WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING PHASE 1 ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225



OWNER:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

801 W. FORT STREET, DETROIT, MI 48226

ARCHITECTURAL DRAWING INDEX

PERMIT SET	OWNER REVIEW	CONSTRUCTION DOCUMENTS	DESIGN PHASE			
06/8/2026	05/1/2026	04/28/2026	02/23/2026			
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	●	●	●		G004	MOUNTING HEIGHTS & ACCESSIBILITY INFO
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	●	●	●		A902	AUDITORIUM DESIGN CONCEPT - PROPOSED (CEILING)
	●	●	●		A903	AUDITORIUM DESIGN CONCEPT - PROPOSED (FRONT STAGE FINISH, LIGHT FIXTURE, CHAIR, AND ACOUSTIC WALL)
	●	●	●		A904	INTERIOR PERSPECTIVE - ADDITION

STRUCTURAL AND MEP DRAWING INDEX

PERMIT SET	OWNER REVIEW	CONSTRUCTION DOCUMENTS	DESIGN PHASE			
06/8/2026	05/1/2026	04/28/2026	02/23/2026			
	●	●	●		S100	GENERAL NOTES
	●	●	●		S101	GENERAL NOTES
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	●	●	●		S201	SLAB PLAN
	●	●	●		S202	ROOF FRAMING PLAN
	●	●	●		S203	SCREEN WALL PLAN
	●	●	●		S204	EXISTING BUILDING LOWER ROOF FRAMING PLAN
	●	●	●		S205	EXISTING BUILDING HIGH ROOF FRAMING PLAN
	●	●	●		S300	DETAILS
	●	●	●		S301	DETAILS
	●	●	●		S302	DETAILS
	●	●	●		S303	ELEVATIONS AND SECTIONS
	●	●	●		S304	ELEVATIONS AND SECTIONS
	●	●	●		S400	ROOF FRAMING PLAN
	●	●	●		S401	ELEVATIONS AND SECTIONS
	●	●	●		S402	SECTIONS AND DETAILS
	●	●	●		S500	ENLARGED FOUNDATION PLAN
	●	●	●		E000	ELECTRICAL SITE PLAN
	●	●	●		E001	ELECTRICAL LEGEND, SHEET INDEX AND DETAILS
	●	●	●		E002	ELECTRICAL SPECIFICATIONS
	●	●	●		E003	ELECTRICAL ONE LINE DIAGRAM
	●	●	●		E004	ELECTRICAL PANEL SCHEDULES
	●	●	●		E005	ELECTRICAL GENERATOR RISER DIAGRAM
	●	●	●		E006	ELECTRICAL DETAILS
	●	●	●		ED100	ELECTRICAL DEMOLITION FLOOR PLAN LIGHTING
	●	●	●		ED200	ELECTRICAL DEMOLITION FLOOR PLAN POWER AND SYSTEMS
	●	●	●		E100	ELECTRICAL FLOOR PLAN LIGHTING
	●	●	●		E200	ELECTRICAL FLOOR PLAN POWER AND SYSTEMS
	●	●	●		E300	ELECTRICAL ROOF PLAN POWER AND SYSTEMS
	●	●	●		M000	MECHANICAL SYMBOLS, ABREVIATIONS AND GENERAL NOTES
	●	●	●		M001	MECHANICAL GENERAL NOTES
	●	●	●		M002	MECHANICAL SPECIFICATIONS
	●	●	●		MD100	MECHANICAL DEMOLITION FLOOR PLAN PLUMBING AND HVAC
	●	●	●		FP100	MECHANICAL FLOOR PLAN FIRE PROTECTION
	●	●	●		M100	MECHANICAL FLOOR PLAN PLUMBING
	●	●	●		M200	MECHANICAL FLOOR PLAN HVAC
	●	●	●		M300	MECHANICAL ROOF PLAN PLUMBING / HVAC
	●	●	●		M400	MECHANICAL SCHEDULES
	●	●	●		M401	MECHANICAL SPECIFICATIONS
	●	●	●		M402	MECHANICAL VENTILATION SCHEDULE
	●	●	●		M403	MECHANICAL DETAILS
	●	●	●		M404	MECHANICAL DETAILS AND DIAGRAMS
	●	●	●		M405	CONTROLS AND SEQUENCE OF OPERATIONS

DETROIT ARCHITECT
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SHEET NAME: TITLE SHEET & INDEX

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · REGISTERED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: G001

ABBREVIATIONS:

ABOVE FINISHED FLOOR	A.F.F.
ACCESS DOOR	A.D.
ACCESS PANEL	A.P.
ACOUSTIC, ACOUSTICAL	ACOUS.
ACOUSTIC CEILING TILE	A.C.T.
ADDITION	ADD'N.
ADJUSTABLE	ADJ.
ALTERNATE	ALT.
ALUMINUM	ALUM.
ANCHOR, ANCHORAGE	ANCH.
ANCHOR BOLTS	A.B.
AND	&
ANGLE	L
ANODIZED	ANOD.
APPROVED	APPR.
APPROXIMATE	APPROX.
ARCHITECT, ARCHITECTURAL	ARCH, ARCH'L
ASH TRAY	A.T.
ASPHALT	ASPH.
ASSEMBLY	ASS'Y
ASSISTANT	ASS'T
AT	@
AUTOMATIC	AUTO.
AUXILIARY	AUX.
BARRIER FREE	B.F.
BASE PLATE	B.PL
BASEMENT	BSMT.
BEAM	BM.
BEARING	BRG
BENCH MARK	B.M.
BETWEEN	BETW.
BITUMINOUS	BITUM.
BLOCK	BL'K
BLOCKING	BLK'G
BOARD	BD.
BOTH SIDES	B.S.
BOTTOM	BOTT.
BOTTOM OF	B.O.
BUILDING	BLDG
BUILT-UP ROOFING	B.U.R.
CABINET	CAB.
CAST IN PLACE	C.I.P.
CATCH BASIN	C.B.
CEILING	CLG.
CENTER LINE	C.L.
CENTER TO CENTER	C/C
CERAMIC	CER.
CERAMIC TILE	C.T.
CHALKBOARD	CHALK BD.
CHANNEL	C
CHECKERED PLATE	CHK'D PL.
CLOSET	CLO. OR CL.
COLD WATER	C.W.
COLUMN	COL.
COMPACTED	COMP'D
CONCRETE	CONC.
CONCRETE MASONRY UNIT	C.M.U.
CONFERENCE	CONF.
CONNECT, CONNECTION	CONN.
CONSTRUCTION	CONST.
CONTINUE CONTINUOUS	CONT.
CONTRACTOR	CONTR.
CONTROL OR CONSTRUCTION JOINT	C.J.
COORDINATE	COORD.
CORRIDOR, CORRUGATED	CORR.
COUNTER	CT'R
CURTAIN WALL	C.W.
DAMPPROOFING	D.P.
DATUM	DAT.
DEAD LOAD	D.L.
DEMOLITION	DEMO.
DEPARTMENT	DEPT.
DETAIL	DET.
DIAMETER	DIA.
DIFFUSER	DIFF
DIMENSION	DIM.
DIRECTORY	DIR.
DITTO	DO.
DOOR	DR.
DOOR OPENING	D.O.
DOUBLE	DB'L
DOWN	DN.
DOWELS	DW'LS
DRAWING	DW'G
DRAWINGS	DWGS
DRINKING FOUNTAIN	D.F.
EACH	EA.
EACH FACE	E.F.
EAST	E
EACH WAY	E.W.
ELASTOMERIC WATERPROOFING	ELAS. W.P.
ELECTRIC, ELECTRICAL	ELEC., ELEC'L
ELETRICAL PANEL	E.P.
ELECTRIC WATER COOLER	EW'C
ELEVATION (HEIGHT LEVEL)	EL.
ELEVATOR	ELEV.
ELIMINATE	ELIM.
EMERGENCY GENERATOR EXHAUST.	E.G.E.
EMERGENCY	EMERG.
ENAMEL	ENAM.
ENCLOSURE	ENCL.
ENVIRONMENT or ENVIRONMENTAL	ENVIR.
EQUAL	EQ.
EQUIPMENT	EQUIP.
EXCAVATED	EXC.
EXISTING	EX'G
EXISTING TO REMAIN	E.T.R.
EXPANSION	EXP.
EXPANSION BOLT	EXP. B.
EXPANSION JOINT	E.J.
EXPOSED CONSTRUCTION	E.C.
EXTERIOR	EXT.
FABRIC	FAB.
FEET, FOOT	FT. or '
FINISH, FINISHED	FIN.
FINISH FLOOR	F.F.
FIRE ALARM	F.A.
FIRE EXTINGUISHER CABINET	F.E.C.
FIRE HYDRANT	F.H.
FIRE HOSE CABINET	F.H.C.
FIRE VALVE CABINET	F.V.C.
FIREPROOFING	FPRF'G
FIXTURE	FIXT.
FLASHING	FLASH.
FLOOR	FLR. or FL.
FLOOR DRAIN	F.D.
FOOTING	FTG.
FOUNDATION	FND.
FRAME	FR.
FURNISH, FURNISHED	FURN., FURN'D
FURRED, FURRING	FURR.
GAS	G.
GAUGE	GA.
GALVANIZED	GALV.
GALVANIZED IRON	G.I.
GENERAL	GEN.
GENERAL CONTRACTOR	G.C.
GLASS	GL.
GRADE	GR.
GYPSUM	GYP.
HARDWARE	HDRW
HANDICAPPED	H.C.
HEATING VENTILATION AIR CONDITIONING	HVAC
HEIGHT	HGT. or HT.
HIGH POINT	H.P.
HIGH PRESSURE LAMINATE	H.P.L.
HOLLOW METAL	H.M.
HORIZONTAL, HORIZONTALLY	HORIZ.
HOSE BIB	H.B.
HOT WATER	H'W
HOT WATER HEATER	H.W.H.
HYDRANT	HYD.
INCH OR INCHES	IN. or "
INFORMATION	INFO.
INSIDE DIAMETER	I.D.
INSTALL INSTALLATION	INSTAL.
INSULATE, INSULATION	INSUL.
INTERIOR	INT.
INVERT	INV.
INVERT ELEVATION	I.E.
JOINT	JT.
KITCHEN EXHAUST	K.E.
KICK PLATE	K.P.
KNOCK-OUT PANEL	K'O.P
LAMINATE, LAMINATED	LAM.
LEFT HAND	L.H.
LEFT HAND REVERSE	L.H.R.
LIGHT	LT.
LIGHTING	LT'G
LIGHTING PANEL	LP
LIGHTWEIGHT	LT'WT
LIVE LOAD	L.L.
LONG LEG HORIZONTAL	L.L.H.
LONG LEG VERTICAL	L.L.V.
LOUVER OPENING	L.O.
LOW POINT	L.P.
MACHINE	MACH.
MANHOLE	MH
MARBLE THRESHOLD	M.T.
MASONRY	MAS.
MASONRY OPENING	M.O.
MATERIAL	MATL
MAXIMUM	MAX.
MECHANICAL	MECH.
MEDIUM	MED.
METAL or METALLIC	MET.
METAL EDGE STRIP	M.E.S.
MEZZANINE	MEZZ.
MINIMUM	MIN.
MIRROR	MIR
MISCELLANEOUS	MISC.
MISCELLANEOUS IRON CONTRACTOR	M.I.C.
MOUNTED	MTD.
MOUNTING	MTG.
MULLION	MULL.
NATURAL	NATL.
NOMINAL	NOM.
NORTH	N
NOT IN CONTRACT	N.I.V.
NOT TO SCALE	N.T.S.
NUMBER	NO. or #
OFFICE or OFFSET	OFF.
ON CENTER	O.C.
OPENING	OPN'G
OPPOSITE	OPP.
OPTIONAL PANEL JOINT	O.P.J.
OUTSIDE DIAMETER	O.D.
OVERHEAD OR OPPOSITE HAND	O.H.
PAINTED	PTD.
PAIR	PR
PANEL JOINT	P.J.
PAPER TOWEL DISPENSER	P.T.D.
PAPER TOWEL RECEPTACLE	P.T.R.
PARTITION	PART.
PAVEMENT	PVMT
PAVING	PV'G
PENTHOUSE	PENTHSE
PERFORATED	PERF.
PERIMETER	PERIM.
PHYSICALLY HANDICAPPED	P.H.
PIECES	PC'S
PLASTER OR PLASTIC	PLAS.
PLASTIC LAMINATE	LAM. or PLAM
PLATE	PL
PLYWOOD	PLYW.
POINT	PT
POINTS	PTS.
POLISH OR POLISHED	POL.
POLYVINYL CHLORIDE	PVC
POUNDS	LBS or #
POUNDS PER SQUARE FOOT	PSF
POWER	PWR.
PRECAST	P.C.
PREFABRICATED	PREFAB.
PRESSURE TREATED	P.T.
PROJECT, PROJECTION	PROJ.
PROPERTY	PROP.
QUARRY TILE	Q.T.
RAIN CONDUCTOR	R.C.
RADIUS	RAD.
REFERENCE	REF.
REFLECTED CEILING PLAN	RCP.
REFLECTED OR REFLECTIVE	REFL.
REFRIGERATION OR REFRIGERATOR	REFRIG.
REINFORCE, REINFORCING OR REINFORCEMENT	REINF.
REQUIRED	REQ'D
RESILIENT	RESIL.
REVISED, REVISION	REV.
RIGHT HAND	R.H.
RIGHT HAND REVERSE	R.H.R.
RIGHT OF WAY	R.O.W.
RISER	R.
ROOF DRAIN	R.D.
ROOF SUMP	R.S.
ROOFING	RF'G
ROOM	RM.
ROUGH OPENING	R.O.
ROUND	RND
RUBBER TILE	R.T.
SANITARY	SAN.
SANITARY NAPKIN DISPENSER	S.N.D.
SANITARY NAPKIN DISPOSAL	S.N. DISP'L
SCHEDULE	SCHED.
SECRETARY	SEC.
SECTION	SECT.
SERVICE SINK	SERV. S.
SHEET	SHT.
SHEET METAL	SHT. MET.
SHELVING	SHLV'G
SHOWER	SH'R
SIMILAR	SIM.
SMOKE EXHAUST	S.E.
SOAP DISPENSER	S. DISP.
SOUTH	S
SPEAKER	SPK'R
SPECIFICATIONS	SPECS.
SQUARE	SQ.
SQUARE FEET (FOOT)	SF.
STAGGERED	STAG'D
STAINLESS STEEL	SS
STANDARD	STD.
STEEL	STL.
STORAGE	STOR.
STREET	ST.
STRUCTURAL	STRUCT.
STRUCTURAL STEEL	S. STL
STRUCTURAL STEEL CONTRACTOR	S.S.C.
SURFACE	SURF.
SUSPEND, SUSPENSION	SUSP.
TACK BOARD	TACK BD.
TELEPHONE	TEL
TEMPERATURE	TEMP.
TEMPERED GLASS	TEMP. GL.
THICK, THICKNESS	THK
THRESHOLD	THRES.
TOILET	TOIL
TOILET PAPER DISPENSER	T.P.D.
TOILET PAPER HOLDER	T.P.H.
TONGUE AND GROOVE	T & G
TOP AND BOTTOM	T & B
TOP OF	T.O.
TOP OF FOOTING	T.O.F.
TOP OF MASONRY	T.O.M.
TOP OF COVER OR CURB OR CONCRETE	T.O.C.
TOP OF STEEL	T.O.S.
TOP OF WALL	T.O.W.
TOTAL LOAD	T.L.
TREAD	T.
TYPICAL	TYP., TYP'L
UNDERWRITER'S LABORATORIES, INC.	UL
UNLESS NOTED OTHERWISE	U.N.O.
VENT THRU ROOF	V.T.R.
VERIFY IN FIELD	V.I.F.
VERTICAL VERTICALLY	VERT.
VESTIBULE	VEST.
VINYL COMPOSITION TILE	V.C.T.
VINYL TILE	V.T.
VINYL WALL COVERING	V.W.C.
VOLT	V.
WATER RESISTANT	W.R.
WATERPROOFING	W.P.
WEIGHT	WGT.
WELDED WIRE FABRIC	W.W.F.
WINDOW	WIN
WINDOW CONTRACTOR	WIN. CONTR.
WINDOW OPENING	W.O.
WELDED WIRE MESH	W.W.M.
WEST	W
WIRE MESH	W.M.
WITH	W/
WITHOUT	W/O
WOMEN	WOM.
WOOD	WD.
WORK POINT	W.P.
YARD	YD.

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH STATE OF MICHIGAN STANDARDS AND SPECIFICATIONS, STATE OF MICHIGAN REGULATIONS, AND ALL OTHER APPLICABLE CODES AND SHALL BE PERFORMED TO THE HIGHEST STANDARDS OF THE INDUSTRY. INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

2. ALL WORK DESCRIBED BY THESE CONSTRUCTION DOCUMENTS SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS.

3. THE CONSTRUCTION MANAGER SHALL OBTAIN THE GENERAL BUILDING PERMIT. PRIME CONTRACTORS SHALL OBTAIN AND PAY FOR THEIR RESPECTIVE TRADE PERMITS AS REQUIRED BY THE GENERAL CONTRACTOR.

4. CONTRACTORS SHALL BECOME FAMILIAR AND COMPLY WITH ALL APPLICABLE OWNER REQUIREMENTS AND CONDITIONS

5. THE CONSTRUCTION MANAGER SHALL NOTIFY MISS DIG (1-800-482-7171) IN ACCORDANCE WITH ACT 53 P.A. 1974 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION.

6. ALL MATERIALS ARE NEW UNLESS LABELED AS EXISTING.

7. THE CONSTRUCTION MANAGER SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY UNEXPECTED CONDITIONS THAT ARE UNCOVERED DURING DEMOLITION.

8. CONTRACTORS SHALL TAKE PRECAUTIONS NOT TO DAMAGE ANY EXISTING MATERIALS, ITEMS OR CONDITIONS TO REMAIN. SHOULD ANY SUCH DAMAGE OCCUR, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL SUCH DAMAGED MATERIALS, ITEMS OR CONDITIONS AT HIS OWN EXPENSE TO THE FULL SATISFACTION OF THE GENERAL CONTRACTOR, ARCHITECT, AND OWNER.

9. CONTRACTORS SHALL KEEP THE CONSTRUCTION SITE IN A NEAT AND ORDERLY CONDITION AND SHALL REMOVE RUBBISH DAILY OR AS DIRECTED BY THE OWNER. MATERIALS SHALL BE STORED IN AREAS APPROVED IN WRITING BY THE OWNER.

10. UTILITY SHUT DOWNS MUST BE SCHEDULED WITH THE OWNER AT LEAST 2 WEEKS IN ADVANCE. CONTRACTORS SHALL COORDINATE TIMING OF ANY SHUT DOWNS WITH THE OWNER AND ANY SHUT DOWN MUST BE NO LONGER THAN 2 HOURS. CONTRACTORS SHALL PRESUME THAT UTILITY SHUTDOWNS WILL OCCUR DURING OFF HOURS.

11. THE CONTRACTORS SHALL SEAL ANY AND ALL PENETRATIONS IN FLOOR, CEILING, WALL AND STAIRS FOR CONDUITS, DUCT SHAFTS, ETC. ANY AND ALL PENETRATIONS IN RATED ASSEMBLIES IN ACCORDANCE WITH ASTM E 814 OR UL 1479.

12. ALL INTERIOR FINISH MATERIALS SHALL BE CLASS "A" AND SHALL BE PROPERLY CERTIFIED TO THE ARCHITECT.

13. PRIOR TO SUBMITTING BID PROPOSALS AND PRIOR TO THE START OF WORK, THE CONTRACTORS SHALL EXAMINE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE AND NOTIFY THE GENERAL CONTRACTOR AND ARCHITECT OF ANY PROBLEMS OR DISCREPANCIES.

14. THE CONSTRUCTION MANAGER SHALL INSURE THAT SOLID BACKING IS PROVIDED FOR ANCHORAGE OF ARCHITECTURAL, MECHANICAL OR ELECTRICAL ITEMS.

15. THE FACT THAT BIDS ARE COMPETITIVE WILL NOT BE ACCEPTED AS A LATER JUSTIFICATION FOR ADDITIONAL CHANGE ORDER REQUESTS.

16. PRIOR TO THE EXECUTION OF ANY WORK, THE CONTRACTORS SHALL SUBMIT CONSTRUCTION SCHEDULES TO THE CONSTRUCTION MANAGER FOR COMPILATION INTO A COMPLETE MASTER SCHEDULE TO BE SUBMITTED TO THE ARCHITECT AND OWNER FOR REVIEW. THE COMPLETE GENERAL CONTRACTOR SCHEDULE SHALL INCLUDE THE FOLLOWING:

A. THE COMMENCEMENT AND COMPLETION DATES, WITH INTERMEDIATE MILESTONE DATES INDICATED.

B. THE COMMENCEMENT AND COMPLETION DATES OF EACH TRADE.

C. THE DATES REQUESTED FOR THE PREPARATION, SUBMISSION AND REVIEW OF SHOP DRAWINGS.

D. THE DATES THAT SPECIFIC AREAS OF THE BUILDING AND SITE WILL BE UNAVAILABLE FOR USE BY THE OWNER.

E. THE DATES THAT UTILITIES WILL BE OUT OF SERVICE, IF ANY.

17. THE CONTRACTORS SHALL COMPLY WITH SPECIFICATION SECTIONS GOVERNING CERTIFICATES OF INSURANCE PRIOR TO STARTING CONSTRUCTION

18. THE CONTRACTORS SHALL COORDINATE THE WORK OF ALL TRADES TO PROVIDE FOR THE PROPER AND EXPEDITIOUS COMPLETION OF THE JOB.

19. THE CONSTRUCTION MANAGER DETERMINES THE DIVISION OF WORK BETWEEN TRADES. THE DESIGN DOCUMENTS ARE NOT TO BE USED FOR THIS PURPOSE.

20. IT IS THE RESPONSIBILITY OF EACH TRADE TO BID THIS PROJECT FROM A COMPLETE SET OF PLANS AND SPECIFICATIONS INCLUSIVE OF ALL TRADES AND TO COORDINATE THEIR WORK AS REQUIRED.

21. ANY INFORMATION FOUND ON THE DRAWINGS AND NOT IN THE SPECIFICATIONS, OR FOUND IN SPECIFICATIONS AND NOT IN THE DRAWINGS, SHALL BE CONSTRUED AS TO BE INCLUDED IN BOTH THE SPECIFICATIONS AND THE DRAWINGS. ANY CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS WILL BE INTERPRETED BY THE ARCHITECT. (IN THE EVENT OF CONFLICT, FOR THE PURPOSE OF BIDDING, THE CONTRACTOR SHALL PRESUME THE MOST EXPENSIVE COMBINATION OF QUALITY AND QUANTITY OF WORK SHALL PREVAIL.)*

22. ALL WORK SHOWN IS TO BE INCLUDED IN THE SCOPE OF WORK UNLESS OTHERWISE NOTED AS NOT IN CONTRACT (N.I.C.).

23. ALL DETAILS ARE TYPICAL UNLESS OTHERWISE NOTED.

24. THE CONSTRUCTION MANAGER SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS IN MASONRY OR CONCRETE WALLS REQUIRED BY ALL CONTRACTORS.

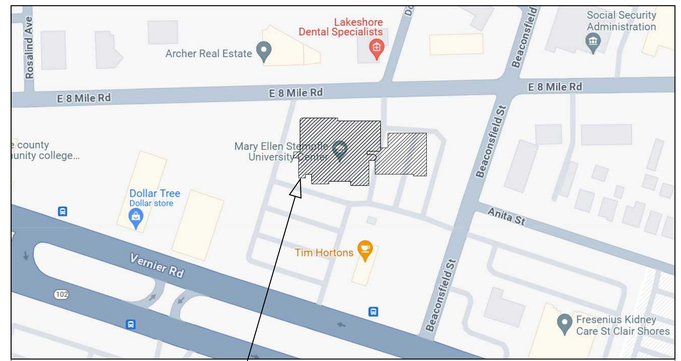
25. ALL PIPE AND CONDUIT PENETRATIONS THRU ANY FLOOR SHALL BE SLEEVED WITH SLEEVES EXTENDING 2" MINIMUM ABOVE THE FLOOR LEVEL (TYPICAL FOR MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ITEMS, SLEEVES SHALL BE SUPPLIED BY MECHANICAL AND ELECTRICAL TRADES) AND FIRE STOPPED AT FIRE SEPARATIONS.

26. ALL EXPANSION JOINTS INSTALLED AS PART OF A FIRE RESISTANT JOINT SYSTEM SHALL BE TESTED IN ACCORDANCE WITH EITHER ASTM E 1966 OR UL 2079.

APPLICABLE CODES:

ALL WORK IS TO BE IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODES:

2021 MICHIGAN BUILDING CODE
2021 MICHIGAN MECHANICAL CODE
2021 MICHIGAN PLUMBING CODE
ICC A117.1-2017 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
2023 NATIONAL ELECTRICAL CODE
2023 MICHIGAN ELECTRICAL CODE PART 8 RULES
2022 ANSI/AHRAE 90.1 ENERGY CODE
2021 INTERNATIONAL FUEL GAS CODE
2019 NFPA 72 (FIRE ALARM SYSTEM)



LOCATION MAP

MARY ELLEN STEMPFLE UNIVERSITY CENTER

DETROIT ARCHITECT
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SHEET NAME: ABBREVIATIONS, NOTES, APPLICABLE CODES, LOCATION MAP

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: G002

CODE DATA

BUILDING DATA

2 STORIES

TOTAL SQUARE FOOTAGE OF EXIST'G FIRST FLOOR: 18,127 S.F.

TOTAL SQUARE FOOTAGE OF PROPOSED FIRST FLOOR: 26,110 S.F.

USE GROUP: B AND A-1

CONSTRUCTION TYPE: 2B

FIRE SUPRESSION TYPE: FULLY SPRINKLED

MIXED OCCUPANCIES: NON-SEPARATED

PLUMBING FIXTURE CRITERIA - PER 2021 MICHIGAN PLUMBING CODE

OCCUPANCY	WATER CLOSETS / URINALS / LAVATORIES					DRINKING FOUNTAINS	SERVICE SINKS
	MALE			FEMALE			
	WATER CLOSETS	URINALS	LAVATORIES	WATER CLOSETS	LAVATORIES		
BUSINESS B	1 PER 25 + 1 PER 50 EXCEEDING 50	50% SUBSTITUTION	1 PER 40 + 1 PER 80 EXCEEDING 80	SAME REQUIREMENT AS MEN	SAME REQUIREMENT AS MEN	1 PER 100	1 SINK
ASSEMBLY A-1	1 PER 125	50% SUBSTITUTION	1 PER 200	1 PER 65	1 PER 200	1 PER 500	1 SINK
ASSEMBLY A-3	1 PER 125	50% SUBSTITUTION	1 PER 200	1 PER 65	1 PER 200	1 PER 500	1 SINK
ASSEMBLY S-2	1 PER 100	50% SUBSTITUTION	1 PER 100	SAME REQUIREMENT AS MEN	SAME REQUIREMENT AS MEN	1 PER 1,000	1 SINK

PLUMBING FIXTURE COUNTS - PER 2021 MICHIGAN PLUMBING CODE

SPACE	OCCUPANCY		MEN'S ROOM		WOMEN'S ROOM		OTHER FIXTURES	
	MALE	FEMALE	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED
FIRST FLOOR (B USE)	668 OCCUPANTS		8 WATER CLOSET 6 LAVATORY	N/A N/A	8 WATER CLOSET 6 LAVATORY	N/A N/A	1 SERVICE SINK 4 DRINK. FOUNT.	N/A N/A
	334	334						
FIRST FLOOR (A-1 & A-3 USE)	111 OCCUPANTS		1 WATER CLOSET 1 LAVATORY	N/A N/A	1 WATER CLOSET 1 LAVATORY	N/A N/A	1 SERVICE SINK 1 DRINK. FOUNT.	N/A N/A
	56	55						
FIRST FLOOR (S-2 USE)	7 OCCUPANTS		N/A N/A	N/A N/A	N/A N/A	N/A N/A	1 SERVICE SINK 0 DRINK. FOUNT.	N/A N/A
	4	4						
TOTAL	786 OCCUPANTS		9 WATER CLOSET 7 LAVATORY	9 WATER CLOSET 7 LAVATORY	9 WATER CLOSET 7 LAVATORY	9 WATER CLOSET 7 LAVATORY	3 SERVICE SINK 5 DRINK. FOUNT.	3 SERVICE SINK 6 DRINK. FOUNT.

*2021 MPC (410.2 SMALL OCCUPANCIES) DRINKING FOUNTAINS SHALL NOT BE REQUIRED FOR AN OCCUPANT LOAD OF 15 OR FEWER.
*2021 MPC (410.4 SUBSTITUTION) WHERE 3 OR MORE DRINKING FOUNTAINS ARE REQUIRED, WATER DISPENSERS SHALL BE PERMITTED TO BE SUBSTITUTED FOR NOT MORE THAN 50% OF THE REQUIRED NUMBER OF DRINKING FOUNTAINS
*2021 MPC (410.3.1 HIGH AND LOW DRINKING FOUNTAINS MINIMUM NUMBER) WHERE DRINKING FOUNTAINS ARE REQUIRED, NO FEWER THAN 2 DRINKING FOUNTAINS SHALL BE PROVIDED. ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR PEOPLE WHO USE A WHEELCHAIR, AND 1 DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR STANDING INDIVIDUALS.

OCCUPANCY ANALYSIS
PER TABLE 1004.1.2

ROOM #/ FUNCTION	GROSS AREA	NET AREA	USE	SF/PERSON	OCCUPANTS
FIRST FLOOR					
101 VESTIBULE	--	90	--	--	--
102 RECEPTION	--	164	A-3	15 NET	11
103 COMMON AREA	--	1238	--	--	--
104 OFFICE	192	--	B	100 PER PERSON GROSS	2
105 OFFICE	239	--	B	100 PER PERSON GROSS	3
106 OFFICE	194	--	B	100 PER PERSON GROSS	2
107 OFFICE	96	--	B	100 PER PERSON GROSS	1
108 OFFICE	97	--	B	100 PER PERSON GROSS	1
109 OFFICE	93	--	B	100 PER PERSON GROSS	1
110 OFFICE	96	--	B	100 PER PERSON GROSS	1
111 OFFICE	97	--	B	100 PER PERSON GROSS	1
112 WOMEN'S RESTROOM	442	--	B	100 PER PERSON GROSS	5
113 STAIRWELL #1	--	--	--	--	--
114 OFFICE	112	--	B	100 PER PERSON GROSS	2
115 OFFICE	112	--	B	100 PER PERSON GROSS	2
116 JANITOR CLOSET	58	--	S-2	300 PER PERSON GROSS	1
117 STORAGE	146	--	S-2	300 PER PERSON GROSS	1
118 WORK AREA	--	104	--	--	--
119 CLASSROOM	--	222	B	20 NET	12
120 TEACHER'S LOUNGE	--	61	B	20 NET	4
121 BREAK ROOM	--	227	B	15 NET	16
122 CLASSROOM	--	1182	B	20 NET	60
123 MECHANICAL ROOM/STORAGE	248	--	S-2	300 PER PERSON GROSS	1
124 ELECTRICAL ROOM #1	186	--	S-2	300 PER PERSON GROSS	1
125 STAIRWELL #2	107	--	--	--	--
126 COMPUTER LAB	--	1198	B	20 NET	60
127 CLASSROOM	--	1505	B	20 NET	76
128 EDITING LAB	--	720	B	20 NET	36
129 STAIRWELL #3	107	--	--	--	--
130 AUDITORIUM	1946	--	A-1	SEE MBC 2021 1004.4	100
130A AUDITORIUM STAGE	70	--	B	15 NET	5
131 SUMP PUMP	60	--	S-2	300 PER PERSON GROSS	1
132 MEN'S RESTROOM	306	--	B	100 PER PERSON GROSS	3
133 COMPUTER ROOM	--	201	B	20 NET	11
134 CLASSROOM	--	596	B	20 NET	30
135 CLASSROOM	--	577	B	20 NET	29
136 CLASSROOM	--	579	B	20 NET	29
137 CORRIDORS #1	--	--	B	--	--
138 STORAGE	51	--	S-2	300 PER PERSON GROSS	1
139 VESTIBULE #2	56	--	--	--	--
140 CLASSROOM	--	882	B	20 NET	45
141 CLASSROOM	--	882	B	20 NET	45
142 CLASSROOM	--	882	B	20 NET	45
143 CORRIDORS #2	--	--	B	--	--
144 VESTIBULE #3	56	--	--	--	--
145 MEN'S RESTROOM #2	116	--	B	100 PER PERSON GROSS	2
146 WOMEN'S RESTROOM #2	152	--	B	100 PER PERSON GROSS	2
147 ELECTRICAL ROOM #2	178	--	S-2	300 PER PERSON GROSS	1
148 CLASSROOM	--	882	B	20 NET	45
149 CLASSROOM	--	882	B	20 NET	45
150 CLASSROOM	--	936	B	20 NET	47
TOTAL:	--	--	--	--	786

MEANS OF EGRESS REQUIREMENTS

MINIMUM HEAD ROOM:	7'-6" MIN. HT. /4" MAX. PROJECTION BETWEEN 27"-80"
MAXIMUM TRAVEL DISTANCE (WITH SPRINKLERS)	B: 300' / A-1: 250'
DEAD END LIMIT	B: 50' / A-1: 20'
EGRESS CAPACITIES	MINIMUM WIDTH 44" SERVING AN OCCUPANT LOAD GREATER THAN 50
CAPACITIES PER UNIT WIDTH:	
UNIT WIDTH:	BASED ON WIDTHS IN INCHES PER PERSON
STAIRS:	.3 INCHES PER PERSON
RAMPS:	.2 INCHES PER PERSON
CORRIDORS:	.2 INCHES PER PERSON
	.2 INCHES PER PERSON
DOORS:	
DOOR WIDTH:	36" MINIMUM/ 48" MAXIMUM
DOOR PROJECTION	7" MAX. INTO REQUIRED CORRIDOR WIDTH
FIRE DOOR TESTING	IN ACCORDANCE W/ NFPA 80 AND 252
STAIRS:	
MINIMUM WIDTH:	44"
MAXIMUM RISER:	7"
MINIMUM TREAD DEPTH:	11"
MINIMUM HEAD ROOM:	6'-8"
MAX. HEIGHT BETWEEN LANDINGS:	12"
HANDRAIL HEIGHT:	34"-38"
GUARD HEIGHT:	42"

CODE COMPLIANCE - PARKING REQUIRED/PROVIDED

TOTAL NET SF OF PROPOSED FIRST FLOOR (INCLUDING AUDITORIUM)	24,457 SF
PARKING SPACES REQUIRED (1 PER 350 SF OF USABLE FLOOR AREA)	70 SPACES
TOTAL PARKING REQUIRED	70 SPACES, 7 BARRIER FREE SPACES
TOTAL PARKING PROPOSED	251 SPACES, 8 BARRIER FREE SPACES, 259 TOTAL

*CITY OF HARPER WOODS, MICHIGAN ZONING ORDINANCE (EFFECTIVE 2025) SECTION 5.04, TABLE 5.04.A: DEFAULT COMMERICAL USE STANDARD - ONE (1) PER 350 SF OF USABLE FLOOR AREA
*CITY OF HARPER WOODS, MICHIGAN ZONING ORDINANCE (EFFECTIVE 2025) SECTION 5.04, C.2. USES NOT CITED: FOR USES NOT SPECIFICALLY LISTED IN TABLE 5.04 A, THE DEFAULT PARKING STANDARD FOR THAT TYPE OF USE SHALL APPLY, UNLESS THE PLANNING COMMISSION DETERMINES THAT THE STANDARD FOR A SIMILAR LOSTED USE IS MORE APPROPRIATE.
*MBC 2021 ACCESSIBILITY 1106, TABLE 1106.2 ACCESSIBLE PARKING SPACES :
TOTAL PARKING SPACES PROVIDED IN PARKING FACILITIES = 201 TO 300
THEREFORE REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES = 7

CODE COMPLIANCE DATA

CODE COMPLIANCE DATA	MBC 2015 /NFPA 101 2009 AND 2015
USE GROUP CLASSIFICATION	B BUSINESS AND A-1 ASSEMBLY
MIXED USE GROUP CLASSIFICATION	NON-SEPARATED
FIRST FLOOR	B AND A-1 (NON-SEPARATED)
HAZARD CLASSIFICATION	LIGHT HAZARD OCCUPANCY
MINIMUM CONSTRUCTION REQUIREMENTS	TYPE 2B
ALLOWABLE SINGLE FLOOR AREA:	
FIRST FLOOR	92,000 S.F.
ACTUAL PROPOSED FLOOR AREAS:	
FIRST FLOOR	26,110 S.F.
ALLOWABLE HEIGHT: / ASSUME TYPE 2B CONSTRUCTION	
TABULAR HEIGHT (B USE)	75 FEET / 1 ADDITIONAL STORY WITH SPRINKLER INCREASE
ACTUAL HEIGHT/NUMBER OF STORIES:	
NUMBER OF STORIES	20 FEET / 1 STORY
INCIDENTAL USE AREAS:	
ROOM OR SPACE	NON-SEPARATED/MIXED USE
SPECIAL USE & OCCUPANCY REQUIREMENTS	
AUTOMATIC FIRE SUPRESSION SYSTEM	PROVIDE THROUGHOUT BUILDING PER NFPA 13-2013
	MANUAL AND VOICE FIRE ALARM SYSTEM PROVIDED THROUGHOUT
	BUILDING PER NFPA 72-2013

SHOP DRAWINGS FOR ALL FIRE PROTECTION SYSTEMS COMPLYING WITH NFPA 13-2013 SHALL BE SUBMITTED BY FIRE PROTECTION CONTRACTORS.

FIRE RESISTANCE RATINGS / TYPE 2B CONSTRUCTION	B BUSINESS AND A-1 ASSEMBLY	
EXTERIOR WALLS	REQUIRED	PROVIDED
PRIMARY STRUCTURAL FRAME	0 HOUR	0 HOUR
A LOAD BEARING	0 HOUR	0 HOUR
B NON-LOAD BEARING	1 HOUR	1 HOUR U.L. NO. V454
		WITH TABLE 721.1 (2), 3-1.3
FIRE SEPARATION ASSEMBLIES		
A. EXIT ENCLOSURES		
INTERIOR WALLS	1 HOUR	1 HOUR U.L. NO. U905
C. OTHER SEPARATION ASSEMBLIES	1 HOUR	1 HOUR U.L. NO. U905
FIRE PARTITIONS		
EXIT ACCESS CORRIDORS	NA	NA
SMOKE PARTITIONS		
B USE CORRIDORS	NA	NA
EXIT CORRIDORS	NA	NA
OTHER NON-LOAD BEARING PARTITIONS	0 HOUR	0 HOUR
INTERIOR LOAD BEARING PARTITIONS, COLUMN, BEAMS, AND FRAMING	0 HOUR	0 HOUR
ROOF SUPPORT		
BEAMS, DECKING, FRAMING, COLUMNS AND TRUSSES OVER 20'		
(PER MBC AND NFPA)	0 HOUR	0 HOUR
STRUCTURAL MEMBERS SUPPORTING RATED WALLS	NA	NA
FLOOR CONSTRUCTION	NA	NA
ROOF CONSTRUCTION		
BEAMS, DECKING, FRAMING, COLUMNS AND TRUSSES OVER 20'		
(PER MBC AND NFPA)	0 HOUR	0 HOUR
INTERIOR FINISHES:		
WALLS & CEILINGS	CLASS C WITH AUTOMATIC FIRE SUPRESSION SYSTEM	
STAIRS, RAMPS AND EXIT PASSAGEWAYS	CLASS B WITH AUTOMATIC FIRE SUPRESSION SYSTEM	
EXIT ACCESS CORR. & OTHER EXITWAYS	CLASS C WITH AUTOMATIC FIRE SUPRESSION SYSTEM	
ROOMS AND ENCLOSED SPACES	CLASS C WITH AUTOMATIC FIRE SUPRESSION SYSTEM	
INTERIOR FINISHES TESTING CRITERIA		
WALLS & CEILINGS	ASTM E84	
FLOOR FINISHES	NFPA 253	
DECORATIONS AND TRIM	NFPA 101	

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SHEET NAME: CODE COMPLIANCE

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
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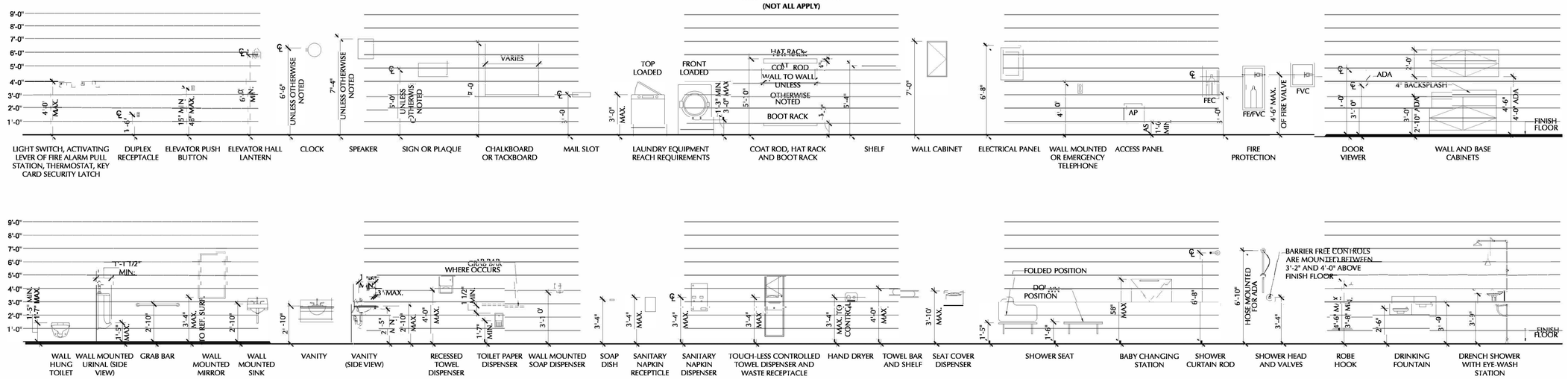
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REV. #	REVISION DESCRIPTION	DATE

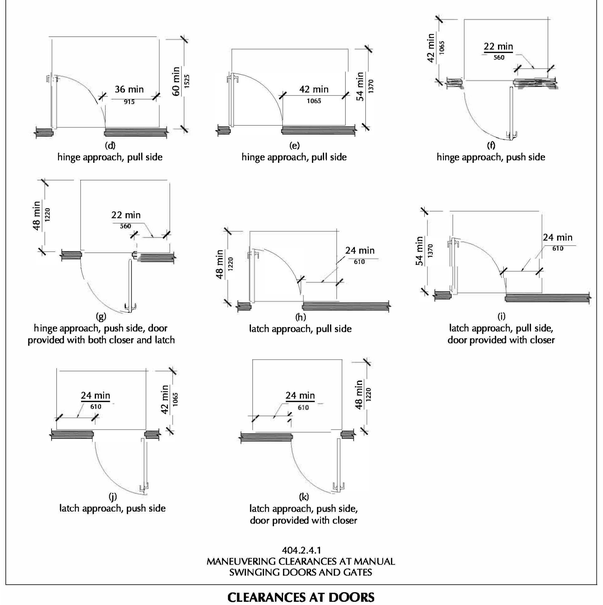
SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · LICENSED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: G003

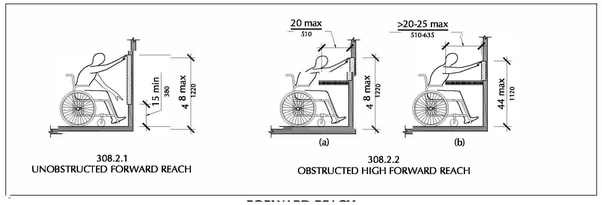
MOUNTING HEIGHTS
(NOT ALL APPLY)



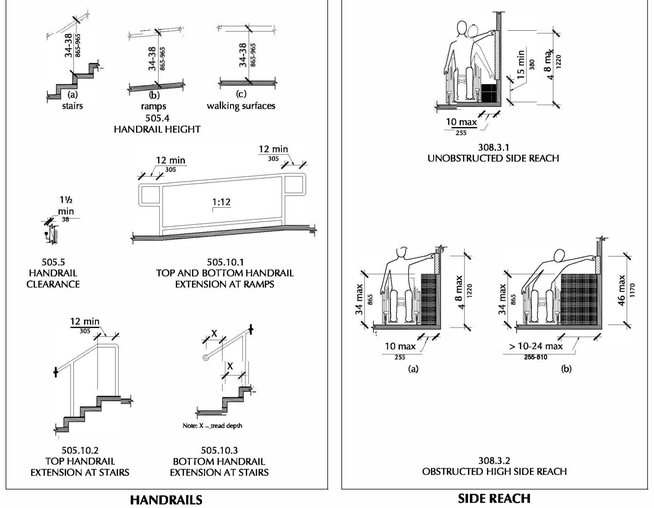


404.2.4.1
MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES

CLEARANCES AT DOORS

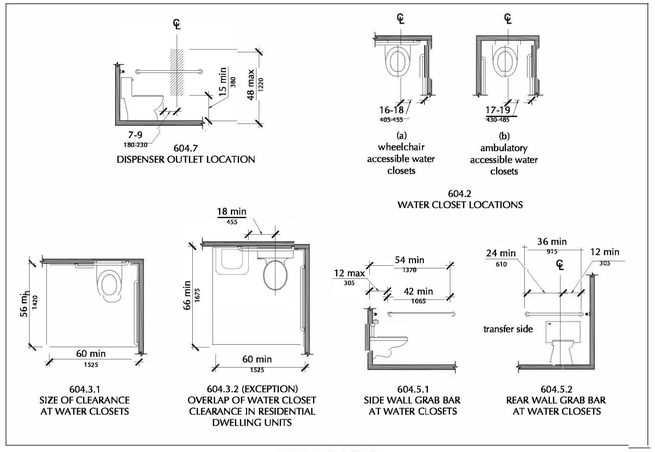


FORWARD REACH



HANDRAILS

SIDE REACH



ACCESSIBILITY INFORMATION:

1. OBJECTS PROJECTING FROM WALLS (FOR EXAMPLE, TELEPHONES) WITH THEIR LEADING EDGES BETWEEN 27" ND 80" ABOVE THE FINISHED FLOOR SHALL PROTRUDE NO MORE THAN 4" INTO WALKS, HALLS, CORRIDORS, PASSAGEWAYS, OR AISLES. OBJECTS MOUNTED WITH THEIR LEADING EDGES AT OR BELOW 27" ABOVE THE FINISHED FLOOR MAY PROTRUDE ANY AMOUNT. FREESTANDING OBJECTS MOUNTED ON POSTS OR PYLONS MAY OVERHANG 4" MAXIMUM FROM 27" TO 80" ABOVE THE GROUND OR FINISHED. PROTRUDING OBJECTS SHALL NOT REDUCE THE CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR MANEUVERING SPACE MORE THAN 4".
2. WALKS, HALLS, CORRIDORS, PASSAGEWAYS, AISLES, OR OTHER CIRCULATION SPACES SHALL HAVE 80 MINIMUM LEAR HEADROOM. VERTICAL CLEARANCE OF AN AREA ADJOINING AN ACCESSIBLE ROUTE IS REDUCED TO LESS THAN 80" (NOMINAL DIMENSION), A BARRIER TO WARN BLIND OR VISUALLY IMPAIRED PERSONS SHALL BE PROVIDED.
3. FLOORS ALONG THE ACCESSIBLE PATHS CAN HAVE UP TO A 1/4" LEVEL CHANGE WITHOUT A RAMP, AND UP TO A 1/2" LEVEL CHANGE WITH A 1:2 RAMP. ANY LEVEL CHANGE GREATER THAN THAT MUST HAVE A 1:12 RAMP. CARPET ALONG ACCESSIBLE PATHS CAN HAVE UP TO A 1/2" PILE. ALL FLOOR SURFACING ALONG ACCESSIBLE PATHS SHALL BE SLIP RESISTANT.
4. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS NO MORE THAN 44 INCHES ABOVE THE FLOOR.
5. ACCESSIBLE URINALS SHALL HAVE AN ELONGATED RIM AT A MAXIMUM OF 17" ABOVE THE FLOOR. A CLEAR FLOOR SPACE 30" BY 48" SHALL BE PROVIDED IN FRONT OF A URINAL TO ALLOW FORWARD APPROACH. URINALS INSTALLED IN ALCOVES DEEPER THAN 24" REQUIRE CLEAR FLOOR SPACE 36" BY 48". CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED AREAS NO MORE THAN 44" ABOVE THE FLOOR.
6. A CLEAR FLOOR SPACE 30" BY 48" SHALL BE PROVIDED IN FRONT OF A LAVATORY TO ALLOW FORWARD APPROACH. LAVATORIES AND MIRRORS INSTALLED IN ALCOVES DEEPER THAN 24" REQUIRE CLEAR FLOOR SPACE 36" BY 48". SUCH CLEAR FLOOR SPACE SHALL ADJOIN OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL EXTEND A MAXIMUM OF 19" UNDERNEATH THE LAVATORY.
7. HOT WATER AND DRAINPIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
8. FAUCETS SHALL BE ACCESSIBLE. LEVER-OPERATED, PUSH-TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE USED AND THE FAUCET SHALL REMAIN OPEN FOR AT LEAST 10 SECONDS.
9. MIRRORS SHALL BE ON ACCESSIBLE ROUTES AT LOCATIONS CONSISTENT WITH THAT OF OTHER MIRRORS IN THE SAME ROOM, AND SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE NO HIGHER THAN 40" ABOVE THE FINISH FLOOR. MIRRORS THAT ARE INTENDED TO BE USED BY BOTH AMBULATORY PEOPLE AND WHEELCHAIR USERS, SUCH AS MIGHT BE PROVIDED IN A SINGLE-OCCUPANCY TOILET ROOM OR ANY TOILET ROOM HAVING ONLY ONE MIRROR, MUST BE AT LEAST 74" HIGH AT THEIR TOP MOST EDGE.
10. PROVIDED ENCLOSURES FOR BATHTUBS SHALL NOT OBSTRUCT CONTROLS OR TRANSFER FROM WHEELCHAIRS ONTO BATHTUB SEATS OR INTO TUBS. ENCLOSURES ON BATHTUBS SHALL NOT HAVE TRACKS MOUNTED ON THEIR RIMS.
11. A SEAT SHALL BE PROVIDED IN SHOWER STALLS 36" BY 36". THE SEAT SHALL BE MOUNTED 17" TO 19" FROM THE BATHROOM FLOOR AND SHALL EXTEND THE FULL DEPTH OF THE STALL. IN A 36" BY 36" SHOWER STALL, THE SEAT SHALL BE ON THE WALL OPPOSITE THE CONTROLS. WHERE A FIXED SEAT IS PROVIDED IN A 30" BY 60" MINIMUM SHOWER STALL, IT SHALL BE A FOLDING TYPE AND SHALL BY MOUNTED ON THE WALL ADJACENT TO THE CONTROLS.
12. IN SHOWER STALLS 36" BY 36", ALL CONTROLS, FAUCETS, AND THE SHOWER UNIT SHALL BE MOUNTED ON THE SIDE WALL OPPOSITE THE SEAT.
13. A SHOWER SPRAY UNIT WITH A HOSE AT LEAST 60" LONG THAT CAN BE USED BOTH AS A FIXED SHOWERHEAD AND AS A HAND-HELD SHOWER SHALL BE PROVIDED. IN 36" BY 36" SHOWER STALL THE MOUNTING DEVICE FOR THE HAND-HELD SHOWERHEAD SHALL COMPLY WITH STANDARDS FOR FORWARD CONTROLS AND SIDE REACH. IN A 30" BY 60" MINIMUM SHOWER STALL THE MOUNTING DEVICE FOR THE HAND-HELD SHOWERHEAD SHALL COMPLY WITH EITHER STANDARDS FOR FORWARD REACH OR SIDE REACH, AS APPROPRIATE FOR THE STALL DESIGN.
14. PROVIDED CURBS IN SHOWER STALLS 36" BY 36" SHALL BY NO HIGHER THAN 1/2". SHOWER STALLS THAT ARE 30" BY 60" MINIMUM SHALL NOT HAVE CURBS.
15. PROVIDED ENCLOSURES FOR SHOWER STALLS SHALL NOT OBSTRUCT CONTROLS OR OBSTRUCT TRANSFER FROM WHEELCHAIRS ONTO SHOWER SEATS.
16. THE TOPS OF ACCESSIBLE TABLES AND COUNTERS SHALL BE FROM 28" TO 34" ABOVE THE FINISH FLOOR OR GROUND.
17. AT RECEPTION AND INFORMATION COUNTERS, REGISTRATION COUNTERS AND OTHER COUNTERS THAT MAY NOT HAVE A CASH REGISTER BUT AT WHICH GOODS OR SERVICES ARE SOLD OR DISTRIBUTED OR INFORMATION EXCHANGED, A PORTION OF THE MAIN COUNTER WHICH IS A MINIMUM OF 36" IN LENGTH SHALL BE PROVIDED WITH MAXIMUM HEIGHT OF 36".
18. ALL ACCESSIBLE SALES AND SERVICE COUNTERS SHALL BE ON AN ACCESSIBLE ROUTE.
19. PROVIDE VISIBLE ADA ACCESSIBLE PARKING SIGNAGE WHERE APPLICABLE. INCLUDING SPACES DESIGNATED FOR VAN ACCESSIBLE PARKING.
20. PROVIDE A SLIP RESISTANCE TREATMENT ON ALL THRESHOLDS WHERE A MEANS OF EGRESS IS LOCATED.
21. PROVIDE VISIBLE ADA SIGNAGE FOR THE NEAREST ACCESSIBLE ENTRY.
22. PROVIDE TACTILE EXIT SIGNS AT STAIRWAY DOORS AND EXIT DOORS.
23. OPERABLE PARTS OF WALL MOUNTED APPURTENANCES SHALL BE OF A TYPE TO REQUIRE ONLY 1 HAND AND NO PINCHING OR GRASPING.

PROJECT REQUIRES 1 TYPE "A" UNIT. SEE LEVEL 2 FLOOR PLAN SHEET A-102 FOR DESIGNATED TYPE "A" UNIT. BALANCE OF UNITS TO BE TYPE "B"

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SHEET NAME: MOUNTING HEIGHTS & ACCESSIBILITY INFO

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
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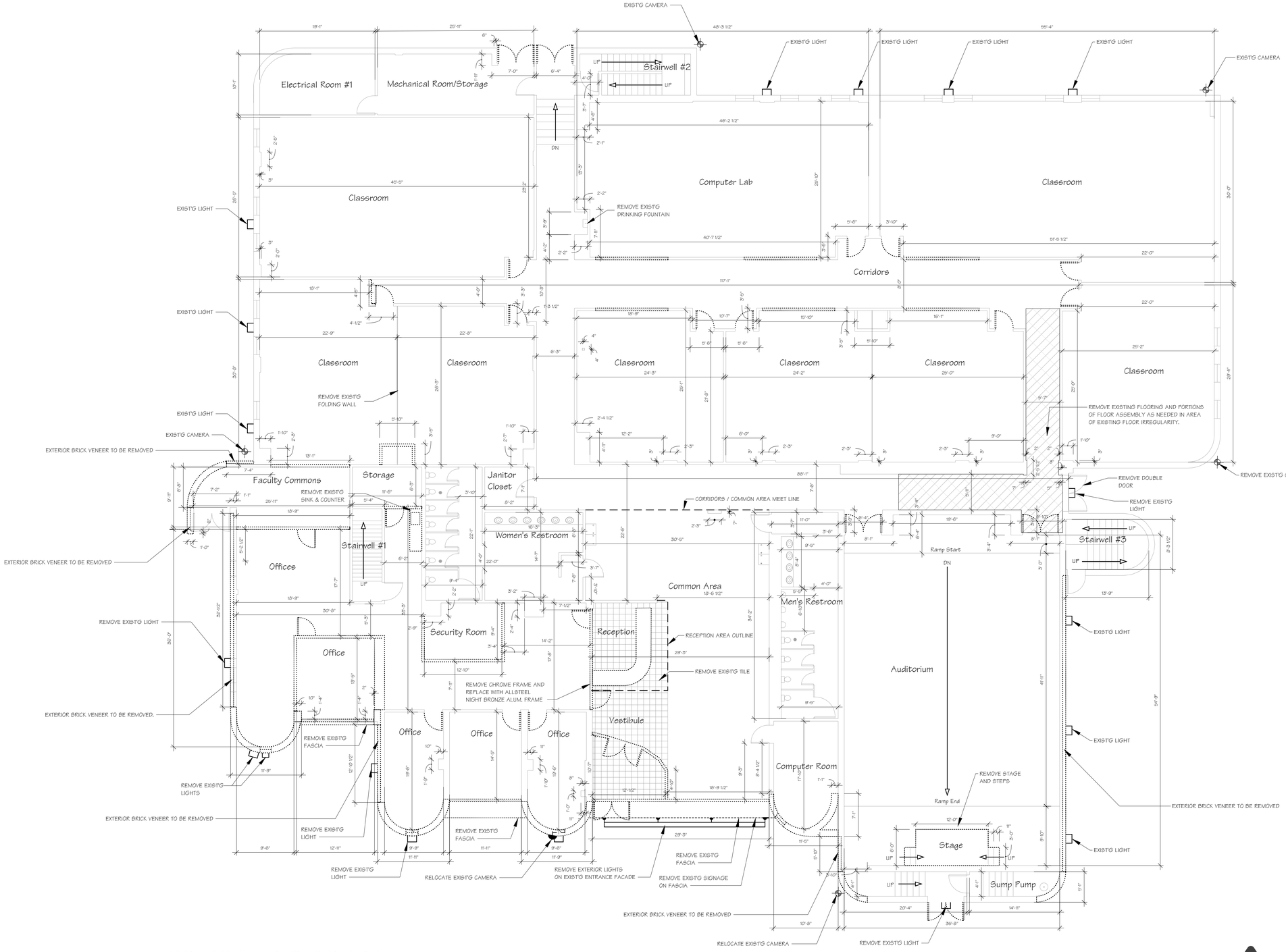
ISSUE SCHEDULE	
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REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: 1/8" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: G004



FIRST FLOOR PLAN - EXISTING/DEMOLITION

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

NORTH

GENERAL NOTES

1) WALLS AND ITEMS TO BE REMOVED SHOWN DASHED

2) REMOVE EXTERIOR RAILINGS AND STEPS ON EAST EXIT OF THE BUILDING

3) REMOVE ALL AUDITORIUM SEATING

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SHEET NAME: FIRST FLOOR PLAN - EXISTING/DEMOLITION

PROJECT NAME:
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SEAL:
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
LICENSED ARCHITECT
STATE OF MICHIGAN

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: 1/8" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A100

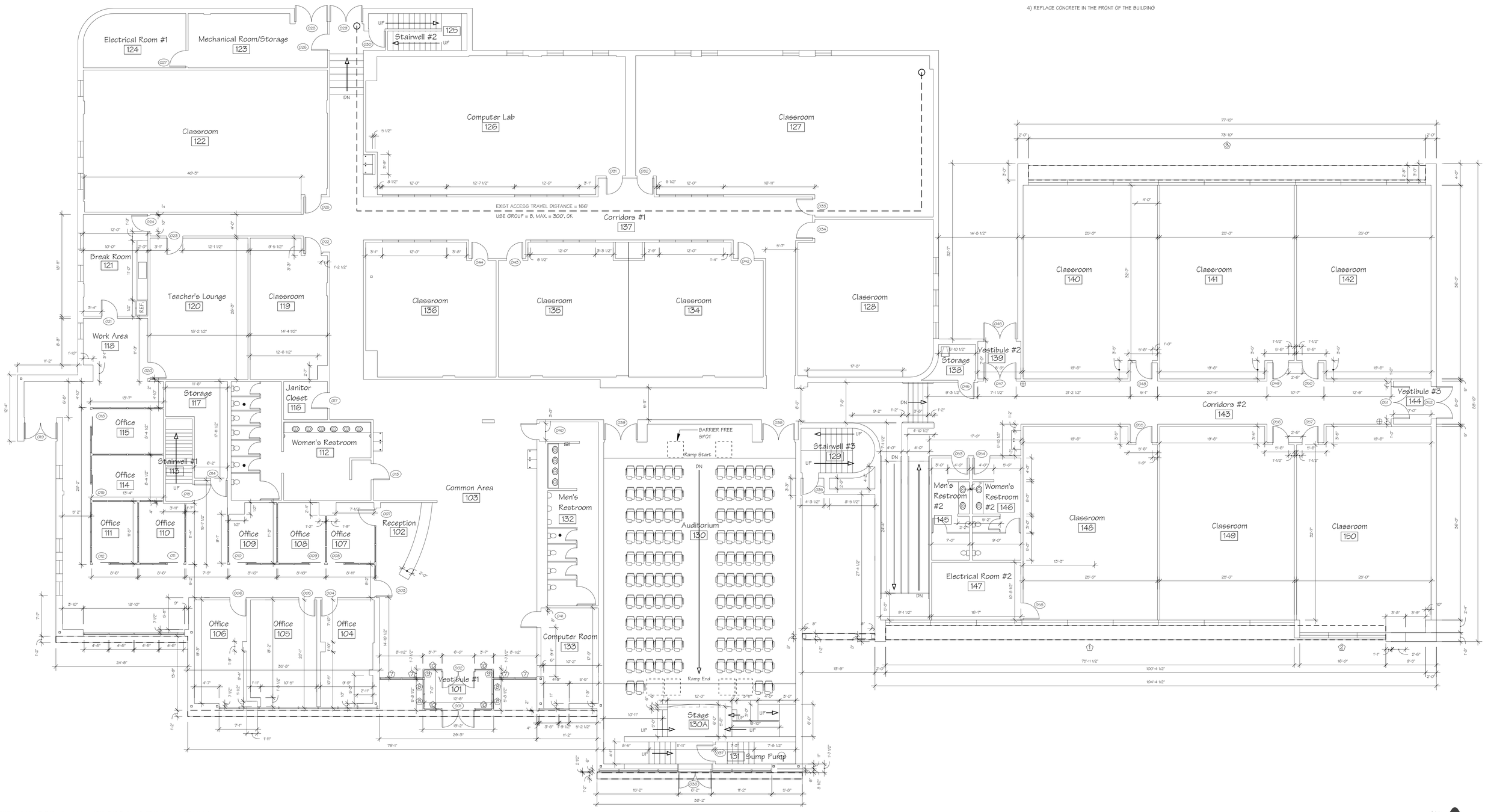
GENERAL NOTES

1) NEW FINISHES PER ROOM FINISH SCHEDULE

2) PROVIDE NEW AUDITORIUM SEATING AS SHOWN (SEE SPECS)

3) PAINT ALL EXTERIOR BRICK WALLS

4) REPLACE CONCRETE IN THE FRONT OF THE BUILDING



FIRST FLOOR PLAN - PROPOSED/DIMENSIONED

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

NORTH

DETROIT ARCHITECT

13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com

Cell: (313)615-1113, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: FIRST FLOOR PLAN - PROPOSED/DIMENSIONED

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

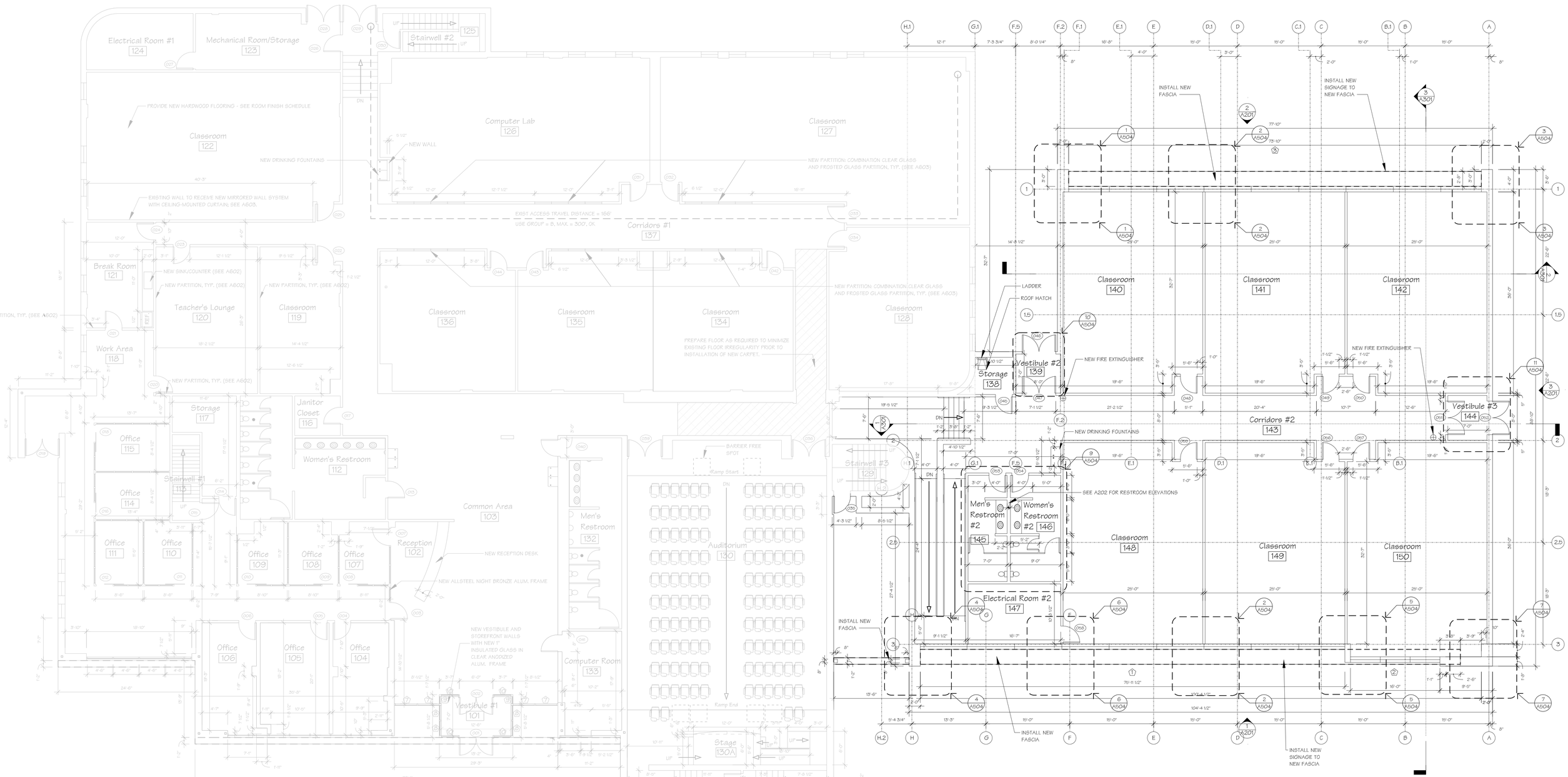
SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: 1/8" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A101

GENERAL NOTES

1) NEW FINISHES PER ROOM FINISH SCHEDULE



FIRST FLOOR PLAN - PROPOSED ADDITION

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

NORTH

DETROIT ARCHITECT

13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com

Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: FIRST FLOOR PLAN - PROPOSED ADDITION

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · REGISTERED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: 1/8" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A102

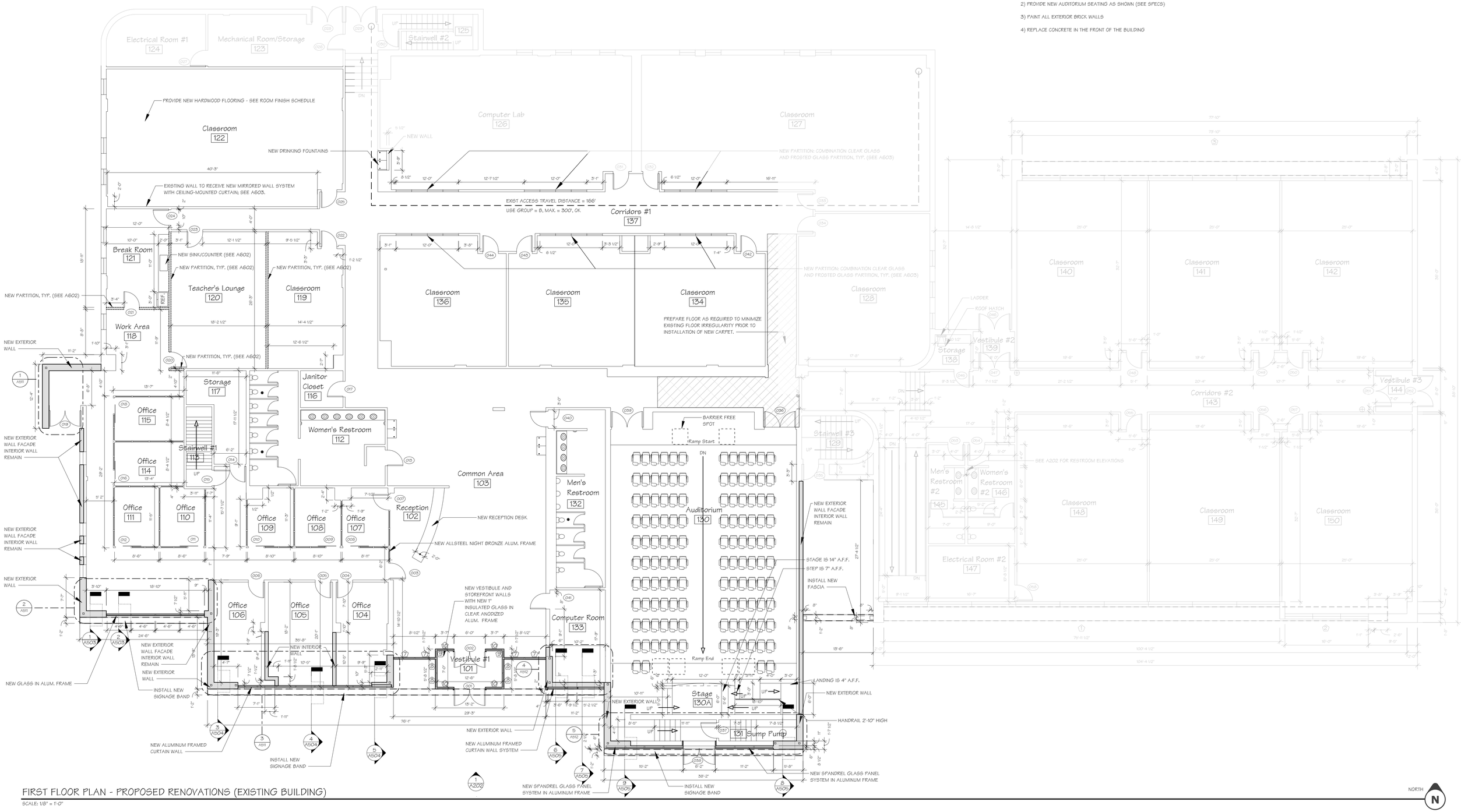
GENERAL NOTES

1) NEW FINISHES PER ROOM FINISH SCHEDULE

2) PROVIDE NEW AUDITORIUM SEATING AS SHOWN (SEE SPECS)

3) PAINT ALL EXTERIOR BRICK WALLS

4) REPLACE CONCRETE IN THE FRONT OF THE BUILDING



FIRST FLOOR PLAN - PROPOSED RENOVATIONS (EXISTING BUILDING)

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

NORTH

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1113, Off.: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: FIRST FLOOR PLAN - PROPOSED RENOVATIONS (EXISTING BUILDING)

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

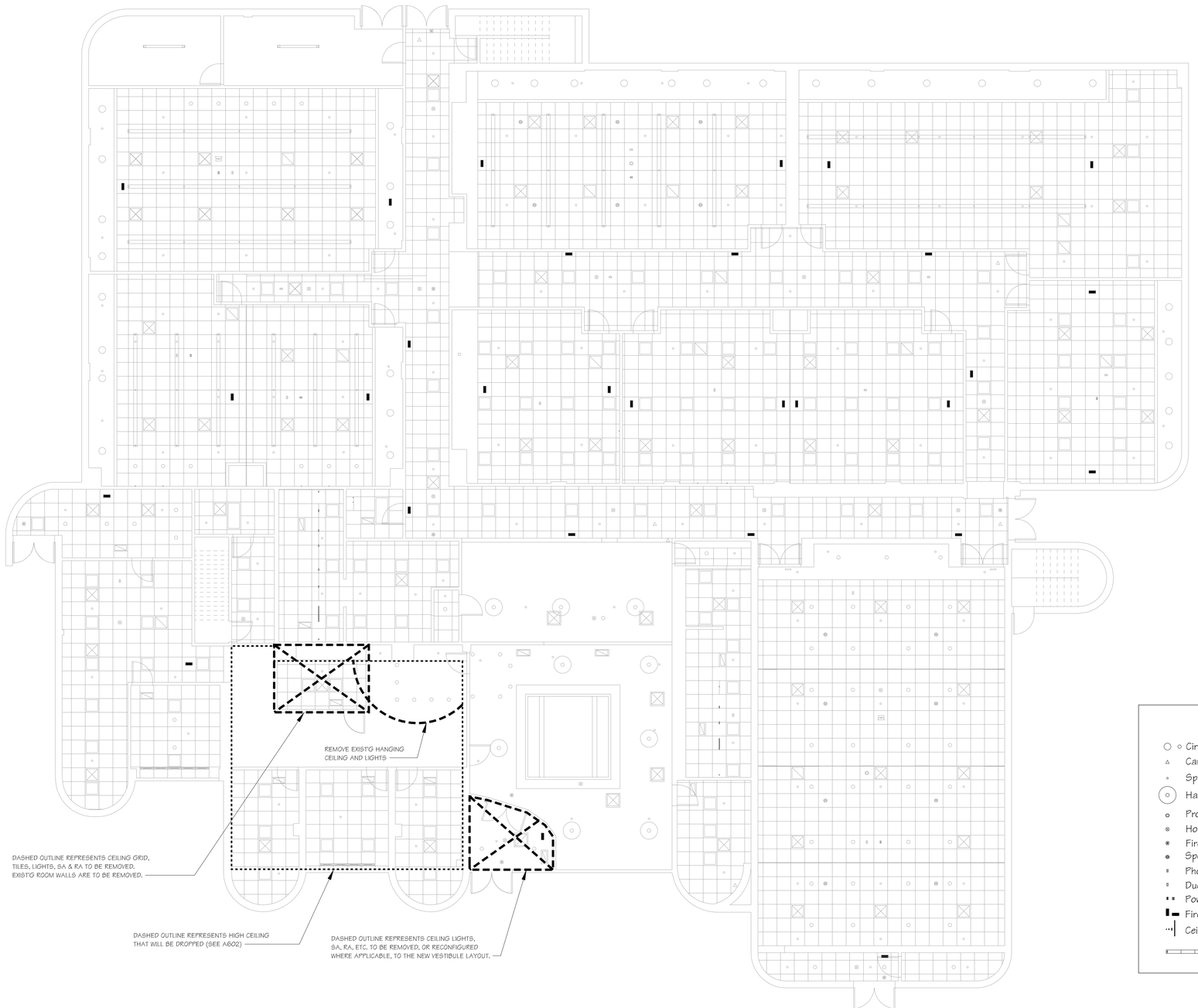
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN — NATHAN LLOYD HARVEY — ARCHITECT — NO. 1301031091 — REGISTERED ARCHITECT

DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: 1/8" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A103



GENERAL NOTES

1) REMOVE GRID CEILING SYSTEM THROUGHOUT THE ENTIRE EXISTING PORTION OF THE BUILDING

2) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SUPPORT OF ALL DUCTWORK, LOW VOLTAGE WIRING, FIRE ALARM WIRING, ETC.

Ceiling Fixture Key

- Circle Lights
- Camera
- Sprinkler
- Hanging Circle Light
- Projector Sensor
- Horn
- Fire Exit Sign
- Speaker
- Phone Line/ Ethernet
- Duct Smoke Detector Alarm
- Power Outlet
- Fire Alarm Strobes
- Ceiling Tile Cutouts
- Ceiling Tile Lights
- AC Vents
- Return Grills
- Projector
- Hanging Light
- Bathroom Lights
- Column
- Hanging Lights

FIRST FLOOR CEILING PLAN - EXISTING/DEMOLITION

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

NORTH

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: FIRST FLOOR CEILING PLAN - EXISTING/DEMOLITION

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 LICENSED ARCHITECT

DRAWN BY:	DATE:
B. Holman	06/15/2026
DESIGNED BY:	SCALE:
B. Holman	1/8" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A104

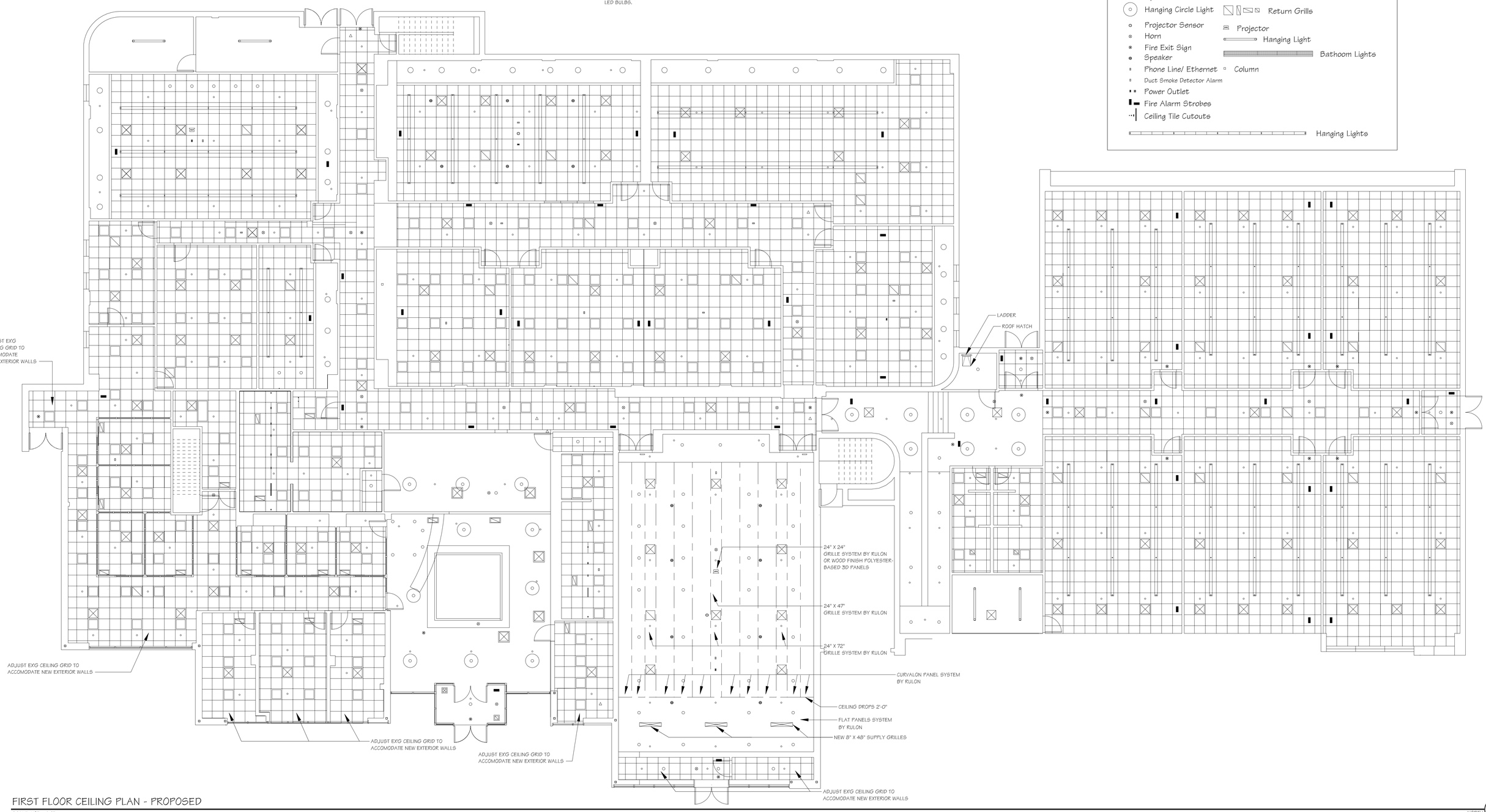
GENERAL NOTES

1) INSTALL NEW GRID CEILING SYSTEM THROUGHOUT THE ENTIRE EXISTING PORTION OF THE BUILDING.

2) REPLACE 2'X 2' LAY IN LIGHTING FIXTURES, RELAMP ALL DOWNLIGHTS, HANGING LIGHTS, PENDANT LIGHTS, AND FLUORESCENT BULBS WITH NEW LED BULBS.

Ceiling Fixture Key

- Circle Lights
- Camera
- Sprinkler
- Hanging Circle Light
- Projector Sensor
- Horn
- Fire Exit Sign
- Speaker
- Phone Line/ Ethernet
- Duct Smoke Detector Alarm
- Power Outlet
- Fire Alarm Strobes
- Ceiling Tile Cutouts
- Ceiling Tile Lights
- AC Vents
- Return Grills
- Projector
- Hanging Light
- Bathoom Lights
- Column
- Hanging Lights



FIRST FLOOR CEILING PLAN - PROPOSED

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

NORTH

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: FIRST FLOOR CEILING PLAN - PROPOSED

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

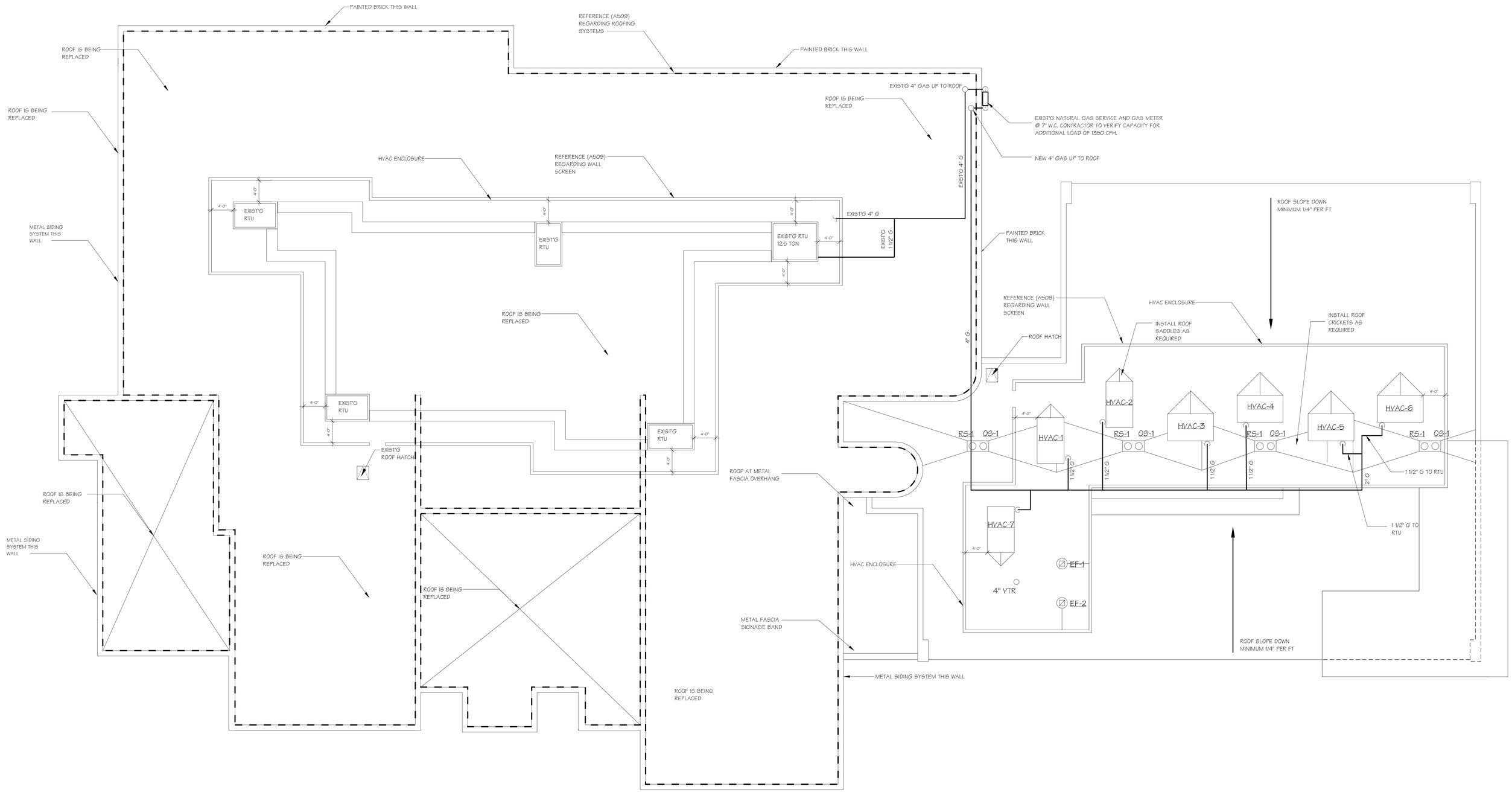
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · REGISTERED ARCHITECT

DRAWN BY:	DATE:
B. Holman	06/15/2026
DESIGNED BY:	SCALE:
B. Holman	1/8" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A105



ROOF PLAN

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

NORTH

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13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: ROOF PLAN

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

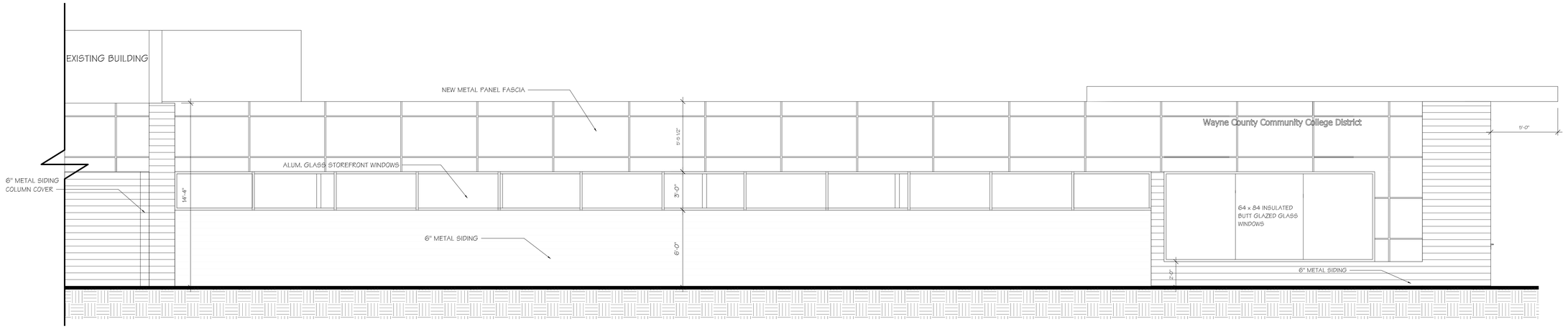
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

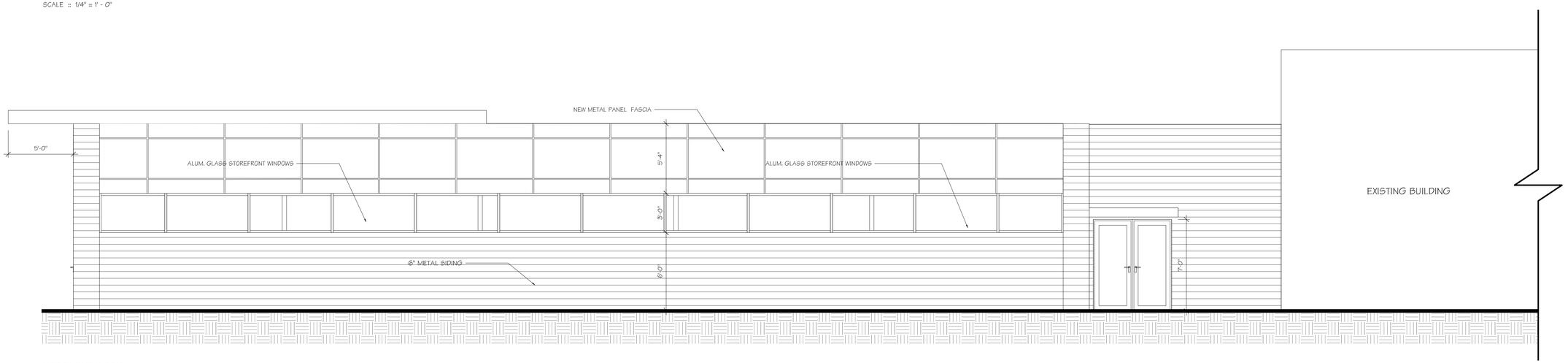
DRAWN BY:	DATE:
B. Holman	06/15/2026
DESIGNED BY:	SCALE:
B. Holman	1/8" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A106



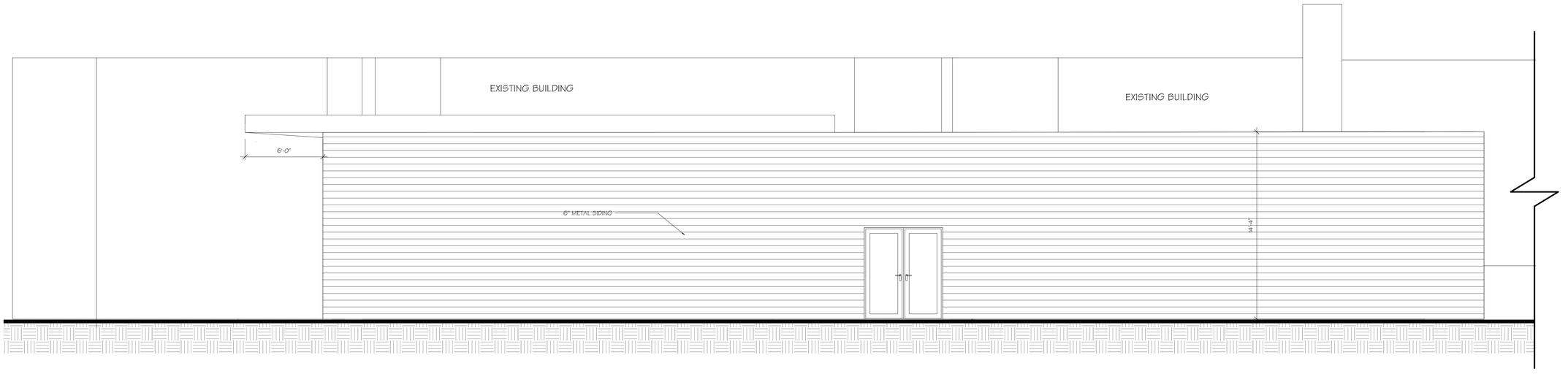
SOUTH ELEVATION

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



NORTH ELEVATION

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



EAST ELEVATION

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

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

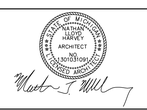
SHEET NAME: ADDITION ELEVATIONS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

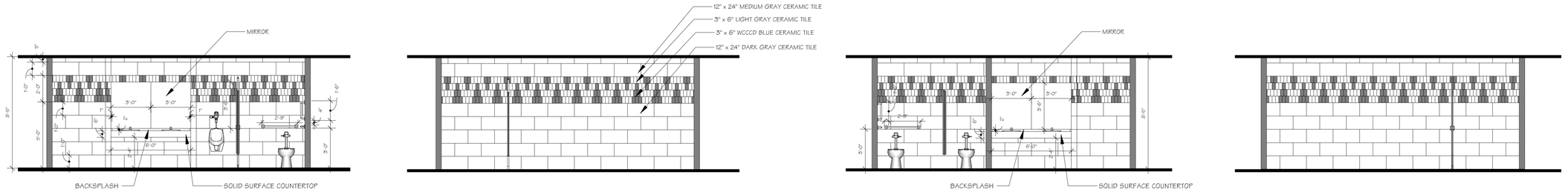
SEAL:



DRAWN BY:	DATE:
James Cartwright III	06/15/2026
DESIGNED BY:	SCALE:
James Cartwright III	1/4" = 1' - 0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER:

A201

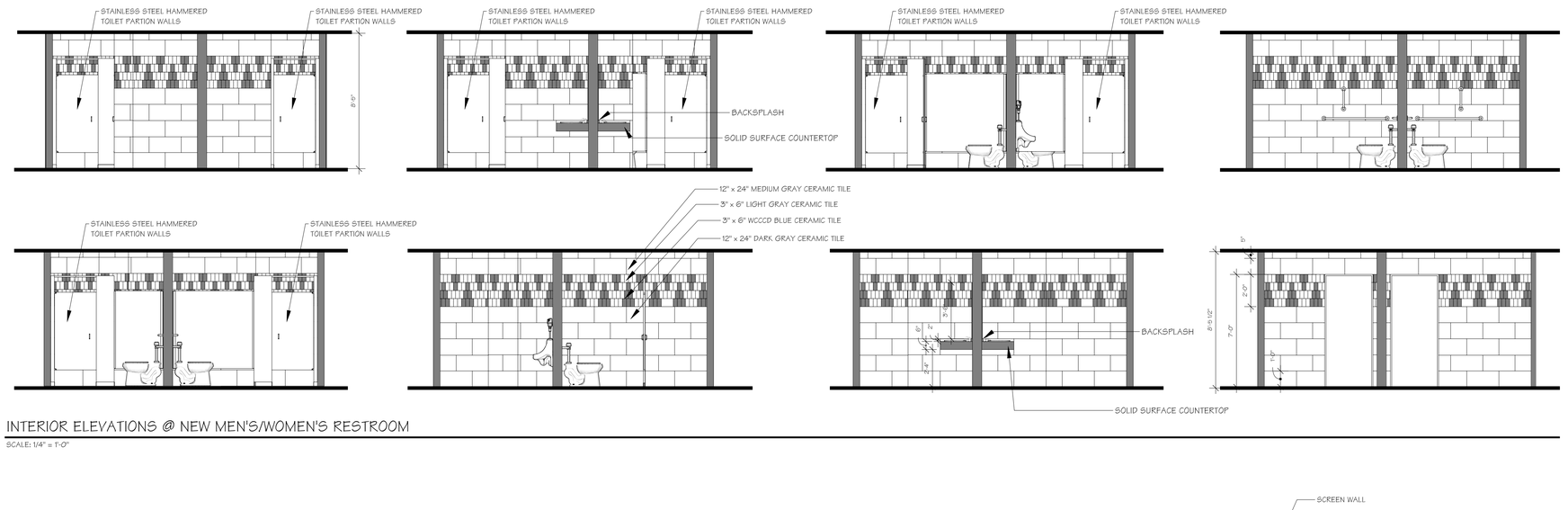


INTERIOR ELEVATIONS @ NEW MEN'S RESTROOM

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

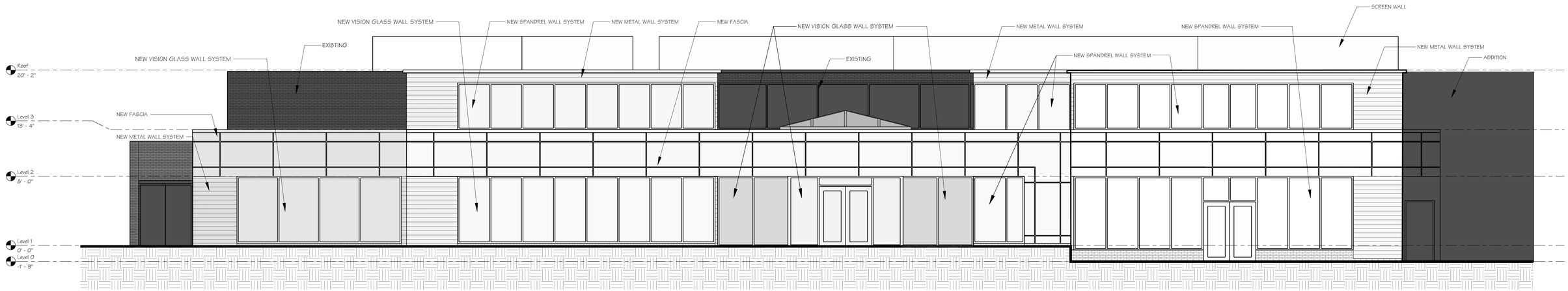
INTERIOR ELEVATIONS @ NEW WOMEN'S RESTROOM

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



INTERIOR ELEVATIONS @ NEW MEN'S/WOMEN'S RESTROOM

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



SOUTH ELEVATION (MAIN ENTRANCE) WITH NEW FASCIA AND SIGNAGE

SCALE: 3/16" = 1'-0"

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:

SOUTH ELEVATION AND BATHROOM ELEVATIONS - PROPOSED

PROJECT NAME:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

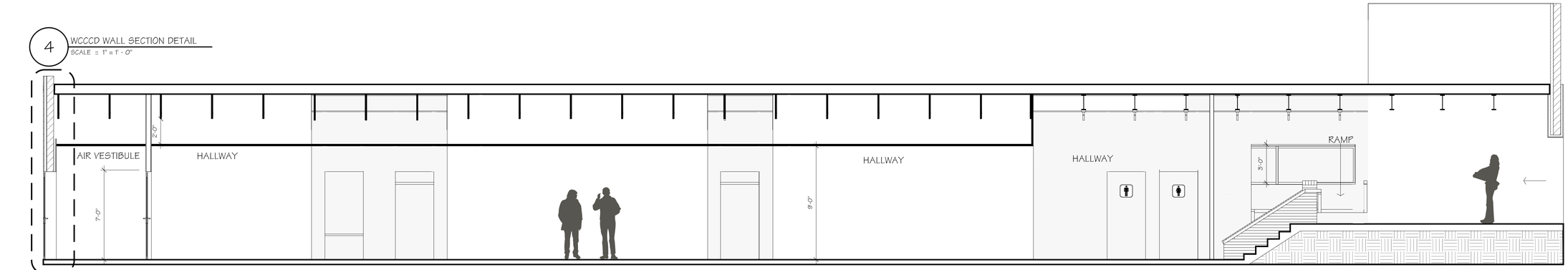
SEAL:

STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
LICENSED ARCHITECT

DRAWN BY:	DATE:
B. Holman P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	**SCALE:**
B. Holman P. Rasttanavanitpong	1/8" = 1'-0"
CHECKED BY:	**JOB NUMBER:**
N. Harvey	2601

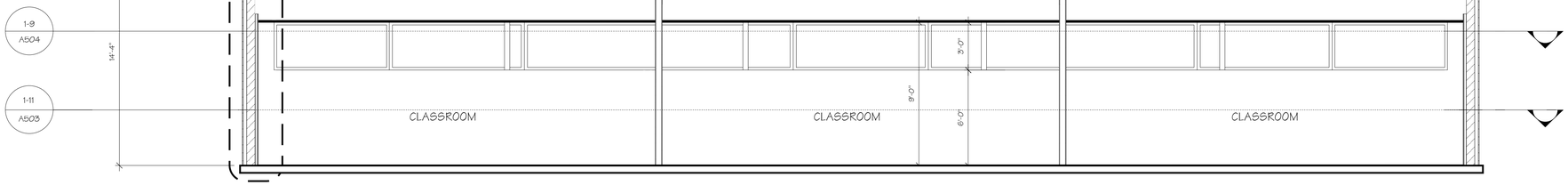
SHEET NUMBER:

A202



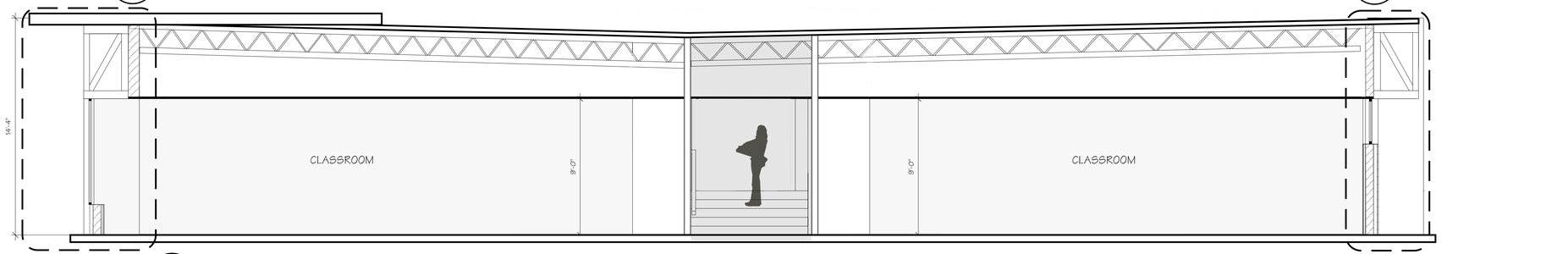
4 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

1 WCCCD NEW ADDITION SECTION
SCALE :: 1/4" = 1' - 0"



3 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

2 WCCCD NEW ADDITION SECTION
SCALE :: 1/4" = 1' - 0"



1 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

2 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

5 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

3 WCCCD NEW ADDITION SECTION
SCALE :: 1/4" = 1' - 0"

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

ADDITION SECTIONS

SHEET NAME:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

PROJECT NAME:

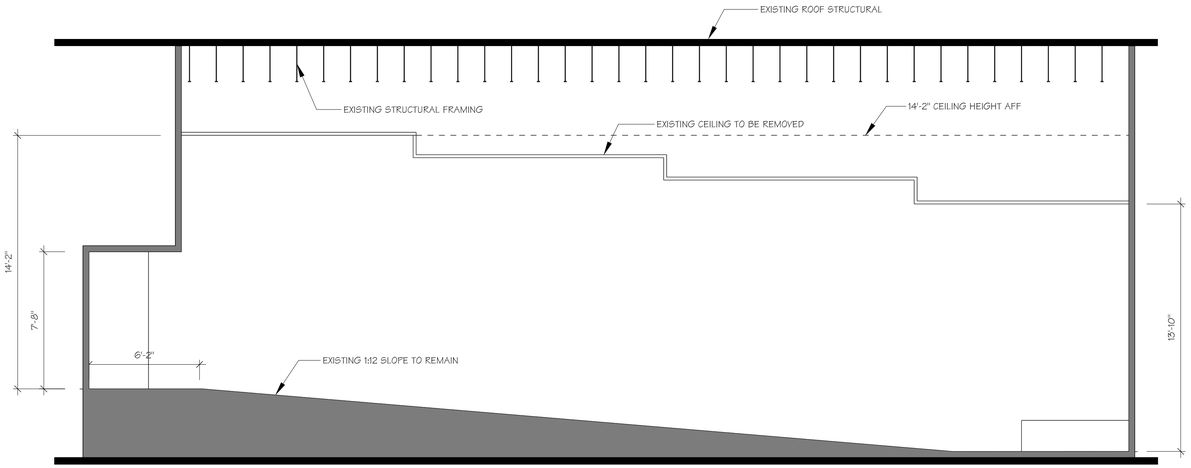
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

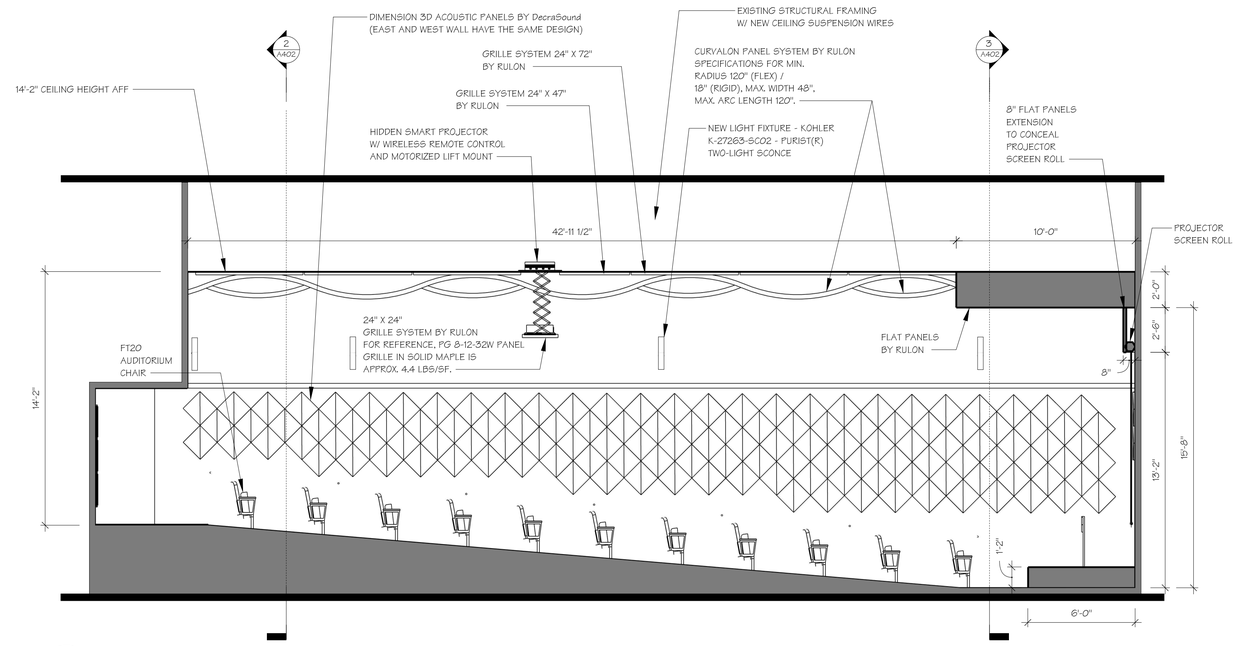
DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1/4" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A301



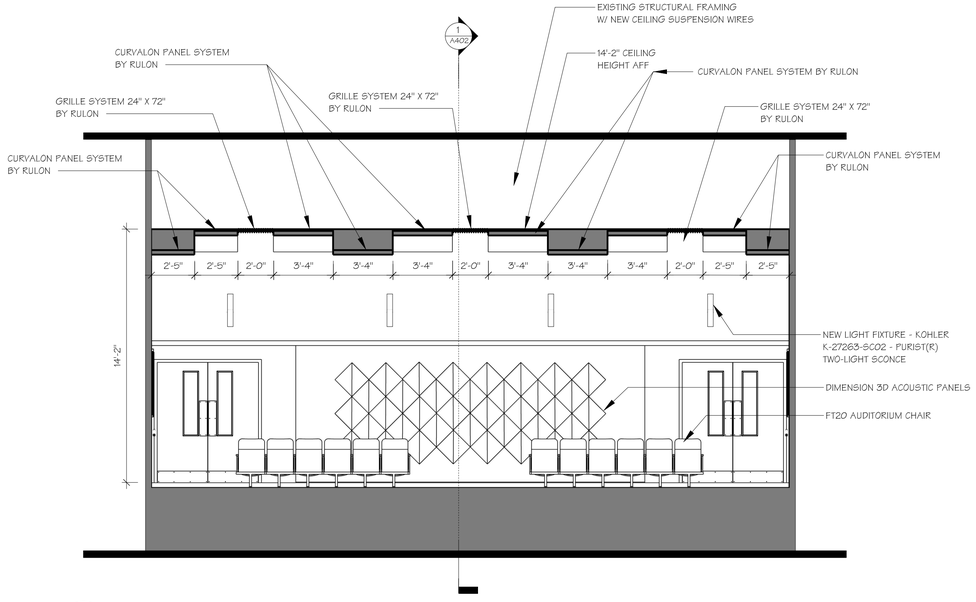
AUDITORIUM – EAST INTERIOR ELEVATION (EXISTING)

SCALE: 3/8" = 1'-0"



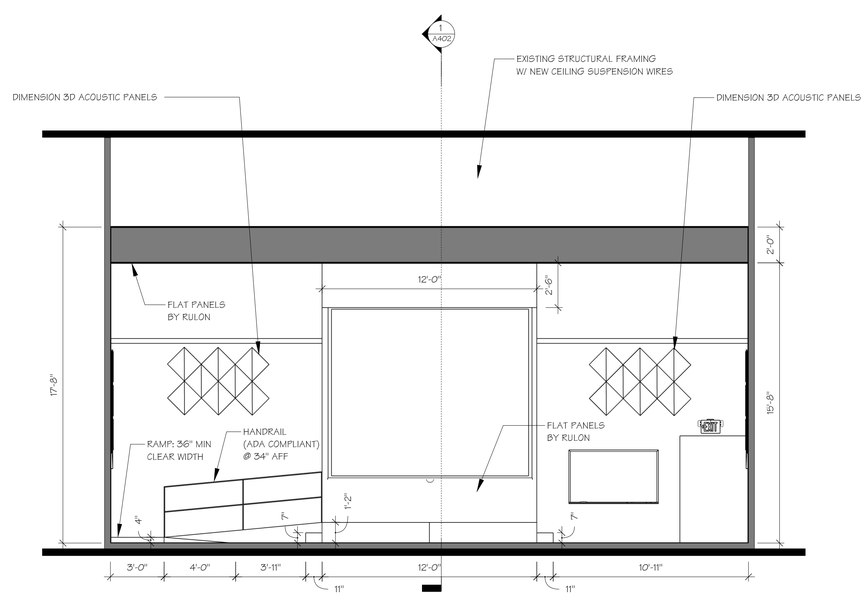
1 EAST INTERIOR ELEVATION (PROPOSED)

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



2 NORTH INTERIOR ELEVATION (PROPOSED)

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



3 SOUTH INTERIOR ELEVATION (PROPOSED)

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

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: AUDITORIUM INTERIOR ELEVATIONS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

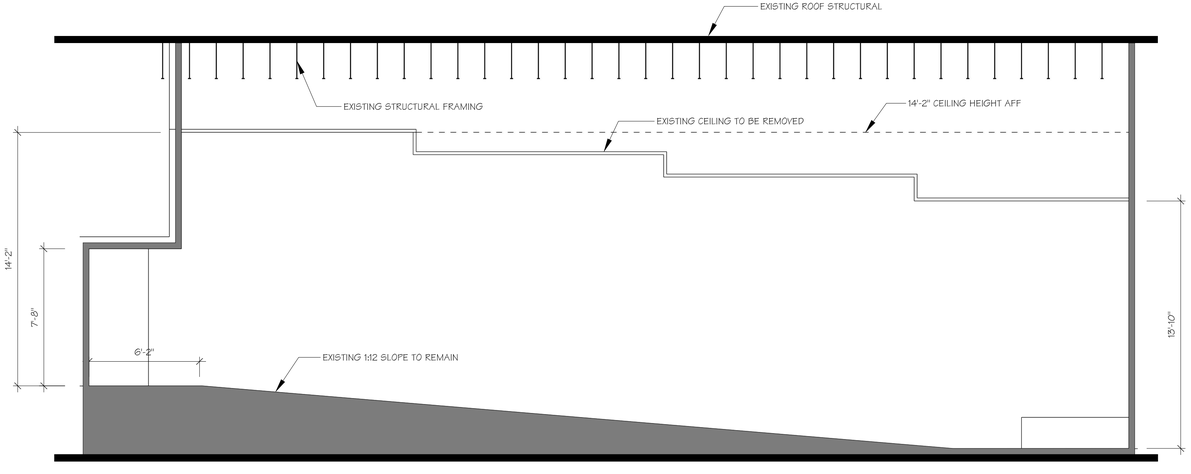
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

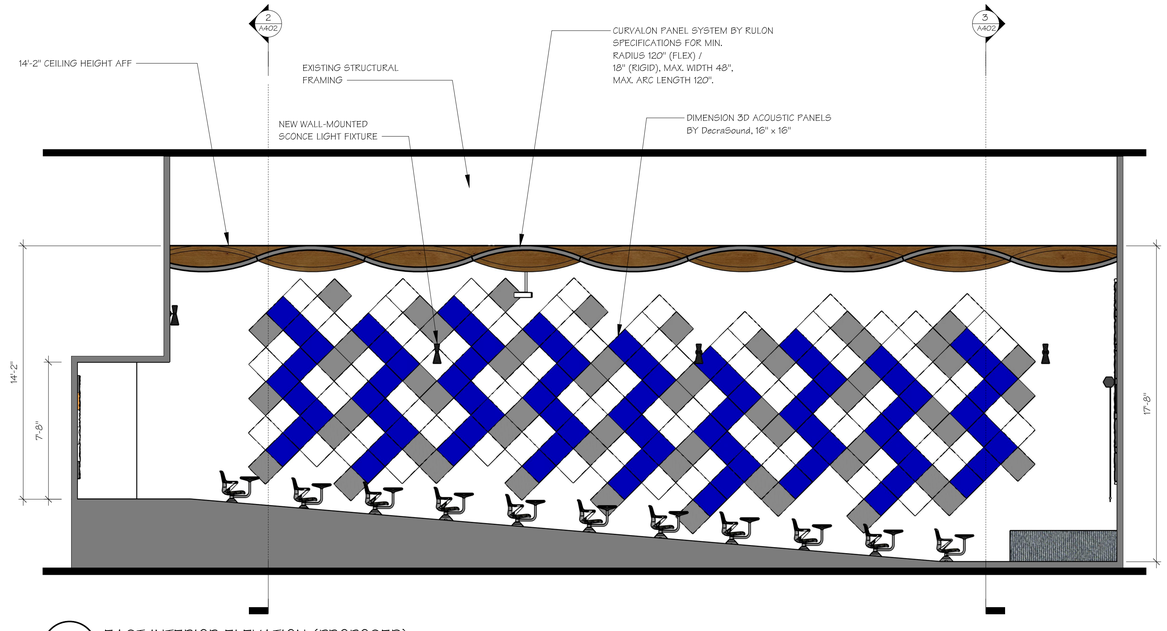
DRAWN BY:	DATE:
P.Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P.Rasttanavanitpong	1/4" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A401



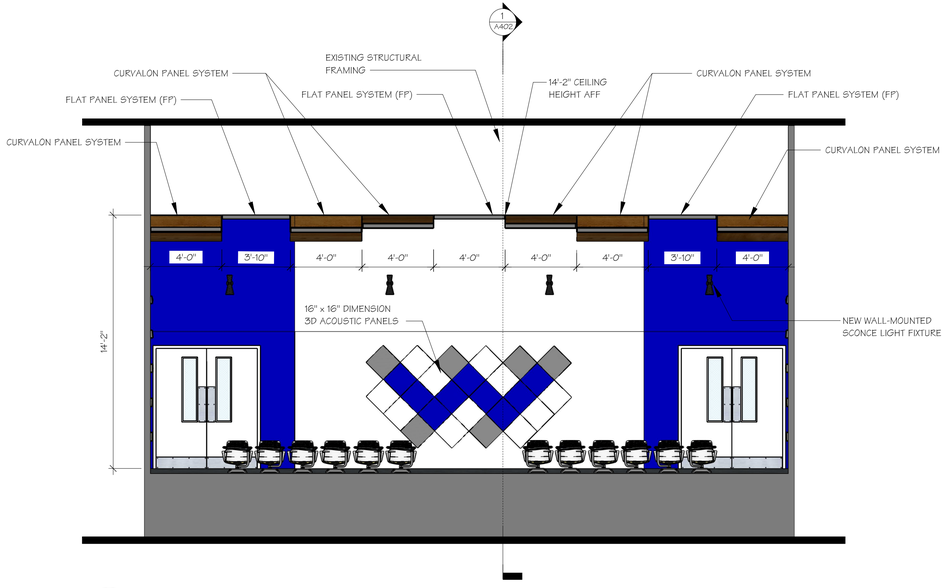
AUDITORIUM – EAST INTERIOR ELEVATION (EXISTING)

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



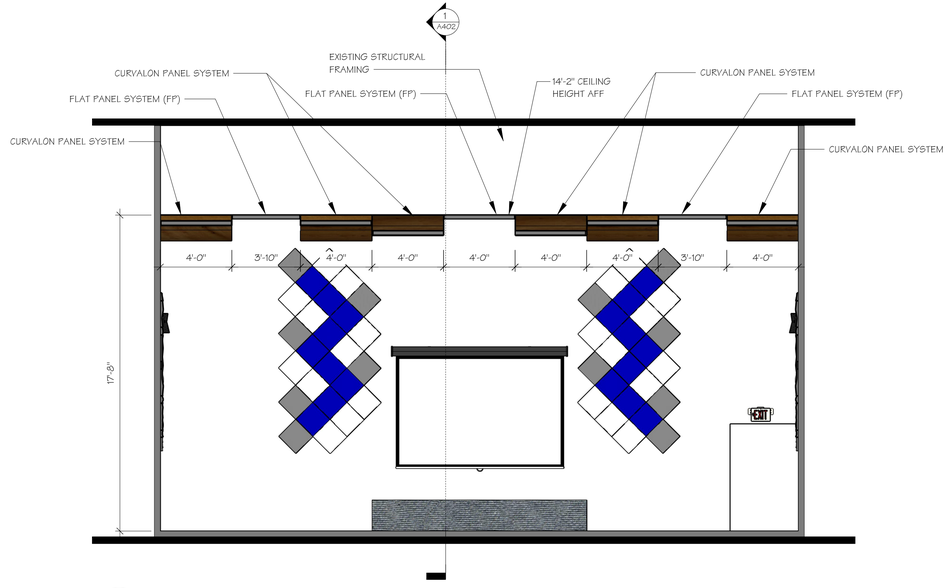
1 EAST INTERIOR ELEVATION (PROPOSED)

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



2 NORTH INTERIOR ELEVATION (PROPOSED)

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



3 SOUTH INTERIOR ELEVATION (PROPOSED)

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

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: AUDITORIUM ELEVATIONS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

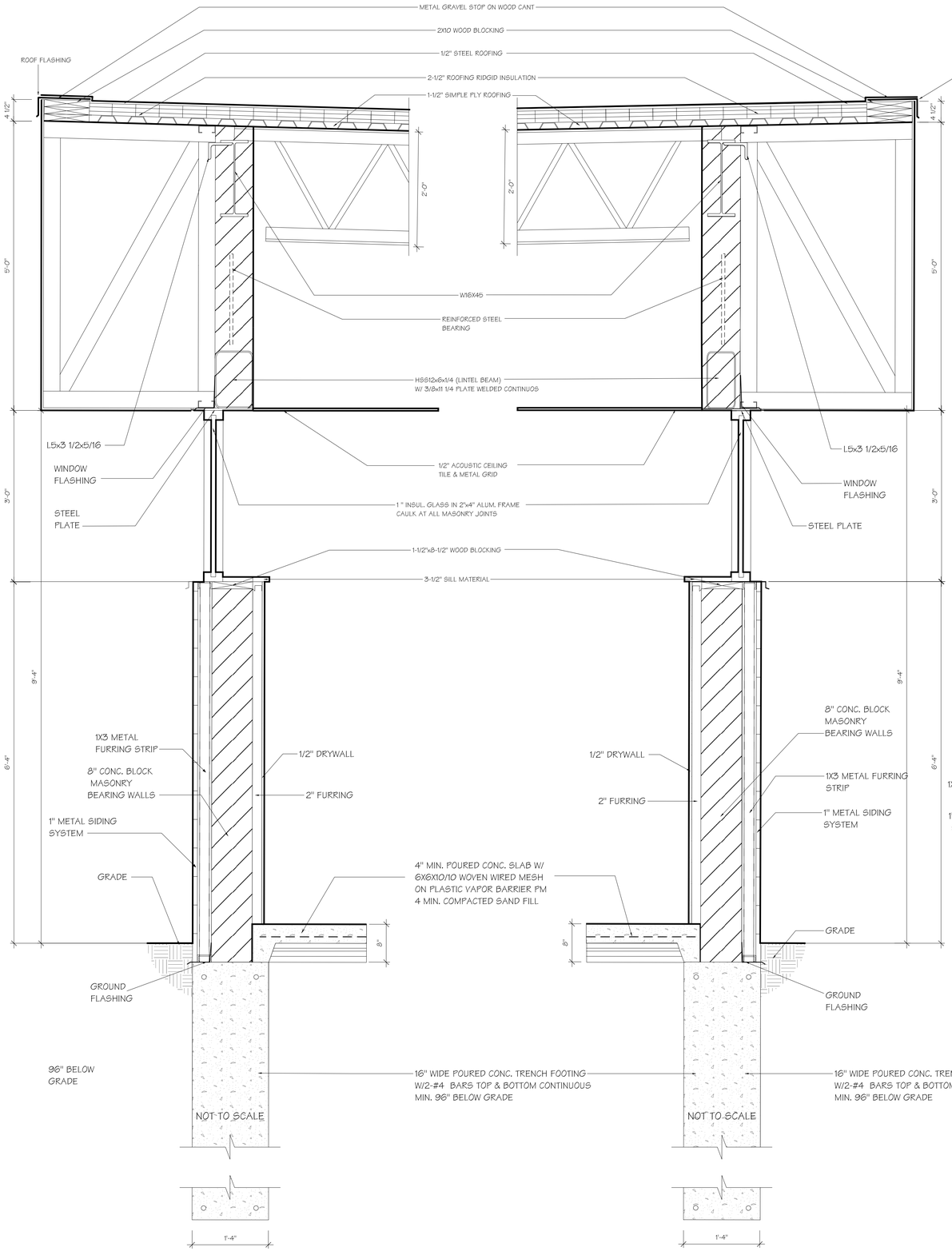
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · LICENSED ARCHITECT

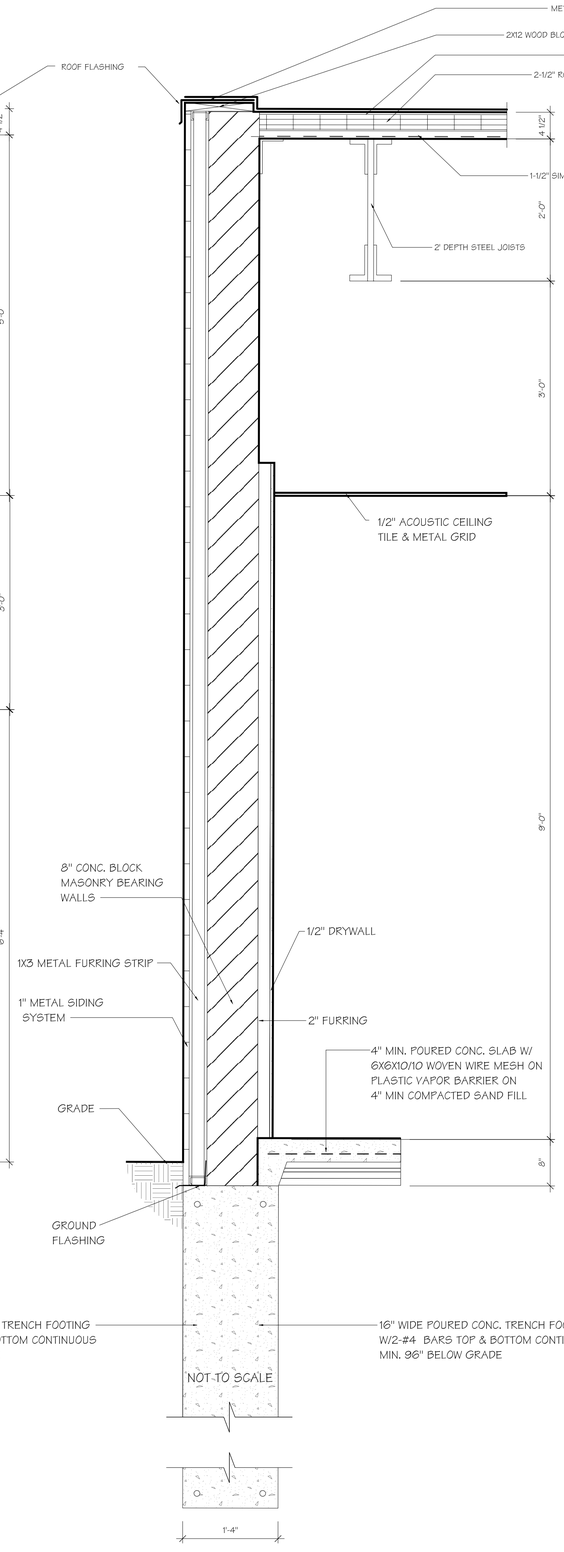
DRAWN BY: P.Rasttanavanitpong	DATE: 03/24/2026
DESIGNED BY: P.Rasttanavanitpong	SCALE: 1/4" = 1'-0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A402

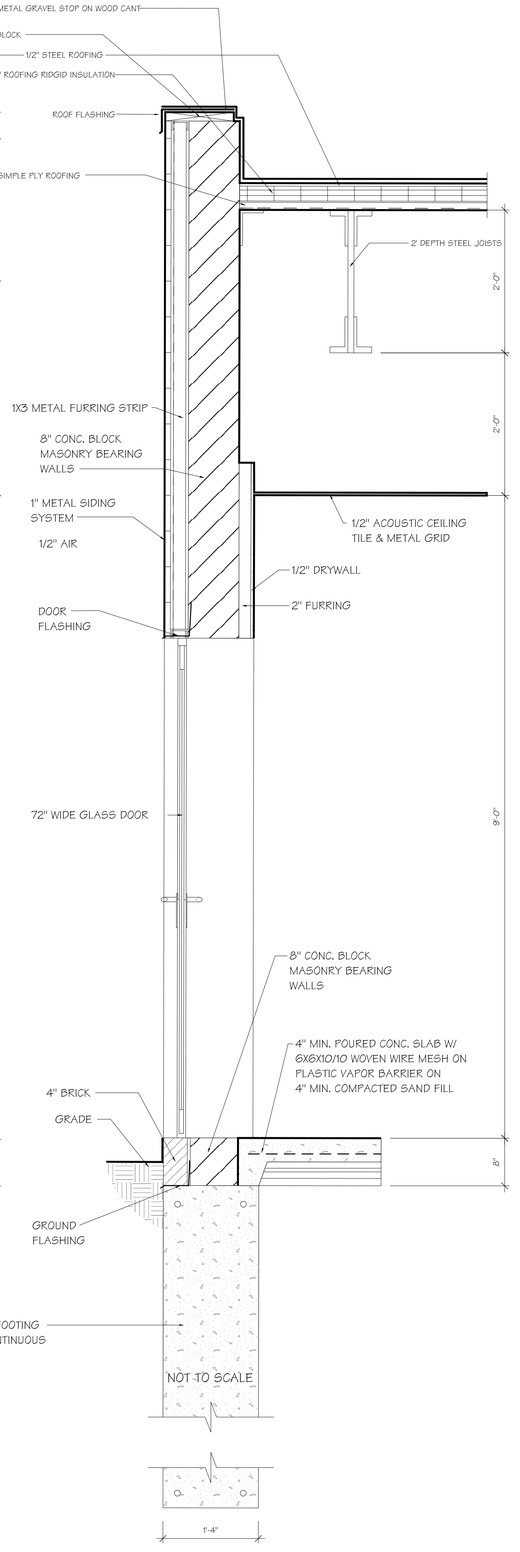


1 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

2 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"



3 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"



4 WCCCD WALL SECTION DETAIL
SCALE :: 1" = 1' - 0"

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SHEET NAME: WALL SECTION DETAILS

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

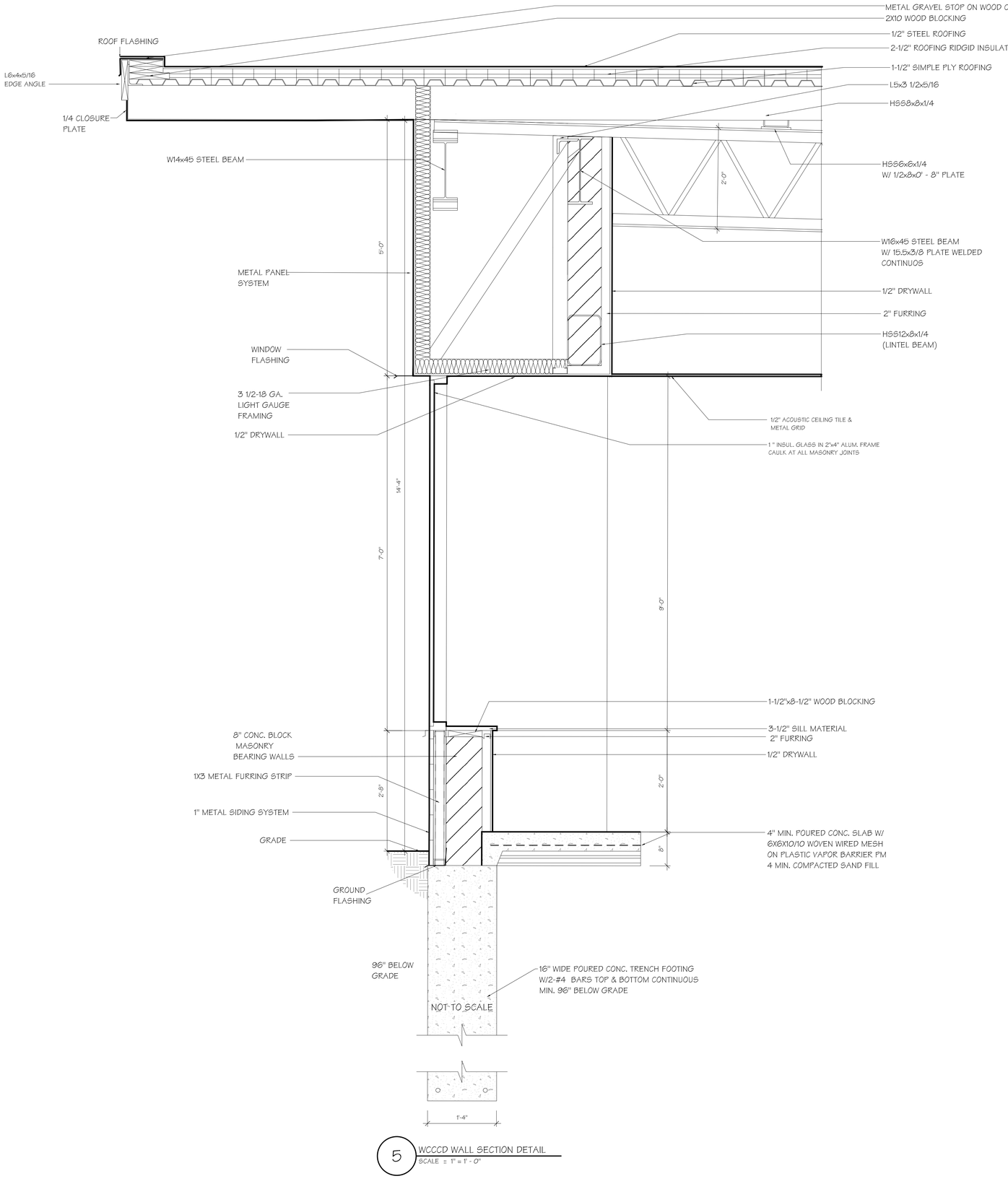
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN NATHAN HARVEY ARCHITECT NO. 1301051085 REGISTERED ARCHITECT

DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1" = 1'- 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A501



5 WCCCD WALL SECTION DETAIL

SCALE :: 1" = 1' - 0"

DETROIT ARCHITECT
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Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:

WALL SECTION DETAILS

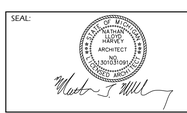
PROJECT NAME:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

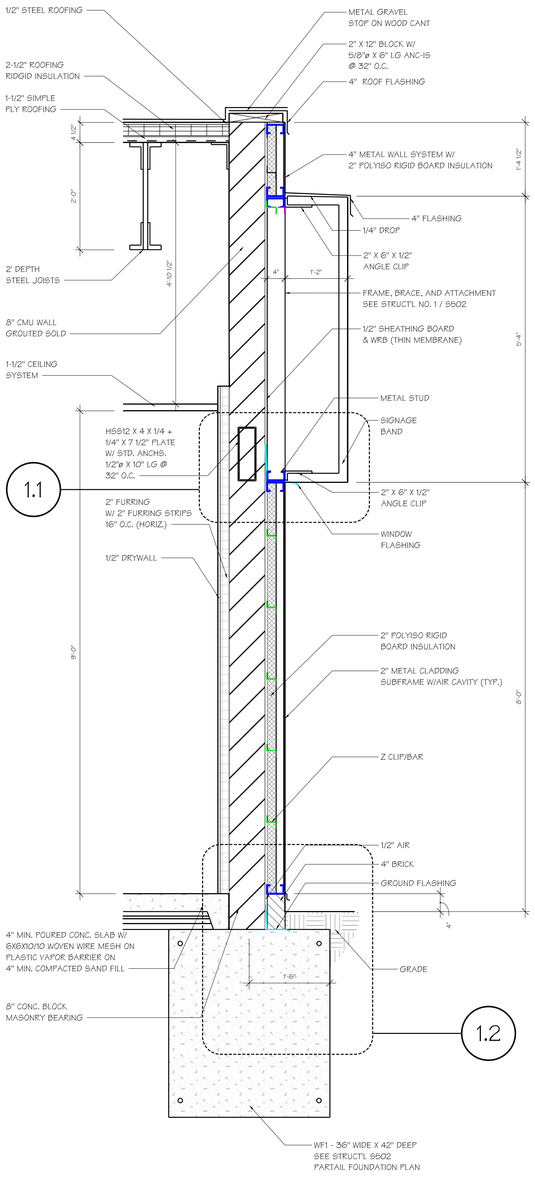
SEAL:

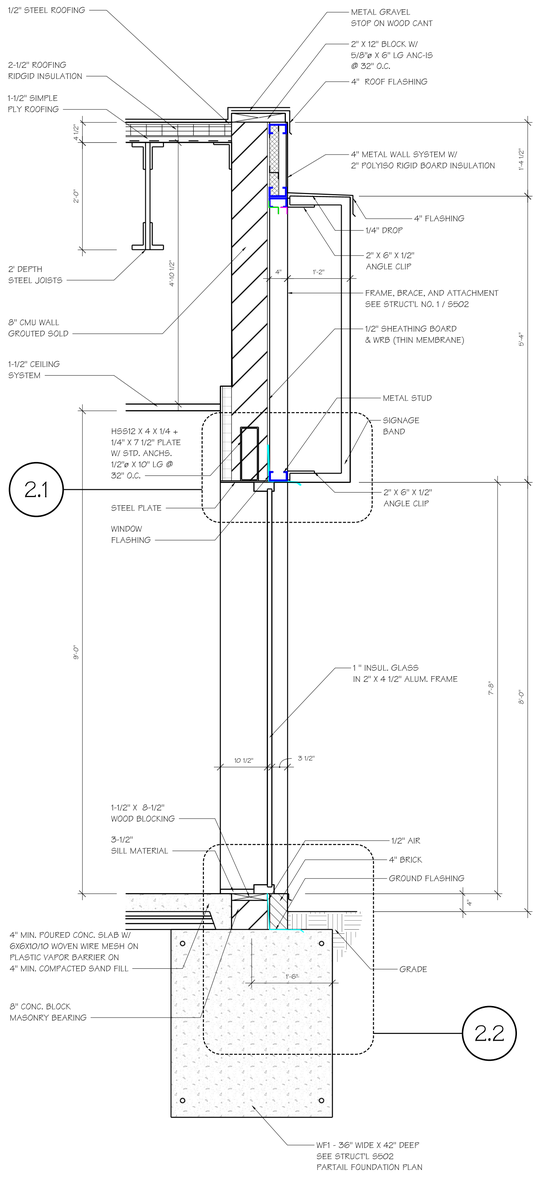


DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1" = 1'- 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:

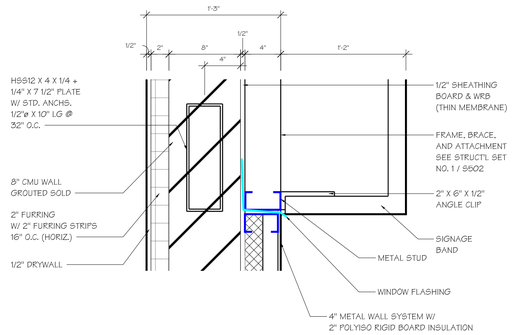
A502



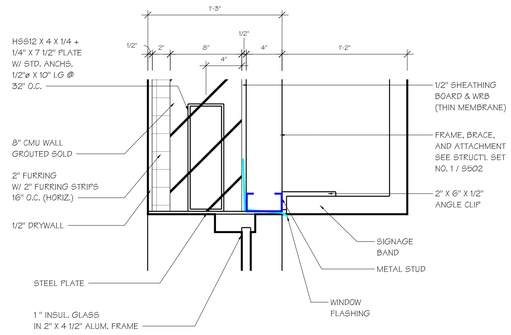


1 WCCCD WALL SECTION DETAIL (CONFERENCE WITHOUT AN ENCLOSURE)
SCALE :: 3/4" = 1' - 0"

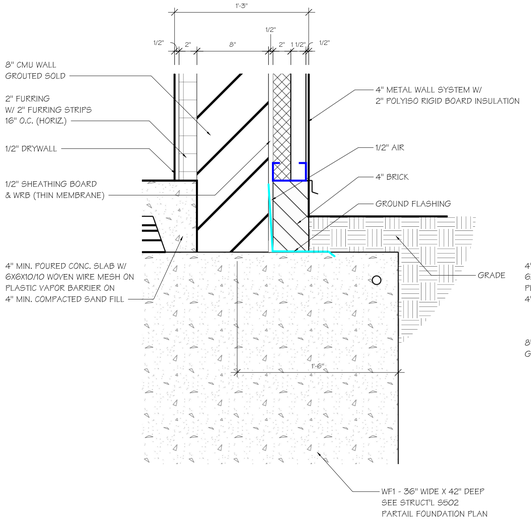
2 WCCCD WALL SECTION DETAIL (CONFERENCE WITHOUT AN ENCLOSURE)
SCALE :: 3/4" = 1' - 0"



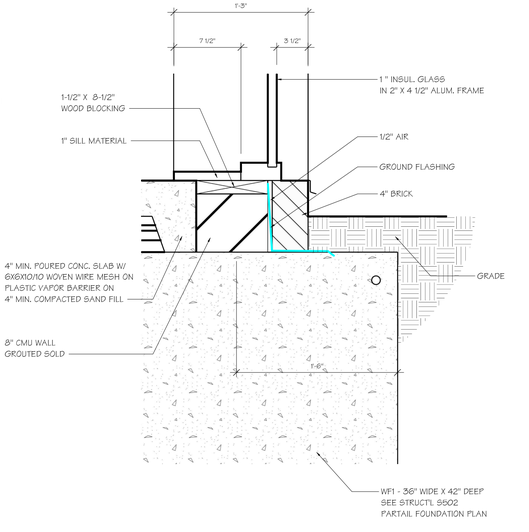
1.1 CALL OUT
SCALE :: 1 1/2" = 1' - 0"



2.1 CALL OUT
SCALE :: 1 1/2" = 1' - 0"



1.2 CALL OUT
SCALE :: 1 1/2" = 1' - 0"



2.2 CALL OUT
SCALE :: 1 1/2" = 1' - 0"

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SHEET NAME: WALL SECTION DETAILS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

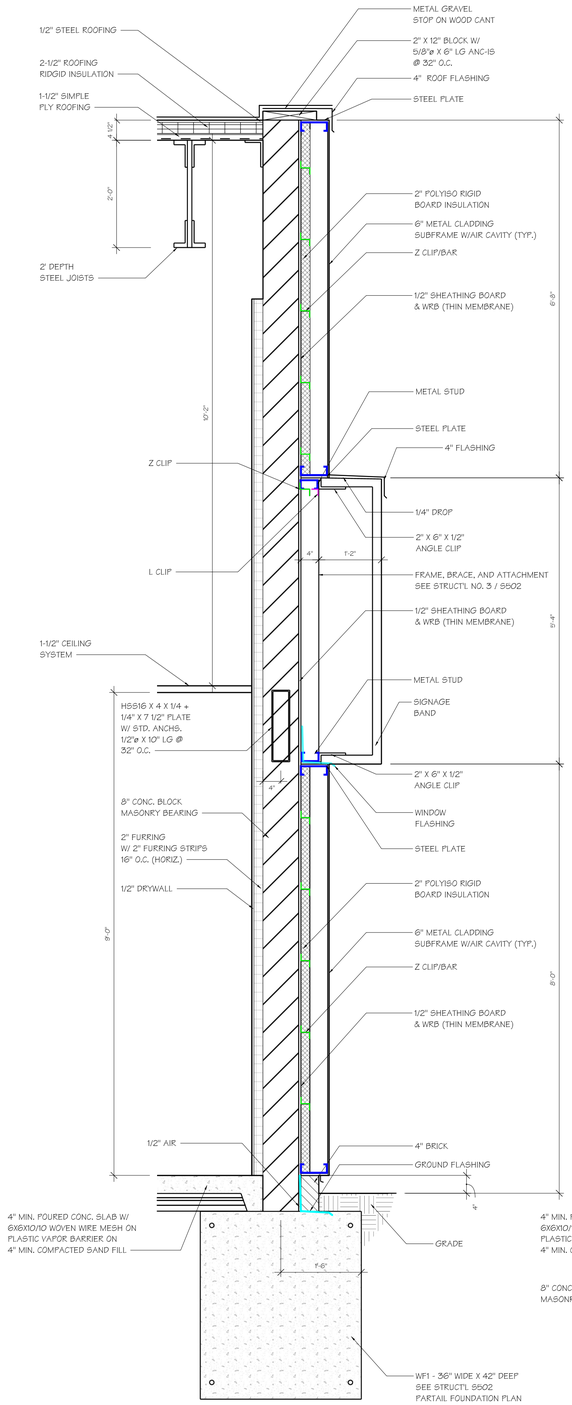
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

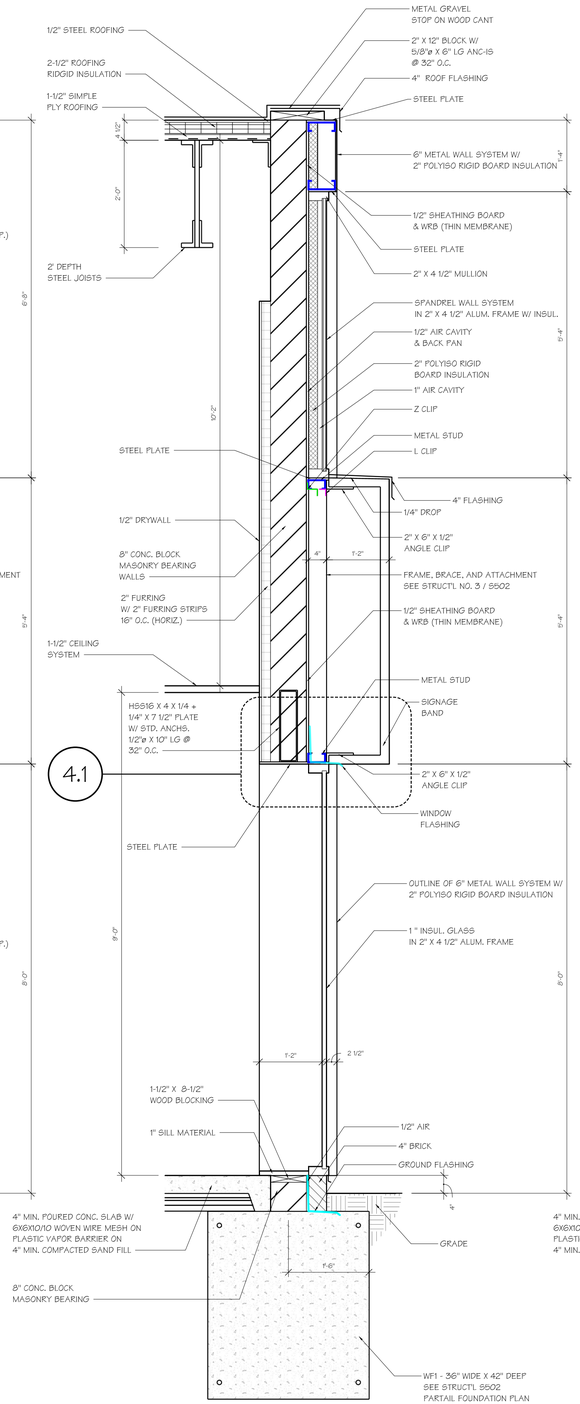
SEAL:


DRAWN BY:	DATE:
P.Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P.Rasttanavanitpong	3/4" = 1' - 0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

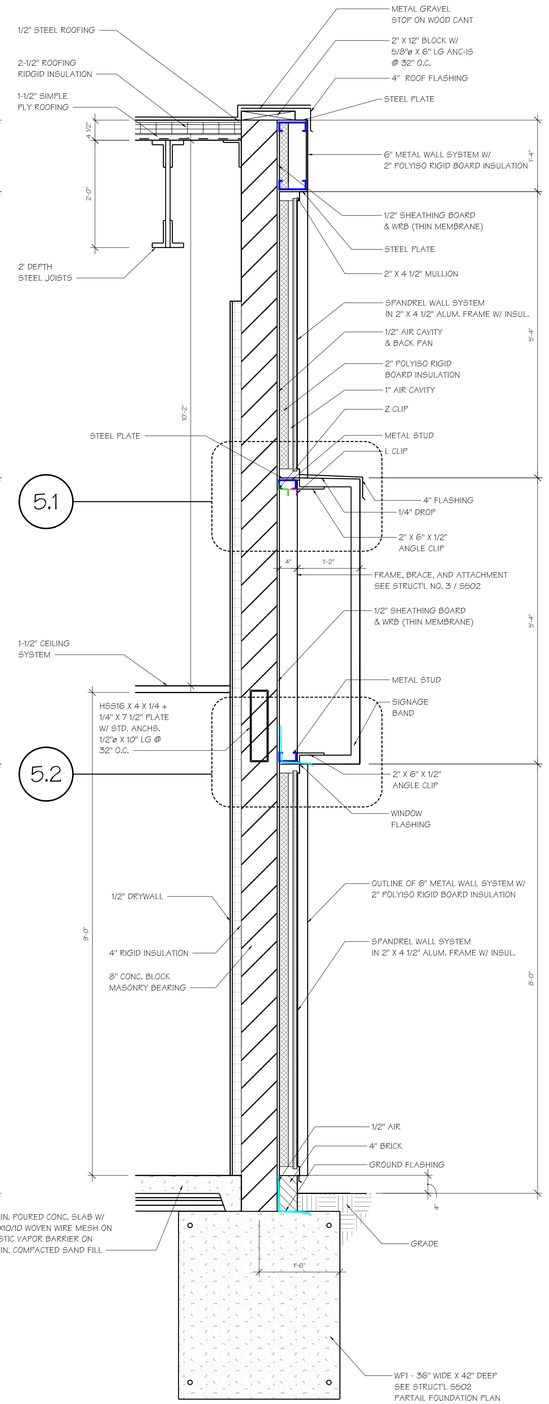
SHEET NUMBER:
A503



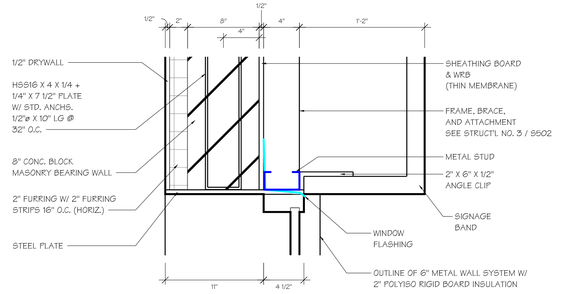
3 WCCCD WALL SECTION DETAIL (OFFICES AND CONF. RM.)
SCALE :: 3/4" = 1' - 0"



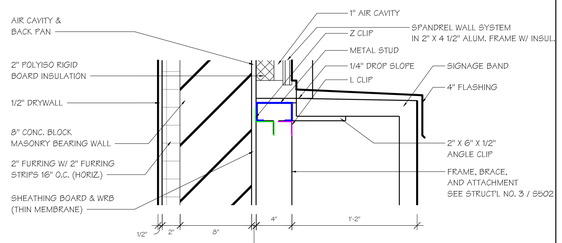
4 WCCCD WALL SECTION DETAIL (OFFICES AND CONF. RM.)
SCALE :: 3/4" = 1' - 0"



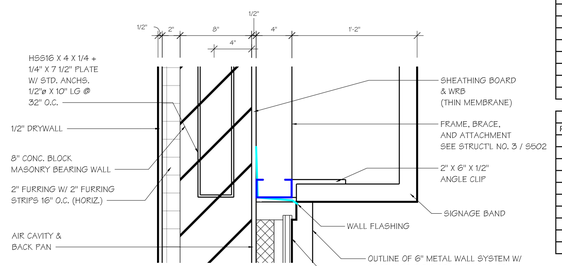
5 WCCCD WALL SECTION DETAIL (OFFICES AND CONF. RM.)
SCALE :: 3/4" = 1' - 0"



4.1 CALL OUT
SCALE :: 1 1/2" = 1' - 0"



5.1 CALL OUT
SCALE :: 1 1/2" = 1' - 0"



5.2 CALL OUT
SCALE :: 1 1/2" = 1' - 0"

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WALL SECTION DETAILS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

SHEET NAME:
PROJECT NAME:

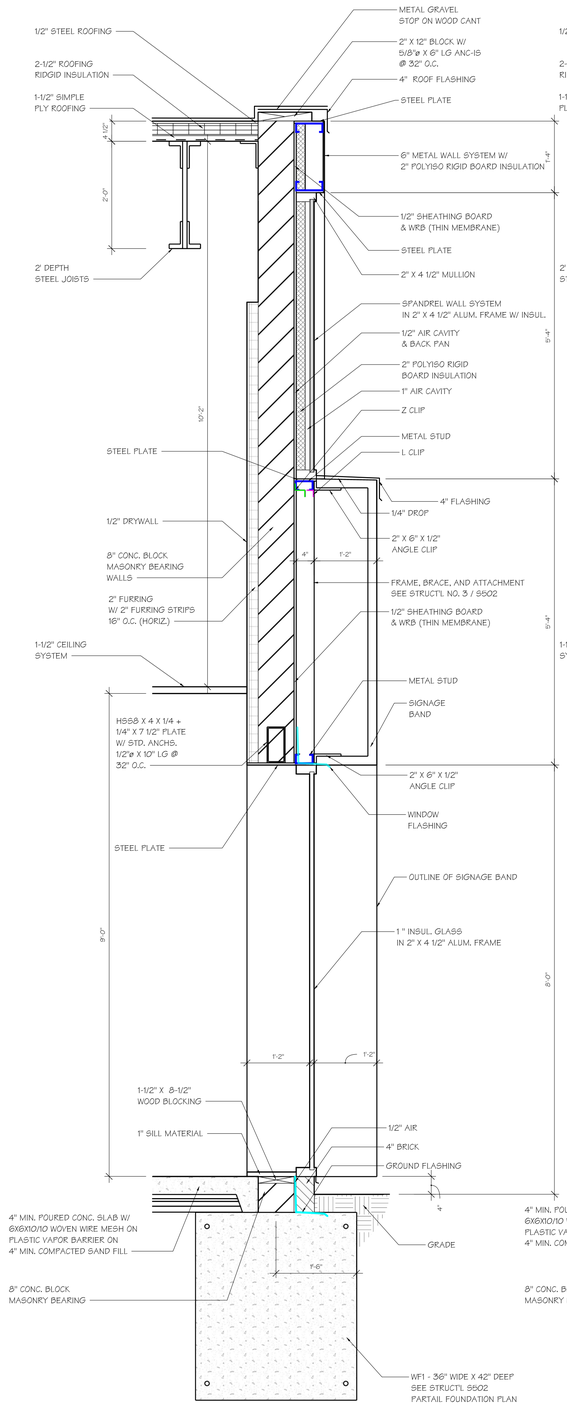
ISSUE SCHEDULE	
ISSUED FOR	DATE

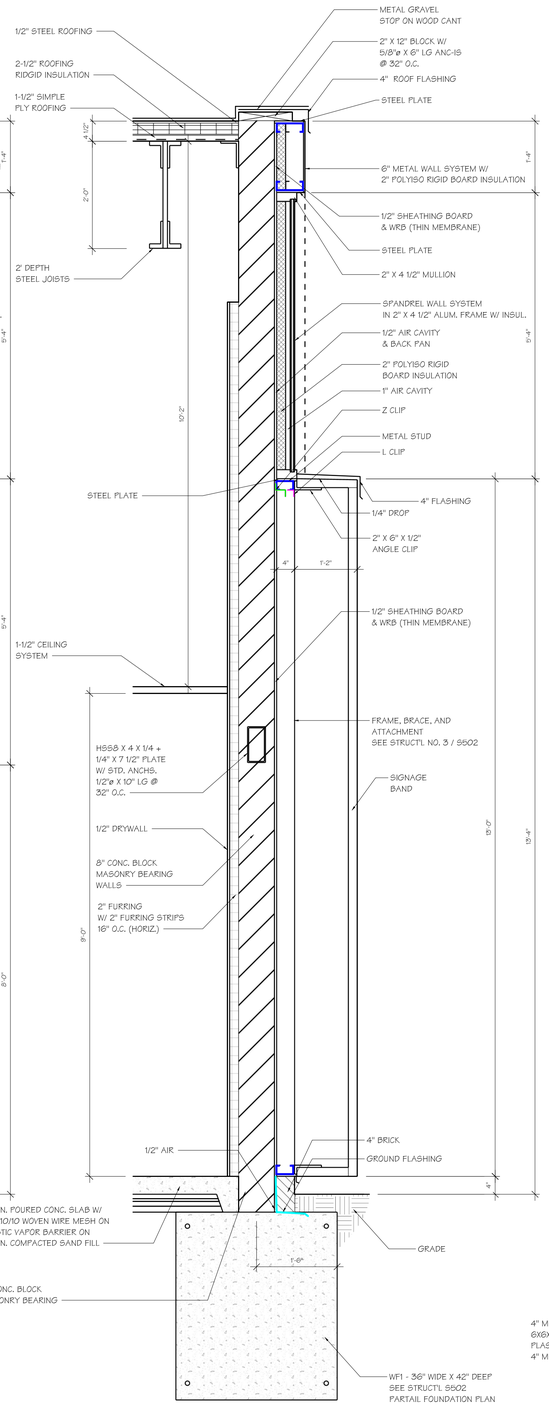
REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

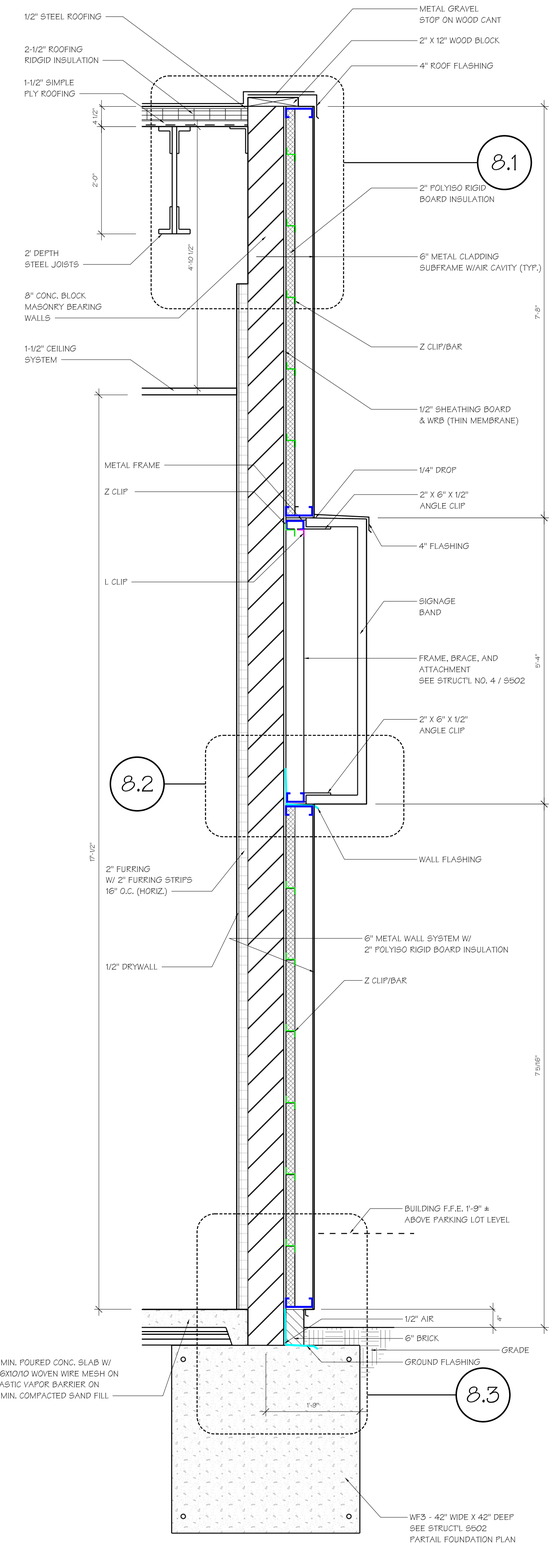
SEAL:
STATE OF MICHIGAN NATHAN D. HARVEY ARCHITECT NO. 1301070361 REGISTERED ARCHITECT

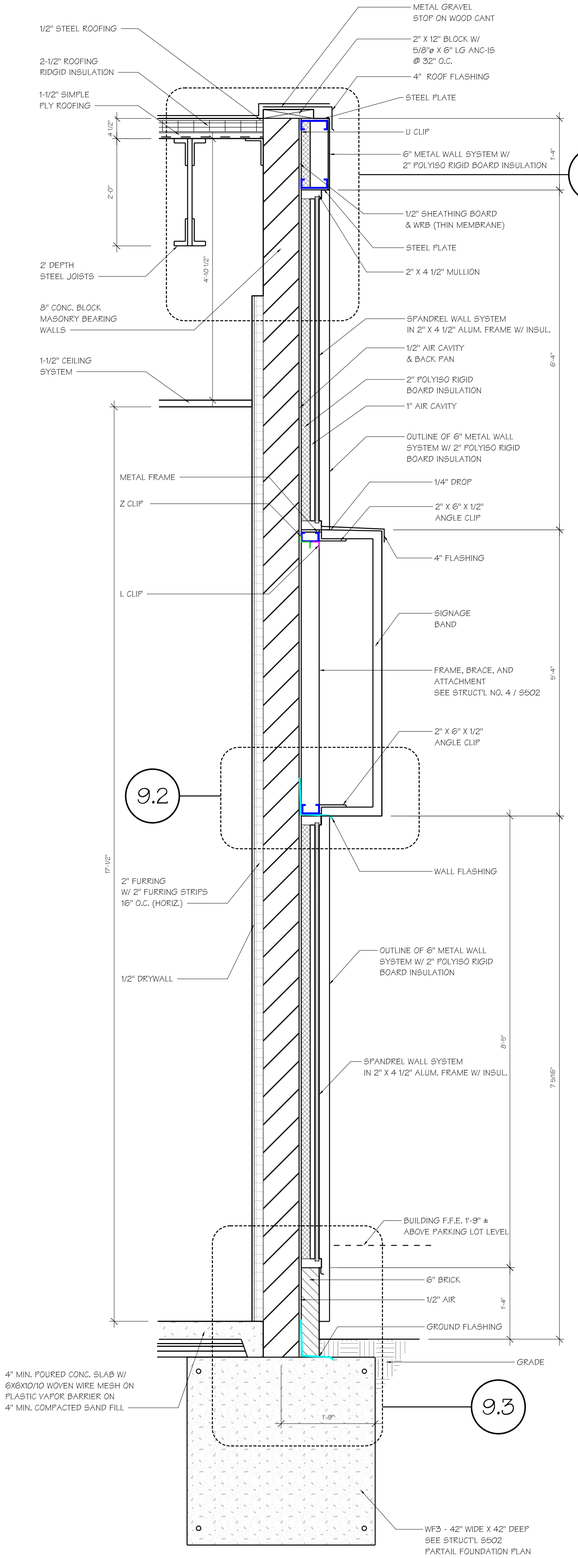
DRAWN BY: P.Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P.Rasttanavanitpong	SCALE: 3/4" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A504









6 WCCCD WALL SECTION DETAIL (COMPU'R. RM.)
SCALE :: 3/4" = 1' - 0"

7 WCCCD WALL SECTION DETAIL (COMPU'R. RM.)
SCALE :: 3/4" = 1' - 0"

8 WCCCD WALL SECTION DETAIL (AUDITORIUM)
SCALE :: 3/4" = 1' - 0"

9 WCCCD WALL SECTION DETAIL (AUDITORIUM)
SCALE :: 3/4" = 1' - 0"

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
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SHEET NAME: WALL SECTION DETAILS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE

ISSUED FOR	DATE

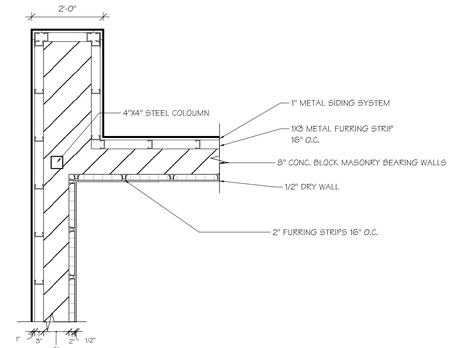
REVISION SCHEDULE

REV. #	REVISION DESCRIPTION	DATE

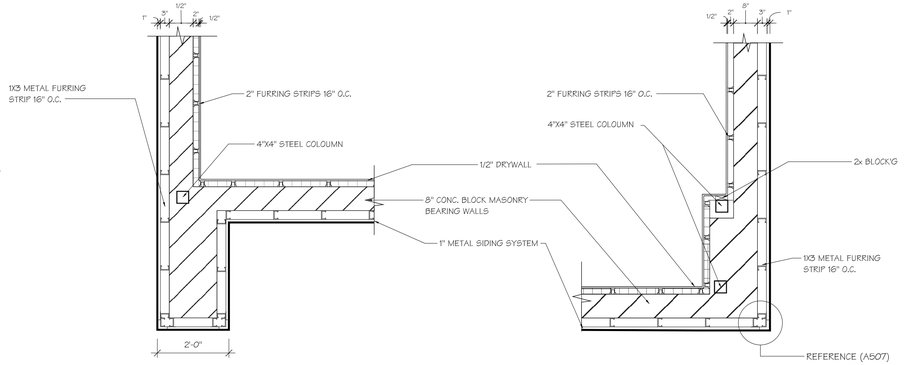
SEAL:
STATE OF MICHIGAN NATHAN LEON HARVEY ARCHITECT No. 1301073041 REGISTERED ARCHITECT

DRAWN BY:	DATE:
P.Rasttanavanitpong	06/15/2026
DESIGNED BY: P.Rasttanavanitpong	SCALE: 3/4" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A505

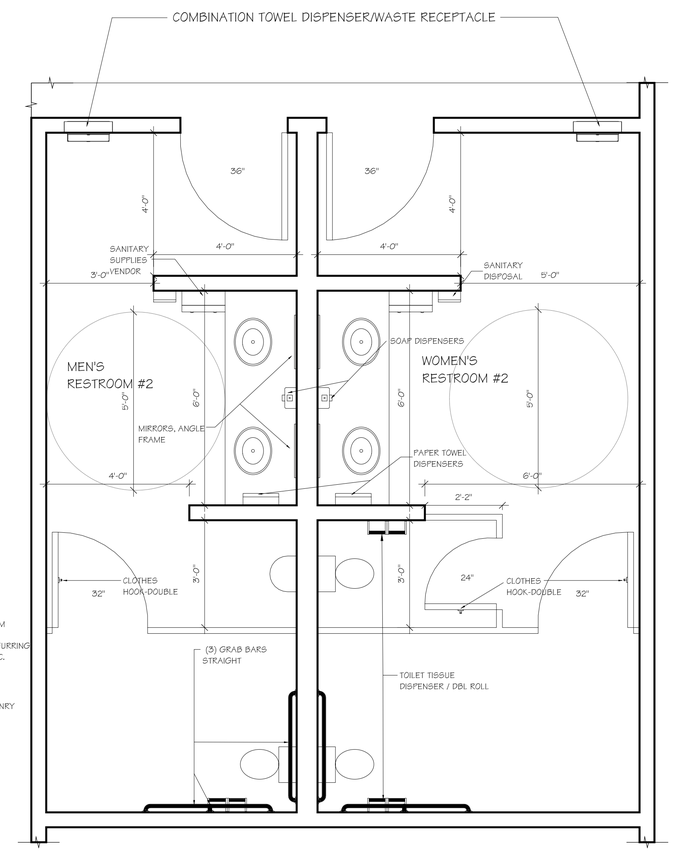


1 NORTHWEST CORNER PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"

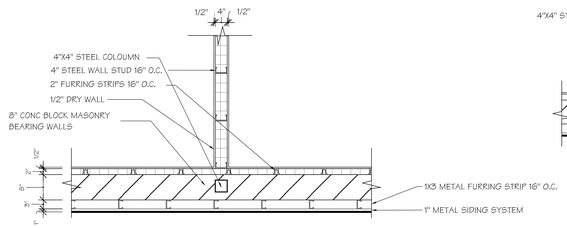


4 SOUTHWEST CORNER PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"

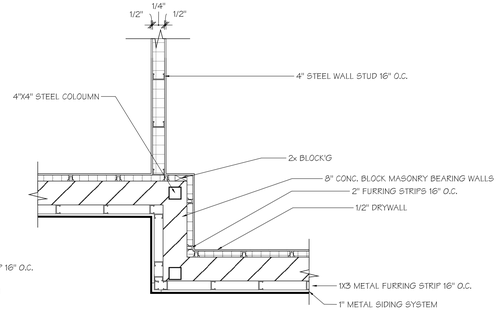
7 SOUTHEAST CORNER PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



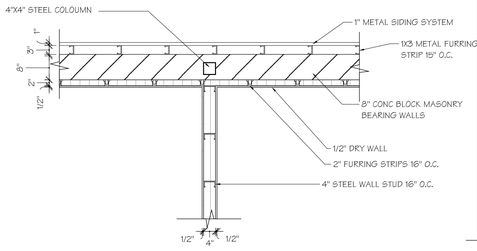
9 ENLARGED WCCCD NEW ADDITION MEN'S & WOMEN'S RESTROOM
SCALE :: 1/2" = 1' - 0"



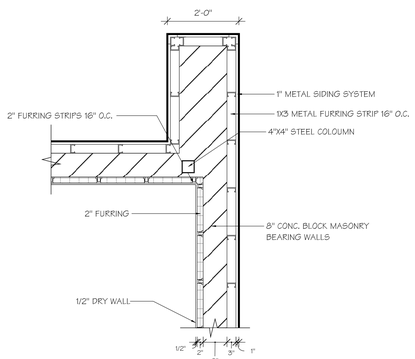
3 NORTHWEST CORNER PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



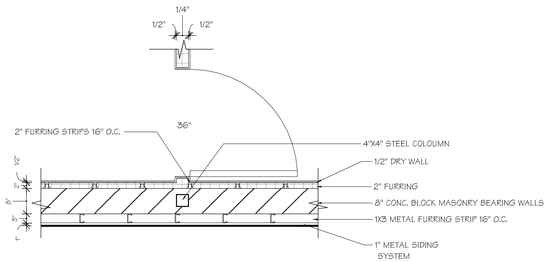
5 TYPICAL PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



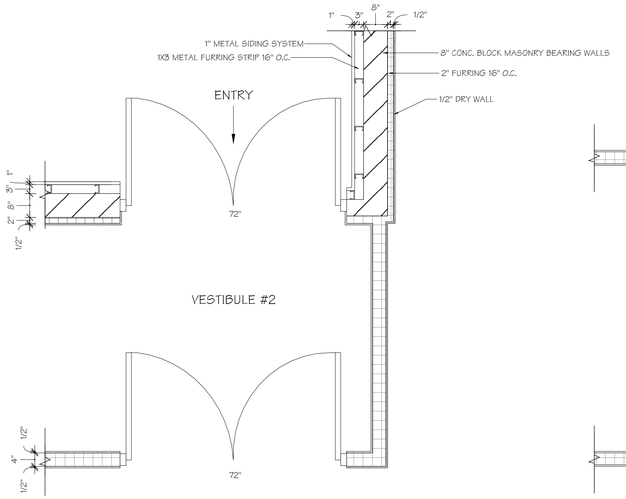
8 TYPICAL PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



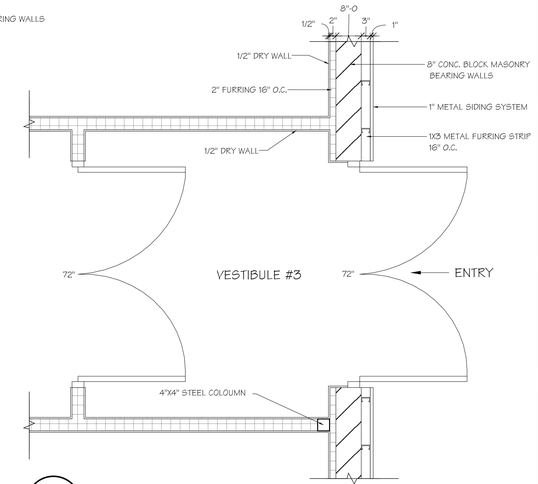
3 NORTHWEST CORNER PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



6 TYPICAL PLAN DETAIL (BELOW)
SCALE :: 1/2" = 1' - 0"



10 ENLARGED AIR VESTIBULE #2
SCALE :: 1/2" = 1' - 0"



11 ENLARGED AIR VESTIBULE #3
SCALE :: 1/2" = 1' - 0"

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PLAN DETAILS & ENLARGED PLANS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

SHEET NAME:
PROJECT NAME:

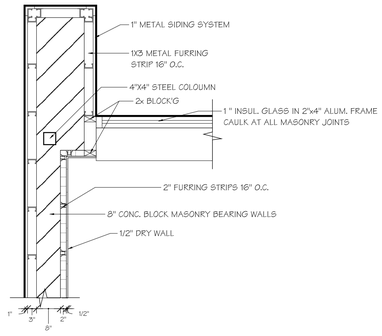
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

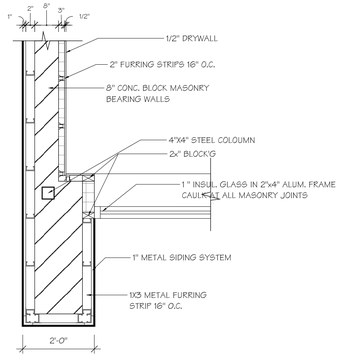
SEAL:
STATE OF MICHIGAN
NATHAN LEE HARVEY
ARCHITECT
No. 1301053091
REGISTERED ARCHITECT

DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1/2" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

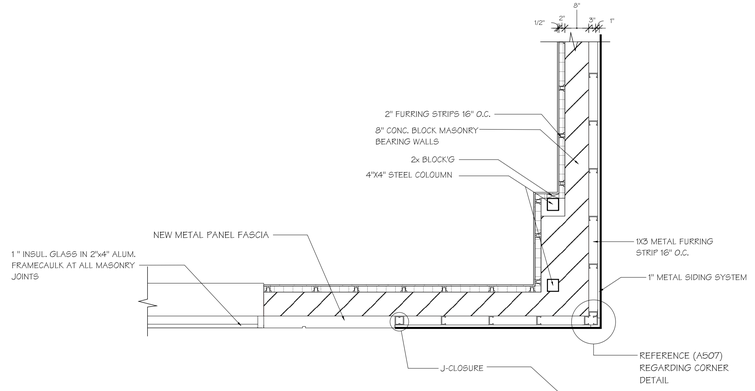
SHEET NUMBER:
A506



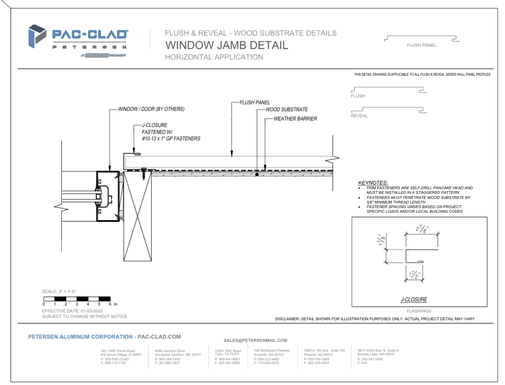
1 NORTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"

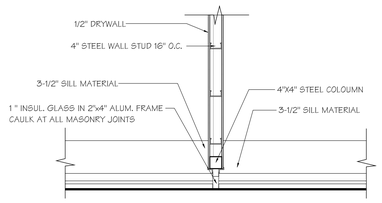


4 SOUTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"

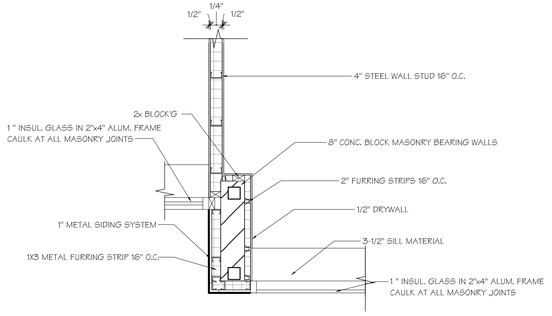


7 SOUTHEAST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"

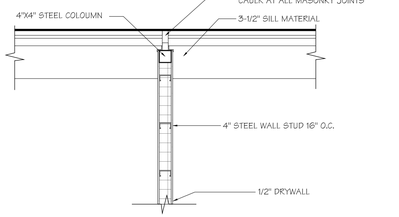




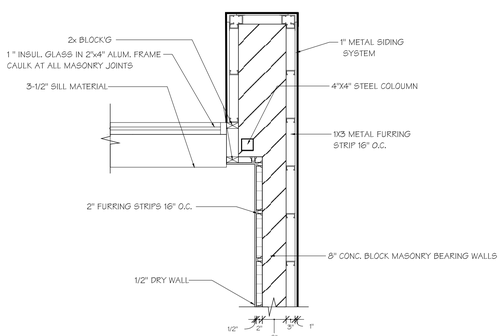
2 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



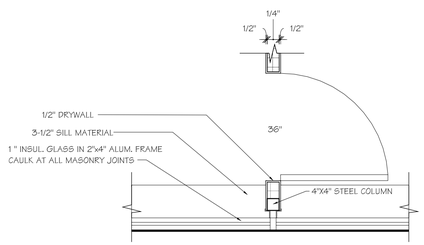
5 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



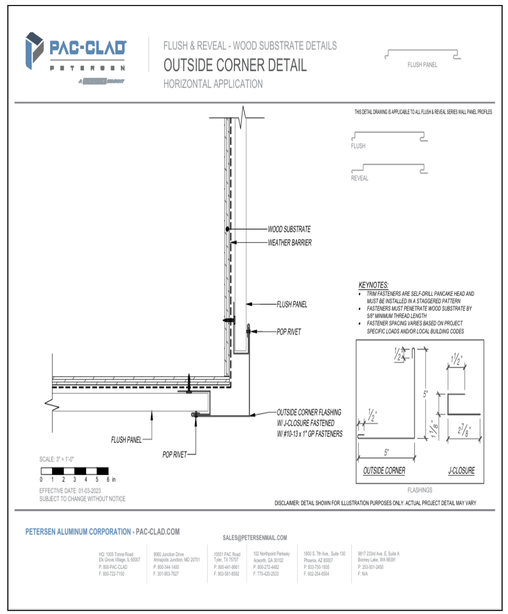
8 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



3 NORTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



6 TYPICAL PLAN DETAIL
SCALE :: 1/2" = 1' - 0"



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PLAN DETAILS & ENLARGED PLANS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

SHEET NAME:
PROJECT NAME:

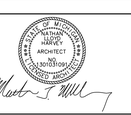
ISSUE SCHEDULE

ISSUED FOR	DATE

REVISION SCHEDULE

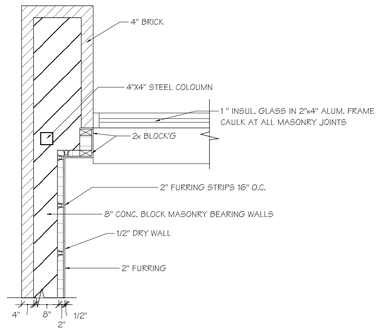
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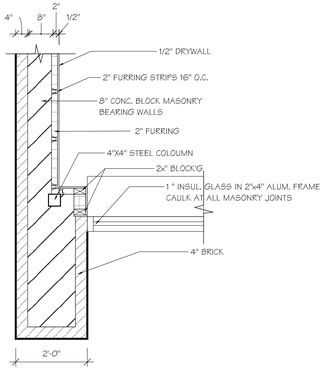


DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1/2" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

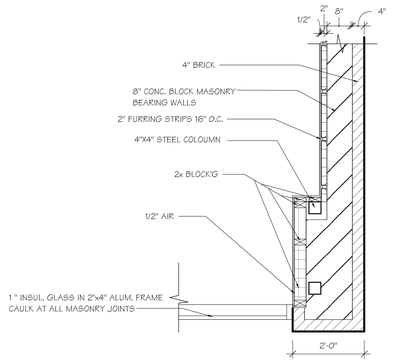
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A507



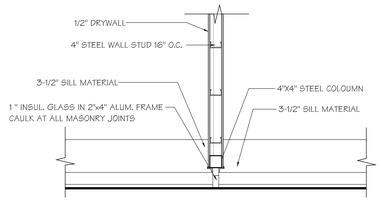
1 NORTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



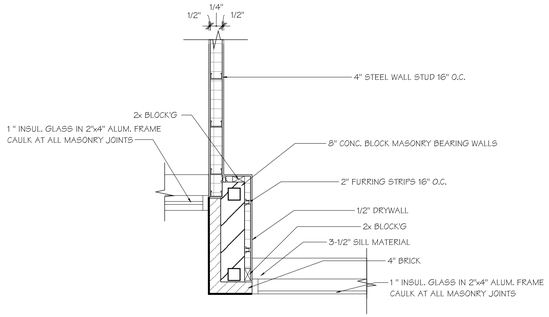
4 SOUTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



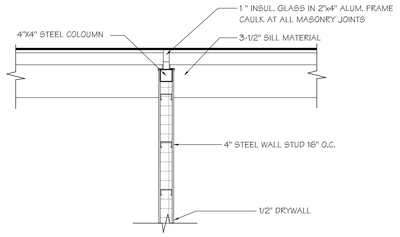
7 SOUTHEAST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



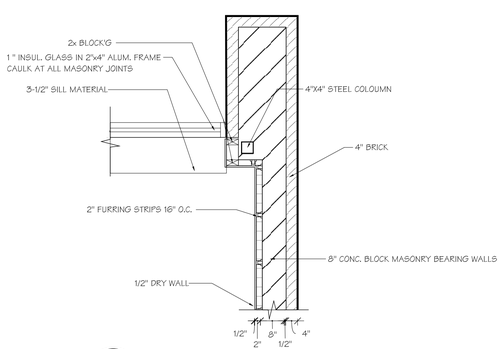
2 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



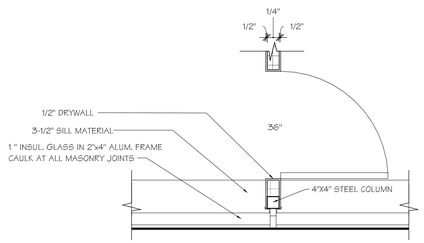
5 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



8 TYPICAL PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



3 NORTHWEST CORNER PLAN DETAIL (ABOVE)
SCALE :: 1/2" = 1' - 0"



6 TYPICAL PLAN DETAIL
SCALE :: 1/2" = 1' - 0"

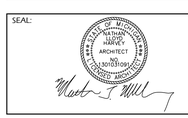
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13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:
PLAN DETAILS & ENLARGED PLANS

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

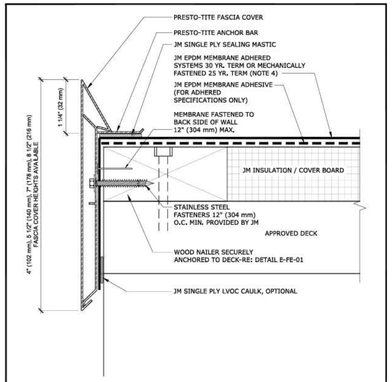
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:


DRAWN BY:	DATE:
James Cartwright III	06/02/2026
DESIGNED BY:	SCALE:
James Cartwright III	1/2" = 1' - 0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER:
A508

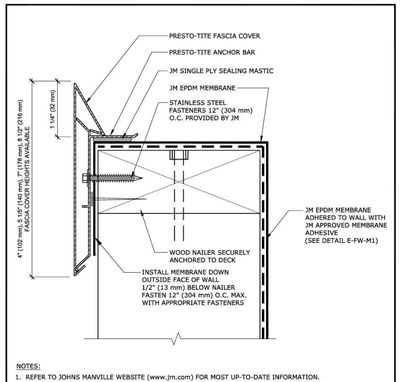


NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. REINFORCED JM EPDM MEMBRANE IS REQUIRED FOR MECHANICALLY FASTENED INSTALLATIONS.

DRAWING NO.			
E-FE-P2	PRESTO TITE FASCIA SYSTEM FOR SINGLE PLY SYSTEMS		
FLASHING EDGE	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM	ISSUE DATE: 03-10-24	MAXIMUM GUARANTEE TERM: 30 YEAR
SCALE: N.T.S	ISSUE DATE: 03-10-24	MAXIMUM GUARANTEE TERM: 30 YEAR	

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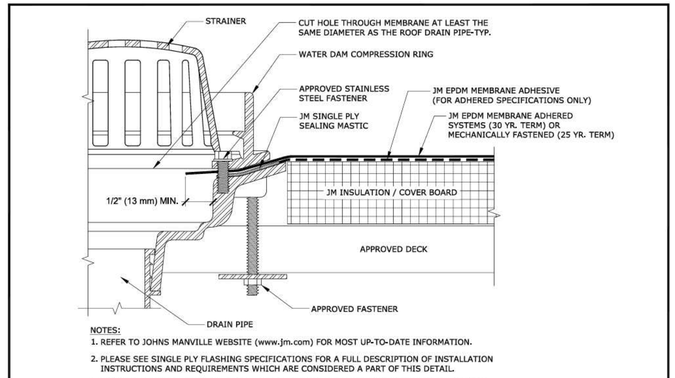


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4. REFER TO JM PRESTO TITE FASCIA INSTALLATION INSTRUCTIONS FOR PROPER FASTENING REQUIREMENTS.
5. THE PRESTO-TITE FASCIA SYSTEM SHOWN IS FOR SINGLE PLY ROOF SYSTEMS ONLY.

DRAWING NO.			
E-FW-T5	PRESTO TITE FASCIA SYSTEM ON FLAT PARAPET		
FLASHING WALL	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM		MAXIMUM GUARANTEE TERM: 30 YEAR
SCALE: N.T.S	ISSUE DATE: 01-30-25	MAXIMUM GUARANTEE TERM: 30 YEAR	

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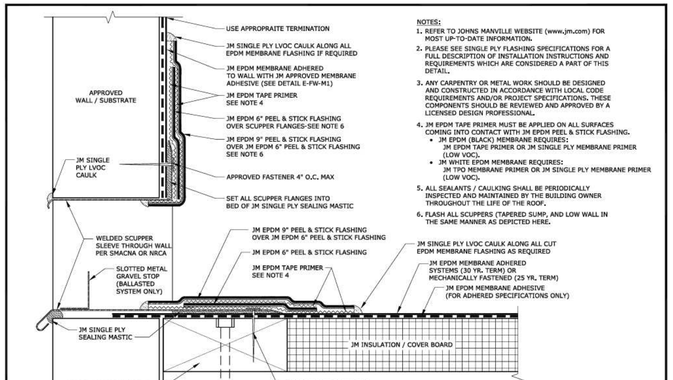


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4. DRAIN AREA MUST BE PROPERLY TAPERED SO THAT THE DRAIN FLASHING IS NOT INSTALLED UNDER TENSION.
5. NO SEAMS OR FOLDS UNDER THE WATER DAM COMPRESSION RING.

DRAWING NO.			
E-DV-14	OVERFLOW ROOF DRAIN WITH WATER DAM		
DRAINS & VENTS	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM	ISSUE DATE: 01-30-25	
	MAXIMUM GUARANTEE TERM: 30 YEAR	SCALE: N.T.S	

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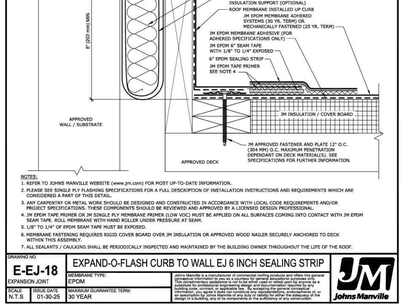


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4. JM EPDM TAPE PRIMER MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHING.
   - JM EPDM (BLACK) MEMBRANE REQUIRES: JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
   - JM WHITE EPDM MEMBRANE REQUIRES: JM TPO MEMBRANE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
5. ALL SEALANTS / CAULKING SHALL BE PERIODICALLY INSPECTED AND MAINTAINED BY THE BUILDING OWNER THROUGHOUT THE LIFE OF THE ROOF.
6. FLASH ALL SCUPPERS (TAPERED SUMP, AND LOW WALL IN THE SAME MANNER AS DEPICTED HERE.

DRAWING NO.			
E-DV-17	THROUGH WALL WELDED SCUPPER SLEEVE		
DRAINS & VENTS	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM	ISSUE DATE: 01-30-25	
	MAXIMUM GUARANTEE TERM: 30 YEAR	SCALE: N.T.S	

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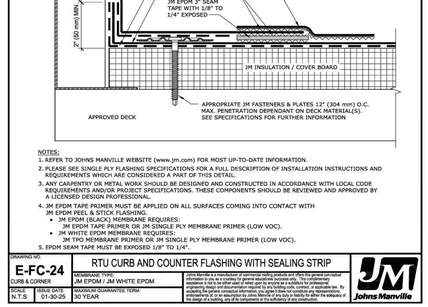


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4. JM EPDM TAPE PRIMER MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM SEAM TAPE, ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.
5. 1/8" TO 1/4" OF EPDM SEAM TAPE MUST BE EXPOSED.
6. MEMBRANE FASTENING REQUIRES RIGID COVER BOARD OVER JM INSULATION OR APPROVED WOOD NAILER SECURELY ANCHORED TO DECK WITHIN THIS ASSEMBLY.
7. ALL SEALANTS / CAULKING SHALL BE PERIODICALLY INSPECTED AND MAINTAINED BY THE BUILDING OWNER THROUGHOUT THE LIFE OF THE ROOF.

DRAWING NO.			
E-EJ-18	EXPAND-O-FLASH CURB TO WALL EJ 6 INCH SEALING STRIP		
EXPANSION JOINT	MEMBRANE TYPE: EPDM		MAXIMUM GUARANTEE TERM: 30 YEAR
SCALE: N.T.S	ISSUE DATE: 01-30-25	MAXIMUM GUARANTEE TERM: 30 YEAR	

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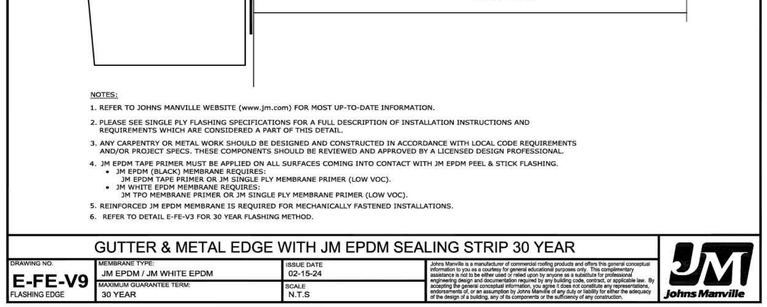


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4. JM EPDM TAPE PRIMER MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHING.
   - JM EPDM (BLACK) MEMBRANE REQUIRES: JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
   - JM WHITE EPDM MEMBRANE REQUIRES: JM TPO MEMBRANE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
5. JM EPDM SEAM TAPE MUST BE EXPOSED 1/8" TO 1/4".

DRAWING NO.			
E-FC-24	RTU CURB AND COUNTER FLASHING WITH SEALING STRIP		
CURB & CORNER	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM		MAXIMUM GUARANTEE TERM: 30 YEAR
SCALE: N.T.S	ISSUE DATE: 01-30-25	MAXIMUM GUARANTEE TERM: 30 YEAR	

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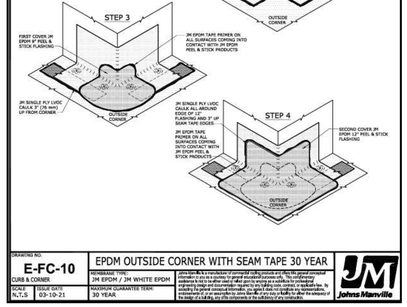


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   - JM WHITE EPDM MEMBRANE REQUIRES: JM TPO MEMBRANE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
5. REINFORCED JM EPDM MEMBRANE IS REQUIRED FOR MECHANICALLY FASTENED INSTALLATIONS.
6. REFER TO DETAIL E-FE-V3 FOR 30 YEAR FLASHING METHOD.

DRAWING NO.			
E-FE-V9	GUTTER & METAL EDGE WITH JM EPDM SEALING STRIP 30 YEAR		
FLASHING EDGE	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM	ISSUE DATE: 02-15-24	
	MAXIMUM GUARANTEE TERM: 30 YEAR	SCALE: N.T.S	

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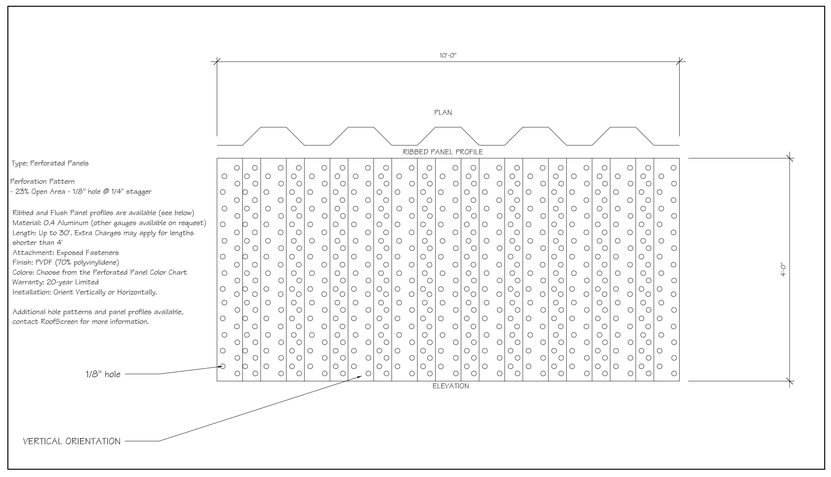
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DRAWING NO.			
E-FC-10	EPDM OUTSIDE CORNER WITH SEAM TAPE 30 YEAR		
CURB & CORNER	MEMBRANE TYPE: JM EPDM / JM WHITE EPDM		MAXIMUM GUARANTEE TERM: 30 YEAR
SCALE: N.T.S	ISSUE DATE: 03-10-21	MAXIMUM GUARANTEE TERM: 30 YEAR	

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Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

ROOFING SYSTEMS DETAILS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

SHEET NAME:
PROJECT NAME:

ISSUE SCHEDULE

ISSUED FOR	DATE

REVISION SCHEDULE

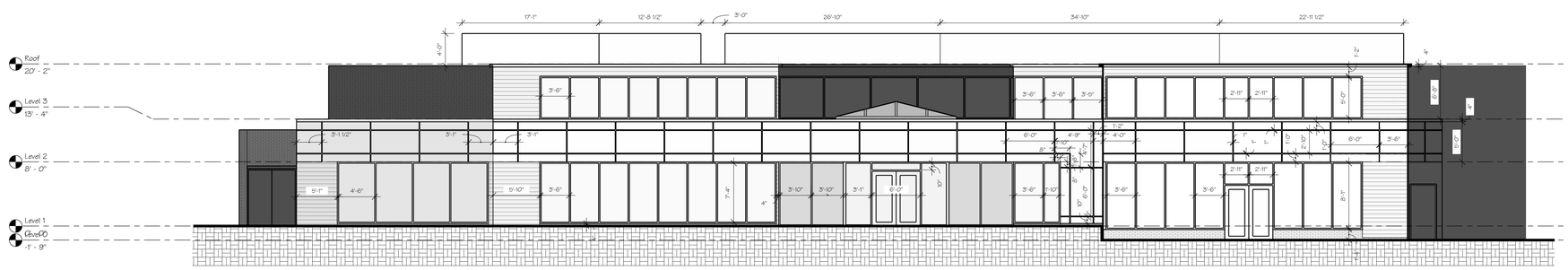
REV. #	REVISION DESCRIPTION	DATE

SEAL:



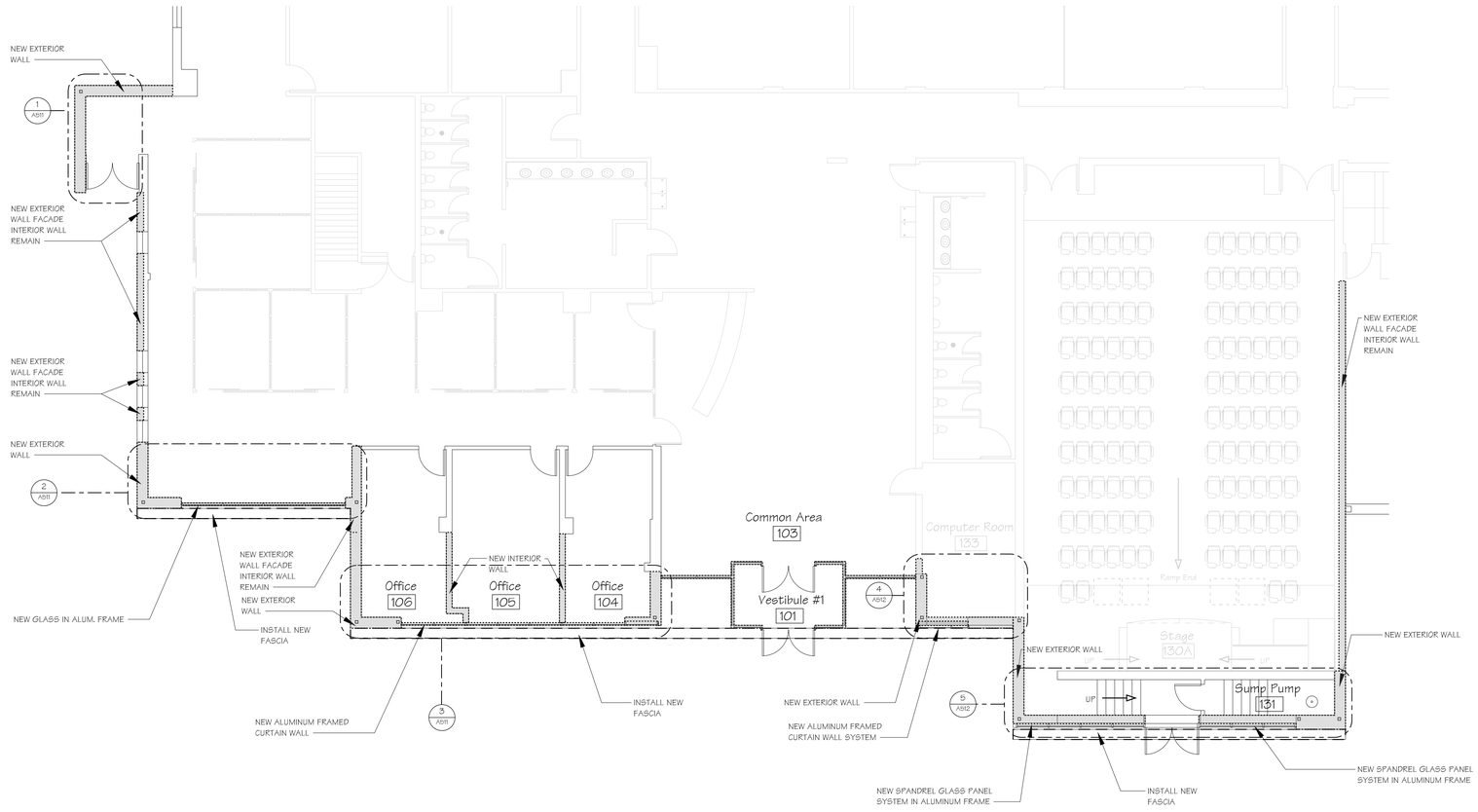
DRAWN BY:	DATE:
James Cartwright III	06/15/2026
DESIGNED BY:	SCALE:
James Cartwright III	1/2" = 1' - 0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER:
A509



SOUTH ELEVATION (MAIN ENTRANCE) WITH NEW FASCIA AND SIGNAGE

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



MAIN ENTRANCE PLAN DETAIL - PROPOSED FASCIA, SIGNAGE, VESTIBULE, AND COMMON AREA EXTENSION

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

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: SOUTH ELEVATION AND PLAN DETAILS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

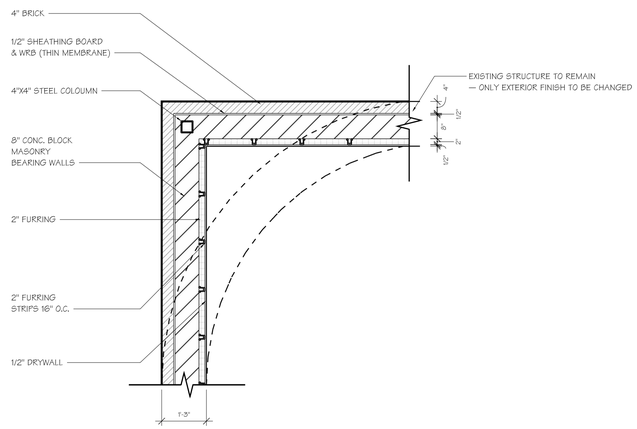
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

DRAWN BY:	DATE:
B. Holman P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
B. Holman P. Rasttanavanitpong	1/8" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

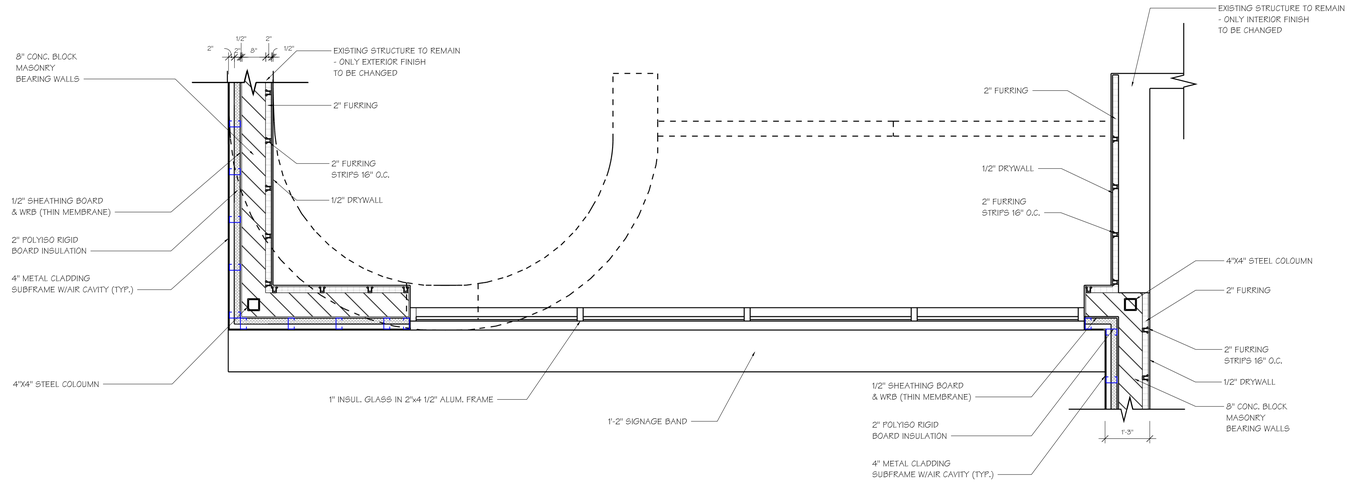
SHEET NUMBER: A510



1 PLAN DETAIL - WEST ENTRY

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

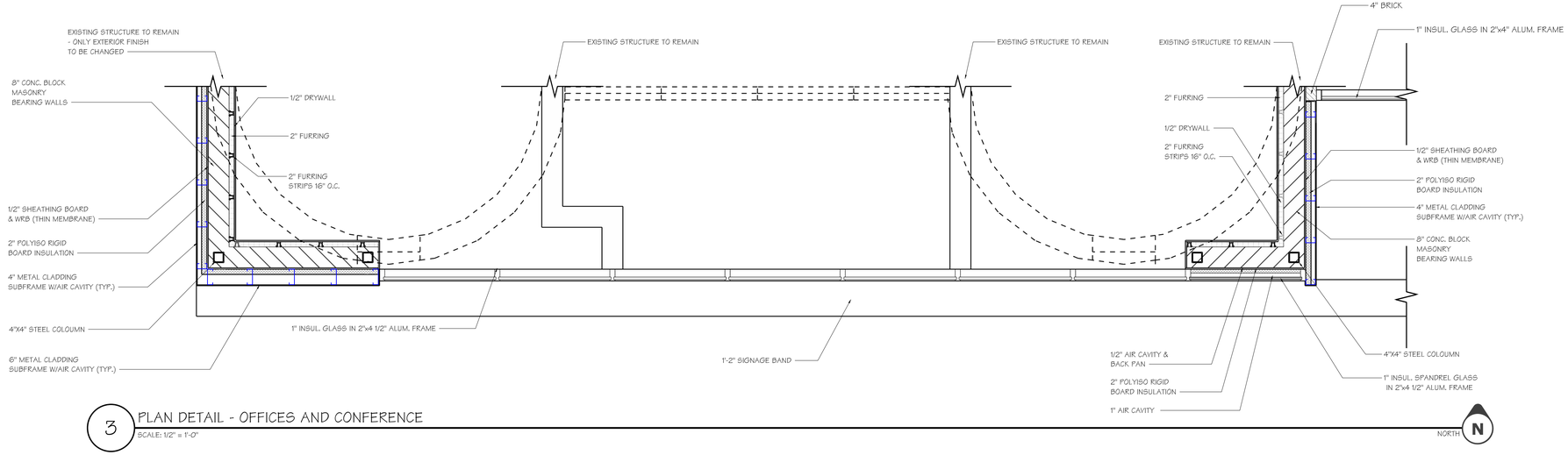
NORTH



2 PLAN DETAIL - CONFERENCE WITHOUT AN ENCLOSURE

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

NORTH



3 PLAN DETAIL - OFFICES AND CONFERENCE

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

NORTH

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: PLAN DETAILS & ENLARGED PLANS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

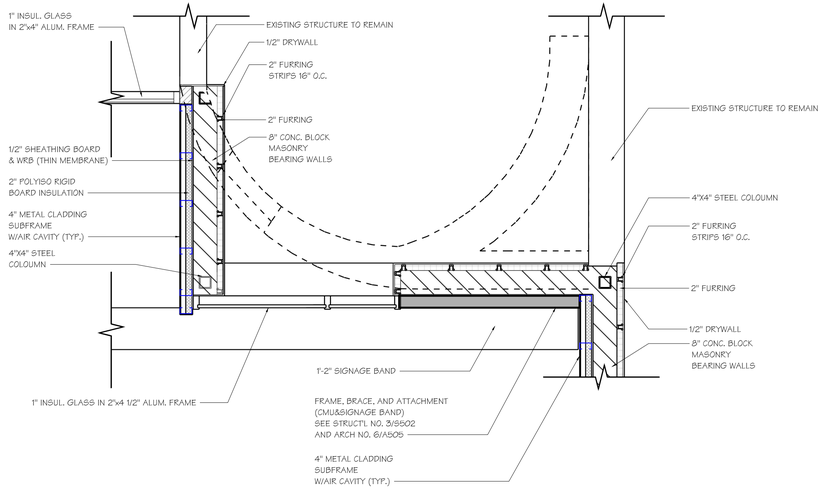
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN — NATHAN LLOYD HARVEY — ARCHITECT — NO. 1301031091 — REGISTERED ARCHITECT

DRAWN BY:	DATE:
P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P. Rasttanavanitpong	1/2" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

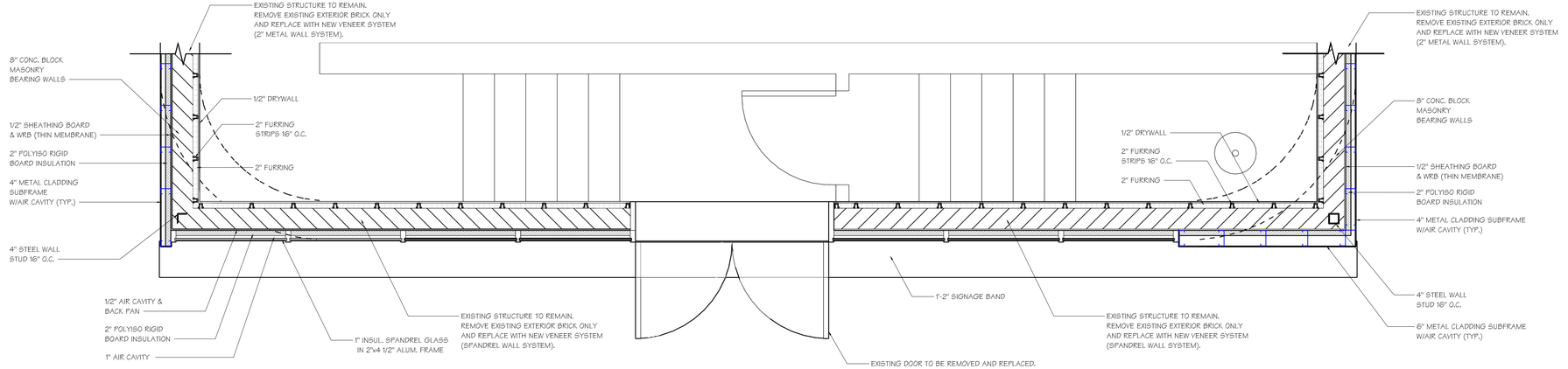
SHEET NUMBER: A511



4 PLAN DETAIL - COMPUTER ROOM

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

NORTH N



5 PLAN DETAIL - AUDITORIUM

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

NORTH N

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13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: PLAN DETAILS & ENLARGED PLANS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

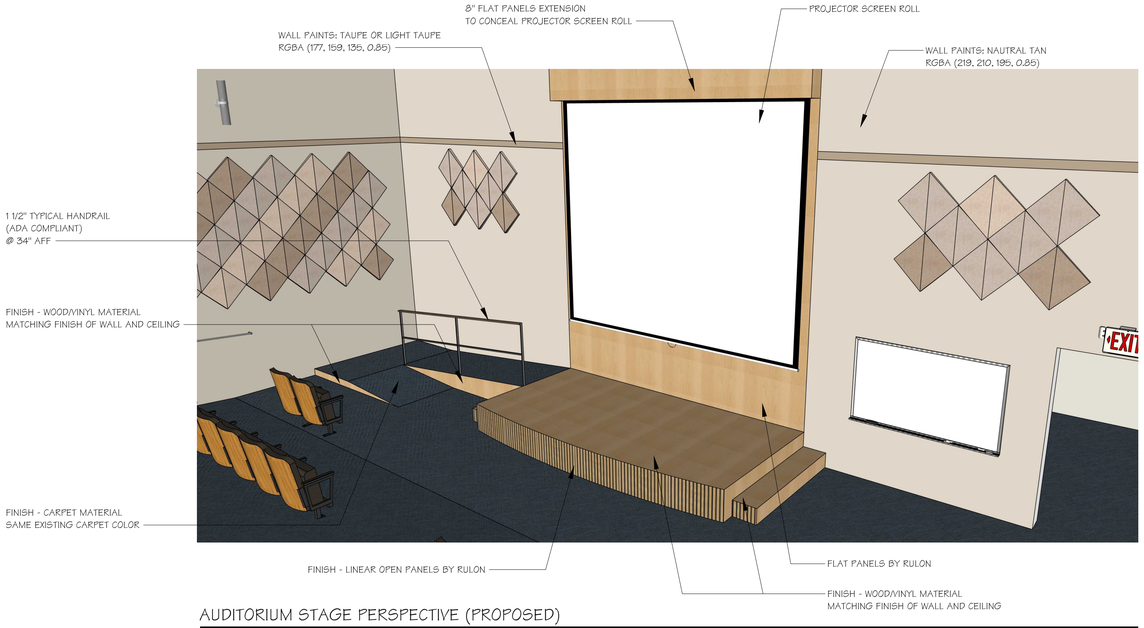
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

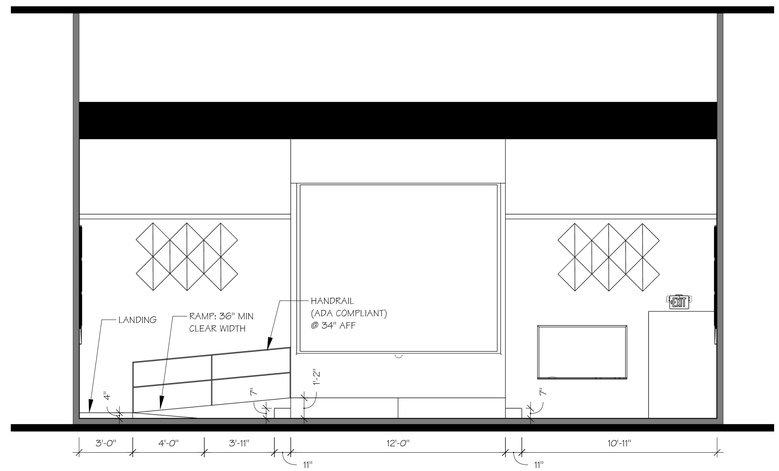
SEAL: STATE OF MICHIGAN · NATHAN LLOYD HARVEY · ARCHITECT · NO. 1301031091 · LICENSED ARCHITECT

DRAWN BY:	DATE:
P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P. Rasttanavanitpong	1/2" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A512

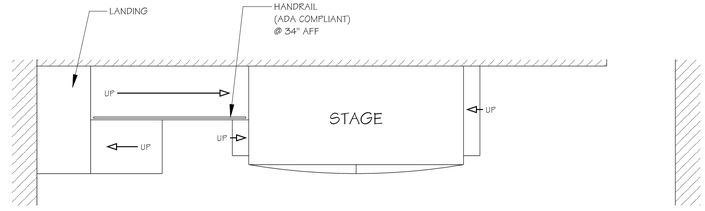


AUDITORIUM STAGE PERSPECTIVE (PROPOSED)



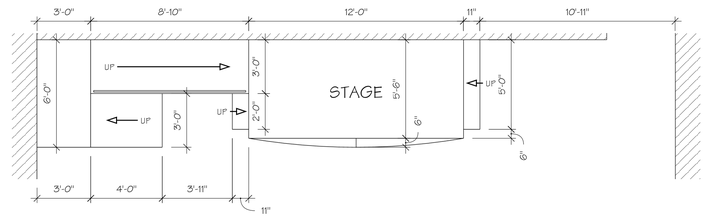
INTERIOR ELEVATION - AUDITORIUM STAGE (PROPOSED)

SCALE: 3/8" = 1'-0"



PLAN DETAIL - AUDITORIUM STAGE (PROPOSED)

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



PLAN DETAIL W/ DIMENSION - AUDITORIUM STAGE (PROPOSED)

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

DETROIT ARCHITECT
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SHEET NAME:
AUDITORIUM STAGE DETAIL

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

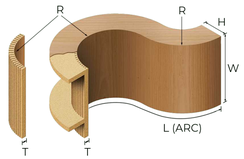
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
LICENSED ARCHITECT

DRAWN BY: P. Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P. Rasttanavanitpong	SCALE: VARIES
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A513



SYSTEM	CURVALON
R (MIN RADIUS)	120"(FLEXIBLE) / 18"(RIGID)
H (RETURN HEIGHT)3	3/4"(FLEXIBLE) / 3"(RIGID)
T (FACE THICKNESS)	3/4"
W (MAX WIDTH)	48"
L (MAX ARC LENGTH)4	120"

CEILING PANELS BY RULON

SCALE: NONE

RECEIPT AND STORAGE:

A) ALL MATERIAL SHALL BE DELIVERED TO THE PROJECT SITE IN THE ORIGINAL, LABELED, UNOPENED PACKAGES. KEEP PACKAGES OF COMPONENTS UNOPENED UNTIL IT IS TIME TO ACCLIMATE TO THE BUILDING CONDITIONS.

B) MATERIAL SHALL BE STORED FLAT AND LEVEL IN A FULLY ENCLOSED SPACE. DO NOT STORE RULON PRODUCTS IN DIRECT SUNLIGHT. SEVENTY-TWO HOURS BEFORE BEGINNING CEILING INSTALLATION, WOOD STRIPS MUST BE MOVED INTO THE ROOM WHERE THE HVAC SYSTEM IS OPERATING AND THE PACKAGING SHALL BE OPENED. THIS IS TO ALLOW THE PANELS TO ADJUST TO THE ROOM ENVIRONMENT. WOOD PANELS ARE TO BE STORED OFF THE FLOOR.

C) CARE IN HANDLING MUST BE EXERCISED TO AVOID DAMAGE.

BEFORE YOU BEGIN INSTALLATION:

A) ENSURE THAT ALL NECESSARY TOOLS ARE AVAILABLE (SEE BELOW).

B) CHECK WALL COMPONENTS TO ENSURE ALL ITEMS REQUIRED ARE AT HAND (SEE PAGE 2).

C) REVIEW THIS GUIDE IN ITS ENTIRETY. IF YOU HAVE ANY QUESTIONS, CALL RULON COMPANY BEFORE YOU START THE INSTALLATION.

D) INSTALLATION SHALL BE DONE ONLY WHEN THE TEMPERATURE AND HUMIDITY CLOSELY APPROXIMATE THE INTERIOR CONDITIONS THAT WILL EXIST WHEN THE BUILDING IS OCCUPIED. THE HEATING AND COOLING SYSTEMS SHALL BE OPERATING BEFORE, DURING, AND AFTER INSTALLATION, WITH THE HUMIDITY OF THE INTERIOR SPACES MAINTAINED BETWEEN 25% AND 55%, TEMPERATURE BETWEEN 60 TO 90 DEGREES F.

E) IT IS IMPORTANT THAT THE AREA HAS PROPER VENTILATION, ESPECIALLY IN HIGH MOISTURE AREAS. THERE SHALL BE NO EXCESSIVE BUILD-UP OF HEAT IN THE SPACE.

F) PRIOR TO THE START OF INSTALLATION, ALL EXTERIOR WINDOWS AND DOORS ARE TO BE IN PLACE, GLAZED, AND WEATHER-STRIPPED. THE ROOF IS TO BE WATERTIGHT, AND ALL WET TRADES' WORK IS TO BE COMPLETED AND THOROUGHLY DRY.

G) MECHANICAL, ELECTRICAL, AND OTHER UTILITY SERVICE INSTALLATIONS ABOVE THE CEILING PLANE SHALL HAVE BEEN COMPLETED. NO MATERIALS SHOULD REST ON OR WRAP AROUND THE CEILING SUSPENSION COMPONENTS OR CONNECTING HANGERS.

TOOLS AND EQUIPMENT:
STANDARD LEVELING DEVICES
JIG SAW
NAIL GUN / STAPLE GUN
PAINTERS TAPE
COLORED PUTTY / FILL CRAYONS
SCREW GUNS / DRILLS

DETAILS CURVALON:
https://rulonco.com/product-data/curvalon/curvalon/DETAILS_Curvalon.pdf
INSTALL CURVALON:
https://rulonco.com/product-data/curvalon/curvalon/INSTALL_Curvalon.pdf

CEILING AND WALL COMPONENTS:

SUPPLIED BY RULON:
i CURVALON OR CURVATONE PANELS
ii SPACER MATERIAL CEILING REVEALS (WHEN APPLICABLE)
iii SUSPENSION HARDWARE IF REQUIRED (FIGURE 1)
iv TOUCH-UP FINISH

SUPPLIED BY OTHERS:
i CEILINGS – HEAVY DUTY GRID (WHEN APPLICABLE), #12 GAUGE HANGER WIRE AND HARDWARE
ii ACOUSTICAL BLANKET (WHEN SPECIFIED)

REFERENCES:
i OPTIONAL: ASTM E-1264 – STANDARD CLASSIFICATION OF ACOUSTICAL CEILING PRODUCTS
ii OPTIONAL: SEISMIC CONSIDERATIONS – REFER TO LOCAL CODE

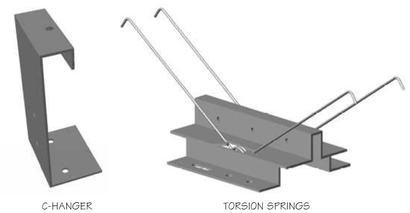
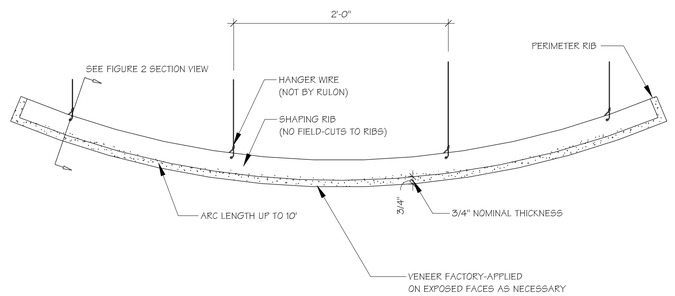


FIGURE 1

SCALE: NONE

STEP 1: CEILING PREPARATION
LAY OUT AND INSTALL HANGER WIRE PLUMB AND TRUE. WIRES NEED TO BE HUNG DIRECTLY FROM BUILDING STRUCTURE, UNLESS OTHERWISE COVERED IN THE RULON SHOP DRAWINGS, OR REVIEWED AND APPROVED BY THE RULON ENGINEERING DEPARTMENT.

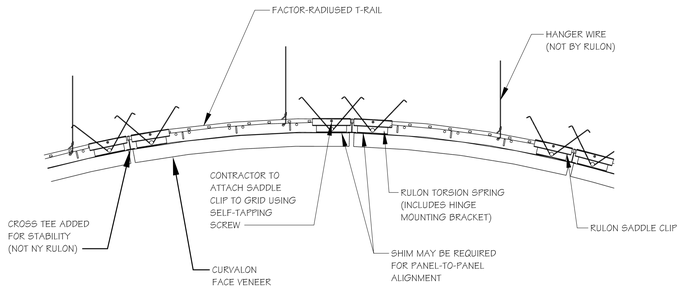
STEP 2: INSTALLING PANELS
DIRECT SUSPENSION (TYPICAL)
PREPARE HOLES IN SHAPING RIBS PER THE GUIDELINES IN THE DETAILS BELOW. HANG PANELS TO CORRECT ELEVATIONS. IF REQUIRED, FOR ADJACENT PANELS, JOIN PANELS SIDE TO SIDE AND END TO END PER SHOP DRAWINGS.



CURVALON PROFILE/DIRECT SUSPENSION

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

A) C-HANGERS INSTALLATION
C-HANGERS ALLOW FOR ACCESSIBILITY, AND REQUIRE A CHANNEL OR GRID SYSTEM INSTALLED PRIOR TO HANGING PANELS. ADDITIONAL HARDWARE IS REQUIRED (FURNISHED BY INSTALLER) TO ALLOW FOR ATTACHMENT OF THE C-HANGERS TO THE SHAPING RIBS.



TORSION SPRING CURVALON SUSPENSION DETAIL

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

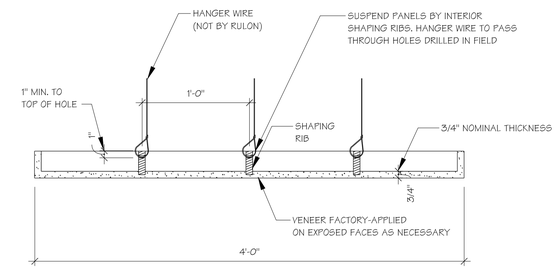
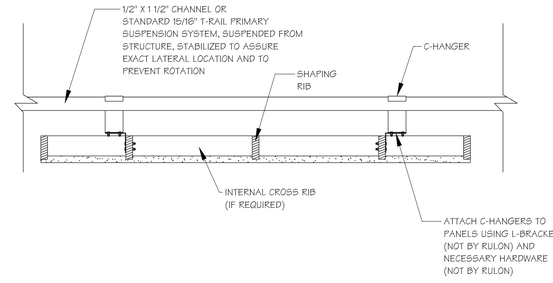


FIGURE 2 CURVALON SECTION/DIRECT SUSPENSION

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

B) TORSION SPRING INSTALLATION
TORSION SPRINGS REQUIRE SUSPENSION OF T-GRID PRIOR TO HANGING PANELS. FACTORY RADIUSED T-GRID MAY BE SUPPLIED BY RULON. ENSURE DEEP PENETRATION OF THE SPRING BRACKET SCREWS INTO THE SHAPING RIBS.



C-HANGER CURVALON SUSPENSION DETAIL

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

STEP 3: BORDERS
DO NOT FIELD-CUT CURVALON OR CURVATONE PERIMETERS. IF PENETRATIONS ARE REQUIRED, FIELD CUTS SHALL NOT PENETRATE THE SHAPING RIBS OR PERIMETER RIBS. FOR THE FIELD-CUT PANELS, RULON WILL SUPPLY AN ADEQUATE AMOUNT OF TOUCH-UP THAT SHOULD BE FIELD APPLIED WITH A FOAM BRUSH.

STEP 4: CLEANUP

i CLEAN ALL WOOD PANELS AND BORDERS FREE OF DIRT, DUST, GREASE, OILS, AND FINGERPRINTS. ROUTINE CLEANING IS BEST ACCOMPLISHED WITH A SOFT, LINT-FREE CLOTH LIGHTLY DAMPENED WITH WATER OR AN INERT HOUSEHOLD DUST ATTRACTANT. ALLOWING AIRBORNE DUST, WHICH IS SOMEWHAT ABRASIVE, TO BUILD UP WILL TEND TO DULL A FINISH OVER TIME. REFER TO THE RULON CARE AND MAINTENANCE DOCUMENT FOR FURTHER INSTRUCTIONS.

ii REMOVE AND REPLACE ALL WORK THAT CANNOT BE SUCCESSFULLY CLEANED OR REPAIRED.

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:
AUDITORIUM CEILING/WALL PANELS DETAIL/INSTALLATION - PROPOSED

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

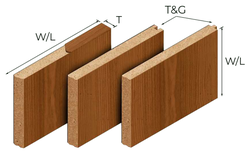
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
REGISTERED ARCHITECT

DRAWN BY: P. Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P. Rasttanavanitpong	SCALE: VARIES
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A514



SYSTEM	FLAT PANELS(FP)
T (THICKNESS)	3/4"
W/L (MAX WIDTH/LENGTH)2	48"/120"

CEILING PANELS BY RULON

SCALE: NONE

RECEIPT AND STORAGE:

A) ALL MATERIAL SHALL BE DELIVERED TO THE PROJECT SITE IN THE ORIGINAL, LABELED, UNOPENED PACKAGES. KEEP PACKAGES OF COMPONENTS UNOPENED UNTIL IT IS TIME TO ACCLIMATE TO THE BUILDING CONDITIONS.

B) MATERIAL SHALL BE STORED FLAT AND LEVEL IN A FULLY ENCLOSED SPACE. DO NOT STORE RULON PRODUCTS IN DIRECT SUNLIGHT. SEVENTY-TWO HOURS BEFORE BEGINNING CEILING INSTALLATION, WOOD STRIPS MUST BE MOVED INTO THE ROOM WHERE THE HVAC SYSTEM IS OPERATING AND THE PACKAGING SHALL BE OPENED. THIS IS TO ALLOW THE PANELS TO ADJUST TO THE ROOM ENVIRONMENT. WOOD PANELS ARE TO BE STORED OFF THE FLOOR.

C) CARE IN HANDLING MUST BE EXERCISED TO AVOID DAMAGE.

BEFORE YOU BEGIN INSTALLATION:

A) ENSURE THAT ALL NECESSARY TOOLS ARE AVAILABLE (SEE BELOW).

B) CHECK WALL COMPONENTS TO ENSURE ALL ITEMS REQUIRED ARE AT HAND (SEE PAGE 2).

C) REVIEW THIS GUIDE IN ITS ENTIRETY. IF YOU HAVE ANY QUESTIONS, CALL RULON COMPANY BEFORE YOU START THE INSTALLATION.

D) INSTALLATION SHALL BE DONE ONLY WHEN THE TEMPERATURE AND HUMIDITY CLOSELY APPROXIMATE THE INTERIOR CONDITIONS THAT WILL EXIST WHEN THE BUILDING IS OCCUPIED. THE HEATING AND COOLING SYSTEMS SHALL BE OPERATING BEFORE, DURING, AND AFTER INSTALLATION, WITH THE HUMIDITY OF THE INTERIOR SPACES MAINTAINED BETWEEN 25% AND 55%, TEMPERATURE BETWEEN 60 TO 90 DEGREES F.

E) IT IS IMPORTANT THAT THE AREA HAS PROPER VENTILATION, ESPECIALLY IN HIGH MOISTURE AREAS. THERE SHALL BE NO EXCESSIVE BUILD-UP OF HEAT IN THE SPACE.

F) PRIOR TO THE START OF INSTALLATION, ALL EXTERIOR WINDOWS AND DOORS ARE TO BE IN PLACE, GLAZED, AND WEATHER-STRIPPED. THE ROOF IS TO BE WATERTIGHT, AND ALL WET TRADES' WORK IS TO BE COMPLETED AND THOROUGHLY DRY.

G) MECHANICAL, ELECTRICAL, AND OTHER UTILITY SERVICE INSTALLATIONS ABOVE THE CEILING PLANE SHALL HAVE BEEN COMPLETED. NO MATERIALS SHOULD REST ON OR WRAP AROUND THE CEILING SUSPENSION COMPONENTS OR CONNECTING HANGERS.

TOOLS AND EQUIPMENT:

STANDARD LEVELING DEVICES
SABER SAW
MITER SAW
TABLE SAW / TRACK SAW (FESTOOL TS55 OR MAKITA XPS01PJT)
NAIL GUN / STAPLE GUN
PAINTERS TAPE
COLORED PUTTY / FILL CRAYONS
SCREW GUNS / DRILLS
STANDARD HOUSEHOLD IRON
120 GRIT SANDPAPER
SMALL ROLLER OF WOOD BLOCK

DETAILS FLAT PANELS:
https://rulonco.com/product-data/flat-panels/flat-panels/DETAILS_FlatPanels.pdf
INSTALL FLAT PANELS:
https://rulonco.com/product-data/flat-panels/flat-panels/INSTALL_FlatPanels.pdf

CEILING AND WALL COMPONENTS:

SUPPLIED BY RULON:

i VENEER PANELS
ii PERIMETER AND BORDER TRIM (WHEN SPECIFIED)
iii GASKET OR FELT FOR CEILING REVEALS
iv SUSPENSION HARDWARE (SEE ABOVE)
v TOUCH-UP FINISH

SUPPLIED BY OTHERS:

i CEILINGS – HEAVY DUTY GRID, #12 GAUGE HANGER WIRE, AND HARDWARE
ii WALLS – FURRING STRIPS AND/OR PLYWOOD SHEATHING
iii ACOUSTICAL BLANKET (WHEN SPECIFIED)

REFERENCES:

i OPTIONAL: ASTM E-1264 – STANDARD CLASSIFICATION OF ACOUSTICAL CEILING PRODUCTS
ii OPTIONAL: SEISMIC CONSIDERATIONS – REFER TO LOCAL CODE

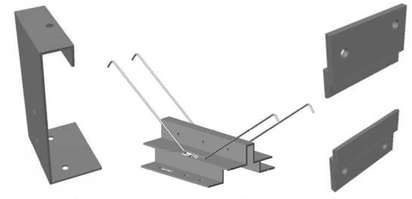


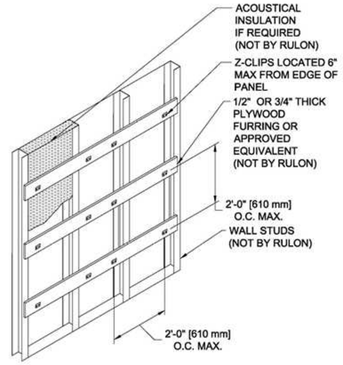
FIGURE 1

SCALE: NONE

STEP 1: WALL (SHOWN) OR CEILING PREPARATION

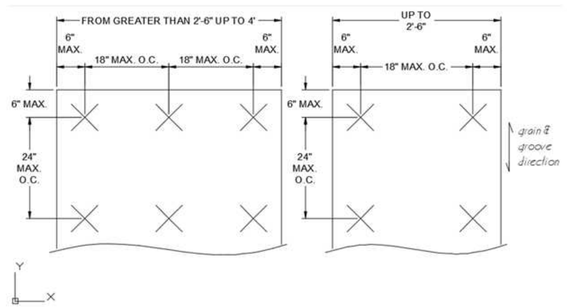
WALLS: LEVEL AND INSTALL FURRING STRIPS OR PLYWOOD SHEATHING ACROSS WALL STUDS AS SHOWN ABOVE. MARK LOCATIONS AND INSTALL Z-CLIPS, KEEPING IN MIND ATTACHMENT CRITERIA ON THE FOLLOWING PAGE.
NOTE: Z-CLIPS SHOULD BE INSTALLED ON PANEL FIRST, THEN LOCATE MATING Z-CLIP ON WALL.
NOTE: FOR ALURATONE PANELS, ENSURE ATTACHMENT LOCATIONS AVOID PERFORATIONS.

CEILINGS: INSTALL HEAVY DUTY CEILING GRID ON MAXIMUM 2' (610 MM) CENTERS UNLESS OTHERWISE DETAILED IN RULON SHOP DRAWINGS. SUSPEND FROM #12 GAUGE HANGER WIRE OR EQUIVALENT. WIRES NEED TO BE HUNG DIRECTLY FROM BUILDING STRUCTURE ON MAXIMUM 4'CENTERS ALONG RAILS, UNLESS OTHERWISE COVERED IN THE RULON SHOP DRAWINGS OR REVIEWED AND APPROVED BY THE RULON ENGINEERING DEPARTMENT.
NOTE: ATTACHMENT POINTS FOR FLEXIBLE PANELS VARY. REFER TO SHOP DRAWINGS.



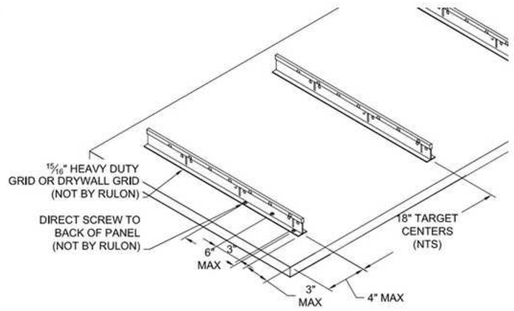
WALL INSTALLATION PREPARATION

SCALE: NONE



FLAT PANEL PREPARATION(WALL)

SCALE: NONE



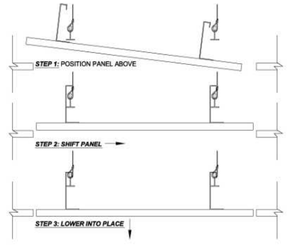
FLAT PANEL PREPARATION(CEILING)

SCALE: NONE

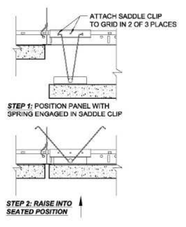
STEP 2: INSTALLING PANELS

FASTEN PANELS TO SUSPENSION SYSTEMS USING HARDWARE AS INDICATED ON SHOP DRAWINGS. UTILIZE THE ABOVE ATTACHMENT CRITERIA FOR FLAT VENEER OR ALURATONE PANELS. 18 SPACING CAN BE INCREASED TO 24" MAX. FOR WALLS AND NON-GROOVED ALURATONE OR FLAT VENEER CEILING PANELS. REFER TO RULON SHOP DRAWINGS FOR CURVED OR FLEXIBLE PANELS, AS ADDITIONAL ATTACHMENT POINTS MAY BE REQUIRED. SEE THE FOLLOWING TWO PAGES FOR TYPICAL HARDWARE INSTALLATIONS. IN SOME CASES, CEILING STIFFENERS (BY CONTRACTOR) MAY BE NEEDED PER BELOW.

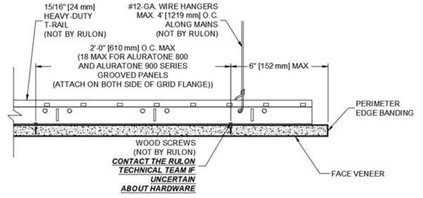
a) C-Hangers Installation



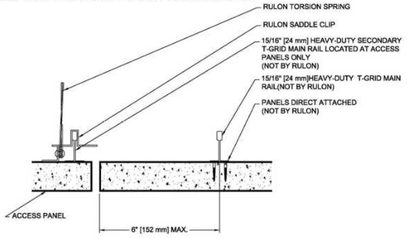
b) Torsion Spring Installation



c) Direct Attachment



d) Access Panels with direct-screw attachment



ONE METHOD OF INSTALLING ACCESS PANELS WITH DIRECT-SCREW ATTACHED PANELS IS TO RUN SECONDARY GRID AND INSTALL SADDLE CLIPS AND TORSION SPRINGS, AS SHOWN ABOVE. SIZE OF PANEL AND QUANTITY OF TORSION SPRINGS IS DEPENDENT UPON CEILING LAYOUT AND ARCHITECTS DESIGN.

STEP 3: BASES AND BORDERS

PANELS ARE TO BE FIELD-TRIMMED TO FIT SITE CONDITIONS. TRIMMING SHOULD BE DONE WITH THE APPROPRIATE SAW (REFER TO TOOLS SECTION), WITH BLUE PAINTERS TAPE ON THE FACE VENEER SIDE TO PREVENT SPLINTERING. PENETRATION CUTS REQUIRE A SABER/JIG SAW; LONG-DIMENSION CUTS/RIPS AND CROSS CUTS REQUIRE A TRACK SAW SUCH AS THOSE LISTED IN THE TOOLS SECTION. IF CUT EDGE IS NOT VISIBLE, REMOVE DUST AND TOUCH UP WITH SUPPLIED FINISH. TAKE CARE TO PREVENT DAMAGE TO FACE GROOVES DURING HANDLING OF PANELS.

IF PANEL EDGE IS VISIBLE AND/OR FIELD-EDGE BANDING IS REQUIRED, PLEASE USE THE FOLLOWING PROCEDURE FOR FIELD-CUT PANELS AFTER ALL REQUIRED CUTS TO THE PANEL HAVE BEEN MADE. FIRST, REMOVE ALL DUST FROM THE CUT EDGE OF THE PANEL (A STIFF BRUSH WILL WORK FOR THIS), THEN FOLLOW ONE OF THE FOLLOWING PROCEDURES:

A) IRON-ON EDGE BANDING (PRE-GLUED)

i POSITION EDGE BANDING ALONG EDGE
ii APPLY HOT IRON STARTING AT ONE EDGE, WORKING SLOWLY TOWARDS THE OPPOSITE END. (RULON TIP: APPLY ONLY ENOUGH HEAT TO SOFTEN HOT GLUE– TOO MUCH MAY BURN OR SCORCH THE EDGE-BANDING FINISH)
iii AS EDGE-BANDING IS APPLIED, FOLLOW WITH ROLLER OR WOOD BLOCK TO APPLY PRESSURE WHILE GLUE IS COOLING– THIS WILL ASSURE A GOOD BOND
iv TRIM EXCESS EDGE-BANDING WITH KNIFE FLUSH TO PANEL FACE, PANEL REAR, AND ENDS

B) FIELD-GLUED EDGE BANDING

i APPLY BLUE PAINTERS TAPE ON THE FACE AND EDGES OF THE PANEL ALONG THE CUT EDGE. (THIS WILL HELP PROTECT THE FINISH OF THE PANEL)
ii APPLY CONTACT CEMENT TO THE CUT EDGE OF THE PANEL AND TO THE EDGE BAND PROVIDED. AT LEAST TWO COATS SHOULD BE APPLIED TO THE PANEL CORE. COMPOSITE PANELS WITH 2MM EDGE BANDING REQUIRE APPLICATION OF THREE COATS. FOLLOW MANUFACTURERS INSTRUCTIONS.
iii CAREFULLY POSITION THE EDGE BAND TO THE PANEL AND APPLY PRESSURE TO SECURE. A SMALL ROLLER OR BLOCK OF WOOD CAN BE USED TO ACHIEVE ADEQUATE PRESSURE.
iv USING A SHARP RAZOR KNIFE, CAREFULLY TRIM THE EXCESS EDGE BAND FLUSH TO THE FACE OF THE PANEL. A BLOCK OF WOOD HELD AGAINST THE EDGE BAND WHILE TRIMMING WILL MAKE THIS EASIER.
v REMOVE THE PAINTERS TAPE AND LIGHTLY SAND THE CUT EDGE OF THE EDGE BAND. CLEAN OFF ANY REMAINING CEMENT.

LIGHTLY SAND AND TOUCH UP WITH TOUCH-UP FINISH PROVIDED AS NEEDED. FOR FIELD-CUT PANELS, RULON WILL SUPPLY AN ADEQUATE AMOUNT OF TOUCH-UP THAT SHOULD BE FIELD APPLIED WITH A FOAM BRUSH.

STEP 4: CLEANUP

i CLEAN ALL WOOD PANELS AND BORDERS FREE OF DIRT, DUST, GREASE, OILS, AND FINGERPRINTS. ROUTINE CLEANING IS BEST ACCOMPLISHED WITH A SOFT, LINT-FREE CLOTH LIGHTLY DAMPENED WITH WATER OR AN INERT HOUSEHOLD DUST ATTRACTANT. ALLOWING AIRBORNE DUST, WHICH IS SOMEWHAT ABRASIVE, TO BUILD UP WILL TEND TO DULL A FINISH OVER TIME. REFER TO THE RULON CARE AND MAINTENANCE DOCUMENT FOR FURTHER INSTRUCTIONS.
ii REMOVE AND REPLACE ALL WORK THAT CANNOT BE SUCCESSFULLY CLEANED OR REPAIRED.

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Cell: (313)615-1115, Off.: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:
AUDITORIUM CEILING/WALL PANELS DETAIL/INSTALLATION - PROPOSED

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

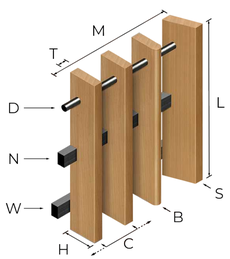
REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:



DRAWN BY:	DATE:
P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P. Rasttanavanitpong	NONE
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER:
A515



SYSTEM	PANEL GRILLE
M (MODULE WIDTH)5	12",24"
C (BLADES/FOOT)7	2 - 10
L (LENGTH)6	2' - 10'
T (THICKNESS)7	3/4" - 2"
H (HEIGHT)7	3/4" - 5 1/4"

D	DOWELED
W	WOODBACKED
X	FLEXIBLE
S	SLANTED
B	BULLNOSED
F	FABRIC-BACKED
N	NOTCHED

CEILING PANELS BY RULON

SCALE: NONE

RECEIPT AND STORAGE:

A) ALL MATERIAL SHALL BE DELIVERED TO THE PROJECT SITE IN THE ORIGINAL, LABELED, UNOPENED PACKAGES. KEEP PACKAGES OF COMPONENTS UNOPENED UNTIL IT IS TIME TO ACCLIMATE TO THE BUILDING CONDITIONS.

B) MATERIAL SHALL BE STORED FLAT AND LEVEL IN A FULLY ENCLOSED SPACE. DO NOT STORE RULON PRODUCTS IN DIRECT SUNLIGHT. SEVENTY-TWO HOURS BEFORE BEGINNING CEILING INSTALLATION, WOOD STRIPS MUST BE MOVED INTO THE ROOM WHERE THE HVAC SYSTEM IS OPERATING AND THE PACKAGING SHALL BE OPENED. THIS IS TO ALLOW THE PANELS TO ADJUST TO THE ROOM ENVIRONMENT. WOOD PANELS ARE TO BE STORED OFF THE FLOOR.

C) CARE IN HANDLING MUST BE EXERCISED TO AVOID DAMAGE.

BEFORE YOU BEGIN INSTALLATION:

A) ENSURE THAT ALL NECESSARY TOOLS ARE AVAILABLE (SEE BELOW).

B) CHECK WALL COMPONENTS TO ENSURE ALL ITEMS REQUIRED ARE AT HAND (SEE PAGE 2).

C) REVIEW THIS GUIDE IN ITS ENTIRETY. IF YOU HAVE ANY QUESTIONS, CALL RULON COMPANY BEFORE YOU START THE INSTALLATION.

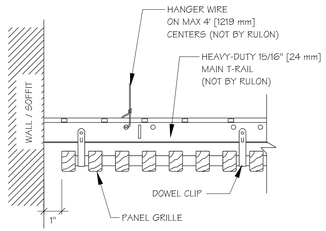
D) INSTALLATION SHALL BE DONE ONLY WHEN THE TEMPERATURE AND HUMIDITY CLOSELY APPROXIMATE THE INTERIOR CONDITIONS THAT WILL EXIST WHEN THE BUILDING IS OCCUPIED. THE HEATING AND COOLING SYSTEMS SHALL BE OPERATING BEFORE, DURING, AND AFTER INSTALLATION, WITH THE HUMIDITY OF THE INTERIOR SPACES MAINTAINED BETWEEN 25% AND 55%. TEMPERATURE BETWEEN 60 TO 90 DEGREES F.

E) IT IS IMPORTANT THAT THE AREA HAS PROPER VENTILATION, ESPECIALLY IN HIGH MOISTURE AREAS. THERE SHALL BE NO EXCESSIVE BUILD-UP OF HEAT IN THE SPACE.

F) PRIOR TO THE START OF INSTALLATION, ALL EXTERIOR WINDOWS AND DOORS ARE TO BE IN PLACE, GLAZED, AND WEATHER-STRIPPED. THE ROOF IS TO BE WATERTIGHT, AND ALL WET TRADES' WORK IS TO BE COMPLETED AND THOROUGHLY DRY

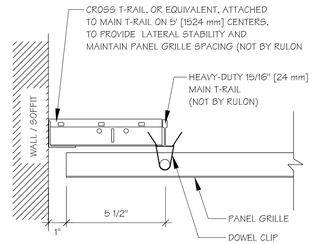
TOOLS AND EQUIPMENT:
STANDARD LEVELING DEVICES
SABER SAW
MITER SAW
NAIL GUN / STAPLE GUN

DETAILS FLAT PANELS:
https://rulonco.com/product-data/grilles/panel-grille/DETAILS_PanelGrille.pdf
INSTALL PANEL GRILLE:
https://rulonco.com/product-data/grilles/panel-grille/INSTALL_PanelGrille_Walls.pdf



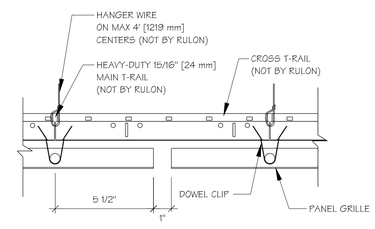
PANEL GRILLE - DOWELED - PERIMETER DETAIL - SIDE

SCALE: 3" = 1'-0"



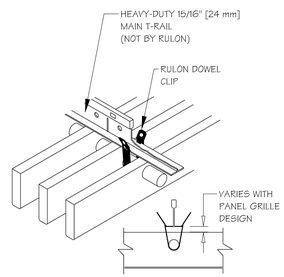
PANEL GRILLE - DOWELED - PERIMETER DETAIL - END

SCALE: 3" = 1'-0"

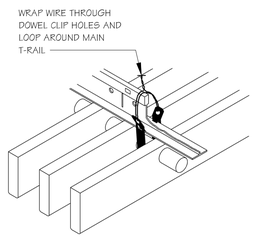


PANEL GRILLE - DOWELED - PANEL TO PANEL REVEAL DETAIL

SCALE: 3" = 1'-0"



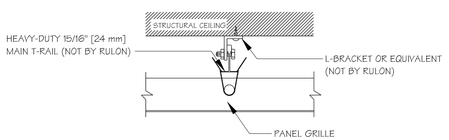
DOWEL CLIP DETAIL



DOWELED - SEISMIC DETAIL

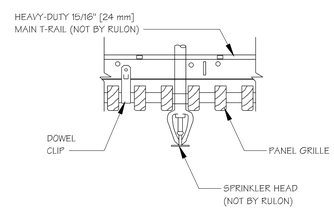
PANEL GRILLE - DOWEL CLIP DETAIL - SEISMIC DETAIL

SCALE: NONE



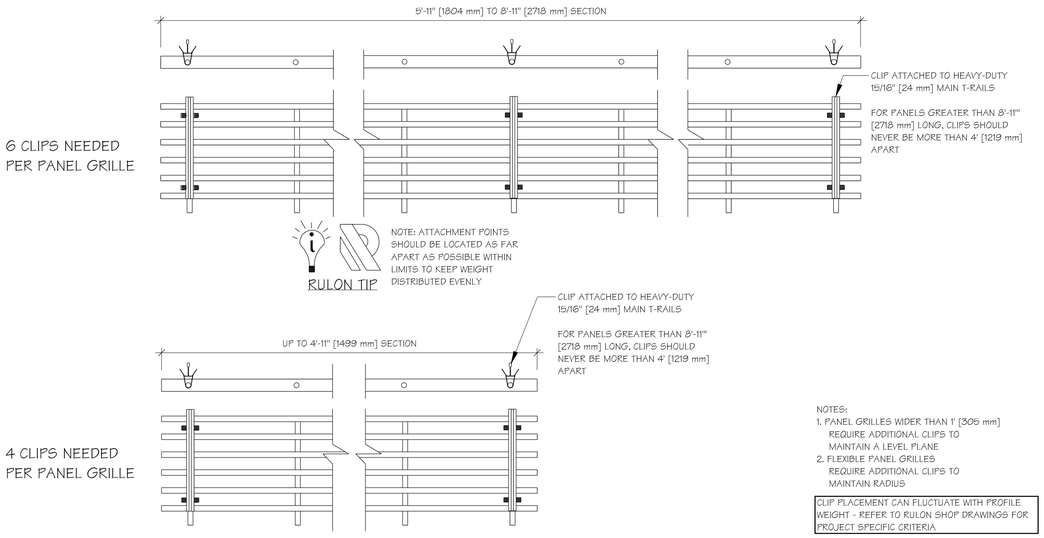
PANEL GRILLE - DOWELED - DIRECT CEILING MOUNT DETAIL

SCALE: 3" = 1'-0"



PANEL GRILLE - DOWELED - SPRINKLER DETAIL

SCALE: 3" = 1'-0"



PANEL GRILLE - DOWEL CLIP PLACEMENT DETAIL

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

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ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
LICENSED ARCHITECT

DRAWN BY: P. Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P. Rasttanavanitpong	SCALE: VARIES
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A516

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS		CEILING		DEMO REMARKS	REMARKS	LIGHTING
				MATERIAL	FINISH	MATERIAL	FINISH			
101	VESTIBULE	CERAMIC TILE	VINYL	GYP. BD.	PAINT	EXG PLASTER	--	REMOVE FLOOR TILE, BASE	INSTALL FLOOR TILE, BASE, PAINT WALLS	RELAMP
102	RECEPTION	CERAMIC TILE	VINYL	GYP. BD.	PAINT	EXG PLASTER	--	REMOVE FLOOR TILE, BASE	INSTALL FLOOR TILE, BASE, PAINT WALLS	RELAMP
103	COMMON AREA	CARPET	VINYL	GYP. BD.	PAINT	EXG PLASTER	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	RELAMP
104	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
105	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
106	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
107	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
108	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
109	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
110	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
111	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
112	WOMEN'S RESTROOM	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
113	STAIRWELL #1	--	--	--	--	--	--	EXIST'G TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
114	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
115	OFFICE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
116	JANITOR CLOSET	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
117	STORAGE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
118	WORK AREA	VINYL TILE	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
119	CLASSROOM	VINYL TILE	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE FLOOR TILE, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
120	TEACHER'S LOUNGE	VINYL TILE	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE FLOOR TILE, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
121	BREAK ROOM	VINYL TILE	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE FLOOR TILE, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
122	CLASSROOM	HARDWOOD	RUBBER	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE FLOOR TILE, BASE	INSTALL NEW HARDWOOD, RUBBER BASE, PAINT WALLS, MIRRORED PANELS, CEILING MOUNTED TRACK/CURTAIN	R&R WITH 2' X 2' LED FIXTURES
123	MECHANICAL ROOM/STORAGE	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
124	ELECTRICAL ROOM #1	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
125	STAIRWELL #2	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
126	COMPUTER LAB	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
127	CLASSROOM	VINYL TILE	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE FLOOR TILE, BASE	INSTALL NEW FLOOR TILE, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
128	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
129	STAIRWELL #3	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
130	AUDITORIUM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, VINYL WOOD LOOK TILE, VINYL BASE, CEILING TILE	INSTALL NEW CARPET, VINYL WOOD LOOK TILE, VINYL BASE, CEILING TILE AND PAINT WALLS	RELAMP
130A	AUDITORIUM STAGE	CARPET	VINYL	GYP. BD.	PAINT	--	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, ALUM. PERIMETER TRIM AND PAINT FACES	RELAMP
131	SUMP PUMP	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
132	MEN'S RESTROOM	--	--	--	--	--	--	EXG TO REMAIN	EXG TO REMAIN	EXG TO REMAIN
133	COMPUTER ROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
134	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
135	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
136	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES
137	CORRIDORS #1	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	REMOVE CARPET, BASE	INSTALL NEW CARPET, BASE, PAINT WALLS	R&R WITH 2' X 2' LED FIXTURES

ROOM FINISH SCHEDULE - ADDITION

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS		CEILING		REMARKS	LIGHTING
				MATERIAL	FINISH	MATERIAL	FINISH		
138	STORAGE	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CELING TILE, PAINT WALLS	NEW
139	VESTIBULE #2	CERAMIC TILE	CERAMIC TILE	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL FLOOR TILE, BASE, PAINT WALLS	NEW
140	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
141	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
142	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
143	CORRIDORS #2	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
144	VESTIBULE #3	CERAMIC TILE	CERAMIC TILE	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL FLOOR TILE, BASE, PAINT WALLS	NEW
145	MEN'S RESTROOM #2	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	--	ACOUS. TILE	--	INSTALL NEW FLOOR TILE, BASE, CEILING TILE, PAINT WALLS	NEW
146	WOMEN'S RESTROOM #2	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	--	ACOUS. TILE	--	INSTALL NEW FLOOR TILE, BASE, CEILING TILE, PAINT WALLS	NEW
147	ELECTRICAL ROOM #2	EXIST'G CONC.	VINYL	GYP. BD.	PAINT	EXP'D CONSTR'N	PAINT	INSTALL BASE, PAINT WALLS	NEW
148	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
149	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW
150	CLASSROOM	CARPET	VINYL	GYP. BD.	PAINT	ACOUS. TILE	--	INSTALL NEW CARPET, BASE, CEILING TILE, PAINT WALLS	NEW

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MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
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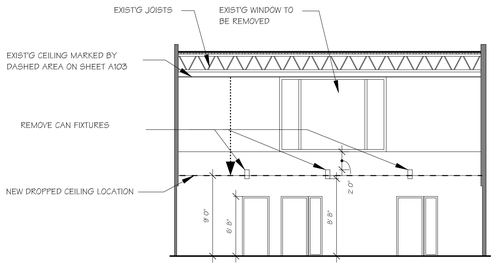
ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
REGISTERED ARCHITECT

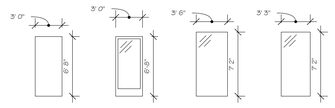
DRAWN BY: B. Holman	DATE: 06/15/2026
DESIGNED BY: B. Holman	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER: A601



EXIST'G RAISED CEILING SECTION

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



DOOR TYPES

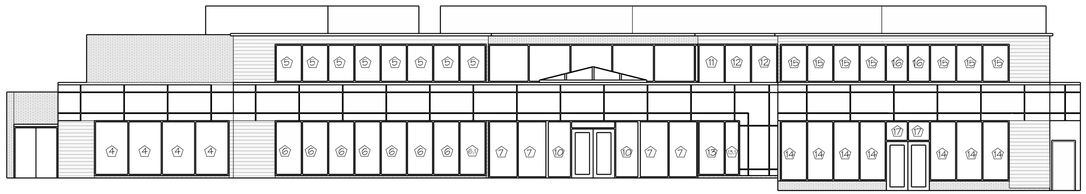
SCALE: 1/8" = 1'-0"

WINDOW SCHEDULE - ADDITION

NO.	SIZE	FRAME			GLASS			
		MATERIAL	FINISH	SIZE	TYPE	THICKNESS	OTHER	REMARKS
1	3'-0" HI x 75'-11 1/2" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	--	--
2	3'-0" HI x 16'-0" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	--	--
3	3'-0" HI x 73'-10" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	--	--

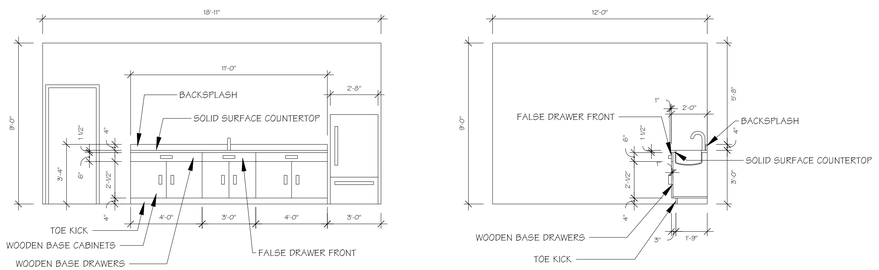
WINDOW SCHEDULE - EXISTING

NO.	SIZE	FRAME			GLASS			
		MATERIAL	FINISH	SIZE	TYPE	THICKNESS	TOTAL	REMARKS
4	7'-4" HI x 4'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	4	WEST CONFERENCE AREA (NO ENC.)
5	5'-0" HI x 3'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	8	OFFICE AREA
6	7'-4" HI x 3'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	7	OFFICE AREA
6a	7'-4" HI x 3'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	1	OFFICE AREA
7	7'-8" HI x 3'-10 1/2" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	4	VESTIBULE AREA
8	7'-8" HI x 2'-7" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	4	VESTIBULE AREA
9	7'-8" HI x 1'-4" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	2	VESTIBULE AREA
10	7'-8" HI x 3'-1" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	4	VESTIBULE AREA
11	5'-0" HI x 3'-4" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	1	COMPUTER ROOM AREA
12	5'-0" HI x 3'-5" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	2	COMPUTER ROOM AREA
13	7'-4" HI x 3'-4" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	1	COMPUTER ROOM AREA
13a	7'-4" HI x 1'-10" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	1	COMPUTER ROOM AREA
14	8'-1" HI x 3'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	7	AUDITORIUM AREA
15	5'-0" HI x 3'-6" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	7	AUDITORIUM AREA
16	5'-0" HI x 2'-11" WD	ALUM.	CLEAR ANOD.	2" x 2"	SP.AND'L	1"	2	AUDITORIUM AREA
17	2'-7" HI x 2'-11" WD	ALUM.	CLEAR ANOD.	2" x 2"	INSUL'D	1"	2	AUDITORIUM AREA
18	4'-0" HI x 2'-9 1/2" WD	ALUM.	CLEAR ANOD.	2" x 2"	TEMP. CLEAR	1/4"	24	CORRIDORS #1 AREA
19	4'-0" HI x 2'-9 1/2" WD	ALUM.	CLEAR ANOD.	2" x 2"	TEMP. FROST.	1/4"	24	CORRIDORS #1 AREA



SOUTH ELEVATION (MAIN ENTRANCE) WITH WINDOWS NOTED

SCALE: 1" = 10'-0"



COUNTER ELEVATION AND SECTION (BREAKROOM 121)

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

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	SIZE	HARDWARE	DOOR		FRAME		REMARKS
				MATERIAL	FINISH	MATERIAL	FINISH	
001	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STOREFRONT TO MATCH EXIST'G CONFIGURATION
002	B	(2)3'-0" x 6'-8" x 1 3/4"	PUSH/PULL	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STOREFRONT TO MATCH EXIST'G CONFIGURATION
003	D	3'-0" x 7'-2" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
004	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
005	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
006	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
007	D	3'-0" x 7'-2" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
008	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
009	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
010	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
011	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
012	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
013	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
014	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
015	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
016	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
017	A	--	--	--	--	--	--	EXIST'G TO REMAIN
018	C	3'-0" x 6'-8" x 1 3/4"	LOCKSET	ALUM. & GLASS	NIGHT BRONZE	ALUM.	NIGHT BRONZE	--
019	A	--	--	--	--	--	--	EXIST'G TO REMAIN
020	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
021	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
022	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
023	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
024	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
025	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
026	A	--	--	--	--	--	--	EXIST'G TO REMAIN
027	A	--	--	--	--	--	--	EXIST'G TO REMAIN
028	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	H. MET.	PAINT	H. MET.	PAINT	MATCH NEW CONSTRUCTION
029	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	H. MET.	PAINT	H. MET.	PAINT	MATCH NEW CONSTRUCTION
030	A	--	--	--	--	--	--	EXIST'G TO REMAIN
031	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
032	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
033	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
034	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
035	A	--	--	--	--	--	--	EXIST'G TO REMAIN
036	A	(2)3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
037	A	--	--	--	--	--	--	EXIST'G TO REMAIN
038	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	H. MET.	PAINT	H. MET.	PAINT	MATCH NEW CONSTRUCTION
039	A	(2)3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
040	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
041	A	--	--	--	--	--	--	EXIST'G TO REMAIN
042	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
043	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--
044	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	--

DOOR SCHEDULE - ADDITION

DOOR	DOOR TYPE	SIZE	HARDWARE	DOOR		FRAME		REMARKS
				MATERIAL	FINISH	MATERIAL	FINISH	
045	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
046	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STORE FRONT
047	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STORE FRONT
048	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
049	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
050	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
051	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STORE FRONT
052	B	(2)3'-0" x 6'-8" x 1 3/4"	PANIC HRDWRE.	ALUM. & GLASS	CLR. ANOD.	ALUM.	CLR. ANOD.	NEW STORE FRONT
053	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
054	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
055	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
056	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
057	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G
058	A	3'-0" x 6'-8" x 1 3/4"	LOCKSET	SOLID CORE	MATCH EXIST'G	H.M	PAINT	MATCH EXIST'G

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: SCHEDULES AND DETAILS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL: STATE OF MICHIGAN NATHAN LLOYD HARVEY ARCHITECT NO. 1301031091 REGISTERED ARCHITECT

DRAWN BY:	DATE:
B. Holman	06/15/2026
DESIGNED BY:	SCALE:
B. Holman	VARIES
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER: A602

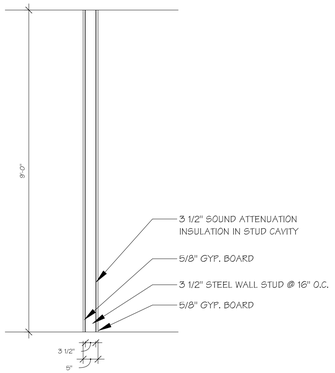
TYP. INTERIOR GLAZED WALL NOTES

1) REMOVE EXIST'G CLERESTORY WINDOWS AND PROVIDE FULL-HEIGHT PARTITION WITH 1" INSULATED GLASS UNITS (1/4" GLASS / 1/2" AIR SPACE / 1/4" GLASS); PROVIDE CLEAR GLASS AT UPPER PANELS AND FROSTED GLASS AT LOWER PANELS AS INDICATED.

2) RELOCATE EXIST'G ELECTRICAL DEVICES AS REQUIRED. COORDINATE WITH ELECTRICAL.

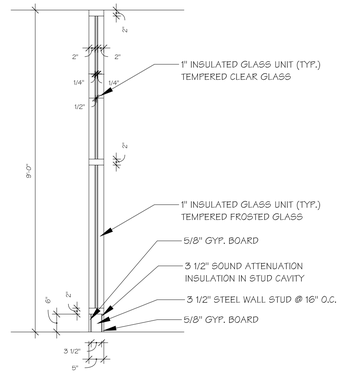
3) PROVIDE 6" SOLID WALL BASE AT BOTTOM OF PARTITION FOR ELECTRICAL DEVICES, TYP.

4) PROVIDE TEMPERED SAFETY GLASS FOR ALL GLASS PANELS IN INSULATED GLASS UNITS, TYP.



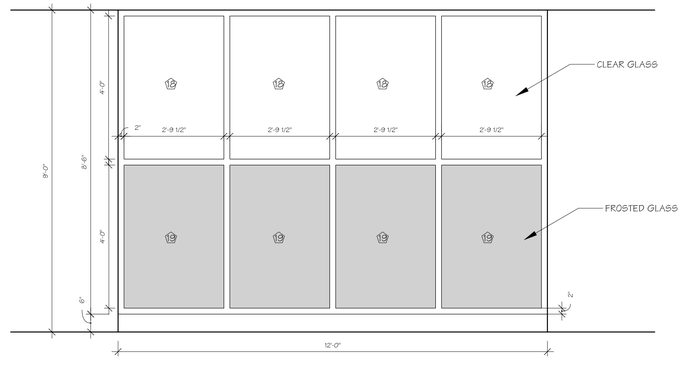
TYP. PARTITION WALL SECTION

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



TYP. GLAZED WALL SECTION

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



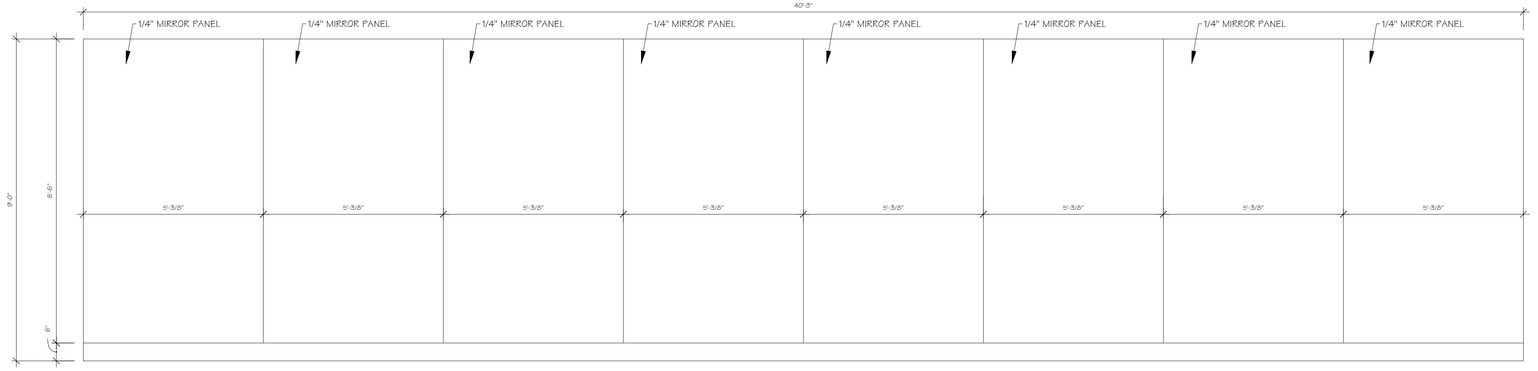
TYP. GLAZED WALL ELEVATION

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

MIRRORED WALL NOTES

1) PROVIDE CUSTOM MIRROR SYSTEM BY GLAZING CONTRACTOR; 1/4" THICK GLASS MIRROR PANELS WITH POLISHED EDGES; INSTALL WITH ADHESIVE AND MECHANICAL CLIPS PER MANUFACTURER. FIELD VERIFY DIMENSIONS.

2) PROVIDE CEILING-MOUNTED ALUMINUM TRACK WITH SLIDING FABRIC PRIVACY CURTAIN BY WINDOW TREATMENT CONTRACTOR; SYSTEM SHALL BE CAPABLE OF FULLY COVERING MIRRORED WALL.



MIRRORED WALL ELEVATION (CLASSROOM 122)

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

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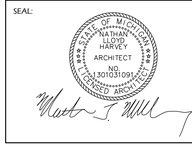
SHEET NAME: NEW WALL DETAILS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

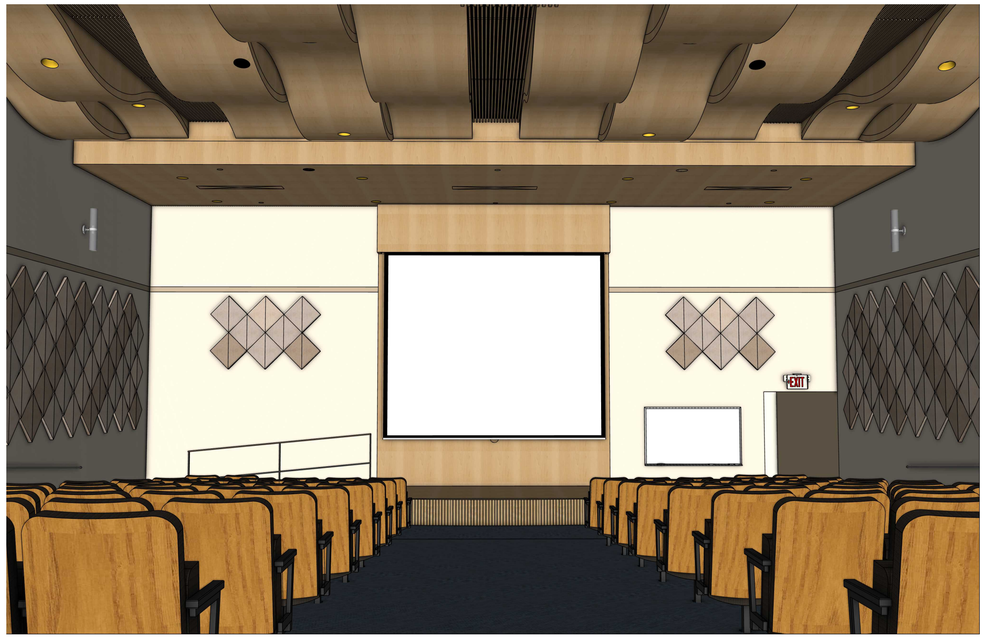
REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:



DRAWN BY:	DATE:
B. Holman	06/15/2026
DESIGNED BY:	SCALE:
B. Holman	1/2" = 1'-0"
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

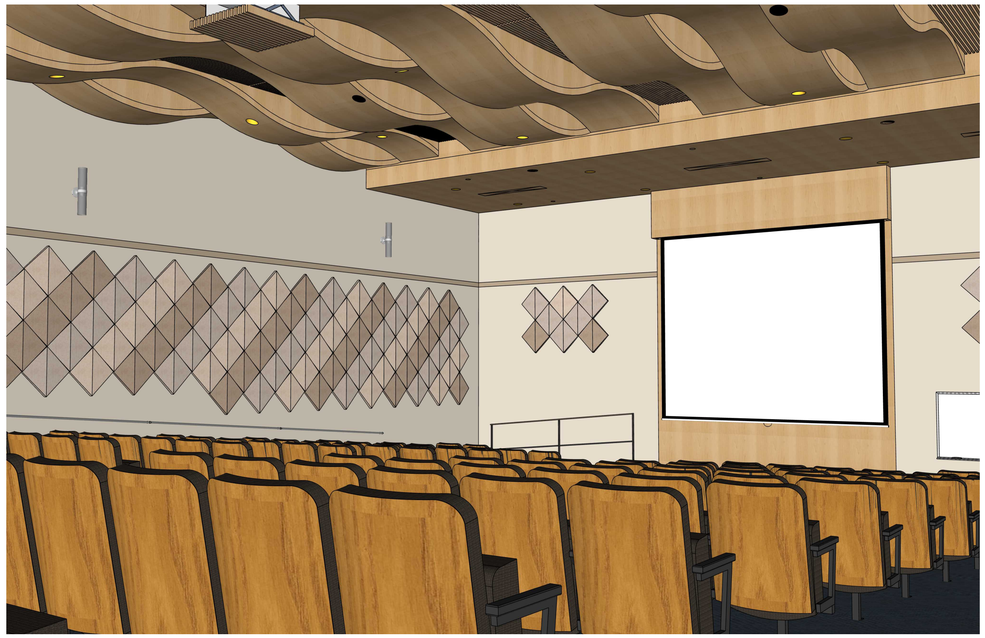
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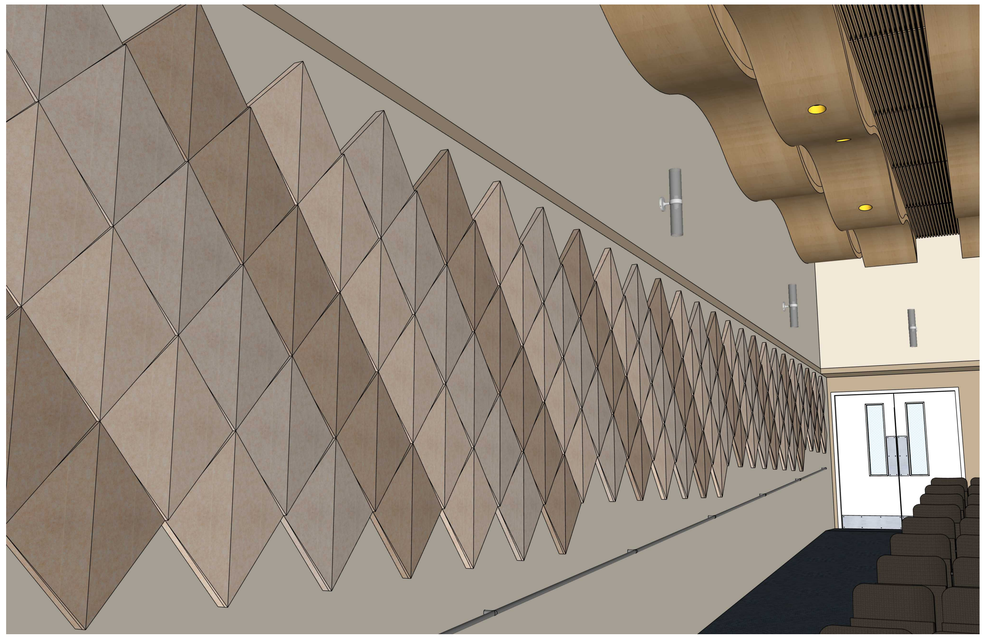
SOUTH PERSPECTIVE (PROPOSED)



NORTH-EAST PERSPECTIVE (PROPOSED)



SOUTH-EAST PERSPECTIVE (PROPOSED)



PERSPECTIVE (PROPOSED)

DETROIT ARCHITECT
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SHEET NAME:

PERSPECTIVE VIEW – AUDITORIUM (PROPOSED)

PROJECT NAME:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
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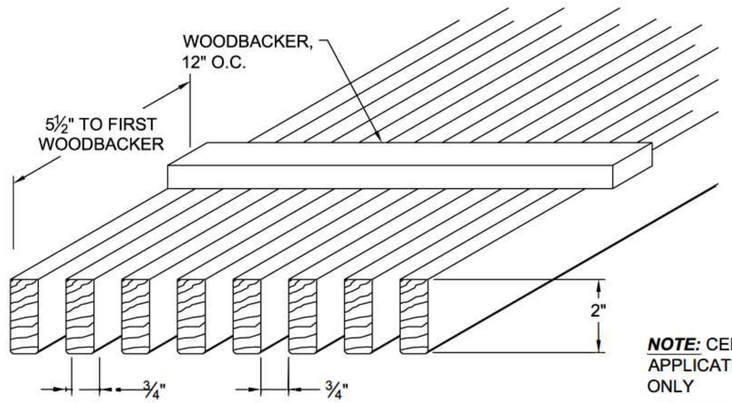
SEAL:

STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
REGISTERED ARCHITECT

DRAWN BY: P. Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P. Rasttanavanitpong	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:

A901



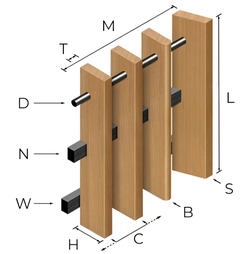
NOTE: CEILING APPLICATIONS ONLY

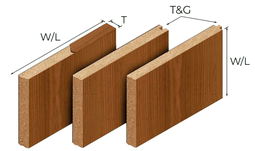
THIS PROFILE HAS AN OPEN AREA OF 45.83%

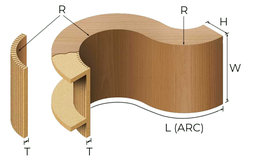
NOTE: PANEL GRILLES ARE MANUFACTURED IN LENGTHS UP TO TEN FEET (10' [3048 mm]), ONE INCH (1" [25 mm]) UNDER THE FOOT (I.E., A 6' [1829 mm] PANEL IS 5'-11" [1803 mm] IN LENGTH.) BLADE DEPTH AND THICKNESS MAY VARY TO MEET PROJECT REQUIREMENTS

PG 8-12-32W GRILLE PANEL TO BE COORDINATED WITH THE PROJECTOR LIFT SYSTEM

SCALE: NONE







SYSTEM	PANEL GRILLE
M (MODULE WIDTH)5	12",24"
C (BLADES/FOOT)7	2 - 10
L (LENGTH)6	2' - 10'
T (THICKNESS)7	3/4" - 2"
H (HEIGHT)7	3/4" - 5 1/4"

D	DOWELED
W	WOODBACKED
X	FLEXIBLE
S	SLANTED
B	BULLNOSED
F	FABRIC-BACKED
N	NOTCHED

1CUSTOM = CUSTOM DIAMETER AND SPACING AVAILABLE
2W/L = MAX WIDTH/LENGTH ARE INTERCHANGEABLE
3HEIGHT – CUSTOM RETURN HEIGHTS AVAILABLE FOR >3"
4LENGTH – LENGTH OF THE ARC, NOT OVERALL PANEL LENGTH
5MODULE – WIDTH VARIES BY PROFILE DUE TO SPACING
6LENGTH – 1"/0.5" SHY OF EVEN FOOT FOR SOLID/VENEER PANELS
7THICKNESS/HEIGHT – CONSULT STANDARD SIZE TABLE
REFERENCE: RULON WOOD CEILING & WALL PRODUCTS (https://rulonco.com/products)

IF YOU NEED FURTHER ASSISTANCE:
IF YOU HAVE ANY QUESTIONS, OR IF YOU ENCOUNTER A SITUATION NOT COVERED BY THIS INSTALLATION GUIDE, CONTACT THE RULON TECHNICAL DEPARTMENT.
PHONE: 1-800-22RULON (1-800-227-8566), 904-584-1400
FAX: 1-904-584-1499

SYSTEM	FLAT PANELS(FP)
T (THICKNESS)	3/4"
W/L (MAX WIDTH/LENGTH)2	48"/120"

SYSTEM	CURVALON
R (MIN RADIUS)	120"(FLEXIBLE) / 18"(RIGID)
H (RETURN HEIGHT)3	3/4"(FLEXIBLE) / 3"(RIGID)
T (FACE THICKNESS)	3/4"
W (MAX WIDTH)	48"
L (MAX ARC LENGTH)4	120"

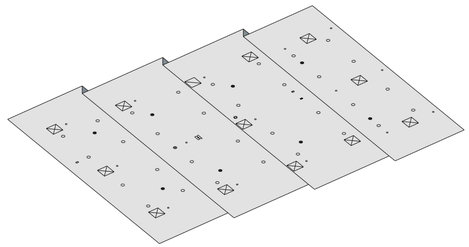
CEILING PANELS BY RULON

SCALE: NONE



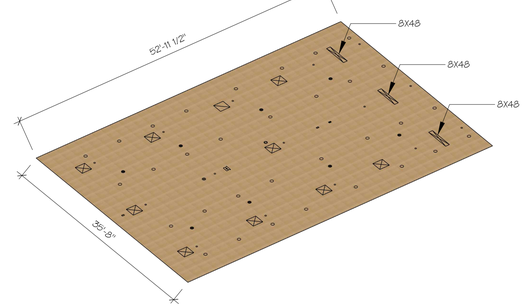
CEILING FINISH - MAPLE(CLEAR)

SCALE: NONE



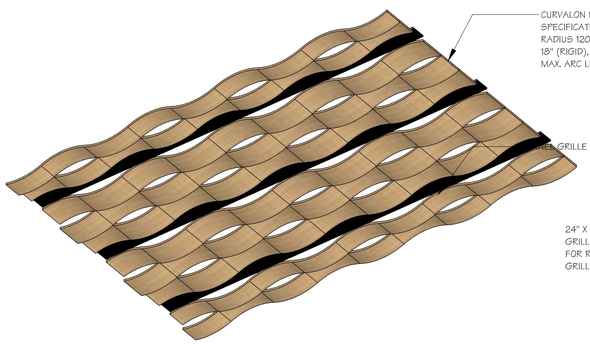
EXISTING CEILING

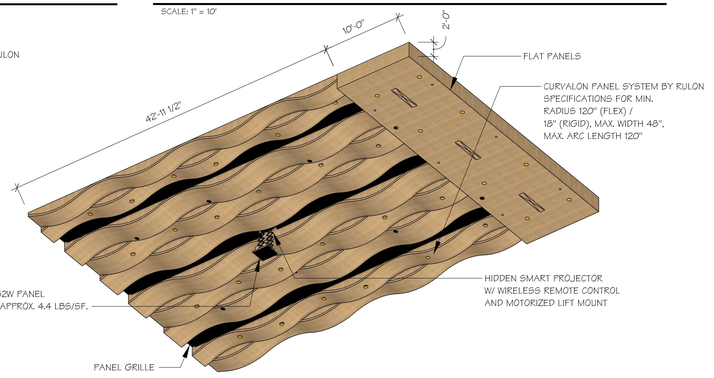
SCALE: 1" = 10'



NEW CEILING LAYOUT

SCALE: 1" = 10'





CEILING CONCEPT - PROPOSED

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

DETROIT ARCHITECT
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Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:
AUDITORIUM DESIGN CONCEPT - PROPOSED (CEILING)

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

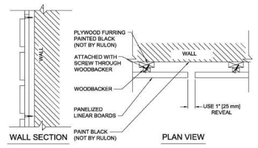
ISSUE SCHEDULE	
ISSUED FOR	DATE

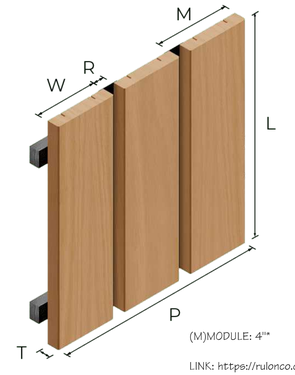
REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:
STATE OF MICHIGAN
NATHAN LLOYD HARVEY
ARCHITECT
NO. 1301031091
LICENSED ARCHITECT

DRAWN BY: P. Rasttanavanitpong	DATE: 06/15/2026
DESIGNED BY: P. Rasttanavanitpong	SCALE: NONE
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A902





(M)MODULE: 4""*

LINK: https://rulonco.com/products/linear/

FRONT STAGE VENEER - LINEAR OPEN

SCALE: NONE



MANUFACTURER: KOHLER
SERIES: PURIST®
MODEL: K-27263-SC02-AFL
TYPE: TWO-LIGHT WALL SCONCE
FINISH: FRENCH GOLD

TOTAL: 10 FIXTURES

LINK: https://www.kohler.com/en/products/lighting/shop-lighting/purist-22-two-light-sconce-27263-sc02?skuId=27263-SC02-AFL

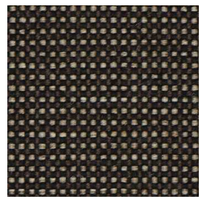
NEW LIGHT FIXTURE BY KOHLER

SCALE: NONE

(FIGURE 1)



(FIGURE 2)



FT20 AUDITORIUM CHAIR PROVIDES COMFORT AND VERSATILITY, IDEAL FOR VARIOUS AUDITORIUM AND THEATER ENVIRONMENTS. AVAILABLE IN SEVEN SEAT WIDTHS WITH OPTIONAL 16.5" TABLET ARM THAT OPENS AND STOWS IN ONE MOTION. AN EXCELLENT FLEXIBLE SEATING OPTION.

OPTIONS (FIGURE 1)

- STANDARD BACK WITH WOOD OR LAMINATE PANELS
- ANTI-PANIC TABLET
- FIXED BASE

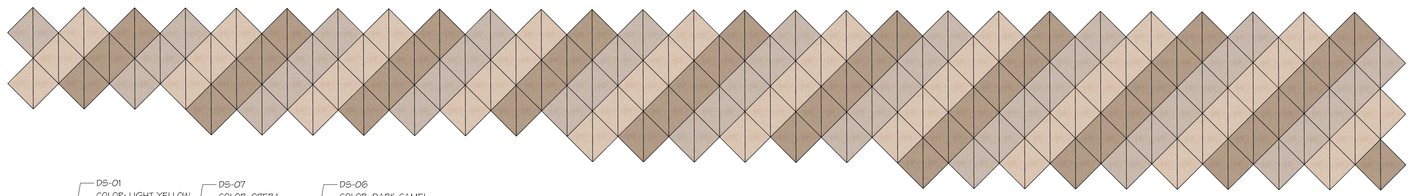
TEXTILE (COLOR): INTERWEAVE (CAFÉ)(FIGURE 2)

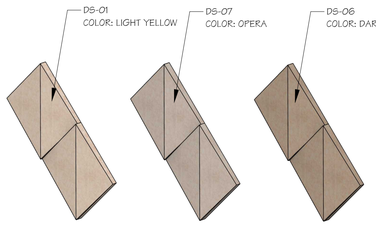
TOTAL: 124 CHAIRS

LINK: https://www.sediasystems.com/ft20

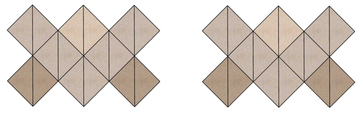
NEW AUDITORIUM CHAIR - FT20 - BY SEDIASYSTEMS

SCALE: NONE

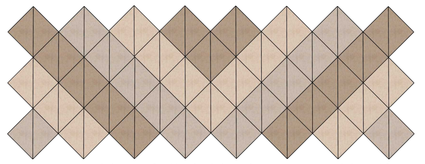




(44)DS-01 LIGHT YELLOW, (44)DS-06 DARK CAMEL, AND (43)DS-07 OPERA
MULTIPLY ALL BY 2 (EAST AND WEST WALL HAVE THE SAME DESIGN)



(2)DS-01 LIGHT YELLOW , (4)DS-06 DARK CAMEL, AND (10)DS-07 OPERA
NORTH



(13)DS-01 LIGHT YELLOW, (13)DS-06 DARK CAMEL, AND (12)DS-07 OPERA
SOUTH

ACOUSTIC WALL CONCEPT – 585 × 585 × 60 MM TRIANGULAR 3D PANEL BY DECORASOUND (PROPOSED)

SCALE: NONE

DETROIT ARCHITECT
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Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME:

AUDITORIUM DESIGN CONCEPT – PROPOSED
(FRONT STAGE FINISH, LIGHT FIXTURE, CHAIR, AND ACOUSTIC WALL)

PROJECT NAME:

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

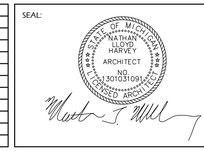
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

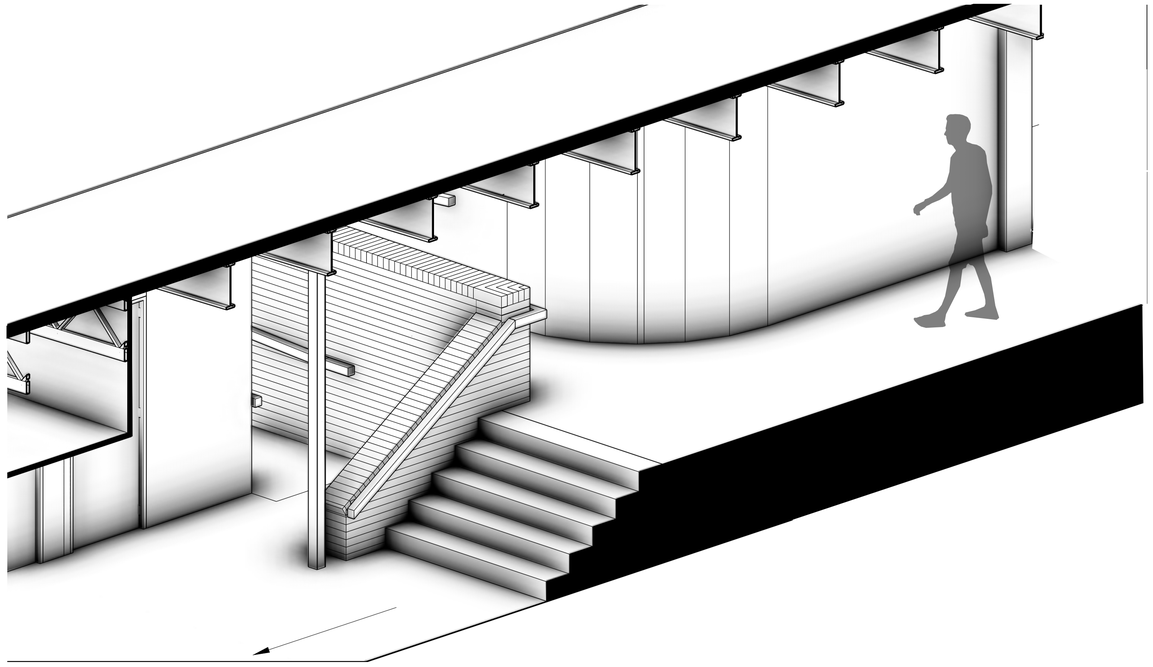
SEAL:



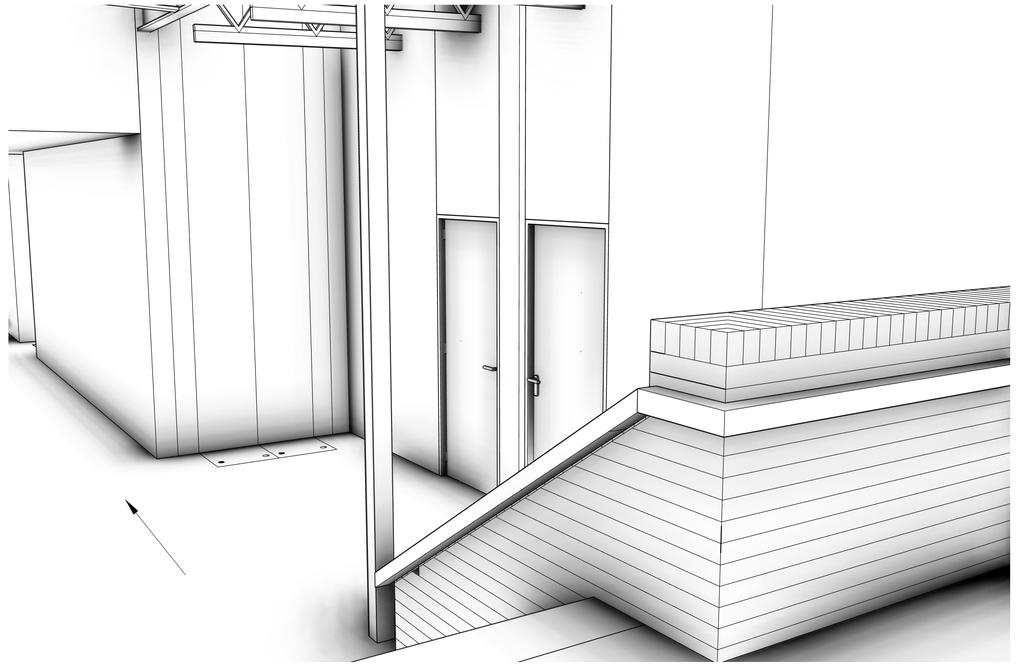
DRAWN BY:	DATE:
P. Rasttanavanitpong	06/15/2026
DESIGNED BY:	SCALE:
P. Rasttanavanitpong	NONE
CHECKED BY:	JOB NUMBER:
N. Harvey	2601

SHEET NUMBER:

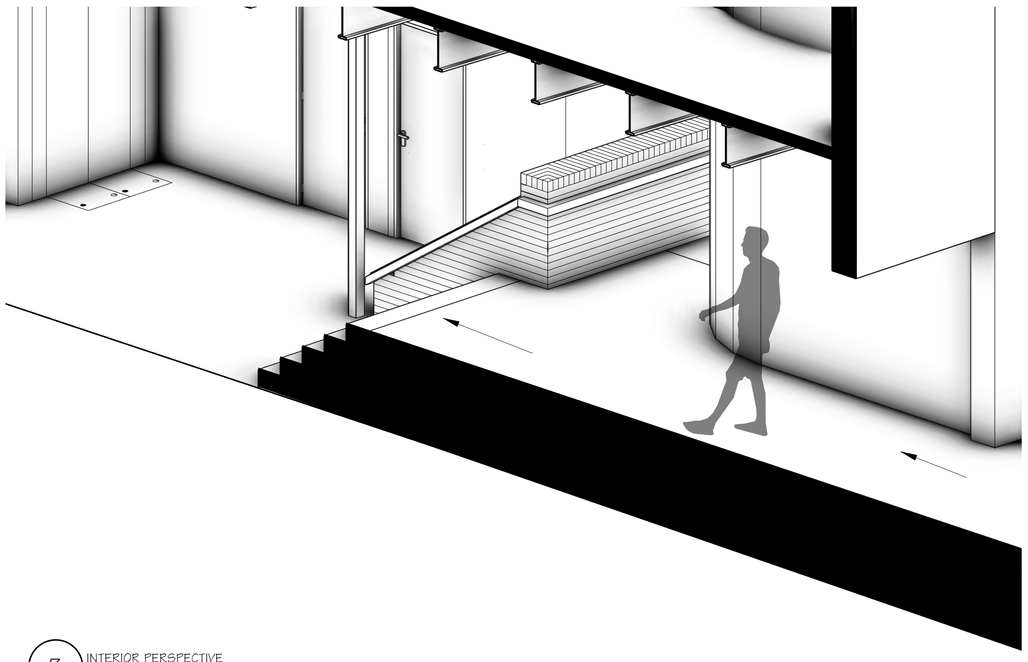
A903



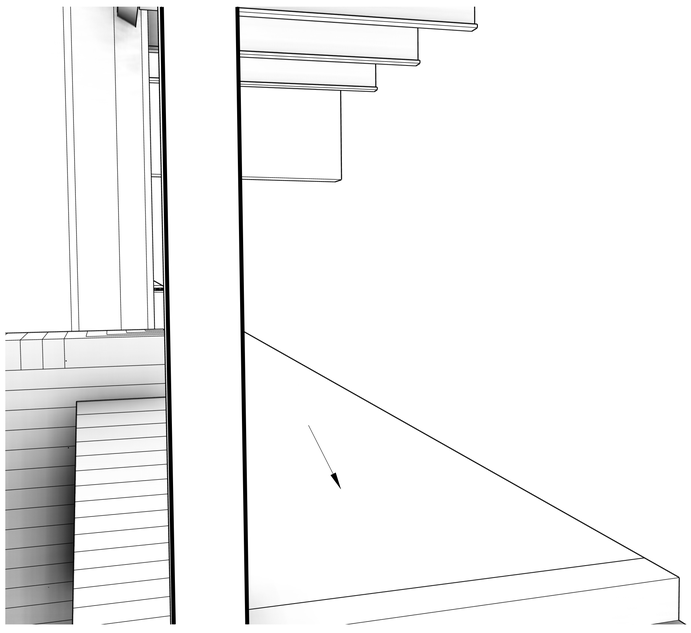
1 INTERIOR PERSPECTIVE
SCALE :: 1/2" = 1' - 0"



2 INTERIOR PERSPECTIVE
SCALE :: N/A



3 INTERIOR PERSPECTIVE
SCALE :: 1/2" = 1' - 0"



4 INTERIOR PERSPECTIVE
SCALE :: N/A

DETROIT ARCHITECT
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Cell: (313)615-1115, Off: (313) 869-6900, Fax: (313)869-4141

SHEET NAME: INTERIOR PERSPECTIVE - ADDITION

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:



DRAWN BY: James Cartwright III	DATE: 06/15/2026
DESIGNED BY: James Cartwright III	SCALE: 1/2" = 1' - 0"
CHECKED BY: N. Harvey	JOB NUMBER: 2601

SHEET NUMBER:
A904

REQUIRED INSPECTIONS

COORDINATE CONSTRUCTION SCHEDULE WITH OWNER'S QUALITY INSPECTOR WITH ADEQUATE NOTICE PROVIDED IN ORDER TO ALLOW THE FOLLOWING INSPECTIONS. SEE PROJECT MANUAL AND REFERENCED CODES FOR SPECIFIC INSPECTION AND TESTING REQUIREMENTS.

- SOIL BEARING CAPACITY
- SUB-GRADE PREPARATION AND FILL COMPACTION
- CONCRETE

EXISTING CONDITIONS

VERIFY ALL DIMENSIONS AND CONDITIONS ASSUMED AS EXISTING (I.E. EXISTING MATERIALS; FOUNDATION SIZES AND CONFIGURATION, FRAMING MEMBER SIZES AND LOCATIONS; METHODS OF CONSTRUCTION; ETC.) AT THE SITE PRIOR TO CONSTRUCTION AND FABRICATION. IF DISCREPANCIES ARE FOUND, NOTIFY THE ARCHITECT PRIOR TO PROCEEDING.

SHORING

1. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN TO PREPARE ALL REQUIRED SHORING AND TEMPORARY BRACING DRAWINGS, INCLUDING THE CONTRACTOR'S PROPOSED SHORING PROCEDURE. SEALED SHORING DRAWINGS, CALCULATIONS AND SHORING PROCEDURE SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL ESTABLISH A BENCHMARK TO DETERMINE AND MONITOR ALL ELEVATION CHANGES DURING THE PROCEDURE.
3. CONTRACTOR SHALL PROVIDE CRIBBING OR OTHER APPROVED MEANS TO LIMIT THE CONTACT PRESSURE TO THE EXISTING SLAB ON GRADE TO A MAXIMUM OF 1500 PSF.
4. SHORING SHALL BE PERFORMED USING CALIBRATED JACKS. JACK SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING WORK.
5. SHORING LOAD SHALL BE APPLIED TO THE STRUCTURE UNIFORMLY AND GRADUALLY, APPROXIMATELY 20% EVERY 30 MINUTES, TO TRANSMIT FORCES TO THE STRUCTURE IN A STATIC MANNER.
6. SHORING LOAD SHALL BE REMOVED FROM THE STRUCTURE UNIFORMLY AND GRADUALLY, APPROXIMATELY 20% EVERY 30 MINUTES, TO PREVENT THE APPLICATION OF IMPACT FORCES TO THE STRUCTURE.

FOUNDATIONS

1. FOOTINGS SHALL BEAR ON HELICAL PIERS AND GRADE BEAMS WITH AN ASSUMED SAFE BEARING CAPACITY OF 30 KIPS. CONTRACTOR SHALL RETAIN A QUALIFIED SOILS ENGINEER TO PERFORM EXPLORATION SUFFICIENT TO CONFIRM THIS CAPACITY PRIOR TO COMMENCEMENT OF FOUNDATION EXCAVATIONS. ACCEPTABLE SETTLEMENT LIMITS = 1 INCH OVERALL AND 1/2 INCH DIFFERENTIAL.

   IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT. ALLOWABLE SOIL BEARING PRESSURE SHALL BE CONFIRMED IN THE FIELD BY A QUALIFIED SOILS ENGINEER.
2. PREPARE FOUNDATIONS AND SOILS ACCORDING TO SOIL REPORT NO. 201619A, DATED MAY27, 2016 PREPARED BY SOMAT ENGINEERING, INC. UNLESS OTHERWISE NOTED OR DETAILED, ALL FOUNDATIONS SHALL BE LOCATED SUCH THAT THE CENTERLINE OF FOOTING IS ALSO THE CENTERLINE OF COLUMN.
3. PREPARATION OF THE SITE, BUILDING FOOTPRINT AND SLAB SUB-BASE SHALL PROCEED IN COMPLIANCE WITH LOCAL CODES AND THE PROJECT SOILS REPORT IDENTIFIED ABOVE. UNLESS OTHERWISE NOTED OR SPECIFIED, ALL FILL UNDER FLOOR SLABS AND BEHIND FOUNDATIONS WALLS SHALL BE COMPACTED WITH VIBRATORS, COMPACTORS, ETC. TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) AT OPTIMUM MOISTURE CONTENT. ONLY SMALL, HAND OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 8 FEET OF BASEMENT WALLS.
4. PROVIDE NECESSARY SHEETING, SHORING, FORMING OR BRACING, ETC., DURING EXCAVATION AS REQUIRED TO PROTECT SIDES OF EXCAVATIONS OR AS REQUIRED TO COMPLY WITH SAFETY REGULATIONS.
5. THIS TRADE SHALL PROVIDE PUMPS, WELL POINTS, OR OTHER SYSTEMS AS REQUIRED BY THE CONDITIONS IDENTIFIED IN THE PROJECT SOILS REPORT. PUMPS SHALL BE OPERATED AS REQUIRED TO ACCOMPLISH THE ABOVE, ON A 24-HOUR BASIS, IF NECESSARY. UNDER NO CONDITION SHALL WATER BE ALLOWED TO WASH OVER FRESHLY PLACED CONCRETE.

CONCRETE

1. THE CONCRETE PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST ULTIMATE STRENGTH DESIGN PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY (ACI 318) INCLUDING SECTIONS 1902 THRU 1907 OF CHAPTER 19 IN THE MICHIGAN BUILDING CODE. CONCRETE COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT (150 PCF) EXCEPT SUPPORTED SLABS SHALL BE LIGHT WEIGHT (110 PCF). MINIMUM CONCRETE STRENGTH SHALL BE f'c=3000 PSI MIN. AT 28 DAYS, UNLESS NOTED OTHERWISE; SUPPORTED SLABS AND SLABS ON GRADE SHALL BE f'c=3500 PSI MIN. UNLESS NOTED OTHERWISE. PROVIDE f'c=4000 PSI WITH 6% +/- 1 % ENTRAINED AIR WHERE CONCRETE IS EXPOSED TO EXTERIOR ATMOSPHERE OR WEATHER.
3. ALL CONCRETE SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33.
4. CONCRETE ADMIXTURES SHALL BE USED TO FACILITATE CONCRETE PLACEMENT, AID DIFFICULT PLACING CONDITIONS OR ASSIST IN ATTAINING SPECIFIED CONCRETE QUALITIES. ADMIXTURES SHALL HAVE LESS THAN 0.05 PERCENT CHLORIDE IONS.

   AIR ENTRAINMENT PER ASTM C260
   WATER REDUCER PER ASTM C494, TYPE A
   WATER REDUCER/ACCELERATOR PER ASTM C494, TYPE C OR E
   WATER REDUCER/RETARDER PER ASTM C494, TYPE B OR TYPE D
   SUPERPLASTICIZER PER ASTM C494, TYPE F OR G
5. CONCRETE MIXES SHALL BE PROPORTIONED PER SECTION 3.9 OF ACI-301. CERTIFIED HISTORICAL TEST DATA SHALL SERVE AS A BASIS FOR EACH MIX DESIGN. DEVIATIONS SHALL BE SUBSTANTIATED WITH ADDITIONAL CERTIFIED TRIAL MIX TESTING AND RESULTS. SUBMIT MIX DESIGN HISTORICAL TEST DATA OR TRIAL MIX RESULTS FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. WHERE HISTORICAL TEST DATA IS NON-EXISTENT THE FOLLOWING GUIDELINES SHALL APPLY:

TYPE	COMPRESSIVE STRENGTH, f'c (28 DAY, PSI)	CEMENT CONTENT (LBS./C.Y.)	WATER/CEMENT RATIO (BY WEIGHT)	SLUMP
STANDARD, NORMAL WT.	3000 MIN.	470 MIN.	0.52 MIN.	4" MAX.
STANDARD, NORMAL WT.	3500 MIN.	517 MIN.	0.50 MAX.	4" MAX.
STANDARD, LIGHT WT.	3500 MIN.	564 MIN.	0.44 MAX.	SEE SPEC.
AIR ENTRAINED, NORM. WT.	4000 MIN.	564 MIN.	0.40 MAX.	4" MAX.
CONCRETE FILL	2000 MIN.	350 MIN.	0.70 MAX.	4" MAX.

6. ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST ACI STANDARDS AND RECOMMENDATIONS. FREE FALL SHALL NOT EXCEED 10 FEET FOR ALL CONCRETE CONTAINING HIGH-RANGE WATER REDUCER (SUPERPLASTICIXER) AND 5 FEET FOR ALL OTHER CONCRETE. PROVIDE ELEPHANT TRUNK, TREMIES OR OTHER PLACING EQUIPMENT OR OPENINGS IN SIDES OF FORMS AS REQUIRED TO LIMIT FREE FALL.
7. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE CONTINUOUS AND SHALL HAVE 36 BAR DIAMETER LAP (MIN.) AND SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315 AND ACI 318, LATEST EDITION. HOOK ALL BEAM BARS AT DISCONTINUOUS ENDS.
8. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 FURNISHED IN FLAT MATS OR SHEETS, NOT IN ROLLS. PROVIDE MINIMUM 6" LAP BETWEEN SHEETS. ALL SLAB REINFORCING SHALL BE SUPPORTED ON SAND CHAIRS.
9. ALL COLUMN REINFORCING SPLICES SHALL BE 24 BAR DIAMETERS. ALL COLUMN/PIER OR WALL DOWELS SHALL BE 48 DIAMETERS LONG USING THE SAME SIZE AND QUANTITY AS THE VERTICAL COLUMN/PIER OR WALL BARS. PROVIDE HOOK AS REQUIRED FOR PLACEMENT.

CONCRETE CONT.

10. REINFORCED CONCRETE WALLS AND WALL FOOTINGS SHALL HAVE CORNER BARS AT EACH INTERSECTION OF THE SAME SIZE AND SPACING AS THE MAIN HORIZONTAL REINFORCING. LAPS SHALL BE MINIMUM 30 BAR DIAMETERS. PROVIDE 2-#5 BARS TOP AND BOTTOM AND EACH SIDE OF ALL OPENINGS AND 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS OF OPENINGS. PROVIDE 2-#5 BARS TOP AND BOTTOM IN SLABS AT ALL RE-ENTRANT (INSIDE) CORNERS.
11. IN ADDITION TO THE REINFORCING SHOWN ON THE DRAWINGS, PROVIDE #4 x 6-0" TOP BARS AT 12" O.C. IN FLOOR SLAB OVER AND PERPENDICULAR TO ALL TRUSSES, BEAMS, SPANDRELS OR WALLS THAT RUN PARALLEL WITH THE MAIN SLAB REINFORCING BARS.

MASONRY

1. PROVIDE 1-#5 VERTICAL BAR EACH SIDE OF EACH CONTROL JOINT; SEE PLANS FOR ADDITIONAL REINFORCING AT CORNERS, OPENINGS, ETC.
2. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. VERTICAL REINFORCING BARS SHALL BE HELD IN PLACE BY POSITIONERS SPACED NOT FURTHER THAN RECOMMENDED BY CODE.
3. PROVIDE A CONTINUOUS BOND BEAM, WITH 2-#5'S, AT THE TOP OF WALLS PARALLEL WITH ROOF/FLOOR FRAMING. STEP BOND BEAMS ELEVATIONS AS REQUIRED, LAP MINIMUM 32".
4. PERFORM GROUTING ACCORDING TO THE FOLLOWING:
   - ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.
   - ALL CORES WITH VERTICAL REINFORCING OR TO RECEIVE DRILLED-IN ANCHORS SHALL BE GROUTED SOLID.
   - ALL MASONRY PIERS AND PILASTERS SHALL BE GROUTED SOLID.
   - MAXIMUM 4'-0" HIGH LIFTS.
5. ALL BEAMS SUPPORTING MASONRY, INCLUDING STEEL, PRECAST AND MASONRY LINTELS ARE TO BEAR 8" (MIN.) ON 3 COURSES SOLID MASONRY.
6. STRUCTURAL STEEL BEAMS, WIDE FLANGE AND TUBE STEEL LINTELS SHALL BE PROVIDED WITH MIN. 7"x3/8"x0-7" BEARING PLATE, SET 1" AWAY FROM FACE OF WALL, WITH 2-3/4" DIAMETER ANCHOR BOLTS EACH END, TYPICAL UNLESS NOTED OTHERWISE.
7. UNLESS NOTED OTHERWISE, PROVIDE LOOSE LINTELS AT MISCELLANEOUS ARCHITECTURAL, MECHANICAL AND ELECTRICAL OPENINGS FOR EACH 4" OF MASONRY WALL THICKNESS IN ACCORDANCE WITH THE FOLLOWING:

   - L4x3-1/2x5/16 LLV FOR SPANS UP TO 3'-4"
   - L5x3-1/2x5/16 LLV FOR SPANS UP TO 5'-4"
   - L6x3-1/2x5/16 LLV FOR SPANS UP TO 6'-8" MAX.

   AT CONTRACTOR'S OPTION, MASONRY LINTELS ARE ALSO ACCEPTABLE FOR MISCELLANEOUS OPENINGS:
   -8"W (or 12"w) x 8"H REINF. W/ 2-#5 FOR SPANS UP TO 3'-4"
   -8"W (or 12"w) x 8"H REINF. W/ 2-#6 FOR SPANS UP TO 5'-4"
   -8"W (or 12"w) x 16"H REINF. W/ 2-#6 FOR SPANS UP TO 6'-8" MAX.

   COORDINATE REQUIREMENTS FOR LOOSE LINTELS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
8. ALL DOUBLE ANGLE LINTELS SHALL BE WELDED BACK TO BACK WITH A MINIMUM 2 INCH STITCH WELD EVERY 8 INCHES.

STRUCTURAL STEEL

1. THE STRUCTURAL STEEL PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE ALLOWABLE STRESS DESIGN PROVISIONS OF THE 9TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION, THE LOAD AND RESISTANCE FACTOR DESIGN PROVISIONS OF THE 2ND EDITION AISC MANUAL OF STEEL CONSTRUCTION INCLUDUNG SECTIONS 2204 AND 2212 OF CHAPTER 22 IN THE MICHIGAN BUILDING CODE. STEEL COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.
2. STEEL DETAILING, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL STEEL BUILDINGS".
3. ALL STRUCTURAL STEEL SHALL CONFORM TO THE LATEST ASTM SPECIFICATIONS ACCORDING TO THE FOLLOWING SERIAL DESIGNATIONS BY SHAPE:
   WIDE FLANGES: A992 OR ASTM A572, Fy=50 KSI
   ANGLES, TEES, BARS AND PLATES: A36
   SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SHAPES OR TUBES: ASTM A500, GR. B, Fy=46 KSI
   ROUND HOLLOW STRUCTURAL SHAPES OR PIPES: ASTM A53; GRADE B, Fy=35 KSI
4. ALL WELDED CONNECTIONS SHALL CONFORM TO THE LATEST AWS CODE, USING E70XX ELECTRODES, WITH WELDING PERFORMED BY QUALIFIED WELDERS.
5. BOLTED CONNECTIONS SHALL BE MADE WITH A325-N OR A490-N BOLTS. LOCATIONS OF SLIP CRITICAL CONNECTIONS SHALL BE AS NOTED ON THE DRAWINGS, IF REQUIRED. ALL BOLTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
6. THE DESIGN, CONFIGURATION, ERECTION SAFETY AND SEQUENCING OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STRUCTURAL STEEL FABRICATOR. REVIEW AND ACCEPTANCE OF THE SHOP DRAWINGS BY THE ENGINEER SHALL CONSTITUTE APPROVAL OF THE LOAD CARRYING ADEQUACY ONLY.
7. CONNECTIONS SHALL BE DESIGNED FOR ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD TABLES, UNLESS NOTED OTHERWISE.
8. TEMPORARY ERECTION SEATS SHALL BE PROVIDED AS RECOMMENDED ON PAGE 3-59 OF THE LATEST EDITION AISC PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION".
9. DRILLED-IN ANCHORS SHALL BE EITHER "EXPANSION" OR "ADHESIVE" AS INDICATED ON THE DRAWINGS. INSTALLATION OF DRILLED-IN ANCHORS SHALL BE IN COMPLIANCE WITH MANUFACTURER'S LITERATURE AND GUIDELINES. EXPANSION BOLTS SHALL BE "HILTI KWIK BOLT II" OR APPROVED EQUAL. ADHESIVE SHALL BE "HILTI HVA" OR APPROVED EQUAL.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ANGLES, PLATES, BARS, CLIPS, ETC., ATTACHED TO STRUCTURAL STEEL. VERIFY EXACT SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS WITH CONTRACTOR INVOLVED. IN ADDITION TO L5x3 1/2x5/16 (L.L.V.) PERIMETER CURB SUPPORT FRAMES, PROVIDE L3x3x1/4 FRAMES AT OPENINGS UNDER MECHANICAL UNITS TO SUPPORT METAL DECK FAILURE TO CONSULT ALL DRAWINGS FOR REQUIRED STEEL SHALL NOT CONSTITUTE A BASIS FOR EXTRAS.
11. THIS STEEL FRAME IS NON SELF-SUPPORTING PER AISC "CODE OF STANDARD PRACTICE", SECTIONS 7.9.3. AND 7.9.5.; ERECTION, BRACING, SHORING, ETC. SHALL CONFORM TO THESE SECTIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION SEQUENCE AND PROCEDURE.

METAL DECK AND FORM

1. METAL DECK AND FORM SHALL CONFORM TO ALL PROVISIONS OF THE "CODE OF RECOMMENDED STANDARD PRACTICE FOR COMPOSITE DECK, FORM DECK, AND ROOF DECK CONSTRUCTION" AS ADOPTED BY THE STEEL DECK INSTITUTE.
2. METAL DECK AND FORM SHALL BE PROVIDED WITH NESTING SIDE SEAMS OF DEPTH AND GAGE AS INDICATED ON THE DRAWINGS. METAL ROOF DECK SHALL BE WIDE RIB TYPE "B". PROVIDE DECK MANUFACTURER'S STANDARD ROOF SUMP PANS FOR EACH ROOF SUMP LOCATION.
3. METAL DECK AND FORM IS DESIGNED TO ACT AS A DIAPHRAGM AND IS INTENDED TO BRACE THE BUILDING. EXTREME EXTREME CARE SHALL BE UTILIZED TO INSTALL DECK AND FORM CONNECTIONS.

   CONNECTIONS:

   1 1/2" METAL ROOF DECK: CONNECT TO ALL SUPPORTING STEEL WITH 36/7 WELDING PATTERN WHERE INDICATED ON THE ROOF FRAMING PLAN, WITH PUDDLE WELDS (MIN. 5/8" DIAMETER) AT 6" O.C. MAXIMUM SPACING (MIN. 7 PER SHEET: 6-6-6-6-6-6 PATTERN) AT ALL SUPPORT POINTS. SIDE LAP CONNECTIONS SHALL BE MADE AT DECK SUPPORT, AT MIDPOINT AND QUARTER POINTS OF DECK SPAN (3 CONNECTIONS PER SPAN) WITH #10 TEK SCREWS. REFER TO SPECIFICATIONS FOR ADDITIONAL ERECTION PROCEDURES.

ABBREVIATIONS

ACI = AMERICAN CONCRETE INSTITUTE
AESS = ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AISC = AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ARCH. = ARCHITECT
ASCE = AMERICAN SOCIETY OF CIVIL ENGINEERS
AWS = AMERICAN WELDING SOCIETY
BM. = BEAM
B.O. = BOTTOM OF
BRG. = BEARING
CL. = CENTERLINE
DN. = DOWN
DNR. = DEPARTMENT OF NATURAL RESOURCES
DWGS = DRAWINGS
E.F. = EACH FACE
ELECT. = ELECTRICAL
E.W. = EACH WAY
EX., EXIST. = EXISTING
EXP. = EXPANSION
HI = HIGH
HORIZ. = HORIZONTAL
KIPS = KILOPOUNDS
L.L.V. = LONG LEG VERTICAL
L.L.H. = LONG LEG HORIZONTAL
LO = LOW
MAS. = MASONRY
MAX. = MAXIMUM
MBC. = MICHIGAN BUILDING CODE 2009
MECH = MECHANICAL
MIN = MINIMUM
MPH = MILES PER HOUR
NCMA = NATIONAL CONCRETE MASONRY ASSOCIATION
O.C. = ON CENTER
OSHA = OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P.E.M.B. = PRE-ENGINEERED METAL BUILDING
PL, PLS = PLATE(S)
PSI = POUNDS PER SQUARE INCH
PSF = POUNDS PER SQUARE FOOT
SDI = STEEL DECK INSTITUTE
SIM. = SIMILAR
SJI = STEEL JOIST INSTITUTE
STRUCT. = STRUCTURAL
T.O. = TOP OF
TYP. = TYPICAL (SITUATION OCCURS REPEATEDLY)
U.N.O. = UNLESS NOTED OTHERWISE
V. VERT. = VERTICAL
V.I.F. = VERIFY IN FIELD

STRUCTURAL DESIGN CODE STANDARDS

MICHIGAN BUILDING CODE, 2012 EDITION

ASCE 7-010 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

ACI 318-08- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

ACI 530-08/ASCE 5-08/TMS 402-08-BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES

AISC 360-05-SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS

AISI S100-07-NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS

2006 MBMA LOW RISE BUILDING SYSTEM MANUAL W/2010 SUPPLEMENT

AIST TECHNICAL REPORT NO. 13-GUIDE FOR THE DESIGN AND CONSTRUCTION OF MILL BUILDINGS (FOR LOAD COMBINATIONS INCLUDING MONORAIL CRANE)

SYMBOL LEGEND

MARK	DESCRIPTION
NORTH	NORTH INDICATOR
X / S-X	SECTION AND DETAIL NUMBER
X / S-X	SECTION CUT IDENTIFICATION
X / S-X	FRAMING ELEVATION INDICATOR (NOT TO SCALE)
X / S-X	PLAN DETAIL IDENTIFICATION
FN2	FOUNDATION KEYNOTE INDICATOR
FF2	FLOOR FRAMING KEYNOTE INDICATOR
RN2	ROOF KEYNOTE INDICATOR
SB	SOIL BORING IDENTIFICATION AND LOCATION
TB	TEST BORING IDENTIFICATION AND LOCATION
T.O. ELEV.=	ELEVATION INDICATOR
X	NEW COLUMN GRID DESIGNATION
X	EXISTING COLUMN GRID DESIGNATION
P_	COLUMN PIER IDENTIFICATION
MP_	MASONRY PIER ELEVATION
F_	COLUMN FOOTING IDENTIFICATION
WF_	WALL FOOTING IDENTIFICATION
C	COLUMN IDENTIFICATION
P	POST IDENTIFICATION
H	HANGER IDENTIFICATION
	UTILITY SLEEVE
	STEP BOTTOM OF FOOTING
	STEP TOP OF FOOTING
	POINT LOAD
	FORMED CONCRETE WALLS
BP	BEARING PLATE IDENTIFICATION
L_	LINTEL IDENTIFICATION
	SLAB SPAN
M_	MASONRY LINTEL IDENTIFICATION
	MOMENT CONNECTION
	BEAM SHEAR SPLICE
000'-0"	BOTTOM OF FOOTING ELEVATION
	REVISION CLOUD
	EXPANSION ANCHOR
	ADHESIVE SLEEVE
	WELDED WIRE FABRIC
	CONCRETE REINFORCING

JMS ENGINEERING SERVICES
32401 WEST 8 MILE RD. LIVONIA, MICHIGAN, 48152
SUITE 2-5 PH (313) 399-2932 FAX (248) 476-7936

ALL DRAWN AND WRITTEN INFORMATION APPEARING HEREIN SHALL NOT BE DUPLICATED, DISCLOSED OR OTHERWISE USED WITHOUT THE WRITTEN CONSENT OF JMS ENGINEERING SERVICES.

PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
GENERAL NOTES
-

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

MARK:	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW

DATE: 9/2024
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

SEAL VOID IF NOT IN BLUE INK

SHEET NO.:
1 OF 18

S-0

1. GENERAL

1.1 PURPOSE OF SPECIFICATION

THE PURPOSE OF THIS SPECIFICATION IS TO DETAIL THE FURNISHING OF ALL DESIGNS, MATERIALS, TOOLS, EQUIPMENT, LABOR AND SUPERVISION, AND INSTALLATION TECHNIQUES NECESSARY TO INSTALL HELICAL PILES AS DETAILED ON THE DRAWINGS, INCLUDING CONNECTION DETAILS. THIS SHALL INCLUDE PROVISIONS FOR LOAD TESTING THAT MAY BE PART OF THE SCOPE OF WORK

1.2 SCOPE OF WORK

THIS WORK CONSISTS OF FURNISHING ALL NECESSARY ENGINEERING AND DESIGN SERVICES (IF REQUIRED), SUPERVISION, LABOR, TOOLS, MATERIALS, AND EQUIPMENT TO PERFORM ALL WORK NECESSARY TO INSTALL THE HELICAL PILES, AT (LOCATION, CITY, STATE/PROVINCE) FOR (COMPANY, STATE OR PRIVATE AUTHORITY) PER THE SPECIFICATIONS DESCRIBED HEREIN, AND AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL INSTALL A HELICAL PILE THAT WILL DEVELOP THE LOAD CAPACITIES AS DETAILED ON THE DRAWINGS. THIS MAY ALSO INCLUDE PROVISIONS FOR LOAD TESTING TO VERIFY HELICAL PILE CAPACITY AND DEFLECTION, IF PART OF THE SCOPE OF WORK. THE RESPONSIBILITIES AND DUTIES OF THE RESPECTIVE PARTIES FOR THIS PROJECT ARE SUMMARIZED IN TABLE–1.

TABLE–1. TASKS AND RESPONSIBILITIES TO BE ALLOCATED FOR HELICAL PILE WORK

	TASK	RESPONSIBLE PARTY
1	SITE INVESTIGATION, GEOTECHNICAL INVESTIGATION, SITE SURVEY, AND POTENTIAL WORK RESTRICTIONS	OWNER/ CONTRACTOR
2	TYPE OF SPECIFICATION, REQUIREMENT FOR A PRE–CONTRACT TESTING PROGRAM AND PROCUREMENT METHOD	ENGINEER
3	OBTAINING EASEMENTS	OWNER
4	OVERALL SCOPE OF WORK, DESIGN OF THE HELICAL PILE STRUCTURE – INCLUDING DESIGN LOADS (VERTICAL, HORIZONTAL, ETC.), PILE LOCATIONS, AND PILE SPACING AND OREINTATION	ENGINEER
5	DEFINITION AND QUALIFICATIONS OF SAFETY FACTORS	ENGINEER
6	CALCULATIONS/ ESTIMATION OF ALLOWABLE STRUCTURAL AND/OR HELICAL PILE MOVEMENT IN SERVICE (ACCEPTANCE CRITERIA)	ENGINEER
7	DEFINITION OF SERVICE LIFE (TEMPORARY–MONTHS OR PERMANENT–YEARS) AND REQUIRED DEGREE OF CORROSION PROTECTION BASED ON SITE CONDITIONS	ENGINEER
8	TYPE AND NUMBER OF TESTS (PRE–CONTRACT, PRE–PRODUCTION AND PRODUCTION)	CONTRACTOR
9	MINIMUM TOTAL HELICAAL PILE LENGTH, DEPTH TO BEARING STRATUM	OWNER
10	HELICAL PILE COMPONENTS AND DETAILS	ENGINEER
11	DETAILS OF CORROSION PROTECTION, IF REQUIRED.	ENGINEER
12	DETAILS OF PILE CONNECTION TO STRUCTURE (E.G. FOR STATIC AND SEISMIC CONDITIONS)	ENGINEER
13	PREPARATION OF DRAWINGS AND TEST REPORTS	ENG/OWNER
14	EVALUATION OF TEST RESULTS	ENGINEER
15	CONSTRUCTION METHODS, SCHEDULE, SEQUENCING, AND COORDINATION OF WORK	CONTRACTOR
16	REQUIREMENTS OF FIELD PRODUCTION CONTROL, INCLUDING LOGGING OF INSTALLATION TORQUE VS. INSTALLED DEPTH	OWNER CONTRACTOR
17	SUPERVISION OF WORK	CONTRACTOR
18	LONG–TERM MONITORING	CONTRACTOR

1.3 QUALIFICATIONS OF THE HELICAL PILE CONTRACTOR

THE HELICAL PILE CONTRACTOR SHALL BE EXPERIENCED IN PERFORMING DESIGN AND CONSTRUCTION OF HELICAL PILES AND SHALL FURNISH ALL MATERIALS, LABOR, AND SUPERVISION TO PERFORM THE WORK. THE CONTRACTOR SHALL BE TRAINED AND CERTIFIED BY THE CONTRACTOR SHALL PROVIDE NAMES OF ON–SITE PERSONNEL MATERIALLY INVOLVED WITH THE WORKAT A MINIMUM, THESE PERSONNEL SHALL INCLUDE FOREMAN, MACHINE OPERATOR, AND PROJECT ENGINEER/MANAGER.

THE HELICAL PILE CONTRACTOR SHALL NOT SUBLET THE WHOLE OR ANY PART OF THE CONTRACT WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

1.4 RELATED PROJECT SPECIFICATIONS

SITE PREPARATION
GENERAL CONDITIONS
FOUNDATIONS
CONCRETE

CONTRACTOR: THE PERSON/FIRM RESPONSIBLE FOR PERFORMING THE HELICAL PILE WORK.

COUPLING: CENTRAL STEEL SHAFT CONNECTION MEANS FORMED AS INTEGRAL PART OF THE PLAIN EXTENSION SHAFT MATERIAL. FOR TYPE SS & RS HELICAL PILES, COUPLINGS ARE INTERNAL OR EXTERNAL SLEEVES, OR HOT UPSET FORGED SOCKETS.

COUPLING BOLT(S): HIGH STRENGTH, STRUCTURAL STEEL FASTENERS USED TO CONNECT HELICAL PILE SEGMENTS TOGETHER. FOR TYPE SS SEGMENTS, THE COUPLING BOLT TRANSFERS AXIAL LOAD. FOR TYPE RS SEGMENTS, THE COUPLING BOLTS TRANSFER BOTH AXIAL AND TORSIONAL FORCES.

HELICAL EXTENSION: HELICAL PILE FOUNDATION COMPONENT INSTALLED IMMEDIATELY FOLLOWING THE LEAD OR STARTER SECTION, IF REQUIRED. THIS COMPONENT CONSISTS OF ONE OR MORE HELICAL PLATES WELDED TO A CENTRAL STEEL SHAFT OF FINITE LENGTH. FUNCTION IS TO INCREASE BEARING AREA.

HELIX PLATE: GENERALLY ROUND STEEL PLATE FORMED INTO A RAMPED SPIRAL. THE HELICAL SHAPE PROVIDES THE MEANS TO INSTALL THE HELICAL PILE, PLUS THE PLATE TRANSFERS LOAD TO SOIL IN END BEARING. HELIX PLATES ARE AVAILABLE IN VARIOUS DIAMETERS AND THICKNESS.

HELICAL PILE: A BEARING TYPE FOUNDATION ELEMENT CONSISTING OF A LEAD OR STARTER SECTION, HELICAL EXTENSION (IF SO REQUIRED BY SITE CONDITIONS), PLAIN EXTENSION SECTION(S), AND A PILE CAP. A.K.A. HELICAL SCREW PILE, SCREW PILE, HELICAL SCREW FOUNDATION.

INSTALLATION TORQUE(T): THE RESISTANCE GENERATED BY A HELICAL PILE WHEN INSTALLED INTO SOIL. THE INSTALLATION RESISTANCE IS A FUNCTION OF THE SOIL TYPE, AND SIZE AND SHAPE OF THE VARIOUS PILE MATERIAL USED.

COMPONENTS OF THE HELICAL PILE.
ROUND SHAFT (RS): ROUND STEEL PIPE CENTRAL SHAFT ELEMENTS RANGING IN DIAMETER FROM 2–7/8" TO 10". A.K.A. HOLLOW SHAFT (TYPE HS), TYPE T/C, TYPE PIF.

LEAD SECTION: THE FIRST HELICAL PILE FOUNDATION COMPONENT INSTALLED INTO THE SOIL, CONSISTING OF SINGLE OR MULTIPLE HELIX PLATES WELDED TO A CENTRAL STEEL SHAFT. A.K.A. STARTER SECTION.

PLAIN EXTENSION: CENTRAL STEEL SHAFT SEGMENT WITHOUT HELIX PLATES. IT IS INSTALLED FOLLOWING THE INSTALLATION OF THE LEAD SECTION OR HELICAL EXTENSION (IF USED). THE SEGMENTS ARE CONNECTED WITH

PILE CAP: CONNECTION MEANS BY WHICH STRUCTURAL LOADS ARE TRANSFERRED TO THE HELICAL PILE. THE TYPE OF CONNECTION VARIES DEPENDING UPON THE REQUIREMENTS OF THE PROJECT AND TYPE OF HELICAL INTEGRAL COUPLINGS AND BOLTS. PLAIN EXTENSIONS ARE USED TO EXTEND THE HELIX PLATES BEYOND THE SPECIFIED MINIMUM DEPTH AND INTO COMPETENT LOAD BEARING STRATUM.

SAFETY FACTOR: THE RATIO OF THE ULTIMATE CAPACITY TO THE WORKING OR DESIGN LOAD USED FOR THE DESIGN OF ANY STRUCTURAL ELEMENT.

SQUARE SHAFT (SS): SOLID STEEL, ROUND–CORNERED–QUARE CENTRAL HAFT ELEMENTS RANGING IN SIZE FROM 1–1/4" TO 2–1/4". A.K.A. TYPE SQ.

TORQUE STRENGTH RATING: THE MAXIMUM TORQUE ENERGY THAT CAN BE APPLIED TO THE HELICAL PILE FOUNDATION DURING INSTALLATION IN SOIL, A.K.A. ALLOWABLE, OR SAFE TORQUE.

1.6 ALLOWABLE TOLERANCES

THE TOLERANCES QUOTED IN THIS SECTION ARE SUGGESTED MAXIMUMS. THE ACTUAL VALUES ESTABLISHED FOR A PARTICULAR PROJECT WILL DEPEND ON THE STRUCTURAL APPLICATION.

1.6.1 CENTERLINE OF HELICAL PILES SHALL NOT BE MORE THAN 3 INCHES FROM INDICATED PLAN LOCATION.
1.6.2 HELICAL PILE PLUMBNESS SHALL BE WITHIN 2" OF DESIGN ALIGNMENT.
1.6.3 TOP ELEVATION OF HELICAL PILE SHALL BE WITHIN +1 INCH TO ?2 INCHES OF THE DESIGN VERTICAL ELEVATION.

1.7 QUALITY ASSURANCE

1.7.1 HELICAL PILES SHALL BE INSTALLED BY AUTHORIZED QUALIFIED CONTRACTOR. THESE CONTRACTORS SHALL HAVE SATISFIED THE CERTIFICATION REQUIREMENTS RELATIVE TO THE TECHNICAL ASPECTS OF THE PRODUCT AND INSTALLATION PROCEDURES AS THEREIN SPECIFIED. CERTIFICATION DOCUMENTS SHALL BE PROVIDED UPON REQUEST TO THE OWNER OR THEIR REPRESENTATIVE.

1.7.2 THE CONTRACTOR SHALL EMPLOY AN ADEQUATE NUMBER OF SKILLED WORKERS WHO ARE EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK OF THIS SPECIFICATION.

1.7.3 ALL HELICAL PILES SHALL BE INSTALLED IN THE PRESENCE OF A DESIGNATED REPRESENTATIVE OF THE OWNER UNLESS SAID REPRESENTATIVE INFORMS THE CONTRACTOR OTHERWISE. THE DESIGNATED REPRESENTATIVE SHALL HAVE THE RIGHT OF ACCESS TO ANY AND ALL FIELD INSTALLATION RECORDS AND TEST REPORTS.

1.7.4 HELICAL PILE COMPONENTS AS SPECIFIED THEREIN SHALL BE MANUFACTURED BY A FACILITY WHOSE QUALITY SYSTEMS COMPLY WITH ISO (INTERNATIONAL ORGANIZATION OF STANDARDS) 9001 REQUIREMENTS. CERTIFICATES OF REGISTRATION DENOTING ISO STANDARDS NUMBER SHALL BE PRESENTED UPON REQUEST TO THE OWNER OR THEIR REPRESENTATIVE.

1.7.5 CONTRACTOR SHALL PROVIDE A STANDARD 10–YEAR WARRANTY ON MATERIALS AND WORKMANSHIP OF THE PRODUCT. ANY ADDITIONAL WARRANTY PROVIDED BY THE CONTRACTOR SHALL BE ISSUED AS AN ADDENDUM TO THIS SPECIFICATION.

1.7.6 DESIGN OF HELICAL PILES SHALL BE PERFORMED BY AN ENTITY AS REQUIRED IN ACCORDANCE WITH EXISTING LOCAL CODE REQUIREMENTS OR ESTABLISHED LOCAL PRACTICES. THIS DESIGN WORK MAY BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER.

1.8 DESIGN CRITERIA

1.8.1 HELICAL PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADS AND ACCEPTANCE CRITERIA AS SHOWN ON THE DRAWINGS. THE CALCULATIONS AND DRAWINGS REQUIRED FROM THE CONTRACTOR OR ENGINEER SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE IN ACCORDANCE TO SECTION 3.1 "CONSTRUCTION SUBMITTALS".

1.8.2 THE ALLOWABLE WORKING LOAD ON THE HELICAL PILES SHALL NOT EXCEED THE FOLLOWING VALUES:

1.8.2.1 FOR COMPRESSION LOADS:

PALLOWC = 0.4 * FYSHAFT * ASHAFT

= ALLOWABLE WORKING LOAD IN COMPRESSION (KIP)

= MINIMUM YIELD STRENGTH OF CENTRAL STEEL SHAFT (KSI) 90 KSI

= AREA OF CENTRAL STEEL SHAFT (WITH CORROSION ALLOWANCE IF REQUIRED) (IN.2)

1.8.3 THE ULTIMATE STRUCTURAL CAPACITY SHALL BE DETERMINED AS: 1.8.3.1 FOR

COMPRESSION LOADS:

PULTC = FYSHAFT * ASHAFT

WHERE: PULTC = ULTIMATE STRUCTURAL CAPACITY IN COMPRESSION (KIP)

FYSHAFT = MINIMUM YIELD STRENGTH OF CENTRAL STEEL SHAFT (KSI) 90 KSI

ASHAFT = AREA OF CENTRAL STEEL SHAFT (WITH CORROSION ALLOWANCE IF REQUIRED) (IN.2)

1.8.4 HELICAL PILE CAPACITY IN SOIL SHALL NOT BE RELIED UPON FROM THE FOLLOWING SOIL LAYERS AS DEFINED IN THE GEOTECHNICAL REPORTS:

REPORT # 2016019A DATED MAY 27, 2016 PREPARED BY SOMAT ENGINEERING INC.
THE OVERALL LENGTH AND INSTALLED TORQUE OF A HELICAL PILE SHALL BE SPECIFIED SUCH THAT THE REQUIREDIN–SOIL CAPACITY IS DEVELOPED BY END–BEARING ON THE HELIX PLATE(S) IN AN APPROPRIATE STRATA(S).

IT IS RECOMMENDED THAT THE THEORETICAL END–BEARING CAPACITY OF THE HELIX PLATES BE DETERMINED USING HELICAP? ENGINEERING SOFTWARE OR EQUAL COMMERCIALLY AVAILABLE SOFTWARE. THE REQUIRED SOIL PARAMETERS (C, Y, OR N–VALUES) FOR USE WITH HELICAP, OR EQUAL SHALL BE PROVIDED IN THE GEOTECHNICAL REPORTS. THE OWNER SHALL DETERMINE THE ALLOWABLE RESPONSE TO AXIAL LOADS.

1.8.9 THE HELICAL PILE ATTACHMENT (PILE CAP) SHALL DISTRIBUTE THE DESIGN LOAD (DL) TO THE CONCRETE FOUNDATION SUCH THAT THE CONCRETE BEARING STRESS DOES NOT EXCEED THOSE IN THE ACI BUILDING CODE AND THE STRESSES IN THE STEEL PLATES/WELDS DOES NOT EXCEED AISC ALLOWABLE STRESSES FOR STEEL MEMBERS.

1.8.10 CORROSION PROTECTION

STRUCTURE TYPE: PERMANENT

SERVICE LIFE: 50 YEARS

CORROSION PROTECTION REQUIREMENTS FOR THE VARIOUS HELICAL PILE ELEMENTS SHALL BE PROVIDED MEETING THE REQUIREMENTS OF TABLE–2 FOR:

SOIL: AGGRESSIVE

TABLE – 2
CORROSION PROTECTION

	TENSION		COMPRESSION	
SOIL .	AGGRESSIVE	NON–AGGRESSIVE	AGGRESSIVE	NON–AGGRESSIVE
CENTRAL STEEL SHAFT (LEAD SECTION)	A. GALVANIZATION OR B. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. BARE STEEL OR B. GALVANIZATION OR C. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. GALVANIZATION OR B. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. BARE STEEL OR B. GALVANIZATION OR C. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE
CENTRAL STEEL SHAFT (EXTENSION SECTION)	A. GALVANIZATION OR B. EPOXY COATING OR C. A. OR B. + GROUT COVER THE SPECIFIER MAY ELECT TO USE A GROUT CASE	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING	A. GALVANIZATION OR B. EPOXY COATING OR C. A. OR B. + GROUT COVER THE SPECIFIER MAY ELECT TO USE A GROUT CASE	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING
STEEL PILE CAP	A. GALVANIZATION OR B. EPOXY COATING	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING	A. GALVANIZATION OR B. EPOXY COATING	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING

NOTES:
LETTERED ITEMS ARE OPTIONS.
FOR GUIDANCE ON AGGRESSIVENESS CLASSIFICATION, SEE TABLE–2 OF THE APPENDIX.

1. CORROSION PROTECTION SHALL EXTEND 15'–0 BELOW CORROSIVE MATERIAL.

2. MINIMUM 1" IN SOIL. IF PROTECTIVE COATINGS (GALVANIZATION, EPOXY) ARE PROVIDED IN COMPRESSION, MINIMUM COVER MAY BE 0.25" IN SOIL. GROUT COLUMN CAN BE INSTALLED USING THE HELICAL PULLDOWN? MICROPILE METHOD.

1.9. GROUND CONDITIONS

THE GEOTECHNICAL REPORT, INCLUDING LOGS OF SOIL BORINGS AS SHOWN ON THE BORING LOCATION PLAN, SHALL BE CONSIDERED TO BE REPRESENTATIVE OF THE IN–SITU SUBSURFACE CONDITIONS LIKELY TO BE ENCOUNTERED ON THE PROJECT SITE. SAID GEOTECHNICAL REPORT SHALL BE THE USED AS THE BASIS FOR HELICAL PILE DESIGN USING GENERALLY ACCEPTED ENGINEERING JUDGEMENT AND METHODS.

THE GEOTECHNICAL REPORT SHALL BE PROVIDED FOR PURPOSES OF BIDDING. IF DURING HELICAL PILE INSTALLATION, SUBSURFACE CONDITIONS OF A TYPE AND LOCATION ARE ENCOUNTERED OF A FREQUENCY THAT WERE NOT REPORTED, INFERRED AND/OR EXPECTED AT THE TIME OF PREPARATION OF THE BID, THE ADDITIONAL COSTS REQUIRED TO OVERCOME SUCH CONDITIONS SHALL BE CONSIDERED AS EXTRAS TO BE PAID FOR.

2 REFERENCED CODES AND STANDARDS

STANDARDS LISTED BY REFERENCE, INCLUDING REVISIONS BY ISSUING AUTHORITY, FORM A PART OF THIS SPECIFICATION SECTION TO THE EXTENT INDICATED. STANDARDS LISTED ARE IDENTIFIED BY ISSUING AUTHORITY, AUTHORITY ABBREVIATION, DESIGNATION NUMBER, TITLE, OR OTHER DESIGNATION ESTABLISHED BY ISSUING AUTHORITY. STANDARDS SUBSEQUENTLY REFERENCED HEREIN ARE REFERRED TO BY ISSUING AUTHORITY ABBREVIATION AND STANDARD DESIGNATION. IN CASE OF CONFLICT, THE PARTICULAR REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. THE LATEST PUBLICATION AS OF THE ISSUE OF THIS SPECIFICATION SHALL GOVERN, UNLESS INDICATED OTHERWISE.

2.1 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

2.1.1 ASTM A36/A36M STRUCTURAL STEEL.

2.1.2 ASTM A53 PIPE, STEEL, BLACK AND HOT–DIPPED, ZINC–COATED WELDED AND SEAMLESS.

2.1.3 ASTM A153 ZINC COATING (HOT DIP) ON IRON AND STEEL HARDWARE.

2.1.4 ASTM A252 WELDED AND SEAMLESS STEEL PIPE PILES.

2.1.5 ASTM A775 ELECTROSTATIC EPOXY COATING

2.1.6 ASTM A193/A193M ALLOY–STEEL AND STAINLESS STEEL BOLTING MATERIALS FOR HIGH TEMPERATURE SERVICE.

2.1.7 ASTM A500 COLD–FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES.

2.1.8 ASTM A513 STANDARD SPECIFICATION FOR ELECTRIC RESISTANCE WELDED CARBON AND ALLOY STEEL MECHANICAL TUBING.

2.1.9 ASTM A656 HOT–ROLLED STRUCTURAL STEEL, HIGH–STRENGTH LOW–ALLOY PLATE WITH IMPROVED FORMABILITY.

2.1.10 ASTM A958 STANDARD SPECIFICATION FOR STEEL CASTINGS, CARBON, AND ALLOY, WITH TENSILE REQUIREMENTS, CHEMICAL REQUIREMENTS SIMILAR TO WROUGHT GRADES.

2.1.11 ASTM A1018 STEEL, SHEET AND STRIP, HEAVY THICKNESS COILS, HOT ROLLED, CARBON, STRUCTURAL, HIGH–STRENGTH LOW–ALLOY, COLUMBIUM OR VANADIUM, AND HIGH–STRENGTH LOW–ALLOY WITH IMPROVED FORMABILITY.

2.2 AMERICAN WELDING SOCIETY (AWS):

2.2.1 AWS D1.1 STRUCTURAL WELDING CODE – STEEL.

2.2.2 AWS D1.2 STRUCTURAL WELDING CODE – REINFORCING STEEL.

2.3 AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE):

2.3.1 ASCE 20–96 STANDARD GUIDELINES FOR THE DESIGN AND INSTALLATION OF PILE FOUNDATIONS.

2.4 DEEP FOUNDATIONS INSTITUTE (DFI):

2.4.1 GUIDE TO DRAFTING A SPECIFICATION FOR HIGH CAPACITY DRILLED AND GROUTED MICROPILES FOR STRUCTURAL SUPPORT, 1ST EDITION, COPYRIGHT 2001 BY THE DEEP FOUNDATION INSTITUTE (DFI).

2.5 SOCIETY OF AUTOMOTIVE ENGINEERS (SAE):

2.5.1 SAE J429 MECHANICAL AND MATERIAL REQUIREMENTS FOR EXTERNALLY THREADED FASTENERS.

3 SUBMITTALS

3.1 CONSTRUCTION SUBMITTALS.

3.1.2 THE CONTRACTOR SHALL SUBMIT A DETAILED DESCRIPTION OF THE CONSTRUCTION PROCEDURES PROPOSED FOR USE TO THE OWNER FOR REVIEW. THIS SHALL INCLUDE A LIST OF MAJOR EQUIPMENT TO BE USED.

3.1.3 THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:

3.1.3.A HELICAL PILE NUMBER, LOCATION AND PATTERN BY ASSIGNED IDENTIFICATION NUMBER

3.1.3.B HELICAL PILE DESIGN LOAD

3.1.3.C TYPE AND SIZE OF CENTRAL STEEL SHAFT

3.1.3.D HELIX CONFIGURATION (NUMBER AND DIAMETER OF HELIX PLATES)

3.1.3.E MINIMUM EFFECTIVE INSTALLATION TORQUE

3.1.3.F MINIMUM OVERALL LENGTH

3.1.3.G INCLINATION OF HELICAL PILE

3.1.3.H CUT–OFF ELEVATION

3.1.3.I HELICAL PILE ATTACHMENT TO STRUCTURE RELATIVE TO GRADE BEAM, COLUMN PAD, PILE CAP, ETC.

3.1.4 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL HELICAL PILE COMPONENTS, INCLUDING CORROSION PROTECTION AND PILE TOP ATTACHMENT TO THE OWNER FOR REVIEW AND APPROVAL. THIS INCLUDES HELICAL PILE LEAD/STARTER AND EXTENSION SECTION IDENTIFICATION (MANUFACTURER'S CATALOG NUMBERS).

3.1.5 THE CONTRACTOR SHALL SUBMIT PLANS FOR PRE–PRODUCTION (OPTIONAL) AND PRODUCTION TESTING FOR THE HELICAL PILES TO THE OWNER FOR REVIEW AND ACCEPTANCE PRIOR TO BEGINNING LOAD TESTS. THE PURPOSE OF THE TEST IS TO DETERMINE THE LOAD VERSUS DISPLACEMENT RESPONSE OF THE HELICAL PILE AND PROVIDE AN ESTIMATION OF ULTIMATE CAPACITY.

3.1.6 THE CONTRACTOR SHALL SUBMIT TO THE OWNER COPIES OF CALIBRATION REPORTS FOR EACH TORQUE INDICATOR OR TORQUE MOTOR, AND ALL LOAD TEST EQUIPMENT TO BE USED ON THE PROJECT. THE CALIBRATION TESTS SHALL HAVE BEEN PERFORMED WITHIN FORTY FIVE (45) WORKING DAYS OF THE DATE SUBMITTED. HELICAL PILE INSTALLATION AND TESTING SHALL NOT PROCEED UNTIL THE OWNER HAS RECEIVED THE CALIBRATION REPORTS. THESE CALIBRATION REPORTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION:

3.1.6.A NAME OF PROJECT AND CONTRACTOR
3.1.6.B NAME OF TESTING AGENCY
3.1.6C IDENTIFICATION (SERIAL NUMBER) OF DEVICE CALIBRATED
3.1.6.D DESCRIPTION OF CALIBRATED TESTING EQUIPMENT
3.1.6.E DATE OF CALIBRATION
3.1.6.F CALIBRATION DATA

3.1.7 WORK SHALL NOT BEGIN UNTIL ALL THE SUBMITTALS HAVE BEEN RECEIVED AND APPROVED BY THE OWNER. THE CONTRACTOR SHALL ALLOW THE OWNER A REASONABLE TIME TO REVIEW, COMMENT, AND RETURN THE SUBMITTAL PACKAGE AFTER A COMPLETE SET HAS BEEN RECEIVED. ALL COSTS ASSOCIATED WITH INCOMPLETE OR UNACCEPTABLE SUBMITTALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
GENERAL NOTES
–

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW

DATE: 9/2024
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

SEAL VOID IF NOT IN BLUE INK

SHEET NO.: 2 OF 18

S–0A

3.2 INSTALLATION RECORDS

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF HELICAL PILE INSTALLATION RECORDS WITHIN 24 HOURS AFTER EACH INSTALLATION IS COMPLETED. RECORDS SHALL BE PREPARED IN ACCORDANCE WITH THE SPECIFIED DIVISION OF RESPONSIBILITIES AS NOTED IN TABLE–1. FORMAL COPIES SHALL BE SUBMITTED ON A WEEKLY BASIS. THESE INSTALLATION RECORDS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION.

3.2.1 NAME OF PROJECT AND CONTRACTOR

3.2.2 NAME OF CONTRACTOR'S SUPERVISOR DURING INSTALLATION

3.2.3 DATE AND TIME OF INSTALLATION

3.2.4 NAME AND MODEL OF INSTALLATION EQUIPMENT

3.2.5 TYPE OF TORQUE INDICATOR USED

3.2.6 LOCATION OF HELICAL PILE BY ASSIGNED IDENTIFICATION NUMBER

3.2.7 ACTUAL HELICAL PILE TYPE AND CONFIGURATION – INCLUDING LEAD SECTION (NUMBER AND SIZE OF HELIX PLATES), NUMBER AND TYPE OF EXTENSION SECTIONS (MANUFACTURER'S SKU NUMBERS)

3.2.8 HELICAL PILE INSTALLATION DURATION AND OBSERVATIONS

3.2.9 TOTAL LENGTH OF INSTALLED HELICAL PILE

3.2.10 CUT–OFF ELEVATION

3.2.11 INCLINATION OF HELICAL PILE

3.2.12 INSTALLATION TORQUE AT ONE–FOOT INTERVALS FOR THE FINAL 10 FEET

3.2.13 COMMENTS PERTAINING TO INTERRUPTIONS, OBSTRUCTIONS, OR OTHER RELEVANT INFORMATION

3.2.14 RATED LOAD CAPACITIES

3.3 TEST REPORTS

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF FIELD TEST REPORTS WITHIN 24 HOURS AFTER COMPLETION OF THE LOAD TESTS. RECORDS SHALL BE PREPARED IN ACCORDANCE WITH THE SPECIFIED DIVISION OF RESPONSIBILITIES AS NOTED IN TABLE–1. FORMAL COPIES SHALL BE SUBMITTED WITHIN A REASONABLE AMOUNT OF TIME FOLLOWING TEST COMPLETION. THESE TEST REPORTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION (NOTE SECTION 6 – HELICAL PILE LOAD TESTS).

3.3.1 NAME OF PROJECT AND CONTRACTOR

3.3.2 NAME OF CONTRACTOR'S SUPERVISOR DURING INSTALLATION

3.3.3 NAME OF THIRD PARTY TEST AGENCY, IF REQUIRED

3.3.4 DATE, TIME, AND DURATION OF TEST

3.3.5 LOCATION OF HELICAL PILE BY ASSIGNED IDENTIFICATION NUMBER

3.3.6 TYPE OF TEST (I.E. TENSION OR COMPRESSION)

3.3.7 DESCRIPTION OF CALIBRATED TESTING EQUIPMENT AND TEST SET–UP

3.3.8 ACTUAL HELICAL PILE TYPE AND CONFIGURATION – INCLUDING LEAD SECTION, NUMBER AND TYPE OF EXTENSION SECTIONS (MANUFACTURER'S SKU NUMBERS)

3.3.9 STEPS AND DURATION OF EACH LOAD INCREMENT

3.3.10 CUMULATIVE PILE–HEAD MOVEMENT AT EACH LOAD STEP

3.3.11 COMMENTS PERTAINING TO TEST PROCEDURE, EQUIPMENT ADJUSTMENTS, OR OTHER RELEVANT INFORMATION

3.3.12 SIGNED BY THIRD PARTY TEST AGENCY REP., REGISTERED PROFESSIONAL ENGINEER, OR AS REQUIRED BY LOCAL JURISDICTION

3.4 CLOSEOUT SUBMITTALS

3.4.1 WARRANTY: WARRANTY DOCUMENTS SPECIFIED HEREIN

WARRANTY PERIOD: (SPECIFY TERM) YEARS COMMENCING ON DATE OF SUBSTANTIAL COMPLETION

3.4.1.A MANUFACTURER'S WARRANTY: SUBMIT, FOR OWNER'S ACCEPTANCE, MANUFACTURER'S STANDARD WARRANTY DOCUMENT EXECUTED BY AUTHORIZED COMPANY OFFICIAL. MANUFACTURER'S WARRANTY IS IN ADDITION TO, AND NOT A LIMITATION OF, OTHER RIGHTS THE OWNER MAY HAVE UNDER CONTRACT DOCUMENT.

4 PRODUCTS AND MATERIALS

4.1 CENTRAL STEEL SHAFT:

THE CENTRAL STEEL SHAFT, CONSISTING OF LEAD SECTIONS, HELICAL EXTENSIONS, AND PLAIN EXTENSIONS, SHALL BE TYPE SS (SQUARE SHAFT) OR RS (ROUND SHAFT) OR A COMBINATION OF THE TWO (SS TO RS COMBO PILE).

4.1.1 SS5 1–1/2" MATERIAL : SHALL BE HOT ROLLED ROUND–CORNERED–SQUARE (RCS) SOLID STEEL BARS MEETING DIMENSIONAL AND WORKMANSHIP REQUIREMENTS OF ASTM A29. THE BAR SHALL BE MODIFIED MEDIUM CARBON STEEL GRADE (SIMILAR TO AISI 1044) WITH IMPROVED STRENGTH DUE TO FINE GRAIN SIZE.

4.1.1.A TORQUE STRENGTH RATING = 5,500 FT–LB

4.1.1.B MINIMUM YIELD STRENGTH = 70 KSI

4.1.2 SS125 1–1/4", SS1375 1–3/8", SS150 1–1/2", SS175 1–3/4, SS200 2", SS225 2–1/4" MATERIAL: : SHALL BE HOT ROLLED ROUND–CORNERED–SQUARE (RCS) SOLID STEEL BARS MEETING THE DIMENSIONAL AND WORKMANSHIP REQUIREMENTS OF ASTM A29. THE BAR SHALL BE HIGH STRENGTH LOW ALLOY (HSLA), LOW TO MEDIUM CARBON STEEL GRADE WITH IMPROVED STRENGTH DUE TO FINE GRAIN SIZE.

4.1.2.A TORQUE STRENGTH RATING: SS125 = 4,000 FT–LB; SS1375 = 5,500 FT–LB; SS150 = 7,000 FT–LB; SS175 = 11,000 FT–LB; SS200 = 16,000 FT–LB; SS225 = 23,000 FT–LB

4.1.2.B MINIMUM YIELD STRENGTH = 90 KSI

4.2 HELIX BEARING PLATE:

SHALL BE HOT ROLLED CARBON STEEL SHEET, STRIP, OR PLATE FORMED ON MATCHING METAL DIES TO TRUE HELICAL SHAPE AND UNIFORM PITCH. BEARING PLATE MATERIAL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS.

4.3 BOLTS:

THE SIZE AND TYPE OF BOLTS USED TO CONNECT THE CENTRAL STEEL SHAFT SECTIONS TOGETHER SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS.

4.3.1 SS125 1–1/4" MATERIAL : 5/8" DIAMETER BOLT (2 PER COUPLING) PER SAE J429 GRADE 8.

4.3.2 SS1375 1–3/8" MATERIAL : 3/4" DIAMETER BOLT (2 PER COUPLING) PER SAE J429 GRADE 8.

4.3.3 SS5 AND SS150 1–1/2" MATERIAL : 3/4" DIAMETER BOLT PER ASTM A320 GRADE L7 OR ASTM A325.

4.3.4 SS175 1–3/4" MATERIAL : 7/8" DIAMETER BOLT PER ASTM A193 GRADE B7.

4.3.5 SS200 2" MATERIAL : 1–1/8" DIAMETER BOLT PER ASTM A193 GRADE B7.

4.4 COUPLINGS:

FOR TYPE SS5, SS150, SS175, SS200, AND SS225 MATERIAL, THE COUPLING SHALL BE FORMED AS AN INTEGRAL PART OF THE PLAIN AND HELICAL EXTENSION MATERIAL AS HOT UPSET FORGED SOCKETS. FOR TYPE SS125 AND SS1375 MATERIAL, THE COUPLING SHALL BE A CAST STEEL SLEEVE WITH TWO HOLES FOR CONNECTING SHAFT SECTIONS TOGETHER.

4.5 PLATES, SHAPES, OR PILE CAPS:

DEPENDING ON THE APPLICATION, THE PILE CAP SHALL BE A WELDED ASSEMBLY CONSISTING OF STRUCTURAL STEEL PLATES AND SHAPES DESIGNED TO FIT THE PILE AND TRANSFER THE APPLIED LOAD. STRUCTURAL STEEL PLATES AND SHAPES FOR HELICAL PILE TOP ATTACHMENTS SHALL CONFORM TO ASTM A36 OR ASTM A572 GRADE 50.

4.6 CORROSION PROTECTION

4.6.1 EPOXY COATING: IF USED, THE THICKNESS OF COATING APPLIED ELECTROSTATICALLY TO THE CENTRAL STEEL SHAFT SHALL BE 7–12 MILS. EPOXY COATING SHALL BE IN ACCORDANCE WITH ASTM A775. BEND TEST REQUIREMENTS ARE NOT REQUIRED. COUPLING BOLTS AND NUTS ARE NOT REQUIRED TO BE EPOXY COATED.

4.6.2 GALVANIZATION: IF USED, ALL HUBBELL POWER SYSTEMS, INC./A. B. CHANCE TYPE SS MATERIAL SHALL BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 AFTER FABRICATION. ALL HUBBELL POWER SYSTEMS, INC./A. B. CHANCE TYPE RS MATERIAL SHALL BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 OR A123 AS SPECIFIED AFTER FABRICATION.

5 EXECUTION

5.1 SITE CONDITIONS

5.1.1 PRIOR TO COMMENCING HELICAL PILE INSTALLATION, THE CONTRACTOR SHALL INSPECT THE WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SAID WORK IS COMPLETED TO THE POINT WHERE HELICAL PILES MAY COMMENCE WITHOUT RESTRICTION.

5.1.2 THE CONTRACTOR SHALL VERIFY THAT ALL HELICAL PILES MAY BE INSTALLED IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS REGARDING SUCH ITEMS AS UNDERGROUND OBSTRUCTIONS, RIGHT–OF–WAY LIMITATIONS, UTILITIES, ETC.

5.1.3 IN THE EVENT OF A DISCREPANCY, THE CONTRACTOR SHALL NOTIFY THE OWNER. THE CONTRACTOR SHALL NOT PROCEED WITH HELICAL PILE INSTALLATION IN AREAS OF DISCREPANCIES UNTIL SAID DISCREPANCIES HAVE BEEN RESOLVED. ALL COSTS ASSOCIATED WITH UNRESOLVED DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE OWNER.

5.2 INSTALLATION EQUIPMENT

5.2.1 SHALL BE ROTARY TYPE, HYDRAULIC POWER DRIVEN TORQUE MOTOR WITH CLOCKWISE AND COUNTER–CLOCKWISE ROTATION CAPABILITIES. THE TORQUE MOTOR SHALL BE CAPABLE OF CONTINUOUS ADJUSTMENT TO REVOLUTIONS PER MINUTE (RPM'S) DURING INSTALLATION. PERCUSSION DRILLING EQUIPMENT SHALL NOT BE PERMITTED. THE TORQUE MOTOR SHALL HAVE TORQUE CAPACITY 15% GREATER THAN THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT TO BE INSTALLED.

5.2.2 EQUIPMENT SHALL BE CAPABLE OF APPLYING ADEQUATE DOWN PRESSURE (CROWD) AND TORQUE SIMULTANEOUSLY TO SUIT PROJECT SOIL CONDITIONS AND LOAD REQUIREMENTS. THE EQUIPMENT SHALL BE CAPABLE OF CONTINUOUS POSITION ADJUSTMENT TO MAINTAIN PROPER HELICAL PILE ALIGNMENT.

5.3 INSTALLATION TOOLING

5.3.2 A TORQUE INDICATOR SHALL BE USED DURING HELICAL PILE INSTALLATION. THE TORQUE INDICATOR CAN BE AN INTEGRAL PART OF THE INSTALLATION EQUIPMENT OR EXTERNALLY MOUNTED IN–LINE WITH THE INSTALLATION TOOLING. TORQUE INDICATORS ARE AVAILABLE FROM CHANCE CIVIL CONSTRUCTION.

5.3.2.A SHALL BE CAPABLE OF PROVIDING CONTINUOUS MEASUREMENT OF APPLIED TORQUE THROUGHOUT THE INSTALLATION.

5.3.2.B SHALL BE CAPABLE OF TORQUE MEASUREMENTS IN INCREMENTS OF AT LEAST 500 FT–LB

5.3.2.C SHALL BE CALIBRATED PRIOR TO PRE–PRODUCTION TESTING OR START OF WORK. TORQUE INDICATORS WHICH ARE AN INTEGRAL PART OF THE INSTALLATION EQUIPMENT, SHALL BE CALIBRATED ON–SITE. TORQUE INDICATORS WHICH ARE MOUNTED IN–LINE WITH THE INSTALLATION TOOLING, SHALL BE CALIBRATED EITHER ON–SITE OR AT AN APPROPRIATELY EQUIPPED TEST FACILITY. INDICATORS THAT MEASURE TORQUE AS A FUNCTION OF HYDRAULIC PRESSURE SHALL BE CALIBRATED AT NORMAL OPERATING TEMPERATURES.

5.3.2.D SHALL BE RE–CALIBRATED, IF IN THE OPINION OF THE OWNER AND/OR CONTRACTOR REASONABLE DOUBT EXISTS AS TO THE ACCURACY OF THE TORQUE MEASUREMENTS.

5.4 INSTALLATION PROCEDURES

5.4.1 <u>CENTRAL STEEL SHAFT:</u> (LEAD AND EXTENSION SECTIONS)

5.4.1.A THE HELICAL PILE INSTALLATION TECHNIQUE SHALL BE SUCH THAT IT IS CONSISTENT WITH THE GEOTECHNICAL, LOGISTICAL, ENVIRONMENTAL, AND LOAD CARRYING CONDITIONS OF THE PROJECT.

5.4.1.B THE LEAD SECTION SHALL BE POSITIONED AT THE LOCATION AS SHOWN ON THE WORKING DRAWINGS. THE HELICAL PILE SECTIONS SHALL BE ENGAGED AND ADVANCED INTO THE SOIL IN A SMOOTH, CONTINUOUS MANNER AT A RATE OF ROTATION OF 5 TO 20 RPM'S. EXTENSION SECTIONS SHALL BE PROVIDED TO OBTAIN THE REQUIRED MINIMUM OVERALL LENGTH AND INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS. CONNECT SECTIONS TOGETHER USING COUPLING BOLT(S) AND NUT TORQUED TO 40 FT–LB.

5.4.1.C SUFFICIENT DOWN PRESSURE SHALL BE APPLIED TO UNIFORMLY ADVANCE THE HELICAL PILE SECTIONS APPROXIMATELY 3 INCHES PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF DOWN PRESSURE SHALL BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS.

5.5 TERMINATION CRITERIA

5.5.1 THE TORQUE AS MEASURED DURING THE INSTALLATION SHALL NOT EXCEED THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT.

5.5.2 THE MINIMUM INSTALLATION TORQUE AND MINIMUM OVERALL LENGTH CRITERIA AS SHOWN ON THE WORKING DRAWINGS SHALL BE SATISFIED PRIOR TO TERMINATING THE HELICAL PILE INSTALLATION.

5.5.3 IF THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT AND/OR INSTALLATION EQUIPMENT HAS BEEN REACHED PRIOR TO ACHIEVING THE MINIMUM OVERALL LENGTH REQUIRED, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS:

5.5.3.A TERMINATE THE INSTALLATION AT THE DEPTH OBTAINED SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE OWNER, OR:

5.5.4 IF THE MINIMUM INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS IS NOT ACHIEVED AT THE MINIMUM OVERALL LENGTH, AND THERE IS NO MAXIMUM LENGTH CONSTRAINT, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS:

5.5.4.A INSTALL THE HELICAL PILE DEEPER USING ADDITIONAL EXTENSION SECTIONS, OR:

5.5.4.B REMOVE THE EXISTING HELICAL PILE AND INSTALL A NEW ONE WITH ADDITIONAL AND/OR LARGER DIAMETER HELIX PLATES. THE NEW HELIX CONFIGURATION SHALL BE SUBJECT TO REVIEW AND ACCEPTANCE OF THE OWNER. IF RE–INSTALLING IN THE SAME LOCATION, THE TOP–MOST HELIX OF THE NEW HELICAL PILE SHALL BE TERMINATED AT LEAST (3) THREE FEET BEYOND THE TERMINATING DEPTH OF THE ORIGINAL HELICAL PILE.

5.5.4.C DE–RATE THE LOAD CAPACITY OF THE HELICAL PILE AND INSTALL ADDITIONAL HELICAL PILE(S). THE DE–RATED CAPACITY AND ADDITIONAL HELICAL PILE LOCATION SHALL BE SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE OWNER.

5.5.5 IF THE HELICAL PILE IS REFUSED OR DEFLECTED BY A SUBSURFACE OBSTRUCTION, THE INSTALLATION SHALL BE TERMINATED AND THE PILE REMOVED. THE OBSTRUCTION SHALL BE REMOVED, IF FEASIBLE, AND THE HELICAL PILE RE–INSTALLED. IF THE OBSTRUCTION CAN'T BE REMOVED, THE HELICAL PILE SHALL BE INSTALLED AT AN ADJACENT LOCATION, SUBJECT TO REVIEW AND ACCEPTANCE OF THE OWNER.

5.5.6 IF THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT AND/OR INSTALLATION EQUIPMENT HAS BEEN REACHED PRIOR TO PROPER POSITIONING OF THE LAST PLAIN EXTENSION SECTION RELATIVE TO THE FINAL ELEVATION, THE CONTRACTOR MAY REMOVE THE LAST PLAIN EXTENSION AND REPLACE IT WITH A SHORTER LENGTH EXTENSION. IF IT IS NOT FEASIBLE TO REMOVE THE LAST PLAIN EXTENSION, THE CONTRACTOR MAY CUT SAID EXTENSION SHAFT TO THE CORRECT ELEVATION. THE CONTRACTOR SHALL NOT REVERSE (BACK–OUT) THE HELICAL PILE TO FACILITATE EXTENSION REMOVAL.

5.5.7 THE AVERAGE TORQUE FOR THE LAST THREE FEET OF PENETRATION SHALL BE USED AS THE BASIS OF COMPARISON WITH THE MINIMUM INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS. THE AVERAGE TORQUE SHALL BE DEFINED AS THE AVERAGE OF THE LAST THREE READINGS RECORDED AT ONE–FOOT INTERVALS.

6 HELICAL PILE LOAD TESTS

6.1 PRE–PRODUCTION TESTS (OPTIONAL)
LOAD TESTS SHALL BE PERFORMED TO VERIFY THE SUITABILITY AND CAPACITY OF THE PROPOSED HELICAL PILE, AND THE PROPOSED INSTALLATION PROCEDURES PRIOR TO INSTALLATION OF PRODUCTION HELICAL PILES. ONE SACRIFICIAL TEST HELICAL PILES SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO THE START OF WORK ON THE PRODUCTION PILES. THE OWNER SHALL DETERMINE THE NUMBER OF PRE–PRODUCTION TESTS, THEIR LOCATION, ACCEPTABLE LOAD AND MOVEMENT CRITERIA, AND THE TYPE(S) OF LOAD DIRECTION (I.E., TENSION, COMPRESSION, OR BOTH). ADDITIONAL PURPOSE OF PRE–PRODUCTION TESTS IS TO EMPIRICALLY VERIFY THE ULTIMATE CAPACITY TO THE AVERAGE INSTALLING TORQUE OF THE HELICAL PILE FOR THE PROJECT SITE.

PRE–PRODUCTION HELICAL PILE INSTALLATION METHODS, PROCEDURES, EQUIPMENT, AND OVERALL LENGTH SHALL BE IDENTICAL TO THE PRODUCTION HELICAL PILES TO THE EXTENT PRACTICAL EXCEPT WHERE APPROVED OTHERWISE BY THE OWNER.

THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND ACCEPTANCE THE PROPOSED HELICAL PILE LOAD TESTING PROCEDURE. THE PRE–PRODUCTION TEST PROPOSAL SHALL BE IN GENERAL CONFORMANCE WITH ASTM D1143 AND/OR D–3689, AND SHALL PROVIDE THE MINIMUM FOLLOWING INFORMATION:

TYPE AND ACCURACY OF LOAD EQUIPMENT
TYPE AND ACCURACY OF LOAD MEASURING EQUIPMENT
TYPE AND ACCURACY OF PILE–HEAD DEFLECTION EQUIPMENT
GENERAL DESCRIPTION OF LOAD REACTION SYSTEM, INCLUDING DESCRIPTION OF REACTION ANCHORS
CALIBRATION REPORT FOR COMPLETE LOAD EQUIPMENT, INCLUDING HYDRAULIC JACK, PUMP, PRESSURE GAUGE, HOSES, AND FITTINGS.

IF THE PRE–PRODUCTION TEST FAILS TO MEET THE DESIGN REQUIREMENTS, THE CONTRACTOR SHALL MODIFY THE HELICAL PILE DESIGN AND/OR INSTALLATION METHODS AND RETEST THE MODIFIED ANCHOR, AS DIRECTED BY THE OWNER.

6.1 LOAD TEST EQUIPMENT

6.1.1 THE LOAD TEST EQUIPMENT SHALL BE CAPABLE OF INCREASING OR DECREASING THE APPLIED LOAD INCREMENTALLY. THE INCREMENTAL CONTROL SHALL ALLOW FOR SMALL ADJUSTMENTS, WHICH MAY BE NECESSARY TO MAINTAIN THE APPLIED LOAD FOR A SUSTAINED, HOLD PERIOD.

6.1.2 THE REACTION SYSTEM SHALL BE DESIGNED SO AS TO HAVE SUFFICIENT STRENGTH AND CAPACITY TO DISTRIBUTE THE TEST LOADS TO THE GROUND. IT SHOULD ALSO BE DESIGNED TO MINIMIZE ITS MOVEMENT UNDER LOAD AND TO PREVENT APPLYING AN ECCENTRIC LOAD TO THE PILE HEAD. TEST LOADS ARE NORMALLY HIGHER THAN THE DESIGN LOADS ON THE STRUCTURE. THE DIRECTION OF THE APPLIED LOAD SHALL BE CO–LINEAR WITH THE HELICAL PILE AT ALL TIMES.

6.1.3 DIAL GAUGE(S) SHALL BE USED TO MEASURE HELICAL PILE MOVEMENT. THE DIAL GAUGE SHALL HAVE AN ACCURACY OF AT LEAST +/–0.001–IN. AND A MINIMUM TRAVEL SUFFICIENT TO MEASURE ALL HELICAL PILE MOVEMENTS WITHOUT REQUIRING RESETTING THE GAUGE. THE DIAL GAUGE SHALL BE POSITIONED SO ITS STEM IS PARALLEL WITH THE AXIS OF THE HELICAL PILE. THE STEM MAY REST ON A SMOOTH PLATE LOCATED AT THE PILE HEAD. SAID PLATE SHALL BE POSITIONED PERPENDICULAR TO THE AXIS OF THE HELICAL PILE. THE DIAL GAUGE SHALL BE SUPPORTED BY A REFERENCE APPARATUS TO PROVIDE AN INDEPENDENT FIXED REFERENCE POINT. SAID REFERENCE APPARATUS SHALL BE INDEPENDENT OF THE REACTION SYSTEM AND SHALL NOT BE AFFECTED BY ANY MOVEMENT OF THE REACTION SYSTEM.

6.1.4 THE LOAD TEST EQUIPMENT SHALL BE RE–CALIBRATED, IF IN THE OPINION OF THE OWNER AND/OR CONTRACTOR REASONABLE DOUBT EXISTS AS TO THE ACCURACY OF THE LOAD OR DEFLECTION MEASUREMENTS.

6.2 TESTING PROGRAM

6.2.1 THE HYDRAULIC JACK SHALL BE POSITIONED AT THE BEGINNING OF THE TEST SUCH THAT THE UNLOADING AND REPOSITIONING OF THE JACK DURING THE TEST SHALL NOT BE REQUIRED. THE JACK SHALL ALSO BE POSITIONED CO–AXIAL WITH RESPECT TO THE PILE–HEAD SO AS TO MINIMIZE ECCENTRIC LOADING. THE HYDRAULIC JACK SHALL BE CAPABLE OF APPLYING A LOAD NOT LESS THAN TWO TIMES THE PROPOSED DESIGN LOAD (DL). THE PRESSURE GAUGE SHALL BE GRADUATED IN 100 PSI INCREMENTS OR LESS. THE STROKE OF THE JACK SHALL NOT BE LESS THAN THE THEORETICAL ELASTIC SHORTENING OF THE TOTAL HELICAL PILE LENGTH AT THE MAXIMUM TEST LOAD.

6.2.2 AN ALIGNMENT LOAD (AL) SHALL BE APPLIED TO THE HELICAL PILE PRIOR TO SETTING THE DEFLECTION MEASURING EQUIPMENT TO ZERO OR A REFERENCE POSITION. THE AL SHALL BE NO MORE THAN 10% OF THE DESIGN LOAD (I.E., 0.1 DL). AFTER AL IS APPLIED, THE TEST SET–UP SHALL BE INSPECTED CAREFULLY TO ENSURE IT IS SAFE TO PROCEED.

6.2.3 AXIAL COMPRESSION OR TENSION LOAD TESTS SHALL BE CONDUCTED BY LOADING THE HELICAL PILE IN STEPWISE FASHION AS SHOWN IN TABLE–3 TO THE EXTENT PRACTICAL. PILE–HEAD DEFLECTION SHALL BE RECORDED AT THE BEGINNING OF EACH STEP AND AFTER THE END OF THE HOLD TIME. THE BEGINNING OF THE HOLD TIME SHALL BE DEFINED AS THE MOMENT WHEN THE LOAD EQUIPMENT ACHIEVES THE REQUIRED LOAD STEP.

6.2.4 TEST LOADS SHALL BE APPLIED UNTIL CONTINUOUS JACKING IS REQUIRED TO MAINTAIN THE LOAD STEP OR UNTIL THE TEST LOAD INCREMENT EQUALS 200% OF THE DESIGN LOAD (DL) (I.E., 2.0 DL), WHICHEVER OCCURS FIRST. THE OBSERVATION PERIOD FOR THIS LAST LOAD INCREMENT SHALL BE 10 MINUTES. DISPLACEMENT READINGS SHALL BE RECORDED AT 1, 2, 3, 4, 5 AND 10 MINUTES (LOAD INCREMENT MAXIMA ONLY).

6.2.5 THE APPLIED TEST LOAD SHALL BE REMOVED IN FOUR APPROXIMATELY EQUAL DECREMENTS PER THE SCHEDULE IN TABLE–3. THE HOLD TIME FOR THESE LOAD DECREMENTS SHALL BE 1 MINUTE, EXCEPT FOR THE LAST DECREMENT, WHICH SHALL BE HELD FOR 5 MINUTES.

<u>TABLE–3.</u> STEPS FOR PRE–PRODUCTION LOAD TESTING

LOAD STEP	HOLD TIME
AL	1.0 MIN.
0.20 DL	2.5 MIN.
040 DL	2.5 MIN.
0.60 DL	2.5 MIN.
0.80 DL	2.5 MIN.
1.00 DL	2.5 MIN.
0.75 DL	2.5 MIN.
0.50 DL	1.0 MIN.
0.25 DL	1.0 MIN.
AL	1.0 MIN.
0.50 DL	1.0 MIN.
1.00 DL	1.0 MIN.
1.20 DL	2.5 MIN.
1.40 DL	2.5 MIN.
1.60 DL	2.5 MIN.
1.80 DL	2.5 MIN.
2.00 DL	10.0 MIN.
1.50 DL	1.0 MIN.
1.00 DL	1.0 MIN.
0.50 DL	1.0 MIN.
AL	5.0 MIN.

AL= ALIGNMENT LOAD, DL=DESIGN LOAD

6.3 ACCEPTANCE CRITERIA FOR HELICAL PILE VERIFICATION LOAD TESTS BOTH OF THE FOLLOWING CRITERIA MUST BE MET FOR APPROVAL:

1. THE HELICAL PILE SHALL SUSTAIN THE COMPRESSION AND TENSION DESIGN CAPACITIES (1.0 DL) WITH NO MORE THAN 1/2 IN. (MM) TOTAL VERTICAL MOVEMENT OF THE PILE–HEAD AS MEASURED RELATIVE TO THE TOP OF THE HELICAL PILE PRIOR TO THE START OF TESTING.

2. FAILURE DOES NOT OCCUR AT THE 2.0 DL MAXIMUM COMPRESSION AND TENSION TEST LOADS. THE FAILURE LOAD SHALL BE DEFINED BY ONE OF THE FOLLOWING DEFINITIONS – WHICHEVER RESULTS IN THE LESSER LOAD:

* THE POINT AT WHICH THE MOVEMENT OF THE HELICAL PILE TIP EXCEEDS THE ELASTIC COMPRESSION/TENSION OF THE PILE SHAFT BY 0.08 B, WHERE B IS DEFINED AS THE DIAMETER OF THE LARGEST HELIX.

* THE POINT AT WHICH THE SLOPE OF THE LOAD VERSUS DEFLECTION (AT END OF INCREMENT) CURVE EXCEEDS 0.05 INCHES/KIP.

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF FIELD TEST REPORTS CONFIRMING HELICAL PILE CONFIGURATION AND CONSTRUCTION DETAILS WITHIN 24 HOURS AFTER COMPLETION OF THE LOAD TESTS. FORMAL COPIES SHALL BE SUBMITTED AS PER SECTION 3.3. THIS WRITTEN DOCUMENTATION WILL EITHER CONFIRM THE LOAD CAPACITY AS REQUIRED ON THE WORKING DRAWINGS OR PROPOSE CHANGES BASED UPON THE RESULTS OF THE PRE–PRODUCTION TESTS.

WHEN A HELICAL PILE FAILS TO MEET THE ACCEPTANCE CRITERIA, MODIFICATIONS SHALL BE MADE TO THE DESIGN, THE CONSTRUCTION PROCEDURES, OR BOTH. THESE MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, DE–RATING THE HELICAL PILE LOAD CAPACITY, MODIFYING THE INSTALLATION METHODS AND EQUIPMENT, INCREASING THE MINIMUM EFFECTIVE INSTALLATION TORQUE, CHANGING THE HELIX CONFIGURATION, OR CHANGING THE HELICAL PILE MATERIAL (I.E., CENTRAL STEEL SHAFT). MODIFICATIONS THAT REQUIRE CHANGES TO THE STRUCTURE SHALL HAVE PRIOR REVIEW AND ACCEPTANCE OF THE OWNER. THE CAUSE FOR ANY MODIFICATIONS OF DESIGN OR CONSTRUCTION PROCEDURES SHALL BE DECIDED IN ORDER TO DETERMINE ANY ADDITIONAL COST IMPLICATIONS.

7.1 PRODUCTION HELICAL PILE TESTING (THIS MAY BE THE ONLY TYPE OF LOAD TEST CONDUCTED, DEPENDING ON PROJECT CONDITIONS.)
THE CONTRACTOR SHALL PERFORM PROOF TESTS ON A MINIMUM OF 50% OF THE TOTAL PRODUCTION HELICAL PILES. THE HELICAL PILES TO BE TESTED WILL BE SELECTED BY THE OWNER, AT THE CONTRACTOR'S SUGGESTION, BUT WITH THE OWNER'S PERMISSION, TENSION TESTS MAY BE PERFORMED IN LIEU OF COMPRESSION TESTS UP TO 1.00 DL FOR HELICAL PILES WITH SUFFICIENT STRUCTURAL TENSION CAPACITY.

THE TEST SEQUENCE SHALL BE AS SHOWN IN <u>TABLE–4 TO THE EXTENT PRACTICAL</u>

TABLE–4
STEPS FOR PRODUCTION TESTING

LOAD STEP	HOLD TIME
AL	0.0 MIN.
0.20 DL	2.5 MIN.
040 DL	2.5 MIN.
0.60 DL	2.5 MIN.
0.80 DL	2.5 MIN.
1.00 DL	5.0 MIN.
0.60 DL	1.0 MIN.
0.40 DL	1.0 MIN.
0.20 DL	1.0 MIN.
AL	5.0 MIN.

AL= ALIGNMENT LOAD, DL=DESIGN LOAD

THE ACCEPTANCE CRITERIA FOR PRODUCTION HELICAL PILES SHALL BE PER SECTION 6.4 ITEM 1. IF A PRODUCTION HELICAL PILE THAT IS TESTED FAILS TO MEET THE ACCEPTANCE CRITERIA, THE CONTRACTOR SHALL BE DIRECTED TO PROOF TEST ANOTHER HELICAL PILE IN THE VICINITY. FOR FAILED HELICAL PILES AND FURTHER CONSTRUCTION OF OTHER FOUNDATIONS, THE CONTRACTOR SHALL MODIFY THE DESIGN, THE CONSTRUCTION PROCEDURE, OR BOTH. THESE MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, INSTALLING REPLACEMENT HELICAL PILES, MODIFYING THE INSTALLATION METHODS AND EQUIPMENT, INCREASING THE MINIMUM EFFECTIVE INSTALLATION TORQUE, CHANGING THE HELIX CONFIGURATION, OR CHANGING THE HELICAL PILE MATERIAL (I.E., CENTRAL STEEL SHAFT). MODIFICATIONS THAT

REQUIRE CHANGES TO THE STRUCTURE SHALL HAVE PRIOR REVIEW AND ACCEPTANCE OF THE OWNER. ANY MODIFICATIONS OF DESIGN OR CONSTRUCTION PROCEDURES SHALL BE AT THE CONTRACTOR'S EXPENSE.

7.2 LATERAL TESTING

END OF SPECIFICATION

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WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
GENERAL NOTES
–

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

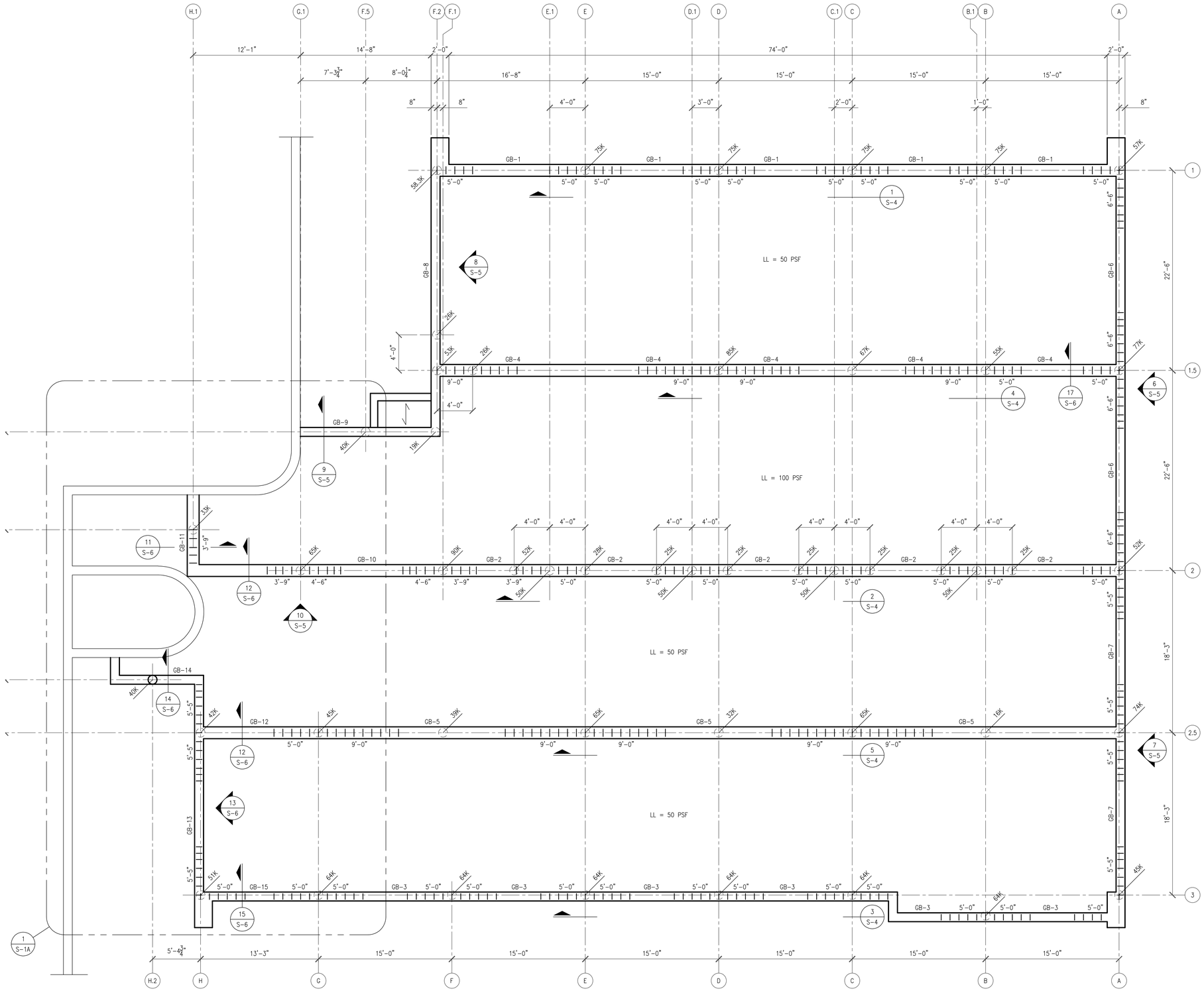
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3 OF 18

S–0B



GRADE BEAM AND PIER PLAN

SCALE : 3/16" = 1'-0"

XXX INDICATES MINIMUM PIER CAPACITY

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PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
FOUNDATION LOADS
–

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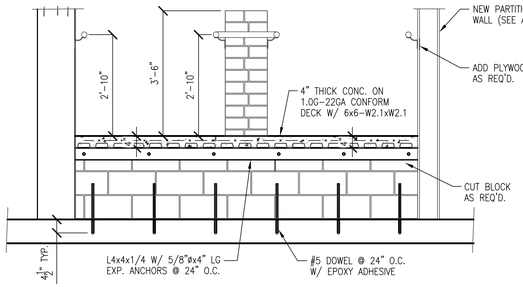
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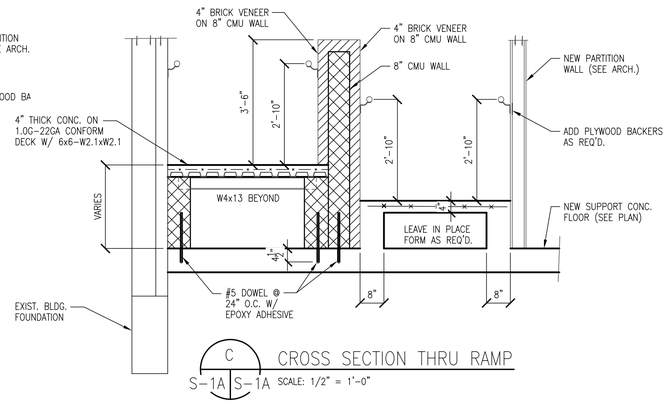
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SHEET NO.:
4 OF 18

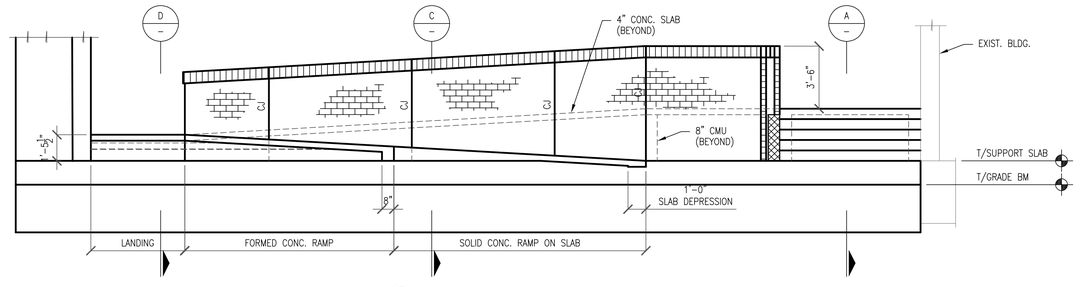
S–1



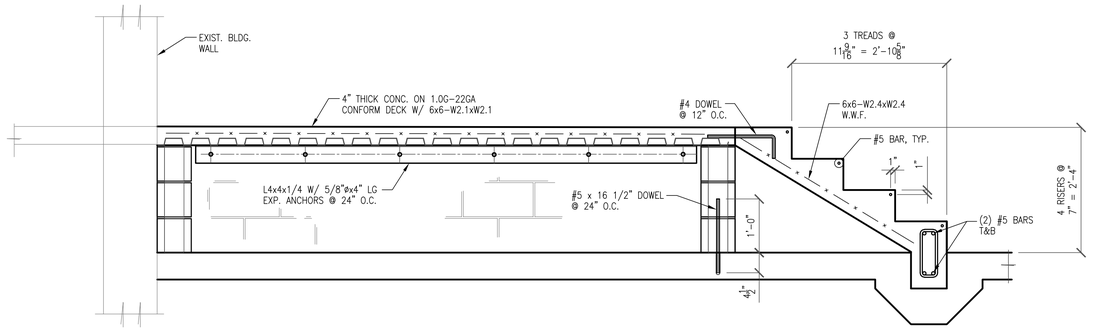
D CROSS SECTION THRU LANDING
S-1A | S-1A SCALE: 1/2" = 1'-0"



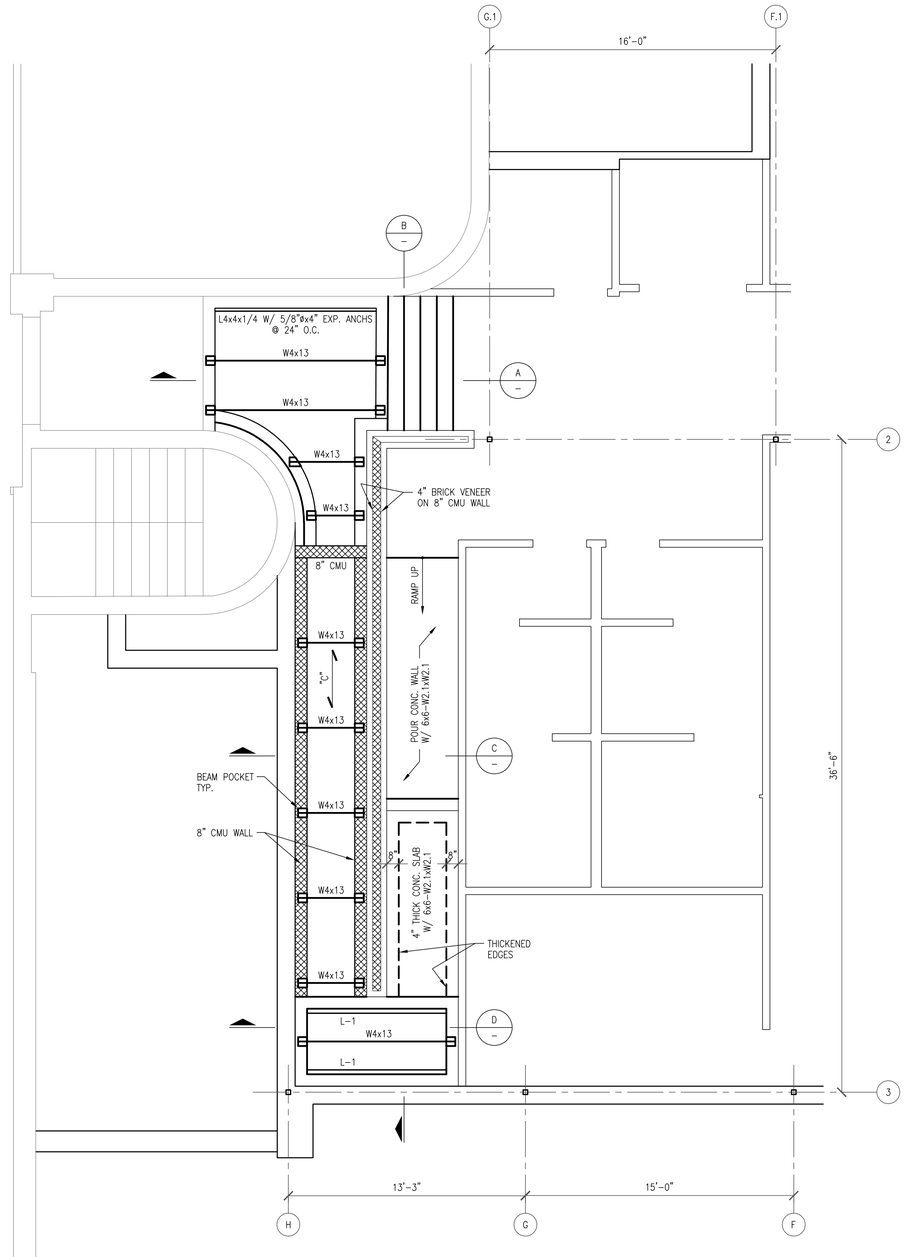
C CROSS SECTION THRU RAMP
S-1A | S-1A SCALE: 1/2" = 1'-0"



B CROSS SECTION THRU RAMP
S-1A | S-1A SCALE: 1/4" = 1'-0"



A STAIR SECTION
S-1A | S-1A SCALE: 3/4" = 1'-0"



1 ENLARGED RAMP PLAN
S-1 | S-1A SCALE: 1/4" = 1'-0"

L-1: L4x4x1/4 W/ 5/8"ø x3" LG EXP. ANCHORS @ 24" O.C.

"C" 4" THICK CONCRETE 1.0G-22 GA. CONFORM METAL DECK W/ 6x6-W2.1-W2.1

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SHEET TITLE:
ENLARGED FOUNDATION PLAN

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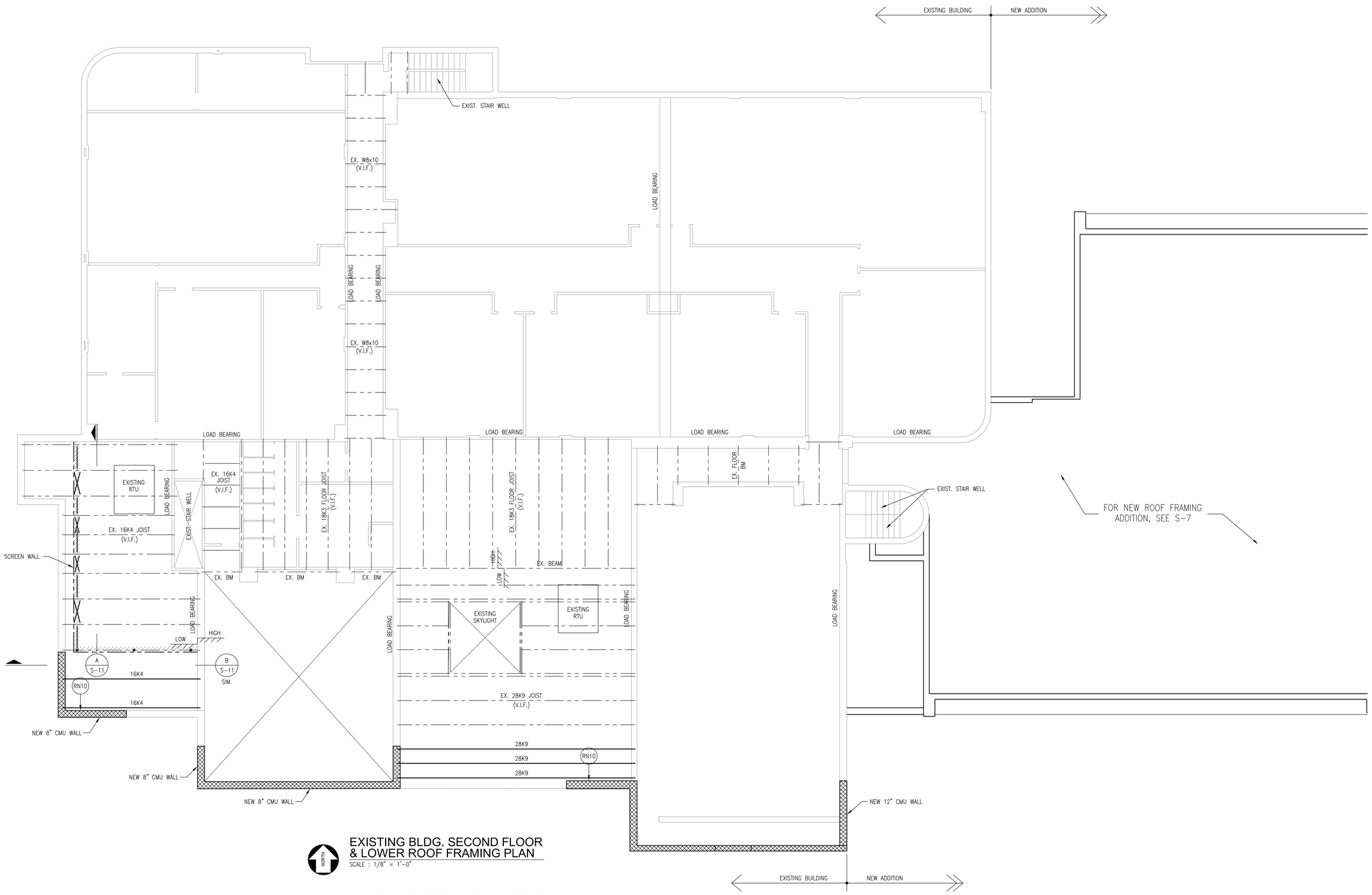
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S-1A



EXISTING BLDG. SECOND FLOOR & LOWER ROOF FRAMING PLAN

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

ROOF DECK KEYNOTES LEGEND

RN10 — L4x4x5/16 W/ 5/8"ø EXPANSION ANCHORS @ 18" O.C.

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MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
EXISTING BUILDING LOWER ROOF FRAMING PLAN

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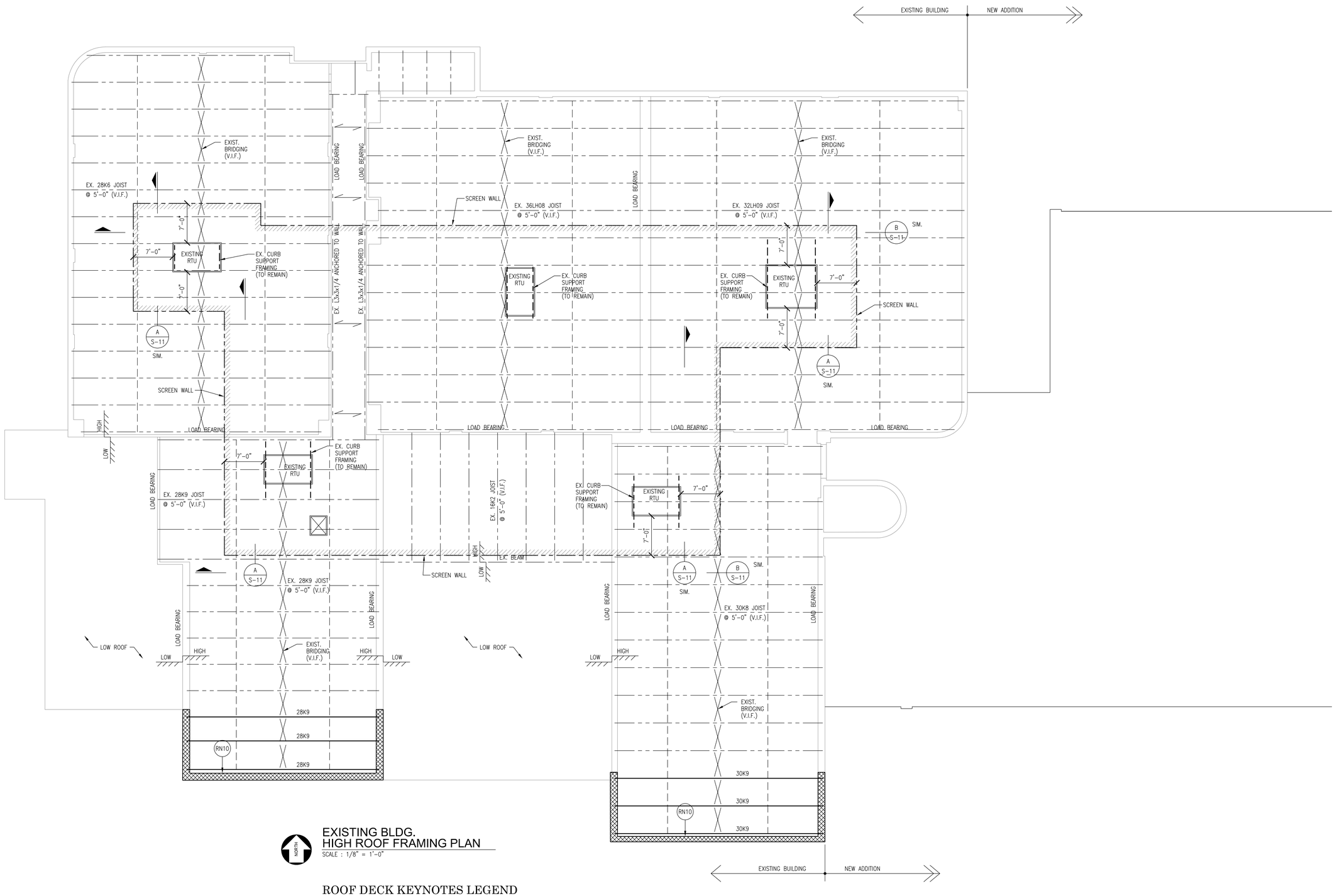
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S-1B



EXISTING BLDG. HIGH ROOF FRAMING PLAN

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

ROOF DECK KEYNOTES LEGEND

RN10 — L4x4x5/16 W/ 5/8"φ EXPANSION ANCHORS @ 18" O.C.

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SHEET TITLE:
EXISTING BUILDING HIGH ROOF FRAMING PLAN

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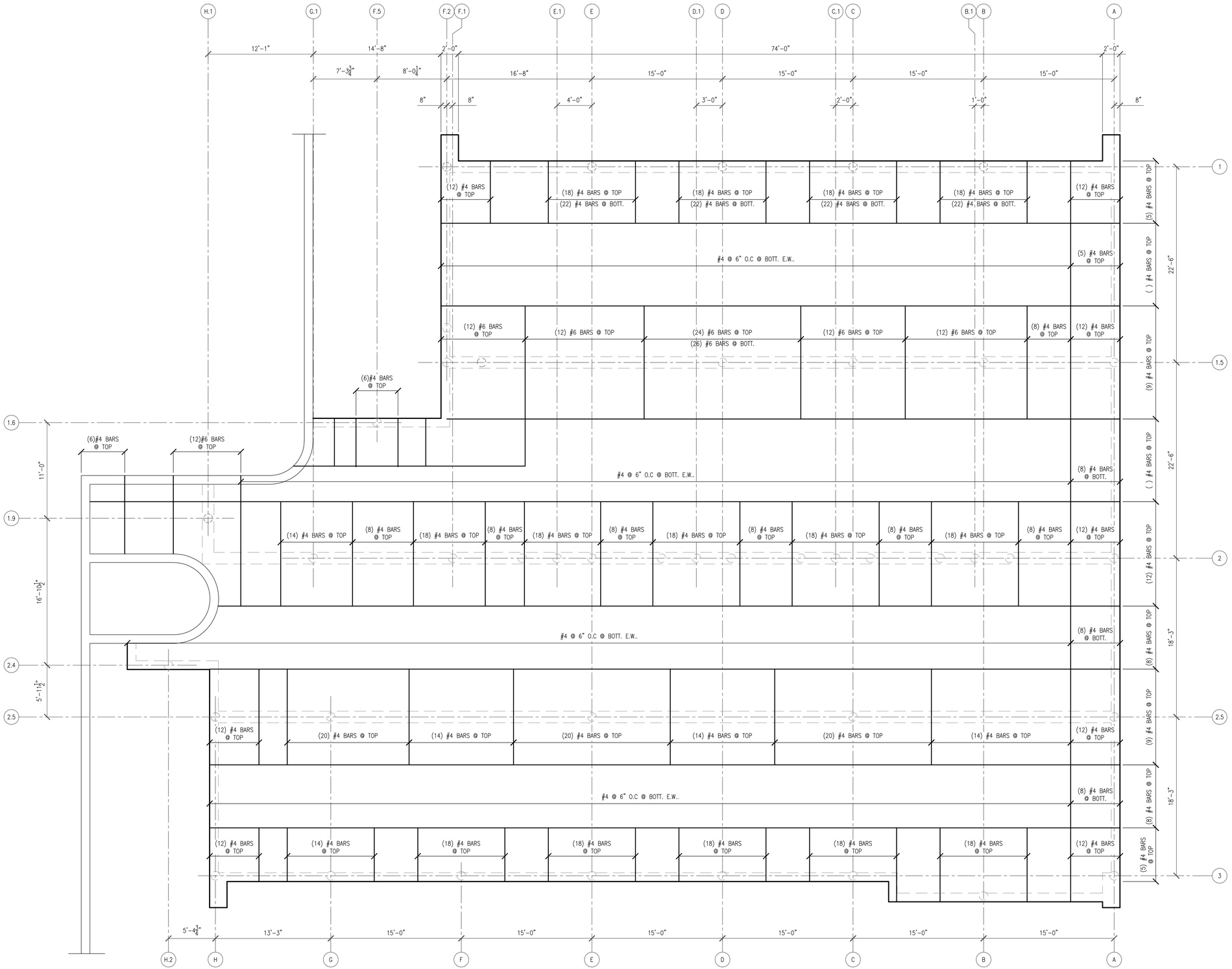
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S-1C



8" SLAB REINFORCING PLAN

SCALE : 3/16" = 1'-0"

6" OR 7" THICK SUPPORTED

SLAB
DL = 88 PSF (7")
DL = 12 PSF PARTITION

GRADE BEAMS
EXTERIOR 16"x36" = 600# /FT
INTERIOR 12"x24" = 300# /FT

WALL
DL = 95 PSF = 1.4# /FT

6" OR 7" THICK SUPPORTED

SLAB
DL = 88 PSF (7")
DL = 12 PSF PARTITION

GRADE BEAMS
EXTERIOR 16"x36" = 600# /FT
INTERIOR 12"x24" = 300# /FT

WALL
DL = 95 PSF = 1.4# /FT

FOUNDATION KEYNOTES LEGEND

UNLESS INDICATED OTHERWISE, ALL DIMENSIONS ARE TO COLUMN CENTERLINE OR FACE OF MASONRY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS. REFER TO SHEET _____ FOR WALL FOOTING DETAILS. REFER TO SHEET _____ FOR COLUMN FOOTING AND WALL FOOTING SCHEDULES.

WALL FOOTING WIDTHS AND COLUMN FOOTING SIZES MAY NOT BE INCREASED WITHOUT PRIOR PERMISSION FROM THE ENGINEER. FORM FOUNDATIONS AS REQUIRED TO HOLD THE DIMENSIONS INDICATED IN THE SCHEDULES. IF CONSTRUCTION TOLERANCES REQUIRE WIDER WALL FOOTINGS, CONTRACTOR IS TO OBTAIN PERMISSION FROM THE ENGINEER PRIOR TO PROCEEDING.

INDICATES APPROXIMATE SOIL BORING LOCATION PER REPORT NO. 201619A PREPARED BY SOMAT ENGINEERING, INC. (DATED 05-27-2016)

0'-0" INDICATES EXISTING BOTTOM OF FOOTING REFERENCE ELEVATION, FIELD VERIFY.

FN1 THICKENED SLAB AT INTERIOR MASONRY PARTITIONS, SEE TYPICAL DETAIL ___ AT NEW SLAB AND ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATION.

FN2 PROVIDE SLEEVE AS REQUIRED FOR MECHANICAL PIPING THRU FOUNDATION. STEP BOTTOM OF FOOTING DOWN AS REQUIRED TO PROVIDE 2-#5 AND MIN. 12" CONCRETE BELOW PIPE.

FN3 DRILL AND GROUT #5 DOWELS x 12" LONG TO EXISTING W/ HITI "HVA" ADHESIVE SYSTEM (8" EMBED.) AT MAX. 24" O.C. HORIZONTAL AND VERTICAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS. MATCH EXISTING BOTTOM OF FOOTING ELEVATION WITH NEW BOTTOM OF FOOTING, PROVIDE STEP OER DETAIL _____ AS REQUIRED.

FN4 #5 VERTICAL REINFORCEMENT AT 48" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATE THAN 10'-0".

FN5 #6 VERTICAL REINFORCEMENT AT 32" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATER THAN 10'-0".

FN6 #6 VERTICAL REINFORCEMENT AT 24" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATER THAN 10'-0".

FN7 #6 VERTICAL REINFORCEMENT AT 8" O.C. FULL HEIGHT, GROUT SOLID, TYPICAL FOR 6 CORES AT COLUMN LOCATIONS.

SLAB JOINT LEGEND

A INDICATES CONTROL JOINT. SEE TYPICAL DETAIL 2/S2.1

B INDICATES CONSTRUCTION JOINT. SEE TYPICAL DETAIL 3/S2.1

C INDICATES CONTINUOUS PRE-MOLDED JOINT FILLER (TYPICAL AT SLAB EDGES).

INDICATES 8" CONCRETE SLAB WITH (2) LAYERS OF #4 BARS AT 12" O.C. TOP AND BOTTOM. SLAB SUPPORTS FUTURE MEZZANINE COLUMN LOADS.

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PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
SLAB PLAN
--

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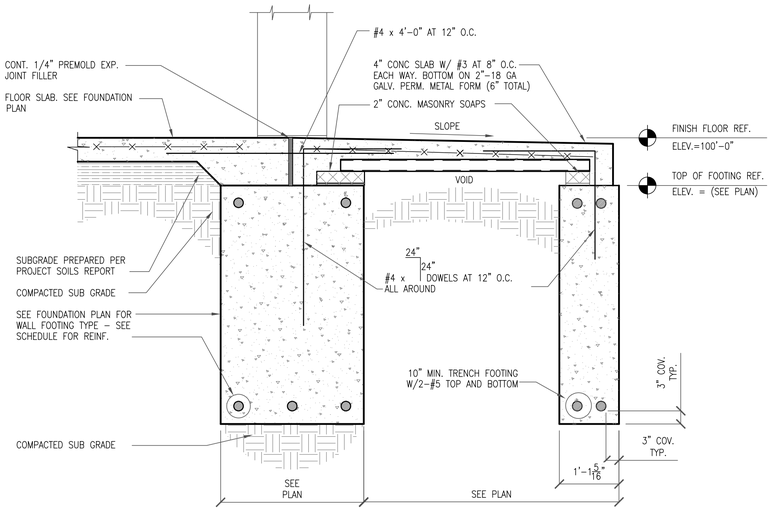
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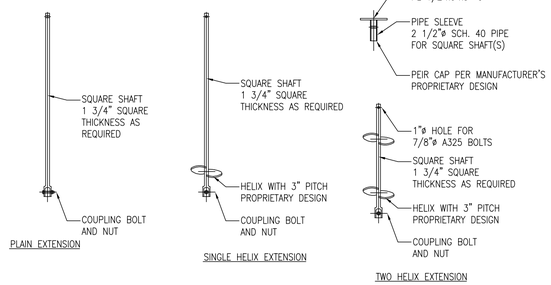
SHEET NO.: 8 OF 18

S-2



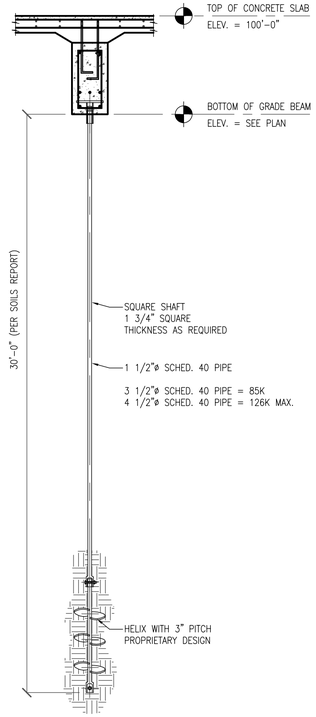
5 S-3 | S-3 TYPICAL ENTRANCE SLAB

SCALE: 3/4" = 1'-0"



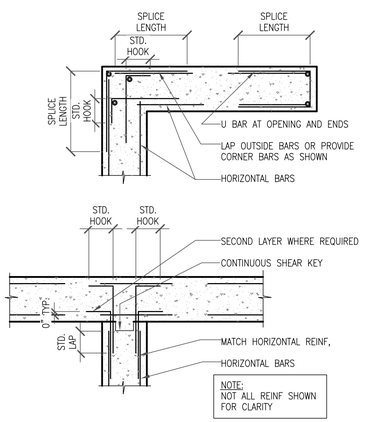
7 S-3 | S-3 HELICAL PIER ASSEMBLY COMPONENTS

SCALE: 3/8" = 1'-0"



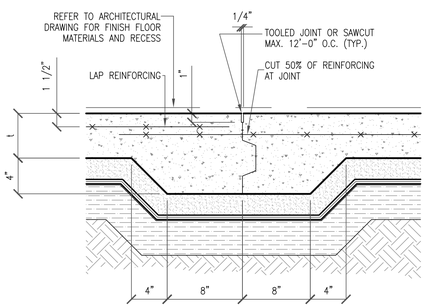
6 S-3 | S-3 TYPICAL HELICAL PIER SHAFT DETAIL

SCALE: 3/8" = 1'-0"



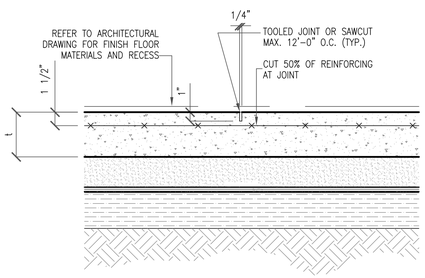
4 S-3 | S-3 TYP. HORIZONTAL REINF. AT CORNERS AND INTERSECTIONS

SCALE: 3/4" = 1'-0"



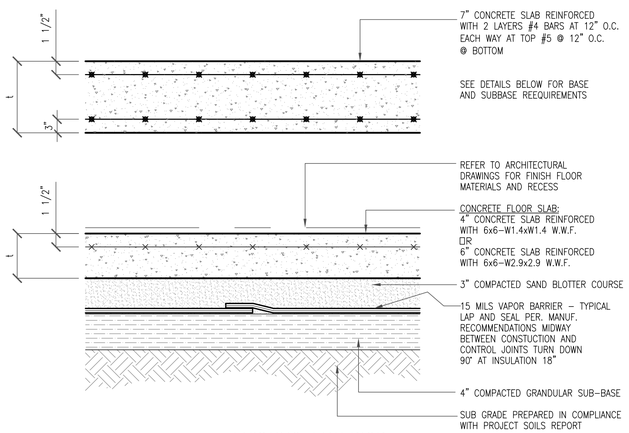
3 S-3 | S-3 TYPICAL CONSTRUCTION JOINT

SCALE: 3/4" = 1'-0"



2 S-3 | S-3 TYPICAL CONTROL JOINT

SCALE: 3/4" = 1'-0"



1 S-3 | S-3 EXISTING EXTERIOR TYPICAL CONCRETE SLAB

SCALE: 3/4" = 1'-0"

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PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
DETAILS
–

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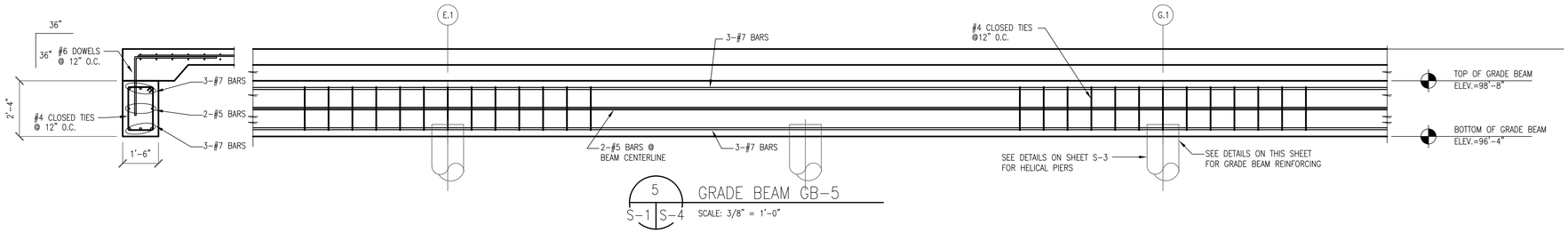
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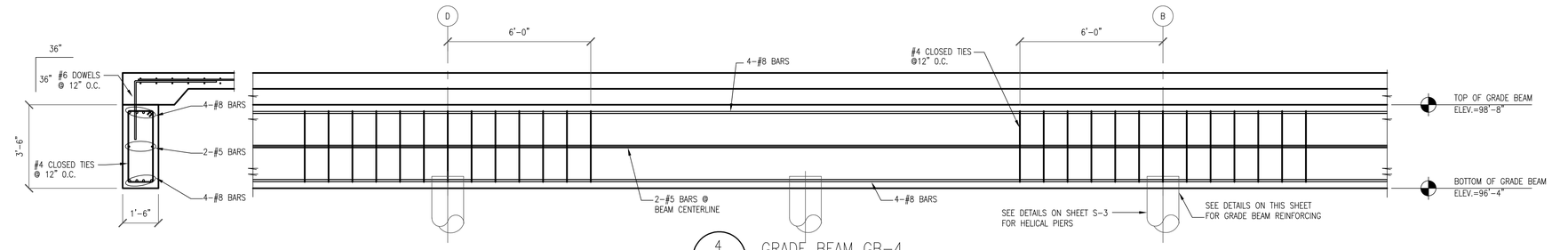
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S-3



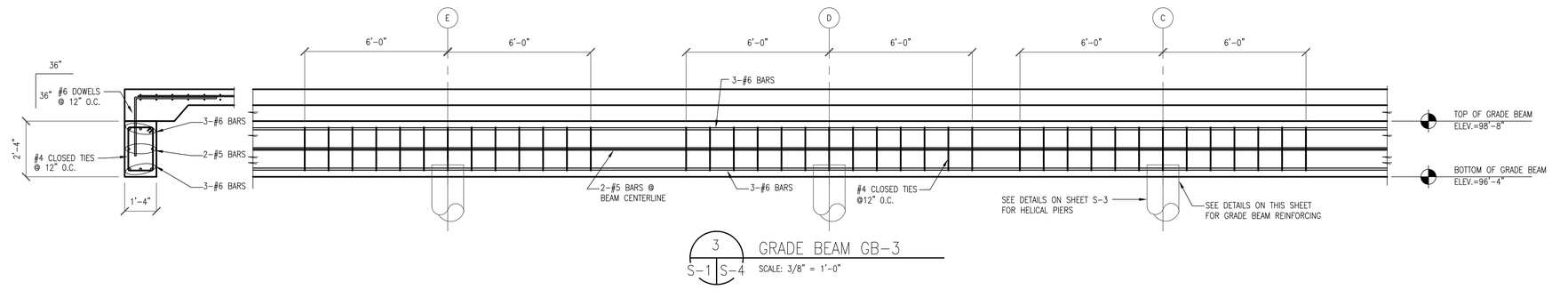
5 S-1 | S-4 GRADE BEAM GB-5

SCALE: 3/8" = 1'-0"



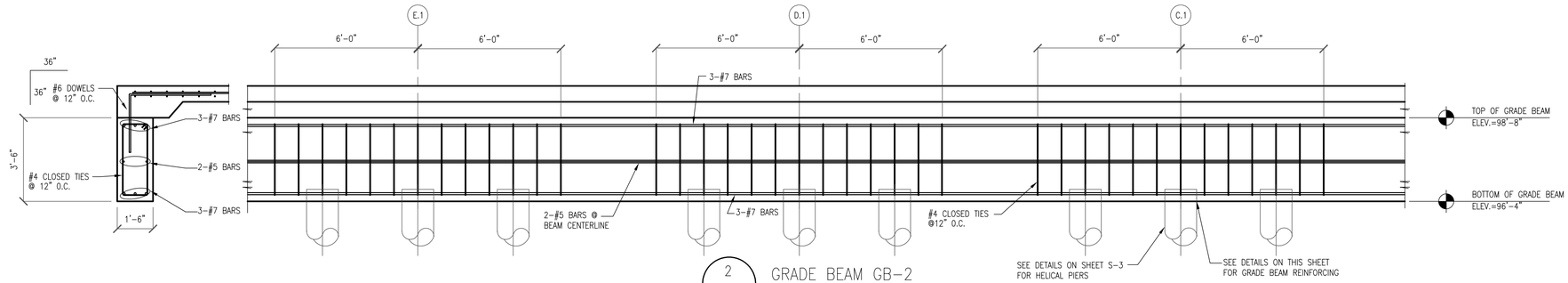
4 S-1 | S-4 GRADE BEAM GB-4

SCALE: 3/8" = 1'-0"



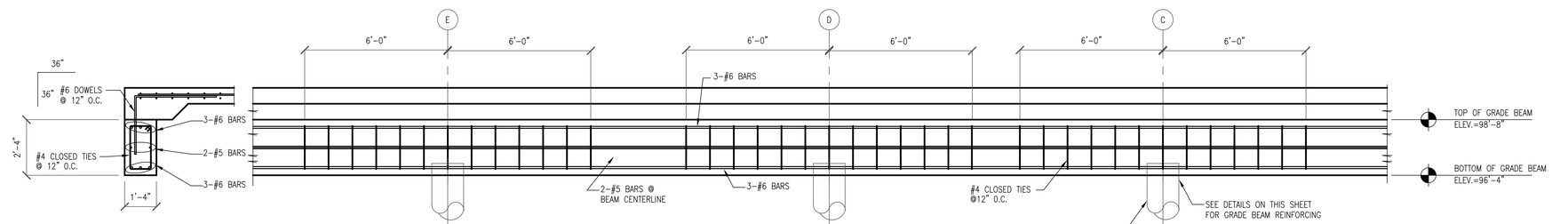
3 S-1 | S-4 GRADE BEAM GB-3

SCALE: 3/8" = 1'-0"



2 S-1 | S-4 GRADE BEAM GB-2

SCALE: 3/8" = 1'-0"



1 S-1 | S-4 GRADE BEAM GB-1

SCALE: 3/8" = 1'-0"

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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
DETAILS
–

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REVISIONS

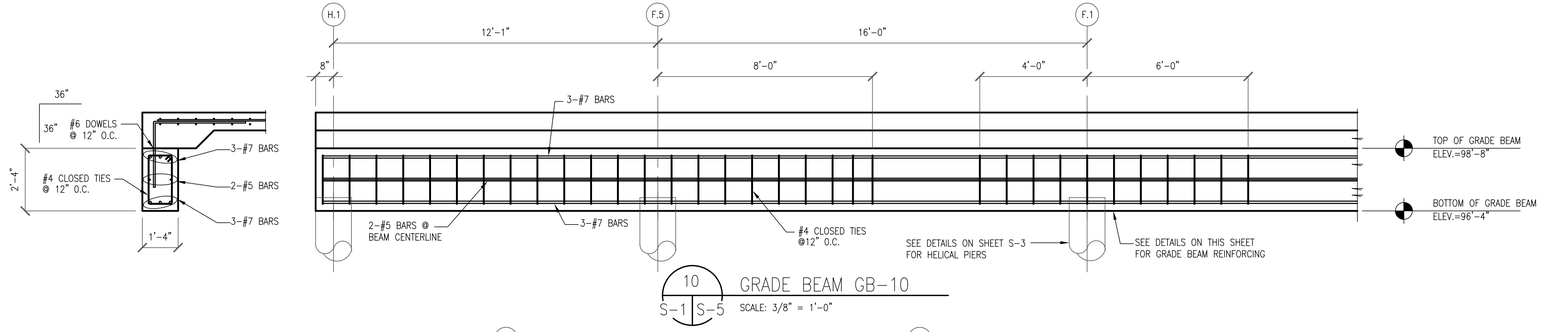
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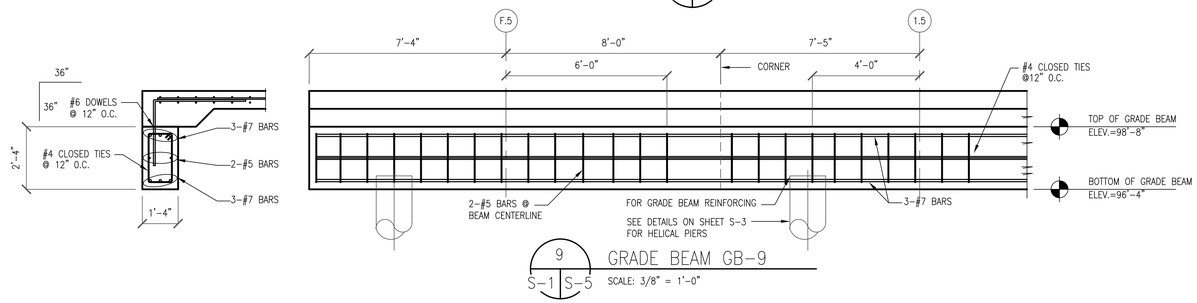
SHEET NO.: 10 OF 18

S-4



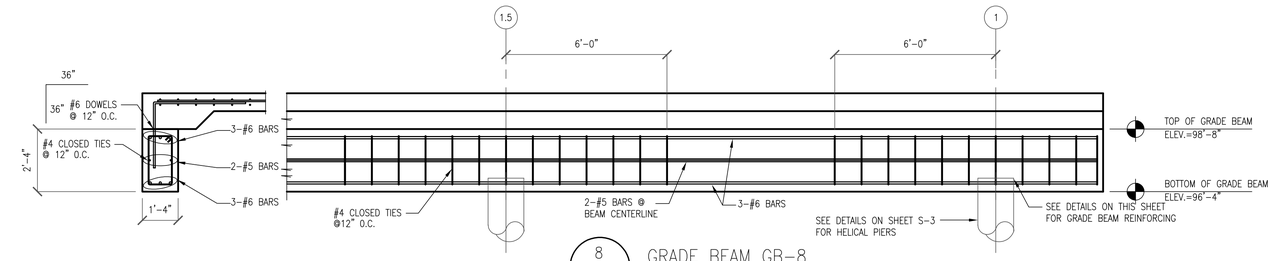
10 S-1 S-5 GRADE BEAM GB-10

SCALE: 3/8" = 1'-0"



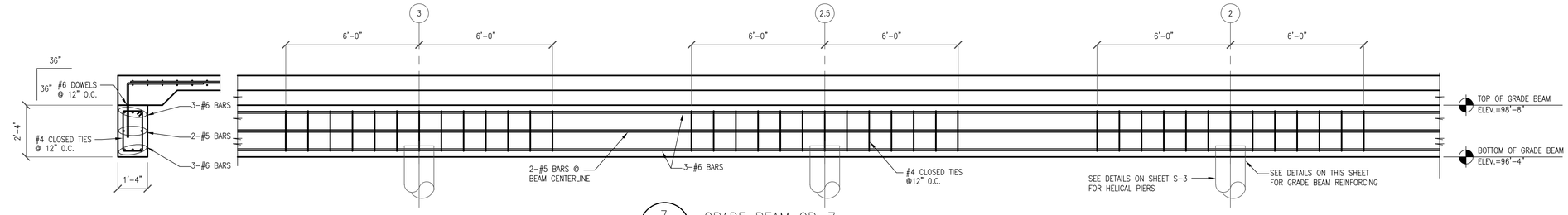
9 S-1 S-5 GRADE BEAM GB-9

SCALE: 3/8" = 1'-0"



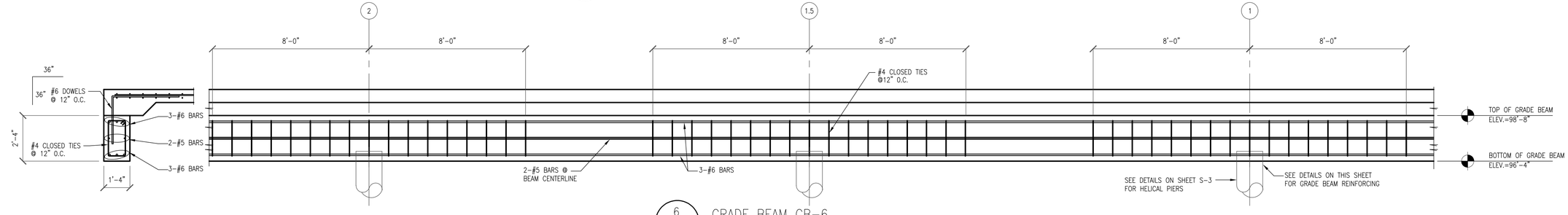
8 S-1 S-5 GRADE BEAM GB-8

SCALE: 3/8" = 1'-0"



7 S-1 S-5 GRADE BEAM GB-7

SCALE: 3/8" = 1'-0"



6 S-1 S-5 GRADE BEAM GB-6

SCALE: 3/8" = 1'-0"

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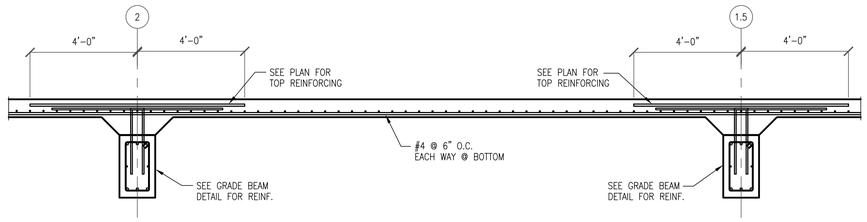
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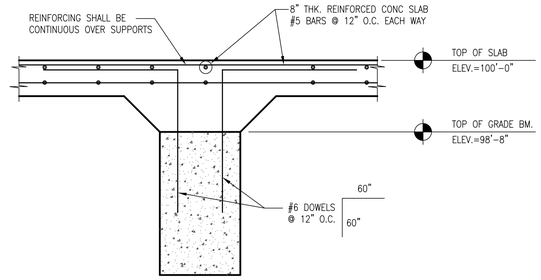
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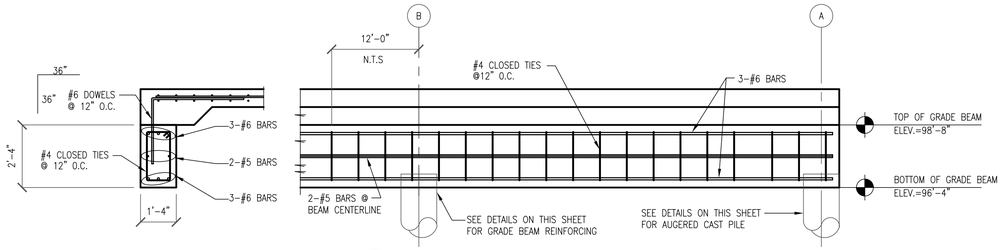
S-5



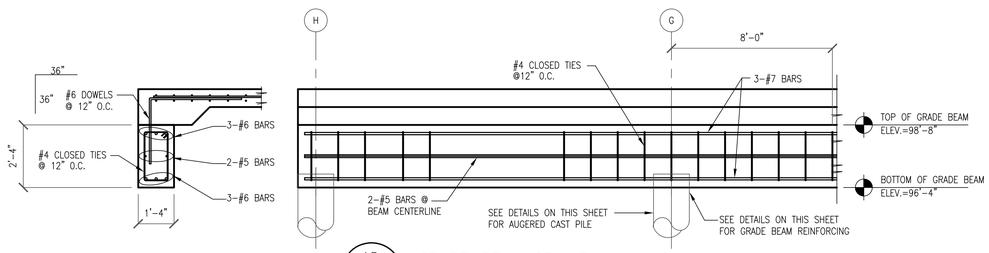
18 S-6 | S-6 STRUCTURAL SLAB CROSS SECTION
SCALE: 3/8" = 1'-0"



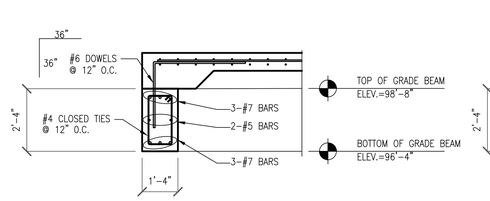
17 S-6 | S-6 STRUCTURAL SECTION @ SLAB SUPPORT
SCALE: 3/8" = 1'-0"



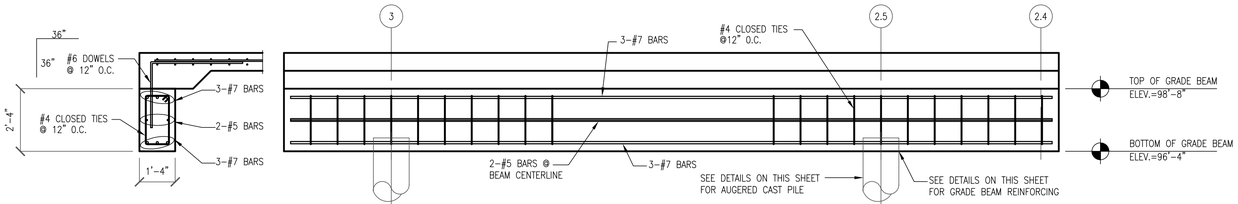
16 S-1 | S-6 GRADE BEAM GB-16
SCALE: 3/8" = 1'-0"



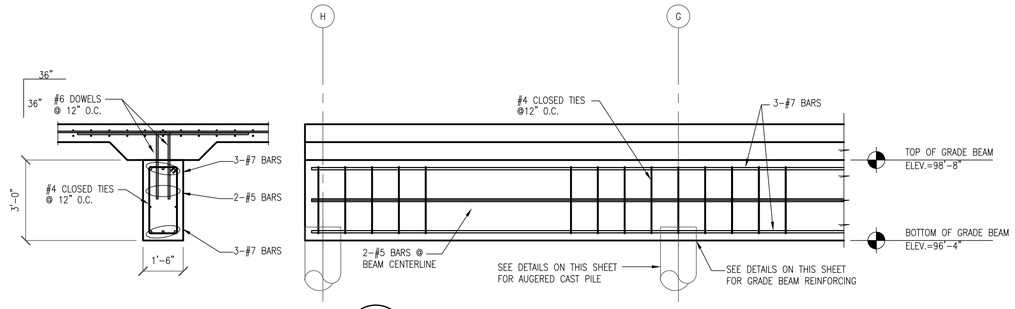
15 S-1 | S-6 GRADE BEAM GB-15
SCALE: 3/8" = 1'-0"



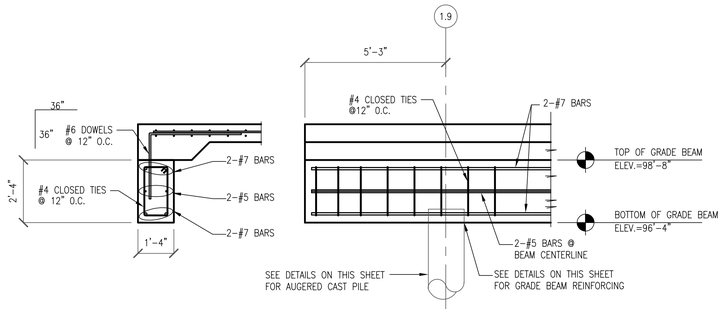
14 S-1 | S-6 GRADE BEAM GB-14
SCALE: 3/8" = 1'-0"



13 S-1 | S-6 GRADE BEAM GB-13
SCALE: 3/8" = 1'-0"



12 S-1 | S-6 GRADE BEAM GB-12
SCALE: 3/8" = 1'-0"



11 S-1 | S-6 GRADE BEAM GB-11
SCALE: 3/8" = 1'-0"

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12 OF 18

S-6

ROOF FRAMING KEYNOTES LEGEND

ALL WIDE FLANGE SHAPES ARE 50 KSI

INDICATES WELDED OR BOLTED MOMENT CONNECTION.

INDICATES FLUSH MOMENT CONNECTION FOR FULL CAPACITY OF CANTILEVERED BEAM. SEE MOMENT CONNECTION DETAIL 7 & 8/S-10

BP — INDICATES BEARING PLATE EACH END OF ROOF BEAM. SEE SHEET S-11 FOR DETAIL.

+L — INDICATES CONTINUOUS L4x3x1/4 (LLH) WELDED TO TOP OF BEAM.

ROOF DECK KEYNOTES LEGEND

DECK "A" — INDICATES 1 1/2"-20 GA WIDE RIB GALVANIZED METAL ROOF DECK, 3 SPAN CONTINUOUS. (TYPICAL THROUGHOUT U.N.O.).

RN1 — L3x3x1/4 FRAMING FOR ROOF SUMPS PER TYPICAL DETAILS L AND K/S-11 COORDINATE WITH ROOF DECK MANUFACTURER'S STANDARD ROOF SUMP.

RN2 — CONTINUOUS L3x3x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 24" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN3 — CONTINUOUS L4x4x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 32" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN4 — L5x3 1/2x5/16 (L.L.V.) FRAME FOR MECHANICAL UNITS PER TYPICAL DETAIL X/SX.X COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL CONTRACTOR. ADD JOIST PANEL POINT AS REQUIRED PER TYPICAL DETAIL X/SX.X.

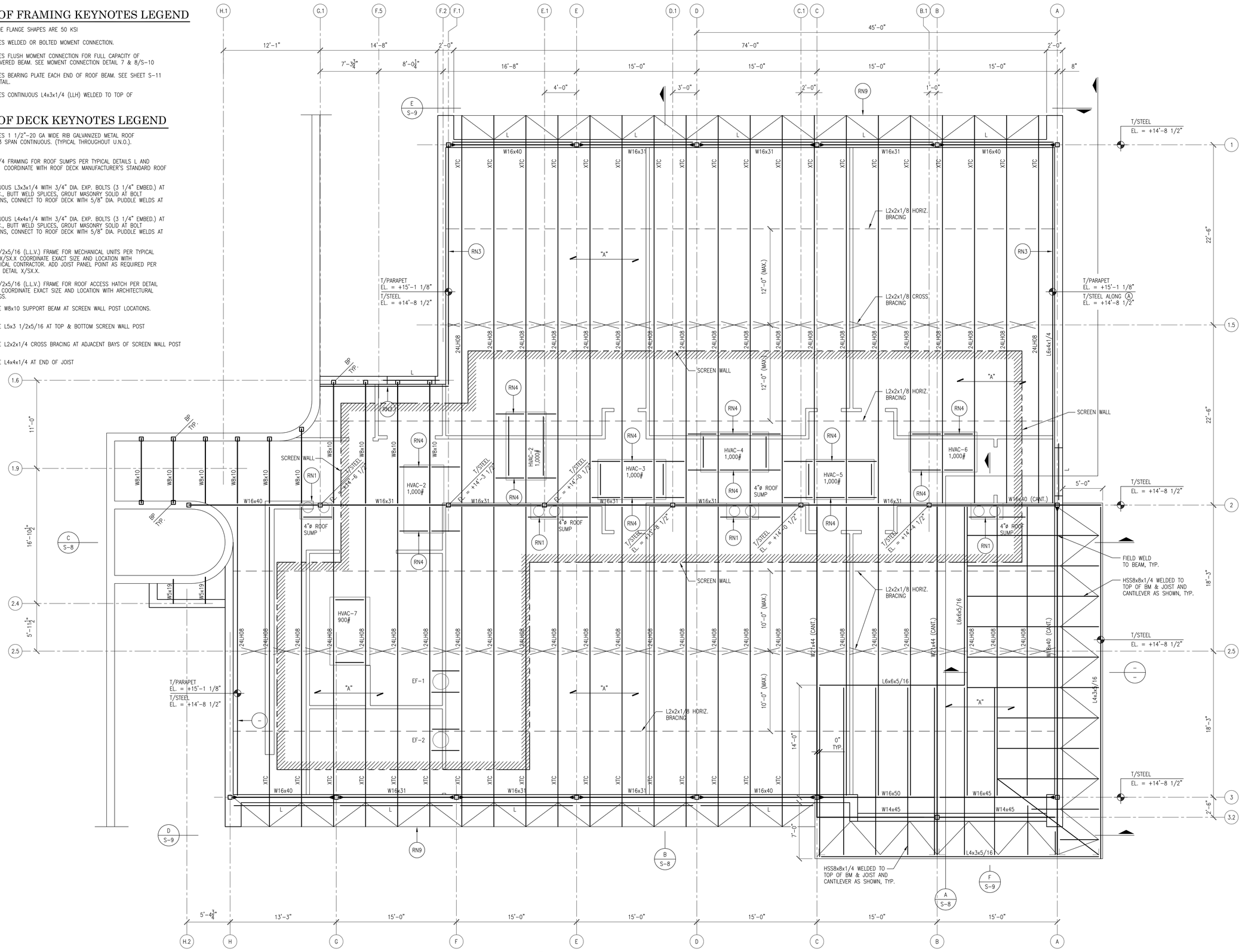
RN5 — L5x3 1/2x5/16 (L.L.V.) FRAME FOR ROOF ACCESS HATCH PER DETAIL X/SX.X COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.

RN6 — PROVIDE W8x10 SUPPORT BEAM AT SCREEN WALL POST LOCATIONS.

RN7 — PROVIDE L5x3 1/2x5/16 AT TOP & BOTTOM SCREEN WALL POST

RN8 — PROVIDE L2x2x1/4 CROSS BRACING AT ADJACENT BAYS OF SCREEN WALL POST

RN9 — PROVIDE L4x4x1/4 AT END OF JOIST



NORTH

ROOF FRAMING PLAN

SCALE : 3/16" = 1'-0"

ALL COLUMNS HSS6x6x1/2

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MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
ROOF FRAMING PLAN
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SHEET NO.: 13 OF 18

S-7

ROOF FRAMING KEYNOTES LEGEND

ALL WIDE FLANGE SHAPES ARE 50 KSI

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INDICATES FLUSH MOMENT CONNECTION FOR FULL CAPACITY OF CANTILEVERED BEAM. SEE MOMENT CONNECTION DETAIL 7 & 8/S-10

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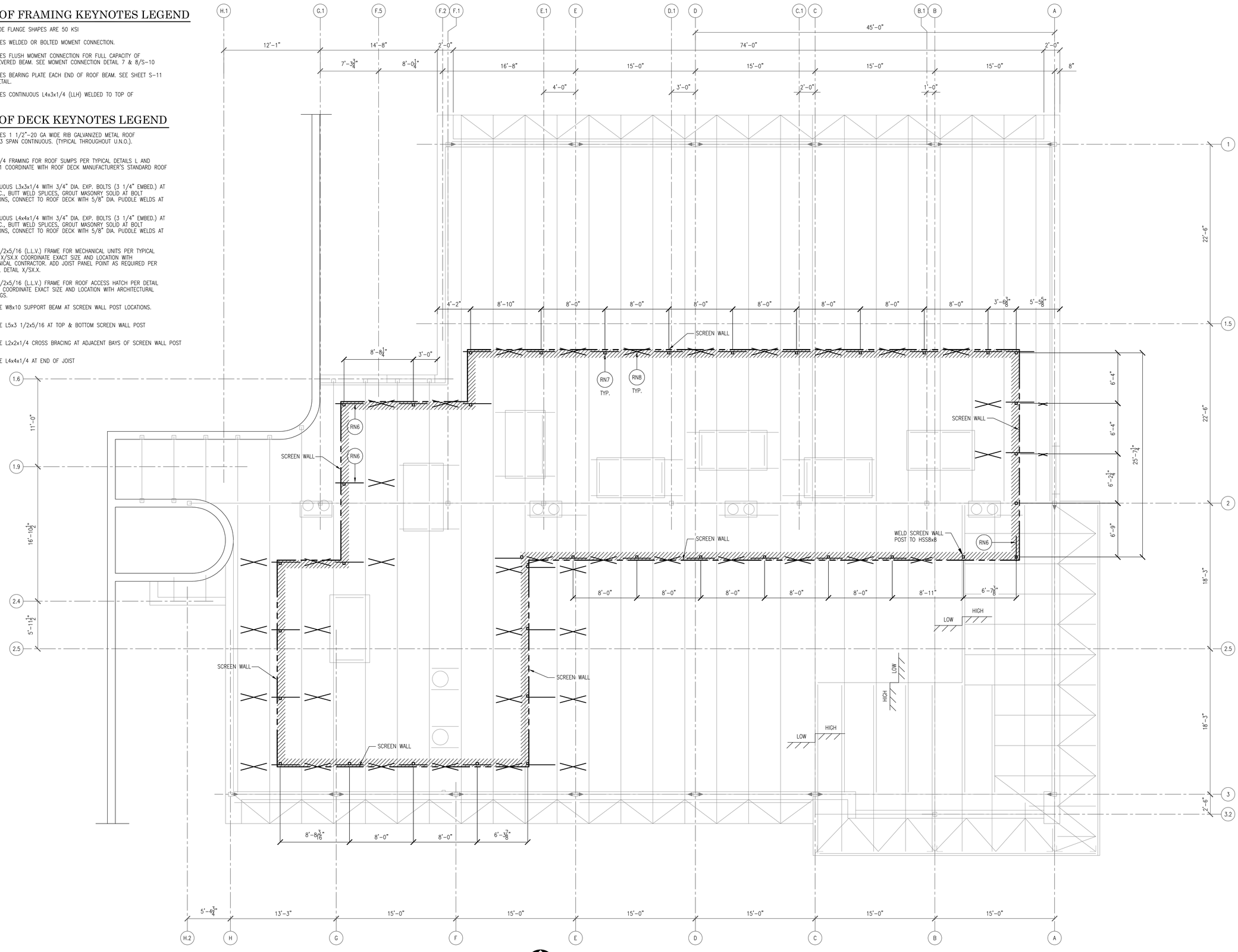
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RN7 — PROVIDE L5x3 1/2x5/16 AT TOP & BOTTOM SCREEN WALL POST

RN8 — PROVIDE L2x2x1/4 CROSS BRACING AT ADJACENT BAYS OF SCREEN WALL POST

RN9 — PROVIDE L4x4x1/4 AT END OF JOIST



NORTH

SCREEN WALL PLAN

SCALE : 3/16" = 1'-0"

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SHEET TITLE:
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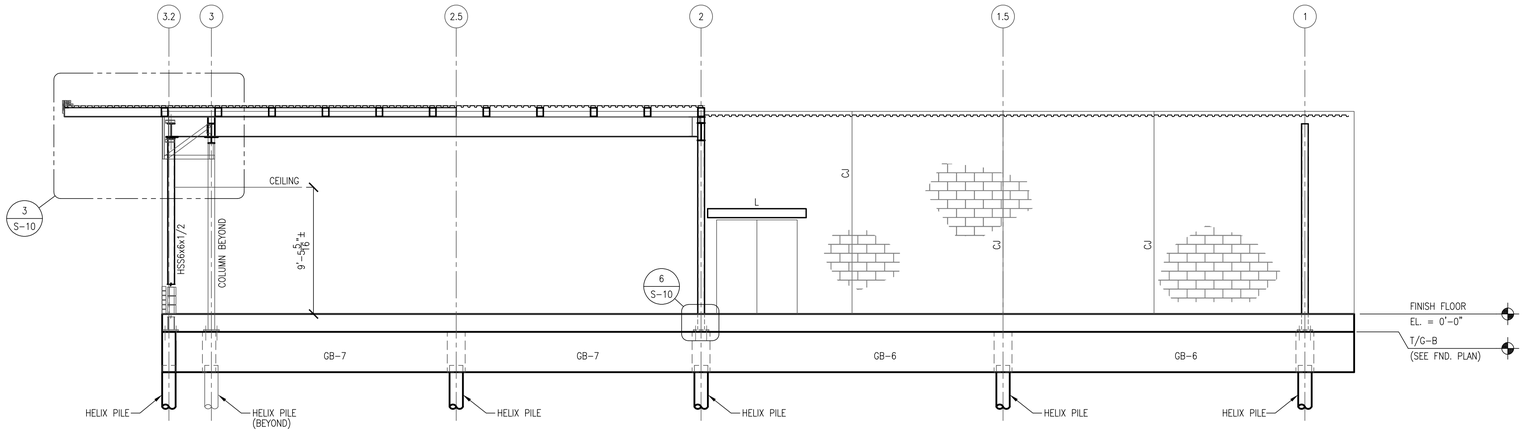
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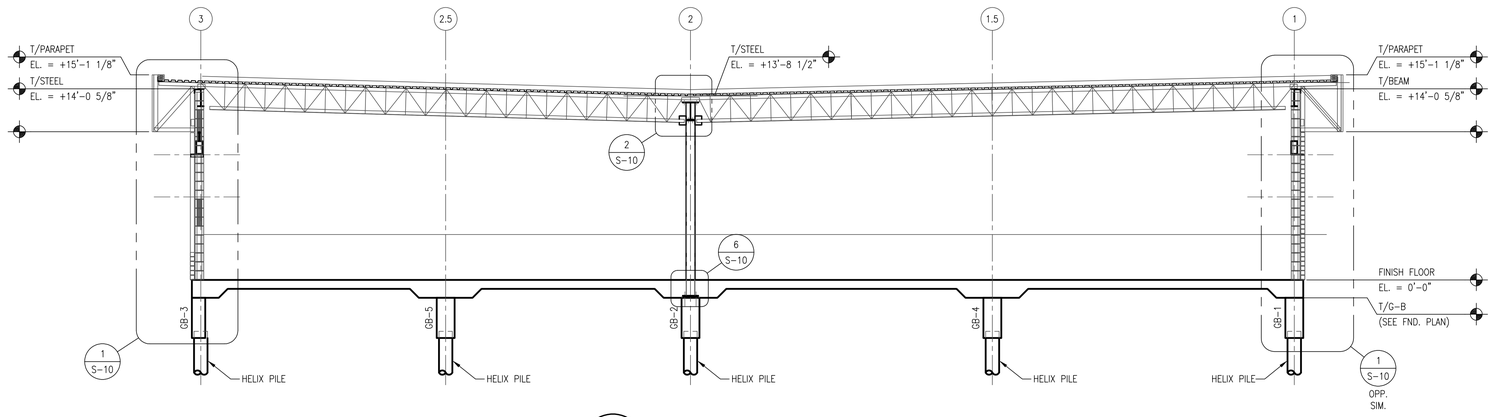
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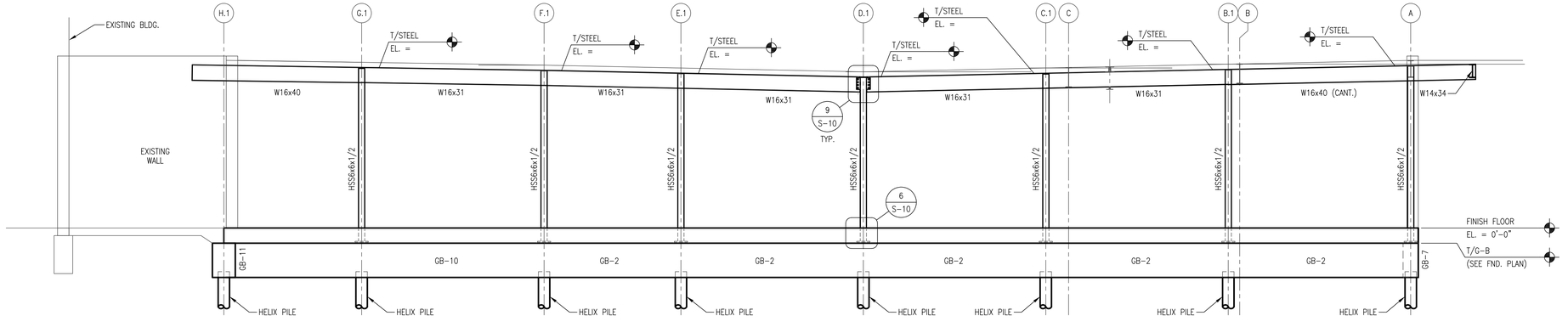
S-7A



A
S-7 | S-8
STRUCTURAL ELEVATION ALONG (A)
SCALE: 3/16" = 1'-0"
(LOOKING WEST)



B
S-7 | S-8
STRUCTURAL CROSS SECTION
SCALE: 3/16" = 1'-0"
(LOOKING WEST @ D)



C
S-7 | S-8
STRUCTURAL CROSS SECTION
SCALE: 3/16" = 1'-0"
(LOOKING WEST @ D)

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ELEVATIONS AND SECTIONS

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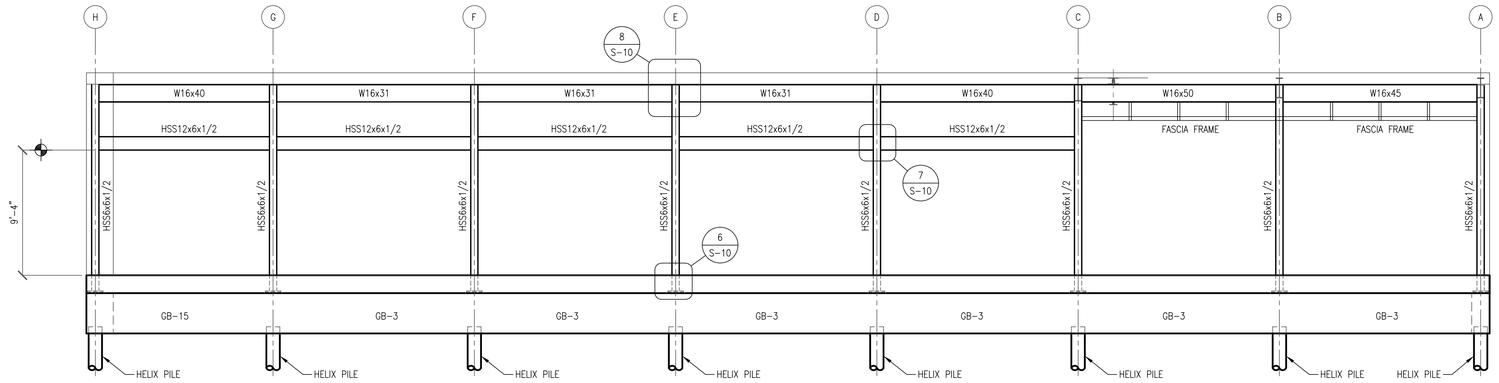
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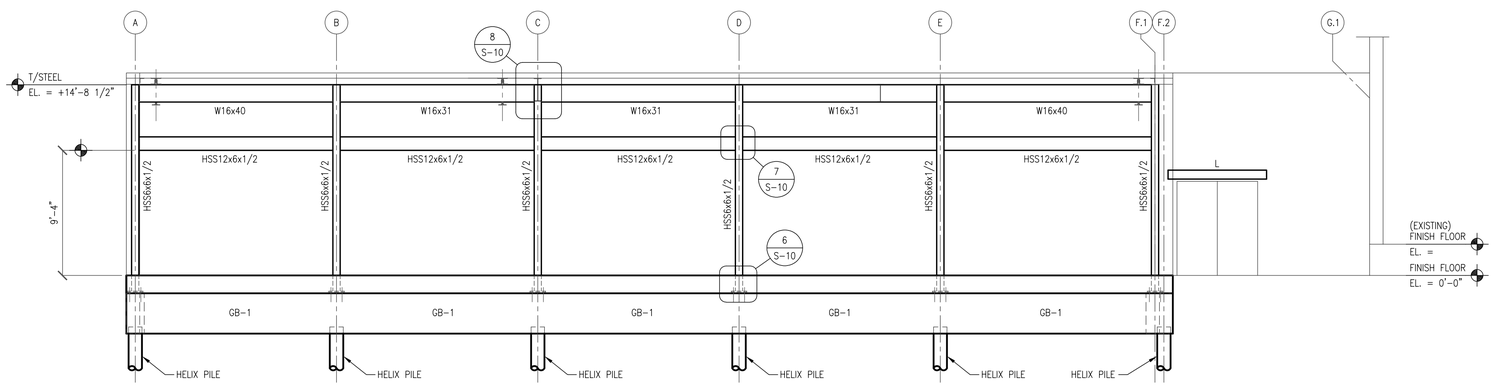
S-8



D
S-7 | S-9

STRUCTURAL ELEVATION ALONG (3)

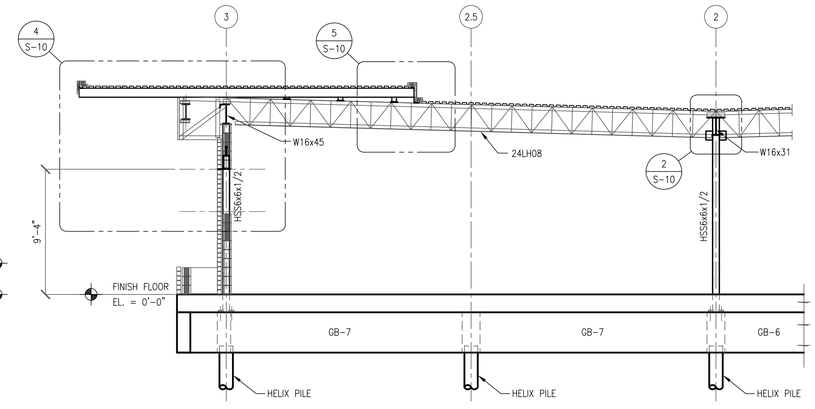
SCALE: 3/16" = 1'-0" (LOOKING NORTH)



E
S-7 | S-9

STRUCTURAL ELEVATION ALONG (1)

SCALE: 3/16" = 1'-0" (LOOKING SOUTH)



F
S-7 | S-9

STRUCTURAL ELEVATION ALONG

SCALE: 3/16" = 1'-0"

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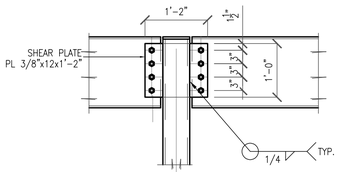
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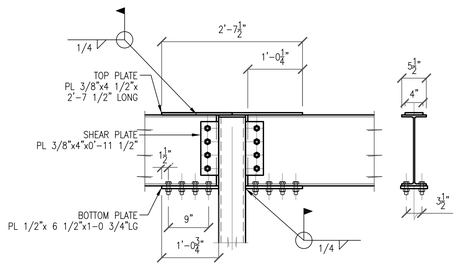
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SHEET NO.:
16 OF 18

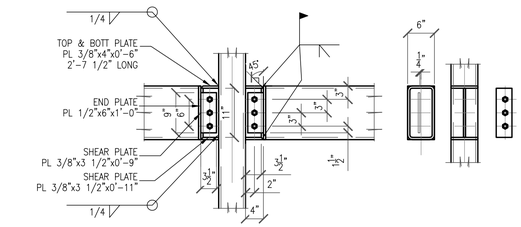
S-9



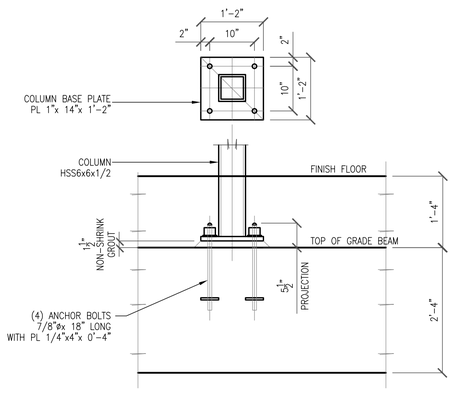
9 S-10 | S-10 SHEAR CONNECTION @ BEAM TO COLUMN SCALE: 3/4" = 1'-0"



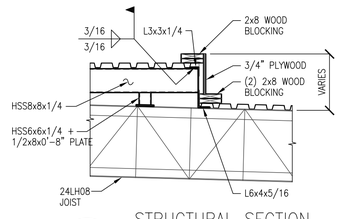
8 S-10 | S-10 MOMENT CONNECTION @ BEAM TO COLUMN SCALE: 3/4" = 1'-0"



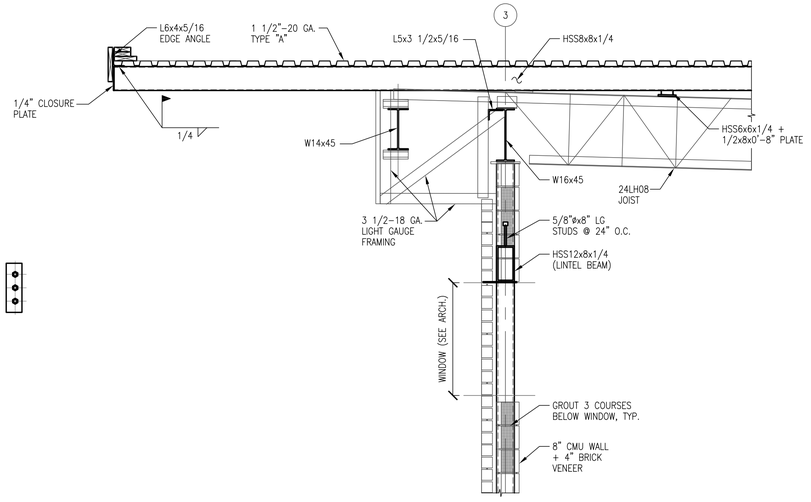
7 S-10 | S-10 LINTEL CONNECTION @ HSS BEAM TO COLUMN SCALE: 3/4" = 1'-0"



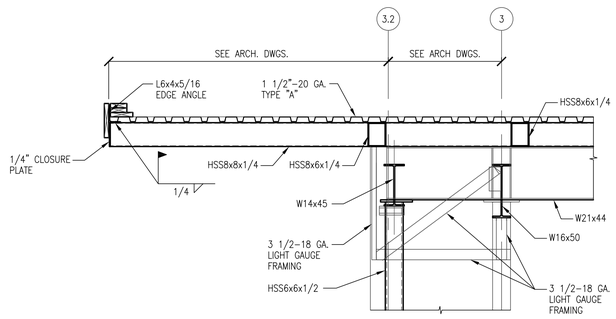
6 S-10 | S-10 COLUMN BASE AND ANCHOR DETAIL SCALE: 3/4" = 1'-0"



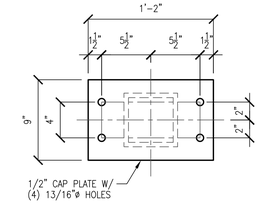
5 S-9 | S-10 STRUCTURAL SECTION @ ROOF OVERHANG SCALE: 1/2" = 1'-0"



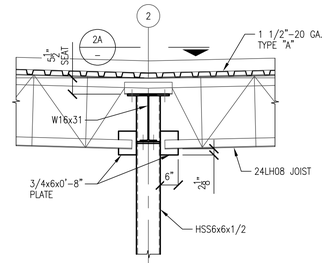
4 S-9 | S-10 STRUCTURAL SECTION SCALE: 1/2" = 1'-0"



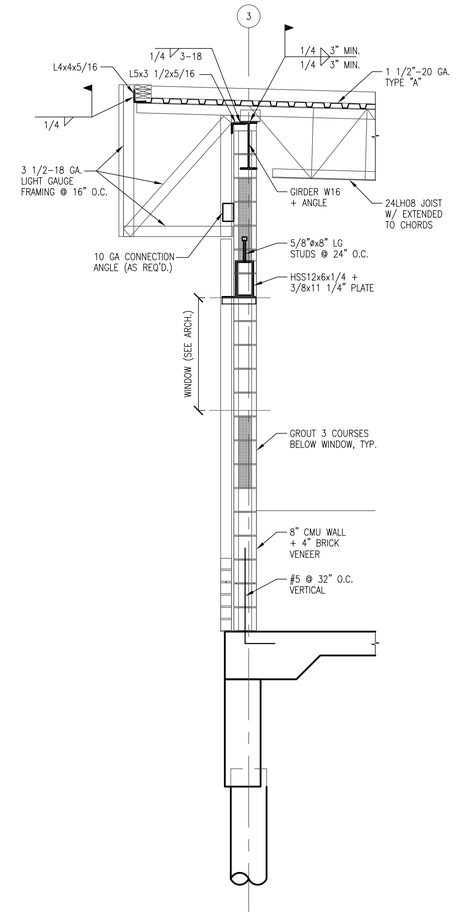
3 S-8 | S-10 STRUCTURAL SECTION SCALE: 1/2" = 1'-0"



2A S-10 | S-10 SECTION @ CAP PLATE SCALE: 1 1/2" = 1'-0"



2 S-9 | S-10 STRUCTURAL WALL SECTION SCALE: 1/2" = 1'-0"



1 S-8 | S-10 STRUCTURAL WALL SECTION SCALE: 1/2" = 1'-0"

JMS ENGINEERING SERVICES
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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
ELEVATIONS AND SECTIONS

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

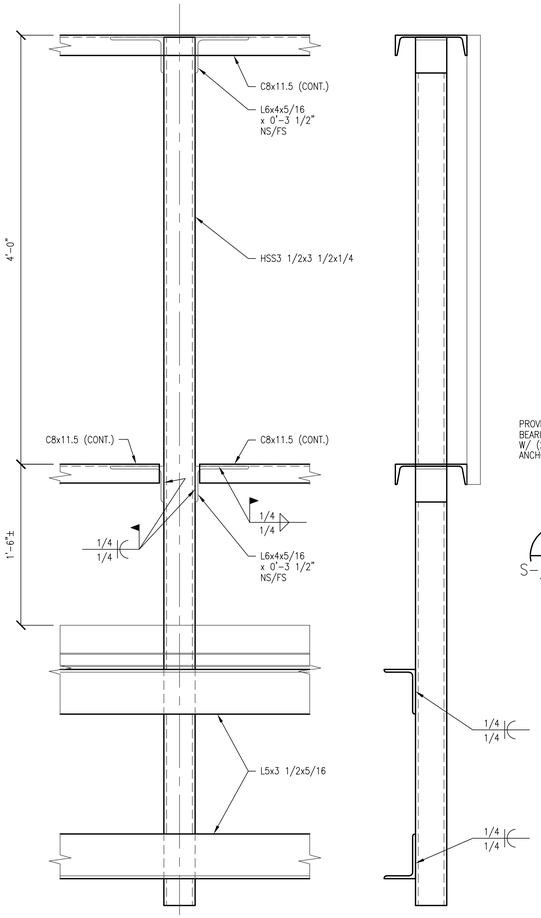
MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW

DATE: 2/2026
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

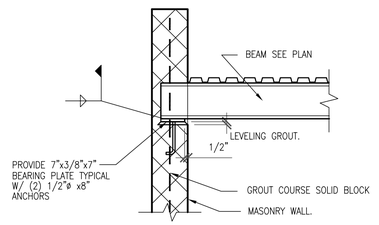
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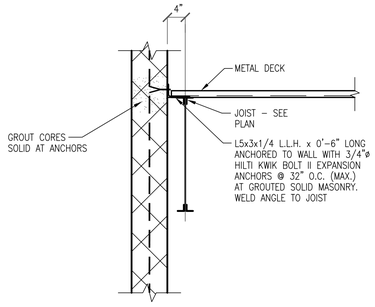
S-10



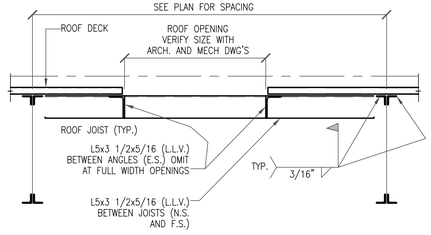
2 S-11 | S-11 ENLARGED DETAIL
SCALE: 1 1/2" = 1'-0"



H S-11 | S-11 TYPICAL ROOF BEAM BEARING TO MASONRY WALL
SCALE: 3/4" = 1'-0"



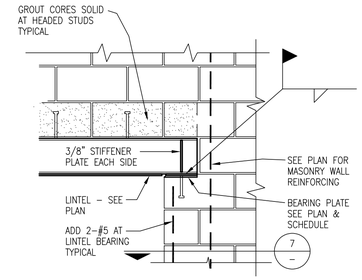
F S-11 | S-11 TYPICAL JOIST PARALLEL TO MASONRY WALL
SCALE: 3/4" = 1'-0"



NOTE
ROOF FRAMES REQUIRED AT ALL OPENINGS GREATER THAN 1'-0" OR WHERE NOTED ON PLAN

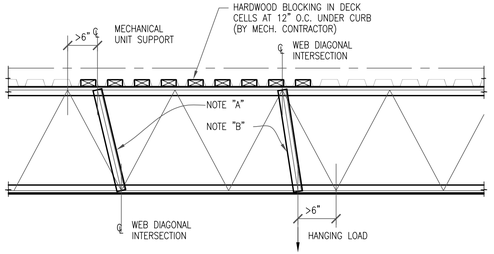
REFER TO TYPICAL DETAIL K/S-11 FOR ADDITIONAL MATERIALS ALL OPENINGS GREATER THAN

L S-11 | S-11 TYPICAL FRAMED ROOF OPENING DETAIL
SCALE: 3/4" = 1'-0"



NOTE:
PLACE LINTEL BEAMS CENTERED IN WALLS (U.N.O.)

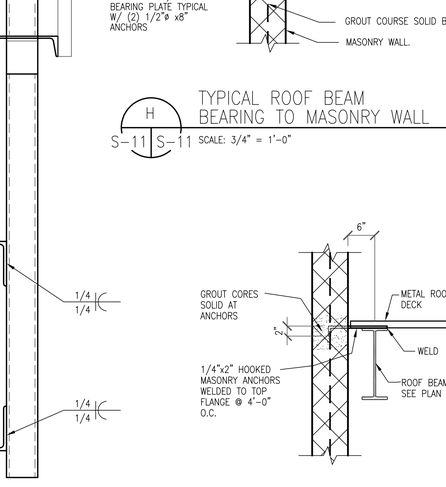
D S-11 | S-11 TYPICAL LINTEL BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0"



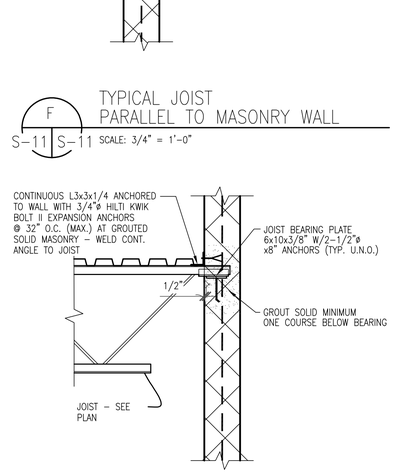
NOTE "A"
REINF. TOP CHORD OF JOIST W/ (2) L2x2x3/16" WELDED TO TOP CHORD OF JOIST AT LOAD AND TO BOTTOM CHORD AT PANEL POINT WHEN LOAD IS FARTHER THAN 6" FROM TOP CHORD PANEL POINT.

NOTE "B"
REINF. BOTTOM CHORD OF JOIST W/ (2) L2x2x3/16" WELDED TO BOTTOM CHORD OF JOIST AT LOAD AND TO BOTTOM CHORD AT PANEL POINT WHEN LOAD IS FARTHER THAN 6" FROM TOP CHORD PANEL POINT.

K S-11 | S-11 TYPICAL JOIST PANEL POINT REINFORCING DETAIL
SCALE: 3/4" = 1'-0"

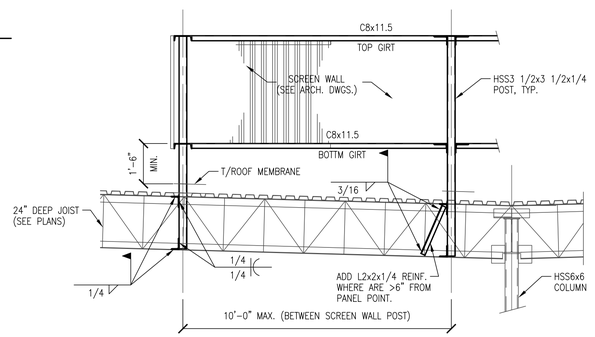


G S-11 | S-11 SECTION AT BEAM PARALLEL TO MASONRY WALL
SCALE: 3/4" = 1'-0"

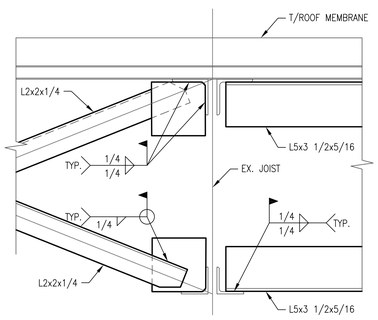


E S-11 | S-11 TYPICAL JOIST BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0"

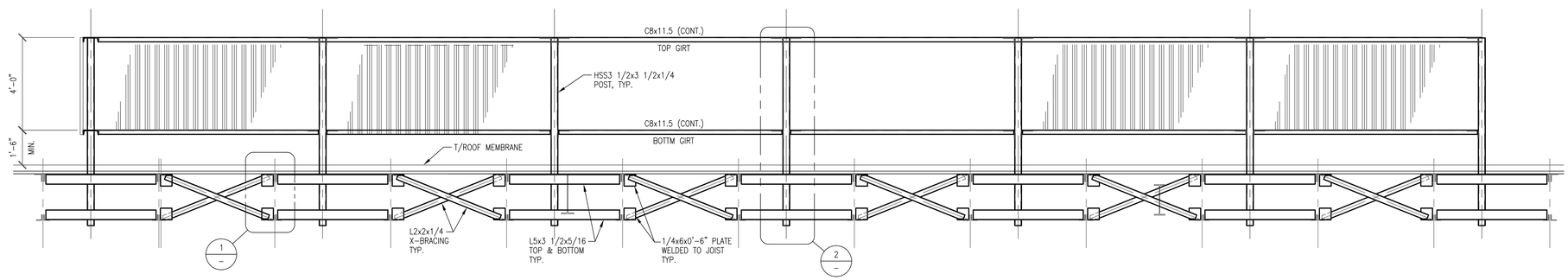
C S-11 | S-11 TYPICAL BEAM BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0" (UNLESS NOTED OTHERWISE)



B S-1A | S-11 TYPICAL SCREEN WALL SECTION PARALLEL TO JOIST
SCALE: 3/8" = 1'-0"



1 S-11 | S-11 ENLARGED DETAIL
SCALE: 1 1/2" = 1'-0"



A S-1A | S-11 TYPICAL SCREEN WALL SECTION PERPENDICULAR TO JOIST
SCALE: 3/8" = 1'-0"

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S-11

GENERAL STRUCTURAL NOTES

APPLY UNLESS NOTED OTHERWISE

GENERAL CONDITIONS

1 IF ANY GENERAL NOTE CONFLICTS WITH ANY DETAIL OR NOTE ON THE PLANS OR IN THE SPECIFICATIONS, THE STRICTEST PROVISION SHALL GOVERN.

2 THE STRUCTURAL DRAWINGS ARE FOR THE PLACEMENT AND SIZE OF STRUCTURAL COMPONENTS ONLY. REQUIREMENTS MADE BY OSHA, DNR, AND ALL APPLICABLE SAFETY CODES ARE TO BE DETERMINED AND PROVIDED BY THE CONTRACTOR.

3 THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. IT IS THE CONTARCTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION/ERECTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES PROVIDING TEMPORARY BRACING, SHORING, GUYS OR TIE-DOWNS. THESE TEMPORARY SUPPORTS SHALL REMAIN IN PLACE UNTIL ALL STRUCTURAL COMPONENTS ARE IN PLACE AND COMPLETED AS THE STRUCTURAL MEMBERS OR SYSTEMS ARE NOT SLEF-BRACING UNTIL PERMANENTLY CONNECTED TO THE STRUCTURE.

4 THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. AS SUCH, THE MEANS AND METHODS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S).

5 USE OF ENGINEERING DRAWINGS AS ERECTION DRAWINGS BY THE CONTRACTOR IS EXPRESSLY PROHIBITED.

EXISTING CONDITIONS

VERIFY ALL DIMENSIONS AND CONDITIONS ASSUMED AS EXISTING (I.E. EXISTING MATERIALS; FOUNDATION SIZES AND CONFIGURATION, FRAMING MEMBER SIZES AND LOCATIONS; METHOD OF CONSTRUCTION; ETC.) AT THE SITE PRIOR TO CONSTRUCTION AND FABRICATION. IF DISCREPANCIES ARE FOUND, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REQUIRED INSPECTIONS
COORDINATE CONSTRUCTION SCHEDULE WITH OWNER'S QUALITY INSPECTOR WITH ADEQUATE NOTICE PROVIDED IN ORDER TO ALLOW THE FOLLOWING INSPECTIONS. SEE PROJECT MANUAL AND REFERENCED CODES FOR SPECIFIC INSPECTION AND TESTING REQUIREMENTS.

–SUBGRADE PREPARATION AND FILL COMPACTION
–WELDING AND HIGH STRENGTH BOLTING
–ROOF AND FLOOR DIAPHRAGM (METAL DECK) CONNECTIONS
–CONCRETE
–MASONRY
–SOIL BEARING CAPACITY
–STEEL INSTALLATION

ROOF LIVE LOADING

ROOF LIVE LOAD	20 PSF
ROOF DEAD LOAD	
ROOF STEEL FRAMING	25 PSF
MECH, ELECT. AND CEILING	10 PSF
DECK INSULATION AND ROOFING	10 PSF
TOTAL DEAD LOAD	45 PSF
SNOW LOAD PG–20 PSF (Pg*1.1)	22 PSF
SECOND FLOOR LIVE LOAD	50 PSF
SECOND FLOOR DEAD LOAD	
5 INCH CONC. DECK	55 PSF
MECH, ELECT. AND CEILING	10 PSF
TOTAL DEAD LOAD	65 PSF
MISCELLANEOUS LOAD	
EXTERIOR WALL DEAD LOAD	65 PSF
8" CMU (55 PSF) + MET PANEL (10 PSF)	
WIND LOAD	
WALL (MAXIMUM)	25 PSF
ROOF (MAXIMUM)	32 PSF
SEISMIC LOAD (BASE SHEAR)	
BUILDING WEIGHT (ADDITION)	630 KIPS
BASE SHEAR (ADDITION)	33.6 KIPS
LATERAL FORCE (OFFICE AREA)	
LATERAL FORCE AT ROOF	26.9 KIPS

SHORING

1 CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN TO PREPARE ALL REQUIRED SHORING AND TEMPORARY BRACING DRAWINGS, INCLUDING THE CONTRACTOR'S PROPOSED SHORING PROCEDURE. SEALED SHORING DRAWINGS, CALCULATIONS AND SHORING PROCEDURE SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING WORK.

2 CONTRACTOR SHALL ESTABLISH A BENCHMARK TO DETERMINE AND MONITOR ALL ELEVATION CHANGES DURING THE PROCEDURE.

3 CONTRACTOR SHALL PROVIDE CRIBBING OR OTHER APPROVED MEANS TO LIMIT THE CONTACT PRESSURE TO THE EXISTING SLAB ON GRADE TO A MAXIMUM OF 4,000 PSF AT 8'–0" BELOW FINISH FLOOR.

4 SHORING SHALL BE PERFORMED USING CALIBRATED JACKS. JACK SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING WORK.

5 SHORING LOAD SHALL BE APPLIED TO THE STRUCTURE UNIFORMLY AND GRADUALLY, APPROXIMATELY 20% EVERY 30 MINUTES, TO TRANSMIT FORCES TO THE STRUCTURE IN A STATIC MANNER.

6 SHORING LOAD SHALL BE REMOVED FROM THE STRUCTURE UNIFORMLY AND GRADUALLY, APPROXIMATELY 20% EVERY 30 MINUTES, TO PREVENT THE APPLICATION OF IMPACT FORCES TO THE STRUCTURE.

FOUNDATIONS

1 FOOTINGS SHALL BEAR ON HELICAL PIERS AND GRADE BEAMS WITH AN ASSUMED SAFE BEARING CAPACITY OF 30 KIPS. CONTRACTOR SHALL RETAIN A QUALIFIED SOILS ENGINEER TO PERFORM EXPLORATION SUFFICIENT TO CONFIRM THIS CAPACITY PRIOR TO COMMENCEMENT OF FOUNDATION EXCAVATIONS. ACCEPTABLE SETTLEMENT LIMITS = 1 INCH OVERALL AND 1/2 INCH DIFFERENTIAL.

2 IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ENGINEER. PRIOR TO COMMENCEMENT OF FOUNDATION EXCAVATIONS, ACCEPTABLE SETTLEMENT SHALL BE DETERMINED THE FIELD BY A QUALIFIED SOILS ENGINEER.

3 PREPARE FOUNDATIONS AND SOILS ACCORDING TO SOIL REPORT NO. 224-304, DATED AUGUST 8, 2024 PREPARED BY MCDOWELL & ASSOCIATES. UNLESS OTHERWISE NOTED OR DETAILED, ALL FOUNDATIONS SHALL BE LOCATED SUCH THAT THE CENTERLINE OF FOOTING IS ALSO THE CENTERLINE OF COLUMN.

4 PROVIDE NECESSARY SHEETING, SHORING, FORMING OR BRACING, ETC., DURING EXCAVATION AS REQUIRED TO PROTECT SIDES OF EXCAVATIONS OR AS REQUIRED TO COMPLY WITH SAFETY REGULATIONS.

5 UNLESS OTHERWISE NOTED OR DETAILED, ALL FOUNDATIONS SHALL BE LOCATED SUCH THAT THE CENTERLINE OF FOOTING IS ALSO THE CENTERLINE OF COLUMN.

FOUNDATIONS (CONT.)

6 PREPARATION OF THE SITE, BUILDING FOOTPRINT AND SLAB SUB-BASE SHALL PROCEED IN COMPLIANCE WITH LOCAL CODES AND THE PROJECT SOILS REPORT IDENTIFIED ABOVE. UNLESS OTHERWISE NOTED OR SPECIFIED, ALL FILL UNDER FLOOR SLABS AND BEHIND FOUNDATION WALLS SHALL BE COMPACTED WITH VIBRATORS, COMPACTORS, ETC. TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) AT OPTIMUM MOISTURE CONTENT. ONLY SMALL HAND OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 8 FEET OF BASEMENT.

7 PROVIDE NECESSARY SHEETING, SHORING, FORMING OR BRACING, ETC., DURING EXCAVATION AS REQUIRED TO PROTECT SIDES OF EXCAVATIONS OR AS REQUIRED TO COMPLY WITH SAFETY REGULATIONS. DO NOT BACKFILL BEHIND PIT WALLS UNTIL FLOOR FRAMING OR TEMPORARY BRACING IS IN PLACE.

8 THIS TRADE SHALL PROVIDE PUMPS, WELL POINTS, OR OTHER SYSTEMS AS REQUIRED BY THE CONDITIONS IDENTIFIED IN THE PROJECT SOILS REPORT. PUMPS SHALL BE OPERATED AS REQUIRED TO ACCOMPLISH THE ABOVE, ON A 24-HOUR BASIS, IF NECESSARY. UNDER NO CONDITION SHALL WATER BE ALLOWED TO WASH OVER FRESHLY PLACED CONCRETE.

CONCRETE

1 THE CONCRETE PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE ULTIMATE STRENGTH DESIGN PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY (ACI 318–11) INCLUDING SECTIONS 1902 THRU 1907 CHAPTER 19 IN THE MICHIGAN BUILDING CODE. CONCRETE COMPONENTS HAVE BEEN DESIGNE ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.

2 ALL CONCRETE SHALL BE NORMAL WEIGHT (150 PCF) EXCEPT SUPPORTED SLABS SHALL BE LIGHT WEIGHT (115 PCF). MINIMUM CONCRETE STRENGTH SHALL BE f'c = 3,000 PSI MIN. AT 28 DAYS, UNLESS OTHERWISE NOTED; SUPPORTED SLABS AND SLABS ON GRADE SHALL BE f'c = 3,500 PSI MIN. UNLESS NOTED OTHERWISE. PROVIDE f'c = 4,000 PSI WITH 6% +/– 1% ENTRAINED AIR WHERE CONCRETE IS EXPOSED TO EXTERIOR ATMOSPHERE OR WEATHER.

3 ALL CONCRETE SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150 AGGREGATE SHALL CONFORM TO ASTM C33.

4 CONCRETE ADMIXTURES SHALL BE USED TO FACILITATE CONCRETE PLACEMENT, AID DIFFICULT PLACING CONDITIONS OR ASSIST IN ATTAINING SPECIFIED CONCRETE QUALITIES. ADMIXTURES SHALL HAVE LESS THAN 0.05 PERCENT CHLORIDE IONS.

AIR ENTRAINMENT PER ASTM C260.
WATER REDUCER PER ASTM C494, TYPE A
WATER REDUCER/ACCELARATOR PER ASTM C494, TYPE C OR E
WATER REDUCER/RETARDER PER ASTM C494, TYPE B OR TYPE D
SUPERLASTICIZER PER ASTM C494, TYPE F OR G

5 CONCRETE MIXES SHALL BE PROPORTIONED PER SECTION 3.9 OF ACI–301. CERTIFIED HISTORICAL TEST DATA SHALL SERVE AS A BASIS FOR EACH MIX DESIGN. DEVIATIONS SHALL BE SUBSTANTIED WITH ADDITIONAL CERTIFIED TRAIL MIX TESTING AND RESULTS. SUBMIT MIX DESIGN, HISTORICAL TEST DATA OR TRIAL MIX RESULTS FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. WHERE HISTORICAL TEST DATA IS NON-EXISTENT THE FOLLOWING GUIDELINES SHALL APPLY:

TYPE	COMPRESSIVE STRENGTH, f'c (28 DAY,PSI)	CEMENT CONTENT (LBS/C.Y.)	WATER/CEMENT RATIO (BY WEIGHT)	SLUMP
STANDARD, NORMAL WT.	4000 MIN.	560 MIN.	0.53 MAX.	4" MAX.
STANDARD, NORMAL WT.	3500 MIN.	517 MIN.	0.50 MAX.	4" MAX.
STANDARD, LIGHT WT.	3500 MIN.	564 MIN.	0.44 MAX.	SEE SPEC.
AIR ENTRAINED, NORM. WT.	4000 MIN.	564 MIN.	0.40 MAX.	4" MAX.
CONCRETE FILL	2000 MIN.	350 MIN.	0.70 MAX.	4" MAX.

6 ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST ACI STANDARDS AND RECOMMENDATIONS. FREE FALL SHALL NOT EXCEED 10 FEET FOR ALL CONCRETE CONTAINING HIGH-RANGE WATER REDUCER (SUPERPLASTICIZER) AND 5 FEET FOR ALL OTHER CONCRETE. PROVIDE ELEPHANT TRUNK, TREMIES OR OTHER PLACING EQUIPMENT OR OPENINGS IN SIDES OF FORMS AS REQUIRED TO LIMIT FREE FALL.

7 ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE CONTINUOUS AND SHALL HAVE 36 BAR DIAMETER LAP (MIN.) AND SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315 AND ACI 318, LATEST EDITION. HOOK ALL BEAM BARS AT DISCONTINUOUS ENDS.

8 ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 FURNISHED IN FLAT MAYS OR SHEETS, NOT IN ROLLS. PROVIDE MINIMUM 8" LAP BETWEEN SHEETS. ALL SLAB REINFORCING SHALL BE SUPPORTED ON SAND CHAIRS.

9 ALL COLUMN REINFORCING SPLICES SHALL BE 24 BAR DIAMETERS. ALL COLUMN/PIER OR WALL DOWELS SHALL BE 48 DIAMETERS LONG USING THE SAME SIZE AND QUANTITY AS THE VERTICAL COLUMN/PIER OR WALL BARS. PROVIDE HOOKS AS REQUIRED FOR PLACEMENT.

10 REINFORCED CONCRETE WALLS AND WALL FOOTING SHALL HAVE CORNER BARS AT EACH INTERSECTION OF THE SAME SIZE AND SPACING AS THE MAIN HORIZONTAL REINFORCING. LAPS SHALL BE MINIMUM 30 BAR DIAMETERS. PROVIDE 2–#5 BARS TOP AND BOTTOM AND EACH SIDE OF ALL OPENINGS AND 2–#5 x 4'–0" DIAGONAL BARS AT CORNERS OF OPENINGS. PROVIDE 2–#5 BARS TOP AND BOTTOM IN SLABS AT ALL RE–ENTRANT (INSIDE) CORNERS.

11 IN ADDITION TO THE REINFORCING SHOWN ON THE DRAWINGS, PROVIDE #4 x 6'–0" TOP BARS AT 12" O.C. IN FLOOR SLAB OVER AND PERPENDICULAR TO ALL TRUSSES, BEAMS, SPANDRELS OR WALLS THAT RUN PARALLEL WITH THE MAIN SLAB REINFORCING BARS.

12 ALL EXPOSED CONCRETE CORNERS AND EDGES SHALL BE CHAMFERED 3/4".

13 PROVIDE DOVETAIL SLOT AND ANCHORS IN CONCRETE WALLS WHERE INTERSECTING MASONRY WALLS ABUT. PROVIDE FULL HEIGHT DOVETAIL SLOTS AT 24" O.C. AT ALL CONCRETE WALLS WITH MASONRY VENEER.

14 PROVIDE ADDITIONAL CONCRETE AT FLOOR SLABS AS REQUIRED TO COMPENSATE FOR DEFLECTIONS OF METAL FORM DECK AND UN–SHORED COMPOSITE BEAMS AND TO PROVIDE A LEVEL CONCRETE SURFACE. CONCRETE SHALL BE PLACED UNIFORMLY TO PREVENT OVERLOADING METAL FROM DECK.

15 PROVIDE MINIMUM COVERS OVER REINFORCING PER ACI 318–11

MASONRY

1 THE MASONRY PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST WORKING STRESS DESIGN PROVISIONS OF THE MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530–12/ASCE 5/TMS 402) AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) INCLUDING SECTIONS 2106 AND 2107 OF CHAPTER 21 IN THE MICHIGAN BUILDING CODE. MASONRY COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.

2 ALL STRUCTURAL MASONRY IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530–12/ASCE 5/TMS 402) AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602). MASONRY SUBMITTALS ARE REQUIRED BY ACI 530.1/ASCE 6/TMS 602 SECTION 1.5. MASONRY TESTING AND INSPECTIONS ARE REQUIRED BY MBC CHAPTER 17 TABLE 1704.5.3, LEVEL 2 QUALITY ASSURANCE.

3 ALL STRUCTURAL MASONRY HAS BEEN ENGINEERED IN ACCORDANCE WITH CHAPTER 2, ALLOWABLE STRENGTH DESIGN. COMPRESSION STRENGTH SHALL BE DETERMINED ACCORDING TO THE UNIT STRENGTH METHOD FOR CONCRETE MASONRY MSJC SECTION 1.4.B.2.b.

MASONRY (CONT.)

4 ALL BLOCK SHALL HAVE A SPECIFIED MINIMUM COMPRESSING STRENGTH OF 1900 PSI ON NET AREA AT 28 DAYS f'm = 1500 PSI. 3 CELL BLOCK SHALL NOT BE USED AND CONFORM TO ASTM C90.

5 MORTAR SHALL CONFORM TO ASTM C 270, TYPE S

6 GROUT SHALL CONFORM TO ASTM C 476, WITH PEA GRAVEL AGGREGATE AND A MINIMUM STRENGTH OF 2000 PSI.

7 MINIMUM MASONRY COMPRESSIVE STRENGTH SHALL BE f'm = 1500 PSI.

8 ALL STRUCTURAL MASONRY SHALL COURSE IN STANDARD RUNNING BOND. UNLESS NOTED OTHERWISE, ALL INTERSECTING BEARING WALLS, SHEAR WALLS OR OTHER STRUCTURAL WALLS SHALL BE LAID UP IN INTERLOCKED, BONDED COURSING. MECHANICAL ANCHORS OR WALL TIES MAY BE SUBSTITUTED WITH PRIOR APPROVAL BY THE ENGINEER.

9 PROVIDE HORIZONTAL WIRE TYPE REINFORCING WITH 9 GAUGE SIDE RODS AND 9 GAUGE CROSS RODS IN EVERY SECOND COURSE (16" O.C.), IN ALL MASONRY WALLS. SPACE AT 8" O.C. AT PARAPET WALLS. PROVIDE "LADDER" TYPE REINFORCING ONLY IN WALLS WITH VERTICAL REINFORCING. PROVIDE ADJUSTABLE TIES AT ALL LINTELS AND CAVITY WALLS AT 16" O.C. MAXIMUM SPACING.

10 PROVIDE 1–#5 VERTICAL BAR EACH SIDE OF EACH CONTROL JOINT; SEE PLANS FOR ADDITIONAL REINFORCING AT CORNERS, OPENINGS, ETC.

11 ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. VERTICAL REINFORCING BARS SHALL BE HELD IN PLACE BY POSITIONERS SPACED NOT FURTHER THAN RECOMMENDED BY CODE.

12 PROVIDE A CONTINUOUS BOND BEAM, WITH 2–#5'S, AT THE TOP OF WALLS PARALLEL WITH ROOF/FLOOR FRAMING. STEP BOND BEAMS ELEVATIONS AS REQUIRED, LAP MINIMUM 32". UNLESS OTHERWISE NOTED AND DETAILED.

13 PERFORM GROUTING ACCORDING TO THE FOLLOWING:
–ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.
–ALL CORES WITH VERTICAL REINFORCING OR TO RECEIVE DRILLED–IN ANCHORS SHALL BE GROUTED SOILED.
–ALL MASONRY PIERS AND PILASTERS SHALL BE GROUTED SOLID.
–MAXIMUM 4'–0" HIGH LIFTS
–GROUT (3) COURSE AROUND ALL WINDOW AND DOOR OPENINGS

14 ALL BEAMS SUPPORTING MASONRY, INCLUDING STEEL, PRECAST AND MASONRY LINTELS ARE TO BEAR 8" (MIN.) ON 3 COURSES SOLID MASONRY.

15 STRUCTURAL STEEL BEAMS, WIDE FLANGE AND TUBE STEEL LINTELS SHALL BE PROVIDED WITH MIN. 7"x3/8"x0'–7" BEARING PLATE, SET 1" AWAY FROM FACE OF WALL, WITH 2–3/4" DIAMETER ANCHOR BOLTS EACH END, TYPICAL UNLESS NOTED OTHERWISE.

16 UNLESS NOTED OTHERWISE, PROVIDE LOOSE LINTELS AT MISCELLANEOUS ARCHITECTURAL, MECHANICAL AND ELECTRICAL OPENINGS FOR EACH 4" OF MASONRY WALL THICKNESS IN ACCORDANCE WITH THE FOLLOWING:

–L4X3 1/2X5/16 LLV FOR SPANS UP TO 3'–4"
–L5X3 1/2X5/16 LLV FOR SPANS UP TO 5'–4"
–L6X3 1/2X5/16 LLV FOR SPANS UP TO 6'–8" MAX.

AT CONTRACTOR'S OPTION, MASONRY LINTELS ARE ALSO ACCEPTABLE FOR MISCELLANEOUS OPENINGS:

–8"W (OR 12"W) X 8"H REINF. W/ 2–#5 FOR SPANS UP TO 3'–4"
–8"W (OR 12"W) X 8"H REINF. W/ 2–#6 FOR SPANS UP TO 5'–4"
–8"W (OR 12"W) X 16"H REINF. W/ 2–#6 FOR SPANS UP TO 6'–8" MAX.

COORDINATE REQUIREMENTS FOR LOOSE LINTELS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

17 ALL DOUBLE ANGLE LINTELS SHALL BE WELDED BACK TO BACK WITH A MINIMUM 2 INCH STITCH WELD EVERY 8 INCHES.

STRUCTURAL STEEL

1 THE STRUCTURAL STEEL PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE ALLOWABLE STRESS DESIGN PROVISIONS OF THE 13TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION, INCLUDING SECTIONS 2204 AND 2212 OF CHAPTER 22 IN THE MICHIGAN BUILDING CODE. STEEL COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.

2 STEEL DETAILING, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL STEEL BUILDINGS".

3 ALL STRUCTURAL STEEL SHALL CONFORM TO THE LATEST ASTM SPECIFICATIONS ACCORDING TO THE FOLLOWING SERIAL DESIGNATIONS BY SHAPE:

WIDE FLANGES: A992 OR ASTM A572, Fy = 50 KSI
ANGLES, TEES, BARS AND PLATES: A36
SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SHAPES OR TUBES: ASTM A500, GR. B, Fy = 46 KSI
ROUND HOLLOW STRUCTURAL SHAPES OR PIPES: ASTM A53; GRADE B, Fy = 35 KSI

4 ALL WELDED CONNECTIONS SHALL CONFORM TO THE LATEST AWS CODE, USING E70XX ELECTRODES, WITH WELDING PERFORMED BY QUALIFIED WELDERS.

5 BOLTED CONNECTIONS SHALL BE MADE WITH A325–N OR A490–N BOLTS. LOCATIONS OF SLIP CRITICAL CONNECTIONS SHALL BE AS NOTED ON THE DRAWINGS, IF REQUIRED. ALL BOLTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

6 THE DESIGN, CONFIGURATION, ERECTION SAFETY AND SEQUENCE OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STRUCTURE STEEL FABRICATOR. REVIEW AND ACCEPTANCE OF THE SHOP DRAWINGS BY THE ENGINEER SHALL CONSTITUTE APPROVAL OF THE LOAD CARRYING ADEQUACY ONLY.

7 CONNECTIONS SHALL BE DESIGNED FOR ONE–HALF THE TOTAL ALLOWABLE UNIFORM LOAD (MIN.) PER AISC BEAM LOAD TABLES, UNLESS NOTED OTHERWISE.

8 TEMPORARY ERECTION SEATS SHALL BE PROVIDED AS RECOMMENDED ON PAGE 3–59 OF THE LATEST EDITION AISC PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION".

9 THE DESIGN OF STEEL FRAMED STAIRS SHALL BE THE RESPONSIBILITY OF THE STEEL FABRICATOR. PROVIDE COMPLETE ENGINEERED STAIR ASSEMBLIES, CONFORMING TO THE ARCHITECTURAL INTENT, UNDER THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF MICHIGAN, INCLUDING METAL FRAMING, HANGERS, MASONRY BEARING PLATES, COLUMNS, RAILING ASSEMBLIES, AND OTHER COMPONENTS NECESSARY TO SUPPORT THE SITARS AND LANDINGS INCLUDING ANCHORAGE TO THE SUPPORTING STRUCTURE.

10 DRILLED–IN ANCHORS SHALL BE EITHER "EXPANSION" OR "ADHESIVE" AS INDICATED ON THE DRAWINGS. INSTALLATION OF DRILLED–IN ANCHORS SHALL BE IN COMPLIANCE WITH MANUFACTURER'S LITERATURE AND GUIDELINES. EXPANSION BOLTS SHALL BE "HILTI KWIK BOLT III" OR APPROVED EQUAL. ADHESIVE SHALL BE "HILTI HY 200 ADHESIVE" OR APPROVED EQUAL.

11 THIS STEEL FRAME IS NON SELF–SUPPORTING PER AISC "CODE OF STANDARD PRACTICE", SECTION 7.9.3 AND 7.9.5.; ERECTION, BRACING, SHORING, ETC. SHALL CONFORM TO THESE SECTIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION SEQUENCE AND PROCEDURE.

STRUCTURAL LUMBER

1 THE WOOD PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST ALLOWABLE STRESS DESIGN PROVISIONS OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) AS PUBLISHED BY THE AMERICAN FOREST & PAPER ASSOCIATION & PAPER ASSOCIATION INCLUDING SECTIONS 2304, 2305 AND 2306 OF CHAPTER 23 IN THE MICHIGAN BUILDING CODE. WOOD COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SIESMIC DESIGN CATEGORY B.

2 STRUCTURAL LUMBER FRAMING MEMBERS SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM BASE DESIGN VALUES AS PUBLISHED IN THE NDS:
Fb=1300 PSI
Ft=575 PSI
Fv=145 PSI
Fc=565 PSI
Fc=1700 PSI (PARALLEL TP GRAIN)
E=1,700,000 PSI
BASED ON HEM–FIR (NORTH) SELECT STRUCTURAL OR BETTER

3 GLUED LAMINATED FRAMING MEMBERS SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM BASE DESIGN VALUES AS PUBLISHED IN THE AITC:
Fb=2400 PSI
Ft=1100 PSI
Fv=200 PSI
Fc=1450 PSI
E=1,,700,000 PSI
BASED ON DOUGLAS–FIR LARCH NO. 2 OR BETTER

4 LAMINATED–VENEERED–LUMBER FRAMING MEMBERS SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM BASE DESIN VALUES BASED ON "MICRO–LAM" DATA AS PUBLISHED BY TRUS–JOIST MACMILLAN, OR APPROVED EQUAL.
Fb=2925 PSI
Fv=285 PSI (HORIZONTAL SHEAR, PERPPENDICULAR TO GLUE LINE)
Fc=3035 PSI (COMPRESSION PARALLEL TO GRAIN)
Fc=880 PSI (COMPRESSION PERPENDICULAR TO GRAN, PARALLEL TO GLUE LINE)
E=2,000,000 PSI

5 PLYWOOD JOIST CAPACITIES SHALL MEET OR EXCEED MINIMUM DESIGN VALUES BASED ON "TJI" AS PUBLISHED BY "TRUS JOIST MACMILLAN", OR APPROVED EQUAL. INSTALLATION OF ALL PLYWOOD JOIST FRAMING MENBERS SHALL BE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S DETAILS, LITERATURE AND RECOMMENDATIONS.

6 DIMENSION LUMBER FLOOR FRAMING MEMBERS AND EXTERIOR BEARING WALL STUDS SHALL BE PROVIDED WITHOUT SPLITS OR SHAKES AT EITHER END FOR A DISTANCE EQUAL TO THE WIDE FACE DIMENSION OF THE MEMBER.

7 PROVIDE DOUBLE STUDS AT EACH BEARING END OF WOOD HEADERS, TYPICAL UNLESS NOTED OTHERWISE.

8 UNLESS NOTED OTHERWISE ON THE DRAWINGS HEADERS FOR OPENINGS IN STUD WALLS IN ACCORDANCE WITH THE FOLLOWING:
2–2x8'S FOR SPANS UP TO 3'–4"
2–2x10'S FOR SPANS UP TO 5'–0"
2=2x12'S FOR SPANS UP TO 6'–0"

9 ROOF AND WALL SHEATHING PANELS ARE DESIGNED TO ACT AS A DIAPHRAGM AND IN ALL CASES ARE INTENDED TO BRACE THE BUILDING. EXTREME CARE SHALL BE UTILIZED TO INSTALL THE ROOF AND WALL SHEATHING CONNECTIONS. UNLESS NOTED OTHERWISE, AS A MINIMUM, ALL WALL SHEATHING PANELS SHALL BE NAILED TO SUPPORTING STUDS OR PLATES WITH 8d NAILS AT 6" ON CENTER WITH MINIMUM NAIL PENETRATION INTO FRAMING OF 1–1/2". INCREASE NAIL SIZE AS REQUIRED TO PROVIDE MINIMUM PENETRATION. UNLESS NOTED OTHERWISE, AS A MINIMUM, ALL ROOF SHEATHING PANELS SHALL BE NAILED TO SUPPORTING JOISTS OR PLATES WITH 8d NAILS AT 6" O.C. WITH MINIMUM NAIL PENETRATION INTO FRAMING OF 1–1/2". INCREASE NAIL SIZE AS REQUIRED TO PROVIDE MINIMUM PENETRATION.

LIGHT GAGE METAL FRAMING PRODUCTS

1 LIGHT GAGE METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED BY THE METAL PRODUCT MANUFACTURER. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY AND SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. AS A MINIMUM, THE LOADING GIVEN ABOVE SHALL BE USED. ADDITIONAL LOADING OR LOAD COMBINATIONS IF REQUIRED BY CODE SHALL BE DETERMINED AND IMPLEMENTED BY THE LIGHT GAGE DESIGNER.

2 ALL LIGHT GAGE FRAMING SHALL CONFORM TO ASTM A446, GRADE D (MINIMUM Fy = 50 KSI) FOR 16 GAGE OR HEAVIER AND ASTM A446, GRADE A (MINIMUM Fy=33 KSI) FOR 18 GAGE OR LIGHTER. ALL FRAMING TO BE GALVANIZED IN ACCORDANCE WITH ASTM A525 G60 COATING.

3 LIGHT GAGE SIZES INDICATED ON THE DRAWINGS ARE MINIMUM AND SHALL BE USED FOR BIDDING PURPOSES ONLY. FINAL SIZES SHALL BE DETERMINED AND PROVIDED IN CONJUNCTION WITH THE METAL PRODUCT MANUFACTURER'S STANDARD SHAPES, SIZES AND DESIGN PROPERTIES. INCREASE SIZE, GAGE, OR DECREASE SPACING AS REQUIRED TO SUSTAIN THE DESIGN LOADS.

4 THE DESIGN AND MANUFACTURE OF ALL LIGHT GAGE METAL FRAMING SHALL CONFORM TO ALL PROVISIONS OF THE "COLD–FORMED STEEL DESIGN MANUAL" AND THE PROVISIONS OF THE AMERICAN IRON AND STEEL INSTITUTE.

5 MINIMUM FLANGE WIDTH OF STUD SHAPES SHALL BE 2 1/2". PROVIDE DOUBLE STUDS AT EACH BEARING END OF LIGHT GAGE METAL HEADERS, TYPICAL UNLESS NOTED OTHERWISE. LIGHT GAGE STUDS SHALL NOT TERMINATE NEAR FACTORY PUNCH–OUTS A MINIMUM DISTANCE OF 2 x DEPTH.

METAL DECK AND FORM

1 METAL DECK AND FORM SHALL CONFORM TO ALL PROVISIONS OF THE "CODE OF RECOMMENDED STANDARD PRACTICE FOR COMPOSITE DECK, FORM DECK, AND ROOF DECK CONSTRUCTION" AS ADOPTED BY THE STEEL DECK INSTITUTE.

2 METAL DECK AND FORM SHALL BE PROVIDED WITH NESTING SIDE SEAMS OF DEPTH AND GAGE AS INDICATED ON THE DRAWINGS. METAL ROOF DECK SHALL BE WIDE RIB TYPE "B". PROVIDE DECK MANUFACTURER'S STANDARD ROOF SUMP PANS FOR EACH ROOF SUMP LOCATION.

3 METAL DECK AND FORM IS DESIGNED TO ACT AS A DIAPHRAGM AND IS INTENDED TO BRACE THE BUILDING. EXTREME CARE SHALL BE UTILIZED TO INSTALL DECK AND FORM CONNECTIONS.

4 CONNECTIONS:
1 1/2" COMPOSITE METAL DECK: AT COMPOSITE BEAMS, CONNECT WITH SHEAR STUDS. AT NON–COMPOSITE BEAMS, CONNECT WITH 36/4 WELDING PATTERN WITH PUDDLE WELDS (MIN. 5/8" DIAMETER) AT 8" O.C. MAXIMUM SPACING (MIN. 4 PER SHEET: 12–12–12 PATTERN) AT ALL SUPPORT POINTS. SIDE LAP CONNECTIONS SHALL BE MADE AT FORM SUPPORT, AT MIDPOINT AND QUARTER POINTS OF FORM SPAN (3 CONNECTIONS PER SPAN) WITH #10 TEK SCREWS. REFER TO SPECIFICATIONS FOR ADDITIONAL ERECTION PROCEDURES.

1 1/2" METAL ROOF DECK: CONNECT TO ALL SUPPORTING ST

1. GENERAL

1.1 PURPOSE OF SPECIFICATION

THE PURPOSE OF THIS SPECIFICATION IS TO DETAIL THE FURNISHING OF ALL DESIGNS, MATERIALS, TOOLS, EQUIPMENT, LABOR AND SUPERVISION, AND INSTALLATION TECHNIQUES NECESSARY TO INSTALL HELICAL PILES AS DETAILED ON THE DRAWINGS, INCLUDING CONNECTION DETAILS. THIS SHALL INCLUDE PROVISIONS FOR LOAD TESTING THAT MAY BE PART OF THE SCOPE OF WORK

1.2 SCOPE OF WORK

THIS WORK CONSISTS OF FURNISHING ALL NECESSARY ENGINEERING AND DESIGN SERVICES (IF REQUIRED), SUPERVISION, LABOR, TOOLS, MATERIALS, AND EQUIPMENT TO PERFORM ALL WORK NECESSARY TO INSTALL THE HELICAL PILES, AT (LOCATION, CITY, STATE/PROVINCE) FOR (COMPANY, STATE OR PRIVATE AUTHORITY) PER THE SPECIFICATIONS DESCRIBED HEREIN, AND AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL INSTALL A HELICAL PILE THAT WILL DEVELOP THE LOAD CAPACITIES AS DETAILED ON THE DRAWINGS. THIS MAY ALSO INCLUDE PROVISIONS FOR LOAD TESTING TO VERIFY HELICAL PILE CAPACITY AND DEFLECTION, IF PART OF THE SCOPE OF WORK. THE RESPONSIBILITIES AND DUTIES OF THE RESPECTIVE PARTIES FOR THIS PROJECT ARE SUMMARIZED IN TABLE-1.

TABLE-1. TASKS AND RESPONSIBILITIES TO BE ALLOCATED FOR HELICAL PILE WORK

	TASK	RESPONSIBLE PARTY
1	SITE INVESTIGATION, GEOTECHNICAL INVESTIGATION, SITE SURVEY, AND POTENTIAL WORK RESTRICTIONS	OWNER/ CONTRACTOR
2	TYPE OF SPECIFICATION, REQUIREMENT FOR A PRE-CONTRACT TESTING PROGRAM AND PROCUREMENT METHOD	ENGINEER
3	OBTAINING EASEMENTS	OWNER
4	OVERALL SCOPE OF WORK, DESIGN OF THE HELICAL PILE STRUCTURE – INCLUDING DESIGN LOADS (VERTICAL, HORIZONTAL, ETC.), PILE LOCATIONS, AND PILE SPACING AND OREINTATION	ENGINEER
5	DEFINITION AND QUALIFICATIONS OF SAFETY FACTORS	ENGINEER
6	CALCULATIONS/ ESTIMATION OF ALLOWABLE STRUCTURAL AND/OR HELICAL PILE MOVEMENT IN SERVICE (ACCEPTANCE CRITERIA)	ENGINEER
7	DEFINITION OF SERVICE LIFE (TEMPORARY-MONTHS OR PERMANENT-YEARS) AND REQUIRED DEGREE OF CORROSION PROTECTION BASED ON SITE CONDITIONS	ENGINEER
8	TYPE AND NUMBER OF TESTS (PRE-CONTRACT, PRE-PRODUCTION AND PRODUCTION)	CONTRACTOR
9	MINIMUM TOTAL HELICAAL PILE LENGTH, DEPTH TO BEARING STRATUM	OWNER
10	HELICAL PILE COMPONENTS AND DETAILS	ENGINEER
11	DETAILS OF CORROSION PROTECTION, IF REQUIRED.	ENGINEER
12	DETAILS OF PILE CONNECTION TO STRUCTURE (E.G. FOR STATIC AND SEISMIC CONDITIONS)	ENGINEER
13	PREPARATION OF DRAWINGS AND TEST REPORTS	ENG/OWNER
14	EVALUATION OF TEST RESULTS	ENGINEER
15	CONSTRUCTION METHODS, SCHEDULE, SEQUENCING, AND COORDINATION OF WORK	CONTRACTOR
16	REQUIREMENTS OF FIELD PRODUCTION CONTROL, INCLUDING LOGGING OF INSTALLATION TORQUE VS. INSTALLED DEPTH	OWNER CONTRACTOR
17	SUPERVISION OF WORK	CONTRACTOR
18	LONG-TERM MONITORING	CONTRACTOR

1.3 QUALIFICATIONS OF THE HELICAL PILE CONTRACTOR

THE HELICAL PILE CONTRACTOR SHALL BE EXPERIENCED IN PERFORMING DESIGN AND CONSTRUCTION OF HELICAL PILES AND SHALL FURNISH ALL MATERIALS, LABOR, AND SUPERVISION TO PERFORM THE WORK. THE CONTRACTOR SHALL BE TRAINED AND CERTIFIED BY THE CONTRACTOR SHALL PROVIDE NAMES OF ON-SITE PERSONNEL MATERIALLY INVOLVED WITH THE WORKAT A MINIMUM, THESE PERSONNEL SHALL INCLUDE FOREMAN, MACHINE OPERATOR, AND PROJECT ENGINEER/MANAGER.

THE HELICAL PILE CONTRACTOR SHALL NOT SUBLET THE WHOLE OR ANY PART OF THE CONTRACT WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

1.4 RELATED PROJECT SPECIFICATIONS

SITE PREPARATION
GENERAL CONDITIONS
FOUNDATIONS
CONCRETE

CONTRACTOR: THE PERSON/FIRM RESPONSIBLE FOR PERFORMING THE HELICAL PILE WORK.

COUPLING: CENTRAL STEEL SHAFT CONNECTION MEANS FORMED AS INTEGRAL PART OF THE PLAIN EXTENSION SHAFT MATERIAL. FOR TYPE SS & RS HELICAL PILES, COUPLINGS ARE INTERNAL OR EXTERNAL SLEEVES, OR HOT UPSET FORGED SOCKETS.

COUPLING BOLT(S): HIGH STRENGTH, STRUCTURAL STEEL FASTENERS USED TO CONNECT HELICAL PILE SEGMENTS TOGETHER. FOR TYPE SS SEGMENTS, THE COUPLING BOLT TRANSFERS AXIAL LOAD. FOR TYPE RS SEGMENTS, THE COUPLING BOLTS TRANSFER BOTH AXIAL AND TORSIONAL FORCES.

HELICAL EXTENSION: HELICAL PILE FOUNDATION COMPONENT INSTALLED IMMEDIATELY FOLLOWING THE LEAD OR STARTER SECTION, IF REQUIRED. THIS COMPONENT CONSISTS OF ONE OR MORE HELICAL PLATES WELDED TO A CENTRAL STEEL SHAFT OF FINITE LENGTH. FUNCTION IS TO INCREASE BEARING AREA.

HELIX PLATE: GENERALLY ROUND STEEL PLATE FORMED INTO A RAMPED SPIRAL. THE HELICAL SHAPE PROVIDES THE MEANS TO INSTALL THE HELICAL PILE, PLUS THE PLATE TRANSFERS LOAD TO SOIL IN END BEARING. HELIX PLATES ARE AVAILABLE IN VARIOUS DIAMETERS AND THICKNESS.

HELICAL PILE: A BEARING TYPE FOUNDATION ELEMENT CONSISTING OF A LEAD OR STARTER SECTION, HELICAL EXTENSION (IF SO REQUIRED BY SITE CONDITIONS), PLAIN EXTENSION SECTION(S), AND A PILE CAP. A.K.A. HELICAL SCREW PILE, SCREW PILE, HELICAL SCREW FOUNDATION.

INSTALLATION TORQUE(T): THE RESISTANCE GENERATED BY A HELICAL PILE WHEN INSTALLED INTO SOIL. THE INSTALLATION RESISTANCE IS A FUNCTION OF THE SOIL TYPE, AND SIZE AND SHAPE OF THE VARIOUS PILE MATERIAL USED.

COMPONENTS OF THE HELICAL PILE.
ROUND SHAFT (RS): ROUND STEEL PIPE CENTRAL SHAFT ELEMENTS RANGING IN DIAMETER FROM 2-7/8" TO 10". A.K.A. HOLLOW SHAFT (TYPE HS), TYPE T/C, TYPE PIF.

LEAD SECTION: THE FIRST HELICAL PILE FOUNDATION COMPONENT INSTALLED INTO THE SOIL, CONSISTING OF SINGLE OR MULTIPLE HELIX PLATES WELDED TO A CENTRAL STEEL SHAFT. A.K.A. STARTER SECTION.

PLAIN EXTENSION: CENTRAL STEEL SHAFT SEGMENT WITHOUT HELIX PLATES. IT IS INSTALLED FOLLOWING THE INSTALLATION OF THE LEAD SECTION OR HELICAL EXTENSION (IF USED). THE SEGMENTS ARE CONNECTED WITH

PILE CAP: CONNECTION MEANS BY WHICH STRUCTURAL LOADS ARE TRANSFERRED TO THE HELICAL PILE. THE TYPE OF CONNECTION VARIES DEPENDING UPON THE REQUIREMENTS OF THE PROJECT AND TYPE OF HELICAL INTEGRAL COUPLINGS AND BOLTS. PLAIN EXTENSIONS ARE USED TO EXTEND THE HELIX PLATES BEYOND THE SPECIFIED MINIMUM DEPTH AND INTO COMPETENT LOAD BEARING STRATUM.

SAFETY FACTOR: THE RATIO OF THE ULTIMATE CAPACITY TO THE WORKING OR DESIGN LOAD USED FOR THE DESIGN OF ANY STRUCTURAL ELEMENT.

SQUARE SHAFT (SS): SOLID STEEL, ROUND-CORNERED-QUARE CENTRAL HAFT ELEMENTS RANGING IN SIZE FROM 1-1/4" TO 2-1/4". A.K.A. TYPE SQ.

TORQUE STRENGTH RATING: THE MAXIMUM TORQUE ENERGY THAT CAN BE APPLIED TO THE HELICAL PILE FOUNDATION DURING INSTALLATION IN SOIL, A.K.A. ALLOWABLE, OR SAFE TORQUE.

1.6 ALLOWABLE TOLERANCES

THE TOLERANCES QUOTED IN THIS SECTION ARE SUGGESTED MAXIMUMS. THE ACTUAL VALUES ESTABLISHED FOR A PARTICULAR PROJECT WILL DEPEND ON THE STRUCTURAL APPLICATION.

1.6.1 CENTERLINE OF HELICAL PILES SHALL NOT BE MORE THAN 3 INCHES FROM INDICATED PLAN LOCATION.
1.6.2 HELICAL PILE PLUMBNESS SHALL BE WITHIN 2" OF DESIGN ALIGNMENT.
1.6.3 TOP ELEVATION OF HELICAL PILE SHALL BE WITHIN +1 INCH TO ?2 INCHES OF THE DESIGN VERTICAL ELEVATION.

1.7 QUALITY ASSURANCE

1.7.1 HELICAL PILES SHALL BE INSTALLED BY AUTHORIZED QUALIFIED CONTRACTOR. THESE CONTRACTORS SHALL HAVE SATISFIED THE CERTIFICATION REQUIREMENTS RELATIVE TO THE TECHNICAL ASPECTS OF THE PRODUCT AND INSTALLATION PROCEDURES AS THEREIN SPECIFIED. CERTIFICATION DOCUMENTS SHALL BE PROVIDED UPON REQUEST TO THE OWNER OR THEIR REPRESENTATIVE.

1.7.2 THE CONTRACTOR SHALL EMPLOY AN ADEQUATE NUMBER OF SKILLED WORKERS WHO ARE EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK OF THIS SPECIFICATION.

1.7.3 ALL HELICAL PILES SHALL BE INSTALLED IN THE PRESENCE OF A DESIGNATED REPRESENTATIVE OF THE OWNER UNLESS SAID REPRESENTATIVE INFORMS THE CONTRACTOR OTHERWISE. THE DESIGNATED REPRESENTATIVE SHALL HAVE THE RIGHT OF ACCESS TO ANY AND ALL FIELD INSTALLATION RECORDS AND TEST REPORTS.

1.7.4 HELICAL PILE COMPONENTS AS SPECIFIED THEREIN SHALL BE MANUFACTURED BY A FACILITY WHOSE QUALITY SYSTEMS COMPLY WITH ISO (INTERNATIONAL ORGANIZATION OF STANDARDS) 9001 REQUIREMENTS. CERTIFICATES OF REGISTRATION DENOTING ISO STANDARDS NUMBER SHALL BE PRESENTED UPON REQUEST TO THE OWNER OR THEIR REPRESENTATIVE.

1.7.5 CONTRACTOR SHALL PROVIDE A STANDARD 10-YEAR WARRANTY ON MATERIALS AND WORKMANSHIP OF THE PRODUCT. ANY ADDITIONAL WARRANTY PROVIDED BY THE CONTRACTOR SHALL BE ISSUED AS AN ADDENDUM TO THIS SPECIFICATION.

1.7.6 DESIGN OF HELICAL PILES SHALL BE PERFORMED BY AN ENTITY AS REQUIRED IN ACCORDANCE WITH EXISTING LOCAL CODE REQUIREMENTS OR ESTABLISHED LOCAL PRACTICES. THIS DESIGN WORK MAY BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER.

1.8 DESIGN CRITERIA

1.8.1 HELICAL PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADS AND ACCEPTANCE CRITERIA AS SHOWN ON THE DRAWINGS. THE CALCULATIONS AND DRAWINGS REQUIRED FROM THE CONTRACTOR OR ENGINEER SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE IN ACCORDANCE TO SECTION 3.1 "CONSTRUCTION SUBMITTALS".

1.8.2 THE ALLOWABLE WORKING LOAD ON THE HELICAL PILES SHALL NOT EXCEED THE FOLLOWING VALUES:

1.8.2.1 FOR COMPRESSION LOADS:

PALLOWC = 0.4 * FYSHAFT * ASHAFT

= ALLOWABLE WORKING LOAD IN COMPRESSION (KIP)

= MINIMUM YIELD STRENGTH OF CENTRAL STEEL SHAFT (KSI) 90 KSI

= AREA OF CENTRAL STEEL SHAFT (WITH CORROSION ALLOWANCE IF REQUIRED) (IN.2)

1.8.3 THE ULTIMATE STRUCTURAL CAPACITY SHALL BE DETERMINED AS: 1.8.3.1 FOR

COMPRESSION LOADS:

PULTC = FYSHAFT * ASHAFT

WHERE: PULTC = ULTIMATE STRUCTURAL CAPACITY IN COMPRESSION (KIP)

FYSHAFT = MINIMUM YIELD STRENGTH OF CENTRAL STEEL SHAFT (KSI) 90 KSI

ASHAFT = AREA OF CENTRAL STEEL SHAFT (WITH CORROSION ALLOWANCE IF REQUIRED) (IN.2)

1.8.4 HELICAL PILE CAPACITY IN SOIL SHALL NOT BE RELIED UPON FROM THE FOLLOWING SOIL LAYERS AS DEFINED IN THE GEOTECHNICAL REPORTS:

REPORT # 2016019A DATED MAY 27, 2016 PREPARED BY SOMAT ENGINEERING INC.
THE OVERALL LENGTH AND INSTALLED TORQUE OF A HELICAL PILE SHALL BE SPECIFIED SUCH THAT THE REQUIREDIN-SOIL CAPACITY IS DEVELOPED BY END-BEARING ON THE HELIX PLATE(S) IN AN APPROPRIATE STRATA(S).

IT IS RECOMMENDED THAT THE THEORETICAL END-BEARING CAPACITY OF THE HELIX PLATES BE DETERMINED USING HELICAP? ENGINEERING SOFTWARE OR EQUAL COMMERCIALLY AVAILABLE SOFTWARE. THE REQUIRED SOIL PARAMETERS (C, Y, OR N-VALUES) FOR USE WITH HELICAP, OR EQUAL SHALL BE PROVIDED IN THE GEOTECHNICAL REPORTS. THE OWNER SHALL DETERMINE THE ALLOWABLE RESPONSE TO AXIAL LOADS.

1.8.9 THE HELICAL PILE ATTACHMENT (PILE CAP) SHALL DISTRIBUTE THE DESIGN LOAD (DL) TO THE CONCRETE FOUNDATION SUCH THAT THE CONCRETE BEARING STRESS DOES NOT EXCEED THOSE IN THE ACI BUILDING CODE AND THE STRESSES IN THE STEEL PLATES/WELDS DOES NOT EXCEED AISC ALLOWABLE STRESSES FOR STEEL MEMBERS.

1.8.10 CORROSION PROTECTION

STRUCTURE TYPE: PERMANENT

SERVICE LIFE: 50 YEARS

CORROSION PROTECTION REQUIREMENTS FOR THE VARIOUS HELICAL PILE ELEMENTS SHALL BE PROVIDED MEETING THE REQUIREMENTS OF TABLE-2 FOR:

SOIL: AGGRESSIVE

TABLE – 2
CORROSION PROTECTION

	TENSION		COMPRESSION	
SOIL .	AGGRESSIVE	NON-AGGRESSIVE	AGGRESSIVE	NON-AGGRESSIVE
CENTRAL STEEL SHAFT (LEAD SECTION)	A. GALVANIZATION OR B. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. BARE STEEL OR B. GALVANIZATION OR C. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. GALVANIZATION OR B. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE	A. BARE STEEL OR B. GALVANIZATION OR C. MINIMUM 1/8" CORROSION LOSS ON OUTSIDE
CENTRAL STEEL SHAFT (EXTENSION SECTION)	A. GALVANIZATION OR B. EPOXY COATING OR C. A. OR B. + GROUT COVER THE SPECIFIER MAY ELECT TO USE A GROUT CASE	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING	A. GALVANIZATION OR B. EPOXY COATING OR C. A. OR B. + GROUT COVER THE SPECIFIER MAY ELECT TO USE A GROUT CASE	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING
STEEL PILE CAP	A. GALVANIZATION OR B. EPOXY COATING	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING	A. GALVANIZATION OR B. EPOXY COATING	A. BARE STEEL OR B. GALVANIZATION OR C. EPOXY COATING

NOTES:
LETTERED ITEMS ARE OPTIONS.
FOR GUIDANCE ON AGGRESSIVENESS CLASSIFICATION, SEE TABLE-2 OF THE APPENDIX.

1. CORROSION PROTECTION SHALL EXTEND 15'-0 BELOW CORROSIVE MATERIAL.

2. MINIMUM 1" IN SOIL. IF PROTECTIVE COATINGS (GALVANIZATION, EPOXY) ARE PROVIDED IN COMPRESSION, MINIMUM COVER MAY BE 0.25" IN SOIL. GROUT COLUMN CAN BE INSTALLED USING THE HELICAL PULLDOWN? MICROPILE METHOD.

1.9. GROUND CONDITIONS

THE GEOTECHNICAL REPORT, INCLUDING LOGS OF SOIL BORINGS AS SHOWN ON THE BORING LOCATION PLAN, SHALL BE CONSIDERED TO BE REPRESENTATIVE OF THE IN-SITU SUBSURFACE CONDITIONS LIKELY TO BE ENCOUNTERED ON THE PROJECT SITE. SAID GEOTECHNICAL REPORT SHALL BE THE USED AS THE BASIS FOR HELICAL PILE DESIGN USING GENERALLY ACCEPTED ENGINEERING JUDGEMENT AND METHODS.

THE GEOTECHNICAL REPORT SHALL BE PROVIDED FOR PURPOSES OF BIDDING. IF DURING HELICAL PILE INSTALLATION, SUBSURFACE CONDITIONS OF A TYPE AND LOCATION ARE ENCOUNTERED OF A FREQUENCY THAT WERE NOT REPORTED, INFERRED AND/OR EXPECTED AT THE TIME OF PREPARATION OF THE BID, THE ADDITIONAL COSTS REQUIRED TO OVERCOME SUCH CONDITIONS SHALL BE CONSIDERED AS EXTRAS TO BE PAID FOR.

2 REFERENCED CODES AND STANDARDS

STANDARDS LISTED BY REFERENCE, INCLUDING REVISIONS BY ISSUING AUTHORITY, FORM A PART OF THIS SPECIFICATION SECTION TO THE EXTENT INDICATED. STANDARDS LISTED ARE IDENTIFIED BY ISSUING AUTHORITY, AUTHORITY ABBREVIATION, DESIGNATION NUMBER, TITLE, OR OTHER DESIGNATION ESTABLISHED BY ISSUING AUTHORITY. STANDARDS SUBSEQUENTLY REFERENCED HEREIN ARE REFERRED TO BY ISSUING AUTHORITY ABBREVIATION AND STANDARD DESIGNATION. IN CASE OF CONFLICT, THE PARTICULAR REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. THE LATEST PUBLICATION AS OF THE ISSUE OF THIS SPECIFICATION SHALL GOVERN, UNLESS INDICATED OTHERWISE.

2.1 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

2.1.1 ASTM A36/A36M STRUCTURAL STEEL.

2.1.2 ASTM A53 PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC-COATED WELDED AND SEAMLESS.

2.1.3 ASTM A153 ZINC COATING (HOT DIP) ON IRON AND STEEL HARDWARE.

2.1.4 ASTM A252 WELDED AND SEAMLESS STEEL PIPE PILES.

2.1.5 ASTM A775 ELECTROSTATIC EPOXY COATING

2.1.6 ASTM A193/A193M ALLOY-STEEL AND STAINLESS STEEL BOLTING MATERIALS FOR HIGH TEMPERATURE SERVICE.

2.1.7 ASTM A500 COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES.

2.1.8 ASTM A513 STANDARD SPECIFICATION FOR ELECTRIC RESISTANCE WELDED CARBON AND ALLOY STEEL MECHANICAL TUBING.

2.1.9 ASTM A656 HOT-ROLLED STRUCTURAL STEEL, HIGH-STRENGTH LOW-ALLOY PLATE WITH IMPROVED FORMABILITY.

2.1.10 ASTM A958 STANDARD SPECIFICATION FOR STEEL CASTINGS, CARBON, AND ALLOY, WITH TENSILE REQUIREMENTS, CHEMICAL REQUIREMENTS SIMILAR TO WROUGHT GRADES.

2.1.11 ASTM A1018 STEEL, SHEET AND STRIP, HEAVY THICKNESS COILS, HOT ROLLED, CARBON, STRUCTURAL, HIGH-STRENGTH LOW-ALLOY, COLUMBIUM OR VANADIUM, AND HIGH-STRENGTH LOW-ALLOY WITH IMPROVED FORMABILITY.

2.2 AMERICAN WELDING SOCIETY (AWS):

2.2.1 AWS D1.1 STRUCTURAL WELDING CODE – STEEL.

2.2.2 AWS D1.2 STRUCTURAL WELDING CODE – REINFORCING STEEL.

2.3 AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE):

2.3.1 ASCE 20-96 STANDARD GUIDELINES FOR THE DESIGN AND INSTALLATION OF PILE FOUNDATIONS.

2.4 DEEP FOUNDATIONS INSTITUTE (DFI):

2.4.1 GUIDE TO DRAFTING A SPECIFICATION FOR HIGH CAPACITY DRILLED AND GROUTED MICROPILES FOR STRUCTURAL SUPPORT, 1ST EDITION, COPYRIGHT 2001 BY THE DEEP FOUNDATION INSTITUTE (DFI).

2.5 SOCIETY OF AUTOMOTIVE ENGINEERS (SAE):

2.5.1 SAE J429 MECHANICAL AND MATERIAL REQUIREMENTS FOR EXTERNALLY THREADED FASTENERS.

3 SUBMITTALS

3.1 CONSTRUCTION SUBMITTALS.

3.1.2 THE CONTRACTOR SHALL SUBMIT A DETAILED DESCRIPTION OF THE CONSTRUCTION PROCEDURES PROPOSED FOR USE TO THE OWNER FOR REVIEW. THIS SHALL INCLUDE A LIST OF MAJOR EQUIPMENT TO BE USED.

3.1.3 THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:

3.1.3.A HELICAL PILE NUMBER, LOCATION AND PATTERN BY ASSIGNED IDENTIFICATION NUMBER

3.1.3.B HELICAL PILE DESIGN LOAD

3.1.3.C TYPE AND SIZE OF CENTRAL STEEL SHAFT

3.1.3.D HELIX CONFIGURATION (NUMBER AND DIAMETER OF HELIX PLATES)

3.1.3.E MINIMUM EFFECTIVE INSTALLATION TORQUE

3.1.3.F MINIMUM OVERALL LENGTH

3.1.3.G INCLINATION OF HELICAL PILE

3.1.3.H CUT-OFF ELEVATION

3.1.3.I HELICAL PILE ATTACHMENT TO STRUCTURE RELATIVE TO GRADE BEAM, COLUMN PAD, PILE CAP, ETC.

3.1.4 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL HELICAL PILE COMPONENTS, INCLUDING CORROSION PROTECTION AND PILE TOP ATTACHMENT TO THE OWNER FOR REVIEW AND APPROVAL. THIS INCLUDES HELICAL PILE LEAD/STARTER AND EXTENSION SECTION IDENTIFICATION (MANUFACTURER'S CATALOG NUMBERS).

3.1.5 THE CONTRACTOR SHALL SUBMIT PLANS FOR PRE-PRODUCTION (OPTIONAL) AND PRODUCTION TESTING FOR THE HELICAL PILES TO THE OWNER FOR REVIEW AND ACCEPTANCE PRIOR TO BEGINNING LOAD TESTS. THE PURPOSE OF THE TEST IS TO DETERMINE THE LOAD VERSUS DISPLACEMENT RESPONSE OF THE HELICAL PILE AND PROVIDE AN ESTIMATION OF ULTIMATE CAPACITY.

3.1.6 THE CONTRACTOR SHALL SUBMIT TO THE OWNER COPIES OF CALIBRATION REPORTS FOR EACH TORQUE INDICATOR OR TORQUE MOTOR, AND ALL LOAD TEST EQUIPMENT TO BE USED ON THE PROJECT. THE CALIBRATION TESTS SHALL HAVE BEEN PERFORMED WITHIN FORTY FIVE (45) WORKING DAYS OF THE DATE SUBMITTED. HELICAL PILE INSTALLATION AND TESTING SHALL NOT PROCEED UNTIL THE OWNER HAS RECEIVED THE CALIBRATION REPORTS. THESE CALIBRATION REPORTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION:

3.1.6.A NAME OF PROJECT AND CONTRACTOR
3.1.6.B NAME OF TESTING AGENCY
3.1.6C IDENTIFICATION (SERIAL NUMBER) OF DEVICE CALIBRATED
3.1.6.D DESCRIPTION OF CALIBRATED TESTING EQUIPMENT
3.1.6.E DATE OF CALIBRATION
3.1.6.F CALIBRATION DATA

3.1.7 WORK SHALL NOT BEGIN UNTIL ALL THE SUBMITTALS HAVE BEEN RECEIVED AND APPROVED BY THE OWNER. THE CONTRACTOR SHALL ALLOW THE OWNER A REASONABLE TIME TO REVIEW, COMMENT, AND RETURN THE SUBMITTAL PACKAGE AFTER A COMPLETE SET HAS BEEN RECEIVED. ALL COSTS ASSOCIATED WITH INCOMPLETE OR UNACCEPTABLE SUBMITTALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

JMS ENGINEERING SERVICES
32401 WEST 8 MILE RD. LIVONIA, MICHIGAN. 48152
SUITE 2-5 PH (313) 399-2932 FAX (248) 476-7936

ALL DRAWN AND WRITTEN INFORMATION APPEARING HEREIN SHALL NOT BE DUPLICATED, DISCLOSED OR OTHERWISE USED WITHOUT THE WRITTEN CONSENT OF JMS ENGINEERING SERVICES.

PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
GENERAL NOTES
–

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW
	6/4/26	FOR REVIEW

DATE: 9/2024
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

SEAL VOID IF NOT IN BLUE INK

SHEET NO.: 2 OF 20

S101

3.2 INSTALLATION RECORDS

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF HELICAL PILE INSTALLATION RECORDS WITHIN 24 HOURS AFTER EACH INSTALLATION IS COMPLETED. RECORDS SHALL BE PREPARED IN ACCORDANCE WITH THE SPECIFIED DIVISION OF RESPONSIBILITIES AS NOTED IN TABLE–1. FORMAL COPIES SHALL BE SUBMITTED ON A WEEKLY BASIS: THESE INSTALLATION RECORDS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION.

3.2.1 NAME OF PROJECT AND CONTRACTOR

3.2.2 NAME OF CONTRACTOR'S SUPERVISOR DURING INSTALLATION

3.2.3 DATE AND TIME OF INSTALLATION

3.2.4 NAME AND MODEL OF INSTALLATION EQUIPMENT

3.2.5 TYPE OF TORQUE INDICATOR USED

3.2.6 LOCATION OF HELICAL PILE BY ASSIGNED IDENTIFICATION NUMBER

3.2.7 ACTUAL HELICAL PILE TYPE AND CONFIGURATION – INCLUDING LEAD SECTION (NUMBER AND SIZE OF HELIX PLATES), NUMBER AND TYPE OF EXTENSION SECTIONS (MANUFACTURER'S SKU NUMBERS)

3.2.8 HELICAL PILE INSTALLATION DURATION AND OBSERVATIONS

3.2.9 TOTAL LENGTH OF INSTALLED HELICAL PILE

3.2.10 CUT–OFF ELEVATION

3.2.11 INCLINATION OF HELICAL PILE

3.2.12 INSTALLATION TORQUE AT ONE–FOOT INTERVALS FOR THE FINAL 10 FEET

3.2.13 COMMENTS PERTAINING TO INTERRUPTIONS, OBSTRUCTIONS, OR OTHER RELEVANT INFORMATION

3.2.14 RATED LOAD CAPACITIES

3.3 TEST REPORTS

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF FIELD TEST REPORTS WITHIN 24 HOURS AFTER COMPLETION OF THE LOAD TESTS. RECORDS SHALL BE PREPARED IN ACCORDANCE WITH THE SPECIFIED DIVISION OF RESPONSIBILITIES AS NOTED IN TABLE–1. FORMAL COPIES SHALL BE SUBMITTED WITHIN A REASONABLE AMOUNT OF TIME FOLLOWING TEST COMPLETION. THESE TEST REPORTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION (NOTE SECTION 6 – HELICAL PILE LOAD TESTS).

3.3.1 NAME OF PROJECT AND CONTRACTOR

3.3.2 NAME OF CONTRACTOR'S SUPERVISOR DURING INSTALLATION

3.3.3 NAME OF THIRD PARTY TEST AGENCY, IF REQUIRED

3.3.4 DATE, TIME, AND DURATION OF TEST

3.3.5 LOCATION OF HELICAL PILE BY ASSIGNED IDENTIFICATION NUMBER

3.3.6 TYPE OF TEST (I.E. TENSION OR COMPRESSION)

3.3.7 DESCRIPTION OF CALIBRATED TESTING EQUIPMENT AND TEST SET–UP

3.3.8 ACTUAL HELICAL PILE TYPE AND CONFIGURATION – INCLUDING LEAD SECTION, NUMBER AND TYPE OF EXTENSION SECTIONS (MANUFACTURER'S SKU NUMBERS)

3.3.9 STEPS AND DURATION OF EACH LOAD INCREMENT

3.3.10 CUMULATIVE PILE–HEAD MOVEMENT AT EACH LOAD STEP

3.3.11 COMMENTS PERTAINING TO TEST PROCEDURE, EQUIPMENT ADJUSTMENTS, OR OTHER RELEVANT INFORMATION

3.3.12 SIGNED BY THIRD PARTY TEST AGENCY REP., REGISTERED PROFESSIONAL ENGINEER, OR AS REQUIRED BY LOCAL JURISDICTION

3.4 CLOSEOUT SUBMITTALS

3.4.1 WARRANTY: WARRANTY DOCUMENTS SPECIFIED HEREIN

WARRANTY PERIOD: (SPECIFY TERM) YEARS COMMENCING ON DATE OF SUBSTANTIAL COMPLETION

3.4.1.A MANUFACTURER'S WARRANTY: SUBMIT, FOR OWNER'S ACCEPTANCE, MANUFACTURER'S STANDARD WARRANTY DOCUMENT EXECUTED BY AUTHORIZED COMPANY OFFICIAL. MANUFACTURER'S WARRANTY IS IN ADDITION TO, AND NOT A LIMITATION OF, OTHER RIGHTS THE OWNER MAY HAVE UNDER CONTRACT DOCUMENT.

4 PRODUCTS AND MATERIALS

4.1 CENTRAL STEEL SHAFT:

THE CENTRAL STEEL SHAFT, CONSISTING OF LEAD SECTIONS, HELICAL EXTENSIONS, AND PLAIN EXTENSIONS, SHALL BE TYPE SS (SQUARE SHAFT) OR RS (ROUND SHAFT) OR A COMBINATION OF THE TWO (SS TO RS COMBO PILE).

4.1.1 SS5 1–1/2" MATERIAL : SHALL BE HOT ROLLED ROUND–CORNERED–SQUARE (RCS) SOLID STEEL BARS MEETING DIMENSIONAL AND WORKMANSHIP REQUIREMENTS OF ASTM A29. THE BAR SHALL BE MODIFIED MEDIUM CARBON STEEL GRADE (SIMILAR TO AISI 1044) WITH IMPROVED STRENGTH DUE TO FINE GRAIN SIZE.

4.1.1.A TORQUE STRENGTH RATING = 5,500 FT–LB

4.1.1.B MINIMUM YIELD STRENGTH = 70 KSI

4.1.2 SS125 1–1/4", SS1375 1–3/8", SS150 1–1/2", SS175 1–3/4, SS200 2", SS225 2–1/4" MATERIAL: : SHALL BE HOT ROLLED ROUND–CORNERED–SQUARE (RCS) SOLID STEEL BARS MEETING THE DIMENSIONAL AND WORKMANSHIP REQUIREMENTS OF ASTM A29. THE BAR SHALL BE HIGH STRENGTH LOW ALLOY (HSLA), LOW TO MEDIUM CARBON STEEL GRADE WITH IMPROVED STRENGTH DUE TO FINE GRAIN SIZE.

4.1.2.A TORQUE STRENGTH RATING: SS125 = 4,000 FT–LB; SS1375 = 5,500 FT–LB; SS150 = 7,000 FT–LB; SS175 = 11,000 FT–LB; SS200 = 16,000 FT–LB; SS225 = 23,000 FT–LB

4.1.2.B MINIMUM YIELD STRENGTH = 90 KSI

4.2 HELIX BEARING PLATE:

SHALL BE HOT ROLLED CARBON STEEL SHEET, STRIP, OR PLATE FORMED ON MATCHING METAL DIES TO TRUE HELICAL SHAPE AND UNIFORM PITCH. BEARING PLATE MATERIAL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS.

4.3 BOLTS:

THE SIZE AND TYPE OF BOLTS USED TO CONNECT THE CENTRAL STEEL SHAFT SECTIONS TOGETHER SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS.

4.3.1 SS125 1–1/4" MATERIAL : 5/8" DIAMETER BOLT (2 PER COUPLING) PER SAE J429 GRADE 8.

4.3.2 SS1375 1–3/8" MATERIAL : 3/4" DIAMETER BOLT (2 PER COUPLING) PER SAE J429 GRADE 8.

4.3.3 SS5 AND SS150 1–1/2" MATERIAL : 3/4" DIAMETER BOLT PER ASTM A320 GRADE L7 OR ASTM A325.

4.3.4 SS175 1–3/4" MATERIAL : 7/8" DIAMETER BOLT PER ASTM A193 GRADE B7.

4.3.5 SS200 2" MATERIAL : 1–1/8" DIAMETER BOLT PER ASTM A193 GRADE B7.

4.4 COUPLINGS:

FOR TYPE SS5, SS150, SS175, SS200, AND SS225 MATERIAL, THE COUPLING SHALL BE FORMED AS AN INTEGRAL PART OF THE PLAIN AND HELICAL EXTENSION MATERIAL AS HOT UPSET FORGED SOCKETS. FOR TYPE SS125 AND SS1375 MATERIAL, THE COUPLING SHALL BE A CAST STEEL SLEEVE WITH TWO HOLES FOR CONNECTING SHAFT SECTIONS TOGETHER.

4.5 PLATES, SHAPES, OR PILE CAPS:

DEPENDING ON THE APPLICATION, THE PILE CAP SHALL BE A WELDED ASSEMBLY CONSISTING OF STRUCTURAL STEEL PLATES AND SHAPES DESIGNED TO FIT THE PILE AND TRANSFER THE APPLIED LOAD. STRUCTURAL STEEL PLATES AND SHAPES FOR HELICAL PILE TOP ATTACHMENTS SHALL CONFORM TO ASTM A36 OR ASTM A572 GRADE 50.

4.6 CORROSION PROTECTION

4.6.1 EPOXY COATING: IF USED, THE THICKNESS OF COATING APPLIED ELECTROSTATICALLY TO THE CENTRAL STEEL SHAFT SHALL BE 7–12 MILS. EPOXY COATING SHALL BE IN ACCORDANCE WITH ASTM A775. BEND TEST REQUIREMENTS ARE NOT REQUIRED. COUPLING BOLTS AND NUTS ARE NOT REQUIRED TO BE EPOXY COATED.

4.6.2 GALVANIZATION: IF USED, ALL HUBBELL POWER SYSTEMS, INC./A. B. CHANCE TYPE SS MATERIAL SHALL BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 AFTER FABRICATION. ALL HUBBELL POWER SYSTEMS, INC./A. B. CHANCE TYPE RS MATERIAL SHALL BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 OR A123 AS SPECIFIED AFTER FABRICATION.

5 EXECUTION

5.1 SITE CONDITIONS

5.1.1 PRIOR TO COMMENCING HELICAL PILE INSTALLATION, THE CONTRACTOR SHALL INSPECT THE WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SAID WORK IS COMPLETED TO THE POINT WHERE HELICAL PILES MAY COMMENCE WITHOUT RESTRICTION.

5.1.2 THE CONTRACTOR SHALL VERIFY THAT ALL HELICAL PILES MAY BE INSTALLED IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS REGARDING SUCH ITEMS AS UNDERGROUND OBSTRUCTIONS, RIGHT–OF–WAY LIMITATIONS, UTILITIES, ETC.

5.1.3 IN THE EVENT OF A DISCREPANCY, THE CONTRACTOR SHALL NOTIFY THE OWNER. THE CONTRACTOR SHALL NOT PROCEED WITH HELICAL PILE INSTALLATION IN AREAS OF DISCREPANCIES UNTIL SAID DISCREPANCIES HAVE BEEN RESOLVED. ALL COSTS ASSOCIATED WITH UNRESOLVED DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE OWNER.

5.2 INSTALLATION EQUIPMENT

5.2.1 SHALL BE ROTARY TYPE, HYDRAULIC POWER DRIVEN TORQUE MOTOR WITH CLOCKWISE AND COUNTER–CLOCKWISE ROTATION CAPABILITIES. THE TORQUE MOTOR SHALL BE CAPABLE OF CONTINUOUS ADJUSTMENT TO REVOLUTIONS PER MINUTE (RPM'S) DURING INSTALLATION. PERCUSSION DRILLING EQUIPMENT SHALL NOT BE PERMITTED. THE TORQUE MOTOR SHALL HAVE TORQUE CAPACITY 15% GREATER THAN THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT TO BE INSTALLED.

5.2.2 EQUIPMENT SHALL BE CAPABLE OF APPLYING ADEQUATE DOWN PRESSURE (CROWD) AND TORQUE SIMULTANEOUSLY TO SUIT PROJECT SOIL CONDITIONS AND LOAD REQUIREMENTS. THE EQUIPMENT SHALL BE CAPABLE OF CONTINUOUS POSITION ADJUSTMENT TO MAINTAIN PROPER HELICAL PILE ALIGNMENT.

5.3 INSTALLATION TOOLING

5.3.2 A TORQUE INDICATOR SHALL BE USED DURING HELICAL PILE INSTALLATION. THE TORQUE INDICATOR CAN BE AN INTEGRAL PART OF THE INSTALLATION EQUIPMENT OR EXTERNALLY MOUNTED IN–LINE WITH THE INSTALLATION TOOLING. TORQUE INDICATORS ARE AVAILABLE FROM CHANCE CIVIL CONSTRUCTION.

5.3.2.A SHALL BE CAPABLE OF PROVIDING CONTINUOUS MEASUREMENT OF APPLIED TORQUE THROUGHOUT THE INSTALLATION.

5.3.2.B SHALL BE CAPABLE OF TORQUE MEASUREMENTS IN INCREMENTS OF AT LEAST 500 FT–LB

5.3.2.C SHALL BE CALIBRATED PRIOR TO PRE–PRODUCTION TESTING OR START OF WORK. TORQUE INDICATORS WHICH ARE AN INTEGRAL PART OF THE INSTALLATION EQUIPMENT, SHALL BE CALIBRATED ON–SITE. TORQUE INDICATORS WHICH ARE MOUNTED IN–LINE WITH THE INSTALLATION TOOLING, SHALL BE CALIBRATED EITHER ON–SITE OR AT AN APPROPRIATELY EQUIPPED TEST FACILITY. INDICATORS THAT MEASURE TORQUE AS A FUNCTION OF HYDRAULIC PRESSURE SHALL BE CALIBRATED AT NORMAL OPERATING TEMPERATURES.

5.3.2.D SHALL BE RE–CALIBRATED, IF IN THE OPINION OF THE OWNER AND/OR CONTRACTOR REASONABLE DOUBT EXISTS AS TO THE ACCURACY OF THE TORQUE MEASUREMENTS.

5.4 INSTALLATION PROCEDURES

5.4.1 <u>CENTRAL STEEL SHAFT:</u> (LEAD AND EXTENSION SECTIONS)

5.4.1.A THE HELICAL PILE INSTALLATION TECHNIQUE SHALL BE SUCH THAT IT IS CONSISTENT WITH THE GEOTECHNICAL, LOGISTICAL, ENVIRONMENTAL, AND LOAD CARRYING CONDITIONS OF THE PROJECT.

5.4.1.B THE LEAD SECTION SHALL BE POSITIONED AT THE LOCATION AS SHOWN ON THE WORKING DRAWINGS. THE HELICAL PILE SECTIONS SHALL BE ENGAGED AND ADVANCED INTO THE SOIL IN A SMOOTH, CONTINUOUS MANNER AT A RATE OF ROTATION OF 5 TO 20 RPM'S. EXTENSION SECTIONS SHALL BE PROVIDED TO OBTAIN THE REQUIRED MINIMUM OVERALL LENGTH AND INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS. CONNECT SECTIONS TOGETHER USING COUPLING BOLT(S) AND NUT TORQUED TO 40 FT–LB.

5.4.1.C SUFFICIENT DOWN PRESSURE SHALL BE APPLIED TO UNIFORMLY ADVANCE THE HELICAL PILE SECTIONS APPROXIMATELY 3 INCHES PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF DOWN PRESSURE SHALL BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS.

5.5 TERMINATION CRITERIA

5.5.1 THE TORQUE AS MEASURED DURING THE INSTALLATION SHALL NOT EXCEED THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT.

5.5.2 THE MINIMUM INSTALLATION TORQUE AND MINIMUM OVERALL LENGTH CRITERIA AS SHOWN ON THE WORKING DRAWINGS SHALL BE SATISFIED PRIOR TO TERMINATING THE HELICAL PILE INSTALLATION.

5.5.3 IF THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT AND/OR INSTALLATION EQUIPMENT HAS BEEN REACHED PRIOR TO ACHIEVING THE MINIMUM OVERALL LENGTH REQUIRED, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS:

5.5.3.A TERMINATE THE INSTALLATION AT THE DEPTH OBTAINED SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE OWNER, OR:

5.5.4 IF THE MINIMUM INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS IS NOT ACHIEVED AT THE MINIMUM OVERALL LENGTH, AND THERE IS NO MAXIMUM LENGTH CONSTRAINT, THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS:

5.5.4.A INSTALL THE HELICAL PILE DEEPER USING ADDITIONAL EXTENSION SECTIONS, OR:

5.5.4.B REMOVE THE EXISTING HELICAL PILE AND INSTALL A NEW ONE WITH ADDITIONAL AND/OR LARGER DIAMETER HELIX PLATES. THE NEW HELIX CONFIGURATION SHALL BE SUBJECT TO REVIEW AND ACCEPTANCE OF THE OWNER. IF RE–INSTALLING IN THE SAME LOCATION, THE TOP–MOST HELIX OF THE NEW HELICAL PILE SHALL BE TERMINATED AT LEAST (3) THREE FEET BEYOND THE TERMINATING DEPTH OF THE ORIGINAL HELICAL PILE.

5.5.4.C DE–RATE THE LOAD CAPACITY OF THE HELICAL PILE AND INSTALL ADDITIONAL HELICAL PILE(S). THE DE–RATED CAPACITY AND ADDITIONAL HELICAL PILE LOCATION SHALL BE SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE OWNER.

5.5.5 IF THE HELICAL PILE IS REFUSED OR DEFLECTED BY A SUBSURFACE OBSTRUCTION, THE INSTALLATION SHALL BE TERMINATED AND THE PILE REMOVED. THE OBSTRUCTION SHALL BE REMOVED, IF FEASIBLE, AND THE HELICAL PILE RE–INSTALLED. IF THE OBSTRUCTION CAN'T BE REMOVED, THE HELICAL PILE SHALL BE INSTALLED AT AN ADJACENT LOCATION, SUBJECT TO REVIEW AND ACCEPTANCE OF THE OWNER.

5.5.6 IF THE TORSIONAL STRENGTH RATING OF THE CENTRAL STEEL SHAFT AND/OR INSTALLATION EQUIPMENT HAS BEEN REACHED PRIOR TO PROPER POSITIONING OF THE LAST PLAIN EXTENSION SECTION RELATIVE TO THE FINAL ELEVATION, THE CONTRACTOR MAY REMOVE THE LAST PLAIN EXTENSION AND REPLACE IT WITH A SHORTER LENGTH EXTENSION. IF IT IS NOT FEASIBLE TO REMOVE THE LAST PLAIN EXTENSION, THE CONTRACTOR MAY CUT SAID EXTENSION SHAFT TO THE CORRECT ELEVATION. THE CONTRACTOR SHALL NOT REVERSE (BACK–OUT) THE HELICAL PILE TO FACILITATE EXTENSION REMOVAL.

5.5.7 THE AVERAGE TORQUE FOR THE LAST THREE FEET OF PENETRATION SHALL BE USED AS THE BASIS OF COMPARISON WITH THE MINIMUM INSTALLATION TORQUE AS SHOWN ON THE WORKING DRAWINGS. THE AVERAGE TORQUE SHALL BE DEFINED AS THE AVERAGE OF THE LAST THREE READINGS RECORDED AT ONE–FOOT INTERVALS.

6 HELICAL PILE LOAD TESTS

6.1 PRE–PRODUCTION TESTS (OPTIONAL)
LOAD TESTS SHALL BE PERFORMED TO VERIFY THE SUITABILITY AND CAPACITY OF THE PROPOSED HELICAL PILE, AND THE PROPOSED INSTALLATION PROCEDURES PRIOR TO INSTALLATION OF PRODUCTION HELICAL PILES. ONE SACRIFICIAL TEST HELICAL PILES SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO THE START OF WORK ON THE PRODUCTION PILES. THE OWNER SHALL DETERMINE THE NUMBER OF PRE–PRODUCTION TESTS, THEIR LOCATION, ACCEPTABLE LOAD AND MOVEMENT CRITERIA, AND THE TYPE(S) OF LOAD DIRECTION (I.E., TENSION, COMPRESSION, OR BOTH). ADDITIONAL PURPOSE OF PRE–PRODUCTION TESTS IS TO EMPIRICALLY VERIFY THE ULTIMATE CAPACITY TO THE AVERAGE INSTALLING TORQUE OF THE HELICAL PILE FOR THE PROJECT SITE.

PRE–PRODUCTION HELICAL PILE INSTALLATION METHODS, PROCEDURES, EQUIPMENT, AND OVERALL LENGTH SHALL BE IDENTICAL TO THE PRODUCTION HELICAL PILES TO THE EXTENT PRACTICAL EXCEPT WHERE APPROVED OTHERWISE BY THE OWNER.

THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND ACCEPTANCE THE PROPOSED HELICAL PILE LOAD TESTING PROCEDURE. THE PRE–PRODUCTION TEST PROPOSAL SHALL BE IN GENERAL CONFORMANCE WITH ASTM D1143 AND/OR D–3689, AND SHALL PROVIDE THE MINIMUM FOLLOWING INFORMATION:

TYPE AND ACCURACY OF LOAD EQUIPMENT
TYPE AND ACCURACY OF LOAD MEASURING EQUIPMENT
TYPE AND ACCURACY OF PILE–HEAD DEFLECTION EQUIPMENT
GENERAL DESCRIPTION OF LOAD REACTION SYSTEM, INCLUDING DESCRIPTION OF REACTION ANCHORS
CALIBRATION REPORT FOR COMPLETE LOAD EQUIPMENT, INCLUDING HYDRAULIC JACK, PUMP, PRESSURE GAUGE, HOSES, AND FITTINGS.

IF THE PRE–PRODUCTION TEST FAILS TO MEET THE DESIGN REQUIREMENTS, THE CONTRACTOR SHALL MODIFY THE HELICAL PILE DESIGN AND/OR INSTALLATION METHODS AND RETEST THE MODIFIED ANCHOR, AS DIRECTED BY THE OWNER.

6.1 LOAD TEST EQUIPMENT

6.1.1 THE LOAD TEST EQUIPMENT SHALL BE CAPABLE OF INCREASING OR DECREASING THE APPLIED LOAD INCREMENTALLY. THE INCREMENTAL CONTROL SHALL ALLOW FOR SMALL ADJUSTMENTS, WHICH MAY BE NECESSARY TO MAINTAIN THE APPLIED LOAD FOR A SUSTAINED, HOLD PERIOD.

6.1.2 THE REACTION SYSTEM SHALL BE DESIGNED SO AS TO HAVE SUFFICIENT STRENGTH AND CAPACITY TO DISTRIBUTE THE TEST LOADS TO THE GROUND. IT SHOULD ALSO BE DESIGNED TO MINIMIZE ITS MOVEMENT UNDER LOAD AND TO PREVENT APPLYING AN ECCENTRIC LOAD TO THE PILE HEAD. TEST LOADS ARE NORMALLY HIGHER THAN THE DESIGN LOADS ON THE STRUCTURE. THE DIRECTION OF THE APPLIED LOAD SHALL BE CO–LINEAR WITH THE HELICAL PILE AT ALL TIMES.

6.1.3 DIAL GAUGE(S) SHALL BE USED TO MEASURE HELICAL PILE MOVEMENT. THE DIAL GAUGE SHALL HAVE AN ACCURACY OF AT LEAST +/–0.001–IN. AND A MINIMUM TRAVEL SUFFICIENT TO MEASURE ALL HELICAL PILE MOVEMENTS WITHOUT REQUIRING RESETTING THE GAUGE. THE DIAL GAUGE SHALL BE POSITIONED SO ITS STEM IS PARALLEL WITH THE AXIS OF THE HELICAL PILE. THE STEM MAY REST ON A SMOOTH PLATE LOCATED AT THE PILE HEAD. SAID PLATE SHALL BE POSITIONED PERPENDICULAR TO THE AXIS OF THE HELICAL PILE. THE DIAL GAUGE SHALL BE SUPPORTED BY A REFERENCE APPARATUS TO PROVIDE AN INDEPENDENT FIXED REFERENCE POINT. SAID REFERENCE APPARATUS SHALL BE INDEPENDENT OF THE REACTION SYSTEM AND SHALL NOT BE AFFECTED BY ANY MOVEMENT OF THE REACTION SYSTEM.

6.1.4 THE LOAD TEST EQUIPMENT SHALL BE RE–CALIBRATED, IF IN THE OPINION OF THE OWNER AND/OR CONTRACTOR REASONABLE DOUBT EXISTS AS TO THE ACCURACY OF THE LOAD OR DEFLECTION MEASUREMENTS.

6.2 TESTING PROGRAM

6.2.1 THE HYDRAULIC JACK SHALL BE POSITIONED AT THE BEGINNING OF THE TEST SUCH THAT THE UNLOADING AND REPOSITIONING OF THE JACK DURING THE TEST SHALL NOT BE REQUIRED. THE JACK SHALL ALSO BE POSITIONED CO–AXIAL WITH RESPECT TO THE PILE–HEAD SO AS TO MINIMIZE ECCENTRIC LOADING. THE HYDRAULIC JACK SHALL BE CAPABLE OF APPLYING A LOAD NOT LESS THAN TWO TIMES THE PROPOSED DESIGN LOAD (DL). THE PRESSURE GAUGE SHALL BE GRADUATED IN 100 PSI INCREMENTS OR LESS. THE STROKE OF THE JACK SHALL NOT BE LESS THAN THE THEORETICAL ELASTIC SHORTENING OF THE TOTAL HELICAL PILE LENGTH AT THE MAXIMUM TEST LOAD.

6.2.2 AN ALIGNMENT LOAD (AL) SHALL BE APPLIED TO THE HELICAL PILE PRIOR TO SETTING THE DEFLECTION MEASURING EQUIPMENT TO ZERO OR A REFERENCE POSITION. THE AL SHALL BE NO MORE THAN 10% OF THE DESIGN LOAD (I.E., 0.1 DL). AFTER AL IS APPLIED, THE TEST SET–UP SHALL BE INSPECTED CAREFULLY TO ENSURE IT IS SAFE TO PROCEED.

6.2.3 AXIAL COMPRESSION OR TENSION LOAD TESTS SHALL BE CONDUCTED BY LOADING THE HELICAL PILE IN STEPWISE FASHION AS SHOWN IN TABLE–3 TO THE EXTENT PRACTICAL. PILE–HEAD DEFLECTION SHALL BE RECORDED AT THE BEGINNING OF EACH STEP AND AFTER THE END OF THE HOLD TIME. THE BEGINNING OF THE HOLD TIME SHALL BE DEFINED AS THE MOMENT WHEN THE LOAD EQUIPMENT ACHIEVES THE REQUIRED LOAD STEP.

6.2.4 TEST LOADS SHALL BE APPLIED UNTIL CONTINUOUS JACKING IS REQUIRED TO MAINTAIN THE LOAD STEP OR UNTIL THE TEST LOAD INCREMENT EQUALS 200% OF THE DESIGN LOAD (DL) (I.E., 2.0 DL), WHICHEVER OCCURS FIRST. THE OBSERVATION PERIOD FOR THIS LAST LOAD INCREMENT SHALL BE 10 MINUTES. DISPLACEMENT READINGS SHALL BE RECORDED AT 1, 2, 3, 4, 5 AND 10 MINUTES (LOAD INCREMENT MAXIMA ONLY).

6.2.5 THE APPLIED TEST LOAD SHALL BE REMOVED IN FOUR APPROXIMATELY EQUAL DECREMENTS PER THE SCHEDULE IN TABLE–3. THE HOLD TIME FOR THESE LOAD DECREMENTS SHALL BE 1 MINUTE, EXCEPT FOR THE LAST DECREMENT, WHICH SHALL BE HELD FOR 5 MINUTES.

<u>TABLE–3.</u> STEPS FOR PRE–PRODUCTION LOAD TESTING

LOAD STEP	HOLD TIME
AL	1.0 MIN.
0.20 DL	2.5 MIN.
040 DL	2.5 MIN.
0.60 DL	2.5 MIN.
0.80 DL	2.5 MIN.
1.00 DL	2.5 MIN.
0.75 DL	2.5 MIN.
0.50 DL	1.0 MIN.
0.25 DL	1.0 MIN.
AL	1.0 MIN.
0.50 DL	1.0 MIN.
1.00 DL	1.0 MIN.
1.20 DL	2.5 MIN.
1.40 DL	2.5 MIN.
1.60 DL	2.5 MIN.
1.80 DL	2.5 MIN.
2.00 DL	10.0 MIN.
1.50 DL	1.0 MIN.
1.00 DL	1.0 MIN.
0.50 DL	1.0 MIN.
AL	5.0 MIN.

AL= ALIGNMENT LOAD, DL=DESIGN LOAD

6.3 ACCEPTANCE CRITERIA FOR HELICAL PILE VERIFICATION LOAD TESTS BOTH OF THE FOLLOWING CRITERIA MUST BE MET FOR APPROVAL:

1. THE HELICAL PILE SHALL SUSTAIN THE COMPRESSION AND TENSION DESIGN CAPACITIES (1.0 DL) WITH NO MORE THAN 1/2 IN. (MM) TOTAL VERTICAL MOVEMENT OF THE PILE–HEAD AS MEASURED RELATIVE TO THE TOP OF THE HELICAL PILE PRIOR TO THE START OF TESTING.

2. FAILURE DOES NOT OCCUR AT THE 2.0 DL MAXIMUM COMPRESSION AND TENSION TEST LOADS. THE FAILURE LOAD SHALL BE DEFINED BY ONE OF THE FOLLOWING DEFINITIONS – WHICHEVER RESULTS IN THE LESSER LOAD:

* THE POINT AT WHICH THE MOVEMENT OF THE HELICAL PILE TIP EXCEEDS THE ELASTIC COMPRESSION/TENSION OF THE PILE SHAFT BY 0.08 B, WHERE B IS DEFINED AS THE DIAMETER OF THE LARGEST HELIX.

* THE POINT AT WHICH THE SLOPE OF THE LOAD VERSUS DEFLECTION (AT END OF INCREMENT) CURVE EXCEEDS 0.05 INCHES/KIP.

THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF FIELD TEST REPORTS CONFIRMING HELICAL PILE CONFIGURATION AND CONSTRUCTION DETAILS WITHIN 24 HOURS AFTER COMPLETION OF THE LOAD TESTS. FORMAL COPIES SHALL BE SUBMITTED AS PER SECTION 3.3. THIS WRITTEN DOCUMENTATION WILL EITHER CONFIRM THE LOAD CAPACITY AS REQUIRED ON THE WORKING DRAWINGS OR PROPOSE CHANGES BASED UPON THE RESULTS OF THE PRE–PRODUCTION TESTS.

WHEN A HELICAL PILE FAILS TO MEET THE ACCEPTANCE CRITERIA, MODIFICATIONS SHALL BE MADE TO THE DESIGN, THE CONSTRUCTION PROCEDURES, OR BOTH. THESE MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, DE–RATING THE HELICAL PILE LOAD CAPACITY, MODIFYING THE INSTALLATION METHODS AND EQUIPMENT, INCREASING THE MINIMUM EFFECTIVE INSTALLATION TORQUE, CHANGING THE HELIX CONFIGURATION, OR CHANGING THE HELICAL PILE MATERIAL (I.E., CENTRAL STEEL SHAFT). MODIFICATIONS THAT REQUIRE CHANGES TO THE STRUCTURE SHALL HAVE PRIOR REVIEW AND ACCEPTANCE OF THE OWNER. THE CAUSE FOR ANY MODIFICATIONS OF DESIGN OR CONSTRUCTION PROCEDURES SHALL BE DECIDED IN ORDER TO DETERMINE ANY ADDITIONAL COST IMPLICATIONS.

7.1 PRODUCTION HELICAL PILE TESTING (THIS MAY BE THE ONLY TYPE OF LOAD TEST CONDUCTED, DEPENDING ON PROJECT CONDITIONS.)
THE CONTRACTOR SHALL PERFORM PROOF TESTS ON A MINIMUM OF 50% OF THE TOTAL PRODUCTION HELICAL PILES. THE HELICAL PILES TO BE TESTED WILL BE SELECTED BY THE OWNER, AT THE CONTRACTOR'S SUGGESTION, BUT WITH THE OWNER'S PERMISSION, TENSION TESTS MAY BE PERFORMED IN LIEU OF COMPRESSION TESTS UP TO 1.00 DL FOR HELICAL PILES WITH SUFFICIENT STRUCTURAL TENSION CAPACITY.

THE TEST SEQUENCE SHALL BE AS SHOWN IN <u>TABLE–4 TO THE EXTENT PRACTICAL</u>

TABLE–4
STEPS FOR PRODUCTION TESTING

LOAD STEP	HOLD TIME
AL	0.0 MIN.
0.20 DL	2.5 MIN.
040 DL	2.5 MIN.
0.60 DL	2.5 MIN.
0.80 DL	2.5 MIN.
1.00 DL	5.0 MIN.
0.60 DL	1.0 MIN.
0.40 DL	1.0 MIN.
0.20 DL	1.0 MIN.
AL	5.0 MIN.

AL= ALIGNMENT LOAD, DL=DESIGN LOAD

THE ACCEPTANCE CRITERIA FOR PRODUCTION HELICAL PILES SHALL BE PER SECTION 6.4 ITEM 1.
IF A PRODUCTION HELICAL PILE THAT IS TESTED FAILS TO MEET THE ACCEPTANCE CRITERIA, THE CONTRACTOR SHALL BE DIRECTED TO PROOF TEST ANOTHER HELICAL PILE IN THE VICINITY. FOR FAILED HELICAL PILES AND FURTHER CONSTRUCTION OF OTHER FOUNDATIONS, THE CONTRACTOR SHALL MODIFY THE DESIGN, THE CONSTRUCTION PROCEDURE, OR BOTH. THESE MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, INSTALLING REPLACEMENT HELICAL PILES, MODIFYING THE INSTALLATION METHODS AND EQUIPMENT, INCREASING THE MINIMUM EFFECTIVE INSTALLATION TORQUE, CHANGING THE HELIX CONFIGURATION, OR CHANGING THE HELICAL PILE MATERIAL (I.E., CENTRAL STEEL SHAFT). MODIFICATIONS THAT

REQUIRE CHANGES TO THE STRUCTURE SHALL HAVE PRIOR REVIEW AND ACCEPTANCE OF THE OWNER. ANY MODIFICATIONS OF DESIGN OR CONSTRUCTION PROCEDURES SHALL BE AT THE CONTRACTOR'S EXPENSE.

7.2 LATERAL TESTING

END OF SPECIFICATION

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HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
GENERAL NOTES
–

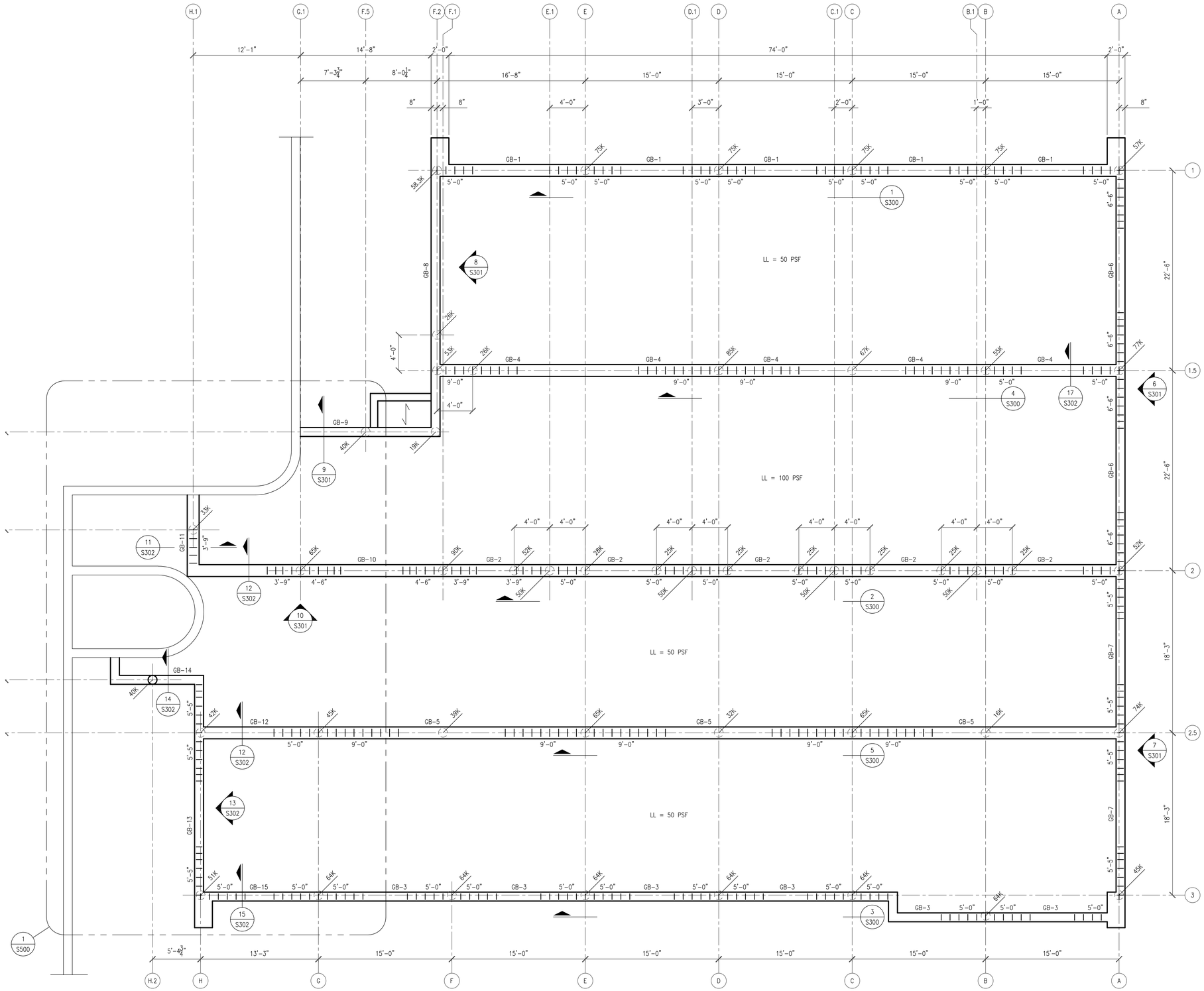
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GRADE BEAM AND PIER PLAN

SCALE : 3/16" = 1'-0"

NORTH

XXX INDICATES MINIMUM PIER CAPACITY

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PROJECT TITLE:

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:

FOUNDATION LOADS
--

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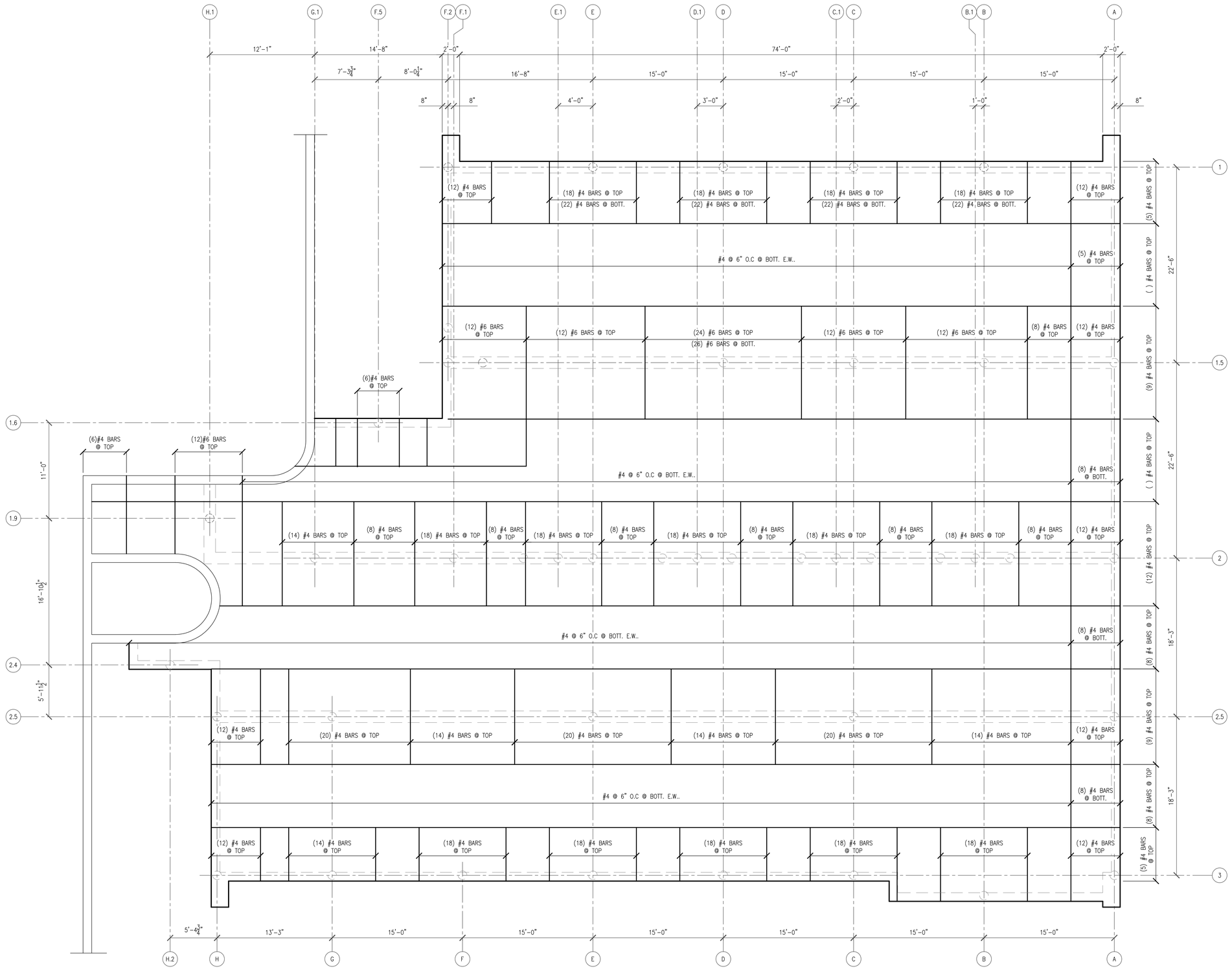
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S200



6" OR 7" THICK SUPPORTED

SLAB
DL = 88 PSF (7")
DL = 12 PSF PARTITION

GRADE BEAMS
EXTERIOR 16"x36" = 600# /FT
INTERIOR 12"x24" = 300# /FT

WALL
DL = 95 PSF = 1.4# /FT

FOUNDATION KEYNOTES LEGEND

UNLESS INDICATED OTHERWISE, ALL DIMENSIONS ARE TO COLUMN CENTERLINE OR FACE OF MASONRY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS. REFER TO SHEET _____ FOR WALL FOOTING DETAILS. REFER TO SHEET _____ FOR COLUMN FOOTING AND WALL FOOTING SCHEDULES.

WALL FOOTING WIDTHS AND COLUMN FOOTING SIZES MAY NOT BE INCREASED WITHOUT PRIOR PERMISSION FROM THE ENGINEER. FORM FOUNDATIONS AS REQUIRED TO HOLD THE DIMENSIONS INDICATED IN THE SCHEDULES. IF CONSTRUCTION TOLERANCES REQUIRE WIDER WALL FOOTINGS, CONTRACTOR IS TO OBTAIN PERMISSION FROM THE ENGINEER PRIOR TO PROCEEDING.

INDICATES APPROXIMATE SOIL BORING LOCATION PER REPORT NO. 201619A PREPARED BY SOMAT ENGINEERING, INC. (DATED 05-27-2016)

0'-0" INDICATES EXISTING BOTTOM OF FOOTING REFERENCE ELEVATION, FIELD VERIFY.

FN1 THICKENED SLAB AT INTERIOR MASONRY PARTITIONS, SEE TYPICAL DETAIL ___ AT NEW SLAB AND ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATION.

FN2 PROVIDE SLEEVE AS REQUIRED FOR MECHANICAL PIPING THRU FOUNDATION. STEP BOTTOM OF FOOTING DOWN AS REQUIRED TO PROVIDE 2-#5 AND MIN. 12" CONCRETE BELOW PIPE.

FN3 DRILL AND GROUT #5 DOWELS x 12" LONG TO EXISTING W/ HITI "HVA" ADHESIVE SYSTEM (8" EMBED.) AT MAX. 24" O.C. HORIZONTAL AND VERTICAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS. MATCH EXISTING BOTTOM OF FOOTING ELEVATION WITH NEW BOTTOM OF FOOTING, PROVIDE STEP PER DETAIL _____ AS REQUIRED.

FN4 #5 VERTICAL REINFORCEMENT AT 48" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATE THAN 10'-0".

FN5 #6 VERTICAL REINFORCEMENT AT 32" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATER THAN 10'-0".

FN6 #6 VERTICAL REINFORCEMENT AT 24" O.C. FULL HEIGHT, GROUT SOLID, DOUBLE AT JAMS, DOWEL INTO FOOTING. EXTEND REINFORCING OVER OPENING. HOOK WALL REINFORCEMENT INTO MASONRY LINTELS. LAP WALL REINFORCEMENT WITH STUDS WELDED TO TOP OF STEEL LINTELS OVER OPENINGS GREATER THAN 10'-0".

FN7 #6 VERTICAL REINFORCEMENT AT 8" O.C. FULL HEIGHT, GROUT SOLID, TYPICAL FOR 6 CORES AT COLUMN LOCATIONS.

SLAB JOINT LEGEND

(A) INDICATES CONTROL JOINT. SEE TYPICAL DETAIL 2/S400

(B) INDICATES CONSTRUCTION JOINT. SEE TYPICAL DETAIL 3/S400

(C) INDICATES CONTINUOUS PRE-MOLDED JOINT FILLER (TYPICAL AT SLAB EDGES).

INDICATES 8" CONCRETE SLAB WITH (2) LAYERS OF #4 BARS AT 12" O.C. TOP AND BOTTOM. SLAB SUPPORTS FUTURE MEZZANINE COLUMN LOADS.

8" SLAB REINFORCING PLAN

SCALE : 3/16" = 1'-0"

6" OR 7" THICK SUPPORTED

SLAB
DL = 88 PSF (7")
DL = 12 PSF PARTITION

GRADE BEAMS
EXTERIOR 16"x36" = 600# /FT
INTERIOR 12"x24" = 300# /FT

WALL
DL = 95 PSF = 1.4# /FT

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SHEET TITLE
SLAB PLAN
--

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S201

ROOF FRAMING KEYNOTES LEGEND

ALL WIDE FLANGE SHAPES ARE 50 KSI

INDICATES WELDED OR BOLTED MOMENT CONNECTION.

INDICATES FLUSH MOMENT CONNECTION FOR FULL CAPACITY OF CANTILEVERED BEAM. SEE MOMENT CONNECTION DETAIL 7 & 8/S401

BP — INDICATES BEARING PLATE EACH END OF ROOF BEAM. SEE SHEET S402 FOR DETAIL.

+L — INDICATES CONTINUOUS L4x3x1/4 (LLH) WELDED TO TOP OF BEAM.

ROOF DECK KEYNOTES LEGEND

DECK "A" — INDICATES 1 1/2"-20 GA WIDE RIB GALVANIZED METAL ROOF DECK, 3 SPAN CONTINUOUS. (TYPICAL THROUGHOUT U.N.O.).

RN1 — L3x3x1/4 FRAMING FOR ROOF SUMPS PER TYPICAL DETAILS L AND K/S402 COORDINATE WITH ROOF DECK MANUFACTURER'S STANDARD ROOF SUMP.

RN2 — CONTINUOUS L3x3x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 24" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN3 — CONTINUOUS L4x4x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 32" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN4 — L5x3 1/2x5/16 (L.L.V.) FRAME FOR MECHANICAL UNITS PER TYPICAL DETAIL L/S-11 COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL CONTRACTOR. ADD JOIST PANEL POINT AS REQUIRED PER TYPICAL DETAIL K/S402

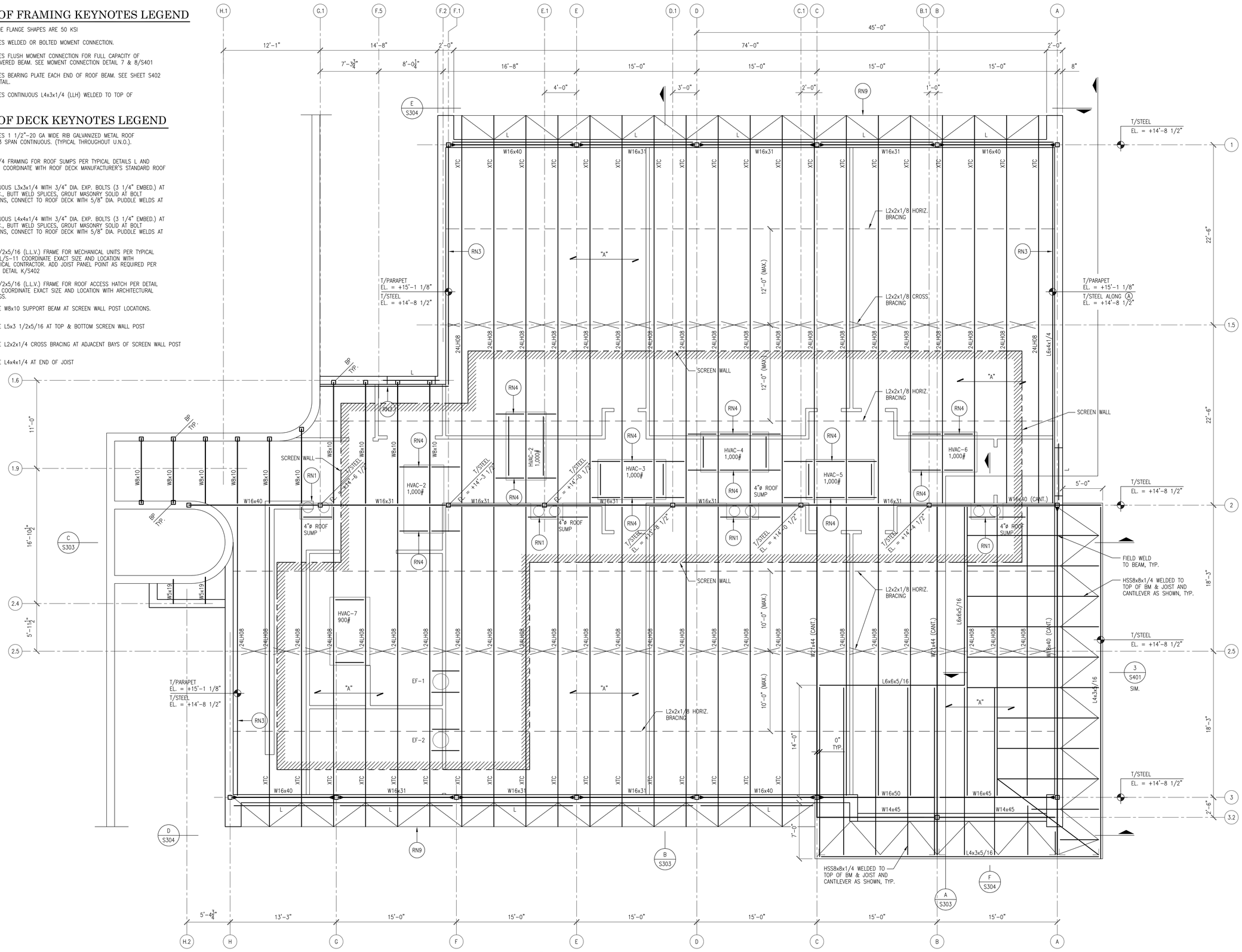
RN5 — L5x3 1/2x5/16 (L.L.V.) FRAME FOR ROOF ACCESS HATCH PER DETAIL X/SX.X COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.

RN6 — PROVIDE W8x10 SUPPORT BEAM AT SCREEN WALL POST LOCATIONS.

RN7 — PROVIDE L5x3 1/2x5/16 AT TOP & BOTTOM SCREEN WALL POST

RN8 — PROVIDE L2x2x1/4 CROSS BRACING AT ADJACENT BAYS OF SCREEN WALL POST

RN9 — PROVIDE L4x4x1/4 AT END OF JOIST



ROOF FRAMING PLAN

SCALE : 3/16" = 1'-0"

ALL COLUMNS HSS6x6x1/2

NORTH

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SHEET TITLE:
ROOF FRAMING PLAN
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S202

ROOF FRAMING KEYNOTES LEGEND

ALL WIDE FLANGE SHAPES ARE 50 KSI

INDICATES WELDED OR BOLTED MOMENT CONNECTION.

INDICATES FLUSH MOMENT CONNECTION FOR FULL CAPACITY OF CANTILEVERED BEAM. SEE MOMENT CONNECTION DETAIL 7 & 8/S401

BP — INDICATES BEARING PLATE EACH END OF ROOF BEAM. SEE SHEET S402 FOR DETAIL.

+L — INDICATES CONTINUOUS L4x3x1/4 (LLH) WELDED TO TOP OF BEAM.

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RN2 — CONTINUOUS L3x3x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 24" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN3 — CONTINUOUS L4x4x1/4 WITH 3/4" DIA. EXP. BOLTS (3 1/4" EMBED.) AT 32" O.C., BUTT WELD SPLICES, GROUT MASONRY SOLID AT BOLT LOCATIONS, CONNECT TO ROOF DECK WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.

RN4 — L5x3 1/2x5/16 (L.L.V.) FRAME FOR MECHANICAL UNITS PER TYPICAL DETAIL L/S-11 COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL CONTRACTOR. ADD JOIST PANEL POINT AS REQUIRED PER TYPICAL DETAIL K/S402

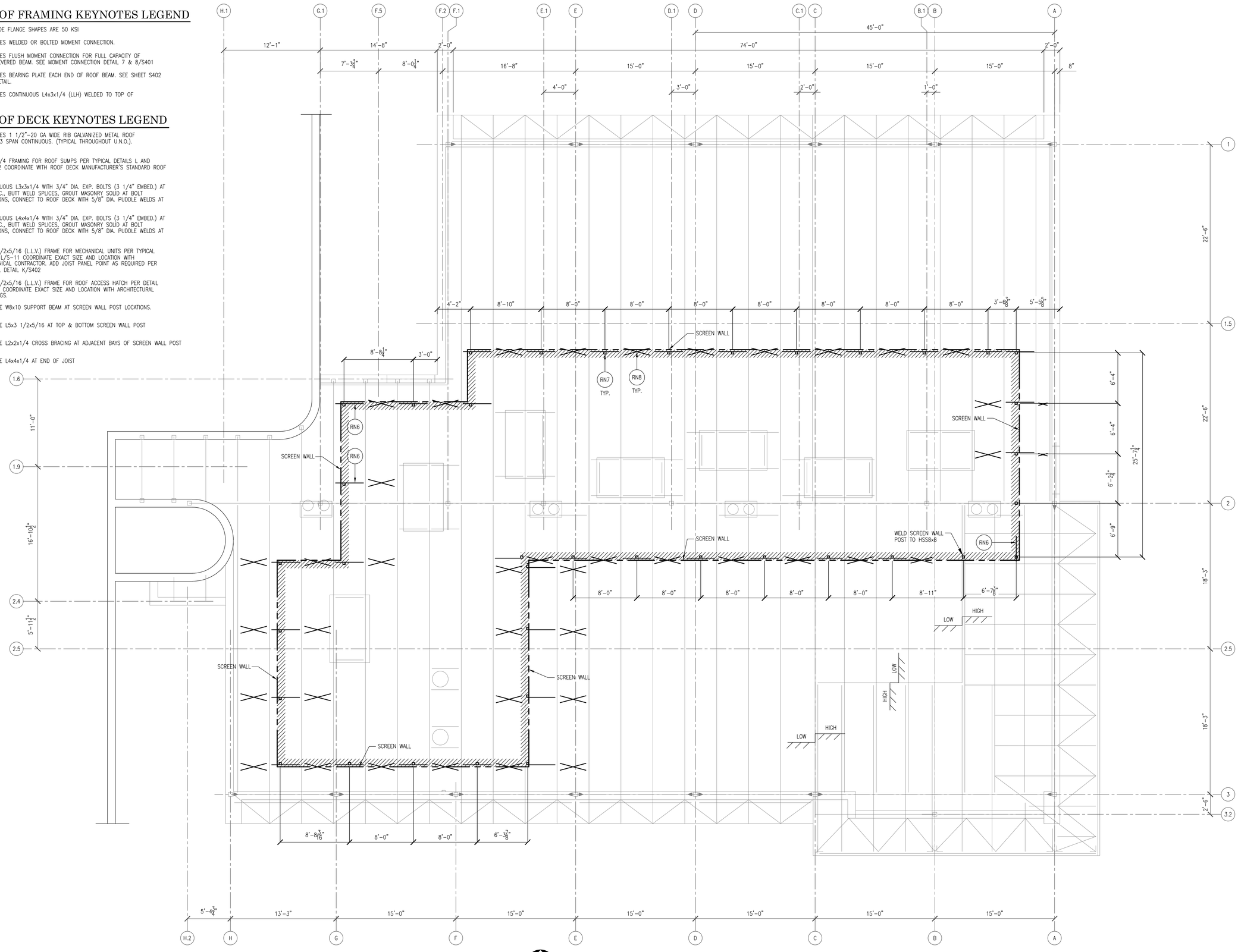
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RN6 — PROVIDE W8x10 SUPPORT BEAM AT SCREEN WALL POST LOCATIONS.

RN7 — PROVIDE L5x3 1/2x5/16 AT TOP & BOTTOM SCREEN WALL POST

RN8 — PROVIDE L2x2x1/4 CROSS BRACING AT ADJACENT BAYS OF SCREEN WALL POST

RN9 — PROVIDE L4x4x1/4 AT END OF JOIST



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SCREEN WALL PLAN

SCALE : 3/16" = 1'-0"

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SHEET TITLE:
SCREEN WALL PLAN
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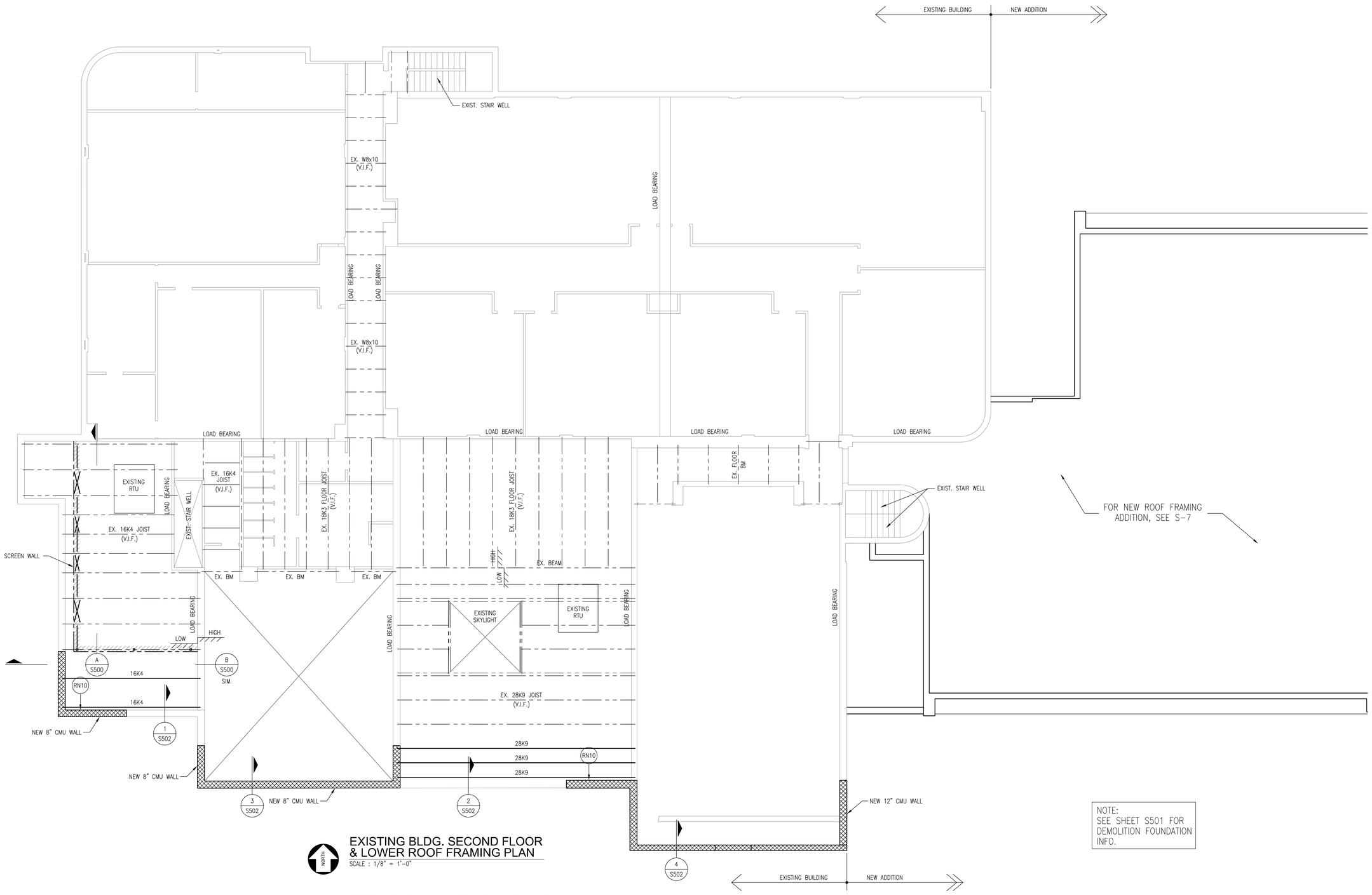
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S203



NOTE:
SEE SHEET S501 FOR DEMOLITION FOUNDATION INFO.

EXISTING BLDG. SECOND FLOOR & LOWER ROOF FRAMING PLAN

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

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ROOF DECK KEYNOTES LEGEND

RN10 — L4x4x5/16 W/ 5/8"ø EXPANSION ANCHORS @ 18" O.C.

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SUITE 2-5 PH (313) 399-2932 FAX (248) 476-7936

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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
EXISTING BUILDING LOWER ROOF FRAMING PLAN

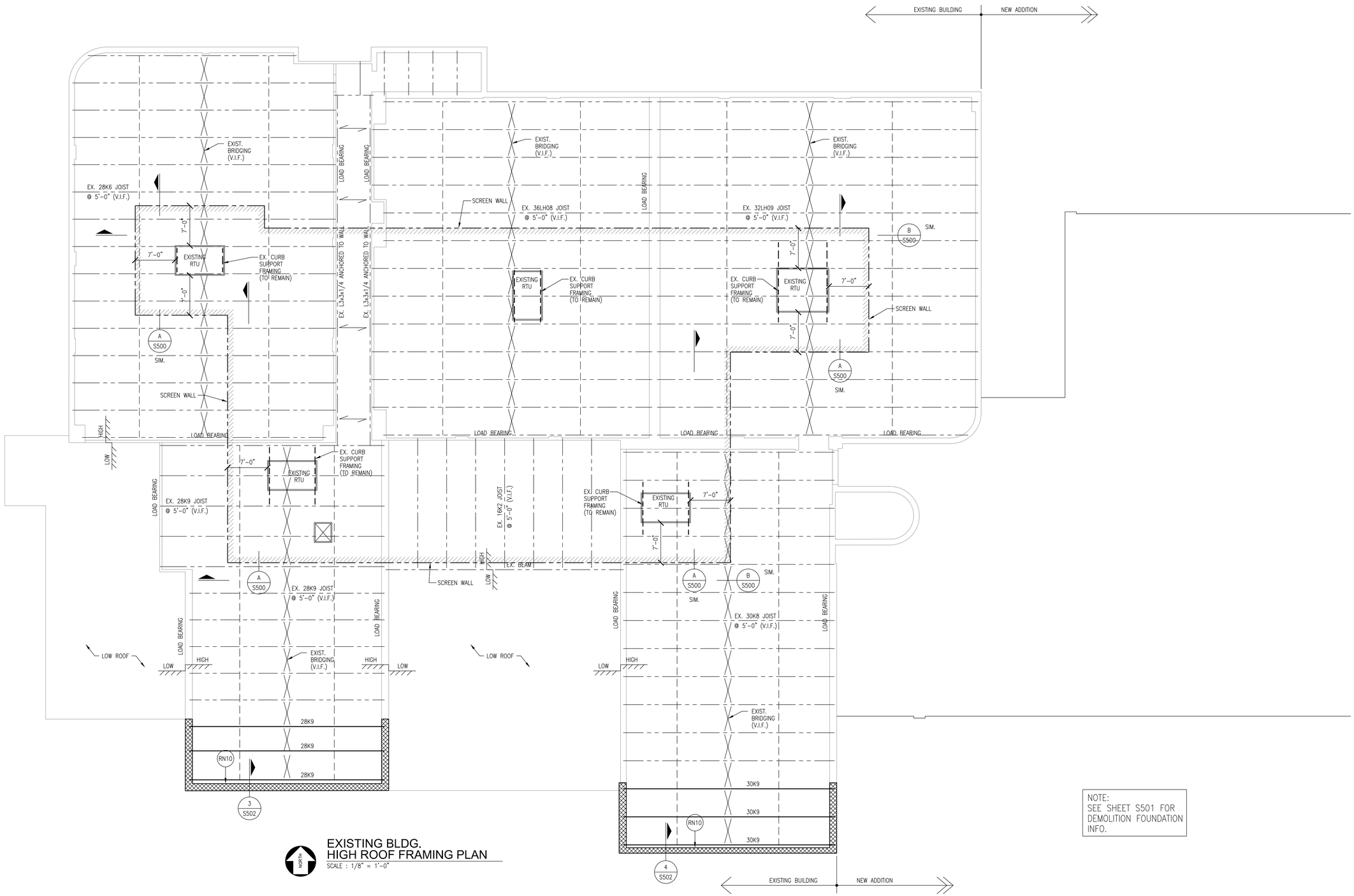
DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

REVISIONS

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	5/1/26	FOR REVIEW
	6/4/26	FOR REVIEW

DATE:	9/2024
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APPROVED:	JMS
PROJECT NO.:	

SEAL VOID IF NOT IN BLUE INK



EXISTING BLDG.
HIGH ROOF FRAMING PLAN
SCALE : 1/8" = 1'-0"

NOTE:
SEE SHEET S501 FOR DEMOLITION FOUNDATION INFO.

ROOF DECK KEYNOTES LEGEND

RN10 — L4x4x5/16 W/ 5/8"ø EXPANSION ANCHORS @ 18" O.C.

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SHEET TITLE:
EXISTING BUILDING HIGH ROOF FRAMING PLAN

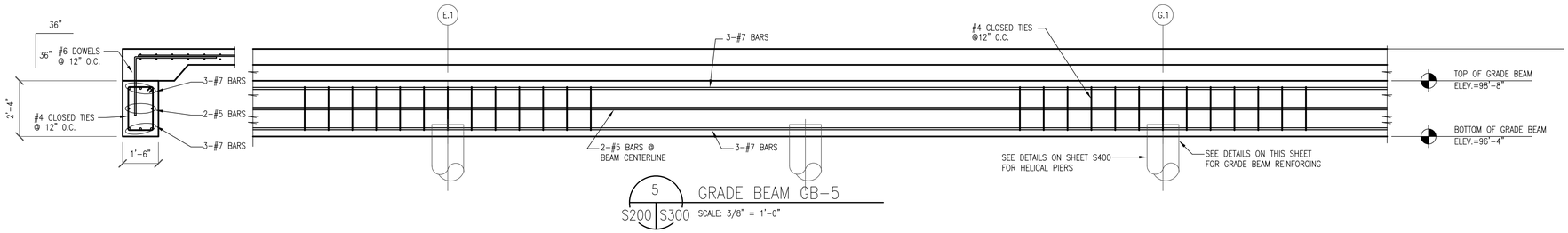
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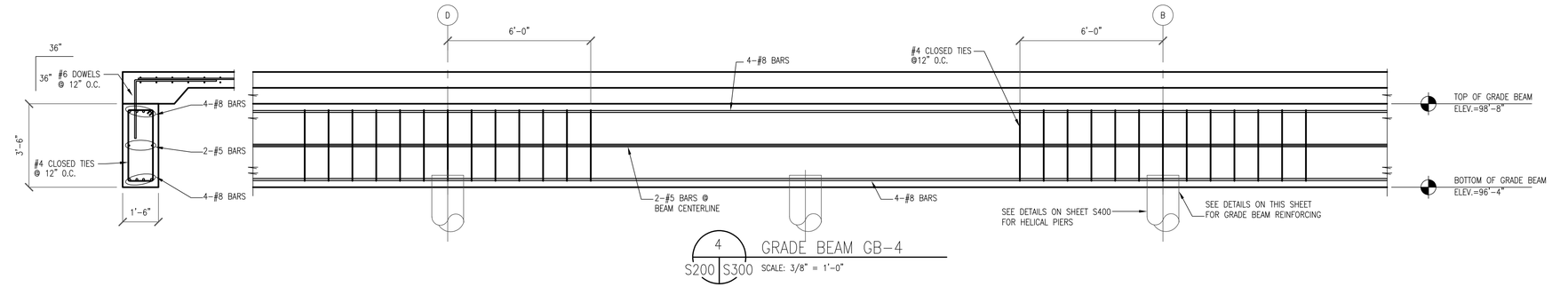
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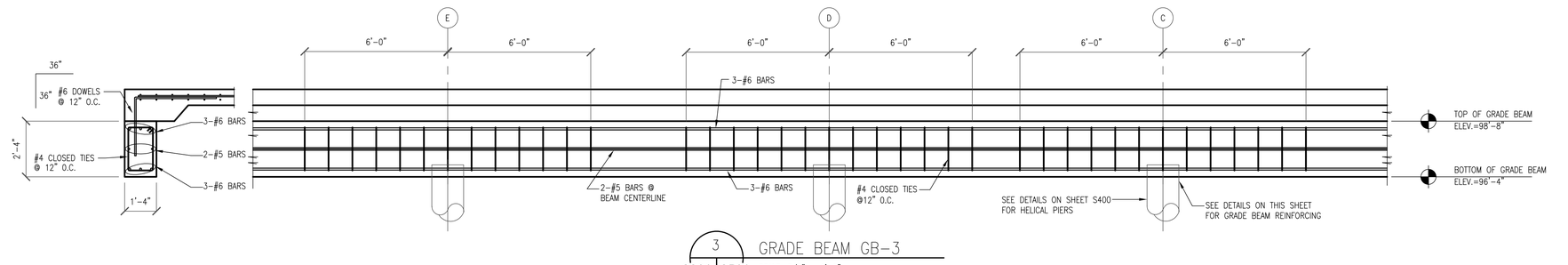
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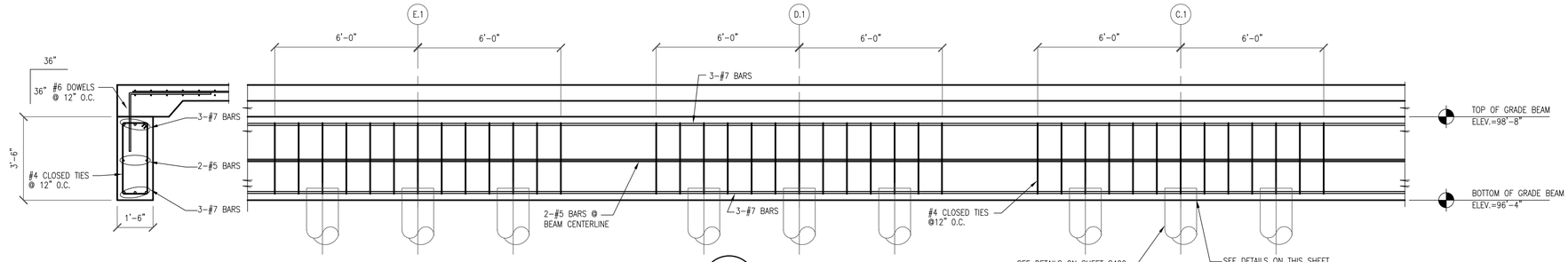
5 S200 S300 GRADE BEAM GB-5 SCALE: 3/8" = 1'-0"



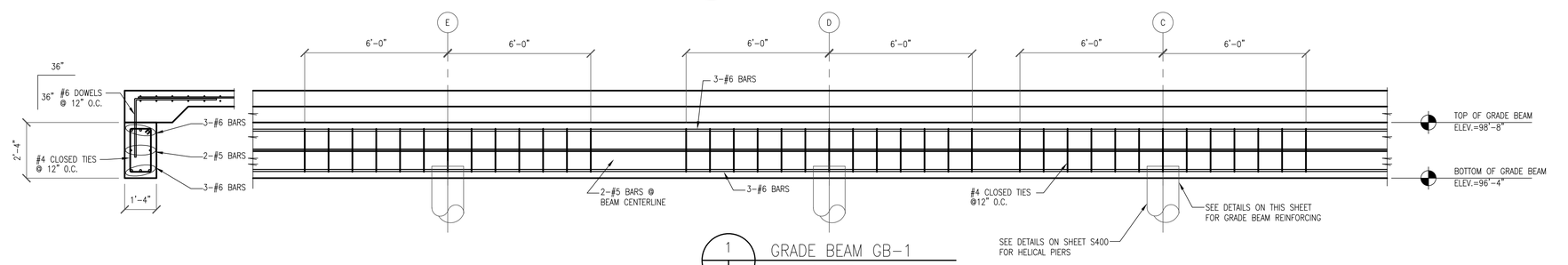
4 S200 S300 GRADE BEAM GB-4 SCALE: 3/8" = 1'-0"



3 S200 S300 GRADE BEAM GB-3 SCALE: 3/8" = 1'-0"



2 S200 S300 GRADE BEAM GB-2 SCALE: 3/8" = 1'-0"



1 S200 S300 GRADE BEAM GB-1 SCALE: 3/8" = 1'-0"

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SHEET TITLE:
DETAILS
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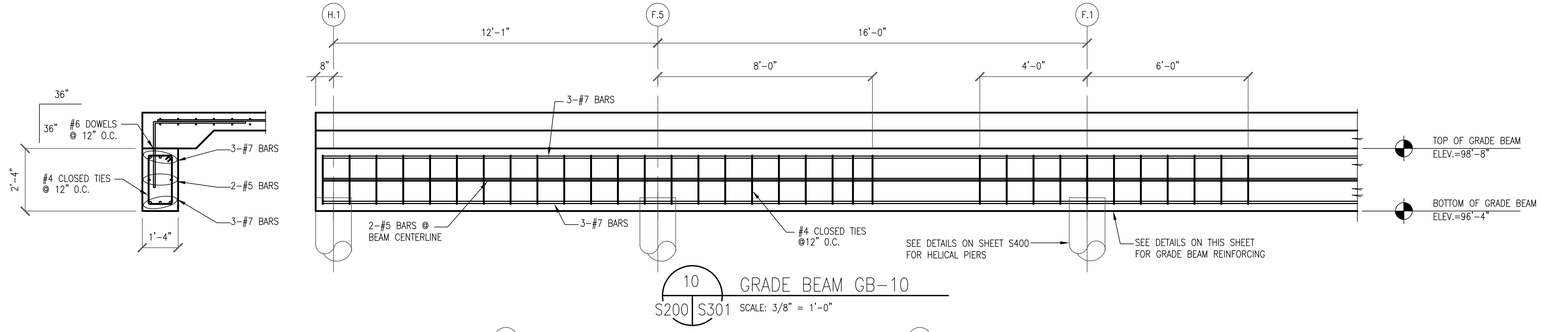
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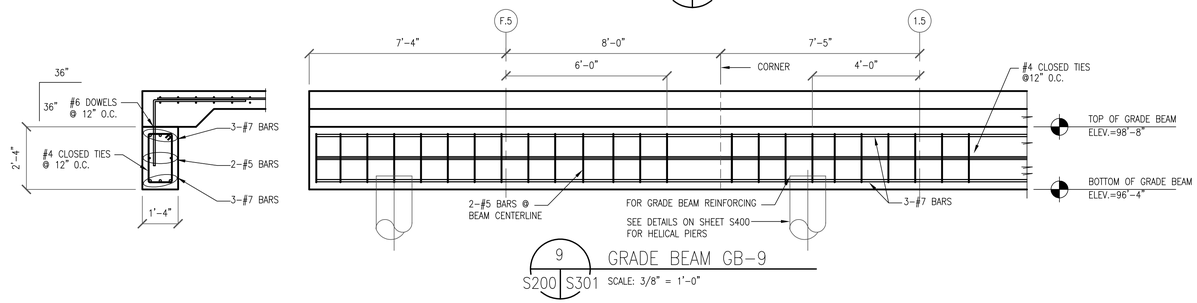
SEAL VOID IF NOT IN BLUE INK

SHEET NO.: 10 OF 20

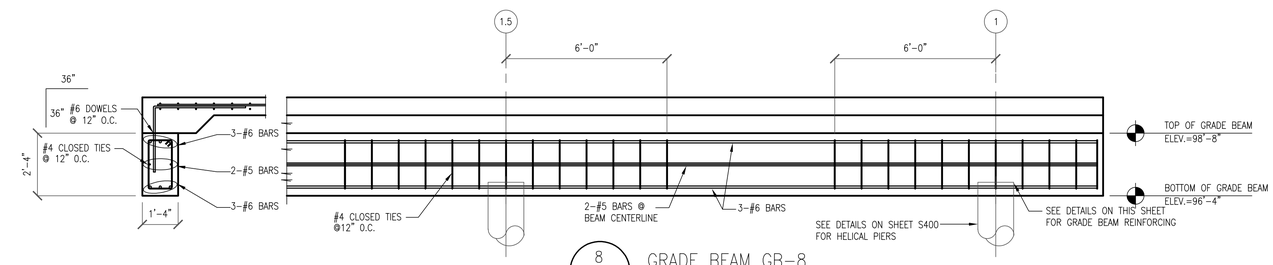
S300



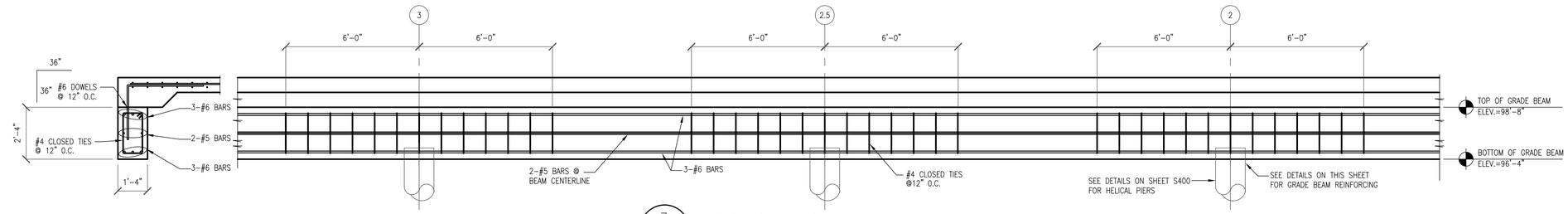
10 S200 S301 GRADE BEAM GB-10 SCALE: 3/8" = 1'-0"



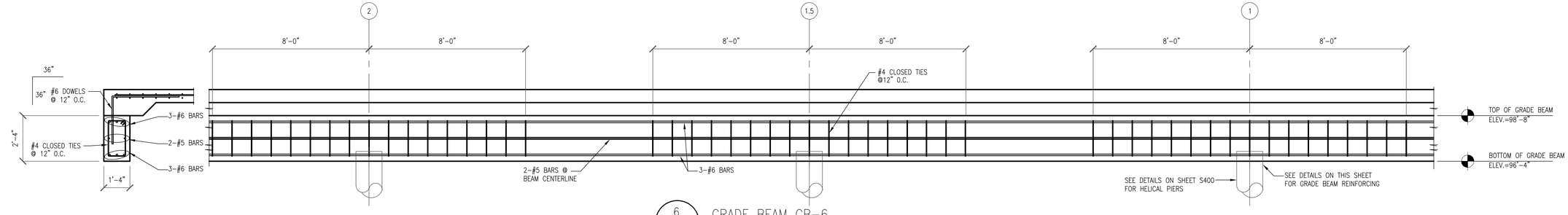
9 S200 S301 GRADE BEAM GB-9 SCALE: 3/8" = 1'-0"



8 S200 S301 GRADE BEAM GB-8 SCALE: 3/8" = 1'-0"



7 S200 S301 GRADE BEAM GB-7 SCALE: 3/8" = 1'-0"



6 S200 S301 GRADE BEAM GB-6 SCALE: 3/8" = 1'-0"

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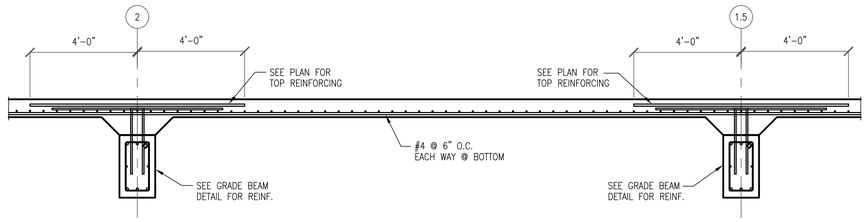
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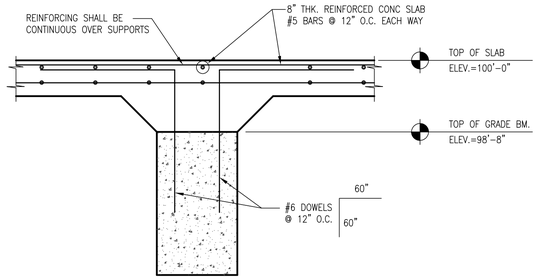
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SHEET NO.: 11 OF 20

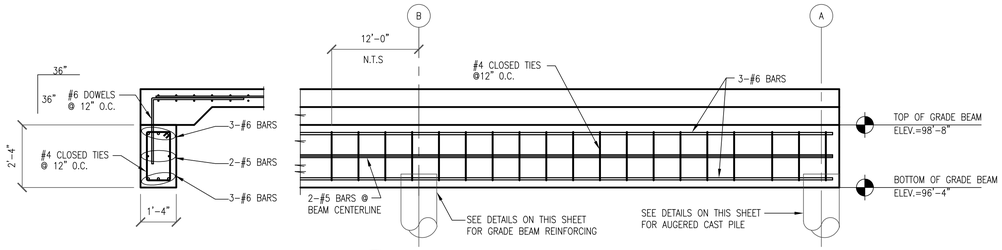
S301



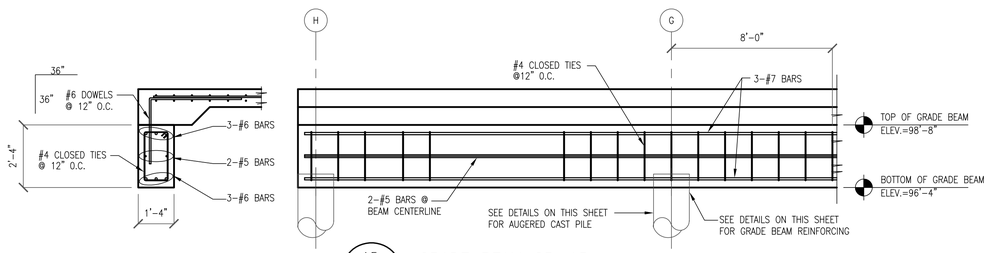
18 S302 | S302 STRUCTURAL SLAB CROSS SECTION
SCALE: 3/8" = 1'-0"



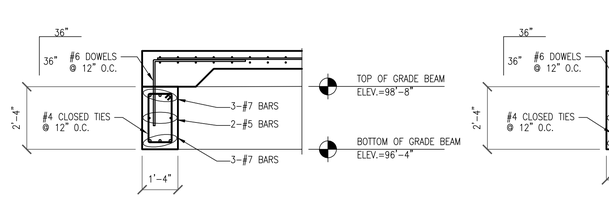
17 S302 | S302 STRUCTURAL SECTION @ SLAB SUPPORT
SCALE: 3/8" = 1'-0"



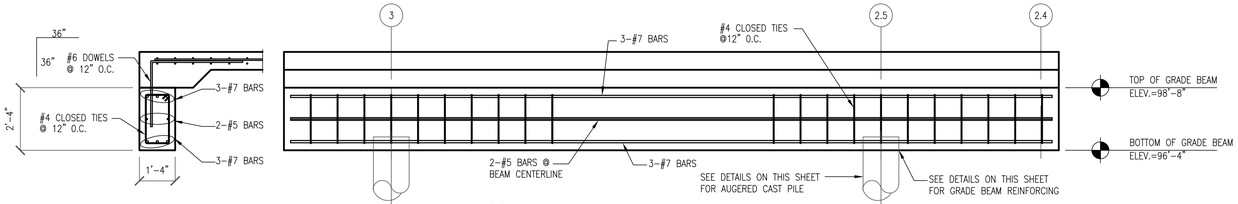
16 S200 | S302 GRADE BEAM GB-16
SCALE: 3/8" = 1'-0"



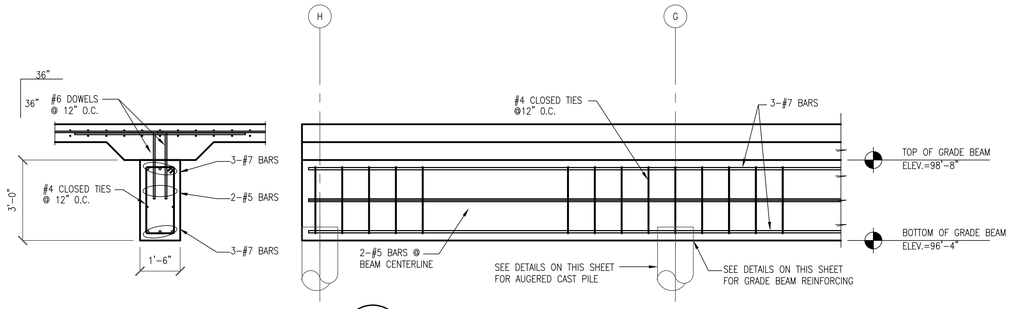
15 S200 | S302 GRADE BEAM GB-15
SCALE: 3/8" = 1'-0"



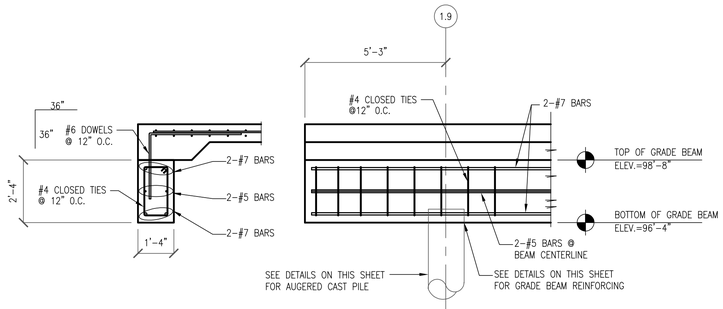
14 S200 | S302 GRADE BEAM GB-14
SCALE: 3/8" = 1'-0"



13 S200 | S302 GRADE BEAM GB-13
SCALE: 3/8" = 1'-0"



12 S200 | S302 GRADE BEAM GB-12
SCALE: 3/8" = 1'-0"



11 S200 | S302 GRADE BEAM GB-11
SCALE: 3/8" = 1'-0"

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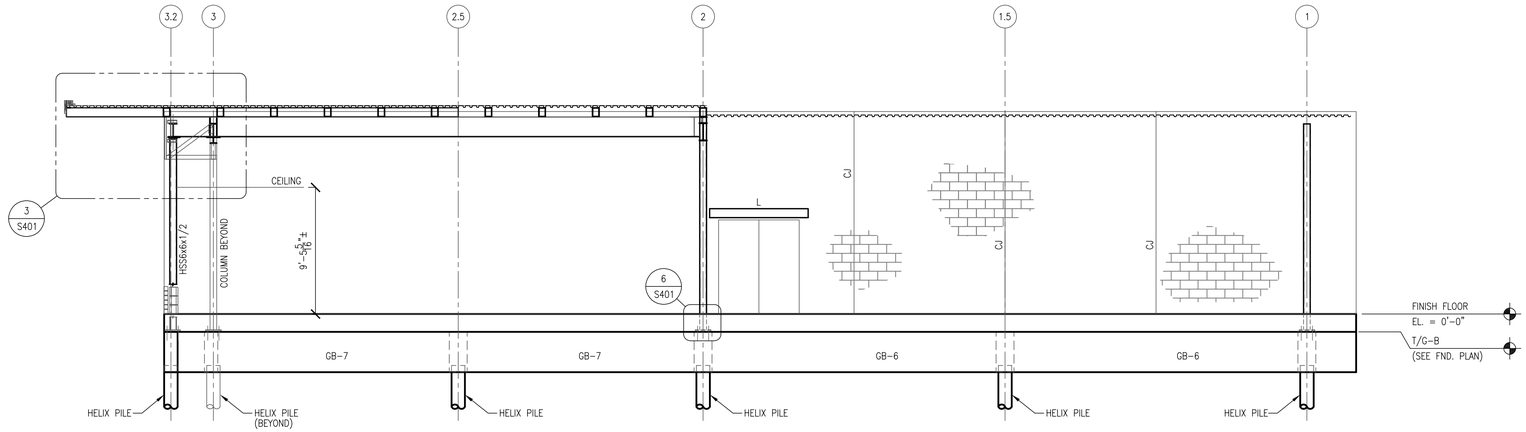
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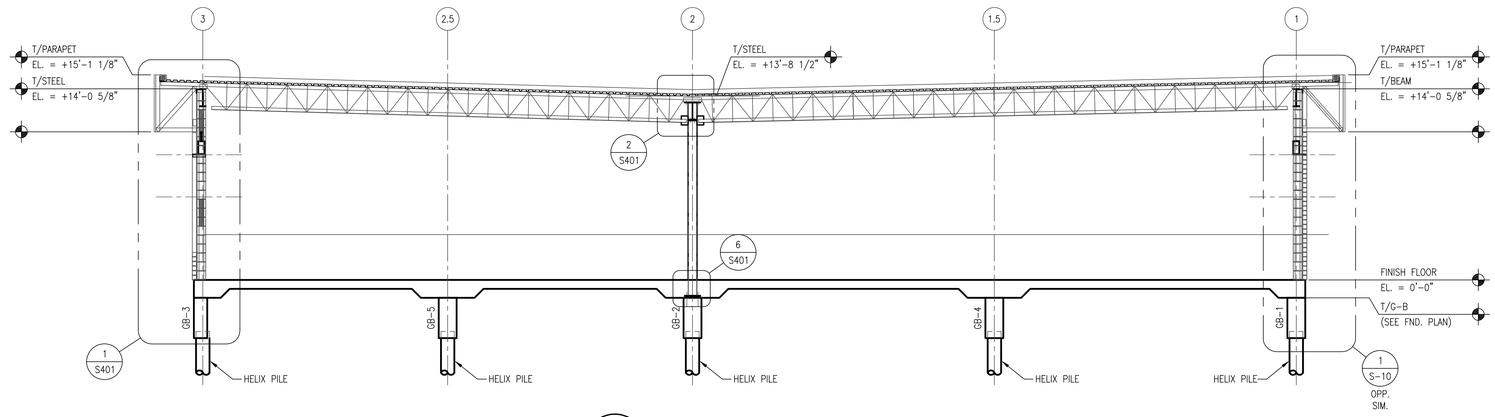
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SHEET NO.: 12 OF 20

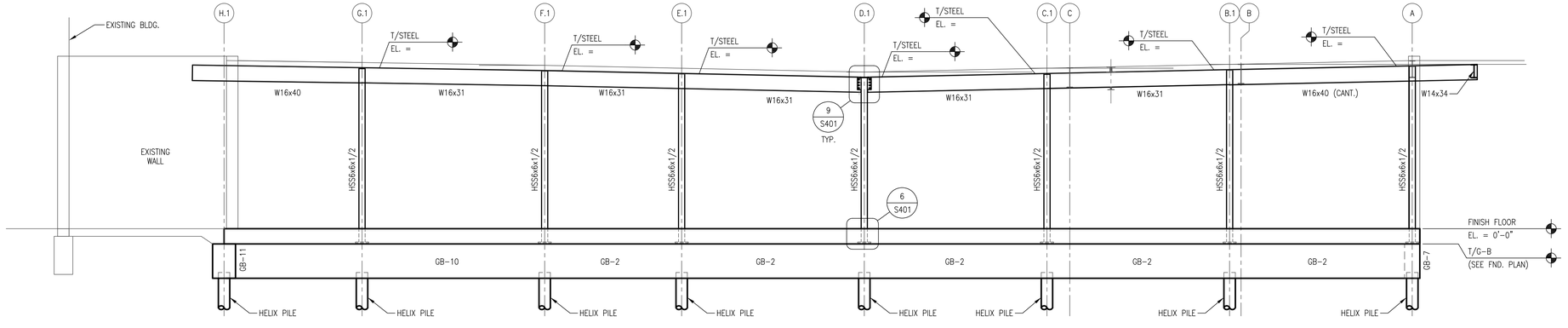
S302



A
S202 | S303
STRUCTURAL ELEVATION ALONG (A)
SCALE: 3/16" = 1'-0"
(LOOKING WEST)



B
S202 | S303
STRUCTURAL CROSS SECTION
SCALE: 3/16" = 1'-0"
(LOOKING WEST @ D)



C
S202 | S303
STRUCTURAL CROSS SECTION
SCALE: 3/16" = 1'-0"
(LOOKING WEST @ D)

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SHEET TITLE:
ELEVATIONS AND SECTIONS

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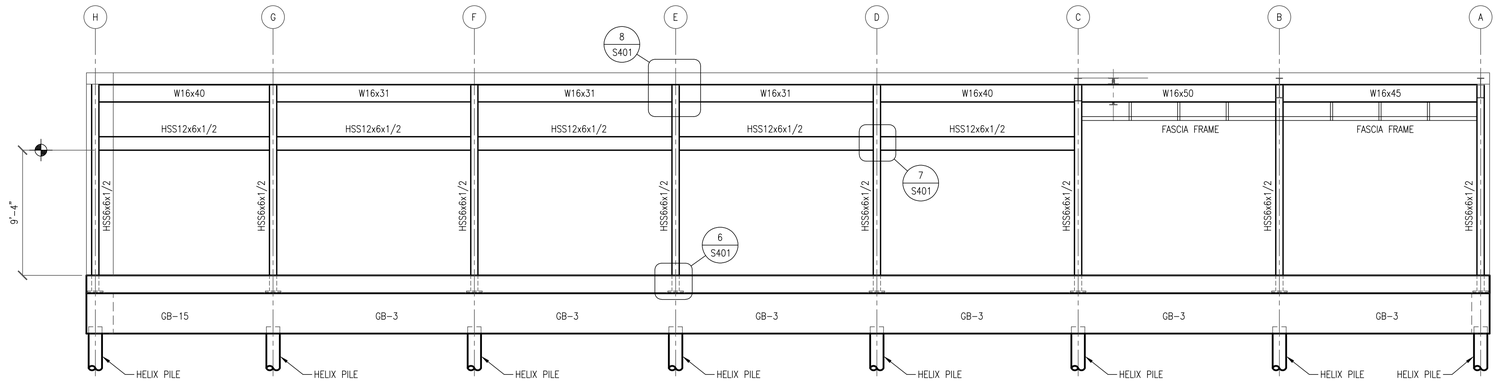
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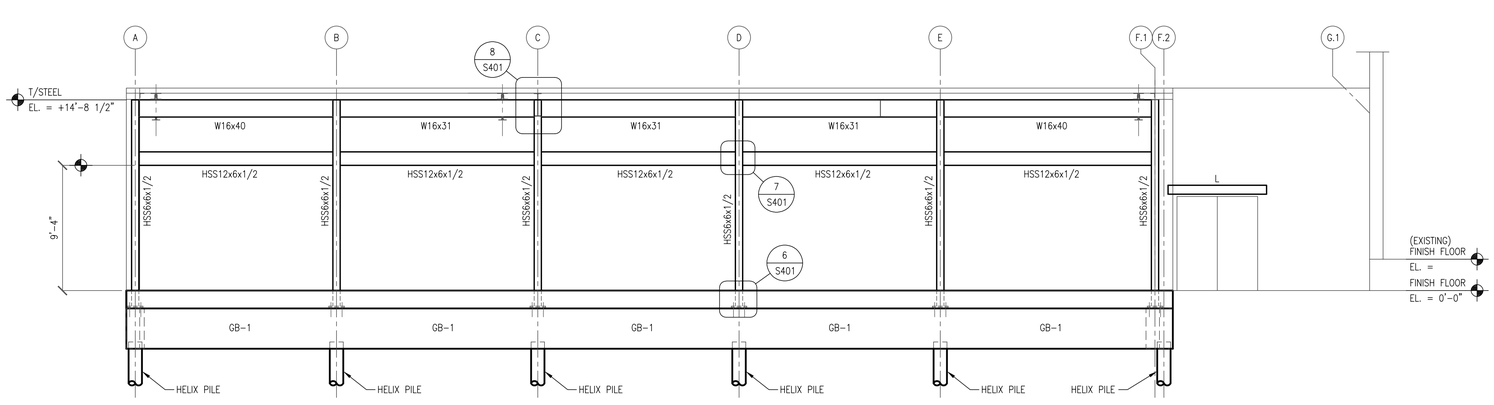
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13 OF 20

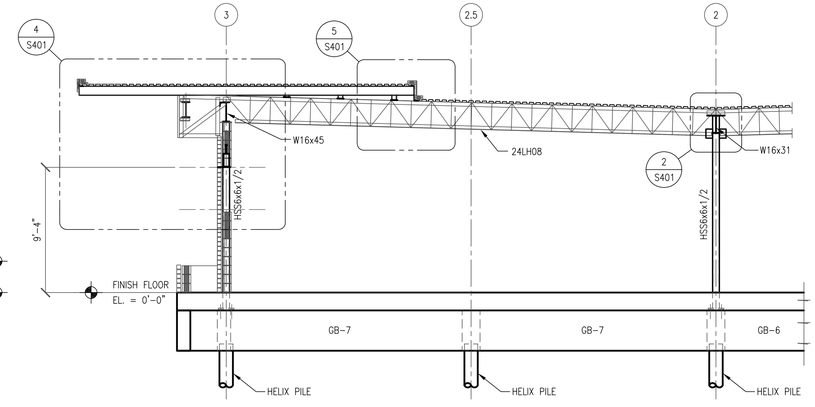
S303



D STRUCTURAL ELEVATION ALONG (3)
S202 | S304 SCALE: 3/16" = 1'-0" (LOOKING NORTH)



E STRUCTURAL ELEVATION ALONG (1)
S202 | S304 SCALE: 3/16" = 1'-0" (LOOKING SOUTH)



F STRUCTURAL ELEVATION ALONG
S202 | S304 SCALE: 3/16" = 1'-0"

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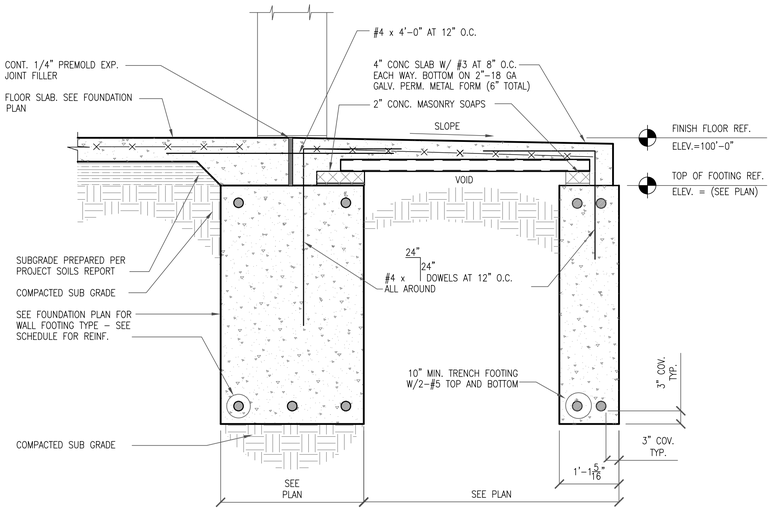
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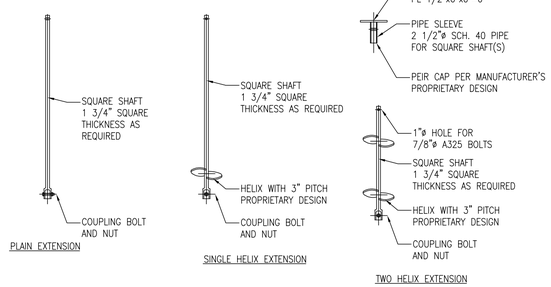
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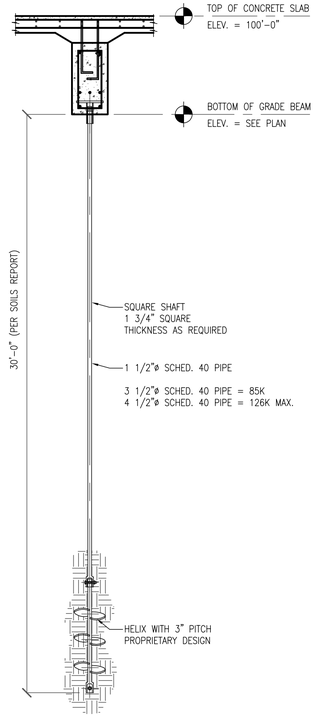
S304



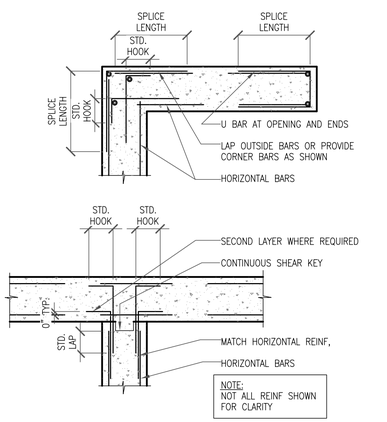
5 S400 | S400 TYPICAL ENTRANCE SLAB
SCALE: 3/4" = 1'-0"



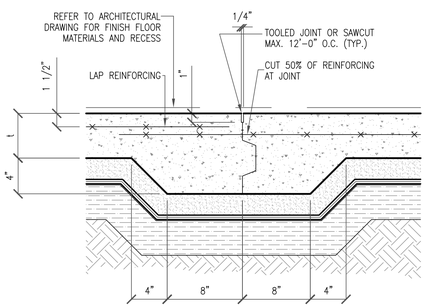
7 S400 | S400 HELICAL PIER ASSEMBLY COMPONENTS
SCALE: 3/8" = 1'-0"



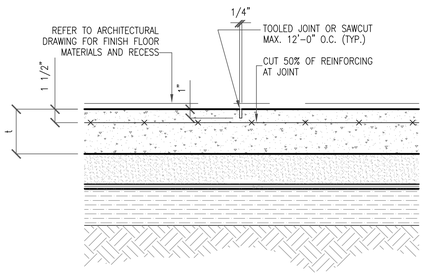
6 S400 | S400 TYPICAL HELICAL PIER SHAFT DETAIL
SCALE: 3/8" = 1'-0"



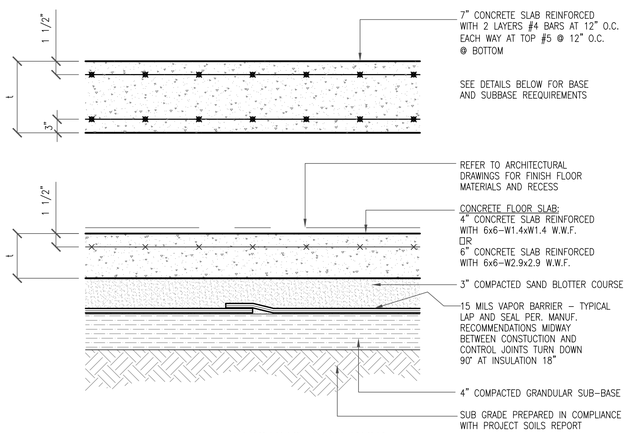
4 S400 | S400 TYP. HORIZONTAL REINF. AT CORNERS AND INTERSECTIONS
SCALE: 3/4" = 1'-0"



3 S400 | S400 TYPICAL CONSTRUCTION JOINT
SCALE: 3/4" = 1'-0"



2 S400 | S400 TYPICAL CONTROL JOINT
SCALE: 3/4" = 1'-0"



1 S400 | S400 EXISTING EXTERIOR TYPICAL CONCRETE SLAB
SCALE: 3/4" = 1'-0"

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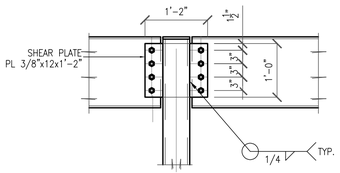
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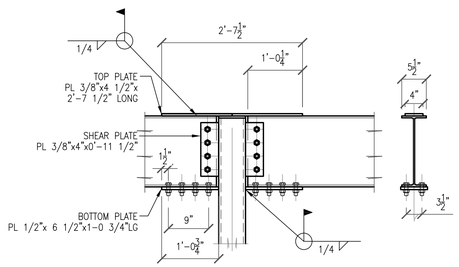
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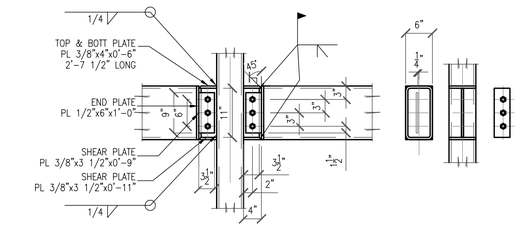
S400



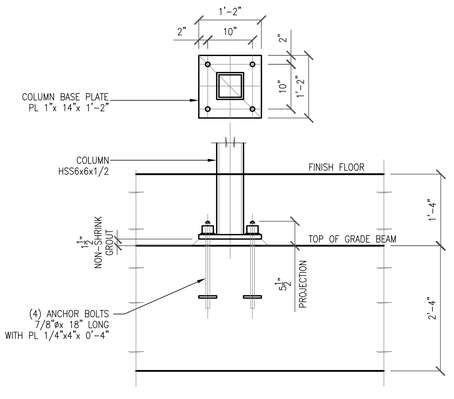
9 S401 | S401 SHEAR CONNECTION @ BEAM TO COLUMN
SCALE: 3/4" = 1'-0"



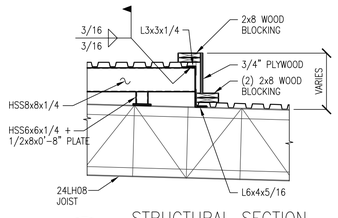
8 S-10 | S-10 MOMENT CONNECTION @ BEAM TO COLUMN
SCALE: 3/4" = 1'-0"



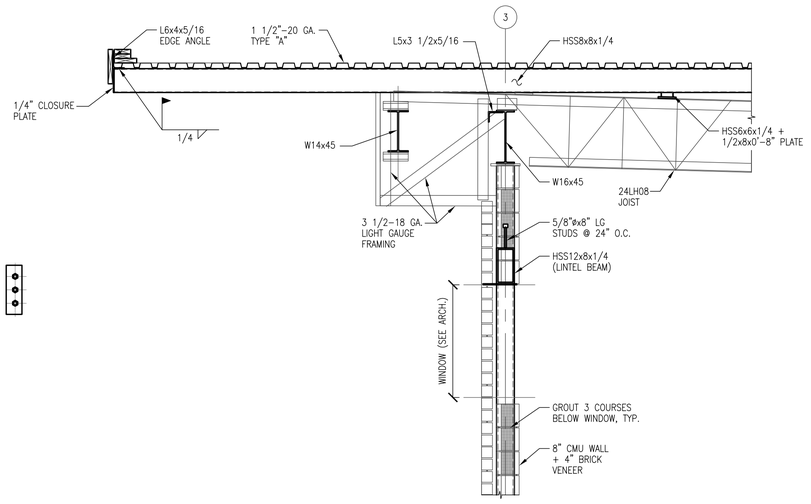
7 S401 | S401 LINTEL CONNECTION @ HSS BEAM TO COLUMN
SCALE: 3/4" = 1'-0"



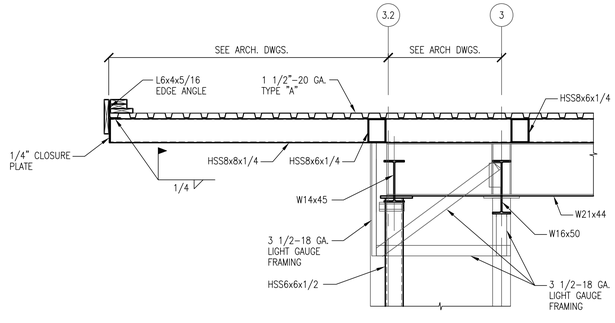
6 S401 | S401 COLUMN BASE AND ANCHOR DETAIL
SCALE: 3/4" = 1'-0"



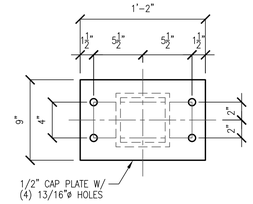
5 S304 | S401 STRUCTURAL SECTION @ ROOF OVERHANG
SCALE: 1/2" = 1'-0"



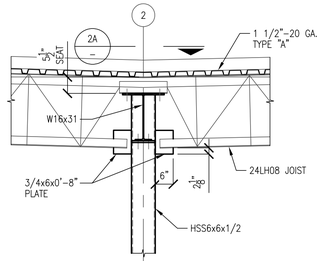
4 S304 | S401 STRUCTURAL SECTION
SCALE: 1/2" = 1'-0"



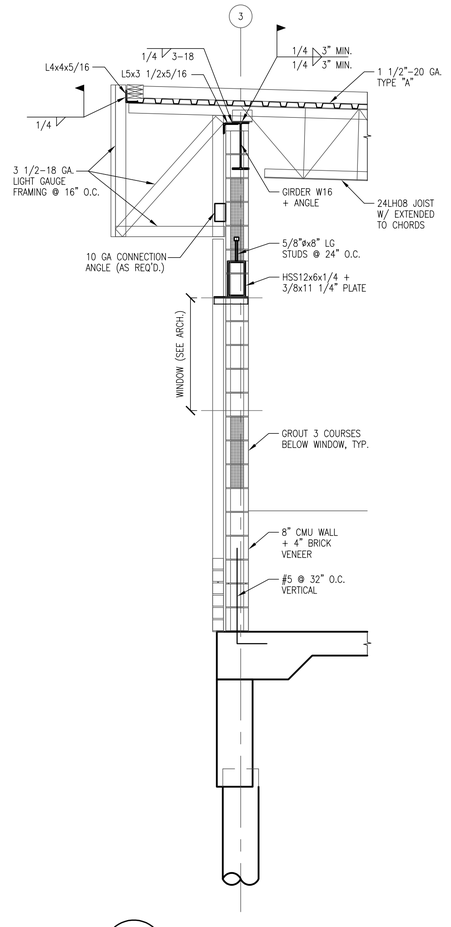
3 S303 | S401 STRUCTURAL SECTION
SCALE: 1/2" = 1'-0"



2A S401 | S401 SECTION @ CAP PLATE
SCALE: 1 1/2" = 1'-0"



2 S304 | S401 STRUCTURAL WALL SECTION
SCALE: 1/2" = 1'-0"



1 S303 | S401 STRUCTURAL WALL SECTION
SCALE: 1/2" = 1'-0"

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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
ELEVATIONS AND SECTIONS

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REVISIONS

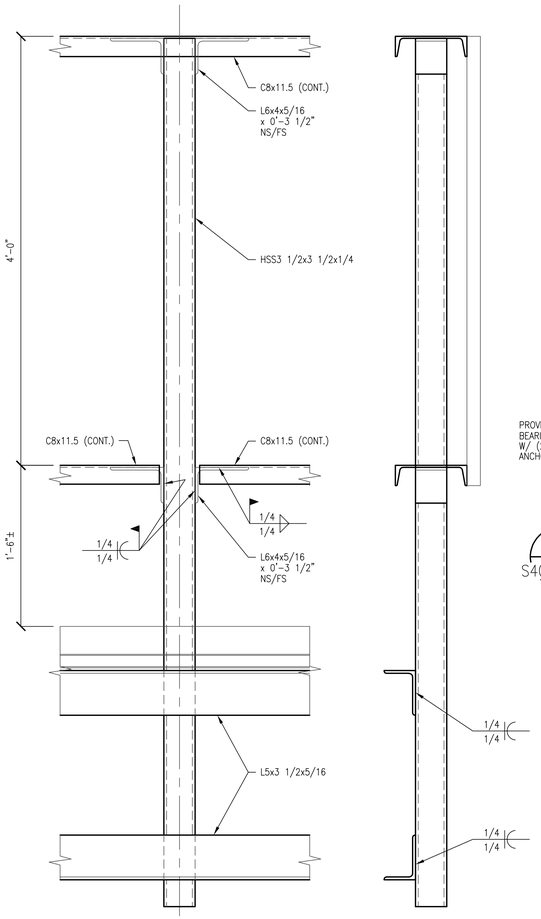
MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW
	6/4/26	FOR REVIEW

DATE: 2/2026
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

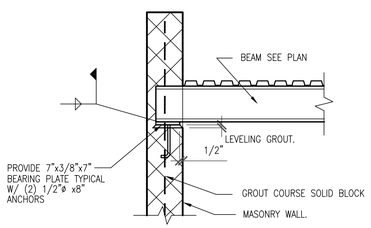
SEAL VOID IF NOT IN BLUE INK

SHEET NO.: 16 OF 20

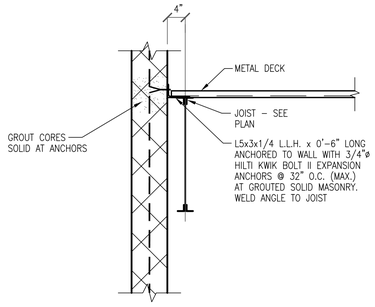
S401



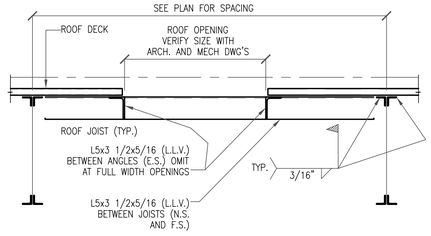
2 S402 | S402 ENLARGED DETAIL
SCALE: 1 1/2" = 1'-0"



H S402 | S402 TYPICAL ROOF BEAM BEARING TO MASONRY WALL
SCALE: 3/4" = 1'-0"



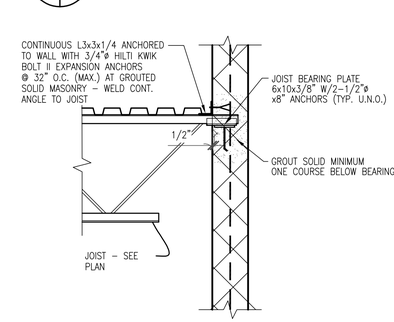
F S402 | S402 TYPICAL JOIST PARALLEL TO MASONRY WALL
SCALE: 3/4" = 1'-0"



NOTE
ROOF FRAMES REQUIRED AT ALL OPENINGS GREATER THAN 1'-0" OR WHERE NOTED ON PLAN

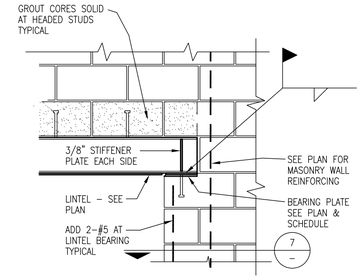
REFER TO TYPICAL DETAIL K/S-11 FOR ADDITIONAL MATERIALS ALL OPENINGS GREATER THAN

L S402 | S402 TYPICAL FRAMED ROOF OPENING DETAIL
SCALE: 3/4" = 1'-0"



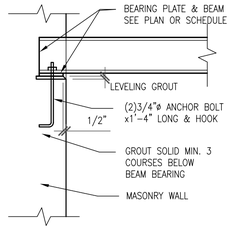
G S402 | S402 SECTION AT BEAM PARALLEL TO MASONRY WALL
SCALE: 3/4" = 1'-0"

E S402 | S402 TYPICAL JOIST BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0"

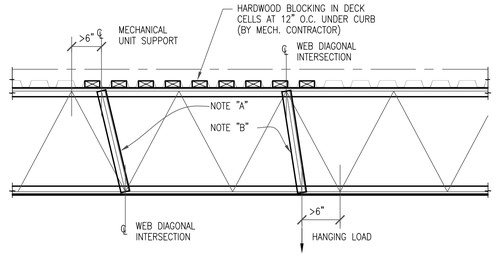


NOTE:
PLACE LINTEL BEAMS CENTERED IN WALLS (U.N.O.)

D S402 | S402 TYPICAL LINTEL BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0"



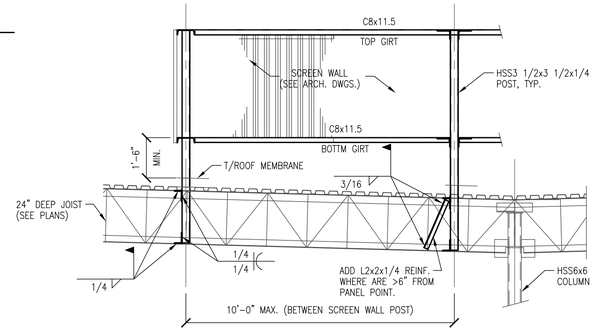
C S402 | S402 TYPICAL BEAM BEARING ON MASONRY WALL
SCALE: 3/4" = 1'-0" (UNLESS NOTED OTHERWISE)



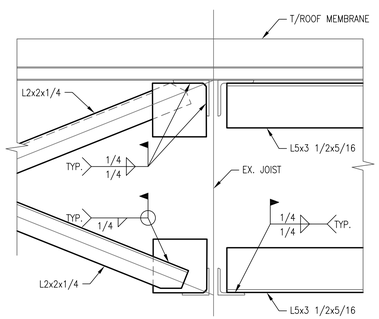
NOTE "A"
REINF. TOP CHORD OF JOIST W/ (2) L2x2x3/16" WELDED TO TOP CHORD OF JOIST AT LOAD AND TO BOTTOM CHORD AT PANEL POINT WHEN LOAD IS FARTHER THAN 6" FROM TOP CHORD PANEL POINT.

NOTE "B"
REINF. BOTTOM CHORD OF JOIST W/ (2) L2x2x3/16" WELDED TO BOTTOM CHORD OF JOIST AT LOAD AND TO BOTTOM CHORD AT PANEL POINT WHEN LOAD IS FARTHER THAN 6" FROM TOP CHORD PANEL POINT.

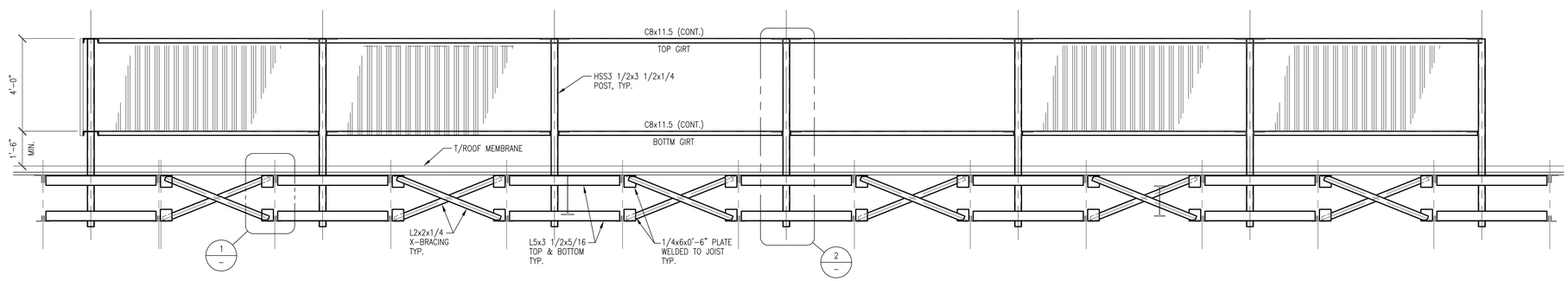
K S402 | S402 TYPICAL JOIST PANEL POINT REINFORCING DETAIL
SCALE: 3/4" = 1'-0"



B S500 | S402 TYPICAL SCREEN WALL SECTION PARALLEL TO JOIST
SCALE: 3/8" = 1'-0"



1 S402 | S402 ENLARGED DETAIL
SCALE: 1 1/2" = 1'-0"



A S500 | S402 TYPICAL SCREEN WALL SECTION PERPENDICULAR TO JOIST
SCALE: 3/8" = 1'-0"

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WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
SECTIONS AND DETAILS

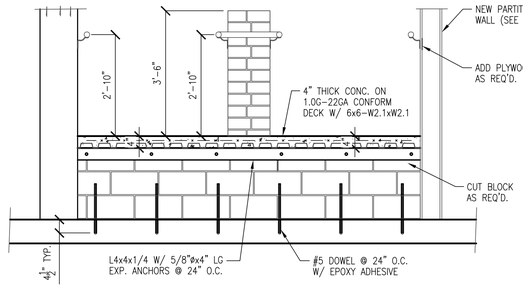
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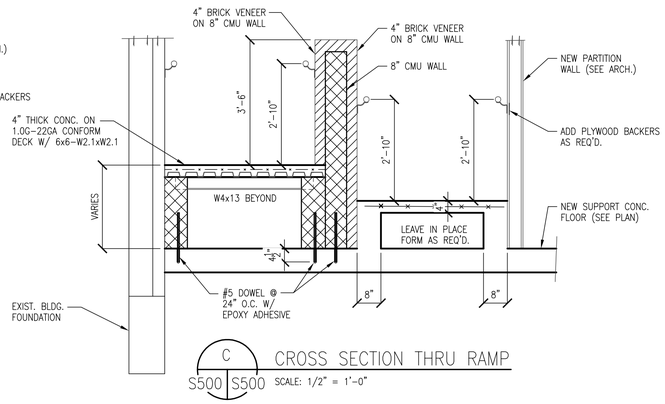
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DATE: 2/2026
DRAWN: JMS
CHECKED: JMS
APPROVED: JMS
PROJECT NO.:

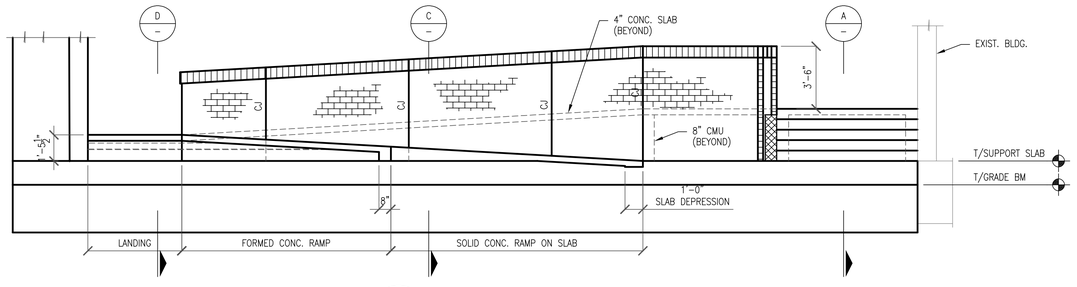
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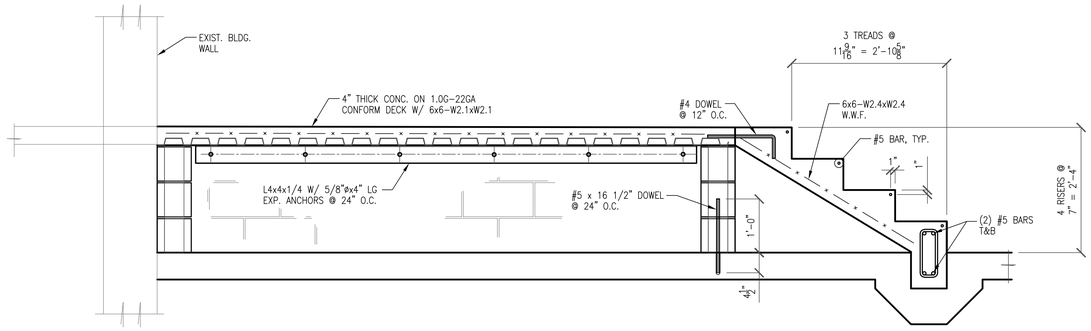
D S500 | S500 CROSS SECTION THRU LANDING
SCALE: 1/2" = 1'-0"



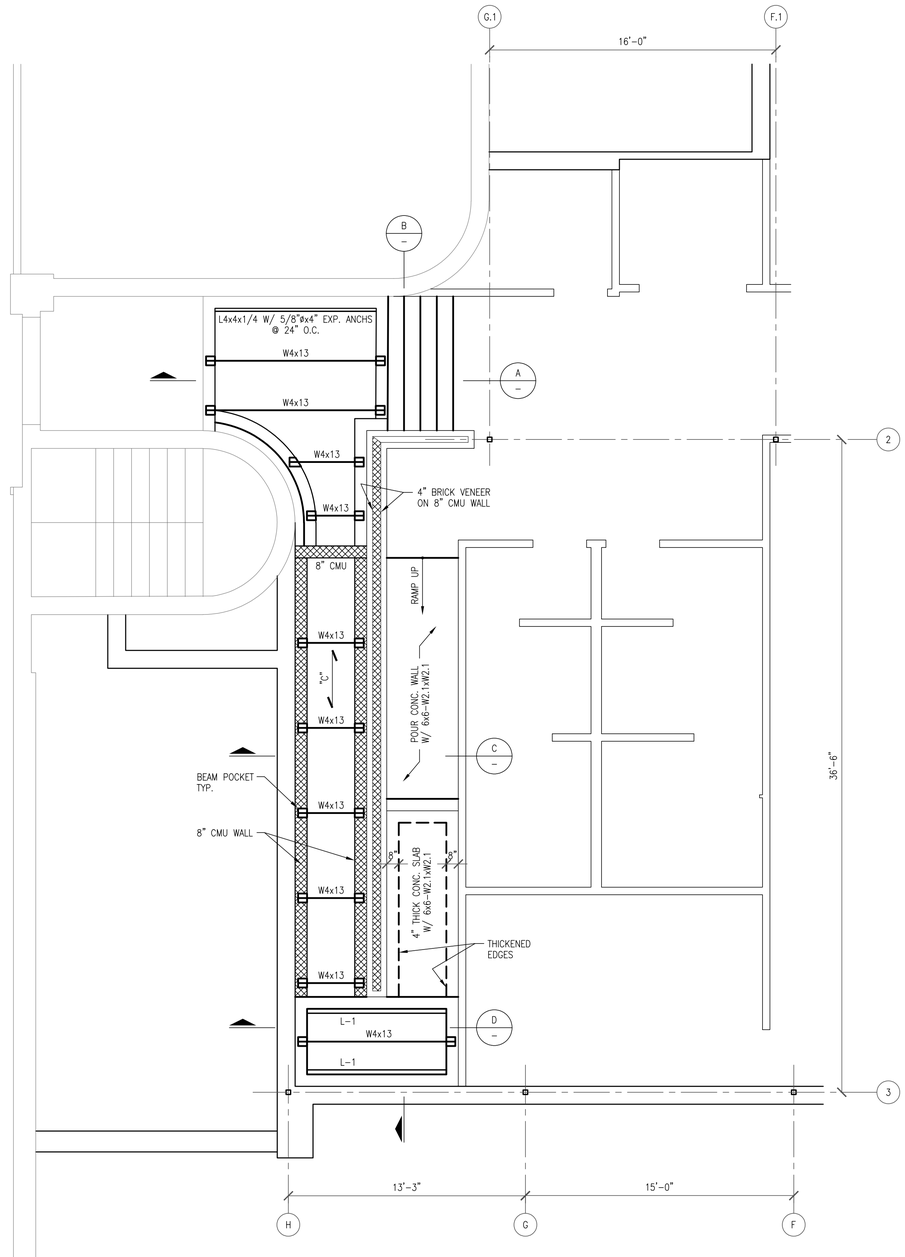
C S500 | S500 CROSS SECTION THRU RAMP
SCALE: 1/2" = 1'-0"



B S500 | S500 CROSS SECTION THRU RAMP
SCALE: 1/4" = 1'-0"



A S500 | S500 STAIR SECTION
SCALE: 3/4" = 1'-0"



1 S200 | S500 ENLARGED RAMP PLAN
SCALE: 1/4" = 1'-0"

L-1: L4x4x1/4 W/ 5/8"ø x3" LG EXP. ANCHORS @ 24" O.C.

"C" 4" THICK CONCRETE 1.0G-22 GA. CONFORM METAL DECK W/ 6x6-W2.1-W2.1

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WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
ENLARGED FOUNDATION PLAN

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REVISIONS

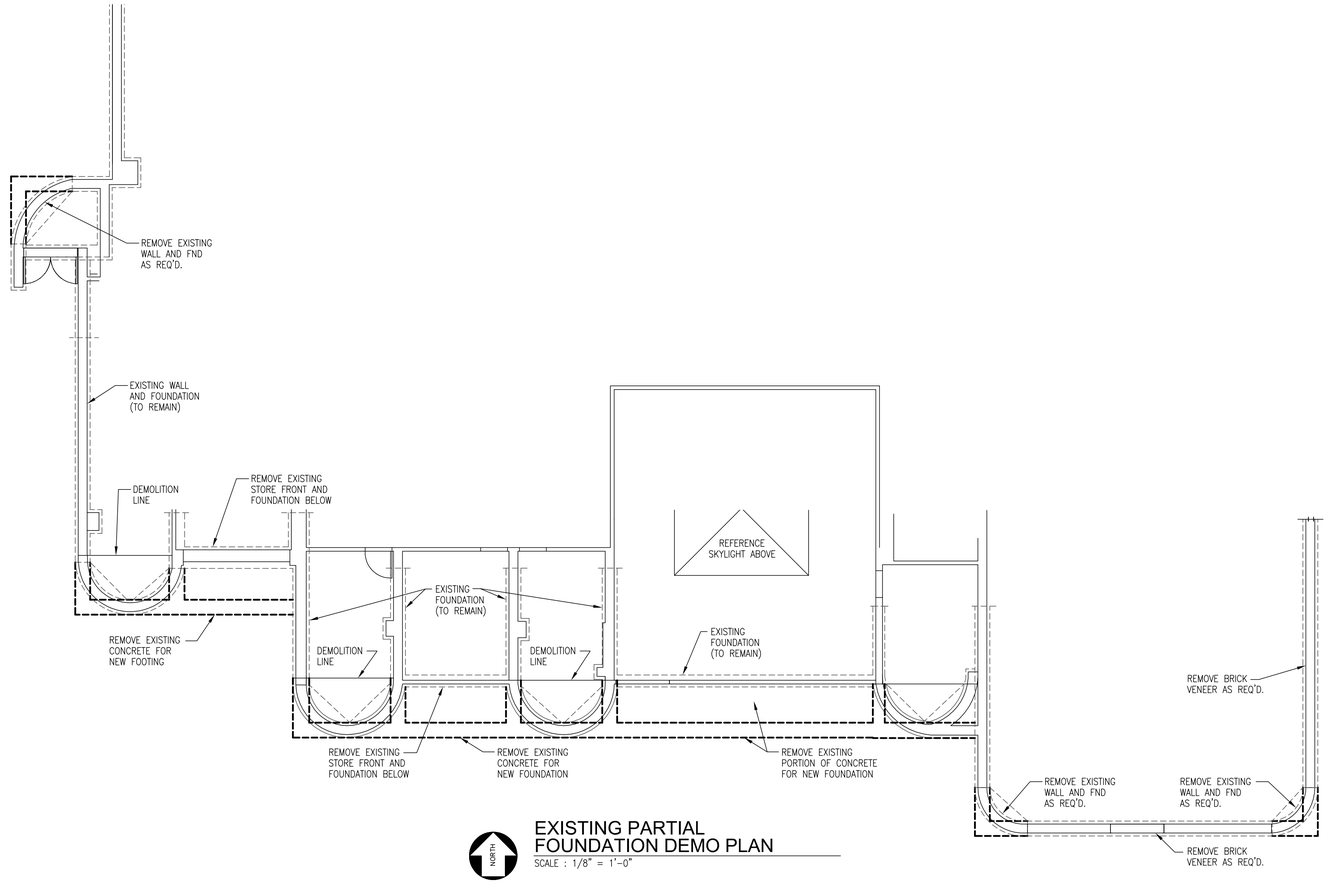
MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW
	6/4/26	FOR REVIEW

DATE: 9/2024
DRAWN: JMS
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APPROVED: JMS
PROJECT NO.:

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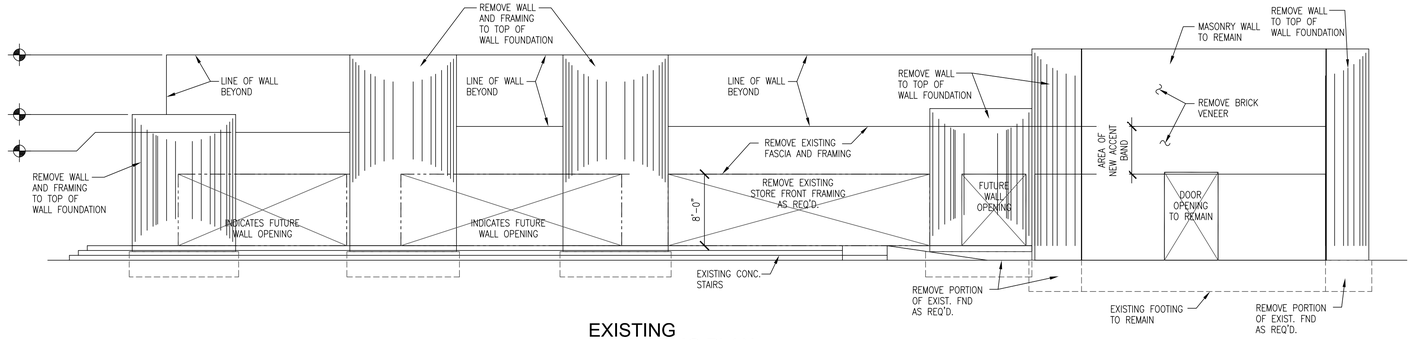
SHEET NO.: 18 OF 20

S500



EXISTING PARTIAL FOUNDATION DEMO PLAN

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



EXISTING WALL DEMO PLAN

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

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PROJECT LOCATION:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

SHEET TITLE:
EXISTING PARTIAL FOUNDATION & WALL

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REVISIONS

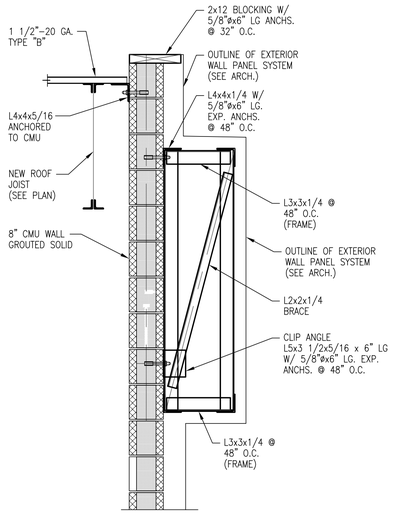
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	6/4/26	FOR REVIEW

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PROJECT NO.:

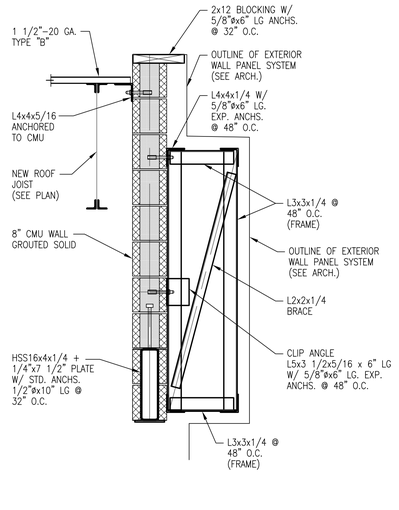
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SHEET NO.: 19 OF 20

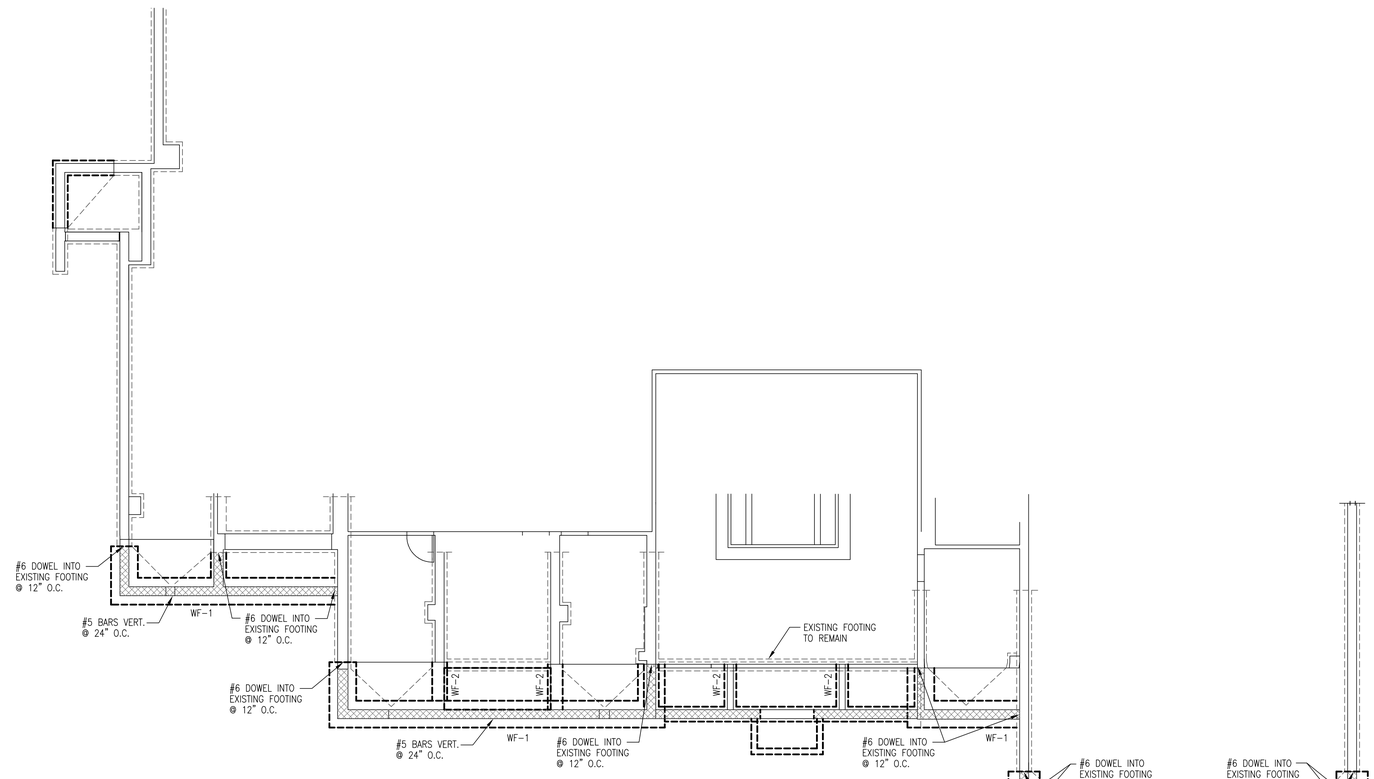
S501



4 STRUCTURAL WALL SECTION
S502 | S502 SCALE: 3/4" = 1'–0"



3 STRUCTURAL WALL SECTION
S502 | S502 SCALE: 3/4" = 1'–0"



NORTH

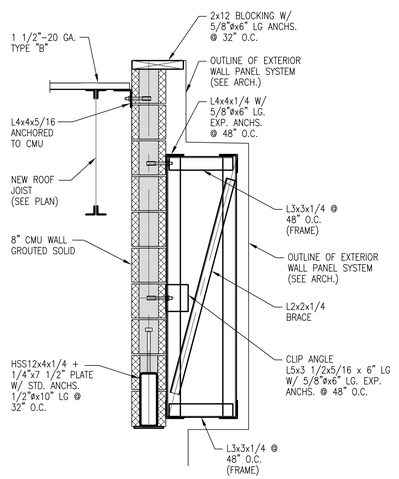
PARTIAL FOUNDATION PLAN
SCALE : 1/8" = 1'–0"

WF–1: 36" WIDE x 42" DEEP WALL FOOTING W/ (4) #6 BARS @ BOTTOM
(3) #6 BARS @ TOP AND (2) #5 BARS @ MIDDLE

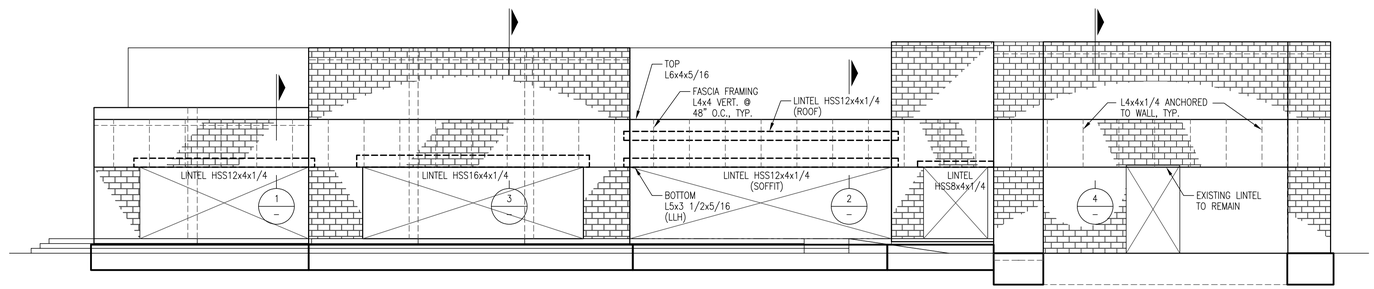
WF–2: 24" WIDE x 42" DEEP WALL FOOTING W/ (3) #5 BARS @ BOTTOM

WF–3: 42" WIDE x 42" DEEP WALL FOOTING W/ (5) #6 BARS @ BOTTOM
(4) #6 BARA @ TOP AND (2) #6 BARS @ MIDDLE

2 STRUCTURAL WALL SECTION
S502 | S502 SCALE: 3/4" = 1'–0"



1 STRUCTURAL WALL SECTION
S502 | S502 SCALE: 3/4" = 1'–0"



PARTIAL STRUCTURAL ELEVATION @ EXISTING ENTRANCE
SCALE : 1/8" = 1'–0"

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PROJECT LOCATION:
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COLLEGE DISTRICT
19305 VERNIER RD.
HARPER WOODS, MI 48225

PROJECT TITLE:
MARY ELLEN STEMPFLE
UNIVERSITY CENTER BUILDING
ADDITION & RENOVATION

SHEET TITLE:
PARTIAL FOUNDATION,
ELEVATION AND SECTIONS

DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

REVISIONS

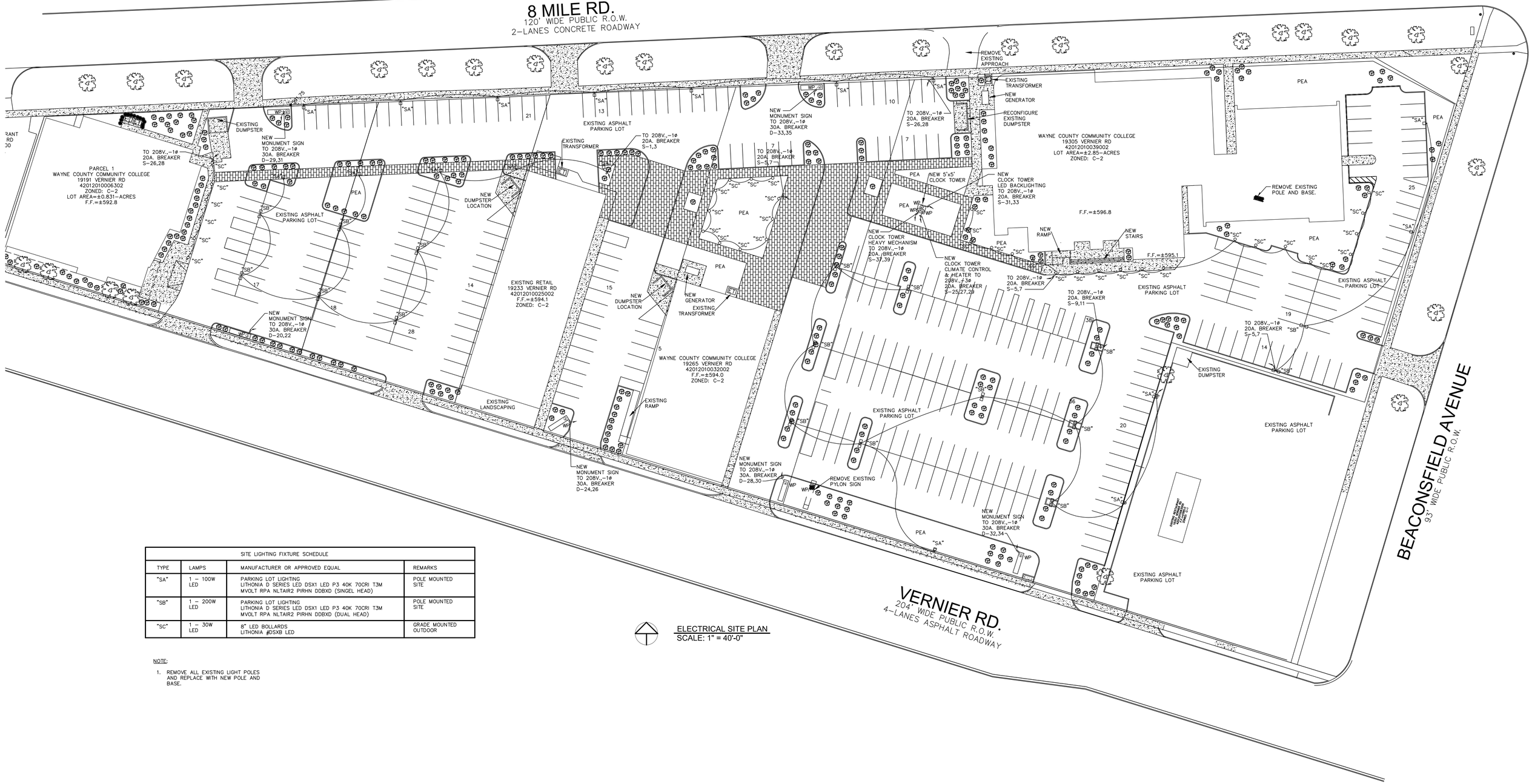
MARK	DATE:	ISSUED FOR:
	5/1/26	FOR REVIEW
	6/4/26	FOR REVIEW

DATE:	9/2024
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CHECKED:	JMS
APPROVED:	JMS
PROJECT NO.:	

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SHEET NO.:
20 OF 20

S502



ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"

SITE LIGHTING FIXTURE SCHEDULE			
TYPE	LAMPS	MANUFACTURER OR APPROVED EQUAL	REMARKS
"SA"	1 – 100W LED	PARKING LOT LIGHTING LITHONIA D SERIES LED DSX1 LED P3 40K 70CRI T3M MVOLT RPA NLTAIR2 PIRHN DDBXD (SINGEL HEAD)	POLE MOUNTED SITE
"SB"	1 – 200W LED	PARKING LOT LIGHTING LITHONIA D SERIES LED DSX1 LED P3 40K 70CRI T3M MVOLT RPA NLTAIR2 PIRHN DDBXD (DUAL HEAD)	POLE MOUNTED SITE
"SC"	1 – 30W LED	8" LED BOLLARDS LITHONIA #DSXB LED	GRADE MOUNTED OUTDOOR

NOTE:

1. REMOVE ALL EXISTING LIGHT POLES AND REPLACE WITH NEW POLE AND BASE.

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
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GBW WORLD DESIGN, INC.
CONSULTING ENGINEERS
BLOOMFIELD HILLS, MI 48302
TEL. 248-422-4156
GBW JOB NUMBER: 000226

SHEET NAME: ELECTRICAL SITE PLAN

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: 1" = 40'-0"
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER: E000

ELECTRICAL SYMBOL LIST

"A"	FIXTURE TYPE	
	1x4 LIGHT FIXTURE	
	POLE MOUNTED LIGHTING FIXTURE	
	STRIP LIGHTING FIXTURE	
	2'x2' LIGHTING FIXTURE	
	2'x4' LIGHTING FIXTURE	
	HALF SHADED FIXTURES ARE FIXTURES PROVIDED WITH BUILT-IN EMERGENCY BATTERY PACK FOR EGRESS LIGHTING	
	RECESSED DOWN LIGHT	
	WALL MOUNTED LIGHTING FIXTURE	
	TRACK LIGHTING FIXTURE	
	EXIT LIGHTING FIXTURE - SHADING INDICATES ILLUMINATED FACE (S) CHEVRONS AS INDICATED	
	EMERGENCY LIGHTING UNIT	
	COMBINATION OF EXIT AND EMERGENCY LIGHTING UNIT	
$	SINGLE POLE LIGHT SWITCH	
$3	THREE WAY LIGHT SWITCH	
$4	FOUR WAY LIGHT SWITCH	
$K	KEY OPERATED SWITCH	
$P	LIGHT SWITCH WITH PILOT LIGHT	
$P3	THREE WAY LIGHT SWITCH WITH PILOT LIGHT	
$D	DIMMER SWITCH, COMPATIBLE WITH LIGHTS CONTROLLED	
$MD	DIMMER SWITCH WITH WALL OCCUPANCY SENSOR (SINGLE POLE)	
$D3	THREE WAY LIGHT SWITCH WITH DIMMER	
$T TS	TIMER SWITCH	
$LV	LOW VOLTAGE CONTROL STATION WITH DIMMING CAPABILITIES, NUMBER OF BUTTONS AS INDICATED TO PROVIDE PRESET SCENES, RISER, LOWER, ON, OFF CONTROL FOR ZONES INDICATED. COORDINATE WITH LIGHT DIMMING CONTRACTOR FOR DEVICE MODEL NUMBERS, QUANTITIES, LOCATIONS, AND ADDITIONAL REQUIREMENTS.	
RPY	RELAY PACK WITH 0-10V DIMMING OUTPUT	
OS	CEILING MOUNTED OCCUPANCY SENSOR. DUAL TECHNOLOGY (PASSIVE INFRARED AND MICROPHONIC/ULTRASONIC), WITH AUXILIARY RELAY FOR HVAC CONTROL. PROVIDE QUANTITY OF 20A, 120/277V RATED POWER PACKS AND RELAY PACKS AS REQUIRED TO CONTROL SWITCH LEGS INDICATED. ALL FIXTURES IN ROOM/SPACE ARE TO BE CONTROLLED BY THE SENSORS.	
$M	WALL MOUNTED VACANCY SENSOR, SINGLE POLE, DUAL TECHNOLOGY (PASSIVE INFRARED AND MICROPHONICS/ULTRASONIC), 120/277V. SWITCH IS RATED 800 WATTS AT 120V AND 1200 WATTS AT 277V, 1/4 HP. IVORY WITH STAINLESS STEEL COVERPLATE. FACTORY COLOR-MATCHED PLATE IS NOT ACCEPTABLE.	
$M2	SAME AS EXCEPT WITH DUAL POLE	
	SINGLE RECEPTACLE	
	DUPLEX RECEPTACLE	
	QUADRUPLEX RECEPTALCE	
	DUPLEX RECEPTACLE WITH GROUND FAULT (GFCI)	
GFP	FACELESS GROUND FAULT CIRCUIT INTERRUPTER	
C	SAME AS DUPLEX RECEPTACLE EXCEPT CEILING MOUNTED	
C	SAME AS QUADRUPLEX RECEPTACLE EXCEPT CEILING MOUNTED	
S	SAME AS DUPLEX RECEPTACLE EXCEPT SHOW WINDOW TO BE MOUNTED 6" ABOVE WINDOW, COORDINATE WITH OWNER/ ARCHITECT PRIOR TO INSTALLATION	
	COMBINATION DUPLEX POWER RECEPTACLE AND TWO USB PORTS	
H	SAME AS DUPLEX RECEPTACLE EXCEPT HORIZONTALLY MOUNTED	
	SPLIT RECEPTACLE	
F	FLOOR RECEPTACLE	
R	COMMERCIAL GRADE CORD REEL WITH GFCI MOUNTED TO STEEL STRUCTURE	
R	SPECIAL PURPOSE RECEPTACLE - NEMA TYPE	
RL	SPECIAL PURPOSE RECEPTACLE - NEMA TYPE ON A CORD REEL MOUNTED TO STEEL STRUCTURE	
	DUPLEX RECEPTACLE FLOOR MOUNTED	
J	CEILING JUNCTION BOX	
J	WALL JUNCTION BOX	
	PUSH BUTTON STATION (1,2, OR 3 BUTTON)	
PP	DOOR ACTIVATOR PUSH PLATE	
	ELECTRIC CLOCK OUTLET	
	COMBINATION DATA AND TELEPHONE OUTLET	UNLESS OTHERWISE NOTED PROVIDE DOUBLE GANG BOX WITH SINGLE MUD RING AND 1"C UP TO CEILING SPACE
	PHONE OUTLET SAME AS COMBINATION VOICE/DATA (W: WALL MOUNTED AT +48")	
	DATA OUTLE	

TV	TELEVISION OUTLET, DOUBLE GANG BOX WITH SINGLE MUD RING AND 1" C TO CEILING SPACE
AV	AUDIO/VIDEO OUTLET, DOUBLE GANG BACK BOX WITH 1 1/4"C. TO ABOVE ACCESSIBLE CEILING, TERMINATE CONDUIT WITH INSULATING BUSHING, PROVIDE PULL STRING.
AV	FLOOR MOUNTED THREE GANG (3G) FLUSH BOX, DUPLEX RECEPTACLE, A/V & DATA/PHONE COMPARTMENTS
	FLOOR MOUNTED THREE GANG (3G) FLUSH BOX, DUPLEX RECEPTACLE, A/V & DATA/PHONE COMPARTMENTS
C	DUPLEX RECEPTACLE & DATA/PHONE FLUSH FLOOR MOUNTED TWO GANG (2G) COMPLETE WITH FLANGE AND COVER
F1	MULTI-SERVICE STAMPED STEEL FLUSH FLOOR BOX - TYPE F1 - WITH (2)-20A. DUPLEX RECEPTACLES & (2) DATA COMPARTMENT, WIREMOLD #RFB4 SERIES OR APPROVED EQUAL BY HUBBELL
F2	MULTI-SERVICE STAMPED STEEL FLUSH FLOOR POKE-THROUGH BOX -TYPE F2 - WITH (2)-20A. DUPLEX RECEPTALCES & (2) DATA COMPARTMENT, WIREMOLD OR APPROVED EQUAL BY HUBBELL.
	FLOOR MOUNTED TWO GANG (2G) FLUSH BOX WITH SEPARATE POWER AND DATA COMPARTMENTS FOR FURNITURE CONNECTION PROVISION
	FIRE RATED FLUSH FLOOR POKE THRU WITH SEPARATE POWER AND DATA COMPARTMENTS FOR FURNITURE CONNECTION SIMILAR TO LEGRAND 4FFATC.
	FIRE RATED FLUSH FLOOR POKE THRU WITH DUPLEX OR QUAD RECEPTACLE & LOW VOLTAGE COMPARTMENTS SIMILAR TO LEGRAND RC7 OR RC4.
	FIRE RATED RECESSED DEEP FLOOR POKE THRU WITH DUPLEX OR QUAD RECEPTACLE & LOW VOLTAGE COMPARTMENTS SIMILAR TO LEGRAND EVOLUTION 6 SERIES.
	JUNCTION BOX FOR FLEXIBLE CONNECTION TO SYSTEMS (P: POWER, D: DATA), FURNITURE WHIP PROVIDED BY FURNITURE SUPPLIER, FOR NEW WORK PROVIDE 1"C OR 1 1/4"C FOR DATA TO ABOVE ACCESSIBLE CEILING. UNLESS OTHERWISE NOTES, COORDINATE LOCATION WITH FURNITURE SYSTEM SUPPLIER. PROVIDE FINAL CONNECTION AND COVERPLATE SUITABLE FOR WHIP CONNECTION.
	DISTRIBUTION PANEL
	SURFACE MOUNTED LIGHTING AND/OR RECEPTACLE PANEL
	RECESSED MOUNTED LIGHTING AND/OR RECEPTACLE PANEL
CB	MOLDED CASE CIRCUIT BREAKER - SURFACE MOUNTED IN NEMA ENCLOSURE
CB	MOLDED CASE CIRCUIT BREAKER - FLUSH MOUNTED IN NEMA ENCLOSURE
	MOTOR - SINGLE PHASE
	MOTOR - THREE PHASE
	MANUAL SINGLE PHASE MOTOR STARTER WITH PILOT LIGHT, LOCKABLE OFF, FOR MOTOR APPLICATIONS. MANUAL SINGLE PHASE MOTOR SWITCH WITH PILOT LIGHT, LOCKABLE OFF AND WITHOUT OVERLOADS FOR DISCONNECT APPLICATIONS TO EQUIPMENT NOT REQUIRING OVERLOADS AND FOR APPLICATIONS WHERE OVERLOADS ARE INTEGRAL TO MOTRO-BASED LOADS. FLUSH MOUNT STARTERS/ SWITCHES IN FINISHED SPACES. SURFACE MOUNT IN UNFINISHED SPACES.
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	THREE PHASE COMBINATION MAGNETIC FUSIBLE MOTOR STARTER
	BUS PLUG FUSIBLE DISCONNECT SWITCH
T	TRANSFORMER
C	CONTACTOR
M	METER
	GROUND
	HOMERUN TO LIGHTING PANEL
CT	CABLE TRAY
PS	PLUG-IN STRIP

EF	EXHAUST FAN	EWC	ELECTRIC WATER COOLER
EDH	ELECT. DUCT HTR.	AFF	ABOVE FINISHED FLOOR
A	ABOVE COUNTER	WP	WEATHERPROOF
A/E	ARCHITECT / ENGINEER	RT	RAINTIGHT
CM	COFFEE MAKER	UFD	UNDER FLOOR DUCT
MW	MICROWAVE	FPB	FAN POWER BOX
HOA	HAND-OFF-AUTOMATIC	DW	DISHWASHER
PC	PHOTOCELL	GD	GARBAGE DISPOSAL
HG	HOSPITAL GRADE	REF	REFRIGERATOR
UH	UNIT HEATER	(E)	EXISTING TO REMAIN
UON	UNLESS OTHERWISE NOTED	(RE)	RELOCATED EXISTING
EG	EQUIPMENT GROUND	IG	ISOLATED GROUND
H	HORIZONTALLY MOUNT 6" ABOVE COUNTER BACK SPLASH		
GFI OR GFR	GROUND FAULT CIRCUIT INTERRUPTER		
	POWER POLE VOICE/ DATA/ POWER		
	AUDIO/VISUAL HEAD END EQUIPMENT		
DR	DRIVER FOR 24V UNDER CABINET LED LIGHT		

NOTE: SYMBOLS AND ABBREVATIONS MAY NOT BE USED N THIS PROJECT.

CR	CARD READER
IC	INTERCOM OUTLET
PC	PHOTOELECTRIC CONTROLLER
WPS	COMBINE PARTITION SENSOSR
WAP	WIRELESS ACCESS PANEL
PP	POWER POLE VOICE/ DATA /POWER
CP	CONTROL PANEL, PROVIDE AS PART OF THE EQUIPMENT THEY CONTROL
TS	TIME SWITCH
B B	BELL
RB	RADIO ALERT SYSTEM BELL
DS	DOOR SWITCH
IC	INTERCOM STATION
EPO	EMERGENCY POWER OFF PUSHBUTTON
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
NACP	NOTIFICATION APPLIANCE CONTROL PANEL
MC	MICROPHONE
	CEILING MOUNTED SPEAKER
V V	VOLUME CONTROL DIAL
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
TS	TAMPER SWITCH
FS	FLOW SWITCH
A/V	OUTDOOR FIRE DEPARTMENT CONNECTION - AUDIO VISUAL DEVICE
DH	MAGNETIC DOOR HOLDER
DS	DUCT SMOKE DETECTOR
SCD	COMBINATION SMOKE /CO DETECTOR
F	MANUAL FIRE ALARM STATION
F	FIRE ALARM STROBE
F	FIRE ALARM HORN/STROBE
	FIRE ALARM HORN/STROBE - CEILING MOUNTED
S	FIRE ALARM STROBE - CEILING MOUNTED
C	CARMERA
C	PROJECTOR SENSOR

ELECTRICAL SHEET INDEX

SHEET	DESCRIPTION
E000	ELECTRICAL SITE PLAN
E001	ELECTRICAL LEGEND, SHEET INDEX AND DETAILS
E002	ELECTRICAL SPECIFICATION
E003	ELECTRICAL ONE LINE DIAGRAM
E004	ELECTRICAL PANEL SCHDULES
E005	ELECTRICAL GENERATOR RISER DIAGRAM
E006	ELECTRICAL DETAILS
ED100	ELECTRICAL DEMOLITION LIGHTING PLAN
ED200	ELECTRICAL DEMOLITION FLOOR PLAN POWER AND SYSTEMS
E100	ELECTRICAL FLOOR PLAN LIGHTING
E200	ELECTRICAL FLOOR PLAN POWER AND SYSTEMS
E300	ELECTRICAL ROOF PLAN POWER AND SYSTEMS

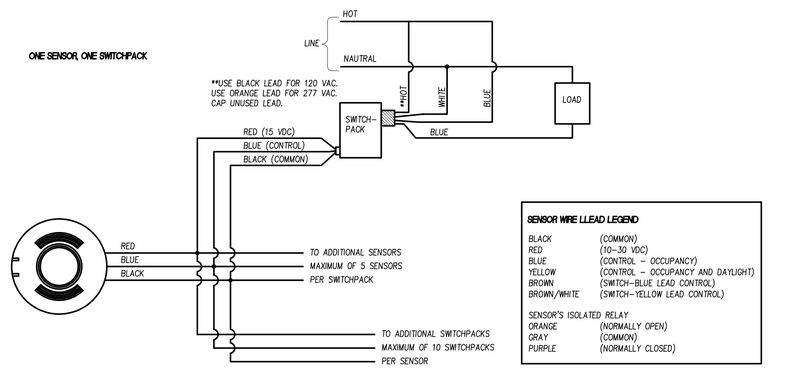
SHEET NOTES:

1. ALL LIGHTING CIRCUITS NOT BE LOADED MORE THAN SWITCHING AND LIGHTING CONTROLS WITH OWNER
2. ALL LIGHT FIXTURES ARE SELECTED BY OTHERS. REVIEW SWITCHING AND LIGHTING CONTROLS WITH OWNER REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK. INSTALLATION SHALL BE IN COMPLIANCE WITH LATEST ASHRAE REQUIREMENTS. REFER TO OUTDOOR FIXTURES SCHEDULE &^ LIGHTING CONTROLS FOR ADDITIONAL NOTES.
3. FINAL LOCATION OF EMERGENCY LIGHTS TO BE DETERMINED IN FIELD FOR BEST COVERAGE AND IN COMPLIANCE WITH INSPECTOR REQUIREMENTS. NO ADDITIONAL CHARGE FOR ADDED EMERGENCY LIGHTS.

GENERAL LIGHTING NOTES

A. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
B. COORDINATE ELECTRICAL WORK WITH OTHER TRADES AS REQUIRED.
C. ALL WORK MUST BE COMPLETED TO THE LATEST APPLICABLE CODES.
D. PRIOR TO INSTALLATION DO A PRELIMINARY LAYOUT OF ALL LUMINAIRES FOR ARCHITECT AND OWNER REVIEW AND APPROVAL.
E. ALL SURFACE MOUNTED ELECTRICAL TO HAVE 4" ROUND ELECTRICAL BOX.
F. OWNER/CONTRACTOR IS RESPONSIBLE FOR QUALITY, DETAILS, COORDINATION AND ASSURING THAT ALL ELECTRICAL AND SYSTEMS MEET CODE, ARE SAFE AND CONFORM TO THE ARCHITECTURAL INTENT OF THESE DOCUMENTS.

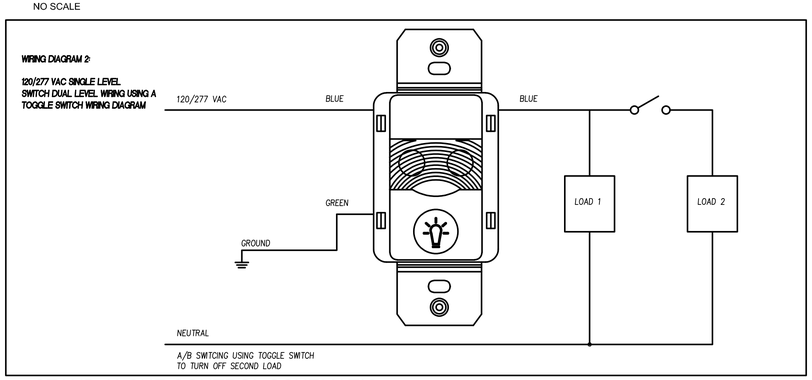
1. *MAKE SURE POWER IS TURNED OFF AT THE BRANCH CIRCUIT BREAKER.*
2. *WIRE UNITS AS SHOWN IN WIRING DIAGRAMS PER APPLICABLE VOLTAGE REQUIREMENTS. (USE TWIST-ON WIRE CONNECTIONS FOR ALL CONNECTIONS) CAP ALL UNUSED WIRE LEADS.*
3. *MOUNT UNIT TO CEILING, JUNCTION BOX, OR ROUND FIXTURE WITH RACEWAY.*
4. *TURN POWER BACK ON AT THE BRANCH CIRCUIT BREAKER AND WAIT 2 MINUTES FOR THE UNIT TO STABITION.*
5. *MAKE NECESSARY ADJUSTMENTS. (SEE CHECKOUT AND ADJUSTMENTS SECTION).*



STAND ALONE CONTROL SCHEMATIC (CEILING MOUNTED SENSOR)

NO SCALE

LIGHTING SENSORS AND CONTROLS				
	MANUFACTURER	MODEL/CATALOG NO.	DESCRIPTION	REMARKS
DUAL TECH LOW VOLTAGE CEILING SENSOR (OS)	EATON	OAC-DT-2000	CEILING MOUNTED OCCUPANCY SENSOR	2000SF COVERAGE
SWITCHPACKS	EATON	SP20-MV	SP20-MV	HEAVY DUTY
DUALTECH WALL SWITCH SENSOR	EATON	ONVV-D-1001-MV	ONVV-D-1001-MV	GROUND REQUIRED
NOTE 1: MOUNT MOTION DETECTORS TO THE BOTTOM OF THE CEILING COORDINATE LOCATION WITH ANY MECHANICAL WORK TO AVOID INTERFERENCE. MOUNT MOTION DETECTORS IN ROOMS SUCH THAT MOVEMENT IN THE ROOM SHALL ACTIVATE SENSOR AND TURN ON THE RESPECTIVE LIGHTS. ONCE THE LIGHT ARE ON BY THE MOTION DETECTOR, THEY SHALL REMAIN ON FOR 20 MINUTES (ADJUSTABLE BY OWNER). SENSOR ADJUSTMENT MAY BE NECESSARY ARE ON BY THE MOTION DETECTOR, THEY SHALL REMAIN ON FOR 20 MINUTES (ADJUSTABLE BY OWNER). SENSOR ADJUSTMENT MAY BE NECESSARY.				
NOTE 2: PRIOR TO INSTALLATION E.C. SHALL ASSURE THAT THERE IS NO IMMEDIATE OBSTRUCTION TO SENSOR, SO IT CAN WORK AS REQUIRED.				
NOTE 3: PROVIDE ADDITIONAL SENSORS WHEN REQUIRED TO ACHIEVE THE PROPER FUNCTIONALITY OF THE SYSTEM WITHOUT EXTRA COST TO THE OWNER.				
NOTE 4: ANY ACCESSORIES/ COMPONENTS REQUIRED FOR THE SYSTEM TO FUNCTION PROPERLY SHALL BE PROVIDED WITHOUT EXTRA COST TO THE OWNER.				
NOTE 5: LIGHTING CONTROL DEVICES SHALL BE EATON OR APPROVED EQUAL.				



STAND ALONE CONTROL SCHEMATIC (WALL MOUNTED SENSOR)

NO SCALE

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CONSULTING ENGINEERS
BLOOMFIELD HILLS, MI 48302
TEL. 248-622-4156
GBW JOB NUMBER: 000226

ELECTRICAL LEGEND, SHEET INDEX AND DETAILS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: NO SCALE
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER: E001

GENERAL ELECTRICAL NOTES AND SPECIFICATIONS

ALL WORK SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.

ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND SHALL HAVE U.L. LABEL FOR INTENDED USE.

ELECTRICAL SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ARCHITECT/ENGINEER.

ALL REQUIRED PERMIT AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR THIS WORK.

PROVIDE U.L. LISTED SYSTEM FOR FIRE STOPPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. PROVIDE SYSTEM WITH EQUAL OR GREATER RATING THAN ASSEMBLY. REFER TO ARCHITECTURAL DOCUMENTS FOR RATINGS AND LOCATIONS OF ASSEMBLIES.

EXAMINATION OF SITE IS MANDATORY, CONTRACTOR IS HEREBY HELD TO HAVE EXAMINED THE SITE AND HAVE INCLUDED IN HIS BID PRICE ALL COSTS DUE TO SITE AND FIELD CONDITIONS.

COMPLETE IDENTIFICATION OF PROJECT ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, DISCONNECTS, CONTROL DEVICES, ETC., WITH THE NOMENCLATURE INDICATED ON THE DOCUMENTS AND WITH POWER SOURCE AND ELECTRICAL RATINGS USING PLASTIC LAMINATE NAMEPLATE. INSTALL TYPE WRITTEN DIRECTORIES OF ALL CIRCUITS ON INSIDE OF PANELS, IDENTIFY WIRING DEVICE COVERPLATES WITH PANELBOARD AND BRANCH CIRCUIT NUMBER SERVING DEVICE. E.G. "A-15". PROVIDE 1/4" MACHINE-WRITTEN BLACK LETTERING ON CLEAR PLASTIC ADHESIVE TAPE. LOCATE ON BOTTOM FRONT OF COVERPLATE, CENTERED BELOW WIRING DEVICE(S). SUBMIT SAMPLE OF LABELED TAPE WITH WIRING DEVICE/COVERPLATE SUBMITTAL. SAMPLE MAY BE ADHERED TO PAPERWORK IN SUBMITTAL, RATHER THAN TO A COVERPLATE.

PROVIDE TEMPORARY POWER AND LIGHTING DURING CONSTRUCTION. REMOVE TEMPORARY WIRING UPON COMPLETION OF THE PROJECT. TEMPORARY SERVICES SHALL BE AS REQUIRED, BY N.E.C. AND OSHA. CONTRACTOR IS RESPONSIBLE TO MEET WITH UTILITY TO FOR TEMPORARY POWER PROVISION AND ALL REQUIRED SKID UNITS.

GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT THE ELECTRICAL SYSTEM. INSTALL EQUIPMENT GROUNDING CONDUCTOR WITH EVERY CIRCUIT.

COORDINATE SIZE AND LOCATION OF ANY REQUIRED ACCESS PANELS IN WALLS OR FINISHED CEILINGS WITH ARCHITECT PRIOR TO INSTALLATION.

WARRANTY:
UNLESS A LONGER PERIOD IS SPECIFIED IN INDIVIDUAL PARAGRAPHS, PROVIDE A MINIMUM OF ONE YEAR WARRANTY ON ALL ELECTRICAL WORK BEGINNING THE DATE OF FINALE ACCEPTANCE OF THE PROJECT BY THE OWNER.

SUBMITTALS:
SUBMIT SHOP DRAWINGS FOR ALL MAJOR COMPONENTS OF SYSTEMS OF THE PROJECT. SUBMIT ADDITIONAL SHOP DRAWINGS IF REQUESTED BY ENGINEER.

NO APPARATUS OF EQUIPMENT SHALL BE SHIPPED FROM STOCK OR FABRICATED UNTIL ITS SHOP DRAWINGS HAVE BEEN STAMPED "REVIEWED" OR "APPROVED AS NOTED". SUBMIT DATA REQUIRED FOR TRANSFORMERS SUCH AS EFFICIENCY, REGULATION, CORE LOSS AND SOUND LEVELS. (SEE APPLICABLE SECTIONS).

SUBMIT SYSTEM COMPONENTS, PRODUCT DATA AND SHOP DRAWINGS COMPLETE FOR EACH SYSTEM UNDER ONE SUBMITTAL. DO NOT BREAK OUT EQUIPMENT FOR ONE SYSTEM BETWEEN MULTIPLE SUBMITTALS.

ALL SHOP DRAWINGS MUST BE CLEARLY MARKED TO SHOW EQUIPMENT SUBMITTED AND ANY DEVIATIONS FROM SPECIFICATIONS SHALL BE NOTED THEREON. DO NOT INCLUDE ONLY MODEL NUMBERS TO INDICATE SUBMITTED EQUIPMENT. STRIKE OUT ANY INFORMATION ON PRODUCT DATA THAT IS NOT PROJECT SPECIFIC, AND EDIT RELEVANT INFORMATION TO SHOW ACTUAL EQUIPMENT SUBMITTED. ELECTRICAL CONTRACTOR MUST SIGN AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL, UNIQUELY NUMBER EACH PAGE IN SUBMITTAL.

IF DIFFERENT SYSTEMS ARE INCLUDED IN ON SUBMITTAL, CLEARLY SEPARATE INFORMATION AND PROVIDE DIFFERENT SUB-NUMBERING OF SYSTEMS. SHOP DRAWINGS THAT ARE INCOMPLETE., UNSIGNED AND NOT PLAINLY MARKED WILL NOT BE REVIEWED.

MICHIGAN UNIFORM ENERGY CODE:
THIS IS A PERFORMANCE BASED DESIGN-BUILD SPECIFICATION.

THE INTENT OF THIS SPECIFICATIONS ITEM IS FOR FULL COMPLIANCE WITH THE REQUIREMENTS OF THE 2015 MICHIGAN UNIFORM ENERGY CODE AND RELATED AMENDMENTS AS THEY APPLY TO THE ASHRAE 90.1-2013 STANDARDS. AUTOMATIC CONTROL APPLIES TO NEW AND TO EXISTING TO REMAIN FIXTURES.

DESIGN AND PROVIDE A COMPLETE LIGHTING CONTROL SYSTEM PER MANUFACTURER'S RECOMMENDATION AND TO COMPLY TO ENERGY CODE AD INDICATED ABOVE. INDICATE ALL COMPONENTS AND EQUIPMENT LAYOUT ON FLOOR PLANS AND SUBMIT FOR REVIEW AND APPROVAL. COORDINATE WITH ARCHITECTURAL TRADES TO PROVIDE CEILING ACCESS PANELS WHERE REQUIRED.

PROVIDE OCCUPANCY SENSOR(S) IN EVERY ROOM OR SPACE (EXCEPT WHERE TIMER CONTROL IS INDICATED) TO AUTOMATICALLY SHUTOFF ALL NON-EMERGENCY LIGHTING WITHIN TIS SPACE WITH ADJUSTABLE TIME DELAY UP TO 20 MINUTES.

OCCUPANCY SENSORS SHALL BE O ULTRASONIC. INFRARED OR MULTI-TECHNOLOGY TYPE AS RECOMMENDED BY MANUFACTURER FOR EACH SPACE/APPLICATION CEILING MOUNTED.

INCLUDE CONTROL PANEL, STARTUP,COMMISSIONING AND TRAINING BY MANUFACTURER'S FACTORY-TRAINED PERSONNEL, IN ADDITION TO OTHER STARTUP REQUIREMENTS, MANUFACTURER'S FACTORY REPRESENTATIVE IS TO OBTAIN OWNER'S DESIRED OPERATIONAL SCHEDULE FOR EACH CIRCUIT. PROGRAM PANEL WITH SITE-SPECIFIC INFORMATION, AND CONTROL LIGHTING FIXTURES PER OWNER'S SCHEDULE IN COMPLIANCE WITH MICHIGAN UNIFORM ENERGY CODE.

PROVIDE OWNER WITH A MINIMUM OF 2 HOURS OF TRAINING AT JOBSITE BY MANUFACTURER'S FACTORY REPRESENTATIVE.

DEMOLITION AND RENOVATION WORK:

DISCONNECT, REMOVE, RELOCATE, REWIRE OR DISPOSE OF ANY EQUIPMENT INTERFERING WITH NEW CONSTRUCTION OR AFFECTED BY RENOVATION WORK.

ANY ELECTRICAL EQUIPMENT OR SYSTEMS WHICH ARE TO REMAIN, AND ARE AFFECTED BY THIS WORK, SHALL BE IMMEDIATELY RESTORED TO FULL OPERATING CONDITION AND AT NO ADDITIONAL COST TO THE CONTRACT.

EQUIPMENT REMOVED SHALL BE DISPOSED OF AS DIRECTED, EITHER TO STORAGE OR OFF THE PREMISES.

WHERE SERVICES OR CIRCUITS ARE DISCONNECTED OR DISCONTINUED, IT IS MANDATORY THAT ANY EXISTING UNUSED WIRING BE REMOVED TO THE SOURCE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. IT IS THE INTENT OF THIS ARTICLE TO PERMANENTLY DISCONNECT ALL UNUSED CIRCUITS AT HE MAIN SOURCE WHENEVER POSSIBLE. NO ENERGIZED CIRCUIT SHALL BE TAPED AND ABANDONED IN OUTLET BOXES UNLESS SO SPECIFIED ON DRAWINGS.

CIRCUIT TRACE EXISTING TO REMAIN CIRCUITS AS NECESSARY FOR PROPER IDENTIFICATION, AND AS REQUIRED TO PERFORM AND DOCUMENT WORK.

REMODELING WORK INVOLVING EXISTING BRANCH CIRCUIT PANELBOARD SHALL BE SUCH THAT, WHEN ALL WORK IS COMPLETED EXISTING PANELS ARE PROVIDED WITH NEW AND UPDATED. ACCURATE DIRECTORIES. ALL VACATED CIRCUITS SHALL BE MARKED SPARE. WHEN NEW BREAKERS ARE REQUIRED, THEY SHALL BE INSTALLED IN EXISTING SPACES AND SHALL MATCH THOSE THAT ARE EXISTING. PROVIDE NEW PANELS IF REQUIRED AND WHERE INDICATED.

CONTRACTOR MAY USE EXISTING CONDUITS AND OUTLET BOXES, PROVIDED THEY ARE IN GOOD ELECTRICAL CONDITION AND THE INSTALLATION IS APPROVED BY THE AHJ. RE-SUPPORT EXISTING TO REMAIN CONDUIT AND BOXES IN RENOVATION AREA IF INADEQUATELY SUPPORTED. PROVIDE SUPPORT AS REQUIRED TO COMPLY WITH N.E.C. AND AHJ REQUIREMENTS.

IT IS THE INTENT OF THE OVERALL DESIGN TO CONCEAL ALL WORK EXCEPT IN UNFINISHED AREAS. CUT AND PATCH EXISTING SURFACES AS REQUIRED FOR A CONCEALED INSTALLATION.

ALL ELECTRICAL OPENINGS THAT ARE ABANDONED IN WALLS, CEILINGS OR FLOOR SHALL BE PROVIDED WITH SUITABLE BLANK COVER PLATES. ABANDONED FLOOR OUTLETS AND PENETRATIONS SHALL BE FILLED TO MATCH EXISTING SURROUNDING CONDITIONS.

CONDUITS AND OTHER PARTS OF ELECTRICAL SYSTEMS THAT BECOME EXPOSED AS A PART OF NEW WORK.

SHALL BE REMOVED AS REQUIRED TO A POINT WHERE THE ABANDONED PORTION IS TOTALLY CONCEALED

ALL SURFACES DAMAGED BY THIS CONTRACTOR IN THE COURSE OF PERFORMING WORK SHALL BE RESTORED TO SATISFACTORY CONDITION, AS DIRECTED BY THE ARCHITECT AND ALL COSTS OF REPAIRS SHALL BE PAID FOR BY THE CONTRACTOR..

REMOVE SERVICE TO MECHANICAL. ELECTRICAL AND BUILDING EQUIPMENT SPECIFIED AND/OR INDICATED AS REMOVED OR DISCONNECTED. MAINTAIN CIRCUITS TO EXISTING-TO-REMAIN EQUIPMENT. IDENTIFY UNUSED, REMOVED CIRCUITS ON PANEL SCHEDULE AS SPARE, COORDINATE WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR EXISTING TO REMAIN EQUIPMENT AND FOR DEMOLITION WORK.

SERVICE SHUTDOWN AND POWER OUTAGES SHALL BE SCHEDULED WITH THE OWNER PRIOR TO PERFORMING ANY WORK ON EXISTING SERVICE. SCHEDULE SHALL BE PROVIDE IN WRITING 72 HOURS IN ADVANCE AND SHALL SHOW A DETAILED DESCRIPTION OF THE PROPOSED WORK AND THE DURATION OF OUTAGE.

PROVIDE LUMINAIRE DISCONNECTION MEANS PER LIGHTING SPECIFICATIONS.

UTILITY SERVICES (NEW BUILDING):

ELECTRIC SERVICE TO THE SITE WILL BE UNDERGROUND. SECONDARY METERED SERVICE AT THE VOLTAGE INDICATED ON DRAWINGS. SERVICE WILL BE PROVIDED BY THE DETROIT EDISON COMPANY. POWER COMPANY WILL PROVIDE AND INSTALL PRIMARY CABLE, SERVICE TRANSFORMER AND WILL MAKE FINAL CONNECTIONS.

TRADE CONTRACTOR SHALL INSTALL TRANSFORMER PAD AND GROUNDING PER UTILITY STANDARD DRAWINGS. UNDERGROUND DUCT BANKS AND ALL SECONDARY WIRING FORM TRANSFORMER TO BUILDING POWER EQUIPMENT. ALL EXCAVATION, TRENCHING AND BACKFILLING SHALL BE PROVIDED BY TRADE CONTRACTOR.

CONSULT UTILITY COMPANIES PROVIDING SERVICE TO THIS PROJECT AND COMPLY WITH THEIR REQUIREMENTS, INCLUDE ANY UTILITY COMPANY CHARGES IN BASE BID PRICE.

TELEPHONE SERVICE WILL BE PROVIDED BY THE TELEPHONE COMPANY. PROVIDE TELEPHONE SERVICES CONDUIT FORM SERVICE POINT TO TELEPHONE SERVICE EQUIPMENT (TELEPHONE BOARD OR CABINET) WITHIN BUILDING COORDINATE CONDUIT TERMINATION WITH TELEPHONE COMPANY.

UTILITY SERVICES (EXISTING BUILDING):
ELECTRIC SERVICE TO THE SITE IS EXISTING AND SHALL BE UTILIZED AS INDICATED ON THE DRAWINGS.

TELEPHONE SERVICE TO THE SITE IS EXISTING AND SHALL BE UTILIZED AS INDICATED ONT HE DRAWINGS.

ELECTRICAL EQUIPMENT AND DEVICES:
STEP DOWN TRANSFORMERS SHALL BE GENERAL PURPOSE, DRY TYPE, SELF AND COOLED, TWO WINDING, UL CLASS 220 INSULATION (115 DEGREE C RISE, 30 DEGREE C HOT SPOT, AND 40 DEGREE C AMBIENT) WITH MANUFACTURERS:
GE, EATON, SIEMENS, SQUARE D, OR APPROVED EQUAL. PROVIDE GROUNDING OF TRANSFORMERS AS SEPARATELY DERIVED SOURCES PER N.E.C. ARTICLE 250.30, INCLUDE INSULATION CLASS IN SUBMITTAL INFORMATION.

RECEPTACLES SHALL BE SPECIFICATION GRADE, GROUNDING TYPE, 2-POLE, 3-WIRE, AND POLARIZED. RECEPTACLES IN GENERAL SHALL BE 20A., 125V., HUBBELL #HBL5362 OR EQUAL MOUNTED 16" AFF IN OFFICES AREAS AND 48" AFF IN SHOP AREAS EXCEPT AT COUNTERS WHERE THEY SHALL BE 6" ABOVE COUNTER AND IN TOILET ROOMS AT 48" AFF. RECEPTACLES ON SINGLE CIRCUIT SHALL BE 20 AMPERES, HUBBELL #HBL5362. HIGH AMPERE RATINGS AND VOLTAGES ARE INDICATED ON DRAWINGS.

RECEPTACLES DESIGNATED "GFR" SHALL BE GROUND FAULT RECEPTACLES, SIMILAR TO HUBBELL #GF-5362. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF OX AND GASKETED COVER PLATE. WIRE "GFR" RECEPTACLES FOR SELF PROTECTION AND NOT DOWNSTREAM PROTECTION OF OTHER WIRING DEVICES.

GENERAL USE RECEPTACLES IN GUEST ROOMS OF HOTELS AND MOTELS, CHILD CARE FACILITIES , PRESCHOOLS AND ELEMENTARY SCHOOLS, BUSINESS OFFICES, CORRIDORS WAITING ROOMS IN MEDICAL, DENTAL OFFICES AND OUTPATIENT FACILITIES AND DORMITORIES SHALL BE SPECIFICATION GRADE TAMPER PROOF TYPE, GROUNDING TYPE, 2-POLW, 3-WIRE, AND POLARIZED. RECEPTACLES IN GENERAL SHALL BE 20 AMPERES, HUBBELL #BBR20TR OR EQUAL. RECEPTACLES IN PATIENT CARE AREAS SHALL BE HOSPITAL GRADE TAMPER RESISTANT TYPE, HUBBELL #HBL8300S OR EQUAL. HIGH AMPERE RATINGS AND VOLTAGES ARE INDICATED ON DRAWINGS. RECEPTACLES SHALL BE MOUNTED 16" AFF EXCEPT AT COUNTERS WHERE THEY SHALL BE 6" ABOVE COUNTER AND IN TOILET ROOMS AT 48" AFF.

RECEPTACLES DESIGNATED "GFR" SHALL BE GROUND FAULT RECEPTACLES AND TAMPER RESISTANT, HUBBELL #GFTR20W OR EQUAL AND IN PATIENT CARE AREAS SHALL BE HOSPITAL GRADE AND TAMPER RESISTANT, HUBBELL # GFR8300HWTR OR EQUAL. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF BOX AND GASKETED COVER PLATE.

SWITCHES SHALL BE SINGLE POLE. TWO POLE, OR THREE-WAY, AS INDICATED, TOGGLE TYPE, 20A, 120/277V., QUIET TYPE. HUBBELL #1221/1222/1223 OR APPROVED EQUAL. PILOT TYPE SWITCHES HUBBELL #1251.

PROVIDE DIMMERS RATED FOR LOAD WATTAGE AND VOLTAGE CONTROLLED. CONTRACTOR TO COORDINATE RATING BASED ON APPROVED FIXTURE SUBMITTALS AND ACTUAL FIXTURE QUANTITIES. PROVIDE DIMMERS DESIGNED FOR CONTROLLED LOAD CONSULT LIGHT FIXTURE MANUFACTURER FOR COMPATIBLE DIMMER SWITCHES

WIRING DEVICE COLORS SHALL BE WHITE OR AS SELECTED BY OWNER/ARCHITECT.

DEVICE COVER PLATES SHALL BE O TYPE AND NUMBER OF GANGS FOR DEVICES INSTALLED, SMOOTH EDGED 302/304 GRADE BRUSHED STAINLESS STEEL. PROVIDE BRANCH CIRCUIT IDENTIFICATION ON ALL COVERPLATES AS SPECIFIED UNDER "GENER REQUIREMENTS". COVERPLATES FOR DEVICES CONNECTED TO THE EMERGENCY SYSTEM SHALL ALSO BE FACTORY LABELED WITH BACK LETTERING TO READ "EMERGENCY".

PROVIDE TELEPHONE/DATA OUTLETS AND STUBS AS INDICATED. TELEPHONE/DATA OUTLETS SHALL CONSIST OF TWO GANG OUTLET BOX WITH PLASTER RING AND NO COVER PLATE. JACK AND COVER PLATE ARE SUPPLIED BY OTHERS. HEIGHT OF OUTLET FOR DESK PHONE IS 16" AFF AND FOR WALL HONE 48" AFF.
TELEPHONE/DATA OUTLETS SHALL CONTAIN OF 3/4" CONDUIT FROM OUTLET TO AN ACCESSIBLE PORTION OF CEILING SPACE, TERMINATE WITH INSULATION BUSHING.

CONDUCTORS:
ALL CONDUCTORS SHALL BE SOFT-DRAWN COPPER OF SIZES INDICATED ON THE DRAWINGS. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS AND WIHT 75 DEGREES (CENTIGRADE) CODE GRADE INSULATION.

CONDUCTORS SIZED #10 AND SMALLER SHALL BE SOLID. ALL CONDUCTORS LARGER THAN #10 SHALL BE MADE UP OF STRANDED SINGLE CONDUCTOR CABLE. CONDUCTORS SHALL HAVE THWN OR THHN INSULATION AS APPLICABLE. CONDUCTORS IN UNDERGROUND CONDUIT AND FOR SERVICE ENTRANCE CONDUCTOR SHALL HAVE XHHW OR THWN INSULATION.

#12 AWG SHALL BE THE MINIMUM WIRE SZIE ALLOWED EXCEPT #14 AWG MAY BE USED FOR CONTROL WIRING.

TYPICAL BRANCH CIRCUITS FORM 20A, 1-POLE BRANCH OVERCURRENT DEVICES ARE 1/2"C, 2#12 AND 1#12G.

STARTERS, SAFETY SWITCHES, FUSES AND HEATERS:
MANUAL MOTOR STARTERS SHALL BE 600V TOGGLE TYPE WITH THERMAL OVERLOAD ELEMENT FOR MOTOR PROTECTIONS STAINLESS STEEL COVER PLATE AND PILOT LIGHT; FLUSH IN ALL AREAS EXCEPT IN UNFINISHED SPACES. CONTRACTOR TO COORDINATE AND PROVIDE QUANTITY OF POLES AS REQUIRED FOR BRANCH CIRCUIT AND LOAD SERVED. MANUAL MOTOR SWITCHES SHALL BE THE SAME AS MANUAL STARTERS EXCEPT WITHOUT OVERLOADS AND USED AS DISCONNECTION MEANS.

MAGNETIC MOTOR STARTERS SHALL BE 600 VOLT 3-PHASE WITH 3 THERMAL OVERLOAD ELEMENTS, HOA SWITCH AND RESET BUTTON IN COVER AND GREEN RUNNING PILOT LIGHT, NEMEA ENCLOSURE AND SIZE AS INDICATED. COMBINATION STARTERS SHALL HAVE BUILT-IN FUSED DISCONNECT. PROVIDE START-STOP PUSH BUTTONS FOR USE IN HAND (MANUAL) MODE.

PROVIDE THERMAL ALLOY MELTING TYPE HEATER ELEMENTS FOR ALL MOTORS BASED ON MOTOR NAMEPLATE DATA.
SAFETY AND DISCONNECT SWITCHES SHALL BE 250 OR 600 VOLTS AS REQUIRED, HEAVY DUTY, TWO OR THREE POLE, "QUICK-MAKE", "QUICK-BREAK" SWITCH MECHANISM AND COVER INTERLOCK, SWITCHES SHALL BE FUSED OF UNFUSED AS INDICATED AND SHALL HAVE PAD LOCK PROVISIONS. WITH NEMA TYPE ENCLOSURE \FOR LOCATION USED. SWITCHES SHALL BE SQUARE "D" CLASS 3110 OR APPROVED EQUAL.

PROVIDE ALL NECESSARY FUSES AND REPLACE ALL THOSE BLOWN DURING CONSTRUCTION. ALL FUSES SHALL BE TIME LAG, DUAL ELEMENT, BUSSMAN "LOW PEAK YELLOW" OR EQUAL.

PANELBOARDS:
MAIN DISTRIBUTION PANELS SHALL BE AS SHOWN ON DRAWINGS. BRACED FOR 35,000 A.I.C. MINIMUM. DEAD FRONT CONSTRUCTION. VOLTAGE, PHASE, AMPERE RATING, AND DEVICES SHALL BE INDICATED ON THE DRAWINGS.

LIGHTING PANELS SHALL BE OF VOLTAGE, PHASE, SERVICE AND NUMBER OF WIRES INDICATED ON THE DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC, TRIP FREE, SINGLE OR MULTIPOLE, BOLTED DESIGN, MOLDED CASE, MINIMUM 10,000 A.I.C. AT 240 VOLTS OR 14,000 A.I.C. AT 277 VOLTS. DEVICES SHALL BE AS INDICATED ON THE DRAWINGS OR AS SCHEDULED.

LIGHTING PANELS RATED FOR 277/480Y, 3-PHASE, 4W SERVICE SHALL BE SQUARE D TYPE "NF" OR EQUAL, AND THOSE RATED FOR 120/208V, 3-PHASE, 4-WIRE SERVICE SHALL BE SQUARE D TYPE "NQOD" OR EQUAL. LOAD CENTERS ARE NOT PERMITTED.

CONTRACTOR, MANUFACTURER MAY RE-ARRAGE CIRCUIT ORDER IN PANELS, HOWEVER CIRCUIT NUMBER FROM PANELBOARD SCHEDULES IN CONTRACT DOCUMENTS MUST BE INDICATED ON ANY SUBMITTED PANELBOARD ELEVATIONS, DRAWINGS, TABLES AND SCHEDULES.

ARC FLASH:

REFER TO AVAILABLE FAULT CURRENTS NOTED ON THE DRAWINGS AND PERFORM CALCULATIONAS AS REQUIRED TO APPLY FIELD MARKINGS FOR ARC FLASH INCLUDING RECOMMENDED MARKING REQUIREMENTS, BOUNDARIES AND DESCRIPTIONS. FIELD MARK DISTRIBUTION EQUIPMENT (SWITCHBOARDS, PANELBOARDS, CONTROL PANELS, AND MOTOR CONTROL CENTERS) WITH FLASH PROTECTION INFORMATION PER NATIONAL ELECTRICAL CODE ARTICLE 110.16, FLASH PROTECTION. INCLUDE CALCULATED RATINGS ON MARKINGS. PROVIDE ANY ADDITIONAL MARKINGS ON EQUIPMENT AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION. FIELD MARK FLASH PROTECTION BOUNDARIES RESULTING FORM CALCULATIONS PER NEPA 70E.

INSTALLATION AND METHODS OF EXECUTION:
ALL WIRING SHALL BE IN CONDUIT, MINIMUM ¾", FLEXIBLE METAL CONDUIT SHALL BE USED FOR SHORT CONNECTION TO MOTORS, FINAL CONNECTION TO RECESSED LIGHTING FIXTURES FORM RIGIDLY MOUNTE OUTLET BOX (NOT BETWEEN FIXTURES), VIBRATING EQUIPMENT, ETC., BUT NEVER LONGER THAN 6 FEET. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR ALL APPLICATIONS EXPOSED TO WATER OR WEATHER. PROVIDE ANIT-SHORT BUSHINGS FOR ALL FLEXIBLE CONDUIT ARMOR TERMINATIONS. PROVIDE SEPARATE EQUIPMENT GROUND WIRE IN ALL CONDUIT RUNS.

CONDUIT CONCEALED IN CEILING, WALLS OR FURRED SPACES OR EXPOSE IN DRY LOCATIONS SHALL BE EMT, THIN WALL ELECTRIC METALLIC TUBING. CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN SLAB, OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID. ALL CONDUITS SHALL BE HOT DIPPED GALVANIZED STEEL.

ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH NEC ARTICLE 500.

PLASTIC CONDUIT, PVC-40, SHALL BE USED ONLY AS INDICATED ON THE DRAWINGS. PLASTIC CONDUIT SHALL BE APPROVED FOR UNDERGROUND USE, PVC BURIAL DEPTH SHALL BE 36" MINIMUM BELOW FINISH GRADE. IN PVC CONDUIT SYSTEMS, RISERS ABOVEGROUND SHALL BE RIGID HEAVY WALL STEEL.

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC, EXACT ROUTING OF CONDUIT RUNS SHALL SUIT JOB CONDITIONS, EXPOSED CONDUIT SHALL BE RUN ONLY IN UNFINISHED AREAS SUBJECT TO FINAL APPROVAL OF ENGINEER AND SHALL RUN PARALLEL TO BUILDING LINES, NEVER DIAGONALLY.

CONNECTION TO EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH MANUFACTURERS' SHOP AND INSTALLATION DRAWINGS. REQUIREMENTS GENERALLY VARY FROM ON MANUFACTURER TO ANOTHER AND CONTRACTOR IS BOUND TO COMPLY AND PROVIDE ALL WORK AS REQUIRED ALTHOUGH CERTAIN DISCREPANCIES MAY EXIST REGARDING THE REQUIREMENT FROM ONE MANUFACTURER TO ANOTHER.

PROVIDE POWER WIRING, DISCONNECTS, AND PROTECTION DEVICES TO ALL MECHANICAL EQUIPMENT AND MAKE FINAL CONNECTIONS, INCLUDING TESTING OF MOTORS FOR PROPER ROTATION.

OUTLET BOXES MAY-BE SURFACE MOUNTED ON EXISTING WALL (CMU, BRICK OR CONCRETE) WITH SMALLEST SURFACE RACEWAY AS REQUIRED FOR WIRING INSTALLED. PROVIDE FLUSH OUTLET BOXES AND CONDUIT AT NEW CONSTRUCTION WALL AND AT EXISTING WALLS WHICH ARE NOT CMU BRICK OR CONCRETE CONSTRUCTION. CUT AND PATCH EXISTING WALLS AS REQUIRED FOR FLUSH INSTALLATION.

PROVIDE 4" TALL CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.

ALL WIRING LOCATED ABOVE THE SUSPENDED CEILING MUST BE SUPPORTED INDEPENDENTLY OF THE SUPPORT WIRES FOR THE SUSPENDED CEILING.

OUTLET BOXES ON OPPOSITE SIDES OF FIRE RESISTANT WALLS OR PARTITIONS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF TWENTY FOUR (24) INCHES.

ELECTRICAL OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANT RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANCE RATING PER ARTICLE 300.21 2017 NEC.

PROVIDE PROPER WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT AS REQUIRED PER NEC.

LIGHTING SPECIFICATIONS:

LED LIGHTING FIXTURES SHALL HAVE 5 YEAR WARRANTY, A COLOR RENDERING INDEX OF 90 OR HIGHER, 3500K COLOR TEMPERATURE UNLESS OTHERWISE INDICATED ON DRAWINGS, LIFETIME: 50,0000 HOURS OR GREATER AND MAINTAIN AT LEAST 70% OF INITIAL LUMEN OUTPUT, RATED FOR OUTDOOR USE AND WET LOCATION, IF IN OPEN FIXTURE.

SHALL POSSESS COLOR MANAGEMENT SYSTEM TO MAINTAIN COLOR CONSISTENCY OVER TIME AND TEMPERATURE OF NO GREATER THAN ±100K OVER LIFE.

REFER TO LIGHTING FIXTURE SCHEDULE ON ARCHITECTURAL REFLECTED CEILING PLANS FOR LED FIXTURES WITH DIMMING CONTROLS.

LED DRIVERS TO BE ELECTRONIC, HIGH POWER FACTOR, MIN. 0.9; UNIVERSAL VOLTAGE 120-277V; 5 YEAR WARRANTY, COMPATIBLE WITH THE LED LAMP OR MODULE USED.

FIRE ALARM SYSTEM - PERFORMANCE SPECIFICATION:
A/E WILL NOT SHOW DEVICES ON PLANS. SYSTEM'S QUALITY AND PERFORMANCE SHALL BE AS COVERED IN THESE SPECIFICATIONS.

SCOPE OF WORK:
PROVIDE A COMPLETE MANUAL/AUTOMATIC ADDRESSABE FIRE ALARM DETECTION AND NOTIFICATION SYSTEM INCLUDING ALL ADDITIONAL WORK FOR A COMPLETE, FUNCTIONING AND APPROVED INSTALLATION INCLUDING BUT NOT LIMITED TO THE FOLLOWING MAJOR ITEMS.

- SYSTEM DESIGN.
- DEVICE LOCATION.
- BATTERY CALCULATIONS.
- CIRCUIT VOLTAGE DROP CALCULATIONS.
- BUILDING PLANS WITH LOCATION OF ALL DEVICES AND EQUIPMENT.
- INTERFACE WITH OTHER SYSTEMS OF EQUIPMENT.
  - ELEVATORS FIRE SUPPRESSION AND POWER SHUTOFF.
  - AIR HANDLING UNITS SMOKE DETECTION.
  - FIRE CURTAINS AND SMOKE BARRIERS, FIRE AND SMOKE DAMPERS.
  - FIRE SUPPRESSION SYSTEM.
  - ANY OTHER FIRE RELATED DEVICES OR EQUIPMENT.
- SYSTEM RISER,
- LEGEND FOR ALL DEVICES AND EQUIPMENT SHOWN ON PLANS AND RISER.
- SYSTEM OPERATION MATRIX AND AS REQUIRED FOR FULL COMPLIANCE WITH REQUIREMENTS OF NFPA 72 AND APPLICABLE LOCAL, STATE AND NATIONAL RULES AND REGULATIONS.

EMPLOY THE SERVICES OF A QUALIFIED CERTIFIED FIRE ALARM CONTRACTOR/CONSULTANT TO PREPARE THE SYSTEM DESIGN AND RELATED CONSTRUCTION DOCUMENTS INCLUDING ALL RELATED CALCULATIONS, DEVICE PLACEMENT; AND INCLUDE COORDINATION WITH OTHER SUPPLIERS/CONTRACTORS SUCH AS DESIGH-BUILD FIRE PROTECTION INSTALLED FULLY COMPLETE WITH ALL INFORMATION AND RELATED DATA, AS REQUIRED, TO OBTAIN SYSTEM APPROVAL BY THE AUTHORITIES HAVING JURISDICTION. DETERMINE THE APPLICABLE AUTHORITIES HAVING JURISDICTION FOR PROJECT AND INCLUDE ALL IN PLAN REVIEW, PERMITTING, AND INSPECTION.

SURVEY EXISTING CONDITIONS PRIOR TO BID. COORDINATE WORK WITH BUILDING FINISHES AND WITH OTHER WORK BEING PERFORMED.

SYSTEM DESIGN SHALL PROVIDE FOR MINIMUM 25% SPARE CAPACITY ALL ACROSS IN THE FRONT END CONTROL EQUIPMENT AND IN EVERY CIRCUIT CAPACITY AND CONDUCTOR SIZING.

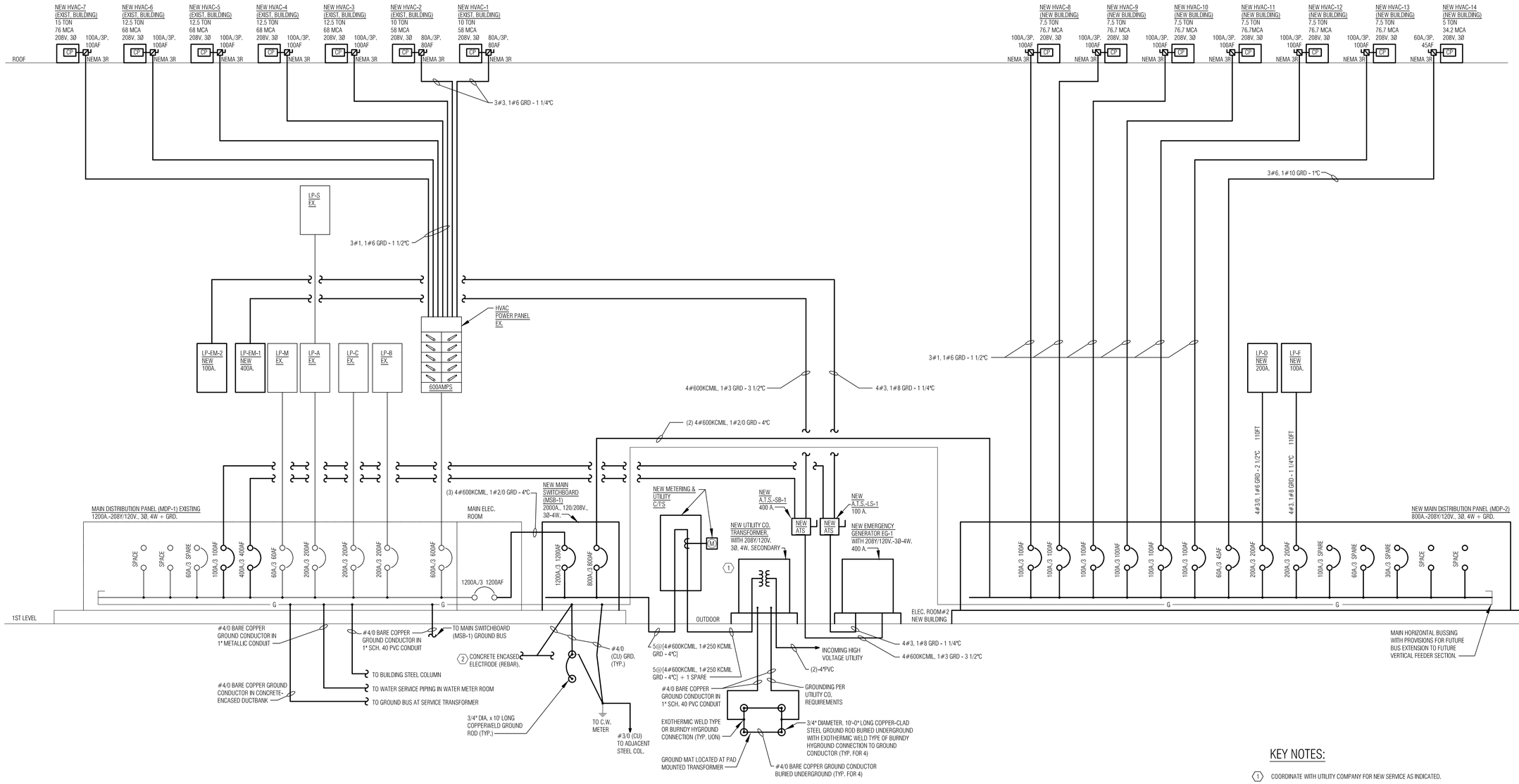
PROVIDE SYSTEM TESTING AND CORRECT ALL DEFECTS PRIOR TO FINAL DEMONSTRATION AND OWNER ACCEPTANCE.

PROVIDE FOUR (4) HOURS OF TRAINING IN OPERATION AND MAINTENANCE FOR TWO PERSONS AS SELECTED BY OWNER/USER.

SUBMITTALS TO THE AUTHORITIES HAVING JURISDICTION (AHJ):
THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION:

- FLOOR PLANS,
- LOCATION OF CONTROL AND ANNUNCIATION EQUIPMENT,
- LOCATION OF INITIATING DEVICES AND ALARM INDICATING APPLIANCES ON PLANS,
- POWER CONNECTION,
- SYSTEM RISER DIAGRAM.
- DEVICE CIRCUITING ON PLANS AND OR RISER,
- BATTERY CALCULATIONS,
- CIRCUIT CONDUCTORS, TYPE AND SIZE.
- VOLTAGE DROP CALCULATION FOR EVERY CIRCUIT WITH THE 25% SPARE CAPACITY INCLUDED.
- INTERFACE WITH OTHER SYSTEMS OF EQUIPMENT (CONTROL FUNCTIONS) AS REQUIRED, SPECIFIED OR NOTED,
- SYSTEM MATRIX FOR EVENTS (FUNCTIONAL MATRIX),
- MANUFACTURER DATA, CUTS, SHEETS, LISTING AND ALL RELATED INFORMATION FOR THE EQUIPMENT AND
- DEVICES PROVIDED FOR THE SYSTEMS.

ARCHITECTS/ENGINEERS REVIEW:
ARCHITECT/ENGINEER WILL REVIEW SYSTEM DOCUMENTS AFTER THEY HAVE BEEN APPROVED BY LOCAL AUTHORITY, INCLUDE PROOF O LOCAL AUTHORITY APPROVAL WITH A/E SUBMITTAL.
REVIEW WILL COVER GENERAL COM



ELECTRICAL ONE LINE DIAGRAM
SCALE: NO SCALE

KEY NOTES:

1. COORDINATE WITH UTILITY COMPANY FOR NEW SERVICE AS INDICATED.
2. BOND ALL CONCRETE ENCASED ELECTRODES OF THE NEW BUILDING ADDITION FOUNDATIONS TO THE GROUNDING ELECTRODE SYSTEM. ONLY ONE IS SHOWN IN DETAIL. COORDINATE WITH CONCRETE INSTALLER TO PROVIDE ELECTRODES WHICH REMAIN ACCESSIBLE AFTER POUR FOR BONDING.

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
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GBW WORLD DESIGN, INC.
CONSULTING ENGINEERS
BLOOMFIELD HILLS, MI 48302
TEL. 248-622-4156
GBW JOB NUMBER: 000226

ELECTRICAL ONE LINE DIAGRAM

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: NO SCALE
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER: E003

PANELBOARD: EMERGENCY GENERATOR LP-EM-1 (NEW WORK) MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 400 A. MLO FEEDER:
LOCATION: ELECTRICAL ROOM #1 124 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	OUTDOOR	GENERAL PURPOSE RECEPTACLES	R	200		
3	1	20	ITV ROOM	LIGHTING	L		1600	
5	1	20	SPARE					X
7	1	20	SMART ROOM	LIGHTING	L	720		
9	1	20	SMART ROOM	LIGHTING	L		432	
11	1	20	SMART PLUGS	GENERAL PURPOSE RECEPTACLES	R			1080
13	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
15	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
17	1	20	ITV ROOM	PROJECTOR	M			1000
19	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R	1080		
21	1	20	ROOM 121	PROJECTOR	M		1000	
23	1	20	ROOM 120	GENERAL PURPOSE RECEPTACLES	R			1080
25	1	20	ROOM 120	PROJECTOR	M	1000		
27	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	M		720	
29	1	20	CORRIDOR	WATER FOUNTAIN	M			400
31	1	20	SPARE			X		
33	1	20	ELECTRICAL ROOM	RISER FIRE ALARM	M		200	
35	1	20	ELEC/MECH ROOM		L			200
37	3				L	6200		
39			ELECTRICAL ROOM	LP-S	L		6200	
41		100			L			6200
2	1	20	CORRIDOR LIGHTS	LIGHTING	L	510		
4	1	20	CORRIDOR LIGHTS	LIGHTING	L		510	
6	1	20	COMPUTER LAB ROOM	PROJECTOR	M			1000
8	1	20	COMPUTER LAB ROOM	LIGHTING	L	1280		
10	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
12	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R			720
14	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
16	1	20	TEACHER'S LOUNGE 120	GENERAL PURPOSE RECEPTACLES	R		1600	
18	1	20	TEACHER'S LOUNGE 120	GENERAL PURPOSE RECEPTACLES	R			1600
20	1	20	CLASSROOM 119	GENERAL PURPOSE RECEPTACLES	R	1600		
22	1	20	CLASSROOM 119	PROJECTOR	M		1000	
24	1	20	SPARE					X
26	1	20	SPARE			X		
28	1	20	CORRIDOR	GENERAL PURPOSE RECEPTACLES	R		1080	
30	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R			720
32	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
34	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
36	1		ELECTRICAL ROOM	HEATER	A			1150
38		30			A	1150		
40	1	20	WATER ROOM	HEATER	A		2500	
42		30			A			2500

CONNECTED KVA: 102.3
CONNECTED AMPS: 284.2 Phase Watts: 34,040 34,140 34,140
DEMAND KVA: 81.8
DEMAND AMPS: 227.2 57% Loaded

PANELBOARD: EMERGENCY GENERATOR LP-EM-2 (NEW WORK) MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 100 A. MLO FEEDER: 4-#3/0 ÷ 1-#6 G
LOCATION: ELECTRICAL ROOM #1 124 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	THROUGH-OUT BUILDING	EXITS, EMERGENCY LIGHTING	L	1600		
3	1	20	OUTDOOR	OUTDOOR LIGHTING	L		1800	
5	1	20	THROUGH-OUT BUILDING	LIGHTING	L			1600
7	1	20	SPARE			X		
9	1	20	SPARE				X	
11	1	20	SPARE					X
13	1	20	SPARE			X		
15	1	20	SPARE				X	
17	1	20	SPARE					X
19	1	20	SPARE			X		
21	1	20	SPARE				X	
23	1	20	SPARE					X
2	1	20	THROUGH-OUT BUILDING	FIRE ALARM	R	800		
4	1	20	THROUGH-OUT BUILDING	LIGHTING	L		1600	
6	1	20	SPARE					x
8	1	20	SPARE			x		
10	1	20	SPARE				x	
12	1	20	SPARE					x
14	1	20	SPARE			x		
16	1	20	SPARE				x	
18	1	20	SPARE					x
20	1	20	CLASSROOM 140	GENERAL PURPOSE RECEPTACLES	R	x		
22	1	20	CLASSROOM 141	GENERAL PURPOSE RECEPTACLES	R		X	
24	1	20	SPARE					X

CONNECTED KVA: 7.4
CONNECTED AMPS: 20.6 Phase Watts: 2,400 3,400 1,600
DEMAND KVA: 7.4
DEMAND AMPS: 20.6 21% Loaded

PANELBOARD: LP-D (NEW WORK) MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 200 A. MLO FEEDER: 4-#3/0 ÷ 1-#6 G
LOCATION: ELECTRICAL ROOM #2 147 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	CLASSROOM 148	GENERAL PURPOSE RECEPTACLES	R	1080		
3	1	20	CLASSROOM 149	GENERAL PURPOSE RECEPTACLES	R		1080	
5	1	20	CLASSROOM 150	GENERAL PURPOSE RECEPTACLES	R			1080
7	3				A	1667		
9			VESTIBULE #2	ECUH-2	A		1667	
11		20			A			1667
13	1	20	ROOMS 145,146, & 147	GENERAL PURPOSE RECEPTACLES	R	1080		
15	1	20	RESTROOMS 145	HAND DRYER	A		1500	
17	1	20	RESTROOMS 146	HAND DRYER	A			1500
19	3				W	1000		
21			RESTROOMS 145 & 146	EDWH-1 Water Heater	W		1000	
23		20			W			1000
25	1	20	EWC 143	GENERAL PURPOSE RECEPTACLES	R	340		
27	1	20	RESTROOMS 145 & 146	GENERAL PURPOSE RECEPTACLES	R		60	
29	1		OUTDOOR	SITE SIGN	R			800
31		30			R	800		
33	1		OUTDOOR	SITE SIGN	R		800	
35		30			R			800
37	1	20	SPARE			X		
39	1	20	SPARE				X	
41	1	20	SPARE					X
2	1	20	RESTROOMS 145 & 146	GENERAL PURPOSE RECEPTACLES	R	1080		
4	1	20	CLASSROOM 141	GENERAL PURPOSE RECEPTACLES	R		1080	
6	1	20	CLASSROOM 142	GENERAL PURPOSE RECEPTACLES	R			1080
8	3				A	1667		
10			VESTIBULE #3	ECUH-1	A		1667	
12		20			A			1667
14	1	20	STORAGE 138, CORR. 143	GENERAL PURPOSE RECEPTACLES	R	800		
16	1		ELECTRICAL ROOM 147	EUH-1 HEATER	A		1150	
18		30			A			1150
20	1		OUTDOOR	SITE SIGN	R	800		
22		30			R		800	
24	1		OUTDOOR	SITE SIGN	R			800
26		30			R	800		
28	1		OUTDOOR	SITE SIGN	R		800	
30		30			R			800
32	1		OUTDOOR	SITE SIGN	R	800		
34		30			R		800	
36	1	20	SPARE					X
38	1	20	SPARE			X		
40	1	20	SPARE				X	
42	1	20	SPARE					X

CONNECTED KVA: 34.3
CONNECTED AMPS: 95.2 Phase Watts: 11,914 10,804 11,544
DEMAND KVA: 27.4
DEMAND AMPS: 76.2 38% Loaded

MAIN DISTRIBUTION PANEL SCHEDULE MDP-2 (NEW WORK)

120/208V.M 3PH., 4W ÷ G, 800A/3P.

Circ. No.	Breaker Frame	Trip	Equipment	CONNECTED LOAD (KVA)	DEMAND LOAD (KVA)	FEEDER SIZE
1	200A./3P.	200A.	LP-D	34.3	27.4	2"C., 4-#3/0 & 1-#6 G
2	100A./3P.	100A.	LP-E	12.2	27.2	1 1/4"C., 4-#3 & 1-#8 G
3	100A./3P.	100 A.	HVAC-8	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
4	100A./3P.	100 A.	HVAC-9	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
5	100A./3P.	100 A.	HVAC-10	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
6	100A./3P.	100 A.	HVAC-11	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
7	100A./3P.	100 A.	HVAC-12	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
8	100A./3P.	100 A.	HVAC-13	27.6	22.1	1 1/4"C., 4-#3 & 1-#8 G
9	65A./3P.	45 A.	HVAC-14	12.3	9.8	1"C., 4-#6 & 1-#10 G
10	-	-	-	-	-	

TOTAL CONNECTED LOAD: 224.4 KVA 197.0 KVA
TOTAL DEMAND LOAD: 623.3 A. 547.2 A.

PANELBOARD: LP-F (NEW WORK) MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 100 A. MLO FEEDER: 4-#3/0 ÷ 1-#6 G
LOCATION: ELECTRICAL ROOM #2 147 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	CLASSROOM 148	LCD PROJECTOR	E	1000		
3	1	20	CLASSROOM 149	LCP PROJECTOR	E		1000	
5	1	20	CLASSROOM 150	LCP PROJECTOR	E			1000
7	1	20	CLASSROOM 148	LIGHTING	L	536		
9	1	20	CLASSROOM 149	LIGHTING	L		585	
11	1	20	CLASSROOM 150	LIGHTING	L			585
13	1	20	ROOM 143	CORRIDOR LIGHTING	L	774		
15	1	20	OUTDOOR WALLS	LIGHTING	L		225	
17	1	20	CORRIDOR	EWC	E			780
19	1	20	ROOF	EF-1	M	125		
21	1	20	SPARE				X	
23	1	20	SPARE					X
2	1	20	CLASSROOM 140	LCD PROJECTOR	E	1000		
4	1	20	CLASSROOM 141	LCD PROJECTOR	E		1000	
6	1	20	CLASSROOM 142	LCP PROJECTOR	E			1000
8	1	20	CLASSROOM 140	LIGHTING	L	585		
10	1	20	CLASSROOM 141	LIGHTING	L		585	
12	1	20	CLASSROOM 142	LIGHTING	L			585
14	1	20	ROOM 145 & 146	BATHROOM LIGHTING	L	207		
16	1	20	ELECTRICAL ROOM 147	LIGHTING	L		142	
18	1	20	OUTDOOR WALLS	LIGHTING	L			360
20	1	20	ROOF	EF-2	M	125		
22	1	20	SPARE				X	
24	1	20	SPARE					X

CONNECTED KVA: 12.2
CONNECTED AMPS: 33.9 Phase Watts: 4,352 3,537 4,310
DEMAND KVA: 27.2
DEMAND AMPS: 75.6 38% Loaded

PANELBOARD: LP-A EXISTING MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 225 A. MLO FEEDER:
LOCATION: ELECTRICAL ROOM #1 124 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	SMART ROOM	RECESSED LIGHTING	L	1536		
3	1	20	ITV ROOM	LIGHTING	L		912	
5	1	20	SPARE					X
7	1	20	SMART ROOM	LIGHTING	L	720		
9	1	20	SMART ROOM	LIGHTING	L		432	
11	1	20	GENERAL PLUGS	GENERAL PURPOSE RECEPTACLES	R			1080
13	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
15	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
17	1	20	ITV ROOM	PROJECTOR	M			1000
19	1	20	ITV ROOM	GENERAL PURPOSE RECEPTACLES	R	1080		
21	1	20	ROOM 121	PROJECTOR	M		1000	
23	1	20	ROOM 120	GENERAL PURPOSE RECEPTACLES	R			1080
25	1	20	ROOM 120	PROJECTOR	M	1000		
27	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	M		720	
29	1	20	CORRIDOR	WATER FOUNTAIN	M			400
31	1	20	SPARE			X		
33	1	20	ELECTRICAL ROOM	RISER FIRE ALARM	M		200	
35	1	20	ELEC/MECH ROOM		L			200
37	3				L	6200		
39			ELECTRICAL ROOM	LP-S	L		6200	
41		100			L			6200
2	1	20	CORRIDOR LIGHTS	LIGHTING	L	510		
4	1	20	CORRIDOR LIGHTS	LIGHTING	L		510	
6	1	20	COMPUTER LAB ROOM	PROJECTOR	M			1000
8	1	20	COMPUTER LAB ROOM	LIGHTING	L	1280		
10	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
12	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R			720
14	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
16	1	20	TEACHER'S LOUNGE 120	GENERAL PURPOSE RECEPTACLES	R		1600	
18	1	20	TEACHER'S LOUNGE 120	GENERAL PURPOSE RECEPTACLES	R			1600
20	1	20	CLASSROOM 119	GENERAL PURPOSE RECEPTACLES	R	1600		
22	1	20	CLASSROOM 119	PROJECTOR	M		1000	
24	1	20	SPARE					X
26	1	20	SPARE			X		
28	1	20	CORRIDOR	GENERAL PURPOSE RECEPTACLES	R		1080	
30	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R			720
32	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R	720		
34	1	20	COMPUTER LAB ROOM	GENERAL PURPOSE RECEPTACLES	R		720	
36	1		ELECTRICAL ROOM	HEATER	A			1150
38		30			A	1150		
40	1	20	WATER ROOM	HEATER	A		2500	
42		30			A			2500

CONNECTED KVA: 53.2
CONNECTED AMPS: 147.8 Phase Watts: 17,236 18,314 17,650
DEMAND KVA: 42.6
DEMAND AMPS: 118.3 53% Loaded

PANELBOARD: LP-B EXISTING MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 225 A. MLO FEEDER:
LOCATION: CLASSROOM 127 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	SPARE			X		
3	1	20	SPARE				X	
5	1	20	CLASSROOM 4	LIGHTING	L			552
7	1	20	CLASSROOM 3	LIGHTING	L	408		
9	1	20	CLASSROOM 2	LIGHTING	L		552	
11	1	20	CLASSROOM 1	LIGHTING	L			408
13	1	20	CLASSROOM 4	GENERAL PURPOSE RECEPTACLES	R	900		
15	1	20	CLASSROOM 3	GENERAL PURPOSE RECEPTACLES	R		1080	
17	1	20	CLASSROOM 2	GENERAL PURPOSE RECEPTACLES	R			1080
19	1	20	CLASSROOM 1	GENERAL PURPOSE RECEPTACLES	R	900		
21	1	20	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R		1080	
23	1	20	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R			1080
25	1	20	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R	1080		
27	1	20	LECTURE AUDITORIUM	PROJECTOR	M		1000	
29	1	20	MEN'S RESTROOM	GENERAL PURPOSE RECEPTACLES	R			80
31	1	20	ROLL-UP SCREEN	GENERAL PURPOSE RECEPTACLES	R	1600		
33	1	20	SPARE				X	
35	1	20	SPARE					X
37	1	20	SPARE			X		
39	1	20	SPARE				X	
41	1	20	SPARE					X
2	1	20	LECTURE AUDITORIUM	LIGHTING	L	1920		
4	1	20	LECTURE AUDITORIUM	LIGHTING	L		1920	
6	1	20	LECTURE AUDITORIUM	LIGHTING	L			1920
8	1	20	LAB ROOM	LIGHTING	L	1152		
10	1	20	LAB ROOM	GENERAL PURPOSE RECEPTACLES	R		1080	
12	1	20	LAB ROOM	GENERAL PURPOSE RECEPTACLES	R			1080
14	3				A	1667		
16			VESTIBULE #1 101	ECUH-3	A		1667	
18		30			A			1667
20	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R	2400		
22	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R		2400	
24	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R			2400
26	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R	2400		
28	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R		2400	
30	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R			2400
32	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R	2400		
34	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R		2400	
36	1	30	LECTURE AUDITORIUM	GENERAL PURPOSE RECEPTACLES	R			3200
38	1	20	SPARE			X		
40	1	20	SPARE				X	
42	1	20	SPARE					X

CONNECTED KVA: 48.3
CONNECTED AMPS: 134.2 Phase Watts: 16,827 15,579 15,867
DEMAND KVA: 38.6
DEMAND AMPS: 107.4 47% Loaded

PANELBOARD: LP-C EXISTING MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 225 A. MLO FEEDER:
LOCATION: STORAGE 117 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1	20	CONFERENCE ROOM	LIGHTING	L	112		
3	1	20	FACULTY OFFICE	LIGHTING	L		144	
5	1	20	CONFERENCE/RECEPTING	LIGHTING	L			428
7	1	20	OFFICE	LIGHTING	L	340		
9	1	20	COPIER		M		1440	
11	1	20	CONFERENCE ROOM	GENERAL PURPOSE RECEPTACLES	R			540
13	1	20	WORK ROOM	GENERAL PURPOSE RECEPTACLES	R	1080		
15	1	20	FACULTY OFFICE	GENERAL PURPOSE RECEPTACLES	R		540	
17	1	20	FACULTY OFFICE	LIGHTING	L			144
19	1	20	BREAK RM 121,WORK 118	GENERAL PURPOSE RECEPTACLES	R	1800		
21	1	20	OFFICE 3	GENERAL PURPOSE RECEPTACLES	R		720	
23	1	20	OFFICE 2	GENERAL PURPOSE RECEPTACLES	R			720
25	1	20	OFFICE 1	GENERAL PURPOSE RECEPTACLES	R	720		
27	1	20	OFFICES 110,111,114,115	GENERAL PURPOSE RECEPTACLES	R		1400	
29	1	20	SECURITY OFFICE	GENERAL PURPOSE RECEPTACLES	R			720
31	1	20	GENERAL	GENERAL PURPOSE RECEPTACLES	R	1080		
33	1	20	DOOR OPENERS		M		200	
35	1		ENTRANCE HEATER	HEATER	A			1500
37		20					1500	
39	1	20	SPARE				X	
41	1	20	SPARE					X
2	1	20	PENDANT LIGHTS	LIGHTING	L	450		
4	1	20	COVE LIGHTS	LIGHTING	L		400	
6	1	20	JANITOR & COMMON AREA	GENERAL PURPOSE RECEPTACLES	R			1080
8	1	20	ROOFTOP GFI	GENERAL PURPOSE RECEPTACLES	R	180		
10	1	20	SECURITY OFFICE	LIGHTING	L		700	
12	1	20	FIRE ALARM		A			100
14	1	20	OFFICE	GENERAL PURPOSE RECEPTACLES	R	1080		
16	1	20	RECEPTION	GENERAL PURPOSE RECEPTACLES	R		540	
18	1	20	RECEPTION	GENERAL PURPOSE RECEPTACLES	R			540
20	1	20	VENDING MACHINE		M	350		
22	1	20	VENDING MACHINE		M		800	
24	1	20	VENDING MACHINE		M			350
26	1	20	VENDING MACHINE		M	800		
28	1	20	EWCS (3)		M		1110	
30	1	20	COMMON AREA	GENERAL PURPOSE RECEPTACLES	R			1080
32	1	20	REFRIGERATOR		M	700		
34	1	20	SIGN		R		500	
36	1	20	OFFICES 107,108,109	GENERAL PURPOSE RECEPTACLES	R			1000
38	1	20	SPARE			X		
40	1		WATER HEATER		M		2,500	
42		20			M			2,500

CONNECTED KVA: 31.9
CONNECTED AMPS: 88.6 Phase Watts: 10,192 10,994 10,702
DEMAND KVA: 25.5
DEMAND AMPS: 70.9 32% Loaded

PANELBOARD: LP-S (EXISTING) MOUNTING: SURFACE
VOLTAGE: 208Y/120V., 3 PHASE, 4 WIRE ÷ G AIC: 10,000
MAIN: 100 A. MLO FEEDER: 4-#3/0 ÷ 1-#6 G
LOCATION: ELECTRICAL ROOM 124 SPD EQUIPPED: NO

Circ. No.	Pole	Breaker Trip	Location	Load Information Description	Code	Connected VA Phase A	Phase B	Phase B
1	1		OUTDOOR	WEST POLES LIGHTS	L	850		
3		20			L		850	
5			OUTDOOR	EAST POLES LIGHTS	L			780
7		20			L	780		
9	1		OUTDOOR	SOUTH POLES LIGHTS	L		1050	
11		20			L			1050
13	1		OUTDOOR	POLES LIGHTS	L	800		
15		20			L		800	
17	1		OUTDOOR	POLES LIGHTS	L			800
19		20			L	800		
21	1		LAWN IRRIGATION PUMP		M		1000	
23		20			M			1000
25	3				R	1667		
27			OUTDOOR	CLOCK CONTROL & HEATER	R		1667	
29		20			R			1667
31	1		OUTDOOR	CLOCK LED BACKLIGHTING	L	1000		
33		20			L		1000	
35	1		OUTDOOR	CLOCK HEAVY MECHANISM	R			500
37		20			R	500		
39	1	20	SPARE				X	
41	1	20	SPARE					X
2	1	20	OUTDOOR	OUTSIDE LIGHTS TIMER	R	800		
4	1	20	OUTDOOR	OUTSIDE LIGHTS SOUTHWEST	L		400	
6	1	20	OUTDOOR	OUTSIDE LIGHTS SOUTH	L			800
8	1	20	OUTDOOR	OUTSIDE LIGHTS NORTH	L	800		
10	1	20	OUTDOOR	OUTSIDE LIGHTS WEST	L		800	
12	1	20	OUTDOOR	OUTSIDE LIGHTS NORTH	L			800
14	1	20	OUTDOOR	OUTSIDE LIGHTS EAST	L	600		
16	1	20	ELECTRICAL ROOM#1 124	FIRE ALARM PANEL	A		400	
18	1	20	OUTDOOR	GENERAL PURPOSE RECEPTACLES	R			800
20	1	20	OUTDOOR	GENERAL PURPOSE RECEPTACLES	R	800		
22	1	20	OUTDOOR	GENERAL PURPOSE RECEPTACLES	R		800	
24	1	20	OUTDOOR	GENERAL PURPOSE RECEPTACLES	R			800
26	1		OUTDOOR	NORTH & WEST LIGHTING	L	615		
28		20			L		615	
30	1	20	SPARE					X
32	1	20	SPARE			X		
34	1	20	SPARE				X	
36	1	20	SPARE					X
38	1	20	SPARE			X		
40	1	20	SPARE				X	
42	1	20	SPARE					X

CONNECTED KVA: 28.4
CONNECTED AMPS: 78.8 Phase Watts: 10,012 9,382 8,997
DEMAND KVA: 22.7
DEMAND AMPS: 63.0 63% Loaded

NOTE:
FIELD VERIFY EXACT LOCATION AND ARRANGEMENT OF EXISTING PANELS, BREAKERS AND CIRCUITS. LABEL ACCORDINGLY.

DETROIT ARCHITECT
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GBW WORLD DESIGN, INC.
CONSULTING ENGINEERS
BLOOMFIELD HILLS, MI 48302
TEL. 248-662-4156
GBW JOB NUMBER: 000226

ELECTRICAL PANEL SCHEDULES

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD. HARPER WOODS, MI 48225

ISSUE SCHEDULE

ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

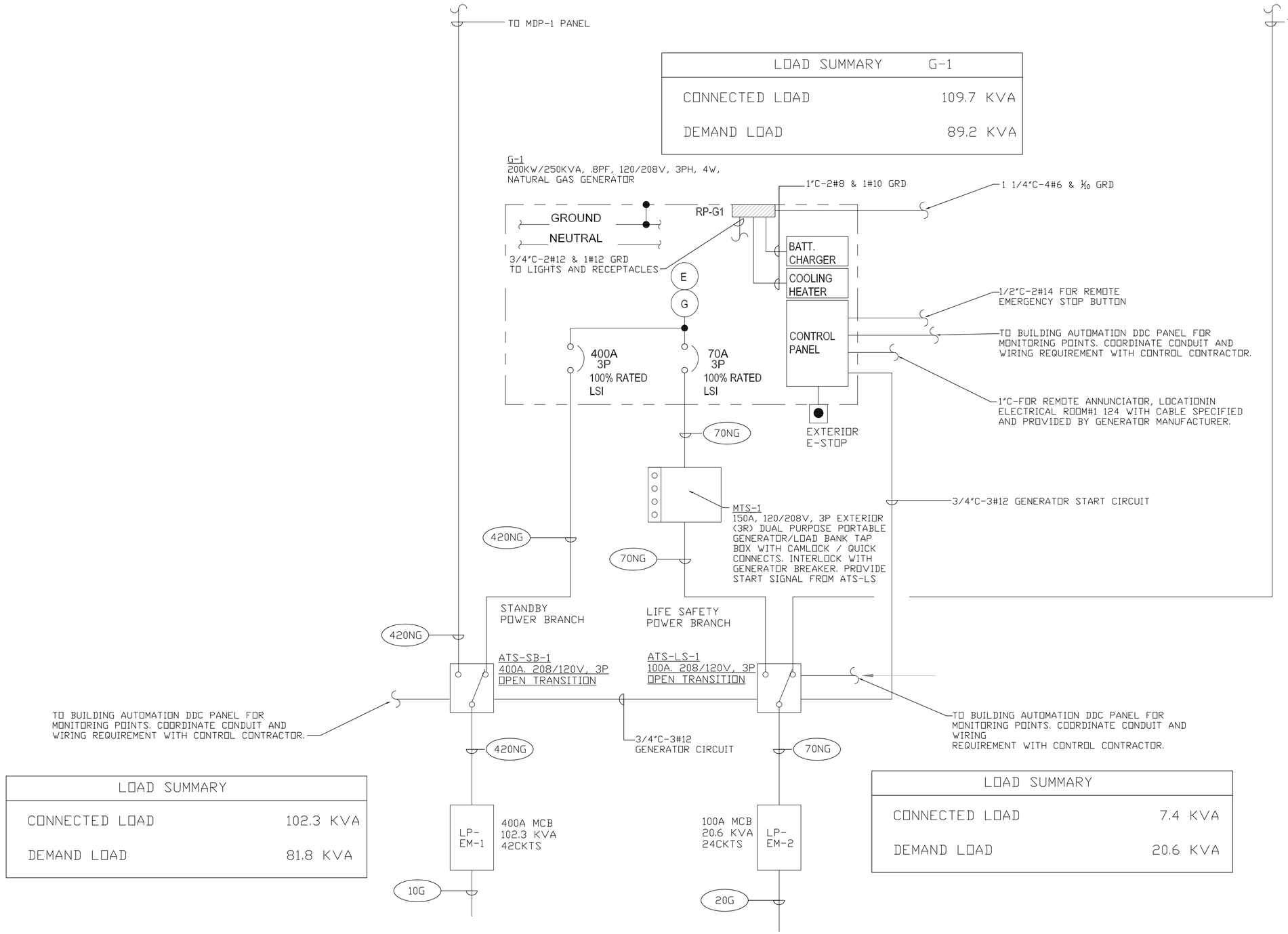
REVISION SCHEDULE

REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY:	DATE:
BAW	05/01/2026
DESIGNED BY:	SCALE:
BAW	NO SCALE
CHECKED BY:	JOB NUMBER:
BAW	2601

SHEET NUMBER:
E004



ELECTRICAL GENERATOR RISER DIAGRAM
NO SCALE

DETROIT ARCHITECT
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ELECTRICAL GENERATOR RISER DIAGRAM

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD. HARPER WOODS, MI 48225

ISSUE SCHEDULE

ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
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REVISION SCHEDULE

REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: NO SCALE
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER:
E005

GENERAL NOTES FOR DETAILS 1, 2, AND 3:
1. LABEL EACH RECEPTACLE TO INDICATE WHICH PLUG IS "SENSOR CONTROLLED". ANY RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC CONTROL DEVICE MUST BE MARKED c/o THE CONTROLLED RECEPTACLE OUTLET WHERE VISIBLE AFTER INSTALLATION AS STATED IN NFPA 70-2017 ARTICLE 406.3(E).

2. THE TIME DELAY FOR AUTOMATIC SHUTOFF OF THE CONTROLLED RECEPTACLES SHALL BE LONGER THAN THE TIME DELAY FOR AUTOMATIC SHUTOFF OF THE SPACE LIGHTING, BUT SHALL NOT EXCEED THE APPLICABLE ASHRAE 90.1 TIME LIMITS. COORDINATE TIME DELAY SETTING WITH THE LIGHTING DESIGN. WHERE THE TIME DELAY FOR THE LIGHTING SYSTEM MEETS OR EXCEEDS THE TIME LIMIT FOR CONTROLLED RECEPTACLES PER LIGHTING EXCEPTIONS, SET THE CONTROLLED RECEPTACLE TIME DELAY AT THE APPLICABLE ASHRAE 90.1 TIME LIMIT.

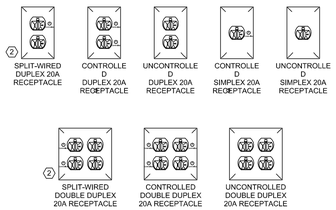
3. GROUND CONDUCTOR IS OMITTED FROM DIAGRAMS FOR SIMPLICITY.

4. WHERE RECEPTACLES ON A GIVEN YOKE IS SPLIT-WIRED, REMOVE THE TABS/JUMPERS BETWEEN RECEPTACLES AND CIRCUIT INDIVIDUALLY.

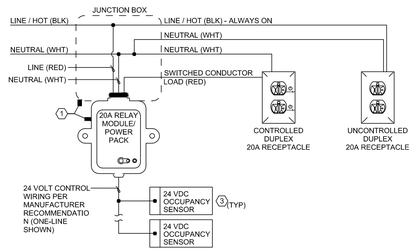
② KEYED NOTES FOR DETAILS 1, 2, AND 3:
1. CONTROLLER AND JUNCTION BOX SHALL BE INSTALLED ABOVE CEILING.

2. WHERE SPLIT-WIRED RECEPTABLES ARE SHOWN, THE FOLLOWING OUTLETS SHALL BE CONTROLLED:
- DUPLEX: TOP RECEPTACLE ON YOKE; REMOVE YOKE JUMPERS.
- QUADLEX: LEFT YOKE RECEPTACLES.

3. CONTRACTOR SHALL DESIGN AND INSTALL OCCUPANCY SENSOR SYSTEM TO AVOID DEAD ZONES IN COVERAGE. COVERAGE SHALL INCLUDE THE FOOTPRINT OF THE FURNITURE AS SHOWN ON THE CONSTRUCTION DOCUMENTS PLUS 5'-0" IN ALL DIRECTIONS (OR TO THE WALL, WHICHEVER IS SHORTER). ADDITIONAL POWER PACKS MAY BE REQUIRED. OCCUPANCY SENSOR LOCATIONS SHALL BE COORDINATED WITH OTHER CEILING DEVICES.

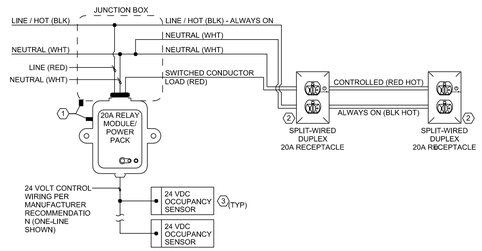


1 EP503 RECEPTACLE CONTROL SCHEMES
N.T.S.



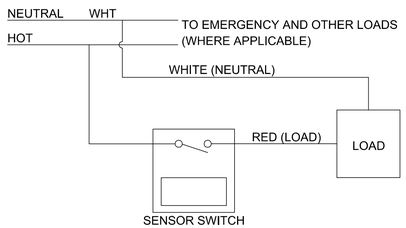
NOTE: MAXIMUM NUMBER OF SENSORS PER POWER PACK MAY VARY BETWEEN MANUFACTURERS.

2 EP503 FULL RECEPTACLE CONTROL
N.T.S.



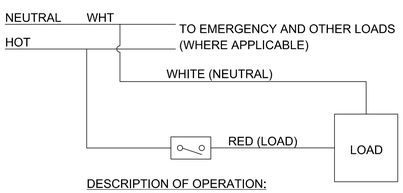
NOTE: MAXIMUM NUMBER OF SENSORS PER POWER PACK MAY VARY BETWEEN MANUFACTURERS.

3 EP503 SPLIT-WIRED DUPLEX RE
N.T.S.



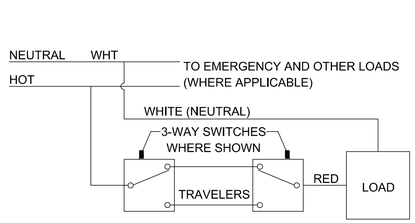
DESCRIPTION OF OPERATION:
MANUAL ON VIA SENSOR SWITCH.
MANUAL/AUTO OFF VIA SENSOR SWITCH.

WALL SWITCH VACANCY SENSOR
N.T.S.

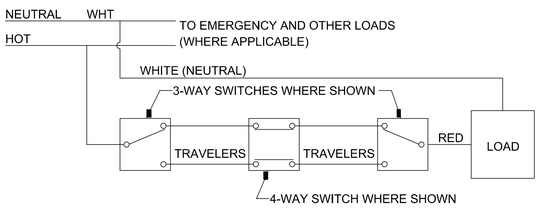


DESCRIPTION OF OPERATION:
MANUAL ON VIA SWITCH.
MANUAL OFF VIA SWITCH.

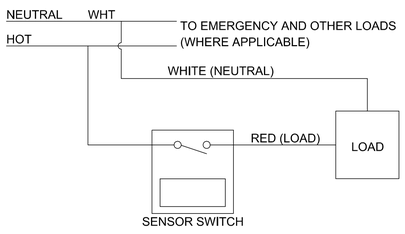
WALL TOGGLE SWITCH
N.T.S.



THREE-WAY TOGGLE SWITCH
N.T.S.

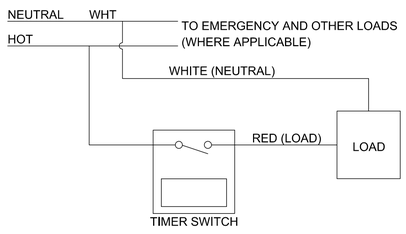


FOUR-WAY TOGGLE SWITCH
N.T.S.



DESCRIPTION OF OPERATION:
AUTO ON VIA SENSOR SWITCH.
MANUAL/AUTO OFF VIA SENSOR SWITCH.

WALL SWITCH OCCUPANCY SENSOR
N.T.S.



DESCRIPTION OF OPERATION:
MANUAL ON VIA TIMER SWITCH.
MANUAL/AUTO OFF VIA TIMER SWITCH.
TIMER SHALL TURN OFF LIGHTS AUTOMATICALLY AFTER 15 MINUTES.

WALL TIMER SWITCH
N.T.S.

Scope: Interior spaces, exterior building features and building grounds. Interior lighting alterations where 10% or more of the connected lighting is altered.

Automatic off controls

9.4.1.1(h) **Automatic full off** • Auto off within 20 min • Control area can be no more than 5,000ft²	**Primary exceptions:** • Shop and classroom laboratories • Where auto off would endanger safety or security • Lighting for 24 / 7 operations	**Required in:** • Classrooms • Lecture • Training rooms • Conference • Copy / Print rooms • Meeting • Multipurpose rooms • Lounge • Break rooms • Private offices • Restrooms • Storage rooms • Janitorial closets • Locker rooms • Office <= 250ft² • Storage rooms >=50 to <= 1,000ft²
9.4.1.1(g) **Automatic partial off** • Automatically reduce general lighting <=50% within 20min of occupants leaving. Automatic full off complies	**Primary exceptions:** **All** three conditions must be met; • LPD no more than .8W/ft² • Spaces lit by HID lamps • Light power reduced by >=30% within 20 min after leaving	
9.4.1.1(i) **Scheduled shut off** • Lighting not already shut off by automatic full off control must be shut off when scheduled unoccupied; • Time schedule or other control device signal • Control area <= 25,000ft² but not more than one floor • Override <= 2 hrs and area <= 5,000ft²	**Primary exceptions:** • Lighting for patient care • Where auto off would endanger safety or security • Lighting for 24 / 7 operation	
9.4.1.1.(b) and 9.4.1.1(c) **Manual or partial auto on** • Lighting shall either be manual on or auto on to no more than 50% of the general lighting	**Primary exceptions:** • Where full auto on is permitted, manual on or partial auto on is not required	**Lighting full on only permitted in:** Corridors, Restrooms, Healthcare facility, Storage rooms <50ft², Stairwells, Lobbies, Electrical / mech rooms, Where manual on would endanger safety or security

Manual controls

9.4.1.1(a) **Local control device** One or more manual control devices in a space: • Readily accessible • Can see lighting controlled from local device (can be on / off switch or dimmer)	**Primary exceptions:** • Remote control devices permitted for safety or security, provided it has a status pilot light and is labeled to identify lights controlled	**Is the space <= 10,000ft²:** • Yes – control area must be <= 2,500ft² • No – control area must be <= 10,000ft²

Daylight responsive controls

9.4.1.1(e) and 9.4.1.1(f)
Daylight-responsive controls
• Either continuous dimming or at least one step between 50-70% and a second step between 20-40% or lowest dimmed level
• Turns off all controlled lighting
  • **Sidelighting** –two independent zones
  • **Toplighting** – single primary zone under skylights and monitors
	Primary exceptions:
	Sidelight:
	• Adjacent structure obstruction
	• Glazing < 20ft²
	• Retail spaces
	Toplight:
	• Obstruction > 1,500 hrs/year
	• Skylight visual transmittance < 0.4
	• Climate zone 8 and lighting < 200W
		Is Primary daylight area lighting >= 150W or Is Primary & Secondary daylight area lighting >= 300W
		• Yes – Daylight control **required** (choose dimming or step control)
		• No – Daylight control **NOT required**

9.4.1.1(d) **Bi-level control** • Besides on and off, lighting is either continuously dimmed or controlled with at least one step between 30% and 70% of full lighting power	**Primary exceptions:** • Atriums < 20ft ht • Corridors • Elec / mech rooms • Storerooms • Loading docks • Restrooms • Lobbies	**Choose one:** • Bi-level switching • Continuous dimming

Specific application controls

9.4.1.3 **Specific application controls** • Lighting that must be separately controlled from the space's general lighting	**Primary exceptions:** • None	**Required in:** • Display and accent • Lighting in display cases • Supplemental task lighting • Under cabinet / shelf lighting • Lighting equipment for sales • Lighting education or demonstration • Plant growth • Food warming
8.4.2 **Automatic receptacle control** • At least 50% of receptacles and 25% of feeders to modular furniture shall auto off by either; • Time schedule - <= 2hr override, control area <= 5,000ft² • Occ sensor with 20 min off delay • Automated signal that shall auto off receptacles within 20 min	**Primary exceptions:** • Equipment operating 24 / 7 • Where auto control would endanger safety or security	**Required in:** • Private offices • Print / copy rooms • Individual workstations • Conference rooms • Break rooms • Classrooms

Exterior lighting controls

9.4.1.4
Exterior lighting controls
• Exterior lighting automatically turn off when daylight is present
• Façade or landscape lighting shall have automatic off no later than midnight or business closing and 6AM or business opening
• All other lighting must be automatically reduced by >30% by
  • No later than midnight to 6AM
  • 1hr after business close to 1hr before open
  • When unoccupied for 15 minutes
	Primary exceptions:
	• Lighting for covered vehicle entrances / exits and parking structures
	• Lighting integral to signage
		Required in:
		• Parking lot
		• Area lighting
		• Site lighting

9.4.1.2
Parking garage lighting control
• Automatic lighting shut off per 9.4.1.1(i)
• Automatic reduce lighting >= 30%
  • No activity for 20min
  • Area controlled <= 3,600ft²
• Covered vehicle entrances and exits have separate controls to reduce lighting <=50% from sunset to sunrise
• Within 20ft of perimeter wall openings, automatically reduce lighting power in response to daylight		

Functional testing

9.4.3 **Functional testing** Lighting controls tested for proper calibration, adjustment, programming, and working condition Test requirements; • Occupant sensor controls (9.4.3(a)) • Time-switch controls (9.4.3(b)) • Daylight responsive controls (9.4.3(c))	Testing individual shall not be involved with project design or construction and must provide certifying documentation showing lighting control performance criteria	

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GBW JOB NUMBER: 000226

ELECTRICAL DETAILS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: NO SCALE
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER: E006

LIGHTING FIXTURES SCHEDULE:

TYPE	DISCRIPTION
"A"	2' X 2' RECESSED TROFFER LED, 31 WATTS, 3953 LUMENS, RIBBED FROSTED ACRYLIC LENS, 120-277V, SINGLE ELEMENT FUSE, 3500°K, 80 CRI, 0-10V DIMMING, 1 DRIVER, METALUX CRUZE ST #22CZ2-39-UNV-GL-L835-CD1-U OR APPROVED EQUAL.
"B"	CUBIC SURROUNDLITE PENDANT SPOTLESS LENS, 4' UNV DP, 120-277V., 3000°K, 4000 LUMENS PER 4' LINEAR, 33.6 WATT PER 4' LINEAR, 8.1W/FT, 80 CRI, 0-10V DIMMING, 50,000 HOURS, 80% UP, 20% DOWN, AXIS LIGHTING CUBLED #LTLEDSL80/20-1000-80-30-SO-4 UNV DP-0S 4' OR APPROVED EQUAL.
"C"	CEILING SUSPENDED LED MOON ROUND IN A 1° DISK, 3' SUSPENSION, 3 SILVER COLORED METAL SUSPENSION CABLES TRANSPRENT, POWER CABLE, 2' DIAMETER CENTRAL LENS, URG 22, 28 WATTS, 2500 LUMENS, 90% CRI, 3000°K, 89LM/W, DIMMABLE 1-1-VDC.
"D"	RECESSED EV06 GENERAL ILLUMINATION ROUND DOWNLIGHT 6" APERTURE LED, 120-277VAC, 3000 LUMENS, 28 WATTS, 3500°K CCT, 90% CRI, 0-10VDC, DOWNLIGHT, 1.2 S:MH. #EV06-35/30-6AR-WD-LSS-12-EZ10 GOTHAM LIGHTING OR APPROVED EQUAL.
"E"	INDUSTRIAL TYPE LIGHTING FIXTURE FOR THE ELECTRICAL ROOM WITH HIGH IMPACT DIFFUSER, SURFACE MOUNT, 4 FEET LONG, 5814 LUMENS, 71 WATTS, 120-277, DIMMABLE, 4000°K, 65% CRI, COOPER LIGHTING: VT-LD2-58DR-UNV.840 OR APPROVED EQUAL.
"F"	RECESSED DOWNLIGHT 6" APERTURE LED, 120-277VAC, 5345 LUMENS, 49 WATTS, 5000°K CCT, DIMMABLE, 90% CRI, 0-10VDC, DOWNLIGHT, LITHONIA LIGHTING: LDN6 ALD4-SWITCHABLE OR APPROVED EQUAL.
"G"	WALL MOUNTED TWO-LIGHT SCONCE 120-277VAC, 120 WATTS, 5000°K CCT, DIMMABLE, 5000°K, 90% CRI, 0-10VDC, DOWNLIGHT, KOHLER LIGHTING: K-27263-SC02 PURIST TWO-LIGHT SCONCE UNIT SWITCHABLE OR APPROVED EQUAL.
"H"	RECESSED DOWNLIGHT 3" APERTURE LED, 120-277VAC, 1500 LUMENS, 24.9 WATTS, 4000°K CCT, DIMMABLE, 90% CRI, 0-10VDC, DOWNLIGHT, LITHONIA LIGHTING: LDN3-40/15-L03-AR-LSS-MVOLT-UGZ-90CRI SWITCHABLE OR APPOVED EQUAL.
"I"	RECESSED DOWNLIGHT 12" APERTURE LED, 120-277VAC, 5345 LUMENS, 49 WATTS, 5000°K CCT, DIMMABLE, 90% CRI, 0-10VDC, DOWNLIGHT, LITHONIA LIGHTING: LBR12-ALO4-SWW1-AR-LSS-MWD-MVOLT-UGZ-90CRI SWITCHABLE OR APPOVED EQUAL.
"OA"	MEDIUM FULL CUT-OFF LED WALL PACK OUTDOOR FLOOD LIGHT 45 WATTS, 4500 LUMENS, FROSTED TEMPERED FLAT GLASS INTEGRATED LENS, 120-277V, 4000°K, 80 CRI, 0-10V DIMMING, BRONZE, TO REPLACE 150W-250W MH, ORACLE LIGHTING OWF-FC-201-LED-4500L-MVOLT-40K-BZ OR APPROVED EQUAL.
"EM"	EUCC THERMOPLASTIC EMERGENCY LIGHT, WALL OR CEILING MOUNTING, UV-STABLE IMPACT RESISTANT MEETS UL 94V-0 FLAME RATING, TWO 6 WATTS, 120V WITH MINIMUM OF 90 MINUTES OF EMERGENCY MODE ILLUMINATION. MEETS OR EXCEEDS UL924, NFPA 101, NEC, AND OSHA ILLUMINATION STANDARDS. ASTRALITE. EUCC OR APPROVED EQUAL.
"X"	LED EXIT SIGN, SUPPLIED WITH 2 FACEPLATES AND ONE BACK PLATE, SURFACE CEILING MOUNT, UV STABILIZED THERMOPLASTIC BODY, UNIVERSAL DIRECTIONAL ARROW KNOCKOUTS OR FIELD SELECTABLE CHEVRONS, FULLY OVERLAPPING LIGHT SEAL, 6" HIGH RED LETTERS, 25 YEAR LIFE LED LAMPS, MULTI VOLT INPUT 120-277VAC, 2.5 WATTS MAX., 6 VOLT SEALED MAINTENANCE-FREE BATTERY, UL 942 LISTED, DAMP LOCATIONS, 10 TO 40°C, UL 94, 5VA FLAME RATED, 90 MINUTE DISCHARGE, 24 HOUR RECHARGE. DIMENSIONS 11.8" X 2" X 7.25", LIGHTALARMS #UDLX0500-R OR APPROVED EQUAL.

KEY NOTES:

1. REPLACE ALL CEILING TILES, REPLACE 2' X 2' LAY IN LIGHTING FIXTURES, RELAMP ALL DOWNLIGHTS, HANGING LIGHTS, PENDANT LIGHTS, AND FLUORESCENT BULBS WITH NEW LED BULBS.
2. WIRE EMERGENCY AND EXIT LIGHTS TO SAME ROOM OR AREA NORMAL LIGHTING CIRCUIT AHEAD OF ANY LOCAL SWITCHING AND/OR AUTOMATIC LIGHTING CONTROL.
3. PROVIDE COMPLETE AUTOMATIC LIGHTING CONTROL TO COMPLY WITH MICHIGAN ENERGY CODE BASED ON 2019 ASHRAE 90.1 INCLUDING OCCUPANCY SENSORS, TIME SWITCHES, POWER PACKS...ETC AS REQUIRED.
4. LIGHTING SWITCHES N THE NEW OFFICE AREA ARE INTEGRAL WITH THE GLASS WALL PANEL. CONTRACTOR TO INSTALL AND WIRE THE DEVICES ONLY.

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

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GBW JOB NUMBER: 000226

SHEET NAME: ELECTRICAL FLOOR PLAN LIGHTING

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: BAW	DATE: 05/01/2026
DESIGNED BY: BAW	SCALE: 1/8" = 1'-0"
CHECKED BY: BAW	JOB NUMBER: 2601

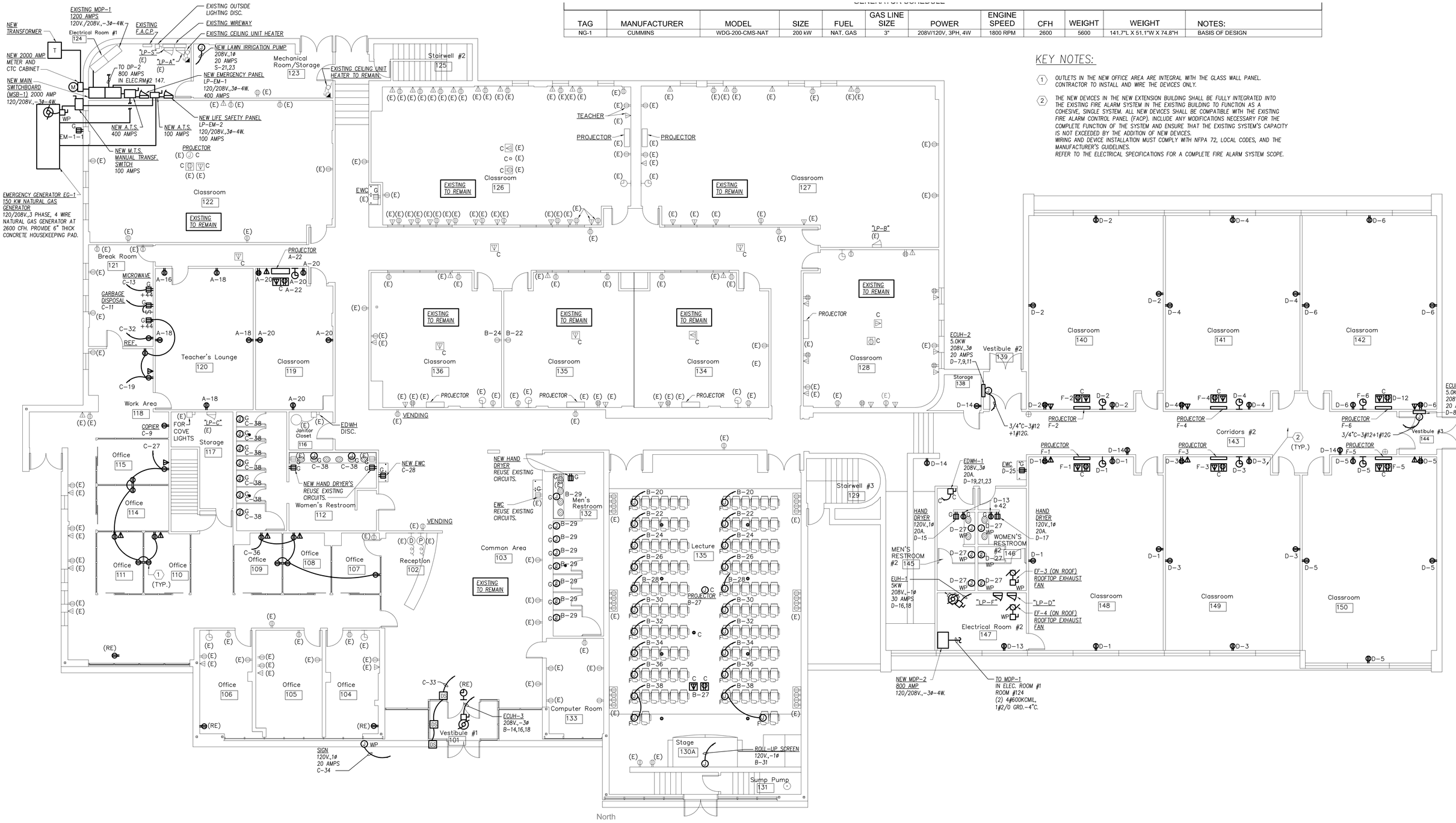
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GENERATOR SCHEDULE

TAG	MANUFACTURER	MODEL	SIZE	FUEL	GAS LINE SIZE	POWER	ENGINE SPEED	CFH	WEIGHT	WEIGHT	NOTES:
NG-1	CUMMINS	WDG-200-CMS-NAT	200 kW	NAT. GAS	3"	208V/120V, 3PH, 4W	1800 RPM	2600	5600	141.7"L X 51.1"W X 74.8"H	BASIS OF DESIGN

KEY NOTES:

1. OUTLETS IN THE NEW OFFICE AREA ARE INTEGRAL WITH THE GLASS WALL PANEL. CONTRACTOR TO INSTALL AND WIRE THE DEVICES ONLY.
2. THE NEW DEVICES IN THE NEW EXTENSION BUILDING SHALL BE FULLY INTEGRATED INTO THE EXISTING FIRE ALARM SYSTEM IN THE EXISTING BUILDING TO FUNCTION AS A COHESIVE, SINGLE SYSTEM. ALL NEW DEVICES SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM CONTROL PANEL (FACP). INCLUDE ANY MODIFICATIONS NECESSARY FOR THE COMPLETE FUNCTION OF THE SYSTEM AND ENSURE THAT THE EXISTING SYSTEM'S CAPACITY IS NOT EXCEEDED BY THE ADDITION OF NEW DEVICES.
WIRING AND DEVICE INSTALLATION MUST COMPLY WITH NFPA 72, LOCAL CODES, AND THE MANUFACTURER'S GUIDELINES.
REFER TO THE ELECTRICAL SPECIFICATIONS FOR A COMPLETE FIRE ALARM SYSTEM SCOPE.



ELECTRICAL FLOOR PLAN POWER AND SYSTEMS
SCALE: 1/8" = 1'-0"

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SHEET NAME: ELECTRICAL FLOOR PLAN POWER AND SYSTEMS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
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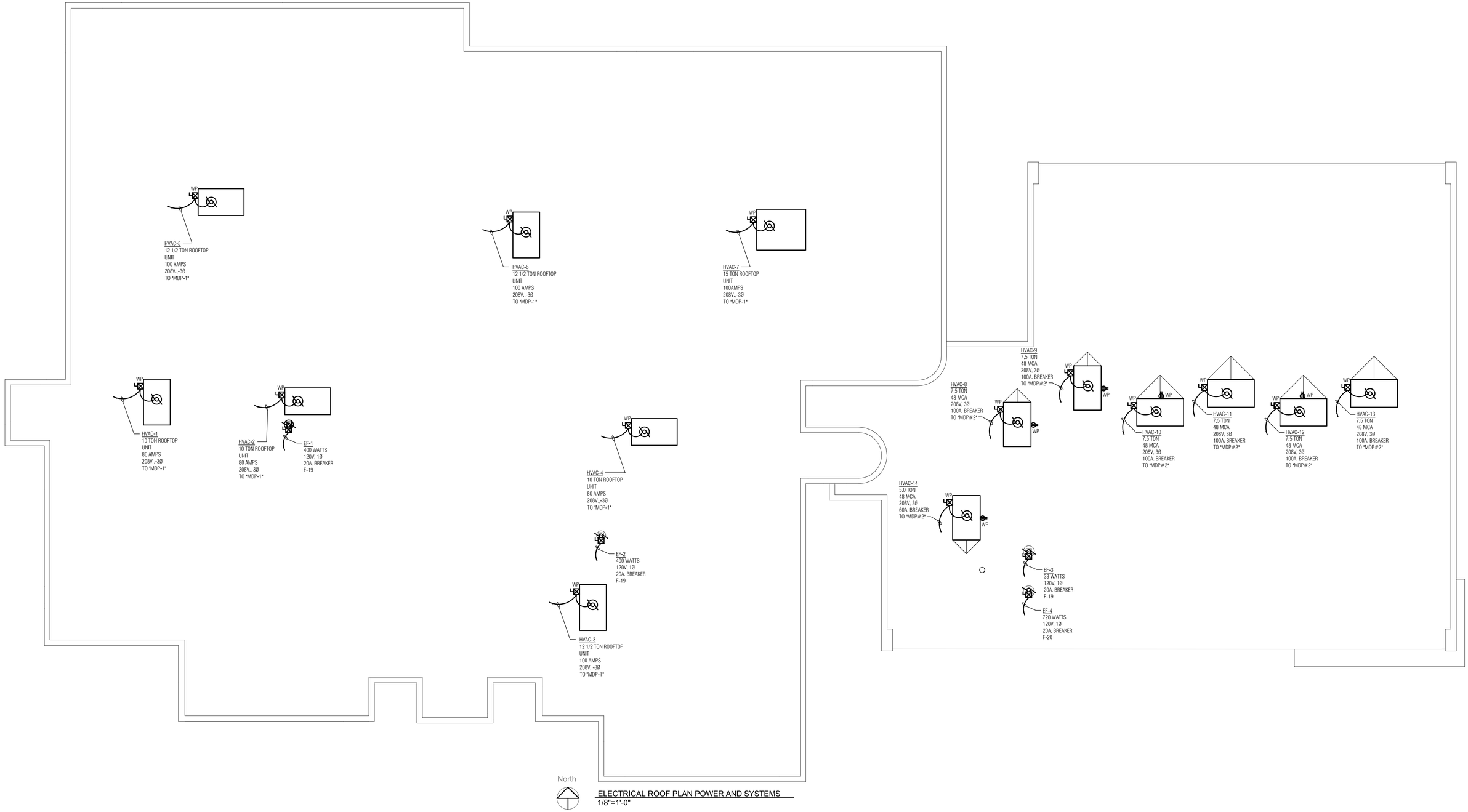
ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

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SHEET NUMBER: E200



ELECTRICAL ROOF PLAN POWER AND SYSTEMS
1/8"=1'-0"

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SHEET NAME:
ELECTRICAL ROOF PLAN POWER AND SYSTEMS

PROJECT NAME:
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MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
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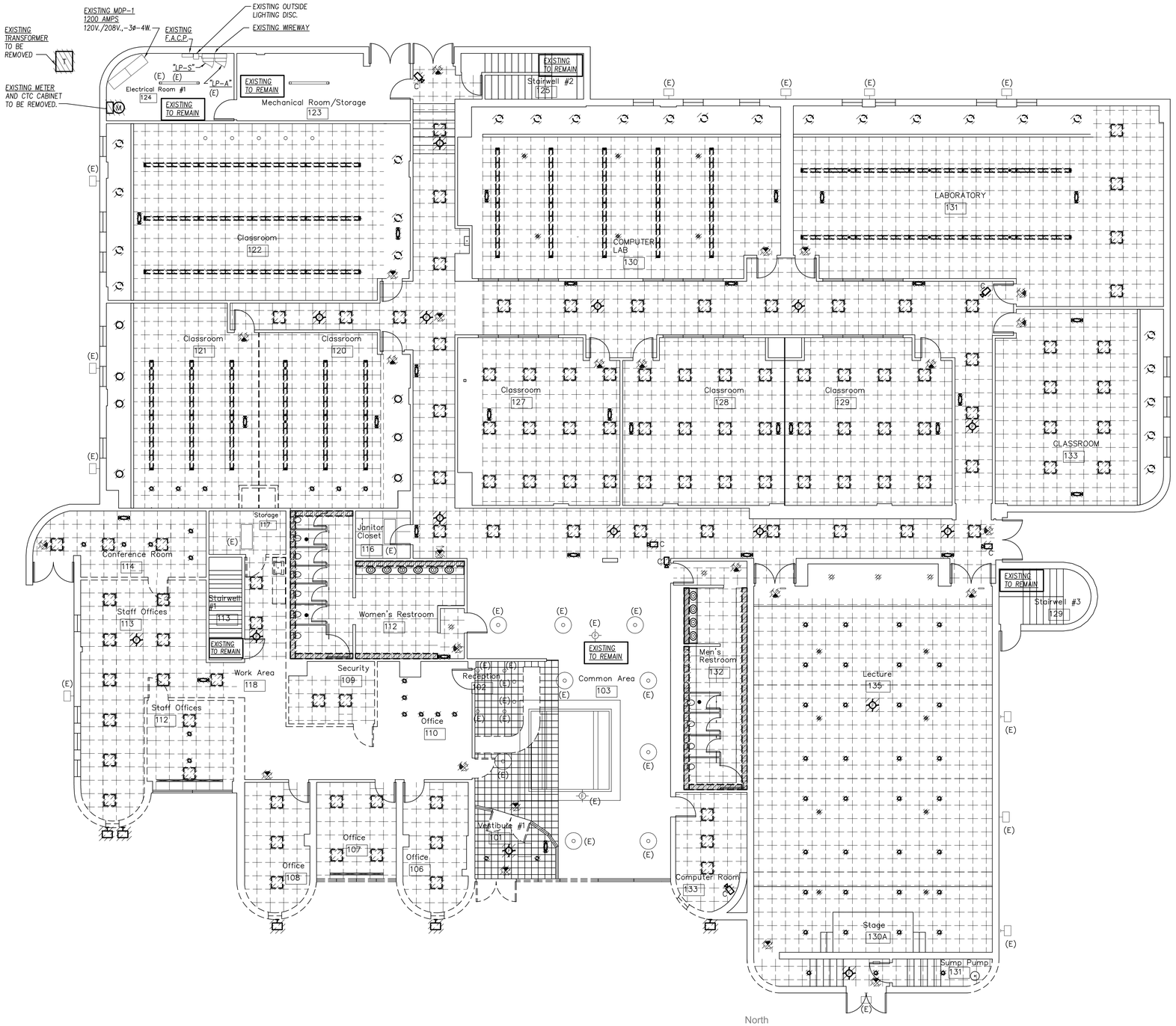
ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
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DESIGNED BY: BAW	SCALE: 1/8" = 1'-0"
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER:
E300



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

KEY NOTES:

1. REPLACE ALL CEILING TILES, REPLACE 2' X 2' LAY IN LIGHTING FIXTURES, RELAMP ALL DOWNLIGHTS, HANGING LIGHTS, PENDANT LIGHTS, AND FLUORESCENT BULBS WITH NEW LED BULBS.
2. WIRE EMERGENCY AND EXIT LIGHTS TO SAME ROOM OR AREA NORMAL LIGHTING CIRCUIT AHEAD OF ANY LOCAL SWITCHING AND/OR AUTOMATIC LIGHTING CONTROL.
3. ALL CROSSHATCHED ITEMS ARE TO BE REMOVED.

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GBW JOB NUMBER: 000226

SHEET NAME: ELECTRICAL DEMOLITION FLOOR PLAN LIGHTING

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

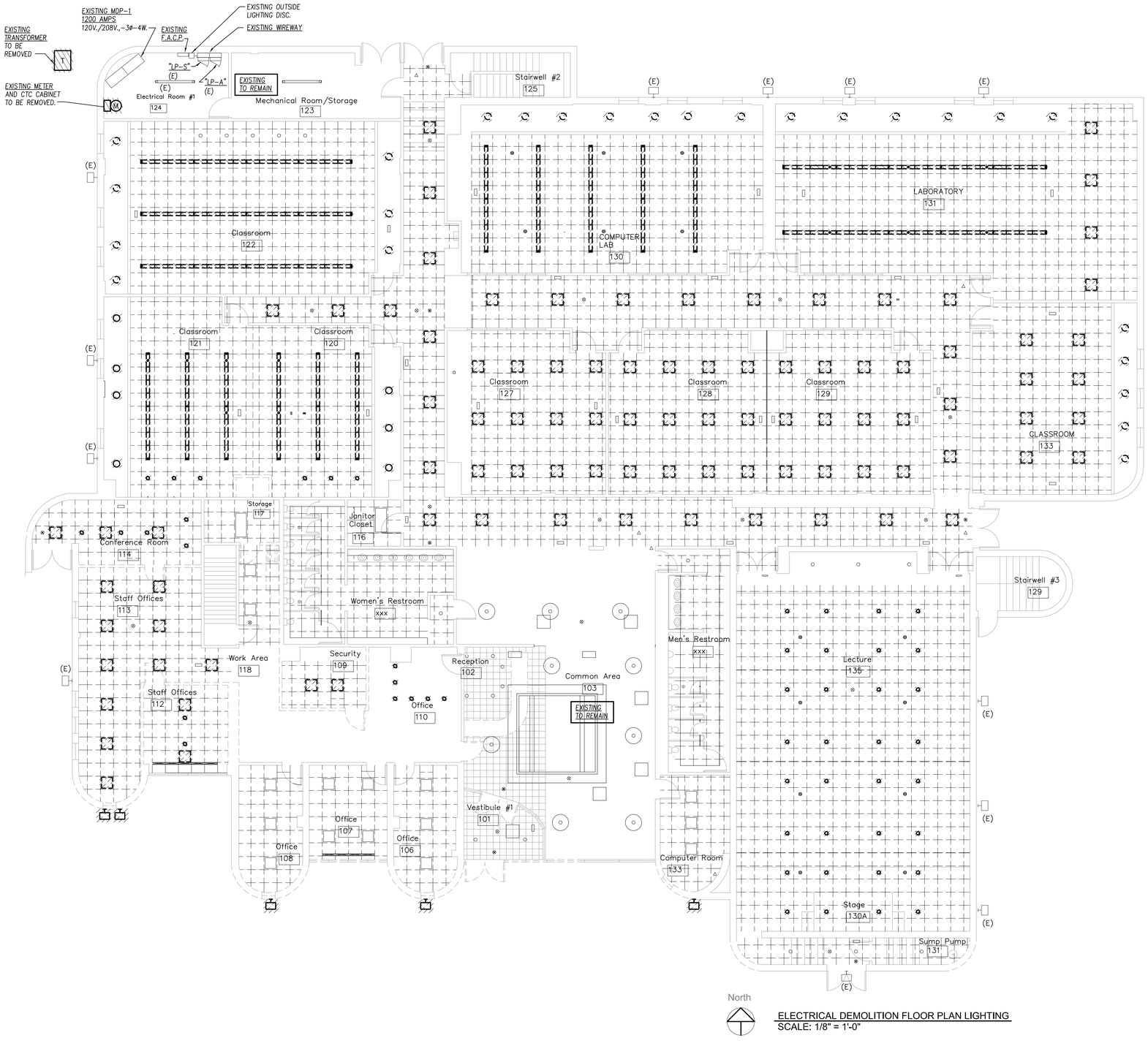
ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

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DESIGNED BY: BAW	SCALE: 1/8" = 1'-0"
CHECKED BY: BAW	JOB NUMBER: 2601

SHEET NUMBER: ED100



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

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ELECTRICAL DEMOLITION FLOOR PLAN LIGHTING

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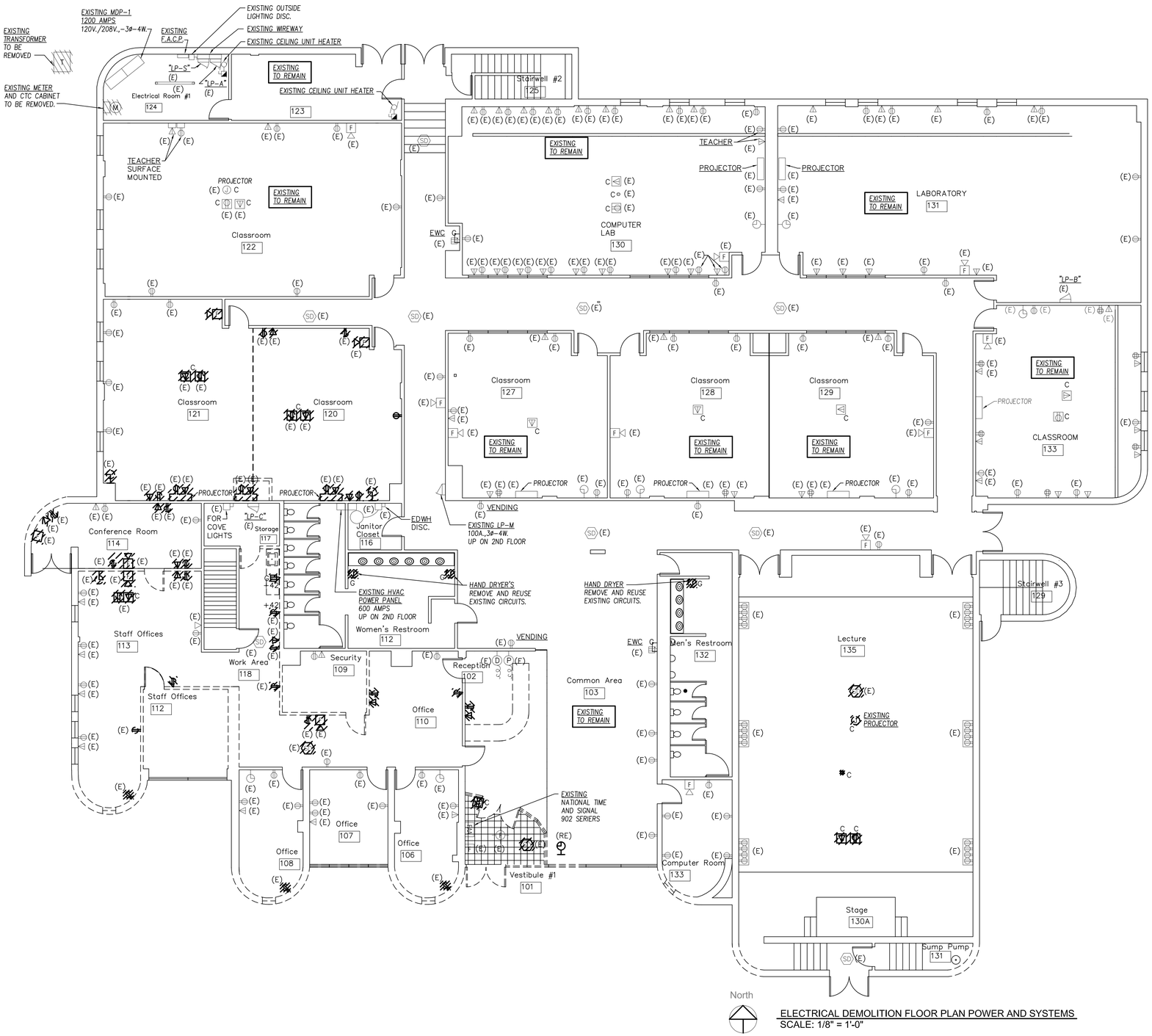
ISSUE SCHEDULE	
ISSUED FOR	DATE
OWNER REVIEW	08/09/2024
100% OWNER REVIEW	05/01/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

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DESIGNED BY: BAW	SCALE: 1/8"=1'-0"
CHECKED BY: BAW	JOB NUMBER: 2601

ED100



ELECTRICAL DEMOLITION FLOOR PLAN POWER AND SYSTEMS
SCALE: 1/8" = 1'-0"

KEY NOTES:

(1) ALL CROSSHATCHED ITEMS ARE TO BE REMOVED.

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SHEET NAME: ELECTRICAL DEMOLITION FLOOR PLAN POWER AND SYSTEMS

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
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EXISTING 6" WET-PIPE SPRINKLER SYSTEM TO REMAIN IN PLACE FIELD VERIFY FLOW AND SIZE OF MAIN PRIOR TO CONSTRUCTION. A NEW LARGER SERVICE MAY BE REQUIRED IF REQUIRED FOR THE NEW ADDITION. PROVIDE AND INSTALL NEW FIRE SUPPRESSION MAIN.

PROVIDE AND INSTALL NEW FIRE SUPPRESSION CONTROL VALVE AS REQUIRED TO SUPPORT THE NEW ADDITION ON THE EAST END OF THE BUILDING. THE FIRE SUPPRESSION CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING HYDRAULIC CALCULATIONS FIELD VERIFY EXACT SIZE AND PRESSURE OF SERVICE PRIOR.

FIRE HAZARD CLASSIFICATIONS

1. PROVIDE NEW ZONE CONTROL VALVE AND CONNECT TO EXISTING SYSTEM
2. CONNECT TO EXISTING SYSTEM HEADS AND PIPING IN THESE AREAS.
3. OBTAIN A LOCAL HYDRANT FLOW TEST FROM THE CITY INDICATING THE GPM, RESIDUAL PRESSURE, STATIC PRESSURE ETC. (REQUIRED INFORMATION FOR HYDRAULIC CALCULATIONS BY THE SPRINKLER CONTRACTOR)

Electrical Room #1 124
Mechanical Room/Storage 123
Stairwell #2 125
Classroom 122
Classroom 126
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North

MECHANICAL FLOOR PLAN FIRE PROTECTION
1/8"=1'-0"

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SHEET NAME: MECHANICAL FLOOR PLAN FIRE PROTECTION

PROJECT NAME:
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

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MECHANICAL ABBREVIATIONS LIST

AC	AIR CONDITIONING
AD	ACCESS DOOR
ADD'L	ADDITIONAL
ADL	ACOUSTICAL DUCT LINER
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ARCH	ARCHITECT
BDD	BACK DRAFT DAMPER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CD	CEILING DIFFUSER
CF	CEILING FAN
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLG	CEILING
CLR	CLOSED LOOP (HEAT PUMP) WATER RETURN
CLS	CLOSED LOOP (HEAT PUMP) WATER SUPPLY
CO	CLEAN-OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONTR	CONTRACTOR
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CU	CONDENSING UNIT
CUF	CUBIC FEET
DB	DRY BULB TEMPERATURE
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DN	DOWN
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
ECH	ELECTRIC CABINET HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
ELEV	ELEVATION
EMER	EMERGENCY
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXP	EXPANSION
FA	FREE AREA
FB	FAN BOX
FD	FLOOR DRAIN
FG	FIBERGLASS
FLEX	FLEXIBLE
FPM	FEET PER MINUTE
FSD	FIRE SMOKE DAMPER W/ACCESS DOORS
FT	FEET
FURN	FURNISHED
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GD	GRAVITY DAMPER
GRD	GRADE (GROUND)
HD	HEAD
HGT	HEIGHT
HP	HORSEPOWER
HP	HEAT PUMP UNIT
HR	HOUR
HV	HEATING & VENTILATING UNIT
HX	HEAT EXCHANGER
HZ	HERTZ
IL	INTAKE LOUVER
IN	INCHES
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LD	LINEAR DIFFUSER
LF	LINEAR FEET
LUVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MF'R	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OAU	OUTSIDE AIR UNIT
OD	OUTSIDE DIAMETER
PCF	POUNDS PER CUBIC FOOT
PD	PRESSURE DROP
PLBG	PLUMBING
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
PSIG	POUNDS PER SQUARE INCH GAUGE
RET	RETURN
REQ'D	REQUIRED
REQ'S	REQUIREMENTS
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RLF	RELIEF
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
SAN	SANITARY
SCH	SCHEDULE
SCR	SCREEN
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SH	SHOWER
SGD	SLIDE GATE DAMPER
SPECS	SPECIFICATIONS
SQ	SQUARE
SQFT	SQUARE FEET
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
STL	STEEL
SUP	SUPPLY
TC	TEMPERATURE CONTROL
TEMP	TEMPERATURE
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TR	TRANSFER
TYP	TYPICAL
UC	UNDERCUT DOOR
V	VENT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
W	WIDTH
W/	WITH
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WMS	WIRE MESH SCREEN

PIPING LEGEND

- BALL VALVE
- BALL VALVE WITH MEMORY STOP (BALANCING VALVE)
- BALL VALVE WITH HOSE BIBB, CAP & CHAIN
- BUTTERFLY VALVE
- BUTTERFLY VALVE WITH MEMORY STOP (BALANCING VALVE)
- GLOBE VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- CHECK VALVE/NON RETURN VALVE
- STRAINER W/BALL VALVE, HOSE BIBB & CAP
- END CAP
- RISE (SINGLE LINE – PLAN VIEW)
- DROP (SINGLE LINE – PLAN VIEW)
- TOP TAKEOFF
- BOTTOM TAKEOFF
- PIPE BREAK (SINGLE LINE)
- UP — PITCH PIPE UP IN DIRECTION OF FLOW
- DN — PITCH PIPE DOWN IN DIRECTION OF FLOW
- D — DRAIN
- DCW — DOMESTIC COLD WATER
- DHW — DOMESTIC HOT WATER
- SAN — SANITARY OR WASTE BURIED
- V — VENT
- HHWR — HHWR (HEATING HOT WATER RETURN)
- HHWS — HHWS (HEATING HOT WATER SUPPLY)
- FLOW METER
- AUTOMATIC FLOW CONTROL VALVE (PRESSURE INDEPENDENT)
- COMBINATION CALIBRATED BALANCE/ SHUTOFF VALVE WITH MEMORY STOP AND PLUGGED DRAIN PORT
- ON/OFF SOLENOID
- THREE WAY CONTROL VALVE/MIX VALVE
- PRESSURE RELIEF VALVE
- PRESSURE GAUGE
- POSITION SWITCH
- TEMPERATURE SENSOR
- THERMOMETER WITH WELL
- PIPING UNDER THE FLOOR / FUTURE
- NEW PIPING
- BFP — BACK FLOW PREVENTER
- AV — AIR VENT VALVE
- SEISMIC EXPANSION LOOP

DUCTWORK SYMBOLS LIST

SINGLE LINE	DOUBLE LINE
SUPPLY DUCT UP	
SUPPLY DUCT DOWN	
OR — STANDARD RADIUS ELBOW (R = W) SUPPLY / RETURN EXHAUST	R = W
SPLIT TAKE-OFF W/ BRANCH DAMPERS SUPPLY	
OR — BULLHEAD SPLIT SUPPLY	GOOD FOR TAKEOFF TO RING DUCT
CEILING DUCT MTD. DIFF/GRILLE	
TAKEOFF TO DIFF/GRILLE	HARD ELBOW
CEILING DUCT MTD. DIFF/GRILLE	
ACOUSTICALLY LINED DUCT	

SINGLE LINE	DOUBLE LINE
RETURN/EXHAUST DUCT UP	
RETURN/EXHAUST DUCT DOWN	
HORIZONTAL OFFSET SUPPLY/RETURN /EXHAUST	
RISE/DROP — RISE OR DROP SUPPLY/RETURN/ EXHAUST	RISE/DROP
45° TAP TAKE-OFF	
90° TAP TAKE-OFF	RING DUCT
BULLHEAD CONVERGE RETURN/EXHAUST	
SIDEWALL DUCT MTD. REG./GRILLE	
OPEN END DUCT W/ 1/4"x1/4" WMS	
FLEXIBLE DUCT 8 FEET MAXIMUM	
DUCT OR EQUIPMENT TO BE REMOVED	

- HORIZONTAL FIRE DAMPER
- VERTICAL FIRE DAMPER
- FIRE SMOKE DAMPER
- VD — MANUAL VOLUME DAMPER
- BD — BACKDRAFT DAMPER
- STANDARD 4-WAY BLOW SUPPLY DIFFUSER
- STANDARD RETURN/ EXHAUST REGISTER
- L — LOUVERED DOOR REFER TO ARCH. DWGS.
- OUTSIDE AIR, RETURN, OR EXHAUST AIR FLOW
- SUPPLY AIR FLOW
- T — TEMPERATURE SENSOR OR THERMOSTAT
- M — MOTORIZED DAMPER
- SD — DUCT SMOKE DETECTOR

CALL OUT SYMBOLS

- 1 / X — SECTION DESIGNATION / SHEET NUMBER
- DETAIL DESIGNATION / SHEET NUMBER
- 1 — REVISION NUMBER
- R-1 / 1500 — TYPE OF TERMINAL (SEE SEHEDULE) / CFM RATING
- POINT OF CONNECTION

MECHANICAL DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE
M000	MECHANICAL SYMBOLS, ABBREVIATION AND GENERAL NOTES
M001	MECHANICAL GENERAL NOTES
M002	MECHANICAL FLOOR PLAN – SPECIFICATIONS
MD100	MECHANICAL FLOOR PLAN – DEMOLITION PLUMBING AND HVAC
FP100	MECHANICAL FLOOR PLAN – FIRE PROTECTION
M100	MECHANICAL FLOOR PLAN – PLUMBING
M200	MECHANICAL FLOOR PLAN – HVAC
M300	MECHANICAL ROOF PLAN – PLUMBING AND HVAC
M400	MECHANICAL SCHEDULES
M401	MECHANICAL SCHEDULES
M402	MECHANICAL VENTILATION SCHEDULES
M403	MECHANICAL DETAILS
M404	MECHANICAL DETAILS AND DIAGRAMS
M405	MECHANICAL SEQUENCE OF OPERATIONS

NOTE: ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT.

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MECHANICAL SYMBOLS, NOTES AND ABBRIVIATIONS

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FIRE PROTECTION NOTES:

1. DESIGN AND INSTALLATION SHALL BE PER NFPA 13 STANDARDS, CURRENT EDITION.
2. PROVIDE AND INSTALL ALL HANGERS, VALVES, DEVICES AND EQUIPMENTS AS REQUIRED
3. SUBMIT SHOP DRAWINGS, HYDRAULIC CALCULATIONS AND TECHNICAL DATA SHEETS FOR ALL EQUIPMENT TO BE INSTALLED TO THE OWNER'S INSURANCE COMPANY, ARCHITECT/ENGINEER, LOCAL FIRE MARSHAL AND TO THE LOCAL AHJ FOR REVIEW AND APPROVAL. DO NOT START ANY INSTALLATION WORK UNTIL APPROVAL HAS BEEN RECEIVED FROM THE ABOVE AGENCIES.
4. SCHEDULE 40 OR HEAVIER PIPE, REGARDLESS OF SIZE, IS TO BE INSTALLED BELOW STRUCTURE.
5. COORDINATE AND MODIFY THE EXISTING FIRE PROTECTION SYSTEMS AS REQUIRED FOR A COMPLETE OPERABLE SYSTEM AS REQUIRED BY NFPA, LOCAL CODES AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALL VALVES, SMOKE DETECTORS ALARMS, WIRING DEIVCES AND EQUIPMENT AS REQUIRED.
6. ALL SPRINKLER HEADS ARE TO BE RATED AT A TEMPERATURE OF 155 TO 165 DEGREES F. UNLESS OTHERWISE REQUIRED BY CODE IN HIGHER AMBIENT TEMPERATURE AREAS.
7. FURNISH AND INSTALL 20 LB. ABC RATED FIRE EXTINGUISHERS THROUGHOUT THE FACILITY WHERE REQUIRED. THE FIRE EXTINGUISHERS ARE TO BE LOCATED SO THAT THERE IS A MAXIMUM TRAVEL DISTANCE OF 75 FT. TO ANY EXTINGUISHER.
8. ALL SPRINKLERS ARE TO BE STANDARD TEMPERATURE RATED TYPE (APPROXIMATELY 165°F) AND A MINIMUM OF K-8 ORIFICE.
9. SPRINKLER SYSTEMS SHOULD BE DESIGNED WITH SPRINKLERS SPACED NO LESS THAN 8 FEET APART AND NO MORE THAN 12 FEET APART.
10. SYSTEM SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION (INCLUDING BUT NOT LIMITED TO: MICHIGAN BUILDING CODE, MICHAGAN PLUMBING CODE, NFPA STANDARDS 13, LOCAL FIRE DEPARTMENT, FIRE MARSHAL ALL OTHER STATE AND LOCAL CODES AND ORDINANCES.
11. CONNECT SPRINKLER MAIN PIPING SUPPORTS FROM STEEL FRAME ONLY.
12. FIRE SPRINKLER LAYOUT TO BE REVISED BY FIRE SPRINKLER CONTRACTOR TO FIT HIS DETAILED HYDRAULIC DESIGN. ALL REQUIRED SPRINKLERS SHALL BE FURNISHED AND INSTALLED BY SPRINKLER CONTRACTOR.
13. PROVIDE AUTOMATIC WET PIPE SPRINKLER PROTECTION THROUGHOUT THE AREAS INDICATED ON DRAWINGS, HYDRAULICALLY DESIGNED TO PROVIDE A DENSITY OF 0.15 GPM/FT2 OVER A HYDRAULICALLY MOST REMOTE AREA OF 1,500 FT2 OF FLOOR SPACE USING 165°F TEMPERATURE RATING WITH A MAXIMUM SPACING OF 104 FT2 PER SPRINKLER. A HOSE ALLOWANCE OF 500 GPM SHOULD BE INCLUDED IN THE SPRINKLER SYSTEM HYDRAULIC DEMAND.
14. AUTOMATIC SPRINKLER PROTECTION SHOULD BE PROVIDED BENEATH ALL WALKWAYS AND MEZZANINES ON/AROUND STAIRS USING WET PIPE SYSTEMS DESIGNED TO MATCH THE EXISTING CEILING SPRINKLER SYSTEM DESIGN.
15. SPRINKLER PROTECTION SHOULD BE PROVIDED BELOW ALL OBSTRUCTIONS SUCH AS PLATFORMS, EQUIPMENT, PIPING, STAIRS, ETC.) WIDER THAN 4 FEET. SPRINKLER DESIGN BELOW ALL OBSTRUCTIONS SHOULD MATCH THE DESIGN OF CEILING SPRINKLERS DIRECTLY ABOVE.
16. CONTRACTOR SHALL BASE HIS LAYOUT AND DESIGN AS CLOSELY AS POSSIBLE TO THE DOCUMENTS. THE INTENT OF THESE DOCUMENTS ARE TO PROVIDE A BASIS OF DESIGN AND TO ASSIST THE CONTRACTOR IN COORDINATION OF THE SYSTEM WITH OTHER TRADES. IT IS NOT THE INTENT OF THE DOCUMENTS TO REPLACE, MODIFY OR SUPERSEDE APPLICABLE CODES OR STANDARDS. CONTRACTOR SHALL ADVISE THE ENGINEER OF ANY DEVIATIONS WHICH ARE REQUIRED FOR CODE COMPLIANCE. CONTRACTOR SHALL ULTIMATELY BE RESPONSIBLE FOR THE DESIGN, HYDRAULIC CALCULATIONS AND LAYOUT OF THE SYSTEM AS REQUIRED TO MEET CODE EXISTING SPRINKLER MAINS, PER NFPA 13, AUXILIARY DRAINS WILL NEED TO BE INSTALLED, THE CONTRACTOR TO TERMINATE DRAIN AS REQUIRED.

MECHANICAL GENERAL NOTES

1- THE PLANS ARE FOR BIDDING PURPOSE ONLY AND ARE SCHEMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCHITECTURAL PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS, LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.

2- WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ORDINANCES, AND ALL AUTHORITIES HAVING JURISDICTION.

3- THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNER'S DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF CODE PRACTICE AND SAFETY AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.

4- DO NOT SCALE DRAWINGS, VERIFY DIMENSIONS ON ARCHITECTURAL PLANS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.

5- CONTRACTOR COORDINATE LOCATION OF ALL SUPPLY DIFFUSERS, RETURN GRILLES, AND DUCTS WITH ARCHITECTURAL, STRUCTURE, MECHANICAL, AND ELECTRICAL SYSTEMS. ANY DEVIATIONS FROM THAT SHOWN SHALL BE COORDINATED WITH THE ENGINEER.

6- LOCATIONS FOR THE NEW THERMOSTATS TO BE COORDINATED WITH THE FIELD CONDITIONS AND OWNER.

7- DUCT SIZES INDICATED ON PLANS ARE CLEAR INSIDE DIMENSIONS.

8- BEFORE INSTALLATION OF EQUIPMENT, CONTRACTOR SHALL VERIFY THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE. CONTRACTOR SHALL PROVIDE ADEQUATE ACCESS TO ALL EQUIPMENT AND RECOMMENDED MAINTENANCE CLEARANCES.

9- PROVIDE NECESSARY OFFSETS IN PIPING AND DUCTS TO CLEAR ALL STRUCTURAL MEMBERS, ALONG WITH MECHANICAL & ELECTRICAL WORKS.

10- PROVIDE MANUAL VOLUME DAMPERS FOR ALL BRANCHES AND RUNOUTS TO DIFFUSERS. DAMPER SHALL BE LOCATED AS CLOSE TO MAIN DUCT AS POSSIBLE.

11- INSTALL TEMPERATURE SENSORS/THERMOSTATS AT 4'-0" ABOVE FINISHED FLOOR.

12- WHEN A DESIGN BASE IS INDICATED AND OTHER THAN THE DESIGN BASE EQUIPMENT IS APPROVED, DESIGN ALL NECESSARY MODIFICATION AT NO ADDITIONAL COST TO THE OWNER AND SUBMIT A SHOP DRAWING OF THE PROPOSED INSTALLATION.

13- ALL EQUIPMENT AND MATERIAL BROUGHT TO THE SITE IS THE PROPERTY OF THE CONTRACTOR UNTIL THE OWNER HAS OFFICIALLY ACCEPTED THE FINAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROTECTION FOR EQUIPMENT AND MATERIAL UNTIL COMPLETION OF THE PROJECT.

14- CONTRACTOR SHALL REVIEW THE DOCUMENTS OF ALL INTERFACING TRADES, CONTRACTS, AND DRAWINGS PRIOR TO BIDDING AND COMMENCEMENT OF WORK TO ENSURE SUCCESS OF FINISHED WORK.

15- UPON COMPLETION OF THE MECHANICAL TRADES WORK, ALL SYSTEMS SHALL BE TESTED, BALANCED, AND ADJUSTED. ALL SYSTEMS SHALL BE LEFT IN WORKING ORDER. BALANCE MUST BE DONE BEFORE FINISHED CUTTING IS INSTALLED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL DEBRIS LEFT BY THE MECHANICAL TRADES.

16- ALL EQUIPMENT SHALL BE NEW UNLESS NOTED OTHERWISE AND SHALL CONFORM IN ALL RESPECTS TO THE LATEST STANDARDS OF ANSI, ASTM, FM, MIOSHA AND PDI.

17- DO NOT PROVIDE FLEXIBLE DUCTWORK TO AIR DEVICES LOCATED ABOVE GYP BOARD CEILING, DUCTWORK SHALL BE SHEET METAL.

18- PROTECT ALL MECHANICAL EQUIPMENT, PLUMBING FIXTURES AND TRIM, FROM MORTAR, PAINT ETC., DURING CONSTRUCTION. ALL PRODUCTS USED IN MECHANICAL SYSTEMS SHALL BE ASBESTOS-FREE AND LEAD-FREE PER CODE.

19- THE CONTRACTOR MAY SUBMIT ALTERNATE BIDS FOR CHANGES IN THE DESIGN AS LONG AS THE ALTERNATE ARE APPROVED BY THE ENGINEER OF RECORD. THE ALTERNATIVE BID MUST BE PRESENTED DURING THE BIDDING PROCESS AND SHALL BE APPROVED PRIOR TO ANY CONSTRUCTION.

20- THE OWNER SHALL RESERVE THE RIGHT TO SUBSTITUTE EQUIPMENT, PLUMBING FIXTURES, AND COMPONENTS THROUGHOUT THE BIDDING PROCESS.

21- THE CONTRACTOR PROVIDE AND INSTALL THERMOSTATIC MIXING VALVES AND OR CENTRAL MIXING VALVES FOR SCALD PROTECTION AND WATER TEMPERATURE REGULATION THROUGHOUT THE FACILITY.

22- PROVIDE AND INSTALL NATURAL GAS SHUTOFF COCKS AND GAS PRESSURE REGULATORS AT ALL GAS-FIRED PIECES OF EQUIPMENT SUCH AS ROOFTOP UNITS, RADIANT HEATERS, HIGH EFFICIENCY WATER HEATERS, EMERGENCY GENERATOR, ETC., ALSO PROVIDE ISOLATION VALVES ON BRANCH PIPING THROUGHOUT.

23- PROVIDE AND INSTALL SHUTOFF VALVES FOR EACH PLUMBING FIXTURES, HOSE BIBS, WALL HYDRANTS, ROOF HYDRANTS OR ANY OTHER PIECES OF EQUIPMENT THAT REQUIRES DOMESTIC WATER CONNECTIONS. PROVIDE ISOLATION VALVES THROUGHOUT. ALSO, PROVIDE WATER HAMMER ARRESTERS IN CHASES BEHIND PLUMBING FIXTURES THROUGHOUT. COORDINATE ACCESS PANELS FOR VALVES WITH ARCHITECTURAL TRADES.

24- PROVIDE CLEARANCES AROUND ALL MECHANICAL EQUIPMENT PER EQUIPMENT MANUFACTURER'S RECOMENDATIONS THROUGHOUT. WHERE EXISTING ROOFTOP UNITS ARE REMOVED AND REPLACED WITH NEW, THE CONTRACTOR SHALL PROVIDE NEW INSULATED PREFAB ROOF CURBS AS REQUIRED. COORDINATE INSTALLATION WITH ARCHITECTURAL AND STRUCTURAL TRADES.

25- STORM DRAINS, ROOF CONDUCTORS, PRIMARY ROOF DRAINS AND EMERGENCY OVERFLOW DRAINS ARE SIZED BASED ON 4.11 INCHES PER HOUR (RAINFALL RATE). DISCHARGE EMERGENCY OVERFLOW DRAINS AT ELEVATIONS LISTED ON DRAWINGS.

26- THE MECHANICAL CONTRACTOR SHALL RUN ALL PIPING AND DUCTWORK THROUGHT THE WEB OPENING OF EACH TRUSS UNLESS OTHERWISE NOTED. INSTALL ALL PIPING AND DUCTWORK ABOVE BOTTOM CHORD OF TRUSS. COORDIINATE ROUTING, ELEVATIONS OF PIPING AND DUCTWORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION. COORDINATE SITE UTILITIES WITH CIVIL. CONNECTION POINTS FOR UTILIES ARE TO BE CONNECTED 5'-0" OUTSIDE OF THE BUILDING FOUNDATION FOOTPRINT. TYPICAL.

27- INSTALL TRAP PRIMMERS ON ALL FLOOR DRAINS THROUGHOUT.

28- ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALL INSULATED SPIRAL DUCTWORK.

29- PROVIDE VOLUME/BALANCING DAMPERS AT EACH BRANCH CONNECTION. DAMPERS SHALL BE OPPOSED BLADE TYPE.

30- ALL ROOFTOP EQUIPMENT SUCH AS ROOFTOP UNITS AND EXHAUST FANS BE LOCATED AT LEAST 10'-0" AWAY FROM THE EDGE OF ROOF.

31- ALL FRESH AIR INTAKES SHALL BE LOCATED AT LEAST 15'-0" AWAY FROM EXHAUST DISCHRGE, SANITARY VENTS OR ANY OTHER CONTAMINATED AIR SOURCES.

32- PROVIDE AND INSTALL A COMPLETE BAS SYSTEM AS REQUIRED PER WCCCD REQUIREMENTS. COORDINATE THE STYLE AND TYPE OF THE BUILDING MANAGEMENT SYSTEM WITH WCCCD REPRESENTATIVES.

34- THE ENTIRE INSTALLATION SHALL COMPLY THE 2021 MICHIGAN MECHANICAL CODES, 2021 MICHIGAN PLUMBING CODE AND AUTHORITIES HAVING JURISDICTION. ADHERE TO THE LATEST MICHIGAN ENERGY CODES AS REQUIED.

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MECHANICAL GENERAL NOTES

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
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MECHANICAL NOTES

1. DESCRIPTION OF WORK
A. CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND LABOR TO PROVIDE A COMPLETE AND OPERATING INSTALLATION.
B. WORK INCLUDES LABOR AND MATERIALS NECESSARY FOR INSTALLATION OF NEW EQUIPMENT, PIPING, DUCTWORK, AND OTHER MECHANICAL ITEMS AS DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS.
C. PROVIDE MISCELLANEOUS STEEL AND HARDWARE AS REQUIRED TO SUPPORT, HANDLE AND SECURE EQUIPMENT FURNISHED AS PART OF THIS WORK.
D. PERFORM CUTTING AND CORE DRILLING AS REQUIRED.
E. PROVIDE SLEEVES FOR PIPES PASSING THROUGH SLABS, WALLS OR FLOOR. THE OWNER'S REPRESENTATIVE IS TO BE NOTIFIED OF ALL TESTING AND FLUSHING AND CLEANING.
F. THE INSTALLING CONTRACTOR SHALL PROVIDE A WALK THROUGH AND TRAINING FOR THE OWNER'S BUILDING MAINTENANCE CREW AT OR NEAR THE COMPLETION OF THE PROJECT.
G. OPERATION AND MAINTENANCE MANUALS ARE TO BE PROVIDED FOR ALL COMPONENTS AND/OR SYSTEMS REQUIRING A MANUAL.

2. CODES, PERMITS AND INSPECTIONS
A. WORK SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AND ORDINANCES. 2021 MICHIGAN MECHANICAL CODE, 2021 MICHIGAN PLUMBING CODE ETC.

B. SECURE AND PAY FOR ALL PERMITS AND INSPECTIONS.

3. STANDARDS
A. ALL EQUIPMENT SHALL BE NEW UNLESS NOTED OTHERWISE AND SHALL CONFORM IN ALL RESPECTS TO THE LATEST APPROVED STANDARDS OF ANSI, ASME, ASTM, FM, IRI, MIOSHA AND PDI.

4. PROJECT/SITE CONDITIONS
A. CONTRACTOR SHALL VISIT JOB SITE AND EXAMINE PREMISES FOR THE PROPOSED WORK, AND SHALL FULLY INFORM HIMSELF OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE.

5. PROTECTION
A. PROTECT ALL MECHANICAL EQUIPMENT, PLUMBING FIXTURES AND TRIM, FROM MORTAR, PAINT, ETC. DURING CONSTRUCTION. ALL PRODUCTS USED IN MECHANICAL SYSTEMS SHALL BE ASBESTOS-FREE.

6. CLEANING AND PAINTING
A. CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS RESULTING FROM MECHANICAL WORK OR OPERATIONS, LEAVING THE JOB AND EQUIPMENT IN A CLEAN, FIRST-CLASS CONDITION. WHERE NEW WORK OCCURS IN EXISTING AREAS, CLEAN AND RESTORE TO ORIGINAL CONDITION.

7. GUARANTEE
A. CONTRACTOR SHALL GUARANTEE INSTALLATION AGAINST DEFECTS IN MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF AT LEAST (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE. IF, DURING THE GUARANTEE PERIOD, ANY DEFECTS APPEAR, THE CONTRACTOR SHALL REMEDY THEM, INCLUDING ANY NECESSARY MATERIALS AND LABOR WITHOUT COST TO THE OWNER.

8. DAMAGE TO OTHER WORK
A. REPAIR, AND PAY FOR ALL DAMAGE DONE TO THE EXISTING AND NEW WORK.

9. COORDINATION OF THE WORK
A. COORDINATE WORK WITH THE OTHER TRADES TO AVOID INTERFERENCES AND TO PRESENT A NEAT APPEARANCE. INTERFERENCES WHICH RESULT DUE TO A LACK OF COORDINATION ARE THE CONTRACTOR'S RESPONSIBILITY TO CORRECT.
B. VERIFY LOCATIONS OF EXISTING PIPING FOR CONNECTIONS. CHECK LOCATIONS OF BUILDING STRUCTURE, BEAMS, AND OTHER EQUIPMENT TO AVOID POSSIBLE INTERFERENCE.
C. COORDINATE EXACT LOCATION OF CONSTRUCTION TO PRECLUDE ANY INTERFERENCE BETWEEN NEW AND EXISTING PIPING, WIRING, LIGHTING FIXTURES, CABLE TRAYS, DUCTWORK, BUILDING EQUIPMENT, WORK BY OTHER CONTRACTORS, BUILDING STRUCTURE AND OTHER CONSTRUCTION.
D. COORDINATE EXACT LOCATION OF EQUIPMENT REQUIRING SERVICE TO PRECLUDE ANY INTERFERENCE WITH EQUIPMENT ACCESS DOORS OR PANELS, OR WITH SERVICE TO EQUIPMENT. INSTALLATION SHALL BE MADE SO THE EQUIPMENT SERVICE CAN BE ACCOMPLISHED WITHOUT HAVING TO REMOVE EQUIPMENT.

10. SANITARY DRAIN AND PLUMBING VENT
A. NO-HUB CAST IRON SOIL PIPE AND CAST IRON FITTINGS PER ASTM A888. CONSTRUCT COUPLINGS OF 24 GAUGE TYPE 304 STAINLESS STEEL IN CONFORMANCE WITH FM 1680, AND INCORPORATING A NEOPRENE GASKET IN ACCORDANCE WITH ASTM C564. PROVIDE TWO TIGHTENING BANDS ON PIPE UP TO 4 INCH. INSTALL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
B. SUPPORTS SHALL BE 5'-0" ON CENTER, MAXIMUM.

11. PIPE AND FITTINGS
A. ALL PIPING AND FITTINGS TO BE MANUFACTURED IN THE UNITED STATES OF AMERICA AND BEAR MARKINGS TO ASCERTAIN THE SAME.
B. DOMESTIC HOT AND COLD WATER PIPING SHALL BE TYPE L HARD DRAWN COPPER TUBING (ASTM B88) WITH SOLDER TYPE FITTINGS, TYPE L WROUGHT COPPER (ASTM B16.22). UNIONS SHALL BE SOLDER TYPE, BRASS (ASTM B62). SOLDER SHALL BE LEAD-FREE 95-5.

12. VALVES
A. ALL VALVES SHALL BE MANUFACTURED IN THE UNITED STATES AND BEAR MARKINGS TO ASCERTAIN THE SAME. PROVIDE AND INSTALL SHUT-OFF VALVES FOR ALL EQUIPMENT AND FIXTURES THROUGHOUT.
B. ALL VALVES SHALL BE SELECTED AND SUITABLE FOR USE WITH ETHYLENE GLYCOL, EVEN IF PROJECT DOES NOT CURRENTLY INCORPORATE THE USE OF ETHYLENE GLYCOL.
C. DOMESTIC HOT AND COLD WATER - ISOLATION AND THROTTLING VALVES, 2" AND SMALLER, UNLESS OTHERWISE SHOWN OR SPECIFIED SHALL BE CLASS 150 PSI S.W.P., TWO-PIECE, 80 PER CENT OF PORT, BRONZE BODY, PTFE (15% GLASS FILLED) SEAT AND SEAL, STAINLESS STEEL BALL AND STEM, OVAL HANDLE WITH LOCKING FEATURE, SUITABLE FOR THREADED OR SOLDERED ENDS.
D. PROVIDE STEM EXTENSION OF PROPER LENGTH ON INSULATED PIPES. APPROVED MANUFACTURER: APOLLO 77-240-01, NIBCO S-585-70-66 OR WATTS B-6081-22.
E. DOMESTIC HOT AND COLD WATER - CHECK VALVES, 2" AND SMALLER, SHALL BE CLASS 200 PSI S.W.P., 400 PSI W.O.G., BRONZE BODY, RESILIENT DISK, STAINLESS STEEL SPRING AND SEAT, REGRINDING SUITABLE FOR THREADED OR SOLDERED ENDS.
F. APPROVED MANUFACTURERS SHALL BE APOLLO 300, CENTERLINE CLC, NIBCO W-910-W, MILWAUKEE, OR WATTS.

13. ESCUTCHEON PLATES
A. FINISHED AREAS: CHROME-PLATED

14. FIRESAFING
A. AT ALL CORED, IRREGULAR, ANGULAR, AND ANY OTHER OPENING FOR PIPE PENETRATIONS OF FIRE RATED WALLS, CEILING AND FLOORS, PROVIDE A PERMANENT FIRE STOP SYSTEM THAT CONSISTS OF A WATER BASED FIRE-STOP COMPOUND AS THE FILL, VOID OR CAVITY MATERIAL ALONG WITH APPROPRIATE DAMMING MATERIAL AS PER MANUFACTURER'S INSTRUCTION. PROVIDE A SYSTEM THAT IS UL CLASSIFIED FOR ALL PIPE SIZES.

15. PIPE HANGERS AND SUPPORTS
A. FURNISH AND INSTALL MISCELLANEOUS IRON SUPPORTS AND APPURTENANCES AS REQUIRED TO SECURELY AND PROPERLY HANG OR SUPPORT PIPING SYSTEMS. HANGERS AND SUPPORTS SHALL BE DESIGNED AND MANUFACTURED IN CONFORMANCE WITH MSS-SP-58 AND THE SELECTION AND APPLICATION SHALL BE IN CONFORMANCE WITH MSS-SP-69.
B. APPROVED MANUFACTURERS: ANVIL (GRINNELL), B-LINE SYSTEMS,INC., CARPENTER AND PATERSON, AND MICHIGAN HANGER.
C. DISSIMILAR METAL-TO-METAL CONTACT BETWEEN PIPE AND HANGER SHALL BE AVOIDED.
D. "C" TYPE BEAM CLAMP HANGERS ARE UNACCEPTABLE.
E. INSULATED PIPE SMALLER THAN 3" SHALL BE HUNG WITH CLEVIS HANGERS LARGER THAN O.D. OF INSULATION, AND STEEL SHIELDS TO AVOID CRUSHING INSULATION.
F. ON INSULATED PIPING, LOCATE HANGERS OR SUPPORTS OUTSIDE THE INSULATION AND PROVIDE INSULATED SUPPORTS AS MANUFACTURED BY PIPE SHIELDS, INC., VALUE ENGINEERING PRODUCTS, INC., OR B-LINE SYSTEMS, INC.

16. MECHANICAL IDENTIFICATION AND PAINTING
A. ALL PIPE AND DUCTS SHALL BE IDENTIFIED WITH FACTORY FABRICATED, PRE-CURLED LABELS SECURELY ATTACHED TO THE PIPE OR DUCT AT 10'-0" O.C., FILM MARKERS ARE NOT ACCEPTABLE. SECURE PRE-CURLED OR RECOILED LABELS TO PIPES WITH 1" WIDE COLOR TAPE, MATCHING PIPING COLOR AND WRAPPED COMPLETELY AROUND PIPE.
B. ALL PIPES SHALL BE COLOR-CODED INTERMITTENTLY AT 10'-0" INTERVALS TO IDENTIFY THE CHARACTERISTIC PROPERTIES OF THE CONTENTS.
C. COLOR CODING SHALL BE PROVIDED FOR ALL MECHANICAL SYSTEMS IN ACCORDANCE WITH THE OWNER'S EXISTING SYSTEM.
D. COLOR CODE LINES BY PAINTING A 1" WIDE BAND AROUND PIPE OR BY USING 1" WIDE COLOR-CODED TAPE WRAPPED COMPLETELY AROUND PIPE.
E. WHERE MORE THAN ONE BAND IS USED, A 1" SPACE SHALL BE ALLOWED BETWEEN BANDS.
F. CONTENT OF LEGEND
a. IDENTIFY CONTENTS OF THE PIPING SYSTEMS 10'-0" O.C. ABOVE CEILING BY BOTH FLUID CONTAINED AND UNIQUE TEMPERATURE AND/OR PRESSURE.
b. CLEARLY IDENTIFY DIRECTION OF FLOW IN PIPE WITH FLOW ARROWS 1" WIDEX6" LONG WITH ARROW HEAD, 2" WIDE AT BASE IN SHAFTS, ABOVE CEILING, PIPE SPACES, ETC.
G. LOCATION OF MARKERS
a. PIPE LABELS SHALL BE INSTALLED ADJACENT TO VALVES AND BRANCH CONNECTIONS, BOTH SIDES OF FLOORS, CEILING AND WALLS, ALL MAJOR CHANGES IN DIRECTION ON STRAIGHT LENGTHS OR PIPE EVERY 10 FEET, AND AT POINTS OF ENTRY TERMINATION.
b. SIMILARLY FOR DUCT LABELS FLOW ARROWS ON DUCTS 10'-0" O.C.
c. ARROWS AND MARKERS SHALL BE MOUNTED TO PROVIDE UNOBSTRUCTED VISIBILITY FROM FLOOR LEVEL.
d. PIPING IDENTIFICATION MATERIALS SHALL BE LARGER LEGIBLE LABELS 2-1/2" HIGH AS MANUFACTURED BY BRADY OR SETON ON PIPING SMALLER THAN 10" AND 3/4" LETTERING ON PIPING 3/4" AND SMALLER.
e. LOCATION FOR PIPE MARKERS ABOVE CEILING IN FINISHED AREAS SHALL BE ADJACENT TO EACH VALVE AND ON ALL HORIZONTAL PIPE RUNS-MARKED EVERY 10'-0" AND ON EACH SIDE OF WALL PENETRATION.
H. VALVE IDENTIFICATION
a. MECHANICAL CONTRACTOR SHALL TAG ALL VALVES WITH BRASS TAGS HAVING INCISED PAINTED BLACK NUMBERS AND ATTACHED SECURELY TO VALVE BY BRASS CHAIN. INCLUDE VALVE TAG CHARTS BOUND IN OPERATING MANUALS AND SUBMIT ONE SET TO CHARTS UNDER GLASS IN METAL FRAME FOR OWNER'S REPRESENTATIVE TO TURN OVER TO THE MAINTENANCE DEPARTMENT.
b. ALL MAIN AND BRANCH LINE VALVES ARE TO BE TAGGED IN ACCORDANCE WITH THE OWNER'S EXISTING SYSTEM.(WHERE APPLICABLE)

17. CLEANING OF THE PIPING SYSTEM
A. THE FOLLOWING SHALL BE PERFORMED ON THE NEW PIPING SYSTEM.
B. CHEMICALLY CLEAN PIPING SYSTEM OF ALL WELDING SLAG. OPERATE THE SYSTEM FOR ONE WEEK, THEN DRAIN AND FLUSH OUT. REPLACE ALL START-UP STRAINERS WITH PERMANENT STRAINERS AND LEAVE THE SYSTEM IN PROPER WORKING ORDER.

18. MECHANICAL INSULATION
A. GENERAL
a. CONTRACTOR SHALL PROVIDE THERMAL INSULATION ON ALL REFRIGERANT PIPING, CONDENSATE PIPING, DOMESTIC HOT, DOMESTIC HOT WATER RETURN, DOMESTIC COLD WATER PIPING, AND FRESH AIR INTAKE DUCTWORK. INSULATION SHALL NOT BE INSTALLED UNTIL SYSTEM HAVE BEEN TESTED AND INSPECTED.
b. ALL INSULATION ON PIPING AND DUCTWORK THAT HAS BEEN DAMAGED OR HAS BEEN DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO 'LIKE-NEW' CONDITION.
c. APPROVED MANUFACTURES FOR FIBERGLASS INSULATION: CERTAINTEED, OWENS-CORNING FIBERGLASS CORP., MANSVILLE PRODUCTS CORP., AND KNAUF FIBERGLASS.
d. ALL INSULATION, INCLUDING FACING, CEMENTS AND ADHESIVE WHEN TESTED PER ASTM E84 BY UL SHALL HAVE A FLAME SPREAD RATING OF LESS THAN 25, AND A SMOKE DEVELOPED RATING OF LESS THAN 50.
e. FOR ADHESIVES, MASTICS, COATINGS AND SEALANTS, APPROVED MANUFACTURERS ARE: FOSTER PRODUCTS DIV., HB FULLER CO., I-C ADHESIVES CO., CHICAGO MASTIC CO., CHILDERS PRODUCTS CO., AND ST CLAIR RUBBER CO.
B. PIPING INSULATION
a. FIBERGLASS PIPING INSULATION SHALL BE PRE-FORMED, RIGID, MOLDED INSULATION WITH VAPOR RETARDANT JACKET CONSISTING OF WHITE KRAFT PAPER REINFORCED WITH GLASS FIBER YAM AND BONDED TO ALUMINUM FOIL, WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS. PROVIDE INSULATION WITH A THERMAL CONDUCTIVITY "K" OF 0.23 BTU/HR/SQ.FT./DEGREE F/IN AT 75 DEGREE F MEAN TEMPERATURE.
b. PIPE INSULATION GLASS FIBER MINIMUM THICKNESS: FOR DOMESTIC DCW, DHW, DHWR; FOR PIPE SIZES 1/2" TO 4" PROVIDE 1" THICK INSULATION, NO VAPOR BARRIER FOR THE DHW, DHWR BUT YES FOR THE DCW AND NO JACKET REQUIRED. INSULATION, NO VAPOR BARRIER AND NO JACKET.
C. DUCTWORK INSULATION
A. CONCEALED DUCTWORK SHALL BE COVERED WITH 1-1/2" INCH GLASS FIBER, FLEXIBLE BLANKET INSULATION WITH A DENSITY OF 1.5 LB/CU.FT. BLANKET SHALL HAVE A VAPOR RETARDANT JACKET OF ALUMINUM FOIL REINFORCED WITH FIBERGLASS YARN AND LAMINATED TO A FIRE RESISTANT KRAFT PAPER, SECURED WITH UL LISTED PRESSURE SENSITIVE TAPE.

19. PLUMBING FIXTURES
A. LAVATORY: (LAV-1), SEE PLUMBING FIXTURE SCHEDULE ON DRAWING.

20. PLUMBING EQUIPMENT AND SPECIALTIES
A. WATER HAMMER ARRESTOR: NON-FERROUS ELASTIC CHAMBER CONTAINED IN HEAVY STEEL CASING WITH APPROVED RECOIL DAMPENERS. LOCATE THE ARRESTOR WHERE REQUIRED TO ELIMINATE WATER HAMMER IN THE DOMESTIC WATER SYSTEM. SIZE THE ARRESTOR IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201 AND SUBMIT SELECTION CRITERIA WITH SHOP DRAWINGS. INSTALL ARRESTOR PER MANUFACTURER'S INSTRUCTIONS. APPROVED MANUFACTURERS: AMTROL, JOSAM, WATTS, ZURN, J. R. SMITH AND WADE.
B. CLEANOUT: CAST IRON BODY WITH STRAIGHT THREADS AND GASKET SEAL OR TAPER THREADS FOR PLUG, FLASHING FLANGE AND CLAMPING RING, AND A BRASS CLOSURE PLUG (ASME A112.36.2M). CLEANOUTS FOR INSTALLATION IN FLOORS NOT HAVING MEMBRANE WATERPROOFING MAY BE FURNISHED WITHOUT CLAMPING RING (J. R. SMITH SERIES 4000 AS REQUIRED FOR VARIED INSTALLATION CONDITIONS AT FINISHED AND NON-FINISHED WALLS OR FLOORS). FLOOR CLEANOUTS: J. R. SMITH MODEL 4020 WITH POLISHED BRONZE CLEANOUT COVERS IN FINISHED AREAS AND NICKEL BRONZE CLEANOUT COVERS IN NON-FINISHED AREAS. PROVIDE ROUND STAINLESS STEEL ACCESS OVER AT WALL CLEANOUT IN FINISHED AREAS. APPROVED MANUFACTURERS: JOSAM (58740-3), J. R. SMITH (4434-NB), ZURN (ZANB-1462).

21. METAL DUCTWORK
A. DUCTWORK CONSTRUCTION: ALL DUCTWORK SHALL BE CONSTRUCTED AND SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST SMACNA HVAC METAL DUCTWORK STANDARDS. ALL JOINTS AND SEAMS OF ALL DUCTWORK SHALL BE SEALED. ALL DUCTWORK SHALL BE CONSTRUCTED AIR-TIGHT AND AFTER THE INSTALLATION, THE DUCTWORK SHALL BE TESTED. DUCTWORK SHALL BE KEPT FREE OF DIRT AND FOREIGN MATERIALS AND THEREFORE, AFTER AND DURING ASSEMBLY OF DUCTS, CLEAN ALL DIRT, GREASE, RUBBISH, ETC., FROM BOTH THE INTERIOR AND THE EXTERIOR OF THE DUCTWORK.
B. PRESSURE CLASS: DUCTWORK PRESSURE CLASSIFICATION SHALL BE NO LESS THAN +4 FOR ALL SUPPLY AIR DUCTWORK AND NO GREATER THAN-2.5" FOR ALL RETURN AIR DUCTWORK.
C. SEALING DUCTWORK: ALL DUCTWORK SHALL BE EFFECTIVELY SEALED PER SEAL CLASS A. ALL SEALANT SHALL BE UL RATED AND SHALL COMPLY WITH NFPA 90A. SEALING SHALL BE DEFINED AS CAULKING ALL JOINTS WITH DUCT SEALER. NOT ONLY CIRCUMFERENTIAL JOINTS SHALL BE SEALED, BUT ALL ALONG EACH AND EVERY PITTSBURGH SEAM SHALL BE SEALED, OR PROVIDE PREFABRICATED DUCT CONNECTORS (DUCTMATE OR NEXXUS). DUCT JOINT SEALERS SHALL BE TESTED IN ACCORDANCE WITH ASTM E-84-80 AND NOT EXCEED 25 FLAME SPREAD AND 50 SMOKE DEVELOPED RATINGS.
D. INSULATED FLEXIBLE DUCT: LOW PRESSURE AND HIGH PRESSURE INSULATED FLEXIBLE DUCT SHALL BE FLEXMASTER USA INC., TYPE 8M7, MECHANICALLY LOCKED WITHOUT ADHESIVES INTO A FORMED ALUMINUM HELIX ON THE DUCTS OUTSIDE SURFACE AND SHALL BE FACTORY WRAPPED IN A THICK BLANKET OF FIBERGLASS INSULATION WITH A C-FACTOR OF 0.23 OR LESS. THE INSULATION SHALL BE ENCASED IN A FIRE RETARDANT POLYETHYLENE PROTECTIVE VAPOR BARRIER WITH A PERM RATING OF NOT OVER 0.1 GRAINS/SQ.FT./HR/IN. THE FLEXIBLE DUCT SHALL BE UL LISTED 181 CLASS 1 AIR DUCT AND COMPLY WITH NFPA 90A AND 90B AND HAVE A FLAME SPREAD OF NOT OVER 25 AND A SMOKE DEVELOPED OF NOT OVER 50. THE FLEXIBLE DUCT SHALL HAVE A MINIMUM PRESSURE RATING OF 12" W.C. THROUGH A TEMPERATURE RANGE OF -20 DEG. F TO +250 DEG F. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE (6) SIX FEET TO EACH CONNECTION.

22. DUCTWORK ACCESSORIES
A. TURNING VANES: ALL MITERED DUCT ELBOWS GREATER THAN 45 DEG. SHALL HAVE SMACNA 24 GAUGE TURNING VANES. PROVIDE TURNING VANES CONSTRUCTED OF 1-1/2" WIDE CURVED BLADES SET AT 3/4" O.C., SUPPORTED WITH BARS PERPENDICULAR TO BLADES SET AT 2" O.C., AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. APPROVED MANUFACTURER: AERO DYNE CO.
B. VOLUME DAMPER: ALL SUPPLY AND RETURN AIR DIFFUSERS AND GRILLES.
BRANCH DUCTS SHALL HAVE A MANUAL OPPOSED STEEL BLADE VOLUME DAMPER. A CEILING ACCESS PANEL OR DOOR IS REQUIRED TO EACH IN ACCESSIBLE DAMPER. APPROVED MANUFACTURERS: NAILOR, RUSKIN AND YOUNG REGULATOR.

23. CUTTING AND PATCHING
A. CUT WALLS AND FLOOR SLABS IF REQUIRED FOR NEW WORK. PATCH AND PAINT TO MATCH NEW WORK.

24. TEMPERATURE CONTROLS
A. PROVIDE ALL ELECTRONIC CONTROLS, CONTROL WIRING AND ACCESSORIES REQUIRED FOR THE RENOVATION. ALL COMPONENT MAKE AND MANUFACTURER SHALL MATCH THE OWNER'S STANDARD INSTALLED IN THE BUILDING.
B. PROVIDE A COMPLETE OPERATING TESTED AND COMMISSIONED SYSTEM.
C. INTERFACE THE NEW EQUIPMENT WITH THE OWNER'S EXISTING BUILDING AUTOMATION SYSTEM.(COORDINATE WITH OWNER REPRESENTATIVES).
D. APPROVED MANUFACTURERS: AS REQUIRED TO MATCH OWNER'S EXISTING SYSTEM. CONNECT NEW CO2 SENSOR TO EXISTING ROOFTOP UNIT CONTROLLER TO DRIVE OPEN THE FRESH AIR INTAKE DAMPER WHEN THE CO2 SENSOR DETECTS UNDESIRABLE LEVELS OF CO2 IN THE RETURN AIR DUCTWORK.

25. CLEAN UP
A. CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE OF DEBRIS AT ALL TIMES. REMOVE UNUSED PIPING AND MATERIALS FROM PREMISES. THE OWNER SHALL BE GIVEN THE OPTION OF RETAINING ANY REMOVED ITEMS.

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MECHANICAL SPECIFICATIONS
WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

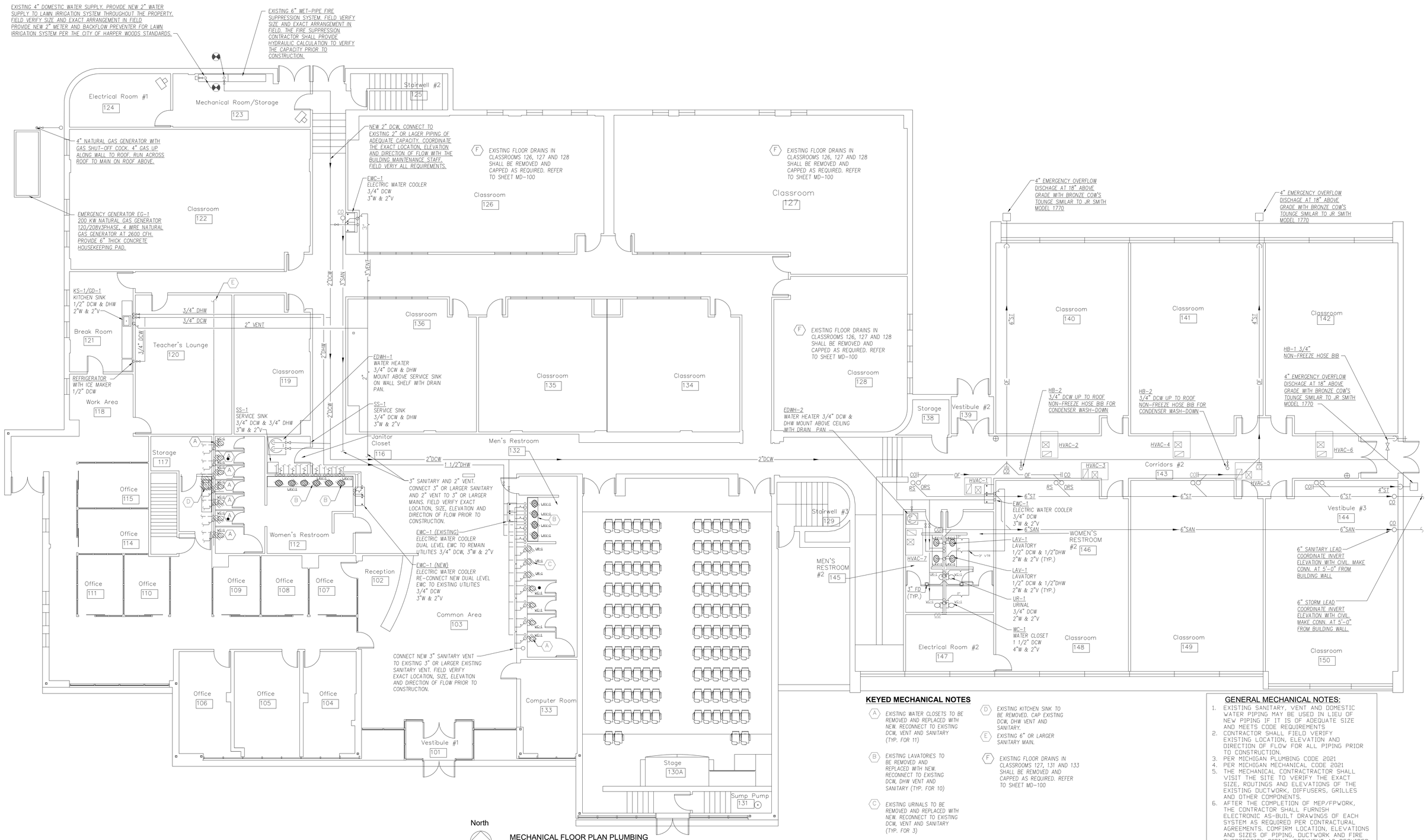
ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: GLW	DATE: 05/01/2026
DESIGNED BY: GLW	SCALE: NONE
CHECKED BY: GLW	JOB NUMBER: 000226

SHEET NUMBER: M002



MECHANICAL FLOOR PLAN PLUMBING
1/8"=1'-0"

KEYED MECHANICAL NOTES

- (A) EXISTING WATER CLOSETS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 11)
- (B) EXISTING LAVATORIES TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, DHW VENT AND SANITARY (TYP. FOR 10)
- (C) EXISTING URINALS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 3)
- (D) EXISTING KITCHEN SINK TO BE REMOVED. CAP EXISTING DCW, DHW VENT AND SANITARY.
- (E) EXISTING 6" OR LARGER SANITARY MAIN.
- (F) EXISTING FLOOR DRAINS IN CLASSROOMS 127, 131 AND 133 SHALL BE REMOVED AND CAPPED AS REQUIRED. REFER TO SHEET MD-100

GENERAL MECHANICAL NOTES:

1. EXISTING SANITARY, VENT AND DOMESTIC WATER PIPING MAY BE USED IN LIEU OF NEW PIPING IF IT IS OF ADEQUATE SIZE AND MEETS CODE REQUIREMENTS
2. CONTRACTOR SHALL FIELD VERIFY EXISTING LOCATION, ELEVATION AND DIRECTION OF FLOW FOR ALL PIPING PRIOR TO CONSTRUCTION.
3. PER MICHIGAN PLUMBING CODE 2021
4. PER MICHIGAN MECHANICAL CODE 2021
5. THE MECHANICAL CONTRACTRACTOR SHALL VISIT THE SITE TO VERIFY THE EXACT SIZE, ROUTINGS AND ELEVATIONS OF THE EXISTING DUCTWORK, DIFFUSERS, GRILLES AND OTHER COMPONENTS.
6. AFTER THE COMPLETION OF MEP/FPWORK, THE CONTRACTOR SHALL FURNISH ELECTRONIC AS-BUILT DRAWINGS OF EACH SYSTEM AS REQUIRED PER CONTRACTURAL AGREEMENTS. COMFIRM LOCATION, ELEVATIONS AND SIZES OF PIPING, DUCTWORK AND FIRE SUPPRESSION PIPING. DOCUMENT AS REQUIRED

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MECHANICAL FLOOR PLAN PLUMBING

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

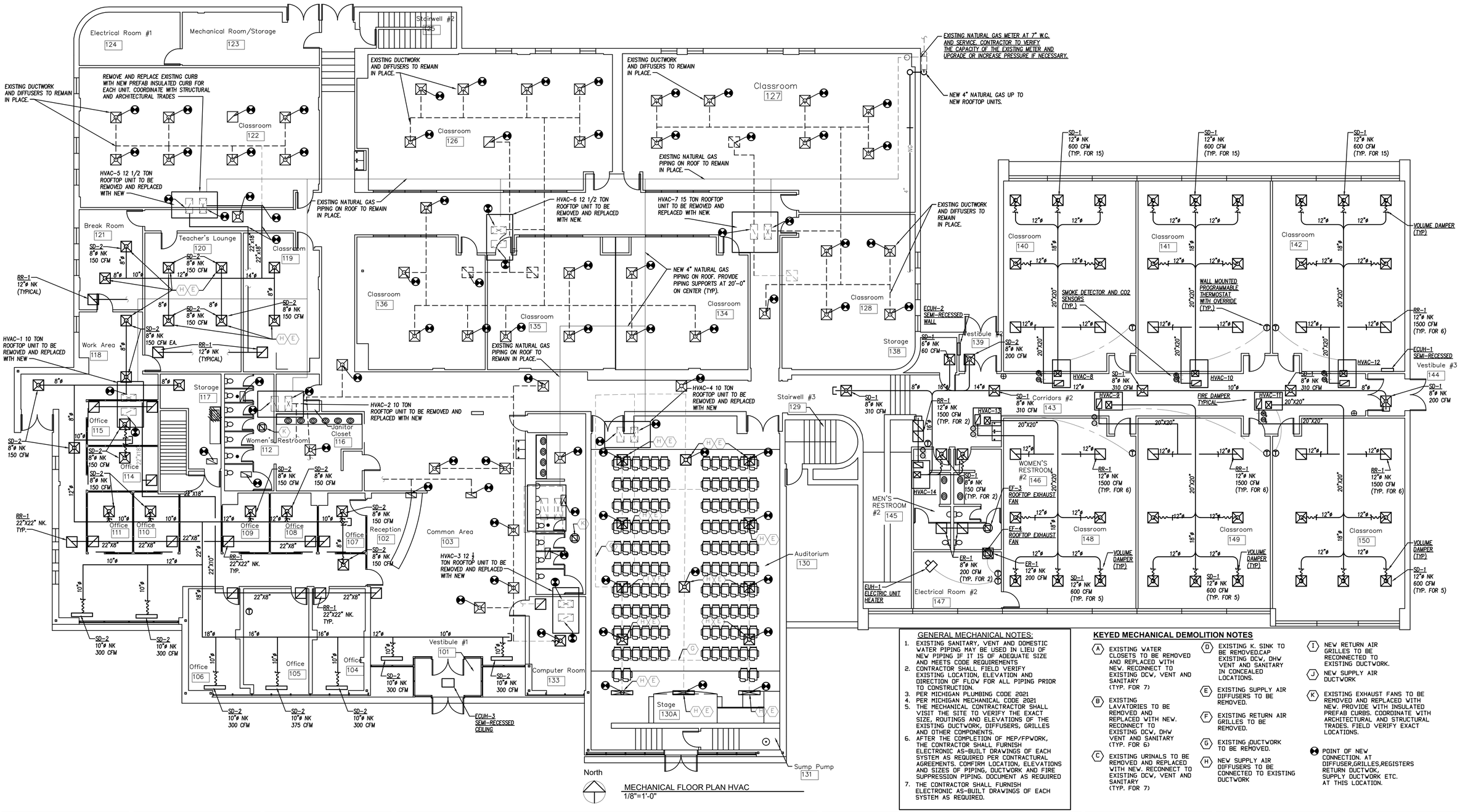
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REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: GLW	DATE: 05/01/2026
DESIGNED BY: GLW	SCALE: 1/8"=1'-0"
CHECKED BY: GLW	JOB NUMBER: 2601

M100



MECHANICAL FLOOR PLAN HVAC
1/8"=1'-0"

GENERAL MECHANICAL NOTES:

1. EXISTING SANITARY, VENT AND DOMESTIC WATER PIPING MAY BE USED IN LIEU OF NEW PIPING IF IT IS OF ADEQUATE SIZE AND MEETS CODE REQUIREMENTS
2. CONTRACTOR SHALL FIELD VERIFY EXISTING LOCATION, ELEVATION AND DIRECTION OF FLOW FOR ALL PIPING PRIOR TO CONSTRUCTION.
3. PER MICHIGAN PLUMBING CODE 2021
4. PER MICHIGAN MECHANICAL CODE 2021
5. THE MECHANICAL CONTRACTRACTOR SHALL VISIT THE SITE TO VERIFY THE EXACT SIZE, ROUTINGS AND ELEVATIONS OF THE EXISTING DUCTWORK, DIFFUSERS, GRILLES AND OTHER COMPONENTS.
6. AFTER THE COMPLETION OF MEP/FPWORK, THE CONTRACTOR SHALL FURNISH ELECTRONIC AS-BUILT DRAWINGS OF EACH SYSTEM AS REQUIRED PER CONTRACTURAL AGREEMENTS. COMFIRM LOCATION, ELEVATIONS AND SIZES OF PIPING, DUCTWORK AND FIRE SUPPRESSION PIPING. DOCUMENT AS REQUIRED
7. THE CONTRACTOR SHALL FURNISH ELECTRONIC AS-BUILT DRAWINGS OF EACH SYSTEM AS REQUIRED.

KEYED MECHANICAL DEMOLITION NOTES

- (A) EXISTING WATER CLOSETS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 7)
- (B) EXISTING LAVATORIES TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, DHW VENT AND SANITARY (TYP. FOR 6)
- (C) EXISTING URINALS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 7)
- (D) EXISTING K. SINK TO BE REMOVED.CAP EXISTING DCW, DHW VENT AND SANITARY IN CONCEALED LOCATIONS.
- (E) EXISTING SUPPLY AIR DIFFUSERS TO BE REMOVED.
- (F) EXISTING RETURN AIR GRILLES TO BE REMOVED.
- (G) EXISTING DUCTWORK TO BE REMOVED.
- (H) NEW SUPPLY AIR DIFFUSERS TO BE CONNECTED TO EXISTING DUCTWORK
- (I) NEW RETURN AIR GRILLES TO BE RECONNECTED TO EXISTING DUCTWORK.
- (J) NEW SUPPLY AIR DUCTWORK
- (K) EXISTING EXHAUST FANS TO BE REMOVED AND REPLACED WITH NEW. PROVIDE WITH INSULATED PREFAB CURBS. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL TRADES. FIELD VERIFY EXACT LOCATIONS.
- (ø) POINT OF NEW CONNECTION. AT DIFFUSER,GRILLES,REGISTERS RETURN DUCTWOK, SUPPLY DUCTWORK ETC. AT THIS LOCATION.

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SHEET NAME: MECHANICAL FLOOR PLAN HVAC

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
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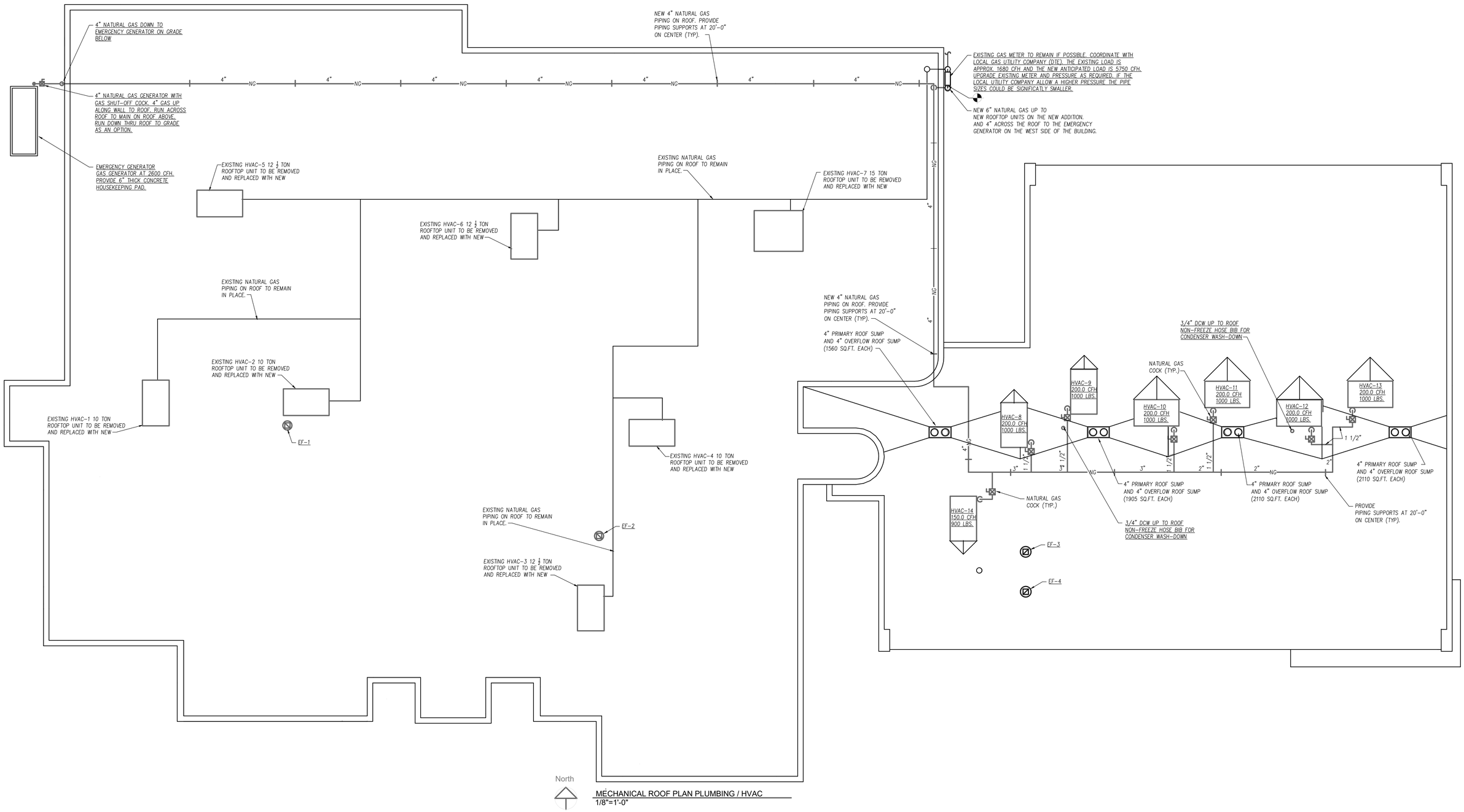
ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: GLW	DATE: 05/01/2026
DESIGNED BY: GLW	SCALE: 1/8" = 1'-0"
CHECKED BY: GLW	JOB NUMBER: 2601

SHEET NUMBER: M200



MECHANICAL ROOF PLAN PLUMBING / HVAC
1/8"=1'-0"

DETROIT ARCHITECT
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MECHANICAL ROOF PLAN PLUMBING / HVAC

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT

MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION

19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
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M300

FAN SCHEDULE

MARK	LOCATION	SERVICE	TYPE	CFM	STATIC PRESSURE (IN. WG)	FAN (RPM)	MOTOR H.P. (WATTS)	ELECTRICAL	DRIVE TYPE	UNIT WEIGHT	REMARKS
EF-1	ROOF	WOMENS TOILET ROOM JANITORS CLOSET	CENTRIFUGAL	800	0..75	1223	1/2	115/1/60	DIRECT	75	BASIS OF DESIGN GREENHECK #G-120-VG
EF-2	ROOF	MENS TOILET ROOM	CENTRIFUGAL	800	0..75	1223	1/2	115/1/60	DIRECT	75	BASIS OF DESIGN GREENHECK #G-120-VG
EF-3	ROOF	TOILET ROOM	CENTRIFUGAL	400	0.50	1550	1/15	115/1/60	DIRECT	50	BASIS OF DESIGN GREENHECK #G-090-D
EF-4	ROOF	ELECTRICAL ROOM	CENTRIFUGAL	200	0.50	1550	1/10	115/1/60	DIRECT	50	BASIS OF DESIGN GREENHECK #G-080-D

NOTES:
1. PROVIDE DISCONNECT SWITCH, GRAVITY DAMPER, AND ROOF CURB."
2. COORDINATE COLOR, STYLE AND SIZE WITH ARCHITECTURAL
3. PROVIDE WALL MOUNTED THERMOSTAT CONTROL FOR EF-2

ELECTRIC DOMESTIC WATER HEATER SCHEDULE

TAG	BASIS OF DESIGN	TANK SIZE GAL	LOCATION	GAS DATA		HEATING CAPACITY		ELECTRICAL	COMMENTS
				TYPE	KW	RECOVERY GPH	TEMP RISE	VOLTS/PHASE/HZ	
EDWH-1	A.O. SMITH #LHC-50	50	SEE DWGS	ELECTRIC	12.3	49	100°F	208/1/60	1,2,3,4,5
EDWH-2	A.O. SMITH #DEL-20	20	SEE DWGS	ELECTRIC	3	12	100°F	208/1/60	1,2,3,4,5

1) PROVIDE P&T VALVE
2) SET HEATER AT 120°F
3) DUAL ELEMENT OPERATION
4) DISCONNECT SWITCH
5) PROVIDE SEAMLESS DRAIN PAN AND DISCHARGE TO NEAREST FLOOR DRAIN

ELECTRIC CABINET UNIT HEATER AND UNIT HEATER SCHEDULE

MARK	LOCATION	OUTPUT (MBH) HI/LO	MOUNT HEIGHT (FT)	AIR DATA		HEATING DATA	ELECTRICAL DATA			EQUAL TO		REMARKS
				CFM LOW	CFM HIGH	KW	AMPS	VOLTS	PHASE	MAKE	MODEL	
ECUH-1,2,3	SEE PLAN	17	2	250	200	5	14	208	3	QMARK	CUS93505203	1
EUH-1	SEE PLAN	17	8	350	-	5	24	208	3	QMARK	MUH0581-PRO	1

NOTES:
1. WALL MOUNTED. PROVIDE THERMOSTAT, DISCONNECT SWITCH, SURFACE MOUNTING BRACKET.

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	MATERIAL/ COLOR	MANUFACTURER/ MODEL NUMBER	TRIM/FAUCET/ FLUSH VALVE	REMARKS
LAV-1	DROP-IN OVAL BOWL	NATURAL QUARTZ	KOHLER	4298 VERGE FAUCET AND SOAP DISPENSERS. PROVIDE WITH ELECTRONIC HARD WIRED FAUCETS.	COLORS AND FINAL SELECTION SELECTION BY OWNER/ARCHITECT
EWC-1	ELECTRIC WATER COOLER (DUAL LEVEL)	STAINLESS STEEL	ELKAY SWRLFLOW ERPBM2BK 8GPH	WALL MOUNTED BI-LEVEL WITH BOTTLE FILLER AND FILTER, LEAD-FREE TWO-STATION ADA COOLER. 120V/1PH/60 HZ 370 WATTS	120V/1PH/60 HZ 370 WATTS LEAD FREE. COLORS AND FINAL SELECTION SELECTION BY OWNER/ARCHITECT
WC-1	WALL HUNG WATER CLOSET-ADA	VITREOUS CHAIN/ WHITE	KOHLER K-4325	KOHLER LUSTRA TOILET SEAT, SLOAN ELECTRONIC FLUSH VALVE	COLORS AND FINAL SELECTION SELECTION BY OWNER/ARCHITECT
UR-1	URINAL-ADA	VITREOUS CHAIN/ WHITE	KOHLER K-4991-ET	KOHLER LUSTRA TOILET SEAT, SLOAN ELECTRONIC FLUSH VALVE	MOUNT AT ADA HEIGHT, SENSOR OPERATED
SK-1	STAINLESS STEEL DROP-IN SINGLE BASIN SINK	STAINLESS STEEL/ SATIN FINISH	ELKAY "LUSTERTONE" LR2521PD	DELTA "LINDEN" SINGLE HANDLE KITCHEN FAUCET WITH SPRAY / 4453-DST	PROVIDE AND INSTALL GARBAGE DISPOSER AS INDICATED BELOW
GD-1	GARBAGE DISPOSER	STAINLESS STEEL	IN-SINK-ERATOR EVOLUTION COMPACT	120 VOLT/1 PHASE 60 HZ, 1725 RPM, 3/4 HP, 8.1 AMPS	PROVIDE AND INSTALL IN SINK SK-1
SS-1	WALL MOUNTED SERVICE SINK	CAST IRON	KOHLER "BANNON" K-6714	K-8928, STRAINER ADJUSTABLE TRAP, DRAIN TREATMENT WALL HANGERS ETC.	COLORS AND FINAL SELECTION SELECTION BY OWNER/ARCHITECT
FD-1	FLOOR DRAIN	CAST IRON BODY/ NICKEL BRONZE	JAY R SMITH 2005-B		
CO	CLEAN OUT	CAST IRON BODY/ NICKEL BRONZE	JAY R SMITH 4505		
FCO	FLOOR CLEAN OUT	CAST IRON BODY/ NICKEL BRONZE	JAY R SMITH 4020		
WCO	WALL CLEAN OUT	STAINLESS STEEL PLUG IN COVER	JAY R SMITH 9776T		
HB-1	WALL HOSE BIB	NICKEL BRONZE	JAY R SMITH 5509QT	ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING	
HB-2	ROOF HOSE BIB	BRONZE	WOODFORD Z1395XL	ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING	
HB-3	WALL SERVICE SINK FAUCET	BRONZE	CHICAGO FAUCET 897-RCF	ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING	
RD-1	PRIMARY ROOF DRAIN	CAST IRON	JAY R SMITH 1010/1020		
ORD-1	OVER FLOW ROOF DRAIN	CAST IRON	JAY R SMITH 1010/1020		
DS-1	DOWN SPOUT NOZZLE	NICKEL BRONZE	JAY R SMITH 1770		

NOTE:
ELECTRIC WATER COOLERS SHALL BE "LEAD-FREE" WITH FILTER FIRST FILTERSINSTALLED.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

TAG	BASIS OF DESIGN	MODEL	CFM	NECK SIZE (INCHES)	MODULE SIZE (INCHES)	MAX NC	REMARKS
SD-1	TITUS OMNI	OMNI-AA	SEE PLAN	SEE PLAN	24X24	30	1,2
ER-1	TITUS EGGCRATE	50F	SEE PLAN	SEE PLAN	24X24	30	1,2
RR-1	TITUS EGGCRATE	50F	SEE PLAN	SEE PLAN	24X24	30	1,2

NOTES:
1. LAY-IN OR PLASTER CEILING. PROVIDE OPTIONAL PLASTER MOUNTING FRAME IN PLASTER CEILING.ALUMINUM FRAME.
2. PROVIDE OPPOSITE BLADE DAMPER. COORDINATE QUANTITY AND FINISH WITH ARCHITECT RCP.

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MECHANICAL SCHEDULES

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

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CHECKED BY:	JOB NUMBER:
GLW	2601

SHEET NUMBER:
M400

PACKAGED HVAC UNIT (HIGH EFFICIENCY) SCHEDULES

MARK	LOCATION	AREA/SYSTEM SERVED	TONS	MINIMUM EFFICIENCY SEER @ AHRI OR (IEER @ AHRI) or EER	SUPPLY FAN / RELIEF FAN								COOLING COIL (DX)						HEATING (GAS)					AIR FILTER				
					TYPE	FAN CFM @ 70°F	EXT SP (IN WIG)	TOTAL SP (IN WG)	FAN RPM	HP	VOLT	PHASE	% OUTSIDE AIR	ENT AIR °F		LVG AIR °F		GROSS TOTAL CAPACITY (MBH)	CAPACITY SENSIBLE COOLING (MBH)	TYPE	MBH INPUT	MBH OUTPUT	DESIGN AIR TEMPS°F		MERV	SINGLE POINT MINIMUM CIRCUIT AMPS/	DIMENSIONS L"XW"XH"	DESIGN BASIS MFR/MODEL	APPROXIMATE WEIGHT LBS.	REMARKS
														DB	WB	DB	WB						OUTSIDE AIR WINTER DESIGN	LEAVING AIR WINTER DESIGN					
HVAC–8 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	56.12	54.12	120.08	93.51	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–9 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	57.24	57.24	93.68	69.12	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–10 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	57.24	57.24	93.68	69.12	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–11 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	57.24	57.24	93.68	69.12	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–12 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	57.24	57.24	93.68	69.12	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–13 (N)	ROOF	CLASSROOM	7 1/2	17.2	BC PLENUM	3000	1.00	1.343	–	3	208	3	15	80	67	57.24	57.24	93.68	69.12	NG	200.0	162.00	–5	109.52	13	76.7	7.34'LX4.44'WX4.24'H	TRANE YHK090	1360.0	1 – 19
HVAC–14 (N)	ROOF	TOILET ROOMS, CORRIDOR	5	(17.1)	BC PLENUM	2000	1.00	1.161	–	3	208	3	15	80	67	55.75	55.66	62.52	44.92	NG	150.0	121.50	–5	115.50	13	34.2	7.34'LX4.44'WX4.24'H	TRANE YHK060	1216.0	1 – 19
PACKAGED HVAC UNIT (HIGH EFFICIENCY) SCHEDULES REPLACEMENT OF EXISTING UNITS																													
HVAC–1 (E)	ROOF	SEE DRAWINGS	10	15.8	BC PLENUM	4000	1.00	1.91	–	5	208	3	15	80	67	56.12	57.24	120.0	93.51	NG	200.0	162.0	–5	103	13	63.9	10.42'LX4.44'WX4.24'H	TRANE YHK120	2500.0	1 – 19
HVAC–2 (E)	ROOF	SEE DRAWINGS	10	15.8	BC PLENUM	4000	1.00	1.91	–	5	208	3	15	80	67	56.12	57.24	120.0	93.51	NG	200.0	162.0	–5	103	13	63.9	10.42'LX4.44'WX4.24'H	TRANE YHK120	2500.0	1 – 19
HVAC–3 (E)	ROOF	SEE DRAWINGS	12 1/2	17.9	BC PLENUM	5000	1.00	1.18	–	5	208	3	15	80	67	55.71	54.08	150.7	118.6	NG	200.0	162.0	–5	103	13	79.2	17.3'LX7.25'WX4.92'H	TRANE YHK150	3600.0	1 – 19
HVAC–4 (E)	ROOF	SEE DRAWINGS	10	15.8	BC PLENUM	4000	1.00	1.91	–	5	208	3	15	80	67	56.12	57.24	120.0	93.51	NG	200.0	162.0	–5	103	13	63.9	10.42'LX4.44'WX4.24'H	TRANE YHK120	2500.0	1 – 19
HVAC–5 (E)	ROOF	SEE DRAWINGS	12 1/2	17.9	BC PLENUM	5000	1.00	1.18	–	5	208	3	15	80	67	55.71	54.08	150.7	118.6	NG	200.0	162.0	–5	103	13	79.2	17.3'LX7.25'WX4.92'H	TRANE YHK150	3600.0	1 – 19
HVAC–6 (E)	ROOF	SEE DRAWINGS	12 1/2	17.9	BC PLENUM	5000	1.00	1.18	–	5	208	3	15	80	67	55.71	54.08	150.7	118.6	NG	200.0	162.0	–5	103	13	79.2	17.3'LX7.25'WX4.92'H	TRANE YHK150	3600.0	1 – 19
HVAC–7 (E)	ROOF	SEE DRAWINGS	15	11.2	BC PLENUM	6000	1.00	1.75	–	3	208	3	15	80	67	55.75	55.66	62.52	44.92	NG	400.0	280.0	–5	94.7	13	84.4	17.3'LX7.25'WX4.92'H	TRANE YHK180	3700.0	1 – 19

(E) EQUAL TO EXISTING BUILDING HVAC UNITS
(N) EQUAL TO NEW BUILDING HVAC UNITS

NOTES:
1. MINIMUM EFFICIENCIES ARE PER ASHRAE STANDARD TABLES
2. PROVIDE WITH PREFABRICATED INSULATED ROOF CURBS.
3. PROVIDE CO2 DEMAND CONTROL VENTILATION
4. PROVIDE WITH PROGRAMMABLE HEATING / COOLING THERMOSTAT.
5. PROVIDE LOW AMBIENT COOLING CONTROLS.
6. UNIT IS TO BE EQUIPPED WITH 0–100% MODULATING (COMPARATIVE ENTHALPY) AND ASSOCIATED DAMPERS & CONTROLS.
7. UNIT IS TO BE CAPABLE OF VENTILATION RESET CONTROL STRATEGY.
8. PROVIDE RETURN AIR SMOKE DETECTORS.
9. PROVIDE ULTRA LOW LEAK DAMPERS.
10. PROVIDE WITH 120 VOLT (20 AMP) RECEPTACLE OUTLET.
11. PROVIDE PRESSURIZATION CONTROL SYSTEM.
12. PROVIDE LOW AMBIENT CONTROLS FOR WINTER OPERATION.
13. PROVIDE ENERGY RECOVERY FOR HVAC–1 THROUGH HVAC–7 AND REPLACEMENT UNITS
14. NON–FUSED DISCONNECT SWITCH.
15. PROVIDE WITH RELIEF FAN
16. REFRIGERANT 454B
17. PROVIDE WITH ENERGY RECOVERY SECTIONS
18. PROVIDE BAS SYSTEM SIMILAR TO TRANE TRACER BUILDING AUTOMATION SYSTEM OR RECONNECT TO THE EXISTING CONTROL SYSTEM AT THE OWNERS DISCRETION.
19. PROVIDE GAS PRESSURE REGULATORS AT INDIVISUAL ROOFTOP UNITS AS REQUIRED.

ENERGY RECOVERY SECTION SECHEDULE

ENERGY RECOVERY UNIT	UNIT SERVED	TONS	UNIT EFFECTIVENESS SUMMER/WINTER %	UNIT PRESSURE DROP SUMMER/WINTER	ERV VELOCITY	ENERGY RECOVERY - SUMMER		ENERGY RECOVERY - WINTER		ENERGY RECOVERY - SUMMER M.S.A.		ENERGY RECOVERY - WINTER M.S.A.		REMARKS
						ERV DB (F°)	ERV WB (F°)	ERV DB (F°)	ERV DB (F°)	DB (F°)	WB (F°)	DB (F°)	WB (F°)	
ERU-8	HVAC-1	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-9	HVAC-2	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-10	HVAC-3	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-11	HVAC-4	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-12	HVAC-5	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-13	HVAC-6	7 1/2	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ERU-14	HVAC-7	5	82/81	.65/.65	476.2	77.6	65	58	50.3	75.9	63.7	66	55.4	1,2,3
ENERGY RECOVERY SECTION FOR REPLACEMENT UNITS														
ERU-1(R)	HVAC-1(R)	10	79/77	.44/.44	402.4	78.1	65.3	55.7	48.7	76	63.8	65.3	55	1,2,3,4
ERU-2(R)	HVAC-2(R)	10	79/77	.44/.44	402.4	78.1	65.3	55.7	48.7	76	63.8	65.3	55	1,2,3,4
ERU-3(R)	HVAC-3(R)	12 1/2	76/74	.53/.53	482.9	78.5	65	58	50.3	76.2	64.6	64.6	54.6	1,2,3,4
ERU-4(R)	HVAC-4(R)	10	79/77	.44/.44	402.4	78.1	65.3	55.7	48.7	76	63.8	65.3	55	1,2,3,4
ERU-5(R)	HVAC-5(R)	12 1/2	76/74	.53/.53	482.9	78.5	65	58	50.3	76.2	64.6	64.6	54.5	1,2,3,4
ERU-6(R)	HVAC-6(R)	12 1/2	76/74	.53/.53	482.9	78.5	65	58	50.3	76.2	64.6	64.6	54.6	1,2,3,4
ERU-7(R)	HVAC-7(R)	15	71/69	.69/.69	643.9	79.3	66.1	50.1	44.9	76.4	64.1	63.4	53.9	1,2,3,4

(E) EQUAL TO EXISTING BUILDING HVAC UNITS
(N) EQUAL TO NEW BUILDING HVAC UNITS

NOTES:
1. UNITS ARE INTEGRAL INTO ASSOCIATED HVAC UNIT
2. PLATE AND FRAME/ENERGY CORE TYPE IS ONE OPTION AND A WHEEL TYPE ENERGY RECOVERY IS ANOTHER OPTION. FINAL ENERGY RECOVERY TYPE AND CONTROLS SHALL BE COORDINATED WITH OWNER REPRESENTATIVES.
3. WHEEL MOTORS SHALL BE EC OR PROVIDED WITH VFD. MFR RECOMMENDED DEFROST GUIDELINES.
4. (R) INDICATES HVAC UNITS THAT ARE TO BE REPLACE WITH NEW

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MECHANICAL SPECIFICATIONS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

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VENTILATION SCHEDULE - UC

NO	ROOM NAME	AREA		MINIMUM OUTDOOR AIR CFM/SF	REQUIRED OUTDOOR AIR CFM BASED ON FLOOR AREA	REQUIRED FRESH AIR CFM/PERSON		NUMBER OF PEOPLE	REQUIRED OUTDOOR AIR CFM BASED CFM/PERSON	TOTAL COMBINED OUTDOOR AIR VENTILATION REQUIRED FOR FLOOR AREA + CFM/OCCUPANT	EXHAUST	ROOFTOP UNITS AND EXHAUST FAN INTERLOCKS. (ROOMS ARE SERVED BY THE FOLLOWING EQUIPMENT)
		SQ. FT		CFM/SQ.FT	CFM	CFM		CFM	CFM	CFM	CFM	HVAC-1
101	VESTIBULE	90	X	0.18	16	7.5	X	1	7.5	459	0	HVAC-1
102	RECEPTION	164	X	0.18	29	5	X	2	300	459	0	HVAC-1
103	COMMON AREA	1460	X	0.06	88	7.5	X	40	300	459	0	HVAC-1
104	OFFICE	192	X	0.06	12	5	X	30	300	459	0	HVAC-1
105	OFFICE	239	X	0.06	14	5	X	30	300	459	0	HVAC-1
106	OFFICE	194	X	0.06	12	5	X	30	300	470	0	HVAC-1
107	OFFICE	96	X	0.06	6	5	X	0	0	7	0	HVAC-1
108	OFFICE	97	X	0.06	6	5	X	0	0	4	0	HVAC-1
109	OFFICE	93	X	0.06	6	5	X	0	0	4	0	HVAC-1
110	OFFICE	96	X	0.06	7	5	X	0	0	66	0	HVAC-1
111	OFFICE	97	X	0.06	7	5	X	0	0	0	200	HVAC-1
112	WOMENS RESTROOM	442	X	0.06	0	0	X	0	0	0	200	HVAC-1
113	STAIRWELL #1	76	X	0.06	5	0	X	0	0	32	200	hVAC-1
114	OFFICE	112	X	0	0	5	X	0	0	0	0	HVAC-1
115	OFFICE	112	X	0	0	5	X	0	0	0	0	HVAC-1
116	JANITOR'S CLOSET	58	X	0	0	0	X	0	0	0	0	-
117	STORAGE	146	X	0	0	0	X	0	0	0	0	HVAC-1
118	WORK AREA	104	X	0	0	0	X	0	0	0	0	HVAC-1
119	CLASSROOM	222	X	0.12	27	10	X	30	300	0	0	HVAC-5
120	TEACHER'S LOUNGE	61	X	0	0	0	X	0	0	0	0	HVAC-5
121	BREAK ROOM	227	X	0	0	0	X	0	0	0	0	HVAC-5
122	CLASSROOM	1182	X	0.12	142	10	X	30	300	0	0	HVAC-5
123	MECHANICAL ROOM/STORAGE	248	X	0	0	0	X	0	0	0	0	-
124	ELECTRICAL ROOM #1	186	X	0	0	0	X	0	0	0	0	-
125	STAIRWELL #2	107	X	0	0	0	X	0	0	0	0	-
126	CLASSROOM	1198	X	0.12	144	10	X	30	300	0	0	HVAC-6
127	CLASSROOM	1505	X	0.12	180	10	X	30	300	0	0	HVAC-7
128	EDITING LAB	720	X	0.12	87	10	X	30	300	0	0	HVAC-7
129	STAIRWELL #3	107	X	0	0	0	X	0	0	0	0	-
130	AUDITORIUM	1946	X	0	0	0	X	0	0	0	0	HVAC-4
130A	AUDITORIUM STAGE	72	X	0	0	0	X	0	0	0	0	HVAC-4
131	SUMP PUMP	60	X	0	0	0	X	0	0	0	0	-
132	MEN'S RESTROOM	306	X	0	0	0	X	0	0	0	0	-
133	COMPUTER ROOM	201	X	0	0	0	X	0	0	0	0	-
134	CLASSROOM	596	X	0.12	71	10	X	30	300	0	0	HVAC-6
135	CLASSROOM	577	X	0.12	69	10	X	30	300	0	0	HVAC-6
136	CLASSROOM	579	X	0.12	69	10	X	30	300	0	0	HVAC-6
137	CORRIDOR	2100	X	0	0	0	X	0	0	0	0	HVAC-6
138	STORAGE	51	X	0	0	0	X	0	0	0	0	HVAC-14
139	VESTIBULE #2	56	X	0.12	105	10	X	30	300	459	0	HVAC-14
140	CLASSROOM	882	X	0.12	105	10	X	30	300	459	0	HVAC-8
141	CLASSROOM	882	X	0.12	105	10	X	30	300	459	0	HVAC-10
142	CLASSROOM	882	X	0.12	105	10	X	30	300	459	0	HVAC-12
143	CORRIDOR #2	1065	X	0.12	105	10	X	30	300	459	0	HVAC-7
144	VESTIBULE #3	56	X	0	0	0	X	0	0	0	0	HVAC-7
145	MEN'S RESTROOM #2	116	X	0	0	0	X	0	0	0	0	HVAC-14
146	WOMEN'S RESTROOM #2	152	X	0	0	0	X	0	0	0	0	HVAC-14
147	ELECTRICAL ROOM #2	178	X	0	0	0	X	0	0	0	0	EUH-1
148	CLASSROOM	882	X	0.12	105	10	X	30	300	0	0	HVAC-13
149	CLASSROOM	882	X	0.12	105	10	X	30	300	0	0	HVAC-9
150	CLASSROOM	936	X	0.12	112	10	X	30	300	0	0	HVAC-11
TOTAL		XXX		XXX	X	-		-	X	X	X	

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MECHANICAL VENTILATION SCHEDULE

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
1930 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE

ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

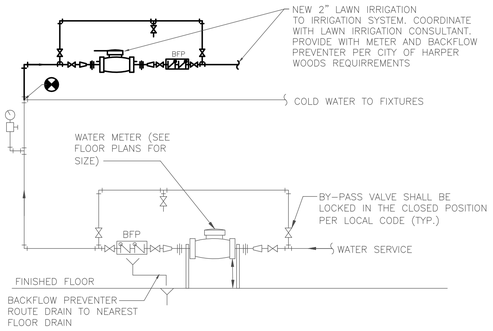
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REV. #	REVISION DESCRIPTION	DATE

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DESIGNED BY: | SCALE: NONE
CHECKED BY: | JOB NUMBER:

SHEET NUMBER: M402

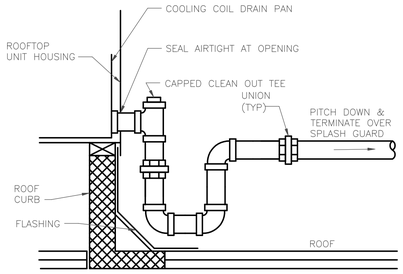


4 EXISTING DOMESTIC WATER METER PIPING DIAGRAM

NOT TO SCALE

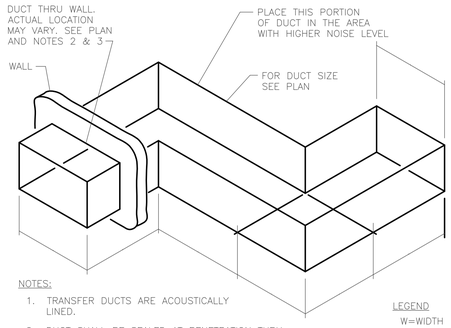
NOTES:

1. **FOR 4" AND LARGER WATER SERVICES SHALL BE ROLLED OFF AT A 45° ANGLE FROM CENTER OF WATER METRE.**
2. **ALL PIPING SHALL BE SUPPORTED INDEPENDENTLY FROM WATER METER.**
3. **WHERE UNION ARE INDICATED FLANGED COMPONENTS MAY BE SUBSTITUTED.**



3 ROOFTOP UNIT CONDENSATE DRAIN PAN TRAP DETAIL

NO SCALE

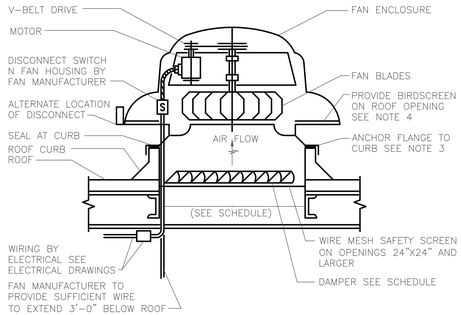


NOTES:

1. TRANSFER DUCTS ARE ACOUSTICALLY LINED.
2. DUCT SHALL BE SEALED AT PENETRATION THRU WALL. SEE SPECIFICATION FOR PROPER SEALANT.
3. PROVIDE FIRE DAMPER WITH ACCESS AT WALL IF WALL IS 2 HOUR FIRE RATED OR HIGHER

2 TRANSFER DUCT DETAIL

NOT TO SCALE

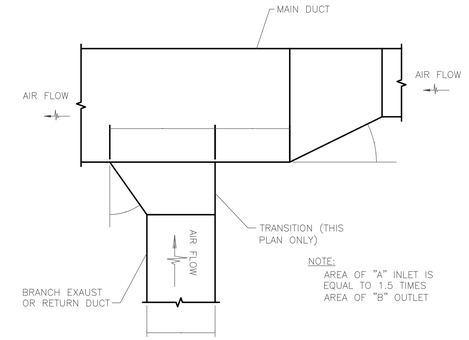


NOTE:

1. FOR ROOF CURB AND ROOF OPENING DETAILS, SEE ARCHITECTURAL DRAWING.
2. WHERE DISCONNECT IS EXPOSED TO WEATHER PROVIDE NEMA 4 ENCLOSURE.
3. ANCHOR FLANGE TO CURB WITH 3/8"X3" LAG BOLTS AND WASHERS ON 6" CENTERS
4. MANUFACTURER'S STANDARD BIRDSCREEN, AREA TO BE A MINIMUM OF 125 PERCENT OF ROOF OPENING AREA.

1 CENTRIFUGAL DOME TYPE ROOF EXHAUST FAN DETAIL

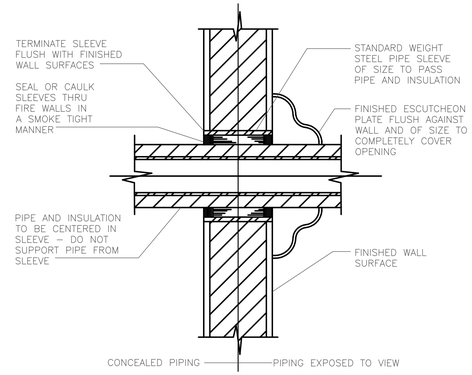
NOT TO SCALE



NOTE:
AREA OF "A" INLET IS EQUAL TO 1.5 TIMES AREA OF "B" OUTLET

6 EXHAUST OR RETURN AIR RECTANGULAR DUCT CONNECTION

NO SCALE



5 PIPE SLEEVE THRU WALL

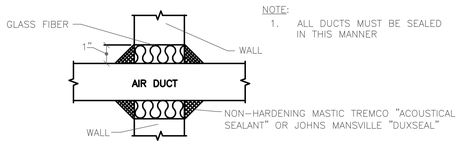
NOT TO SCALE

NOTE:

1. USE FORMED BELL MOUTH INLET FOR ROUND OR FLAT OVAL DUCTWORK.

7 FORMED SHEET METAL INLET DETAIL

NOT TO SCALE

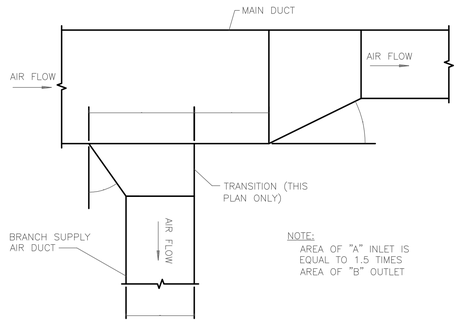


NOTE:

1. ALL DUCTS MUST BE SEALED IN THIS MANNER

10 ACOUSTIC SEAL OF AIR DUCT AT WALL PENETRATION DETAIL

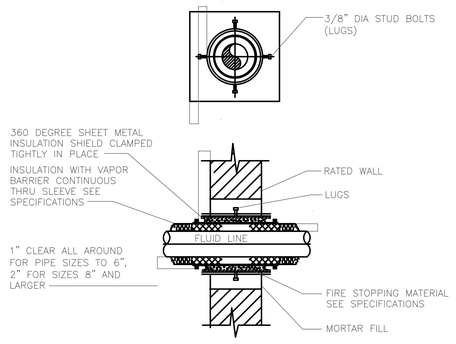
NO SCALE



NOTE:
AREA OF "A" INLET IS EQUAL TO 1.5 TIMES AREA OF "B" OUTLET

9 SUPPLY AIR RECTANGULAR DUCT CONNECTION

NOT TO SCALE



8 FIRE WALL PENETRATION FOR PIPES

NOT TO SCALE

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MECHANICAL DETAILS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

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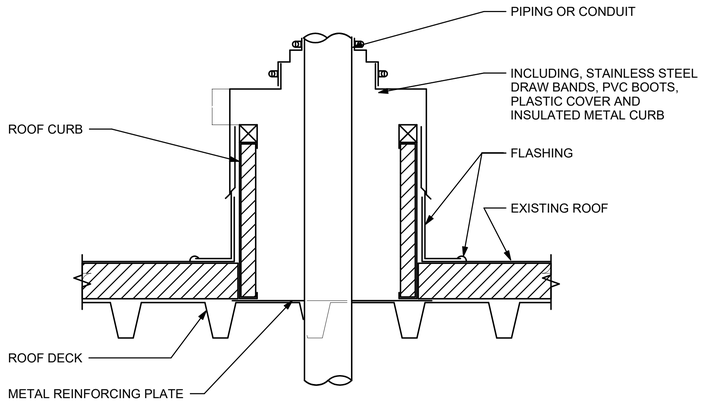
REVISION SCHEDULE

REV. #	REVISION DESCRIPTION	DATE

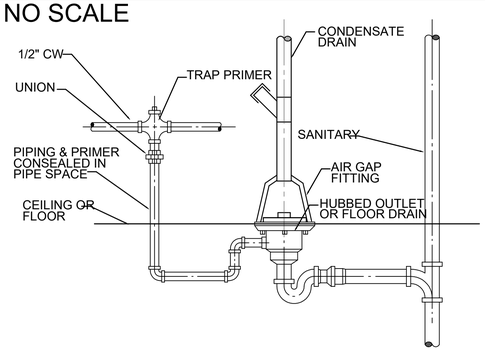
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GLW	NO SCALE
CHECKED BY:	JOB NUMBER:
GLW	2601

SHEET NUMBER:
M403



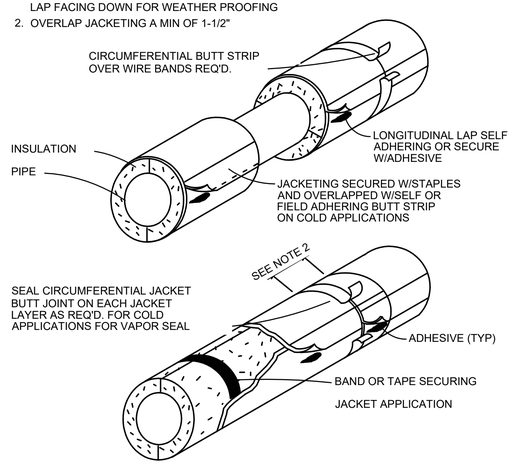
MECHANICALPIPE PENETRATION THROUGH ROOF DETAIL
NO SCALE



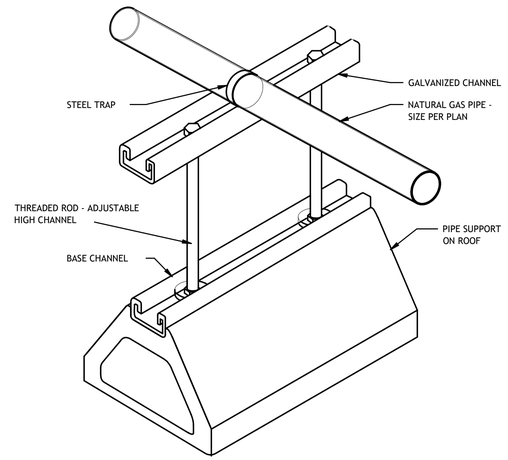
TYPICAL TRAP PRIMER CONNECTION DETAIL
NO SCALE

PROVIDE APPROVED TRAP PRIMERS. CONTRACTOR MAY USE "SURE SEAL" OR EQUAL IN LIEU OF THE ABOVE

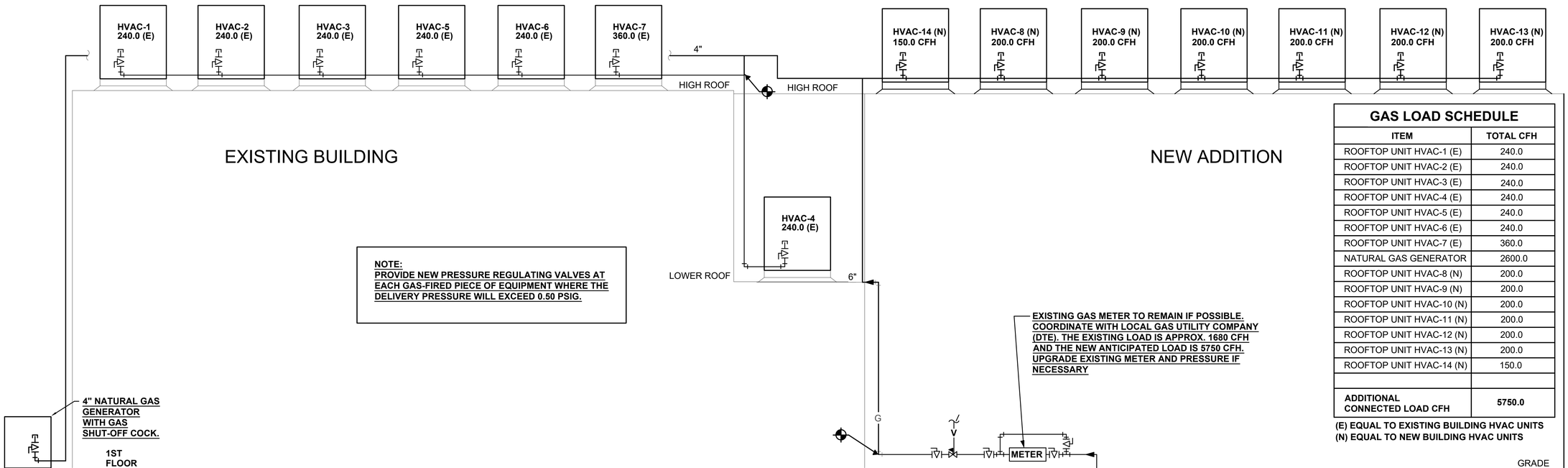
NOTES:
1. LONGITUDINAL JACKETING SEAMS POSITIONED AT 3 OR 9 O'CLOCK ONLY W/TOP LAP FACING DOWN FOR WEATHER PROOFING
2. OVERLAP JACKETING A MIN OF 1-1/2"



MECHANICAL PIPING INSULATION DETAIL
NO SCALE



MECHANICAL ROOF PIPE SUPPORT
NO SCALE



MECHANICAL NATURAL GAS PIPING DIAGRAM
NO SCALE

GAS LOAD SCHEDULE

ITEM	TOTAL CFH
ROOFTOP UNIT HVAC-1 (E)	240.0
ROOFTOP UNIT HVAC-2 (E)	240.0
ROOFTOP UNIT HVAC-3 (E)	240.0
ROOFTOP UNIT HVAC-4 (E)	240.0
ROOFTOP UNIT HVAC-5 (E)	240.0
ROOFTOP UNIT HVAC-6 (E)	240.0
ROOFTOP UNIT HVAC-7 (E)	360.0
NATURAL GAS GENERATOR	2600.0
ROOFTOP UNIT HVAC-8 (N)	200.0
ROOFTOP UNIT HVAC-9 (N)	200.0
ROOFTOP UNIT HVAC-10 (N)	200.0
ROOFTOP UNIT HVAC-11 (N)	200.0
ROOFTOP UNIT HVAC-12 (N)	200.0
ROOFTOP UNIT HVAC-13 (N)	200.0
ROOFTOP UNIT HVAC-14 (N)	150.0
ADDITIONAL CONNECTED LOAD CFH	**5750.0**

(E) EQUAL TO EXISTING BUILDING HVAC UNITS
(N) EQUAL TO NEW BUILDING HVAC UNITS

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MECHANICAL DETAILS AND DIAGRAMS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE

ISSUED FOR	DATE
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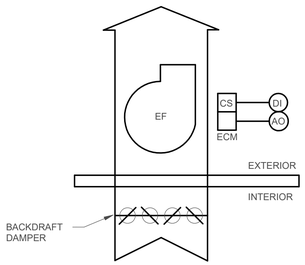
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GLW	NO SCALE
CHECKED BY:	JOB NUMBER:
GLW	2601

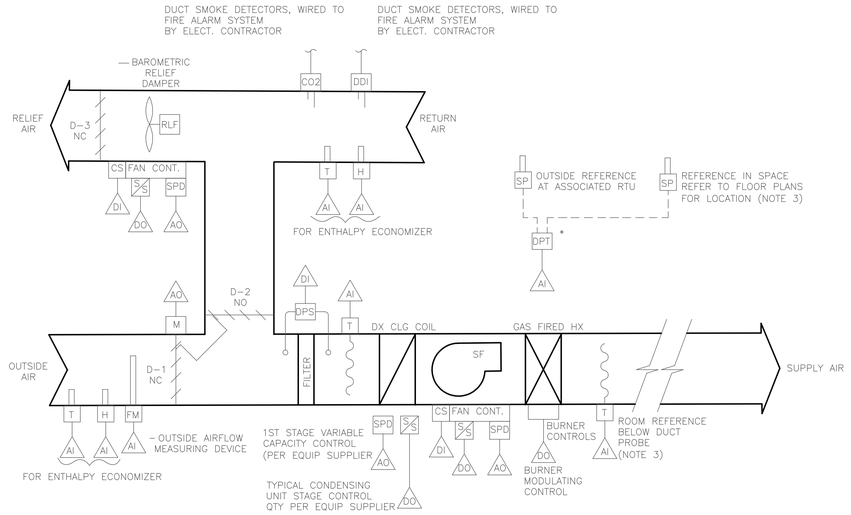
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SEQUENCE OF OPERATION: EXHAUST FAN EF-1 THRU EF-4

NOTE: ALL SETPOINTS AND TIME INTERVALS SHALL BE ADJUSTABLE BY THE SYSTEM OPERATOR.

THE FAN SHALL BE PROGRAMMABLE TIME SWITCH OPERATED AND IS INTENDED TO RUN CONTINUOUSLY AT A CONSTANT VOLUME ON A TIME OF DAY SCHEDULE. IF THE FAN IS COMMANDED ON, BUT NO CURRENT IS SENSED, THE FAN SHALL BE SHUT DOWN AND AN ALARM SHALL BE GENERATED AT THE BMS.



ROOF TOP HVAC UNIT HVAC-1 THRU HVAC-14

SERVE BUILDING SPACES

SEQUENCE OF OPERATION

HVAC UNITS: HVAC-1 THROUGH HVAC-14:

NOTE:ROOFTOP HVAC UNITS SHALL INCLUDE PACKAGED CONTROLS.

1. HVAC UNITS PACKAGED CONTROLS SHALL RECEIVE A SCHEDULED OCCUPIED MODE SIGNAL FROM PROGRAMMABLE THERMOSTATS.
2. DURING OCCUPIED MODE, HVAC UNIT SUPPLY FAN OPERATIONS SHALL BE CONTINUOUS AND THE OUTSIDE AIR & RETURN AIR DAMPER SHALL BE OPENED TO MINIMUM OA FLOW POSITION AND BE ALLOWED TO MODULATE FURTHER OPEN FOR COOLING ECONOMIZER MODE PER HVAC UNIT PACKAGED CONTROLS DIFFERENTIAL ENTHALPY CONTROL LOGIC. HVAC PACKAGED CONTROLS SHALL MONITOR OUTDOOR AIRFLOW AND MODULATE DAMPERS TO MAINTAIN THE SCHEDULED MINIMUM OUTSIDE AIR CFM SETPOINT.
3. DURING OCCUPIED MODE, RELIEF FAN CONTROL BY PACKAGED CONTROLS SHALL BE ACTIVATED BASED ON OUTSIDE AIR DAMPER OPEN POSITION.
4. SUPPLY FAN STATUS AND RELIEF FAN STATUS SHALL BE MONITORED BY HVAC UNIT PACKAGED CONTROLS THRU RESPECTIVE CURRENT SWITCH. ABNORMAL STATUS CONDITION FOR SUPPLY FAN OR RELIEF FAN SHALL ACTIVATE ALARM.
5. HVAC UNIT PACKAGED CONTROLS SHALL CONTROL HVAC UNITS AS A CONSTANT AIR VOLUME UNIT. SUPPLY FAN SPEED SHALL BE MAINTAINED AS SCHEDULED FOR THE DESIGNED STATIC PRESSURE. (ADJUSTABLE TO BE DETERMINED BY TEST & BALANCE CONTRACTOR).
6. WHEN HVAC UNIT IS ACTIVATED, THE SUPPLY FAN SHALL BE STARTED AT SPEED SETTING.
7. FOR HEATING AND COOLING MODES, HVAC UNIT PACKAGED CONTROLS SHALL BE CONTROLLED TO MAINTAIN A DISCHARGE AIR TEMP SETPOINT.
   ON HEATING AND COOLING DEMAND FEEDBACK FROM ZONE THERMOSTAT. RTU PACKAGED CONTROLS SHALL MODULATE GAS-FIRED BURNER OR CONTROL DX COOLING WITH 1ST STAGE MODULATING CAPABILITIES AS REQUIRED.
8. THE DISCHARGE AIR TEMP LOW LIMIT SETPOINT FOR HVAC UNIT PACKAGED CONTROLS SHALL BE BASED ON THE FOLLOWING (ADJUSTABLE) OUTDOOR AIR TEMP RESET SCHEDULE:

OAT	DAT
≤ 30°F	60°F
≥ 55°F	55°F

9. PROVIDE DISCHARGE AIR TEMP SETPOINT BASED ON THE HEATING AND COOLING DEMAND FROM THERMOSTAT (FOR OCCUPIED OR UNOCCUPIED SPACE TEMP SETPOINTS DEPENDING ON WHICH MODE IS ACTIVE). FOR HEATING MODE, BAS SHALL RESET DAT SETPOINT UP FROM RTU LOW LIMIT SETPOINT TO A MAXIMUM OF 105°F (ADJUSTABLE) TO SATISFY THE ZONE. FOR COOLING MODE, BAS SHALL RESET DAT SETPOINT DOWN FROM A MAXIMUM OF 65°F (ADJUSTABLE) TO HVAC UNIT LOW LIMIT SETPOINT OF 55°F TO SATISFY THE ZONE.
10. DURING UNOCCUPIED MODE, THERMOSTAT SHALL CYCLE THE HVAC ON/OFF AS REQUIRED TO MAINTAIN HEATING SETBACK AND COOLING SETUP TEMPERATURE SETPOINT. UNOCCUPIED MODE SHALL BE INITIATED WHEN THE ZONE EXCEEDS ITS UNOCCUPIED MODE SETPOINT FOR HEATING OR COOLING. DURING UNOCCUPIED MODE HVAC CYCLING AIR DAMPER SHALL REMAIN CLOSED TO OPERATE HVAC UNIT IN A RE-CIRCULATION MODE UNLESS OA ECONOMIZER MODE IS AVAILABLE FOR FREE COOLING. RELIEF FAN SHALL REMAIN OFF WHEN OA DAMPER IS CLOSED. TC CONTRACTOR SHALL COORDINATE REQUIRED HVAC UNIT PACKAGED CONTROLS INTERFACE TO ACCOMPLISH UNOCCUPIED MODE CYCLING AS DESCRIBED.
11. FIRE ALARM SYSTEM CONTROL MODULE SHALL DEACTIVATE RTU WHEN PRODUCTS OF COMBUSTION ARE DETECTED AT DUCT SMOKE DETECTOR(S) ASSOCIATED WITH HVAC UNIT. SAFETY CUTOUT ALARM CONDITION SHALL BE INDICATED AT LOCAL CONTROL PANEL WITH REMOTE ALARM INDICATION TO BAS THRU BACnet COMMUNICATION.
12. FILTER STATUS SHALL BE MONITORED BY HVAC UNIT PACKAGED CONTROLS, DIRTY FILTER ALARM CONDITION SHALL BE INDICATED AT LOCAL CONTROL PANEL WITH REMOTE ALARM INDICATION TO BAS THRU BACnet COMMUNICATION.
13. OTHER ALARM CONDITIONS AND DIAGNOSTICS CODES SHALL BE INDICATED AT LOCAL CONTROL PANEL.
14. WHEN HVAC UNIT IS DEACTIVATED. DX COOLING AND GAS-FIRED HEATING CONTROLS SHALL REMAIN OFF AND OUTSIDE AIR DAMPER SHALL REMAIN CLOSED.
15. UPON DETECTION OF SMOKE VIA THE DUCT MOUNTED SMOKE DETECTOR IN THE MAIN RETURN AIR DUCT OF EACH UNIT. CONNECT SMOKE DETECTORS TO BUILDING MAIN FIRE ALARM SYSTEM.
16. UPON DETECTION OF HIGH LEVELS OF CO2 IN THE SPACE THE HVAC UNIT CONTROLS SHALL MODULATE THE OUTDOOR AIR DAMPER(S) TO THE OPEN POSITION UNTIL THE SPACE RETURN TO ACCEPTABLE LEVELS (ADJUSTABLE).

NOTES:

1. HVAC UNITS SHALL BE FURNISHED WITH PACKAGED CONTROLS PROVIDED BY THE UNIT MANUFACTURER. HVAC MANUFACTURER SHALL PROVIDE ADDITIONAL SAFETIES AS REQUIRED (NOTE SHOWN) DEEMED NECESSARY BY UNIT MANUFACTURER TO PROTECT THE UNIT COMPONENTS AND CONSTRUCTION.
2. "*" INDICATES PANEL MOUNTED COMPONENT BY UNIT MANUFACTURER.
3. TC CONTRACTOR SHALL PROVIDE ALL REMOTE STATIC PRESSURE PROBES AND PROVIDE FIELD INSTALLED INSTRUMENTATION TUBING TO THE RTU PACKAGED CONTROLS. REFER TO FLOOR PLANS FOR REMOTE DUCT STATIC PRESSURE PROBE LOCATION.
4. TC CONTRACTOR SHALL COORDINATE TERMINATION REQUIREMENTS FOR FIELD INSTALLED WIRING AND INSTRUMENTATION TUBING WITH RTU MANUFACTURER.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM SYSTEM COMPONENTS AND WIRING FROM FIRE ALARM PANEL TO CONTROL MODULE. TC CONTRACTOR SHALL PROVIDE WIRING FROM CONTROL MODULE TO HVAC UNIT SAFETY CIRCUIT.
6. HVAC UNIT PACKAGED CONTROLS SHALL BE PROVIDED WITH A BACnet COMMUNICATION INTERFACE. TC CONTRACTOR SHALL CONNECT HVAC UNIT PACKAGED DDC CONTROLLER TO TC CONTRACTOR PROVIDED BAS NETWORK. TC CONTRACTOR SHALL INTEGRATE CONTROL AND MONITORING POINTS TO THE BAS FOR REQUIRED CONTROLS INTERFACE (REFER TO SEQUENCE OF OPERATION).
7. WHERE THE UNIT MANUFACTURER CAN NOT PROVIDE THE REQUIRED CONTROLS, THE TC CONTRACTOR SHALL BE REQUIRED TO FURNISH AND INSTALL THE REQUIRED COMPONENTS AS NEEDED FOR A COMPLETE AND OPERABLE SYSTEM.

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CONTROLS AND SEQUENCE OF OPERATIONS

WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION
19305 VERNIER RD, HARPER WOODS, MI 48225

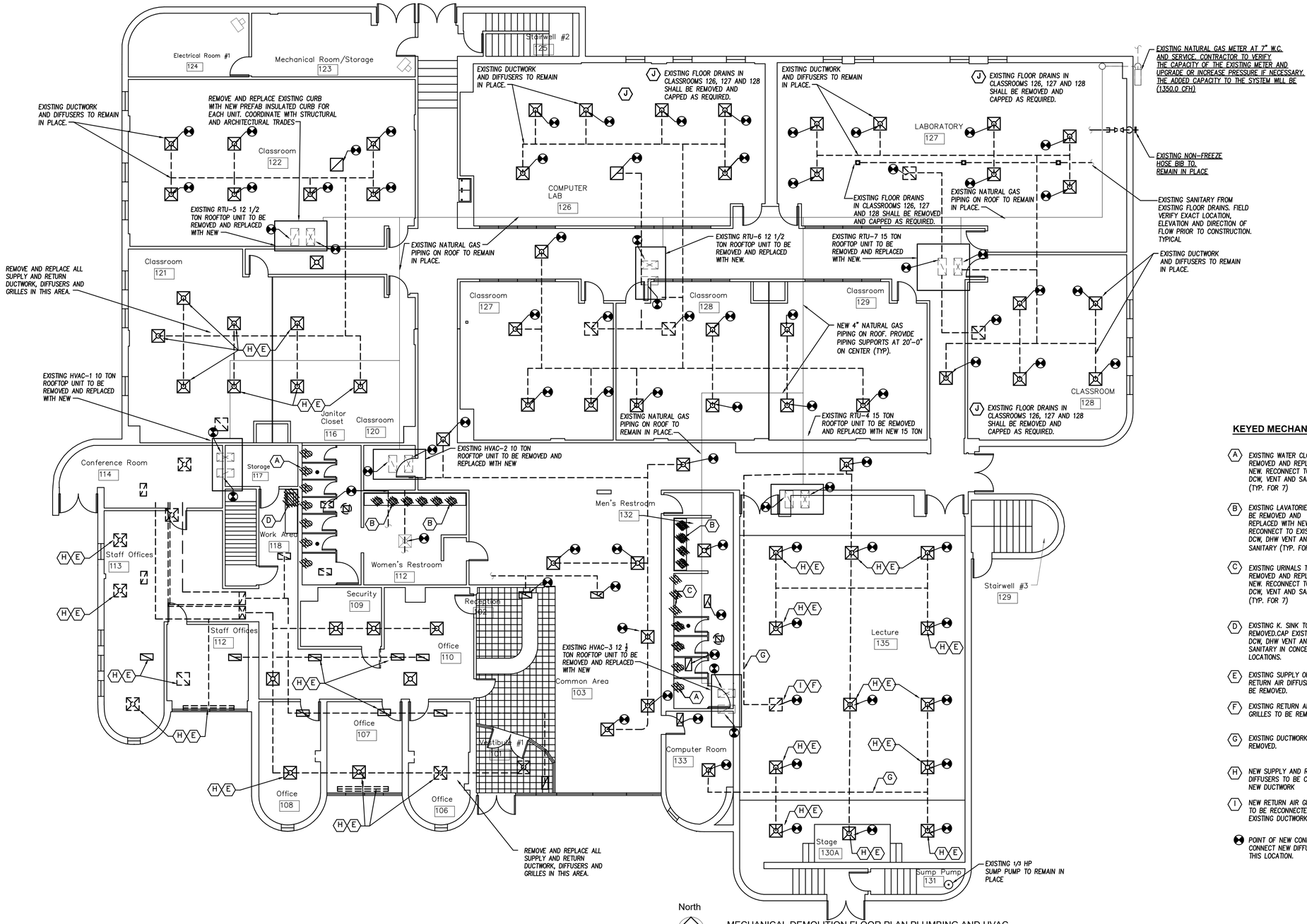
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REV. #	REVISION DESCRIPTION	DATE

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DESIGNED BY: GLW	SCALE: NO SCALE
CHECKED BY: GLW	JOB NUMBER: 2601

SHEET NUMBER: M405



MECHANICAL DEMOLITION FLOOR PLAN PLUMBING AND HVAC
SCALE: 1/8" = 1'-0"

KEYED MECHANICAL DEMOLITION NOTES

- (A) EXISTING WATER CLOSETS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 7)
- (B) EXISTING LAVATORIES TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, DHW VENT AND SANITARY (TYP. FOR 6)
- (C) EXISTING URINALS TO BE REMOVED AND REPLACED WITH NEW. RECONNECT TO EXISTING DCW, VENT AND SANITARY (TYP. FOR 7)
- (D) EXISTING K. SINK TO BE REMOVED.CAP EXISTING DCW, DHW VENT AND SANITARY IN CONCEALED LOCATIONS.
- (E) EXISTING SUPPLY OR RETURN AIR DIFFUSERS TO BE REMOVED.
- (F) EXISTING RETURN AIR GRILLES TO BE REMOVED.
- (G) EXISTING DUCTWORK TO BE REMOVED.
- (H) NEW SUPPLY AND RETURN AIR DIFFUSERS TO BE CONNECTED TO NEW DUCTWORK
- (I) NEW RETURN AIR GRILLES TO BE RECONNECTED TO EXISTING DUCTWORK.
- POINT OF NEW CONNECTION. CONNECT NEW DIFFUSER AT THIS LOCATION.
- (J) EXISTING FLOOR DRAINS IN CLASSROOMS 126, 127 AND 128 SHALL BE REMOVED AND CAPPED AS REQUIRED.

DETROIT ARCHITECT
13718 Woodward Ave, Highland Park, MI 48203, www.detroitarchitect.com
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GBW WORLD DESIGN, INC.
CONSULTING ENGINEERS
BLOOMFIELD HILLS, MI 48302
TEL. 248-622-4156
GBW JOB NUMBER: 000226

SHEET NAME: MECHANICAL DEMOLITION FLOOR PLAN PLUMBING AND HVAC

PROJECT NAME: WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
MARY ELLEN STEMPFLE UNIVERSITY CENTER BUILDING ADDITION & RENOVATION
19305 VERNIER RD, HARPER WOODS, MI 48225

ISSUE SCHEDULE	
ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS	04/28/2026
OWNER REVIEW	05/01/2026
PERMIT SET	06/08/2026

REVISION SCHEDULE		
REV. #	REVISION DESCRIPTION	DATE

SEAL:

DRAWN BY: GLW	DATE: 05/01/2026
DESIGNED BY: GLW	SCALE: 1/8" = 1'-0"
CHECKED BY: GLW	JOB NUMBER: 2601

SHEET NUMBER: MD100