

Northwestern Michigan College

NMC Foundation

BID - PERMIT



GENERAL NOTES

- OWNERSHIP AND USE OF DOCUMENTS.
- THIS IS AN INSTRUMENT OF PROFESSIONAL SERVICE AND SHALL REMAIN THE PROPERTY OF DTMB WHETHER THE PROJECT FOR WHICH IT IS MADE IS EXECUTED OR NOT. NO CHANGES, ALTERATIONS, ADDITIONS OR DELETIONS MAY BE MADE HERETO EXCEPT BY THE ARCHITECT AND SHALL NOT BE USED OR REPRODUCED BY ANYONE ON OTHER PROJECTS OR FOR COMPLETION OF THIS PROJECT BY OTHER WITHOUT THE EXPRESS WRITTEN CONSENT OF CORNERSTONE ARCHITECTS, INC.. SUBMISSION OR DISTRIBUTION TO MEET REGULATORY REQUIREMENTS OR FOR PURPOSES IN CONNECTION WITH THIS PROJECT IS NOT TO BE CONSTRUED AS PUBLICATION IN DEROGATION OF THE RIGHTS OF CORNERSTONE ARCHITECTS, INC.
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2. ALL WORK AND MATERIALS SHALL BE IN FULL CONFORMANCE WITH THE CURRENT FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES AT THE TIME THE PLANS WERE REVIEWED AND APPROVED. ALL SUCH CODES AND COMPLIANCE ARE TO BE DEEMED AS PART OF THIS CONTRACT AND PART OF THE CONSTRUCTION DOCUMENTS SHALL HAVE BEEN WRITTEN IN FULL. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
 3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
 4. HOLD INDICATED DIMENSIONS. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCIES WITH THE ARCHITECT BEFORE BEGINNING WORK.
 5. IN THE CASE OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT NOT CLARIFIED BY ADDENDUM, THE SPECIFICATIONS SUPERSEDE THE DRAWINGS AND THE BETTER QUALITY MORE EXPENSIVE, OR GREATER QUANTITY OF WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE ARCHITECT'S INTERPRETATION.
 6. ALL CONSTRUCTION THAT IS ALREADY IN PLACE AND IS TO REMAIN AS PART OF THE PROJECT SHALL BE PROTECTED FROM DAMAGE AND PROTECTED THROUGHOUT THE PERIOD OF CONSTRUCTION WORK. CONTRACTOR TO TAKE PRE-CONSTRUCTION PHOTOS TO BE USED AS PROOF OF EXISTING CONDITIONS. ANY DAMAGED DURING CONSTRUCTION TO FEATURES AND OR ITEMS TO REMAIN IN PLACE SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR TO THE SATISFACTION OF THE OWNER WITH MATERIALS EQUIVALENT OR SUPERIOR TO THE ORIGINAL ITEM(S). IF NO PROOF CAN BE PROVIDED, CONTRACTOR MUST REPAIR AT THEIR EXPENSE.
 7. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL DIMENSIONS AND INSPECT CONDITIONS OF PRIOR WORK OF THE OTHER TRADES BEFORE STARTING WORK. PROCEEDING WITH THE WORK SHALL CONSTITUTE ACCEPTANCE OF PRIOR WORK.
 8. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
 9. SEALANT, CAULKING, AND FLASHING LOCATIONS SHOWN ON DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE. FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND STANDARD INDUSTRY AND BUILDING PRACTICE.
 10. IN ALL CASES WHERE WORK DEPICTED IN THESE DRAWINGS REPRESENTS A COMPLETE SYSTEM COMPOSED OF SEPARATE PARTS, IT IS THE RESPONSIBILITY OF THE CM/ GENERAL CONTRACTOR TO PROVIDE ALL OF THE PARTS, COMPONENTS, ACCESSORIES, HARDWARE, FASTENERS, ETC. REQUIRED FOR A COMPLETE AND FULLY FUNCTIONING ASSEMBLY WITHIN THE DEFINITIONS OF NORMAL INDUSTRY STANDARDS, WHETHER OR NOT THESE MISCELLANEOUS ITEMS ARE DIRECTLY SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
 11. CONTRACTOR IS RESPONSIBLE FOR SHORING AND STABILIZATION BUILDING THROUGHOUT PROJECT TO PREVENT MOVEMENT/ SHIFTING/ COLLAPSE, ESPECIALLY CONCERNING LOG REPLACEMENT AND REMOVAL.

ABBREVIATIONS

ABV	ABOVE	HDW, HW	HARDWARE
ACT	ACOUSTICAL CEILING	HM	HOLLOW METAL
ADA	AMERICANS W/ DISABILITIES ACT	HOR	HORIZONTAL
ADJ	ADJACENT	HP	HIGH POINT
AFF	ABOVE FINISH FLOOR	HWd	HARDWOOD
ALT	ALTERNATE	IGU	INSULATED GLAZING UNIT
ALUM	ALUMINUM	INSUL	INSULATION
BF	BARRIER FREE	INT	INTERIOR
BIT	BITUMINOUS	L	ANGLE
BLDG	BUILDING	LVR	LOUVER
BLKG	BLOCKING	LVT	LUXURY VINYL TILE
BO	BOTTOM OF	MAINT	MAINTENANCE
BOT	BOTTOM	MAX	MAXIMUM
BRG	BEARING	MB	MARKERBOARD
BTW	BETWEEN	MECH	MECHANICAL
CFA	COLD FLUID APPLIED	MFR, MANUF	MANUFACTURER
CG	CORNER GUARD	MIN	MINIMUM
CJ	CONTROL JOINT	MO	MASONRY OPENING
CLNG	CEILING	ML	METAL
CLR	CLEAR	NIC	NOT IN CONTRACT
CMU	CONCRETE MASONRY UNIT	NOM	NOMINAL
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE	OC	ON CENTER
CONT	CONTINUOUS	OFCl	OWNER FURNISHED, CONTRACT
COORD	COORDINATE		INSTALLED
CPT	CARPET	OH	OVER HEAD
CT	CERAMIC TILE	OPP	OPPOSITE
CTP	COUNTER TOP	PLAM	PLASTIC LAMINATE
CTR	CENTER	PL	PLATE
DEMO	DEMOLITION	PNL	PANEL
DIA	DIAMETER	PTD	PAINTED
DIM	DIMENSION	PT	PRESSURE TREATED
DN	DOWN	QTY	QUANTITY
DTL	DETAIL	R	RADIUS, RISER
DWG	DRAWING	RB	RUBBER BASE
EA	EACH	REINF	REINFORCING
ELEV	ELEVATION	RD	ROOF DRAIN
EQ	EQUAL	RO	ROUGH OPENING
EQUIP	EQUIPMENT	RQ, RQd	REQUIRED, REQUIREMENTS
(E), EXIST	EXISTING	RT	RUBBER TILE
EXP	EXPANSION	SIM	SIMILAR
EXT	EXTERIOR	SPEC	SPECIFICATIONS
FB	FLOOR BOX	SQ	SQUARE
FD	FLOOR DRAIN	SS	SOLID SURFACE
FE	FIRE EXTINGUISHER	SSTL	STAINLESS STEEL
FE&C	FIRE EXTINGUISHER & CABINET	STL	STEEL
FIN	FINISH(ED)	SUSP	SUSPENDED
FL, FLR	FLOOR	T	TREAD
FT	FEET	T&G	TONGUE & GROOVE
FRP	FIBER REINFORCED PLASTIC	TEMP	TEMPERATURE
FTG	FOOTING	TO	TOP OF
FV	FIELD VERIFY	Typ	TYPICAL
'G	ING	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	VCT	VINYL COMPOSITE TILE
GALV	GALVANIZED	VERT	VERTICAL
GB	GRAB BARS	VIF	FERIFY IN FIELD
GC	GENERAL CONTRACTOR	W/	WITH
GL	GLASS, GLAZING	WD	WOOD
GWB	GYPSUM WALL BOARD		
GYPWD	GYPSUM WALL BOARD		

DRAWING INDEX

REFERENCE

ATS - 1	Title Sheet
ADA	ADA Barrier Free Clearances
CODE-1	Code Plan

ARCHITECTURAL

A101	Demo Plan, Floor Plan,
A102	Reflected Ceiling, Finish and Furniture Plans

PLUMBING

PD101	Plumbing Demo Plan
P101	Plumbing Plan
P200	Plumbing Schedules

MECHANICAL

MD101	Mechanical Demo Plan
M101	Mechanical Plan
M200	Mechanical Schedules

ELECTRICAL

E000	Electrical Schedules
ED101	Electrical Demo Plan
E101	Electrical Plan
E200	Electrical Schedules
E900	Electrical Specifications
E901	Electrical Specifications
E902	Electrical Specifications
ELC	Emergency Lighting Calculations

M, E & P:

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ARCHITECT:

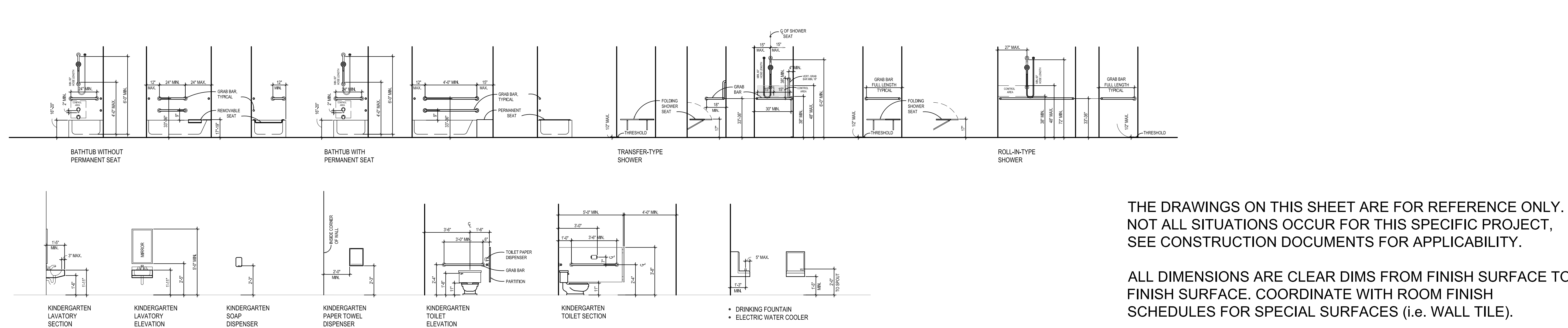
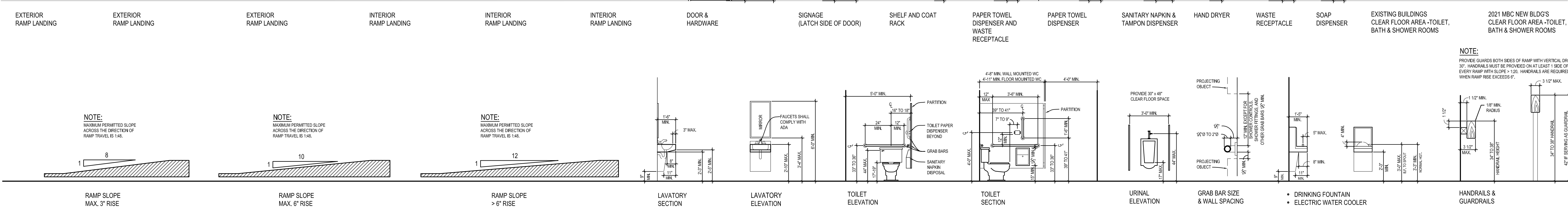
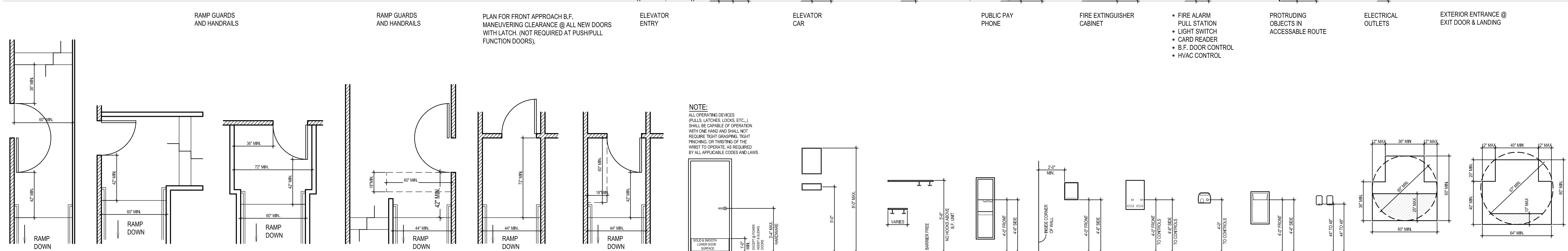
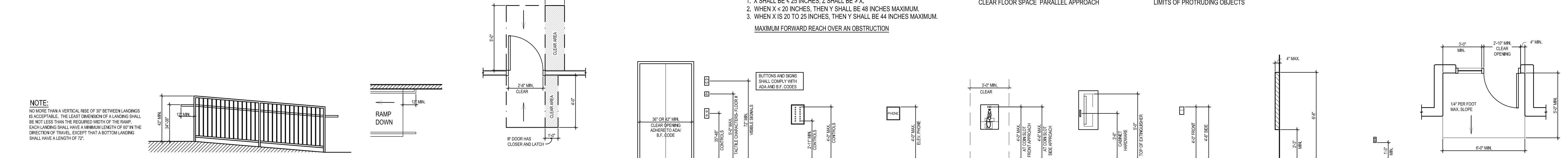
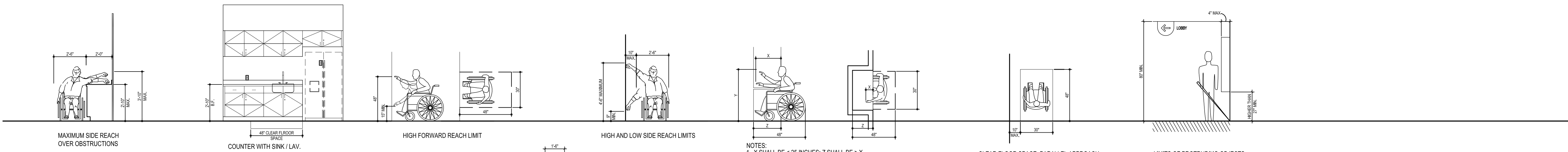
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[illegible]

ATS



THE DRAWINGS ON THIS SHEET ARE FOR REFERENCE ONLY. NOT ALL SITUATIONS OCCUR FOR THIS SPECIFIC PROJECT, SEE CONSTRUCTION DOCUMENTS FOR APPLICABILITY.

ALL DIMENSIONS ARE CLEAR DIMS FROM FINISH SURFACE TO FINISH SURFACE. COORDINATE WITH ROOM FINISH SCHEDULES FOR SPECIAL SURFACES (i.e. WALL TILE).



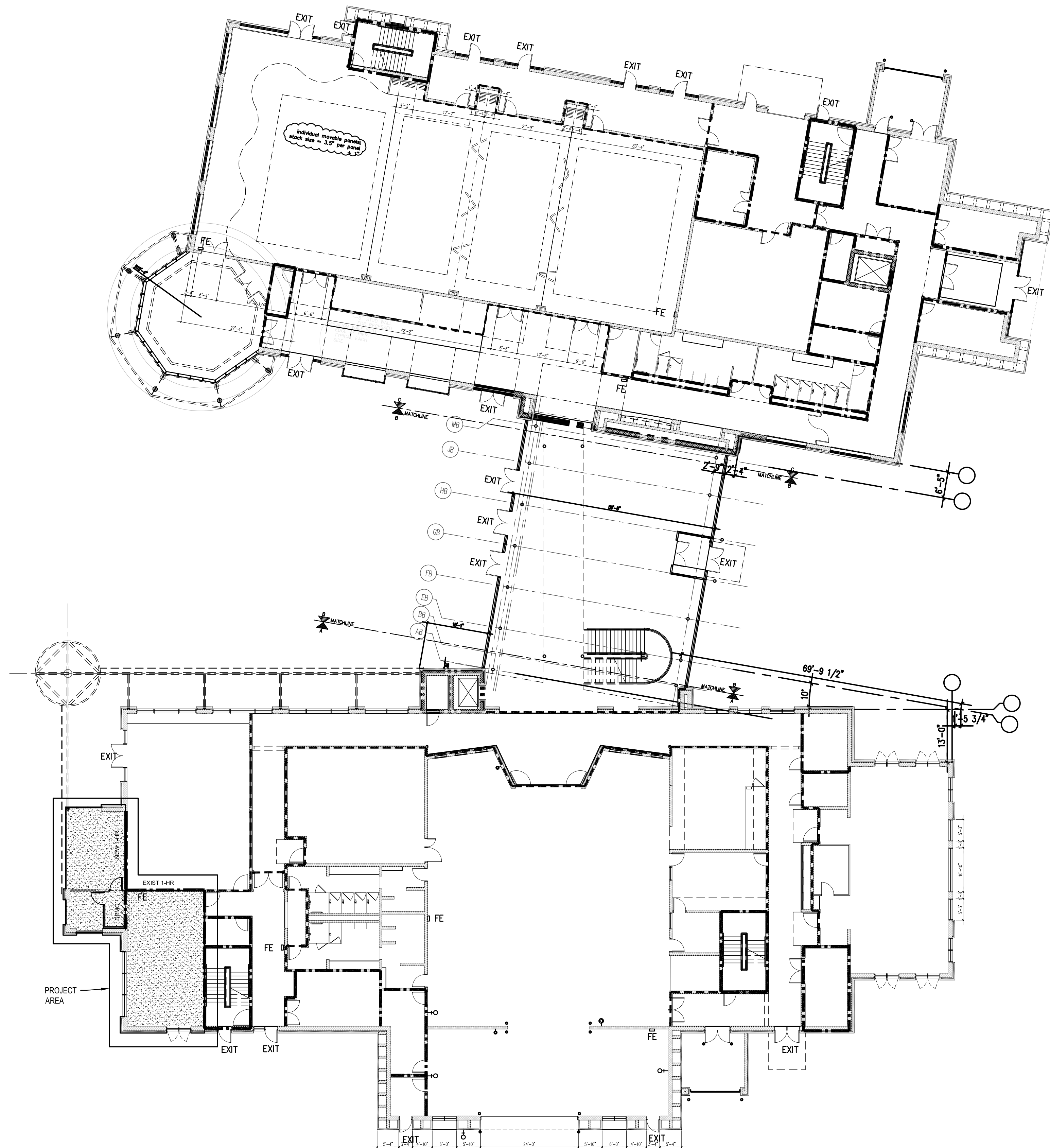
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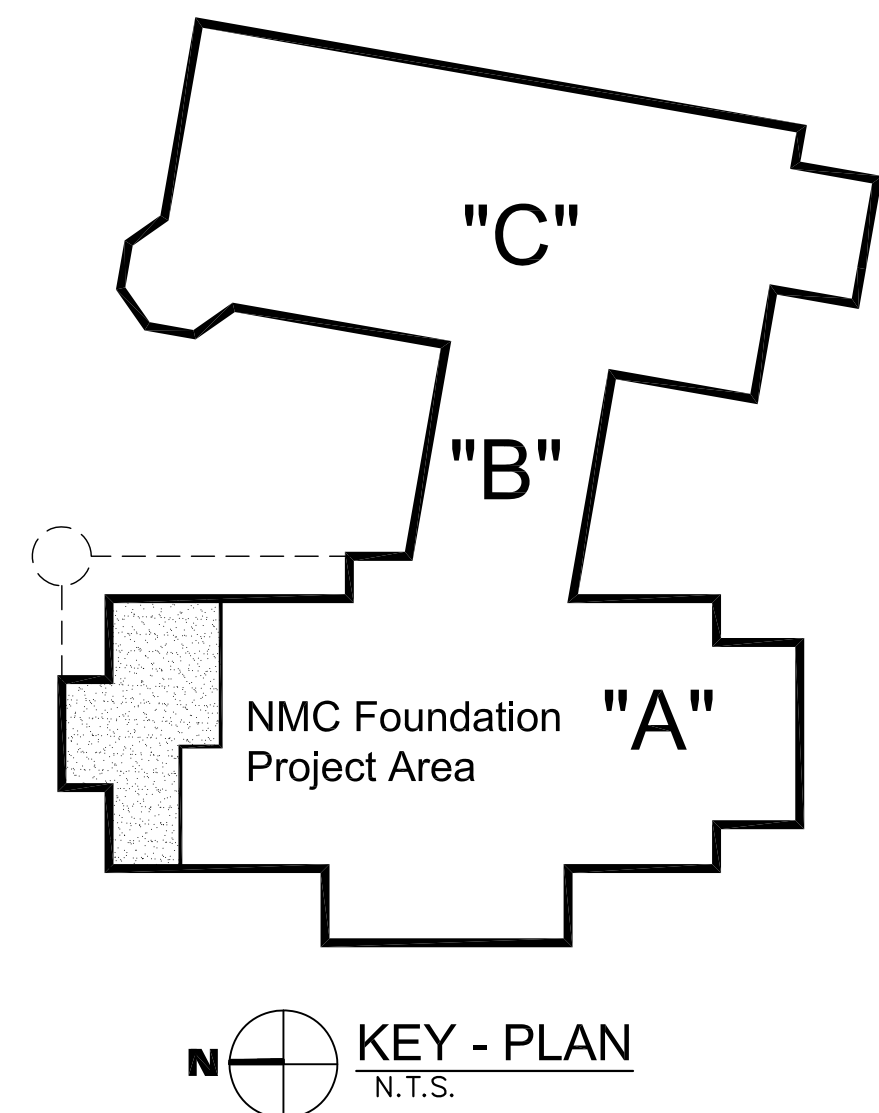
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Traverse City, MI 49684

DATE:	ISSUED FOR:
07-17-2026	BID-PERMIT
PIC:	ID
FM:	DKI
DRAFTS:	
PROJECT NO:	
26.513	
SHEET TITLE:	
BARRIER FREE INFORMATION	
SHEET NO:	

ADA



FIRST FLOOR CODE PLAN
SCALE: 1/16" = 1'-0"



CODE INFORMATION:

THIS FACILITY IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES THAT GOVERN STATE OF MICHIGAN PROJECTS:

MICHIGAN BUILDING CODE 2021 Effective April 09, 2025
MICHIGAN PLUMBING CODE 2021 Effective March 12, 2024
MICHIGAN MECHANICAL CODE 2021 Effective March 12, 2024
MICHIGAN ELECTRICAL CODE 2023 Effective March 12, 2024
MICHIGAN ENERGY CODE 2021 Effective April 20, 2017
ACC/ANSI A 117.1-2017
ANSI/ASHREA/ IENSA STANDARD 90.1-2013
MICHIGAN BARRIER FREE CODE
NFPA 101 2016

SEPARATED MIXED USE: (NO CHANGE)
A2 & A3 (ASSEMBLY, B (BUSINESS)) (NO CHANGE)

CONST. TYPE: 2-B (NO CHANGE)
SPRINKLED: YES

TOTAL BUILDING AREAS (NO CHANGE): 80,186 SF

RENOVATION AREA: 1,148 SF

OCCUPANCY LOAD (NO INCREASE) 1,728 OCC.

EXITS REQUIRED (NO CHANGE)

PLUMBING FIXTURE COUNTS (NO CHANGE)

CODE PLAN SYMBOLS:

EXISTING 1-HOUR PARTITION:
1-HOUR PARTITION:
DEMO 1-HOUR PARTITION:
EXISTING 2-HOUR BARRIER:
EGRESS PATH:
FIRE EXTINGUISHER & CABINET:
FIRE EXTINGUISHER:

1 HOUR SEPARATION WALL:
(UL U423 - frame; UL U905 - cmu)

2 HOUR SEPARATION WALL:
(UL U301 - frame; UL U905 - cmu)

DRAFTSTOPPING:
(maximum 3,000 sf)

FE&C



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DATE: 07-17-2026
ISSUED FOR: BID-PERMIT

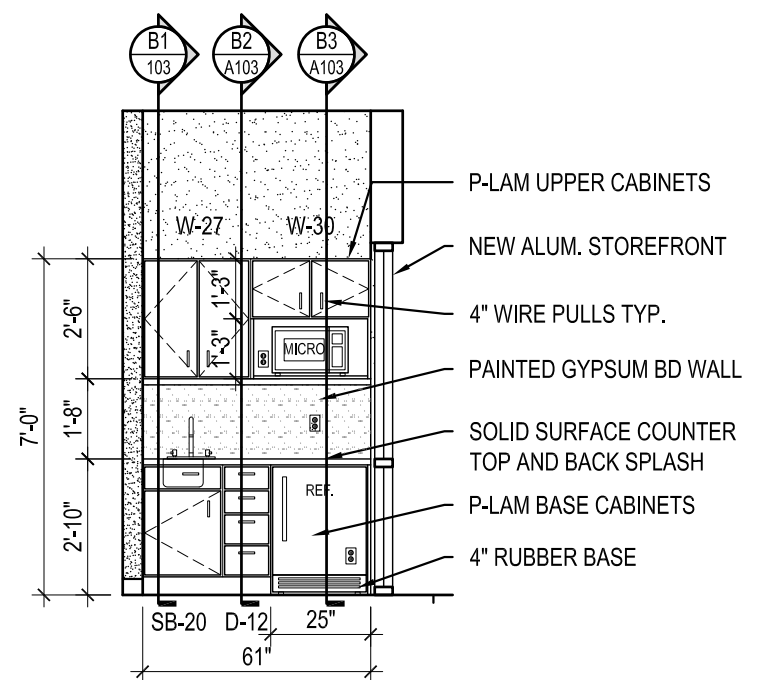
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PM: DKJ

DRAFTS: .
PROJECT NO: 26.513

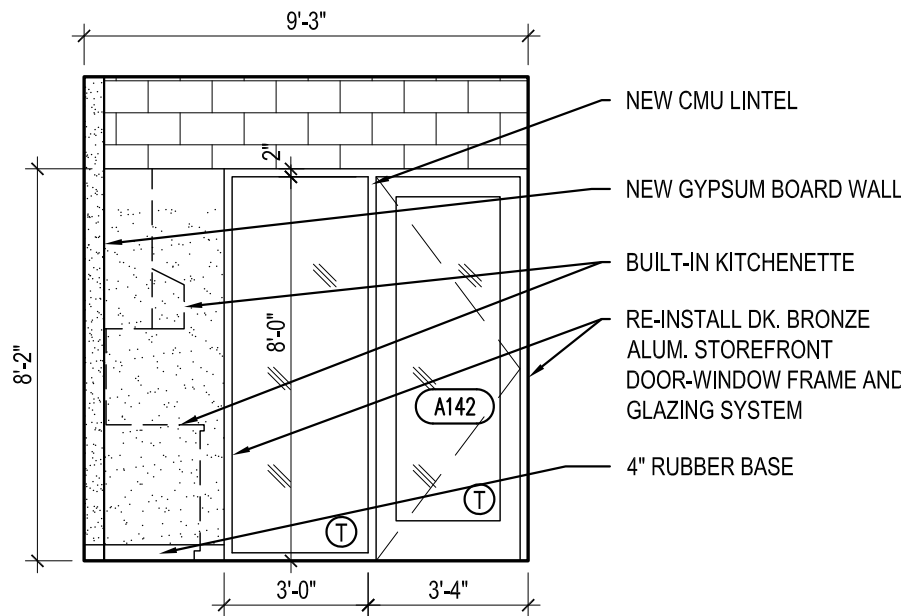
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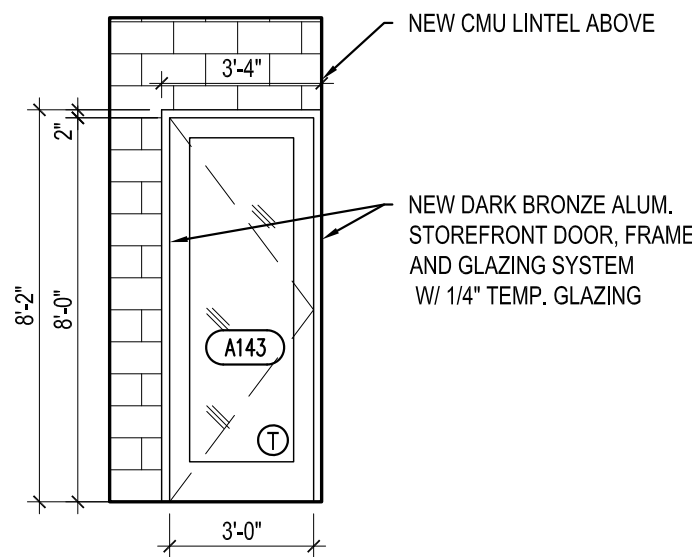
CODE-1



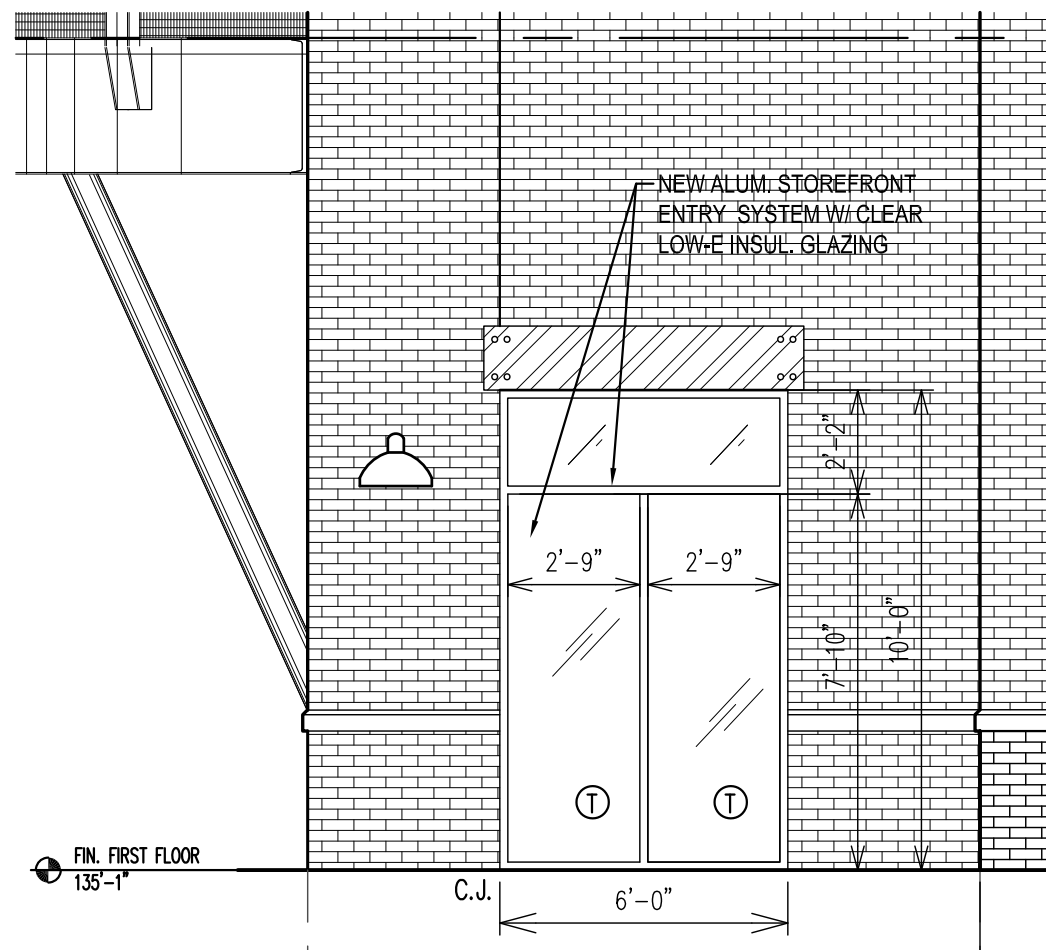
C3
A101 KITCHENETTE ELEV.
SCALE: 1/4" = 1'-0"



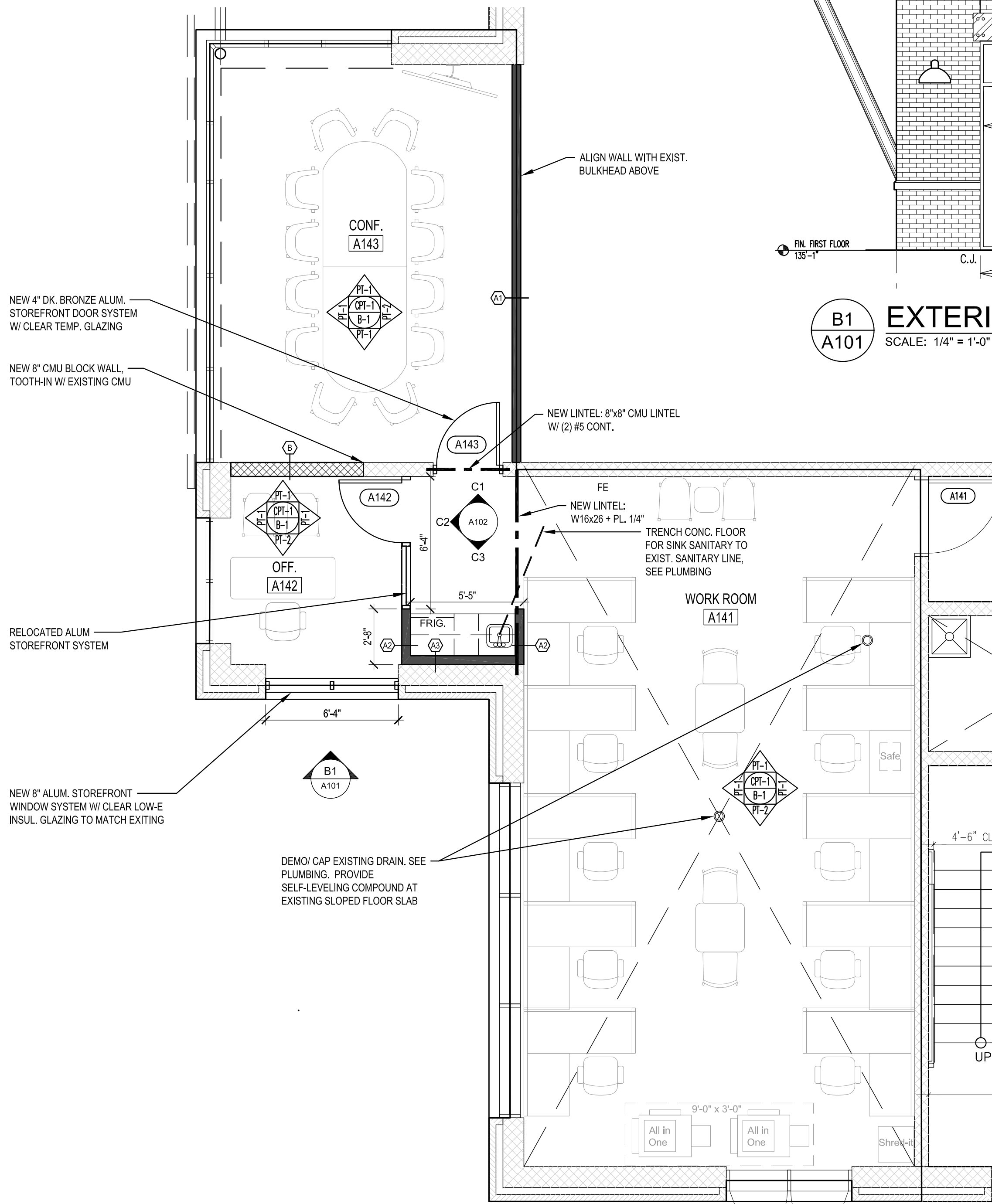
C2
A101 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"



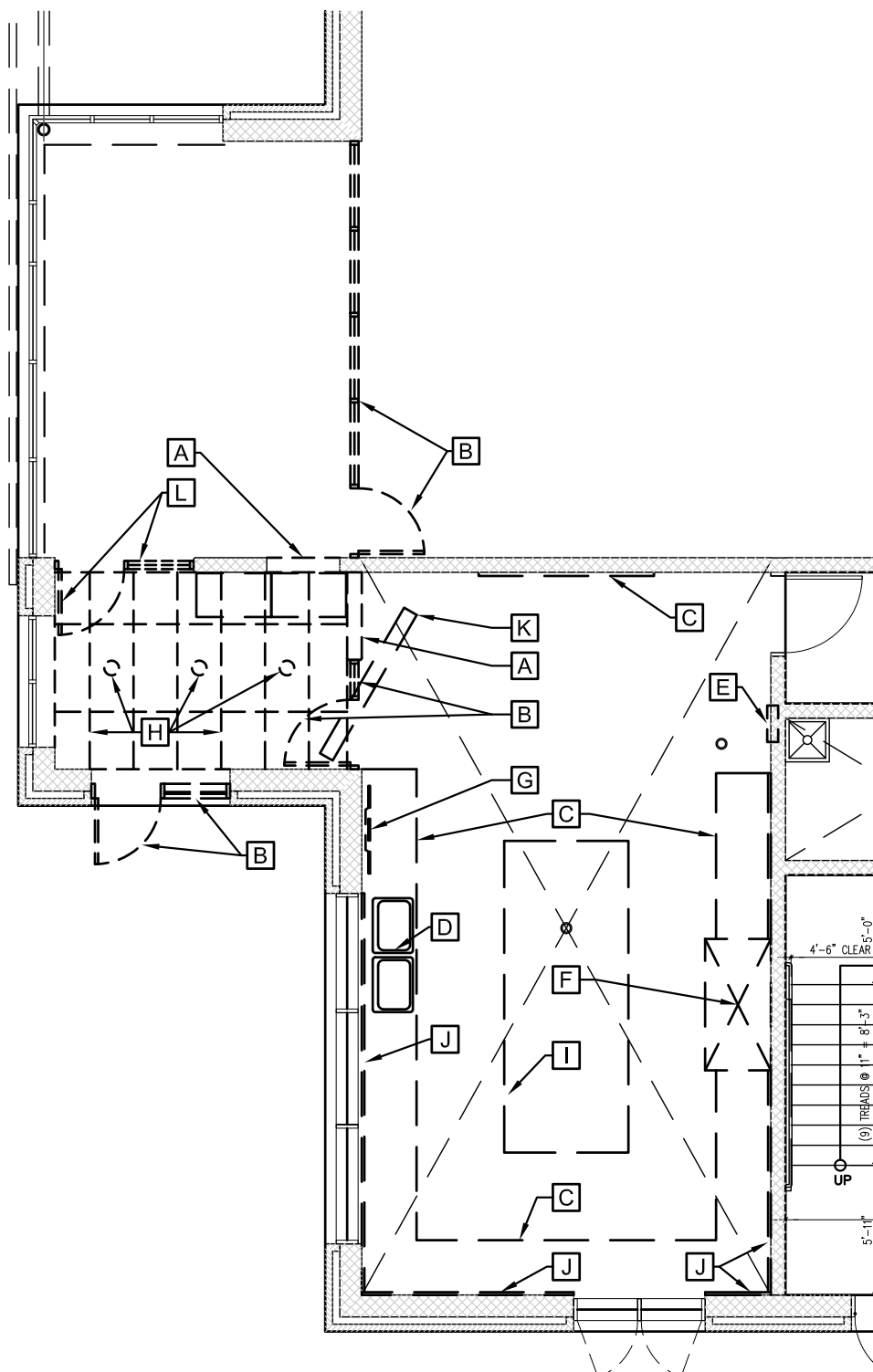
C1
A101 INTERIOR ELEV.
SCALE: 1/4" = 1'-0"



B1
A101 EXTERIOR ELEV.
SCALE: 1/4" = 1'-0"



A2
A101 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"



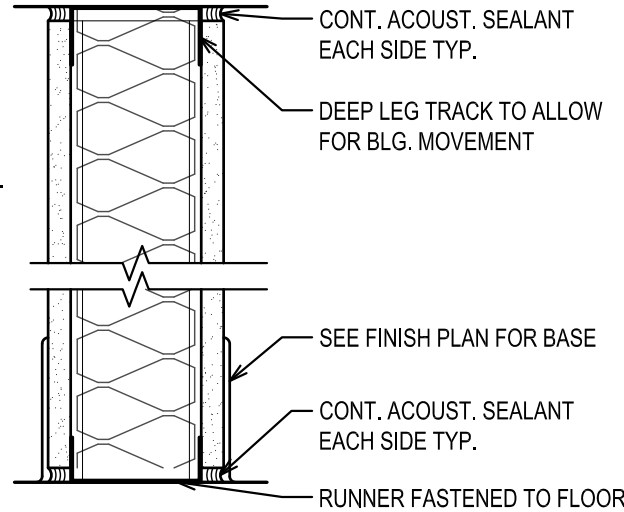
A1
A101 DEMO PLAN
SCALE: 1/8" = 1'-0"

WALL TYPE LEGEND

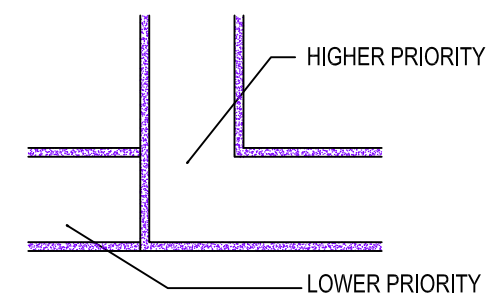
TYPE	FIRE		MIN. STC RATING	DESCRIPTION
	RATING	TEST		
A1	1-HOUR	UL U305	47	ONE LAYER 5/8" GYPSUM WALLBOARD EACH SIDE OF 3 5/8" METAL STUDS AT 16" O.C. W/ 3 1/2" BATT INSUL... (NOTE 5) THICKNESS: 4 7/8"
A2	---	UL U305	47	ONE LAYER 5/8" GYPSUM WALLBOARD EACH SIDE OF 3 5/8" METAL STUDS AT 16" O.C. W/ 3 1/2" BATT INSUL... (NOTE 5) THICKNESS: 4 7/8"
A3	---	---	47	ONE LAYER 5/8" GYPSUM WALLBOARD ONE SIDE OF 3 5/8" METAL STUDS AT 16" O.C. W/ 3 1/2" BATT INSUL... (8" ABOVE CLG. GRID) EXIST. CMU WALL THICKNESS: 4 1/4"
B	---	---	---	8" REINFORCED CONCRETE MASONRY UNIT (NOTE 5) THICKNESS: 7 5/8"

GENERAL WALL TYPE NOTES

- DIMENSIONS ARE FOR DESIGN PURPOSES ONLY. CONTRACTOR TO COORDINATE & FIELD VERIFY ALL FINAL DIMENSIONS. DIMENSIONS SHOWN ARE TO THE FACE OF FINISHED DRYWALL.
- PROVIDE METAL STRAPPING/WOOD BLOCKING AT ALL CASEWORK, BATHROOM & KITCHEN ACCESSORIES, MARKER & TACK BOARDS, DISPLAY CASES, COAT HOOKS, ETC. & FOR ALL FUTURE INSTALLED ITEMS AS PER PLANS & ELEVATIONS.
- ALL FIRE RATED PARTITIONS SHALL BE CONSTRUCTED FULL HEIGHT TO & SEALED AGAINST UNDERSIDE OF STRUCTURE. SEAL ALL EDGES W/ FIRE RATED SEALANT.
- ALL WALLS THAT ARE CALLED OUT TO EXTEND TO DECK, OR ABUT STRUCTURAL MEMBERS, ARE TO HAVE A DEEP LEG TRACK AT THE HEAD TO ALLOW FOR BUILDING DEFLECTION.
- PROVIDE ALL DIAGONAL BRACING REQUIRED FOR A COMPLETE WALL ASSEMBLY
- PROVIDE ALL WINDOW HEADERS, IN WALL COLUMNS, ETC., NOT CALLED OUT WIN NON-STRUCTURAL FRAMED WALLS AS REQUIRED. PROVIDE HIGHER GAUGE STEEL WHEN REQUIRED.



- TWO HOUR FIRE & SMOKE WALL — PRIORITY 1 HIGHEST
TWO HOUR FIRE WALL — PRIORITY 2
TWO HOUR SHAFTWALL — PRIORITY 2
ONE HOUR FIRE & SMOKE WALL — PRIORITY 3
ONE HOUR FIRE WALL — PRIORITY 4
NON-RATED WALL — PRIORITY 5 LOWEST



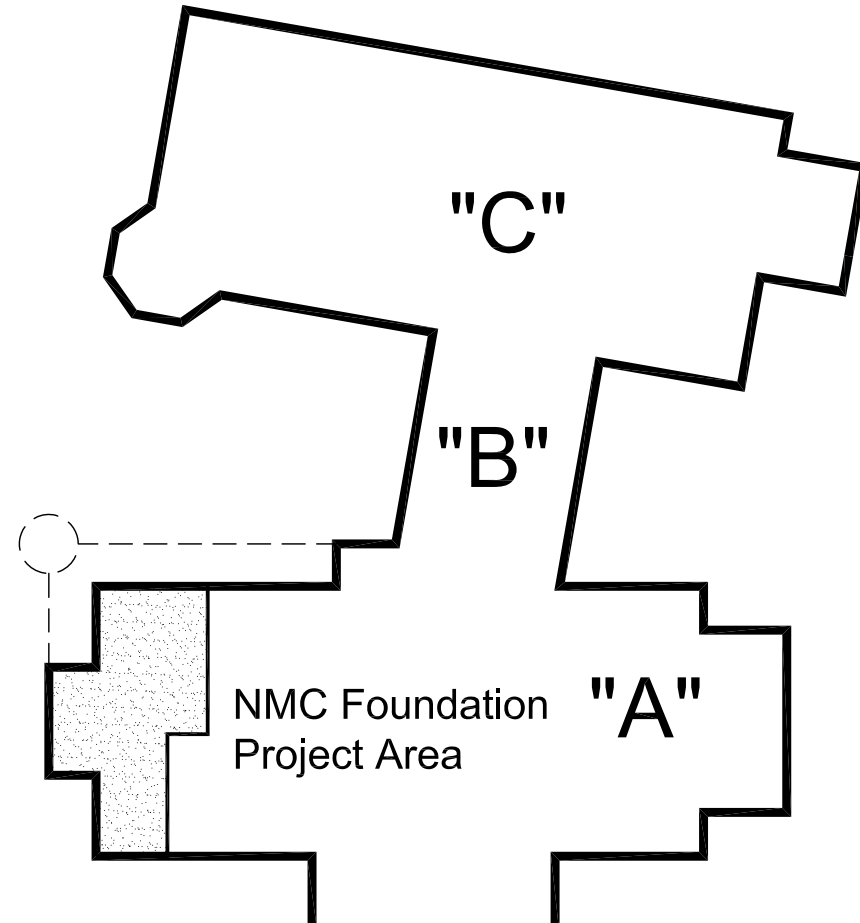
*Partition head to structure connections shall provide mechanical anchorage devices that accommodate deflection using slotted holes, screws & anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.

GENERAL DEMO NOTES

- OBTAIN PROPER PERMITS PRIOR TO THE COMMENCEMENT OF DEMOLITION. ALL SUBMITTAL AND FEES ARE THE RESPONSIBILITY OF THE G.C.
- THE GENERAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS REQUIRED TO COMPLETE DEMOLITION, REMOVAL AND RE-USE OF ALL ITEMS SHOWN ON DRAWINGS.
- ALL WORK DEMOLISHED SHALL BE REMOVED FROM THE PREMISES DAILY. EXCEPT ITEMS TO BE REUSED OR RETURNED TO THE OWNER, OR AS DIRECTED OTHERWISE. REMOVE AND DISPOSE OF ALL MATERIALS IN A LEGAL MANNER, USING LABOR, MATERIALS AND EQUIPMENT AS NECESSARY.
- REFER TO ATTACHED FLOOR PLANS FOR EXISTING CONSTRUCTION TO REMAIN, EXTENT OF DEMOLITION, AND SCHEDULED ITEMS FOR RELOCATION. THE OWNER RETAINS ALL SALVAGE RIGHTS. REVIEW WITH THE OWNER ALL ITEMS OF POTENTIAL SALVAGE AND STORE APPROPRIATELY. THE USE OF NON-SALVAGED ITEMS IN NEW CONSTRUCTION NOT PERMITTED WITHOUT WRITTEN PERMISSION FROM THE OWNER AND THE ARCHITECT. ITEMS NOT APPROVED FOR SALVAGE BY THE OWNER, ARE TO BE PROPERLY DISPOSED OF BY THE G.C.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS TO PROTECT BUILDING OCCUPANTS, MATERIALS AND EXISTING FINISHES THROUGHOUT ALL PHASES OF CONSTRUCTION AREAS AND OCCUPIED OR PUBLIC AREAS TO BE MAINTAINED BY CONTRACTOR. PROTECT OR TEMPORARILY REMOVE ALL ITEMS THAT ARE EXISTING TO REMAIN. RESET TEMPORARY REMOVALS ACCURATELY AND SECURELY. DAMAGE TO EXISTING TO REMAIN CONSTRUCTION, MATERIALS OR EQUIPMENT TO BE RESTORED TO ORIGINAL CONDITION OR AS OUTLINED IN THE CONSTRUCTION DOCUMENTS.
- THE GENERAL CONTRACTOR SHALL ERECT ALL NECESSARY PLASTIC DROP CLOTH PARTITIONS, BARRICADES, AND OTHER METHODS OF DUST CONTROL TO ASSURE A SAFE AND NEAT DEMOLITION PROCESS AND TO PROTECT ADJACENT BUILDING PROPERTIES. THE USE OF EXPLOSIVES AND BURNING ARE NOT PERMITTED.
- DEMOLITION AND TRENCHING, CUTTING, BORING, AND REPAIR ASSOCIATED WITH TRADES IS THE RESPONSIBILITY OF THAT TRADE. COORDINATE WITH THE G.C. PRIOR TO DEMOLITION WORK.
- ALL TRADES ARE TO REVIEW EXISTING CONDITIONS AND INCLUDE DEMOLITION OF EXISTING SYSTEMS AS REQUIRED BY SCOPE OF NEW WORK.
- THE GENERAL CONTRACTOR SHALL REMOVE ALL WALL CONDUITS, SWITCH PLATES, TELEPHONE OR ELECTRICAL WIRING OR EQUIPMENT, ETC. TO THE SOURCE AFTER WALL DEMOLITION.
- REMOVE EXISTING MECHANICAL COMPONENTS AS REQUIRED TO ACCOMMODATE NEW HVAC DESIGN AND DUE TO CEILING RELATED WORK, SALVAGE DEVICES AS PRACTICAL FOR REUSE. CLEAN/REPLACE SUPPLY AIR DIFFUSERS AND RETURN AIR GRILLES, CALIBRATE AND RELOCATE THERMOSTATS, AND INSTALL NEW DUCTWORK AS REQUIRED.
- REMOVE EXISTING AND/OR RELOCATE EXISTING LIGHT FIXTURES AND OTHER CEILING DEVICES AS REQUIRED TO ACCOMMODATE REFLECTED CEILING PLAN. ALL EXISTING FIXTURES DEVICES SHALL BE CLEANED, (INCLUDING LENS), DAMAGED PARTS REPAIRED OR REPLACED, AND RE-LAMPED AS NECESSARY.
- REMOVE EXISTING CEILING AND FLOORING FINISH AS REQUIRED FOR INSTALLATION OF NEW.
- PROVIDE SELECTIVE DEMOLITION TO EXPOSE AND CONFIRM BEARING WALLS, COLUMNS, FOOTINGS, OR FOUNDATIONS PRIOR TO FULL DEMOLITION. USE EXTREME CAUTION, AND PROVIDE STRUCTURAL SHORING AS REQUIRED.
- USE CAUTION WHEN LOADING FLOORS ABOVE OTHER SPACES. DO NOT CONCENTRATE LOADS. USE SHORING IF REQUIRED.
- MAINTAIN ALL MEANS OF EGRESS DURING DEMOLITION. KEEP PUBLIC RIGHT OF WAY CLEAR OF DEBRIS, HAZARDS, ETC.
- IF HAZARDOUS MATERIALS ARE DISCOVERED, CEASE DEMOLITION AND CONTACT OWNER FOR REMEDIATION, CONTAINMENT OR OTHER APPROVED METHOD.

NOTES - DEMO - TAGS

- A. DEMO 8" CMU CONCRETE BLOCK WALL
B. DEMO ALUMINUM STOREFRONT WINDOW/ DOOR SYSTEM
C. DEMO BASE AND UPPER CABINETS
D. DEMO PLUMBING SINKS AND FIXTURES, CAP AT WALL
E. DEMO RECESSED EYE WASH, INFILL CMU TO MATCH EXISTING
F. DEMO LAB, LAB HOOD, CAP EXHAUST DUCT ABOVE CEILING
G. DEMO TV AND TV WALL BRACKET
H. DEMO 2x4 SUSPENDED CEILING GRID, PADS AND CAN LIGHTS
I. DEMO CEILING MOUNTED LAB UTILITY RACK
J. DEMO SURFACE MOUNTED ELECTRICAL RACEWAY
K. TRENCH CONCRETE FLOOR FOR SINK SANITARY DRAIN LINE TO EXISTING SANITARY LINE
L. SALVAGE ALUMINUM STOREFRONT WINDOW/ DOOR SYSTEM FOR REINSTALLATION AT NEW OFFICE WALL



KEY - PLAN
N.T.S.



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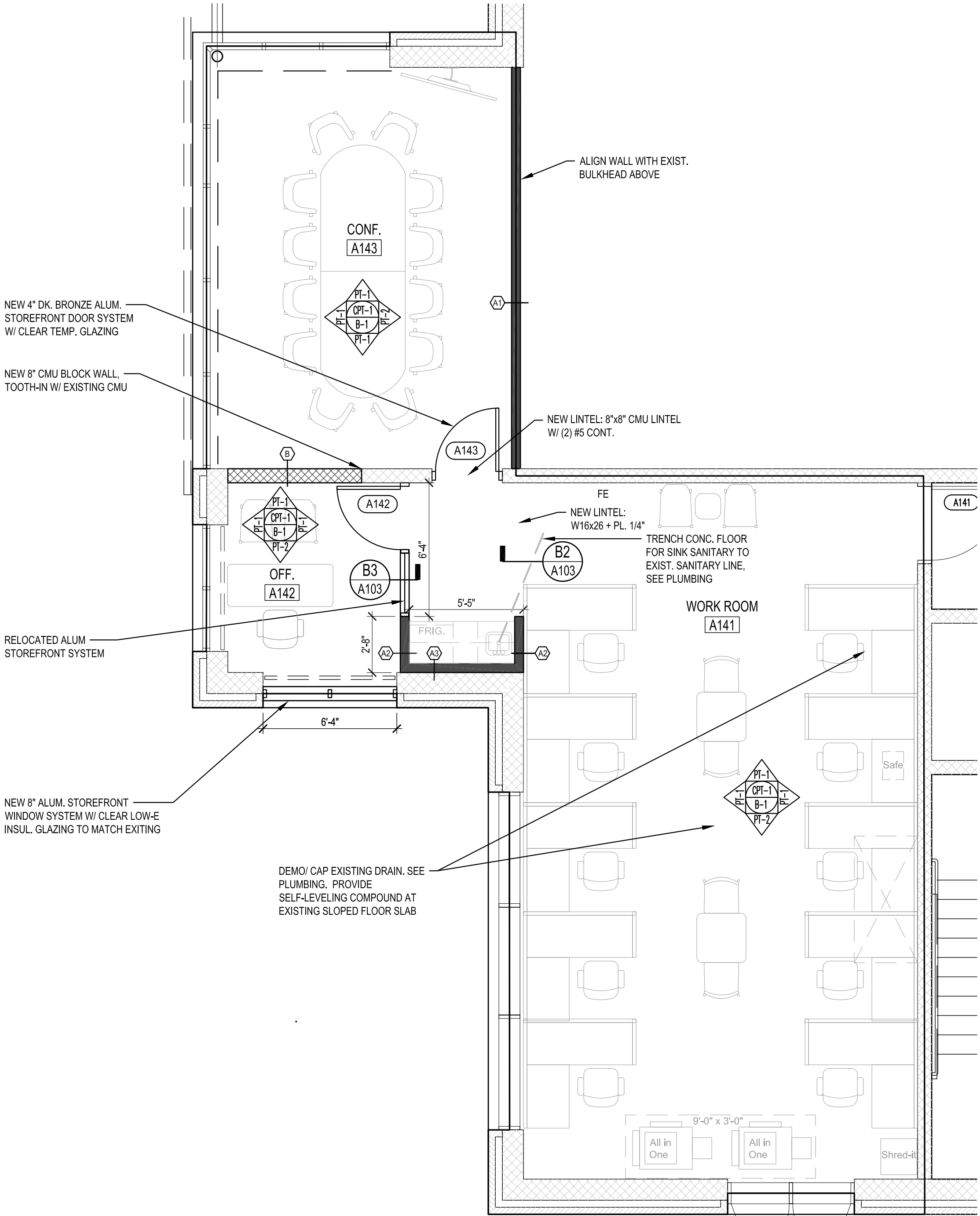
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SHEET TITLE:	
DEMO PLAN FLOOR PLAN ELEVATIONS	
SHEET NO:	

A101

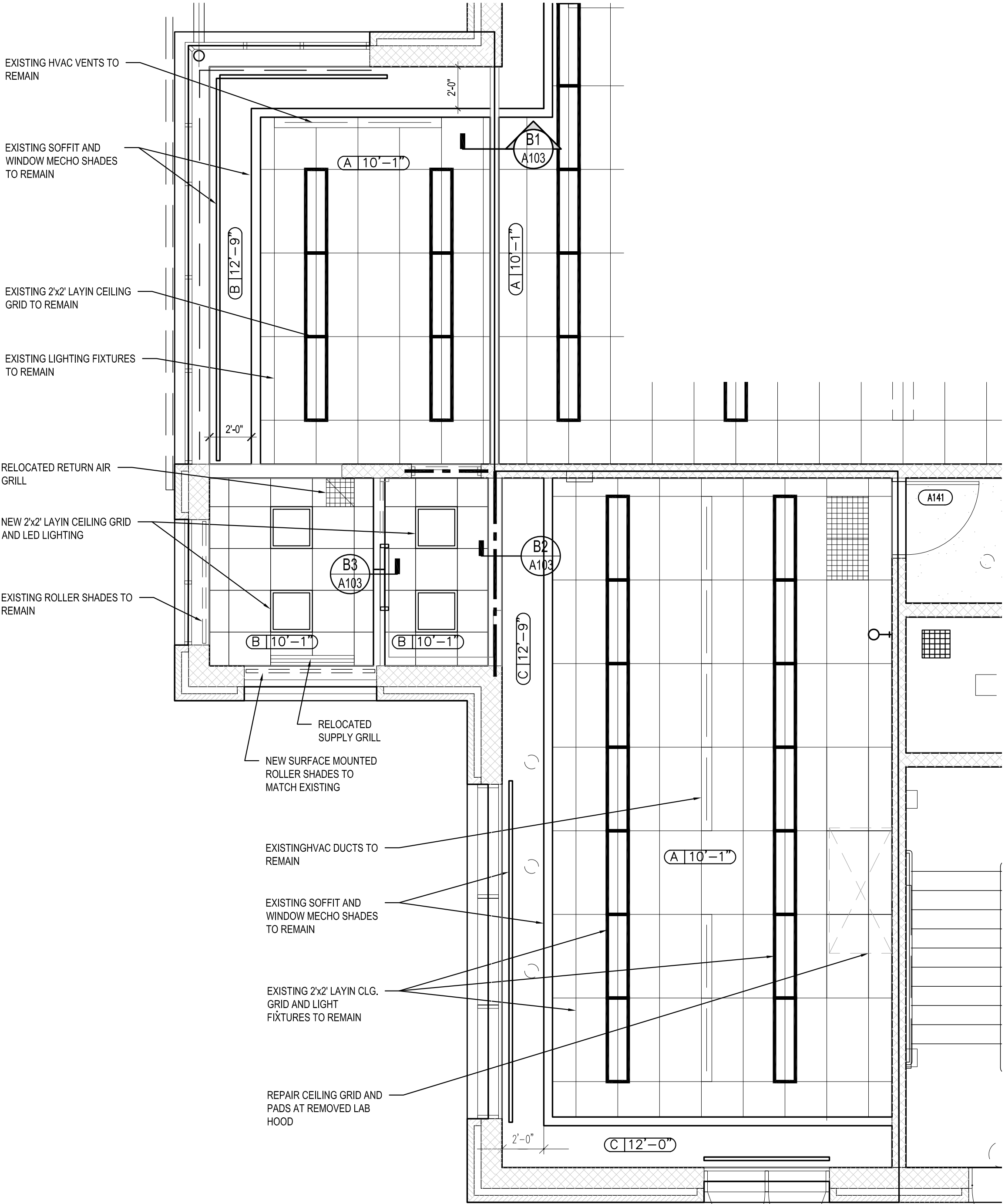
ROOM FINISH SCHEDULE										
ROOM #	LOCATION	FLOOR		WALLS				CEILING		REMARKS
		Base	Finish	North	East	South	West	Material	Finish	
A141	WORK ROOM	B1	CPT-1	P1	P1	P1	P1	?	?	?
A142	OFF.	B1	CPT-1	P1	P1	P1	P1	?	?	?
A143	CONF.	B1	CPT-1	P1	P1	P1	P1	?	?	?

DOOR AND FRAME SCHEDULE													
Door	Suffix	Location	DOOR			FRAME		FIRE	HDW	DETAILS			Remarks
			Size	Type	Material	Type	Material	RATE	SETS	Head	Jamb	Thresh	
A142		OFF.	3'-0" x 8'-0" x 1 3/4"	D1	ALUM	--	ALUM		H1	H1	J1		REINSTALLED SALVAGED ALUM STOREFRONT
A143		CONF.	3'-0" x 8'-0" x 1 3/4"	D1	ALUM	--	ALUM		H2	H2	J2		NEW ALUM STOREFRONT DOOR SYSTEM

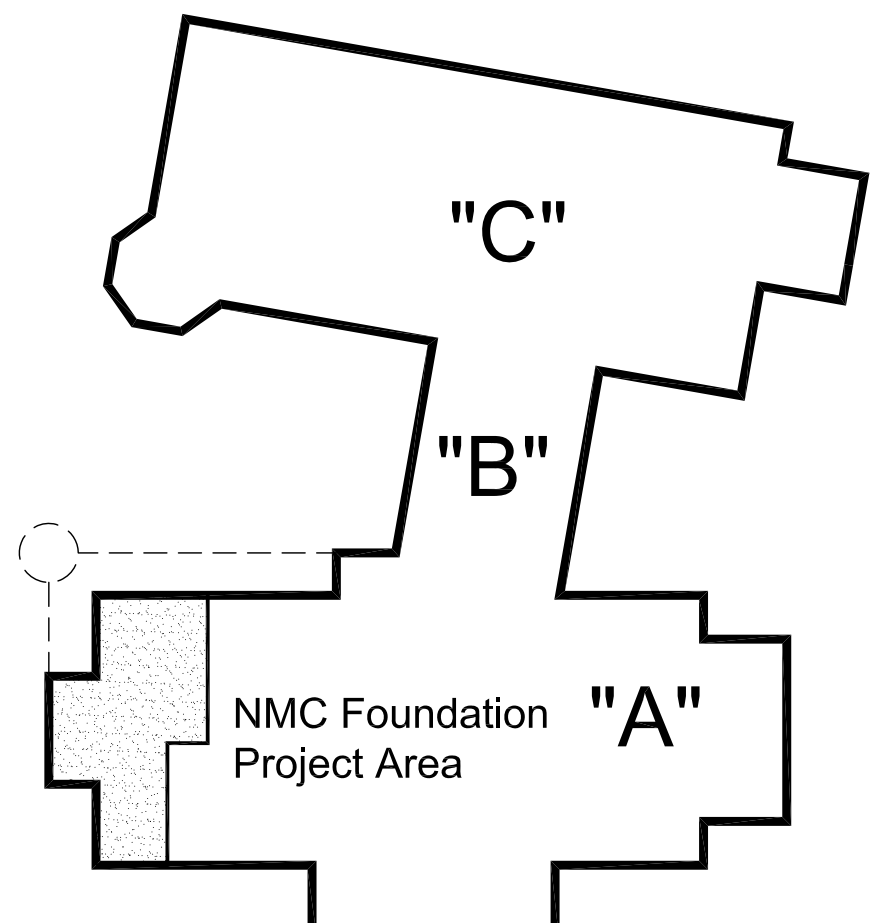
FINISH LEGEND:				
Mark:	Location:	Product:	Manufacturer:	Remarks:
CPT-1	Refer to Plans	Carpet	Refer to Specifications	
B-2	Refer to Plans	Rubber Base	Refer to Specifications	
PT-1	Walls/Bulkheads	Field Paint	Refer to Specifications	
PT-2	Walls/Bulkheads	Accent Paint	Refer to Specifications	
ACT	See Reflected Ceiling Plans	Suspended Acoustic Ceiling	Refer to Specifications	



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



REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



KEY - PLAN
N.T.S.

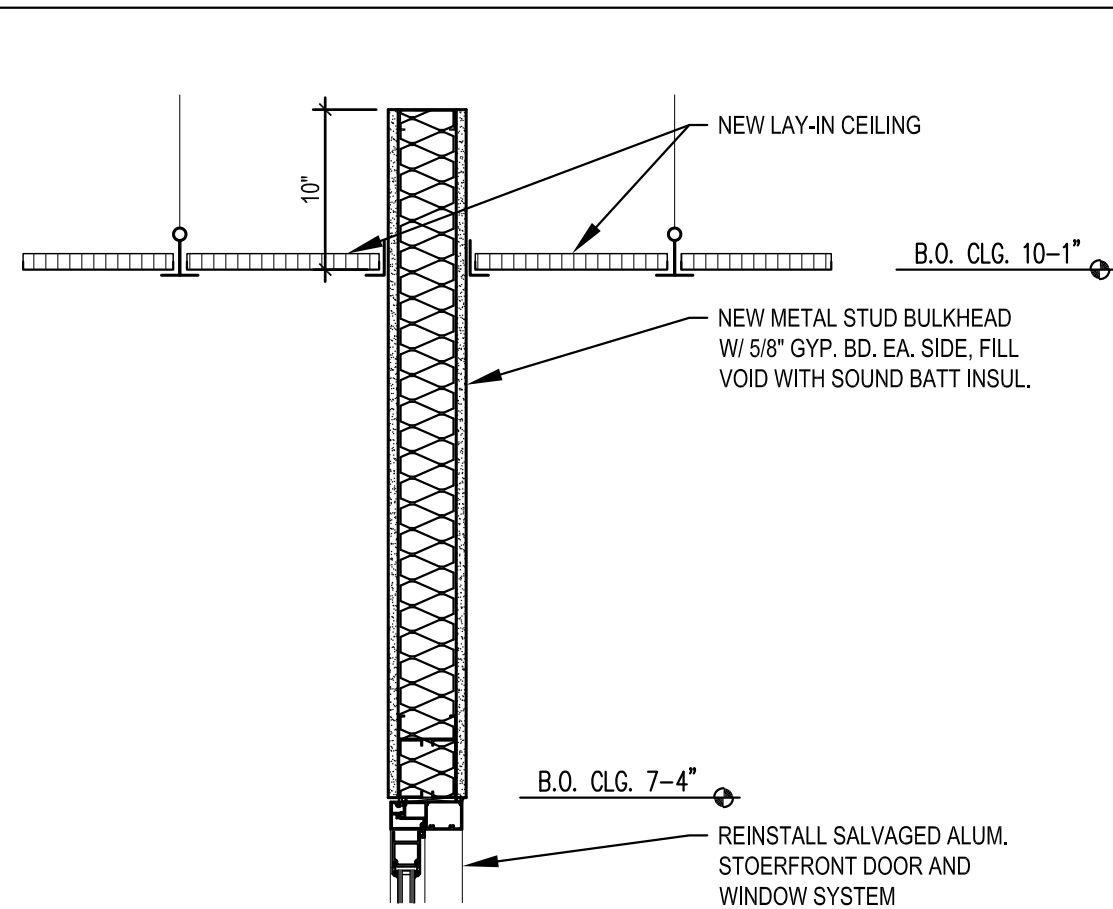
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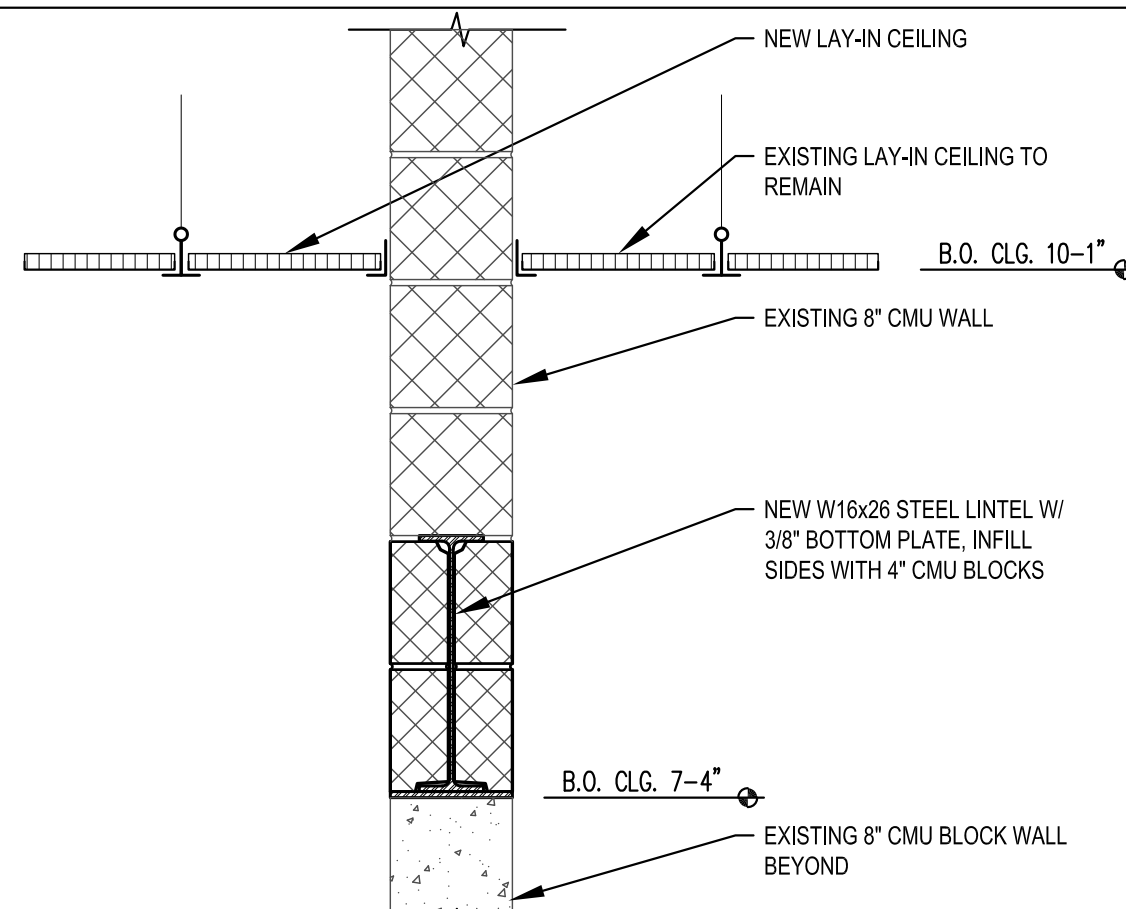
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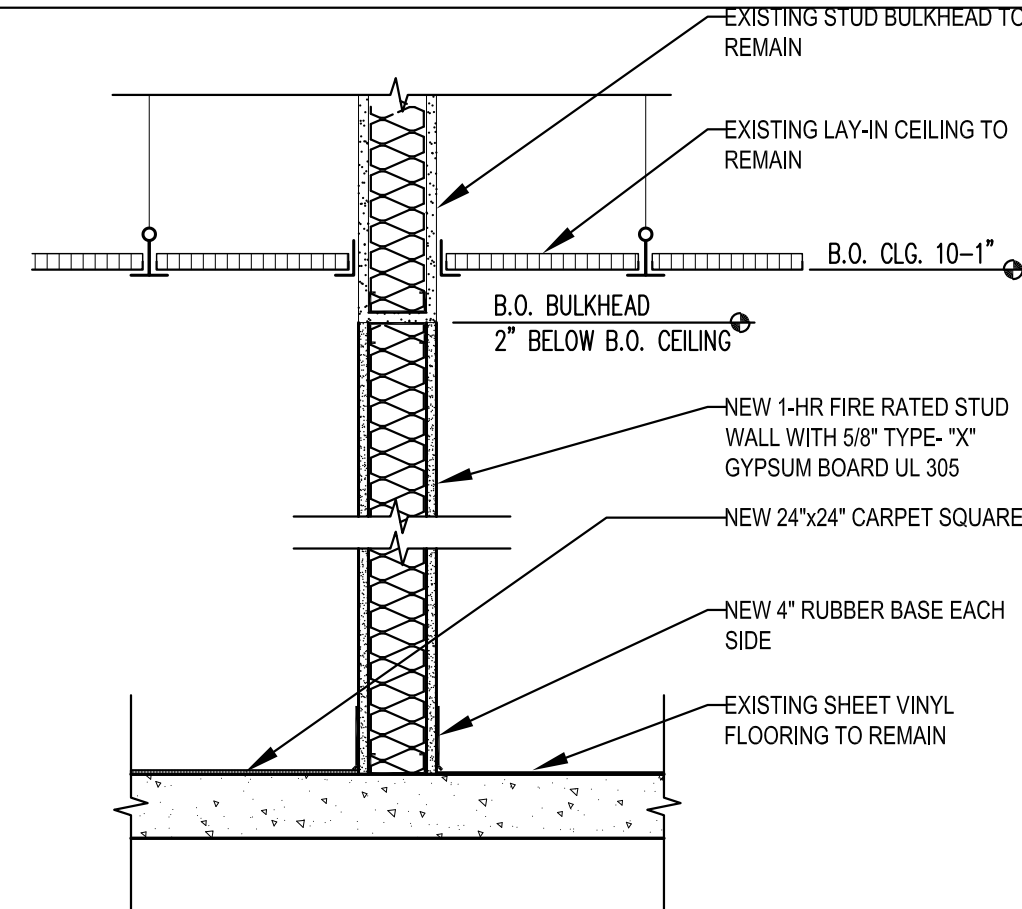
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ISSUED FOR: BID-PERMIT
PROJECT NO: 26.513
SHEET TITLE: FINISH PLAN
CEILING PLAN
FURNITURE PLAN
SHEET NO: A102



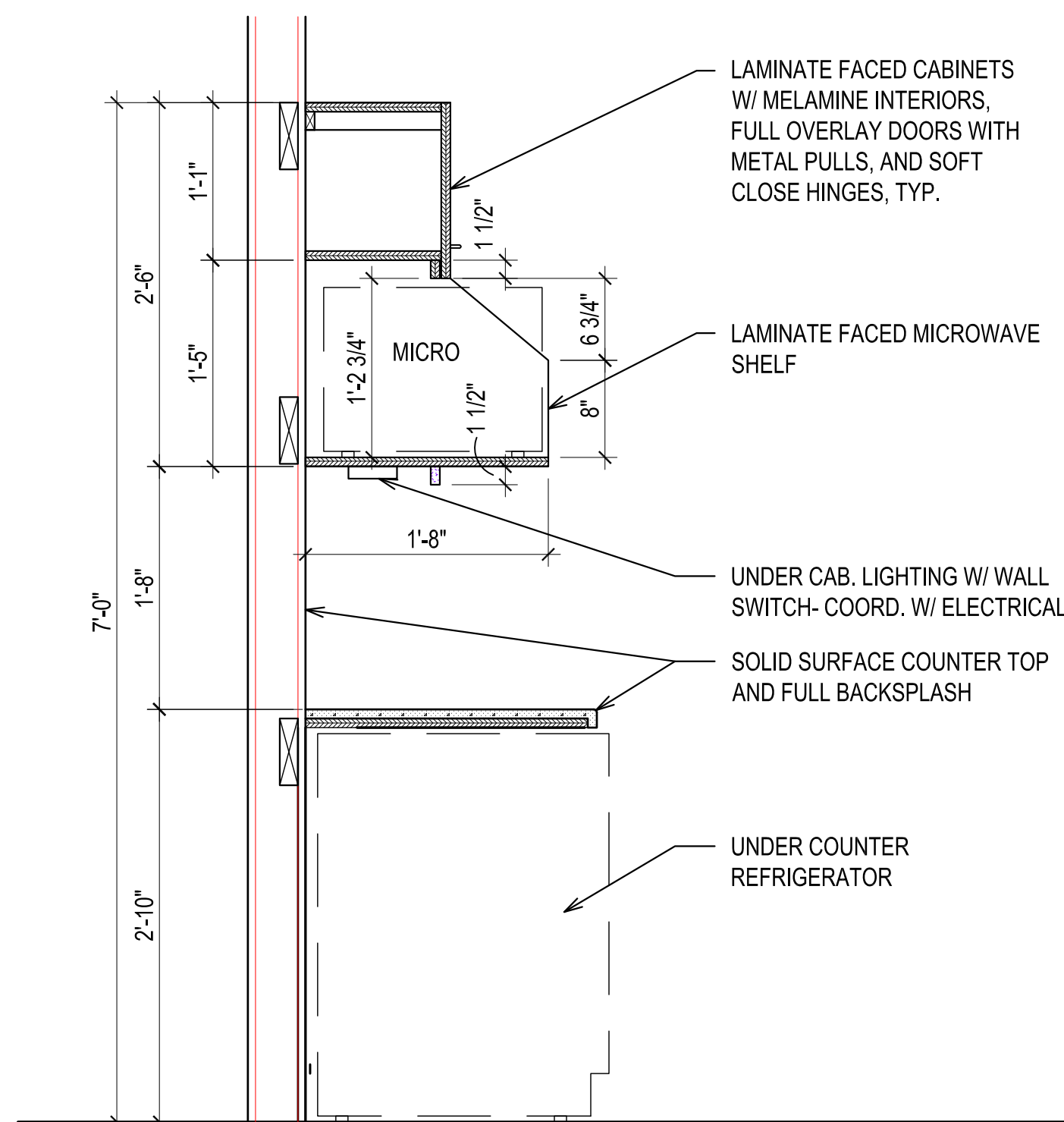
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A103 **BULKHEAD SECTION**
SCALE: 1" = 1'-0"



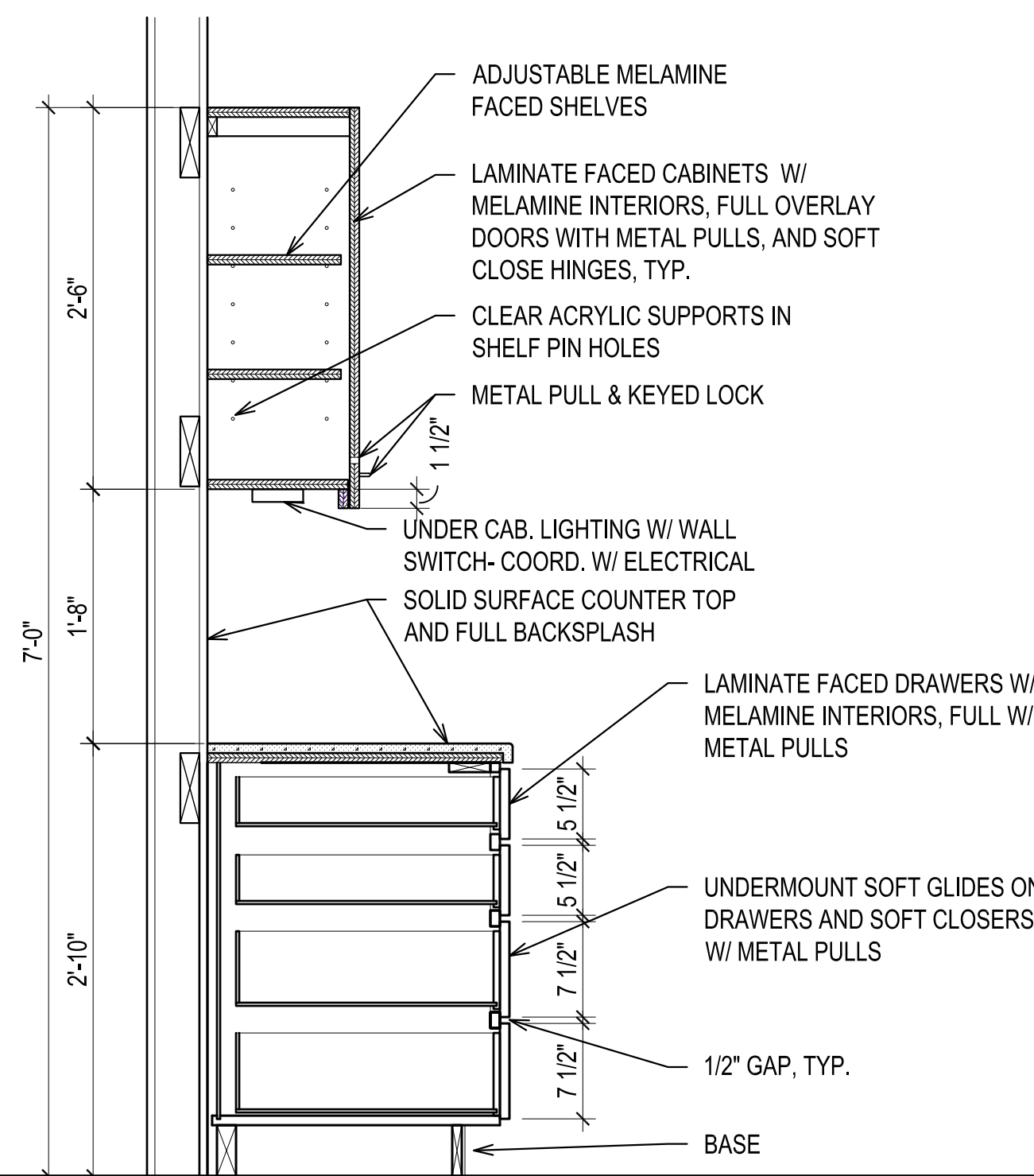
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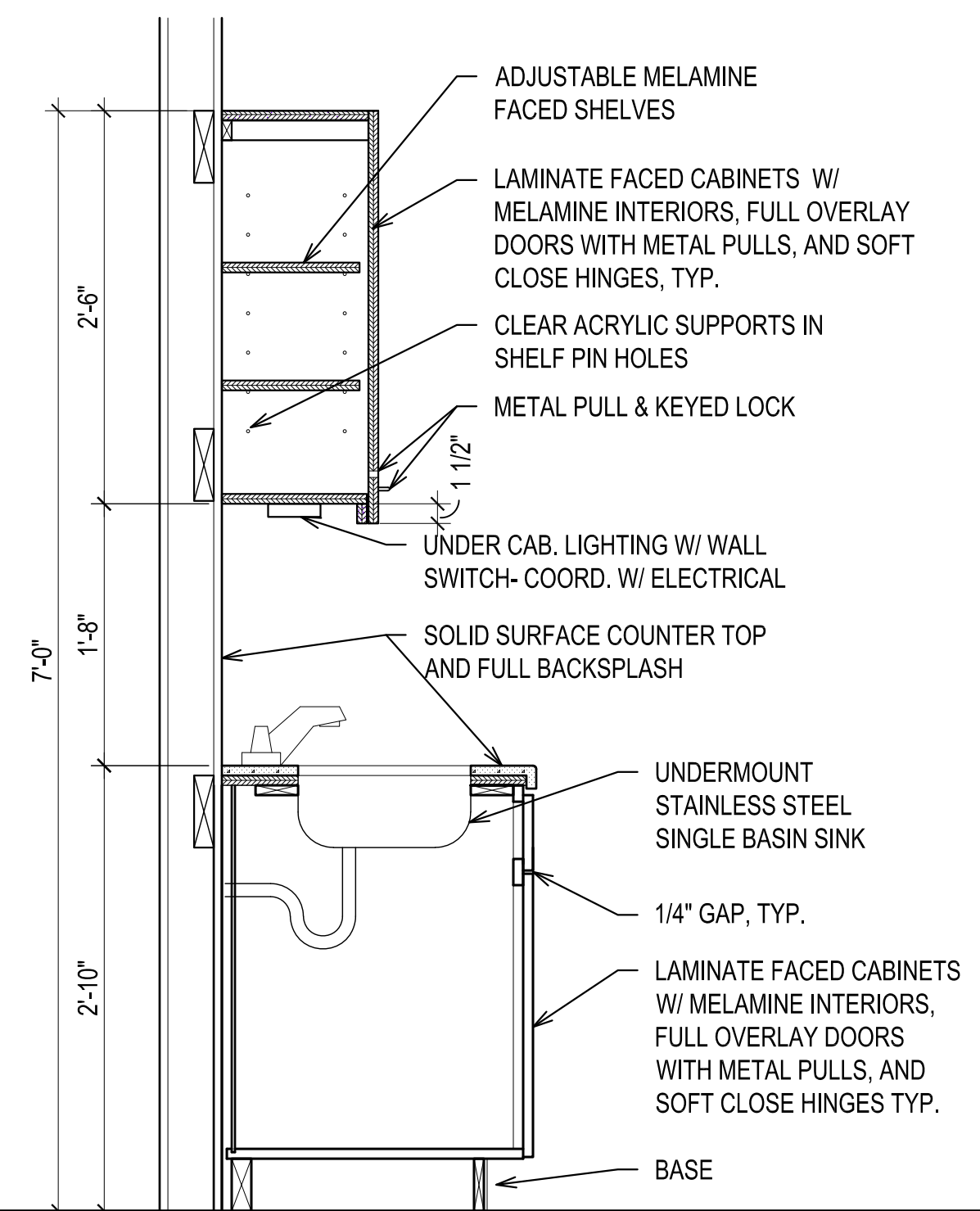
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A103 **BULKHEAD SECTION**
SCALE: 1" = 1'-0"



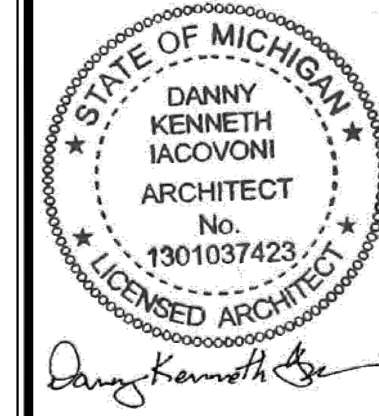
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A103 **MICROWAVE-REF. SECTION**
SCALE: 1" = 1'-0"



A6
A103 **DRAWER BASE SECTION**
SCALE: 1" = 1'-0"



A5
A103 **SINK BASE SECTION**
SCALE: 1" = 1'-0"



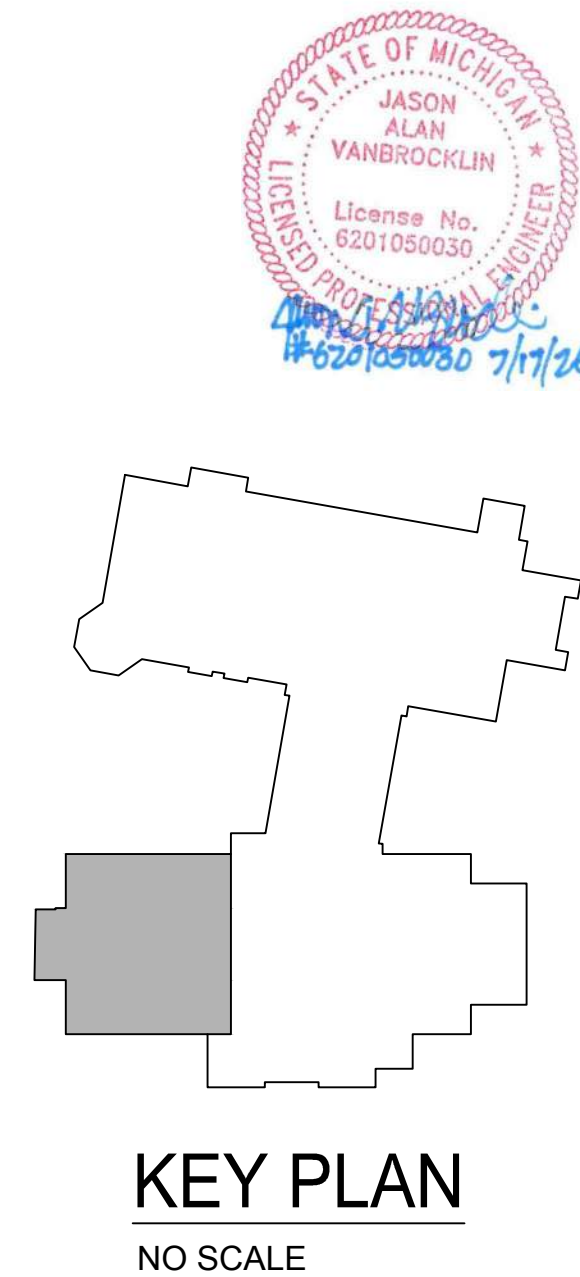
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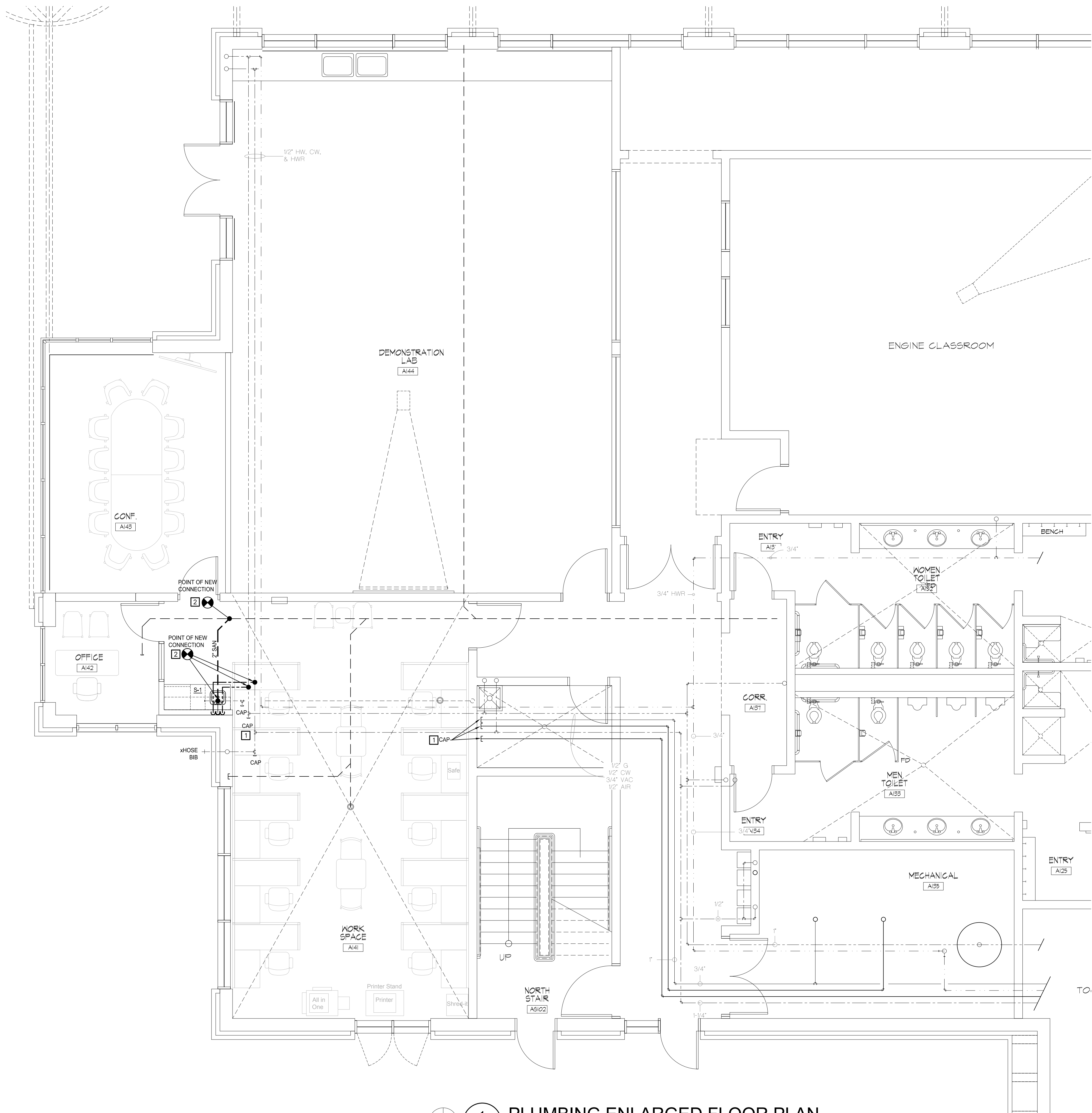
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DATE:	ISSUED FOR:
07-17-2026	BID-PERMIT
PIC:	ID
PM:	DKI
DRAFTS:	
PROJECT NO:	26.513
SHEET TITLE:	MILLWORK DETAILS
SHEET NO:	A103



1 PD101 PLUMBING ENLARGED DEMOLITION PLAN SCALE: 1/4" = 1'-0"



GENERAL FIRE PROTECTION NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE A COMPLETE DESIGN/BUILD SYSTEM BY THE FIRE SUPPRESSION CONTRACTOR. WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, PROVIDING ALL DESIGN, ENGINEERING AND ASSOCIATED COSTS, CALCULATIONS, LABOR, MATERIALS, SUPERVISION, TESTING, PERMITS AND APPROVALS REQUIRED TO DESIGN, INSTALL AND OBTAIN FINAL ACCEPTANCE OF THE AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM COMPLETE IN ALL RESPECTS.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13 & NFPA 25, AS WELL AS ALL APPLICABLE PORTIONS OF THE MICHIGAN BUILDING CODES AND ALL LOCAL CODES.
3. THE EXISTING FIRE PROTECTION SYSTEM SHALL BE RECONFIGURED AS NECESSARY TO PROVIDE FULL AND COMPLETE COVERAGE OF ALL RENOVATED AREAS AND SHALL BE COMPATIBLE WITH THE CONTRACT DOCUMENT CEILING AND WALL LAYOUTS AND AVOID INTERFERENCE WITH WORK OF ALL OTHER TRADES IN THE BUILDING. CONTRACTOR SHALL PROVIDE OFFSETS AS NEEDED TO AVOID OTHER TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL DUCTWORK, STRUCTURAL ELEMENTS AND LIGHTING.
4. INSTALL AND TEST FIRE PROTECTION SYSTEM IN FULL CONFORMITY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES, NFPA STANDARDS AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
5. HVAC AND LIGHTING INSTALLATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER PIPE AND DEVICE. ROUTING AND LOCATIONS. SPRINKLERS SHALL NOT BE LOCATED BELOW HVAC EQUIPMENT DUE TO MAINTENANCE ACCESS REQUIREMENTS.
6. FIRE SUPPRESSION CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK WITH OTHER TRADES PRIOR TO CONSTRUCTION/INSTALLATION.
7. SPRINKLER LAYOUT SHALL BE SUCH THAT THE INSTALLATION OF SPRINKLERS SHALL BE ALIGNED IN EACH DIRECTION, AND SPRINKLER SHALL NOT BE CLOSER THAN 6" TO A SUSPENDED CEILING T-BAR (IN ANY DIRECTION).
8. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHTS AND TYPES (LAY-IN, EXPOSED, GYPSUM BOARD, ETC).

KEYED PLAN NOTES

1. PROVIDE END CAP ON PIPING SYSTEMS WHERE INDICATED.
2. POINT OF NEW CONNECTION. VERIFY EXISTING PIPING LOCATIONS PRIOR TO COMMENCING WORK.

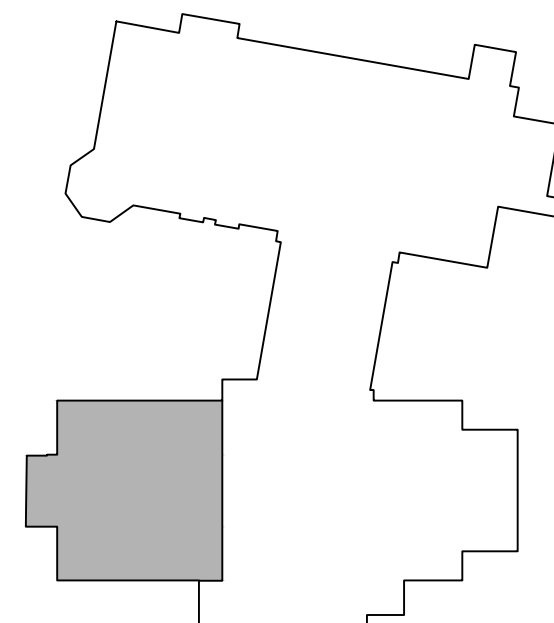


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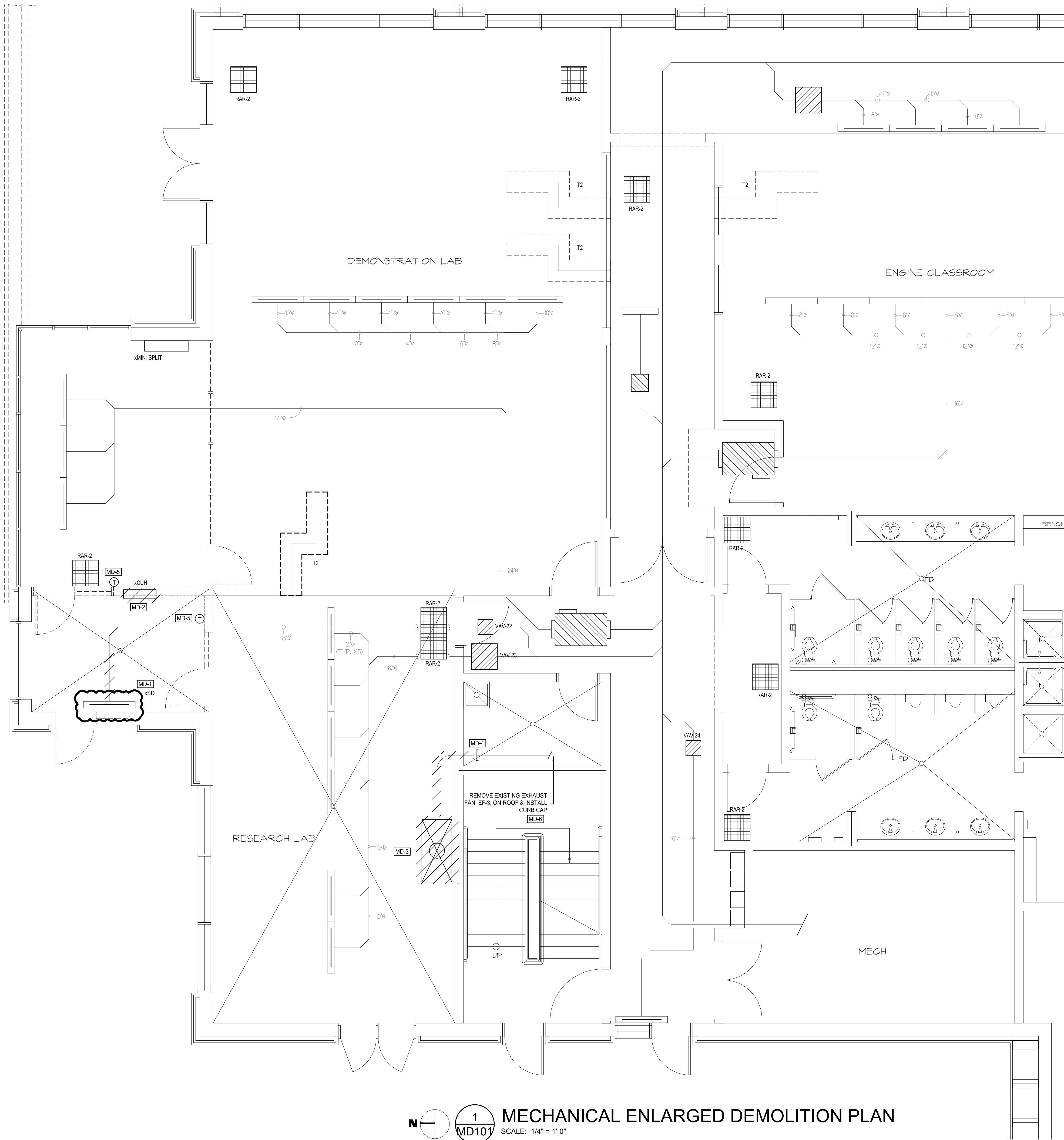
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KEY PLAN
NO SCALE

1 PLUMBING ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

DATE:	ISSUED FOR:
07-10-2026	PROGRESS SET
07-17-2026	BIDS/PERMIT
PIC:	DAR
FM:	DAR
DRAFTS:	DAR
PROJECT NO:	26.513
SHEET TITLE:	PLUMBING ENLARGED FLOOR PLAN
SHEET NO:	P101



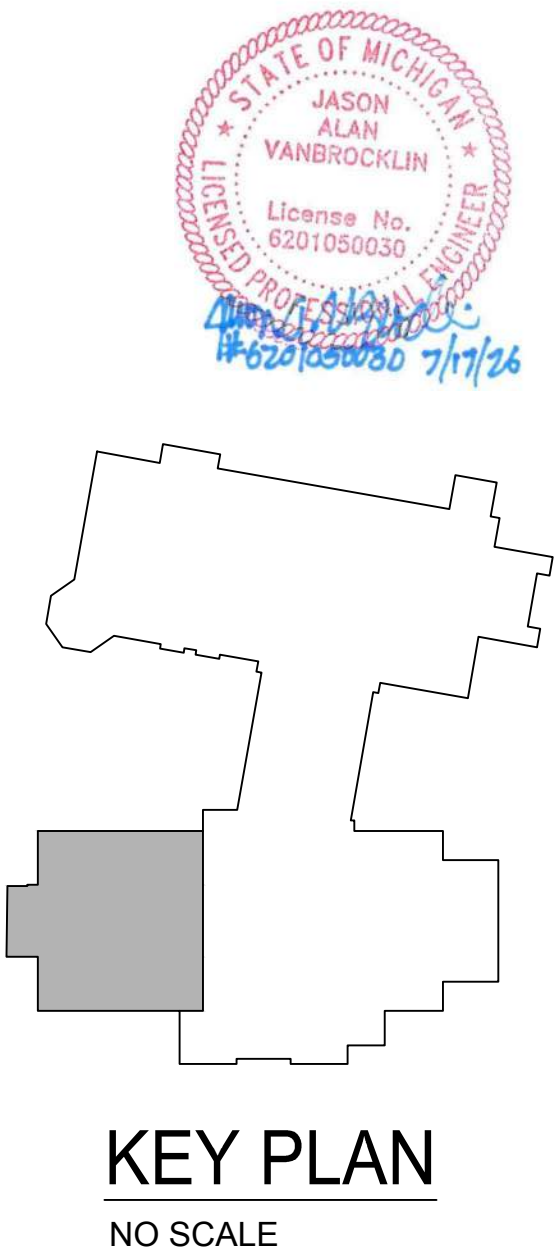
MECHANICAL ENLARGED DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

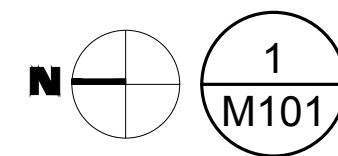
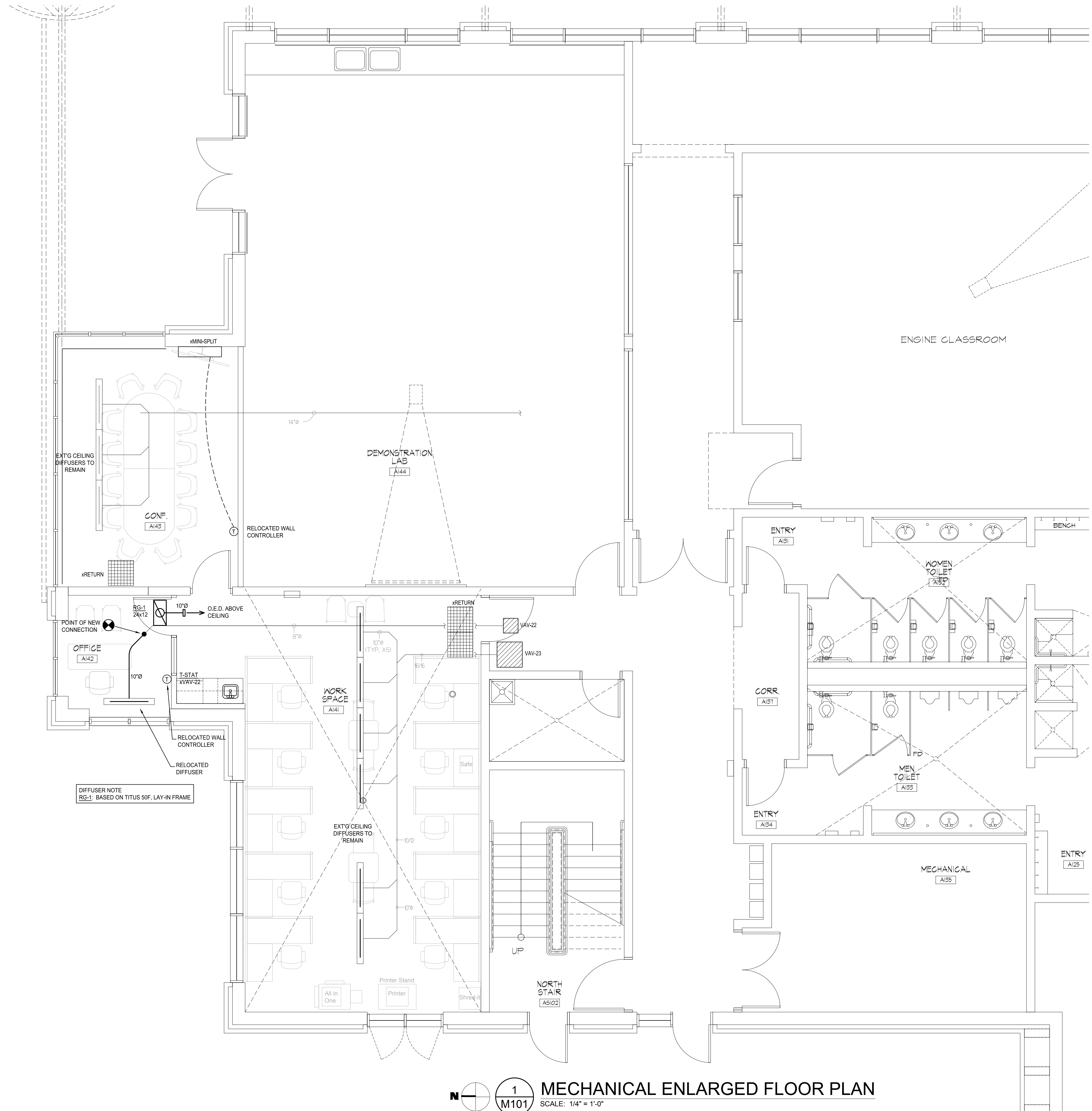
MECHANICAL DEMOLITION NOTES

- EQUIPMENT, PIPING, DUCTWORK, ETC., TAGGED WITH A PRECEDING "EX," OR "X" OR "EXTG" ARE EXISTING.
- BEFORE COMMENCING WORK ENSURE GAS IS OFF, AND ELECTRICAL POWER IS TURNED OFF TO THE EXISTING EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL REMOVE ALL ITEMS INDICATED AND SHALL BE RESPONSIBLE FOR THEIR DISPOSAL PER LOCAL, STATE AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO DETERMINE IF ANY PARTS OR EQUIPMENT ARE DESIRED TO BE KEPT BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL. ANY ITEM NOT WISHED TO BE RETAINED, SHALL BE DISPOSED OF AT THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- ITEMS HATCHED SHALL BE PERMANENTLY REMOVED.
- ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.

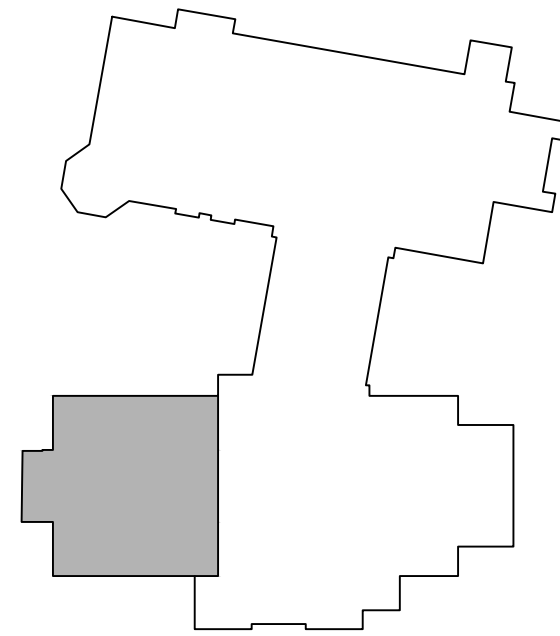
DEMOLITION KEYED NOTES MD-#

- MD-1 DISCONNECT & SALVAGE EXISTING SUPPLY AIR DIFFUSER FOR RE-USE IN NEW OFFICE SPACE. REMOVE AND STORE DIFFUSER UNTIL FINAL CEILING INSTALLATION IS READY. CLEAN DIFFUSER PRIOR TO INSTALLATION.
- MD-2 DISCONNECT & REMOVE EXISTING CABINET UNIT HEATER. REMOVE ALL PIPING, WIRING, CONTROLS, AND SUPPORTS. TRACE HOT WATER SUPPLY/RETURN PIPING CONNECTIONS AND REMOVE PIPING, CAPPING BACK AT THE MAINS, REMOVE UNUSED PIPE SUPPORTS.
- MD-3 DISCONNECT & REMOVE EXISTING LABORATORY FUME HOOD, COMPLETE. REMOVE GAS PIPING, CONTROLS, WIRING, ETC. FOR COMPLETE REMOVAL.
- MD-4 REMOVE EXISTING 14" FUME HOOD EXHAUST DUCTWORK BACK TO ADJACENT JANITOR'S CLOSET AND CAP.
- MD-5 REMOVE EXISTING WALL TEMPERATURE SENSOR/CONTROLLER ON WALL TO BE REMOVED. SALVAGE CONTROLLER AND WIRING TO RELOCATE CONTROLLER INTO NEW WALLS. SEE SHEET M101 FOR CONTROLLER LOCATION.
- MD-6 REMOVE EXISTING EXHAUST FAN, EF-3, THAT WAS SERVING FUME HOOD. EXHAUST FAN IS LOCATED ON ROOF ABOVE MECHANICAL MEZZANINE. CONTRACTOR SHALL FIELD LOCATE, DISCONNECT, AND REMOVE FAN. PROVIDE A CURB CAP OVER EXISTING ROOF CURB AND SEAL WEATHERTIGHT.





MECHANICAL ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"



KEY PLAN
NO SCALE

MECHANICAL SPECIFICATIONS		
SECTION	1. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL COMPLY WITH THE LATEST EDITION OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES, ORDINANCES, LAWS, AND REGULATIONS IN EFFECT AND ENFORCED BY THE AUTHORITY HAVING JURISDICTION (A/HJ) AS OF THE DATE OF PERMIT APPLICATION, INCLUDING BUT NOT LIMITED TO:	
23 00 00	1.1. MICHIGAN MECHANICAL CODE (M.M.C.) 1.2. MICHIGAN PLUMBING CODE (M.P.C.) 1.3. MICHIGAN BUILDING CODE (M.B.C.) 1.4. MICHIGAN UNIFORM EGRESS CODE, INCLUDING ASHRAE 90.1, ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS, AS ADOPTED AND AMENDED BY THE STATE OF MICHIGAN 1.5. ASHRAE 62.1, VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY, AS ADOPTED AND AMENDED BY THE STATE OF MICHIGAN 1.6. INTERNATIONAL FUEL GAS CODE (I.F.G.C.), AS ADOPTED AND AMENDED BY THE STATE OF MICHIGAN 1.7. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) 1.8. AMERICANS WITH DISABILITIES ACT (ADA) AND ICC A117.1 1.9. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AS ADOPTED BY THE LOCAL A/HJ 1.10. WHERE A CONFLICT EXISTS BETWEEN CODES, THE MORE STRINGENT REQUIREMENT SHALL GOVERN, UNLESS DIRECTED OTHERWISE IN WRITING BY THE A/HJ.	
BASIC MECHANICAL REQUIREMENTS	2. ALL MATERIALS USED SHALL BE NEW AND UNDAMAGED. 3. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH CURRENT CONSTRUCTION INDUSTRY STANDARDS AND WORKMANSHIP. 4. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, ROUTING, AND UTILITIES PRIOR TO SUBMITTING BID AND PRIOR TO COMMENCING WORK. DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER OR RECORD IN WRITING PRIOR TO PROCEEDING WITH THE AFFECTED WORK. THE CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR CONDITIONS THAT WERE REASONABLY DISCOVERABLE THROUGH FIELD VERIFICATION AND WERE NOT REPORTED PRIOR TO INSTALLATION. 5. LABEL PIPING AND EQUIPMENT USING PROFESSIONAL MARKERS PER THE LATEST VERSION OF ASME A13.1: 5.1. PROVIDE PROFESSIONAL PIPE STICKERS ON ALL NEW PIPING "1" AND GREATER IDENTIFYING TYPE AND DIRECTION OF FLOW. 5.2. PROVIDE PROFESSIONAL ENGRAVED PLASTIC EQUIPMENT NAMEPLATES FOR ALL HVAC EQUIPMENT IDENTIFYING EQUIPMENT TAG AND NUMBER. SEE PLANS FOR EQUIPMENT TAG NUMBERS (FOR EXAMPLE, B-1, P-1, AHU-1, ... ETC.) 6. FURNISH ALL ACCESS DOORS (RATED OR NON-RATED AS REQUIRED) WHERE VALVES, DAMPERS, OR EQUIPMENT ARE CONCEALED BEHIND A NON-ACCESSIBLE CEILING OR WALL. FURNISH ACCESS DOORS TO GENERAL CONTRACTOR FOR INSTALLATION. 7. FURNISH STEEL SLEEVES WHERE PIPES PENETRATE RATED WALLS, FLOORS, OR ASSEMBLIES, PROVIDE FIRESTOPPING MATERIALS AND SYSTEM TO MAINTAIN THE REQUIRED RATING OF THE ASSEMBLY PENETRATED, PROVIDE SHOP DRAWINGS SHOWING LISTING AND RATING OF FIRESTOPPING MATERIALS. 8. ALL MANUFACTURED EQUIPMENT, ACCESSORIES AND MATERIALS SHALL BE USED AS INTENDED BY THE MANUFACTURER, IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS. 9. THE CONTRACTOR SHALL PROVIDE, IN ADDITION TO ANY OTHER WARRANTIES SPECIFIED, A MINIMUM ONE (1) YEAR FULL LABOR AND MATERIAL WARRANTY ON ALL WORKMANSHIP, MATERIALS, AND EQUIPMENT FURNISHED FOR THIS PROJECT, COMMENCING AT SUBSTANTIAL COMPLETION. THIS WARRANTY IS IN ADDITION TO, AND DOES NOT LIMIT, ANY MANUFACTURER'S WARRANTY OR ANY WARRANTY PERIOD STATED IN THE GENERAL CONDITIONS OF THE CONTRACT. 10. APPROVED EQUALS MECHANICAL EQUIPMENT MANUFACTURED BY A COMPANY OTHER THAN THAT SPECIFIED IN THE SCHEDULE MAY BE SUBSTITUTED SUBJECT TO APPROVAL OF SHOP DRAWINGS AND CONTINGENT UPON MEETING THE DESIGN, APPEARANCE, AND FUNCTIONAL STANDARDS ESTABLISHED BY THE ORIGINALLY SPECIFIED ITEM(S). THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS, CLEARANCES, ASSEMBLY, FIT, AND COMPATIBILITY OF THE APPROVED EQUIVALS) AND THEIR EFFECT ON OTHER EQUIPMENT, FIT, AND OPERATION. THE MECHANICAL CONTRACTOR IS LIABLE FOR ANY ADDED COSTS TO ITSELF OR OTHER TRADES CAUSED BY THE USE OF APPROVED EQUALS. 11. THE CONTRACTOR SHALL PROTECT ALL INSTALLED EQUIPMENT, DUCTWORK, AND PIPING FROM PHYSICAL DAMAGE, MOISTURE, DEBRIS, AND CONTAMINATION DURING CONSTRUCTION. OPEN ENDS OF DUCTWORK AND PIPING SHALL BE CAPPED OR SEALED. NO WORK IS NOT IN PROGRESS. PRIOR TO SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL CLEAN ALL INSTALLED EQUIPMENT, DUCTWORK INTERIORS, AND ACCESSIBLE SURFACES OF CONSTRUCTION DEBRIS AND RESIDUE. 12. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR MECHANICAL AND PLUMBING WORK, AND SHALL SCHEDULE ALL REQUIRED INSPECTIONS WITH THE A/HJ IN A TIMELY MANNER SO AS NOT TO DELAY THE PROJECT SCHEDULE. 13. SUBMITTALS 13.1. FURNISH SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO PLACING DELIVERY ORDERS. PROVIDE SHOP DRAWINGS OF ALL MANUFACTURED EQUIPMENT AND MATERIALS EXCEPT PIPE, PIPE FITTINGS, AND GALVANIZED DUCTWORK. 13.2. AT SUBSTANTIAL COMPLETION OF CONSTRUCTION, FURNISH AS-BUILT PLANS TO ARCHITECT/ENGINEER FOR APPROVAL. AT THE TIME OF PROJECT CLOSEOUT, APPROVED AS-BUILT PLANS SHALL BE PROVIDED TO THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE, AS A MINIMUM, THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.	
	23 05 93	1. THE MECHANICAL CONTRACTOR SHALL SUBCONTRACT A TEST AND BALANCE CONTRACTOR TO BALANCE THE SYSTEMS DESCRIBED BELOW. 2. THE BALANCING SHALL BE COMPLETED BY AN INDEPENDENT TEST AND BALANCE CONTRACTOR WHO IS NOT AN EMPLOYEE OF THE MECHANICAL CONTRACTOR. 3. PER COMPLIANCE WITH THE CURRENTLY ENFORCED VERSION OF ASHRAE 90.1, THE BALANCER SHALL SUBMIT AN AIR BALANCE REPORT TO THE ENGINEER AND STATE OR COUNTY INSPECTION. 4. THE BALANCE REPORT SHALL SHOW PROOF THAT THE SYSTEM HAS BEEN BALANCED TO +/- 10% OF THE DESIGNED FLOW RATE. IT IS THE MECHANICAL CONTRACTOR AND TEST AND BALANCER'S DUTY TO PROVIDE ACCURATE DATA IN ORDER TO DISCLOSE DEVIAUNT RESULTS TO THE ENGINEER, INSPECTOR, AND OWNER. 5. ALL AIRSIDE SYSTEMS, COMPONENTS, ETC. INCLUDING SUPPLY, RETURN, OUTDOOR, AND EXHAUST AIR SYSTEMS SHALL BE BALANCED. THE BALANCER SHALL PROVIDE SHAVES AND BELTS AS NEEDED TO PROPERLY BALANCE EQUIPMENT TO +/- 10% OF THE DESIGNED AIRFLOWS. ALL DIFFUSERS, REGISTERS, GRILLES, AND LOUVERS SHALL BE INDIVIDUALLY BALANCED AND LISTED IN THE BALANCE REPORT. ALL AIRSIDE EQUIPMENT, SUPPLY, RETURN, AND OUTDOOR AIR FLOW RATES SHALL BE LISTED IN THE BALANCE REPORT.
	23 07 13	1. ALL DUCTWORK SHALL HAVE MINIMUM INSULATION PER ASHRAE 90.1-2013 TABLE 6.8.2.B. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH NAIMA NATIONAL INSULATION STANDARDS AND MANUFACTURER'S INSTRUCTIONS. 2. ALL INSULATION MATERIALS SHALL HAVE SURFACE BURNING CHARACTERISTICS MEETING FLEAME, FLOW SPREAD INDEXES (REVIEWED) OF 2550, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E84, OR UL 723. 3. GLASS FIBER, FLEXIBLE INSULATION 3.1. ALL INSULATION IN RETURN AIR PLENUMS SHALL BE FORMALDEHYDE-FREE 3.2. ASTM C553 FLEXIBLE, NONCOMBUSTIBLE BLANKET. 3.2.1. "K" (KSI) VALUE: 0.36 AT 75 DEGREES F (0.052 AT 24 DEGREES C), WHEN TESTED IN ACCORDANCE WITH ASTM C518 3.2.2. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F (121 DEGREES C). 3.2.3. MAXIMUM WATER VAPOR SORPTION: 5.0 PERCENT BY WEIGHT. 3.3. VAPOR BARRIER JACKET 3.3.1. KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM. 3.3.2. MOISTURE VAPOR PERMEANCE: 0.02 PERM, WHEN TESTED IN ACCORDANCE WITH ASTM E96/96M. 3.3.3. SECURE WITH PRESSURE SENSITIVE TAPE. 4. MINIMUM SUPPLY AIR DUCT INSULATION: R-3.5
	23 31 00	1. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN COMPLIANCE WITH THE CURRENTLY ENFORCED M.M.C., CHAPTER 6 AND SHAWA HVAC DUCT CONSTRUCTION STANDARDS. ALL DUCTWORK SHALL BE SEALED AND INSULATED IN ACCORDANCE WITH THE LATEST VERSION OF ASHRAE 90.1. 2. ROUND FLEX DUCT SHALL BE USED FOR DIFFUSER-GRILLE CONNECTIONS ABOVE LAV-IN CEILINGS. FLEX DUCT MAY BE USED IN OTHER AREAS WHERE THE DUCT AND GRILLE ARE PERMANENTLY AND REASONABLY ACCESSIBLE. MAXIMUM FLEX DUCT LENGTH IS 6'-0". PERFORMANCE OF FLEXIBLE DUCT SHALL MEET OR EXCEED THE RIGID DUCTWORK.
	HVAC DUCTS AND CASINGS	

ABBREVIATIONS			
AAV	AIR ADMITTANCE VALVE	HWR	HEATING WATER RETURN
ADA	AMERICAN DISABILITIES ACT	HPWS	HEAT PUMP WATER SUPPLY
ADJ	ADJUSTABLE	HPWR	HEAT PUMP WATER RETURN
AF	ABOVE ROUGH FLOOR	IE	INVERT ELEVATION
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATURE
AL	ACOUSTICALLY LINED (DUCTWORK)	LBS	POUNDS
APD	AIR PRESSURE DROP	LP	LIQUID PROPANE
AS	AIR SEPARATOR	LWT	LEAVING WATER TEMPERATURE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	MBH	THOUSAND BTU PER HOUR
		MC	MECHANICAL CONTRACTOR
AV	AIR VENT	MBC	MICHIGAN BUILDING CODE
ABV	ABOVE	MMC	MICHIGAN MECHANICAL CODE
BDD	BACK-DRAFT DAMPER	MOT. D	MOTORIZED DAMPER
BG	BELOW GRADE	N.C.	NOISE CRITERIA
BO(x)	BOTTOM OF UNIT, REGISTER(R), GRILLE(G), PIPE (P), ETC.	NC	NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION, LIFE SAFETY CODE
BTUH	BTU PER HOUR	NG	NATURAL GAS
BV	BALANCING VALVE	NIC	NOT IN CONTRACT
CFH	CUBIC FEET PER HOUR	NO	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	OA	OUTDOOR AIR DUCT
CLG	COOLING	OBD	OPPOSED BLADE DAMPER
COND	CONDENSATE	OED	OPEN ENDED DUCT
CS	CIRCUIT SETTER	PRV	PRESSURE REDUCING VALVE
CU	CONDENSING UNIT	RA	RETURN AIR DUCT
CW	DOMESTIC COLD WATER	RC	RAIN CONDUCTOR
CWR	CHILLED WATER RETURN	RH	RELATIVE HUMIDITY
CWS	CHILLED WATER SUPPLY	RO	ROUGH OPENING
DB	DRY BULB	REF	REFRIGERANT PIPING
DN	DOWN	RG	RETURN AIR GRILLE
EA	EXHAUST AIR DUCT	SA	SUPPLY AIR DUCT
EAT	ENTERING AIR TEMPERATURE	SAN	SANITARY WASTE
EC	ELECTRICAL CONTRACTOR	SF	SQUARE FEET
EF	EXHAUST AIR FAN	SD	SUPPLY AIR DIFFUSER
ELEC	ELECTRICAL	SMKD	SMOKE DAMPER
EQUIP	EQUIPMENT	SP	STATIC PRESSURE
ESP	EXTERNAL STATIC PRESSURE	SPKR	SPRINKLER
ET	EXPANSION TANK	SR	SUPPLY AIR REGISTER
EWT	ENTERING WATER TEMPERATURE	SS	STAINLESS STEEL
EX	EXISTING (ALSO: "EXT'G", "x")	STM	STEAM PIPING
EXH	EXHAUST (AIR)	TBD	TO BE DETERMINED (DURING CONSTRUCTION)
EG	EXHAUST AIR GRILLE	TO	TOP OF...(DUCT, PIPE, ETC.)
FCO	FLOOR CLEAN OUT	TPV	TRAP PRIMER VALVE
FD	FIRE DAMPER (1 OR 2 HOUR)	TSP	TOTAL STATIC PRESSURE
FLA	FULL LOAD AMPS	T-STAT	THERMOSTAT
FPM	FEET PER MINUTE	TYP	TYPICAL
FSD (1 OR 2 HOUR)	COMBINATION FIRE AND SMOKE OR DAMPER	UC	UNDERCUT
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR	UG	UNDERGROUND
FV or VIF	FIELD VERIFY or VERIFY IN FIELD	UL	UNITED LABORATORIES TESTING AGENCY
DL	DUCT LINER	UW	UNTREATED WATER
G	GAS, NATURAL GAS OR LP AS NOTED	VAV (SYSTEM)	VARIABLE AIR VOLUME (BOX, UNIT, SYSTEM)
GA	GAUGE	VFD	VARIABLE FREQUENCY DRIVE
GAL	GALLONS	VD	VOLUME DAMPER
GPH	GALLONS PER HOUR	VIF or FV	VERIFY IN FIELD or FIELD VERIFY
GPM	GALLONS PER MINUTE	VTR	VENT THRU ROOF
GC	GENERAL CONTRACTOR	WB	WET BULB
GHXS	GROUND HEAT EXCHANGER SUPPLY	WCO	WALL CLEAN OUT
GHXR	GROUND HEAT EXCHANGER RETURN	WPD	WATER PRESSURE DROP
HTG	HEATING	ZD	ZONE DAMPER
HW	DOMESTIC HOT WATER		
HWS	HEATING WATER SUPPLY		

MECHANICAL LEGEND

	CHWS	CHILLED WATER SUPPLY		BALL VALVE, ISOLATION AND SHUT-OFF
	CHWR	CHILLED WATER RETURN		BUTTERFLY VALVE, ISOLATION AND SHUT-OFF
	COND	CONDENSATE PIPING		GLOBE VALVE
	G	NATURAL GAS OR PROPANE		GATE VALVE, ISOLATION AND SHUT-OFF
	HPWS	HEAT PUMP WATER SUPPLY		CIRCUIT SETTER W/ TEST PORTS (CS)
	HPWR	HEAT PUMP WATER RETURN		BALANCING VALVE W/ SHUT-OFF ABILITY AND TEST PORTS (BV)
	HWS	HOT WATER SUPPLY		TRIPLE DUTY VALVE (MULTI-PURPOSE BALANCE, CHECK, SHUT-OFF CAPABILITY W/ TEST PORTS)
	HWR	HOT WATER RETURN		ELECTRONIC-DIGITAL 2-WAY OR 3-WAY MIXING OR DIVERTING VALVE
	REF	REFRIGERANT PIPING		PNEUMATIC 2-WAY OR 3-WAY MIXING OR DIVERTING VALVE
	STM	STEAM PIPING		STRAINER WITH BLOW DOWN
		SOLID ROUND DUCT		STANDARD CHECK VALVE
		FLEX ROUND DUCT		SPRING CHECK VALVE
	TD	THERMOSTAT, T-STAT		FLOW DIRECTION DESIGNATOR
	VD	MANUAL VOLUME DAMPER		PRESSURE GAGE
		NEW-TO-EXISTING CONNECTION		TEMPERATURE GAGE
		ENDCAP (DUCT OR PIPING)		FLOW SWITCH
	M	MOTORIZED DAMPER, MOT. D		MANUAL AIR VENT
		BACKDRAFT DAMPER, BDD		AUTO AIR VENT
		VERTICAL FIRE DAMPER		RELIEF OR SAFETY VALVE
		HORIZONTAL FIRE DAMPER		PRESSURE REDUCING VALVE (PRV)
		DUCT TURNING VANE		DOUBLE BACK FLOW PREVENTER
		SUPPLY AIR DIFFUSER, SD-X		STEAM TRAP
		RETURN AIR GRILLE, RG-X		VIBRATION ABSORBER
		EXHAUST AIR GRILLE, EG-X		PUMP, PLAN VIEW
		EXHAUST AIR FAN, EF-X		AIR SEPARATOR W/ STRAINER & BLOW DOWN
				METER (GAS OR WATER)
				GAS COCK
				GAS SOLENOID VALVE

SPECIAL NOTICE TO CONTRACTORS

1. IT IS RECOMMENDED THAT ALL CONTRACTORS NOTING THIS PROJECT VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND BIDE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. PRIOR TO CONSTRUCTION, CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF THE FOLLOWING:
 - A. ALL POINTS OF CONNECTION TO BUILDING UTILITIES AND/OR SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, MECHANICAL SYSTEMS, DUCTWORK, EXHAUST/OUTSIDE AIR, SECURITY, FIRE/LIFE SAFETY, DATA, AND PHONE.
 - B. ALL REQUIRED CONNECTIONS TO THE BUILDING STRUCTURE.
 - C. ALL REQUIRED BUILDING PENETRATIONS.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. REFER TO THE CONSTRUCTION DOCUMENTS FOR ALL CONTACT INFORMATION.

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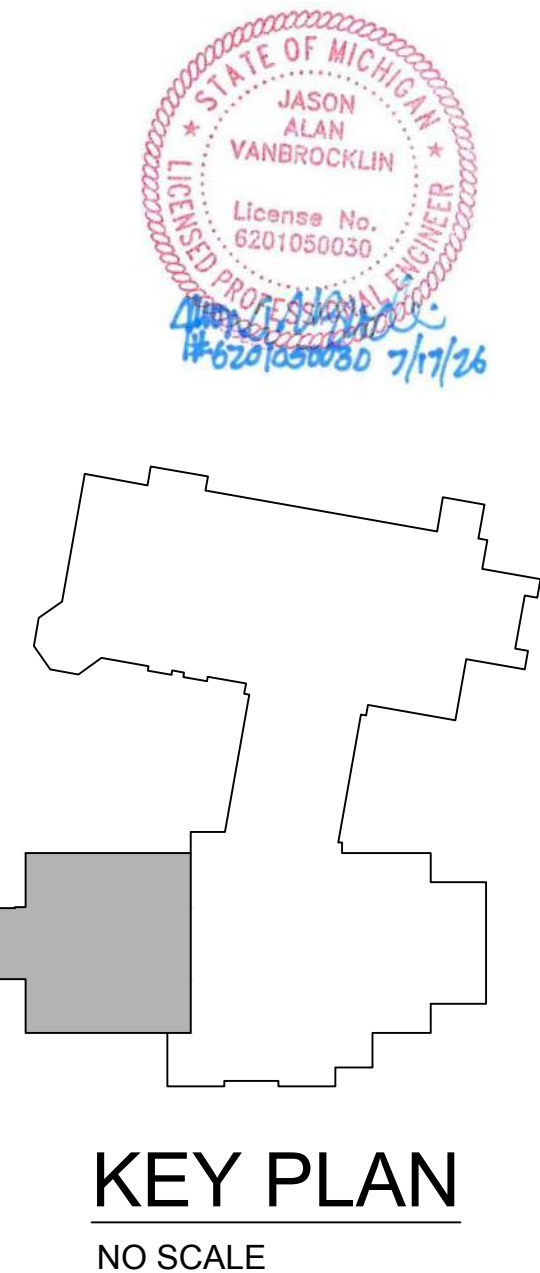
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PIC:	DAR
PM:	DAR
DRAFTS:	DAR
PROJECT NO: 26.513	
SHEET TITLE: MECHANICAL SCHEDULES & DETAILS	
SHEET NO: M200	



LIGHT FIXTURE SCHEDULE

Type	Mount	Description	Lumens	Temp	CRI	Watts	Voit	Dim	Manufacturer	Model #	Notes
A	Recessed	2x2 LED Recessed	4,462	xx	80	33	UNV	0-10v	Metalux	22CZ2-44-UNV-L8xx-CD1-U	Contractor to confirm color temperature with Owner/existing lights
AE	Recessed	2x2 LED Recessed w/Battery	4,462	xx	80	33	UNV	0-10v	Metalux	22CZ2-44-UNV-EL14W-L8xx-CD1-U	Same as type A, except with 14-watt, 90 minute emergency backup battery.
EX	Universal	Exit / Em Combo Unit	---	---	---	---	UNV	---	Isolite	RLP-R-U-WH-MTEB-SD	Combo Unit - Remote Capacity - Red Letters / White Frame.
SP	J-box	20-amp rated Occupancy Sensor Power Pack	N/A	N/A	N/A	N/A	UNV	N/A	Greengate	SP20-MV	Connect to Occupancy Sensors (OS1)
OS1	J-box	Passive Infrared Ceiling Mounted Low Voltage Occupancy Sensor	N/A	N/A	N/A	N/A	UNV	N/A	Greengate	OAC-P-1500	1500 SF. Connect to Switch Pack (SP)

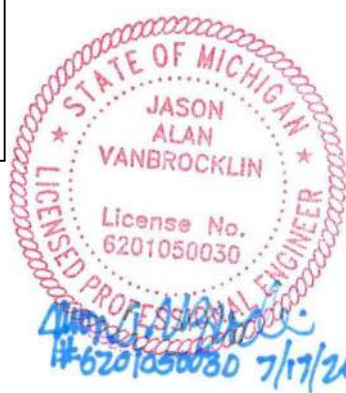
EXT'G PANEL #MD										225A MCB, 120/208V-3PH-4W SURFACE MOUNTED, SQUARE D NQO									
KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY									
	1	20/1	RECEPTS - MECHANICAL ROOM	---	A	---	RECEPTS - 111 SOUTH WALL	20/1	2										
	3	20/1	RECEPTS - WOMEN'S RESTROOM	---	B	---	RECEPTS - 111 EAST WALL	20/1	4										
	5	20/1	RECEPTS - 111 WEST WALL	---	C	---	RECEPTS - 111 EAST WALL	20/1	6										
	7	20/1	RECEPTS - 111 EAST WALL	---	A	---	EXTERIOR RECEPT NW	20/1	8										
	9	20/1	RECEPTS - 111 NORTH WALL	---	B	---	112 OFFICE	20/1	10										
	11	20/1	114 OUTSIDE WALL	---	C	---	RECEPTS - 114 EAST WALL	20/1	12										
	13	20/1	RECEPTS - 112 WEST WALL	---	A	---	PHOTO EYE FOR DOCK LIGHTS	20/1	14										
	15	20/1	RECEPTS - 112 NORTH WALL	---	B	---	OUTSIDE COURTYARD	20/1	16										
	17	20/2	RECEPTS - 112 NORTH WALL & PROJECTOR COIL	---	C	---	112 OFFICE	20/1	18										
	19			---	A	---	RECEPTS - ELEVATOR ROOM	20/1	20										
	21	20/1	111 PROJECTOR CEILING	---	B	---	STORE ROOM NEAR 172	20/1	22										
	23	20/1	CABINET HEATER 6/5/7	---	C	---	PUMP 112 MECH ROOM	20/1	24										
	25	20/1	114 COMPUTER LAB	---	A	---	114 COMPUTER LAB	20/1	26										
	27	20/1	114 COMPUTER LAB	---	B	---	HAND DRYER MENS	20/1	28										
	29	30/1	114 COMPUTER LAB	---	C	---	HAND DRYER MENS	20/1	30										
	31	20/1	EWG OUTSIDE MECHANICAL ROOM	---	A	---	EXISTING UNKNOWN CIRCUIT	20/1	32										
	33	20/1	HAND DRYER WOMENS	---	B	---	EXISTING UNKNOWN CIRCUIT	20/1	34										
	35	20/1	HAND DRYER WOMENS	---	C	---	EXISTING UNKNOWN CIRCUIT	20/1	36										
	37	20/1	EXISTING UNKNOWN CIRCUIT	---	A	---	EXISTING UNKNOWN CIRCUIT	20/1	38										
	39	20/1	EXISTING UNKNOWN CIRCUIT	---	B	---	EXISTING UNKNOWN CIRCUIT	20/1	40										
	41	---	SPACE	---	C	---	GENERATOR	20/1	42										

REVISED PANEL #MD										225A MCB, 120/208V-3PH-4W SURFACE MOUNTED, SQUARE D NQO									
KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY									
	1	20/1	RECEPTS - MECHANICAL ROOM	---	A	---	RECEPTS - 111 SOUTH WALL	20/1	2										
	3	20/1	RECEPTS - WOMEN'S RESTROOM	---	B	---	RECEPTS - 111 EAST WALL	20/1	4										
	5	20/1	RECEPTS - 111 WEST WALL	---	C	---	RECEPTS - 111 EAST WALL	20/1	6										
	7	20/1	RECEPTS - 111 EAST WALL	---	A	1260	RECEPTS-EXT. NW +A141 NORTHEAST	20/1	8										
	9	20/1	RECEPTS - 111 NORTH WALL	---	B	1440	RECEPTACLES - CONFERENCE ROOM	20/1	10										
	11	20/1	RECEPTS - 141 WEST WALL - PRINTER	1000	C	1080	RECEPTS - 141 EAST + OFFICE A142	20/1	12										
	13	20/1	RECEPTS - 112 WEST WALL	---	A	---	PHOTO EYE FOR DOCK LIGHTS	20/1	14										
	15	20/1	RECEPTS - 112 NORTH WALL	---	B	---	OUTSIDE COURTYARD	20/1	16										
	17	20/2	RECEPTS - 112 NORTH WALL & PROJECTOR COIL	---	C	720	RECEPTS - 141 NORTHWEST	20/1	18										
	19			---	A	---	RECEPTS - ELEVATOR ROOM	20/1	20										
	21	20/1	111 PROJECTOR CEILING	---	B	---	STORE ROOM NEAR 172	20/1	22										
	23	20/1	CABINET HEATER 6/5/7	---	C	---	PUMP 112 MECH ROOM	20/1	24										
	25	20/1	RECEPTS - 141 SOUTHWEST	720	A	1080	RECEPTS - 141 SOUTHEAST	20/1	26										
NG	27	20/1	RECEPTS - 141 KITCHENETTE COUNTER	360	B	---	HAND DRYER MENS	20/1	28										
NG	29	20/1	RECEPTS - 141 KITCHNETTE - REF & MW	1600	C	---	HAND DRYER MENS	20/1	30										
	31	20/1	EWG OUTSIDE MECHANICAL ROOM	---	A	---	EXISTING UNKNOWN CIRCUIT	20/1	32										
	33	20/1	HAND DRYER WOMENS	---	B	---	EXISTING UNKNOWN CIRCUIT	20/1	34										
	35	20/1	HAND DRYER WOMENS	---	C	---	EXISTING UNKNOWN CIRCUIT	20/1	36										
	37	20/1	EXISTING UNKNOWN CIRCUIT	---	A	---	EXISTING UNKNOWN CIRCUIT	20/1	38										
	39	20/1	EXISTING UNKNOWN CIRCUIT	---	B	---	EXISTING UNKNOWN CIRCUIT	20/1	40										
N	41	20/1	RECEPTS - 141 WEST WALL - COPIER	1000	C	---	GENERATOR	20/1	42										

EXT'G PANEL #MPP 2										225A MLO, 480/277V-3PH-4W SURFACE MOUNTED, SQUARE D NF									
KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY									
	1	20/1	VAV - 15	---	A	---	VAV - 21	20/1	2										
	3	20/1	SPARE	---	B	---	VAV - 17	20/1	4										
	5	20/1	SPARE	---	A	---	VAV - 26	20/1	6										
	7	20/1	VAV - 20	---	B	---			8										
	9	---	SPACE	---	A	---	SNOW MELT	20/3	10										
	11	---	SPACE	---	B	---			12										
	13	20/1	DOCK LIGHTS	---	A	---			14										
	15	30/1	DOCK LIGHTS	---	B	---	AIR COMPRESSORS	20/3	16										
	17	---	SPACE	---	A	---			18										
	19	---	SPACE	---	B	---			20										
	21	---	SPACE	---	A	---	FIRE JOCKEY PUMP	20/3	22										
	23	---	SPACE	---	B	---			24										
	25	---	SPACE	---	A	---	SPACE	---	26										
	27	---	SPACE	---	B	---	SPACE	---	28										
	29	---	SPACE	---	A	---	SPACE	---	30										
	31	---	SPACE	---	B	---	SPACE	---	32										
	33	---	SPACE	---	A	---	SPACE	---	34										
	35	---	SPACE	---	B	---	SPACE	---	36										
	37	---	SPACE	---	A	---	SPACE	---	38										
	39	100/3	LIGHTING TRANS	---	B	---	SPACE	---	40										
	41	---	SPACE	---	A	---	SPACE	---	42										
	43	---	SPACE						44										
	45	---	SPACE				LIGHTING TRANS	100/3	46										
	47	---	SPACE						48										
	49	---	SPACE				SPACE	---	50										
	51	---	SPACE				SPACE	---	52										
	53	---	SPACE				SPACE	---	54										

REVISED PANEL #MPP 2							225A MLO, 480/277V-3PH-4W SURFACE MOUNTED, SQUARE D NF						
KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY			
	1	20/1	VAV - 15	---	A	---	VAV - 21	20/1	2				
	3	20/1	SPARE	---	B	---	VAV - 17	20/1	4				
	5	20/1	SPARE	---	A	---	VAV - 26	20/1	6				
	7	20/1	VAV - 20	---	B	---			8				
	9	---	SPACE	---	A	---	SNOW MELT	20/3	10				
	11	---	SPACE	---	B	---			12				
	13	20/1	DOCK LIGHTS	---	A	---			14				
	15	30/1	DOCK LIGHTS	---	B	---	AIR COMPRESSORS	20/3	16				
	17	---	SPACE	---	A	---			18				
	19	---	SPACE	---	B	---			20				
	21	---	SPACE	---	A	---	FIRE JOCKEY PUMP	20/3	22				
	23	---	SPACE	---	B	---			24				
	25	---	SPACE	---	A	---	SPACE	---	26				
	27	---	SPACE	---	B	---	SPACE	---	28				
	29	---	SPACE	---	A	---	SPACE	---	30				
	31	---	SPACE	---	B	---	SPACE	---	32				
	33	---	SPACE	---	A	---	SPACE	---	34				
	35	---	SPACE	---	B	---	SPACE	---	36				
	37	---	SPACE	---	A	---	SPACE	---	38				
	39	100/3	LIGHTING TRANS	---	B	---	SPACE	---	40				
	41	---		---	A	---	SPACE	---	42				
	43	---	SPACE						44				
	45	---	SPACE				LIGHTING TRANS	100/3	46				
	47	---	SPACE						48				
	49	---	SPACE				SPACE	---	50				
	51	---	SPACE				SPACE	---	52				
	53	---	SPACE				SPACE	---	54				

ELECTRICAL SPECIFICATIONS			
SECTION 26 00 60 BASIC MATERIALS AND METHODS		END OF SECTION	
PART 1 GENERAL 1.01 MATERIALS: A. All materials and equipment furnished for installation on this project shall be new and in strict accordance with Contract Documents. All packaged materials shall be delivered in their original containers which shall show the manufacturer's name and the identifying designations as to size, quality, etc. Materials delivered to the project unmarked or mutilated packages will be ordered to be removed from the site at once. Materials or equipment judged as "damaged" by the Architect/Engineer shall be removed from the project and site. B. Should any dispute arise to the quality of any material, the decision shall rest entirely with the Architect/Engineer and shall be based on the requirement that all materials furnished shall be first class in every respect, and what is usual or customary in erecting other buildings shall in no way enter into the consideration or decision whatever as it pertains to the project under consideration. C. All materials and equipment furnished under work of all Division 26 sections shall be UL approved and listed, and shall bear the Underwriter's Label. PART 2 PRODUCTS 2.01 RACEWAYS: A. Aluminum conduit is acceptable in this Contract. B. Rigid Metal Conduit. 1. Rigid metal conduit shall be hot dipped galvanized steel, meeting Federal Standard WW-C-581. 2. Threaded fittings shall be used on rigid metal conduit. C. Electric Metallic Tubing: 1. Electrical metallic tubing shall be standard weight, meeting Federal Standard WW-C-563 and bear the manufacturer's name and Underwriter's Label on each length. Maximum permissible size tubing shall be 4". 2. Provide compression-type steel fittings or set screw-type steel fittings. Crimp-type connectors are not acceptable. D. Flexible Metal Conduit: 1. Flexible metallic conduit shall meet Federal Standard WW-C-566 and is to have separate grounding conductor. Minimum permissible size shall be 1/2". 2. Fittings shall be malleable iron, threaded type. E. Liquid-Tight Flexible Metal Conduit: 1. Liquid-tight flexible metal conduit shall be single strip, flexible, continuous, interlocked, and double-wrapped steel. It shall be galvanized inside and outside, with a liquid-tight jacket of flexible polyvinyl chloride (PVC). Minimum permissible size shall be 1/2". 2. Connectors shall be insulated throat, malleable iron. F. Liquid-Tight Flexible Non-Metallic Conduit: 1. Liquid-tight flexible non-metallic conduit shall be single strip, flexible polyvinyl chloride (PVC). Minimum permissible size shall be 1/2". 2. Connectors shall be non-metallic (PVC) compression type UL labeled and listed to be used on liquid-tight flexible non-metallic conduit. G. Rigid Non-Metallic Conduit: 1. Rigid non-metallic conduit (PVC) shall be Schedule 40, rigid heavy wall polyvinyl chloride, 90 degrees C., UL rated. 2. Fittings shall be solvent weld type of the same material as the conduit. 3. All 45 degree bends or greater shall be made with rigid metal conduit fittings on all conduit larger than 1-1/4" diameter. H. Surface Metal Raceways: 1. Exposed (Surface Mounted) raceways noted on the drawings as "Wiremold" shall be equal to Wiremold Series 4000 or as shown on drawings. Provide required anchors, fittings, and outlet boxes as required. I. Wireways: 1. Wireways shall be lay-in type and shall be UL listed as a wireway or auxiliary gutter. It shall be constructed with a hinged cover and knockouts. It shall be primed with a corrosion resistant primer and gray epoxy finish. J. Metal-Clad Cable: 1. Metal-clad cable shall be U.L. labeled and have a smooth, weld or corrugated metallic sheath. Type MC cable shall provide an adequate path for equipment grounding as required by N.E.C. 2. All fitting shall be of the same metallic composition as cable and U.L. labeled for use on cable. 2.02 WIRE AND CABLE: A. All wiring shall be copper and shall be installed in conduit or tubing unless specified otherwise. B. All wire shall be new and in the original cartons or on manufacturer's shipping reels. C. No wire smaller than #14 may be used unless specified under descriptions of special systems. Wire #14 and larger shall be stranded. D. All neutral runs including feeders shall be white full length of conductor and/or identified per NEC. E. Select from the following wire types to comply with the project's installation requirements and NEC standards. 1. Type THHN/THWN rated installation, 600 volt, 90 degrees C., in conduit, stranded copper, size No. 14 AWG up to and including No. 10 AWG. 2. Type THWN-2 rated insulation, 600 volt, 90 degrees C., in conduit, stranded copper, size No. 8 AWG up to No. 750 MCM AWG. F. Select from the following cable types to comply with the project's installation requirements and NEC standards. 1. Metal-Clad Cable, Type MC. Use in existing, concealed locations only (above ceilings, in walls etc.) for final connections to light fixtures, or between downstream devices of the same circuit (Circuit homeruns shall be in conduit). Maximum length of fifteen feet. 2.03 WIRE CONNECTORS AND JOINTS: F. All conductors #8 AWG and smaller shall be joined with electrical spring connectors with vinyl insulating cap. Conductors larger than #8 shall be joined by compression type connectors. 2.04 OUTLET BOXES: A. Ceiling outlet boxes shall be 4" octagon, 2 1/8" deep, with fixture hickey, and supported to withstand 50 pounds. B. Convenience outlet and switch boxes shall be a minimum 4"sq. x 2 1/8" deep with 1 or 2 gang, 2" deep plaster ring. When installed in poured walls, 3 1/8" minimum deep masonry box shall be used; when installed in masonry blocks, minimum 4"sq. x 2 1/8" deep with 1 or 2 gang, 2" deep plaster ring shall be used. C. Floor outlet boxes shall be as shown on plans. 2.05 JUNCTION BOXES AND PULL BOXES: A. When used, pull boxes and junction boxes shall be galvanized and have flat steel covers fastened with screws and set flush with the finished surface and located in an accessible area. When installed in damp locations, gaskets and seals shall be provided. Junction boxes shall be sized to meet N.E.C. Standards based on conduit and conductors. Provide identifying labels on each box. 2.06 WIRING DEVICES: A. Receptacles: 1. Receptacles shall be commercial specification grade. (All device finishes shall be determined during shop drawing submittal review). a. 20 Amp, 125 Volt, duplex, controlled (NEMA 5-20R). b. 20 Amp, 125 Volt, duplex, ground fault (NEMA 5-20R). B. Wall Switches (Snap Switches): 1. Switches shall be specification grade, totally enclosed molded composition, silent type, spring action silver contacts, and rated 120/277 volts A.C. All switches shall be binding screw type. 2. Switches shall be rated at 20 Amp. 3. Finish to be determined during shop drawing submittal review for all locations. C. Device Plates: 1. Plates shall be brushed smooth stainless steel, except plates used on surface mounted boxes. Surface mounted outlets plates shall be raised, pressed metal type. Mounting screws shall be metal with same finish as plate and with countersunk head. Plates shall be single ganged, or combination, to accommodate arrangement indicated on drawings. PART 3 EXECUTION 3.01 RACEWAYS: A. Conduit or tubing shall be installed in a manner which complies with all applicable provisions of the National Electrical Code and at least six inches from parallel runs of steam pipes, flues, or hot water pipes. B. Ends of all conduit or tubing shall terminate in a bushing or fitting having factory installed insulating liners.		3.02 OUTLET BOXES: 1. Set boxes squarely with faces flush to finished surfaces. The exact location of all outlets shall be approved by the Architect/Engineer before same are place and Contractor shall consult Architect/Engineer at all times relative to the location of outlets. No outlets shall be placed behind plumbing or heating pipes or where they will interfere with ducts, pipes, equipment, or other work. 2. Each outlet shall be rigidly supported from the building construction (independent of the raceway system). 3.04 WIRING DEVICES: A. Receptacles shall be mounted approximately 16" above finished floor to the bottom of the box or at other heights indicated on drawings. B. E.C. shall be responsible for protection of receptacles from painting, plastering, etc. C. Wall switches shall be mounted approximately 44" above finished floor to the bottom of the box unless they interfere with wainscoting or trim. D. E.C. shall be responsible for masking switches for protection from painting, plastering, etc. E. E.C. shall confirm all door swings with Building Trades Contractor before installing switches. F. Wall plates shall be installed plumb and level with all edges in contact with attaching surface. G. E.C. shall confirm all ADA and barrier free requirements are meant and install according to their regulations. 3.05 SUPPORTS AND HANGERS: A. Provide and install necessary steel brackets, rods, clamps, etc., for support of all work under this contract. All supports shall be plated or painted and shall be secured to structural members after Architect's approval. 3.06 SLEEVES AND INSERTS: A. This Contractor shall be responsible for the proper location of all sleeves, chases, openings and inserts for the installation of his equipment. B. Holes through walls, floors or structural members shall be located only where permitted by the Architect. 3.07 UNDERGROUND WORK: A. Prior to any underground excavating, trenching, pole base augering, etc. call MISS DIG at 1-800-482-7171 no less than 72 hours in advance of any earthwork. END OF SECTION	
SECTION 26 05 05 ELECTRICAL DEMOLITION		END OF SECTION	
PART 1 GENERAL 1.01 SECTION INCLUDES A. Electrical demolition. PART 2 PRODUCTS 2.01 MATERIALS AND EQUIPMENT A. Materials and equipment for patching and extending work: As specified in individual sections. PART 3 EXECUTION 3.01 EXAMINATION A. Verify that abandoned wiring and equipment serve only abandoned facilities. B. Demolition drawings are based on casual field observation and existing record documents. C. Report discrepancies to Architect/Engineer before disturbing existing installation. D. Beginning of demolition means installer accepts existing conditions. 3.02 PREPARATION A. Disconnect electrical systems in walls, floors, and ceilings to be removed. B. Coordinate service outages with the Owner and/or the utility company. C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations. D. Existing Electrical Service: Maintain existing system in service. Disable system only to make switchovers and connections. Minimize outage duration. 1. Obtain permission from Owner at least 24 hours before partially or completely disabling system. E. Existing Fire Alarm System: Maintain existing system in service. Disable system only to make switchovers and connections. Minimize outage duration. 1. Notify Owner before partially or completely disabling system. 2. Notify local fire service. 3. Make notifications at least 24 hours in advance. 3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK A. Perform work for removal and disposal of equipment and materials containing toxic substances regulated under the Federal Toxic Substances Control Act (TSCA) in accordance with applicable federal, state, and local regulations. Applicable equipment and materials include, but are not limited to: 1. PCB-containing electrical equipment, including transformers, capacitors, and switches. 2. PCB- and DEHP-containing lighting ballasts. 3. Mercury-containing lamps and tubes, including fluorescent lamps, high intensity discharge (HID), arc lamps, ultra-violet, high pressure sodium, mercury vapor, ignitron tubes, neon, and incandescent. B. Remove, relocate, and extend existing installations to accommodate new construction.		END OF SECTION	
SECTION 26 05 26 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS		END OF SECTION	
END OF SECTION		END OF SECTION	



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DATE: 07-10-2026
07-17-2026

ISSUED FOR: PROGRESS SET
BIDS/PERMIT

PIC: JAV
FM: JAV
DRAFTS: JAV

PROJECT NO: 26.513

SHEET TITLE: ELECTRICAL SPECIFICATIONS

SHEET NO: E901

CORNERSTONE
ARCHITECTS

Architecture Interior Design Historic Preservation

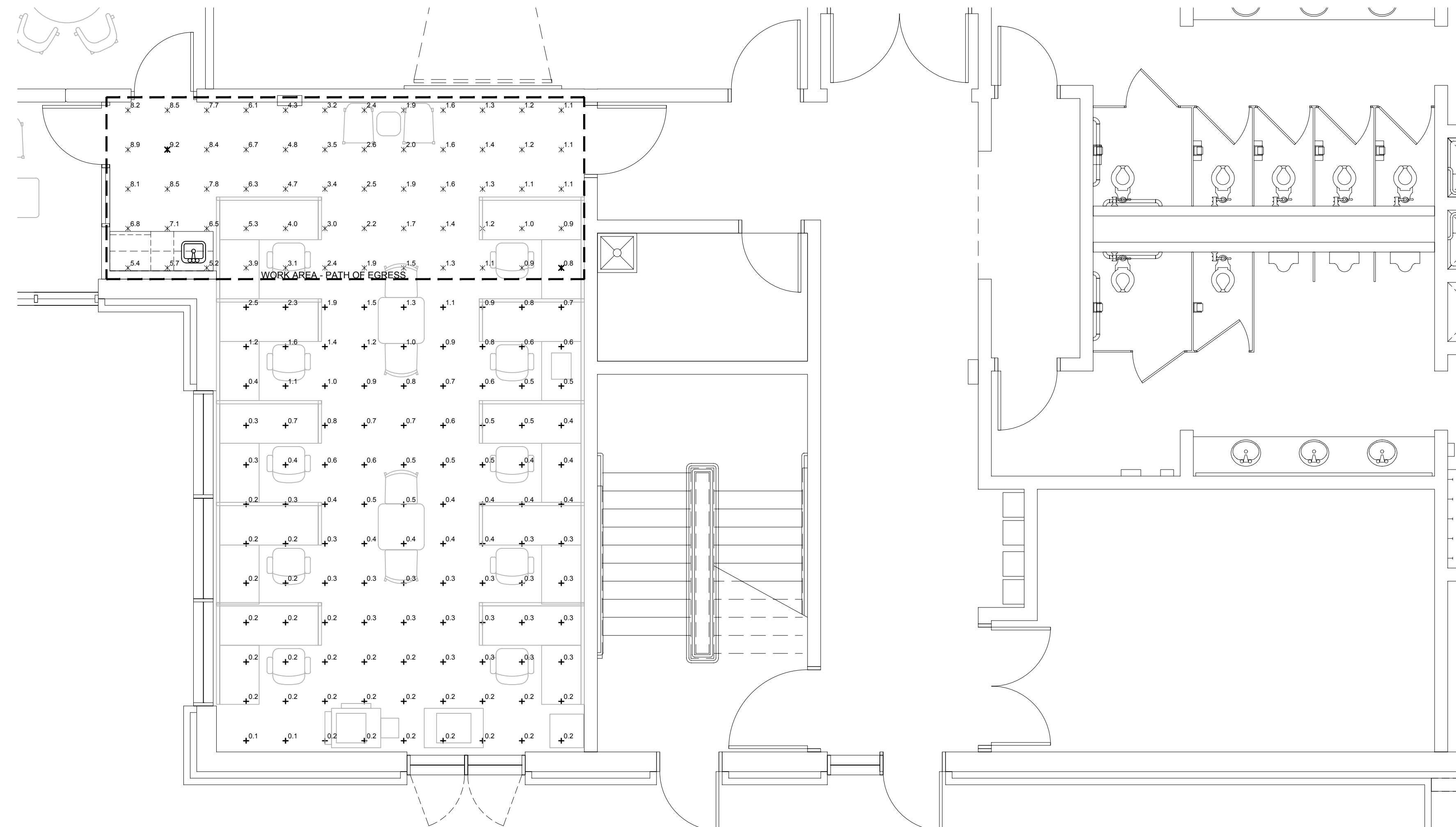
122 S. Union Street, Suite 200
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Traverse City, MI 49684
231.933.4310

PROJECT NO:	26.513
SHEET TITLE:	ELECTRICAL SPECIFICATIONS
SHEET NO:	E902



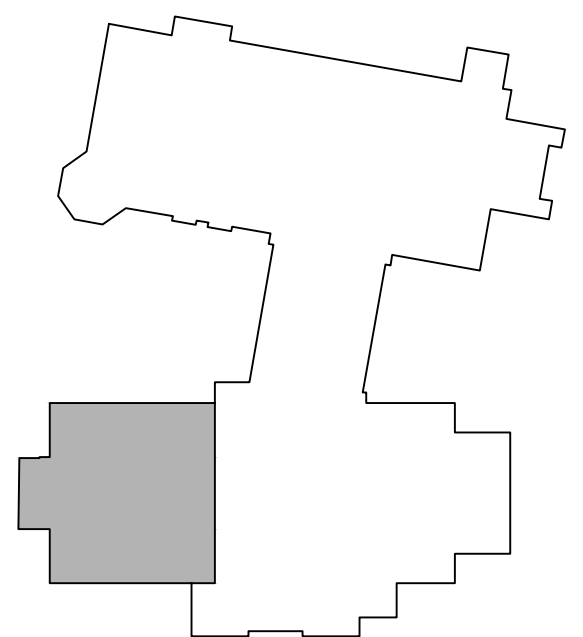
SECTION 26 51 00 INTERIOR LIGHTING PART 1 GENERAL 1.01 SECTION INCLUDES A. Interior luminaires. B. Emergency lighting units. C. Exit signs. 1.02 ADMINISTRATIVE REQUIREMENTS A. Coordination: 1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations. 2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others. 3. Coordinate the placement of exit signs with furniture, equipment, signage or other potential obstructions to visibility installed under other sections or by others. 4. Notify Engineer of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work. 1.03 SUBMITTALS A. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features. 1. LED Luminaires: a. Include estimated useful life, calculated based on IES LM-80 test data. b. Include IES LM-79 test report upon request. c. Provide electronic files of photometric data certified by a National Voluntary Laboratory Accreditation Program (NVLAP) lab or independent testing agency in IES LM-63 standard format upon request. B. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product. C. Operation and Maintenance Data: Instructions for each product including information on replacement parts. D. Project Record Documents: Record actual connections and locations of luminaires and any associated remote components. PART 2 PRODUCTS 2.01 LUMINAIRES A. Provide products listed, classified, and labeled as suitable for the purpose intended. B. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light. C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system. D. Luminaires Mounted in Continuous Rows: Provide quantity of units required for length indicated, with all accessories required for joining and aligning. 2.02 EMERGENCY LIGHTING UNITS A. Description: Emergency lighting units complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924. B. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source. C. Battery: 1. Size battery to supply all connected lamps, including emergency remote heads where indicated. D. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation. E. Provide low-voltage disconnect to prevent battery damage from deep discharge. 2.03 EXIT SIGNS A. Description: Exit signs and similar signs for special purpose applications such as area of refuge/rescue assistance. B. Description: Internally illuminated exit signs with LEDs unless otherwise indicated; complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924. 1. Number of Faces: Single or double as indicated or as required for the installed location. 2. Directional Arrows: As indicated or as required for the installed location. C. Powered Exit Signs: Internally illuminated with LEDs unless otherwise indicated. 1. Self-Powered Exit Signs: a. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source. b. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation. c. Provide low-voltage disconnect to prevent battery damage from deep discharge. PART 3 EXECUTION 3.01 INSTALLATION A. Install products in accordance with manufacturer's instructions. B. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting). C. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires. D. Suspended Ceiling Mounted Luminaires: 1. Do not use ceiling tiles to bear weight of luminaires. 2. Do not use ceiling support system to bear weight of luminaires unless ceiling support system is certified as suitable to do so. E. Recessed Luminaires: 1. Install trims tight to mounting surface with no visible light leakage. F. Suspended Luminaires: 1. Unless otherwise indicated, specified mounting heights are to bottom of luminaire. 2. Install using the suspension method indicated, with support lengths and accessories as required for specified mounting height. 3. Unless otherwise indicated, support pendants from swivel hangers. G. Wall-Mounted Luminaires: Unless otherwise indicated, specified mounting heights are to bottom of luminaire. H. Support luminaires 2 x 4 foot (600 x 1200 mm) and larger size independent of ceiling framing. I. Lighting in equipment rooms and electromechanical type spaces is diagrammatic, indicating type, quantity and general circuiting of fixtures. Modify locations and mounting to suit conditions, allowing clearances for equipment, piping and ductwork. J. Install accessories furnished with each luminaire. K. Bond products and metal accessories to branch circuit equipment grounding conductor. L. Emergency Lighting Units: 1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls. 2. Install lock-on device on branch circuit breaker serving units. M. Exit Signs: 1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls. 3.02 FIELD QUALITY CONTROL A. Inspect each product for damage and defects. B. Operate each luminaire after installation and connection to verify proper operation. C. Test self-powered exit signs, emergency lighting units, and fluorescent emergency power supply units to verify	proper operation upon loss of normal supply. D. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Owner/Engineer. 3.03 ADJUSTING A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Architect/Engineer. Secure locking fittings in place. B. Aim and position adjustable emergency lighting unit lamps to achieve optimum illumination of egress path as required or as directed by Engineer or authority having jurisdiction. C. Exit Signs with Field-Selectable Directional Arrows: Set as indicated or as required to properly designate egress path as directed by Engineer or authority having jurisdiction. 3.04 CLEANING A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish. 3.05 SCHEDULE - SEE DRAWINGS END OF SECTION SECTION 26 60 50 TELEPHONE, TELEVISION AND DATA CABLING BOX AND RACEWAY SYSTEM PART 1 - GENERAL 1.01 DESCRIPTION OF WORK A. The Telephone, Television and Data Cabling Box and Raceway System shall include, but not be limited to, the following: 1. Complete box and raceway system including conduit as indicated on the drawings. 2. Provide all electrical power outlets as indicated on the drawings. 3. Installation of the box and raceway system shall be closely coordinated with the Owner and the Contractor performing the wiring and termination of the Telephone, Television and Data Cabling systems. The electrical contractor shall provide any miscellaneous power and work required to complete the box and raceway system to facilitate installation of the Telephone, Television and Data Cabling system. B. The Telephone, Television and Data Cabling System components will be provided under a separate contract. PART 2 - PRODUCTS (NOT APPLICABLE) PART 3 - EXECUTION 3.01 INSTALLATION C. All floor or wall penetrations shall be core drilled with a maximum 1/2" size greater than the exterior dimension of the riser conduit, and sleeve. END OF SECTION	PART 3 EXECUTION 3.01 INSTALLATION A. The additions to the system shall be installed in a workmanlike manner, in accordance with approved manufacturer's wiring diagram. The contractor shall furnish all conduit, wiring, outlet boxes, junction boxes, cabinets and similar devices necessary for the complete installation. All wiring shall be of the type recommended by the manufacturer, approved by the local Fire Department, and shall be installed in accordance with NEC requirements for power limited systems (Article 760). B. All penetration of floor slabs and fire walls shall be fire stopped in accordance with all local fire codes. C. End of Line Resistors shall be furnished as required for mounting as directed by the manufacturer. D. All wiring shall be color coded throughout, to National Electrical Code standards. Install plenum rated cable where noted on the drawings. 3.02 FIELD QUALITY CONTROL A. The system shall be installed and fully tested under the supervision of a trained manufacturer's representative. The system shall be demonstrated to perform all of the function as specified. 3.03 TESTS A. Reports of any field testing during installation shall be forwarded to the Engineer. B. Each individual system operation on a circuit by circuit basis shall be tested for its complete operation. The procedure for testing the entire system shall be set forth with the consent of the code enforcement official, the Engineer and the manufacturer. 3.04 DOCUMENTATION AND TRAINING A. The contractor shall compile and provide to the owners three (3) complete manuals on the completed system to include operating and maintenance instruction, catalog cuts of all equipment and components, as-built wiring diagrams and a manufacturer's suggested spare parts list. B. In addition to the above manuals, the contractor shall provide the services of a trained manufacturer's trained representative for a period of two (2) hours to instruct the owners designated personnel on the operation and maintenance of the entire system. END OF SECTION	
	SECTION 28 31 01 FIRE ALARM SYSTEM ADDITIONS PART 1 GENERAL 1.01 GENERAL REQUIREMENTS A. The requirements of the Contract Documents, including the General and Supplementary General Condition and Division 1 - General Requirements shall apply to the work of this section. B. At the time of bid, all exceptions taken to these Specifications, all variances from these Specifications and all substitutions of operating capabilities or equipment called for in these Specifications shall be listed in writing and forwarded to the Engineer. Any such exception, variances or substitutions which were not listed at the time of bid and are identified in the submittal, shall be grounds for immediate disapproval without comment. C. The installing company shall prepare and submit appropriate plans and documentation for fire alarm protection supervisory plan review(s) to the Authority(ies) Having Jurisdiction. All associated plan review fees shall be included. 1.02 SCOPE A. The work covered by this Section of the Specification shall include all labor, equipment, materials and services to furnish, install, relocate, and connect new devices associated with the renovations taking place to the existing fire alarm system. It shall be complete with all necessary hardware, software, memory and monitoring equipment changes to support the new fire suppression system. The system shall consist of, but not be limited to, the following: 1. Relocating and providing and installing new devices. 1.03 APPLICABLE CODES AND STANDARDS A. All equipment shall be UL listed for its intended use. B. NFPA Standards 72 and 101. C. The National Electric Code 2011. D. All other local codes and authorities having jurisdiction. 1.04 RELATED DOCUMENTS A. Secure permits and approvals prior to installation. B. Prior to commencement and after completion of work, notify authorities having jurisdiction. C. Submit letter of approval for installation before requesting acceptance of system. 1.05 SUBMITTALS A. Provide list of all types of equipment and components provided. B. Provide description of operation of the system, similar to that provided in Part 2 of this Section of the Specifications, to include any and all exceptions, variances or substitutions listed at the time of bid. Any such exceptions, variances or substitutions which were not listed at the time of bid and are identified in the submittal, shall be grounds for immediate disapproval without comment. C. Provide manufacturer's printed product data, catalog cuts and description of any special installation procedures. D. Provide samples of various items when requested. E. Provide shop drawings as follows: 1. Single line riser diagram showing all equipment and type, number and size of all conductors. 1.06 WARRANTY A. Manufacturer shall guarantee the system equipment for a period of one (1) year from date of final acceptance of the system. B. The contractor shall guarantee all wiring and raceways to be free from inherent mechanical or electrical defects for one (1) year from date of final acceptance of the system. C. Upon completion of the installation of new fire alarm system equipment, the electrical contractor shall provide to the architect a signed written statement, substantially in form as follows: "The undersigned, having engaged as the Electrical Contractor on the NMC Foundation Renovation project in Traverse City, Michigan confirms that the fire alarm system equipment was installed in accordance with the wiring diagrams, instructions and directions provided to us by the manufacturer." PART 2 PRODUCTS 2.01 ACCEPTABLE MANUFACTURERS A. The equipment and materials used as the basis of design are those of JCI/Tyco/Simplex, and constitute the type and quality of equipment to be furnished. B. If equipment of another manufacturer is to be submitted for approval as equal, the contractor shall, at the time of bid, list all exceptions taken to these Specifications, all variances from these Specification and all substitutions of operating capabilities or equipment called for in these Specifications and forward said list to the Engineer. Any such exceptions, variances or substitutions which were not listed at the time of bid and are identified in the submittal, shall be grounds for immediate disapproval without comment. Final determination of compliance with this Specification shall rest with the Engineer, who, at his discretion, may require proof of performance.		



Calculation Summary							
Scenario: EMERGENCY LIGHTING							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
WORK AREA - PATH OF EGRESS	Illuminance	Fc	3.7	9.2	0.8	4.6	11.5

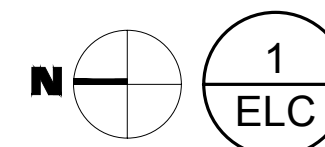
NOTES:

- REFLECTANCE AT 80/50/20
- CALC AT FLOOR
- CEILING HEIGHT 10'-0"



KEY PLAN

NO SCALE



EMERGENCY LIGHTING CALCULATIONS