

STRUCTURAL NOTES

APPLICABLE CODES - 2015 Minnesota Residential Code (MRC)

DESIGN LOADS

- A. Roof
 - 1. Snow Load
 - a. P_s (ground snow load) = 50 PSF
 - b. P_f (snow load on flat roof) = 35 PSF
 - 2. Dead Load = 20 PSF
- B. Floor
 - 1. Live Load = 40 PSF
 - 2. Dead Load = 20 PSF
- C. Porch
 - 1. Snow Load = 35 PSF
 - 2. Live Load = 40 PSF
 - 3. Dead Load = 16 PSF
- D. Lateral
 - 1. Earth - Typical cohesionless soil pressure assumed
 - 2. Wind - Per ASCE 7-10
- E. Seismic - No effect
- F. Wind
 - 1. 3 second gust speed at 33 feet = 90 MPH
 - 2. Exposure B
 - 3. K_d (directionality factor) = 0.35
 - 4. K_{zt} (topographic factor) = 1.0
 - 5. I (importance factor) = 1.0
 - 6. Uplift due to wind - assume 8 PSF dead load to resist wind uplift forces. Design of trusses for wind uplift forces to be provided by the Truss Supplier.

G. Wind (Main Wind-Force Resisting System)

- 1. Design per Section 1309.2200 of the MRC
- 2. Exposure B
- 3. V (w) = 115 MPH (per ASCE 7-10)
- 4. K_{zt} (topographic factor) = 1.0

SOIL PREPARATION AND FOUNDATIONS

- A. Material
 - 1. Footings to bear on properly compacted fill or native soil capable of sustaining an assumed bearing pressure of 2,000 PSF in accordance with MRC Table R401.4.1
 - 2. All fill material to be granular soil or other cohesionless material.
- B. Installation Notes
 - 1. Contractor to coordinate the removal of all topsoil and loose materials from building and pavement areas.
 - 2. Soil compaction around and above utilities passing under foundations to conform to foundation compaction criteria.
 - 3. Provide minimum 3'-0" soil cover for foundation frost protection along perimeter of heated areas, and 5'-0" in isolated areas.
 - 4. Foundation and slab on grade bearing strata shall not be allowed to freeze during or after construction.

CONCRETE - SITE CAST

- A. Design Code: "ACI Manual of Concrete Practice" (latest adopted edition)
- B. Materials

1. Minimum concrete strength at 28 days (f'c):

- a. Slab on grade - 4,000 PSI
- b. Footings and piers - 5,000 PSI
- c. Furnish 5-7% air entraining agent for all concrete exposed to freezing temperatures.
- d. Reinforcing steel
 - 1. Welded wire fabric - ASTM A1064/A1064M
 - 2. Deformed bars - ASTM A615, Grade 60

2. Installation notes:

- 1. Support reinforcement only with CSI recommended bar supports (wood, brick, etc. not acceptable) or hangers from top of forms.
- 2. Concrete cover per ACI 318, latest edition.
- 3. Place and securely tie footing dowels in position prior to concrete placement (do not embed dowels into wet concrete).

MASONRY

- A. Design Code: "Building Code Requirements and Specification for Masonry Structures", latest adopted edition.
- B. Submit shop drawings for reinforcing steel, mix designs for grout and mortar and written report of all required tests.

C. Materials (concrete masonry)

- 1. Design f'm (minimum 1,500 psi (net area compressive strength of masonry). Compressive strength of concrete masonry shall be determined by International Building Code (IBC) Section 2105.2.1.1 or 2105.2.2.2. Contractor to verify/coordinate.
- 2. Hollow unit concrete masonry - ASTM C 90, Grade N, heavyweight (sand and gravel) units, kiln cured by high pressure steam (autoclave) or low pressure steam with carbonation. Minimum compressive strength at 28 days (net area) to 3,000 PSI.
- 3. Minimum core fill - grout strength at 28 days (f'c) to be 3,000 psi.
- 4. Mortar - Type "S", per ASTM C 270 and C 476
- 5. Reinforcing steel
 - a. Deformed bar - ASTM A615, Grade 60.

b. Joint reinforcement (single wythe walls):

- 1. "Z" Ladder Mesh Reinforcement" or approved equal conforming to ASTM A82 (hot dip galvanized).
- 2. For all types of joint reinforcing and masonry ties: Contractor to coordinate with architectural requirements.

D. Installation Notes

- 1. Provide joint reinforcement every other course in running bond walls.
- 2. Reinforcement lap splices shall be in accordance with "Lap Splice Schedule" on plans.

LUMBER

- A. Design Code: "National Design Specification for Wood Construction", latest adopted edition.
- B. Materials:

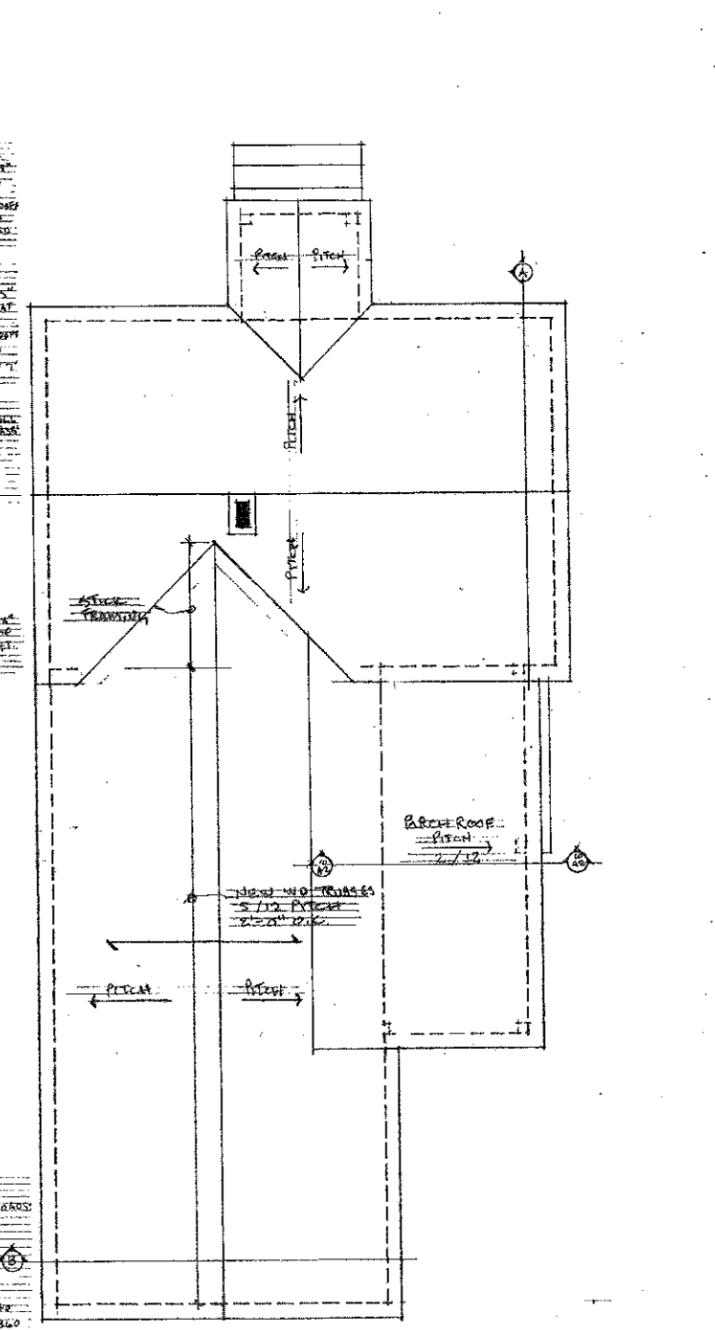
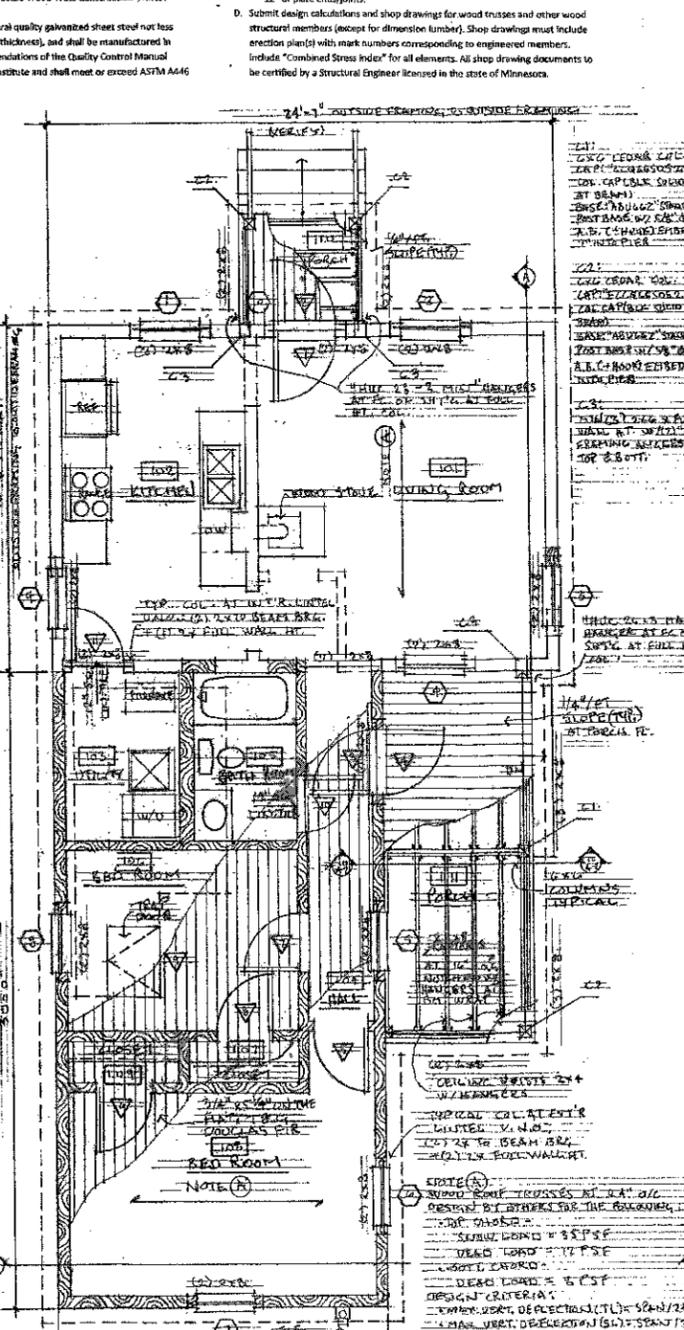
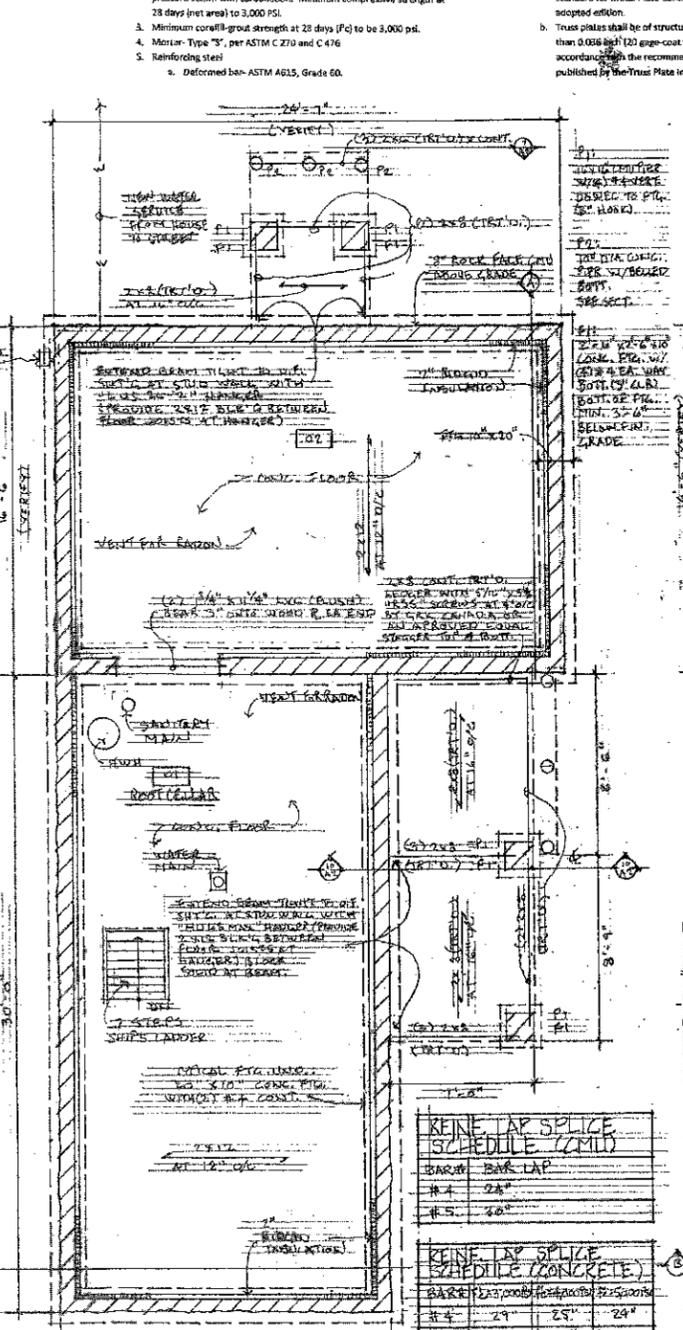
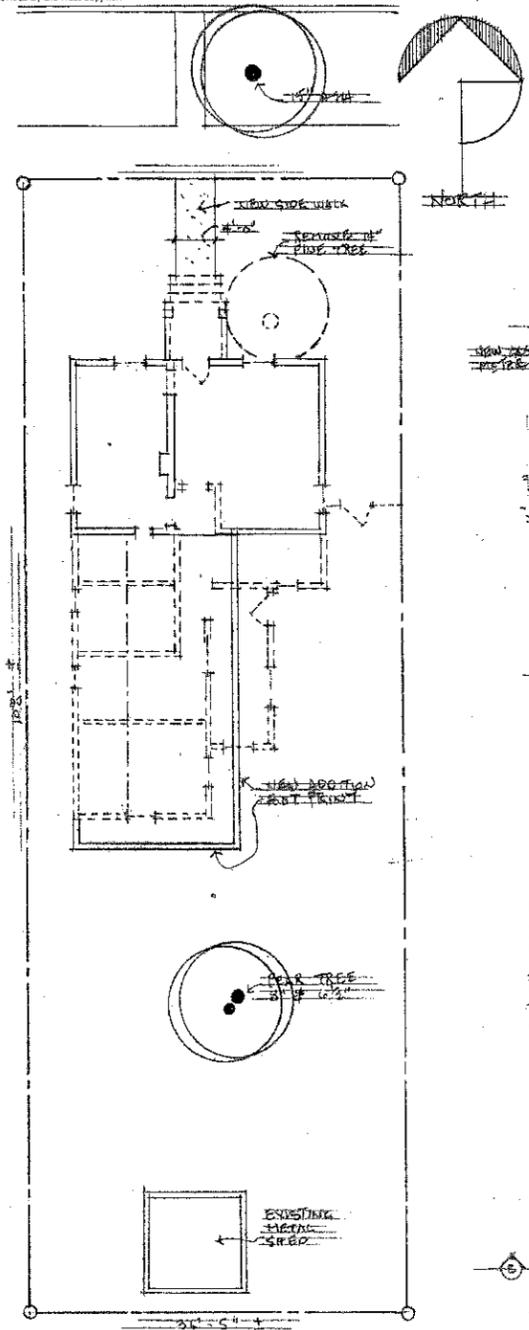
- 1. "LVL" members to have the following minimum allowable design values: Fb=2,600 psi, Fv=285 psi, and E=1,900 ksi. Provide nailing/bolting connection for multiple piece beams per Manufacturer's specifications (Contractor to verify top or side loading conditions).
- 2. "PSL" members to have the following minimum allowable design values: a. Beams: Fb=2,900 psi, Fv=290 psi, and E=1,900 ksi. Provide nailing/bolting connection for multiple piece beams per Manufacturer's specifications (Contractor to verify top or side loading conditions).
- b. Columns: Fc=2,400 psi, Fv=2,400 psi, and E=1,800 ksi.
- c. Treated beams and columns - treat to Service Level 2 (typical u.n.o.)
- 3. Wood Floor Trusses
 - a. Designed and manufactured in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction", latest adopted edition.
 - b. Truss plates shall be of structural quality galvanized sheet steel not less than 0.036 inch (20 gauge thickness), and shall be manufactured in accordance with the recommendations of the Quality Control Manual published by the Truss Plate Institute and shall meet or exceed ASTM A446

and AS25 (or alternate, ASTM A591).

- C. Coordinate sites and locations for mechanical and electrical ductwork prior to construction.
- D. Openings in roof to be designed/framed by the Truss Supplier.
- E. Contractor to verify bearing conditions prior to truss fabrication.
- F. Provide bridging, web stiffeners, etc. as required.
- 4. Dimension Lumber
 - a. Joists, beams, and columns: Spruce-pine-fir #2 or better
 - b. Wall studs: Spruce-pine-fir, stud grade or better
 - c. Treated material to be southern yellow pine #2 or better
 - d. All lumber to have maximum moisture content of 19%.
- 5. Fasteners and Connection Hardware
 - a. Provide fasteners per the "National Design Specification for Wood Construction", latest edition.
 - b. Assume nails to be common nails meeting the requirements in ASTM F1567 unless noted otherwise.
 - c. All connection hardware by Simpson Strong-Tie or an approved equal. Contractor in contact with treated lumber to be fabricated with material to resist corrosive reaction with wood treating chemicals.
 - d. All galvanized metal connectors to be fully nailed per the Supplier's specifications.
- C. Installation Notes
 - 1. Provide bracing in accordance with Part 4, Section 4.4.1 of the "National Design Specification for Wood Construction", latest adopted edition.
 - 2. Brace roof trusses in accordance with the Manufacturer's recommendations.
 - 3. All nailing performed according to the MRC Table R602.3(1) unless otherwise noted.
 - 4. Connect sill plate to foundation walls as shown on plan. Add 1 bolt within 12" of plate ends/joints.
 - 5. Submit design calculations and shop drawings for wood trusses and other wood structural members (except for dimension lumber). Shop drawings must include erection plan(s) with mark numbers corresponding to engineered members. Include "Combined Stress Index" for all elements. All shop drawing documents to be certified by a Structural Engineer licensed in the state of Minnesota.

SHOP DRAWINGS/MISCELLANEOUS

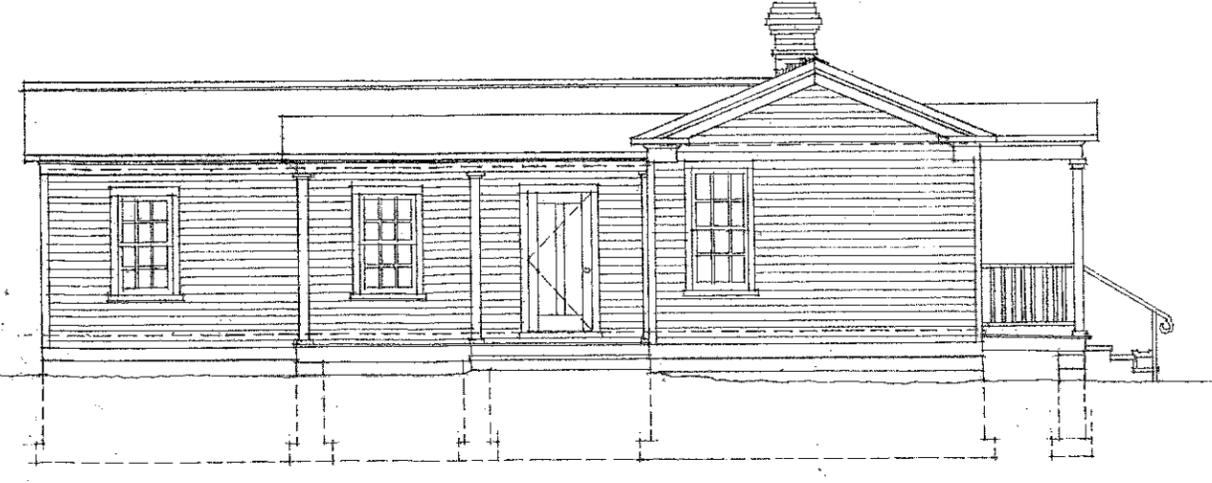
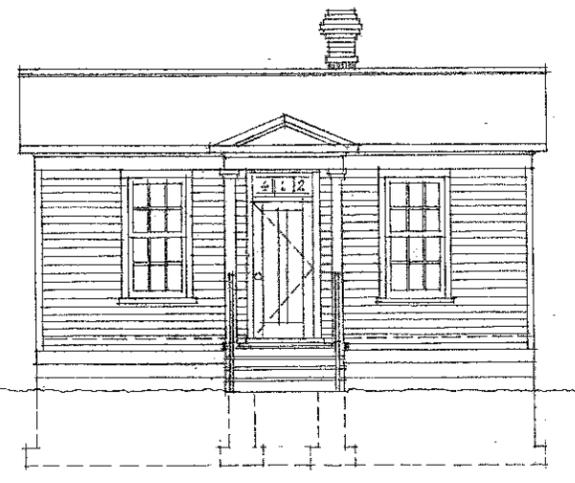
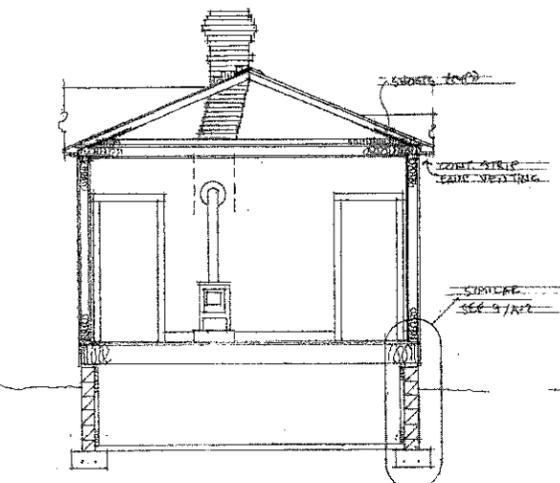
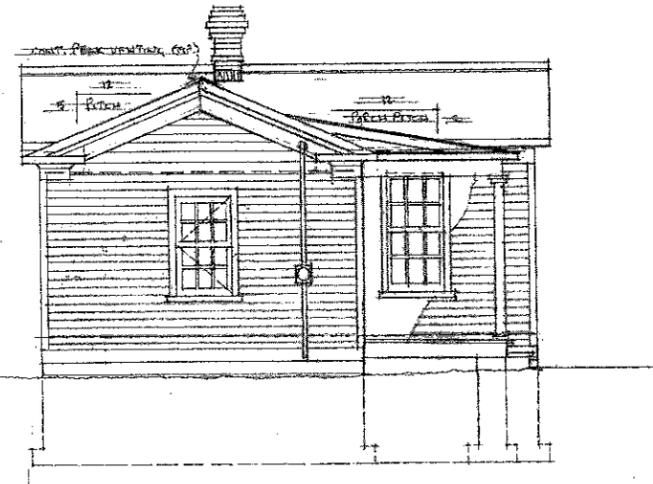
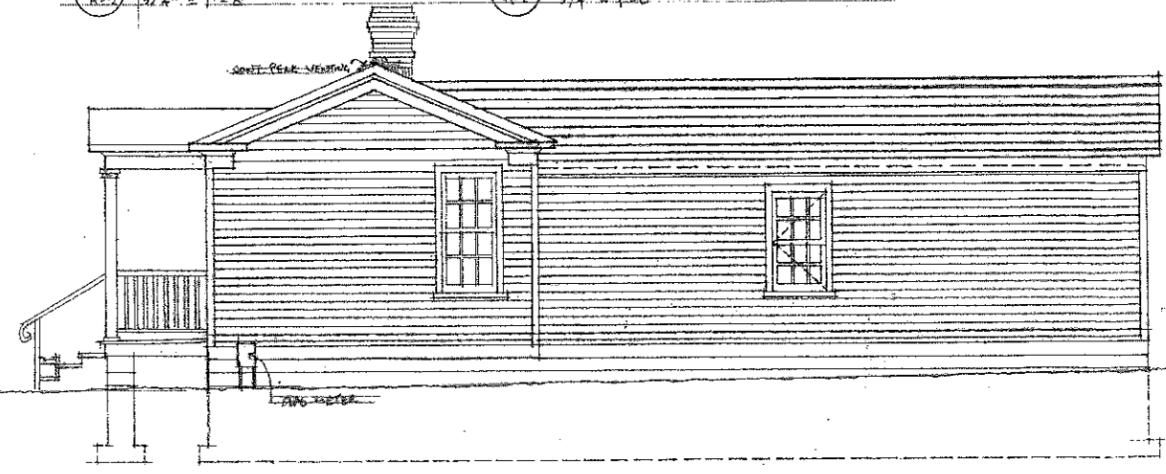
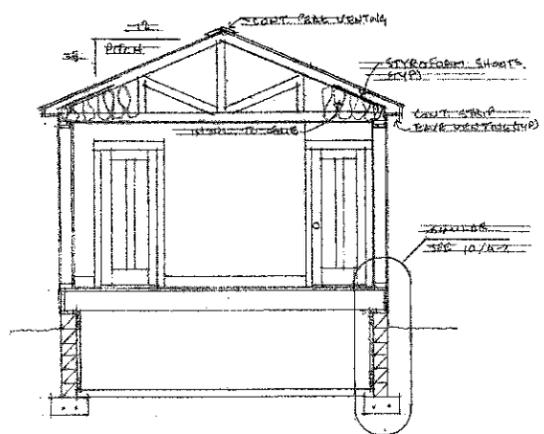
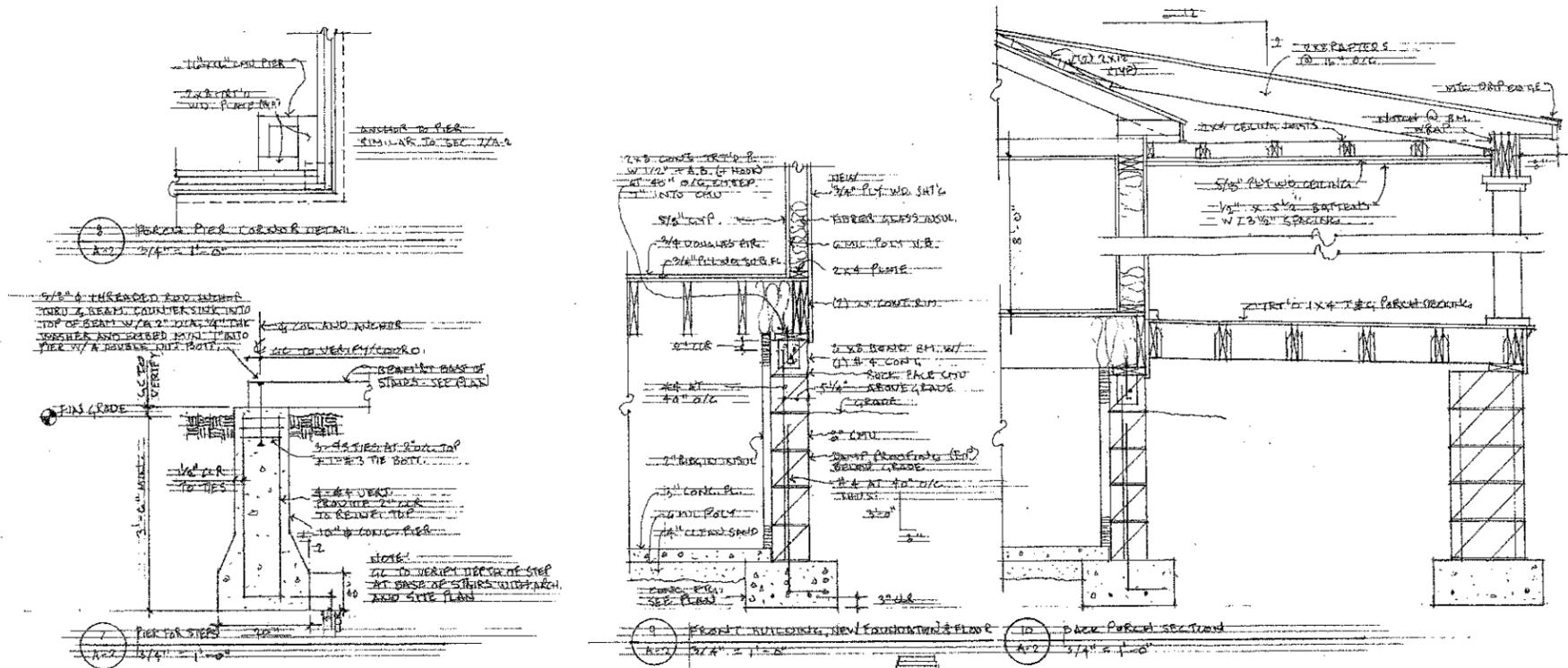
- A. Engineer will review Contractor's shop drawings with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall system designed by Engineer. Before submitting a shop drawing or any related material to Engineer, the Contractor shall review each such submission for conformance with the means, methods, techniques, sequences and operations of construction, and safety precautions and programs incidental thereto, all of which are the sole responsibility of the Contractor/Approve each such submission before submitting it and so stamp each such submission before submitting it. The Engineer shall assume that no shop drawing or related submission comprises a variation unless the Contractor advises Engineer otherwise via a written instrument which is acknowledged by the Engineer in writing. Shop drawings called for are indicated in the material specifications. The Engineer shall return shop drawings with comments provided that each submission has been called for and is stamped by Contractor as indicated above. The Engineer shall return without comment material not called for or which has not been approved by Contractor.
- B. Placement of structural units supported by roof or floor structure is subject to the approval of the Engineer.
- C. Contractor shall verify all existing conditions and dimensions. Report all conflicts in construction documents or between construction documents and actual conditions to the Engineer before proceeding with the affected work.
- D. Contractor is responsible for bracing all structural elements, without oversteering, until the project is complete. This includes, but is not limited to, bracing of existing adjacent structures and soils. Stockpiling of materials on supported levels is at the Contractor's own risk.
- E. Install all anchors noted (expansion, epoxy, powder actuated, etc.) per the Manufacturer's specifications.



1 SITE AND DEMO PLAN
 2 FOUNDATION AND FOUNDATIONAL PLAN
 3 FIRST FLOOR PLAN
 4 ROOF PLAN

412 GOODRICH AVENUE - RESTORATION
 476 West 7th Street
 SAINT PAUL, MN 55102
 YUST ARCHITECTURAL SERVICES
 (651) 225-9661

DATE • REVISIONS
 DRAWN • CHECKED
 COMM NO •
 SITE PLAN, FLOOR PLAN, FOUNDATION PLAN, ROOF PLAN
 DRAWING NO. 11



417 COODRICH AVENUE - RESTORATION
 YUST ARCHITECTURAL SERVICES
 476 West 7th Street Saint Paul, MN 55102
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 (651) 225-9611

NO.	REVISIONS	DATE

ELEVATIONS, SECTIONS AND DETAILS
 COMM. NO. DRAWN • CHECKED
 DATE • REVISIONS

DRAWING NO.

DOOR SCHEDULE

NO.	TYPE	SIZE			DOOR MATERIAL	LATCH PRATE	WALL DEPTH	HURSHAD	HANDLE	FLUSH LOCK	DOOR SWING	REMARKS
		WIDTH	HEIGHT	DEPTH								
1	2 PANEL	36"	80"	1 1/2"	WOOD, PINE	X	5 3/4"	X	BRASS	X	RIGHT	
2	SCREEN	36"	80"	1 1/2"	WOOD	X	5 3/4"	X		X	LEFT	
3	2 PANEL	36"	80"	1 1/2"	WOOD, PINE	X	5 3/4"	X	BRASS	X	LEFT	
4	SCREEN	36"	80"	1 1/2"	WOOD	X	5 3/4"	X		X	RIGHT	
5	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	LEFT	
6	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	RIGHT	
7	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	LEFT	
8	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	RIGHT	
9	TRAP DOOR	30"	48"	1 1/4"	WOOD/ALUMINUM	X	4 3/4"	X	RING	X	LEFT	
10	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	LEFT	
11	2 PANEL	36"	74 1/2"	1 1/2"	WOOD	X	4 3/4"	X	BRASS	X	LEFT	

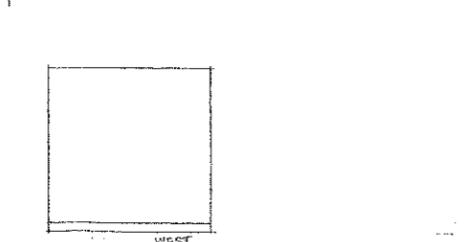
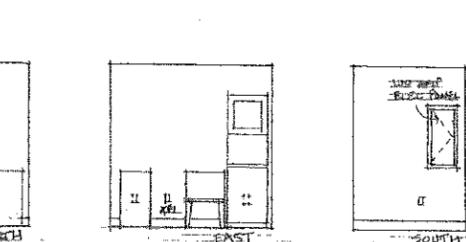
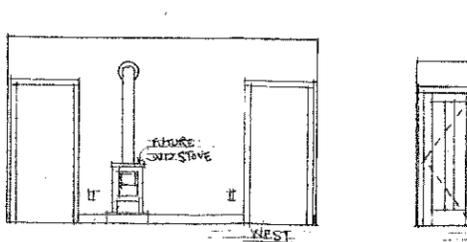
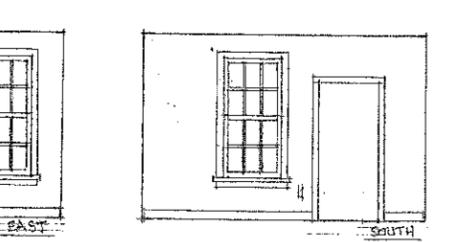
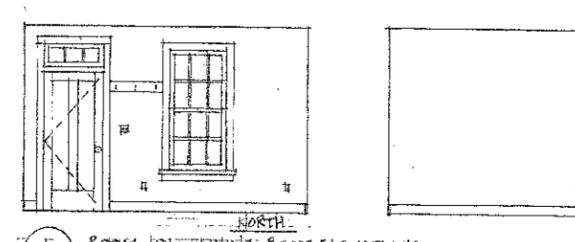
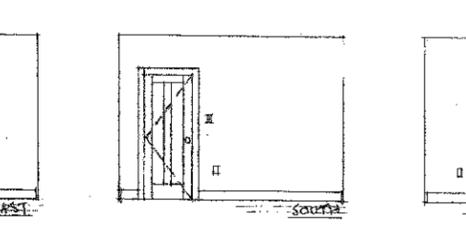
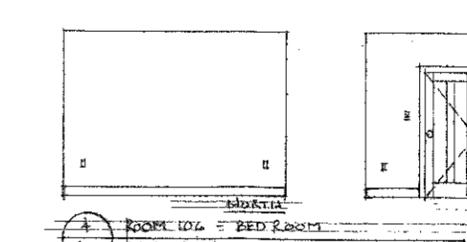
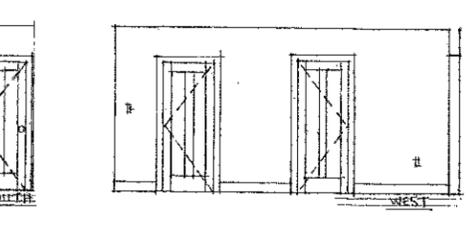
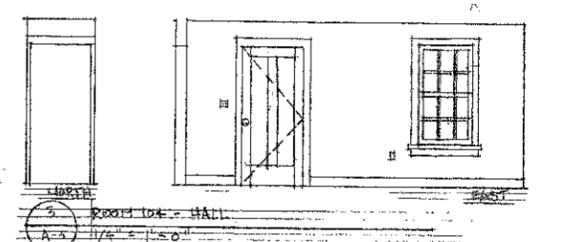
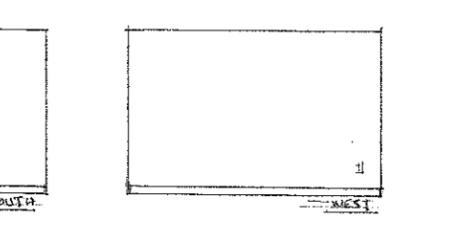
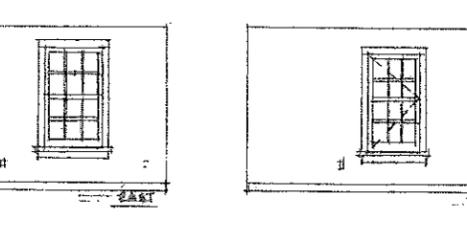
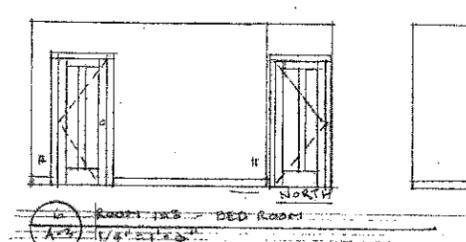
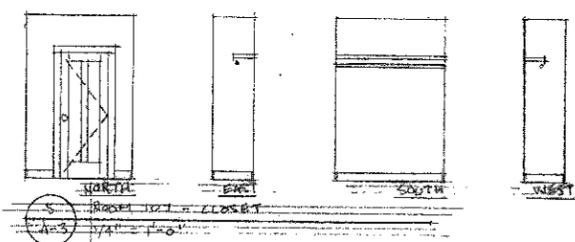
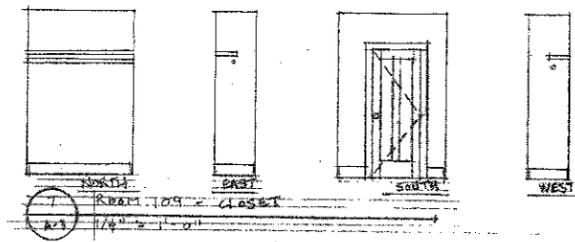
WINDOW SCHEDULE

NO.	TYPE	WALL	SASH SIZE		FRAME SIZE		ROUGH OPENING		LUBRICATION	WINDOW	MUNT	REMARKS
			WIDTH	DEPTH	WIDTH	HEIGHT	WIDTH	HEIGHT				
1	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
2	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
3	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
4	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
5	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
6	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
7	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
8	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
9	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
10	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	
11	1/2 WOOD 2/2	3/8"	2'-0"	2'-0"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	2'-0 1/2"	X	HARDON	7/8"	

- #### WINDOW NOTES:
- ALL WINDOWS DOUBLE INSULATED GLASS, LOW E, ARGON.
 - ALL WINDOWS 1/2" FINITS, SIMULATED DIVIDED LIGHTS BOTH SIDES, GLUED TO GLASS.
 - ALL WINDOWS 2" LITE EXTERIOR FINISH.
 - ALL WINDOWS 1/4" EXTERIOR SILL BURN EXTENSIONS.
 - ALL WINDOWS 3/4" x 1/2" WIDE INTERIOR CASINGS, SIDES AND TOP.
 - ALL WINDOWS PRE-FINISHED BOTH INTERIOR AND EXTERIOR.
 - ALL WINDOWS BRASS HARDWARE.
 - ALL DOUBLE HUNG WINDOWS PRE-FINISHED WOOD COMBINATION STAIRS AND SCREENS.
 - ALL CASSETTE WINDOWS INTERIOR SCREENS AND 1/4" HORIZONTAL CHECK RAIL.
 - ALL WINDOWS INSULATED AS PER WINDOW MANUFACTURER'S SPECIFICATIONS.

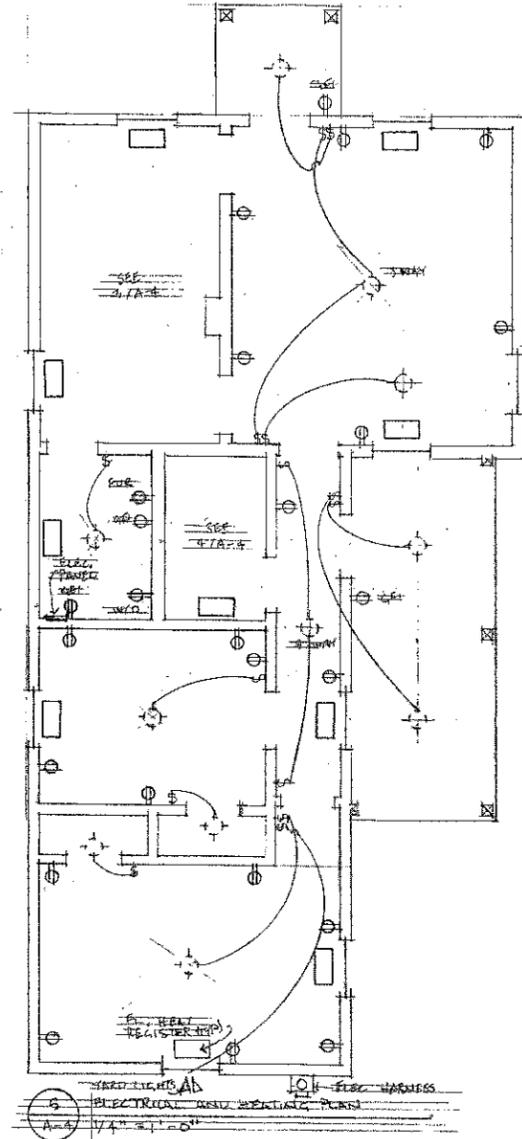
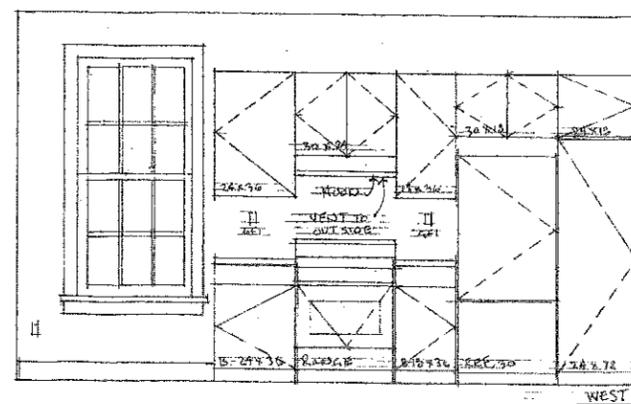
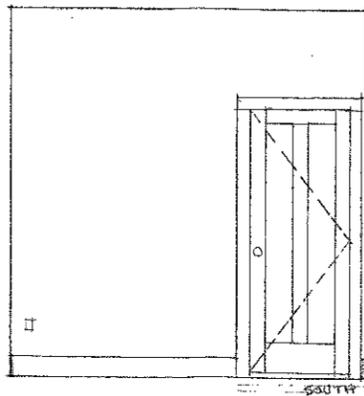
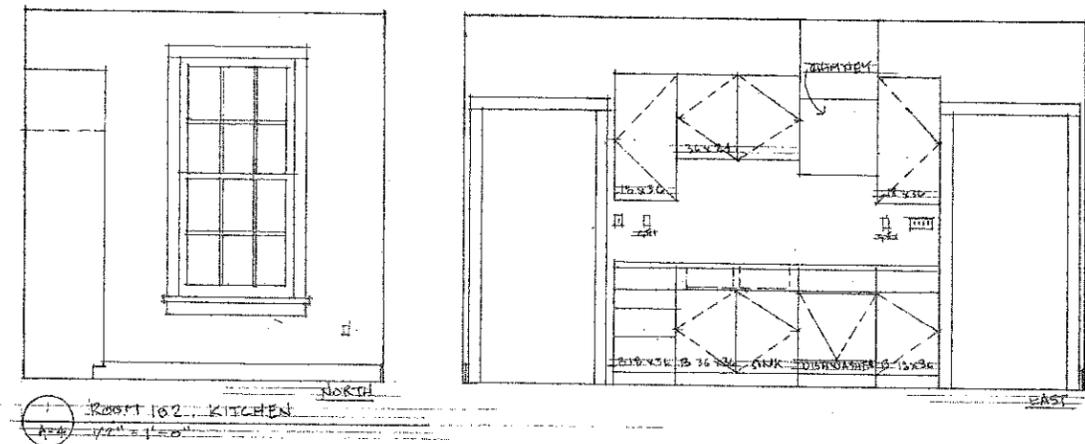
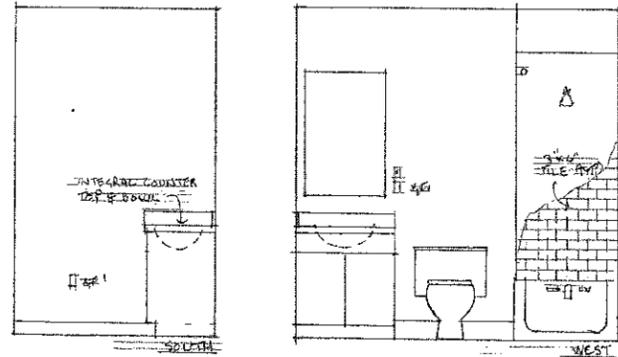
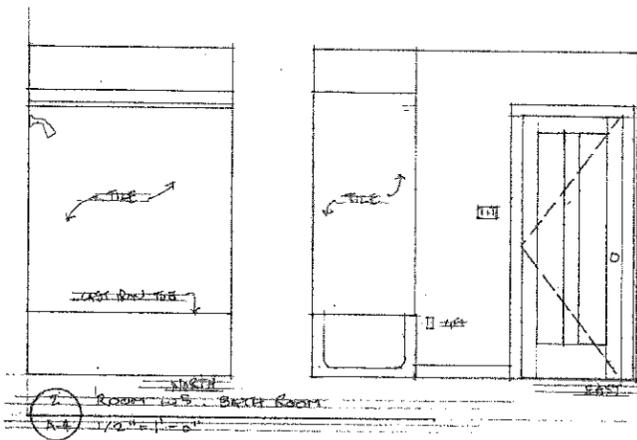
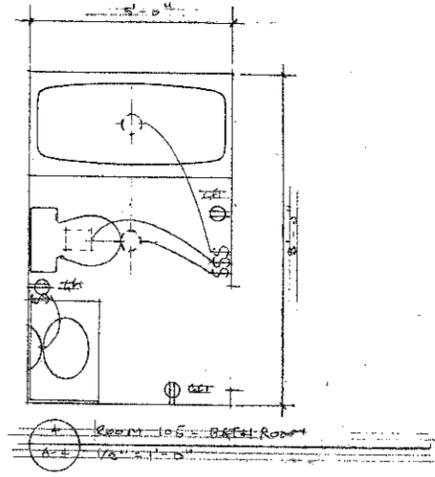
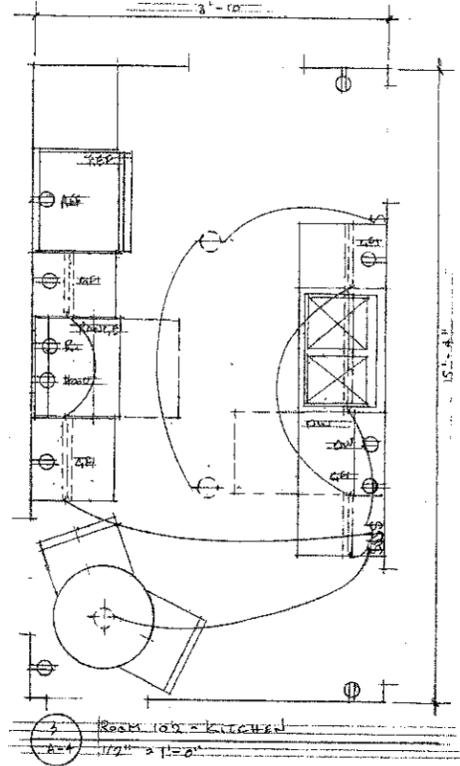
ROOM FINISH SCHEDULE

NO.	ROOM	FLOOR	BASE	WALLS		CEILING	PAINT	REMARKS
				FINISH	HEIGHT			
101	LIVING	X	X	X	X	X	X	9'-0"
102	KITCHEN	X	X	X	X	X	X	9'-0"
103	UTILITY	X	X	X	X	X	X	8'-0"
104	HALL	X	X	X	X	X	X	8'-0"
105	BATH	X	X	X	X	X	X	8'-0"
106	BED	X	X	X	X	X	X	8'-0"
107	CLOSET	X	X	X	X	X	X	8'-0"
108	BED	X	X	X	X	X	X	8'-0"
109	CLOSET	X	X	X	X	X	X	8'-0"
01	ROBT CELLER	X						
02	FRONT PORCH	X						5'-0"
03	FRONT PORCH	X						3'-10"



412 COODRICH AVENUE - RESTORATION
 476 West 7th Street - Saint Paul, MN 55102
 YUST ARCHITECTURAL SERVICES
 651-225-9601
 11/11/2015

SCHEDULES AND ROOM ELEVATIONS
 COMMNO • DRAWN • CHECKED
 DATE • REVISIONS
 DRAWING NO.



412 GOODRICH AVENUE - RESTORATION
 HISTORIC SAINT PAUL - 400 LANDMARK CENTER - 75 WEST 5TH ST - SAINT PAUL, MN 55102
JUST ARCHITECTURAL SERVICES
 476 West 7th Street ■ Saint Paul, MN 55102
 (651) 225-0601
 FAX: (651) 225-2300

NO.	REVISIONS

3/7/2019
 KITCHEN AND BATH
 PLANS AND ELEVATIONS
 ELEC. AND HEATING PLAN
 COMMENTO • DRAWN • CHECKED
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 DATE • REVISIONS
 DRAWING NO.

