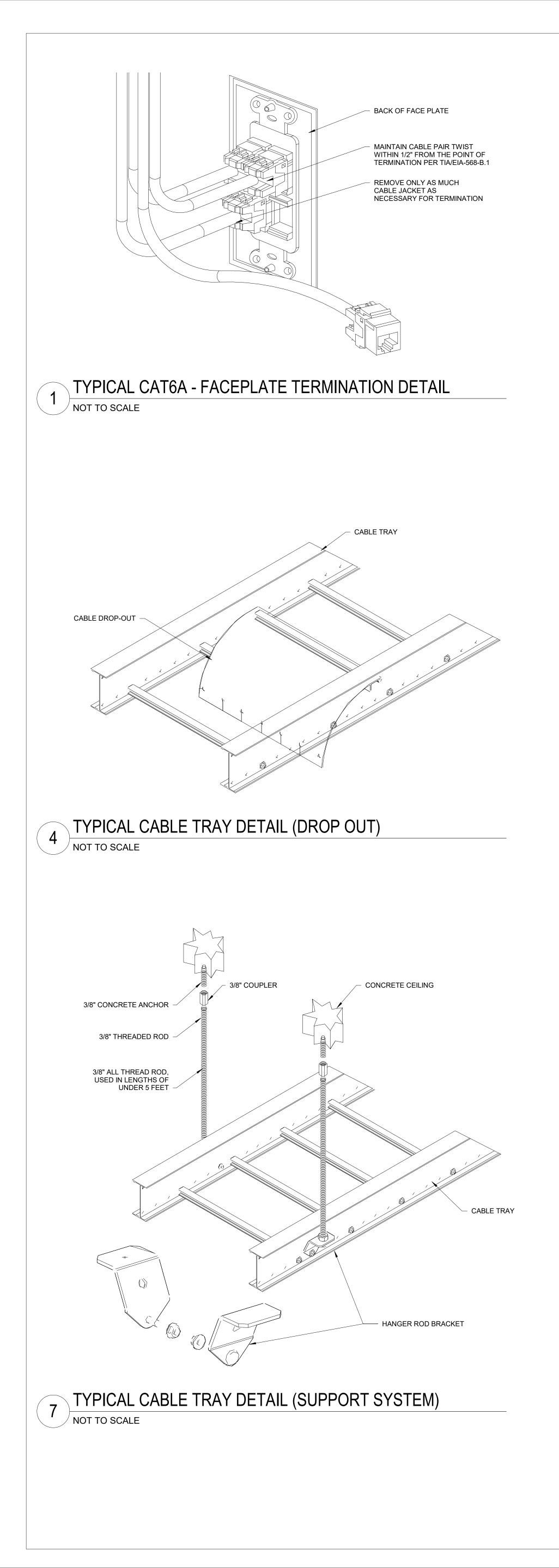
<u>- GYM LEVEL</u> 4' - 11 1/4"

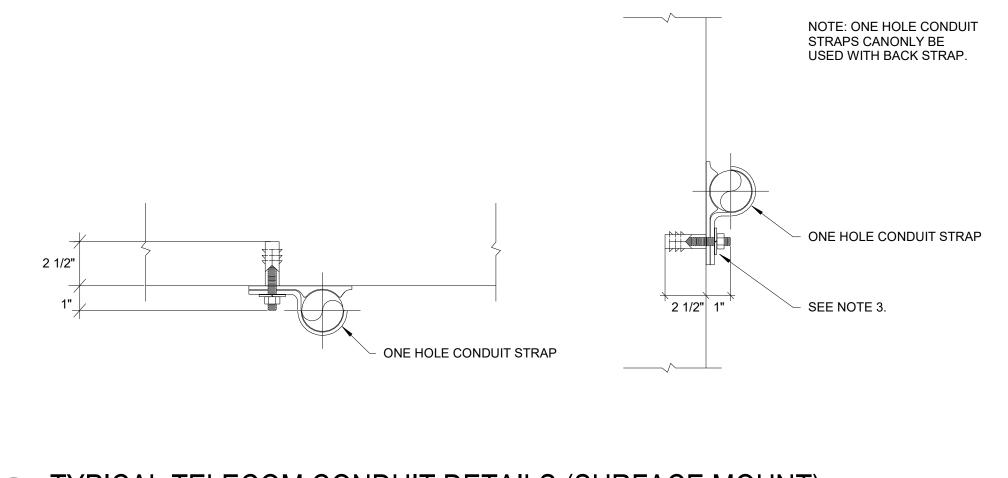
- (2) 4" CONDUITS

- 3/4" PLYWOOD

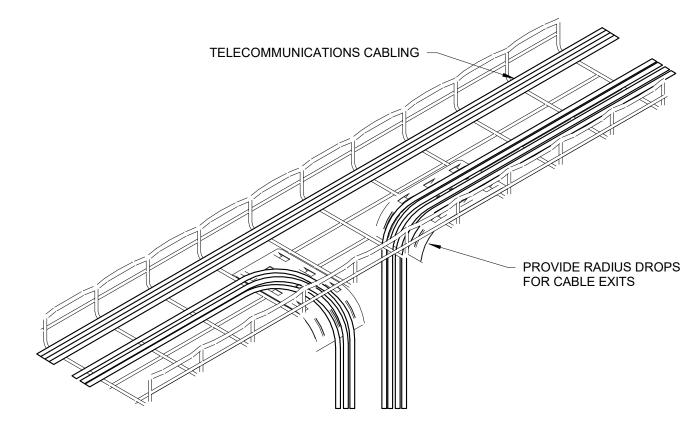
-5' - 6"



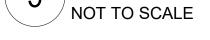


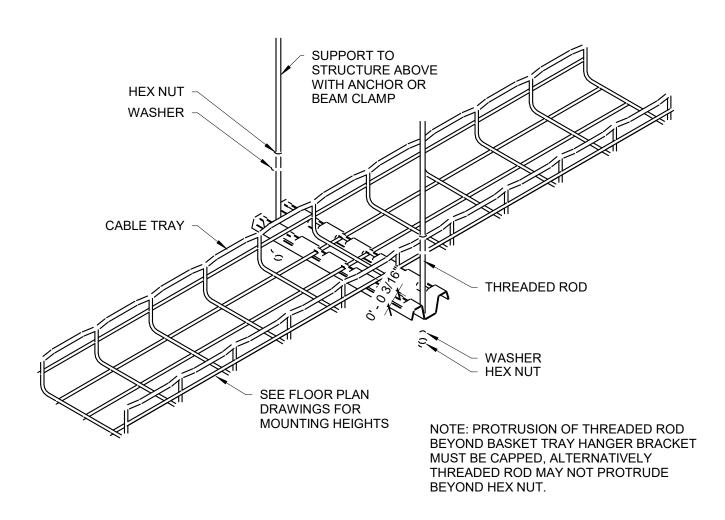


2 TYPICAL TELECOM CONDUIT DETAILS (SURFACE MOUNT) NOT TO SCALE

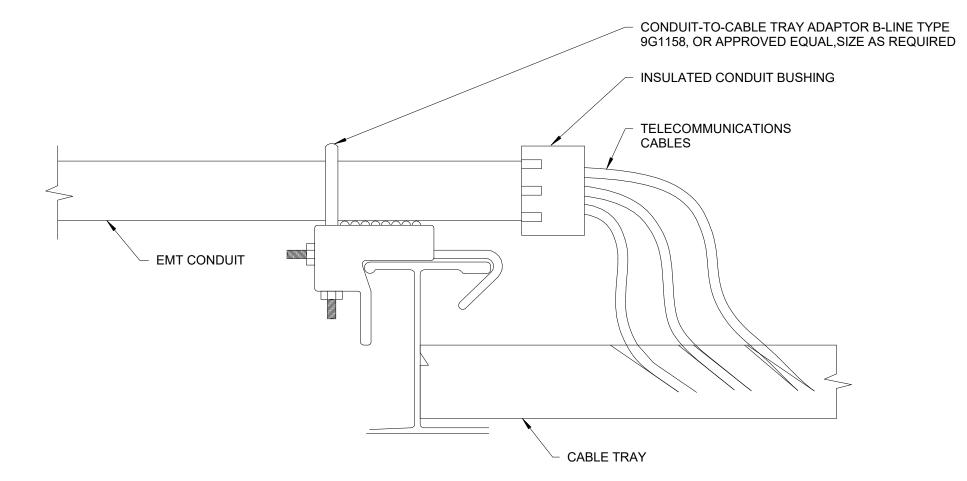


5 TYPICAL CABLE TRAY DETAIL (RADIUS DROP)

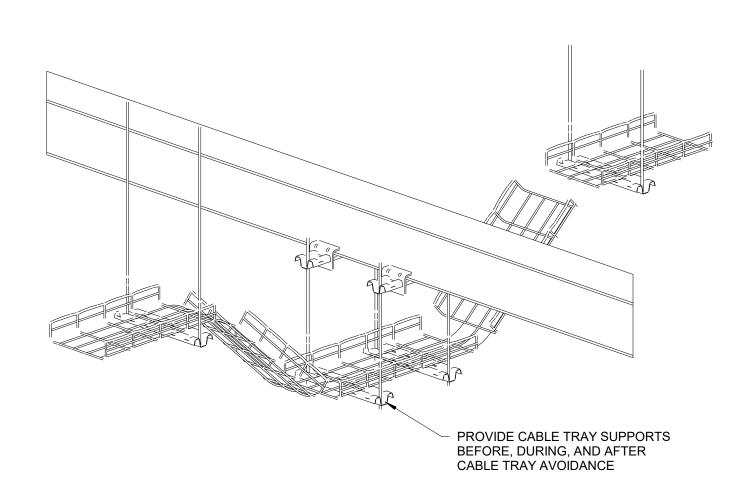






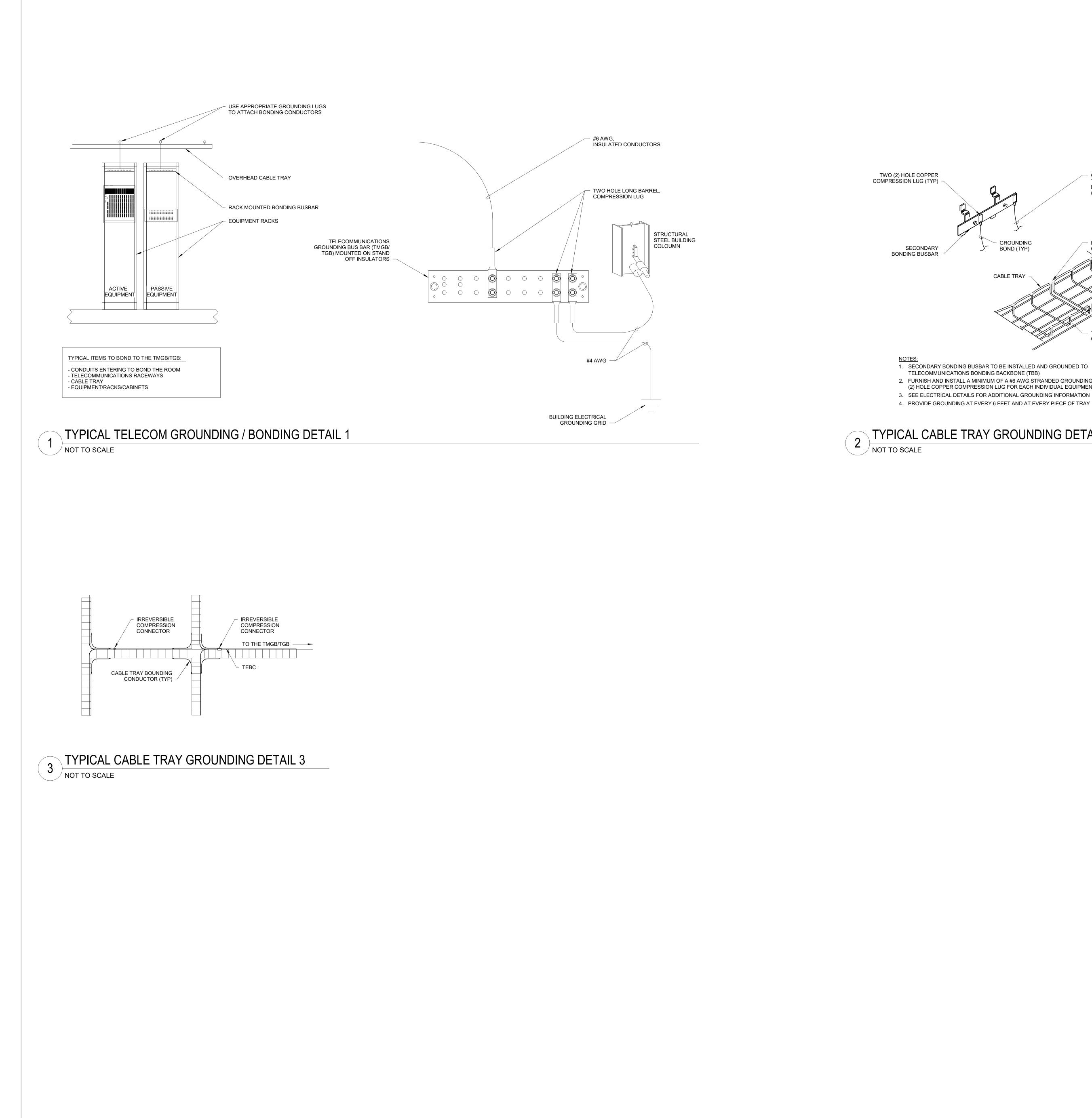


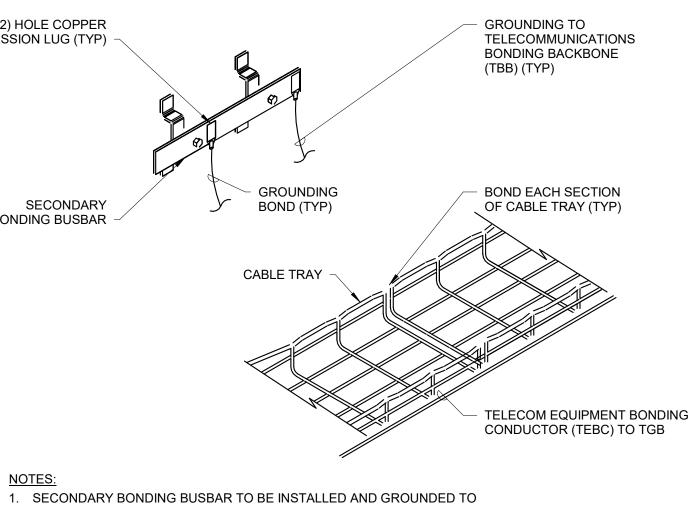
3 TYPICAL CABLE TRAY DETAIL (CONDUIT TRANSITION) NOT TO SCALE



6 TYPICAL CABLE TRAY DETAIL (OBSTACLE AVOIDANCE) NOT TO SCALE



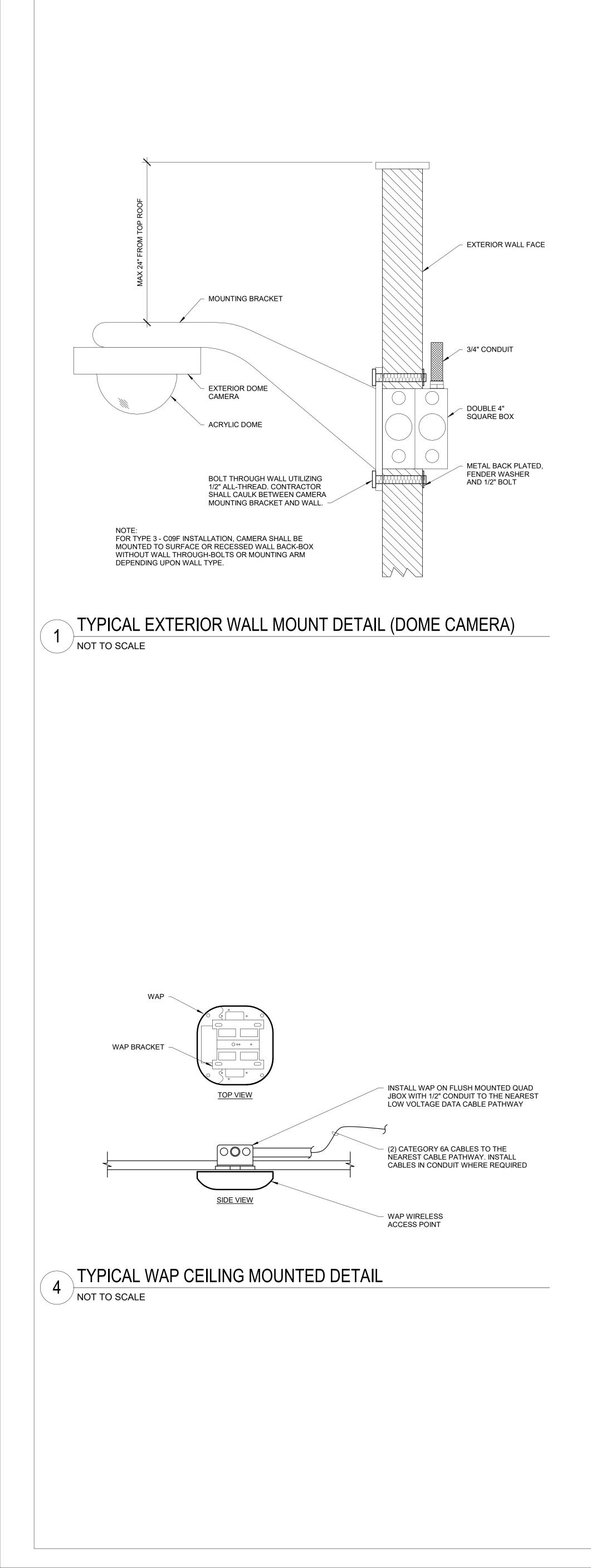


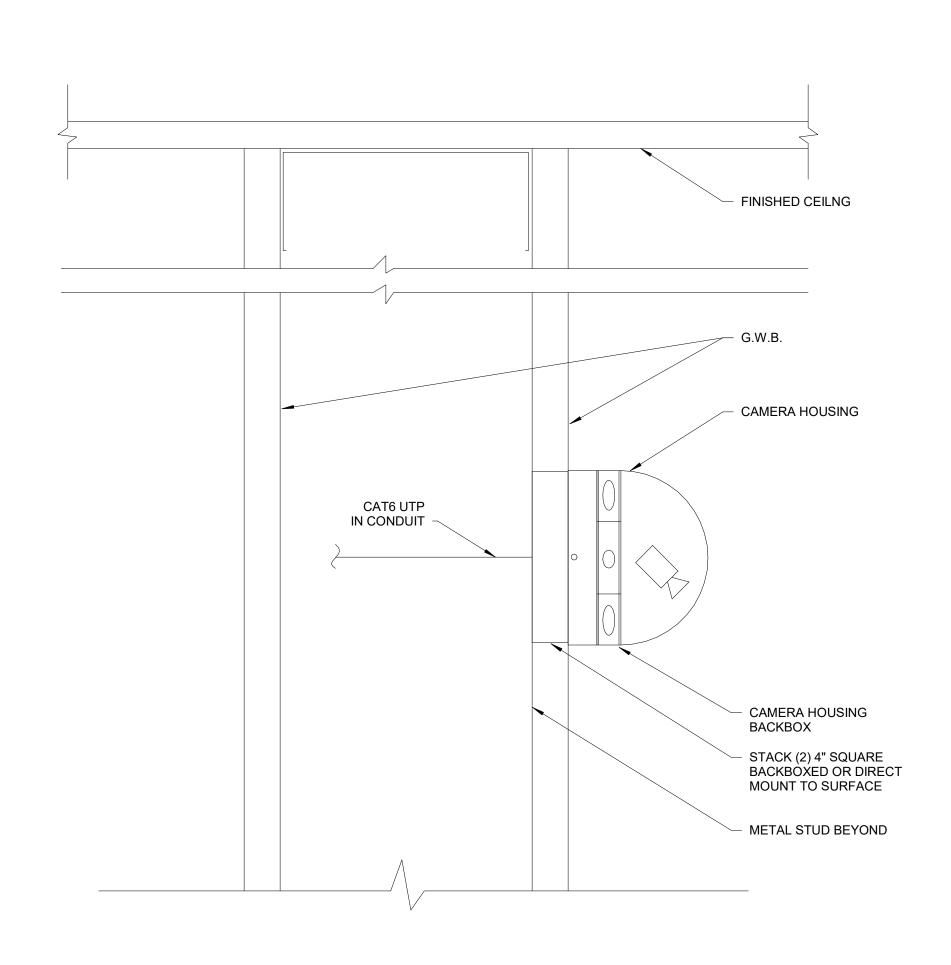


2. FURNISH AND INSTALL A MINIMUM OF A #6 AWG STRANDED GROUNDING CONDUCTOR AND A TWO (2) HOLE COPPER COMPRESSION LUG FOR EACH INDIVIDUAL EQUIPMENT RACK AND CABLE TRAY 3. SEE ELECTRICAL DETAILS FOR ADDITIONAL GROUNDING INFORMATION

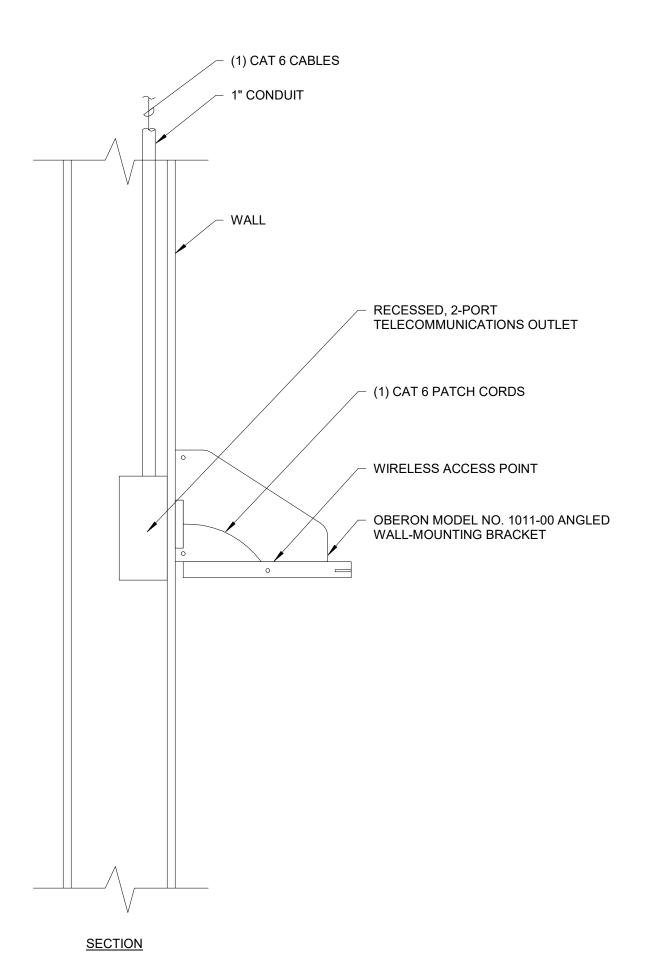
TYPICAL CABLE TRAY GROUNDING DETAIL 2



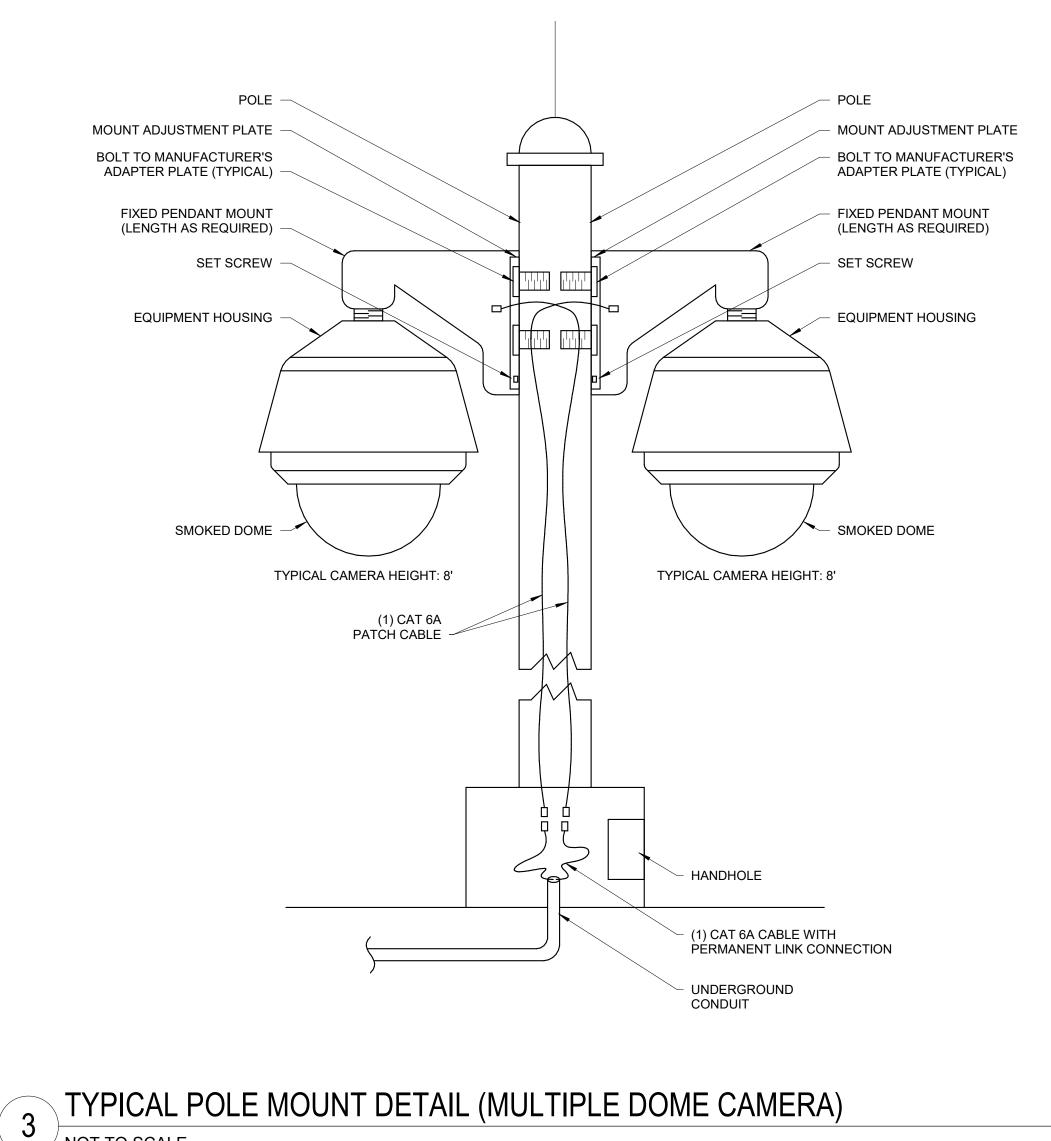






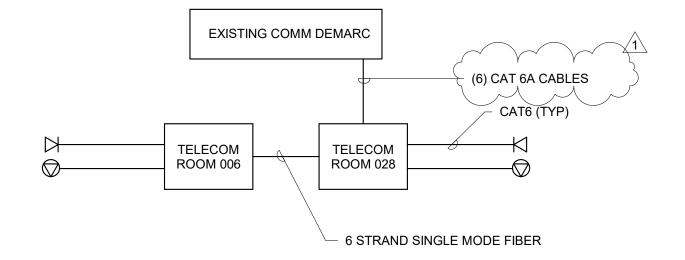






NOT TO SCALE



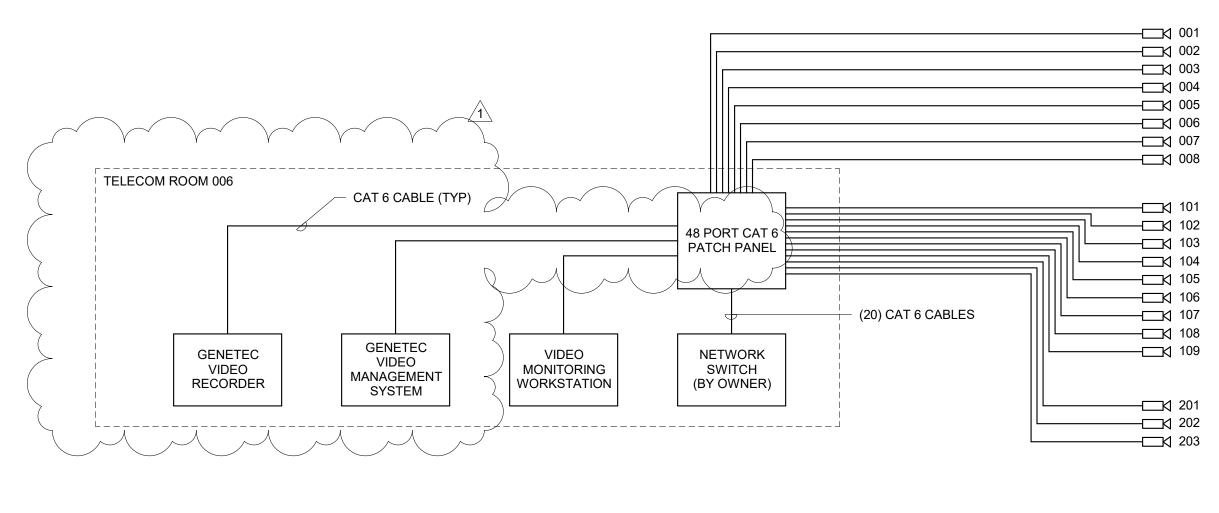


1 TELECOM ONE LINE DIAGRAM

	SCALE
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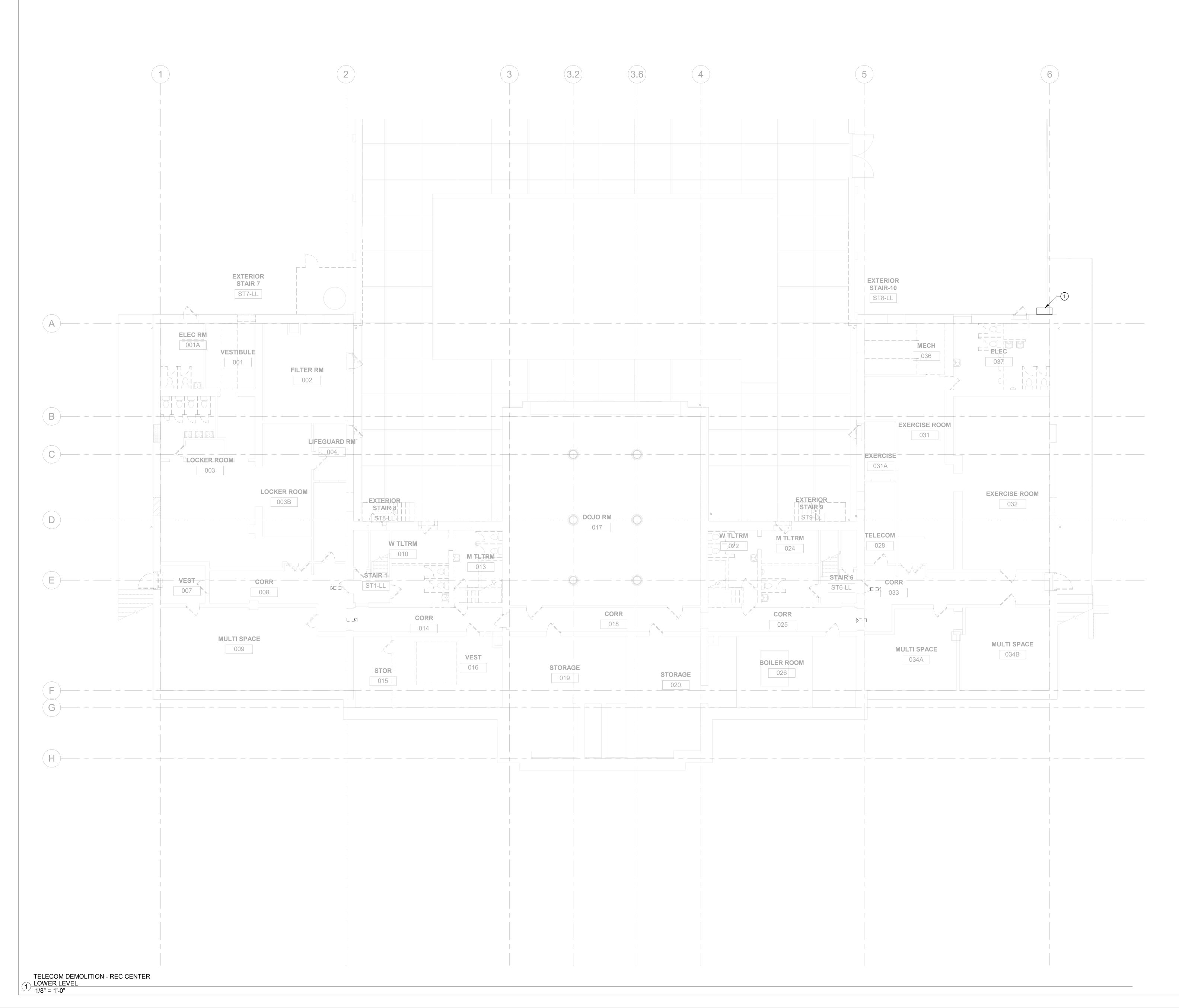
			CCTV SCHEDULE		
CAMERA	SHEET	FIELD OF		MOUTNING	FIBER
ID	NUMBER	VIEW	TYPE (DETAIL - CAMERA TYPE - MOUNT TYPE)	HEIGHT	EXTENSION
LOWER LE\	/EL				
001	T-403-R		1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
002			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
003			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
004			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
005			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
006			3/T-403-R - FIXED - POLE MOUNT	9' - 0"	No
007			3/T-403-R - FIXED - POLE MOUNT	9' - 0"	No
008			3/T-403-R - FIXED - POLE MOUNT	9' - 0"	No
FIRST FLOO	DR				
101			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
102			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
103			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
104			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
105			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
106			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
107			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
108			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
109			1/T-403-R - FIXED - WALL MOUNT EXTERIOR	9' - 0"	No
SECOND FL	OOR	1]
201			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
202			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No
203			2/T-403-R - FIXED - WALL MOUNT	9' - 0"	No

Grand total: 20



2 SECURITY CAMERA SINGLE LINE DIAGRAM NOT TO SCALE



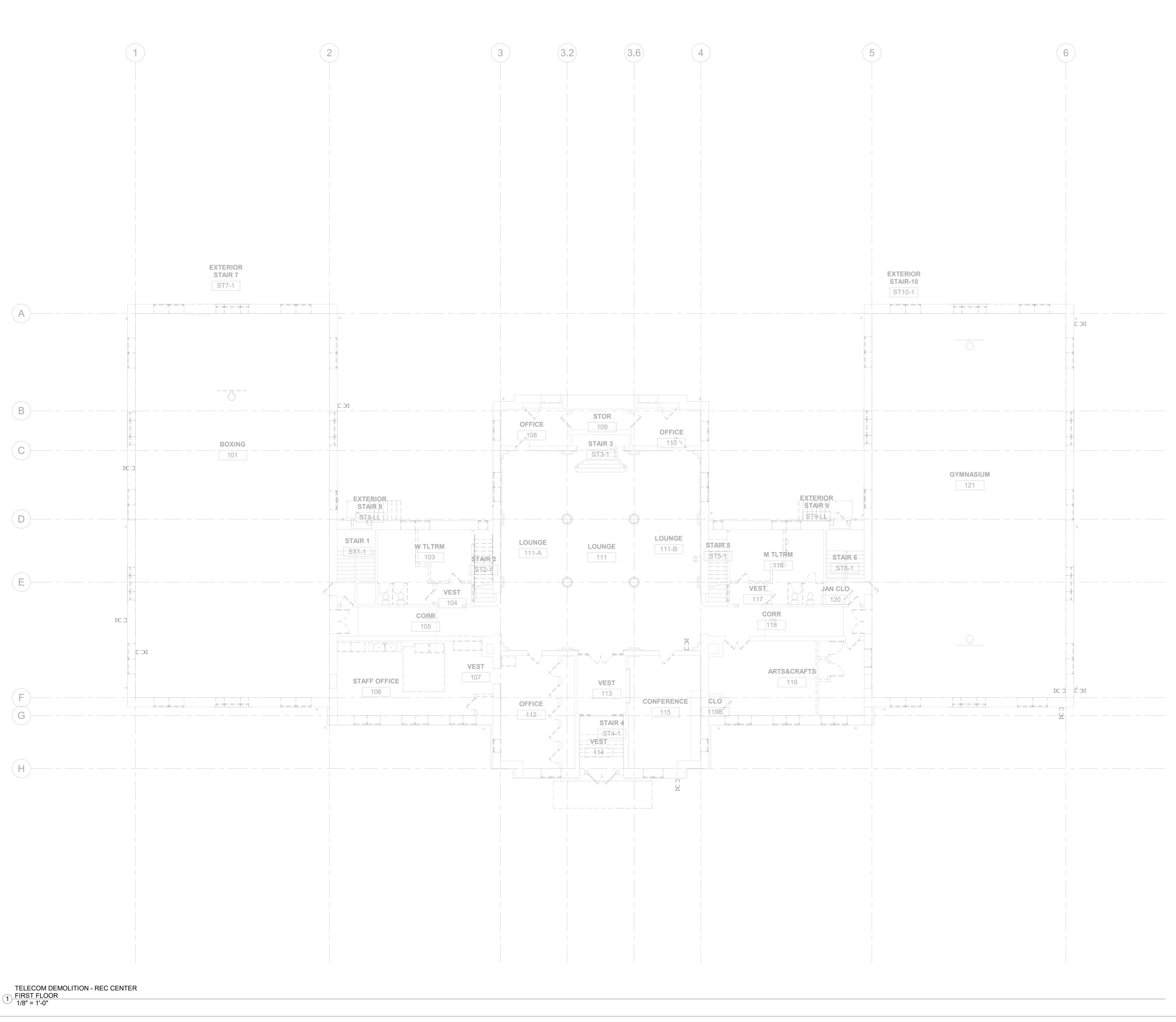


- 1. CONTRACTOR MUST REMOVE DEVICES SHOWN AND ASSOICATED CABLING BACK TO SOURCE.
- 2. CONTRACTOR MUST DEMOLISH EXISTING TELECOM OUTLETS AND ASSOCIATED CABLING BACK TO SOURCE.

KEYED NOTES: (#)

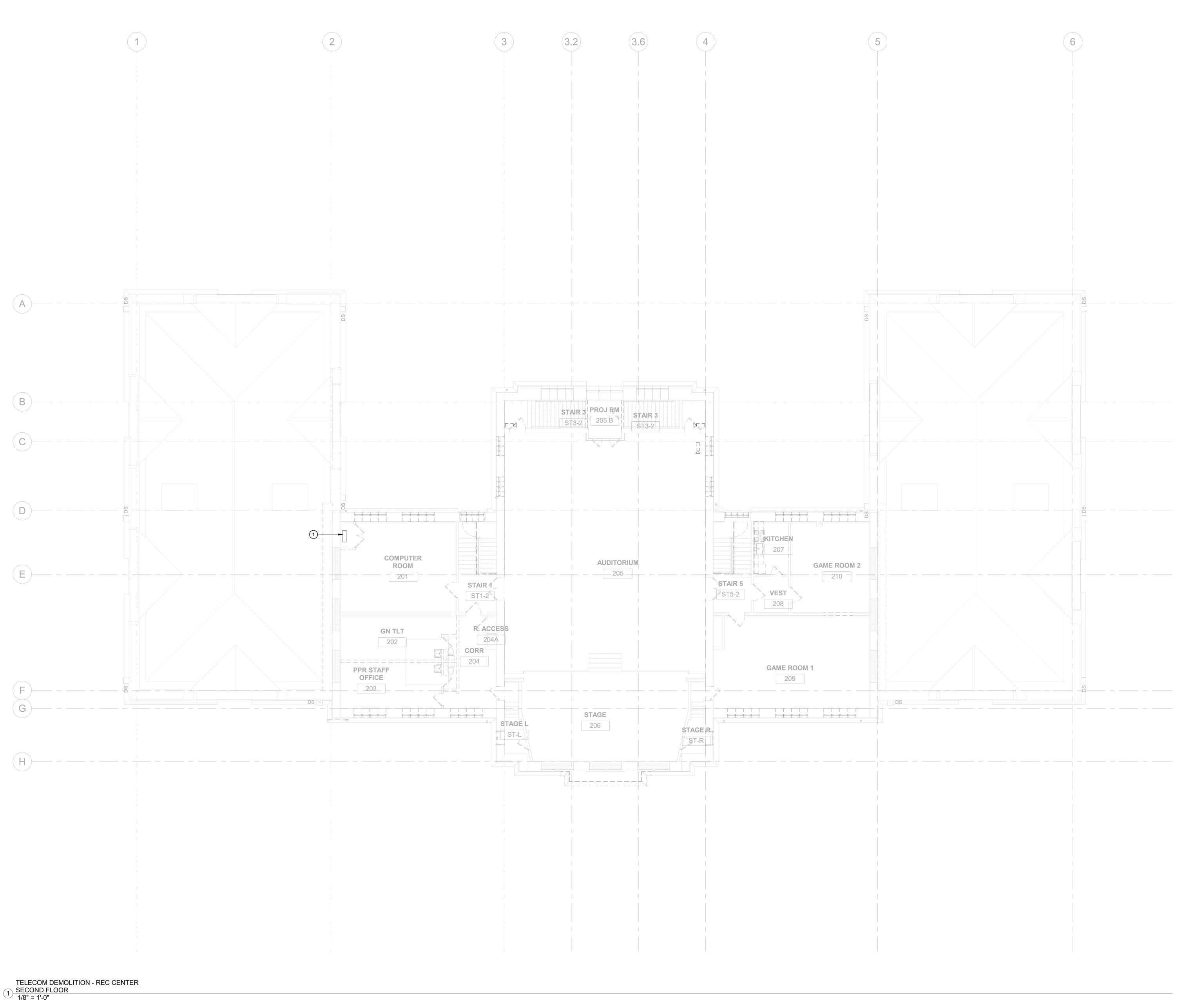
1. EXISTING INCOMING COMM SERVICES TO REMAIN. PROTECT DURING CONSTRUCTION.





- 1. CONTRACTOR MUST REMOVE DEVICES SHOWN AND ASSOICATED CABLING BACK TO SOURCE.
- 2. CONTRACTOR MUST DEMOLISH EXISTING TELECOM OUTLETS AND ASSOCIATED CABLING BACK TO SOURCE.



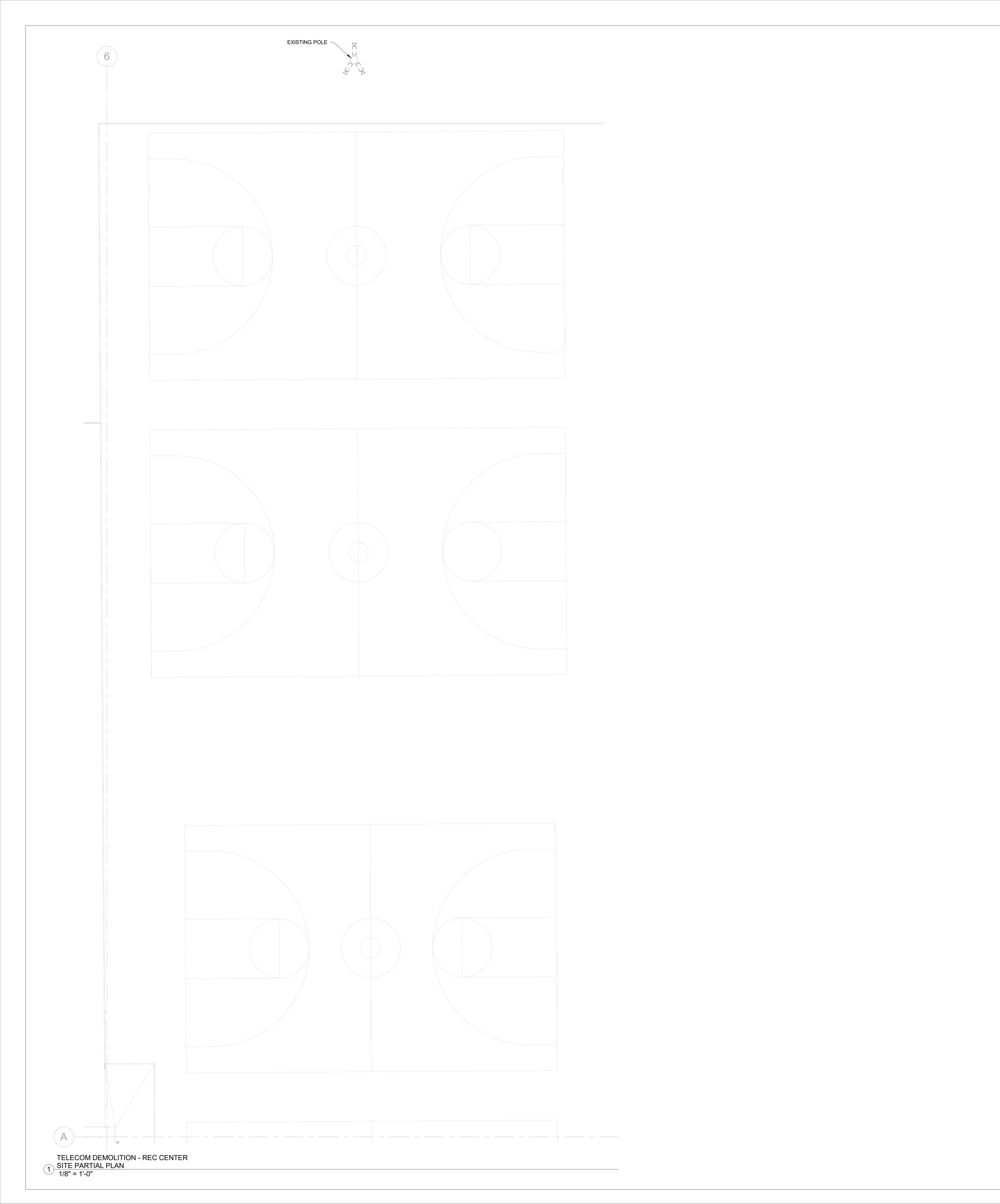


- 1. CONTRACTOR MUST REMOVE DEVICES SHOWN AND ASSOICATED CABLING BACK TO SOURCE.
- 2. CONTRACTOR MUST DEMOLISH EXISTING TELECOM OUTLETS AND ASSOCIATED CABLING BACK TO SOURCE.

KEYED NOTES: #

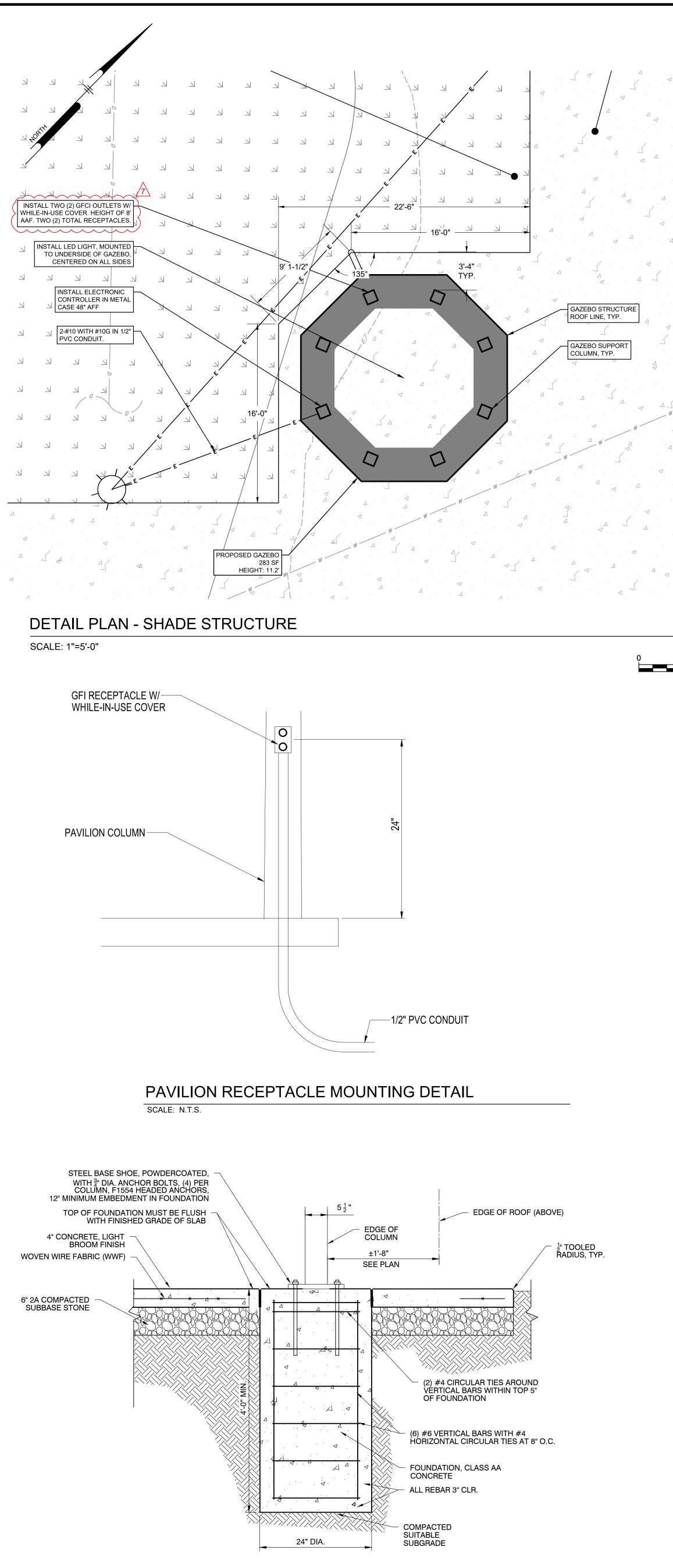
1. EXISTING COMM RACK. PROTECT DURING CONSTRUCTION. CONTRACTOR MUST COORDINATE WITH OWNER TO RELOCATE EXISTING EQUIPMENT TO NEW TELECOM ROOM 028.





1. CONTRACTOR MUST DEMOLISH EXISTING DEVICES SHOWN AND ASSOCIATED CABLING BACK TO SOURCE.





SHADE STRUCTURE PAD AND POST FOUNDATIONS

Electronic Timer Control - ET1725C

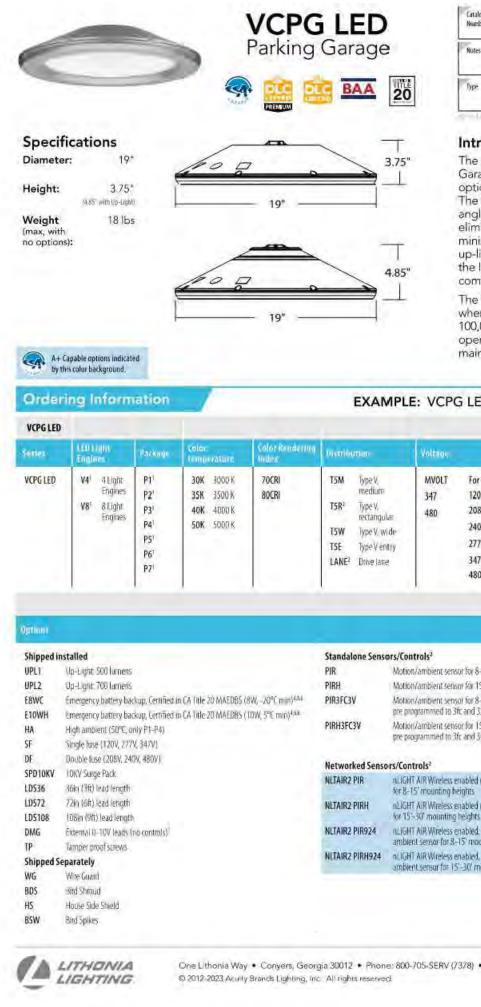
Electronic Timer Control - 7-Day 2-Circuit Electronic Control, 120-277 VAC, 2-SPST, Indoor Metal Enclosure Item ET1725C

	PRODUCT DESCRIPTION
	This series offers an easy way to upgrade from a basic mechanical time switch to an electronic time switch. These timers will allow for up-to-the-minute programming, battery backup for power loss, up to 28 events total, and automatic daylight saving time corrections without the need of user interaction. They come in standard 24-hour, 7-day and 7-day astronomic versions.
- Therefore - 1 - Hermannin - 1	FEATURES
5 0 g g g g	 Selector switch to determine input voltage between 120-277 VAC
Constant of the guardene	 Up to 28 events total
	 To-the-minute accuracy
	 Temporary override or permanent manual override
	 Automatic Daylight Saving Time adjustment
	Astronomic models enable dusk-to-dawn scheduling
SE	
	APPLICATIONS
	Indoor Lighting Control
	 Timing/Scheduling ON/OFF
	 Machinery & Pump Controls
TECHNICAL DATA	
General	
Aodel Number	ET1725C
Description	7-Day 2-Circuit Electronic Control, 120-277 VAC, 2-SPST, Indoor Metal Enclosure
IPC Code	078275109865
irand	Interniatio
ountry of Origin (Intermatic)	CHINA
Varranty Period	1-Year limited

Control Specifications	
Minimum ON/OFF Times	1 min
Minimum Pulse Time	2 sec
Maximum Pulse Time	2 sec
Maximum ON/OFF Times	Indeñnite
Maximum 0N/DFF Operations	28
Setpoint Program Count	28
ON/OFF Operations	28
Operation Mode	7 day
Daylight Savings Adjustment	Automatic
Васкир Туре	Battery
Battery Type	AAA
Battery Service Type	Field Serviceable
Mechanical Specifications	
Enclosure Type	Indoor type 1 meta

PRODUCT CUT SHEET - LIGHT TIMER/DIMMER

Technical specifications and other information are subject to change without notice. Images can vary from original



PRODUCT CUT SHEET - LED LIGHT FIXTURE



SHADE STRUCTURE NOTES:

- SINGLE TIER

(POLIGON.COM), MODEL #OTC20.

THE COLUMNS AND ANCHORS.

SELECTED BY OWNER.

- STANDING SEAM ROOF

1. COMFORT STATION SHADE STRUCTURE IS TO BE 20'

2. THE LAYOUT PROVIDED IS FOR INFORMATION ONLY.

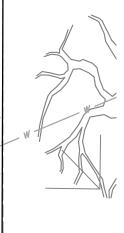
POLIGON FOR DETAILED LAYOUT PLAN, COLUMN

3. STEEL POWDERCOAT AND ROOF COLORS TO BE

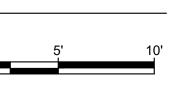
OCTAGON SHELTER AS MANUFACTURED BY POLIGON

REFER TO WRITTEN INSTALLATION INSTRUCTIONS FROM

SPACING, TEMPLATES, AND LAYOUT INSTRUCTIONS FOR







NPDES PERMIT #PAC510302 PWD TRACKING #FY22-KING-6800-01

PACKAGE 2 100% CD NOT FOR CONSTRUCTION 05/08/2023

			Ordering	infor	mation C	ont.	<u> </u>														
Notes			Accessories Ordered and shipped separately						-P6 not avai it available		va. P7 n	ot availat	ble with \	/4.							
fype		VCPGBDS DWHXD U VCPGBDS YK DWHXD U VCPGUBDS DWHXD U	J Bird Bird	i shroud for PM (sp i shroud for YK (sp i shroud for PM wi	ecify finish) th Up-Light (Wire guard Quick mount pendant swivel kit, square Quick mount pendant swivel kit, round		wivel kit, round	3 Or PN cat	It available of Ity vertical and SLVS nopies. It available of	height a SQ or SL	VRD for	mountin	angle ac ng to an	ljustmer gled cei	nt. Us iling (
tion of the			VCPGUBDS YK DWHXD VCPGSRM U	Sur	l shroud for YK wit face mount kit, wi	h no Up-Ligi		h)	VCPG YK DW RSXWBA DV	WHXD U	RSX WBA y		pecify finish)	6 E8	WC and E1 WC & E10V AG option r	VH only a	vallable w	ith P1-P4	a package	85.	otor
Introduction The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high		VCPGUSRM U VCPGSC120		face mount kit, wil ety cable 120*	h Up-Light			VCPGHS DW	(HXD U	House side	shield (speci	fy finish)	8 Ne	ntrols. eds an nL e group. V NPS devic	ight Air CPG NL						
e glare, while it	ts precision molded lation and delivers t	acrylic lens	Performan	ice D)ata	1															
imums, verticals	s and uniformity. The ption reduces the co	e dedicated	Lumen Outpu	t Lum	en values are from in the tolerarices al	phetometric lowed by Lig	tests perfor ting Facts.	med in ac Contact f	ordance with ictory for per	IESNA LI	M-79-08. Dat data on any s	a is considere	d to be representa i not shown here.	tive of the cor	nfigurations	shown,					
	he ceiling creating a		Reffatmature Biokauja	00011	Distribution type	9 (3600K Lanners	W		SSK K. 70 CRUS		-01 ML, 70 C RM	37	10.CI)) 10.CI))	a	Jp-ligh	t Lum	nen O	utput	t,		
VCPG LED del	ivers up to 87% in er	nergy savings			TSE	3,581	135	3,670	138	3,815		3,876	146		Upright (Optimo	Wat	1	lumar		
	5W metal halide lum (pectancy (12+ years		Pt	27W	T5M T5W	3,620	136 135	3,710	140 139	3,856 3,827	-	3,917 3,888	347	-	UPL		6.5V	-	519	-	
ition), the VCF	G LED luminaire pre	ovides significant		and the	T5R	3,464	130	3,550	134	3,690	139	3,749	141		UPL	2	8.5V	V	715		
enance saving	gs over traditional lu	minaires.	-	_	LANE	3,507	132	3,594	135	3,736		3,796 4,954	143						10		
					TSE TSM	4,577 4,626	135	4,691 4,741	138	4,876 4,928	_	4,954	146	1	umen	Multi	plier	for 80	DCRI		
V4 P4 40K	TOCRI TSM MVC	OLT SRM DNAXD	P2	34W	TSW	4,591	135	4,705	139	4,891	744	4,968	146				Mojila	lile-			
11111111					TSR LANE	4,427	130	4,537	134	4,716		4,791 4,851	141		30K		.0,92	-			
	-			-	TSE	5,808	132	4,594	135	6,187		6,286	145		35K	-	0.94	_			
	Mounting				T5M	5,870	135	6,015	139	6,253		6,353	146	-	408		0.96	_			
testa a substant	Chinesed in day do		P3	-43W	T5W T5R	5,825 5,617	134 130	5,970 5,757	138 133	6,205 5,984		6,304 6,079	145		SOK		0.96	5			
dering with fuse	Shipped included PM Pendant mount standar	d (24-inch length supply leads)			LANE	5,688	130	5,829	133	6,059		6,155	140								
	SRM Surface mount (24-incl	and the second se			75E	7,391	131	7,575	135	7,874		7,999	142								
		accurations to proving to a wall	94	56W	T5M T5W	7,470	133 132	7,656	136	7,958		8,085	144								
			A9.		T5R	7,149	127	7,326	130	7,615		7,737	137								
	Shipped separately			_	LANE	7,238	129	7,418	132	7,711		7,834	139								
	YK Yoke/trunnion mount				T5E T5M	10,189	124	10,442	127	10,854		11,027	134								
			P5	82W	TSW	10,220	123	10,473	128	10,887		11,060	135								
	i inclusion of				TSR	9,855	120	10,099	123	10,498		10,665	130								
	110180 (prosect)	Packaging	-		LANE	9,978 12,878	121	10,226	124	10,629		10,799	131								
	DWHXD White	(blank) Job Pack/Units			TSM	13,015	121	13,338	124	13,865		14,086	131								
	DNAXD Natural	(ships as job pack of 18pcs	Pé	108W	TSW	12,917	120	13,237	123	13,760		13,979	130								
and the second se	15–30' mounting heights aluminum pack of 18pcs per balance in				TSR LANE	12,455	116	12,764	119	13,268		13,480 13,649	125								
30 mounting heights	and the second sec	units)			TSE	15,503	125	15,887	128	16,515	133	16,778	135								
30 mounting heights 5 maunting heights, % light output	DDBXD ()ark bronze DBLXD Black						126	16,057	129	16,691		16,957 16,828	137								
5-30' mounting heights 15' maunting heights, 5% light output 5-30' mounting heights,	DOBXO Dark bronze	in the second second	97	†22W	T5M T5W	15,668 15,549	126	15,935	129	16,564	134	T. selves									
5–30 mounting heights, -15' mounting heights, 5% light output 5-30' mounting heights, 5% light output	DOBXO Dark bronze		Lumen Ambie	nt Ter	TSW	15,549	125		100		ntenano			Electric	cal Loa	d					
30 mounting heights 5' mounting heights, % light output 30'mounting heights, % light outpot otion/antiblent sensor-	DOBXO Dark bronze		Lumen Ambie (LAT) Multiplie	nt Ter ers	TSW	15,549	125 Project	ed LE	D Lume trapolated p	n Mai	ntenano e projections purs of LED to		orm's per	Pater	System	d		Our	unt (Å)		
mounting heights maunting heights, sight output /mounting heights, ight outpot on/antibient sensor	DOBXO Dark bronze		Lumen Ambie	nt Ter ers emine re	T5W	15,549 for	125 Project Data referent toted in a 2 ESNA LM 5 To calculate	ed LE aces the ex S°C ambie 0-08 and LLF, use th	D Lume trapolated p rt, based on projected per re lumen mail	n Mai erformanc 10,000 ho IESNA TM ntenance f	ntenano e projections purs of LED to M 21-17) factor that co	CE s for the platfor asting (tested inresponds to	per the	Power Packages	System Watt	1207	109V	190V	100	34/1	1
mounting heights naunting heights, ght output mounting heights, ght output m/antibient sensor m/antibient sensor m/antibient sensor	DOBXO Dark bronze		Lumen Ambie (LAT) Multiplie Use these factors to det average ambient tempe	nt Ter ers ermine re ratures fro	TSW mperature lative lumen output im 0.40°C (32-104°) Mol(Bolloi	15,549 for	125 Project Data referent toted in a 2 ESNA LM 5 To calculate	ed LE sees the ex S°C ambie 0-08 and LLF, use th	D Lume trapolated p rt, based on projected per re lumen mail	n Mai erformanc 10,000 ho IESNA TM ntenance f	ntenano e projections purs of LED to M 21-17) factor that co	CE s for the platfor asting (tested	per the	Power Tacksope P1	Sijstime Warr 27W	120V 0.22	0.13	190V 0.12	0.10	0.08	-0
mounting heights naunting heights, ght output mounting heights, ght output on/antibient sensor on/antibient sensor on/antibient sensor 24 Listed motion/ g heights	DOBXO Dark bronze		Lumen Ambie (LAT) Multiplie Use these factors to det average ambient tempe Mobion 0°C 32°F	nt Ter ers ermine re ratures fro	T3W mperature lative lumen output im 0.40°C (32-104°) Multitolitor 1.03	15,549 for	125 Project Data referen ioted in a 2 ESNA LM & lesired nun contact fact	ed LE sees the ex S°C ambie 0-08 and LLF, use th	D Lume trapolated p nt, based on projected per le lumen mai erating hours	n Mai erformanc 10,000 ho IESNA TM ntenance f below, Fo	ntenance orgiections surs of LED to M.21-11) factor that co or other lume 25,000	CE for the platfor esting (tested inresponds to n maintenanc	per the e values, 100,000	Power Pachanes P1 P2	System Watti 27W 34W	0.22	0.13 0.16	1907 0.72 0.14	0.10 0.13	0.08 0.10	-(
mounting heights, nounting heights, spht output mounting heights, gipt output on/ambient sensor on/ambient sensor 24 Listed motion/ g heights ¹ 24 Listed motion/	DOBXO Dark bronze		Lumen Ambie (LAT) Multiplie Use these factors to det average ambient tempe	nt Ter ers ermine re ratures fro	TSW mperature lative lumen output im 0.40°C (32-104°) Mol(Bolloi	15,549 for	125 Project Data referent noted in a 2 ESNA LM & To calculate lesired nun contact fact	ed LE ces the ex S°C ambie 0.08 and LLF, use the ober of op- ory.	D Lume trapolated p nt, based on projected per le lumen mai erating hours	n Mai erformanc 10,000 ho IESNA TM ntenance f below, Fo	ntenance reprojections surs of LED to v(21-17) factor that co or other lume	CE for the platfor esting (tested inresponds to n maintenanc	per the e values,	Patwee Package P1 P2 P3	System Watte 27W 34W 43W	0.22 0.28 0.37	0.13 0.16 0.21	130V 0.72 0.14 0.78	0.10 0.13 0.16	0.08 0.10 0.13	1
Vinounting heights, mounting heights, kipht output. //nounting heights, light outpot ion/ambient sensor ion/ambient sensor ion/ambient sensor ion/ambient sensor i24 Listed motion/ ig heights. ¹	DOBXO Dark bronze		Lumen Ambie (LAT) Multiple Use these factors to det average ambient tempe Mohlamt 0°C 32°F 10°C 50°F 20°C 68°F 25°C 77°F	nt Ter ers ermine re ratures fro	T3W mperature ative lumen output im 0.40°C (32-104°) Marktalier 1.03 1.02 1.01 1	15,549 for	125 Project Data referent noted in a 2 ESNA LM & To calculate lesired nun contact fact	ed LE nces the ex S°C ambie 0-08 and LLF, use th ober of op ory.	D Lume trapolated p nt, based on projected per le lumen mai erating hours	n Mai erformanc 10,000 ho IESNA TM ntenance f below, Fo	ntenance orgiections surs of LED to M.21-11) factor that co or other lume 25,000	CE is for the platfor esting (tested interponds to n maintenanc 50,000	per the e values, 100,000	Power Processor P1 P2 P3 P4	System Watti 27W 34W 43W 56W	120V 0.22 0.28 0.37 0.48	0.13 0.16 0.21 0.28	1:0V 0.72 0.14 0.78 0.24	0.10 0.13 0.16 0.21	0.08 0.10 0.13 0.16	0 0 0
2' mounting heights, isgin output 2' mounting heights, isgin output 2' mounting heights, isgin output tion/ambient sensor tion/ambient sensor 124 Listed motion/ ng heights 124 Listed motion/	DOBXO Dark bronze		Lumen Ambie (LAT) Multiplie Use these factors to det average ambient tempe Mohlamt 0°C 32°F 10°C 50°F 20°C 68°F 25°C 77°F 30°C 86°F	nt Ter ers ermine re ratures fro	T3W mperature ative lumen output im 0.40°C (32-104°) Multibility 1.03 1.02 1.01 1 0.599	15,549 for	125 Project Data referent noted in a 2 ESNA LM & To calculate lesired nun contact fact	ed LE nces the ex S°C ambie 0-08 and LLF, use th ober of op ory.	D Lume trapolated p nt, based on projected per le lumen mai erating hours	n Mai erformanc 10,000 ho IESNA TM ntenance f below, Fo	ntenance orgiections surs of LED to M.21-11) factor that co or other lume 25,000	CE is for the platfor esting (tested interponds to n maintenanc 50,000	per the e values, 100,000	Power Processor P1 P2 P3 P4 P5	Vysteen Watt' 27W 34W 43W 56W 82W	0.22 0.28 0.37 0.48 0.68	0.13 0.16 0.21 0.28 0.40	150V 0.72 0.14 0.18 0.24 0.35	0.10 0.13 0.16 0.21 0.30	0.08 0.10 0.13 0.16 0.24	0. 0. 0. 0. 0.
8-15' mounting heights 15-30' mounting heights 8-15' mounting heights, 35% hight output 15-30' mounting heights, 35% light output 4 motion/ambient sensor 1 motion/ambient sensor 1 s 1 UL924 Listed motion/ autiting heights 4, UL924 Listed motion/ autiting heights	DOBXO Dark bronze		Lumen Ambie (LAT) Multiple Use these factors to det average ambient tempe Mohlamt 0°C 32°F 10°C 50°F 20°C 68°F 25°C 77°F	nt Ter ers ermine re ratures fro	T3W mperature ative lumen output im 0.40°C (32-104°) Multibility 1.03 1.02 1.01 1	15,549 for	125 Project Data referent noted in a 2 ESNA LM & To calculate lesired nun contact fact	ed LE nces the ex S°C ambie 0-08 and LLF, use th ober of op ory.	D Lume trapolated p nt, based on projected per le lumen mai erating hours	n Mai erformanc 10,000 ho IESNA TM ntenance f below, Fo	ntenance orgiections surs of LED to M.21-11) factor that co or other lume 25,000	CE is for the platfor esting (tested interponds to n maintenanc 50,000	per the e values, 100,000	Power Processor P1 P2 P3 P4	System Watti 27W 34W 43W 56W	120V 0.22 0.28 0.37 0.48	0.13 0.16 0.21 0.28	1:0V 0.72 0.14 0.78 0.24	0.10 0.13 0.16 0.21	0.08 0.10 0.13 0.16	0. 0. 0.

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_	
	ET1725C
	7-Day 2-Circuit Electronic Control, 120-277 VAC, 2-SPST, Indoor Metal Enclosure
	078275109865
	Internatio
	CHINA
	t-Year limited
	1 min
	2 sec
	2 sec
	Indefinite
	28
	28
	28
	7 day
	Automatic
	Battery
	ААА
	Field Serviceable
	A CONTRACTOR OF
	Indoor type 1 metal

© 02/27/2023 1/4

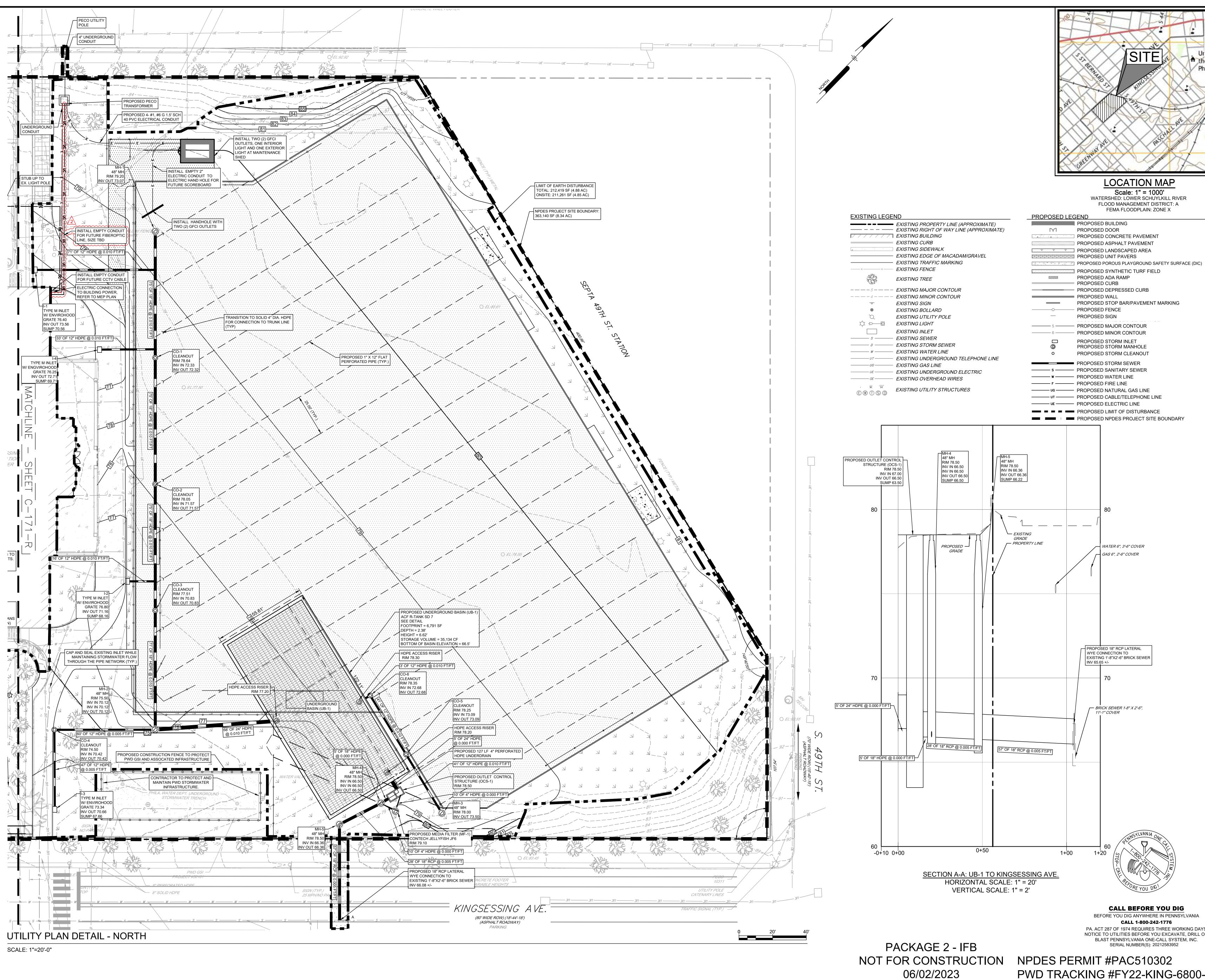
Product Dimensions (H x W x D) in	7.875 x 5.125 x 3.4375 in
Wire Size Min	#14 AWG
Wire Size Max	#8 AWG
Knockey! Dimensions Bottom	(2) combination 1/2" - 3/4"
Knockout Dimensions Back	(1).combination 1/2" - 3/4"
Load Ratings	
Tungsten Range(s)	5 A, 120-240 VAC
Electronic Ballast Load Ratings Ranges	1 A, 120-277 VAG
Magnetic Ballast (NO) Range(s)	20 A, 120-277 VAC
Resistive (NO) Range(s)	20 A, 28 VDC, 30 A, 120/240 VAC
Inductive Load Ratings ND Ranges	30 A, 120/240 VAC
Resistive Load Ratings Ranges	20 A, 28 VDC, 30 A. 120/240 VAC
Tungsten (NO) Range(s)	5 A, 120/240 VAC
Motor Load Ratings Ranges	1 HP, 120 VAC; 2 HP, 240 VAC
Motor Load Ratings NO Ranges	T HP, 120 VAC; 2 HP, 240 VAC
Electrical Specifications	
Voltage Selection Type	Selector Switch
Wiring Option	Terminals
Input Voltage Range(s)	120-277 VAC, 50/60 Hz
Number of Circuits	2
Switch Type	2xSPST, 1xDPST or Pulse
Maximum Power Consumption (W)	6 W
Electronic Series	ET1700 Series
Packaging	
Unit Carton Dimensions (H x W x L) in	3.131 x 5.251 x 8.001 in
Environmental Specifications	
Temperature (operation)	-40 °F to 104 °F / (-40 °C to 40 °C)
Standards and Certifications	
CSA Certification	cCSAus
Other Certifications and Compatibilities	Title 20
Catifornia Proposition 65	Lead

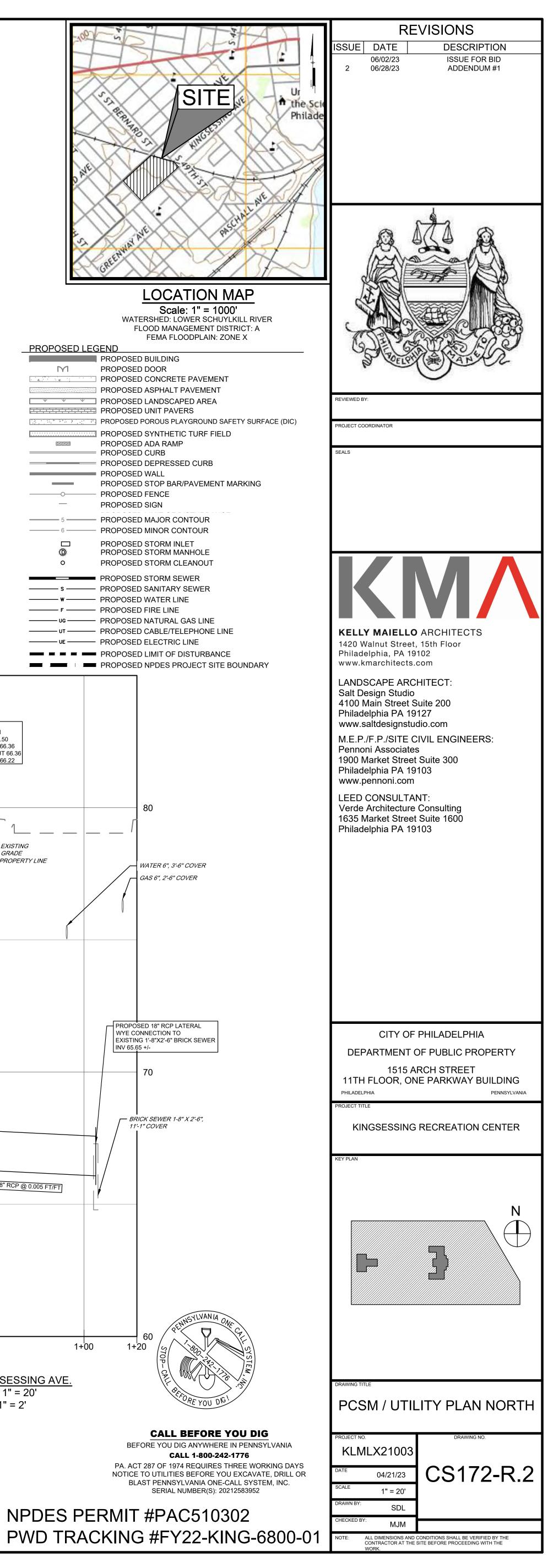
NTERMATIC

Electronic Timer Control - ET1725C











www.pennoni.com

WORK PLAN

for

ABATEMENT OF ASBESTOS-CONTAINING MATERIALS

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS PROJECT 4901 KINGSESSING AVENUE PHILADELPHIA, PENNSYLVANIA 19143

Prepared For: Mr. Troy Leonard Kelly Maiello Architects 1420 Walnut Street, 15th Floor Philadelphia, Pennsylvania 19102

Prepared By: Pennoni Associates, Inc. 515 Grove Street, Suite 1B Haddon Heights, New Jersey 08035

> Project No. KLMLX21003 February 28, 2022

Alan Lloyd Project Designer #032182

ennoni

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SECTION SUBJECT

PAGE NUMBER

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01092	CODES, REGULATIONS, AND STANDARDS	01092-1 to 01092-6
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01301	SUBMITTALS	01301-1 to 01301-3
01410	AIR MONITORING	01410-1 to 01410-5
01503	TEMPORARY FACILITIES	01503-1 to 01503-7
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	FILTRATION SYSTEM	
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01701	PROJECT CLOSEOUT	01701-1 to 01701-2
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02084	DISPOSAL OF ASBESTOS-CONTAINING WASTE	02084-1 to 02084-3

APPENDIX

EGRESS	ABATEMENT EGRESS DRAWINGS	EGRESS-02 to EGRESS-03
ASB	ABATEMENT DRAWINGS	ASB-05 to ASB-06

END OF SECTION

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PROJECT DIRECTORY

PROJECT NAME:	Kingsessing Asbestos Al	g Building and Site Improvements batement
PROJECT LOCATION:	•	essing Avenue a, Pennsylvania 19143
CLIENT:	1420 Walnu	llo Architects ut Street, 15 th Floor a, Pennsylvania 19102
Contact:	Mr. F. Gaet 215-400-51	
ASBESTOS PROJECT INSPECTOR MONITORING:	515 Grove	sociates, Inc. Street, Suite 1B ights, New Jersey 08035
		Alan Lloyd, CIH, CSP (856) 547-0505 Office ALloyd@Pennoni.com

DATE OF WORKPLAN DOCUMENTS: February 28, 2022

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SECTION 01013

SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions, and other Division-1 specification sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION

- A. The project name is Kingsessing Building and Site Improvement Project Asbestos Abatement. The facility is located at 4901 Kingsessing Avenue, Philadelphia, Pennsylvania. The contract documents have been prepared by the Owner's Environmental Consultant, Pennoni Associates Inc. and are dated February 25, 2022.
- B. The scope of the asbestos abatement project includes the proper removal and offsite disposal of asbestos-containing materials identified in this work plan. All work shall be conducted in accordance with the City of Philadelphia Asbestos Control Regulation Chapter 6-600 and all applicable Federal, State and Local Regulations. If required, the contractor shall submit an Alternative Method Request to treat each work area as a Minor Project for clearance purposes as well as an Alternative Method Request to utilize a remote 3 stage decontamination chamber.
- C. Tables 1A and 1B below list the approximate quantities and locations of the identified and assumed asbestos-containing materials that are to be removed as part of this scope of work. The table is provided to supply Contractors with information to aid in the bidding process. The table shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work, verify all quantities and provide a proposal based on all existing conditions.

SF – Square Feet; LF – Linear Feet; EA – Each; CF – Cubic Fe	et
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Table 1B – Identified and Presumed Asbestos-Containing Materials For Abatement Kingsessing Recreation Center Building – 4901 Kingsessing Avenue Philadelphia, Pennsylvania 19143					
HID and Material	Location	Approx. Quantity			
Gray 12" x 12" Vinyl Asbestos Containing Floor Tile – single layer	Storage Room (E104) and Closets (E104A and E104B), Office (E103) and Closet (E103A), Stair Landing (ST4-1), Supply Room (E112),	1,110 SF			

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Table 1B – Identified and Presumed Asbestos-Containing Materials For Abatement Kingsessing Recreation Center Building – 4901 Kingsessing Avenue Philadelphia, Pennsylvania 19143						
HID and Material	Location	Approx. Quantity				
	Director Office (E114), Office (E115), Restroom (E116), Arts & Crafts (E120) and Closet (E120A)					
Gray 12" x 12" Vinyl Asbestos Containing Floor Tile – below carpet	Arts & Crafts (E121) and Closet (E121A)	350 SF				
Gray 12" x 12" Vinyl Asbestos Containing Floor Tile – below multiple layers of non-asbestos containing flooring	Vestibule (E101A and E101B), Conference Room (E102), Restroom (E107), Vestibule (E108), Corridor (E110), Lounge (E111), Corridor (E119)	2,400 SF				
Gray 12" x 12" Vinyl Asbestos Containing Floor Tile – below foam sheet flooring	Kitchen (E205) and Vestibule (E206)	80 SF				
Asbestos Containing Pipe Insulation and Pipe Fitting Insulation	Inaccessible – Assumed to be in the Attic (verify prior to disturbance)	Not quantified				
Roofing Materials (assumed)	Entire Roof	12,200 SF				

SF – Square Feet; LF – Linear Feet; EA – Each; CF – Cubic Feet

- D. Contractor shall submit to the Environmental Consultant a written request for precommencement, pre-encapsulation, and final inspections for each work area.
- E. Contract documents indicate the work of the contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the contract documents include, but are not necessarily limited to the following:
 - 1. Applicable codes and regulations (including fire codes)
 - 2. Notices and permits
 - 3. Existing site conditions and restrictions on use of the site
 - 4. Work performed prior to work under this contract
 - 5. Work to be performed concurrently by separate contractors
 - 6. Work to be performed subsequent to work under this contract
 - 7. Alternates
 - 8. Allowances
- 9. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.

- 10. General and administrative requirements are set forth in the following specification sections:
 - 1. 01013 Summary of work
 - 2. 01043 Project Coordination
 - 3. 01091 Definitions And Standards
 - 4. 01301 Submittals
- 11. Removal work requirements are set forth in the following specification sections, listed here according to the sequence of the work:
 - 1. <u>01092 Codes, Regulations, and Standards</u> Sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 - 2. <u>01503 Temporary Facilities</u> Sets forth the support facilities needed such as electrical and plumbing connections for the decontamination units.
 - 3. <u>01526 Temporary Enclosures and Work Area Preparation</u> Details the requirements for the sheet plastic barriers that isolate the work area from the balance of the building.
 - 4. <u>01410 Air Monitoring</u> Describes air monitoring by Asbestos Project Inspector (API) so that the building beyond the work area will remain uncontaminated. OSHA compliance air monitoring to determine required respiratory protection is the responsibility of the Contractor.
 - 5. <u>01563 Decontamination Units</u> Explains the setup and operation of the personnel and waste decontamination units.
 - 6. <u>01513 Temporary Pressure Differential and Air Filtration System</u> Sets forth the procedures to set up the negative air machines and ventilation of the work area.
 - 7. <u>01560 Worker Protection</u> Sets forth the procedures and equipment for adequate worker protection.
 - 8. <u>01562 Respiratory Protection</u> Sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos fibers.
- 12. Asbestos Removal Work Procedures are described in the following specification sections:
 - 1. <u>02079 Containment Bag Removal</u>
 - 2. <u>02081 Removal of Asbestos-Containing Material</u>
 - 3. <u>02084 Disposal of Asbestos-Containing Waste</u>

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- 13. Decontamination of the work area after completion of abatement work is described in the following sections:
 - 1. <u>01711 Project Decontamination</u> Describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area.
 - 2. <u>01714 Work Area Clearance</u> Describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.
 - 3. <u>01701 Project Closeout</u> Details the closeout procedures to end the project once asbestos removal work is complete including final paperwork requirements.

1.3 INSPECTION

A. Prior to commencement of work, inspect areas in which work will be performed. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Environmental Consultant prior to starting work.

1.4 POTENTIAL HAZARDS

- A. The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workmen and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the identified potential hazards and of proper work procedures which must be followed.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect these persons from the potential hazard of exposure. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local city agencies.
- C. Lead-based paint is located on components in the work area including walls, ceilings, window frames, columns, pipe valves, and door frames. When these materials are impacted, they should be handled following all federal, state, and local regulations.

1.5 STOP WORK

A. If the Owner or Environmental Consultant presents a written stop work order

immediately and automatically stop all work. Do not recommence work until authorized in writing by the Owner or Environmental Consultant.

1.6 ASBESTOS-CONTAINING MATERIALS

A. The following asbestos-containing materials are known or presumed to be present at the worksite in the renovation areas. If any other materials are found, which are suspected of containing asbestos, notify the Environmental Consultant immediately both verbally and in writing. Do not proceed with additional work without written approval.

Recreation Center Building:

- 1. Vinyl Asbestos Containing Floor Tile (VAT)
- 2. Pipe Insulation
- 3. Pipe Fitting Insulation
- 4. Roofing Materials

1.7 QUALITY ASSURANCE

A. The Asbestos Abatement Contractor shall use adequate numbers of skilled workmen who are thoroughly trained and experienced in asbestos abatement and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this Section. The Asbestos Abatement Contractor must possess a valid Contractor certification as issued by the Commonwealth of Pennsylvania, Department of Labor and Industry and the City of Philadelphia Department of Public Health. All workers must possess a currently valid worker accreditation from the Commonwealth of Pennsylvania, Department of Labor and Industry and produce such accreditation upon request. The Contractor must also have onsite at least one individual with a currently valid supervisor's accreditation as issued by the Commonwealth of Pennsylvania, Department of Labor and Industry.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 ASBESTOS CONTRACTOR USE OF PREMISES

- A. Use of the Site: Confine operations at the site to the areas permitted under the contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.
 - 1. Keep existing entrances and adjacent parking areas serving the premises clear. Do not use these areas for parking or storage of materials. Parking

and storage is available immediately adjacent to the building only.

- 2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials/equipment and location of storage trailers to the areas indicated. If additional storage is necessary the Contractor must obtain and pay for such storage off site.
- 3. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with motor running or ignition key in place or accessible to unauthorized persons.
- B. Contractor's Use of the Existing Buildings: Maintain existing building in a safe and weather tight condition.
 - 1. Smoking or open fires will not be permitted within the building enclosure.
 - 2. Keep means of egress clear of rubbish, construction materials and asbestos waste.
 - 3. The Contractor shall be responsible for supplying, cleaning and maintaining adequate toilet facilities.
 - 4. The Contractor shall be responsible for supplying an appropriate office trailer(s), exterior to the building, with adequate heat and/or air conditioning as needed.

3.2 BUILDING OCCUPANCY

- A. All required access into portions of the building or utility service interruption that could affect the building must be carefully coordinated with the Owners' Environmental Consultant and the Owner.
- B. Floors must remain un-occupied during abatement activities.

3.3 SUMMARY OF WORK - ASBESTOS ABATEMENT

- A. The scope of the Asbestos Abatement Project includes the complete removal and off-site disposal of asbestos-containing materials indicated within this specification, Asbestos Inventory Report (AIR Form), Contract and described herein. The Contractor shall be responsible to fully investigate the scope of work and provide a proposal based on all existing conditions. Change orders for new materials not identified in this specification may be considered, but not for variances in quantities of known materials throughout the buildings. The contractor shall submit their bid based on existing conditions and observations made during the bid walkthrough.
- B. All asbestos abatement shall be performed in strict accordance with the City of Philadelphia Asbestos Control Regulation Chapter 6-600 and all applicable

Federal, State and Local Regulations.

- C. All identified asbestos-containing materials shall be removed and properly disposed of as asbestos-containing waste off-site prior to building renovation.
- D. The Contractor shall complete all abatement work, meet clearance criteria and breakdown containment in accordance with the sequence of work indicated below.
- E. The Contractor shall:
 - 1. Make all required notifications, obtain all permits and pay all fees associated with the work.
 - 2. Coordinate all work with the Owners' Environmental Consultant and the Asbestos Project Inspector.
 - 3. Isolate each work area and install temporary enclosures in accordance with Section 01526 and as necessary to perform abatement procedures. The Contractor shall maintain a minimum of critical barriers and air pressure differential in all Work Areas.
 - 4. Install temporary facilities in accordance with Section 01503. The Asbestos Contractor shall make interconnection to existing electrical panels utilizing a Pennsylvania licensed electrician. The Asbestos Contractor shall make interconnection with site hydrants if needed utilizing back-flow preventers as necessary to provide adequate water for all abatement activities. Permitting and authorization for use shall be the responsibility of the asbestos contractor.
 - 5. Install the decontamination facilities in accordance with Section 01563 where necessary to perform abatement procedures.
 - 6. Remove all asbestos-containing material in accordance with Section 02081.
 - 7. Dumpsters, vehicles, and all other equipment that will be required to perform the asbestos removal work shall be off-loaded, and stored onsite. Asbestos dumpsters shall be clearly marked. Asbestos dumpsters shall be watertight, completely enclosed and kept locked when left unattended.
 - 8. Clean and decontaminate each work area in accordance with Section 01711.
 - 9. After meeting air clearance criteria in accordance with Section 01714, and after receiving approval by the Environmental Consultant, breakdown and remove temporary enclosure systems and decontamination facilities.
 - 10. Replace all removed materials with acceptable materials of the same kind. Replaced materials shall include, but not be limited to: joints associated with fiberglass pipe insulation, end cap mastic, tank insulation, and floor tiles.

11. Submit all required documentation required to close out the project in accordance with Sections 01301 and 01701.

END OF SECTION

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SECTION 01043

PROJECT COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions, and other Division-1 specification sections, apply to work of this section.

1.2 SUMMARY

- A. This section specifies administrative and supervisory requirements necessary for project coordination including, but not necessarily limited to:
 - 1. Notifications
 - 2. Permits and Fees
 - 3. Administrative and supervisory personnel
 - 4. Pre-Construction meeting
 - 5. Progress Meetings
 - 6. Documentation required at the work site
 - 7. Coordination of Subcontractors and other trades
 - 8. Requirements for the Contractor's Construction Schedule are included in Section "Submittals"

1.3 NOTIFICATIONS:

A. The Contractor shall make all required notifications associated with this contract to include, but not be limited to those listed in Section 01092 - Codes, Regulations and Standards.

1.4 PERMITS AND FEES:

- A. The Contractor shall obtain and pay for all required permits, and pay all fees associated with this contract to include, but not limited to those listed in Section 01092 Codes, Regulations and Standards.
- 1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL:
 - A. General Superintendent: Provide a General Superintendent who is experienced in the administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by OSHA in 29 C.F.R. 1926 for the Contractor and is the Contractor's Representative responsible for

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compliance with all applicable Federal, State, and Local Regulations, and this specification. This person shall have completed a course at an E.P.A. Training Center or an equivalent certified course in asbestos abatement procedures and have had a minimum of three (3) years of on-the-job training and meet any additional requirements set forth in 29 C.F.R. 1926 for a Competent Person and this specification. The responsibilities of the General Superintendent shall include but not be limited to the following:

- 1. When an event of unusual and significant nature occurs at the site (e.g. failure of negative pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Owner's Agent/Fee Developer in advance at the earliest possible date. The General Superintendent shall submit these special reports directly to the Building Owner within one (1) day of occurrence. A copy shall be submitted to the Owners' Environmental Consultant and others affected by the occurrence.
- B. Project Supervisor: Provide a full-time Project Supervisor who is certified and fully knowledgeable in the use of equipment and situations unique to that work site. A separate individual shall be required to fulfill this function for each work area and shift. This individual shall have a valid supervisor certification issued by the Commonwealth of Pennsylvania, Department of Labor and Industry. The responsibilities of the Project Supervisor shall include but not be limited to the following:
 - 1. Ensure that the workers are wearing all proper personal protective equipment as outlined in Sections 01560 & 01562 of this specification and are properly trained in their use.
 - 2. Keep all necessary log records as specified in this specification and ensure that they are recorded in accordance with this specification and Federal, State, and Local regulations.
 - 3. Prepare and submit reports of significant accidents occurring at the site and anywhere else where work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.
 - 4. Survey the work areas at a minimum of twice per work shift (e.g. once every four hours) to ensure that the workers protective equipment is not ripped or torn, that respiratory protection is worn at all times; that air filtration devices are operating at peak efficiency, and that all individuals are following the procedures outlined in this specification.

- 5. Ensure that sufficient personal protective equipment is stored on-site.
- 6. Ensure that precautions have been taken to prevent heat stress and other emergencies from occurring (e.g. selecting light-weight protective clothing, reducing the work rate, and providing adequate fluid breaks).

1.6 EMERGENCY PLAN

- A. The Contractor shall develop and submit to the Owner, a contingency plan for emergencies, in case of fire, explosion, accidents, power failure, air filtration system failure, supplied air system failure, heat/cold related problems, and any other problem which may require modification or bypassing of decontamination. The plan shall include procedures for repair and clean up following temporary breach of containment barriers.
- B. Emergency procedures shall be in written form and prominently posted in the clean change area and equipment room of the worker decontamination area and inside the work area itself. Everyone, prior to entering the work area, must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.
- C. Employees shall be trained in evacuation procedures in the event of workplace emergencies.
 - 1. For non-life-threatening, situations employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the workplace to obtain proper medical treatment.
 - 2. For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove him/her from the workplace and secure proper medical treatment.
- D. Telephone numbers and locations of all emergency response personnel shall be prominently posted in the clean change area and equipment room, along with the location of the nearest telephone.

1.7 PRE-CONSTRUCTION MEETING

- A. The Contractor shall attend pre-construction meeting(s) scheduled by the Owners' Environmental Consultant. These meetings shall be attended by the Owner and/or the Owners' Environmental Consultant. At this meeting, the Contractor shall present in detail the following:
 - 1. A detailed plan for preparation of each work area
 - 2. Description of protective clothing and approved respirators to be used

- 3. Delineation of responsibility of work site isolation
- 4. Explanation of the decontamination sequence
- 5. Description of all removal methods to be used
- 6. Explanation of the handling of asbestos-contaminated waste
- 7. Proof of workers' medical exams substantiated by reports signed by the physician
- 8. Description of the final clean-up procedures to be used
- 9. Proposed waste disposal site and proof of transporter registration. If a change in either of these items occurs during the course of the project, the Contractor shall revise Federal, State, and Local notifications and notify the building Owner's Agent/Fee Developer and Owners' Environmental Consultant
- 10. A sample of the waiver form to be used for all authorized visitors to the site
- 11. Explanation of air filtration systems to be used for personnel protection, building protection, and environmental protection
- 12. List of equipment on hand or to be obtained, and the operation of each to include impact on the personnel, building environment, and work environment
- 13. Plan of action in the event of an emergency
- 14. A detailed Work Schedule with start and completion dates for all phases of asbestos abatement to include, but not be limited to, Worksite Preparation, Pre-inspection, Removal, Clean-up, Pre-encapsulation Inspection, Encapsulation, Final Clean, Clean-up Inspection, Disposal, Final Inspection, Post-testing, Analysis and Post Inspection
- B. The Contractor (or independent air monitoring laboratory employed on his behalf) shall present in detail how compliance with OSHA monitoring requirements shall be fulfilled.
- C. Asbestos work shall not proceed until the Owner, the Environmental Consultant, and the Contractor agree on the details listed in this article.

1.8 **PROGRESS MEETINGS**

- A. The Contractor shall attend all pre-scheduled Progress Meetings. These shall be scheduled by the Owners' Construction Manager. This meeting shall also be attended by the OSHA Air Monitoring Firm. This meeting shall serve to update all items discussed in the Pre-Construction Meeting.
- 1.9 DOCUMENTATION REQUIRED AT WORK SITE

- A. The Contractor shall display copies of required letters of Notification and Permits.
- B. Additional documentation required to be available at the job site shall include:
 - 1. List of emergency telephone numbers to include:
 - a. The Monitoring Firm employed by the Building Owner
 - b. EPA
 - c. OSHA
 - d. Fire Department
 - e. Police Department
 - f. Local Hospital
 - g. Emergency Squad
 - h. Contractor
 - i. Contractor's Project Supervisor and General Superintendent
 - 2. Written work area emergency procedures
 - 3. List of personnel including all new employees
 - 4. A Daily Log of all persons entering the work area including all visitors. The Log shall include the full name and certification number of all employees, and the time when they enter and exit the work site. Non-employees of the Asbestos Contractor shall be required to sign an acceptable waiver form. The waiver form shall be approved by the Environmental Consultant.
 - 5. The Daily Log shall include a record of start and stop times, any work area problems encountered, any corrective action, and estimated amount of asbestos waste generated.
 - 6. The Contractor shall be responsible for obtaining a copy of the daily monitoring logs from their air testing firms and maintaining this with the Daily Log at the job site.
- C. Work schedules and updated progress charts depicting all phases of work and completion deadlines
- D. Copy of Waste Hauler's Certificate and copy of all landfill receipts.

1.10 COORDINATION OF SUBCONTRACTORS AND OTHER TRADES:

A. The Contractor shall work in complete cooperation and coordination with any Subcontractors or any other trades that may be involved in other work within or related to the facility.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

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SECTION 01091

DEFINITIONS AND STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents. Certain terms used in Contract Documents are defined in this article.
- B. General Requirements: The provisions or requirements of Division-1 sections apply to the entire work of the Contract and, where so indicated, to other elements which are included in the project.

1.3 GENERAL DEFINITIONS

- A. Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.
 - 1. Approved: The term "approved", where used in conjunction with the Owner's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
 - 2. Building Owner: The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance the Building Owner means the person in whom beneficial title is vested.
 - 3. Construction Manager: The Construction Manager is the firm employed by the Owner.
 - 4. Contractor: A self-employed person, company, unincorporated association, firm, partnership, or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.
 - 5. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner", "requested by the "Owner", and similar phrases. However, no implied

meaning shall be interpreted to extend the Owner's responsibility into the Contractor's area of construction supervision.

- 6. Engineer: The term "Engineer" is used to refer to the Environmental Consultant for the purposes of this project.
- 7. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations".
- 8. General Superintendent: This is the Contractor's Representative at the work site. This person will be the Competent Person required by OSHA in 29 CFR 1926.
- 9. Indicated: This term refers to Paragraphs or Schedules in the Specifications, and similar requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used, it is to help locate the reference. No limitation on location is intended, except as specifically noted.
- 10. Install: The term "install" is used to describe operations at the project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations".
- 11. Project Site: The term indicates the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project
- 12. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use".
- 13. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.
- 14. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT

A. Definitions

- 1. Abatement: Any and all procedures physically taken to control fiber release from asbestos-containing materials. This includes removal, encapsulation, enclosure and repair.
- 2. Abatement Activities: All activities from the initiation of work area preparation through the successful clearance air monitoring and work area breakdown performed at the conclusion of an asbestos project.
- 3. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- 4. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
- 5. Aggressive Sampling: A method of sampling in which the individual collecting the air sample creates or simulates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
- 6. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways separated by a distance of at least 4 feet such that one passes through one doorway not the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
- 7. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
- 8. Air Monitoring: The process of sampling and measuring the fiber content of a known volume of air in a known period of time.
- 9. Air Sampling: The process of measuring the fiber content of a known volume of air collected during a known period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400 or the provisional transmission electron microscopy methods developed by the USEPA which are utilized for lower detectability and specific fiber identification.
- 10. Ambient Air Monitoring: Measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the worksite.

- 11. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
- 12. ANSI: American National Standards Institute.
- 13. Approved Safety and Health Program: A program providing training in the handling and use of asbestos-containing material, and safety and health risks inherent in such handling and use, together with methods for minimizing the exposure of workers and the public to asbestos fibers, and instruction in all applicable federal, state and local laws and regulations pertaining to asbestos-related work.
- 14. Area Air Sampling: Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
- 15. Asbestos: The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite grunerite, anthophyllite, and actinolite tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
- 16. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types.
- 17. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- 18. Asbestos-Containing Waste Material: Any material which is, or is suspected of being, or any material contaminated with, an asbestos-containing material which is to be removed from a work area for disposal.
- 19. Asbestos-Contaminated Objects: Any objects that have been contaminated by asbestos or asbestos-containing material.
- 20. Asbestos Contractor: Any person who contracts to perform an asbestos project.
- 21. Asbestos Debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
- 22. Asbestos Inspection Report: A report on the condition of a building or structure in relation to the presence and condition of asbestos therein.
- 23. Asbestos Project: Any activity involving the removal, enclosure, or encapsulation of asbestos materials or any renovation, repair or demolition which disturbs asbestos materials.

- 24. Asbestos Project Inspector: An individual who is responsible for the enforcement of all applicable regulations and the project specifications for the Building Owner.
- 25. Asbestos Removal Plan: A plan which will be undertaken so as to prevent asbestos from becoming airborne in the course of the alteration, renovation, modification or demolition of any building or structure.
- 26. Asbestos Supervisor: An accredited EPA AHERA and PA DOL licensed Supervisor who supervises the workers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training courses and be fully certified.
- 27. Authorized Visitor: The Owner, testing lab personnel, the Project Environmental Consultant, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
- 28. Asbestos Worker: An individual who disturbs, removes, encapsulates, repairs, or encloses friable asbestos material. This individual shall have completed an approved training course and be fully certified.
- 29. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
- 30. Baseline Monitoring: A measurement or determination of airborne asbestos fiber concentrations inside the work area and outside the building prior to starting the abatement activities.
- 31. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- 32. Building: Any public or private commercial, industrial, or institutional structure or any residential structure which contains four (4) or more dwelling units.
- 33. Building Occupants: Employees, tenants, or other persons who live, work or utilize the services offered in a building.
- 34. Building Owner: The owner of a building or his/her authorized representative.
- 35. Calibration: The determination within specific limits of the true value of the scale reading or indication of an instrument.
- 36. Category I Non-friable Asbestos-containing Material: Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized

Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

- 37. Category II Non-friable Asbestos-containing Material: Any material, excluding Category I non-friable asbestos-containing material, containing more than 1 percent asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- 38. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
- 39. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- 40. Certified Safety Professional (C.S.P.): An individual having a bachelor's degree from an accredited college or university and a minimum of four years' experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified.
- 41. CFR: Code of Federal Regulations.
- 42. Class I Asbestos Work: Means activities involving the removal of TSI and surfacing ACM and PACM.
- 43. Class II Asbestos Work: Means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal and asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- 44. Class III Asbestos Work: Means repair and maintenance operations, where asbestos-containing material, including thermal system insulation and surfacing material, is unlikely to be disturbed.
- 45. Class IV Asbestos Work: Means maintenance and custodial activities during which employees contact ACM and PACM and activities to clean up waste and debris containing ACM and PACM.
- 46. Clean Room: An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
- 47. Clearance Air Monitoring: The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers, and shall be performed as the final abatement activity.

- 48. Competent Person: Means in addition to the definition in 29 CFR 1926.32 [f], one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure and who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32 [f]: in addition for Class I and Class II work one who is specially trained in a training-course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for Project Designer or Supervisor, or its equivalent and, for Class II and Class IV work, one who is trained in an Operations and Maintenance (O&M) Course developed by the EPA [40 CFR 763.92 {a} {2}].
- 49. Containment: An area which has been sealed with polyethylene sheeting to prevent contamination of asbestos to the outside environment.
- 50. Controlled Area: An area which can be separated off from occupied areas of the building for the purpose of controlling fiber release to the occupied areas of the building. This area is controlled so as to limit access and to ensure that, when accessed, all appropriate health and safety protocols are utilized.
- 51. Critical Barrier: Two (2) layers of plastic sheeting applied to openings occurring in a wall, the underside of ceiling construction, electrical outlets, non-removable lights, HVAC systems, windows, doorways, entranceways, ducts, grilles, grates, diffusers, floor drains, etc., that prevent the distribution of asbestos fibers to the surrounding area.
- 52. Curtained Doorway: A device which consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached at the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
- 53. Decontamination Enclosure System: A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers, materials, waste containers, and equipment.
- 54. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- 55. Disposal Bag: A properly labeled 6-mil thick leak-tight plastic bags used for transporting asbestos waste from the work area to the disposal site. Each bag is labeled as follows:

DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS DO NOT BREATHE DUST AVOID CREATING DUST

AND ASBESTOS, NA 2212, RQ AND CLASS 9 LABEL

In addition to the above labeling, all disposal containers will also be labeled with the owner's name and the location where the waste was generated.

- 56. Disturb: Any action taken which may alter, change, or stir, including but not limited to the removal, encapsulation, enclosure or repair of asbestos-containing material.
- 57. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
- 58. Bridging encapsulant: An encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
- 59. Penetrating encapsulant: An encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
- 60. Removal encapsulant: A penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather than for in situ encapsulation.
- 61. Encapsulation: The spraying or coating of exposed asbestos materials with a sealant to prevent the release of asbestos fibers.
- 62. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
- 63. EPA: United States Environmental Protection Agency.
- 64. Equipment Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, typically consisting of a washroom and holding area.
- 65. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.

- 66. Fiber: An acicular single crystal or a similarly elongated polycrystalline aggregate which displays some resemblance to organic fibers by having such properties as flexibility, high aspect ratio, silky luster, axial lineation, and others, and which has attained its shape primarily through growth rather than cleavage.
- 67. Fiber Count: Average number of fibers in a cubic centimeter of air (f/cc).
- 68. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
- 69. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
- 70. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry or by the proposed abatement activity.
- 71. Glove bag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.
- 72. Glove bag Technique: A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. All workers who are permitted to use the glove bag technique must be highly trained, experienced and skilled in this method.
- 73. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
- 74. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- 75. High Volume Sampling Pump: An instrument used to draw ambient air over a filter at a flow rate between ten (10) and thirty (30) liters per minute. The high-volume sampling pumps are generally utilized for background or baseline samples, environmental samples, decontamination unit samples, and post-abatement samples.
- 76. Holding Area: A small chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.

- 77. HVAC: Heating, ventilation, and air conditioning.
- 78. Incidental Exposure: Occupational exposure to asbestos fibers caused to oneself by disturbing ACM during the performance of one's job, except during the performance of an asbestos project or minor project.
- 79. Industrial Hygiene: That science and art devoted to the recognition, evaluation and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers or among the citizens of the community.
- 80. Industrial Hygienist: An individual having a college or university degree or degrees in Engineering, Chemistry, Physics, or Medicine or related Biological Sciences who, by virtue of special studies and training must have been sufficient in all of the above cognate sciences to provide the following abilities:
 - a. To recognize the environmental factors and to understand their effect on people and their well-being.
 - b. To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well-being.
 - c. To prescribe methods to eliminate, control or reduce such stresses when necessary to alleviate their effects.
- 81. Isolation Barrier: The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas to contain asbestos fibers in the work area.
- 82. Log: An official record of all activities that occurred during the project and it shall identify the Building Owner, Agent, Contractor, and Workers, and other pertinent information (e.g., equipment malfunctions, contamination beyond the work area, etc.).
- 83. Low Volume Sampling Pump: An instrument used to collect air samples at rates ranging from one (1) to three (3) liters per minute. The low volume sampling pump, also known as the personal sampling pump, is essentially utilized for personal samples and work area samples.
- 84. Negative Pressure Equipment: A portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the work area.
- 85. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere, and negative during inhalation in relation to the air pressure of the outside atmosphere.

- 86. NESHAP: National Emission Standards for Hazardous Air Pollutants as prescribed in 40 CFR Part 61.
- 87. NIOSH: National Institute for Occupational Safety and Health.
- 88. Occupied Area: An area of the worksite where abatement is not taking place and where personnel or occupants normally function, or where workers are not required to use personal protective equipment.
- 89. OSHA: United States Occupational Safety and Health Administration.
- 90. Outside Air: The air outside the work place.
- 91. PCM: Phase contrast microscopy.
- 92. Permissible Exposure Limit: The permitted exposure to a particular concentration of a substance as specified by OSHA. The current permissible exposure limit for asbestos is 0.1 f/cc for an eight-hour (8) time-weighted average.
- 93. Personal Air Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
- 94. Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, head gear and approved respiratory protection.
- 95. Plasticize: To cover walls and floors with plastic sheeting as herein specified or by using approved spray plastics.
- 96. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- 97. Qualitative Fit Test: The individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator face piece. Three of the most popular methods include: irritant smoke test, odorous vapor test and taste test.
- 98. Quantitative Fit Test: Exposing the respirator wearer to a test atmosphere containing an easily detectable nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the face piece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.
- 99. Regulated Asbestos-Containing Material (RACM): (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has

a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

- 100. Removal: The stripping of any asbestos-containing materials from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.
- 101. Removal Encapsulant: A penetrating encapsulant specifically designed for removal of asbestos-containing materials rather that for in situ encapsulation.
- 102. Renovation: Altering in any way one or more facility components. Operations in which load supporting structural members are wrecked or taken out are excluded.
- 103. Replacement Material: Any material used to replace ACM that contains less than .01% asbestos.
- 104. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
- 105. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- 106. Shift: A worker's, or simultaneous group of worker's, complete daily term of work.
- 107. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.
- 108. Staging Area: The work area near the waste decontamination chamber where containerized asbestos waste has been placed prior to removal from work area.
- 109. Strip: To remove friable asbestos materials from any part of the facility.
- 110. Structural Member: Any load-supporting member of a facility, such as beams and load-supporting walls, or any non-load-supporting member, such as ceiling and non-load-supporting walls.
- 111. Surface Barriers: The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.
- 112. Surfacing Material: Material in a building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

- 113. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- 114. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.
- 115. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- 116. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- 117. Wet Methods: The use of amended water or removal encapsulant to minimize the generation of fibers during ACM disturbance.
- 118. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.
- 119. Worker Decontamination Enclosure System: A system designed for the controlled ingress and egress of workers, authorized visitors, and other individuals between the work area and the non-work area consisting of a clean room, a shower room, and an equipment room and maintained separately by the use of airlocks.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract requirements.
- B. Specification Format: These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system. This organization conforms generally to recognized construction industry practice.
- C. Specification Content: This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately

interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.

- 2. Imperative language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.
- D. Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
 - 1. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- E. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter". It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 INDUSTRY STANDARDS:

- A. Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the project site for reference.
 - 1. Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
 - 2. Unreferenced industry standards are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.
- B. Publication Dates: Where compliance with an industry standard is required,

comply with standard in effect as of date of Contract Documents.

- C. Updated Standards: At the request of the Owner's Agent/ Fee Developer, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Agent/ Fee Developer will decide whether to issue a Change Order to proceed with the updated standard.
- D. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Agent/ Fee Developer for a decision before proceeding.
- E. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner's Agent/ Fee Developer for decision before proceeding.
- F. Copies of Standards: Each entity engaged in construction on the project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
 - 2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Agent/ Fee Developer reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.
- G. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:
 - 1. ACGIH American Conference of Governmental Industrial Hygienists,

6500 Glenway Avenue, Building D-5, Cincinnati, Ohio 45211

- 2. AIHA American Industrial Hygiene Association, 2700 Prosperity Ave., Suite 250, Fairfax, VA 22031
- 3. CFR Code of Federal Regulations Available from Government Printing Office, Washington, DC 20402 (usually first published in Federal Register)
- 4. CGA Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202, 703/979-0900
- 5. CS Commercial Standard of NBS (U.S. Dept. of Commerce), Government Printing Office, Washington, DC 20402, 202/377-2000
- DOL&I(PA) State of Pennsylvania Department of Labor and Industry Asbestos 0ccupations Accreditation and Certification, P.O. Box 3465, Harrisburg, PA 17105-3465
- 7. DOT Department of Transportation, 400 Seventh St. SW, Washington, DC 20590, 202/426-4000
- 8. EPA Environmental Protection Agency, 401 M St. SW, Washington, DC 20460, 202/382-3949
- 9. FS Federal Specification (General Services Admin.) Regional GSA Office or GSA Specifications Unit (WFSIS), 7th and D Streets SW, Washington, DC 20406, 202/472-2205 or 2140.
- 10. GA Gypsum Association, 1603 Orrington Ave. Evanston; IL 60201, 312/491-1744.
- 11. GSA General Services Administration, F St. and 18th St. NW, Washington, DC 20405, 202/655-4000.
- 12. IEEE Institute of Electrical and Electronic Engineers, 345 E. 47th Street New York, NY 10017, 212/705-7900.
- 13. MIL Military Standardization Documents (U.S. Dept. of Defense) Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, PA 19120.
- 14. MSHA Mine Safety and Health Administration, Approval and Certification Center, P.O. Box 251, Route 1, Triadelphia, WV 26059.
- 15. NBS National Bureau of Standards (U.S. Dept. of Commerce) Gaithersburg, MD 20234, 301/921-1000.
- 16. NEC National Electrical Code (by NFPA).
- 17. NESHAP National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).
- 18. NIOSH National Institute for Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, OH 45226.
- 19. NFPA National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 617/770-3000.

- 20. NIST National Institute of Standards & Technology, Gaithersburg, MD 20234, 301/921-1000
- 21. NRCA National Roofing Contractors Association, 6250 River Road Rosemont, IL 60018, 312/318-6722.
- 22. NVLAP National Voluntary Laboratory Accreditation Program, Gaithersburg, MD 20234, 301/921-1000
- 23. OSHA Occupational Safety & Health Administration (U.S.D.O.L.), Government Printing Office Washington, DC 20402, 202/783-3238.
- 24. PS Product Standard of NBS (U.S. Dept. of Commerce), Government Printing Office Washington, DC 20402, 202/783-3238.
- 25. RFCI Resilient Floor Coverings Institute, 966 Hungerford Drive, Suite 12-B Rockville, MD 20805, 301/340-8580.
- 26. UL Underwriters Laboratories, 333 Pfingsten Rd. Northbrook, IL 60062, 312/272-8800.
- H. Trade Union Jurisdictions: The Contractor shall maintain and require subcontractors to maintain complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities. The Contract Documents have not been organized or subdivided to imply any trade union or jurisdictional agreements.
 - 1. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
 - 2. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

1.8 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.
- PART 2 PRODUCTS (NOT APPLICABLE)
- PART 3 EXECUTION (NOT APPLICABLE) END OF SECTION

SECTION 01092

CODES, REGULATIONS, AND STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY:

- A. This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 - 1. Requirements include adherence to all work practices and procedures set forth in applicable codes, regulations and standards and this specification.
 - 2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES AND REGULATIONS:

- A. General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.
- C. Federal Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
- D. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

For Informational Purposes Parly.

- Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations
- 2. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
- 3. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations
- 4. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations
- 5. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations
- 6. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations
- E. DOT: U. S. Department of Transportation, including but not limited to:
 - 1. Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations
- F. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:
 - 1. Asbestos Abatement Projects; Worker Protection Rule Title 40 Part 763, Sub-part G of the Code of Federal Regulations
 - Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations
 - 3. Training Requirements of (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
 - 4. National Emission Standards for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations
- G. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
 - 1. Air Pollution Control Act, Chapter 124.
 - 2. Bureau of Solid Waste Management Major Asbestos Standards.
 - 3. Commonwealth of Pennsylvania Department of Labor and Industry Asbestos Occupations Accreditation and Certification Act, Act 194-1990
- H. Local Requirements:
 - 1. City of Philadelphia, Department of Public Health, Board of Health, Asbestos Control Regulation adopted pursuant to Title 6, Health Code, of the Phila. Code, specifically Chapter 6-600, Asbestos Projects; effective May 22, 1989, Amended March 4, 1993.

1.4 STANDARDS:

- A. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.
- C. Standards: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
 - 1. American National Standards Institute (ANSI) 1430 Broadway New York, New York 10018 (212)354-3300E
 - a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-79
 - b. Practices for Respiratory Protection Publication Z88.2-80
 - 2. American Society for Testing and Materials (ASTM) 100 Bar Harbor Drive, Conshohocken, PA 19428 (610)832-9585
 - a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82
- 1.5 EPA GUIDANCE DOCUMENTS: discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):
 - A. Asbestos-Containing Materials in School Buildings A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)
 - B. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024
 - C. Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)
 - D. Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005
 - E. Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA

560/5-84-006

- F. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018
- G. Asbestos Waste Management Guidance. EPA 530-SW-85-007
- H. Asbestos Fact Book. EPA Office of Public Affairs. Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials
- I. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification
- J. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001

1.6 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

- Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 days prior to beginning any work on asbestos-containing materials. Send notification to the following address:
- USEPA REGION 3: Asbestos NESHAP Contact, Air & Waste Management Division, 841 Chestnut Street, Philadelphia, PA 19107, (215) 597-6552.Notification: Include the following information in the notification sent to the NESHAP contact:
 - a. Name and address of owner or operator.
 - b. Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.
 - c. Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials is less than 260 linear feet on pipes and less than 160 square feet on other facility components, explain techniques of estimation.
 - d. Location of the facility being demolished or renovated.
 - e. Scheduled starting and completion dates of demolition or renovation.
 - f. Nature of planned demolition or renovation and method(s) to be used.
 - g. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).
 - h. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.
 - i. For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and

in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

B. STATE AND LOCAL AGENCIES:

1. Send written notification as required by state and local regulations prior to beginning any work on asbestos-containing materials.

1.7 PERMITS:

- A. The Contractor shall obtain all required Permits, and pay all Fees associated with his contract.
- B. All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

1.8 LICENSES:

A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.9 POSTING AND FILING OF REGULATIONS:

A. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulation and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.10 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
- B. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:
 - 1. State and Local Regulations: Submit copies of codes and regulations applicable to the work.
 - 2. Notices: Submit notices required by federal, state and local regulations together with

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proof of timely transmittal to agency requiring the notice.

- 3. Permits: Submit copies of current valid permits required by state and local regulations.
- 4. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

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SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 USE OF PREMISES:

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.
 - 1. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to adjacent property owners, and emergency vehicles at all times. Do not use these areas for parking or storage of materials unless approval is granted by the School.
 - a. Schedule deliveries to minimize use of driveways and entrances.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

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SECTION 01301

SUBMITTALS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for submittals required for performance of the work, including:
 - 1. Contractor's construction schedule
 - 2. Submittal schedule
 - 3. Daily construction reports
 - 4. Product Data
 - 5. Miscellaneous Submittals
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits/Notifications
 - 2. Applications for Payment
 - 3. Performance and Payment Bonds
 - 4. Insurance Certificates
 - 5. Emergency Plan
 - 6. Licenses/Certifications/Pennsylvania Act 34 Clearance
 - 7. List of Subcontractors

1.3 SUBMITTAL PROCEDURES

A. Coordination: Transmit each submittal to the Environmental Consultant sufficiently in advance of performance of related activities to avoid delay.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Bar Chart Schedule: Prepare a fully developed, horizontal bar chart type Contractor's construction schedule. Submit at pre-construction meeting.

- 1. Coordinate the contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
- 2. Indicate completion and clearance of each work area in advance of the date established for substantial completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of clearance and substantial completion.
- B. Phasing: Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion to permit work by separate Contractors and partial occupancy by the Owner prior to substantial completion.
- C. Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
 - 1. Mobilization
 - 2. Non-asbestos demolitions
 - 3. Preparation of the work area
 - 4. Asbestos removal
 - 5. Clearance testing
 - 6. Substantial completion
 - 7. Demobilization
- D. Area Separations: Provide a separate time bar to identify each work area or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.
- E. Distribution: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, Environmental Consultant, subcontractors, and other parties required to comply with scheduled dates.
- F. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 PRODUCT DATA

A. Collect product data into a single submittal. Product data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves. Where product data must be specially prepared because standard printed data is not suitable for use, submit as "shop drawings".

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- B. Mark each copy to show applicable choices and options. Where printed product data includes information on several products, some of which is not required, mark copies to indicate the applicable information. Include the following information:
 - 1. Manufacturer's printed recommendations.
 - 2. Compliance with recognized trade association standards.
 - 3. Compliance with recognized testing agency standards.
 - 4. Application for testing agency labels and seals.
- C. Preliminary Submittal: Submit a preliminary single-copy of product data where selection of options is required.
- D. Submittals: Submit five (5) copies of each required submittal. The Owner's Representative will retain two (2) and will return the one marked with action taken and corrections or modifications required.

1.7 MISCELLANEOUS SUBMITTALS

- A. Safety Data Sheets: Process material safety data sheets as "product data".
- B. Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.
- C. Field Records: Furnish a set of original documents as maintained on site.

1.8 OWNER'S REPRESENTATIVE'S ACTION

A. Compliance with specified characteristics is the Contractor's responsibility.

PART 2 PRODUCTS (NOT APPLICABLE).

PART 3 EXECUTION (NOT APPLICABLE).

END OF SECTION

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SECTION 01410

AIR MONITORING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this section.
- B. Air Monitoring: Work area clearance is described in Section 01714 Work Area Clearance.

1.2 DESCRIPTION OF THE WORK

- A. Not in Contract Sum: This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.
- B. This section describes air monitoring carried out by the Environmental Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.
- C. Air monitoring required by OSHA is work of the Contractor and is not covered in this Section. The Abatement Contractor is responsible for providing daily OSHA compliance monitoring as per 29 C.F.R. 1926.1101. OSHA monitoring shall be included in the Asbestos Contractor's Contract Sum.

1.3 AIR MONITORING

- A. Work Area Isolation: The purpose of the Environmental Consultant's air monitoring is to detect faults in the work area isolation such as:
 - 1. Contamination of the building outside of the work area with airborne asbestos fibers.
 - 2. Failure of filtration or rupture in the differential pressure system.
 - 3. Contamination of air outside the building envelope with airborne asbestos fibers.
- B. Should any of the above occur, immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Environmental Consultant.

1.4 WORK AREA AIRBORNE FIBER COUNT

A. The Environmental Consultant will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

1.5 WORK AREA CLEARANCE

- A. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Environmental Consultant will sample and analyze air per Section 01714 Work Area Clearance.
- B. The Environmental Consultant will be conducting air monitoring throughout the course of the project.

1.6 STOP ACTION LEVELS

- A. Inside Work Area:
 - 1. Maintain an average airborne count in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8-hour period exceeds the Stop Action Level, stop all work except corrective action, leave pressure differential and air circulation system in operation and notify the Environmental Consultant. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

STOP ACTION LEVEL (f/cc)	IMMEDIATE STOP LEVEL (f/cc)	MINIMUM RESPIRATOR REQUIRED	PROTECTION FACTOR
0.5	1.0	PAPR	50

2. If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify the Environmental Consultant. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Environmental Consultant.

- B. Outside Work Area:
 - 1. If any air sample taken outside of the Work Area exceeds the base line established below or is greater than 0.010 f/cc as determined by PCM analysis, whichever is greater, immediately and automatically stop all work except corrective action. The Environmental Consultant shall inspect and determine the source of the high reading and so notify the Contractor in writing.
 - 2. If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:
 - a. Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, and floor).
 - b. Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.
 - c. Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01714 Work Area Clearance.
 - d. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.
 - e. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.
 - f. After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 Work Area Clearance.
 - 3. If the high reading was the result of other causes initiate corrective action as determined by the Environmental Consultant.
- C. Effect on Contract Sum: Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities or negligence. The Contract Sum and schedule will be reviewed and may be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

1.7 ANALYTICAL METHODS

- A. The following methods will be used by the Environmental Consultant in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.
 - 1. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 methodology.
 - Phase Contrast Microscopy (PCM) and Transmission Electron Microscopy (TEM) NIOSH Method 7402 clearance criteria shall be performed by EPA 40 CFR Part 763 Appendix A to Subpart E methodology and compared to the Philadelphia Asbestos Control Regulation Chapter 6-600.

1.8 SAMPLE VOLUMES

A. General: The number and volume of air samples taken by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used.

1.9 SCHEDULE OF AIR SAMPLES

- A. Daily:
 - 1. From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Environmental Consultant may be taking the following samples on a daily basis:
 - a. Inside the Work Area: A minimum of one (1) sample shall be taken per work shift. A low volume sampler shall be employed, drawing a minimum sample volume of 180 liters.
 - b. Outside the Work Area, but inside the building: A minimum of two (2) samples shall be taken per work shift. A sampler shall be employed, drawing a sufficient sample volume to reach a detection limit of 0.010f/cc. The sampling device shall be placed in locations where potential contamination could occur (e.g. outside entrances and exits to the Work Area) and shall be moved periodically to assess the potential for contamination of adjacent areas at all critical points in the containment system. Special attention shall be given to locations where exhaust ducts from air filtration devices run through occupied areas of the building.
 - c. In the Clean Room of the Personnel/Waste Decontamination Unit: A minimum of one (1) sample shall be taken in the Decontamination Unit Clean Room per work shift. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010f/cc. The sample(s) shall be taken at a time when

activity levels are expected to be at their peak (e.g. shift breaks).

- d. Downwind of Air Filtration Unit Exhaust: Where feasible due to on site conditions, one (1) sample shall be taken per work shift to evaluate potential fiber escape through the Air Filtration Device. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010f/cc.
- e. The Analytical Method for all daily environmental monitoring shall be Phase Contrast Microscopy (PCM) (NIOSH 7400).
- B. Additional samples may be taken at the Environmental Consultant's discretion or as required by the Asbestos Control Regulation. If airborne fiber counts exceed allowable limits, additional samples will be taken as necessary to monitor fiber levels.

1.10 LABORATORY TESTING

A. The services of a testing laboratory may be employed by the Environmental Consultant to perform laboratory analyses of the air samples. A microscope and technician with a Philadelphia Asbestos Lab License may be set up at the job site, or samples will be sent overnight on a daily basis, so that verbal reports on air sample results can be obtained within 24 hours. The Contractor shall have access to all air monitoring tests and results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 ADDITIONAL TESTING

A. The Contractor may conduct his/her own air monitoring and laboratory testing. If he/she elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

3.2 PERSONAL MONITORING

A. The Environmental Consultant shall not perform air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION

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SECTION 01503

TEMPORARY FACILITIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

A. General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

1.3 SUBMITTALS:

- A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are approved by the Owner's Representative.
 - 1. Scaffolding: Submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.
 - 2. Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.
 - 3. Decontamination Unit Sub-panel: Submit product data.
 - 4. Ground Fault Circuit Interrupters (GFCI): Submit product data.
 - 5. Lamps and Light Fixtures: Submit product data.
 - 6. Self-Contained Toilet Units: Provide product data and name of subcontractor to be used for servicing self-contained toilets. Submit method to be used for servicing.
 - 7. First Aid Supplies: Provide list of contents of first aid kit. Submit in form of check list.
 - 8. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

2.2 SCAFFOLDING:

- A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.
- B. The rungs of all metal ladders, etc. shall be equipped with an abrasive non-slip surface.
- C. All surfaces subject to foot traffic shall have a nonskid surface. Surfaces shall be cleaned as required to remove slippery materials.
- D. At the completion of the removal work, all construction aids shall be cleaned within the work area (encapsulated for wood) and wrapped in one layer of six (6) mil polyethylene sheeting and sealed before removal from the work area.

2.3 WATER SERVICE:

- A. Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.
- B. Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
- C. Hot Water Heater: Provide UL rated 30 gallon electric hot water heater or on-demand instant water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards.
- D. Hot Water: May be secured from the building hot water system, provided backflow protection is installed at the point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner's Representative.

2.4 ELECTRICAL SERVICE:

- A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
- B. Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.
- C. Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.
- D. Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate the panel exterior to Work Area.
- E. Electrical Power Cords: Use only grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.
- F. Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture. Use of building lighting fixtures is strictly prohibited.

2.5 TEMPORARY HEAT:

A. Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed. Use steam or hot water radiation heat where available, and where not available use electric resistant fin radiation supplied from a branch circuit with ground fault circuit interrupter.

2.6 FIRST AID:

A. Comply with governing regulations and recognized recommendations within the construction industry.

2.7 FIRE EXTINGUISHERS:

A. Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. The fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Provide not less than one extinguisher in each work area in the equipment room of the decontamination unit and one outside the work area in the clean room. Distance between fire extinguishers within the work area shall not exceed seventy-five (75) feet.

PART 3 EXECUTION

3.1 SCAFFOLDING:

- A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.
- B. Clean as necessary, debris from non-slip surfaces.
- C. At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheeting and seal before removal from the Work Area.
- 3.2 INSTALLATION, GENERAL:
 - A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.
 - B. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.
 - C. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.
 - D. The Contractor shall coordinate with the Building Owner for connection to existing building utilities. No connections shall be executed without prior approval of the building owner.

3.3 WATER SERVICE:

A. Water connection (without charge) to Owner's existing potable water system is the responsibility of the Contractor. Install using vacuum breakers or other backflow preventer as required by local authority. Hot water shall be supplied at a minimum

temperature of 100 F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01516. In addition, water shall be supplied for all worksite uses.

B. Maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.4 ELECTRICAL SERVICE:

- A. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.
- B. Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.
 - 1. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of the Owner's designated Representative.
 - 2. Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and turn keys over to the Owner's Representative for control. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard".
- C. Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative.
- D. Upon request provide and bear all costs associated with off-hour or twenty-four (24) hour electrical service to the work area as required by the Building Owner for Air Monitoring services.
- E. Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.
- F. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of

proper size located in the temporary panel. Do not use outlet type GFCI devices.

- G. Temporary wiring in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.
- H. Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:
 - 1. One Circuit for each HEPA filtered fan unit.
 - 2. For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).
 - a. One outlet in the work area for each 2500 square feet of work area
 - b. One outlet at each decontamination unit, located in equipment room
 - 3. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:
 - a. One in each work area
 - b. One at clean side of each Decontamination Unit.
 - c. One at each exhaust location for HEPA filtered fan units
 - 4. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:
 - a. Five inside work area
 - b. Two outside work area in location designated by Owner's Representative

3.5 TEMPORARY LIGHTING:

- A. Lockout: Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.
- B. Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level.
 - 1. One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story,

located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.

- C. Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.
- D. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
- E. Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.
- F. Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.
- G. Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.
- 3.6 TEMPORARY HEAT:
 - A. General: Provide temporary heat where indicated or needed for performance of work.
 - B. Maintain a minimum temperature of 70 degrees F where finished work has been installed.
 - C. Maintain a minimum temperature of 75 degrees F in the shower of the decontamination unit.
 - D. Maintain a minimum temperature of 70 degrees F in the Work Area at all times that work is being performed. At all other times and at the completion of removal work, but before the start of reconstruction work, maintain a minimum temperature of 50 degrees F.
 - E. Maintain a minimum temperature of 70 degrees F in the Work Area at all times during and after removal work.

3.8 FIRE EXTINGUISHERS:

A. Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in the Equipment Room and one outside Work Area in the Clean Room.

END OF SECTION

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SECTION 01513

TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work included in this section.

1.2 SUBMITTALS

- A. Before Start of Work: Submit design of pressure differential system to the Environmental Consultant for review. Do not begin work until submittal is returned with the Environmental Consultant's approval. Include in the submittal:
 - 1. Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines.
 - 2. Description of projected airflow within work area and methods required to provide adequate airflow in all portions of the work area.
 - 3. Anticipated pressure differential across work area enclosures.
 - 4. Description of methods of testing for correct air flow and pressure differentials.
 - 5. Manufacturer's product data on the HEPA filtered fan units to be used.
 - 6. Location of the machines in the work area.
 - 7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
 - 8. Description of work practices to ensure that airborne fibers travel away from workers.
 - 9. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of work area.

1.3 QUALITY ASSURANCE

A. Monitor pressure differential at Personnel and Equipment Decontamination Units with one or more digital manometers equipped with a continuous recorder. Manometers shall be equipped with a warning buzzer which will sound if pressure differential drops below negative 0.02 inches of water column.

PART 2 PRODUCTS

2.1 RECORDING MANOMETERS

A. The Contractor shall supply a manometer for each Work Area for the purpose of continuously monitoring and recording the pressure differential between the Work Area and the building outside of the Work Area.

2.2 HEPA FILTERED FAN UNITS

- A. General: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. A minimum of one (1) additional unit shall be installed as a backup to be used during primary unit filter changing and/or upon unit failure. Use units that meet the following requirements:
 - 1. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:
 - a. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance.
 - b. Arranged to provide access to and replacement of all air filters from intake end.
 - c. Mounted on casters or wheels.
 - 2. Fans: Rated capacity of fan according to usable air-moving capacity under actual operating conditions.
 - 3. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
 - a. Provide units with a continuous rubber gasket located between the filter and the filter housing which is in good condition in order to form a tight seal.
 - b. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
 - c. Provide filters that are marked with the name of the manufacturer, serial number, airflow rating, efficiency and resistance, and the direction of test airflow.

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- d. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:
 - 1) First-stage pre-filter: low-efficiency type (e.g., for particles 100 um and larger).
 - 2) Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 um in size).
- e. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.
- 4. Instrumentation: Provide units equipped with:
 - a. Magnahelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed.
 - b. A table indicating the usable air-handling capacity for various static pressure readings on the Magnahelic gauge affixed near the gauge for reference, or the Magnahelic reading indicating at what point the filters should be changed, noting cubic feet per minute (CFM) air delivery at that point.
 - c. Elapsed time meter to show the total accumulated hours of operation.
- 5. Safety and Warning Devices: Provide units with the following safety and warning devices:
 - a. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter.
 - b. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge.
 - c. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red).
 - d. Audible alarm if unit shuts down due to operation of safety systems.
- 6. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.
- 7. Manufacturers: Subject to compliance with requirements, manufacturers

offering products, which may be incorporated in the work, include, but are not limited to, the following:

- a. Aerospace America, Inc. "Aero-Clean 2000" 900 Harry S. Truman Parkway Bay City, Michigan 48706
- b. Asbestos Control Technology, Inc. "Micro-Trap" 115 Twinbridge Dr Ste G Pennsauken, NJ 08110
- c. Control Resource Systems, Inc. "Hog" 2000 670 Mariner Drive Michigan City, Indiana 46360
- d. Tri-Dim Filter Corporation "ACCU-2M" 93 Industrial Drive Louisa, VA 23093

PART 3 EXECUTION

3.1 AIR CIRCULATION IN THE WORK AREA

- A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the work area or the circulation and cleaning of air within the work area.
- B. Air circulation in the work area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.
- C. Determining the Air Circulation Requirements: Provide a fully operational air circulation system supplying a minimum of four (4) air changes per hour.
- D. Determine the number of units needed to achieve required air circulation according to the following procedure:
 - 1. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate.

Cubic Feet of Air per Minute (CFM)= <u>Volume of work area (cu. ft.)</u> 15 minutes

2. Divide the air circulation requirement (CFM) above by the capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

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Number of Units Needed = <u>Air circulation Requirement (CFM)</u> Capacity of Unit with Loaded Filters (CFM)

3. Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

3.2 PRESSURE DIFFERENTIAL ISOLATION

- A. Isolate the work area from all adjacent areas or systems of the building with a pressure differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the work area.
- B. Relative Pressure in the work area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope, with a pressure differential of negative 0.02" water column as a minimum.
- C. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the work area. Determine the number of units required for pressure isolation by the following procedure:
 - 1. Establish required air circulation in the work area, personnel and equipment decontamination units.
 - 2. Exhaust a sufficient number of units from the work area to ensure the required air changes/hour.
 - 3. The required number of units is the number determined above plus one additional unit.
- D. Vent HEPA filtered fan units to the outside of the building unless otherwise authorized in writing by the Environmental Consultant. An Alternative Method Request may be required to vent exhaust into water filled barrels if venting to the exterior is not feasible.
 - 1. Mount the units to exhaust directly or through disposable ductwork.
 - 2. Use only new ductwork except for sheet metal connections and elbows.
 - 3. Use ductwork and fittings of same diameter or larger than the discharge connection on fan unit.
 - 4. Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet.
 - 5. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.
 - 6. Arrange exhaust as required to inflate the duct to a rigidity sufficient to

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prevent flapping.

- 7. If direction of discharge from fan unit is not aligned with duct, use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.
- 8. Do not combine two (2) or more exhaust ductwork lengths into each other.

3.3 EXHAUST SYSTEM

- A. Pressure differential isolation and air circulation in the work area are to be accomplished by an exhaust system as described below.
- B. Exhaust all units from the work area outside the building unless approved by an Alternative Method Request.
- C. Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses work area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.
- D. Place the intake end of the HEPA unit at the perimeter of the work area enclosure or locate its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.
- E. Vent to the outside of the building, unless authorized in writing by the Owner's Representative and approved by an Alternative Method Request.
- F. Decontamination Units: Arrange the work area and decontamination units so that the majority of make-up air comes through the decontamination units. Use only the personnel or equipment decontamination unit at any one time and seal the other so that make up air passes through the unit in use.
- G. Supplemental Makeup Air Inlets: Provide, where required, for proper airflow through the work area in a location approved by the Asbestos Technician. This can be done by making louvered openings in the plastic sheeting that allow air from outside the building into the work area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the work area from any clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.4 RECIRCULATION SYSTEM

- A. Pressure differential isolation and air circulation in the work area are to be accomplished by a recirculation system as described below:
 - 1. Recirculate air in the work area through HEPA filtered fan units to accomplish air circulation requirements of this section.
 - 2. Location of Fan Units: Locate HEPA filtered fan units so that air is circulated through all parts of the work area, and so that required pressure is maintained at all parts of work area geometry. Move units as necessary so that in any location where asbestos-containing materials are being disturbed the discharge from one HEPA filtered fan unit is blowing contamination away from workers. Direct airflow in these locations so that it is predominantly toward workers' backs at the breathing zone elevation.

3.5 AIR CIRCULATION IN DECONTAMINATION UNITS

- A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:
 - 1. Personnel Decontamination Unit: Across the shower room with the equipment room at a lower pressure than the clean room.
 - 2. Equipment Decontamination Unit: Across the holding room with the wash room at a lower pressure than the clean room.
- B. Air Circulation: Continuously maintain air circulation in decontamination units at the same level as required for the work area.
- C. Air Movement: Arrange air circulation through the personnel unit so that it produces a movement of air from the clean room through the shower room into the equipment room.

3.6 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

- A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities". Do not use existing branch circuits to power fan units.
- B. Testing the System: Test pressure differential system before any asbestoscontaining material is wetted or removed. After the work area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Asbestos Project Inspector.
- C. Demonstrate condition of equipment for each HEPA filtered fan unit and pressure

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differential monitoring equipment including proper operation of the following:

- 1. Squareness of HEPA filter.
- 2. Condition of seals.
- 3. Proper operation of lights.
- 4. Proper operation of automatic shut down if exhaust is blocked.
- 5. Proper operation of alarms.
- 6. Proper operation of magnehelic gauge.
- 7. Proper operation and calibration on pressure-monitoring equipment.
- D. Demonstrate operation of the pressure differential system for the Asbestos Project Inspector. Including, but do not limited to, the following:
 - 1. Plastic barriers and sheeting move slightly in toward the work area.
 - 2. Curtain of decontamination units move slightly in toward the work area.
 - 3. There is a noticeable movement of air through the decontamination unit.
 - 4. Use smoke tube to demonstrate air movement from clean room through shower room to equipment room.
 - 5. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.
- E. Modify the pressure differential system as necessary to demonstrate successfully the above.
- F. Use of system during abatement operations:
 - 1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
 - 2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Asbestos Technician in writing. Supply sufficient pre-filters to allow frequent changes.
 - 3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.
 - 4. At completion of abatement work, allow fan units to run as specified under

Section 01711, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the work area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

- G. Dismantling the System:
 - 1. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the work area. Before removal from the Work Area, remove and properly dispose of pre-filters, secondary filters, and HEPA filters, decontaminate exterior of machine and seal intake to the machine with 6-mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION

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SECTION 01526

TEMPORARY ENCLOSURES AND WORK AREA PREPARATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 SUBMITTALS

- A. Before the start of work the Contractor shall submit a work plan to the Environmental Consultant for review. The Contractor shall not begin work until work plan submittals are approved by the Environmental Consultant. The work plan shall identify specific engineering controls and removal methods to be utilized for each work area.
- 1.3 TEMPORARY ENCLOSURES CATEGORY I AND II NON-FRIABLE ACM MATERIAL
 - A. Primary Barriers shall not be required for work areas where Category I and II non-friable materials are to be removed using EPA approved non-friable removal methods.
 - B. Localized isolation consisting of critical barriers, drop cloths, splash guards if needed, and air filtration units shall be required.

1.4 TEMPORARY ENCLOSURES – FRIABLE ACM

- A. Removal of asbestos-containing materials shall be accomplished utilizing full containment procedures techniques as outlined in the City of Philadelphia Asbestos Control Regulation, Chapter 6-600, Section VI STANDARDS.
- B. Air filtration units and negative pressure enclosures shall be required.

PART 2 PRODUCTS

- 2.1 SHEET PLASTIC
 - A. Polyethylene Sheet: Provide flame-resistant 6 mil polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide largest size possible to minimize seams, 6-mil thick, frosted or black as indicated.
- 2.2 MISCELLANEOUS MATERIALS

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- A. Duct Tape: Provide duct tape (or approved equivalent) in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
- B. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- C. Asbestos warning signs for posting at the perimeter of all work areas, as required by EPA and OSHA.
- D. Flame resistant kiln dried lumber, any grade, 2" x 4" or 2" x 3" wood stud, PVC piping, metal stud or equivalent, in lengths appropriate for wall construction.
- E. Flame resistant plywood sheathing (3/8" thick minimum) shall be used at all locations called for in the specifications. This may include, but is not limited to, isolation barriers, exhaust manifolds and personnel and waste/equipment decontamination units.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The work area shall mean the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "work area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.
- B. The Contractor shall inspect each work location with the Asbestos Project Inspector. The Contractor and Asbestos Project Inspector shall agree on conditions of materials and worksite and select the appropriate abatement procedures. Should the Asbestos Project Inspector and Contractor not be in agreement, the Owner's Representatives and Environmental Consultant shall make the final decision.
- C. Completely isolate and seal the work area(s) from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. All seals and critical barriers shall be maintained in an air-tight condition to allow for clearance air testing to be conducted while abatement activities are in progress in adjacent areas. Should any area beyond the work area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to the owner.
- D. Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of work area isolation.
- E. Lockout/tag-out all power to work area in accordance with Section 01503.

3.2 EMERGENCY PRECAUTIONS

- A. The Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, air pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation. Note that nothing in this Specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
- B. The Contractor shall provide barricades and adequate protection to safely prevent accidental entrance to the abatement area by any building occupants.
- C. Before the Contractor starts actual abatement of asbestos material, the local fire department and ambulance crews shall be notified by the Contractor as to the dangers of entering the work area. The Contractor shall make every effort to help these agencies and form plans of action, should their personnel need to enter the contaminated area.
- D. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified by the Contractor as to the possibility of having to handle injured work persons who are contaminated with asbestos dust. They shall be advised on safe decontamination procedures.
- E. First aid shall comply with the governing regulations and all recognized recommendations within the construction industry.
- F. Except as otherwise indicated, submit special reports directly to the Owner within one day of occurrence requiring special report, with a copy to the Owner's Representative, Environmental Consultant and others affected by the occurrence.

3.3 EMERGENCY EXITS

- A. Provide emergency exits and emergency lighting as set forth below:
 - 1. Emergency Exits: At each existing exit door from the work area provide the following means for emergency egress:
 - a. Arrange exit door so that it is secure from outside the Work Area but permits exiting from the Work Area.
 - b. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1" wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of the razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2" thick.

3.4 CONTROLLED ACCESS

A. Isolate the Work Area to prevent unauthorized entry into work area or

surrounding controlled areas. Accomplish isolation by the following:

- 1. After receiving authorization from the Asbestos Project Inspector, lock all doors into the Work Area, or, if doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of the Work Area, to locked doors. Do not obstruct doors required for emergency exits from the Work Area or from building.
- 2. Arrange the Work Area so that the only access into the Work Area is through lockable doors to personnel and equipment decontamination units.
- 3. Install temporary shuttered, lockable doors with entrance type locksets that are key lockable from the outside and always unlocked and operable from the inside. Do not use deadbolts or padlocks.
- B. Provide warning signs at each locked door leading to work area printed in both English and Spanish reading as follows:

DANGER ASBESTOS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS AUTHORIZED PERSONNEL ONLY WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA

- C. Provide spacing between respective lines at least equal to the height of the respective upper line.
- D. Provide Warning Signs (in English and Spanish) at each locked door leading to work area reading as follows:

LEGEND	NOTATION
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE	14 Point Gothic
HAZARDOUS TO YOUR HEALTH	

3.5 ALTERNATE METHODS OF ENCLOSURE

A. NA

3.6 RESPIRATORY AND WORKER PROTECTION

- A. Before proceeding beyond this point in providing Temporary Enclosures:
 - 1. Provide Worker Protection per Section 01560.

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- 2. Provide Respiratory Protection per Section 01562.
- 3. Provide Personnel Decontamination Unit per Section 01563.

3.7 ISOLATION BARRIERS

- A. When an isolation barrier is required, it shall consist of partitions constructed of a minimum of: conventional 2x3 wood, polyvinyl chloride piping, or metal stud framing, on a sixteen-inch maximum center-to-center to support barriers in all openings larger than thirty-two square feet, except where any one dimension is one foot or less.
- B. A solid construction material, such as plywood, of at least 3/8 inch thickness shall be applied to the work side of the framing where the barrier could be subject to damage.
- C. Partitions shall be plasticized with Primary Barriers as described below.
- D. All accessible walls surrounding the area shall contain a minimum 18" square transparent viewing port made of shatterproof material greater than or equal to 0.125" thickness located at a height appropriate for accessible viewing and in such a manner so as to maximize visibility of the work area. Viewing ports shall be maintained in a clear and unobstructed manner at all times.

3.8 CRITICAL BARRIERS

- A. Completely separate the Work Area(s) from other portions of the building and the outside by closing all openings with two (2) independent layers of sheet plastic barriers at least 6 mil in thickness, individually sealed and sealing cracks and irregular openings with expanding fire-rated foam. All openings shall be air-tight and shall remain in place until clearance sampling indicates acceptable fiber concentration levels have been achieved.
- B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, elevator shafts, convectors and speakers, and other openings into the Work Area(s) with two (2) independent layers of polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seals until all work including project decontamination is completed.
- C. Provide two (2) individual layers of Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the work area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.
- D. Fire-rated expandable foam may be used to properly seal any irregular openings not conducive to sealing with polyethylene sheeting.
- E. Mechanically support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic. The following are

acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative:

- 1. Plywood squares 6" x 6" x 3/8" held in place with one smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps the plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.
- 2. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet, minimum ¹/₄" in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot below ceiling. Tighten rope so that it has 2" maximum dip. Drape plastic over rope from outside work area so that a two foot long flap of plastic extends over rope into work area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.
- F. Provide Pressure Differential System per Section 01513.
- G. Clean housings and ducts of all debris or overspray materials prior to erection of any Critical Barrier that will restrict access.

3.9 PREPARE AREA:

- A. Scaffolding: If fixed scaffolding is to be used to provide access, HEPA vacuum and wet clean area prior to scaffolding installation.
- B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.
- C. Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work.
- D. Clean all furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment, furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by Environmental Consultant.
- E. Clean all surfaces in the Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of the primary barrier.

3.10 PRIMARY BARRIER:

- A. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.
- B. Sheet Plastic: Protect floor surfaces in the Work Area with two (2) layers of six (6) mil plastic sheeting and wall surfaces with two (2) layers of six (6) mil. thick plastic sheeting, or as otherwise directed on the Contract Drawings.
 - 1. Protect floor surfaces in the Work Area with two (2) layers of six (6) mil plastic sheeting. Wall sheeting must extend up the wall surfaces a minimum of 12" in an alternating fashion with the wall sheeting or as otherwise directed on the Contract Drawings.
 - 2. Cover all walls in the Work Area including "Critical Barrier" sheet plastic barriers with two layers of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape and spray-glue, so as to overlap floor sheeting by at least 12 inches in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape. Wall sheet barriers shall extend to the floor.
 - 3. All vertical and horizontal surfaces except those of asbestos-containing materials shall be sealed with polyethylene sheeting. This includes all non-ACM pipe insulation.
 - 4. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide ³/₄" exterior grade plywood treads securely held in place, over the plastic. Do not cover rungs or rails with any type of protective materials.
 - 5. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.
- C. Viewing Port: All accessible walls surrounding the area shall contain a minimum 18"square viewing port made of shatterproof material greater than or equal to 0.125" thickness located at a height appropriate for accessible viewing and in such a manner as to maximize visibility of the work area.

3.11 STOP WORK

A. If the Critical barrier falls or is breached in any manner, stop work immediately. Do not start work until authorized in writing by the Asbestos Project Inspector.

3.12 EXTENSION OF THE WORK AREA

A. Extension of the Work Area: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add the affected area to the work area, enclosing it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.13 CONTAINMENT BAG REMOVAL

A. See Section 02079 Containment Bag Removal for Enclosure and Work Area Preparation for use during Containment Bag Removal of asbestos-containing Joint Insulation and asbestos-containing Pipe Insulation.

END OF SECTION

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SECTION 01560

WORKER PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. This section describes the equipment and procedures required for protecting workers and site visitors against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Respiratory Protection is specified in Section 01562.

1.4 WORKER TRAINING

- A. State and Local License: All workers are to be trained and currently certified as asbestos workers and/or supervisors by the Commonwealth of Pennsylvania, Department of Labor and Industry and shall provide evidence of such certification upon request.
- B. Train, in accordance with 29 CFR 1926.1101(k)(8), all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:
 - 1. Methods of recognizing asbestos
 - 2. Health effects associated with asbestos
 - 3. Relationship between smoking and asbestos in producing lung cancer
 - 4. Nature of operations that could result in exposure to asbestos
 - 5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
 - a. Engineering controls
 - b. Work practices
 - c. Respirators
 - d. Housekeeping procedures
 - e. Hygiene facilities

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- f. Protective clothing
- g. Decontamination procedures
- h. Emergency procedures
- i. Waste disposal procedures
- 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134
- 7. Appropriate work practices for the work
- 8. Requirements of medical surveillance program
- 9. Review of 29 CFR 1926.1101 (amended), including appendices
- 10. Pressure differential systems
- 11. Work practices including hands-on or on-job training
- 12. Personal decontamination procedures
- 13. Air monitoring, personal and area

1.5 MEDICAL EXAMINATIONS

A. Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926.1101(m). In addition, provide an evaluation of each individual's ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS

- A. Before start of work submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Environmental Consultant.
 - 1. State and Local License: Submit evidence that all workers have been trained and licensed as asbestos workers by the Commonwealth of Pennsylvania Department of Labor and Industry.
 - 2. Certificate of Worker Acknowledgement: Submit an original signed copy of the Certificate of Worker's Acknowledgement for each worker who is to be at the job site or enter the Work Area.
 - 3. Report from a medical examination conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:
 - a. Name and Social Security Number

- b. Physicians written opinion from examining physician including at a minimum the following:
 - 1) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - 2) Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - 3) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
- c. Copy of information that was provided to physician in compliance with 29 CFR 1926.
- d. Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
- 4. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized confirming that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.
- 5. Copies of OSHA-approved confined space training (1910.146) certification for all workers entering OSHA-defined confined spaces.

PART 2 PRODUCTS

2.1 **PROTECTIVE CLOTHING**

- A. Clothing: Provide fire-retardant "Tyvek" disposable protective clothing consisting of full-body coveralls, headcovers, and boots as required by the most stringent OSHA standards applicable to the work and as manufactured by DuPont or approved equal. Eye protection, hard hats, gloves, and safety shoes shall be worn. They shall be in accordance with ANSI Z89.1 (1969) and ANSI Z41.1 (1967).
- B. Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protectives, for all workers. Provide boots at no cost to workers. Paint uppers of all boots red with waterproof enamel. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos- contaminated waste at the end of the work.
- C. Hard Hats: Provide head protection (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Owner's Representative, Project Administrator, and Owner. Label hats with same warning labels as used on disposal bags. Require hard hats to be worn at all times that work is in progress

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that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

- D. Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.
- E. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area. Dispose of gloves as asbestos-contaminated waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Environmental Consultants, and other authorized representatives who may inspect the jobsite. Provide two (2) respirators and six (6) complete coveralls and where applicable provide six (6) respirator filter changes per day. Sufficient HEPA cartridges for powered air-purifying respirators shall be provided for the workers to change during the work shift. No HEPA cartridges shall be used for longer than three (3) eight (8) hour work shifts. The respirators shall be worn at all times when in the contaminated area. There shall be no exceptions.

PART 3 EXECUTION

3.1 GENERAL

- A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.
- B. Each time the Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES

- A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:
 - 1. Type C Supplied Air or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:
 - a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

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- b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:
 - 1) Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.
 - 2) With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
 - 3) Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.
 - 4) Carefully wash facepiece of respirator inside and out.
 - 5) If using PAPR, shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.
 - 6) Shower completely with soap and water.
 - 7) Rinse thoroughly.
 - 8) Rinse shower room walls and floor prior to exit.
- c. Proceed from shower to Clean Room and change into street clothes or into new disposable work items.
- 2. If air-purifying negative pressure respirators are being utilized, require that all workers use the following decontamination procedures as a minimum requirement whenever leaving the Work Area with a half or full face cartridge-type respirator:
 - a. When exiting area, remove disposable coveralls, disposable headcovers and disposable footwear covers or boots in the equipment room.
 - b. Still wearing respirators. Proceed to showers. Showering is <u>mandatory</u>. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid inhaling asbestos fibers while showering. The following procedure is required as a minimum:

- 1) Thoroughly wet body from neck down.
- 2) Wet hair as thoroughly as possible without wetting the respirator filter if using an air purifying type respirator.
- 3) Take a deep breath, hold it and/or exhale slowly, complete wetting of hair thoroughly wetting face, respirator and filter (air purifying respirator). While still holding breath, remove respirator and hold it away from face before starting to breath.
- 4) Dispose of wet filters from air purifying respirator after each use.
- 5) Carefully wash facepiece of respirator inside and out.
- 6) Shower completely with soap and water.
- 7) Rinse thoroughly.
- 8) Rinse shower room walls and floor to exit
- c. Proceed from shower to clean room and change into street clothes or into new disposable work suit.
- B. Within the Work Area: Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, or drink, workers shall follow the procedure described above, then dress in street clothes before entering the non-work areas of the building. Smoking is not permitted in any part of the building complex.

END OF SECTION

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SECTION 01562

RESPIRATORY PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use. Require that each worker properly wear a respirator in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated and cleared through air monitoring. Use respiratory protection appropriate for the fiber level encountered in the workplace or as required for other toxic or oxygen-deficient situations encountered.

1.3 STANDARDS

- A. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.
 - 1. OSHA U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910.1001 and 1910.134 as well as 29 CFR 1926.1101.
 - 2. CGA Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration if, and Specification G-7.1 "Commodity Specification for Air".
 - 3. CSA Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-1978, "Compressed Breathing Air".
 - 4. ANSI American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992.
 - 5. NIOSH National Institute for Occupational Safety and Health.
 - 6. MSHA Mine Safety and Health Administration.

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1.4 SUBMITTALS

- A. Before Start of Work submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.
 - 1. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.
 - 2. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.
 - 3. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.1101.

1.5 DELIVERY

A. Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 EQUIPMENT

- 2.1 AIR PURIFYING RESPIRATORS
 - A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.
 - B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH Certification.
 - C. Non-permitted respirators: The use of single use, disposable or quarter face respirators is strictly forbidden.

2.2 POWERED AIR PURIFYING RESPIRATORS

- A. Respirator Bodies: Provide full face type powered respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.
- B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI

Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH Certification.

PART 3 EXECUTION

3.1 GENERAL

- A. Respiratory Protection Program: Comply with ANSI Z88.2 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.
- B. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.
- C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.
- D. Regardless of Airborne Fiber Levels, require that the minimum level of respiratory protection used be half-face negative pressure air-purifying respirators with high efficiency filters.
- E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.
- F. No one having a beard or other facial hair that will interfere with the mask seal will be permitted to don a respirator and enter any Work Area.

3.2 FIT TESTING

- A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.
- B. On a weekly basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.
- C. Upon each wearing, require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED

- A. The Asbestos Contractor shall, at a minimum, provide the following respiratory protection:
 - 1. Air-Purifying Respirators: APR(s), Negative pressure, full-face or halfface respirators shall be worn during the Work Area preparation phase of

the project (at a minimum). There will be no exceptions. If air monitoring results show that fiber counts meet or exceed the action level, defined as half of the respirator use limit concentration (5f/cc), then Powered Air-Purifying respirators shall be used.

2. Powered Air-Purifying Respirators: PAPR(s), Positive pressure, full-face respirators or Type "C" respirators as specified shall be worn during removal and cleanup phases of the project (at a minimum). There will be no exceptions. If air monitoring results show that fiber counts meet or exceed (50f/cc) action level defined as half of the respirator use limit concentration, then Type "C" respirators shall be used.

3.4 PERMISSIBLE EXPOSURE LIMIT (PEL)

A. 8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed 0.1 fibers/cubic centimeter.

3.5 **RESPIRATORY PROTECTION FACTOR**

- A. OSHA Respirator Type Protection Factor:
 - 1. Air purifying: PF=10 Negative pressure respirator high efficiency filter half-face piece.
 - 2. Air purifying: PF=50 Negative pressure respirator High efficiency filter full-face piece.
 - 3. Powered Air Purifying (PAPR): PF= 50 Positive pressure respirator high efficiency filter half-face piece.
 - 4. Powered Air Purifying (PAPR): PF= 1000 Positive pressure respirator high efficiency filter full-face piece.

3.6 AIR PURIFYING RESPIRATORS

A. Air purifying-half or full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, filter cartridges and facemask be washed each time a worker leaves the Work Area.

3.7 POWERED AIR PURIFYING RESPIRATORS

A. Powered air purifying full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change

filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, are washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION

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SECTION 01563

DECONTAMINATION UNITS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. Refer to Section 01503 Temporary Facilities for electrical requirements and requirements relative to connection of decontamination facilities to utilities such as water and electric.

1.3 SUBMITTALS:

- A. Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.
- B. Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.
- C. Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.
- D. Shower Pan: Provide shop drawing.
- E. Shower Walls: Provide product data.
- F. Shower Head and Controls: Provide product data.
- G. Filters: Provide product data and shop drawing of installation on the decontamination unit.
- H. Hose Bibb: Provide product data.
- I. Shower Stall: For wash down station provide product data and shop drawing showing location and modifications.
- J. Elastomeric membrane: Provide product data.
- K. Lumber: Provide product data on fire resistance treatment.
- L. Sump Pump: Provide product data.
- M. Signs: Submit samples of signs to be used.

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PART 2 PRODUCTS

2.1 SUPPLIES

- A. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.
- B. Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and the building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil reinforced thick as indicated.
- C. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
- D. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- E. Shower Pan: Provide one piece stainless steel shower pan with a minimum 6" depth.
- F. Shower Walls: Provide a shower with walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.
- G. Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.
- H. Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through the secondary filter.
 - 1. Primary Filter Passes particles 20 microns and smaller.
 - 2. Secondary Filter Passes particles 5 microns and smaller.
- I. Hose Bibb: Provide heavy bronze angle type with wheel handle, vacuum breaker, and ³/₄" National Standard male hose outlet.
- J. Shower Stall: For the Wash down Station, provide a leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bibb, as specified

in this section, mounted at approximately 4'-0" above drain pan. Connect the drain to a reservoir, pump water from the reservoir through the above specified water filters and store for use in the work area or discharge to the public sanitary sewer system after obtaining written permission from the City of Philadelphia Water Department. Mount filters inside shower stall on back wall beneath hose bib.

- K. Elastomeric membrane: Provide uniform flat sheets of flexible sheet roofing material fabricated from EPDM (ethylene propylene diene monomers) or Neoprene (polychloroprene), in a nominal 45 mil thickness.
- L. Lumber: Provide kiln dried fire retardant lumber and plywood sheathing of any grade or species.

PART 3 EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT:

- A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, Equipment Room. Require all persons, without exception, to pass through the Personnel Decontamination Unit for entry into and exiting from the Work Area for any purpose. Provide temporary heating and lighting within the Personnel Decontamination Units as necessary to provide safe and comfortable conditions. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretch or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the Work Area. Such doors must be at least three (3) feet wide, and the distance between sets of flaps must be at least three (3) feet. It shall also have a lockable, louvered door. When located outdoors, the decontamination unit shall be waterproof and windproof. It shall be constructed utilizing fire-retardant lumber and shall be sheathed with 3/8" minimum thickness plywood.
- B. Clean Room: Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.
 - 1. Construct using two (2) layers of opaque polyethylene sheeting, at least 6 mil thickness, to provide an airtight seal between the Clean Room and the rest of the building.
 - 2. Locate so that access to the Work Area from the Clean Room is through the Shower Room.
 - 3. Separate the Clean Room from the building by a sheet plastic flapped doorway with overlapping flags, and a lockable, louvered door.
 - 4. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not

allow asbestos-contaminated items to enter this room. Require workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.

- 5. Maintain the floor of the Clean Room. Ensure that the floor is dry and clean at all times. Do not allow overflow of water from the shower to wet the floor in the Clean Room.
- 6. Wet wipe all surfaces twice after each shift change with a disinfectant solution.
- 7. Provide posted information for all emergency phone numbers and procedures.
- 8. Provide one (1) storage locker per employee.
- C. Shower Room: Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Clean Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.
 - 1. Construct this room by providing a shower pan and 2 shower walls in a configuration that will cause water that will run down the walls to drip into the pan. Install a freely draining wooden floor in the shower pan at an elevation level with the top of the shower pan.
 - 2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6 mil polyethylene.
 - 3. Separate this room from the Clean Room with airtight walls fabricated of 6 mil polyethylene.
 - 4. Provide splash proof entrances to Clean Room with doors of overlapping flapped polyethylene.
 - 5. Provide shower head and controls supplied with hot and cold water adjustable within the shower. Provide one (1) shower for every eight (8) workers based upon largest shift size. Provide one (1) separate shower for every eight (8) women workers.
 - 6. Provide a continuously adequate supply of liquid bath soap and shampoo and maintain in sanitary condition.
 - 7. Provide a continuously adequate supply of disposable bath towels.
 - 8. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
 - 9. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.
 - 10. Used filters shall be disposed of as asbestos-containing waste material.

- 11. All wastewater shall be containerized as asbestos containing waste, solidified using an approved polymer for transport and disposal or collected and filtered using a five (5) micron particle size filtration system.
- 12. Properly filtered wastewater may be disposed of into the sanitary sewer system only after obtaining written approval from the City of Philadelphia Water Department.
- D. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.
 - 1. Separate this room from the Work Area by a 6-mil polyethylene overlapping flapped doorway.
 - 2. Separate this room from the rest of the building with airtight walls fabricated from two (2) layers of opaque 6 mil polyethylene.
 - 3. Separate this room from the Shower Room and Work Area with airtight walls fabricated from 6 mil polyethylene.
 - 4. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every expected shift change. Roll the drop cloth layer of plastic from the Equipment Room into the Work Area after each shift change. Replace the drop cloth before the next shift change. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.
- E. Work Area: Separate the Work Area from the Equipment Room by polyethylene barriers. If the airborne asbestos level in the Work Area is expected to be high, as in dry removal, add an intermediate cleaning space between the Equipment Room and the Work Area. Damp wipe clean all surfaces after each shift change. Provide one additional floor layer of 6 mil polyethylene per shift change and remove the contaminated layer after each shift.
- F. Decontamination Sequence: Require that all workers and authorized visitors adhere to the following sequence when entering or leaving the Work Area.
 - 1. All individuals that enter the Work Area shall sign the entry log, located in the Clean Room, upon each entry and exit.
 - 2. Entering the Work Area: A worker enters the Clean Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room, then into the Work Area.
 - a. Any additional clothing and equipment that is needed by the worker shall be obtained and donned in the Equipment Room.
 - b. Worker proceeds to Work Area.
 - 3. Exiting the Work Area:
 - a. Before leaving the Work Area, the worker will be required to remove all gross contamination and debris from the outside of the

respirator, and protective clothing by wet wiping and HEPA vacuuming.

- b. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.
- c. Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in the contaminated end of the Equipment Room.
- d. Disposable coveralls are placed in a bag for disposal with other material.
- e. Require that Decontamination procedures found in Section 01560 are followed by all individuals leaving the Work Area.
- f. After showering, the worker moves to the Clean Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 CONSTRUCTION OF THE DECONTAMINATION UNITS:

- A. Walls and Ceiling: Construct airtight walls and ceiling using two (2) layers of polyethylene sheeting, at least 6 mil in thickness. Attach to existing building components or a temporary framework. If the decontamination unit is located exterior of the building, the decontamination unit shall be sheathed with ¹/₂" fire retardant plywood.
- B. Floors: Use two (2) layers (minimum) of 6 mil polyethylene sheeting to cover the floors in all areas of the Decontamination Units. Use only clear plastic to cover the floors.
- C. Lockable Louvered Door: An entrance door to the clean room shall be equipped with a louvered/shuttered opening and shall be lockable from the outside. The lockset shall be equipped to remain unlocked from the inside at all times and shall not consist of a padlock or clasp type lock.
- D. Flap Doors: Use three (3) overlapping sheets of 6 mil polyethylene sheeting with openings a minimum of four feet (4') wide. Configure so that the sheeting overlaps adjacent surfaces. Weigh sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of four feet (4') between the entrance and the exit of any room. Provide a minimum of four feet (4') between doors.
- E. Visual Barrier: Where the Decontamination Area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained, and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination Area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct a barrier with wood or metal studs covered with minimum ¹/₂" thick hardboard or ¹/₂" thick plywood. Where the solid barrier is provided, sheeting need not be opaque.
- F. If the Decontamination unit is located within an area containing friable asbestos

on overhead ceilings, ducts, piping, etc., provide the decontamination unit with a minimum $\frac{1}{2}$ " plywood "ceiling" with polyethylene sheeting, at least 6 mil in thickness covering the top of the "ceiling".

- G. Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.
- H. Electrical: Provide subpanel at Clean Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits in Decontamination Unit and particularly any pumps in the shower room to a ground-fault circuit protection device.

3.3 CLEANING OF DECONTAMINATION UNITS:

- A. Clean debris and residue from inside of Decontamination Units on a daily basis or as otherwise indicated on Contract Documents. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.
- B. If the Clean Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Clean Room as an inner section of the new Equipment Room.
- 3.4 SIGNS:
 - A. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:
 - 1. Provide signs in both English and Spanish.
 - 2. Legend:

DANGER ASBESTOS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS AUTHORIZED PERSONNEL ONLY WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA

- 3. Provide spacing between respective lines at least equal to the height of the respective upper line.
- 4. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following, in both English and Spanish:

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGE AREA	3/4" Block

END OF SECTION

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SECTION 01601

MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Asbestos Contractor's selection of products for use in the project.
- B. The Asbestos Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals".
- C. Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties", "systems", "structures", "finishes", "accessories", and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.
 - 1. "Products" are items purchased for use in performing the work or for incorporation in the work, whether purchased for the project or taken from previously purchased stock. The term "product" includes the terms "material", "equipment", "system" and terms of similar intent.
 - 2. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
 - 3. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the work.
 - 4. "Equipment" are products that may be either operational or fixed.
 - a. Operational equipment are products with operating parts, whether motorized or manually operated, that requires temporary or permanent service connections, such as wiring or piping.

b. Fixed equipment are products necessary for accomplishing the work that are used as a temporary facility during the work and removed afterward.

1.4 SUBMITTALS

- A. Required submittals: A general listing of products requiring submittals is included at the end of Section 01301 "Submittals". This listing may not be complete. Submittal requirements are found in each specification section. Prepare a schedule in tabular form showing each product listed. Include the manufacturer's name and proprietary product names for each item listed.
- B. Product List Schedule:
 - 1. Prepare a schedule showing products specified in a tabular form acceptable to the Environmental Consultant. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
 - 2. Coordinate the product list schedule with the Asbestos Contractor's Construction Schedule and the Schedule of Submittals.
- C. Environmental Consultant's Action: The Environmental Consultant will approve the Asbestos Contractor's product list within 2 weeks of receipt. The Environmental Consultant's response will include a list of unacceptable product selections, containing a brief explanation for this action.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: When the Asbestos Contractor is given the option of selecting between two or more products for use on the project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
 - 1. Schedule delivery to minimize long-term storage at the site and overcrowding of construction spaces.
 - 2. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.

- 3. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
- 4. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- 5. Store heavy materials away from the project structure in a manner that will not endanger the supporting construction.

PART 2 PRODUCTS

- 2.1 PRODUCT SELECTION
 - A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
 - B. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 - C. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - D. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Asbestos Contractor to use of these products only, the Asbestos Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 - E. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
 - F. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
 - 1. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

G. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

PART 3 EXECUTION

3.1 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work.
- B. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

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SECTION 01701

PROJECT CLOSEOUT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Project record document submittal
 - 2. Final cleaning

1.3 RECORD DOCUMENT SUBMITTALS

- A. Contractor's final report shall include, but not be limited to the following:
 - 1. All daily logs
 - 2. Operational data
 - 3. Summary of all daily OSHA compliance test results
 - 4. Any updated medical reports
 - 5. Proof that employees were notified if exposure levels exceeded current standards
 - 6. Documented proof (receipts) that all asbestos materials have been properly disposed of in a legal, regulated landfill
- B. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Owner's Representative's reference during normal working hours.
- C. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Owner's Representative for the Owner's records.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 FINAL CLEANING

- A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".
- B. Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction.
- C. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

END OF SECTION

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SECTION 01711

PROJECT DECONTAMINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS

- A. General: Decontamination of the Work Area following asbestos abatement.
 - 1. If the asbestos abatement work is on damaged or friable materials the work is a three step procedure with two cleanings of the Primary Barrier plastic prior to its removal and one cleaning of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.
 - 2. Operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:
 - 1. Section 02081 Removal of Asbestos-Containing Materials
- B. Work Area Clearance: Air testing and other requirements which must be met before release of the Asbestos Contractor and re-occupancy of the work area are specified in Section 01714 Work Area Clearance.

PART 2 PRODUCTS

2.1 GENERAL

A. Encapsulant shall be Fiberset® PM No. 7470 as manufactured by Fiberlock Technologies, Inc. or approved equal.

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PART 3 EXECUTION

3.1 GENERAL

- A. Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.
- B. Work of This Section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:
 - 1. Primary and Critical Barriers erected by work of Section 01526
 - 2. Decontamination Unit erected by work of Section 01563
 - 3. Pressure Differential System installed by work of Section 01513
- C. Work of This Section includes the cleaning and decontamination of all surfaces (ceilings, walls, floors) of the Work Area and all furniture or equipment in the Work Area.

3.2 START OF WORK

- A. Previous Work: During completion of the asbestos abatement work specified in other sections, the secondary barrier of 6 mil polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.
- B. Start of Work: Work of this section begins with the cleaning of the primary barrier. At start of work the following will be in place:
 - 1. Primary Barrier: Two layers of 6 mil polyethylene sheeting on floor and two layers on walls.
 - 2. Critical Barrier: An airtight barrier between the work area and other portions of the building or the outside.
 - 3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
 - 4. Decontamination Units: For personnel and equipment in operating condition.
 - 5. Pressure Differential System: In operation.

3.3 FIRST CLEANING

A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum (Note: A HEPA vacuum may fail if used with wet material.). Do

not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

- B. Remove all filters in air handling system(s) and dispose of as asbestos- containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.
- C. Wait to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain pressure differential system in operation for the entire air change period.
- D. After completion of the first cleaning operation of the facility, the Asbestos Contractor shall give written notification to the Asbestos Project Inspector that a pre-encapsulation inspection is needed.
- E. The Asbestos Project Inspector shall perform a visual inspection of the work area to ensure that it is dry and dust free.
- F. After approval by the Asbestos Project Inspector, the Asbestos Contractor shall spray coat all dried exposed surfaces with a sealant. The surfaces to be coated shall include the polyethylene sheeting which has been used to cover walls, floors, and non-removable fixtures and equipment.
- G. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain pressure differential system in operation during encapsulation work. Perform work only after the surfaces have met the requirements for a visual inspection in this section.
- H. After the encapsulation of the polyethylene, the first layer shall be carefully removed and rolled up with the contaminated portion inside. All equipment, machinery, scaffolding, tools, etc. within the isolated work area shall be cleaned with amended water, moved to the equipment room, and properly removed from the work area.

3.4 SECOND CLEANING

- A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.
- B. Removal of Primary Barriers:
 - 1. Immediately following the second cleaning of the remaining layer of primary plastic, remove all primary barrier sheeting and waste decontamination unit, if there is one, leaving only:
 - a. Critical Barrier: Which forms the sole barrier between the work area and other portions of the building or the outside.

- b. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
- c. Decontamination Unit: For personnel, in operating condition.
- d. Pressure Differential System: Maintain in continuous operation.

3.5 FINAL CLEANING

- A. Final Cleaning: Carry out a final cleaning of all surfaces in the work area in the same manner as the previous cleanings.
- B. The Asbestos Contractor shall request that a cleanup inspection be performed to insure all visible asbestos has been removed, the area is dust free and that the work area is ready for Clearance Sampling. The Asbestos Project Inspector and the Asbestos Contractor shall perform a complete visual inspection of the entire work area including:
 - 1. Decontamination Unit.
 - 2. Primary seals and critical barriers over HVAC openings, doorways, windows, and other openings.
- C. Look for debris from any source, residue on surfaces, dust or other material. If any such debris, residue, dirt or other material is found, repeat the final cleaning and continue decontamination procedure from that point.
- D. When the area is visually determined to be clean, post removal clearance air sampling shall be performed.
- E. During inspection time allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain pressure differential system in operation for the entire period.

3.6 VISUAL INSPECTION

- A. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.
- B. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.7 FINAL AIR SAMPLING – PCM OR TEM

A. Phase Contrast Microscopy (PCM): After the work area is found to be visually clean, PCM air samples will be collected and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:

- 1. If release criteria are not met, repeat final cleaning and continue decontamination procedure from that point.
- 2. If release criteria are met, proceed to work of this section on removal of work area isolation.
- B. Transmission Electron Microscopy (TEM): After the work area is found to be visually clean, TEM air samples will be collected and analyzed in accordance with the procedure for Transmission Electron Microscopy set forth in Section 01714 Work Area Clearance:
 - 1. If release criteria are not met, repeat final cleaning and continue decontamination procedure from that point.
 - 2. If release criteria are met, proceed to work of this section on removal of work area isolation.

3.8 ENCAPSULATION

- A. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, before removal of work area isolation as specified below. Maintain pressure differential system in operation during encapsulation work.
- B. After completion of cleaning all surfaces in the work area and upon receiving a satisfactory pre-sealant inspection, the Asbestos Contractor shall spray coat all dried exposed surfaces with a sealant. The color of this coat shall be separate and distinct from the underlying substrate. The surfaces to be coated shall include surfaces from which asbestos-containing materials have been removed (such as ceilings) and polyethylene which has been used to cover walls, floors and non-removable fixtures and equipment. Where the removal was conducted using the glove bag technique, the area within the glove bag enclosure shall be encapsulated.
- C. Two coats of sealer shall be applied to the substrate after all asbestos-containing material has been removed. Application shall be with an airless spray gun and shall be in strict accordance with the manufacturers' instructions.
- D. With the encapsulation procedure completed, a visual inspection shall be made of the area by the Asbestos Contractor and the Asbestos Project Inspector to check uniformity and coverage.

3.9 REMOVAL OF WORK AREA ISOLATION

- A. After all requirements of this section and Section 01714 Work Area Clearance have been met:
 - 1. Shut down and remove the pressure differential system. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before

being moved from work area.

- 2. Remove personnel decontamination unit.
- 3. Remove the critical barriers separating the work area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified in Section 01712 Cleaning & Decontamination Procedures.
- 4. Remove all equipment, materials, debris from the work site.
- 5. Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

3.10 SUBSTANTIAL COMPLETION OF ABATEMENT WORK

- A. Asbestos abatement work is substantially complete upon meeting the requirements of this Section and Section 01714 Work Area Clearance, including submission of:
 - 1. Certificate of Visual Inspection.
 - 2. Receipts documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material.
 - 3. Punch list detailing repairs to be made and incomplete items.

END OF SECTION

SECTION 01714

WORK AREA CLEARANCE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.
- B. Visual inspection required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.
- C. Air Monitoring performed by the Environmental Consultant during abatement work, is described in Section 01410 Air Monitoring Test Laboratory Services.

1.2 SUMMARY

- A. This section describes work being performed by the Owner's Environmental Consultant.
- B. This Section sets forth required post-abatement airborne asbestos concentrations in the work area and describes testing procedures the Owner's Environmental Consultant will use to measure these levels.
- C. This Section identifies specific contract requirements relative to re-testing a work area upon Asbestos Contractor's failure of clearance criteria.

1.3 ASBESTOS CONTRACTOR RELEASE CRITERIA

- A. The asbestos abatement work area is cleared when the work area is visually clean and airborne asbestos fiber/structure concentrations have been reduced to the level specified below.
- B. In the event of clearance criteria failure, the Asbestos Contractor shall reimburse the Owner for all expenses incurred by the Environmental Consultant for retesting the work area.

1.4 VISUAL INSPECTION

A. Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the API.

1.5 AIR MONITORING

A. To determine if the elevated airborne asbestos fiber/structure concentration encountered during abatement has been reduced to the specified level, the API will secure samples and analyze them according to the following procedures:

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- 1. Aggressive sampling procedures as described below will be followed.
- 2. Clearance sampling shall be conducted utilizing Phase Contrast Microscopy (PCM) methodology for exterior and interior non-friable materials and Transmission Electron Microscopy (TEM) methodology for interior materials, if required.
- 3. Upon meeting clearance criteria, the requirements of Section 01711 Project Decontamination can continue.
- 4. Upon failure of clearance criteria, the Asbestos Contractor shall re-clean the work area at no additional expense to the Building Owner.

1.6 AGGRESSIVE SAMPLING

- A. All air samples will be taken using aggressive sampling techniques as follows:
 - 1. Sampling sites in the abatement area shall be selected on a random basis.
 - 2. A field blank shall be taken at each abatement areas before sampling is initiated by removing the cap for not more than thirty (30) seconds and replacing it at the time of sampling. A sealed blank shall be carried with each sample set and shall not be opened in the field.
 - 3. One 10 inch diameter fan per 10,000 cubic feet of work area volume will be mounted in a central location, directed toward ceiling and operated at low speed for the entire period of sample collection.
 - 4. Air samples will be collected in areas subject to normal air circulation away from room corners and obstructed locations.
 - 5. Floor, ceilings, and walls shall be swept with the exhaust of a one (1) horsepower (or equivalent) leaf blower.
 - 6. Pump flow rates shall not exceed ten (10) liters per minute for twenty-five (25) millimeter cassettes.
 - 7. After air sampling pumps have been shut off, fans will be shut off.
 - 8. A minimum of 5 clearance samples shall be collected per work area per AHERA.

1.7 SCHEDULE OF AIR SAMPLES

A. At a minimum, the number of air samples procured within the work area by the Owner's Environmental Consultant shall be in accordance with the Philadelphia Asbestos Control Regulation Chapter6-600 and AHERA.

1.8 CLEARANCE CRITERIA

A. Each work area shall be considered cleared for removal of critical barriers, decontamination unit(s) and air filtration equipment when the fiber concentration does not exceed the Philadelphia Asbestos Control Regulation Chapter 6-600 for

a major project.

B. If the first set of clearance samples fail, the Contractor will be financially responsible for subsequent analysis costs and sampling technician costs.

1.9 ANALYTICAL METHODOLOGY

- A. Phase Contrast Microscopy (PCM) air sampling and analysis shall be conducted in accordance with NIOSH 7400 Methodology.
- B. Phase Contrast Microscopy (PCM) clearance criteria shall be performed by EPA 40 CFR Part 763 Appendix A to Subpart E methodology and compared to the Philadelphia Asbestos Control Regulation Chapter 6-600.
- C. Transmission Electron Microscopy (TEM) clearance criteria shall be performed by EPA 40 CFR Part 763 Appendix A to Subpart E methodology and compared to the Philadelphia Asbestos Control Regulation Chapter 6-600.

1.10 LABORATORY TESTING & SAMPLE ANALYSIS

- A. The services of a testing laboratory will be employed by the Owner's Environmental Consultant to perform laboratory analysis of the procured air samples. Air samples may be analyzed on-site or delivered to a laboratory on a daily basis. Verbal reports of PCM analysis shall be obtained within 24 hours of delivery to the laboratory. If required, verbal reports of TEM analysis shall also be obtained within 24 hours of delivery to the laboratory.
- B. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Owner, the Owner's Environmental Consultant, and the Asbestos Contractor (if requested).

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

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SECTION 02079

GLOVE BAG REMOVAL

PART 1 GENERAL

1.1 GLOVE BAG TECHNIQUE:

- A. The removal of asbestos by use of glove-bag procedures shall be limited to the removal of asbestos-containing insulation from pipe joints and pipe runs not exceeding 16" in diameter. No glove-bag work shall be permitted on hot pipes exceeding a temperature of 150 degrees Fahrenheit.
- B. The preparation of the Work Area for glove-bag removal shall include the following:
 - 1. A minimum of two (2) persons are required to perform a glove bag removal project. A third person may be required to assist with supplies.
 - 2. Use each glove-bag once. Do not move the glove-bag once it has been mounted.
 - 3. All glove-bag procedures shall be performed utilizing negative air pressure.
 - 4. The Work Area where the technique is to be utilized shall be sealed with critical barriers and posted with warning signs to prevent unauthorized personnel from entering the Work Area.
 - 5. Building occupants shall be removed from any floor where a removal project is in progress unless the work area is completely separated by an airtight physical barrier such as a wall, or by an isolation barrier.
 - 6. The work area shall be separated from the rest of the work site by isolation barriers consisting of solid physical barriers such as ceiling, floors, and walls, or solid partitions, with all openings such as doors, windows, and air vents covered with a single layer of plastic sheeting.
 - 7. At least one (1) layer of plaster sheeting shall be taped to the floor beneath the pipes subject to the abatement extending at least five (5) feet from the area of removal in all directions.
 - 8. The contractor shall pre-clean all surfaces within the room and shall arrange for the shut down and sealing of all electrical, heating, cooling and ventilating air handling systems.
 - 9. Provide a one stage change chamber attached to each glove-bag Work Area. Provide a remote three stage decontamination unit equipped with showering facilities if approved with an Alternative Method Request.
 - 10. All non-moveable items within the Work Area shall be cleaned via wet cleaning methods and shall be HEPA vacuumed when the surfaces have dried.
 - 11. All necessary materials and supplies shall be brought into the Work Area before removal begins.
- C. A visual inspection of the pipe where the work will be performed shall be made to

determine if any damaged pipe covering (broken, hanging, etc.) exists. If there is damage, the pipe shall be wrapped in polyethylene sheeting and fully secured with tape. This procedure will prevent high airborne fiber concentrations from occurring during the glove bag work caused by damaged pipe lagging several feet or even several yards away which may be jarred loose by the activity. Debris on the floor and other surfaces which has accumulated and contains asbestos shall be HEPA vacuumed and wet wiped clean and disposed of as contaminated. If the pipe is undamaged, one layer of tape shall be placed around the pipe at each end where the glove bag will be attached. This creates a good surface to which to seal the ends of the glove bag, and it minimizes the chance of releasing fibers when the tape at the ends of the glove bag is peeled off at the completion of the job.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 EXECUTE STEP BY STEP PROCEDURE AS FOLLOWS:

- A. Slit the top of the glove bag open (if necessary) and cut down the sides to accommodate the size of the pipe (about two inches longer than the pipe diameter).
- B. Place the necessary tools into the pouch located inside the glove bag. This will usually include the bone saw, utility knife, rags, scrub brush, wire cutters, tin snips and pre-cut wettable cloth. Cut out a donut shape in the cloth using the inner diameter of the pipe insulation being removed. Finally, cut a slit in each of the two donuts so they can be slipped around the pipe.
- C. One strip of tape shall be placed along the edge of the open top slit of the glove bag for reinforcement.
- D. Place the glove bag around the section of pipe to be worked on and staple the top together through the reinforcing tape. Staple at intervals of approximately one inch. Next, fold the stapled top flap back and tape it down. This should provide an adequate seal along the top. Next, tape the ends of the glove bag to the pipe itself, previously covered with plastic or duct tape.
- E. The contractor shall smoke test each glove-bag to ensure that it does not leak. The asbestos project inspector shall personally witness the smoke testing of each glove-bag. Using the smoke tube and aspirator bulb, place the tube into the water sleeve (two-inch opening to glove bag). By squeezing the bulb, fill the bag with visible smoke. Remove the smoke tube and twist the water sleeve tightly to close it. Gently squeeze the glove bag and look for smoke leaking out, especially at the top and ends of the glove bag. If leaks are found, they shall be taped closed using duct tape and the bag shall be retested.
- F. Insert the wand from the water sprayer through the water sleeve. Tape the water

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sleeve tightly around the wand to prevent leakage.

- G. One person places their hands into the long-sleeved gloves while the second person directs the amended water spray at the work.
- H. If the section of pipe is covered with an aluminum jacket, this is removed first using the wire cutters to cut any bands and the tin snips to remove the aluminum. It is important to fold the sharp edges in to prevent cutting the bag when it is placed in the bottom. A box may be put in the bottom of the bag when the tools are placed in, and the metal placed in the box to further protect the bag from being cut.
- I. With the insulation exposed, using the bone saw, cut the insulation at each end of the section to be removed. A bone saw is a serrated heavy-gauge wire with ring-type handles at each end. Throughout this process, amended water or removal encapsulant is sprayed on the cutting area to keep dust to a minimum.
- J. Once the ends are cut, the section of insulation should be slit from end to end using the utility knife. The cut should be made along the bottom of the pipe and amended water continuously supplied. Again, care should be taken when using the knife not to puncture the bag. Some insulation may have wire to be clipped as well. Again, a box may be used here as in step (H) above to protect the bag from puncture.
- K. Rinse all tools with water inside the bag and place back into pouch.
- L. The insulation can now be lifted off the pipe and gently placed in the bottom of the bag, while the side of the insulation adjacent to the pipe is being thoroughly wetted.
- M. Using the scrub brush, rags and amended water, scrub and wipe down the exposed pipe.
- N. Wet the donut-shaped pieces of wettable cloth over the exposed ends of insulation remaining in the pipe.
- O. Remove the water wand from the water sleeve, insert the encapsulant wand and encapsulate the pipe and the inside of the glove bag.
- P. Remove the encapsulant wand from the water sleeve and attach the small nozzle from the HEPA filtered vacuum only briefly to collapse the bag.
- Q. Remove the vacuum nozzle and twist the water sleeve closed and seal with tape.
- R. From outside the bag, pull the tool pouch away from the bag. Place tape over the twisted portion and then cut the tool bag from the glove bag, cutting through the twisted/taped section. In this manner, the contaminated tools may be placed directly into the next glove bag without cleaning. Alternatively, the tool pouch with the tools can be placed in a bucket of water, opened underwater, and the tools cleaned and

dried without releasing asbestos into the air. This water shall be handled as asbestoscontaminated waste. Rags and the scrub brush cannot be cleaned in this manner and should be discarded with the asbestos waste. No more than one use of a glove-bag shall be permitted.

- S. With removed insulation in the bottom of the bag, twist the bag several times and tape it to keep the material in the bottom during removal of the glove bag from the pipe.
- T. Slip a six (6)-mil disposal bag over the glove bag (still attached to the pipe). Remove the tape and open the top of the glove bag and fold it down into the disposal bag.
- U. All surfaces in the Work Area shall be cleaned using disposable cloths wetted with amended water. These cloths shall be disposed of or rinsed thoroughly to eliminate visible accumulation of debris. Then, when these surfaces have been allowed to dry, all surfaces shall be cleaned again using a HEPA filtered vacuum (See Section 01711).
- V. Place any contaminated articles, debris, etc. into the bag with the waste.
- W. Twist the top of the bag closed, fold this over, and seal with duct tape. Place this bag into a second six (6)-mil disposable bag, and seal as in the above manner. Label the bag with the appropriate warning labels.
- X. Asbestos-containing material shall be disposed of as specified in with Section VI.C.7 of the Philadelphia Asbestos Control Regulation and Section 02084 of this specification.
- Y. Air sampling shall be conducted after completion of glove bag projects to determine if undetected leakage occurred. Once the area has been found to be safe for re-entry by unprotected personnel, the barriers may be removed (See Section 01714).

END OF SECTION

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SECTION 02081

REMOVAL OF ASBESTOS CONTAINING MATERIAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.
- B. Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.
- C. Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos-Containing Waste Material.

1.3 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Environmental Consultant.
 - 1. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
 - 2. Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.
 - 3. NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).
 - 4. Safety Data Sheet: Submit the Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

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PART 2 PRODUCTS

- A. Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:
 - 1. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.
 - 2. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.
- B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick as indicated, frosted or black as indicated.
- C. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
- D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- E. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.
- F. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.
- G. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

PART 3 EXECUTION

3.1 WORKER PROTECTION:

A. Before beginning work with any material for which a Safety Data Sheet has been

submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.2 GENERAL PROCEDURES FOR THE REMOVAL OF ASBESTOS-CONTAINING MATERIALS:

- A. Preparation work for the removal of the identified asbestos-containing materials shall utilize Full Containment with three-stage personnel decontamination units, air filtration units and digital negative air pressure differential monitoring systems as indicated on the contract drawings and shall be in accordance with Philadelphia Asbestos Control Regulation Chapter 6-600 and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation work shall only be deemed to be complete and acceptable following a satisfactory inspection by the API. Approval to proceed with removal activities shall be required in writing prior to commencing removal activities.
- B. Thoroughly wet asbestos-containing materials to be removed prior to stripping and/or demolition to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions.
- C. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
- D. Asbestos-containing fitting insulation and pipe insulation in the risers of the library shall be removed under a full containment.
- E. Radiator heat shield insulation in the library shall be removed under a full containment.
- F. Asbestos-containing fitting insulation and pipe insulation in the attic of the library will be removed using containment bag techniques.
- G. Asbestos-containing fitting insulation and pipe insulation may be present in the attic of the recreation center; however, it was inaccessible during the asbestos survey. If renovation activities will impact this material the material must be abated prior to disturbance. If removal is required, the material will be removed using containment bag techniques.
- H. Asbestos-containing floor tile that cannot be removed non-friably shall be removed utilizing a full containment. Removal of floor tile that is located below a layer of floor tile or other adhered layer, will likely result in breakage of the VAT, therefore,

these materials must be removed as a friable abatement project as per the Philadelphia Asbestos Control Regulation (ACR).

- I. Asbestos containing floor tile in the kitchen of the recreation center shall be removed under limited containment utilizing critical barriers. Floor tiles must be removed nonfriably in an intact manner utilizing heat machines or dry ice. If floor tiles are to be removed utilizing dry ice, proper ventilation shall be supplied by contractor. Mastic is to be removed utilizing a no-odor solvent designed for flooring mastic removal. Unbroken tiles may be placed into clear 6-mil polyethylene bags and then placed into sealed leakproof drums.
- J. Metal fire doors with ACM interior insulation shall be removed intact, wrapped, and completely sealed in two layers of 6-mil polyethylene sheeting then properly labeled and disposed of as friable ACM.
- K. Removal of the asbestos material shall be done in small sections by two-person teams, on staging platforms if needed. The wet material from each section shall be packed and sealed into clear labeled 6-mil polyethylene bags. When possible, one worker shall remove and hand sections of asbestos material to the other worker who shall then place the material into labeled 6-mil polyethylene bags.
- L. Asbestos-containing and asbestos-contaminated materials shall be containerized at that height for eventual disposal. Asbestos-containing materials shall be handled carefully. No asbestos is permitted to drop directly to the ground. Any unnecessary agitation of the material is strictly prohibited.
- M. All asbestos-containing and asbestos-contaminated materials described in the scope of work shall be removed. The Contractor shall take care that all asbestos has been removed from fasteners, from channels of support systems, construction blocks, ductwork and piping, and all other hard to reach places.
- N. As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work towards the negative air filtration units.
- O. Operations shall be continuous so that once an area is started it shall be worked on to the first wet wipe. The wet material from each section shall be packed and sealed into labeled 6-mil polyethylene bags and double bagged with visible labels prior to starting the next section. Water-soaked fallen material shall be picked up while wet to prevent water loss due to evaporation.
- P. Maintain good housekeeping so as not to accumulate loose asbestos.
- Q. Reach the clean wipe state as quickly as possible.
- R. Remove the residues as quickly as possible so as not to walk or track through it, thus grinding it to smaller, more potentially dangerous sizes.

- S. Place the asbestos into clear 6-mil polyethylene bags as quickly as possible so as not to allow asbestos to dry out and become airborne. Bags shall be handed down or chuted down carefully from one worker to another. All bags shall be placed into a second clear labeled 6-mil polyethylene bag for disposal.
- T. Contaminated material containing sharp edged items shall be cut to size while adequately wet, placed in small cardboard boxes or burlap bags and double bagged, or double bagged and then placed in temporary fiber drums, the integrity of which is the Contractor's responsibility.
- U. Bags shall be marked with the labels prescribed by 40 CFR Part 61 Section 61.150 of the EPA regulations. The outside of all containers shall be wet cleaned or HEPA vacuumed before leaving the work area.
- V. After removal, the underlying material shall be brushed with a stiff, nylon bristle brush. Wire brushes are not permitted; asbestos fiber bundles break into smaller more hazardous fiber sizes when a wire brush is utilized. After the material is brushed, it shall be wet wiped with amended water. Only 100% removal will be accepted.

END OF SECTION

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SECTION 02084

DISPOSAL OF ASBESTOS-CONTAINING WASTE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.
- B. Section 01092 Codes and Regulations Asbestos Abatement describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK

A. This section describes the disposal of Asbestos-Containing Materials. Disposal includes packaging of asbestos-containing waste materials.

1.3 SUBMITTALS

- A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not commence work until these submittals are approved by the Environmental Consultant.
 - 1. Copy of state or local license for waste hauler.
 - 2. Name and address of landfill where asbestos-containing waste materials are to be buried. Include contact person and telephone number.
 - 3. For operations that convert asbestos containing waste material into nonasbestos (asbestos-free) material, product data on process to be used.
 - 4. Letters or other documents from the United States Environmental Protection Agency (USEPA) relative to the process:
 - a. Indicating that the process to be used can produce an asbestos-free product and is capable of satisfying the requirement for an acceptable "alternative" means of complying with Section 61.150(a) of the NESHAP regulation for asbestos.
 - b. Identifying process parameters or operating conditions important to the successful operation of the process.
 - 5. Chain of Custody form and form of waste manifest proposed.
 - 6. Sample of disposal bag and any added labels to be used.
- B. On a weekly basis submit copies of all manifests and disposal site receipts to Owner's Environmental Consultant.

PART 2 PRODUCTS

2.1 DISPOSAL BAGS & LABELS

- A. The Contractor shall provide 6 mil thick leak-tight polyethylene clear bags labeled with four (4) labels with text as follows:
- B. First Label:

CAUTION: CONTAINS ASBESTOS FIBERS AVOID OPENING OR BREAKING CONTAINER BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

C. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:

DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS DO NOT BREATHE DUST AVOID CREATING DUST

D. Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS SUBSTANCE SOLID, NOS, ORM-E, NA 9188 (ASBESTOS)

E. Fourth Label: Provide in accordance with 40 CFR Part 61 Asbestos NESHAP revision; Final Rule dated November 20, 1990.

CITY OF PHILADELPHIA 4190 KINGSESSING AVENUE PHILADELPHIA, PENNSYLVANIA 19143

PART 3 EXECUTION

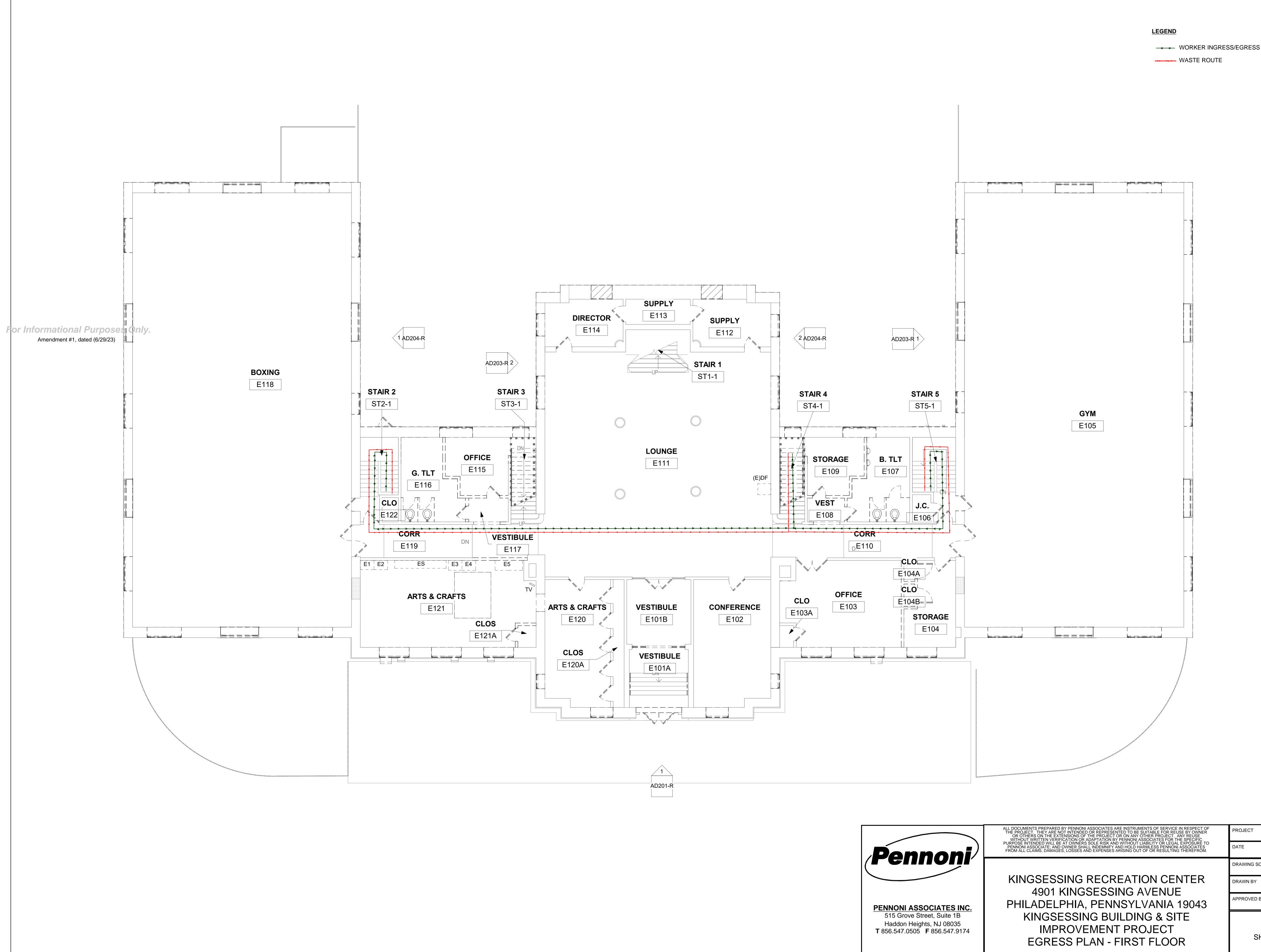
- 3.1 GENERAL
 - A. Comply with the following sections during all phases of this work:
 - 1. Section 01560 Worker Protection Asbestos Abatement.

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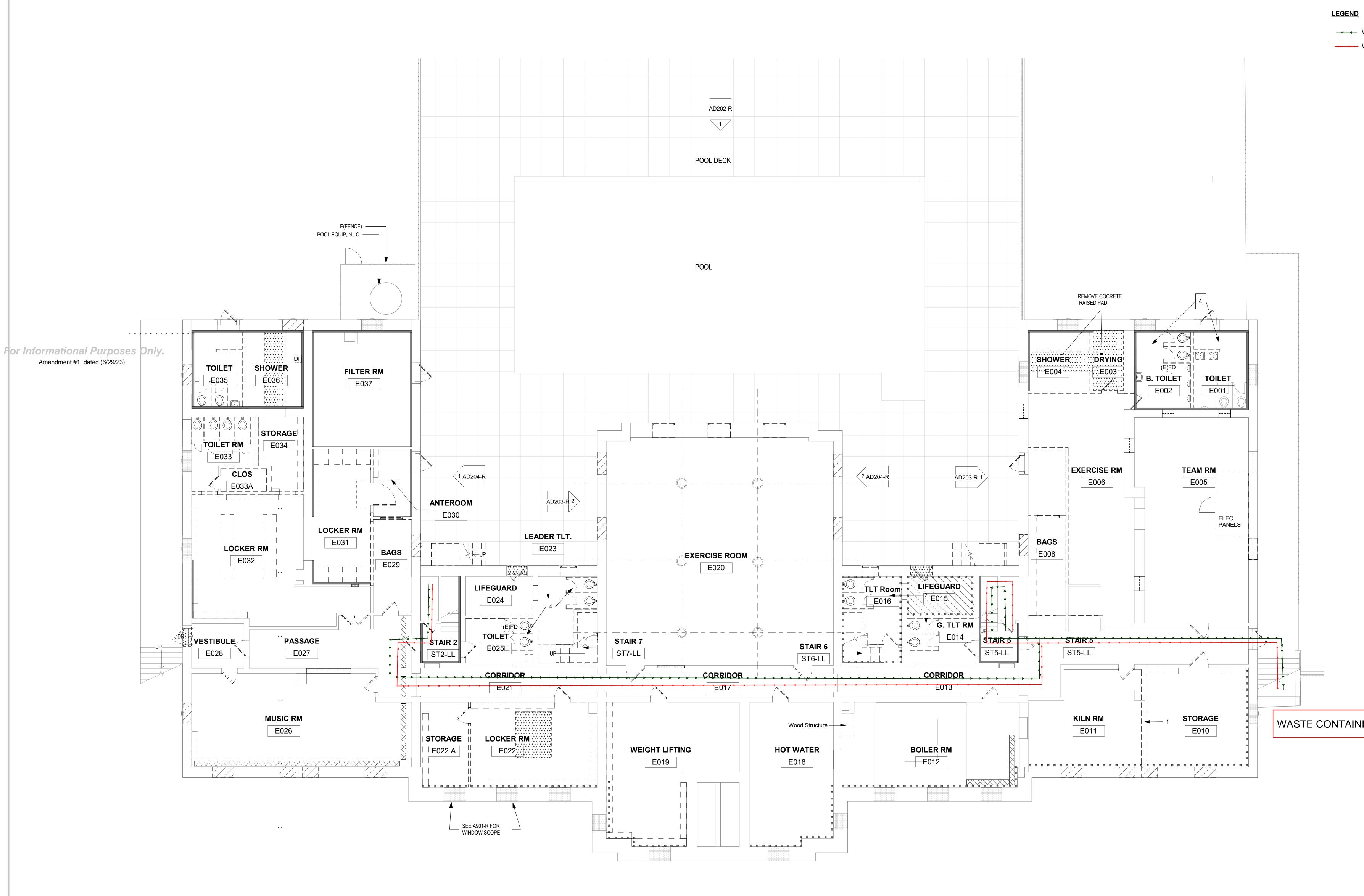
- 2. Section 01562 Respiratory Protection.
- B. All waste is to be hauled by a waste hauler with all required licenses from all state and local authorities with jurisdiction.
- C. Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:
 - 1. Two 6 mil thick clear waste disposal bags.
 - 2. Two 6 mil thick clear waste disposal bags and a fiberboard drum.
- D. Protect interior walls and floor of truck or dumpster with one layer of 6 mil polyethylene sheeting.
- E. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.
- F. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.
- G. Do not transport asbestos-containing materials in open trucks or dumpsters. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.
- H. Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered.
- I. At disposal site, unload containerized waste:
 - 1. At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return the bags to the work site for re-bagging. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.
 - 2. At a waste processing site the truck and loading dock are arranged as a controlled Work Area and containerized waste is transferred to the storage area by site personnel. All bags including broken ones will be transferred. Clean the truck, using procedures set forth in section 01711 Project Decontamination.
- J. Retain receipts from landfill or processor for materials disposed of.
- K. At completion of hauling and disposal of each load, submit a copy of the waste manifest, chain of custody form, and landfill receipt to Environmental Consultant.

END OF SECTION

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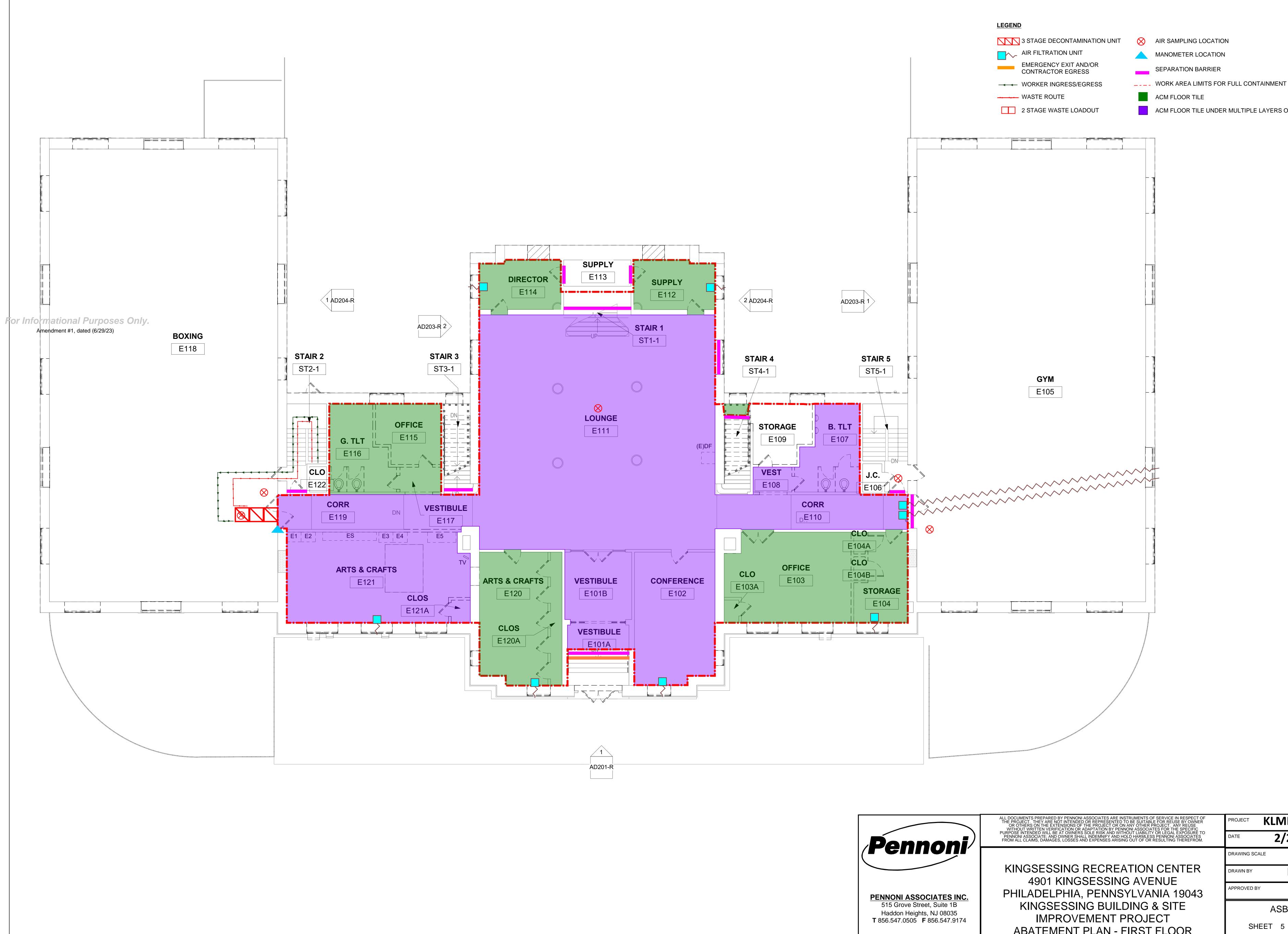




KINGSESSING RECREATION CENTER 4901 KINGSESSING AVENUE PHILADELPHIA, PENNSYLVANIA 19043 KINGSESSING BUILDING & SITE **IMPROVEMENT PROJECT** EGRESS PLAN - LOWER LEVEL

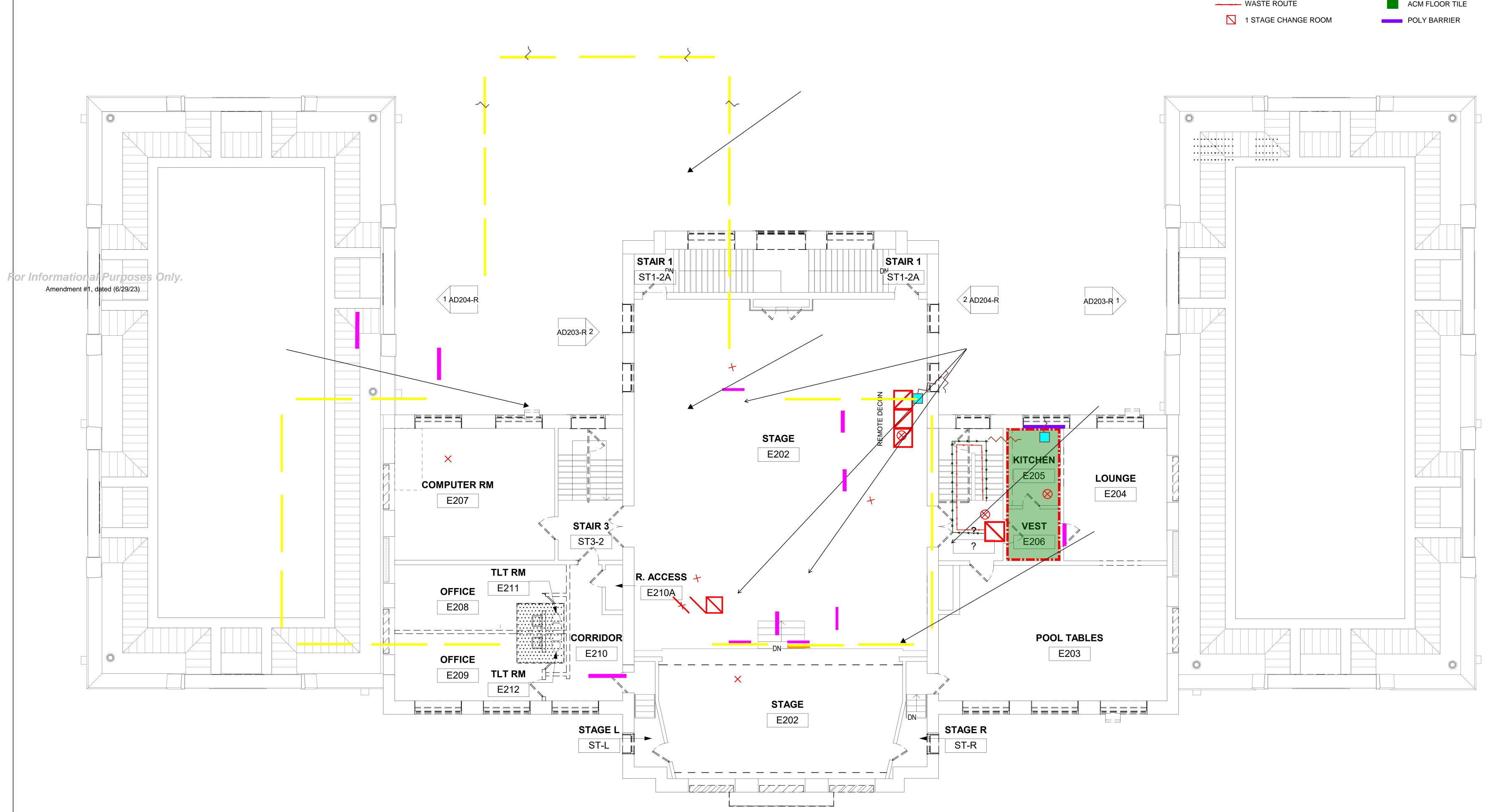
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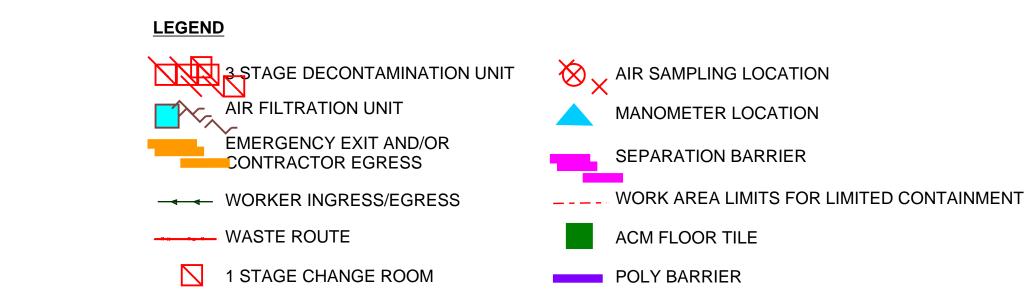
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