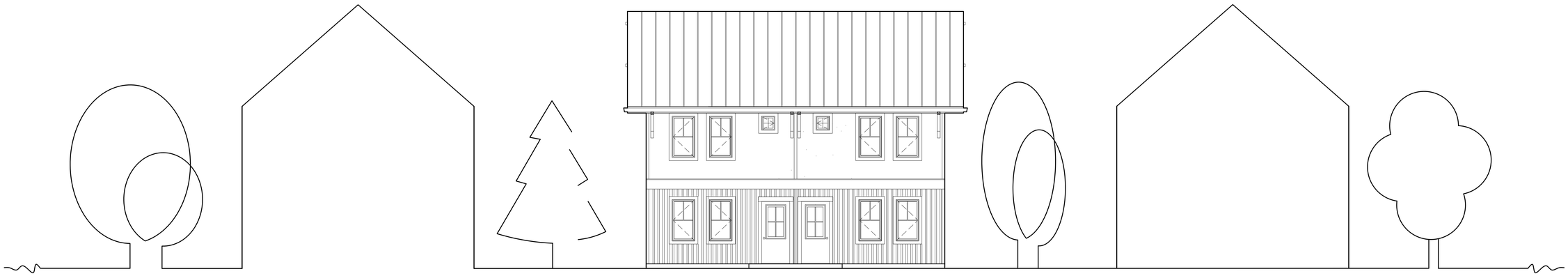
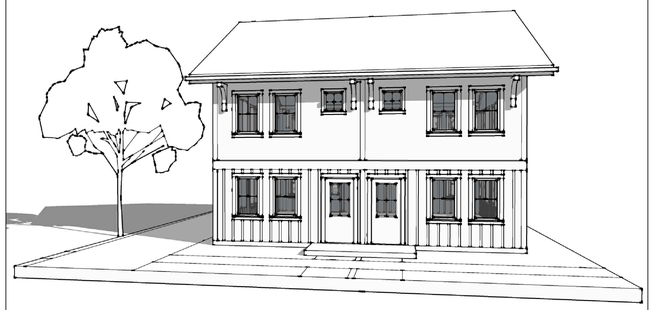




A Duplex Rendering
IRC
No Scale

B Townhouse Rendering - requires 2 hr rated wall between units per IRC
No Scale

To be determined base on the exact location of construction site.

Assembly type	Standard	Description
wall assemblies	R-_____	_____
fenestration/openings	U-_____	_____
roof/ceiling assemblies	R-_____	_____
floors over conditioned spaces	R-_____	_____
slab on grade	R-_____	_____
crawl spaces	R-_____	_____
lower level walls: continuous insulation	R-_____	_____
lower level walls: cavity insulation	R-_____	_____

PROJECT DATA

Project Name: Prototype Cottage Residence

Project Address: _____

Building Owner: _____

Governing Codes
2015 Michigan Residential Code
Michigan Barrier Free Codes

Building Area

Slab on Grade	1,152 ft²
Main Level:	1,152 ft² (576 ft² per unit)
Upper Level:	1,152 ft² (576 ft² per unit)
	2,304 ft² (does not include Slab)

R302.1(1) Exterior Walls

Table R302.1(1) Exterior Walls

Exterior Wall Element		Minimum Fire Resistance Rating	Minimum Fire Resistance Separation
Walls	Fire-resistance rated	1-hour tested in accordance with STM E199 or URL 263 with exposure from both sides	<5 feet
	Not rated	0 hours	=> 5 feet
Projections	Not allowed	N/A	<2 feet
	Fire-resistance rated	1 hour on the underside	> 2 feet to < 5 feet
	Not rated		> 5 feet
Openings in walls	Not allowed	N/A	< 3 feet
	25% of maximum wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	<3 feet
		None required	3 feet

R302.2 Townhouses
Common wall separating townhouses shall be assigned a fire-resistance rating in accordance with Section R302.2 & 302.2.1

R302.2.2. Parapet Exception 2
The roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/8-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls.

R302.3 Two-family dwellings
Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119 or UL 263. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

R302.4 Dwelling Unit Rated Penetrations
Penetrations of wall or floor-ceiling assemblies required to be fire-resistance rated in accordance with Section R302.2 or R302.3 shall be protected in accordance with this section.

ANY PENETRATION in the RATED FLOOR/CEILING SHALL BE FIRE RATED.

PENETRATIONS SHALL NOT BE PERMITTED through FIRE RATED WALLS and STRUCTURAL INSULATED PANELS (SIPS).

R302.11 Fireblocking.
In combustible construction, fireblocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top story and the roof space.

R302.12 Draftstopping.
In combustible construction where there is usable space both above and below the concealed space of a floor-ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping shall be provided in floor-ceiling assemblies under the following circumstances:
1.Ceiling is suspended under the floor framing.
2.Floor framing is constructed of truss-type open-web or perforated members.

Section R314 Smoke Alarms
R314.2.1 New Construction.
Smoke alarms shall be provided in dwellings.

R314.3 Location.
1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.

R314.4 Interconnection.
Where more than 1 smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3 the alarm shall be interconnected.

R315 Carbon Monoxide Alarms.
R315.2.1 New Construction.
For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following exist:
1. The dwelling unit contains a fuel-fired appliance.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

Shop Drawings for ROOF TRUSSES to be provided in a deferred submittal, based on local conditions.

DRAWING SCHEDULE

Disclaimer: The drawings found within this set are Substantially Complete, and are marked "Not for Construction," as it will be necessary for each site-specific development to employ architects and/or engineers to evaluate local conditions, make necessary adjustments required for local permitting. Individuals using these drawings shall seek any necessary professional services before starting the building process.

SYMBOL LEGEND

- 2 / A3 — Section Number / Sheet Number — Building Section
- 2 / A3 — Detail Number / Sheet Number — Detail flag
- 3 / 2 / A3 — Detail Numbers / Sheet Number — Interior Elevation
- Vertical Elevation
- A — Window Call Out
- 1 — Door Call Out
- 1 — Note Call Out

Owner
_____

Architect
_____

Engineer
_____

Developer/Contractor
_____

ABBREVIATIONS

AB	Anchor Bolt	GALV	Galvanized	R	R-Value
AC	Air Conditioning	GLB	Glue Laminated Beam	REF	Refrigerator
A/C	Asphaltic Concrete	GYP	Gypsum	REINF	Reinforced (ing)
ARCH	Architectural	HVAC	Heating & Cooling Equip	SC	Solid core
BLK'G	Blocking	HRV	Heat Recovery Ventil.	SQFT	Square feet
CMU	Concrete Masonry Unit	HB	Hose Bib	SHT'G	Sheathing
CONC	Concrete	HC	Hollow Core	SIM	Similar
CONT	Continuous	HDR	Header	SS	Stainless steel
DBL	Double	HORIZ	Horizontal	TBD	To be determined
DET	Detail	INSUL	Insulation	TO	Top of
DF	Douglas Fir	INT	Interior	TYP	Typical
DS	Downspout	MAX	Maximum	VERT	Vertical
DW	Dishwasher	MC	Medicine cabinet	U	U-Value
EA	Each	MFR	Manufacturer	W/	With
EQUIP	Equipment	MIN	Minimum	W/O	Without
(E)	Equal	NTS	Not to Scale		
FF	Finish Floor	OC	On center		
FTG	Footing	PLYW'D	Plywood		
GA	Gauge	RO	Rough opening		

BUILDING DATA

DESIGN CRITERIA

To be determined base on the exact location of construction site.

Roof Dead: ____ psf Wind: _____
Roof Live: _____ psf Septic: _____

Soil Bearing: ____psf

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

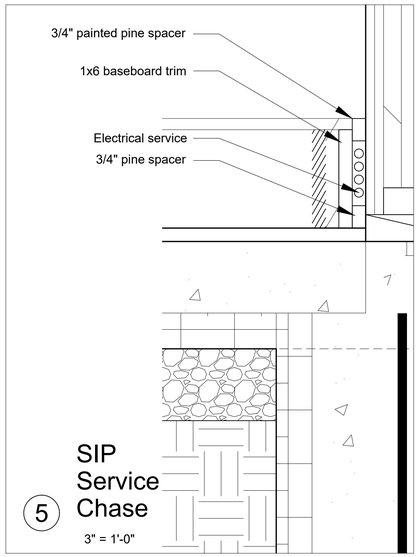
NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

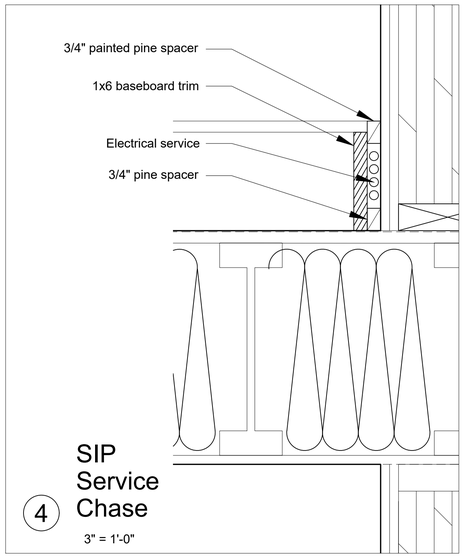
Title:
COVER SHEET & BUILDING INFO

A1.0



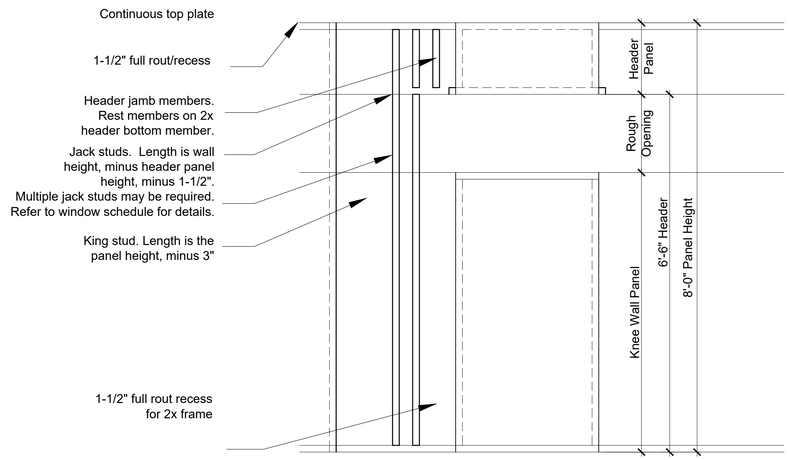
5 SIP Service Chase

3" = 1'-0"



4 SIP Service Chase

3" = 1'-0"



6 SIP Header Assembly

3/4" = 1'-0"

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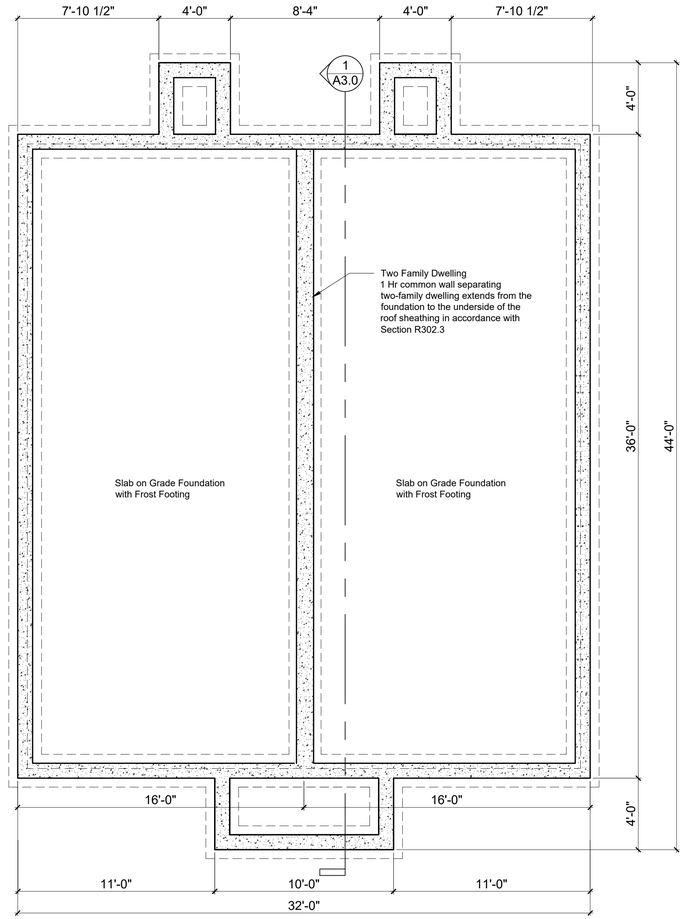
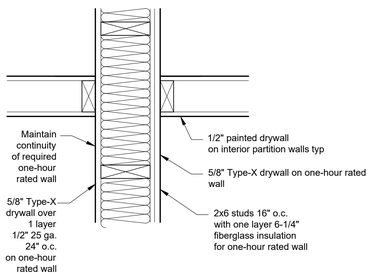


1 Foundation Plan

1/4" = 1'-0"

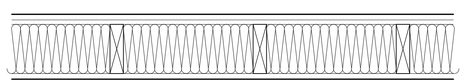


3 Duplex - 1 Hour Rated Wall Continuity Detail

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

Michigan Residential Code 2015

R302.3 Two-family dwellings
Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119 or UL 263. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.



1 HOUR RATED WALL DETAIL

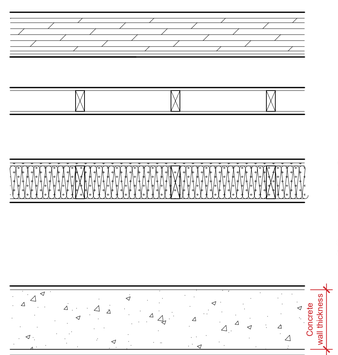
UL U305 - 1 hour 7.25" thick STC 51

Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)
Resilient Channel	1 layer 1/2", 25 ga. 24" o.c
Wood Studs	1 layer 2x6 wood studs, 16" o.c.
Insulation	1 layer 5-1/2" Fiberglass insulation
Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)

2 Duplex - 1 Hour Rated Wall Detail

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

DUPLEX WALL TYPES



WALL TYPE #1:
Exterior SIP Wall
6" Structural Insulated Panel (SIP) finished with 1/2" drywall, painted & primed on interior & exterior cladding.

WALL TYPE #2:
Interior Partition Wall
3-1/2" wood stud frame interior partition wall finished with 1/2" drywall, primed & painted.

WALL TYPE #3:
1 Hour Rated Wall
7.25" - UL U305 - STC 51
1 layer 5/8" Type X drywall
1 layer 1/2" ga. resilient channel 24" o.c.
1 layer 2x6 wood studs 16" o.c.
1 layer 5 1/2" fiberglass insulation
1 layer 5/8" Type X sheetrock gypsum panel
See Duplex 1-Hour Wall Sheet A2.0 Detail 2 & Wall Continuity Detail Sheet A2.0 Detail 3

WALL TYPE #4:
Foundation Wall
Reinforced concrete with exterior dampproofing and interior rigid insulation.

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

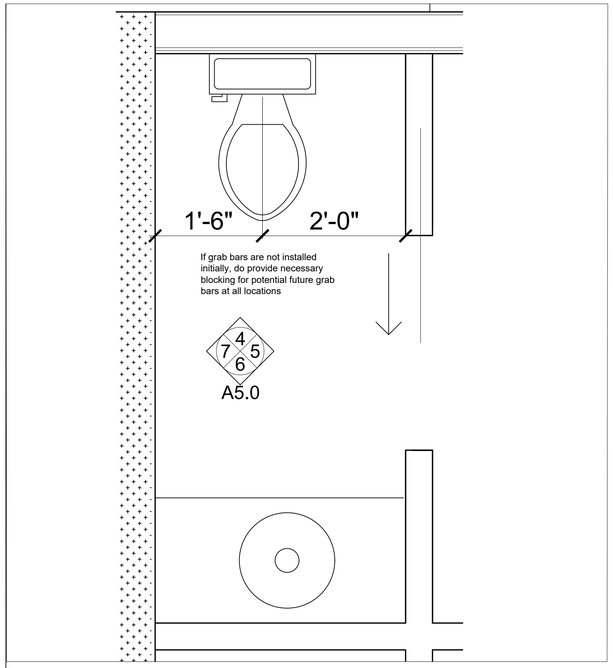
NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

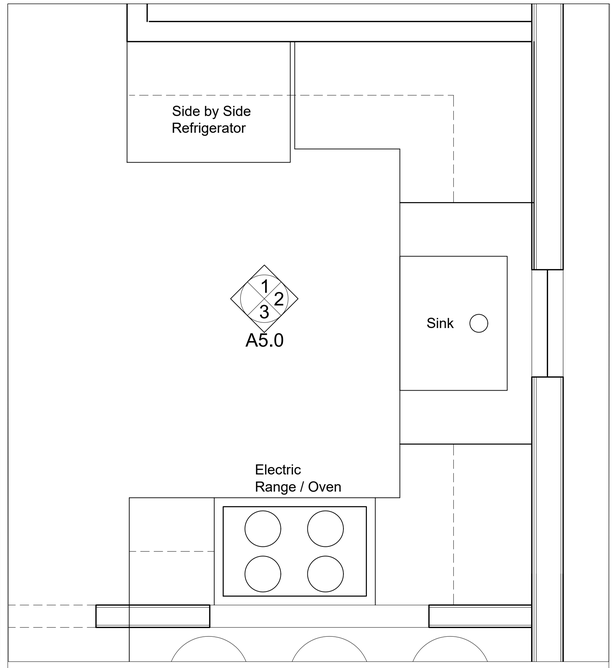
Job Number
2023xx

Title:
FOUNDATION PLAN

A2.0



4 Typical Main Level Bathroom Layout
3/2" = 1'-0"



3 Typical Main Level Kitchen Layout
1/2" = 1'-0"

Finish Descriptions

Mark	Description	Manufacturer	Collection	Color
PT1	Paint 1			
PT2	Paint 2			
PT3	Paint 3			
TILE1	Ceramic 1			
TILE2	Ceramic 2			
LVT 1	Luxury Vinyl Tile			Wood Look
CPT1	Carpet 1			
CPT2	Carpet 2			
TB1	Tile Base			
VB	Vinyl Base			

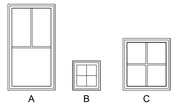
Hardware Descriptions
Schlage or approved equal

ENTRY
The deadbolt is engaged or retracted by an outside key or an inside thumb-turn. When the deadbolt is engaged the outside grip is locked and will not retract the latchbolt. When the deadbolt is engaged the inside grip simultaneously retracts both the deadbolt and the latchbolt. The latchbolt alone can be locked by a toggle (engaging the deadbolt is not required to lock the outside grip).

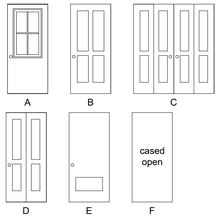
PASSAGE
Latchbolt is retracted by the grip on either side. Both grips are always free.

PRIVACY
The latchbolt is retracted by the inside grip or an outside key. The latchbolt is retracted by the outside grip unless the grip is locked by a thumbturn from the inside. The latchbolt / outside grip cannot be locked by a key from the outside.

CLOSET
Ball catch is disengaged when handle is pulled. No interior handle.



Window Types



Door Types

MAIN LEVEL FINISH SCHEDULE

NO.	ROOM	FLOOR	BASE	WALLS	CEILING	NOTES
100	STAIR HALL	LVT	WOOD	PAINT	PAINT	
101	LIVING/DINING	LVT	WOOD	PAINT	PAINT	
102	KTICHEN	LVT	WOOD	PAINT	PAINT	
103	CLOSET	LVT	WOOD	PAINT	PAINT	
104	CLOSET	LVT	WOOD	PAINT	PAINT	
105	POWDER RM	TILE1	TB1	PAINT	PAINT	
106	AWAY/DINING	LVT	WOOD	PAINT	PAINT	

MAIN LEVEL WINDOW SCHEDULE

MARK	QTY	WIDTH	HEIGHT	DESCRIPTION	NOTES
A	14	2'-5"	4'-5"	CASEMENT	
B	0	1'-5"	1'-5"	CASEMENT	
C	2	2'-5"	2'-7"	CASEMENT	

*Bedroom windows required to meet egress requirements

MAIN LEVEL DOOR SCHEDULE

MARK	ID	SIZE	SWING	MATERIAL	FRAME	HARDWARE	NOTES
1	A	36" x 80"	LEFT	STEEL	PAINTED	ENTRY	
2	B	36" x 80"	LEFT	WOOD	PAINTED	PASSAGE	
3	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
4	E	36" x 80"	LEFT	WOOD	PAINTED	CLOSET	
5	C	60" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
6	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
7	B	36" x 80"	POCKET	WOOD	PAINTED	PRIVACY	
8	A	36" x 80"	RIGHT	STEEL	PAINTED	ENTRY	
9	A	36" x 80"	RIGHT	STEEL	PAINTED	ENTRY	
10	B	36" x 80"	RIGHT	WOOD	PAINTED	PASSAGE	
11	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
12	E	36" x 80"	RIGHT	WOOD	PAINTED	CLOSET	
13	C	60" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
14	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
15	B	36" x 80"	POCKET	WOOD	PAINTED	PRIVACY	
16	A	36" x 80"	LEFT	STEEL	PAINTED	ENTRY	

2 Schedules
No scale

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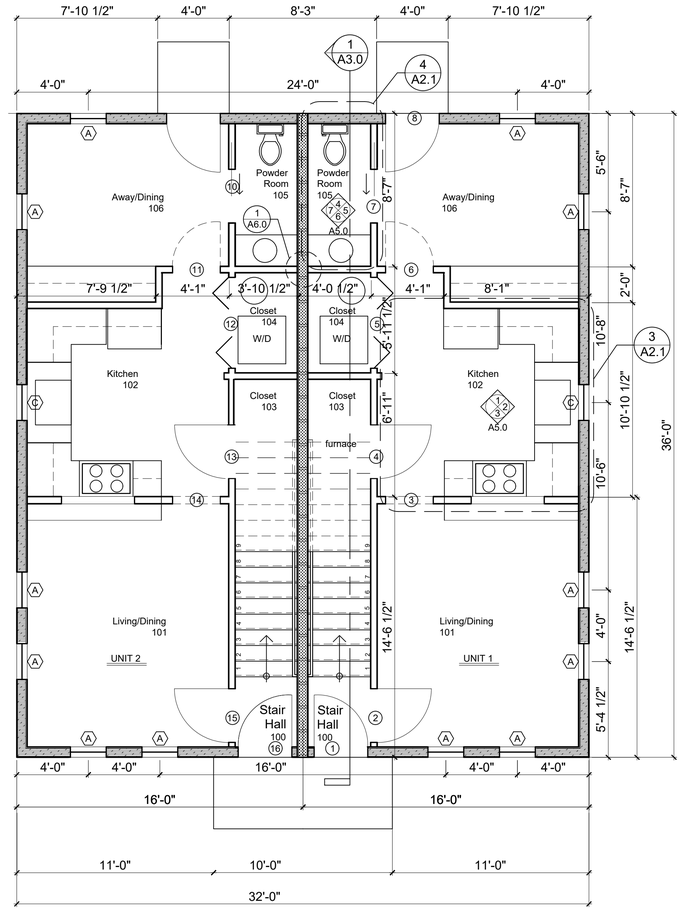
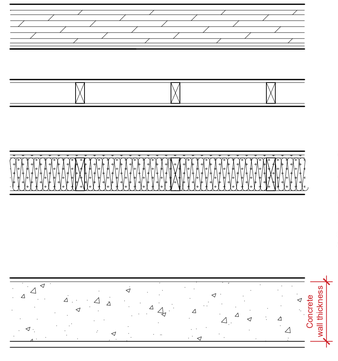


1 Main Floor Plan
1/4" = 1'-0"

DUPLEX WALL TYPES



WALL TYPE #1:
Exterior SIP Wall
6" Structural Insulated Panel (SIP)
finished with 1/2" drywall, painted & primed on interior & exterior cladding.

WALL TYPE #2:
Interior Partition Wall
3-1/2" wood stud frame interior partition
wall finished with 1/2" drywall, primed & painted.

WALL TYPE #3:
1 Hour Rated Wall
7.25" - UL U305 - STC 51
1 layer 5/8" Type X drywall
1 layer 1/2" ga. resilient channel 24" o.c.
1 layer 2x6 wood studs 16" o.c.
1 layer 5 1/2" fiberglass insulation
1 layer 5/8" Type X sheetrock gypsum panel
See Duplex 1-Hour Wall Sheet A2.0 Detail 2 & Wall Continuity Detail Sheet A2.0 Detail 3

WALL TYPE #4:
Foundation Wall
Reinforced concrete with exterior dampproofing and interior rigid insulation.

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

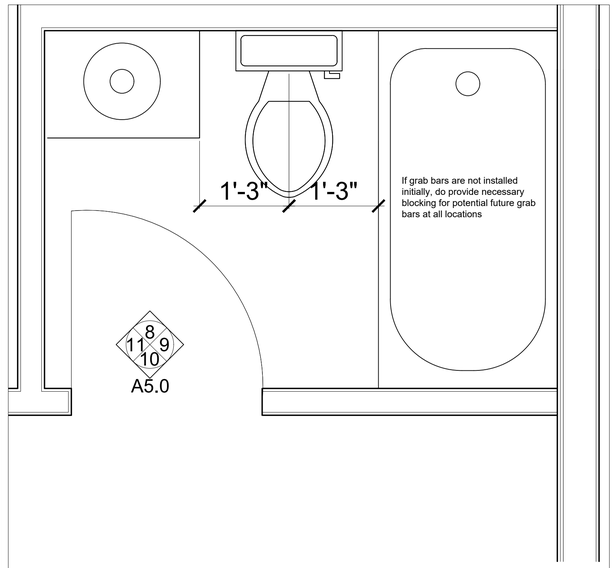
NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
MAIN FLOOR PLAN

A2.1



3 Typical Upper Bathroom Layout
1/2" = 1'-0"

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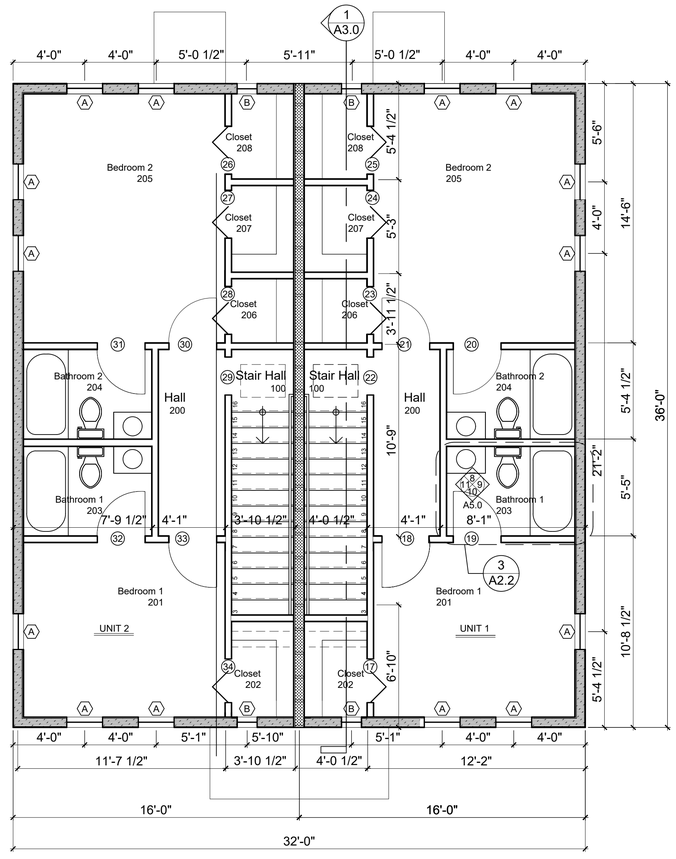


1 Upper Floor Plan
1/4" = 1'-0"

Finish Descriptions

Mark	Description	Manufacturer	Collection	Color
PT1	Paint 1			
PT2	Paint 2			
PT3	Paint 3			
TILE1	Ceramic 1			
TILE2	Ceramic 2			
LVT 1	Luxury Vinyl Tile			Wood Look
CPT1	Carpet 1			
CPT2	Carpet 2			
TB1	Tile Base			
VB	Vinyl Base			

Hardware Descriptions

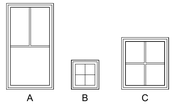
Schlage or approved equal

ENTRY
The deadbolt is engaged or retracted by an outside key or an inside thumb-turn. When the deadbolt is engaged the outside grip is locked and will not retract the latchbolt. When the deadbolt is engaged the inside grip simultaneously retracts both the deadbolt and the latchbolt. The latchbolt alone can be locked by a toggle (engaging the deadbolt is not required to lock the outside grip).

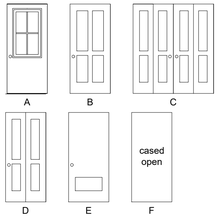
PASSAGE
Latchbolt is retracted by the grip on either side. Both grips are always free.

PRIVACY
The latchbolt is retracted by the inside grip or an outside key. The latchbolt is retracted by the outside grip unless the grip is locked by a thumbturn from the inside. The latchbolt / outside grip cannot be locked by a key from the outside.

CLOSET
Ball catch is disengaged when handle is pulled. No interior handle.



Window Types



Door Types

UPPER LEVEL FINISH SCHEDULE

NO.	ROOM	FLOOR	BASE	WALLS	CEILING	NOTES
100	STAIR HALL	LVT	WOOD	PAINT	PAINT	
200	HALL	LVT	WOOD	PAINT	PAINT	
201	BEDROOM 1	CPT 1	WOOD	PAINT	PAINT	
202	CLOSET	CPT 1	WOOD	PAINT	PAINT	
203	BATHROOM 1	TILE 2	TB 2	PAINT	PAINT	
204	BATHROOM 2	TILE 2	TB 2	PAINT	PAINT	
205	BEDROOM 2	CPT 1	WOOD	PAINT	PAINT	
206	CLOSET	CPT 1	WOOD	PAINT	PAINT	
207	CLOSET	CPT 1	WOOD	PAINT	PAINT	
208	CLOSET	CPT 1	WOOD	PAINT	PAINT	

UPPER LEVEL WINDOW SCHEDULE

MARK	QTY	WIDTH	HEIGHT	DESCRIPTION	NOTES
A	14	2'-5"	4'-5"	CASEMENT	
B	4	1'-5"	1'-6"	CASEMENT	
C	0	2'-5"	2'-7"	CASEMENT	

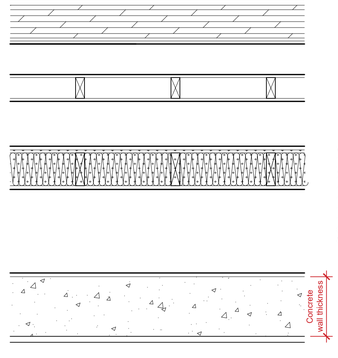
*Bedroom windows required to meet egress requirements

UPPER LEVEL DOOR SCHEDULE

MARK	ID	SIZE	SWING	MATERIAL	FRAME	HARDWARE	NOTES
1	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
2	B	32" x 80"	RIGHT	WOOD	PAINTED	PRIVACY	
3	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
4	B	32" x 80"	LEFT	WOOD	PAINTED	PRIVACY	
5	B	32" x 80"	LEFT	WOOD	PAINTED	PRIVACY	
6	B	32" x 80"	RIGHT	WOOD	PAINTED	PRIVACY	
7	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
8	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
9	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
10	F	32" x 80"	-	-	PAINTED	-	CASED OPENING
11	B	32" x 80"	LEFT	WOOD	PAINTED	PRIVACY	
12	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
13	B	32" x 80"	RIGHT	WOOD	PAINTED	PRIVACY	
14	B	32" x 80"	RIGHT	WOOD	PAINTED	PRIVACY	
15	B	32" x 80"	LEFT	WOOD	PAINTED	PRIVACY	
16	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
17	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	
18	D	32" x 80"	BIFOLD	WOOD	PAINTED	CLOSET	

2 Schedules
No scale

DUPLEX WALL TYPES



WALL TYPE #1:
Exterior SIP Wall
6" Structural Insulated Panel (SIP) finished with 1/2" drywall, painted & primed on interior & exterior cladding.

WALL TYPE #2:
Interior Partition Wall
3-1/2" wood stud frame interior partition wall finished with 1/2" drywall, primed & painted.

WALL TYPE #3:
1 Hour Rated Wall
7.25" - UL U305 - STC 51
1 layer 5/8" Type X drywall
1 layer 1/2" ga. resilient channel 24" o.c.
1 layer 2x6 wood studs 16" o.c.
1 layer 5 1/2" fiberglass insulation
1 layer 5/8" Type X sheetrock gypsum panel
See Duplex 1-Hour Wall Sheet A2.0 Detail 2 & Wall Continuity Detail Sheet A2.0 Detail 3

WALL TYPE #4:
Foundation Wall
Reinforced concrete with exterior dampproofing and interior rigid insulation.

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

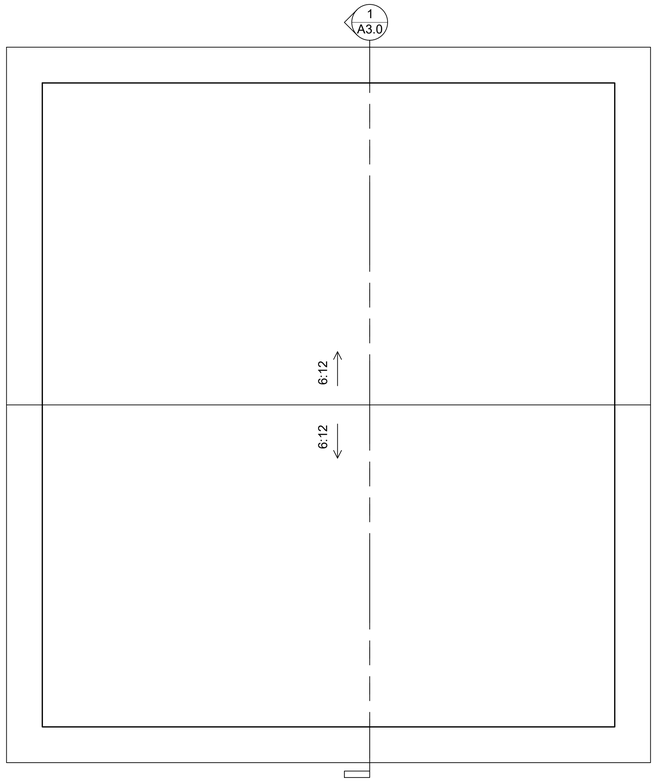
NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
UPPER FLOOR PLAN

A2.2



2 Roof Plan
1/4" = 1'-0"

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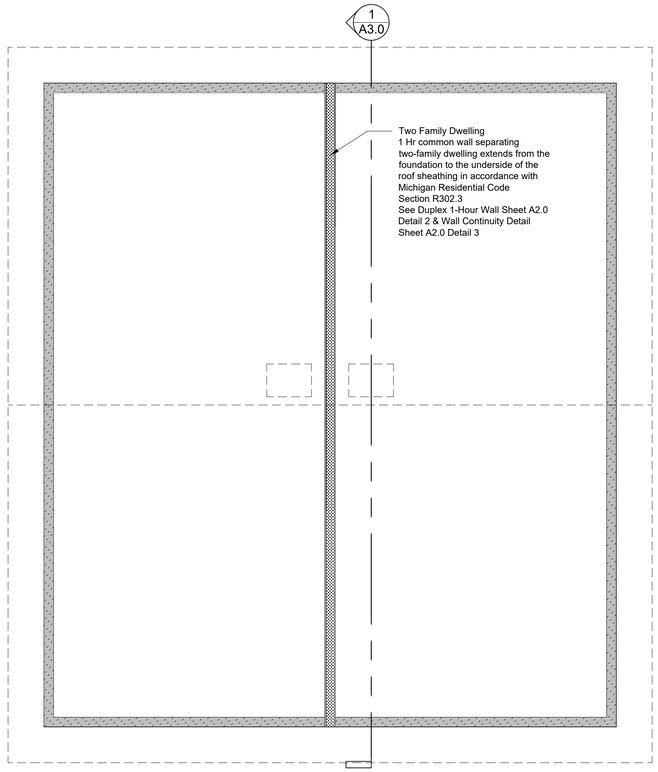
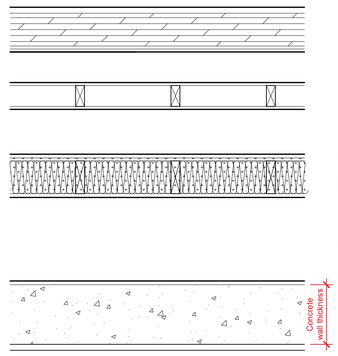


1 Attic Plan
1/4" = 1'-0"

DUPLEX WALL TYPES



WALL TYPE #1:
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on interior & exterior cladding.

WALL TYPE #2:
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wall finished with 1/2" drywall, primed &
painted.

WALL TYPE #3:
1 Hour Rated Wall
7.25" - UL U305 - STC 51
1 layer 5/8" Type X drywall
1 layer 1/2" ga. resilient channel 24" o.c.
1 layer 2x6 wood studs 16" o.c.
1 layer 5 1/2" fiberglass insulation
1 layer 5/8" Type X sheetrock gypsum panel
See Duplex 1-Hour Wall Sheet A2.0 Detail 2
& Wall Continuity Detail Sheet A2.0 Detail 3

WALL TYPE #4:
Foundation Wall
Reinforced concrete with exterior
dampproofing and interior rigid insulation.

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
ATTIC & ROOF PLANS

A2.3

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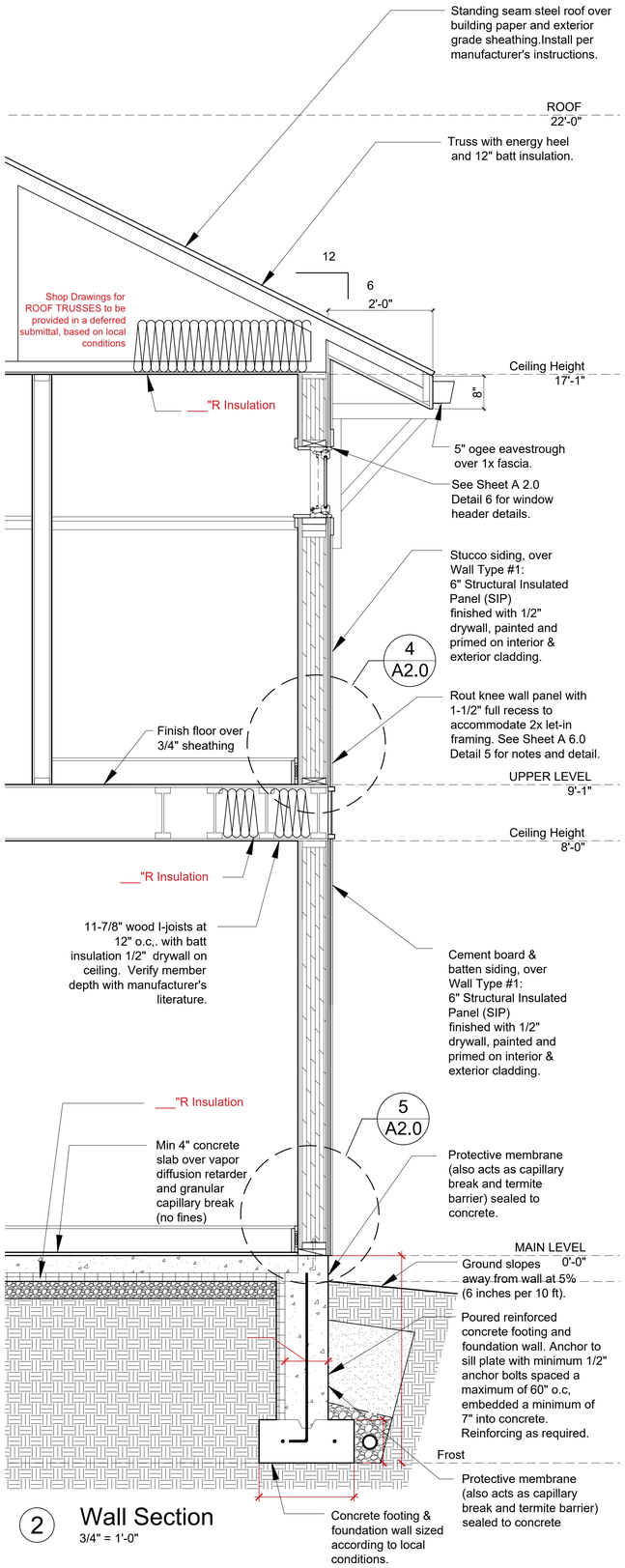
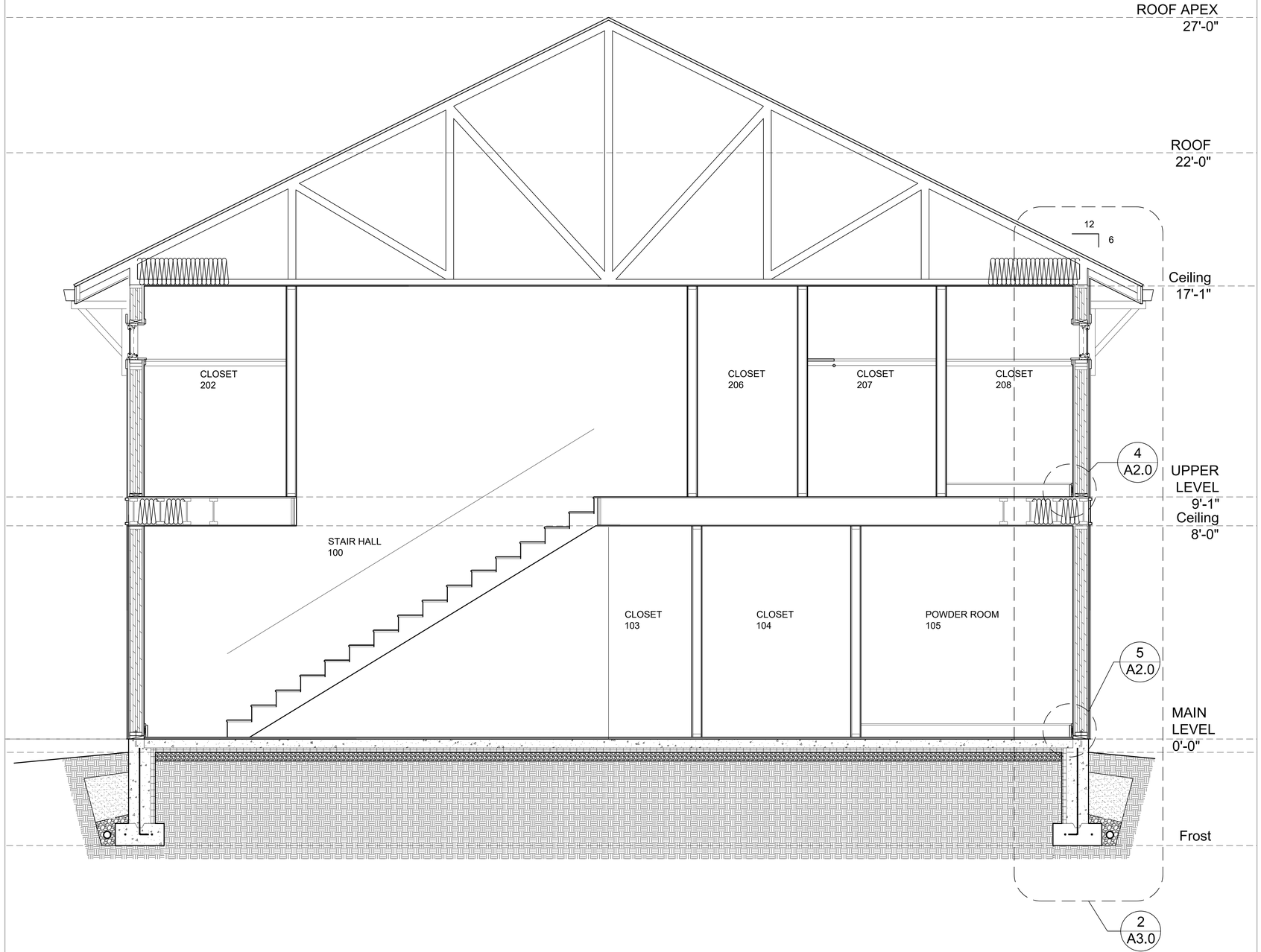


2 Wall Section
3/4" = 1'-0"



1 Building Section
1/2" = 1'-0"

Do not scale. Use figured dimensions only.

MML Review Set
15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
BUILDING AND WALL SECTION

A3.0

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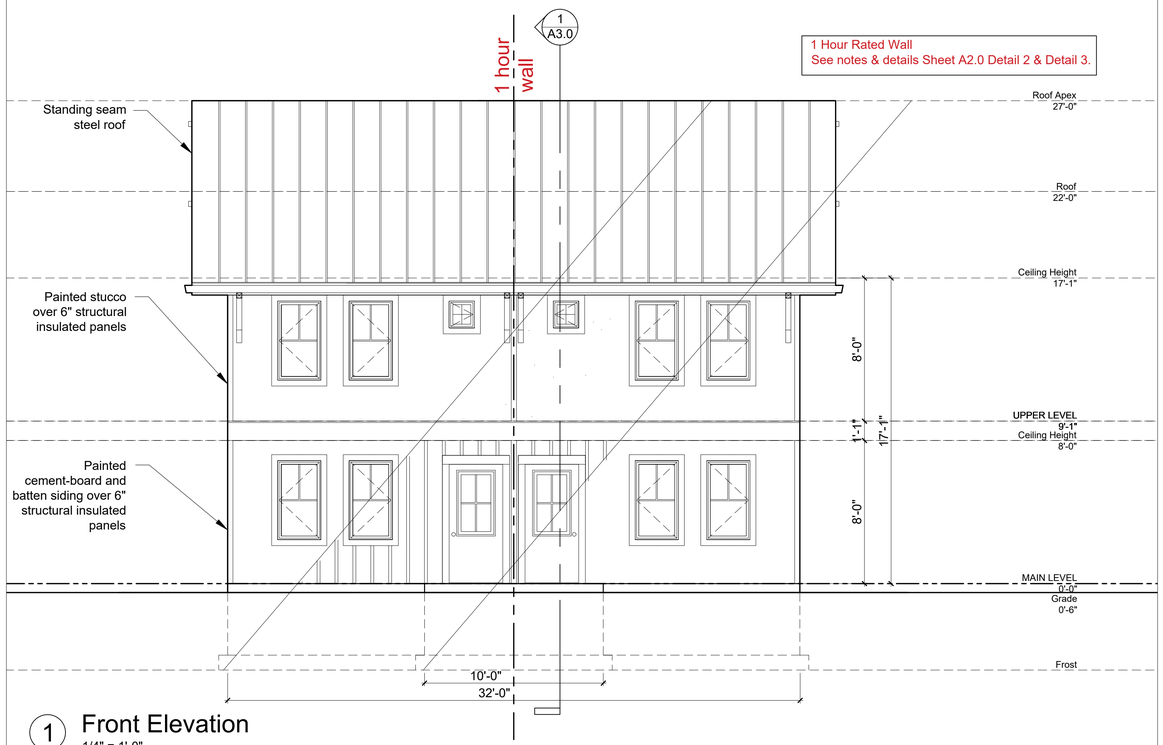
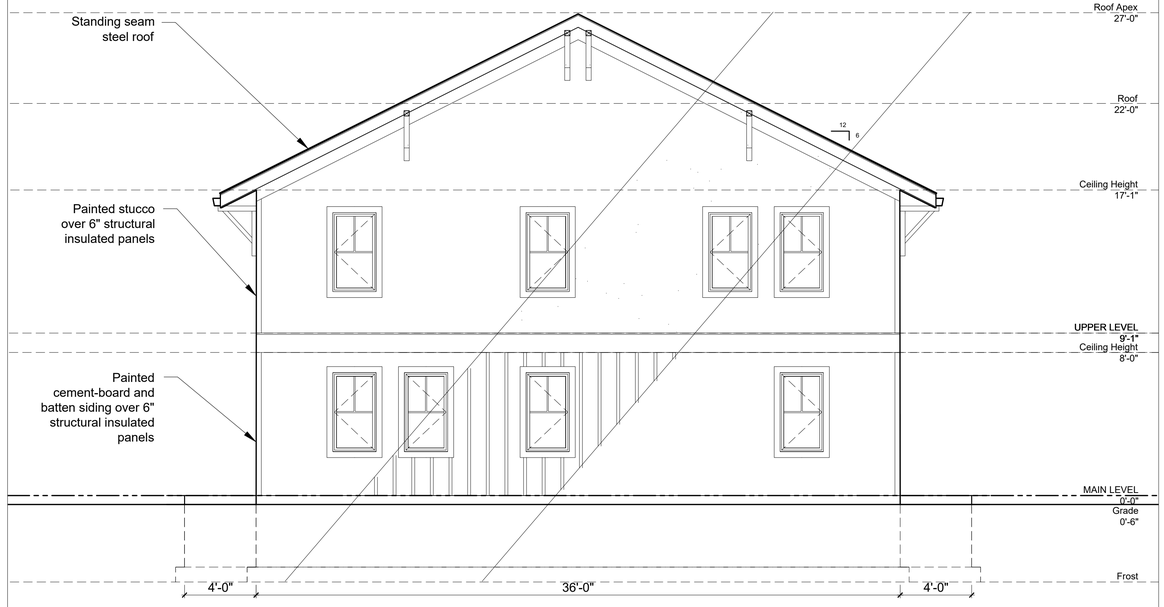
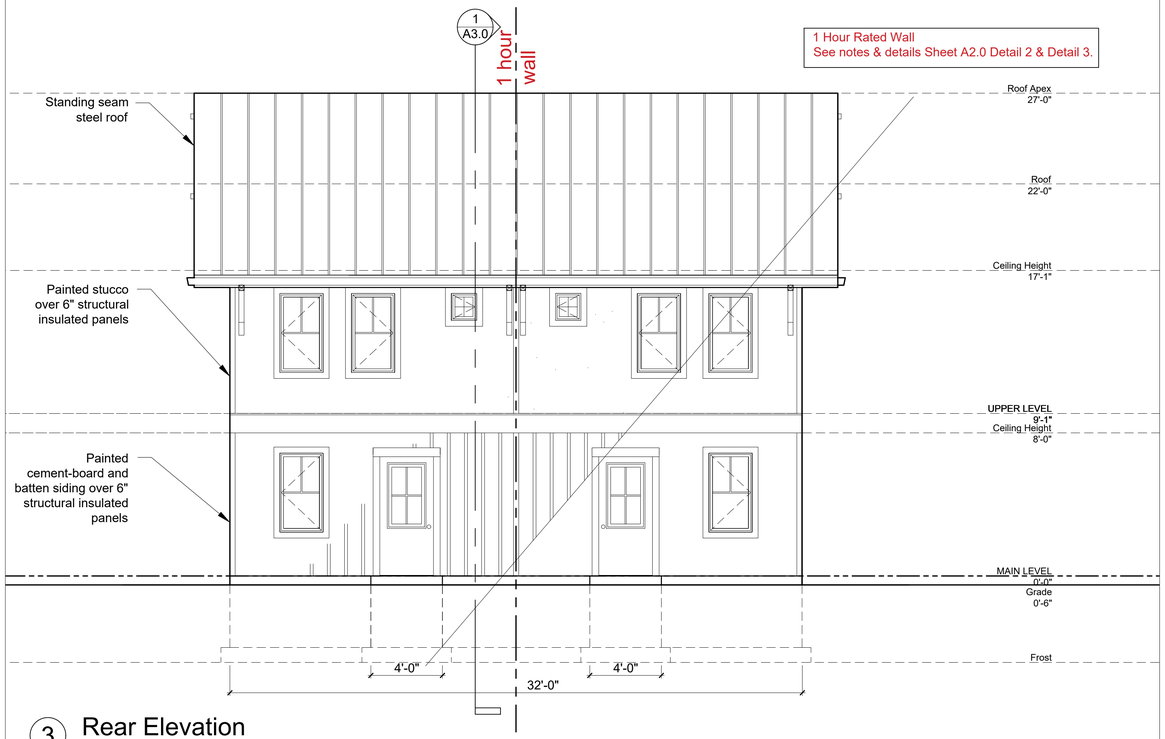


1 Front Elevation
1/4" = 1'-0"



2 Right Elevation
1/4" = 1'-0"



3 Rear Elevation
1/4" = 1'-0"

4 Left Elevation
1/4" = 1'-0"

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
FRONT & RIGHT ELEVATIONS

A4.0

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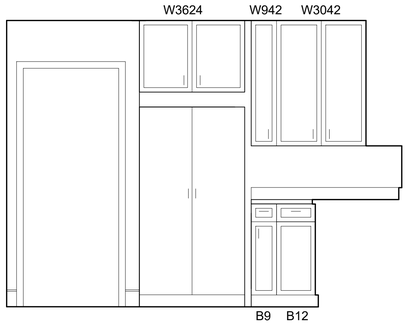
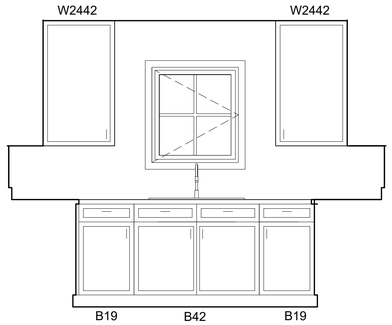
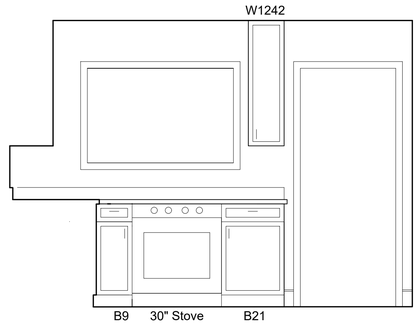


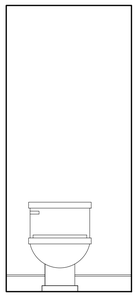
1 Kitchen Elevations
1/2" = 1'-0"



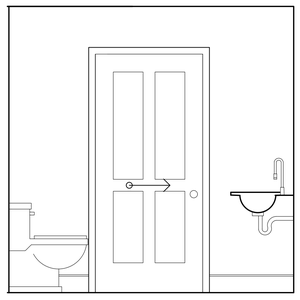
2 Kitchen Elevations
1/2" = 1'-0"



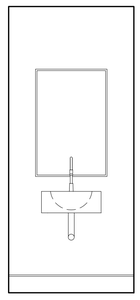
3 Kitchen Elevations
1/2" = 1'-0"



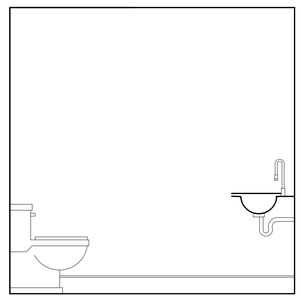
4 Bathroom Elevations
1/2" = 1'-0"



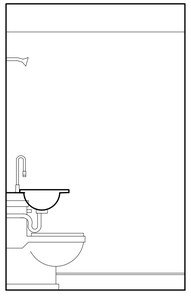
5 Bathroom Elevations
1/2" = 1'-0"



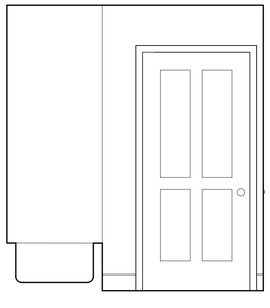
6 Bathroom Elevations
1/2" = 1'-0"



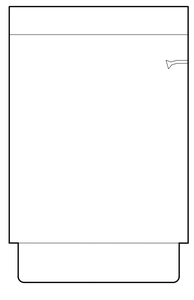
7 Bathroom Elevations
1/2" = 1'-0"



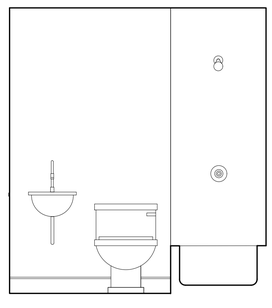
8 Bathroom Elevations
1/2" = 1'-0"



9 Bathroom Elevations
1/2" = 1'-0"



10 Bathroom Elevations
1/2" = 1'-0"



11 Bathroom Elevations
1/2" = 1'-0"

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number
2023xx

Title
INTERIOR ELEVATIONS

A5.0

ABBREVIATIONS

A. AMP	AMPERES
AF	AMP FUSE OR AMP FRAME
AFC	AVAILABLE FAULT CURRENT (SYMMETRICAL)
A.F.F.	ABOVE FINISHED FLOOR
AIC.	AMPERE INTERRUPTING CAPACITY
AM.	AMMETER
ASYM.	ASYMMETRICAL
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CAP.	CAPACITY OR CAPACITOR
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT. ,CCT	CIRCUIT
C.O.	CONDUIT ONLY
CONN.	CONNECT OR CONNECTION
CU	COPPER
DA	DURESS ALARM
DB	DOOR BELL
DISC.	DISCONNECT
DPST	DOUBLE POLE SINGLE THROW
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER (COORDINATE ACCESSIBILITY OF GFCI)
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATION OR ELEVATOR
EMERG, EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EMT	ELECTRICAL METAL TUBING
FIXT.	FIXTURE
FLA	FULL LOAD AMPERES
FLUOR.	FLUORESCENT
GRC,GCR	GALVANIZED RIGID CONDUIT
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GRD,GND,G	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HZ.	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
I.G.	ISOLATED GROUND
INCAND.	INCANDESCENT
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LTG	LIGHTING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE, METAL HALIDE OR MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
N.C.	NORMALLY CLOSED
N.E.C.	NATIONAL ELECTRICAL CODE
N.I.C.	NOT IN CONTRACT
NF	NON FUSIBLE
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOADS
P	POLE
PB	PULLBOX
PH OR ∅	PHASE
PNL	PANEL
PR	PAIR
PVC	POLYVINYL CHLORIDE
PWR.	POWER
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SOL	SOLENOID
SPDT	SINGLE POLE DOUBLE THROW
SPKR	SPEAKER
SPST	SINGLE POLE SINGLE THROW
SW.	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TEL	TELEPHONE
XFMR	TRANSFORMER
TTB	TELEPHONE TERMINAL BACKBOARD
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERES
VD	VOLTAGE DROP
VM	VOLT METER
W	WATTS OR WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XP	EXPLOSION PROOF

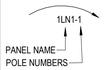
GENERAL

MOUNTING HEIGHTS TO BE AS INDICATED, UON. MOUNTING HEIGHTS ARE TO CENTER OF DEVICE FROM FINISHED FLOOR OR GRADE, UON. SEE SPECIFICATION DIV 26 FOR ADDITIONAL REQUIREMENTS.

KEY NOTE REFERENCE SYMBOL. DENOTES "SEE KEY NOTE NO. 2"

FOOT ON DEVICE INDICATES WALL MOUNTED

CIRCUIT DESIGNATIONS



BRANCH CIRCUIT HOMERUN. PROVIDE PHASE, NEUTRAL AND GROUND CONDUCTORS FOR EACH INDICATED CIRCUIT OR MULTI WIRE BRANCH AS REQUIRED. PROVIDE SWITCH LEGS FOR SWITCH CIRCUITING AS REQUIRED. PROVIDE EQUIPMENT GROUND WIRE IN ALL BRANCH CIRCUIT RACEWAYS/CIRCUITS. PROVIDE SEPARATE ISOLATED GROUND WIRE TO ALL ISOLATED GROUND DEVICES.

CONDUIT SIZE	MAX QUANTITY OF CONDUCTORS PER CONDUIT		
	CONDUCTOR SIZE		
	12	10	8
1/2 INCH	1 TO 4	1 TO 4	NA
3/4 INCH	5 TO 8	5 TO 6	1 TO 3
1 INCH	9 TO 13	7 TO 11	4 TO 5
SEE SPECIFICATIONS FOR LIMITATIONS ON QUANTITY OF CURRENT CARRYING CONDUCTORS PER CONDUIT			

CONDUIT RISER UP

CONDUIT RISER DOWN

INDICATES CIRCUIT CONTINUATION

STUB INTO ACCESSIBLE CORRIDOR CEILING SPACE UNLESS OTHERWISE NOTED

CONDUIT SEAL FITTING FOR HAZARDOUS AREAS

CONDUIT SLEEVE

CAP END OF CONDUIT

CABLE OR CORD CONNECTED

LIGHTING

NOTE A: UPPER CASE ALPHANUMERIC SUBSCRIPT DENOTES FIXTURE TYPE. SEE SCHEDULE(S)

NOTE B: LOWER CASE LETTER SUBSCRIPT PROVIDED ADJACENT TO SWITCHING DEVICE AND ASSOCIATED LIGHT FIXTURE(S) WHERE REQUIRED FOR CLARIFICATION.

CEILING LIGHT OUTLET WITH FIXTURE CONNECTED TO NORMAL SOURCE

DIRECTIONAL AIMED FIXTURE AIM IN DIRECTION OF ARROW

WALL BRACKET LIGHT OUTLET WITH FIXTURE CONNECTED TO NORMAL SOURCE

RECESSED LIGHT OUTLET WITH FIXTURE CONNECTED TO NORMAL SOURCE

WALL BRACKET LIGHT OUTLET WITH FIXTURE CONNECTED TO NORMAL SOURCE

UNDERCABINET/ COUNTER LIGHT OUTLET OR STRIP LIGHT OUTLET WITH FIXTURE CONNECTED TO NORMAL SOURCE

LINEAR PENDANT/SUSPENDED LIGHT FIXTURE CONNECTED TO NORMAL SOURCE

EXIT LIGHT OUTLET WITH FIXTURE - SHADING INDICATES LOCATION OF FACE(S). ARROWS INDICATE DIRECTIONAL ARROWS WHERE REQUIRED. WALL MOUNTED SIGNS AT +90" CENTERED ABOVE DOOR WHERE APPLICABLE

EMERGENCY LIGHT FIXTURE WITH INTEGRAL BATTERY SOURCE AND HEADS

TRACK LIGHT OUTLET WITH FIXTURE. TYPE INDICATED, QUANTITY AND LENGTH AS SHOWN OR SCHEDULED

PENDANT LIGHT FIXTURE CONNECTED TO NORMAL SOURCE

LIGHTING STANDARD POLE FIXTURE, PROVIDE QUANTITY OF HEADS AND ORIENTATION AS INDICATED

LIGHTING STANDARD WITH POST-TOP FIXTURE

BOLLARD FIXTURE

CEILING LIGHT OUTLET WITH FIXTURE CONNECTED TO EMERGENCY SOURCE

WALL SCONCE LIGHT OUTLET WITH FIXTURE CONNECTED TO EMERGENCY SOURCE

LIGHT OUTLET WITH FIXTURE CONNECTED TO EMERGENCY SOURCE

LINEAR WALL LIGHT OUTLET WITH FIXTURE CONNECTED TO EMERGENCY SOURCE

SURFACE / STRIP LIGHT OUTLET WITH FIXTURE CONNECTED TO EMERGENCY SOURCE

PENDANT LIGHT FIXTURE CONNECTED TO EMERGENCY SOURCE

LINEAR PENDANT/SUSPENDED LIGHT FIXTURE CONNECTED TO EMERGENCY SOURCE

S — SWITCH AT +48" U.O.N.

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE VARIOUS TYPES OF SWITCHES

NO SUBSCRIPT - SINGLE POLE
2 — DOUBLE POLE
3 — THREE WAY
4 — FOUR WAY
D — DIMMER, COMPATIBLE WITH FIXTURE, LUTRON MAESTRO.
f — FUSED
L — PILOT LIGHT
LV — LOW VOLTAGE/DIGITAL SWITCH
OS — WALL SWITCH OCCUPANCY SENSOR, DUAL TECHNOLOGY.
DOS — WALL SWITCH OCCUPANCY SENSOR, DUAL TECHNOLOGY.
TE — MANUAL STARTER WITH THERMAL ELEMENT
XP — EXPLOSION PROOF
M — MOTOR RATED

WIRELESS DEVICE

PC — EXTERIOR PHOTOCELL. ON/OFF WITH ADJUSTABLE SET-POINT.

DH — DAYLIGHT HARVESTING SENSOR. ANALOG 0-10V OUTPUT WITH INTEGRAL MOTION SENSOR.

OS OS OS — CEILING / DIRECTIONAL / DIRECTIONAL WALL MOUNTED OCCUPANCY SENSOR DUAL TECHNOLOGY, WITH REQUIRED POWER PACKS.

TC — TIME CLOCK AT +48"

POWER AND DIAGRAMS

NOTE:
A. OUTLETS IN FINISHED OR SHELL SPACES SHALL BE MOUNTED AT +18" UON.
B. OUTLETS IN GARAGE, MECHANICAL, AND ELECTRICAL SPACES SHALL BE MOUNTED AT 48" UON.
C. OUTLETS SHALL BE TAMPER PROOF, WHERE REQUIRED PER CODE.
D. OUTLETS SHALL HAVE AFCI PROTECTION, WHERE REQUIRED PER CODE.
E. OUTLETS SHALL HAVE GFCI PROTECTION, WHERE REQUIRED PER CODE.

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE DIFFERENT TYPES OF RECEPTACLES

WP — WEATHERPROOF, EXTRA DUTY, WITH STEEL IN-USE COVER.
CL — CLOCK MOUNTED AT +84", REGRESSED SINGLE RECEPTACLE, WITH CLOCK HANGER.
H — HORIZONTAL MOUNTING
U — DUAL USB INCLUDED WITH RECEPTACLE TYPE SHOWN.

TYPICAL SYMBOLOGY:

20A, 125V, 2 POLE, 3 WIRE GROUNDING DUPLEX RECEPTACLE, NEMA 5-20R

20A, 125V, 2 POLE, 3 WIRE GROUNDING SINGLE RECEPTACLE, NEMA 5-20R

20A, 125V, 2 POLE, 3 WIRE GROUNDING DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R

250V, 2 POLE, 3 WIRE GROUNDING SINGLE RECEPTACLE, SIZE AND TYPE AS NOTED.

RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTOR

RECEPTACLES MOUNTED 4" ABOVE COUNTER OR BACK SPLASH AS APPLICABLE, UON.

RECEPTACLES WITH GFCI AND MOUNTED 4" ABOVE COUNTER OR BACK SPLASH AS APPLICABLE.

CEILING MOUNTED RECEPTACLE. TYPE AS INDICATED ABOVE.

CEILING MOUNTED GFCI RECEPTACLES, TYPE AS INDICATED ABOVE.

FLUSH FLOOR MOUNTED RECEPTACLE, TYPE AS INDICATED ABOVE.

FLUSH FLOOR MOUNTED RECEPTACLE, GFCI, TYPE AS INDICATED ABOVE.

PEDESTAL MOUNTED RECEPTACLE, TYPE AS INDICATED ABOVE.

SPECIAL PURPOSE RECEPTACLE. SUBSCRIPT DENOTES NEMA TYPE.

COMBINATION POWER/ COMMUNICATIONS FLOOR BOX, TYPE AND COMMUNICATIONS DEVICE AS INDICATED.

JUNCTION BOX. 4" SQUARE, UON. WALL AND CEILING MOUNTED.

PIGTAIL TO SWITCH DENOTES TOP HALF OF RECEPTACLE SWITCHED.

SURFACE RECEPTACLE STRIP. TYPE AND LENGTH AS INDICATED.

JUNCTION BOX. 4" SQUARE, UON. WALL AND CEILING MOUNTED.

208 VOLT PANELBOARD AT +72" TO TOP

480 VOLT PANELBOARD AT +72" TO TOP

M — ELECTRIC METER

CABLE TRAY OR WIREWAY

SAFETY SWITCH AT +54". CHARACTERISTICS AS INDICATED BY FRAME/POLES.

FUSED SAFETY SWITCH AT +54". CHARACTERISTICS AS INDICATED BY FRAME/FUSESIZE/POLES.

MAGNETIC MOTOR STARTER AT +54". CHARACTERISTICS AS INDICATED BY FRAME SIZE/POLES/NEMA SIZE.

COMBINATION MAGNETIC MOTOR STARTER WITH DISCONNECT AT +54". CHARACTERISTICS AS INDICATED BY FRAME/FUSE/POLES/NEMA SIZE

AFD — ADJUSTABLE FREQUENCY DRIVE WITH INTEGRAL CIRCUIT BREAKER DISCONNECT

MAGNETIC CONTACTOR AT +54". AMPS/POLES/CONTACT VOLTS/ COIL VOLTS AS INDICATED.

CB — SEPARATELY MOUNTED, ENCLOSED MOLDED CASE CIRCUIT BREAKER AT +48". FLUSH MOUNTED IN FINISHED AREAS. AMP/POLES AS INDICATED.

CIRCUIT BREAKER. AMP/POLES AS INDICATED

FUSE. SIZE AS INDICATED

FUSIBLE SWITCH. AMP/POLES/FUSE SIZE AS INDICATED

AUTOMATIC TRANSFER SWITCH +72" TO TOP OR FLOOR MOUNTED.

DISCONNECT STABS FOR DRAWOUT TYPE EQUIPMENT

TRANSFORMER

GROUND CONNECTION

MOTOR CONNECTION, HP AS INDICATED

G — GENERATOR

START-STOP PUSHBUTTON STATION AT +48"

GROUND BUS ON STANDOFFS

CONTROL PANEL:

EQUIPMENT OR TERMINAL CABINET AT +72" TO TOP

PS — POWER SUPPLY

PUSHBUTTON STATION AT +48"

FIRE DETECTION AND ALARM

FACP — CONTROL PANEL AT +72" TO TOP

FAA — FIRE ALARM ANNUNCIATOR PANEL AT +72" TO TOP

F — MANUAL STATION AT +48"

FIRE SUPPRESSION SYSTEM ABORT SWITCH STATION AT +48"

COMBINATION CARBON MONOXIDE / SMOKE DETECTOR WITH ANNUNCIATION

SD — SMOKE DETECTOR - PHOTO ELECTRIC AREA BEAM

DD — DUCT SMOKE DETECTOR

FD — FIRE/ SMOKE DAMPER

HD — AUTOMATIC HEAT DETECTOR

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE THE VARIOUS TYPE OF HEAT DETECTORS
NO SUBSCRIPT - FIXED TEMPERATURE (155 DEGREE U.O.N.)
R/F — COMBINATION RATE OF RISE FIXED TEMPERATURE (135 DEGREE U.O.N.)
XP — EXPLOSION PROOF, FIXED TEMPERATURE (135 DEGREE U.O.N.) CLASS 1, GROUP C

NOTE: WALL MOUNT VISUAL AND COMBINATION AUDIO/VISUAL NOTIFICATION APPLIANCES AT +80" AFF TO BOTTOM OF FACE PLATE U.O.N.

V — VISUAL NOTIFICATION APPLICANCE

A — WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE

AV — WALL MOUNTED COMBINATION AUDIBLE/VISUAL NOTIFICATION APPLIANCE

V — CEILING MOUNTED VISUAL NOTIFICATION APPLIANCE

A — CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE

AV — CEILING MOUNTED COMBINATION AUDIBLE/VISUAL NOTIFICATION APPLIANCE

DH — MAGNETIC DOOR HOLDER. COORDINATE MOUNTING HEIGHT WITH DOOR MANUFACTURER.

FR — ELECTROMECHANICAL DOOR RELEASE. COORDINATE WITH DOOR MANUFACTURER.

FS — SPRINKLER OR STANDPIPE FLOW ALARM SWITCH CONNECTION

TS — VALVE TAMPER SWITCH

F — AIR PRESSURE MONITOR SWITCH FOR PRE-ACTION OR DRY PIPE SPRINKLER SYSTEM

TELECOMMUNICATION

GENERAL NOTES

NOTE A: OUTLETS IN FINISHED OR SHELL SPACES SHALL BE MOUNTED AT +18" UON.

NOTE B: OUTLETS LOCATED AT COUNTERS SHALL BE LOCATED 18"AFF IN KNEE SPACE IF PROVIDED OR 4" ABOVE COUNTER OR BACK SPLASH AS APPLICABLE IF NO KNEE SPACE IS PROVIDED UON.

NOTE C: WHERE ASTERISK (*) IS INDICATED NEXT TO OUTLET AT WORK COUNTER, OUTLET SHALL BE LOCATED ABOVE COUNTER RATHER THAN IN KNEE SPACE.

STANDARD TELECOMMUNICATIONS OUTLET - PROVIDE EXTRA DEEP DOUBLE GANG BOX WITH SINGLE GANG MUD RING AND (1) 1" CONDUIT TO ABOVE FINISHED CEILING, MOUNTED AT 18" AFF, UON. PROVIDE PLASTIC BUSHING AT THE ENDS OF THE CONDUITS. DATA DEVICES AND WIRING PROVIDED BY OTHERS, UON.

THE FOLLOWING SUBSCRIPTS ARE USED TO INDICATE THE VARIOUS (NON-STANDARD) TYPES OF OUTLETS

F — FLOOR MOUNTED.
C — CEILING MOUNTED.
W — MOUNTED 48" AFF, UON.
W — MOUNTED 72" AFF, UON.
T — TELEPHONE AT 44" AFF, UON.
TV — TELEVISION, MOUNTED AT NOTED HEIGHT.
B — BLANK (ROUGH-IN TO ACCESSABLE CEILING SPACE) WITH BLANK COVERPLATE
F — FIBER
— THE FIRST NUMBER INDICATES THE NUMBER OF CAT6 CABLES. THE SECOND NUMBER INDICATES THE TO QUANTITY OF JACK LOCATIONS.

C — CLOCK - SEE SPECIFICATIONS FOR REQUIREMENTS.

S — SPEAKER FOR PA SYSTEM.

DO — ADA DOOR CONTROL OPENER, COORDINATE WITH DOOR REQUIREMENTS

DC — DOOR CONTROLS, COORDINATE WITH SECURITY, AUTO AND MANUAL CONTROLS

NOTE:
SYMBOLS SHOWN ARE FOR REFERENCE ONLY AND DO NOT CONSTITUTE A CHECK LIST OF DEVICES REQUIRED BY THE CONTRACT

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Do not scale.
Use figured dimensions only.

15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
ELECTRICAL COVER SHEET

E0.1

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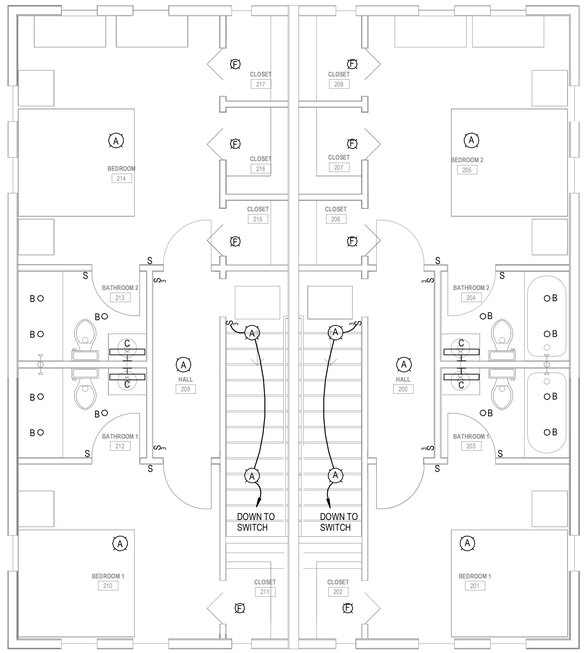
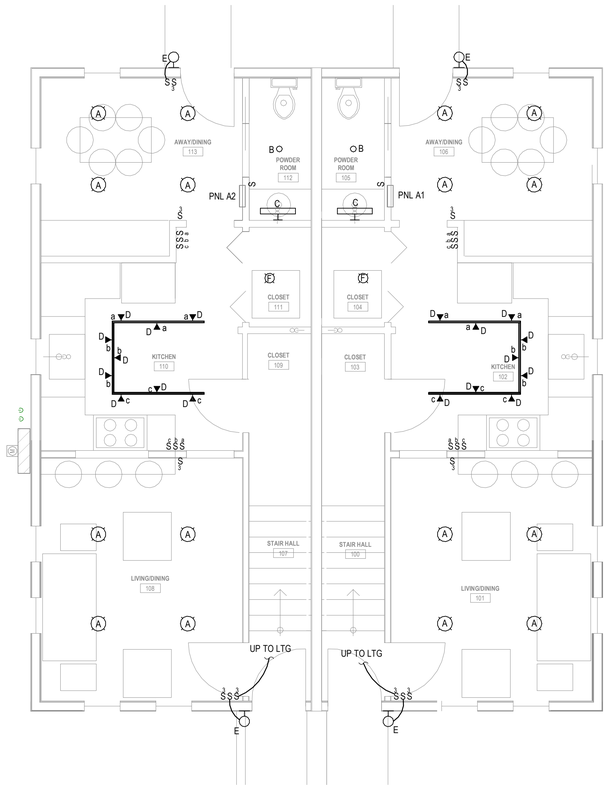


2 E1.1 **UPPER FLOOR PLAN - LIGHTING**
SCALE = 1/4" = 1'-0"



1 E1.1 **MAIN FLOOR PLAN - LIGHTING**
SCALE = 1/4" = 1'-0"

Do not scale.
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15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
FLOOR PLANS - LIGHTING

E1.1

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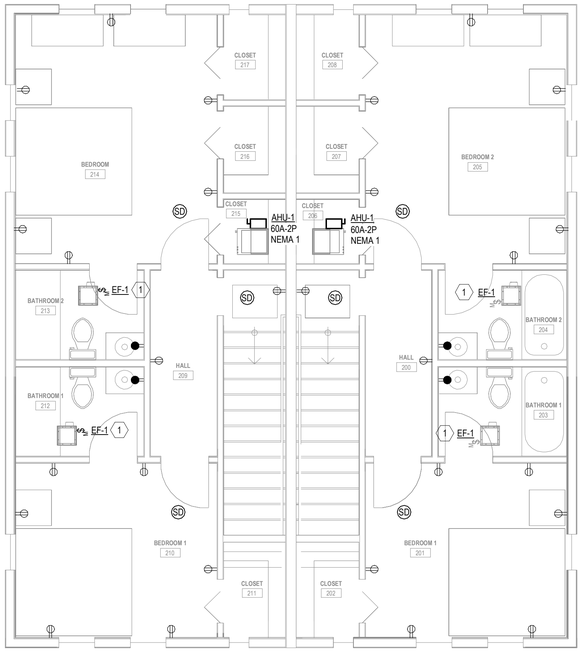
KEYNOTES:

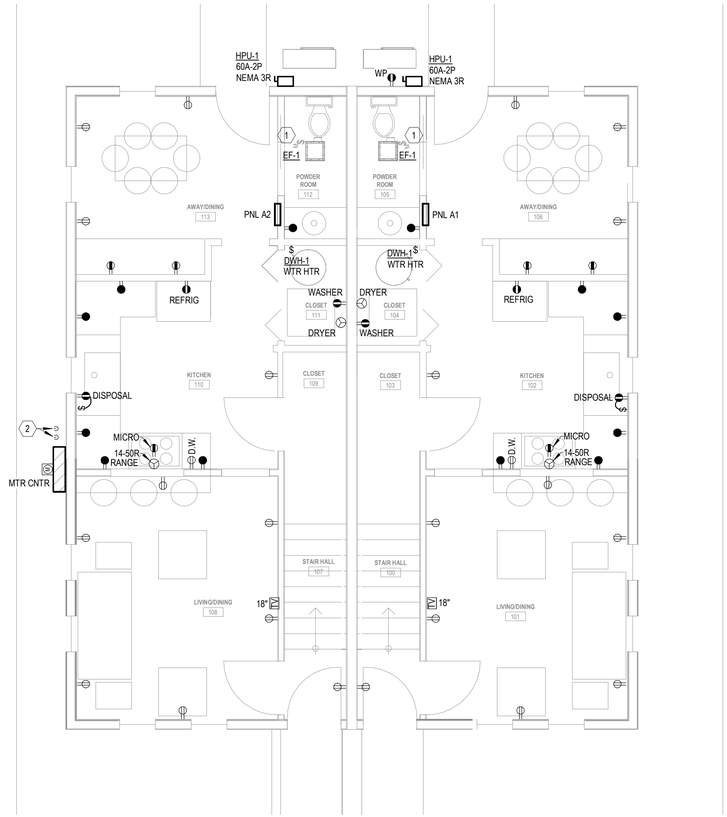
1 CONNECT FAN TO LOCAL LIGHTING CIRCUIT.

2 EMPTY 3" CONDUIT WITH PULL ROPE FOR POWER AND COMMUNICATION. STUB OUT 5'-0" FROM BUILDING.



1 E2.1 **UPPER FLOOR PLAN - POWER**

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



2 E2.1 **MAIN FLOOR PLAN - POWER**

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

Do not scale.
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15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
FLOOR PLANS - POWER

E2.1

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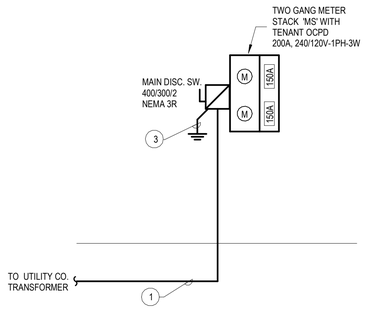
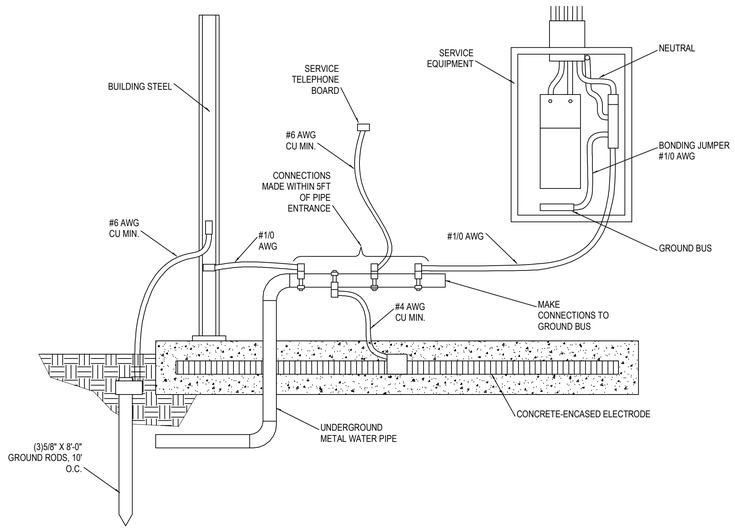


CABLE/CONDUIT SCHEDULE

1. EMPTY 3" CONDUIT WITH PULL ROPE
2. 3#350, #4GND, 3"C
3. #1/0 AWG GND, GEC

NOTE:
$I_{S.C.}$ (L-L): 8976 AMPS
AVAILABLE FAULT CURRENT CALCULATIONS ARE BASED ON AN ASSUMPTION OF 50KVA TRANSFORMER WITH AN INFINITE PRIMARY AND A 2.3% IMPEDENCE. CONTRACTOR TO CONFIRM WITH THE UTILITY COMPANY THE AVAILABLE FAULT CURRENT AND ADJUST AIC RATINGS FOR ALL ELECTRICAL EQUIPMENT PRIOR TO ORDERING.

2 / E5.1 **120/240V ELECTRICAL RISER DIAGRAM**
NOT TO SCALE



1 / E5.1 **GROUNDING AND BONDING DETAIL (TYPICAL)**
NOT TO SCALE

Do not scale.
Use figured dimensions only.

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Job Number:
2023xx

Title:
ELECTRICAL DETAILS

E5.1

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LIGHT FIXTURE SCHEDULE

ID	MANUFACTURER	MODEL NO.	VOLTAGE	REQUIRED LAMPS			DESCRIPTION	NOTES
				QTY	WATT	TYPE		
A	JUNO	JSF-11IN-35K-90CRI-MVOLTZT-WH	120-277V	1	15 W	LED, 3500K, 1300LM, 90CRI	LED SURFACE MOUNT DOWNLIGHT	
B	JUNO	IC1LED-G4-14LM-35K-90CRI-MVOLT-ZT1	120-277V	1	17 W	LED, 3500K, 1400LM, 90CRI	4" DOWNLIGHT, WHITE FLANGE, 1% DIMMING	
C	LITHONIA	FMVTSL-24IN-MVOLT-30K090CRI-BN-M4	120-277V	1	10 W	LED, 3000K, 1300LM	2' LED VANITY	
D	JUNO	R605L-35K-90CRI-WFL-WH/TU-WH	120-277V	1	10 W	LED	LED TRACK HEAD WITH TRACK SECTION	SEE LIGHTING PLAN FOR TRACK SECTION LENGTH
E	SIGNATURE HARDWARE	SKU: 941513	120V	1	10 W	LED, 3000K, 1300LM	OUTDOOR ENTRANCE WALL SCONCE	
F	CLOUDY BAY	JSF-11IN-35K-90CRI-MVOLTZT-WH	120V	1	10 W	LED, 5000K, 600LM, 90CRI	MOTION SENSOR CEILING LIGHT	

Panel: A1

Location: AWAY/DINING 106 **Volts:** 120/240 Single **A.I.C. Rating:** 10kAIC
Mounting: RECESSED **Phases:** 1 **Mains Type:** MCB
Enclosure: TYPE 1 **Wires:** 3 **Mains Rating:** 150 A
Series: LOAD CENTER **Bus Rating:** 150 A
Neutral Buss: Yes
Ground Buss: Yes

Notes:
* PROVIDE GFCI CIRCUIT BREAKER

CKT	Circuit Description	Trip	Poles	A	B	Poles	Trip	Circuit Description	CKT
1	LTG STAIR/HALL 100	20	1	...		1	20	LTG RM 200-203	2
3	LTG LIVING/DINING 101	20	1		...	1	20	LTG RMS 204-208	4
5	LTG KITCHEN 102	20	1	...		2	20	RANGE KITCHEN 102	6
7	LTG KITCHEN 102	20	1		...	--	--	--	8
9	LTG KITCHEN 102	20	1	...		2	20	WTR HTR CLOSET 104	10
11	LTG RMS 104, 105, 106	20	1		...	--	--	--	12
13	RECEPT STAIR HALL 100	20	1	...		1	20	RECEPT POWDER ROOM...	14
15	RECEPT LIVING/DINING 101	20	1		...	1	20	RECEPT AWAY/DINING 106	16
17	RECEPT LIVING/DINING 101	20	1	...		1	20	RECEPT AWAY/DINING 106	18
19	D.W. KITCHEN 102	20	1		...	1	20	RECEPT HALL 200	20
21	DISPOSAL KITCHEN 102	20	1	...		1	20	RECEPT BEDROOM 1 201	22
23	MICRO KITCHEN 102	20	1		...	1	20	RECEPT BEDROOM 1 201	24
25	REFRIG KITCHEN 102	20	1	...		2	35	AHU-1 CLOSET 206	26
27	RECEPT KITCHEN 102	20	1		...	--	--	--	28
29	RECEPT KITCHEN 102	20	1	...		2	35	HPU-1	30
31	RECEPT KITCHEN 102	20	1		...	--	--	--	32
33	SPARE	20	1	...		1	20	SPARE	34
35	SPARE	20	1		...	1	20	SPARE	36

Notes:

Panel: A2

Location: AWAY/DINING 113 **Volts:** 120/240 Single **A.I.C. Rating:** 10kAIC
Mounting: RECESSED **Phases:** 1 **Mains Type:** MCB
Enclosure: TYPE 1 **Wires:** 3 **Mains Rating:** 150 A
Series: LOAD CENTER **Bus Rating:** 150 A
Neutral Buss: Yes
Ground Buss: Yes

Notes:
* PROVIDE GFCI CIRCUIT BREAKER

CKT	Circuit Description	Trip	Poles	A	B	Poles	Trip	Circuit Description	CKT
1	LTG STAIR/HALL 107	20	1	...		1	20	LTG RM 209-212	2
3	LTG LIVING/DINING 108	20	1		...	1	20	LTG RMS 213-217	4
5	LTG KITCHEN 110	20	1	...		2	50	RANGE KITCHEN 110	6
7	LTG KITCHEN 110	20	1		...	--	--	--	8
9	LTG KITCHEN 110	20	1	...		1	20	RECEPT KITCHEN 110	10
11	LTG RMS 111-113	20	1		...	1	20	RECEPT KITCHEN 110	12
13	RECEPT POWDER ROOM...	20	1	...		1	20	RECEPT KITCHEN 110	14
15	RECEPT STAIR HALL 107	20	1		...	2	30	DRYER CLOSET 111	16
17	RECEPT LIVING/DINING 108	20	1	...		--	--	--	18
19	D.W. KITCHEN 110	20	1		...	1	20	WASHER CLOSET 111	20
21	DISPOSAL KITCHEN 110	20	1	...		2	30	WTR HTR CLOSET 111	22
23	RECEPT LIVING/DINING 108	20	1		...	--	--	--	24
25	MICRO KITCHEN 110	20	1	...		1	20	RECEPT BEDROOM 214	26
27	REFRIG KITCHEN 110	20	1		...	1	20	RECEPT BEDROOM 214	28
29	HPU-1	35	2	...		2	35	AHU-1 CLOSET 215	30
31	--	--	--		...	--	--	--	32
33	SPARE	20	1	...		1	20	SPARE	34
35	SPARE	20	1		...	1	20	SPARE	36

Notes:

Do not scale. Use figured dimensions only.

15 October 2023

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THE BAXTER
Michigan Municipal League

Job Number: 2023xx

Title: ELECTRICAL SCHEDULES

E7.1

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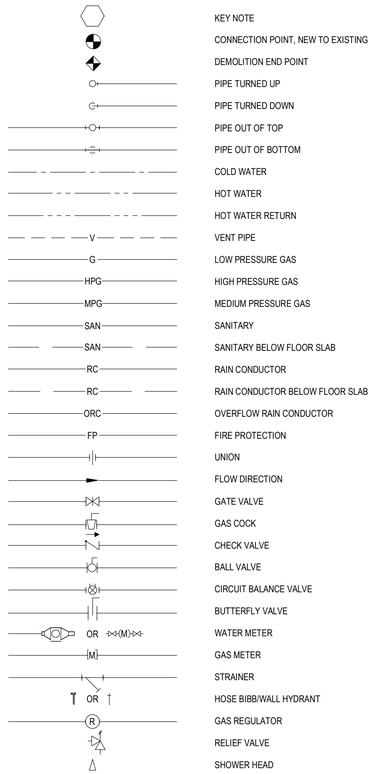
PLUMBING ABBREVIATIONS

ATC	ARCHITECTURAL TRADES CONTRACTOR
AFF	ABOVE FINISHED FLOOR
BFS	BELOW FLOOR SLAB
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CO	CLEAN OUT
COTG	CLEAN OUT TO GRADE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DIA/Ø	DIAMETER
DWH	DOMESTIC WATER HEATER
ETC	ELECTRICAL TRADES CONTRACTOR
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
G	GAS (NATURAL)
G (2-PSI)	NATURAL GAS (2-PSI)
G (5-PSI)	NATURAL GAS (5-PSI)
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSE POWER
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HWR	HOT WATER RETURN
HW	HOT WATER
INV OR I.E.	INVERT ELEVATION
LAV	LAVATORY
MTC	MECHANICAL TRADES CONTRACTOR
MBH	BTU PER HOUR (THOUSAND)
MS	MOP SINK
ORC	OVER-FLOW RAIN CONDUCTOR
ORD	OVER-FLOW ROOF DRAIN
PVC	POLYVINYL CHLORIDE
RC	RAIN CONDUCTOR
RD	ROOF DRAIN
SAN	SANITARY
SH	SHOWER
SK	SINK
SS	SOIL STACK
ST	STORM
TYP	TYPICAL
UR	URINAL
VAC	VACUUM
VB	VACUUM BREAKER
V	VENT
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WS	WASTE STACK
X-	EXISTING

NOTE:
ALL ABBREVIATIONS AND SYMBOLS SHOWN ON THIS SHEET MAY NOT BE USED ON THIS PROJECT.

PLUMBING SYMBOLS



KEY NOTE
CONNECTION POINT, NEW TO EXISTING
DEMOLITION END POINT
PIPE TURNED UP
PIPE TURNED DOWN
PIPE OUT OF TOP
PIPE OUT OF BOTTOM
COLD WATER
HOT WATER
HOT WATER RETURN
VENT PIPE
LOW PRESSURE GAS
HIGH PRESSURE GAS
MEDIUM PRESSURE GAS
SANITARY
SANITARY BELOW FLOOR SLAB
RAIN CONDUCTOR
RAIN CONDUCTOR BELOW FLOOR SLAB
OVERFLOW RAIN CONDUCTOR
FIRE PROTECTION
UNION
FLOW DIRECTION
GATE VALVE
GAS COCK
CHECK VALVE
BALL VALVE
CIRCUIT BALANCE VALVE
BUTTERFLY VALVE
WATER METER
GAS METER
STRAINER
HOSE BIBB/WALL HYDRANT
GAS REGULATOR
RELIEF VALVE
SHOWER HEAD

GENERAL PLUMBING NOTES

A. PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK WITHOUT PRIOR COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL TRADES' WORK.

B. ALL WORK SHALL COMPLY WITH THE MICHIGAN PLUMBING CODE AND ALL APPLICABLE LOCAL CODES.

C. ALL INVERTS, STATED OR NOT, NEW OR EXISTING, SHALL BE COORDINATED IN THE FIELD, VERIFY EXISTING INVERTS PRIOR TO STARTING WORK.

D. UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE CHROME ESCUTCHEON AT EACH PENETRATION OF A FINISHED SURFACE.

E. PLUMBING UTILITY PIPING SHALL NOT BE RUN ABOVE ELECTRICAL GEAR OR IN THE SERVICE SPACE REQUIRED BY THE NATIONAL ELECTRICAL CODE.

F. PROVIDE SHOCK ABSORBER IN THE DOMESTIC COLD AND HOT WATER PIPING. SHOCK ABSORBERS TO BE LOCATED IN AN ACCESSIBLE LOCATION.

G. ALL WALL AND SLAB PENETRATIONS OF MASONRY OR CONCRETE CONSTRUCTION SHALL BE SLEEVED.

H. PROVIDE ISOLATION SEPARATORS FOR COPPER PIPING RUNNING THROUGH METAL STUDS.

I. ALL FLOOR DRAINS ARE TO HAVE AN APPROVED TRAP SEAL DEVICE.

J. ALL FIXTURES SHALL HAVE SHUTOFF STOP VALVES IN AN ACCESSIBLE LOCATION. PIPING BEYOND THE STOP VALVES AND EXPOSED IN OCCUPIED SPACES SHALL BE CHROME-PLATED. ANY NOTED SHUTOFF VALVES ARE IN ADDITION TO THIS REQUIREMENT.

K. PROVIDE FIRE STOPPING AT ALL PENETRATIONS OF FIRE RATED ENCLOSURES.

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PIPE INSULATION SCHEDULE

FLUID OPERATING TEMP RANGE, °F	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE, INCHES					NOTE
	CONDUCTIVITY RANGE BTU-IN/HR-FT²-°F	MEAN TEMP RATING, °F	<1	1 TO <1.5	1.5 TO <4	4 TO <8	>8	
			INSULATION THICKNESS, INCHES					
105°+ (DOM. HW)	0.22 - 0.28	100°	0.5 [a]	0.5 [a]	1.0 [a]	1.0 [a]	1.0 [a]	2
DOM. HW W/ HWR	0.27	100°	1.0 [c]	1.0 [c]	1.0 [a,c]	1.0 [a,c]	1.0 [a,c]	2
40° TO 60°	0.21 - 0.27	75°	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1
> 40°	0.20 - 0.26	50°	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1.5 [b,d]	1
DOMESTIC CW	0.21 - 0.27	75°	1.0	1.0	1.0	1.0	1.0	1

NOTE: THE VALUES LISTED IN THE SCHEDULE ARE BASED ON THE MICHIGAN UNIFORM ENERGY CODE (BASED ON ASHRAE 90.1-2013), 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) (AS REFERENCED BY 2015 MICHIGAN MECHANICAL CODE), & 2018 MICHIGAN PLUMBING CODE (MPC). THE MORE STRINGENT REQUIREMENTS ARE USED AS LISTED BELOW. VERIFY THE VALUES COMPLY WITH THE CODES IN EFFECT AT THE TIME OF CONSTRUCTION AND ADJUST ACCORDINGLY.

CODE REFERENCES:
a. FROM ASHRAE 90.1, TABLE 6.8.3-1 "MINIMUM PIPING INSULATION THICKNESS" FOR "HEATING AND HOT WATER SYSTEMS (STEAM, STEAM CONDENSATE, HOT WATER HEATING AND DOMESTIC WATER SYSTEMS)"
b. FROM ASHRAE 90.1, TABLE 6.8.3-2 "MINIMUM PIPING INSULATION THICKNESS" FOR "COOLING SYSTEMS (CHILLED WATER, BRINE, AND REFRIGERANT)."
c. FROM IECC, SECTION C404 "SERVICE WATER HEATING (MANDATORY)" PARAGRAPH C404.4 "INSULATION OF PIPING."
d. FROM IECC, TABLE C403.2.10 "MINIMUM PIPE INSULATION THICKNESS."

NOTES:
1. PROVIDE WITH VAPOR BARRIER. HANGERS/SUPPORTS SHALL BE INSTALLED OUTSIDE OF INSULATION.
2. THE FOLLOWING DOMESTIC/SERVICE HOT WATER PIPING SHALL BE INSULATED AS INDICATED:
   a. RECIRCULATING SYSTEM PIPING, INCL THE SUPPLY AND RETURN PIPING OF A CIRCULATING TANK TYPE WATER HEATER.
   b. THE FIRST 8 FT. OF OUTLET PIPING FOR A CONSTANT TEMPERATURE NONRECIRCULATING STORAGE SYSTEM.
   c. THE INLET PIPE BETWEEN THE STORAGE TANK AND A HEAT TRAP IN A NONRECIRCULATING STORAGE SYSTEM.
   d. PIPES THAT ARE EXTERNALLY HEATED (SUCH AS HEAT TRACE OR IMPEDANCE HEATING).

Do not scale.
Use figured dimensions only.

15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
PLUMBING
COVER SHEET

P0.1

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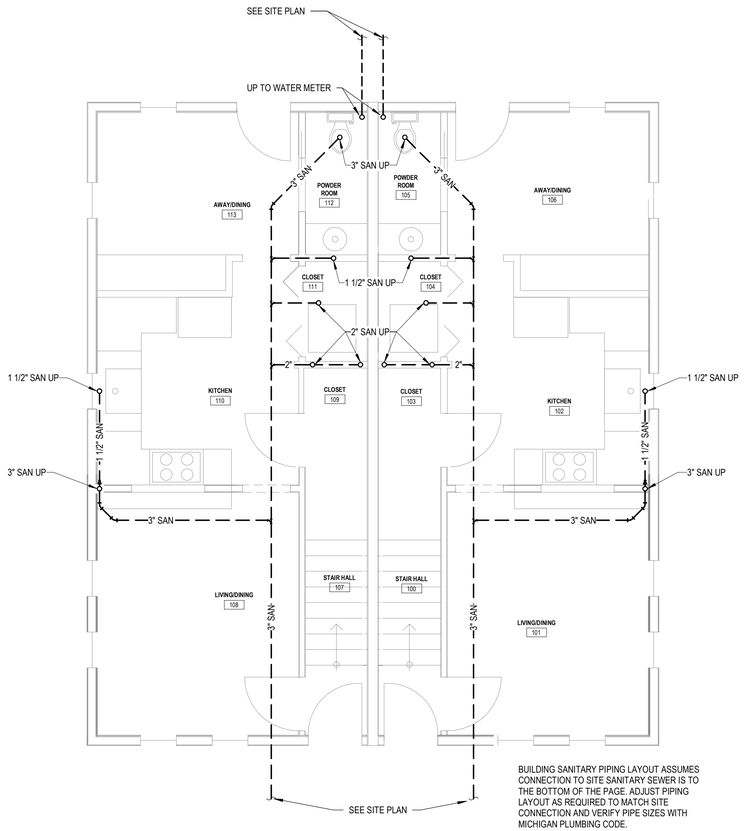
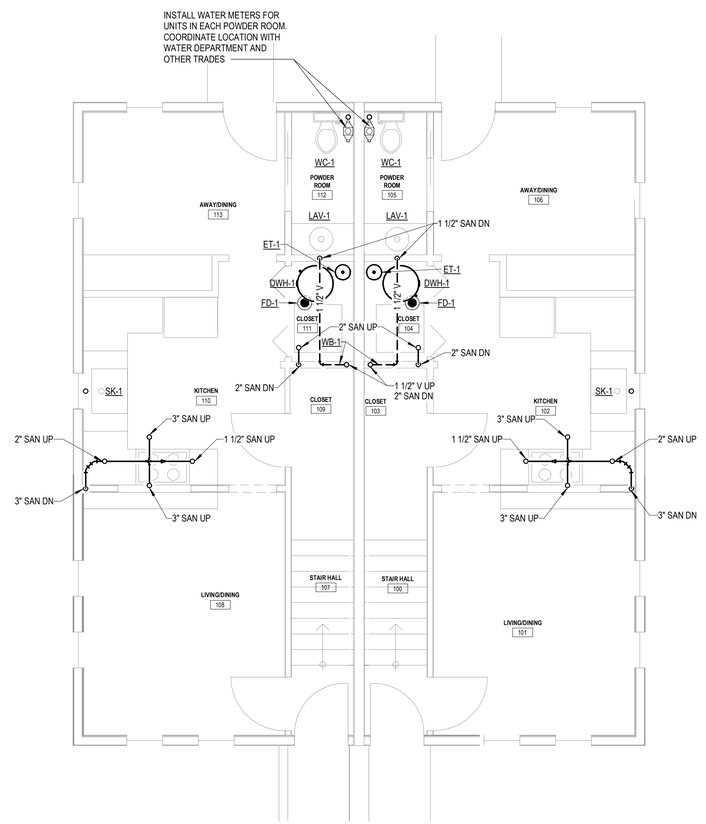


BUILDING SANITARY PIPING LAYOUT ASSUMES CONNECTION TO SITE SANITARY SEWER IS TO THE BOTTOM OF THE PAGE. ADJUST PIPING LAYOUT AS REQUIRED TO MATCH SITE CONNECTION AND VERIFY PIPE SIZES WITH MICHIGAN PLUMBING CODE.

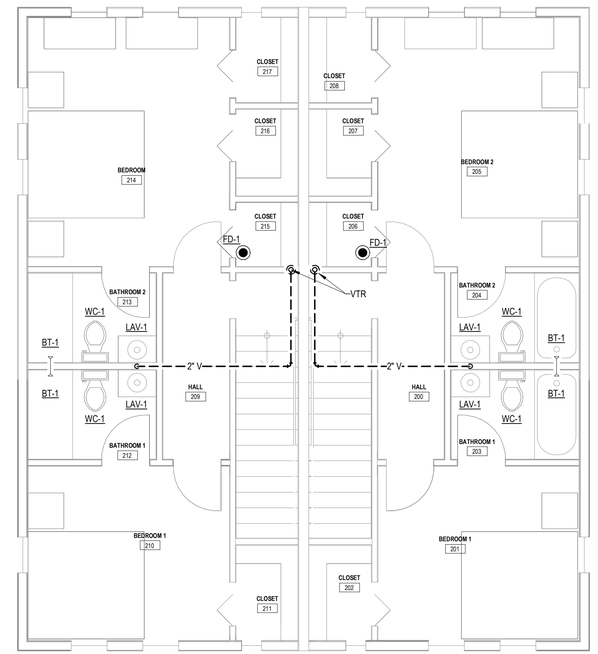
1 P1.1 MAIN FLOOR PLAN - PLUMBING UNDERGROUND

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



2 P1.1 MAIN FLOOR PLAN - PLUMBING

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



3 P1.1 UPPER FLOOR PLAN - PLUMBING

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

Do not scale.
Use figured dimensions only.

15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
PLUMBING FLOOR PLANS

P1.1

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DOMESTIC WATER HEATER SCHEDULE

COMMENTS:
1. PROVIDE WITH TEMPERATURE & PRESSURE RELIEF VALVE.
2. PROVIDE WITH DRAIN PAN.
3. WATER HEATER SHALL INCLUDE INTEGRAL OR FACTORY INSTALLED HEAT TRAPS.
4. WATER HEATER SHALL HAVE SIDE INLET AND OUTLET CONNECTIONS.

TAG	BASIS OF DESIGN		DESCRIPTION	STORAGE CAPACITY (GALLONS)	RECOVERY GPH	1 HR DRAW (GALLONS)	RISE OF RECOVERY °F	EWT °F	LWT °F	ELECTRICAL DATA		COMMENTS
	MANUFACTURER	MODEL								DWH KW	DWH VOLTAGE	
DWH-1	Lochinvar	JEA030KD	SHORT ELECTRIC WATER HEATER	28	27	47	70	50	120	4.5	240V / 1Ø	1, 2, 3, 4

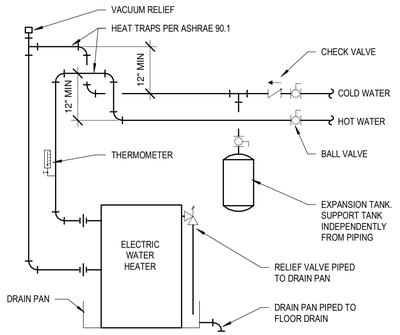
EXPANSION TANK SCHEDULE

COMMENTS:
1 CARBON STEEL SHELL
2 HEAVY DUTY BUTYL BLADDER
3 STAINLESS STEEL CONNECTION
4 BAKED EPOXY FINISH
5 240 DEGREE F MAXIMUM TEMPERATURE
6 150 PSI MAXIMUM DESIGN PRESSURE

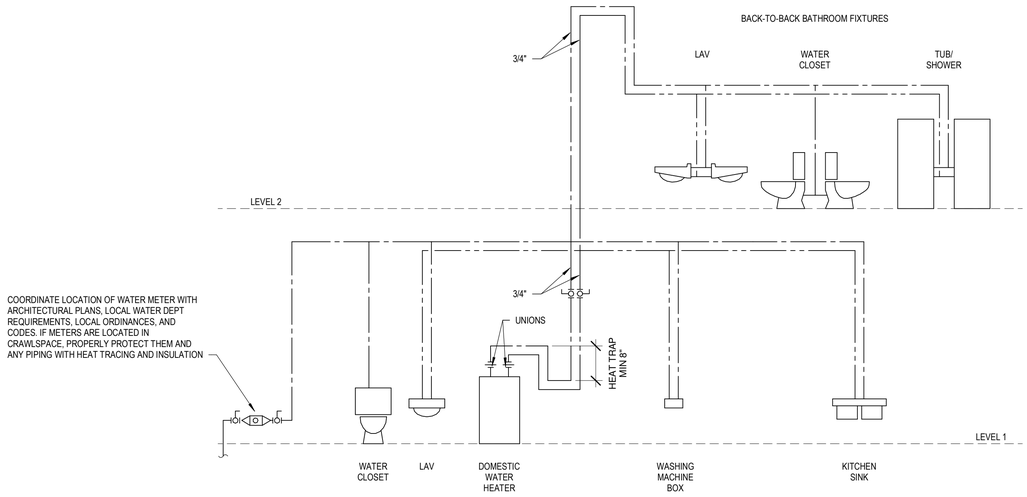
TAG	DESIGN BASIS		TANK VOLUME	MAXIMUM ACCEPTANCE VOLUME	SYSTEM CONNECTION SIZE	ASME Rated	COMMENTS
	MANUFACTURER	MODEL					
ET-1	Amtrol	ST-5				No	

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	FIXTURE TYPE	PIPE CONNECTION DATA				ELECTRICAL DATA		COMMENTS
		COLD WATER	HOT WATER	VENT	SANITARY	FLA	VOLTAGE	
BT-1	BATHTUB / SHOWER	1/2"	1/2"	1-1/2"	2"	-	-	
FD-1	FLOOR DRAIN	-	-	1-1/2"	2"	-	-	
LAV-1	LAVATORY	1/2"	1/2"	1-1/4"	1-1/2"	-	-	
SK-1	KITCHEN SINK	1/2"	1/2"	1-1/4"	1-1/2"	-	-	
WB-1	WASHER BOX	1/2"	1/2"	1-1/2"	2"	-	-	
WC-1	TANK TYPE WATER CLOSET	1/2"	1/2"	1-1/2"	3"	-	-	



1 / P6.1 **DOMESTIC WATER HEATER PIPING SCHEMATIC**
NOT TO SCALE



2 / P6.1 **DOMESTIC WATER PIPING SCHEMATIC**
NOT TO SCALE

Do not scale. Use figured dimensions only.

15 October 2023

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THE BAXTER
Michigan Municipal League

Job Number: 2023xx

Title: PLUMBING SCHEDULES

P6.1

8/23/2023 9:21:00 AM

HVAC ABBREVIATIONS

ATC	ARCHITECTURAL TRADES CONTRACTOR
AC	AIR CONDITIONING(ER)
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
BDD	BACKDRAFT DAMPER
B.O.D.	BOTTOM OF DUCT
CONV	CONVECTOR
CFM	CUBIC FEET PER MINUTE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CU	CONDENSING UNIT
COR	CONDENSER WATER RETURN
COS	CONDENSER WATER SUPPLY
DB	DRY BULB TEMPERATURE
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD
ECUH	ELECTRIC CABINET UNIT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ETC	ELECTRICAL TRADES CONTRACTOR
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
F	FURNACE
F/SD	COMBINATION FIRE/SMOKE DAMPER
G	LOW PRESSURE GAS
GPM	GALLONS PER MINUTE
HR	HEATING HOT WATER RETURN
HS	HEATING HOT WATER SUPPLY
HP	HORSEPOWER
HPS	HIGH PRESSURE STEAM SUPPLY
HVAC	HEATING/VENTILATING/AIR CONDITIONING
LAT	LEAVING AIR TEMPERATURE
LPS	LOW PRESSURE STEAM SUPPLY
MAX	MAXIMUM
MTC	MECHANICAL TRADES CONTRACTOR
MBH	BTU PER HOUR (THOUSAND)
MFR	MANUFACTURER
MPS	MEDIUM PRESSURE STEAM SUPPLY
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
P	PUMP
PRV	PRESSURE REDUCING VALVE
PSC	PUMPED STEAM CONDENSATE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RG	RETURN GRILLE
RL	REFRIGERANT LIQUID
RP	RADIANT PANEL
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SC	STEAM CONDENSATE
SD	SUPPLY DIFFUSER
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
TG	TRANSFER GRILLE
TU	TERMINAL UNIT
TXV	THERMAL EXPANSION VALVE
TYP	TYPICAL
UH	UNIT HEATER
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE
X-	EXISTING

SD-1	TAG (DIFFUSERS AND GRILLES)
8"∅	NECK SIZE
200 CFM	AIR FLOW
TYP.2	COMMENTS

NOTE:
ALL ABBREVIATIONS AND SYMBOLS SHOWN ON THIS SHEET MAY NOT BE USED ON THIS PROJECT.

PIPING SYMBOLS

	PIPE TURNED UP
	PIPE TURNED DOWN
	PIPE OUT OF TOP
	PIPE OUT OF BOTTOM
	PIPE ANCHOR
	PIPE ALIGNMENT GUIDE
	PIPE EXPANSION JOINT
	STRAINER
	UNION
	SHUT-OFF VALVE
	CHECK VALVE
	BALL VALVE
	GLOBE VALVE
M	MOTOR OPERATED VALVE
S	SOLENOID OPERATED VALVE
	2-WAY TEMPERATURE CONTROL VALVE
	3-WAY TEMPERATURE CONTROL VALVE
T	STEAM TRAP
	CIRCUIT BALANCE VALVE
HS	HEATING HOT WATER SUPPLY
HR	HEATING HOT WATER RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
COS	CONDENSER WATER SUPPLY
COR	CONDENSER WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CD	CONDENSATE DRAIN
CA	COMPRESSED AIR
HPS	HIGH PRESSURE STEAM 76-100 LBS.
MPS	MEDIUM PRESSURE STEAM 21-75 LBS.
LPS	LOW PRESSURE STEAM 0-20 LBS.
SC	STEAM CONDENSATE
PSC	STEAM CONDENSATE PUMPED
G	GAS PIPE - LOW PRESSURE
HPG	GAS - HIGH PRESSURE
MPG	GAS - MEDIUM PRESSURE
M	GAS METER

GENERAL SYMBOLS

	KEY NOTE
	CONNECTION POINT, NEW TO EXISTING
	DEMOLITION END POINT

SHEET METAL SYMBOLS

	SUPPLY AIR DUCT
	RETURN AIR DUCT
	EXHAUST AIR DUCT
	BALANCE DAMPER
	CONICAL TEE
	90° TEE WITH 45° APPROACH
	TRANSITION CONCENTRIC
	TRANSITION ECCENTRIC
	VERTICAL FIRE DAMPER
	HORIZONTAL FIRE DAMPER
	VERTICAL COMBINATION FIRE SMOKE DAMPER
	HORIZONTAL COMBINATION FIRE SMOKE DAMPER
S	VERTICAL SMOKE DAMPER
S	HORIZONTAL SMOKE DAMPER
M	MOTORIZED DAMPER
	AIR FLOW DIRECTION

CONTROL SYMBOLS

T	THERMOSTAT
S	TEMPERATURE SENSOR
H	HUMIDISTAT
SD	DUCT SMOKE DETECTOR. INSTALLED BY M.T.C. PROVIDED AND WIRED BY E.T.C.

GENERAL HVAC NOTES

A. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS, OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES OR REGULATIONS OF FEDERAL, STATE, AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.

B. WHERE APPROVED STANDARDS HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORIES, AMERICAN CODES, ASA, ASHRAE, ARI, NEC, STATE FIRE INSURANCE REGULATION BODY, NFPA OR OTHERS. THESE STANDARDS SHALL BE FOLLOWED WHETHER OR NOT INDICATED ON THE DRAWING AND SPECIFICATIONS.

C. ALL WORK SHALL COMPLY WITH THE MICHIGAN MECHANICAL CODE AND ALL APPLICABLE LOCAL CODES.

D. ALL DUCT TO BE OF 1" PRESSURE CLASS, UNLESS NOTED OTHERWISE.

E. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION OF ROOF TOP EQUIPMENT.

F. DUCTWORK SHALL BE ACOUSTICALLY LINED WITHIN 20 FT OF THE INTAKE AND/OR DISCHARGE OF A FAN.

G. INSTALL VOLUME DAMPERS IN ALL BRANCH DUCTS SERVING A SINGLE GRILLE, REGISTER, OR DIFFUSER.

H. INSTALL FLEXIBLE DUCT CONNECTIONS AT THE INLET AND DISCHARGE OF ALL FANS.

I. MAXIMUM LENGTH OF FLEXIBLE DUCT TO AIR TERMINAL DEVICES SHALL NOT EXCEED 5'-0" IN LENGTH WITH A MAXIMUM OF ONE 90° TURN AND SHALL BE INSULATED. ELBOWS SHALL BE MIN. 1.5 RADIUS. CONNECTIONS TO TERMINAL DEVICES SHALL BE BANDED AND TAPED.

J. UNDERGROUND GAS SERVICE BY UTILITY COMPANY, REFER TO CIVIL DRAWINGS. COORDINATE SERVICE, METER, ETC. LOCATIONS WITH UTILITY COMPANY.

K. DUCT/PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF DUCT/PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK WITHOUT PRIOR COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL TRADES' WORK.

L. UNLESS OTHERWISE NOTED, ALL DUCT/PIPING SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE CHROME ESCUTCHEON OR ALUMINUM DUCT COLLAR AT EACH PENETRATION OF A FINISHED SURFACE.

M. DUCT/PIPING SHALL NOT BE RUN ABOVE ELECTRICAL GEAR OR IN THE SERVICE SPACE REQUIRED BY THE NATIONAL ELECTRICAL CODE.

N. DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.

O. ANY ADDITIONAL LOW VOLTAGE CONTROL WIRING THAT IS REQUIRED SHALL BE PROVIDED BY THE HVAC CONTRACTOR. CONTROL WIRING SHALL BE RUN IN CONDUIT IF REQUIRED BY LOCAL CODES. FIELD VERIFY PRIOR TO BID. POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

P. PROVIDE TRAP FOR CONDENSATION DRAIN LINES.

Q. PROVIDE VIBRATION ISOLATION AT EACH CONNECTION TO A MOTORIZED PIECE OF EQUIPMENT BY THE HVAC CONTRACTOR.

R. MOUNT THERMOSTAT/SENSORS AT 48" AFF UNLESS NOTED OTHERWISE.

S. THE HVAC CONTRACTOR SHALL CLOSELY COORDINATE AIR DEVICE AND DUCTWORK LOCATIONS WITH REFLECTED CEILING AND STRUCTURAL PLANS.

T. COORDINATE SENSOR AND THERMOSTAT LOCATION WITH ARCHITECT.

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Do not scale.
Use figured dimensions only.

15 October 2023

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THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
HVAC COVER SHEET

M0.1

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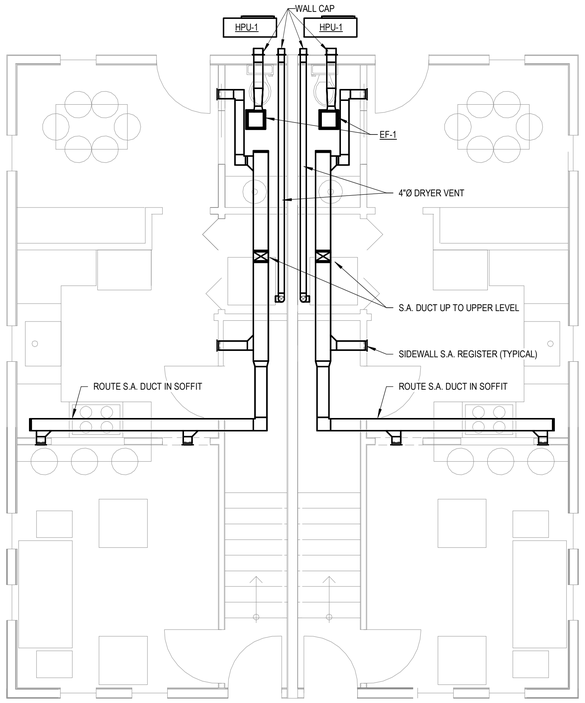
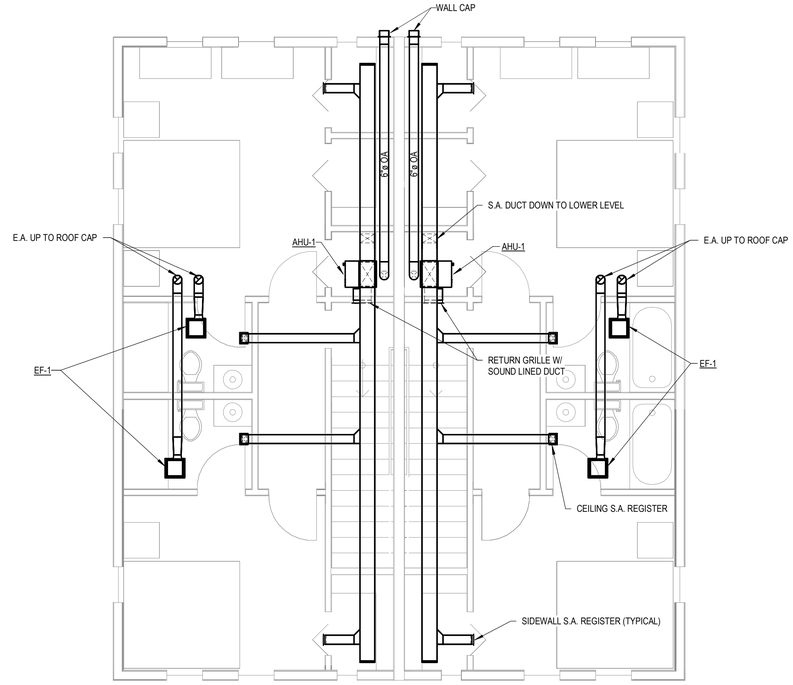


1 M1.1 **MAIN FLOOR PLAN - HVAC**
SCALE = 1/4" = 1'-0"



2 M1.1 **UPPER FLOOR PLAN - HVAC**
SCALE = 1/4" = 1'-0"

Do not scale.
Use figured dimensions only.

15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
HVAC FLOOR PLANS

M1.1

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EXHAUST FAN SCHEDULE

COMMENTS:
1. PROVIDE WITH ELECTRONICALLY COMMUTATED MOTOR WITH CONSTANT CFM ADAPTIVE, VARIABLE SPEED TECHNOLOGY PROGRAMMED TO OVERCOME THE STATIC PRESSURE ASSOCIATED WITH COMMON RESIDENTIAL INSTALLATION SCENARIOS.
2. PROVIDE WITH WALL CAP INCLUDING BIRDSCREEN AND BACKDRAFT DAMPER.

TAG	BASIS OF DESIGN		CFM	E.S.P. (in-wg)	FAN SPEED (RPM)	DRIVE TYPE	SONES	ELECTRICAL DATA		DISCONNECT BY		VFD	CONTROL	COMMENTS
	MANUFACTURER	MODEL			DESIGN			WATTS	VOLTAGE	M.T.C.	E.T.C.			
EF-1	Greenheck	SP-LP0511	80	0.28	831	DIRECT	2	11	120V / 1Ø	X		No	LOCAL SWITCH	1, 2

AIR HANDLING UNIT SCHEDULE

COMMENTS:
1. PROVIDE WITH FACTORY CONTROLS AND WALL MOUNTED, PROGRAMMABLE THERMOSTAT THAT WILL COORDINATE THE OPERATION OF THE AIR HANDLING AND REHEAT COIL. THERMOSTAT SHALL HAVE SETTINGS FOR 7-DAYS / 4- PERIODS.
2. PROVIDE WITH CONDENSATE DRAIN SENSOR TO SHUT-DOWN UNIT IN THE EVENT OF CONDENSATE DRAIN BLOCKAGE.
3. PROVIDE WITH ELECTRIC REHEAT COIL. ELECTRIC HEAT TO HAVE SEPARATE POWER CONNECTION.
4. AIR HANDLING UNIT FAN AND CONTROLS POWERED FROM OUTDOOR UNIT. ELECTRIC HEAT TO HAVE SEPARATE POWER CONNECTION.
5. PROVIDE WITH 1" MERV 8 FILTER.
6. UNIT SHALL COMMUNICATE WITH CONDENSING UNIT TO MATCH CAPACITY TO DEMAND AND FURNACE FAN SPEED.
7. UNIT SHALL HAVE ELECTRONICALLY COMMUTATED MOTOR (ECM) FOR SUPPLY FAN.
8. CONNECT MOTORIZED OUTSIDE AIR DAMPER TO SUPPLY FAN CONTROL. DAMPER SHALL OPEN WHEN FAN IS RUNNING.
9. VERIFY CAPACITY WITH LOCAL CLIMATE DESIGN CONDITIONS, SITE ORIENTATION, AND ENERGY CODE.

DESIGN CONDITIONS:
WINTER: 0°F OUTSIDE, 70°F INSIDE
SUMMER: 95°F DB OUTSIDE, 80°F DB INSIDE, 67°F WB INSIDE

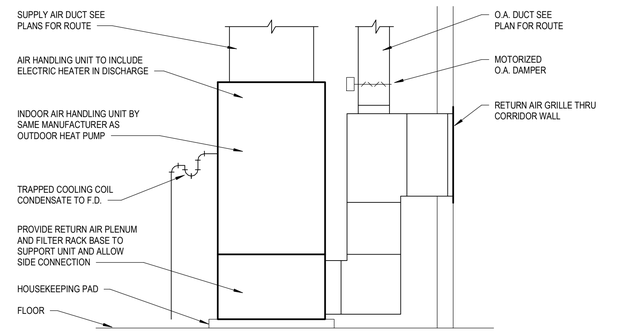
TAG	BASIS OF DESIGN		DESCRIPTION	OUTDOOR UNIT	AIR FLOW DATA			REFRIG.	HEAT PUMP CAPACITY (MBH)				SEER2	EER2	ELECTRICAL DATA			COMMENTS
									AT AHRI CONDITIONS		AT CONDITIONS NOTED				ELECTRIC HEAT			
	MANUFACTURER	MODEL NO.			SUPPLY CFM	E.S.P.	OUTSIDE AIR CFM		COOLING	HEATING @ 47°F	COOLING @ 95°F	HEATING @ 0°F			KW	MCA	VOLTAGE	
AHU-1	Daikin	FTQ36TA	Multi-Position Air Handling Unit	HPU-1	1050	0.5	45	R-410A	36	40	36.2	39.9	15.3	11.3	5	32	240V / 1Ø	1 THRU 9

HEAT PUMP UNIT SCHEDULE

COMMENTS:
1. UNIT SHALL BE RATED FOR LOW AMBIENT HEATING. REFER TO AIR HANDLING UNIT SCHEDULE FOR OUTDOOR CONDITIONS AND CAPACITIES AT THOSE CONDITIONS.
2. PROVIDE WITH HAIL GUARDS.
3. PROVIDE EQUIPMENT STANDS SUCH THAT UNIT IS INSTALLED 24" MIN. ABOVE GRADE.
4. PROVIDE WITH INVERTER (VARIABLE SPEED) COMPRESSOR.
5. UNIT SHALL COMMUNICATE WITH AHU TO MATCH CAPACITY TO DEMAND AND AHU FAN SPEED.
6. VERIFY CAPACITY WITH LOCAL CLIMATE DESIGN CONDITIONS, SITE ORIENTATION, AND ENERGY CODE.

NOTE:
RATED CAPACITIES ARE PER AHRI STANDARD. REER TO FAN COIL SCHEDULE ON THIS SHEET TO SEE PERFORMANCE CAPACITIES AT DESIGN CONDITIONS.

TAG	BASIS OF DESIGN		DESCRIPTION	INDOOR UNIT	REFRIGERANT	NOMINAL TONS	RATED CAPACITY		ELECTRICAL DATA			COMMENTS
	MANUFACTURER	MODEL					COOLING MBH	HEATING MBH	MCA	MOCP	VOLTAGE	
HPU-1	Daikin	RZQ36TAVJUA	Outdoor Split System Heat Pump Unit	AHU-1	R-410A	3.0	35	40	29.1	35	208-240V / 1Ø	1 THRU 6



1 / M6.1 **UPFLOW AIR HANDLING UNIT DETAIL**
NOT TO SCALE

Do not scale. Use figured dimensions only.

15 October 2023

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Michigan Municipal League

Job Number: 2023xx

Title: HVAC DETAILS & SCHEDULES

M6.1

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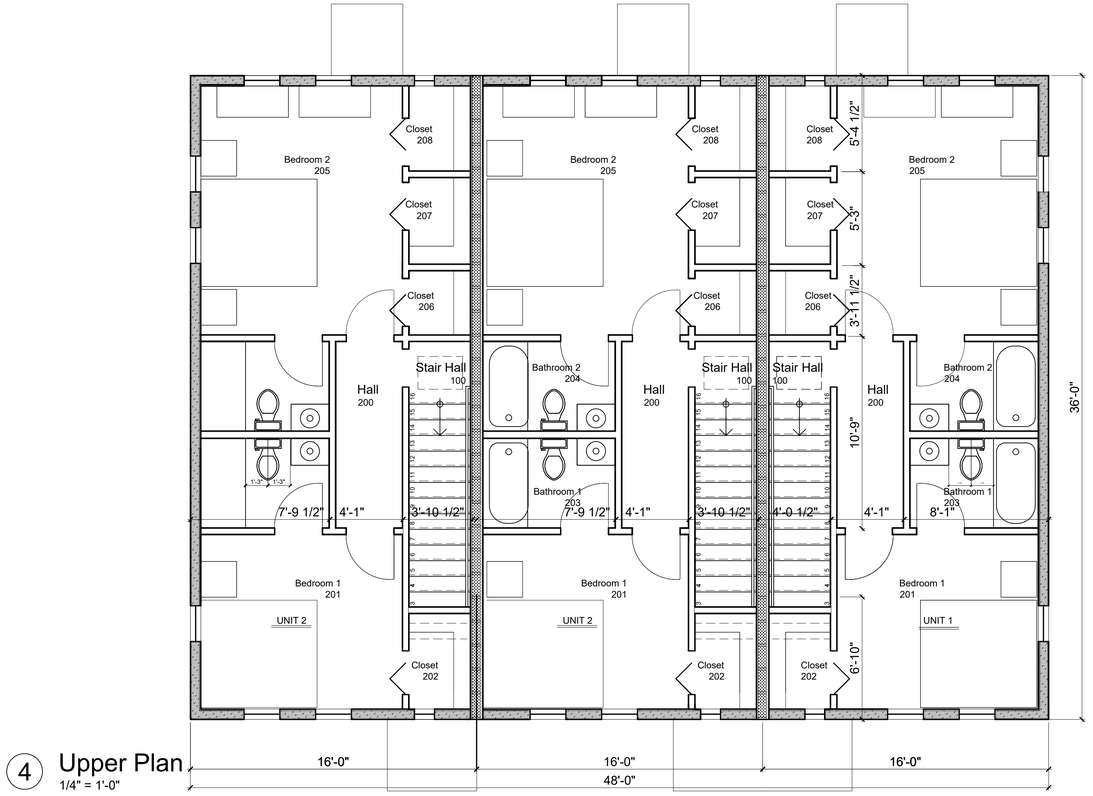
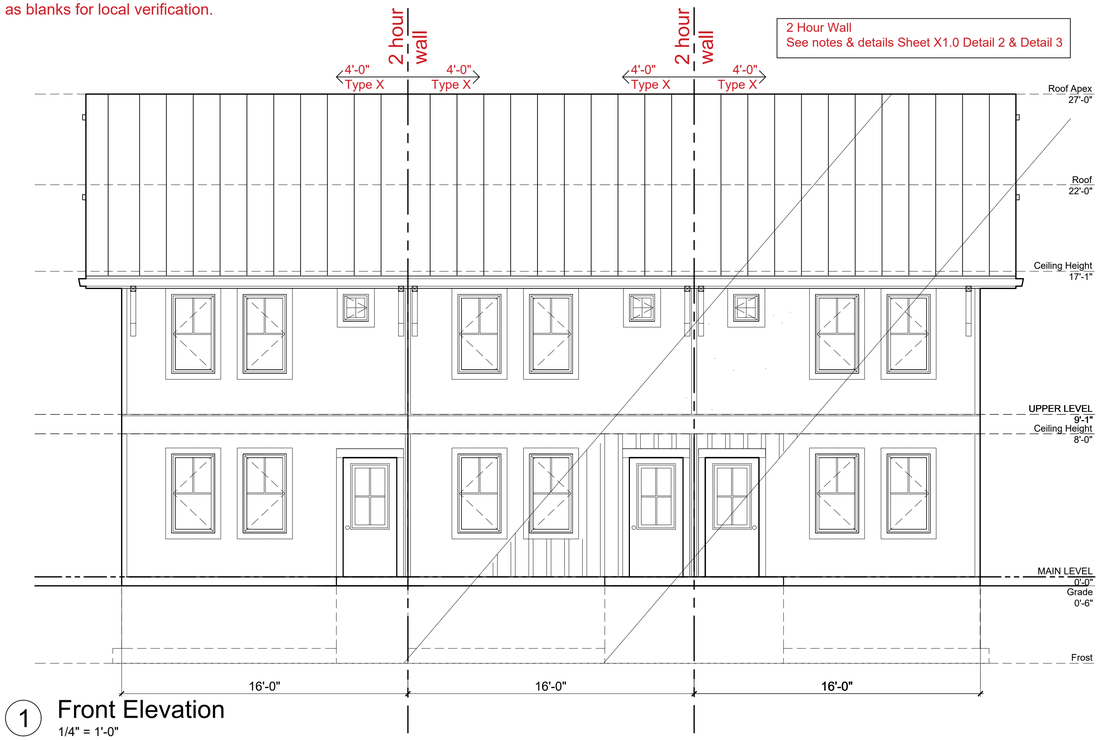
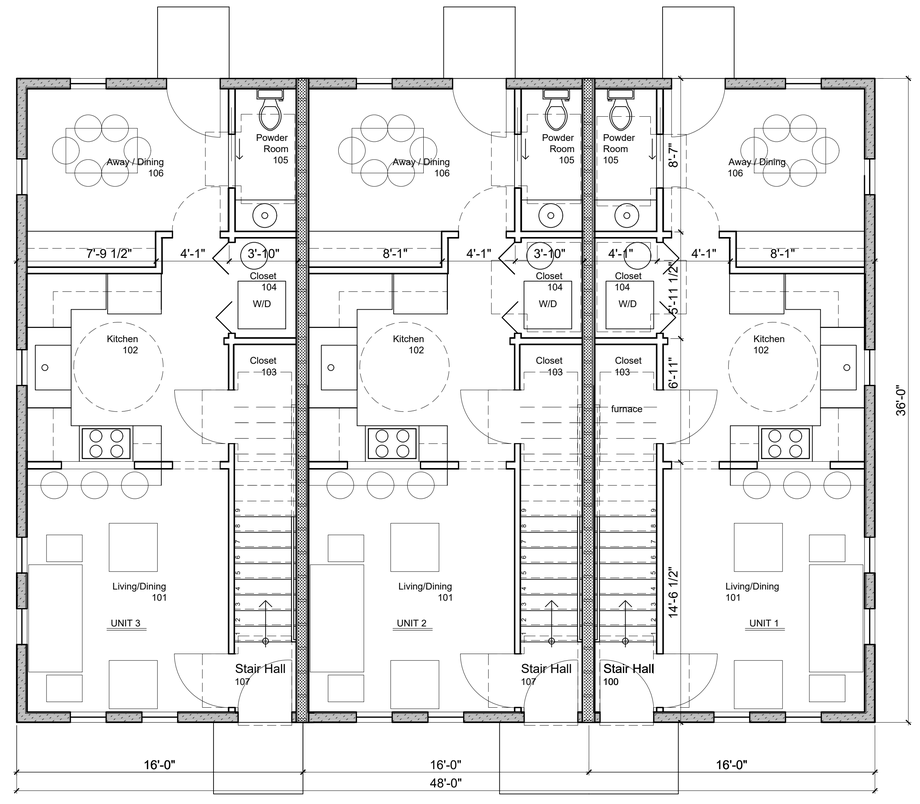


4 Upper Plan
1/4" = 1'-0"



1 Front Elevation
1/4" = 1'-0"



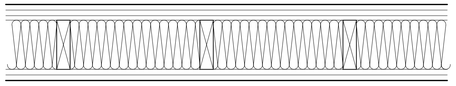
5 Main Plan
1/4" = 1'-0"

Michigan Residential Code 2015

Townhouse
A single family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundatin to roof and with a yard or public way on not less than two sides.

R302.2 Townhouse Common Wall
Each townhouse shall be considered a separate building and shall be separated by a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119 or UL263 with exposure from both sides.

R302.2.2 Townhouse
Parapet Exception 2
Install one layer of 5/8-inch Type X gypsum board directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet of the common walls.

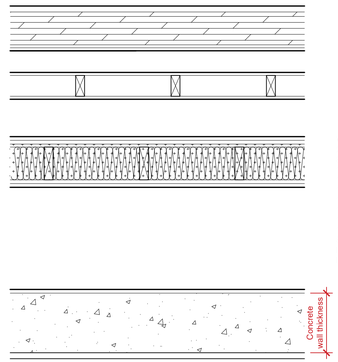


2 HOUR RATED WALL DETAIL
UL U301 - 2 hour 8.50" thick STC 56

Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)
Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)
Resilient Channel	1 layer 1/2", 25 ga. 24" o.c
Wood Studs	1 layer 2x6 wood studs, 16" o.c.
Insulation	1 layer 5-1/2" Fiberglass insulation
Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)
Gypsum Panel	1 layer 5/8" Sheetrock Gypsum Panel (UL Type SCX)

2 Townhouse - 2 Hour Rated Wall Detail
1-1/2" = 1'-0"

TOWNHOUSE WALL TYPES

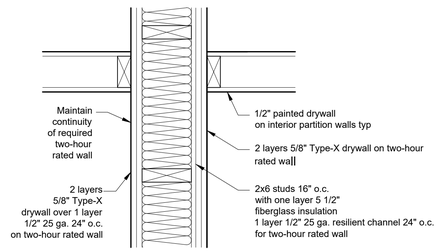


WALL TYPE #1:
Exterior SIP Wall
6" Structural Insulated Panel (SIP) finished with 1/2" drywall, painted & primed on interior & exterior cladding.

WALL TYPE #2:
Interior Partition Wall
3-1/2" wood stud frame interior partition wall finished with 1/2" drywall, primed & painted.

WALL TYPE #3:
2 Hour Rated Wall
8.50" - UL U305 - STC 51
1 layer 5/8" Type X drywall
1 layer 5/8" Type X drywall
1 layer 1/2" ga. resilient channel 24" o.c.
1 layer 2x6 wood studs 16" o.c.
1 layer 5 1/2" fiberglass insulation
1 layer 5/8" Type X sheetrock gypsum panel
1 layer 5/8" Type X sheetrock gypsum panel
See Townhouse 2 Hour Rated Wall Sheet X1.0 Detail 2 & Wall Continuity Detail Sheet X1.0 Detail 3

WALL TYPE #4:
Foundation Wall
Reinforced concrete with exterior dampproofing and interior rigid insulation.



3 Townhouse - 2 Hour Rated Wall Continuity Detail
1" = 1'-0"

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

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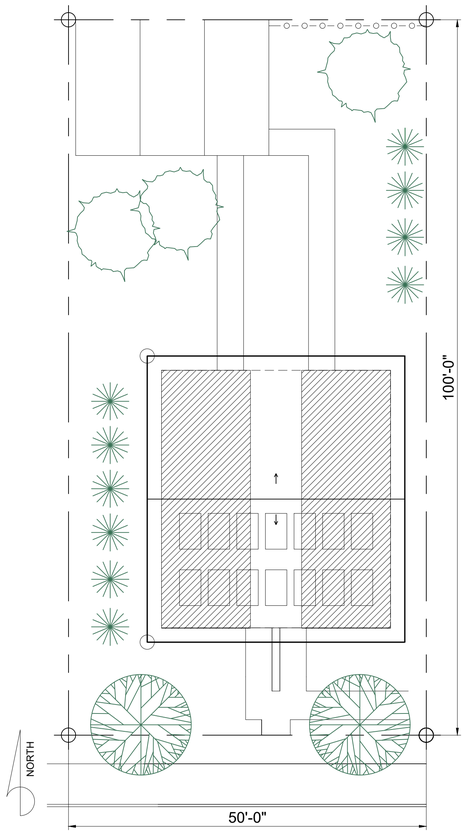
THE BAXTER
Michigan Municipal League

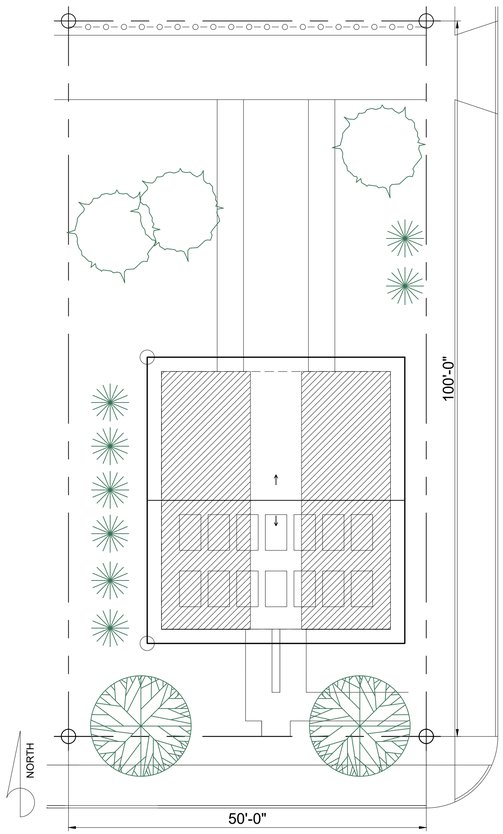
Job Number:
2023xx

Title:
Townhouse PLANS & ELEVATIONS

X1.0



A Alley Lot
No Scale



A Corner Lot
No Scale

BUILDING LAYOUT

Locate commonly used spaces where they will benefit the most from daylighting. Kitchens and Living spaces should be located to the south or outside walls. Buffer spaces, like closets and mechanicals to the north. South and west facing porches provide additional moderation of temperature swings.

Achieving the best layout may require rotating and/or mirroring the established floor plans.

The shaded area indicates the location of the primary living spaces in the building: the Kitchen/Dining Room and the Living Room.

Light colored fences placed at the north side of the building can provide reflected daylighting. Natural ground cover placed south of the building, instead of light colored concrete will reduce reflected summer heat gain.

Deep overhangs block high summer sun, while allowing low altitude winter heat gain. In the cold, wet climate of the Midwest, deep overhangs are paired with steeper roof pitches to serve the additional purpose of keeping runoff rain and snow away from foundations and basement windows.

Locate solar panels to south for solar gain. If solar panels are not feasible, due to site conditions, purchasing or renting solar panels from a community solar site may be an alternative.

SITE CONSIDERATIONS

Capturing rain runoff

Use of eavestroughs and downspouts to capture rainwater will reduce runoff, helping to preserve topsoil and reducing the volume treated by municipal storm sewers. The rainbarrels should be capture water that can be used to supplement the home supply as needed for gardening.

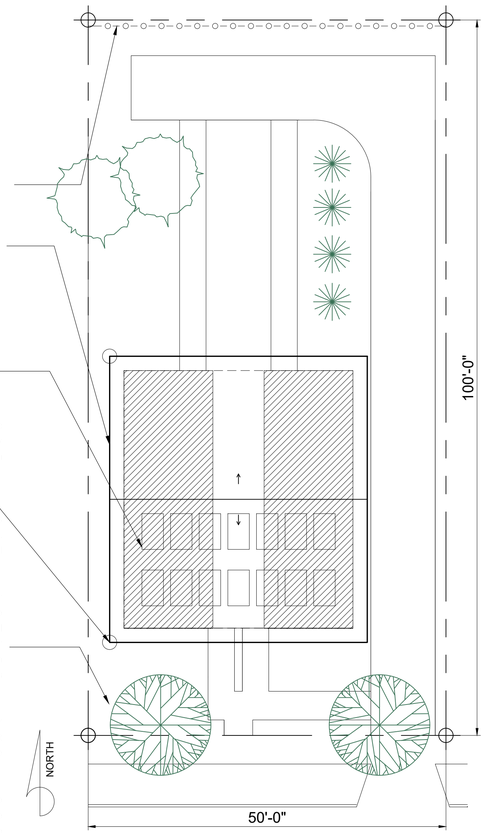
Controlling solar heating and lighting

Elevation walls that face south (or nearly so) provide the best opportunities for daylighting and passive solar gains though south-facing windows. Reorienting the roof pitch away from mature trees and toward the sun will allow for increased active solar opportunities.

Use landscaping to protect the house from winter winds, to allow winter solar gains and daylighting, while shading and cooling in the summer. The west and south facing elevations should be protected from summer sun and should be shaded, either with plantings, porches, arbors and other similar shading devices can also provide effective control. Gardens provide an alternative to mono-turf and provide cooling. Vegetation & pervious pavers help manage onsite rain runoff.

Southern exposures should be clear of any obstructions, except for deciduous trees that provide relief from the summer sun. East and west facing windows can cause the most summertime heat and should be minimized (as an option).

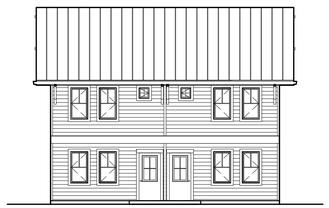
Similar to large shading structures, operable shutters are a less expensive option for controlling sunlight and radiant heat. They can be an attractive addition to any building, and can be found in a variety of styles to match the building.



A Standard Lot - Site Planning
No Scale

In Details A, the shaded area indicates the location of the primary living spaces in the building: the Kitchen/Dining Room and the Living Room. In order to maximize daylighting, these spaces should be oriented to the south, or the outside walls, if the south elevation is not available. Achieving the best layout may require rotating and/or mirroring the established floor plans.

Disclaimer: The drawings found within this set are Substantially Complete, but are marked "Not for Construction," as it will be necessary for each site-specific development to employ architects and/or engineers to evaluate local conditions, make necessary adjustments required local permitting. Some items are indicated as blanks for local verification.



SIDING

Option 1 Cement fiber board lap siding

Option 2 Cedar lap siding

CORNER BOARDS

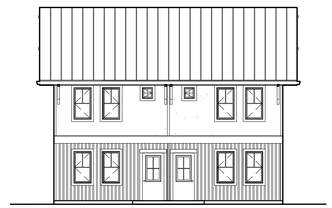
Option 1 Smooth nominal 6" cement fiber boards

Option 2 Smooth nominal 6" Cedar boards

DETAILS

Option 1 Smooth moisture resistant 1x trim boards

Option 2 Cedar 1x trim boards



SIDING

Option 1 Stucco + cedar board & batten

Option 2 Stucco + cement fiber board & batten

CORNER BOARDS

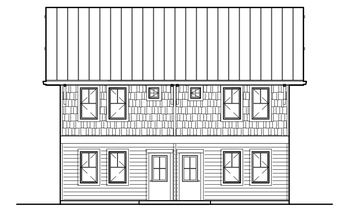
Option 1 Smooth nominal 6" cement fiber boards

Option 2 Smooth nominal 6" Cedar boards

DETAILS

Option 1 Smooth moisture resistant 1x trim boards

Option 2 Cedar 1x trim boards



SIDING

Option 1 Staggered shingle fiber cement siding with 6" exposure + lap siding with 6" exposure

Option 2 Staggered cedar shakes lap siding with 6" exposure

CORNER BOARDS

Option 1 Smooth nominal 6" cement fiber boards

Option 2 Smooth nominal 6" Cedar boards

DETAILS

Option 1 Smooth moisture resistant 1x trim boards

Option 2 Cedar 1x trim boards

Do not scale.
Use figured dimensions only.

MML Review Set
15 October 2023

NOT FOR CONSTRUCTION

THE BAXTER
Michigan Municipal League

Job Number:
2023xx

Title:
OPTIONS

L1.0