

HWK10: FINAL PROJECT-DRAWINGS

OBJECTIVES:

- IN THIS LESSON, YOU WILL PRACTICE ALL THE SKILLS THAT YOU HAVE ACQUIRED THROUGHOUT THE SEMESTER. PART 1 IS TO CREATE THE LAYOUTS AND DRAWING. PART 2 IS TO CALCULATE THE EXTERIOR WALL AREA FOR PAINTING.

INSTRUCTIONS PART 1:

1. USE YOUR TEMPLATE FILE FOR THIS ASSIGNMENT. GIVE THE HOMEWORK THE FOLLOWING NAME: (YOUR LAST NAME AND FIRST INITIAL)HWK10.
2. CREATE TWO LAYOUT TABS, NAME THE FIRST FLOORPLAN AND THE SECOND CALCULATIONS. ADJUST THE TITLEBLOCK FOR EACH WITH THE FOLLOWING INFORMATION:

FOR THE FLOORPLAN SHEET:

SHEET NAME: FLOORPLAN
PROJECT NAME: MIRAMAR PUBLIC SWIMMING POOL
DRAWN BY: TYPE YOUR INITIALS
CHECKED BY: TYPE YOUR INITIALS
DATE: 05/01/23
PROJECT #: 0622
SHEET NUMBER: 1 OF 2

FOR THE CALCULATIONS SHEET:

SHEET NAME: CALCULATIONS
PROJECT NAME: MIRAMAR PUBLIC SWIMMING POOL
DRAWN BY: TYPE YOUR INITIALS
CHECKED BY: TYPE YOUR INITIALS
DATE: 05/01/23
PROJECT #: 0622
SHEET NUMBER: 2 OF 2

3. SET MODEL SPACE LIMITS FOR 1/4" = 1'-0" SCALE. SHEET SIZE IS TO BE 24" X 36". DRAW A BORDER TO REPRESENT THE LIMITS. SET LTSCALE TO 8. SET PSLTSCALE TO 0.
4. CREATE THE FOLLOWING LAYERS, ENTER ALL THIS INFORMATION FOR EACH:

LAYER NAME	COLOR	LINETYPE	USE
A-ANNO-NOTE	WHITE	CONT.	ARCHITECTURAL-ANNOTATION-TEXT
A-ANNO-DIMS	WHITE	CONT.	ARCHITECTURAL-ANNOTATION-DIMENSIONS
A-DOOR-PRHT	CYAN	CONT.	ARCHITECTURAL-DOORS-PARTIAL HEIGHT
A-FIXT	CYAN	CONT.	ARCHITECTURAL-BATHROOM FIXTURES
A-FLOR-TILE	WHITE	DOT	ARCHITECTURAL-FLOORING-TILES
A-FURN	CYAN	CONT.	ARCHITECTURAL-FURNITURE (ALSO DIVING BOARD)
A-FURN-STAL	WHITE	CONT.	ARCHITECTURAL-FURNITURE-BATHROOM STALLS
A-GLAZ-PRHT	WHITE	CONT.	ARCHITECTURAL-GLAZING-PARTIAL HEIGHT (LOUVERS)
A-PATT-HTCH	WHITE	CONT.	ARCHITECTURAL-PATTERN-HATCHES
A-ROOF	WHITE	HIDDENX2	ARCHITECTURAL-ROOF (ROOF OUTLINE)
A-SHBD	RED	CONT.	ARCHITECTURAL-SHEET BORDER
A-SLAB	CYAN	CONT.	ARCHITECTURAL-SLAB (FLOOR SLAB EDGES)
A-STRS	WHITE	CONT.	ARCHITECTURAL-STAIRS
A-VPRT	WHITE	CONT.	ARCHITECTURAL-VIEWPORT
A-WALL-PATT	CYAN	CONT.	ARCHITECTURAL-WALLS-PARTITIONS
A-WALL-MASO	GREEN	CONT.	ARCHITECTURAL-WALLS-MASONRY (BLDG STRUCTURE)

5. DRAW THE FLOOR PLAN.
6. DRAW THE DIMENSIONS.
7. ROOM NAMES ARE TO BE CENTERED WITHIN ROOMS USING MIDDLE CENTER JUSTIFICATION. CREATE THE ARIAL TEXT STYLE. ROOM NAMES ARE 9 INCHES TALL, PROJECT TITLE IS 2'-0" TALL.
8. USE THE INDICATED HATCH PATTERNS.
9. DO NOT DRAW THE ELEVATIONS, THEY ARE JUST THERE FOR REFERENCE. YOU DO NEED TO DRAW THE EXTERIOR WALL SURFACES OF A SINGLE CUBE BUILDING FOR THE CALCULATIONS.
10. INSERT TOILET AND SINK BLOCKS FROM DESIGN CENTER, SCALE TO 75% ORIGINAL SIZE. SEE D2L FOR URINAL BLOCK, INSERT TO ORIGINAL SIZE.
11. ADJUST VIEWPORT TO FIT THE TITLEBLOCK MARGINS. SET VIEWPORT SCALE TO $1/4" = 1'-0'$.

HINTS:

PLAN OUT YOUR WORK CAREFULLY TO MEET THE ASSIGNMENT DEADLINE. THE EARLIER YOU START, THE SOONER YOU WILL BE ABLE TO RESOLVE ANY DRAFTING DIFFICULTIES. ACCURACY RATHER THAN SPEED IS WHAT WILL HELP YOU FINISH EARLIER. MUCH OF THE DRAWING IS REPETITIVE, USE COPY AND MIRROR COMMANDS TO YOUR ADVANTAGE. BECAUSE OF THE REPETITION, NOT EVERY DIMENSION IS GIVEN. RE-USE AS MANY REPEATED PARTS AS POSSIBLE.

FELIX M. LORENZO (C) 2007, 2022, 2023

HWK10: FINAL PROJECT-CALCULATIONS

OBJECTIVES:

- IN THIS LESSON, YOU WILL PRACTICE MAKING A QUANTITY TAKEOFF. THIS IS PART 2.

INSTRUCTIONS:

1. CAREFULLY IDENTIFY EACH FACE/SURFACE ON THE WALL AND CREATE A UNIQUE LAYER NAME FOR EACH. MAKE SURE TO INCLUDE THE FOLLOWING PARTS, SEE SKETCH:

FACADE: EXTERIOR CMU WALL (THREE ARE THE SAME, THE ONE WITH THE DOOR IS UNIQUE)

WALL POCKET: HAS A FRONT, LEFT, RIGHT AND BOTTOM SURFACES

SILL: HAS A FRONT, TOP, BOTTOM, LEFT AND RIGHT SURFACES.

WALL LAYERS:

AREA-WALL-BOTTOM

AREA-WALL-FRONT

AREA-WALL-LEFT

AREA-WALL-RIGHT

SILL LAYERS:

AREA-SILL-BOTTOM

AREA-SILL-FRONT

AREA-SILL-LEFT

AREA-SILL-RIGHT

AREA-SILL-TOP

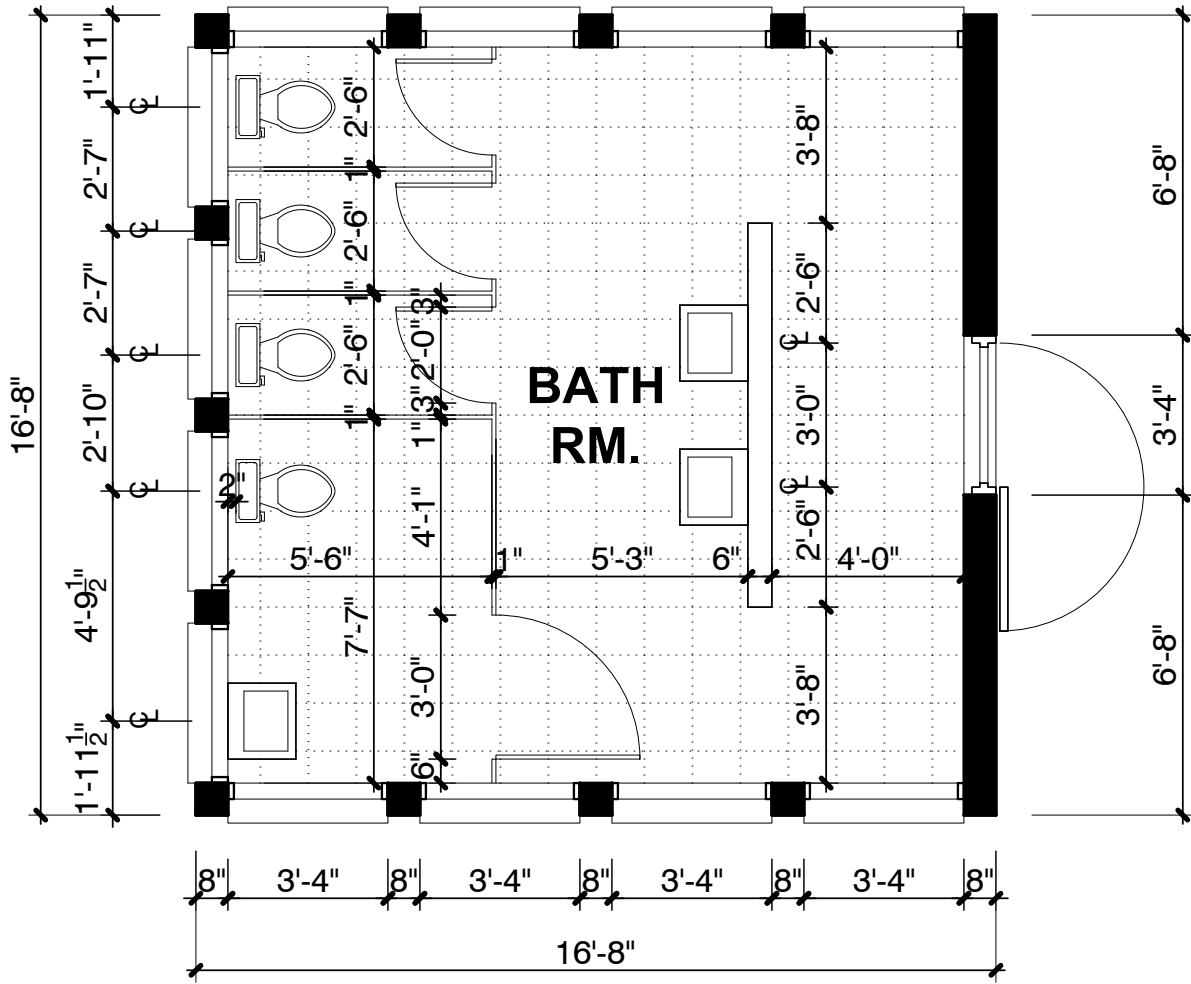
FACADE LAYERS:

AREA-FACADE-FRONT

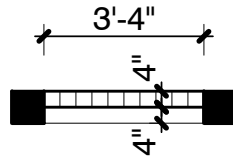
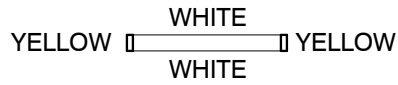
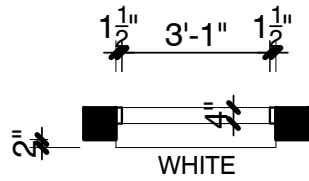
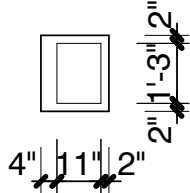
AREA-FACADE-SIDES

2. DRAW EACH EXTERNAL WALL AREA FOR ONE TYPICAL CUBE BUILDING. INCLUDE ONLY THOSE SURFACES MADE OF CONCRETE MASONRY UNITS AND THOSE COVERED IN STUCCO. DO NOT INCLUDE THE LOUVERS, DOOR OR DOOR FRAME, ROOF OR ANY OTHER COMPONENT NOT EXPRESSLY LISTED HERE.
3. MAKE SURE EACH PART IS DRAWN ON THE CORRECT LAYER, OTHERWISE, AUTOCAD WILL NOT BE ABLE TO COUNT AND LIST THEM CORRECTLY LATER IN EXCEL.
4. DRAW THE DIMENSIONS OF EACH AREA AS SHOWN (I LEFT OUT THE NUMBERS...PLEASE CALCULATE THEM). PLACE THE DIMENSIONS 12 INCHES AWAY FROM THE OBJECTS. SEE EXAMPLE.
5. ARRAY EACH GROUP AS MANY TIMES AS IT SHOWS UP ON ONE BUILDING. WE NEED TO DO THIS SO THAT AUTOCAD CAN COMPLETE AN ACCURATE AREA COUNT LATER.
6. DRAW EACH EXTERNAL WALL AREA FOR ONE TYPICAL CUBE BUILDING. INCLUDE ONLY THOSE SURFACES MADE OF CONCRETE MASONRY UNITS AND THOSE COVERED IN STUCCO. DO NOT INCLUDE THE LOUVERS, DOOR OR DOOR FRAME, ROOF OR ANY OTHER COMPONENT NOT EXPRESSLY LISTED HERE.

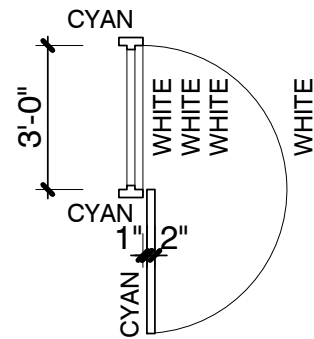
7. MAKE SURE EACH PART IS DRAWN ON THE CORRECT LAYER, OTHERWISE, AUTOCAD WILL NOT BE ABLE TO COUNT AND LIST THEM CORRECTLY LATER IN EXCEL.
8. DRAW THE DIMENSIONS OF EACH AREA AS SHOWN (I LEFT OUT THE NUMBERS...PLEASE CALCULATE THEM). PLACE THE DIMENSIONS 12 INCHES AWAY FROM THE OBJECTS. SEE EXAMPLE.
9. ARRAY EACH GROUP AS MANY TIMES AS IT SHOWS UP ON ONE BUILDING. WE NEED TO DO THIS SO THAT AUTOCAD CAN COMPLETE AN ACCURATE AREA COUNT LATER.
10. THE LAST STEP IS DATA EXTRACTION:
 - 10.1. THE EXTRACT DATA COMMAND CAN BE USED TO INVENTORY OBJECTS IN AN AUTOCAD FILE AND SUMMARIZE THEM IN TWO WAYS. THE FIRST AS A TABLE IN YOUR DRAWING AND THE SECOND AS AN EXCEL FILE. LET'S GO TO THE ANNOTATE TAB AND FIND THE ICON FOR EXTRACT DATA IN THE TABLES PANEL.
 - 10.2. LET'S FOLLOW STEP BY STEP, THIS DIALOG BOX HAS 8 PAGES TO IT.
 - 10.3. PAGE 1 OF 8. CHOOSE "CREATE A NEW DATA EXTRACTION"
 - 10.4. PAGE 2 OF 8. CREATE A FILE NAME, LET'S CALL IT SAMPLE. MAKE SURE THE BUTTON IS FILLED FOR SELECT OBJECTS IN THE CURRENT DRAWING AND CLICK ON THE ICON TO SELECT THE OBJECTS. NOW CLICK ON NEXT.
 - 10.5. PAGE 3 OF 8 SHOWS THE OBJECT TYPES CURRENTLY SELECTED, CLICK NEXT TO CONTINUE.
 - 10.6. PAGE 4 OF 8. DESELECT ALL PROPERTIES EXCEPT FOR AREA, FILE MODIFIED, AND LAYER.
 - 10.7. PAGE 5 OF 8. SELECT ADDITIONAL FORMAT AND SET FORMAT TO DECIMAL AND PRECISION TO 0.00. THE DATE TYPE IS CALLED DECIMAL NUMBER. SET 1/144 FOR S.F. AND ADD _S.F. AS A SUFFIX. CLICK ON NEXT
 - 10.8. PAGE 6 OF 8. PLACE CHECKMARKS ON BOTH BOXES, INSERT DATA EXTRACTION TABLE INTO DRAWING AND OUTPUT DATA TO EXTERNAL FILE. CLICK ON THE ICON WITH 3 DOTS TO SELECT WHERE TO SAVE THE EXCEL FILE AND CLICK SAVE. CLICK NEXT TO ADVANCE TO THE NEXT STEP.
 - 10.9. PAGE 7 OF 8. ACCEPT THE TABLE STYLE PROVIDED FOR NOW. YOU CAN CREATE A UNIQUE TABLE STYLE FOR THE DATA AND SELECT IT HERE. CLICK NEXT.
 - 10.10. PAGE 8 OF 8. CLICK ON FINISH TO COMPLETE THE PROCESS AND INSERT THE TABLE IN THE DRAWING. CHOOSE AN INSERTION POINT AND PRESS ENTER.

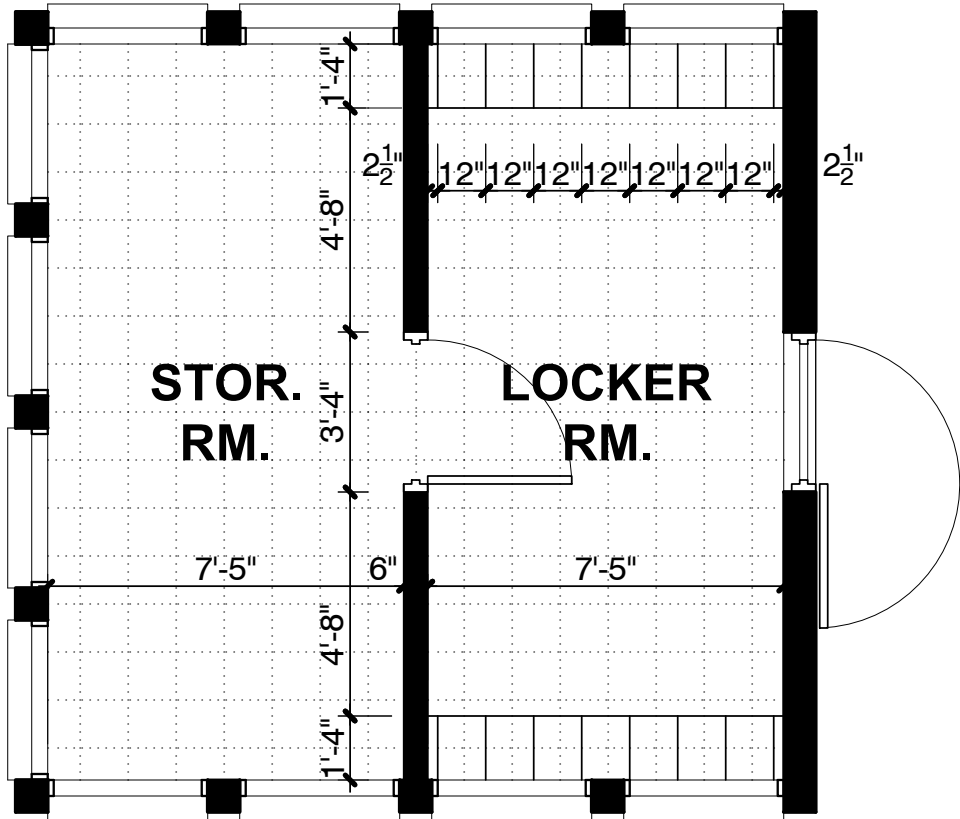
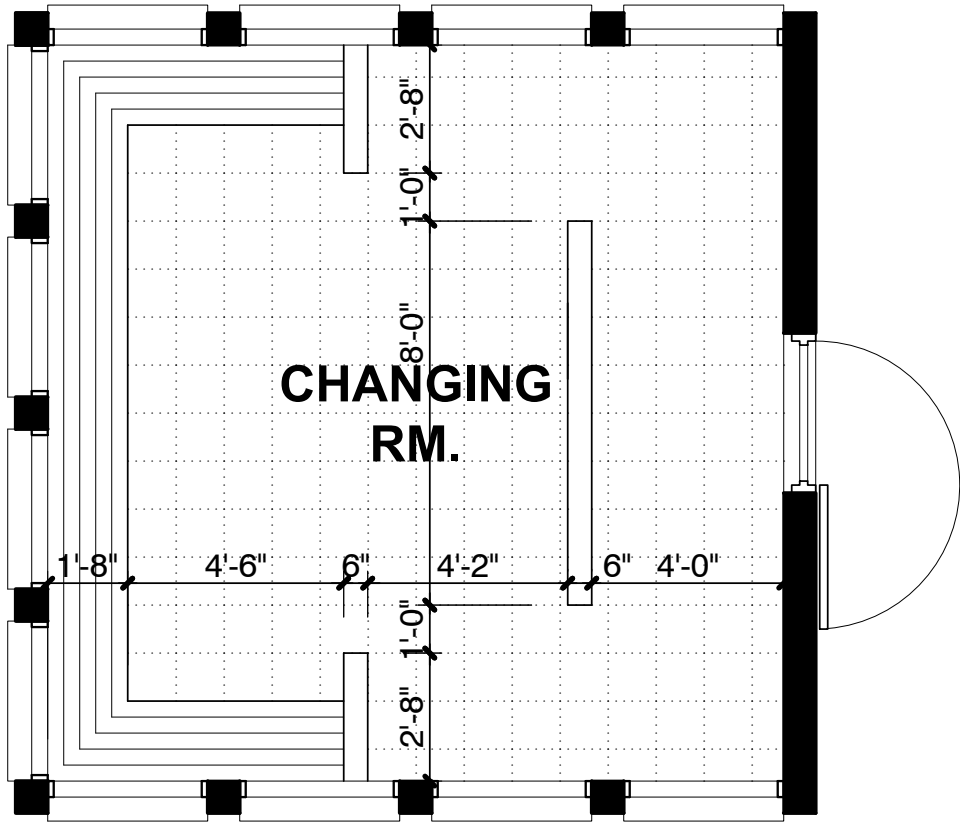


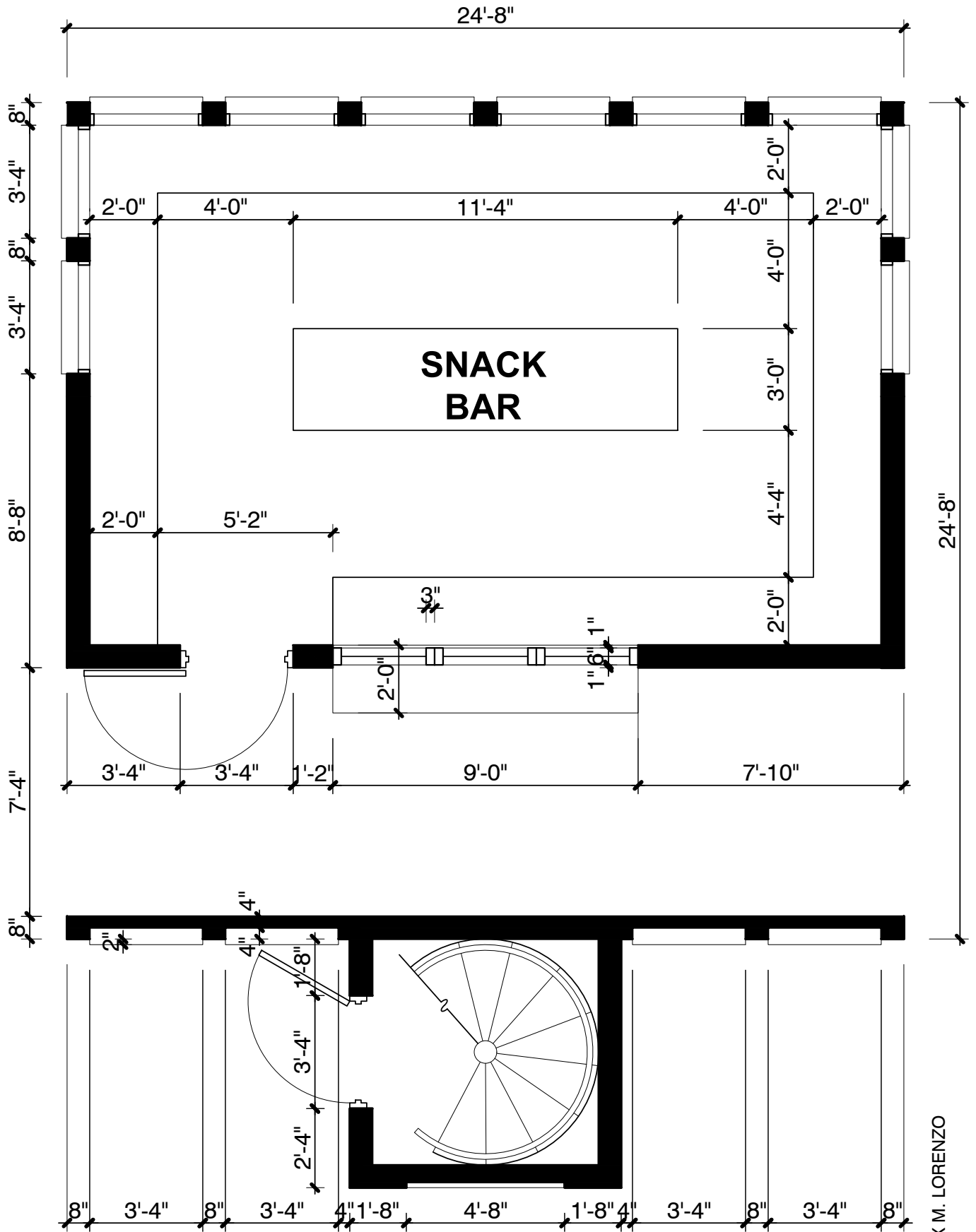
CYAN (OUTSIDE)
WHITE (INSIDE)



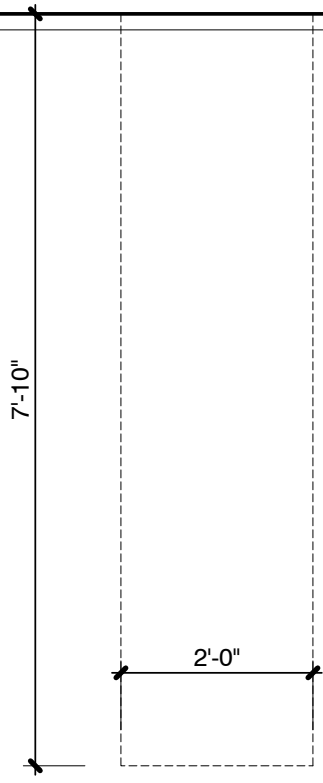
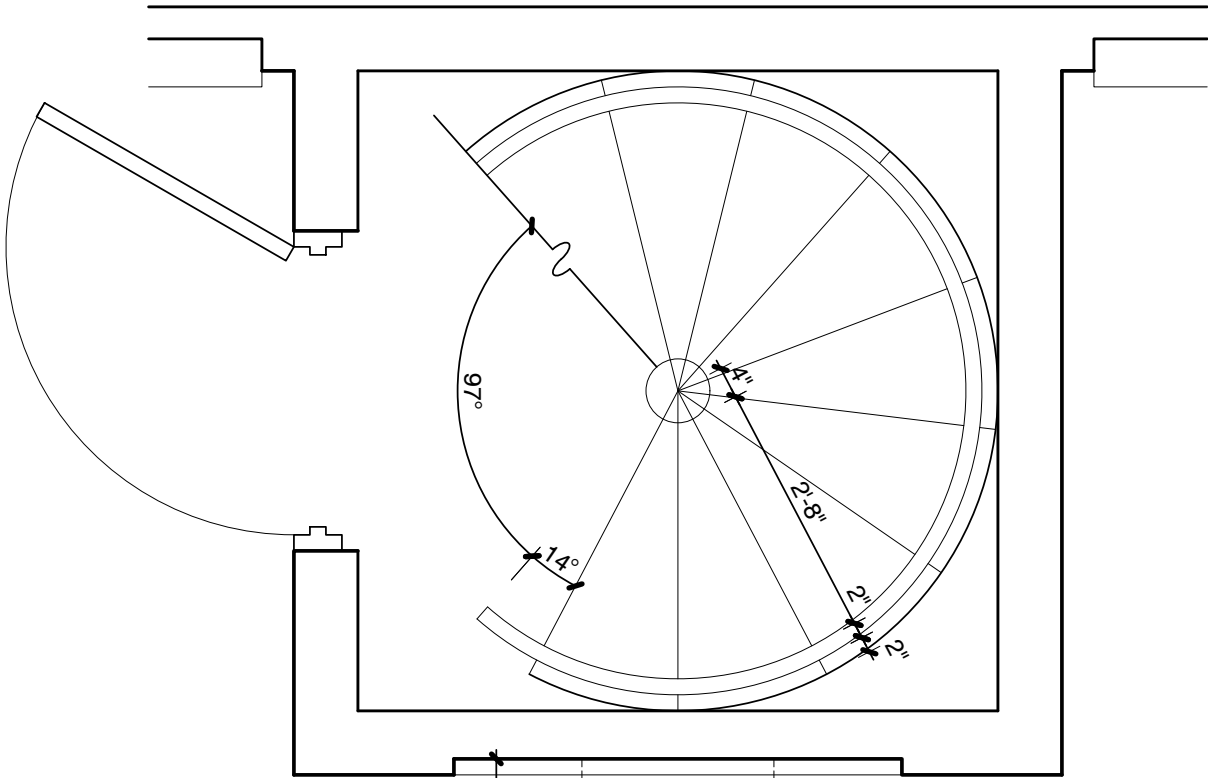
PARTIAL PLAN OF WALL,
BELOW THE SILL



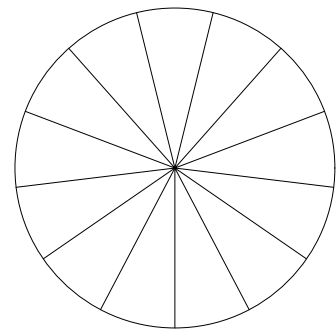


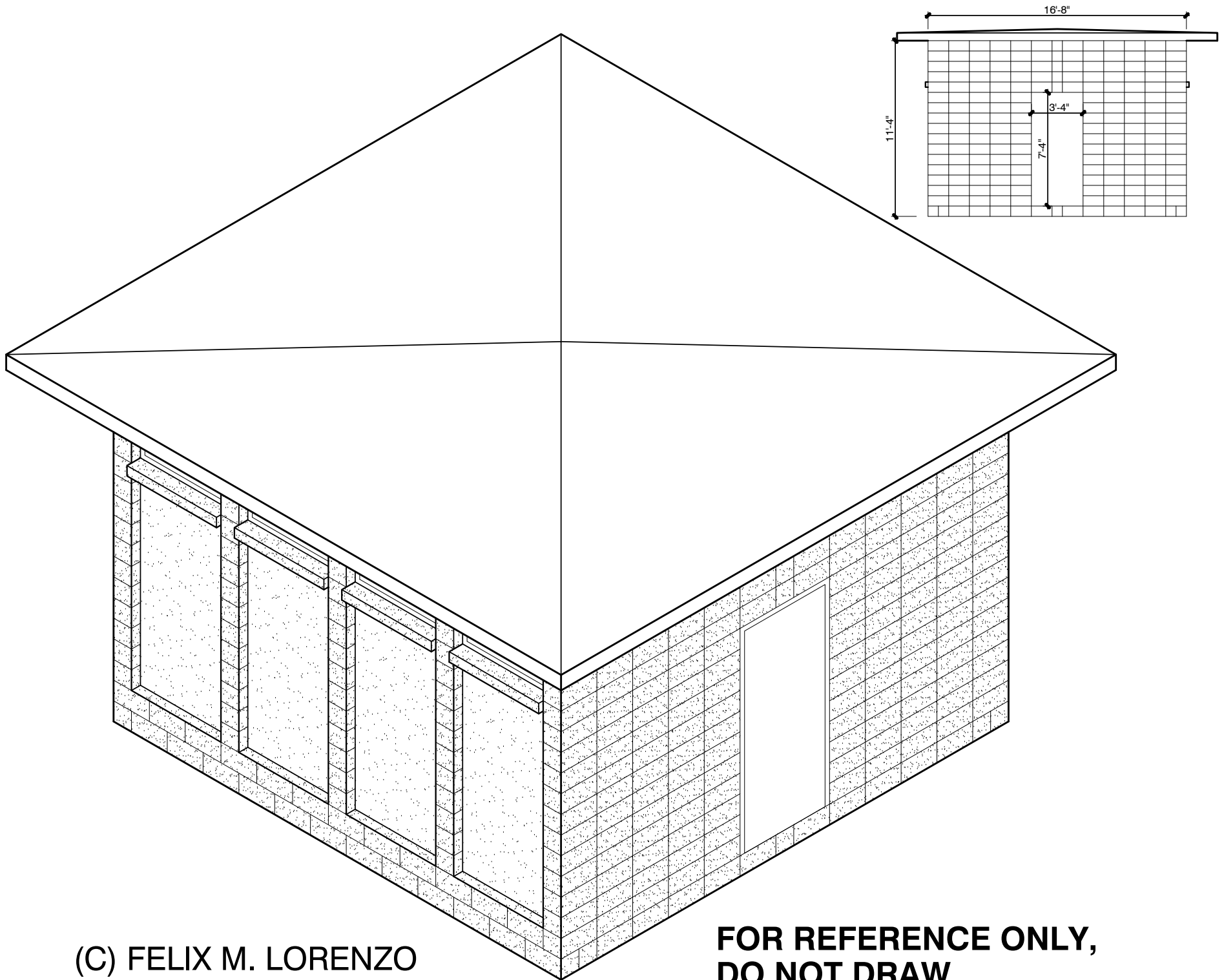


(C) FELIX M. LORENZO



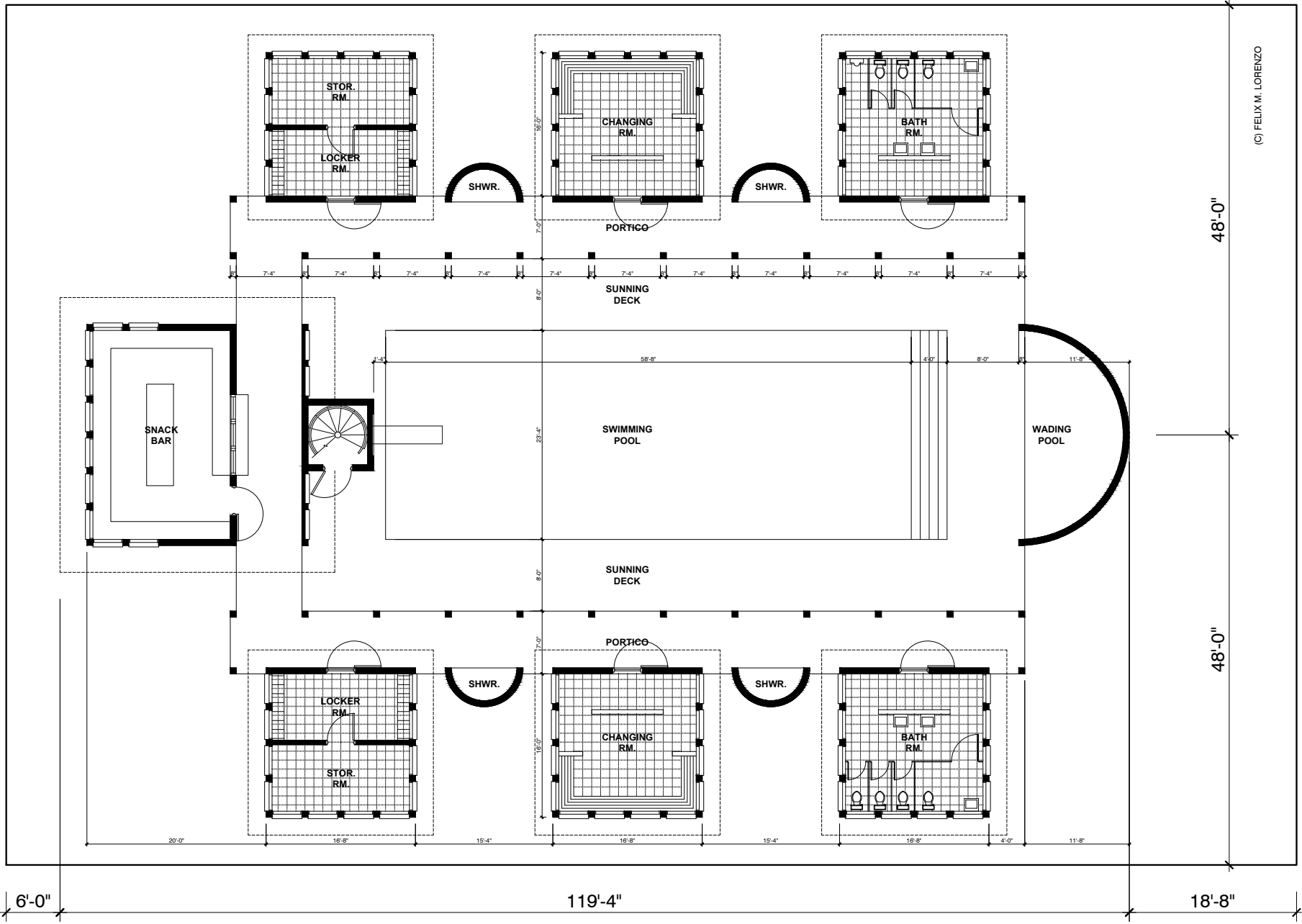
DRAW A SINGLE LINE FROM QUAD TO CENTER OF CIRCLE. ARRAY TO CREATE STEPS.



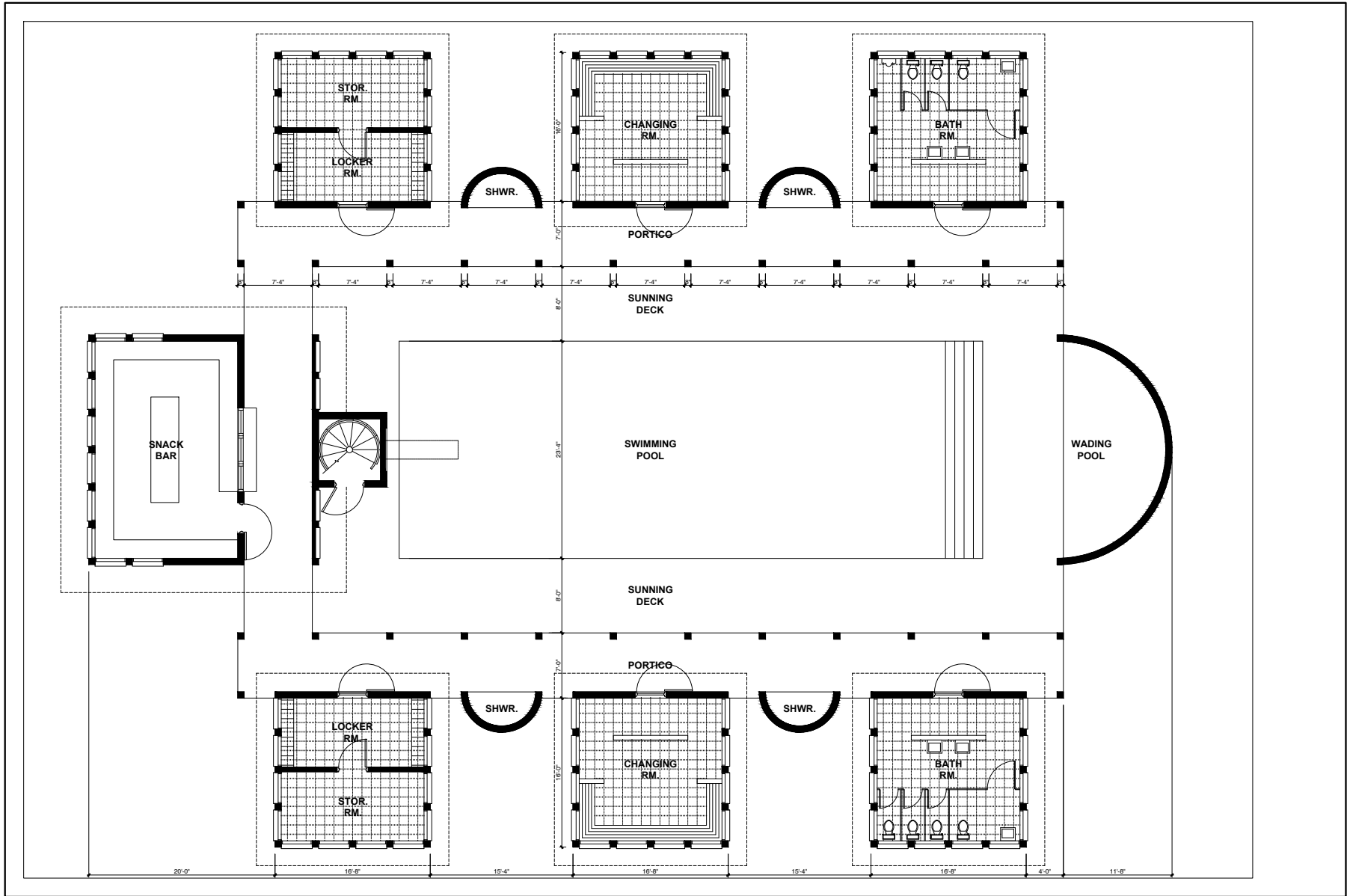


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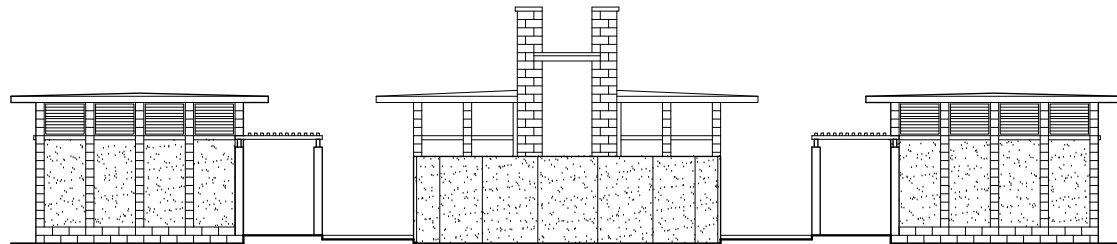
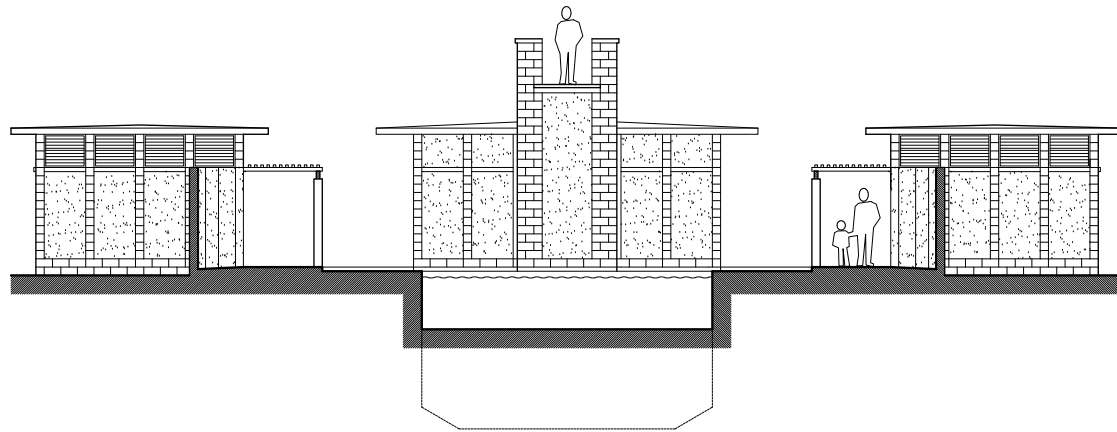
**FOR REFERENCE ONLY,
DO NOT DRAW**



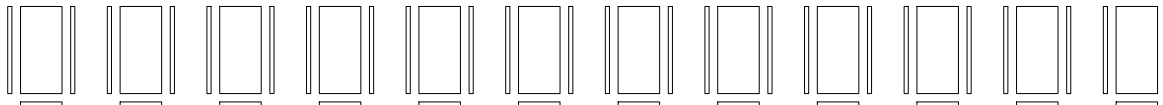
(C) FELIX M. LORENZO



FINAL PRODUCT LOOKS LIKE THIS (C) FELIX M. LORENZO



LEFT FRONT RIGHT



BOTTOM
WALL

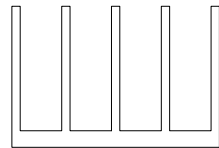
TOP

LEFT FRONT RIGHT

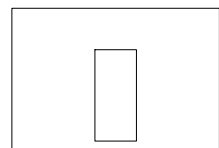
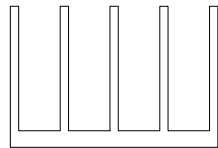
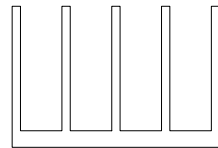
RIGHT

BOTTOM

SILL



SIDE



FRONT

FACADES

PLACE AUTO-GENERATED TABLE HERE