

State of Vermont
 Department of Buildings & General Services
**CALEDONIA COUNTY STATE AIRPORT
 CIVIL AIR PATROL HANGER**
 LYNDON, VERMONT

AGENCY OF ADMINISTRATION
 DEPT. OF BUILDINGS & GENERAL SERVICES
 2 GOVERNOR AIKEN AVENUE
 MONTPELIER, VERMONT 05633-5801
 R. TASHA WALLIS, COMMISSIONER

AGENCY OF TRANSPORTATION
 NATIONAL LIFE BUILDING
 MONTPELIER, VERMONT 05633-5001
 DAWN TERRILL, SECRETARY

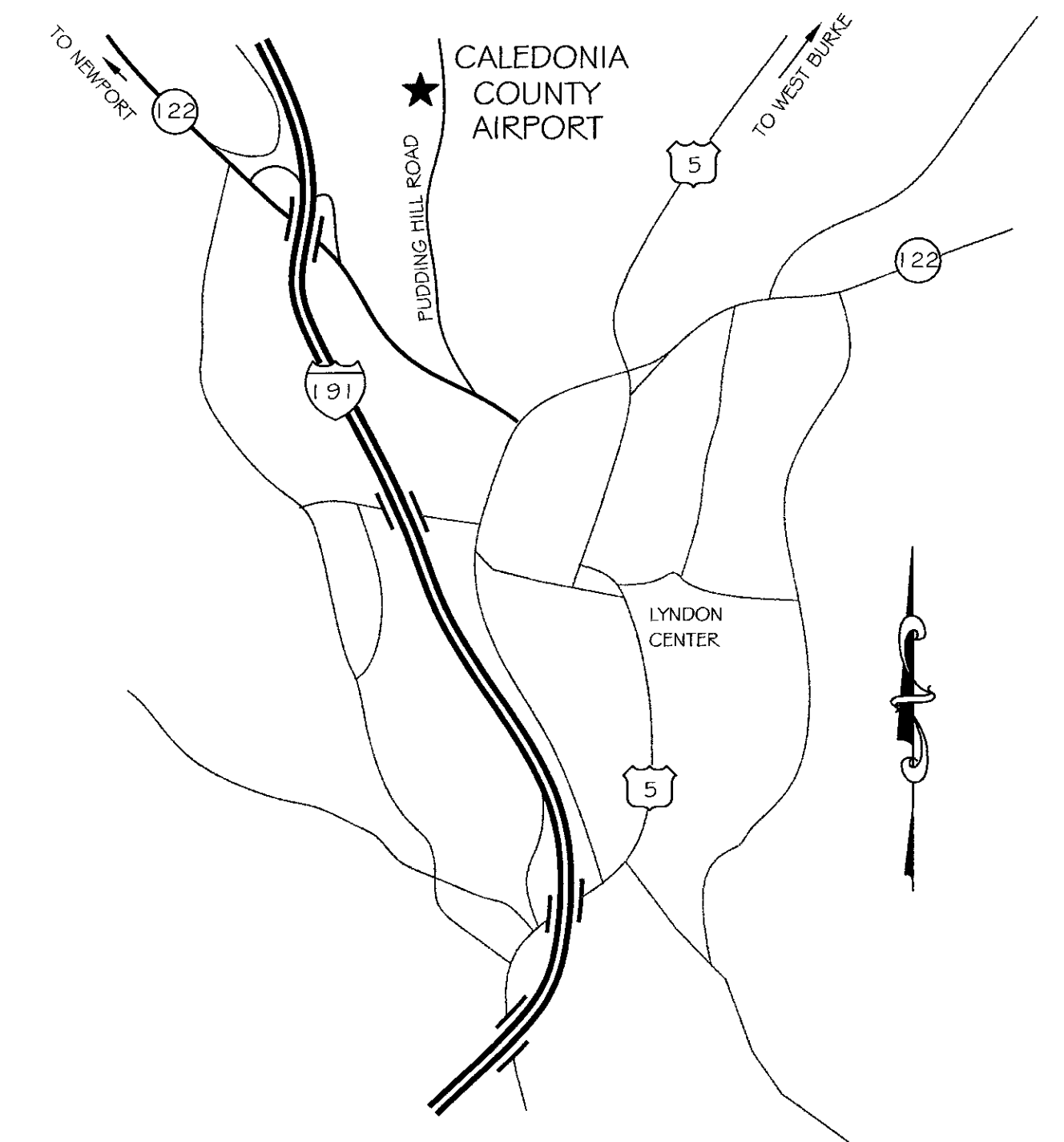


James H. Douglas
 Governor

JANUARY, 2005

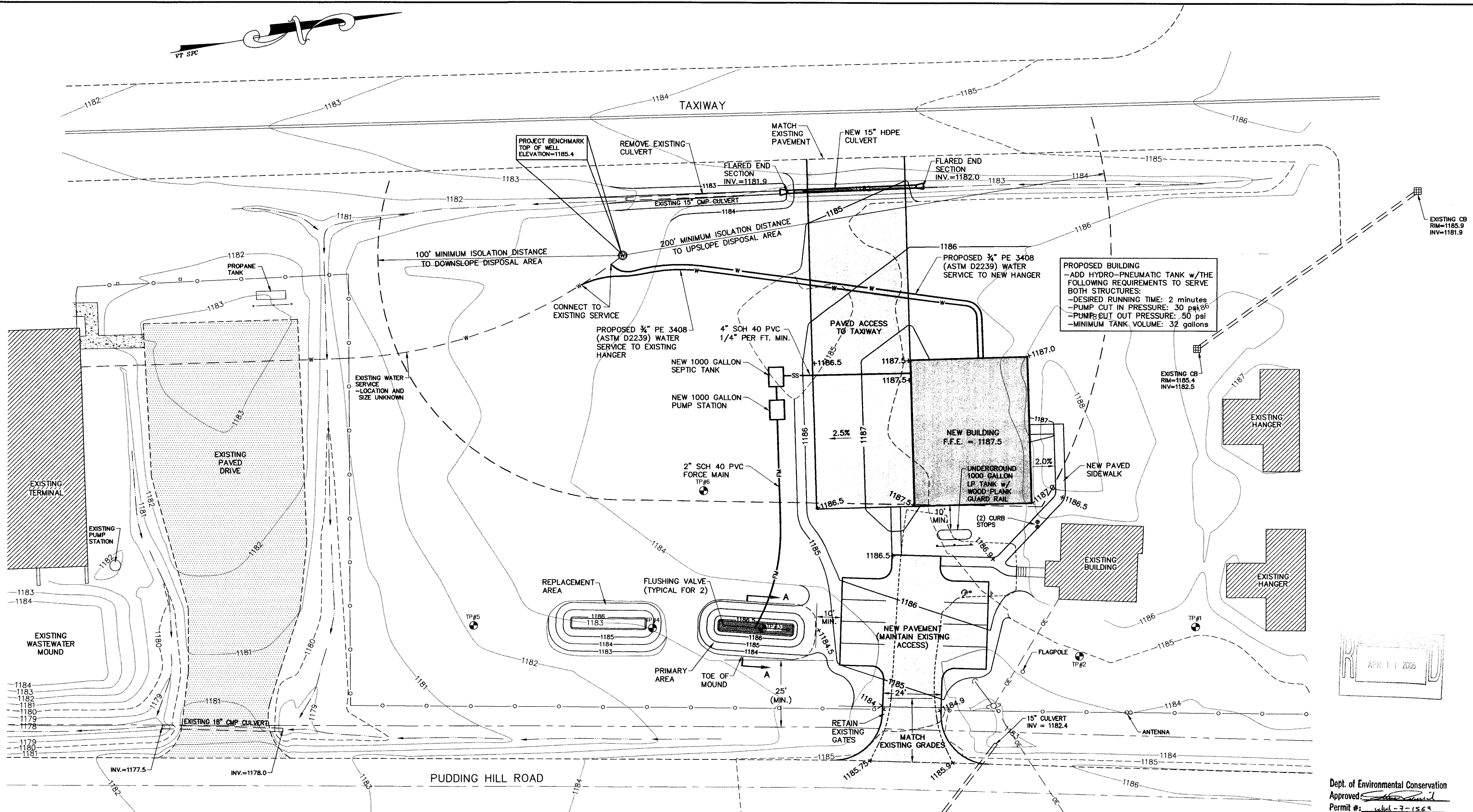
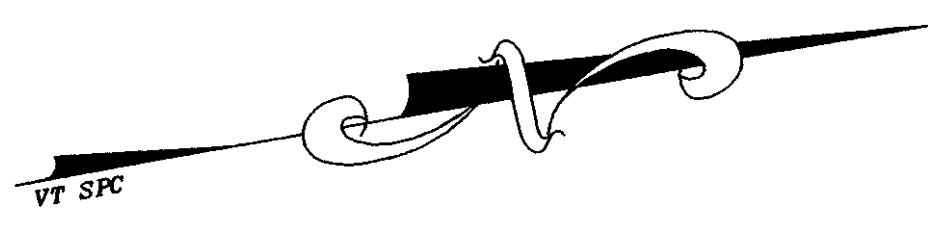
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PROJECT LOCATION

SET # _____
 DO NOT COPY

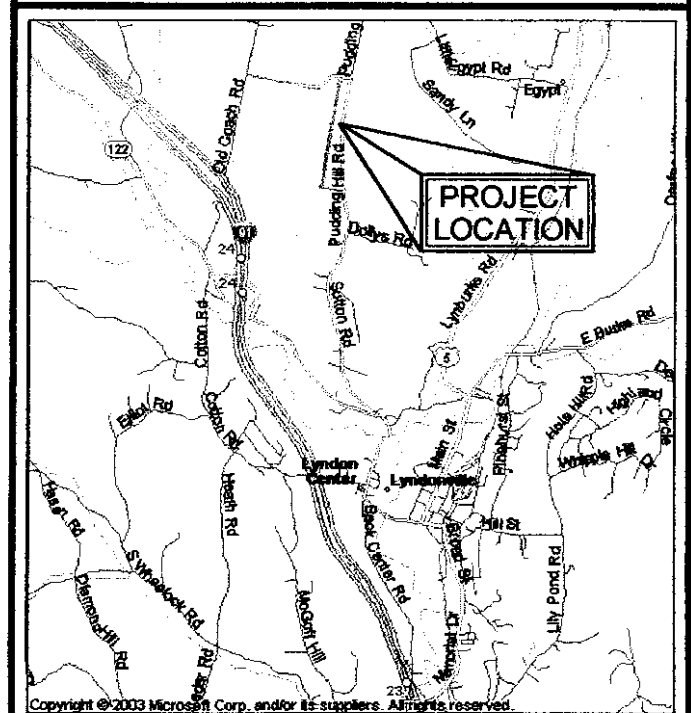


SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
 P.O. BOX 485 SHELburnE, VT 05482
 802-985-2323 FAX: 802-985-2271 web: www.cca-vt.com
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DRAWN: PJM
 CHECKED: BCE
 APPROVED: BCE
 OWNER:


STATE OF VERMONT
 VERMONT AGENCY OF TRANSPORTATION
 MONTPELIER, VERMONT

PROJECT:
CALEDONIA COUNTY STATE AIRPORT
 PUDDING HILL ROAD
 LYNDON, VERMONT



LOCATION MAP
 1" = 1.2 miles

DATE	CHECKED	REVISION
4/6/05	BCE	ADDED UNDERGROUND LP TANK / MINOR TEXT REVISION

PROPOSED CONDITIONS PLAN

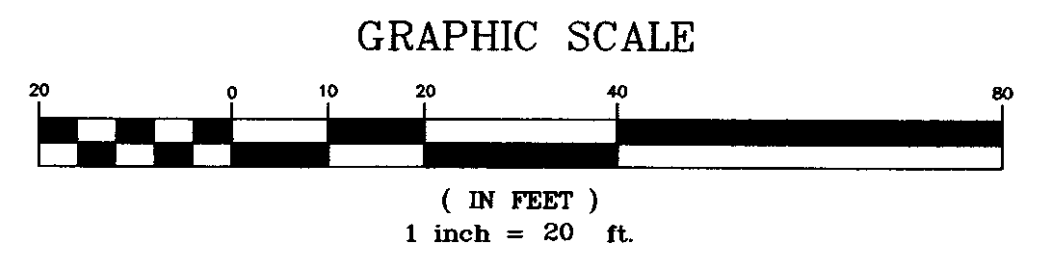
DATE: JAN., 2005
 SCALE: 1" = 20'
 PROJ. NO.: 03146.03
 DRAWING NUMBER: **C1.0**

LEGEND

- 1186 --- EXISTING CONTOUR
- SS --- GRAVITY SEWER LINE
- FM --- FORCE MAIN
- W --- WATER LINE
- OE --- OVERHEAD ELECTRIC
- ST --- STORM DRAINAGE LINE
- ⊙ --- SEWER MANHOLE
- ⊙ --- POWER POLE
- ⊕ --- CATCH BASIN
- ⊕ --- WELL
- ⊕ --- SIGN
- X --- FENCE
- --- DRAINAGE SWALE

- NOTES:
- Underground utilities shown hereon are based on utility evidence visible at ground surface and are subject to field verification by excavation. Utilities shown do not purport to constitute or represent all utilities located upon or adjacent to the surveyed premises. All discrepancies shall be reported to the Engineer. The Contractor shall contact Dig Safe (800-225-4977) prior to any construction.
 - All existing utilities not incorporated into the final design shall be removed or abandoned as indicated on the plans or directed by the Engineer.
 - The Contractor shall maintain as-built plans (with ties) for all underground utilities. Those plans shall be submitted to the Owner at the completion of the project.
 - The Contractor shall repair/restore all disturbed areas (on or off the site) as a direct or indirect result of the construction.
 - All grassed areas shall be maintained until full vegetation is established.
 - Maintain all trees outside of construction limits.
 - The Contractor shall be responsible for all work necessary for complete and operable facilities and utilities.
 - The Contractor shall submit shop drawings for all items and materials incorporated into the site work. Work shall not begin on any item until shop drawing approval is granted.
 - In addition to the requirements set in these plans and specifications, the Contractor shall complete the work in accordance with all permit conditions and any local Public Works Standards.
 - The tolerance for finish grades for all pavement, walkways and lawn areas shall be 0.1 feet.
 - Any dewatering necessary for the completion of the sitework shall be considered as part of the contract and shall be the Contractor's responsibility.
 - Existing pavement and tree stumps to be removed shall be disposed of at an approved off-site location. All pavement cuts shall be made with a pavement saw.
 - If there are any conflicts or inconsistencies with the plans or specifications, the Contractor shall contact the Engineer for verification before work continues on the item in question.

- TEST PIT DATA
 Caledonia Airport
 Lyndon, VT
 February 25, 2004
- Test Pit #1
 0 - 4" Brown fine sandy loam, friable
 4 - 16" Brown fine sandy loam, friable
 16 - 26" Yellowish brown loamy sand
 26 - 48" Sandy loam, very firm, mottled @ 26"
- Test Pit #2
 0 - 10" Dark brown fine sandy loam, very firm
 10 - 14" Yellowish brown fine sandy loam, very friable
 14 - 19" Silt loam, firm
 19 - 26" Dark brown silt loam, firm
 26 - 4" Yellowish brown, loamy sand, friable, mottled @ 33"
- Test Pit #3
 0 - 6" Dark brown fine sandy loam, friable
 6 - 12" Brown fine sandy loam, friable
 12 - 31" Yellowish brown fine sandy loam, friable
 31 - 58" Greyish brown loamy sand, mottled
- Test Pit #4
 0 - 10" Dark brown fine sandy loam, very friable
 10 - 28" Light brown fine sandy loam
 28 - 54" Grayish brown fine sandy loam, mottled @ 33"
- Test Pit #5
 0 - 12" Dark brown fine sandy loam, very friable
 12 - 24" Light brown fine sandy loam
 24 - 50" Grayish brown fine sandy loam, mottled
- Test Pit #6
 0 - 5" Reddish brown fine sandy loam
 5 - 24" Yellowish brown sandy loam, firm
 24 - 32" Dark brown fine sandy loam, firm
 32 - 60" Yellowish brown sandy loam, firm




- NOTES:
- THIS WASTEWATER SYSTEM IS DESIGNED BASED UPON THE STATE OF VERMONT "ENVIRONMENTAL PROTECTION RULES, WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES", AUGUST 16, 2002 RULES.
 - ELEVATIONS ARE BASED UPON NATIONAL GEODETIC SURVEY MARK "LYNPONT", ELEVATION 1182.67' (NAVD 88) EXPRESSED IN U.S. SURVEY FEET.
 - THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE.

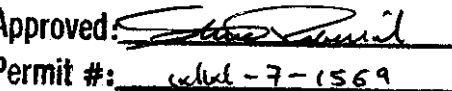
GPS COORDINATES

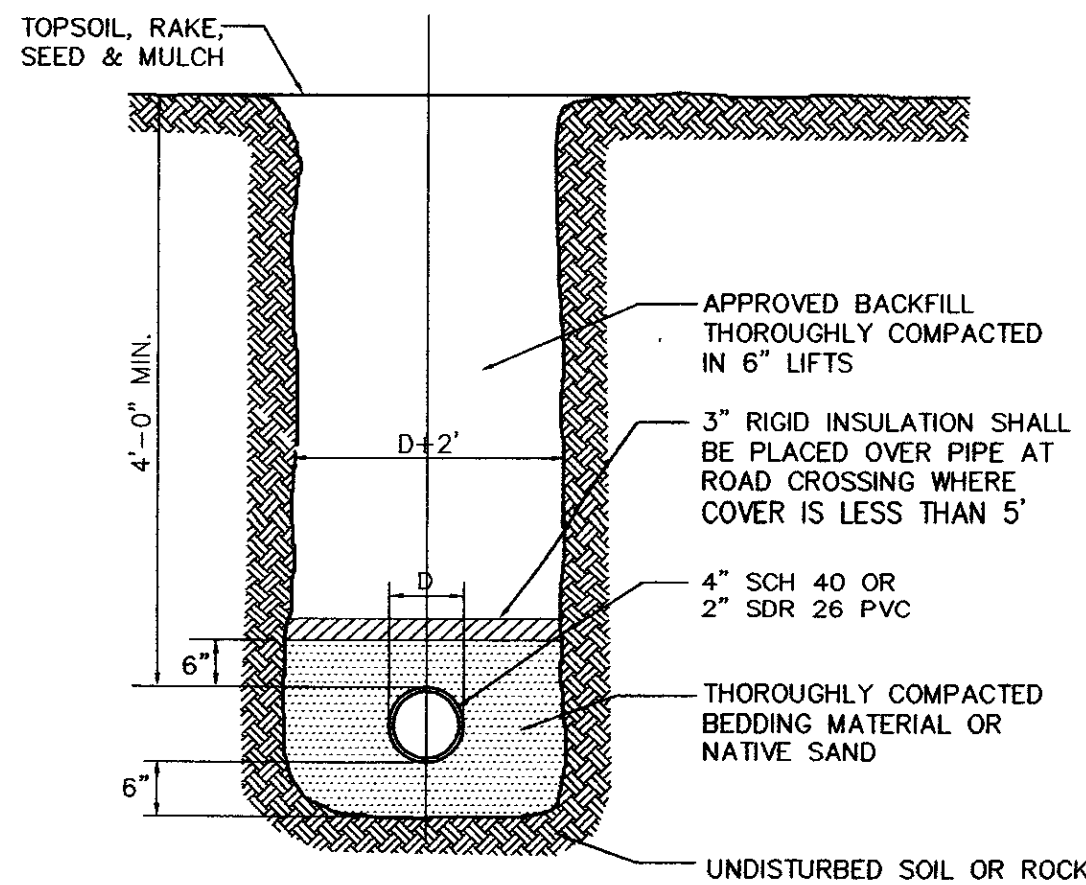
	LATITUDE	LONGITUDE
CENTER OF WASTEWATER SYSTEM	N44°34'22.4"	W72°00'55.7"
CENTER OF DRILLED WELL	N44°34'21.8"	W72°00'58.5"

(WGS 84 CRITERIA, ±50" ACCURACY)

I HEREBY CERTIFY THAT THE DESIGN-RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT, AND THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES AND THE VERMONT WATER SUPPLY RULES.

DESIGNER SIGNATURE: 
 DATE: 4/8/05

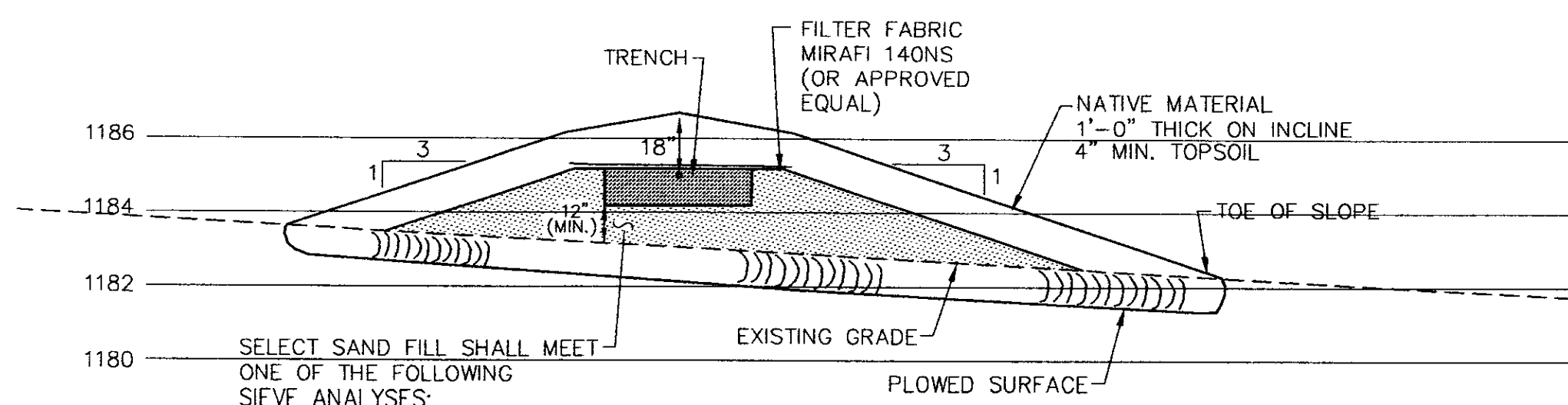
Dept. of Environmental Conservation
 Approved: 
 Permit #: 1064-7-1569
 Date: 4/29/05



TYPICAL TRENCH DETAIL
N.T.S.

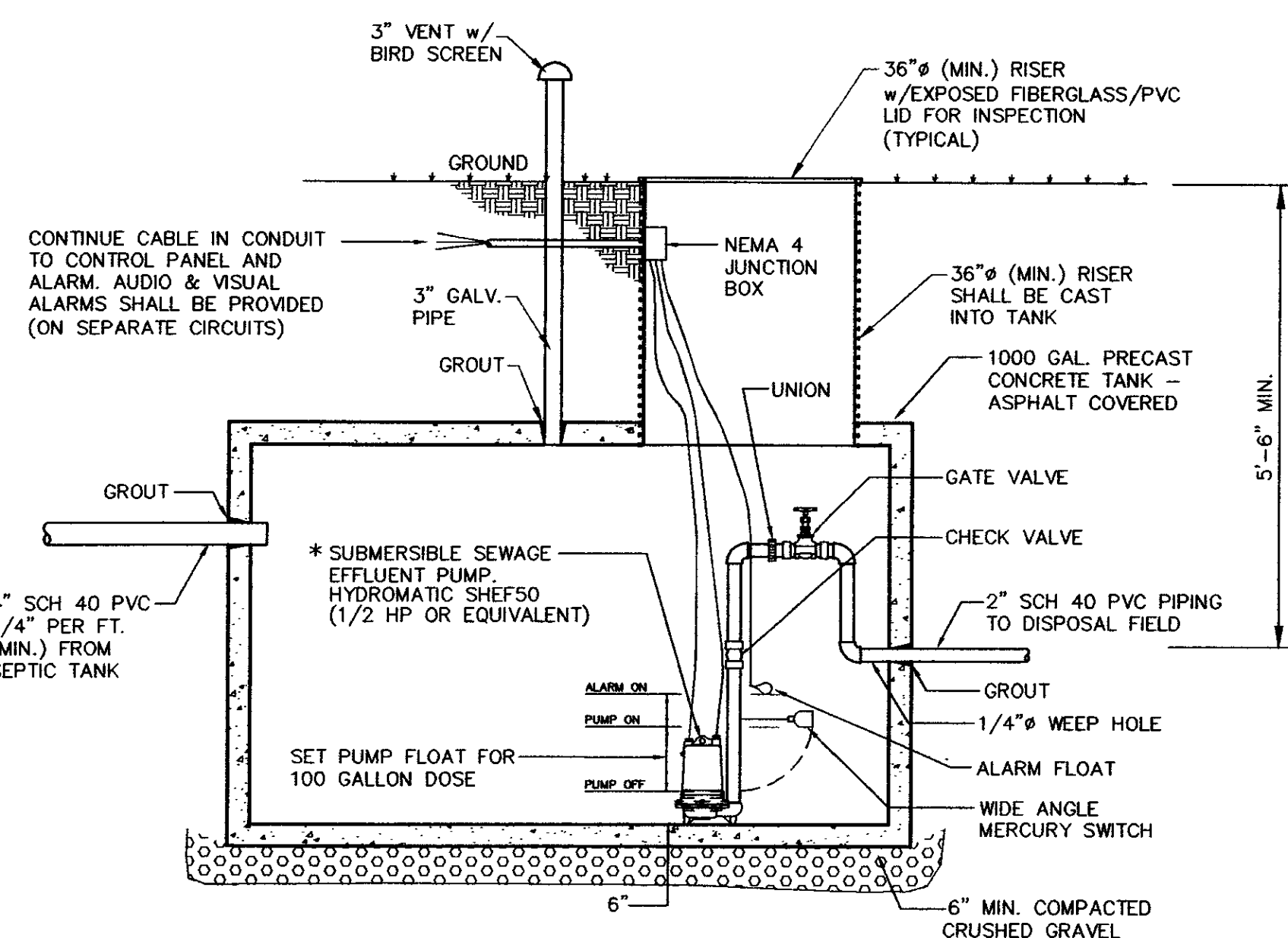
NOTES:

1. Compaction of backfill and bedding shall be a minimum of 90% (95% under roadway surfaces) of maximum dry density determined in the standard proctor test (ASTM D698).
2. Bedding material shall consist of crushed stone, gravel or sand with a maximum size of 3/4\".
3. In trenches with unstable materials, trench bottom shall first be stabilized by placement of filter fabric then crushed stone (3/4\" maximum).
4. Where 4 ft. of cover cannot be maintained the sewer pipe shall be protected against freezing by installation of a minimum of 3 inch thick styrofoam insulating sheets.
5. Approved backfill shall not contain any stones more than 12\" in largest dimension (6\" in roadways, 2\" maximum diameter within 2' of the outside of the pipe), or contain any frozen, wet, or organic material.
6. Use 3 inch styrofoam sheets at all road crossings or areas that are to be plowed during the winter.
7. The sides of trenches 4' or more in depth entered by personnel shall be sheeted or sloped to the angle of repose as defined by O.S.H.A. standards.



SIEVE #	% PASSING	SIEVE #	% PASSING	SIEVE #	% PASSING
10	85-100	8	80-100	10	85-100
40	25-75	16	50-85	40	30-50
60	0-30	30	25-60	200	0-10
100	0-10	50	10-30		
200	0-5	100	2-10		

SECTION A-A
N.T.S.



1000 GALLON PUMP STATION DETAIL
N.T.S.

PROPOSED DESIGN DATA

Prescriptive Approach:

- Septic Tank Effluent
 - At least 24\" of naturally occurring soil above ledge/seasonal high water table
 - Maintain at least 3' between bottom of trench and seasonal high groundwater table

Design Daily Flow:

- Two employees @ 15 gallons per day = 30 g.p.d.
- 20 Conference room @ 5 gallons per day = 100 g.p.d.
- 10% Deduction for low flow fixtures = -13 g.p.d.
- Adjusted design flow = 117 g.p.d. (Use 120 g.p.d.)

Application Rate: (Mound)

- Q = Application rate = Use 1.0 gallons/square foot

Absorption Trench Area:

- 120 gal @ 1.0 gallons/square foot = 120 square feet required
- Use one 4' x 30' trench = 120 square feet provided

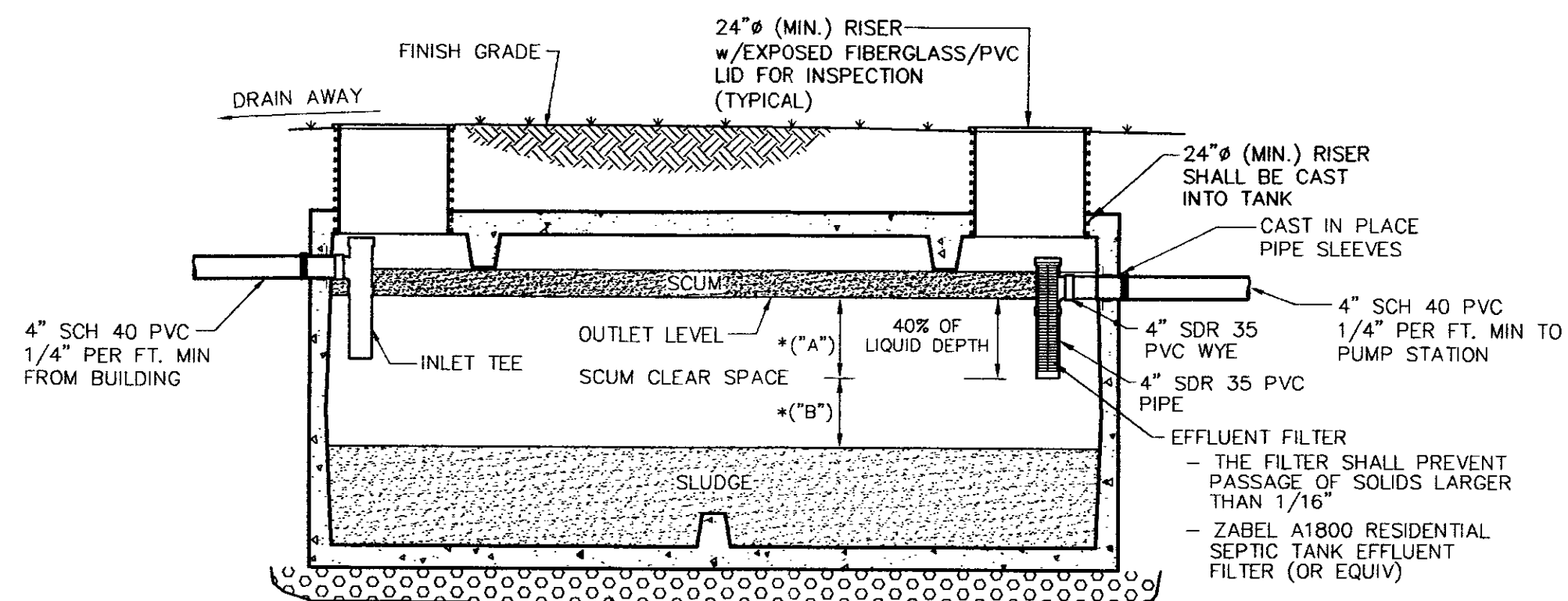
Basal Area:

- 120 gal @ 0.74 gallons/square foot = 162 square feet required
- Effective area of 30' x 15' = 450 square feet provided

Pump Requirements:

- Eight (8) 5/16\" diameter orifice holes 3'-9\" o/c
- 1.99 gpm/orifice x 8 = 16 gpm
- TDH @ 16 gpm

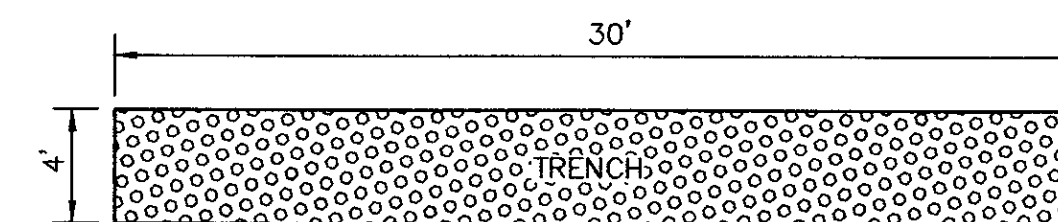
Elevation	9
Friction	5
Residual	3
	17



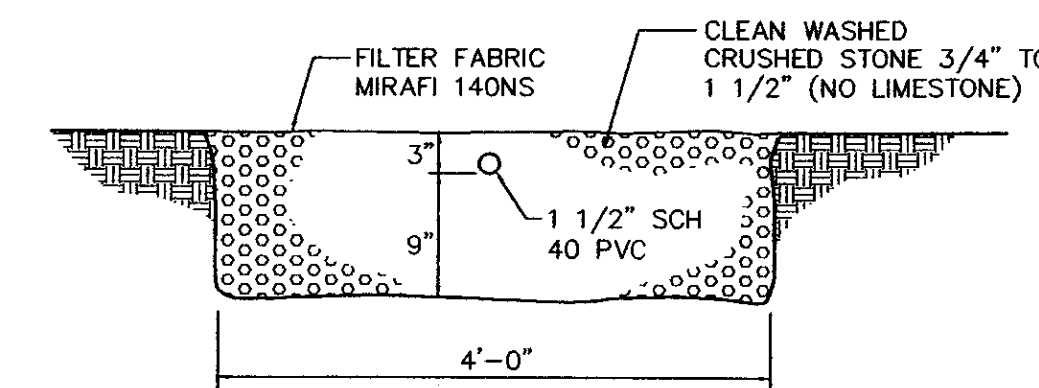
1000 GALLON SEPTIC TANK
N.T.S.

Septic Tank Notes

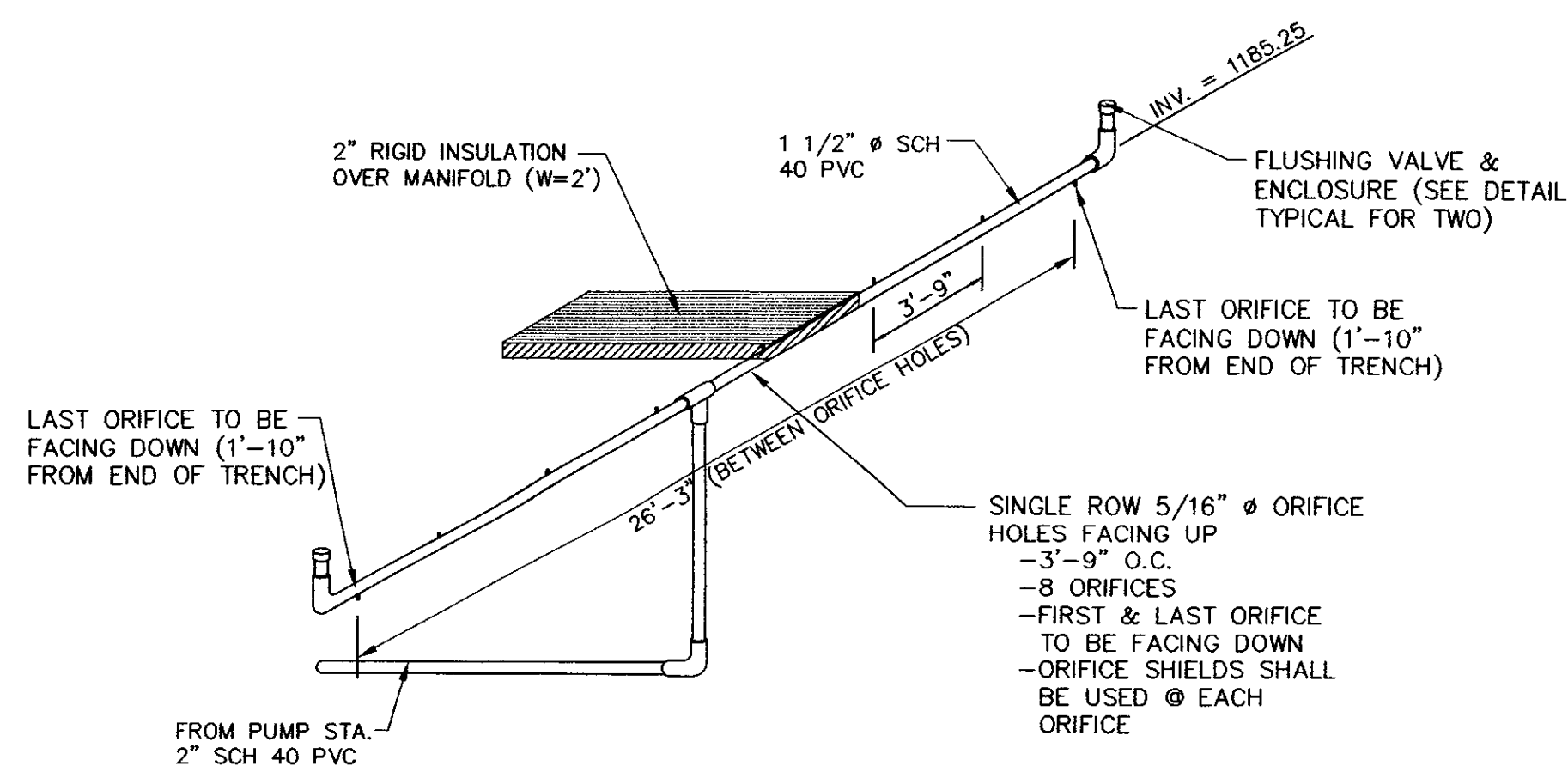
1. Septic tank shall be a precast concrete tank, unless otherwise approved.
2. Maintenance
 - At least once a year, the depth of sludge and scum in the septic tank should be measured. The tank should be pumped if:
 - The sludge is closer than twelve inches to the outlet baffle or;
 - The scum layer is closer than three inches to the outlet baffle.
 - Under no circumstances should anyone enter a septic tank.
3. Recommendations
 - The use of garbage grinders is discouraged as sludge accumulation in the septic tank can be increased by up to 40%. If used, the septic tank will require more frequent pumping.
 - The septic system is designed to handle human waste and toilet paper, plus water from plumbing fixtures such as toilets, baths and sinks. Moderate use of household cleaners, detergents and bleach should not damage your system; however, indiscriminate use may cause problems. Non-degradable paper products and any other non-biodegradable substances should not be put in your wastewater system.
 - Minimize the amount of water used in the household. Excessive water could flush solids from the septic tank to the disposal field which leads to clogging or plugging of the piping. When dishwashers and washers are used, make sure loads are full and stagger their use to reduce peak flows, i.e. stagger loads of laundry over several days instead of one day.
4. Walkways, patios and decks or other permanent structures should not be constructed over the septic tank.
5. There should be no need to use commercial "starter", "bacterial feeds", or "cleaners", etc. Bacteria in a septic tank system occurs naturally.



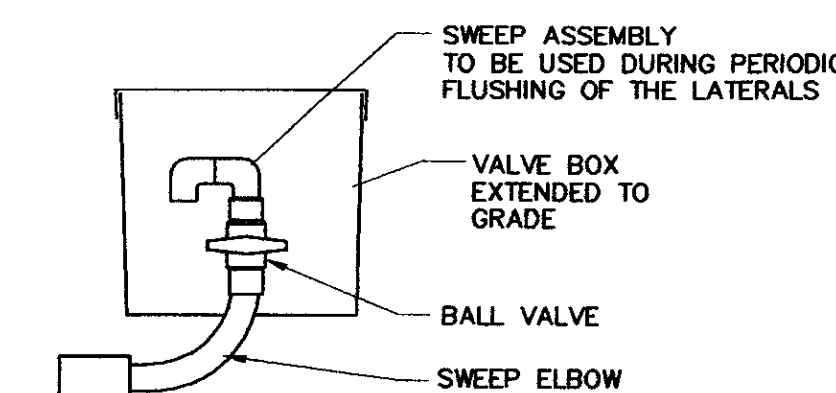
TYPICAL TRENCH PLAN
N.T.S.



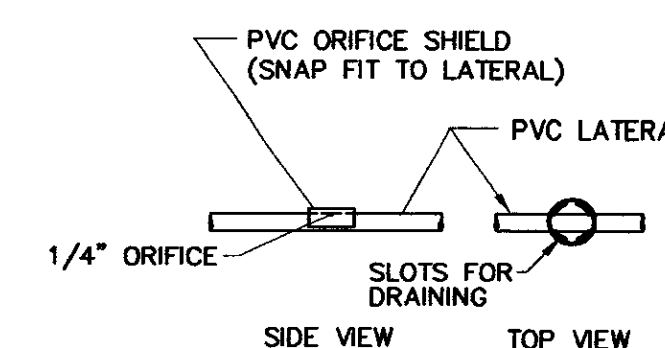
TYPICAL TRENCH SECTION
N.T.S.



TRENCH PIPING DETAIL
N.T.S.



FLUSHING VALVE DETAIL
N.T.S.



ORIFICE SHIELD DETAIL
N.T.S.

Dept. of Environmental Conservation
Approved: *[Signature]*
Permit #: *4141-7-1569*
Date: *4/29/05*

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
P.O. BOX 485 SHELBURNE, VT 05482
802-985-2323 FAX: 802-985-2271 web: www.cca-vt.com

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CHECKED: BCE
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OWNER:

STATE OF VERMONT
VERMONT AGENCY OF TRANSPORTATION
MONTPELIER, VERMONT

PROJECT:
CALEDONIA COUNTY STATE AIRPORT
PUDDING HILL ROAD
LYNDON, VERMONT

DATE	CHECKED	REVISION
4/6/05	BCE	MINOR TEXT REVISION

WASTEWATER DETAILS

DATE: JAN., 2005
SCALE: AS SHOWN
PROJ. NO.: 03146.03

DRAWING NUMBER: **C2.0**

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EROSION CONTROL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. The work under this section includes but is not limited to providing all labor, equipment and materials for the installation of all required site related erosion control measures. If not otherwise directed on the plans, erosion control shall be in strict conformity with the latest revision of the "Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites".

1.02 GENERAL NOTES

- A. The discharge of sediment laden water from the project site is prohibited. All discharged water from dewatering operations shall discharge into a temporary sedimentation basin.
- B. Contractor shall install all erosion control measures as depicted on plans and details or as recommended by the Vermont Agency of Natural Resources, or Soil Conservation Service, prior to any construction. Contractor shall also be responsible for inspecting and maintaining all erosion control measures until project is completed.
- C. Contractor shall also limit the soil disturbance and seeding application dates to between May 1st and October 15th. If soil disturbance occurs later than October 15th and prior to May 1st, winter erosion control measures will be necessary. Contractor shall consult with the Engineer for additional site specific winter erosion control measures.
- D. All stockpile material (topsoil, borrow, etc.) will have a hay bale dike or silt fence constructed around the perimeter. Seed and mulch stockpiled material as soon as possible to prevent soil erosion and sedimentation off site. Locate stockpiles on the uphill side of the disturbed areas, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion.
- E. Slopes greater than 1:3 shall have erosion control netting installed to stabilize the slope and reduce the erosion potential. Install netting over mulched slopes so that all parts are in contact with the soil and mulch. Pin netting with wire staples 3' o.c. to ensure full bonding with soil surface.
- F. Install stone check dams in grass-lined swales 50 feet on center to prevent silt from washing into the drainage system during construction. Check dams shall be removed when vegetation is established.
- G. Control dust through the application of calcium chloride or water. An average application of one pound of calcium chloride per square yard of exposed area should be considered for each treatment. The exact number of applications and amount of dust controller shall be based upon field and weather conditions. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

PART 2 - PRODUCTS

2.01 EROSION CONTROL NETTING

A. Jute netting shall consist of undyed and unbleached yarn woven into a uniform open plain weave mesh.

2.02 EROSION CONTROL MATTING

A. Where required on the plans or where directed by the Engineer, erosion control blankets (matting) shall be North American Green C125 for swales, and SC150 for slope stabilization, or approved equal.

2.03 FILTER FABRIC

A. When filter fabric is required, it shall conform to the requirements of Miraf 140NS or approved equivalent.

2.04 CALCIUM CHLORIDE

A. Calcium chloride shall conform to the requirements of AASHTO M 144. Either regular flake calcium chloride, Type 1 or concentrated flake, pellet or other granular calcium chloride, Type 2, may be used.

2.05 WATER

A. All water used shall be clean and free of harmful amounts of oil, salt, acids, alkalis, sugar, organic matter and other substances injurious to the finished product, plant life or the establishment of vegetation.

PART 3 - EXECUTION

3.01 STONE CHECK DAM AND CATCH BASIN INLET PROTECTION

- A. Stone check dams to be constructed as outlined in the "STONE CHECK DAM STRUCTURE" detail and spaced as indicated or as instructed by the Engineer. Once vegetation is established and the check dams are no longer needed for erosion control, they shall be removed.
- B. Catch Basin Inlet Protection to be constructed as outlined in the "CATCH BASIN INLET PROTECTION (WITH METAL STAKES)" detail and placed as indicated or as instructed by the Engineer. Once vegetation is established and the check dams are no longer needed for erosion control, they shall be removed.

3.02 SILT FENCES

- A. The silt fences shall be constructed in accordance with the construction detail. The fence shall generally be placed 10 feet from the toe of the slope or as shown on the plans. The ends of the fence shall be placed uphill to form a horseshoe shape to trap all runoff.
- B. The silt fences shall be inspected periodically for damage or build-up of sediments. All damaged fences shall be repaired or replaced. Sediment deposits shall be removed from the fence as they build up and be placed in an area where there is no danger of further erosion.

3.03 EROSION MATTING

A. Erosion matting shall be placed on all grass-lined ditches with profile grades exceeding 5.0% and shall be placed and maintained in accordance with the Vermont Agency of Transportation Standard Specifications Sections 654 and 755.07.

3.04 RESTORATION

A. As soon as construction is completed in a given area, it shall be topsoiled, seeded, fertilized and mulched as specified in the Permanent Seeding section.

3.05 GRASS-LINED DITCHES

A. All ditches that are not stone-lined shall be topsoiled, seeded, fertilized and mulched. Any area which shows signs of erosion shall be reseeded immediately and maintained until permanent vegetation is established.

3.06 TEMPORARY DIVERSION DITCH

A. Some diversion ditches will be temporary in nature with shallow slopes and therefore will not need to be stabilized with stone or seeding. These ditches will act as infiltrative areas and will have stone check dams to minimize the move of fine grained materials.

3.07 MAINTENANCE

- A. All erosion control measures shall be inspected weekly and repaired and/or replaced as needed.
- B. All erosion control measures shall be inspected after periods of heavy rain.
- C. The stabilized road entrance shall be top dressed with additional stone should the existing stone become clogged with sediment.
- D. Hay or straw mulch is subject to wind action. Mulch may require anchoring as the weather conditions warrant.

3.08 WINTER CONSTRUCTION

- A. If, due to the project schedule, construction during the winter months is necessary, the Contractor shall follow the winter construction procedures outlined in the "Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites".
 1. Minimize disturbance between October and May.
 2. All erosion control measures shall be in place prior to the ground freezing.
 3. Mulch shall be applied to all disturbed areas at a rate of 90 pounds per 1,000 square feet. The Contractor shall maintain all areas that are mulched until permanent vegetation can be established.

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Furnishing all labor, materials and equipment to complete all seeding required to provide temporary protection against wind or water erosion.

1.02 GENERAL NOTES

A. Adequate seed bed preparation, use of quality seed, and timely planting are required to achieve a good stand of vegetation to control erosion.

PART 2 - PRODUCTS

2.01 GENERAL

A. At a minimum, all products shall meet the requirements of the Permanent Seeding Section.

PART 3 - EXECUTION

3.01 SEEDING CONDITIONS

A. All essential grading and all temporary structures, such as diversions, dams, ditches, and drains needed to prevent gullying and reduce siltation, should be completed prior to seeding.

3.02 SEED AND SEEDING

A. Seed and seeding rates may be selected from the table below. The selection will be based on the time of year the seeding is to be made and the length of time the vegetation is to afford the protection. The seed should be spread uniformly over the area. After seeding, the soil should be firmed by rolling or packing. Where rolling or packing is not feasible, the seed should be covered lightly by raking, disking, or dragging.

B. Plant Selection and Seeding Rates:

Species	Per Acre	Per 1000 Sq. Ft.	Remarks
Annual Ryegrass	40 lbs.	1 lb.	Grows quickly, but is of short duration. Use where appearances are important. Seed early spring and/or between August 15 and September 15. Cover the seed with no more than 0.25 inch of soil.
Perennial Ryegrass	30 lbs.	0.7 lbs.	Good cover which is longer lasting than annual ryegrass. Seed between April 1 and June 1 and/or between August 15 and September 15. Mulching will allow seeding throughout the growing season. Seed to a depth of approximately .5 inch.

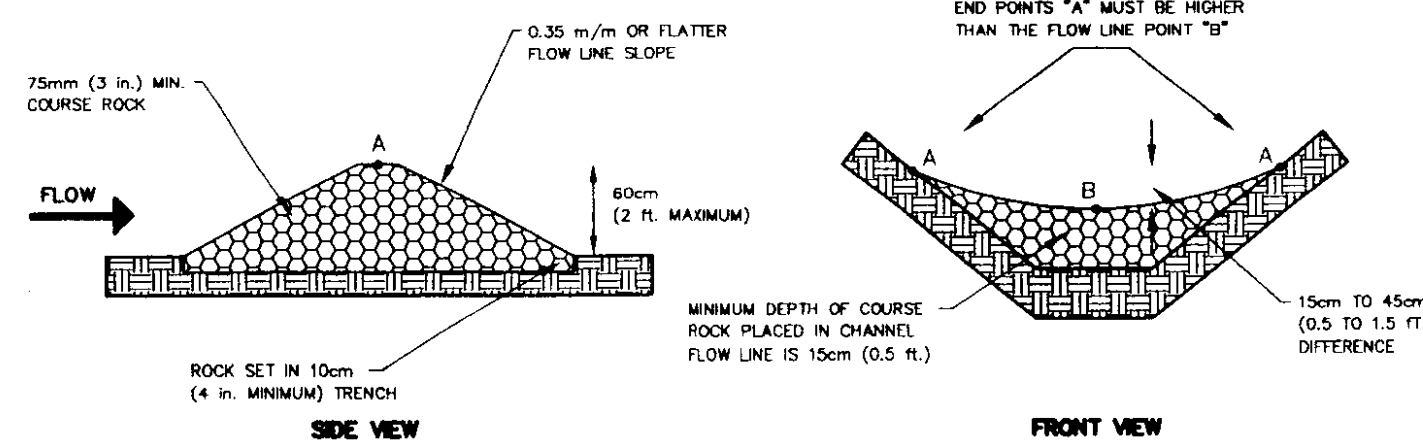
3.04 MULCHING

A. Where it is impracticable to incorporate fertilizer and seed into moist soil, the seeded area should be mulched to facilitate germination.

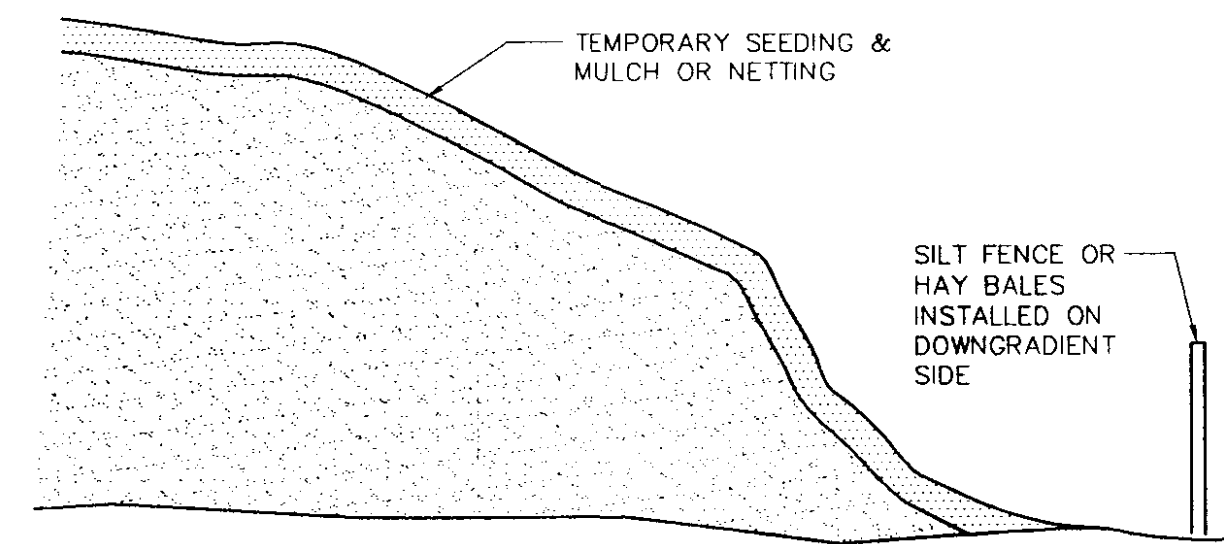
3.05 MAINTENANCE

- A. If the seeding fails to grow, it may need to be re-established to provide adequate erosion control.
- B. If weeds become a problem, they may need to be controlled by mowing.

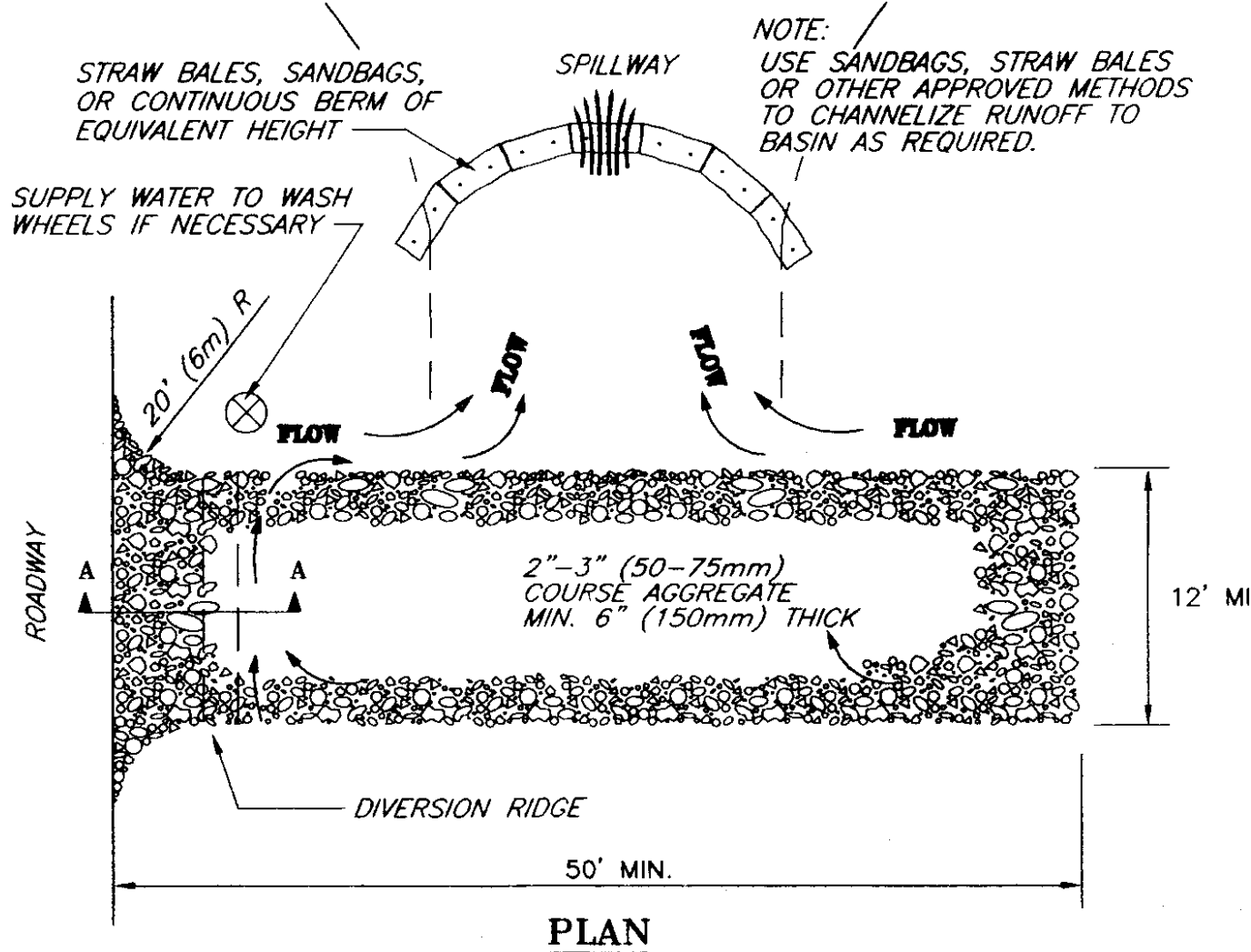
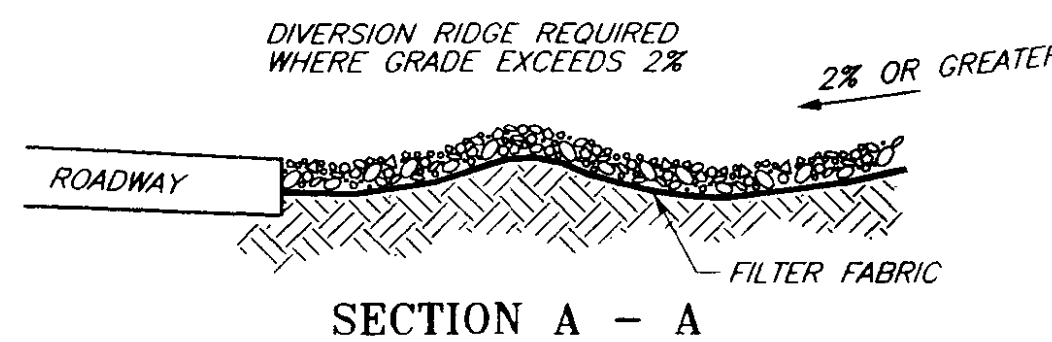
D=50 OF ROCK (MM)	DOWNSTREAM FLOWLINE SLOPE OF STRUCTURE (m/m)
15	0.35
20	0.30
25	0.25
30	0.20
35	0.15
40	0.10
50	0.05
60	0.05
80	0.05
100	0.05



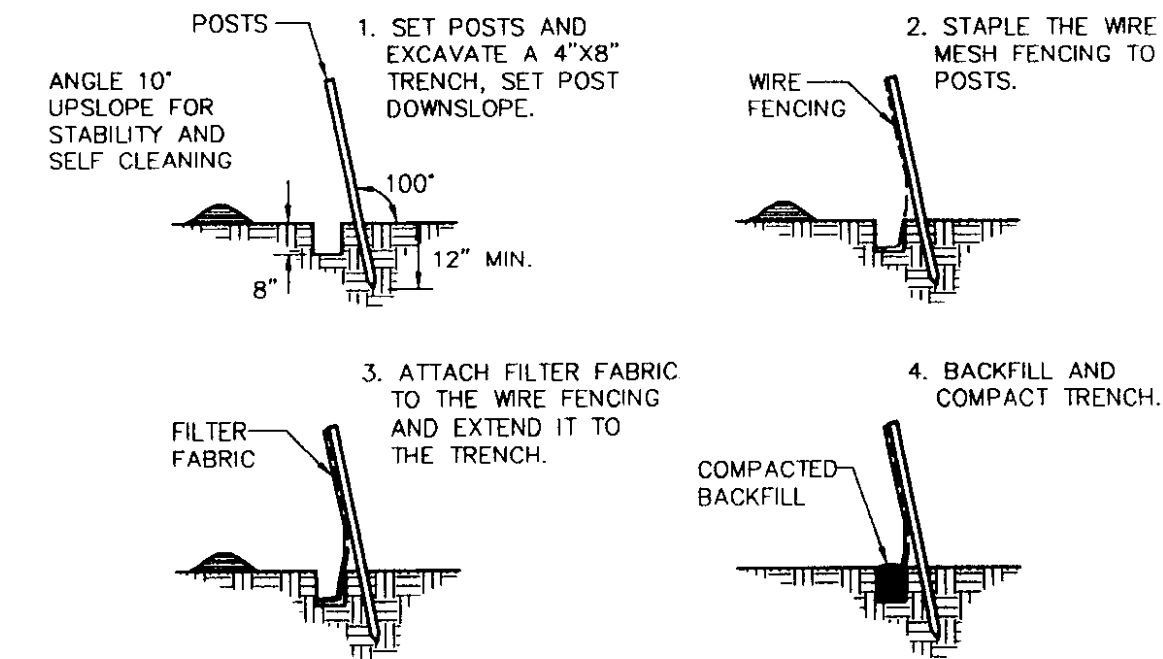
STONE CHECK DAM STRUCTURE
N.T.S.



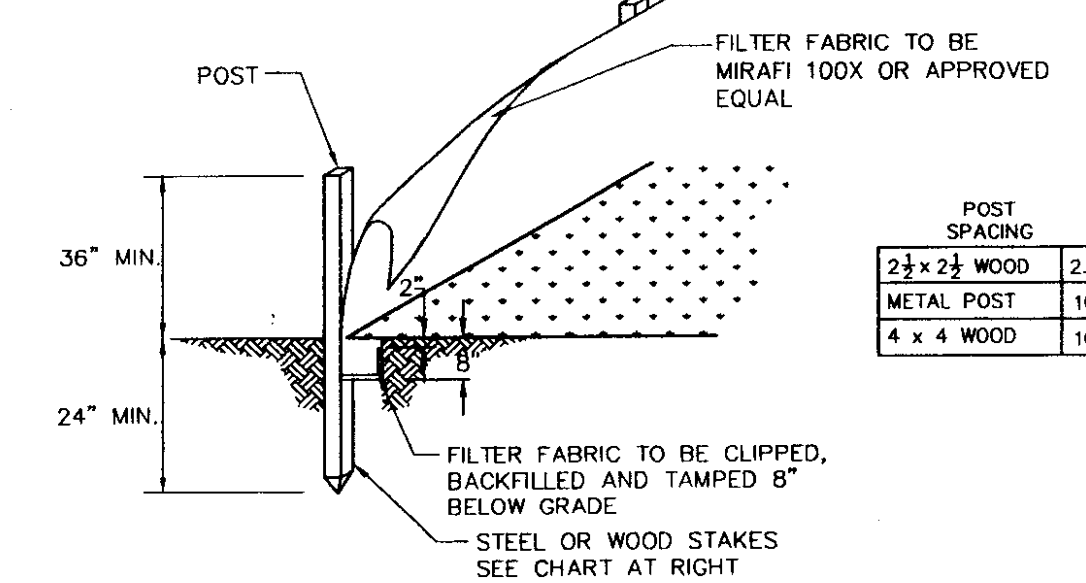
TEMPORARY STOCKPILE DETAIL
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

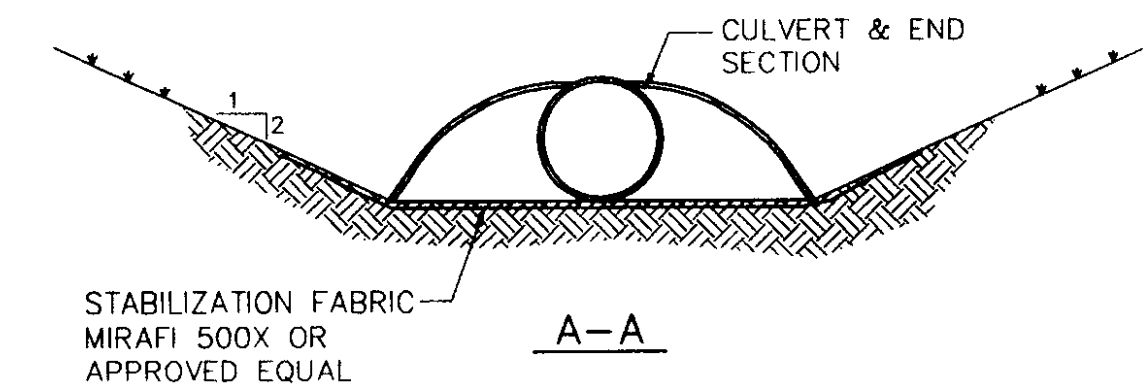


SILT FENCE CONSTRUCTION DETAIL
N.T.S.

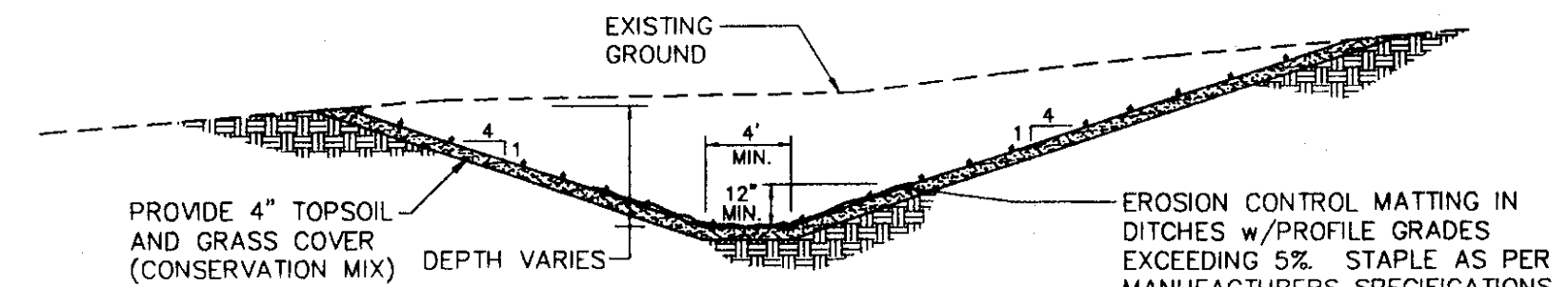


1. INSTALL MIRAFI ENVROFENCE, OR APPROVED EQUAL OR AS DETAILED HEREIN.
2. INSTALL SILT FENCES AT TOES OF ALL UNPROTECTED SLOPES AND AS PARALLEL TO CONTOURS AS POSSIBLE. THIS INCLUDES ALL FILLED OR UNPROTECTED SLOPES CREATED DURING CONSTRUCTION, NOT NECESSARILY REFLECTED ON THE FINAL PLANS. CURVE THE ENDS OF THE FENCE UP INTO THE SLOPE. REMOVE SEDIMENT WHEN ACCUMULATED TO HALF THE HEIGHT OF THE FENCE. SILT FENCES ARE TO BE MAINTAINED UNTIL SLOPES ARE STABILIZED.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.

SILT FENCE DETAIL
N.T.S.



END SECTION DETAIL
N.T.S.



GRASS LINED DITCH
N.T.S.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
P.O. BOX 485 SHELburne, VT 05482
802-985-2323 FAX: 802-985-2271 web: www.coea-vt.com

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DRAWN

PJM

CHECKED

BCE

APPROVED

BCE

OWNER:



STATE OF VERMONT
VERMONT AGENCY OF TRANSPORTATION
MONTPELIER, VERMONT

PROJECT:

CALEDONIA COUNTY STATE AIRPORT

PUDDING HILL ROAD LYNDON, VERMONT

DATE	CHECKED	REVISION
4/6/05	BCE	MINOR TEXT REVISION

EROSION CONTROL NOTES and DETAILS

DATE

SEPT., 2004

SCALE

AS SHOWN

PROJ. NO.

03146.03

DRAWING NUMBER

C3.1

PROJECT COORDINATION

PART 1 - GENERAL

1.01 MEETINGS & PROJECT ACCESS

- A. The Owner shall be notified five (5) days prior to commencement of Work by the Contractor.
B. The Contractor will coordinate with the Owner to arrange an on-site pre-construction meeting prior to commencement of any work.
C. The Contractor will coordinate all phases of the Work, so as not to interfere with the normal work procedures in the area.
D. The Contractor shall conduct his work in such a manner as to not interfere with or endanger work or traffic in areas adjacent to the construction area, except as permitted by the Owner.

1.02 LABOR

- A. The Contractor and subcontractors will employ mechanics skilled in their respective trades.
B. All labor will be performed in a neat and workmanlike manner.

1.03 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for initiating, maintaining, and suppressing all O.S.H.A. safety precautions in connection with the Work.
B. Fire Protection: The Contractor shall take all necessary precautions to prevent fires adjacent to the Work and shall provide adequate facilities for extinguishing fires.
C. Safety Precautions: Prior to commencement of Work, the Contractor shall be familiar with all safety regulations and practices applicable with construction operations.

1.04 CORRECTION OF WORK

- A. The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents. The Contractor shall bear all cost of correcting such rejected Work.

1.05 WEATHER CONDITIONS

- A. No Work shall be done when, in the opinion of the Owner, the weather is unsuitable. No concrete, earth backfill, embankment, or paving shall be placed upon frozen material.
B. Protection Against Water and Storm: The Contractor shall take all precautions to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground.

1.06 DISPOSAL OF DEBRIS

- A. All debris and excess materials, other than that which is authorized to be reused, become the property of the Contractor and shall be promptly removed from the property.
B. Where pipes are to be placed in embankment fill, the excavation shall be made after the embankment has been completed to a height of 3 feet plus the diameter of the pipe above the designed grade of the pipe.

1.07 PROJECT LAYOUT

- A. The Contractor shall be responsible for providing all necessary survey staking.
1. Locate and protect control points before starting work on the site.
2. Preserve permanent reference points during progress of the Work.
3. Establish a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.

UTILITY TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
1. Trench, backfill, and compact as specified herein and as needed for installation of underground utilities located outside the buildings.

1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
C. Comply with all requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

- A. Fill and backfill materials:
1. Provide backfill materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension.
2. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soil free from roots and other deleterious matter.
3. Do not permit rocks having a dimension greater than 2" within 2' of the outside of pipe.
4. Cohesionless material used for backfill: Provide sand free from organic material and other foreign matter, and as approved by the Engineer.

PART 3 - EXECUTION

3.01 PROCEDURES

- A. Existing Utilities:
1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching.
2. When existing underground utilities, which are not scheduled for removal or abandonment, are encountered in the excavation, they shall be adequately supported and protected from damage.
3. If the service is interrupted as a result of work under this section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
4. If existing utilities are found to interfere with the permanent facilities being constructed under this section, immediately notify the Engineer and secure his instructions.
5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.

- B. Protection of persons and property:
1. Barricade open holes and depressions occurring as part of the work, and post warning lights on property adjacent to or with public access.
2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this section.

- C. Dewatering: The Contractor, at all times, shall conduct his operations so as to prevent the accumulation of water, ice, and snow in excavations or in the vicinity of excavated areas, and to prevent water from interfering with the progress of quality of the work.
D. Accumulated water, ice, and snow shall be promptly removed and disposed of by pumping or other approved means.

- E. Maintain access to adjacent areas at all times.

3.02 TRENCHING

- A. Core shall be exercised by the Contractor to avoid disrupting the operation of existing facilities without prior written approval of the Engineer.
B. Provide sheeting and shoring necessary for protection of the work and for the safety of personnel.
1. Sheeting and bracing required for trenches shall be removed to the elevation of the pipe, but no sheeting will be allowed to be pulled, removed, or disturbed below the pipe.
C. A trench shall be excavated to the required depth and to a width sufficient to allow for joining of the pipe and compaction of the bedding and backfill material under and around the pipe.
D. The completed trench bottom shall be firm for its full length and width.
E. If indicated on the plans or directed by the Engineer, poor foundation material encountered below the normal grade of the pipe bed shall be removed and replaced with granular backfill.

- F. Where pipes are to be placed in embankment fill, the excavation shall be made after the embankment has been completed to a height of 3 feet plus the diameter of the pipe above the designed grade of the pipe.

- G. Excavating for appurtenances:
1. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.
2. Over-depth excavation beyond such appurtenances that has not been directed will be considered unauthorized.
H. Excavation shall not interfere with normal 45° bearing splay of foundations.

- I. All trenching shall be in accordance with the latest OSHA requirements.

- J. Where utility runs traverse public property or are subject to governmental or utility company jurisdiction, provide depth, bedding, cover, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.

- K. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

3.03 BEDDING

- A. Pipe Bedding Area: Prior to laying pipe, bedding material shall be placed to the limits of the excavation and to a depth beneath the pipe as specified. This material shall be either sand, gravel, or crushed stone and shall not contain large lumps and stones over one inch in diameter.
B. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

3.04 BACKFILLING

- A. Backfilling shall not be done in freezing weather, with frozen materials, or when materials already placed are frozen.
B. Unless otherwise specified or indicated on the plans, material used for backfilling trenches above the bedding material shall be suitable material which was removed during excavation or obtained from borrow and when compacted shall make a dense stable fill.
C. If additional material is required, it shall be furnished from approved sources.
D. Backfill material shall be evenly spread and compacted in lifts not more than 12 inches thick or as approved by the Engineer.

3.05 BEDDING

- A. This work shall consist of furnishing and placing an approved stabilization fabric on a prepared surface within the limits shown on the plans.
B. Identify known below grade utilities. Stake and flag locations.
C. Maintain and protect existing utilities remaining which pass through work area.
D. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

3.06 EROSION CONTROL

- A. Erosion control must be installed prior to beginning any earthwork operations.

3.07 SITE CLEARING

- A. Clear areas required for access to site and execution of Work.
B. Maintain access to the site at all times.

3.08 REOPEN TRENCHES

- A. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the Engineer.

PART 3 - EXECUTION

3.01 PROCEDURES

- F. Should any of the work be so enclosed or covered up before it has been approved, uncover all such work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.
G. Take special care in backfilling and bedding operations to not damage pipe and pipe coatings.
H. No compacting shall be done when the material is too wet to be compacted properly.
I. Backfill material shall be compacted to the following percentages of maximum dry density and the in-place moisture content shall not be more than 2% above the optimum moisture content, as determined by Standard Proctor ASTM D698.
1. Around all structures, under roadway paving, shoulder and embankments - 95%.
2. All other areas - 90%.

SITE EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
1. All excavation (unless covered in other sections of these specifications), removal and stockpile of topsoil, stabilization fabric, and other miscellaneous and appurtenant works.
2. Site filling.
3. Roadway structural sections.

1.02 PROTECTION

- A. Protect bench marks and existing structures.
B. Protect above or below grade utilities which are to remain.

1.03 SUBMITTALS

- A. Testing laboratory reports indicating that material for backfill meets requirements of this Section.
B. Field density test reports of site fill in place.
C. Field density test reports for roadway structural sections in place.
D. Stabilization Fabric: Submit copies of manufacturer's specifications and installation instructions.

PART 2 - PRODUCTS

2.01 CRUSHED GRAVEL (AOT SPEC. 704.05A, FINE)

- A. All materials shall be secured from approved sources. This gravel shall consist of angular and round fragments of hard durable rock of uniform quality throughout, reasonably free from thin elongated pieces, soft or disintegrated stone, dirt, organic or other objectionable matter.
B. Any excavated rock, ledge, boulders, and stone, except where required in the construction of other items or otherwise directed, shall be used in the construction of embankments to the extent of the project requirements and generally shall be placed so as to form the base of an embankment.
C. Frozen material shall not be used in the construction of embankments, nor shall embankments or successive layers of the embankments be placed upon frozen material.

Table with 2 columns: Sieve Designation, Percent by Weight Passing Square Mesh Sieve. Rows include 2", 1 1/2", No. 4, No. 100, No. 200.

2.02 GRAVEL FOR SUBBASE (AOT SPEC. 704.04A)

- A. This material shall meet the following grading requirements:
Table with 2 columns: Sieve Designation, Percent by Weight Passing Square Mesh Sieve. Rows include No. 4, No. 100, No. 200.

2.03 COMPACTED FILL/GRANULAR BORROW

- A. This material shall be free of shale, clay, friable material, debris, and organic matter, graded in accordance with ANSI/ASTM D1356 within the following limits:
Table with 2 columns: Sieve Designation, Percent by Weight Passing Square Mesh Sieve. Rows include 6", 3/4", No. 4, No. 100, No. 200.

2.04 GEOTECHNICAL - STABILIZATION FABRIC

- A. This work shall consist of furnishing and placing an approved stabilization fabric on a prepared surface within the limits shown on the plans.
1. Grab tensile strength (ASTM D-1682) - 300 lbs.
2. Grab tensile elongation (ASTM D-1682) - 35 %.
3. Burst strength (ASTM D-751) - 600 psi.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Identify required lines, levels, contours, and datum.
B. Identify known below grade utilities. Stake and flag locations.
C. Maintain and protect existing utilities remaining which pass through work area.
D. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

3.02 EROSION CONTROL

- A. Erosion control must be installed prior to beginning any earthwork operations.

3.03 SITE CLEARING

- A. Clear areas required for access to site and execution of Work.
B. Maintain access to the site at all times.

3.04 REOPEN TRENCHES

- A. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the Engineer.

BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
1. Base Courses
2. Leveling Courses
3. Finish Course
B. General: This work shall consist of one or more courses of bituminous mixture, constructed on a prepared foundation in accordance with these Specifications and the type of surface being placed, and in conformity with the lines, grades, thicknesses and typical cross sections shown on the plans or established by the Engineer.

1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. All materials and installation shall be in accordance with The Asphalt Institute Manual (MS-4) and the VAOT Standard Specifications, 2001.
C. Mixing Plant: Conform to State of Vermont Standards.
D. Obtain materials from same source throughout.

1.03 PROJECT CONDITIONS

- A. Bituminous concrete shall not be placed between November 1 and May 1.
B. Material shall not be placed when the granular subbase is wet or when the air temperature at the paving site in the shade and away from artificial heat is as follows:
Table with 2 columns: Air Temperature Degrees Fahrenheit, Pavement Compacted Depth. Rows include 40 Degrees or below, 50 Degrees or below, 50 Degrees or below.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials shall be combined and graded to meet the criteria as defined in the VAOT Standard Specifications, Division 700 for bituminous concrete.
B. Gradation: Materials shall be combined and graded to meet composition limits specified in VAOT Standard Specification, Section 406.03, for the base course and finish course.
C. Thickness of paving for drives and parking lots shall be as shown on the plans, consisting of base course and finish course.
D. For pavement reconstruction areas due to trenching, the depth of each course shall be increased by 1/2".

2.02 TRAFFIC MARKINGS

- A. Traffic marking paint to be factory-mixed, meeting the requirements of the VAOT Standard Specifications, Section 708.08.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in accordance with VAOT Standard Specifications, Section 406.

3.02 EXAMINATION

- A. Verify that compacted granular base is dry and ready to support paving and imposed loads.
B. Verify gradients and elevations of base are correct.

3.03 PREPARATION

- A. Matching Surfaces: When a new pavement is to match an existing bituminous pavement for a roadway or trench, the Contractor shall vertically smooth cut the existing pavement, over the existing gravel base.
B. Verify that compacted granular base is dry and ready to support paving and imposed loads.
C. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

3.04 PREPARATION - TACK COAT

- A. When the bottom course of bituminous concrete pavement is left over the winter, or paving is to be made over an existing bituminous concrete pavement, the existing surface shall be cleaned and Emulsified Asphalt applied before the next course is installed.
B. Also apply to contact surfaces of curbs.
C. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

3.05 PLACING ASPHALT PAVEMENT

- A. Place to compacted thickness identified on the plans.
B. Compact pavement by rolling. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
C. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.06 JOINTS

- A. Joints between old and new pavements or between successive day's work shall be made so as to insure a thorough and continuous bond between the old and new mixtures.
B. Butt joints shall be formed by cutting the pavement in a vertical plane at right angles to the centerline where the pavement has a true surface as determined by the use of a straight-edge. The butt joint shall be thoroughly coated with Emulsified Asphalt, Type RS-1, just prior to depositing the paving mixtures.

- C. Longitudinal joints that have become cold shall be coated with Emulsified Asphalt, Type RS-1, before the adjacent mat is placed. If they have been exposed to traffic, they shall be cut back to a clean vertical edge prior to painting with the emulsion.
D. Unless otherwise directed, longitudinal joints shall be offset at least 6" from any joint in the lower courses of pavement. Transverse joints shall not be constructed nearer than one foot from the transverse joints constructed in lower courses.

3.07 TOLERANCES

- A. The surface will be tested by the Engineer using a 16 foot straight-edge at selected locations parallel with the centerline. Any variations exceeding 3/16 of an inch between any two contacts shall be satisfactorily eliminated. A 10 foot straight-edge may be used on a vertical curve. The straight-edges shall be provided by the Contractor.
B. Scheduled Compacted Thickness: Within 1/4 inch.
C. Variation from True Elevation: Within 1/2 inch.

3.08 FIELD QUALITY CONTROL

- A. Permit no vehicular traffic on surfaces until thoroughly cool and hard.

3.09 REPAIR OF SUBSIDENCE

- A. Settlement - Should any pavement settle within one year of completion of the Contract, such pavement shall be repaired at the Contractor's expense. If the Contractor fails to make such repairs promptly upon receipt of notice to do so from the Owner, then the Owner may make such repairs as necessary and the Contractor shall pay the Owner for all costs incurred in making such repairs.

3.10 MARKING PAVEMENT FOR PARKING

- A. Striping - Thoroughly clean the areas to receive striping and locate all striping as indicated on the Contract Plans. All striping shall be 4" wide unless otherwise noted.
B. Miscellaneous - Provide handicapped symbols and all other miscellaneous signs and symbols as indicated on the Contract Plans.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
P.O. BOX 485 SHELburne, VT 05482
802-985-2223 FAX: 802-985-2271 web: www.ces-vc.com

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Table with 2 columns: DRAWN, CHECKED, APPROVED, BCE. Rows include PJM, BCE, BCE.

OWNER:



STATE OF VERMONT
VERMONT AGENCY OF TRANSPORTATION
MONTPELIER, VERMONT

PROJECT:

CALEDONIA COUNTY STATE AIRPORT
PUDDING HILL ROAD LYNDON, VERMONT

Table with 3 columns: DATE, CHECKED, REVISION. Row 1: 4/6/05, BCE, MINOR TEXT REVISION.

SPECIFICATIONS

DATE: JAN., 2005
SCALE: NONE
PROJ. NO. 03146.01
DRAWING NUMBER: C4.0

STRUCTURAL EARTHWORK

1. PRIOR TO PLACING STRUCTURAL FILL ALL ORGANIC MATERIAL, TOPSOIL, DEBRIS AND ANY OTHER DELETERIOUS MATERIAL SHALL BE REMOVED.
2. STRUCTURAL FILL SHALL BE AN APPROVED, WELL GRADED BANK RUN, SCREENED OR CRUSHED GRAVEL MEETING THE FOLLOWING REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
2"	100
No. 4	40-70
No. 100	5-20
No. 200	2-8 (MAXIMUM 5% FOR FROST FREE MATERIAL)

3. THE MATERIAL SHALL BE PLACED IN MAXIMUM 8" LIFTS AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698, STANDARD PROCTOR.
4. THE OWNER MAY TAKE DENSITY TESTS ON THE COMPACTED FILL. IF THE MATERIAL TESTS LESS THAN 95%, CORRECTIVE ACTION AND ADDITIONAL TESTING WILL BE REQUIRED. THE ADDITIONAL TESTING AND CORRECTIVE ACTION WILL BE PAID FOR BY THE CONTRACTOR.
5. SAND SHALL BE MATERIAL FREE FROM SILT, LOAM, CLAY OR ORGANIC MATTER. IT SHALL BE OBTAINED FROM APPROVED SOURCES AND MEET THE REQUIREMENTS OF THE FOLLOWING TABLE:

SIEVE DESIGNATION	% PASSING
3/8"	100
No. 4	80-95
No. 10	50-90
No. 40	20-50
No. 100	5-20
No. 200	2-10

7. SAND SHALL BE PLACED IN 6-INCH LAYERS AND COMPACTED TO 95% ASTM D698, STANDARD PROCTOR.
8. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A SIEVE ANALYSIS AND A LABORATORY MOISTURE-DENSITY CURVE FOR THE PROPOSED STRUCTURAL FILL AND THE SAND. THE TESTS SHALL BE CONDUCTED, AT THE CONTRACTOR'S EXPENSE, BY A TESTING FIRM APPROVED BY THE ENGINEER. ADDITIONAL SAMPLES SHALL BE TESTED UNTIL A MATERIAL MEETING THE ABOVE REQUIREMENTS IS PROVIDED.

WOOD TRUSS NOTES

1. ALL WOOD TRUSSES SHALL COMPLY WITH THE FOLLOWING CODES AND REGULATIONS:
 - A. TIMBER CONSTRUCTION MANUAL - AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
 - B. NATIONAL DESIGN SPECIFICATION FOR STRESS-GRADE LUMBER AND ITS FASTENINGS - NATIONAL FOREST PRODUCTS ASSOCIATION
 - C. DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES - TRUSS PLATE INSTITUTE.
2. LUMBER FOR WOOD TRUSSES SHALL BE KILN DRIED MACHINE STRESS RATED LUMBER WITH A STRESS RATING ADEQUATE FOR THE TRUSS DESIGN.
3. ALL LUMBER SHALL BE STRAIGHT AND NEW, IN SOUND CONDITION, KILN DRIED WITH A MAXIMUM MOISTURE CONTENT OF 16%. ALL DIMENSION LUMBER SHALL BEAR THE GRADE AND MARK OF THE ASSOCIATION UNDER WHOSE RULES IT IS PRODUCED, AND A MARK OF MILL IDENTIFICATION.
4. GUSSET PLATES AT ALL JOINTS SHALL BE SIZED BY THE TRUSS MANUFACTURER FOR 125% OF THE AXIAL LOADS.
5. THE MINIMUM NOMINAL SIZE FOR WOOD MEMBERS OF TRUSSES SHALL BE 2x4.
6. FOR 2x6 CHORDS SPACE TOP CHORD PANEL POINTS AT 5 FEET TO 7 FEET ON CENTER AND BOTTOM CHORD LESS THAN 8 FEET ON CENTER.

SHOW LATERAL BRACING FOR ALL WEB MEMBERS EXCEEDING 6 FEET LENGTH FOR COMPRESSION AND 10 FEET LENGTH FOR TENSION MEMBERS.

BRACING SHALL BE 2x4 MINIMUM SIZE AND SHALL BE NAILED TO ALL CROSSING TRUSSES WITH 2-16D COMMON. BRACING SHALL BE OVERLAPPED ONE TRUSS SPACING MINIMUM AT SPLICES.

BOTTOM CHORD BRACING SHALL BE USED IF CEILING IS NOT NAILED TO TRUSS BOTTOM CHORD. SHOW BOTTOM CHORD LATERAL BRACES ON TRUSS SKETCH AT ALL BOTTOM CHORD PANEL POINTS (MAXIMUM 10 FEET ON CENTER).

IN ADDITION TO TRUSS MANUFACTURER'S BRACING, THE CONTRACTOR SHALL INSTALL THREE CONTINUOUS ROWS OF 2X4 X-BRACING NEAR THE

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL COMPLY WITH THE LATEST RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE LOCAL BUILDING CODES.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF **4000 PSI** AT 28 DAYS, WITH THE FOLLOWING REQUIREMENTS:

PORTLAND CEMENT	-	ASTM C150, TYPE OR II, 6 SACKS/CY
AGGREGATE	-	ASTM C33, MAXIMUM SIZE 1 1/2"
WATER	-	POTABLE; MAXIMUM WATER/CEMENT RATIO = 0.49
SLUMP	-	2" TO 4"
ADMIXTURES	-	AIR ENTRAINING AGENT, ASTM C200 - 4-6% AIR
	-	HIGH RANGE WATER REDUCING AGENT CONFORMING TO ASTM C494
	-	SUBMIT A CURRENT DESIGN MIX WITH 28-DAY STRENGTH TESTS TO THE ENGINEER FOR APPROVAL.
3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
4. LAP ALL BARS MINIMUM 40 DIAMETERS AT SPLICES UNLESS INDICATED OTHERWISE ON DRAWINGS.
5. REINFORCEMENT SHALL BE SECURELY TIED IN PLACE DURING POURING OPERATIONS USING APPROVED CHAIRS AND SPACERS AS REQUIRED. USE BOLSTERS AND HIGH CHAIRS TO HOLD SLAB REINFORCING IN PLACE; THE USE OF CONCRETE BRICKS SHALL NOT BE ALLOWED.
6. FREE FALL FROM MIXER OR TRUCK TO CONVEYANCE SHALL NOT EXCEED 3'. WHEN PLACING CONCRETE IN FINAL POSITION, THE FREE FALL SHALL NOT EXCEED 4'. THE HORIZONTAL DISTRIBUTION OF CONCRETE BY SPADING OR VIBRATION IS PROHIBITED.
7. PROPER VIBRATION OF CONCRETE IS VERY IMPORTANT IN THE PLACEMENT OF CONCRETE. THE CONCRETE CONTRACTOR SHALL MAKE PROVISION FOR BACK-UP VIBRATION EQUIPMENT.
8. SLABS SHALL RECEIVE A STEEL TROWEL FINISH.
9. CURING: SLABS - CURE WITH WATER AND BURLAP FOR MINIMUM 7 DAYS.

CENTERLINE OF THE TRUSSES TO PREVENT LATERAL MOVEMENT OF TRUSSES.

THE TOP CHORDS OF THE LOWER TRUSSES OF "PIGGY BACK" DESIGNED TRUSSES SHALL BE BRACED TO PREVENT LATERAL DEFLECTION. INSTALL CONTINUOUS 2X4 BRACING AT 4 FEET ON CENTER, WITH 2X4 DIAGONAL BRACES AT EACH END.

7. SUBMIT 6 COPIES OF SHOP DRAWINGS, INCLUDING TEMPORARY AND PERMANENT BRACING, TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER, LICENSED TO PRACTICE STRUCTURAL ENGINEERING IN THE STATE OF VERMONT.
8. TEMPORARY BRACING DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH BRACING WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS (TRUSS PLATE INSTITUTE, INC. 1976).
9. PREFABRICATED WOOD TRUSSES SHALL BE FABRICATED IN AN ENCLOSED STRUCTURE UNDER CONTROLLED CONDITIONS BY AN EXPERIENCED FABRICATOR. THE TRUSS FABRICATOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND HAVE APPROVAL OF HIS SHOP DRAWING PRIOR TO COMMENCING FABRICATION. NO TRUSSES SHALL BE ERECTED UNTIL AN APPROVED ERECTION PROCEDURE AND TEMPORARY BRACING PLAN ARE AVAILABLE.

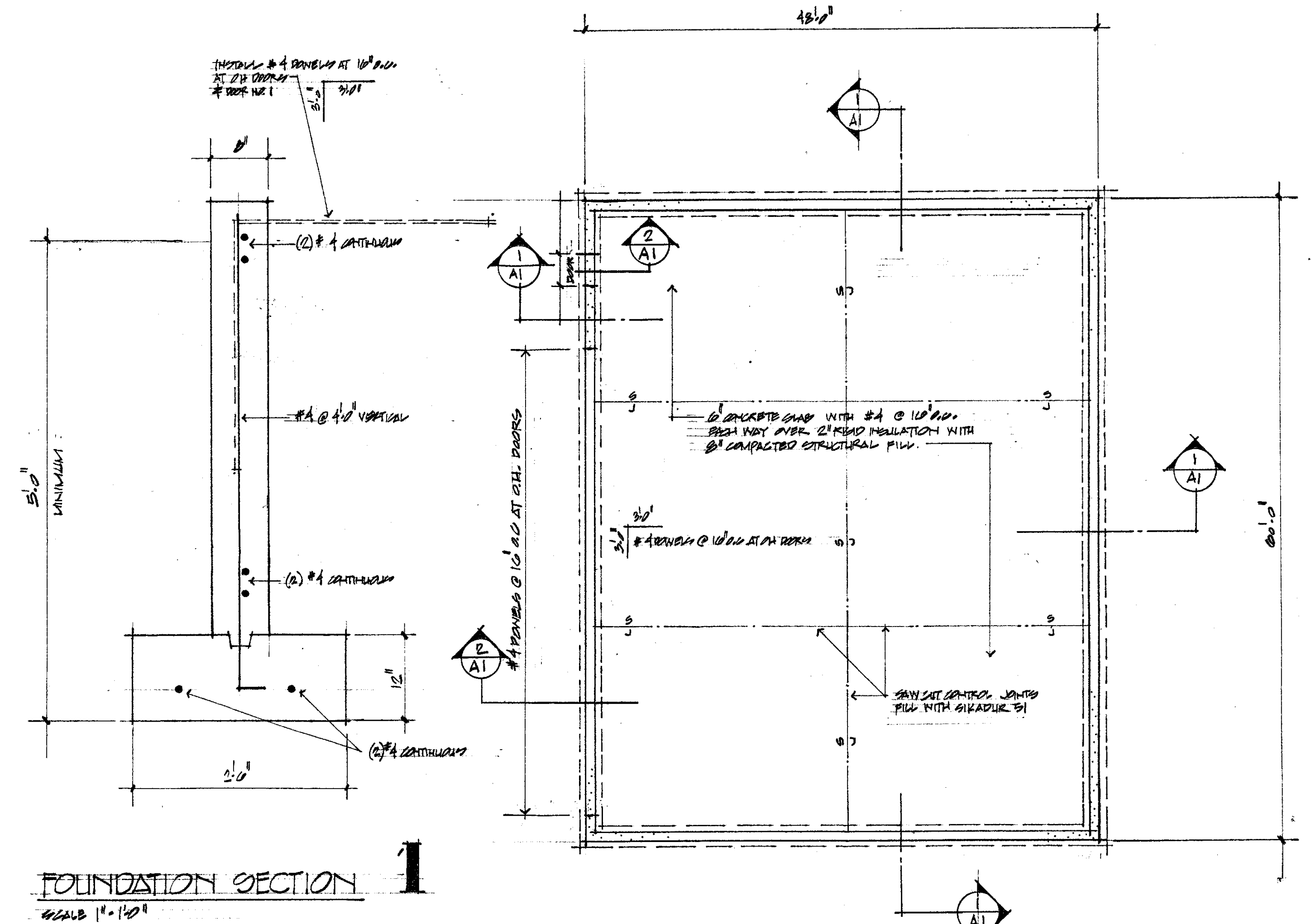
DESIGN LOADS:

TOP CHORD LIVE LOAD	=	60	PSF
TOP CHORD DEAD LOAD	=	10	PSF
BOTTOM CHORD LIVE LOAD	=	10	PSF
BOTTOM CHORD DEAD LOAD	=	10	PSF*
TOTAL LOAD	=	80	PSF

* IN ADDITION TRUSS BOTTOM CHORDS ONLY SHALL BE ADEQUATE TO CARRY A 200 LB CONCENTRATED LOAD PLACED ANYWHERE. LOAD DURATION FACTOR MAY BE INCREASED TO 1.50 WHEN THIS LOAD IS APPLIED.

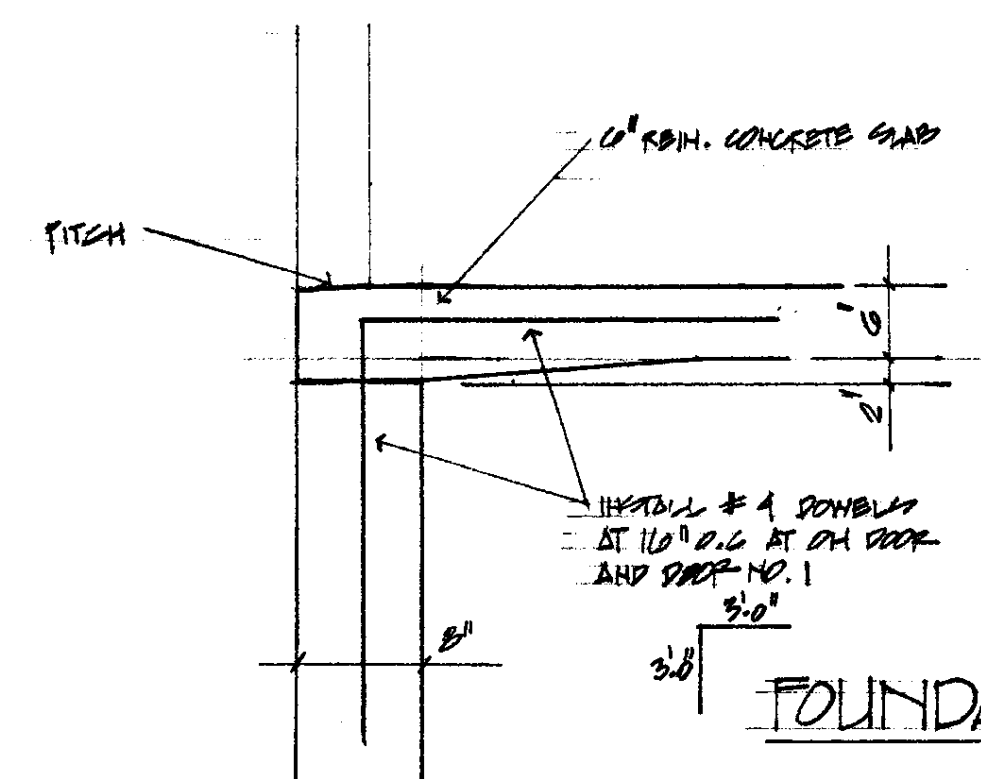
DEFLECTION REQUIREMENTS

TYPICAL TRUSSES - TOTAL LOAD DEFLECTION ≤ L/240
- LIVE LOAD DEFLECTION ≤ L/360



FOUNDATION SECTION 1

SCALE 1" = 1'-0"



FOUNDATION SECTION

WOOD CONSTRUCTION NOTES

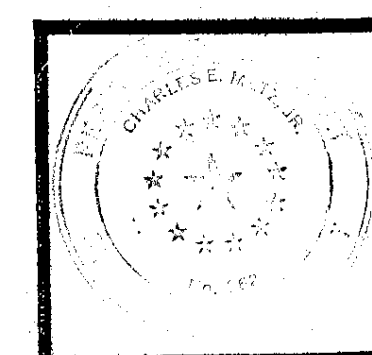
1. LUMBER FOR MISCELLANEOUS WOOD FRAMING AND BLOCKING SHALL BE SPRUCE-PINE-FIR, CONSTRUCTION GRADE AND BETTER WITH A MINIMUM BENDING STRESS OF 775 PSI.
2. LUMBER FOR STUDS AND JOISTS SHALL BE SPRUCE-PINE-FIR, NO. 2 OR BETTER GRADE WITH A MINIMUM BENDING STRESS OF 1000 PSI. ALL LUMBER IN CONTACT WITH EXISTING CONCRETE SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE.
3. ALL LUMBER SHALL BE STRAIGHT AND NEW, IN SOUND CONDITION, KILN DRIED WITH A MAXIMUM MOISTURE CONTENT OF 19%. ALL DIMENSION LUMBER SHALL BEAR THE GRADE AND MARK OF THE ASSOCIATION UNDER WHOSE RULES IT IS PRODUCED AND A MARK OF MILL IDENTIFICATION.
4. PLYWOOD SHEATHING SHALL BE STANDARD C-D INT-EPPA WITH EXTERIOR GLUE.
5. ALL WOOD FRAMING CONSTRUCTION SHALL BE ERECTED TRUE TO LINE AND DIMENSIONS, WELL FASTENED AND PROPERLY BRACED.

FOUNDATION PLAN

SCALE 1/8" = 1'-0"

NOTES

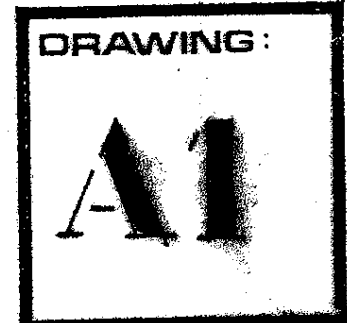
1. INSTALL 4 MIL HIGH DENSITY VAPOR BARRIER AT BRACING/FOUNDATION AREA ONLY

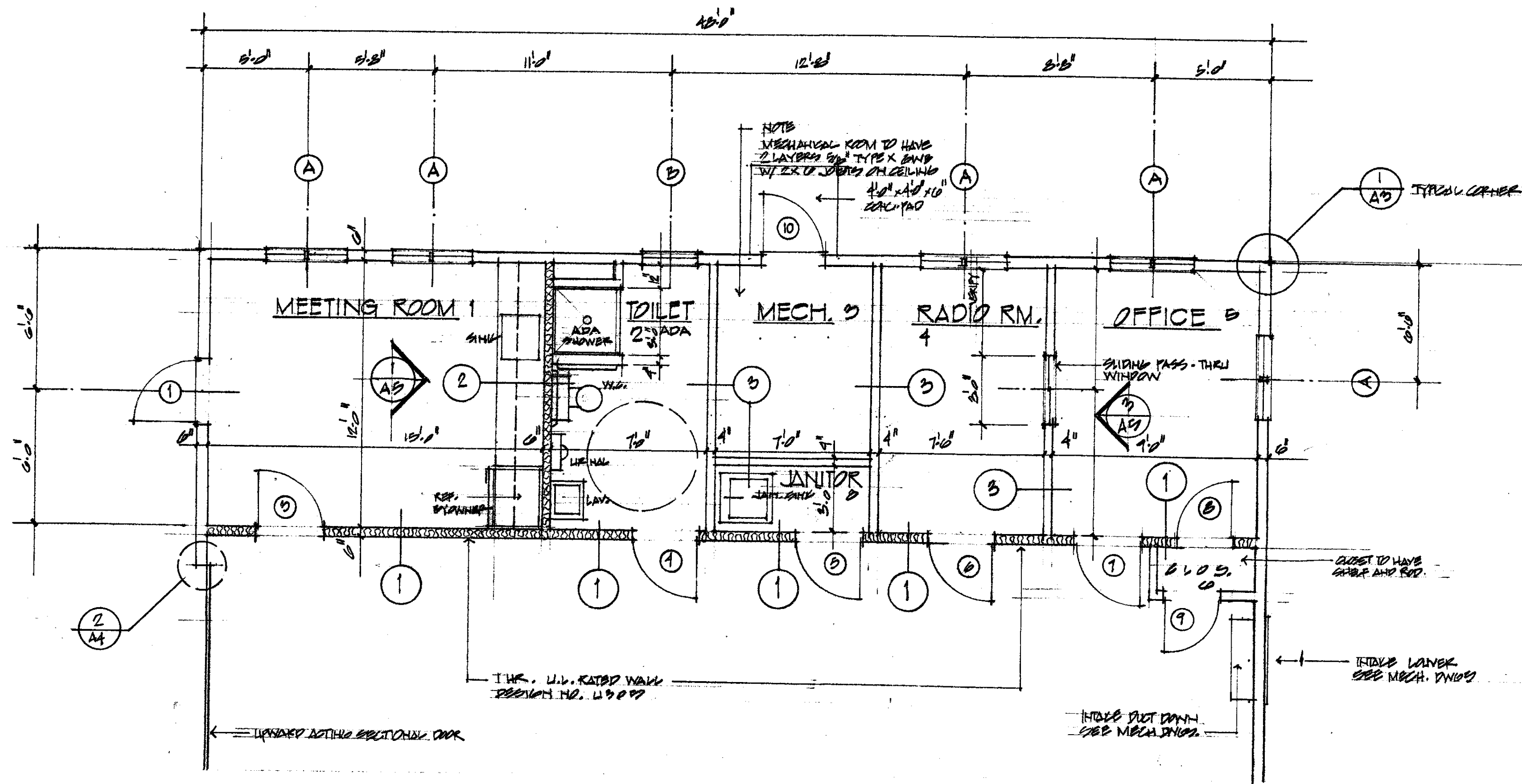


PROJECT:
NEW HANGAR FOR
CIVIL AIR PATROL
TITLE: CALDWELL COUNTY STATE AIRPORT, MIDDLEBURY, VT
**FOUNDATION PLAN
DETAILS**

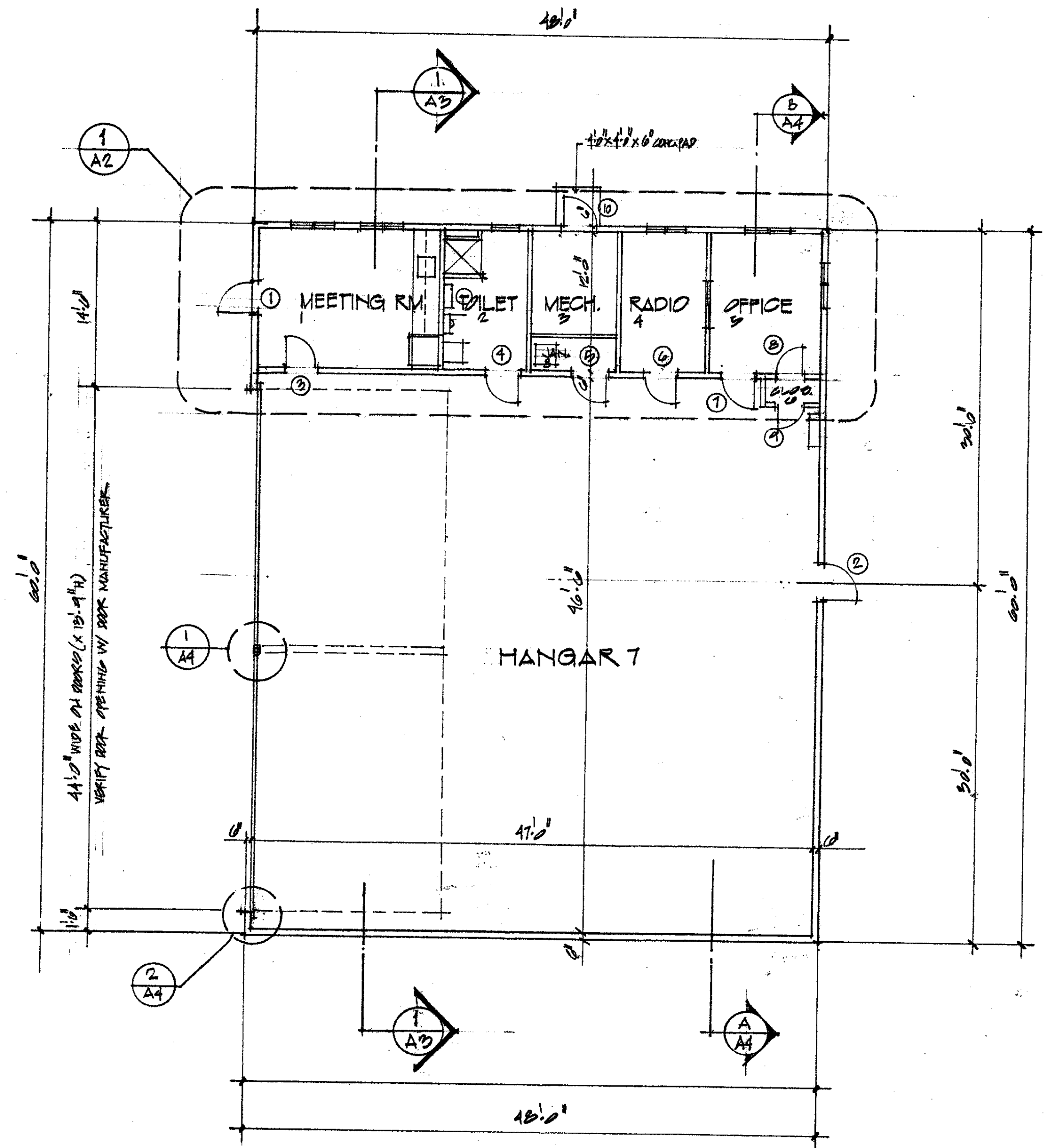
APRIL 2007

**CHARLES E. METZ
ARCHITECT
THE GRIST MILL
BRADFORD VT 05033**

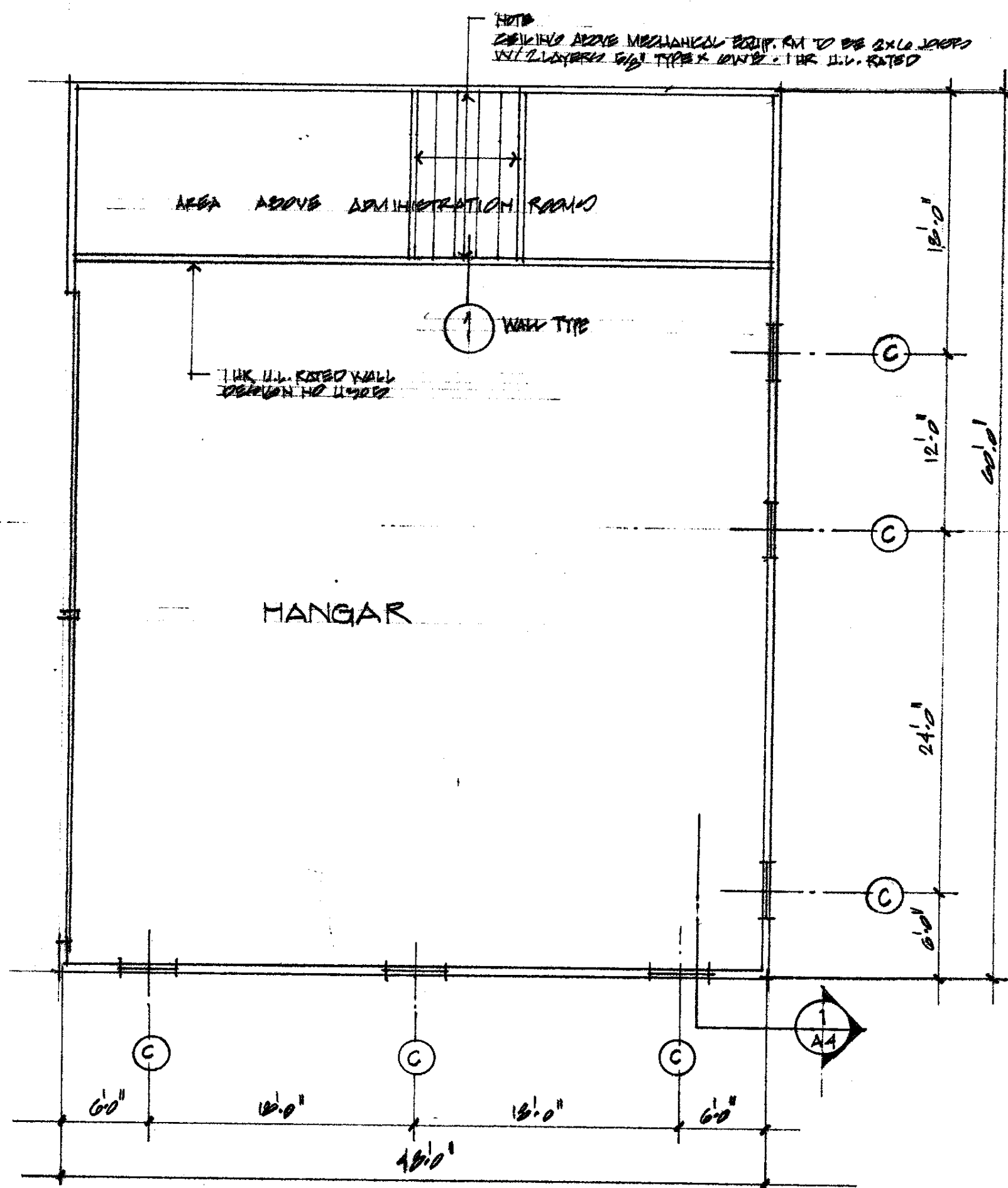




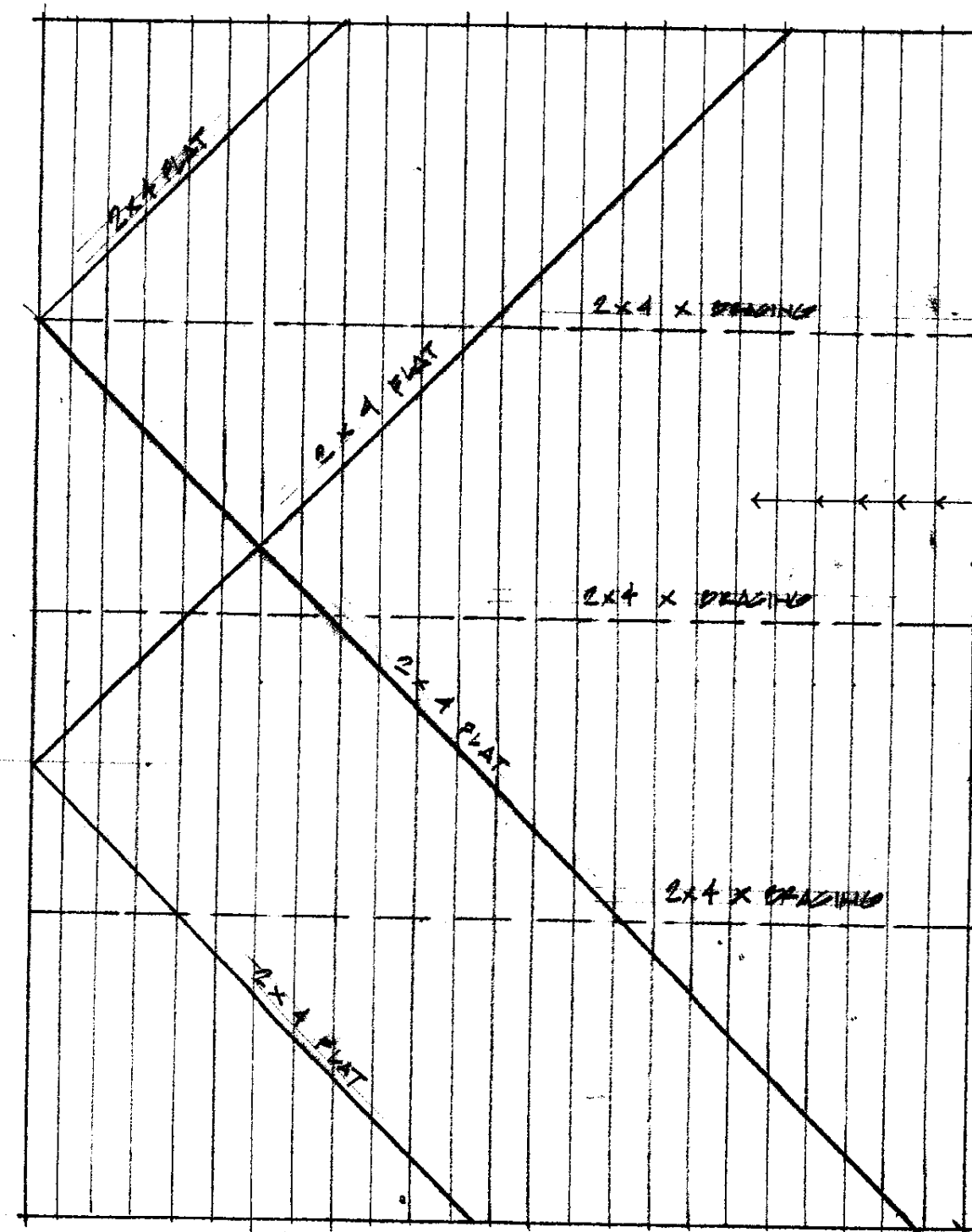
PARTIAL FLOOR PLAN - ADMINISTRATION AREA SCALE 1/4" = 1'-0"



GROUND FLOOR PLAN SCALE 1/8" = 1'-0"

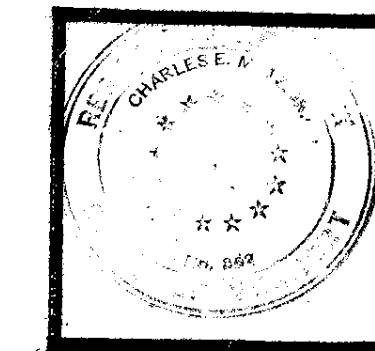


PLAN - UPPER LEVEL OF HANGAR SCALE 1/8" = 1'-0"



- NOTES
- 2x4s PLATE ARE NAILED TO TOP OF TRUSS BOTTOM CHORD WITH (2) 10d NAILS.
 - 2x4s X BRACING ARE NAILED TO TRUSS WEB MEMBERS.
 - ATTACH ALL BRACING TO EXTERIOR WALLS WITH 2x4 CLIPS AND 10d NAILS.

TRUSS WIND BRACING PLAN

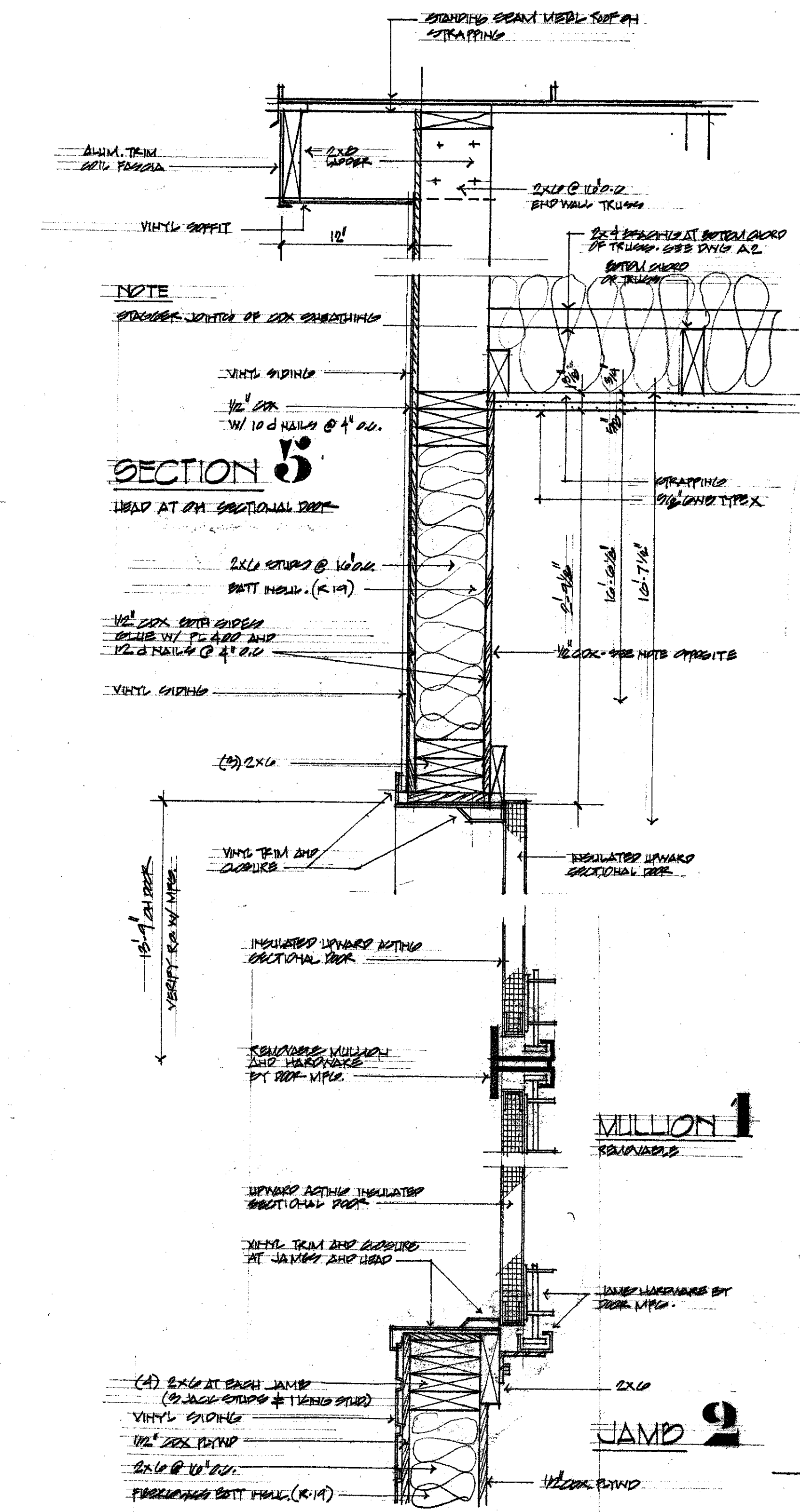
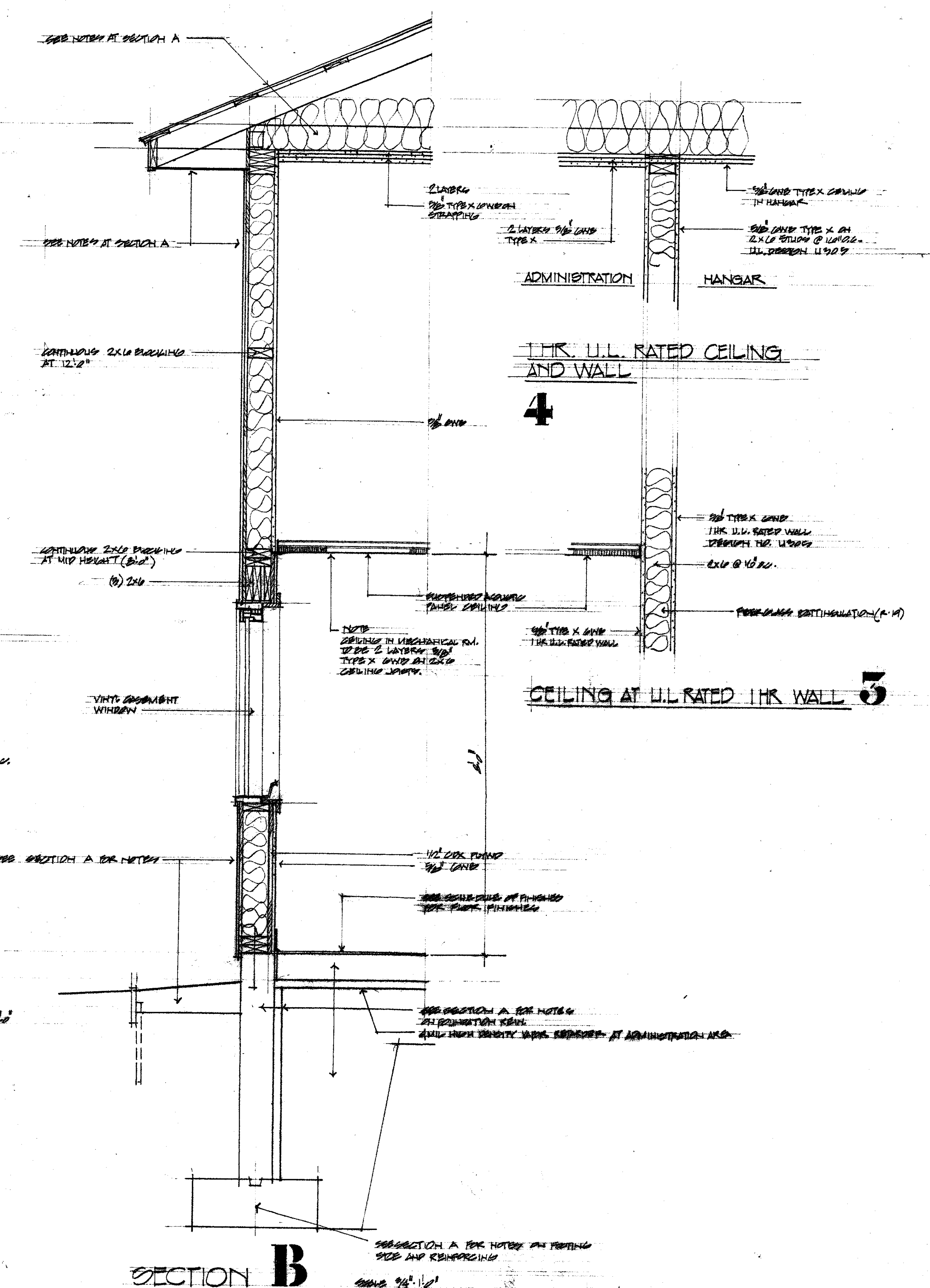
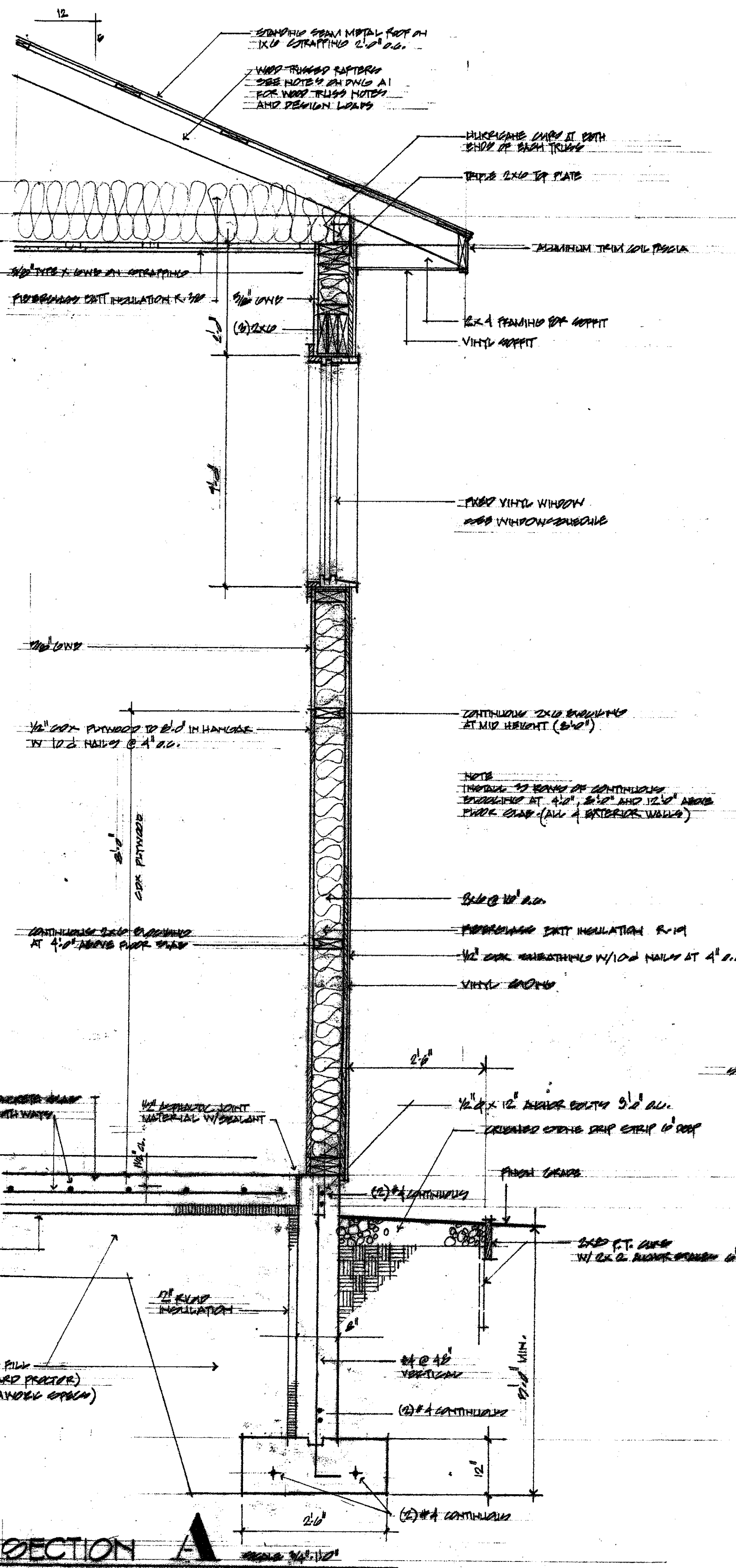


PROJECT:
NEW HANGAR FOR
CIVIL AIR PATROL
TITLE: CALDWELL COUNTY STATE ARK. DIST. LINCOLN, VT.
FLOOR PLANS

APRIL 2007

CHARLES E. METZ
ARCHITECT
THE GRIST MILL
BRADFORD VT 05033

DRAWING:
A2



PROJECT:
NEW HANGAR FOR
CIVIL AIR PATROL
TITLE: GARDNER COUNTY SEATTLE AVIATION CENTER
SECTION A AND B
DETAILS

APRIL 2009

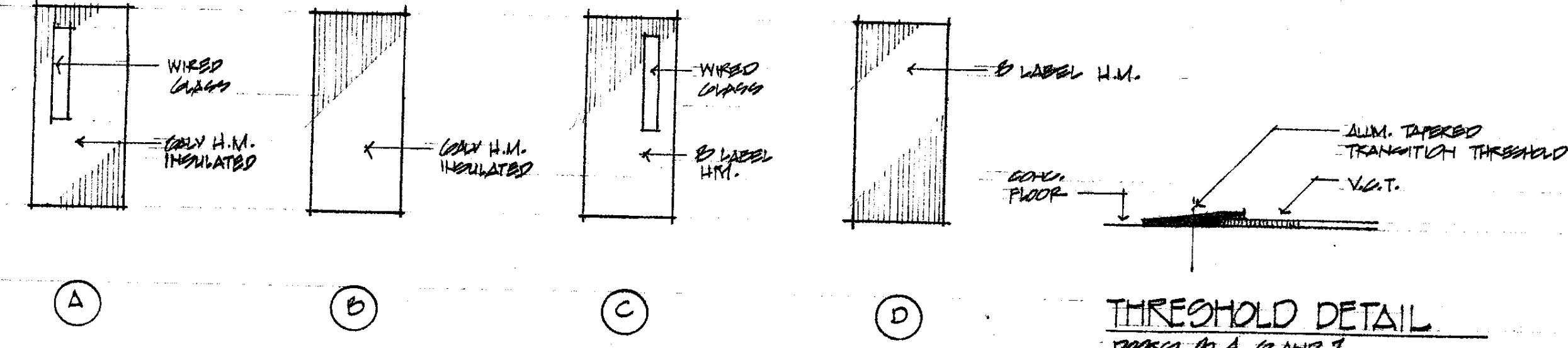
CHARLES E. METZ
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THE GRIST MILL
BRADFORD VT 05033

DRAWING:
A4

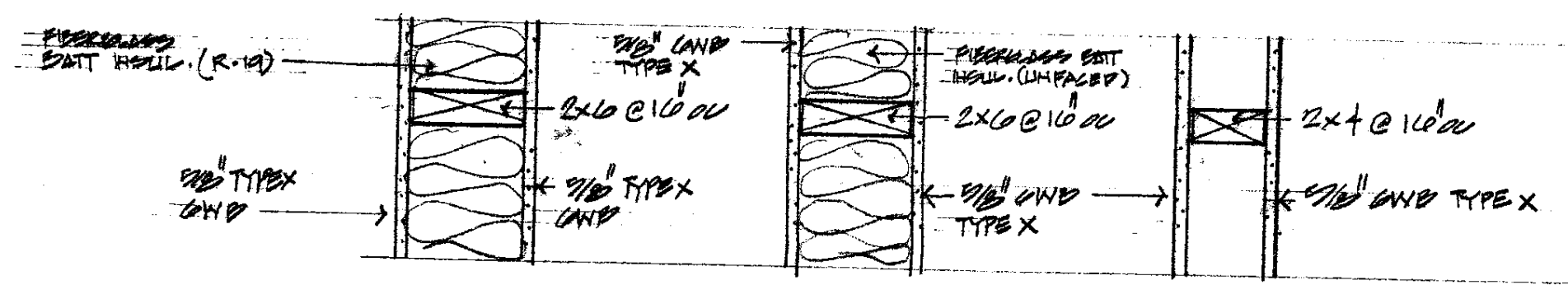
DOOR AND FRAME SCHEDULE														
DOOR NO.	DOOR DESCRIPTION				FRAME		DETAILS			GLASS TYPE	LVL LABEL	H.W. SET	REMARKS	
	SYMB.	MATERIAL	WIDTH	HEIGHT	SYMB.	MAT'L.	THRESHLD.	HEAD	JAMB					SILL
1	A	GLASS H.M.	3'-0"	6'-8"	1	GLASS H.M.	ALUM.	2	2	-	WIRE	-	1	DOOR TO BE INSULATED. THRESHOLD TO HAVE THERM. BREAK
2	B	GLASS H.M.	3'-0"	6'-8"	1	GLASS H.M.	ALUM.	2	2	-	-	-	1	DOOR TO BE INSULATED. THRESHOLD TO HAVE THERM. BREAK
3	C	H.M. / GLASS	3'-2"	6'-3"	1	H.M.	ALUM.	2	2	-	WIRE	B LABEL	3	
4	D	H.M.	3'-0"	6'-8"	1	H.M.	ALUM.	2	2	-	-	B LABEL	4	
5	D	H.M.	3'-0"	6'-8"	1	H.M.	-	2	2	-	-	B LABEL	5	
6	C	H.M. / GLASS	3'-0"	6'-8"	1	H.M.	ALUM.	2	2	-	WIRE	B LABEL	3	
7	C	H.M. / GLASS	3'-0"	6'-8"	1	H.M.	ALUM.	2	2	-	WIRE	B LABEL	3	
8	D	H.M.	3'-0"	6'-8"	1	H.M.	-	2	2	-	-	B LABEL	3	
9	D	H.M.	3'-0"	6'-8"	1	H.M.	-	2	2	-	-	B LABEL	3	
10	B	GLASS H.M.	3'-0"	6'-8"	1	GLASS H.M.	ALUM.	2	2	-	-	-	1	DOOR TO BE INSULATED. THRESHOLD TO HAVE THERM. BREAK

SCHEDULE OF INTERIOR FINISHES									
NO.	ROOM	FLOOR	BASE	W A L L S				CEILING	NOTATION
				FOURTH	SOUTH	EAST	WEST		
1	MEETING ROOM	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	ACOUS. PANELS	
2	TOILET ROOM	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	ACOUS. PANELS	
3	MECHANICAL	CONC.	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	CEILING TO HAVE 2 LAYERS OF 2" TYPE X GNB AT 6'-0" ON 2x4 CEILING JOISTS.
4	RADIO ROOM	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	ACOUS. PANELS	
5	OFFICE	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	ACOUS. PANELS	
6	CLOSET	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	
7	HANGAR	CONC.	-	2" TYPE X GNB * 1/2" CON. BIND	2" TYPE X GNB * 1/2" CON. BIND	2" TYPE X GNB * 1/2" CON. BIND	2" TYPE X GNB * 1/2" CON. BIND	2" TYPE X GNB * 1/2" CON. BIND	* 3/8" TYPE X GNB - 3/8" CON. BIND 8'-0" HIGH FROM FINISH FLOOR.
8	JANTER	VCT	VINYL	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	2" TYPE X GNB	

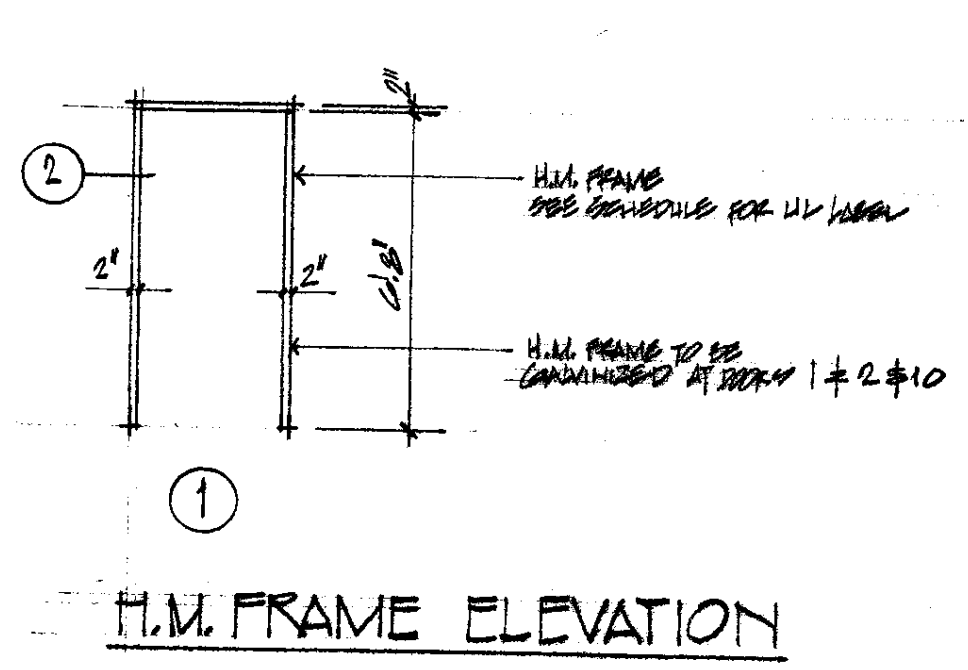
GNB - GYPSONUM WALL BOARD
VCT - VINYL COMPOSITION TILE
ACOUS. PANELS - SUSPENDED ACOUSTIC CEILING PANELS



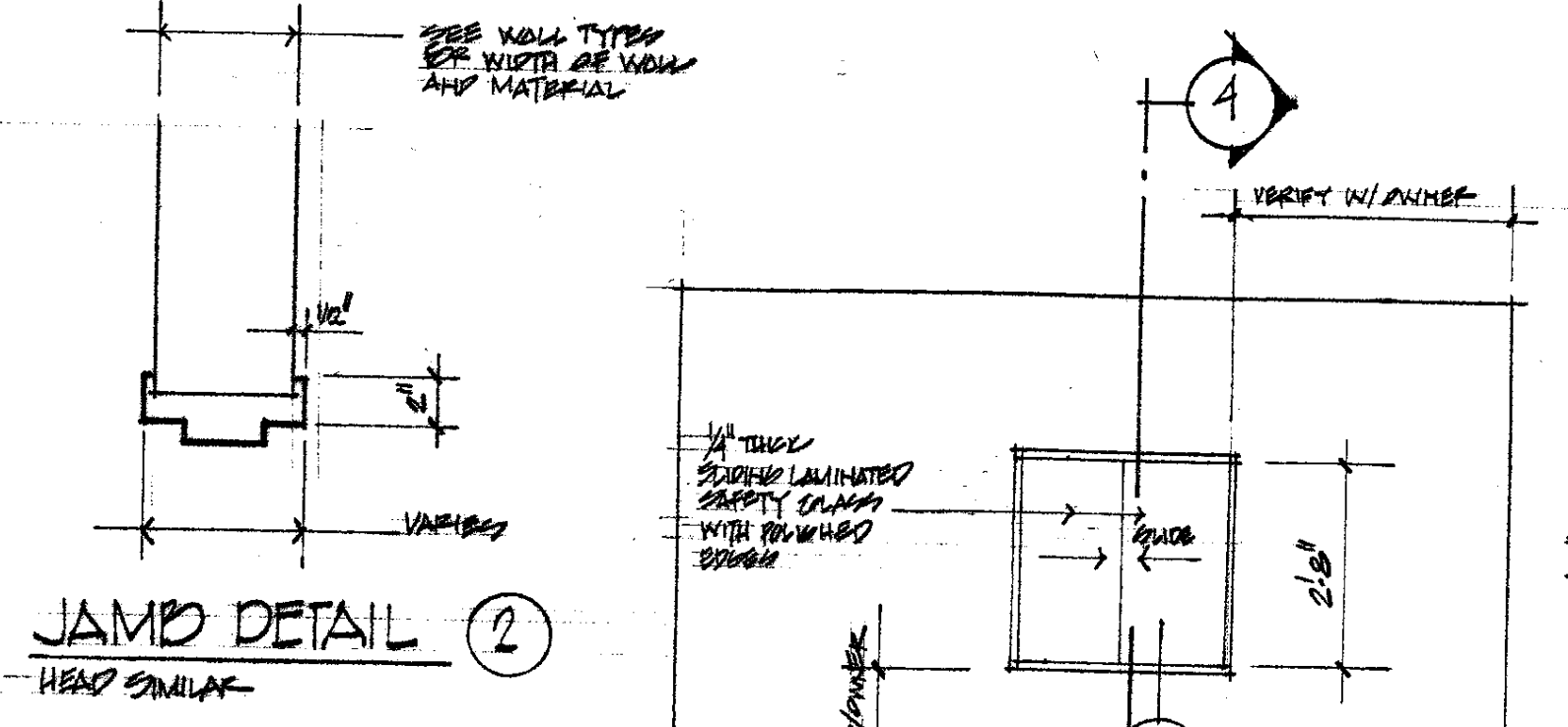
THRESHOLD DETAIL
DOORS 1, 3, 6 AND 7



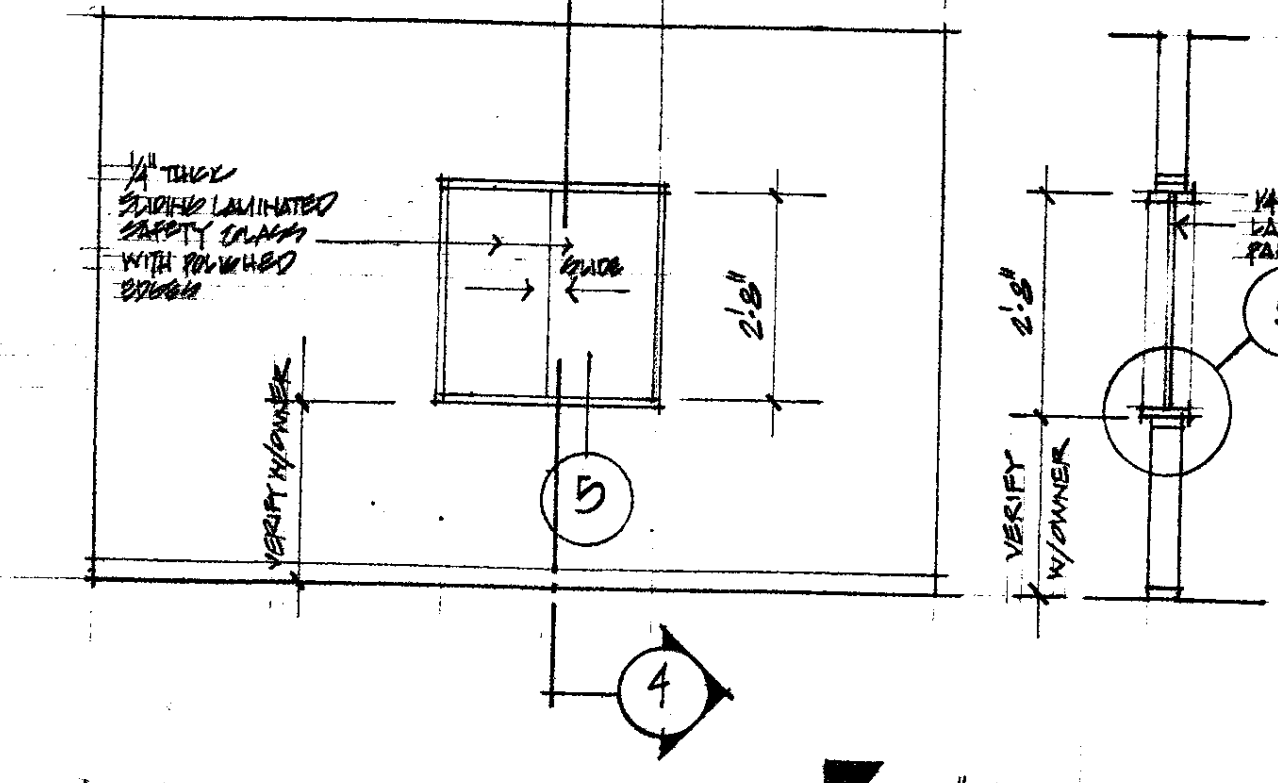
WALL TYPES



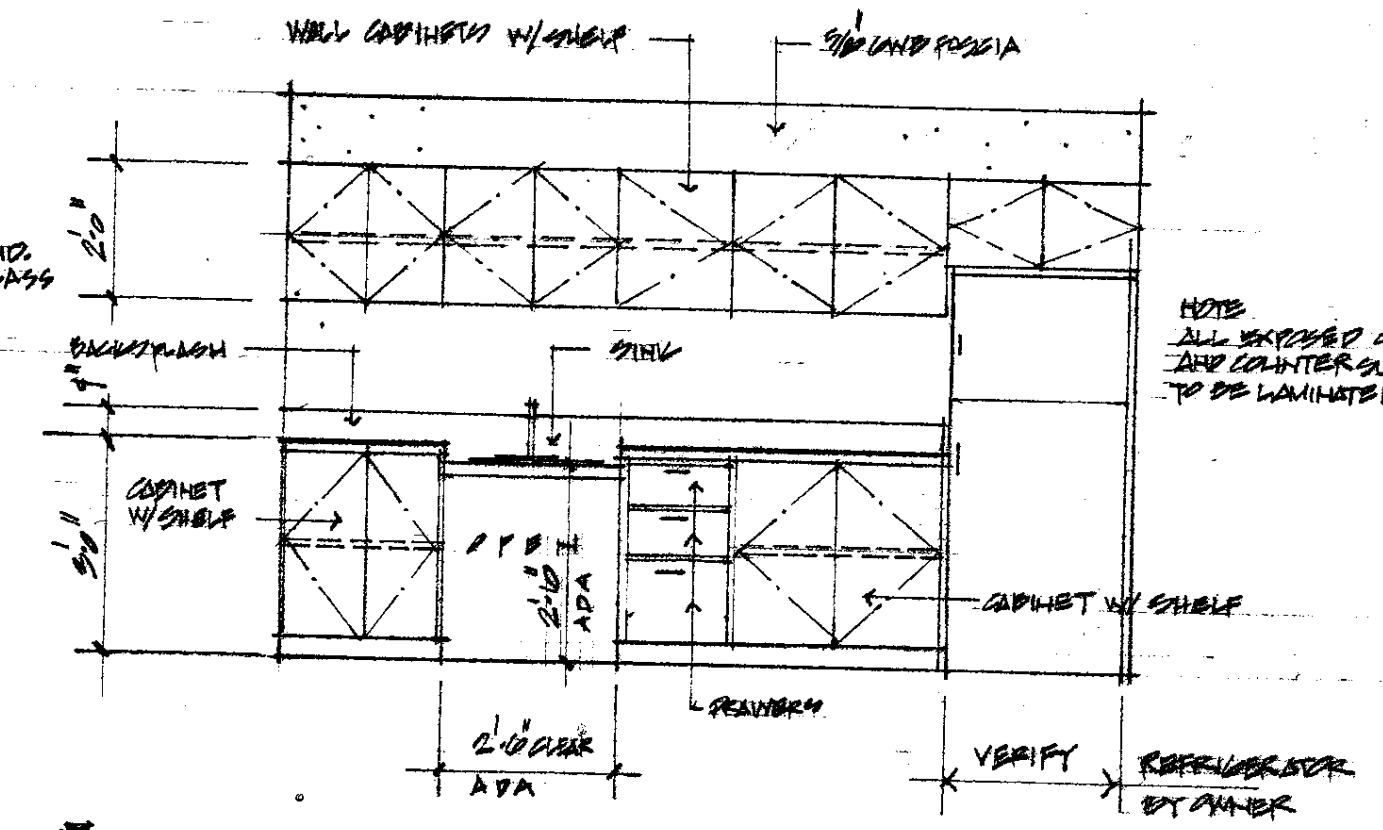
H.M. FRAME ELEVATION



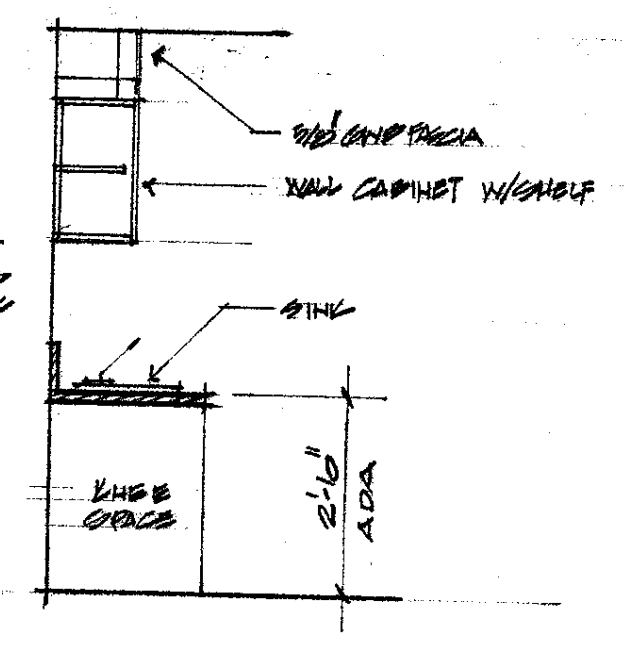
JAMB DETAIL



INTERIOR ELEVATION 3
SLIDING WINDOW - OFFICE / RADIO ROOM

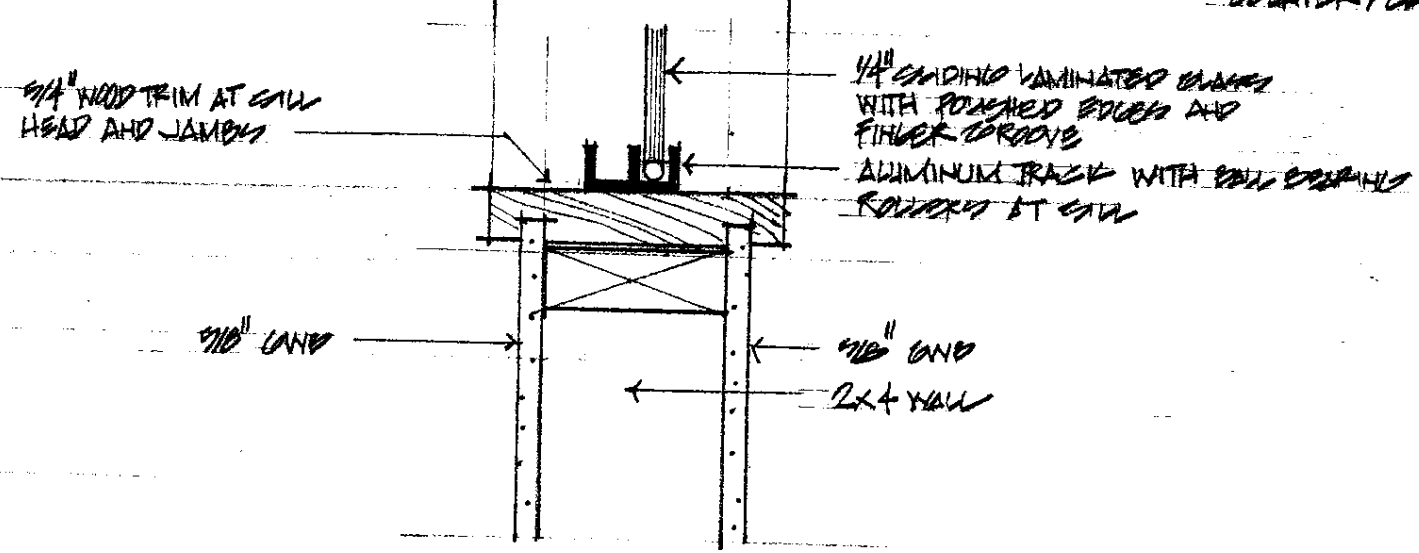


INTERIOR ELEVATION 1
COUNTER / CABINETS - MEETING ROOM 1

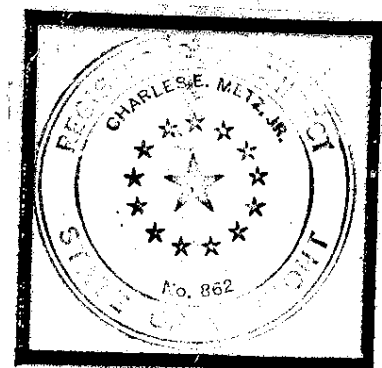


SECTION 2

WINDOW SCHEDULE						
NO.	TYPE	MATERIAL	SIZE	GLASS	SCREENING	NOTATION
A	CASEMENT	VINYL	4'-0" x 4'-0"	INSULATED LOW E	YES	W/ JAMB EXTENDING TO ROOF
B	CASEMENT	VINYL	4'-0" x 4'-0"	INSULATED LOW E	YES	W/ JAMB EXTENDING TO ROOF
C	FIXED	VINYL	4'-0" x 4'-0"	INSULATED LOW E	NO	W/ JAMB EXTENDING TO ROOF



SILL DETAIL 3
SLIDING WINDOW AT OFFICE / RADIO RM.



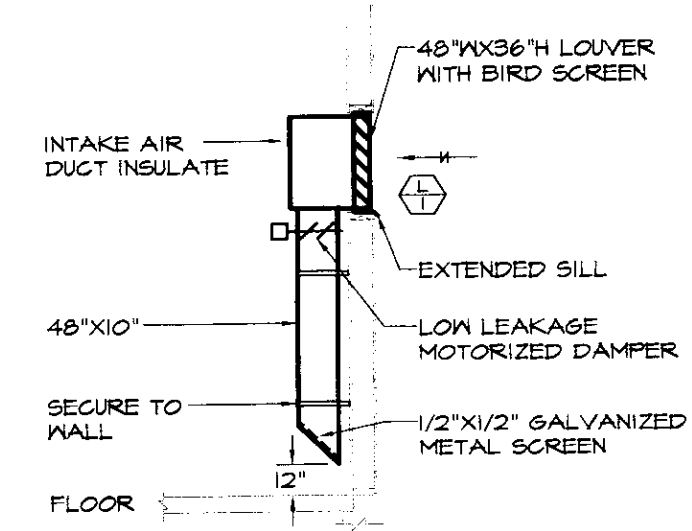
PROJECT:
NEW HANGAR FOR
CIVIL AIR PATROL
TITLE:
FINISH, DOOR AND WINDOW SCHED.
DETAILS AND WALL TYPES

APRIL 2007
CHARLES E. METZ
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THE GRIST MILL
BRADFORD VT 05033

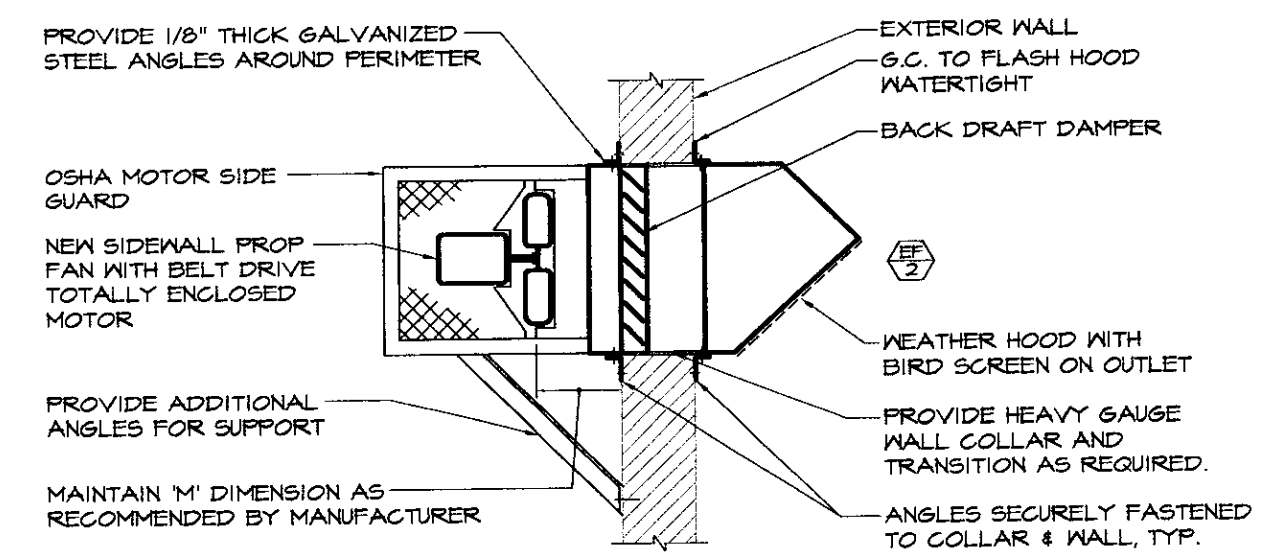
DRAWING:
A5

MECHANICAL LEGEND AND ABBREVIATIONS

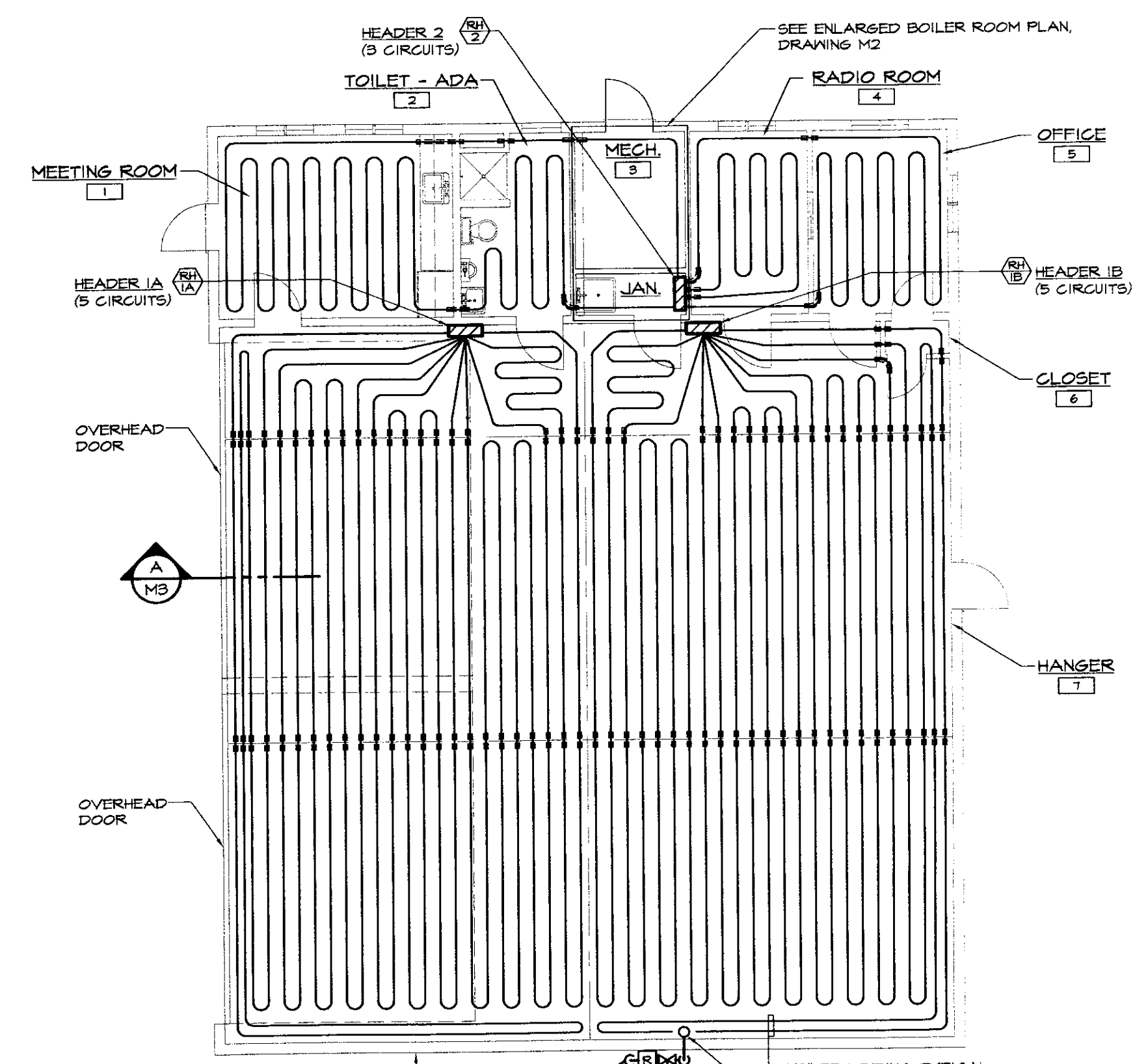
- NEW DUCTWORK
- RETURN DUCT DOWN
- EXHAUST FAN
- M.D. MOTORIZED DAMPER
- HWS HOT WATER SUPPLY
- HWR HOT WATER RETURN
- LP GAS PIPING
- IN-LINE PUMP
- PIPE UNION
- PIPE RISER
- PIPE DROP
- PIPE CAP
- BOTTOM PIPE CONNECTION
- TOP PIPE CONNECTION
- BALL VALVE
- CHECK VALVE
- BALANCING VALVE
- DRAIN VALVE
- BACK FLOW PREVENTER
- STRAINER W/ BLOW DOWN VALVE
- 2-WAY VALVE
- 3-WAY VALVE
- AIR VENT
- PRESSURE GAUGE
- TEMPERATURE SENSOR
- PRESSURE RELIEF VALVE (PRV)
- TEMPERATURE GAUGE
- LP GAS REGULATOR
- THERMOSTAT, SUBSCRIPTS: E = 120V ELECTRIC, # = ZONE
- AIR FLOW INDICATOR
- A.F.F. ABOVE FINISHED FLOOR
- B.D.D. BACK DRAFT DAMPER
- M.C. MECHANICAL CONTRACTOR
- P.C. PLUMBING CONTRACTOR
- E.C. ELECTRICAL CONTRACTOR
- G.C. GENERAL CONTRACTOR
- SECTION NUMBER
- DWS NUMBER
- EXHAUST FAN
- LOUVER
- RADIANT HEATING SYSTEM HEADER
- DRAWING NOTE TAG
- PUMP TAG
- EQUIPMENT TAG



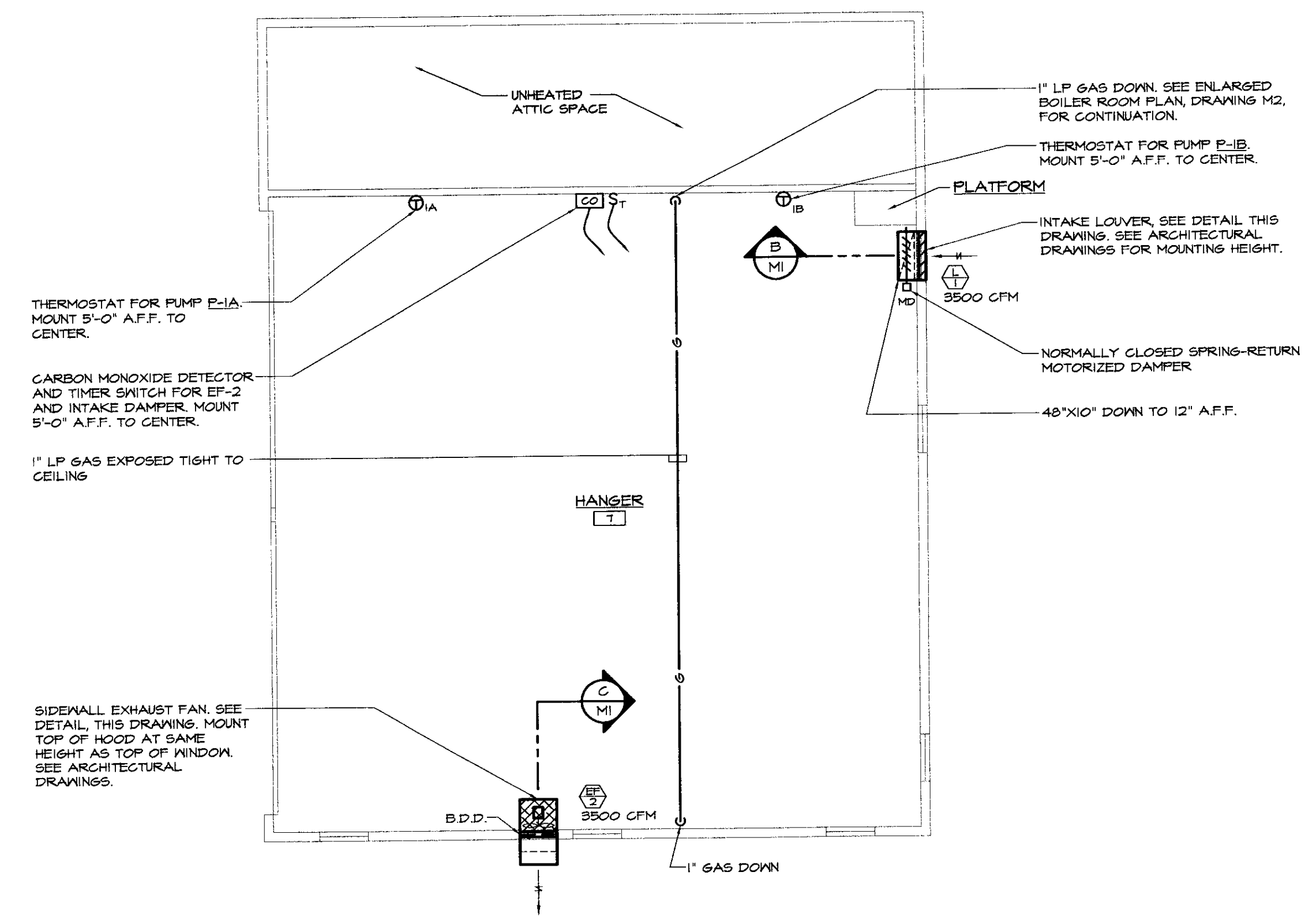
INTAKE LOUVER DETAIL
SCALE: 1/4"=1'-0"



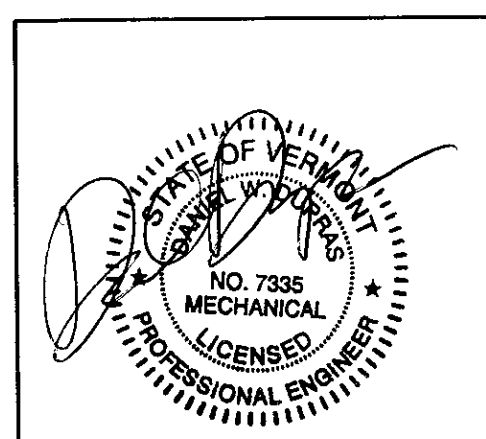
SIDEWALL EXHAUST FAN DETAIL
NOT TO SCALE



GROUND FLOOR PLAN - MECHANICAL
SCALE: 1/8"=1'-0"



UPPER LEVEL PLAN - MECHANICAL
SCALE: 1/8"=1'-0"



NO.	ISSUED FOR	DATE
1	BIDDING & CONSTRUCTION	04/19/05



HEATING, VENTILATION, & AIR CONDITIONING,
PLUMBING, FIRE PROTECTION, & ELECTRICAL

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FLOOR PLANS - MECHANICAL AND MECHANICAL DETAILS		M 1
NEW HANGER CIVIL AIR PATROL CALEDONIA COUNTY AIRPORT LYNDONVILLE, VT		
APPR.	DWD	PROJ. NO. 0312-14
DRAWN:	TDL/RRT	SCALE: AS NOTED

X:\031214\Drawings\Mech\031214M01.dwg, M1, 4/18/2005 9:46:18 PM, © LANE ASSOCIATES CONSULTING ENGINEERS PC, 2005

CIRCULATOR PUMP SCHEDULE											PLAN SYMBOL
No.	MANUFACTURER	SERIES	MODEL	MIN. GPM	HEAD (FT. HD.)	MOTOR				REMARKS	
						HP	VOLT	PH	RPM		
P-1A	TACO	00	0011	6.5	24	1/8	115	1	3250	HEADER 1A PUMP	
P-1B	TACO	00	0011	4.5	20	1/8	115	1	3250	HEADER 2 PUMP	
P-2	TACO	00	0014	1.0	20	1/8	115	1	3250	HEADER 1B PUMP	
P-3	TACO	00	0011	-	-	1/8	115	1	3250	BOILER PUMP, NOTE 1	
P-4	TACO	00	0010	12.0	10	1/8	115	1	3250	SYSTEM PUMP	
P-5	TACO	00	0011	7.0	18	1/8	115	1	3250	DOM. HOT WATER PUMP	

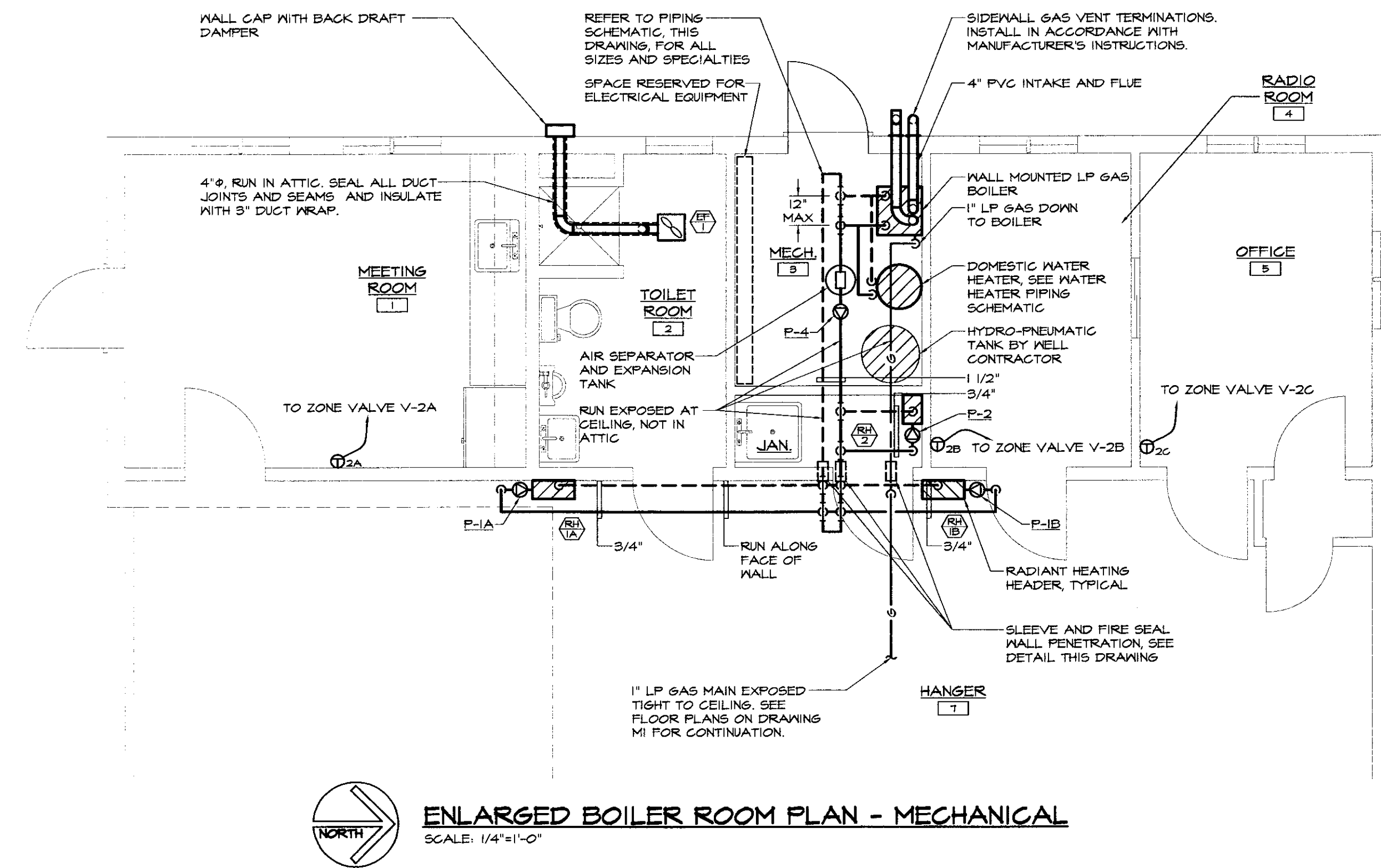
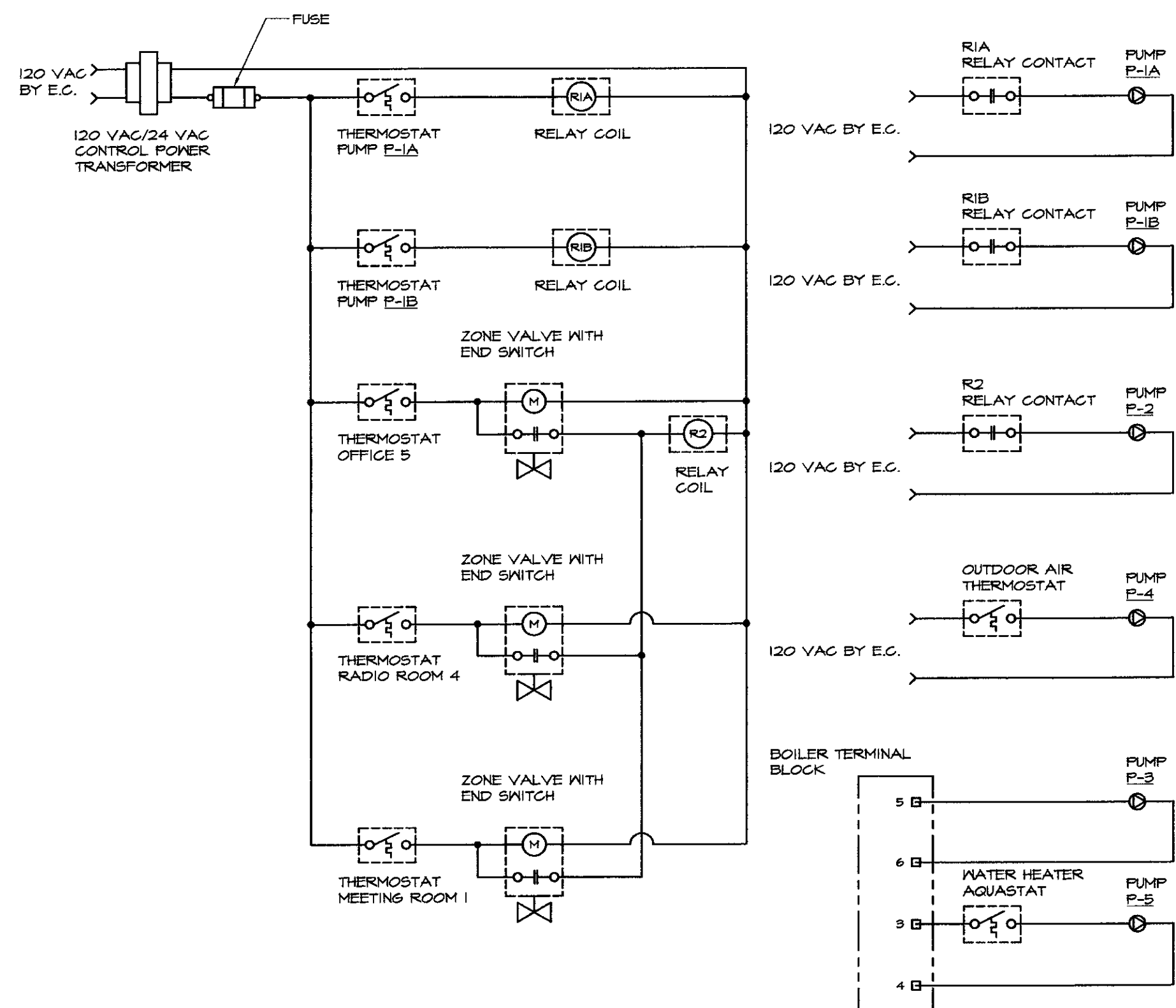
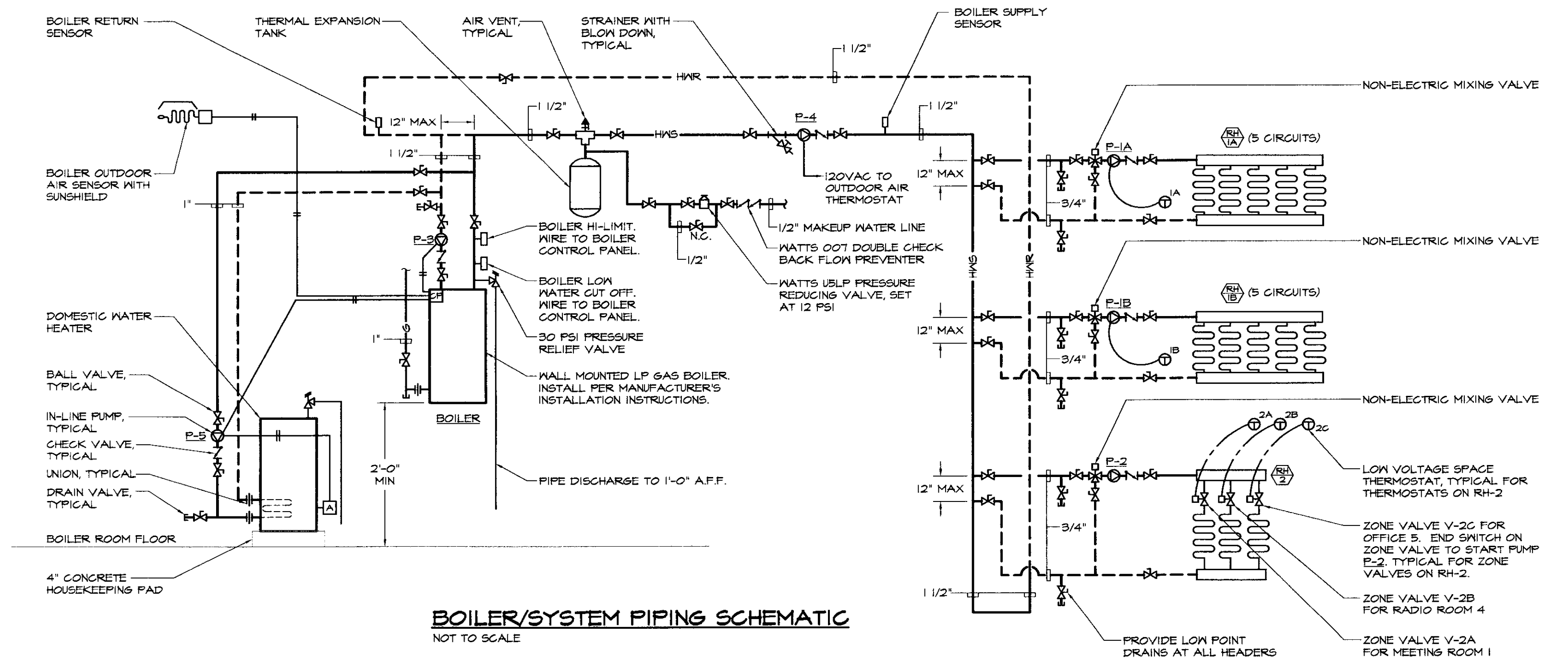
NOTES:
1) PUMP PROVIDED WITH BOILER AND SHIPPED LOOSE FOR FIELD INSTALLATION.

EXHAUST FAN SCHEDULE											PLAN SYMBOL
No.	MANUFACTURER	MODEL	CFM	E.S.P.	TYPE	RPM	MODEL			REMARKS	
							H.P.	VOLT	PH		
EF-1	GREENECK	SP-B150	155	0.125	CEILING	1050				NOTE 2	
EF-2	GREENECK	SB-2H24-5	3500	0.30	SIDEMALL	961	1/2	115	1	NOTE 1	

NOTES:
1) PROVIDE WALL SLEEVE, LOW LEAKAGE BACKDRAFT DAMPER, EXPLOSION PROOF MOTOR, SPARK PROOF FAN BLADE, OSHA SIDE MOTOR GUARD AND WEATHERHOOD WITH BIRDSCREEN WEATHERHOOD TO BE PROVIDED WITH A BAKED ENAMEL FINISH COLOR SELECTED BY ARCHITECT.
2) PROVIDE WALL GAP WITH BACKDRAFT DAMPER.

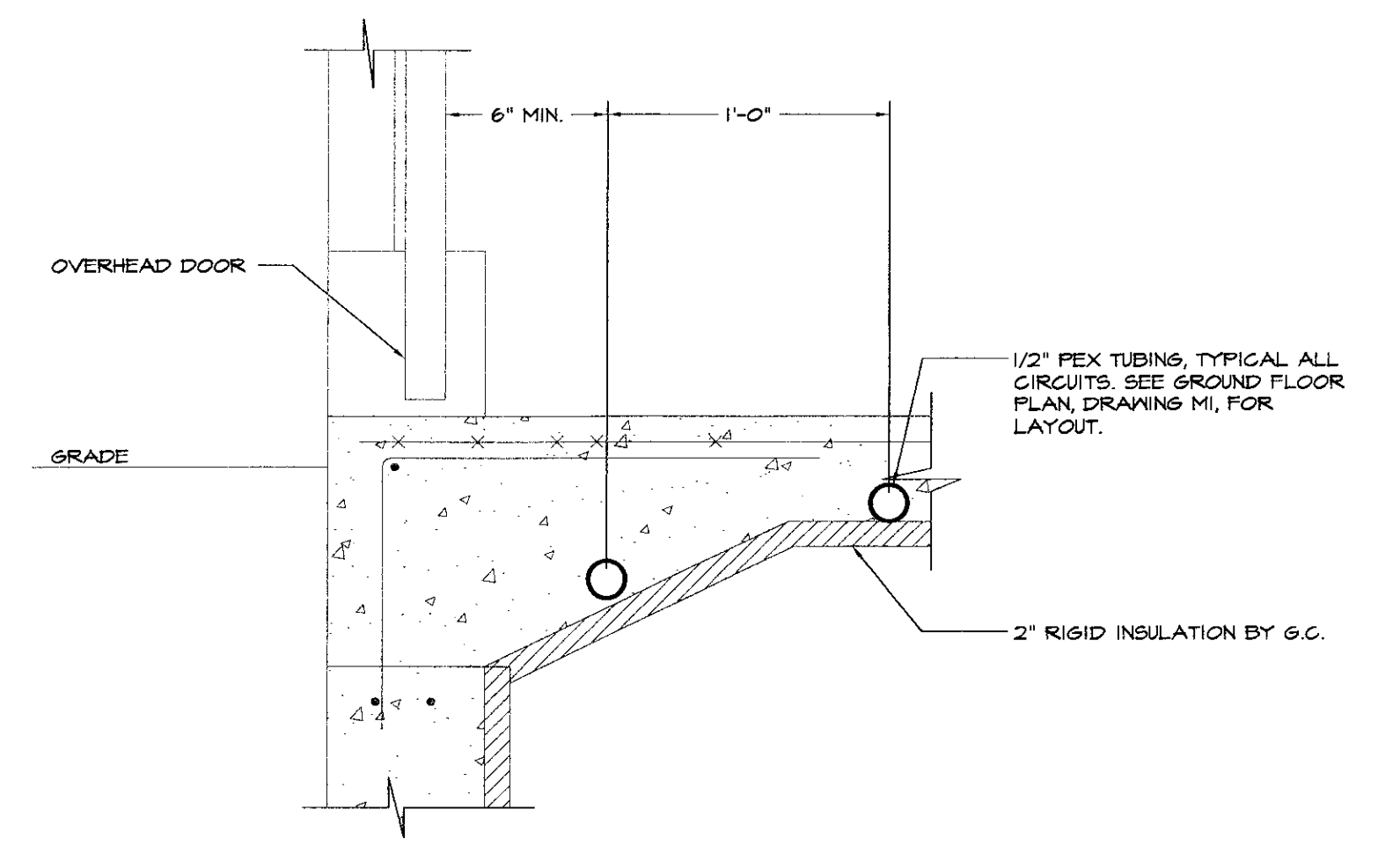
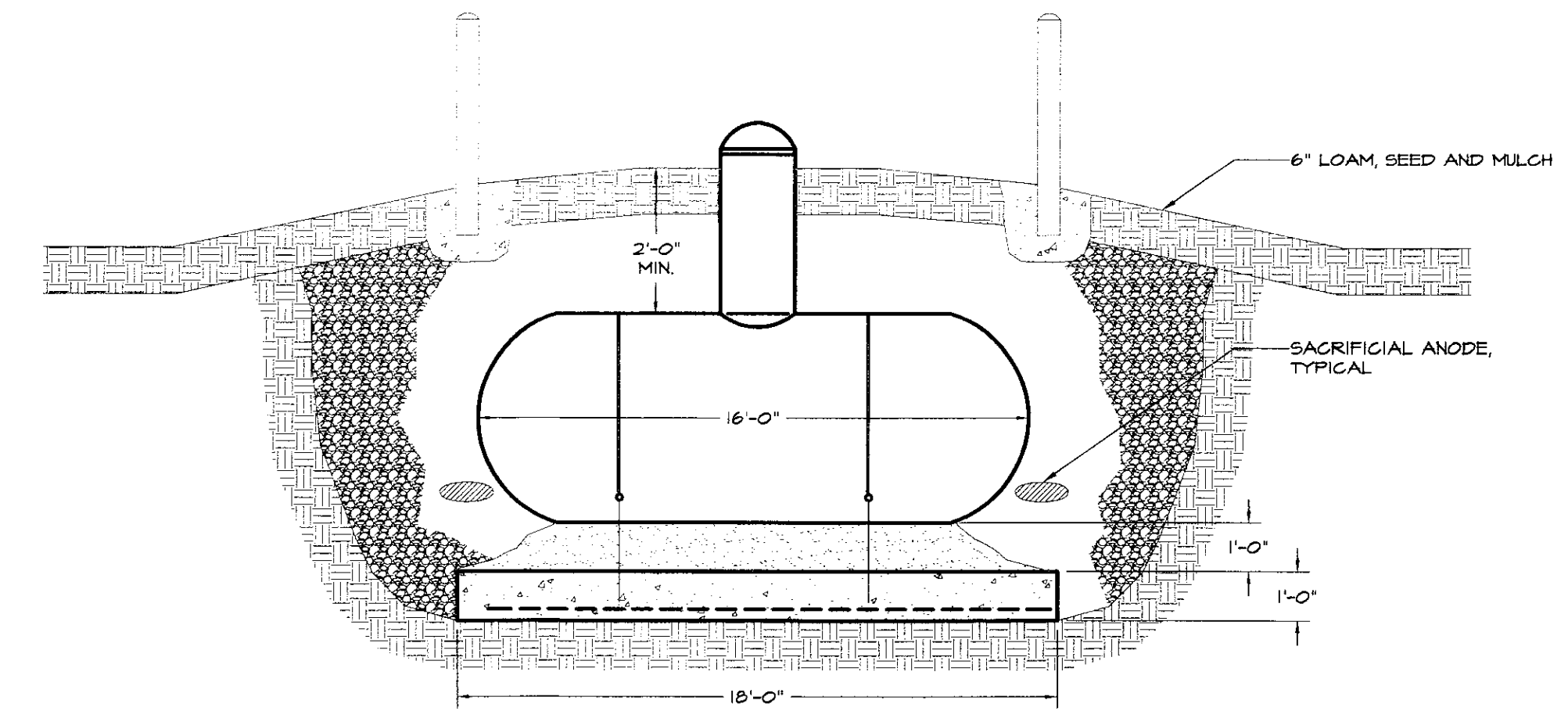
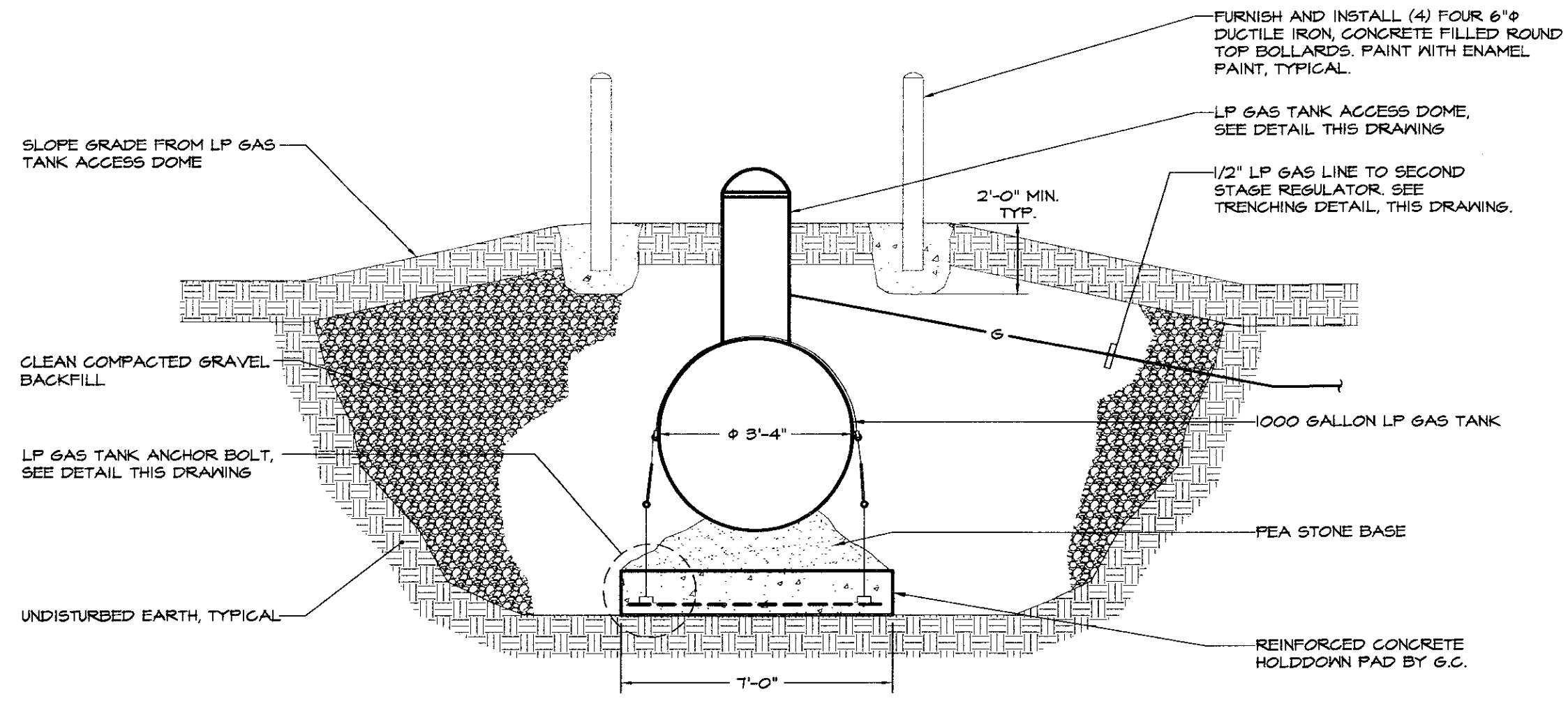
LOUVER SCHEDULE										PLAN SYMBOL
No.	MANUFACTURER	SERIES	MODEL	SIZE	AIR PAT	DAMPER	FINISH	REMARKS		
L1	RUSKIN	ELF	ELF-5TSDX	48" x 36"	INTAKE	-	B.E.	NOTE 1		

NOTES:
1) COORDINATE EXACT WIDTH TO MATCH WINDOW ABOVE.
2) PROVIDE GALVANIZED BIRDSCREEN.
3) COLOR OF LOUVER TO BE SELECTED BY ARCHITECT.



			HEATING, VENTILATION, & AIR CONDITIONING, PLUMBING, FIRE PROTECTION, & ELECTRICAL CHARLES F. LANE, P.E. DANIEL W. DUPRAS, P.E. 51 KILLINGTON AVENUE, RUTLAND, VERMONT 05701 TELEPHONE: (802)747-3346 FAX/MODEM: (802)747-3356		ENLARGED BOILER ROOM PLAN - MECHANICAL MECHANICAL DETAILS & SCHEDULES NEW HANGER CIVIL AIR PATROL CALEDONIA COUNTY AIRPORT LYNDONVILLE, VT	M 2
	BIDDING & CONSTRUCTION NO. ISSUED FOR	04/19/05 DATE	APPR: DWD DRAWN: TDL	SCALE: AS NOTED PROJ. NO. 0912-14		

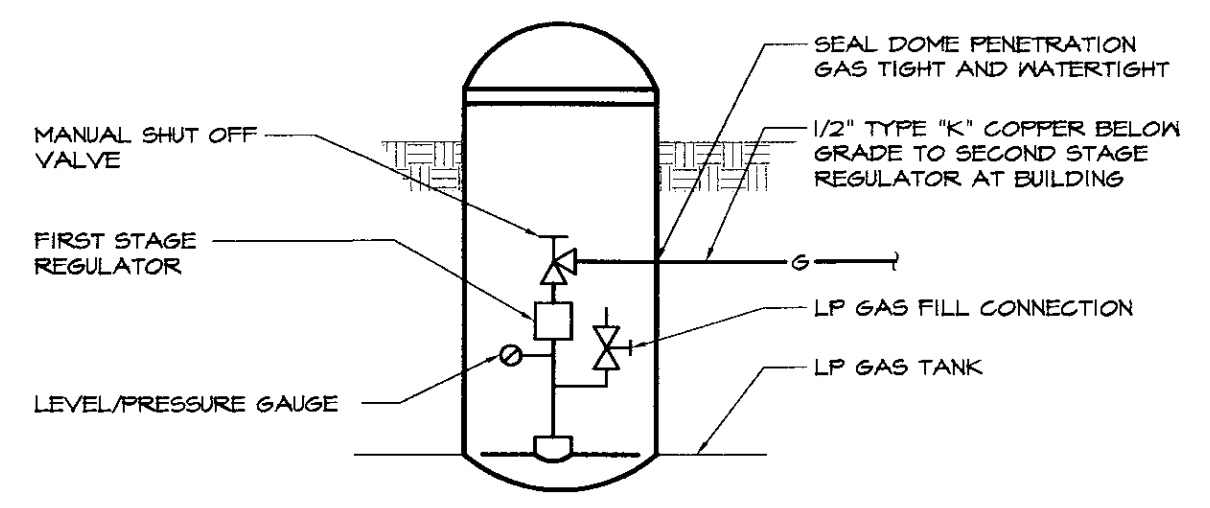
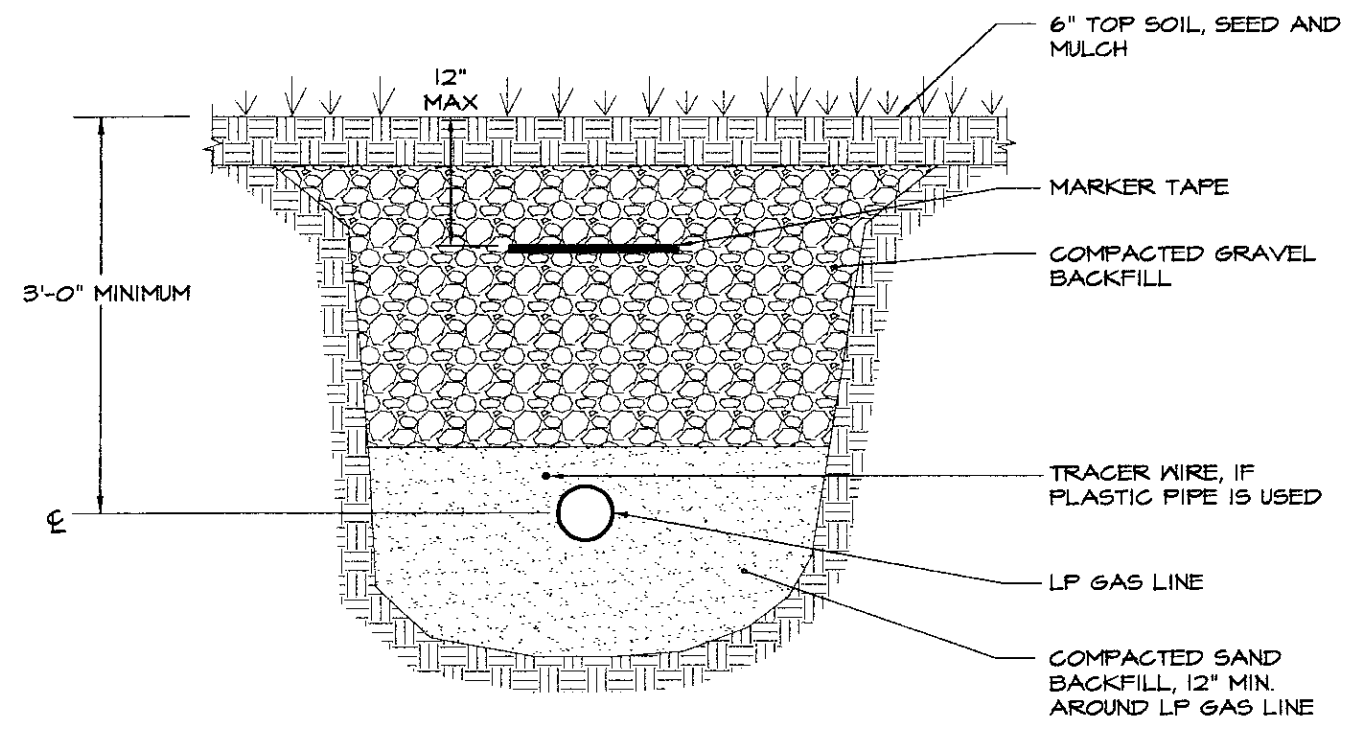
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UNDERGROUND LP GAS TANK DETAILS
NOT TO SCALE

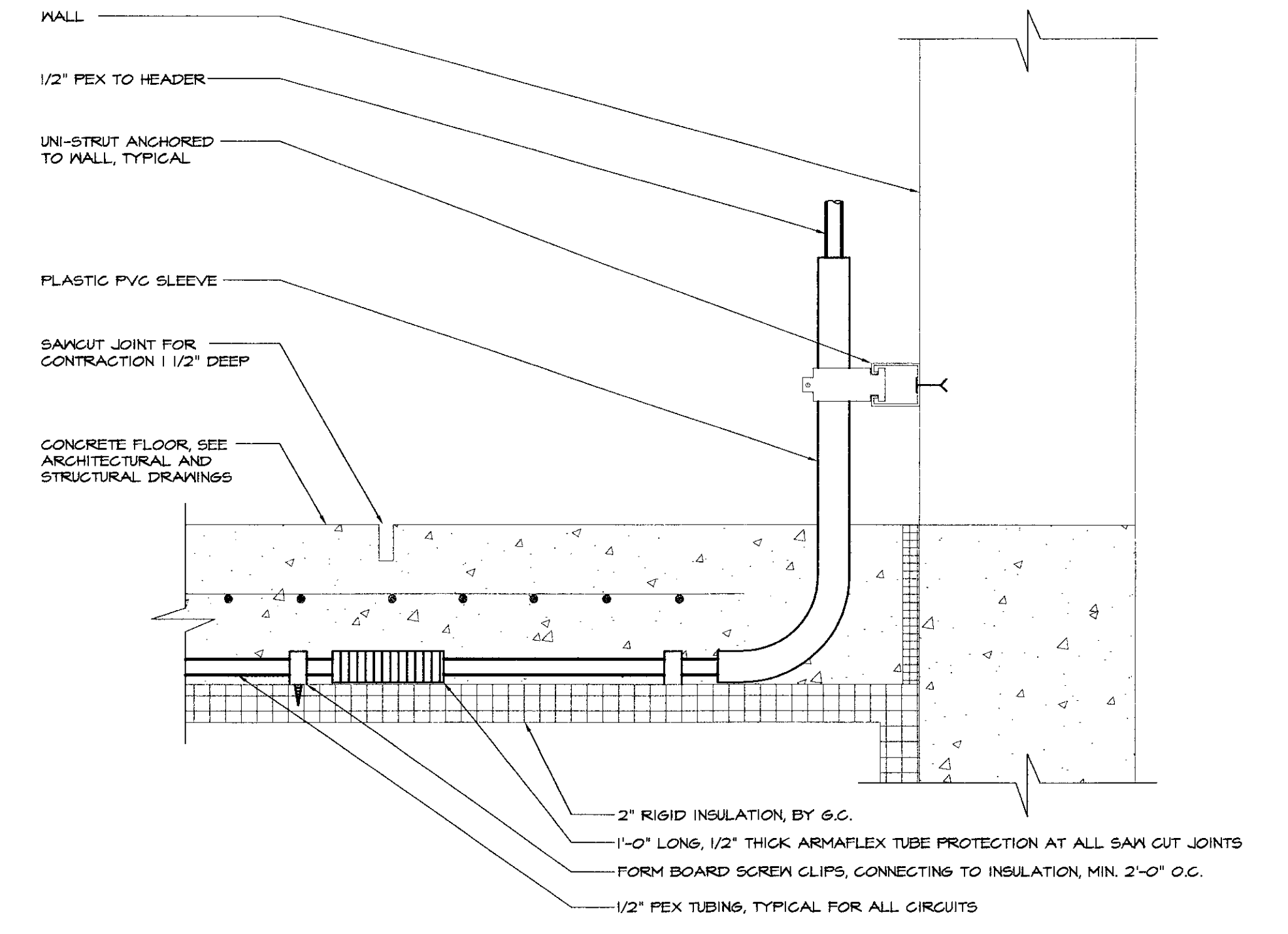
NOTE:
TANK, REGULATORS, PIPING AND ACCESSORIES, INCLUDING FIRST AND SECOND STAGE REGULATORS, TO BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. COORDINATE WITH G.C. FOR REQUIRED FOR REQUIRED EXCAVATION AND BACKFILL.

SECTION AT OVERHEAD DOOR (TYP.)
NOT TO SCALE



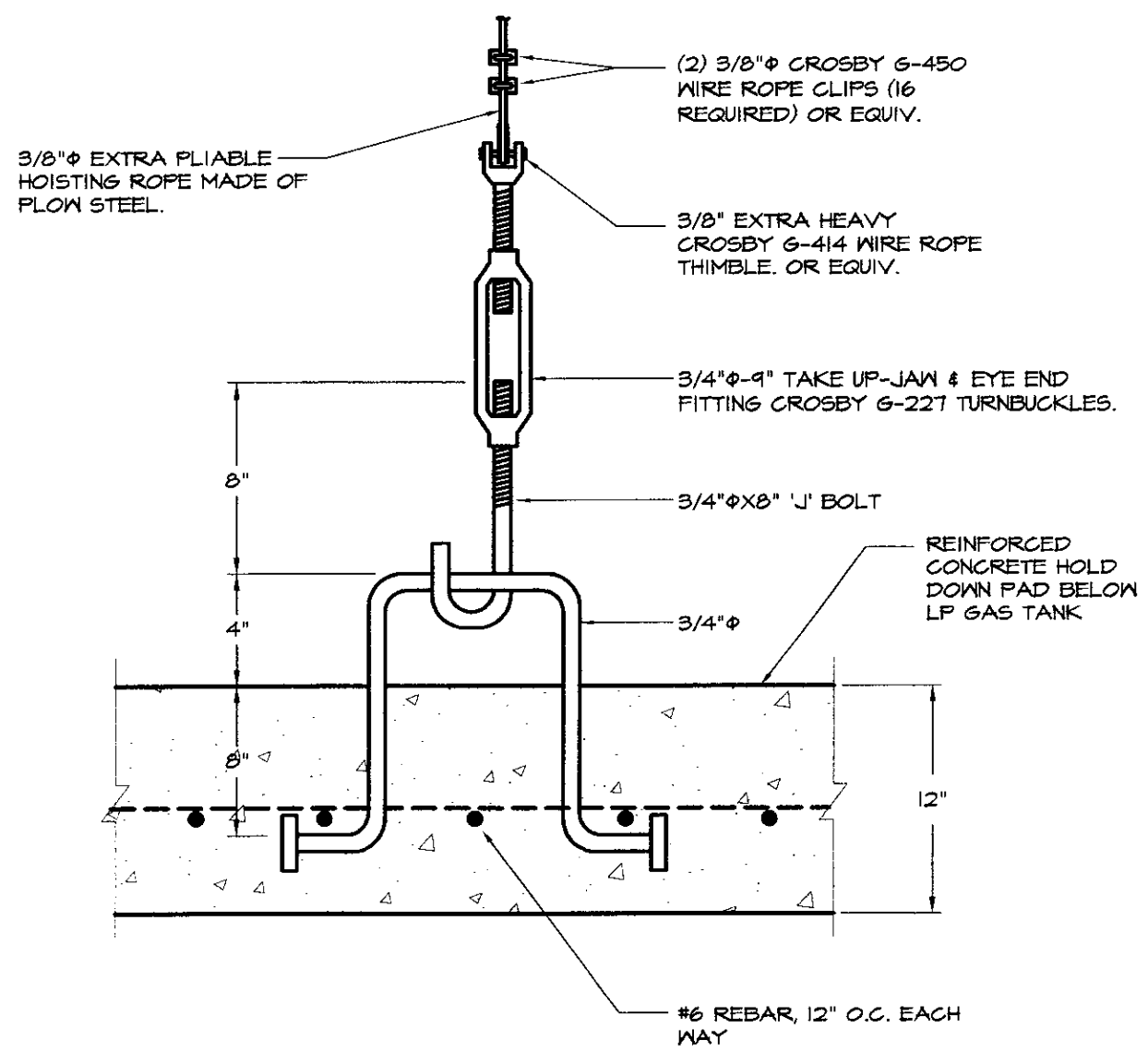
LP GAS TANK ACCESS DOME DETAIL
NOT TO SCALE

LP GAS SUPPLY PIPE TRENCHING DETAIL
NOT TO SCALE

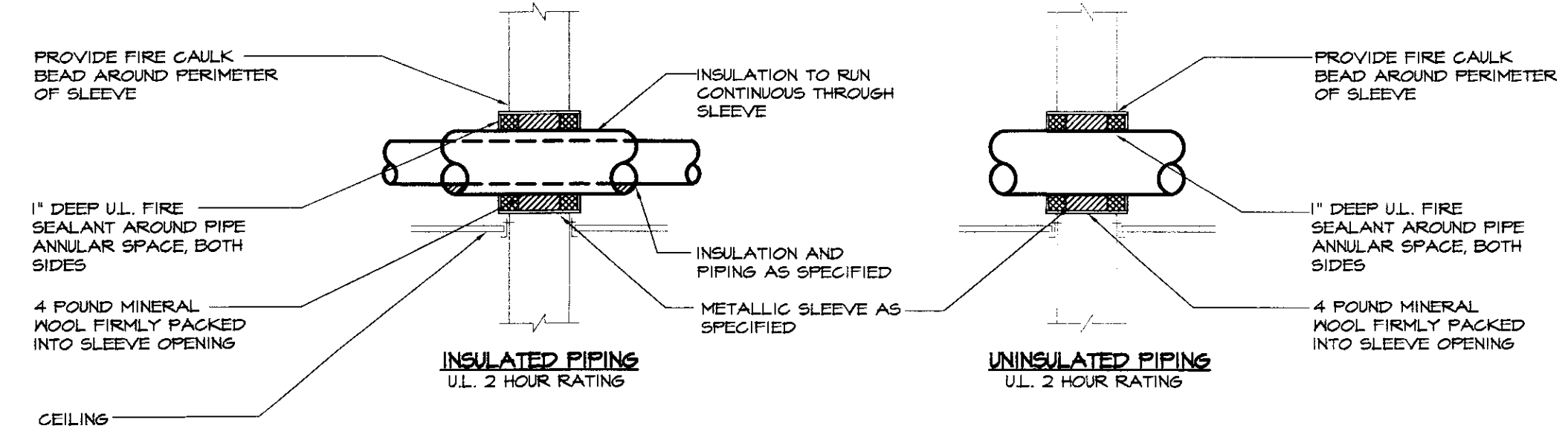


TYPICAL RADIANT TUBING DETAIL
NOT TO SCALE

1. PROVIDE PLASTIC SLEEVE PROTECTION TO WITHIN 6" OF HEADER ASSEMBLY

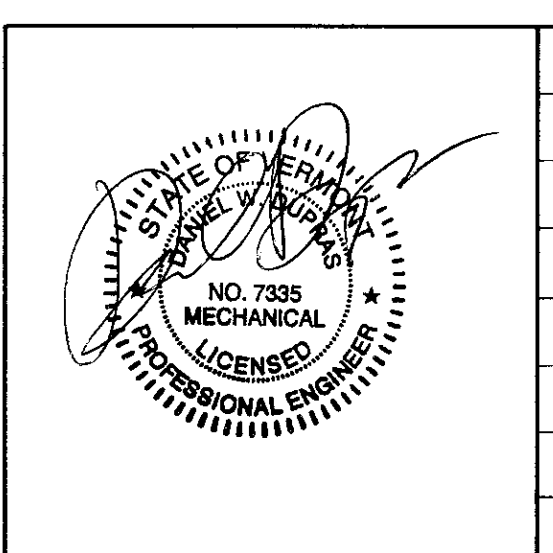


TANK ANCHOR BOLT DETAIL
NOT TO SCALE

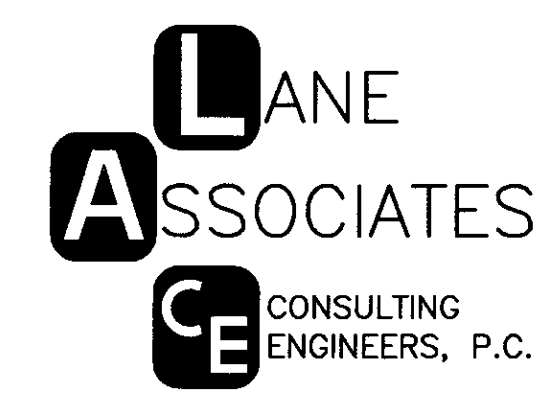


WALL PIPE PENETRATION DETAILS
NOT TO SCALE

NOTE:
1) FOLLOW FIRE SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS IN CONJUNCTION WITH REQUIREMENTS AS DETAILED.
2) ALL WALL PIPE PENETRATIONS SHALL BE INSTALLED PER THIS DETAIL.
3) DETAIL BASED ON STI "SPEC-SEAL" FIRE STOPPING PRODUCTS, ALTERNATE MANUFACTURER'S INSTALLATION REQUIREMENTS MAY VARY.



NO.	BIDDING & CONSTRUCTION	04/19/05
NO.	ISSUED FOR	DATE



HEATING, VENTILATION, & AIR CONDITIONING, PLUMBING, FIRE PROTECTION, & ELECTRICAL

CHARLES F. LANE, P.E.
DANIEL W. DUPRAS, P.E.

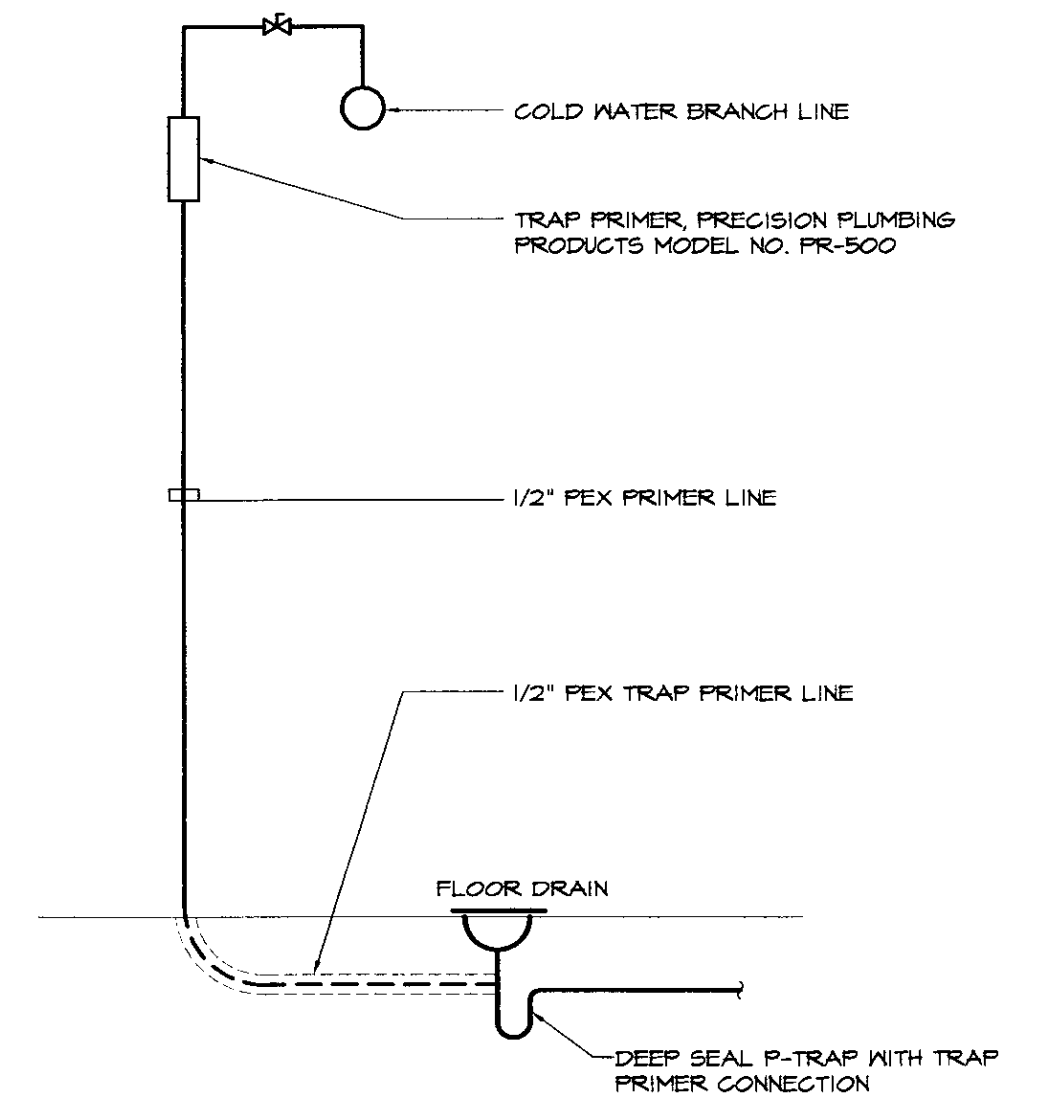
51 KILLINGTON AVENUE,
RUTLAND, VERMONT 05701
TELEPHONE: (802)747-3346
FAX/MODEM: (802)747-3356

MECHANICAL DETAILS				M 3
NEW HANGER CIVIL AIR PATROL CALEDONIA COUNTY AIRPORT LYNDONVILLE, VT				
APPR:	DVD	DRAWN:	TDL/RRT	SCALE: AS NOTED
PROJ. NO.				0912-14

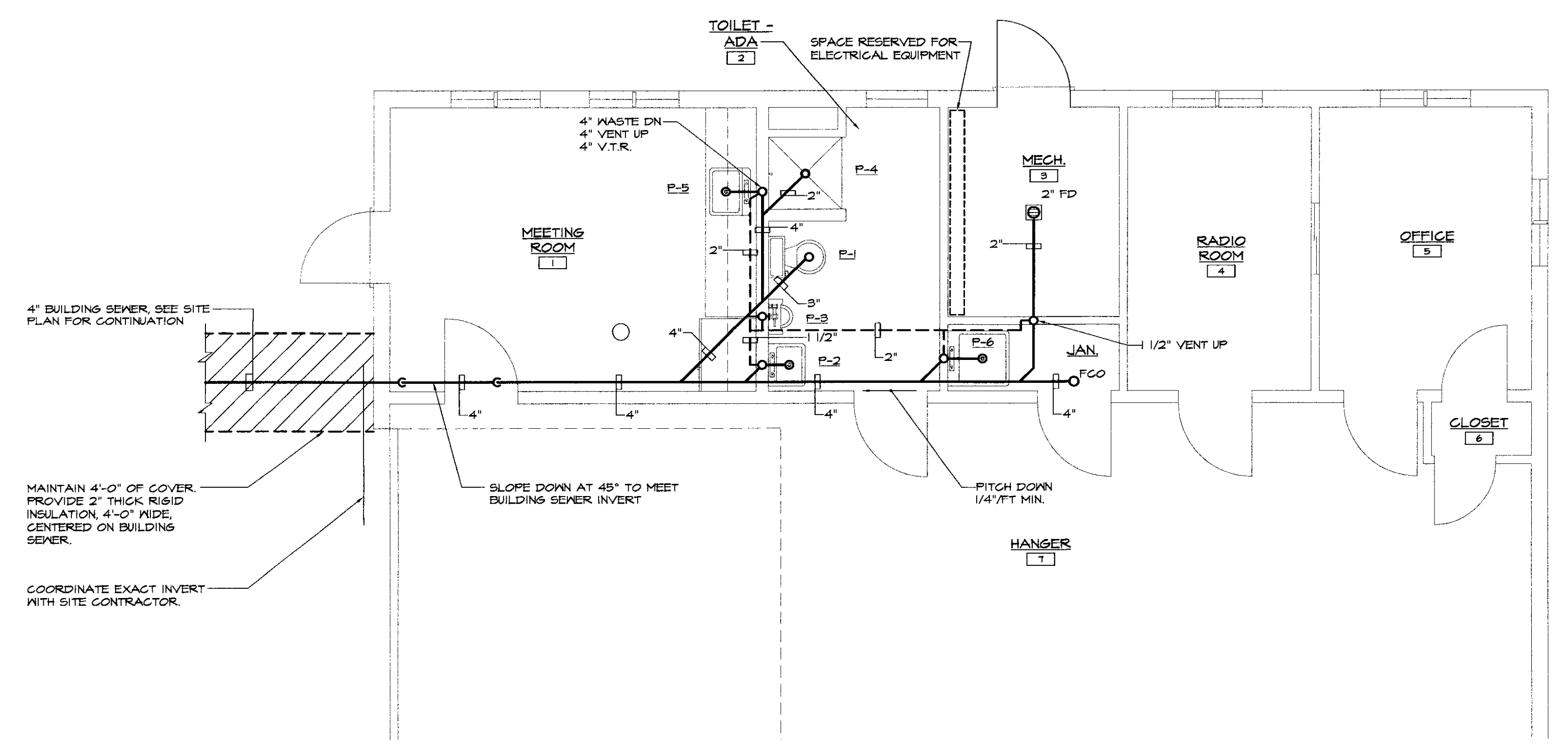
PLUMBING FIXTURE CONNECTION SCHEDULE								PLAN SYMBOL P-1
No.	ITEM	SOIL	WASTE	VENT	CM	HM	TRAP	REMARKS
P-1	ADA WATER CLOSET	3"	-	2"	1/2"	-	INTEGRAL	-
P-2	ADA LAVATORY	-	1 1/2"	1 1/2"	1/2"	1/2"	1 1/4" X 1 1/2"-P	-
P-3	ADA URINAL	2"	-	1 1/2"	3/4"	-	INTEGRAL	-
P-4	ADA SHOWER	-	2"	1 1/2"	1/2"	1/2"	2"-P	-
P-5	COUNTER SINK	-	1 1/2"	1 1/2"	1/2"	1/2"	1 1/2"-P	-
P-6	SERVICE SINK	-	2"	1 1/2"	1/2"	1/2"	2"-P	-

PLUMBING LEGEND AND ABBREVIATIONS

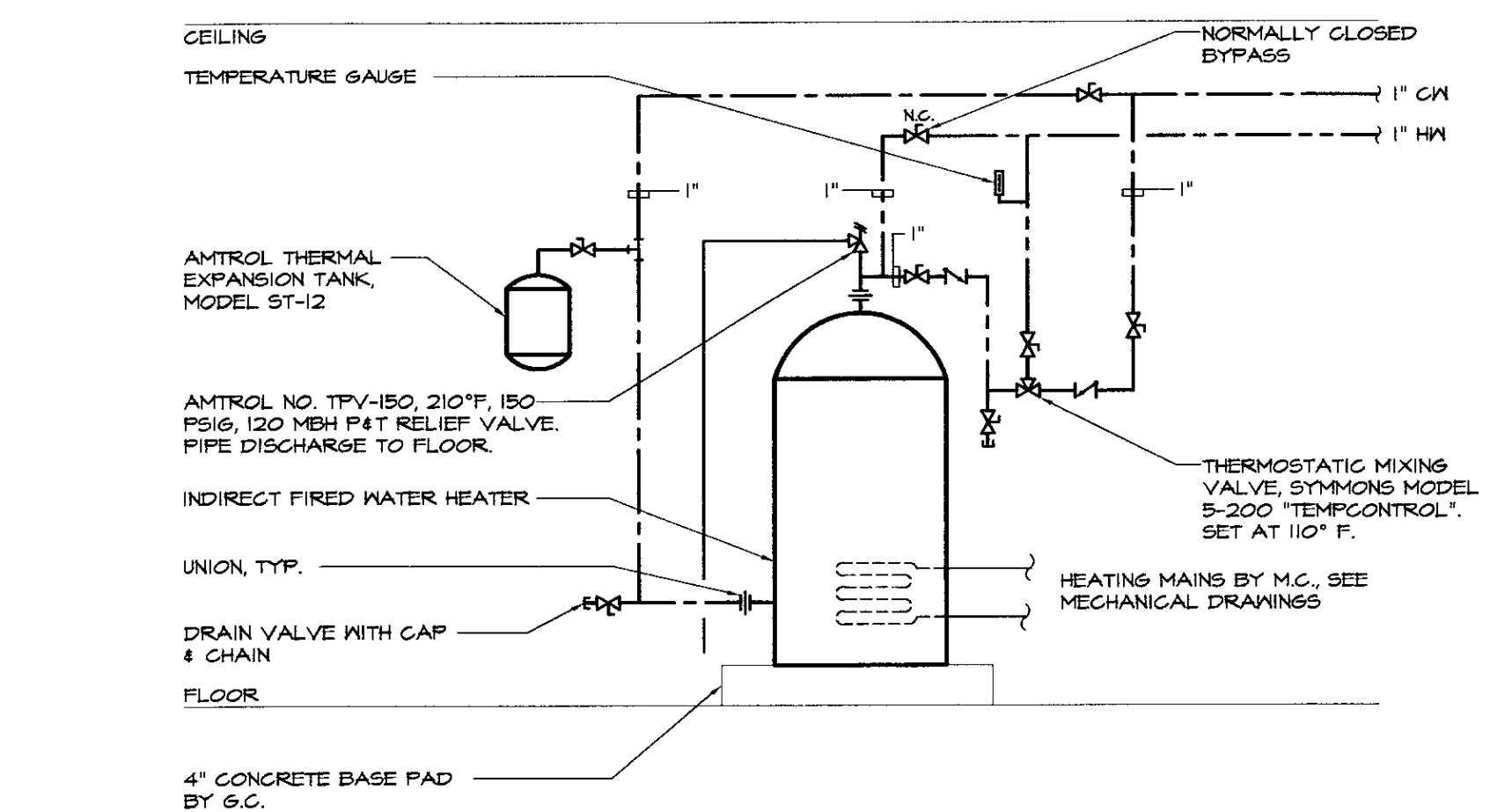
- SANITARY PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING (110°F)
- PRIMER PIPING
- PIPE RISER
- PIPE DROP
- PIPE CAP
- PIPE UNION
- ⊘ BALL VALVE
- ⊘ FIXTURE STOP
- ⊘ CHECK VALVE
- ⊘ BACKFLOW PREVENTER PRZ=REDUCED PRESSURE ZONE
- FCO FLOOR CLEANOUT
- ⊘ PRESSURE REDUCING VALVE
- ⊘ PRESSURE SWITCH
- ⊘ PRESSURE RELIEF VALVE
- ⊘ THERMOSTATIC MIXING VALVE
- ⊘ TEMPERATURE GAUGE
- ⊘ NON-FREEZE WALL HYDRANT
- ⊘ FLOOR DRAIN
- M.C. MECHANICAL CONTRACTOR
- P.C. PLUMBING CONTRACTOR
- E.C. ELECTRICAL CONTRACTOR
- G.C. GENERAL CONTRACTOR



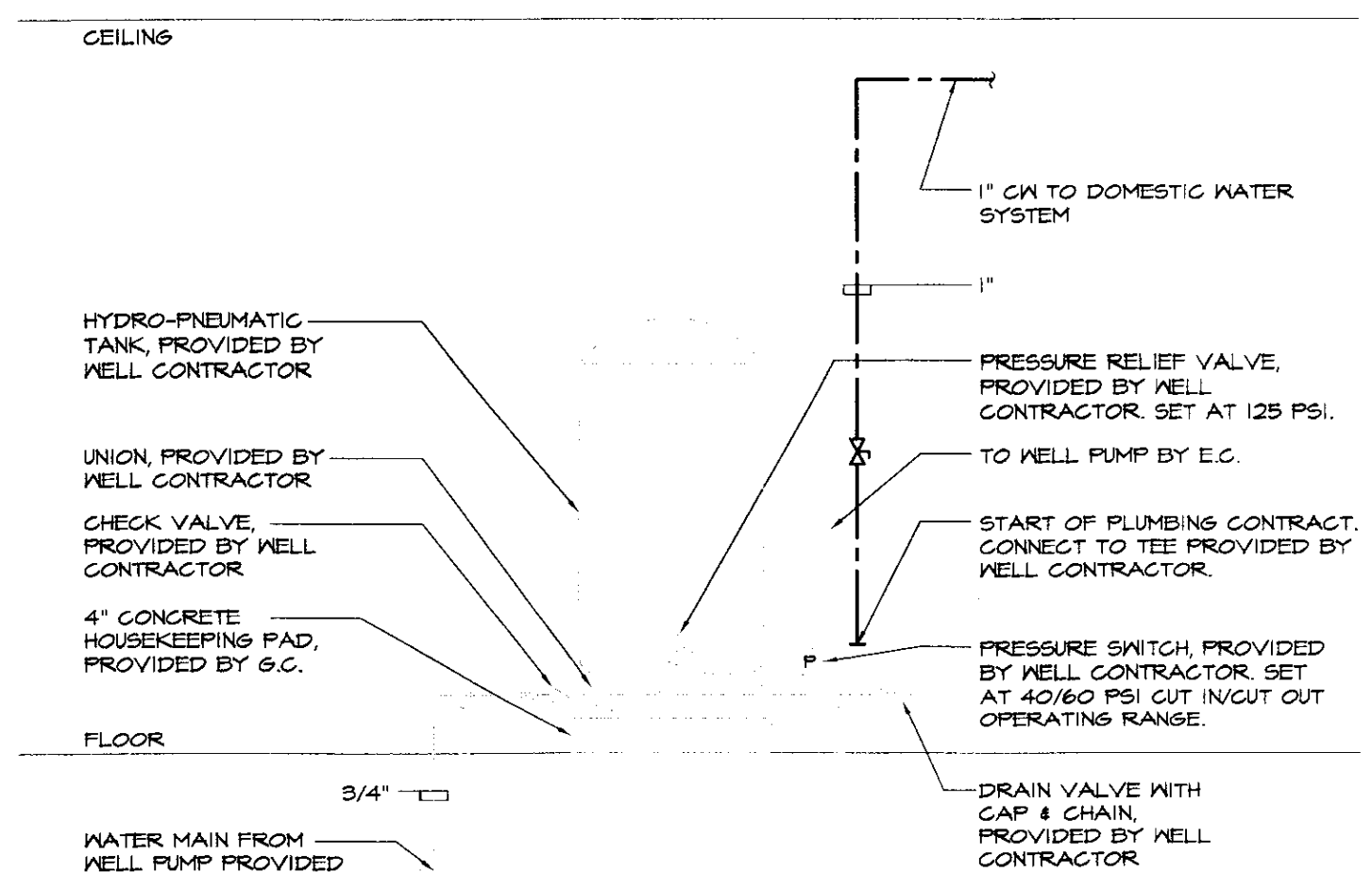
TRAP PRIMER DETAIL
NOT TO SCALE



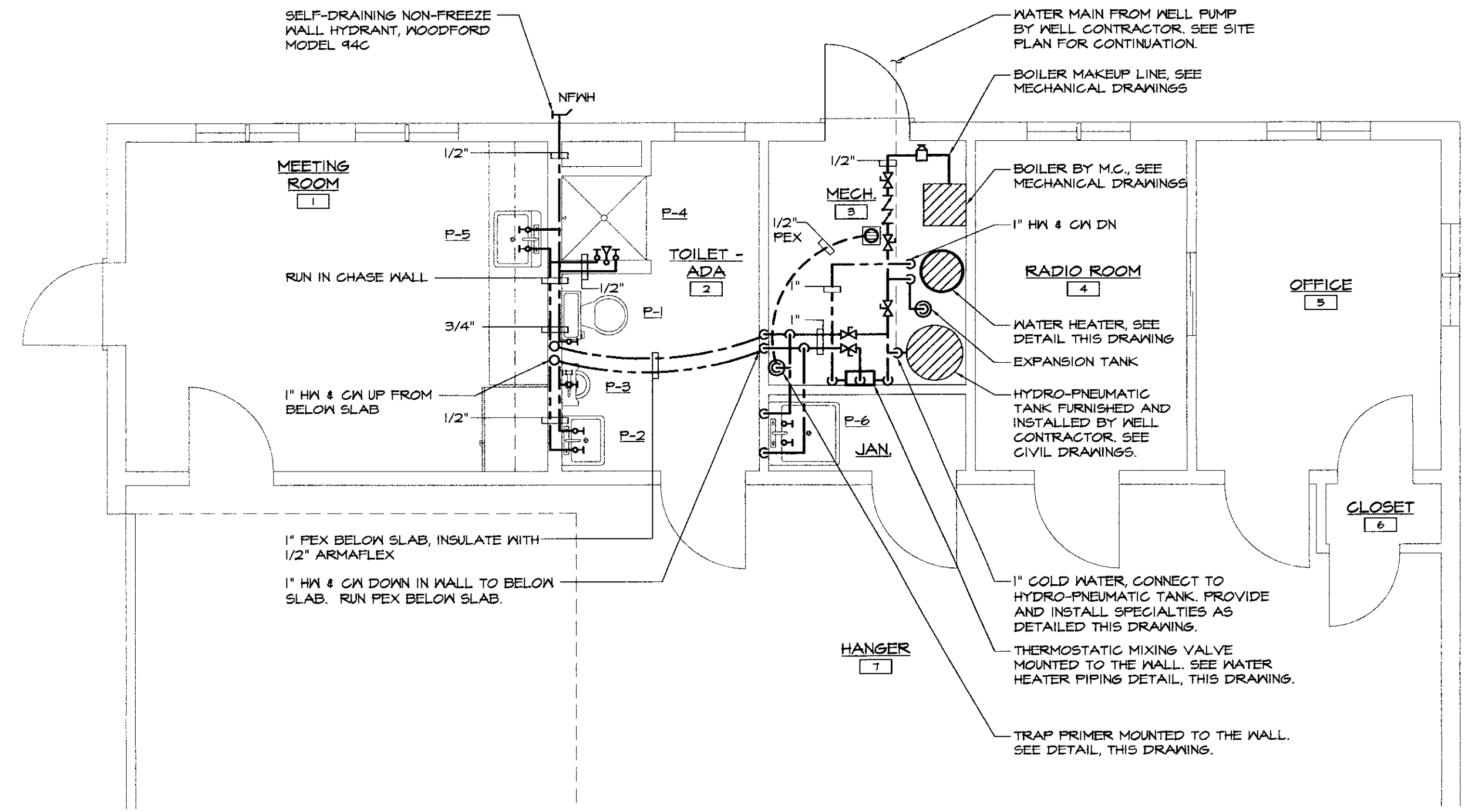
PARTIAL GROUND FLOOR PLAN - PLUMBING WASTE & VENT
SCALE: 1/4"=1'-0"



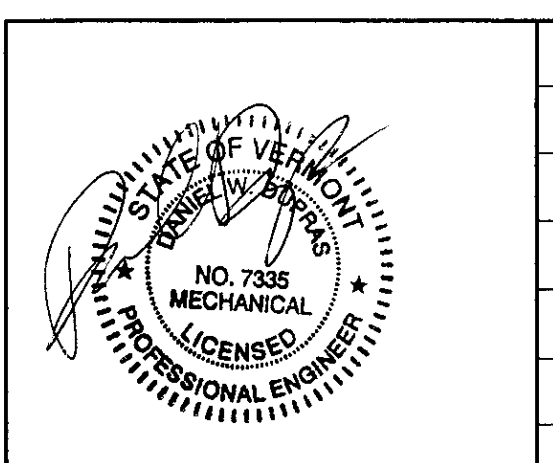
DOMESTIC WATER HEATER PIPING DETAIL
NOT TO SCALE



DOMESTIC WATER HYDRO-PNEUMATIC TANK DETAIL
NOT TO SCALE



PARTIAL GROUND FLOOR PLAN - PLUMBING WATER PIPING
SCALE: 1/4"=1'-0"



HEATING, VENTILATION, & AIR CONDITIONING,
PLUMBING, FIRE PROTECTION, & ELECTRICAL

CHARLES F. LANE, P.E.
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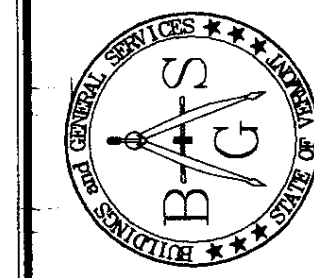
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PARTIAL GROUND FLOOR PLUMBING PLANS,
PLUMBING DETAILS & SCHEDULES

NEW HANGER
CIVIL AIR PATROL
CALEDONIA COUNTY AIRPORT
LYNDONVILLE, VT

P
1

NO.	ISSUED FOR	DATE
1	BIDDING & CONSTRUCTION	04/19/05



STATE OF VERMONT
 Department of Buildings
 and General Services
 Agency of Administration
 Montpelier, Vermont



Pearson & Associates
 MECHANICAL & ELECTRICAL ENGINEERS
 P.O. BOX 610 STOWE, VERMONT 05672
 TEL. (802) 253-9807 FAX. (802) 253-9290
 EMAIL: pearson@stovev.net

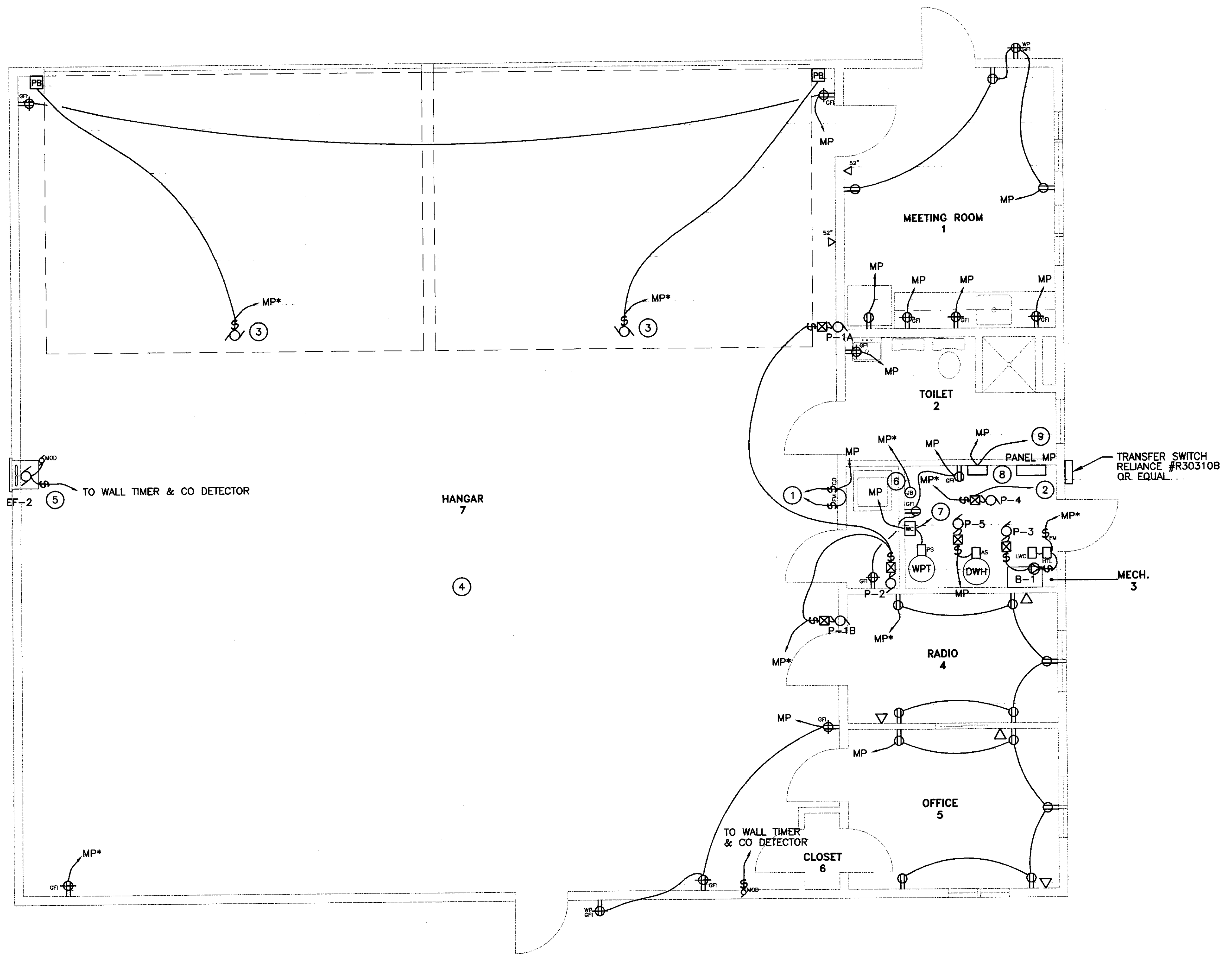
AGENCY OF TRANSPORTATION
 CALEDONIA COUNTY STATE
 AIRPORT

REVISIONS
 SCALE: AS SHOWN
 DATE: JULY 2005
 DRAWN BY: ASC
 APPR. BY: E. E. P.

NEW HANGAR
 FOR CIVIL
 AIR PATROL

ELECTRICAL
 PLAN
 E-1
 1 OF 3

LYNDONVILLE VERMONT



ELECTRICAL POWER PLAN
 SCALE: 1/4" = 1'-0"
 HORIZONTAL SCALE IN FEET

ELECTRICAL LEGEND	
	FLUORESCENT FIXTURE
	LIGHT FIXTURE
	EXIT LIGHT
	EMERGENCY LIGHT
	SWITCH - SINGLE POLE
	SWITCH - SINGLE POLE WITH GAS BURNER PLATE
	SWITCH - 3-WAY
	SWITCH - 4-WAY
	SWITCH - TIMER, INTERMATIC FF60M
	SWITCH - OCCUPANCY SENSOR
	SWITCH - FAN SPEED CONTROL, DAYTON 4C929
	FIREMATIC SWITCH, PROVIDED AND INSTALLED BY EC
	PUSH-BUTTON STATION, PROVIDED BY ES, WIRED BY EC.
	MOTOR STARTER PROV. BY MC, INSTALLED BY EC
	SAFETY DISCONNECT PROV. AND INSTALLED BY EC.
	PANEL
	BRANCH CIRCUIT
	JUNCTION BOX
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE - COUNTER HEIGHT
	DUPLEX RECEPTACLE-GFCI PROTECTED
	SPECIAL PURPOSE OUTLET, REFER TO SCHEDULE.
	WP WEATHERPROOF, NEMA 3R RATED
	AFF ABOVE FINISH FLOOR
	EC ELECTRICAL CONTRACTOR (DIVISION 16)
	MC MECHANICAL CONTRACTOR (DIVISION 15)
	GC GENERAL CONTRACTOR
	ES EQUIPMENT SUPPLIER
	TYP. TYPICAL OF ALL
	LEC LYNDONVILLE ELECTRIC COMPANY
	NEC NATIONAL ELECTRIC CODE
	MTS MANUAL TRANSFER SWITCH
	HTL HIGH TEMP. LIMIT SWITCH, PROV. BY MC, WIRED BY EC
	LWC LOW-WATER CUTOFF, PROV. BY MC, WIRED BY EC
	MOTOR
	MOTOR-OPERATED DAMPER
	PS PRESSURE SWITCH
	PHONE LOCATION (4" SQUARE BOX WITH 3/4" CONDUIT TO TELEPHONE TERMINATION AREA. PROVIDE EXTENSION RINGS (MUD RINGS) AS REQUIRED.
	PC PHOTOCELL
	TC-1 TIMECLOCK, 2-CIRCUIT, DIGITAL, ASTRONOMICAL, PROGRAMMABLE

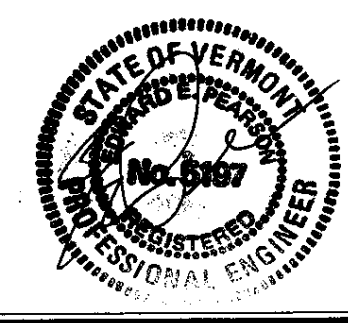
GENTRAN PANEL SCHEDULE							
CKT NO.	KW LOAD	DESCRIPTION	BREAKER		DESCRIPTION	KW LOAD	CKT NO.
			P	AMP			
1		RECEPTACLES	1	15	15	1	2
3		RECEPTACLES	1	15	15	1	4
5		BOILER	1	15	15	1	6
7		CIRC PUMP P-4	1	15	15	1	8
9		CIRC PUMPS P-1A, P-1B, P2	1	15	15	1	10

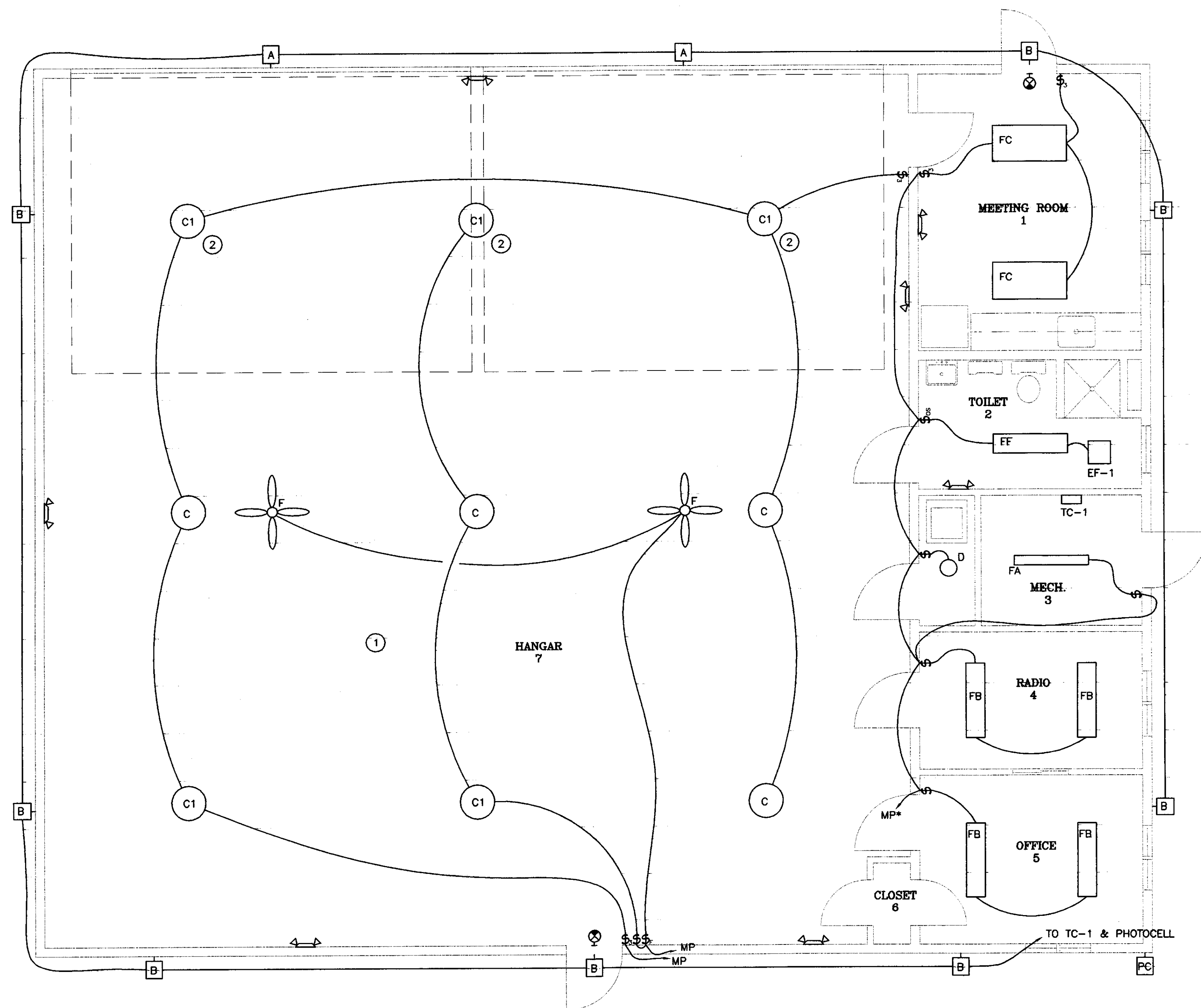
- KEYED NOTES:**
- TO EXHAUST FAN & INTAKE LOUVER. CO SENSOR & TIMER SWITCH PROVIDED BY MC, WIRED BY EC.
 - 120V LINE TO OUTDOOR AIR SENSOR, COORD. WITH MC.
 - OVERHEAD DOOR OPENER. PROVIDE WIRING TO REMOTE DOOR OPENING STATION, COORDINATE LOCATION & WIRING REQUIREMENTS WITH OWNER & EQUIPMENT SUPPLIER.
 - ALL WIRING IN THIS AREA SHALL CONFORM TO NEC ARTICLE #513. ALL RECEPTACLES SHALL BE MOUNTED AT 20" AFF.
 - PROVIDE E-Y FITTING AT MOTOR.
 - PROVIDE 120V CIRCUIT & JB FOR USE BY MC FOR CONTROL WIRING. COORD. EXACT LOCATION WITH MC.
 - 30-AMP, 240V CIRCUIT TO DEEP WELL PUMP, REFER TO SITE PLAN.
 - TELEPHONE TERMINATION AREA, CONDUIT TERMINATION AREA INCLUDING SPARE.
 - SEWER PUMP CONTROLLER, PROVIDE SERVICE TO EXTERIOR SEWER PUMP, REFER TO SITE PLAN.

- GENERAL NOTES:**
- ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CEILINGS, OR WOODWORK, CONTRACTOR IS TO REPLACE, PATCH AND PAINT FINISH SURFACES TO ORIGINAL FINISHES.
 - FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.
 - EC TO PROVIDE AND INSTALL ALL DISCONNECT SWITCHES, MC TO SUPPLY ALL MOTOR STARTERS, EC TO INSTALL.

PANEL: MP			LOCATION: BREAK ROOM				
AMPS: 150 MAIN CIRCUIT BREAKER			120/240 VOLTS 1 PHASE 3 WIRE				
AMPS FAULT CURRENT WITHSTAND: 10K			FLUSH MOUNT				
NOTES: SERVICE RATED TOTAL LOAD: 40.5 KW							
NO	BREAKER AMPS	KW LOAD	DESCRIPTION	NO	BREAKER AMPS	KW LOAD	DESCRIPTION
1	20*	0.2	RECEPTACLES GFI	2	30	3.5	WATER WELL
3	20	0.4	RECEPTACLES GFI	4	2P		
5	20	0.6	RECEPTACLES GFI	6	20*	0.7	EXHAUST FAN
7	20*	0.5	HEATING CONTROL POWER	8	20*	1.5	HANGAR DOOR
9	20	0.6	BATHROOM, RECEPTACLES	10	30	3.5	SEWER PUMP
11	20	0.7	RECEPTACLES/BREAK AREA	12	2P		
13	20	1.5	REFRIGERATOR	14	20*	1.5	HANGAR DOOR
15	20	1.5	KITCHEN COUNTERTOP	16	20*	0.5	OFFICE LIGHTING
17	20	1.5	KITCHEN COUNTERTOP	18	20*	1.2	LIGHTING & PADDLE FANS
19	20	1.5	KITCHEN COUNTERTOP	20	20	1.7	BAY LIGHTING
21	20*	1.5	BOILER B-1/PUMP P-3	22	20	0.5	OUTDOOR BUILDING LIGHTING
23	20*	1.2	CIRC. PUMPS P-1A, P-1B, P-2	24	20	0.6	MECH. ROOM RECEPTACLES
25	20*	0.4	PUMP P-4	26	20*	1.1	RADIO OFFICE
27	20	0.4	PUMP P-5	28	20		SPARE
29	20	1.1	OFFICE 5	30	20		SPARE
31			SPACE	32			SPACE
33				34			
35				36			
37				38			
39				40			
41				42			

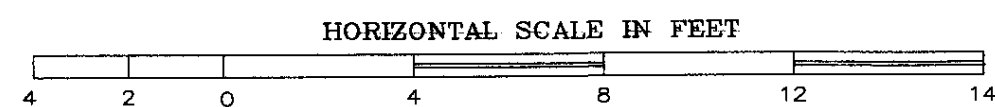
* DENOTES CONNECTION THRU GENERATOR TRANSFER SWITCH





ELECTRICAL LIGHTING PLAN

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

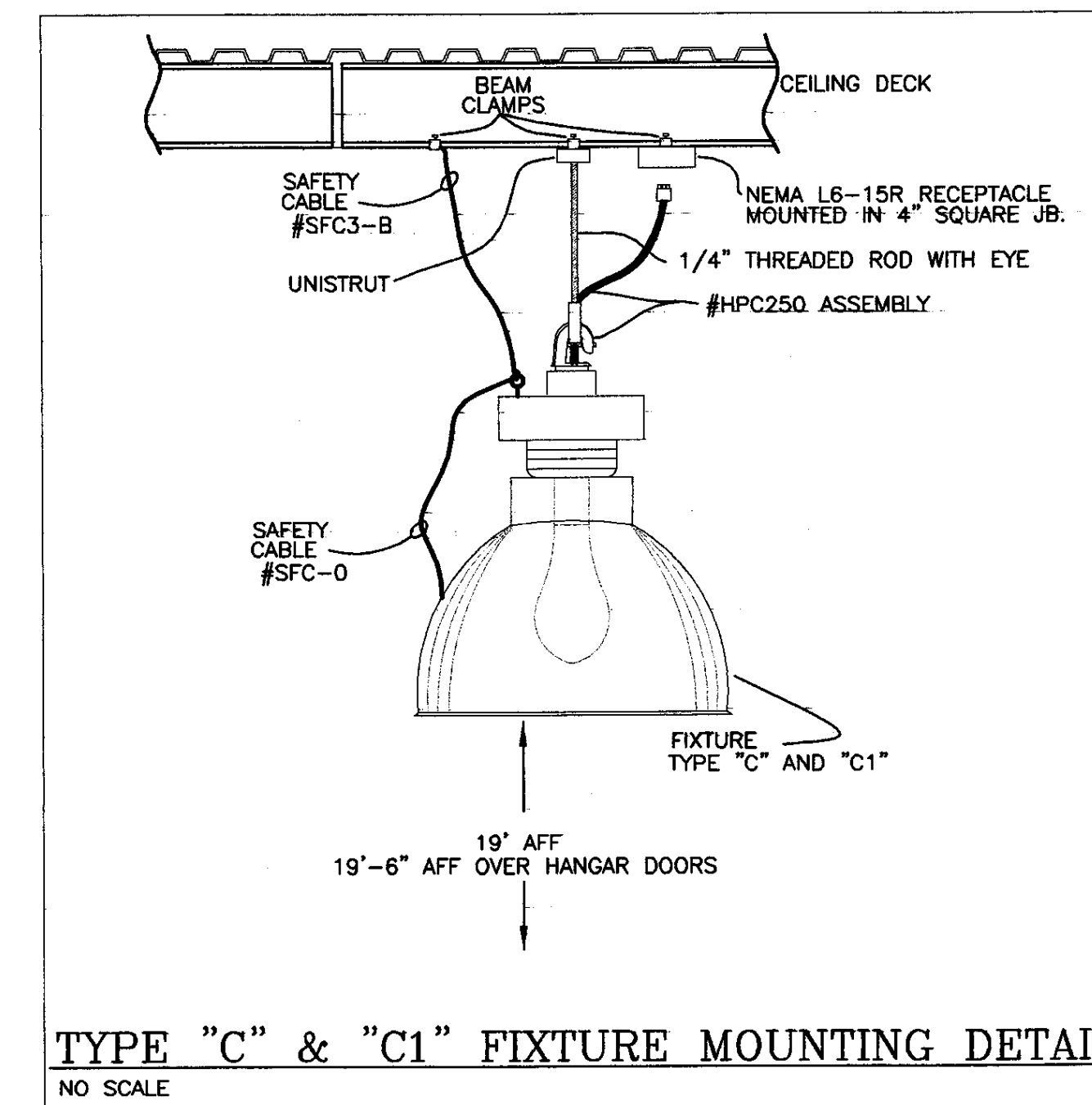


GENERAL NOTES:

- A. ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CEILINGS, OR WOODWORK, CONTRACTOR IS TO REPLACE, PATCH AND PAINT FINISH SURFACES TO ORIGINAL FINISHES.
- B. FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.
- C. EC TO PROVIDE AND INSTALL ALL DISCONNECT SWITCHES, MC TO SUPPLY ALL MOTOR STARTERS, EC TO INSTALL.

KEYED NOTES:

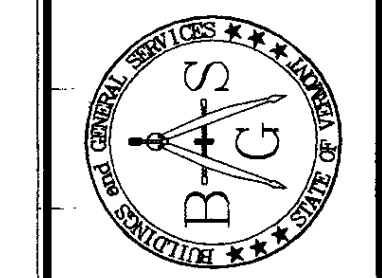
- ① ALL WIRING IN THIS AREA SHALL CONFORM TO NEC ARTICLE #513.
- ② FIXTURES OVER HANGAR DOORS MOUNTED AT 19'-6" AFF, ALL OTHERS AT 19' AFF.



TYPE "C" & "C1" FIXTURE MOUNTING DETAIL
NO SCALE

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER & MODEL	MOUNTING	LAMPS	REMARKS
A	RUUD MAC2410-D, WM-3	SURFACE	(1)-100W MH	MOUNT AT 14' AFG
B	RUUD E4405D	SURFACE	(1)-50W MH	
C	GE V2G-25P0A-4EA5 SFC-0 SFC3-B HCP250	PENDANT	(1)-250W MH COATED PULSE START	MOUNT AT 14' AFF PULSE START
C1	GE V2G-25P0A-4EA5Q SFC-0 SFC3-B HCP250	PENDANT	(1)-250W MH COATED PULSE START	SAME AS ABOVE WITH QUARTZ RE-STRIKE
D	PRESCOLITE 9424-13 NPF	SURFACE	(1)-13W TT	
F	DAYTON 4CB53 W/4C929 CONTROL	SURFACE		MOUNT AT 14' AFF
FA	METALUX DIM-232-120-EB81	CHAIN HUNG	(2)-F032T8 3500 K	
FB	METALUX WS332A-120-EB81	SURFACE	(3)-F032T8 3500 K	
FC	METALUX 2M-332PB1S-120-EB82	SURFACE	(3)-F032T8 3500 K	DUAL LEVEL LIGHTING
FF	METALUX WS232A-120-EB81	SURFACE	(2)-F032T8 3500 K	
EF-1	EXHAUST FAN - PROVIDED & INSTALLED BY MC			WIRING BY EC
☐	SURELITE CC4-WH-NICAD	SURFACE	INCLUDED	CEILING OR WALL MOUNT
⊗	SURELITE CCX-7270-RWH120	SURFACE	INCLUDED	RED LETTERING



STATE OF VERMONT
Department of Buildings and General Services
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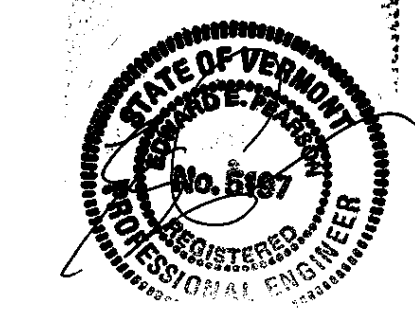


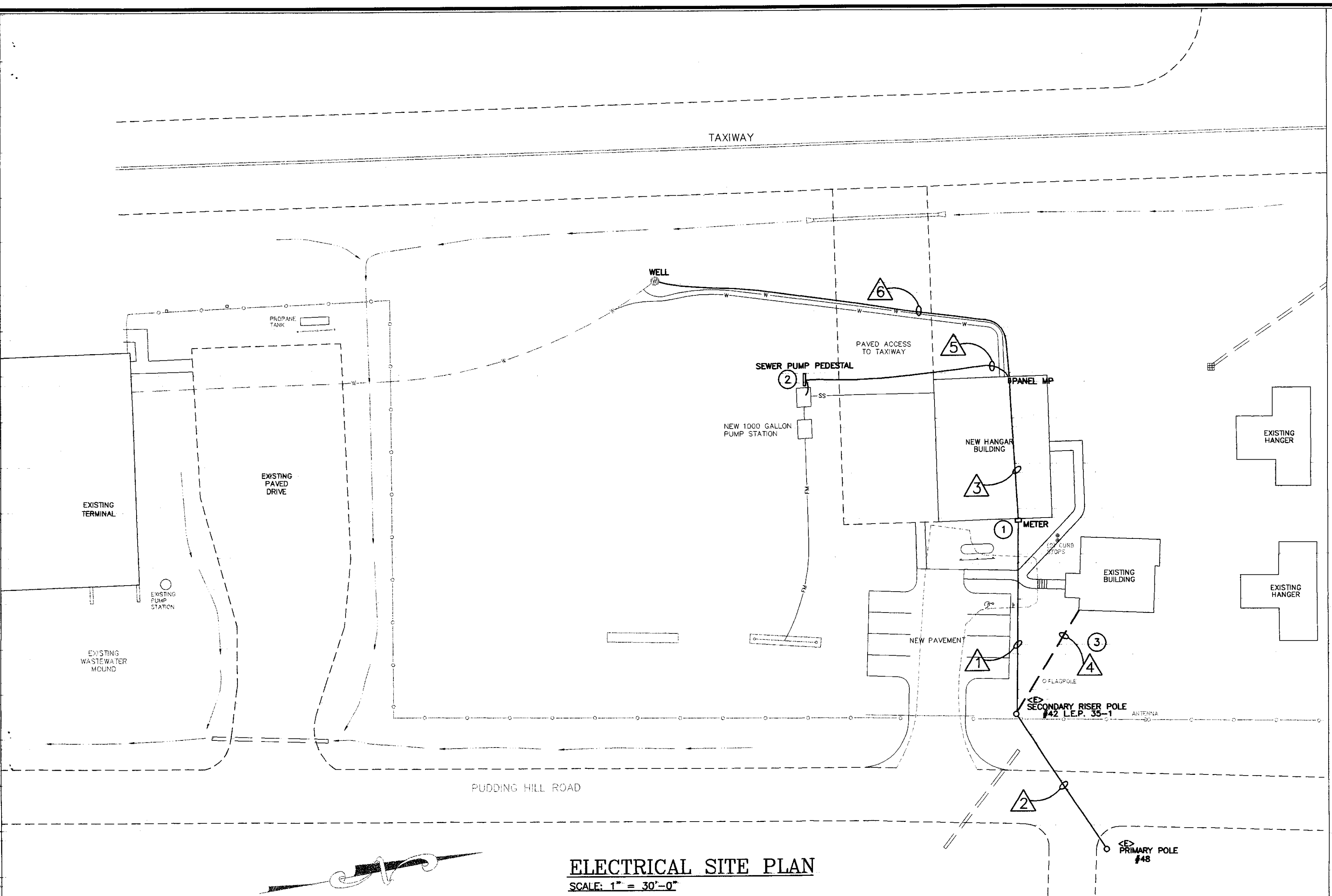
Pearson & Associates
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EMAIL: pearson@stovet.net

VERMONT
LYNDONVILLE
AGENCY OF TRANSPORTATION
CALEDONIA COUNTY STATE
AIRPORT

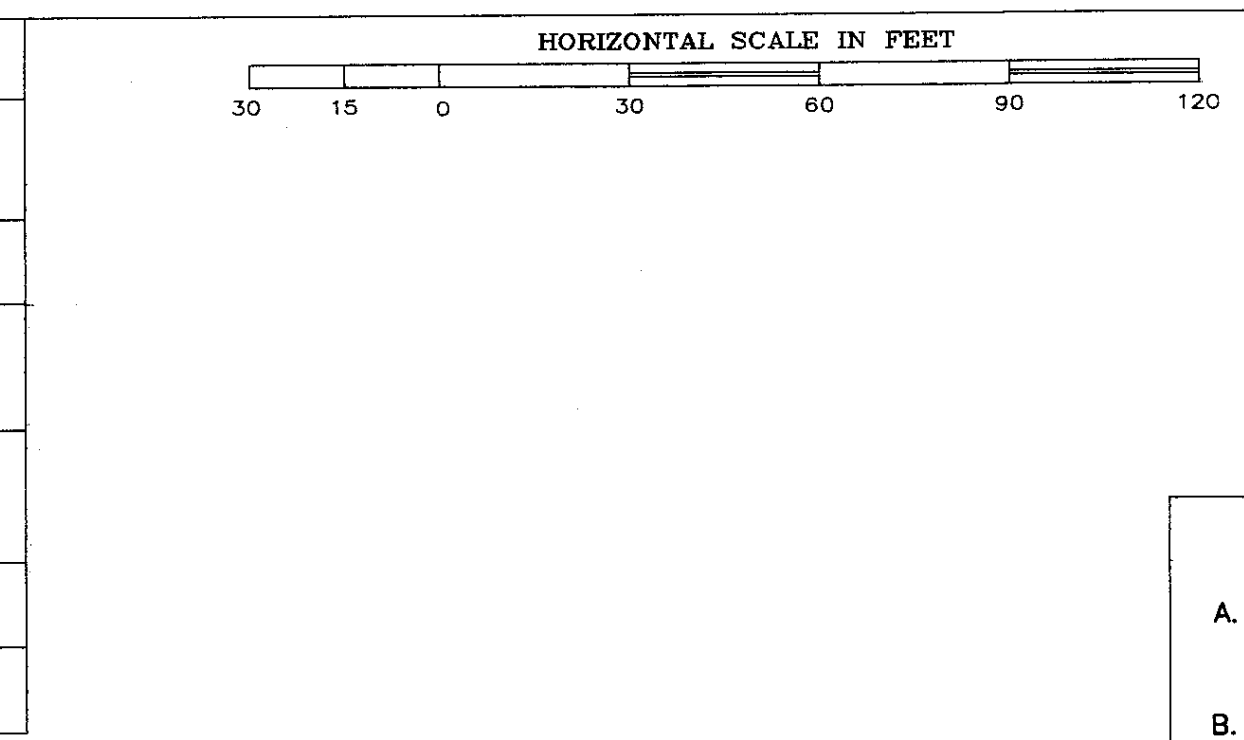
REVISIONS
SCALE: AS SHOWN
DATE: JULY 2005
DRAWN BY: ASG
APPR. BY: E. E. P.

NEW HANGAR FOR CIVIL AIR PATROL
LIGHTING PLAN



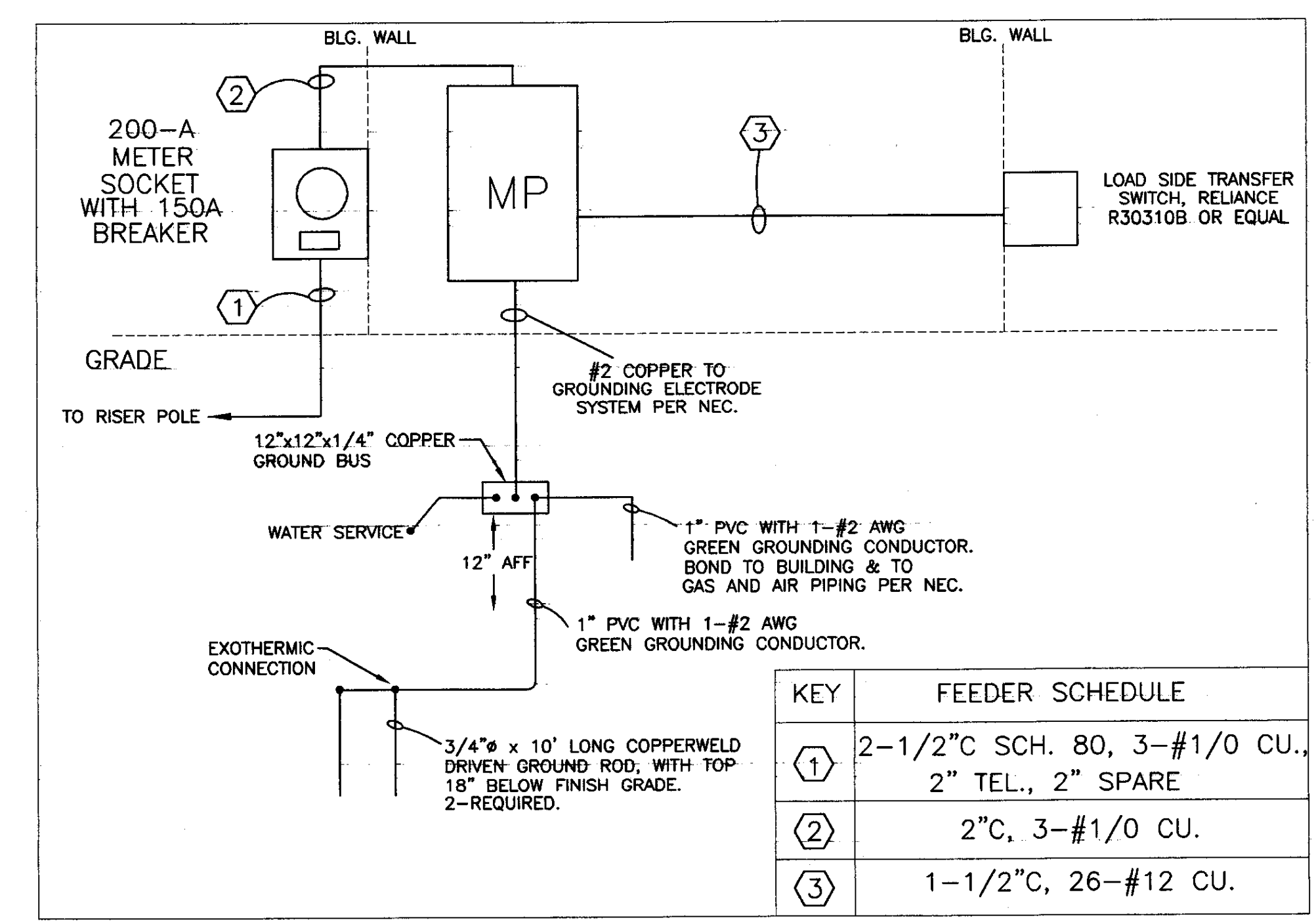


KEY	FEEDER SCHEDULE
①	2-1/2" C, 3-#1/0 CU., 2" C TEL., 2" C SPARE
②	EXISTING OVERHEAD
③	2" C, 3-#1/0 CU., 2" C TEL., 2" C SPARE
④	OVERHEAD LINES TO BE REMOVED POLE BY L.E.C.
⑤	1" C, 5-#12 CU.
⑥	1" C, 3-#8 CU.

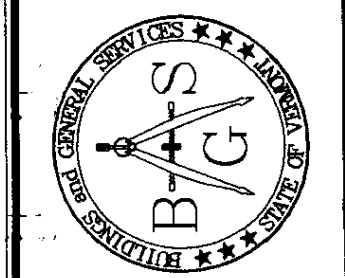
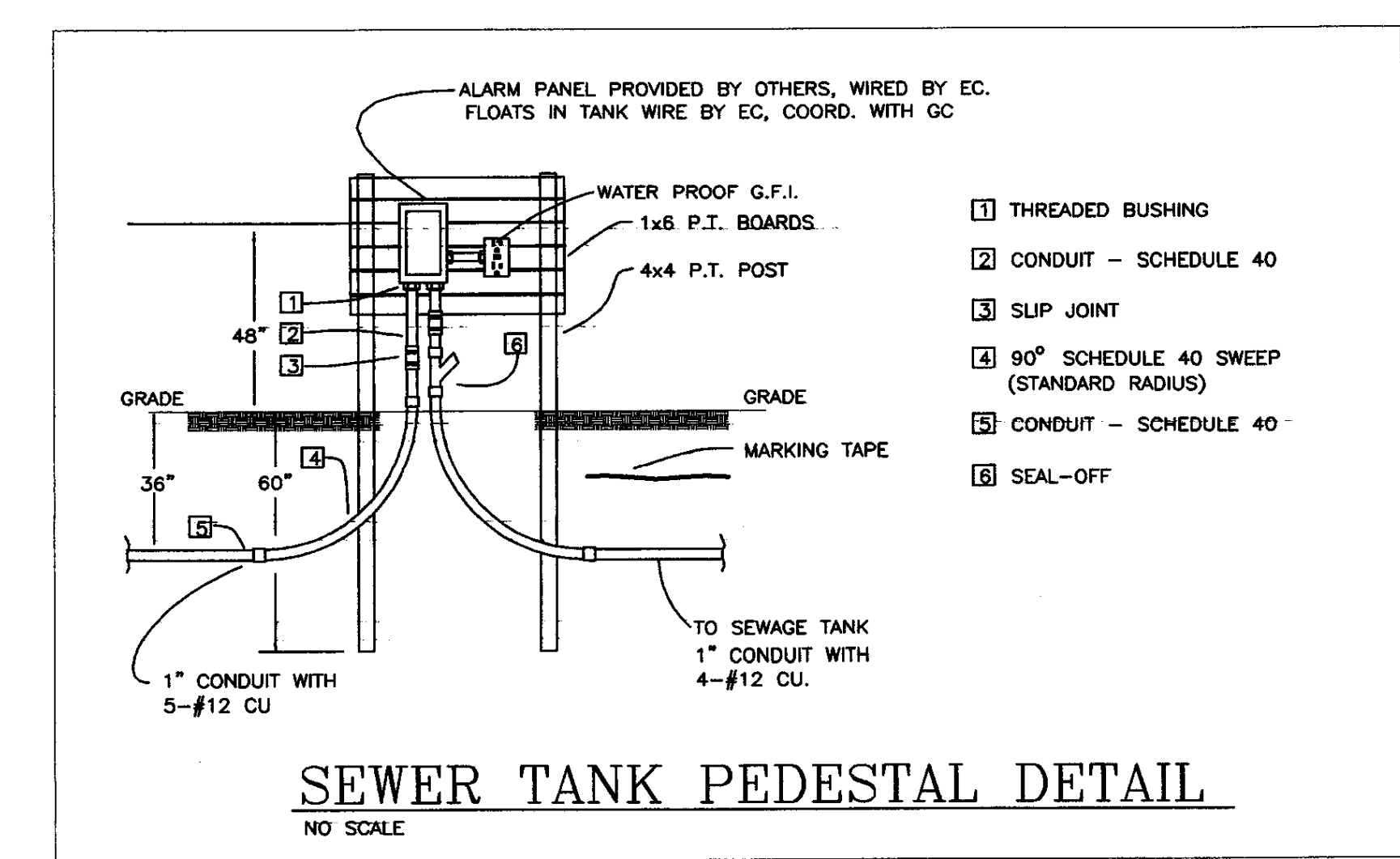
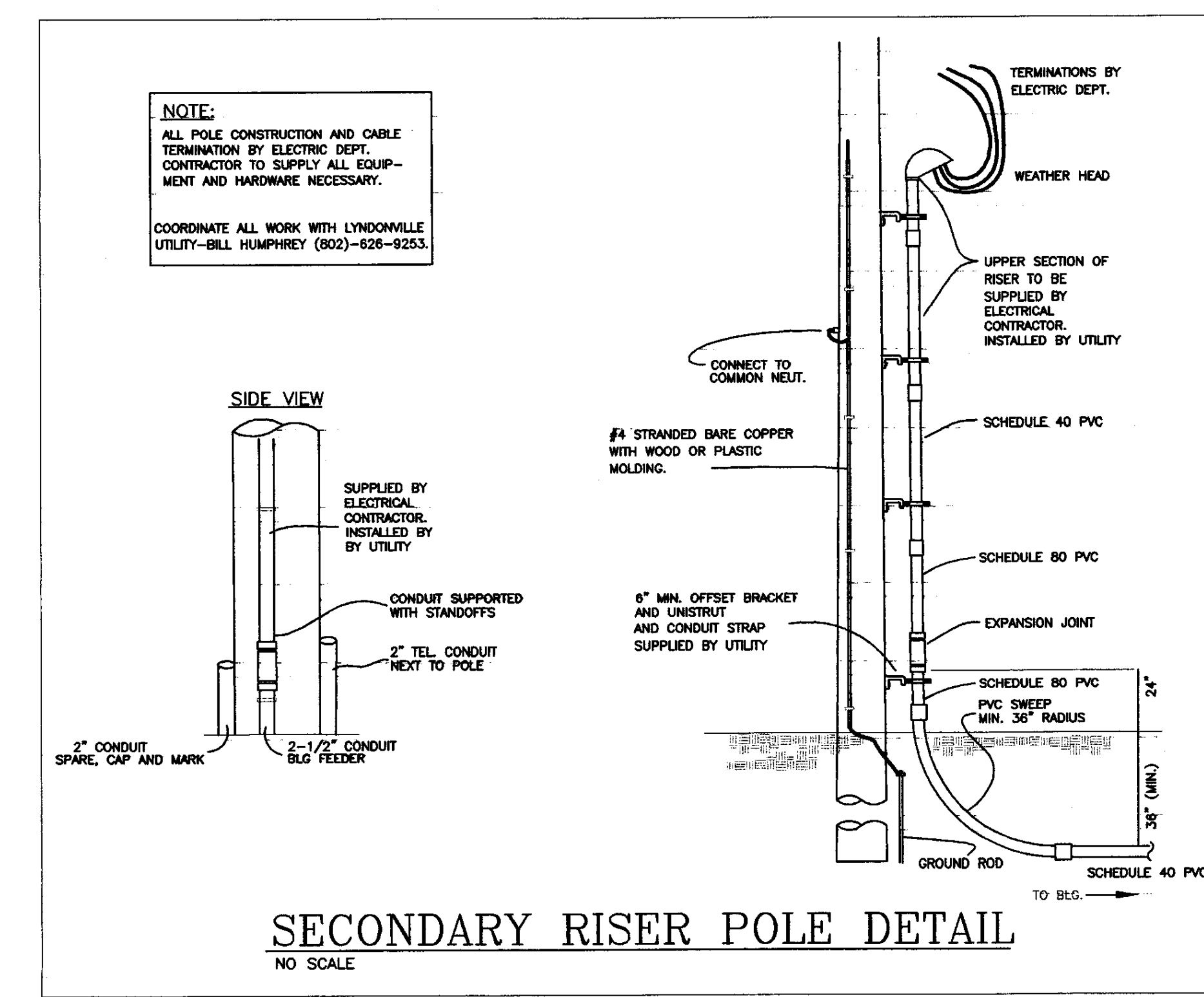


KEY	DESCRIPTION
①	SERVICE CABLE DUCT SHALL BE PVC SCHEDULE 80.
②	WARNING TAPE SHALL BE ELECTRIC LEGEND TYPE - ALLEN CAT.#ANT-1006-RE OR EQUAL (WARNING TAPE SHALL BE PLACED 12" BELOW SURFACE.)
③	TEL. DUCT SHALL BE PVC SCHEDULE 40. UNDER ROADS & DRIVEWAYS TO BE SCHEDULE 80. MAINTAIN 12" SEPARATION FROM ELECTRIC. PROVIDE SPARE 2" CONDUIT.

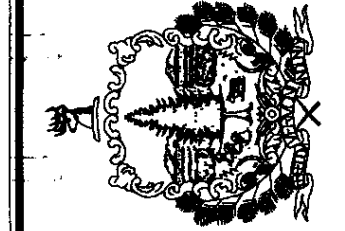
- GENERAL NOTES:**
- ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CEILINGS, OR WOODWORK, CONTRACTOR IS TO REPLACE, PATCH AND PAINT FINISH SURFACES TO ORIGINAL FINISHES.
 - FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.
 - EC TO PROVIDE AND INSTALL ALL DISCONNECT SWITCHES, MC TO SUPPLY ALL MOTOR STARTERS, EC TO INSTALL.
- KEYED NOTES:**
- TELEPHONE CONDUIT & SPARE CONDUIT CONTINUE UNDERSLAB & DO NOT EMERGE FROM THE GROUND.
 - REFER TO PEDESTAL DETAIL & CIVIL DRAWINGS FOR SEWER PUMP WIRING.
 - EXISTING OVERHEAD TO BE REMOVED. COORDINATE WITH UTILITY. EC SHALL INCLUDE \$500 ALLOWANCE FOR UTILITY CHARGES ASSOCIATED WITH REMOVING THIS OVERHEAD SERVICE.



KEY	FEEDER SCHEDULE
①	2-1/2" C SCH. 80, 3-#1/0 CU., 2" TEL., 2" SPARE
②	2" C, 3-#1/0 CU.
③	1-1/2" C, 26-#12 CU.



STATE OF VERMONT
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Agency of Administration
Montpelier, Vermont



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EMAIL: pearson@townvermont.net



AGENCY OF TRANSPORTATION
CALEDONIA COUNTY STATE
AIRPORT
LYNDONVILLE VERMONT

REVISIONS
SCALE: AS SHOWN
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APPR. BY: E. E. P.

NEW HANGAR
FOR CIVIL
AIR PATROL
ELECTRICAL
PLAN

