

PERMIT SET

10.30.2015

ABBREVIATIONS

A.B.	ANCHOR BOLT
ACOUST.	ACOUSTICAL
A.E.S.S.	
A.F.F.	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
BD.	BOARD
CEM.	CEMENT
C.I.	CAST IRON
C.I.	CURB INLET
C.B.	CATCH BASIN
C. JT.	CONTROL JOINT
CLG.	CEILING
CLR.	CLEAR
C.M.U.	CONCRETE MASONRY UNIT
C.G.	CORNER GUARD
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
C.S.	COUNTER SUNK
DIA.	DIAMETER
DTL.	DETAIL
DWG.	DRAWING
EA.	EACH
E.C.	ELECTRICAL CONTRACTOR
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EXP. JT.	EXPANSION JOINT
E.W.C.	ELECTRIC WATER COOLER
EXT.	EXTERIOR
EXIST.	EXISTING
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.E.	FINISHED FLOOR ELEVATION
F.H.	FLAT HEAD
FIB.	FIBER
FIN.	FINISH
FLR.	FLOOR
F.O.	FACE OF
F.S.	FULL SIZE
FTG.	FOOTING
F.P.	FIREPROOFING
FURR.	FURRING
GA.	GAUGE
G.C.	GENERAL CONTRACTOR
GYP.	GYPSPUM
H.D.	HEAVY DUTY
HM	HOLLOW METAL
HR.	HOUR
HVAC	HEATING, VENTILATION, AIR COND.
H.W.	HARDWOOD
L.W.	LIGHTWEIGHT
MAX.	MAXIMUM
MTL.	METAL
MIN.	MINIMUM
M.O.	MASONRY OPENING
M.R.	MOISTURE RESISTANT
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL
O.D.	OUTSIDE DIAMETER
O.C.	ON CENTER
OPP. HAND	OPPOSITE HAND
OPG.	OPENING
P.C.	PLUMBING CONTRACTOR
PME	PLUMBING, MECHANICAL, ELECTRICAL
P.T.	PRESSURE TREATED
R.	RADIUS
RCP	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
R.D.L.	ROOF DRAIN LEADER
R.O.	ROUGH OPENING
SIM.	SIMILAR
S.Y.P.	SOUTHERN YELLOW PINE
SAN. S.	SANITARY SEWER
ST.	STAINLESS
STL.	STEEL
STM. S.	STORM SEWER
T.B.D.	TO BE DETERMINED
T.O.F.	TOP OF FOOTING
TUB.	TUBULAR
TYP.	TYPICAL
V.C.P.	VITRIFIED CLAY PIPE
V.I.F.	VERIFY IN FIELD
W.W.M.	WELDED WIRE MESH
WD.	WOOD



HORSESHOE FARM NATURE PRESERVE, FARMHOUSE



CITY OF RALEIGH PARKS AND RECREATION
2900 Horse Shoe Farm Rd
Raleigh, North Carolina 27587

DRAWING INDEX

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A101	Roof + Site Plans
A201	Floor Plan, Door Schedule + Int. Elev.
A202	Reflection Ceiling Plan
A301	Exterior Elevations
A302	Exterior Elevations
A401	Building Section
A501	Wall Sections
A510	Walkway + Landing Details
S1	Floor Plan and Foundation Plan
S2	Roof and Ceiling Reinforcing
P100	Plumbing Cover Sheet
P101	Floor Plans - Plumbing
P102	Isometrics of Plumbing Systems
M100	Mechanical Cover Sheet
M101	Floor Plans - Mechanical
M102	Schedules and Details
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E101	Electrical Power Plans
E102	Electrical Lighting Plans + Schedule
E500	Electrical Details + Schedules

PROJECT CONDITIONS

- A. Temporary Utilities: At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
1. Keep temporary services and facilities clean and neat.
 2. Relocate temporary services and facilities as required by progress of the Work.

NOTE

For Asbestos and Lead Abatement see specifications issued by City of Raleigh.



PERMIT SET
10.30.2015

**CITY OF RALEIGH
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2.)**

Name of Project: Horseshoe Farm Nature Preserve Farmhouse
Address: 2900 Horseshoe Farm Park Road, Raleigh, NC 27587 Suite #: _____
Owner or Authorized Agent: City of Raleigh Parks, Recreation and Cultural Resources Dept., James Marapoti
Phone: 919.996.4777
Email: James.Marapoti@raleighnc.gov Fax: 919.996.7486
Owned By: Privately City/County State
Code Enforcement Jurisdiction: City County City/County
Name of Jurisdiction: City of Raleigh

PROJECT SUMMARY:

Building Description: The work for the renovated Horseshoe Farmhouse will include demolition of a two-story addition of approximately 1,200 SF and renovation of a 1,230 SF one-story wood-framed building.

Scope of Work: Demolition work will include removal of some interior finishes, systems and construction, as well as removal of the existing roofing. Renovated spaces will include a main gathering hall/reception area, and office, a kitchen, an exhibit room, a bathroom, additional storage, and mechanical spaces. Program will include exterior spaces, including an access path and an accessible walkway. There will be grading, utility, and pathway site work. The exterior will be a combination of wood to match the existing building, and aluminum-clad wood windows. The new roof will be metal roof panels on existing structure.

Code Compliance Summary: NCSBC; NCSBC-PC

Alternative Means of Compliance Request:

Lead Design Professional/Project Coordinator: Frank Harmon

DESIGNER	FIRM	NAME	LICENSE	TELEPHONE
Architectural:	Frank Harmon Architect PA	Frank Harmon	1934	919.829.9464
Civil:	N/A			
Electrical:	Sud Associates, P.A.	Misha Meinert	15491	919.493.5277
Fire Alarm:	N/A			
Plumbing:	Sud Associates, P.A.	Joseph Spittler	7511	919.493.5277
Mechanical:	Sud Associates, P.A.	Joseph Spittler	7511	919.493.5277
Sprinkler-Standpipe:	N/A			
Structural:	SGI Engineering	Charles E. Murphy, PE	14542	919.942.7612
Precast:	N/A			
Trusses:	N/A			
Retaining Walls >5' High:	N/A			
Other:	N/A			

Note: Special Inspections to be listed at end of this document.

Building Code: 2015 NC Existing Building Code
 2012 North Carolina State Building Code (NCSBC)
 2012 NC Rehab
New Building: New Building Shell Building First Time Interior Completion
 Addition Alteration to Shell

Accessibility Compliance Form (when applicable)

Existing Building: Renovation Interior Completion Tenant Alteration
 Reconstruction Repair Alteration to Shell
 Change of Use Tenant Space Change of Occupancy

Note: Zoning Review May Be Required for Change of Use or Occupancy

Original Occupancy: Residential

Proposed Occupancy: Business

OCCUPANCY INFORMATION

Primary Occupancies: Assembly: A-1 A-2 A-3 A-4 A-5
 Business Educational Factory-Industrial: F-1 F-2
High-Hazard: H-1 H-2 H-3 H-4 H-5
Institutional: I-1 I-2 I-3 I-4
I-3 USE CONDITION: 1 2 3 4 5
 Mercantile Residential: R-1 R-2 R-3 R-4
Storage: S-1 S-2 High-piled
S-1 SPECIAL CONDITION: Repair Garage (406.6)
S-2 SPECIAL CONDITION -- Parking Garage: Open (406.3) Enclosed (406.4)
 Utility and Miscellaneous

Accessory Occupancies:

Accessory Uses (Indicate Percentages): _____

Incidental Uses: _____

Special Occupancies: 402 403 404 405 406 407 408
 409 410 411 412 413 414 415
 416 417 418 419 420 421 422
 423 424 425 426 427

Special Provisions:

Mixed Occupancy: No Yes Separation: _____

Exception: _____

Non-Separated Mixed Occupancy (508.3.2)

Separated Mixed Occupancy (508.3.3)

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

ALLOWABLE AREA AND HEIGHT CALCULATIONS
THIS SECTION FOR NEW, ADDITIONS, CHANGE OF USE, AND INTERIOR COMPLETIONS

EXTERIOR WALL	ACTUAL LENGTH	OPEN LENGTH	WIDTH OF PUBLIC WAY OR OPEN SPACE
North			
South			
East			
West			
Total	P		F

INCREASE FRONTAGE _____ %
SPRINKLERS _____ %

FRONTAGE INCREASE FORMULA ALLOWABLE AREA FORMULA

$$I_f = 100 \left(\frac{F - 0.25}{P} \right) \frac{W}{30}$$

BOTH BUILDING AND TENANT MUST BE INDICATED ON CHART BELOW

STORY NO.	OCCUPANCY	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) % OPEN SPACE INCREASE	(D) % SPRINKLER INCREASE	(E) ALLOWABLE FLOOR AREA OR UNLIMITED	RATIO OF ACTUAL/ALLOWABLE	(I) MAXIMUM BUILDING AREA	SEPARATION RATING REQUIRED
1	Business	1230 SF	9000 SF	NA	NA	9000 SF	.137	9000 SF	NA

- ¹ Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ ft (F)
b. Total Building Perimeter = _____ ft (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ ft (W)
e. Percent of frontage increase $I_f = 100 [(F/P - 0.25) \times W/30] = \text{_____} (\%)$
- ² The sprinkler increase per Section 506.3 is as follows:
a. Multistory building $I_s = 200$ percent
b. Single story building $I_s = 300$ percent
- ³ Unlimited area applicable under conditions of Sections Group B, F, M, S, A-4 (507.1, 507.2, 507.3, 507.4, 507.7); Group A motion picture (507.10); Malls (507.11); and H-2 aircraft paint hangers (507.8).
- ⁴ Maximum Building Area = total number of stories in the building x E but not greater than 3 x E.
- ⁵ The maximum area of parking garages must comply with 406.3.5. The maximum area of air traffic control towers must comply with 412.3.2.

ALLOWABLE HEIGHT

MOST RESTRICTIVE USE (GROUP)	ALLOWABLE HEIGHT (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type	Type	Type	Table 601
Building Height in Feet	H = 40 ft	H + 20 ft = _____ ft	H = 22 ft	Table 503
Building Height in Stories	S = 1	S + 1 = _____	S = 1	Table 503

BUILDING DATA

THIS SECTION REQUIRED FOR ALL PROJECTS

Construction Type: I-A I-B II-A II-B III-A III-B
 IV-HT V-A V-B

Mixed construction: No Yes Types _____

Sprinklers: No Yes NFPA 13 NFPA 13R NFPA 13D
 Partially Sprinklered Special Suppression

Standpipes: No Yes Class: I II III Wet Dry

Fire District: No Yes (Appendix D) Flood Hazard Area No Yes

Building Height: 21 Feet 1 Story

Basement: No Yes

Mezzanine: No Yes

High Rise: No Yes Life Safety Plan Sheet # (if provided): _____

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
Basement			
Ground Floor	1,230		1,230
Mezzanine			
2 nd Floor			
3 rd Floor			
4 th Floor			
TOTAL			1,230

Area of Project Tenant/Alteration/Renovation: _____
Area of Construction: _____

FIRE PROTECTION REQUIREMENTS

THIS SECTION REQUIRED FOR ALL PROJECTS

Life Safety Plan Sheet #, if Provided _____

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	REQ'D*	PROVIDED (W/ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Bearing walls Exterior	0	-	-	-	-	-	-
North							
East							
West							
South							
Interior Bearing Walls	0	-	-	-	-	-	-
Nonbearing walls Exterior	0	-	-	-	-	-	-
North							
East							
West							
South							
Interior Non Bearing Walls	0	-	-	-	-	-	-
Structural frame, including columns, girders, trusses	0						
Floor construction, including supporting beams and joists. List construction type	0						
Floor Ceiling Assembly	0						
Columns Supporting Floors	0						
Roof construction, including supporting beams and joists**	0						
Roof Ceiling Assembly	0						
Columns Supporting Roof	0						
Shafts - Exit Enclosures	0						
Shafts - Other (describe)	-						
Shafts - Other (describe)	-						
Corridor Separation	-						
Occupancy Separation	-						
Party/Fire Wall Separation	-						
Incidental Use Separation	-						
Dwelling/Sleeping unit Separation	-						
Smoke Barrier Separation	-						
Tenant Separation	-						

* Indicate section number permitting reduction
** Indicated if using Table 601 Note C exception

PERCENTAGE OF WALL OPENING CALCULATIONS

THIS SECTION FOR ADDITIONS, NEW, AND CHANGE OF USE

Allowable openings per Table 705.8

70% PER TABLE 705.8

WALL LEGENDS

THIS SECTION REQUIRED FOR ALL PROJECTS

CHECK IF THE FOLLOWING ARE PRESENT AND INDICATE BY A WALL LEGEND ON ALL PLANS
 Fire Partitions 708 Fire Walls 705 Fire Barriers 706 Smoke Partitions 710
 Smoke Barriers 709 Shaft Enclosure 707

LIFE SAFETY SYSTEM REQUIREMENTS

THIS SECTION REQUIRED FOR ALL PROJECTS

Emergency Lighting: No Yes
Exit Signs: No Yes
Fire Alarm: No Yes
Smoke Detection Systems: No Yes
Panic Hardware: No Yes

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS
THIS SECTION REQUIRED FOR ALL PROJECTS

FLOOR, ROOM AND/OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS** (SECTION 1015.2)	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
GROUND FLOOR	2	2	TABLE 1016.1, 200'	45'	N/A	N/A

- ¹ Corridor dead ends (Section 1017.3)
² Single exits (Section 1015.1; Section 1019.2)
³ Common Path of Egress Travel (Section 1014.3)

OCCUPANT LOAD AND EXIT WIDTH

THIS SECTION REQUIRED FOR ALL PROJECTS

USE-GROUP AND/OR SPACE DESIGNATION	(a) AREA ¹ SQ. FT.	(b) AREA ¹ PER OCCUPANT	(a+b) NUMBER OF OCCUPANTS	EXIT WIDTH (in) ^{2,3,4,5}					
				EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a+b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
GROUND FLOOR	1230	100 NET	12	N/A	2	N/A	3"	N/A	36"
Total # of Occupants			12						

- ¹ See Table 1004.1.1 to determine whether net or gross area is applicable.
² Minimum stairway width (Section 1009.1); min. corridor width (Section 1017.2); min. door width (Section 1008.1.1)
³ Minimum width of exit passageway (Section 1021.2)
⁴ The loss of 1 means of egress shall not reduce the available capacity to less than 50 percent of the total required (Section 1005.1)
⁵ Assembly occupancies (Section 1025)

ASSEMBLY OCCUPANCY INFORMATION

THIS SECTION FOR ASSEMBLY USE AREA(S)

Space Description	Area - SF	Occupant Load Factor	Occupant Load	Exit Width	Exit Quantity
TOTAL					

PLUMBING FIXTURE REQUIREMENTS

THIS SECTION REQUIRED FOR ALL PROJECTS

OCCUPANCY	WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/TUBS	DRINKING FOUNTAINS	
	FEMALE	MALE		FEMALE	MALE		REGULAR	ACCESSIBLE
BUSINESS	1	See * below		1	See * below			
Total Required	1	*		1	*			
Total Provided	1	*		1	*			

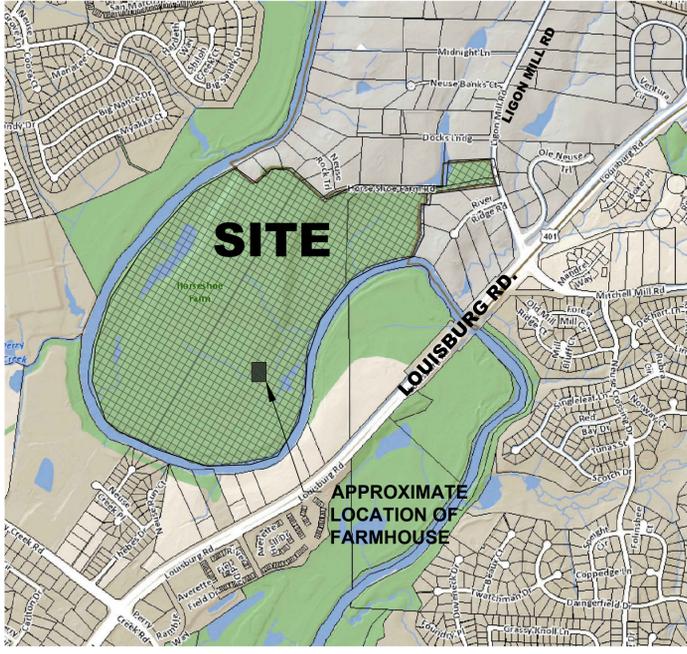
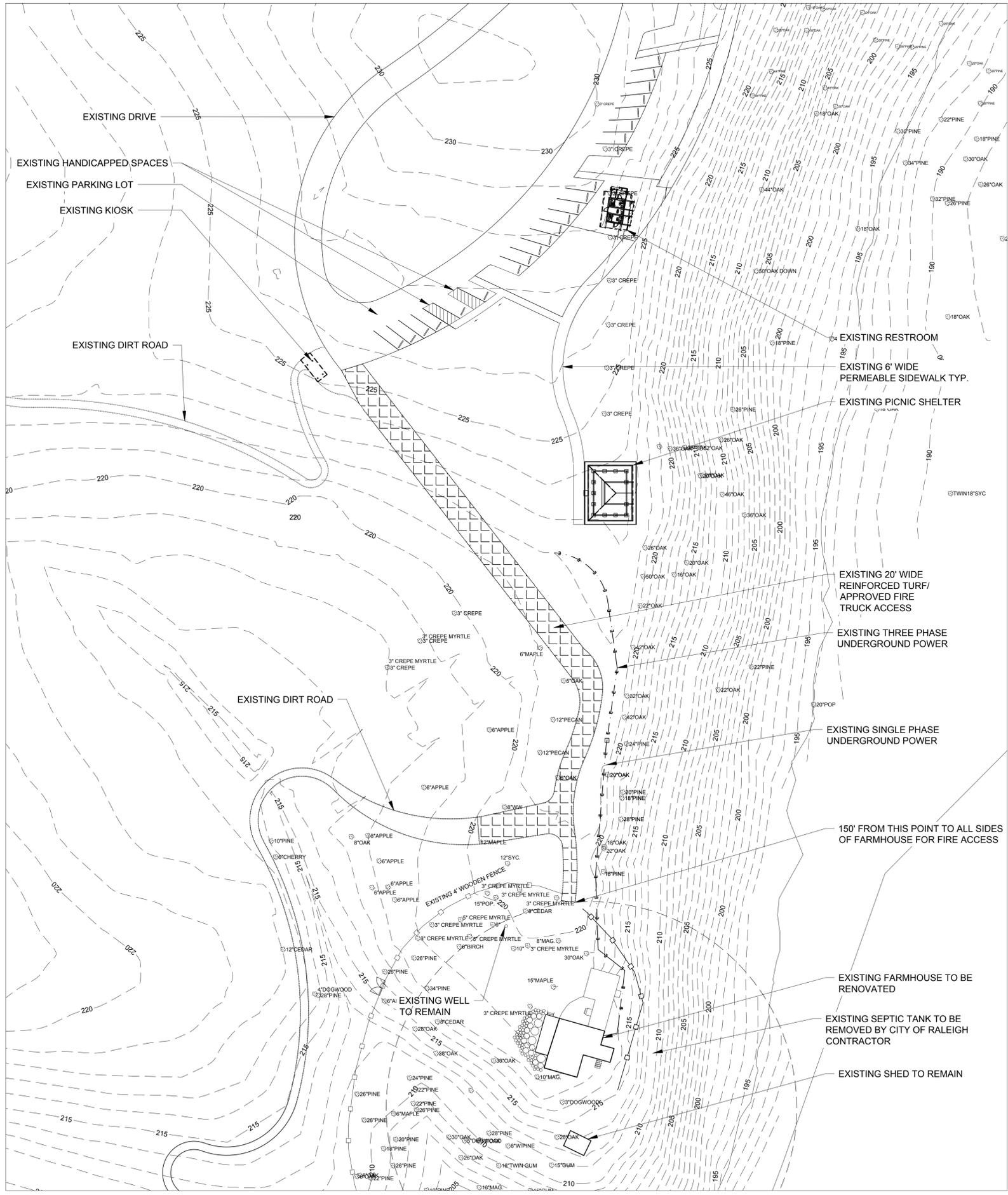
*NC Building Code: Section 2902.2 Exception 2: Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 25 or less.

BUILDING DRAIN SIZE	NUMBER OF BUILDING DRAINS	TOTAL FIXTURE UNIT LOAD	WATER SERVICE SIZE	NUMBER OF WATER SERVICES	TOTAL FIXTURE UNIT LOAD	NOTES
4"	1	7.5	1"	1	7.5	WELL AND SEPTIC SYSTEM

Structural Design Loads

Structure Conforms to "Conventional Light Frame Provisions of 2308

- Yes, continue No, Go to Line 9
- Roof Live Load = PSF
- Floor Live Load = PSF
- Ground Snow Load (Pg) = PSF
- Basic Wind Speed, 3 sec. Gust = MPH
- Seismic Site Class =
- Seismic Design Category =
- Go to Line 44
- Live Loads** Area
- Floor Live Load (indicate area) = 50 PSF
- Floor Live Load (porch & landing) = 100 PSF
- Floor Live Load (walkway) = 100 PSF
- Live Load Reduction used in Design NO
- Roof Live Load = 20 PSF
- Roof Snow Load Data**
- Flat-Roof Snow Load (Pf) = NA PSF
- Snow Exposure Factor (Ce) = 1.0
- Snow Importance Factor (Is) = 1.0
- Thermal Factor (Ct) = 1.0
- Wind Design Data**
- Basic Wind Speed, 3 sec. Gust = 100 MPH
- Wind Importance Factor (Iw) = 1.0
- (If multiple exposures are used indicate directions)
- Wind Exposure C
- Internal Pressure Coefficient 0.18
- (If elements are not designed by the registered design professional)
- Components and Cladding Loads = 11.8 KIPS
- Wind Base Shear, W (north/south) 11.5 KIPS
- Wind Base Shear, W (east/west)
- Earthquake Design Data**
- Seismic Important Factor (Ie) = 1.0
- Occupancy Category II

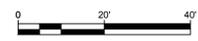


VICINITY MAP

SITE PLAN DATA SHEET	
ADDRESS	2900 HORSESHOE FARM RD WAKE FOREST, NC 27587
PIN #	1737772130
REFERENCE	REFER TO HORSESHOE FARM NATURE PRESERVE SP-49-2012
ACRES	137.25
NOTES:	SCOPE - DEMOLISH ~ 700 SQ. FT. AND RENOVATE EXISTING HOUSE TO INCLUDE OFFICE FOR TWO CITY STAFF MEMBERS.

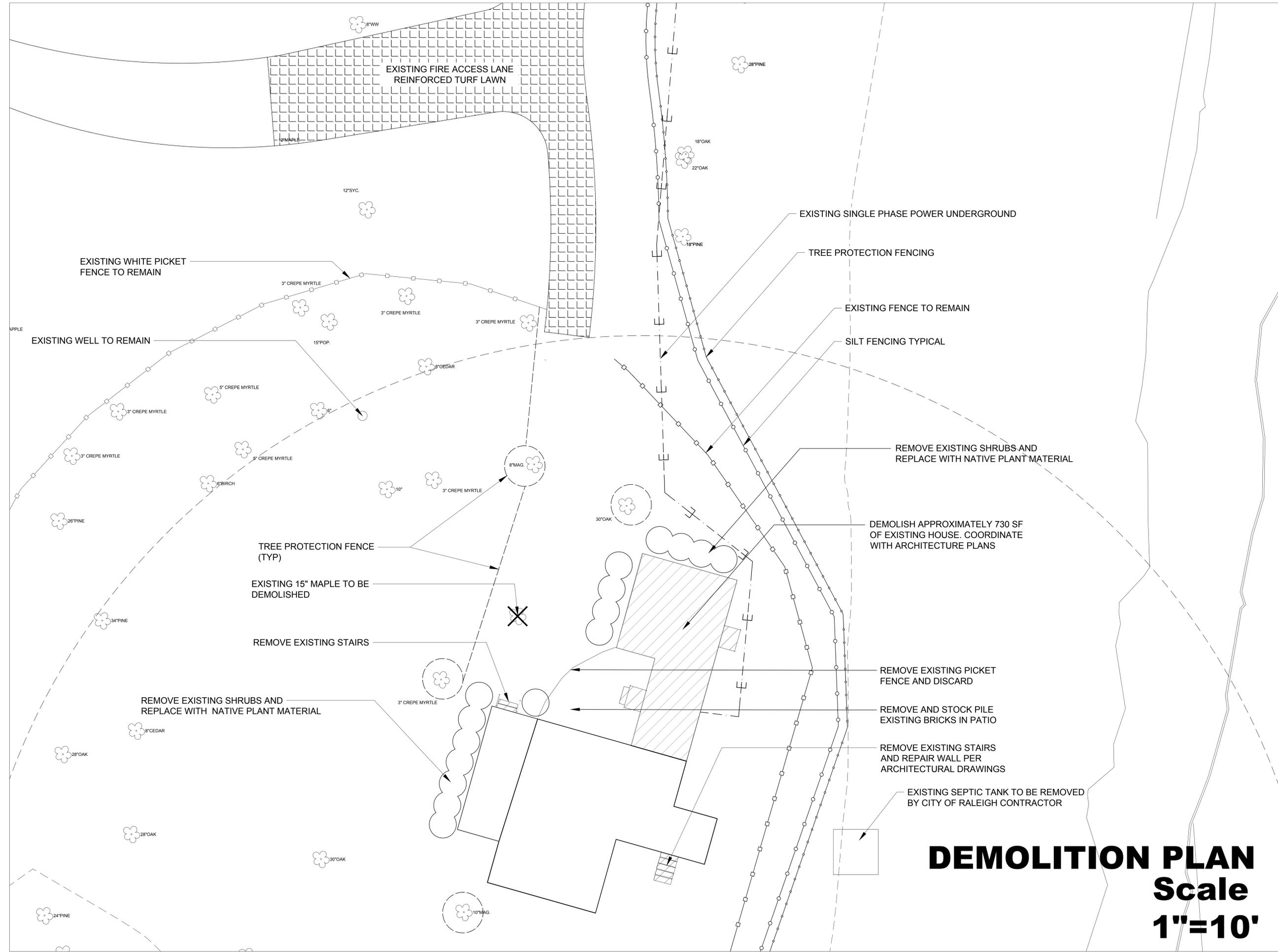
EXISTING CONDITIONS

SCALE 1" = 40'



PERMIT SET





DEMOLITION PLAN
Scale
1"=10'

PERMIT
 SET



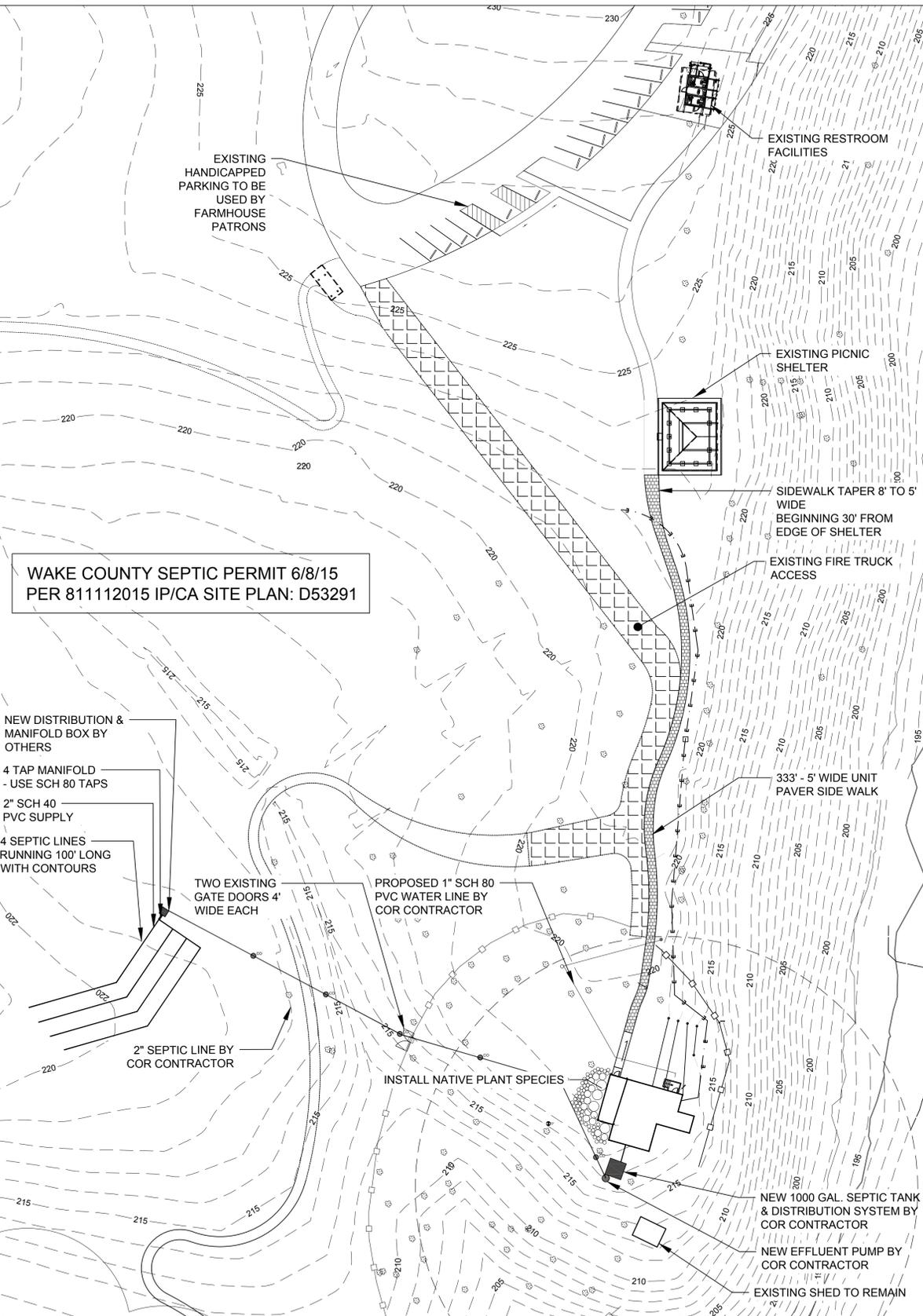
HORSESHOE FARM NATURE PRESERVE,
 FARMHOUSE
 CITY OF RALEIGH PARKS AND
 RECREATION
 2900 Horse Shoe Farm Road,
 Raleigh, NC 27587

Job No.	Date	Scale
1504	10/30/2015	as noted

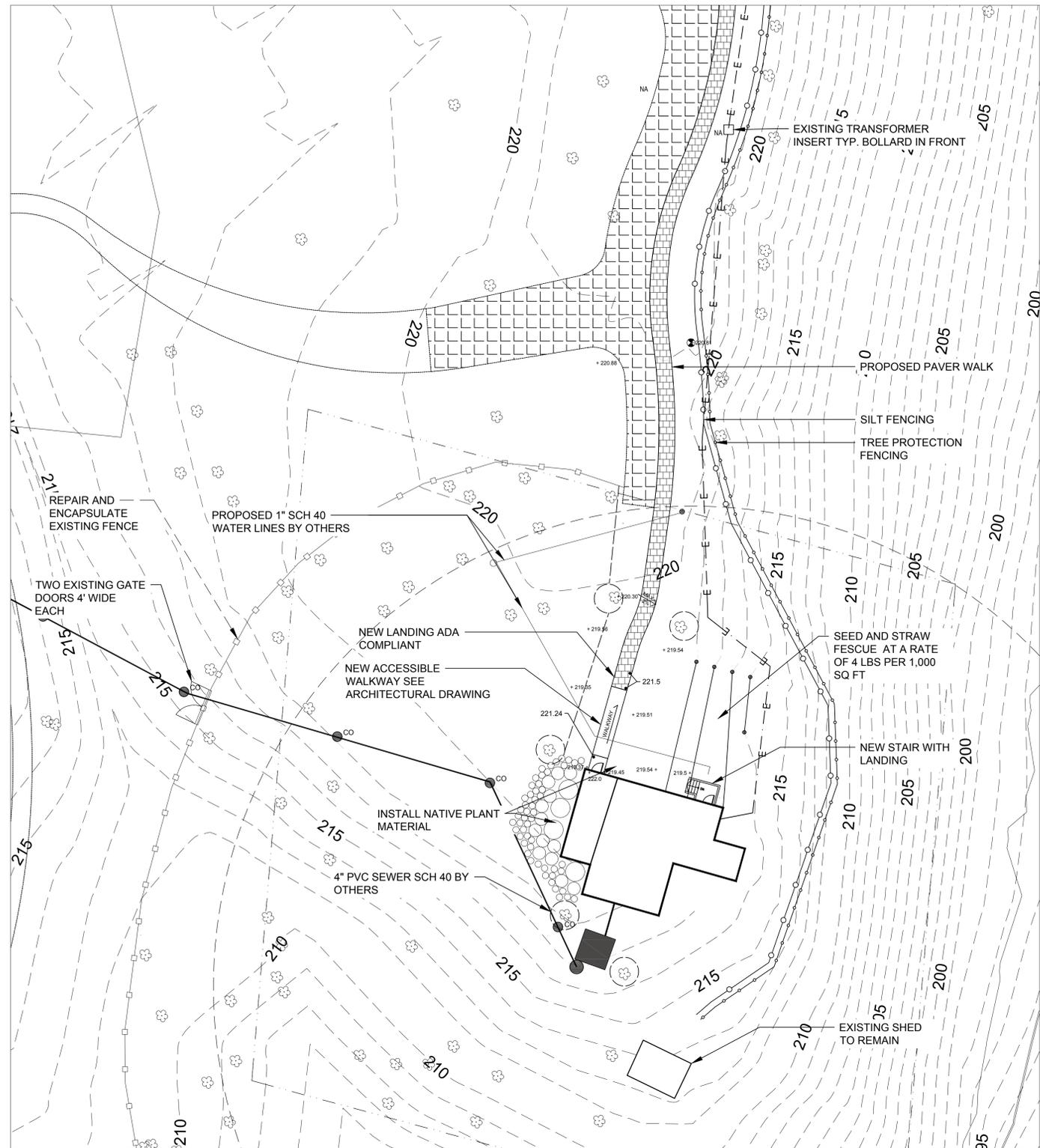
Parks Recreation and Cultural Resources Department
 222 W. Hargett St., Raleigh, NC 27601
 TEL 919 890.3285 FAX 919 890.3299

Drawn	Checked
-	-

DEMOLITION PLAN
 Sheet
 L102



**Scale
1"=40'**



**Scale
1"=20'**

PROPOSED PLAN

PERMIT
SET

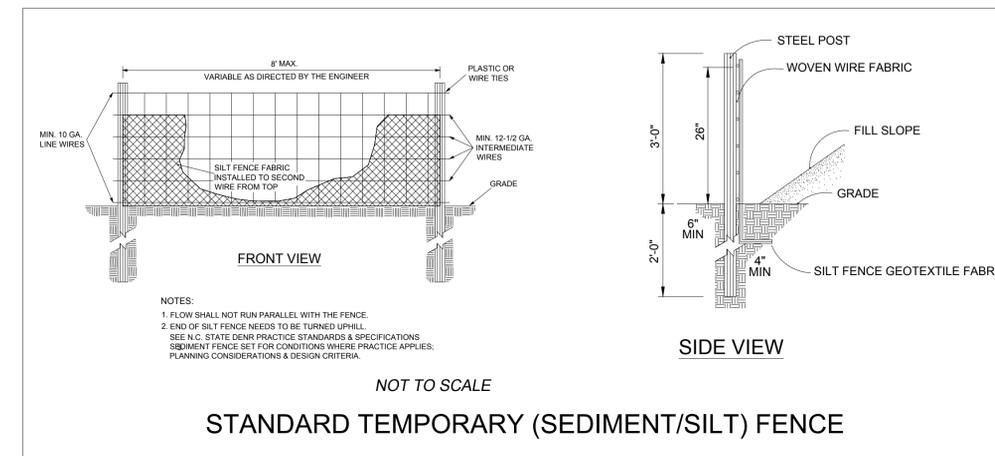
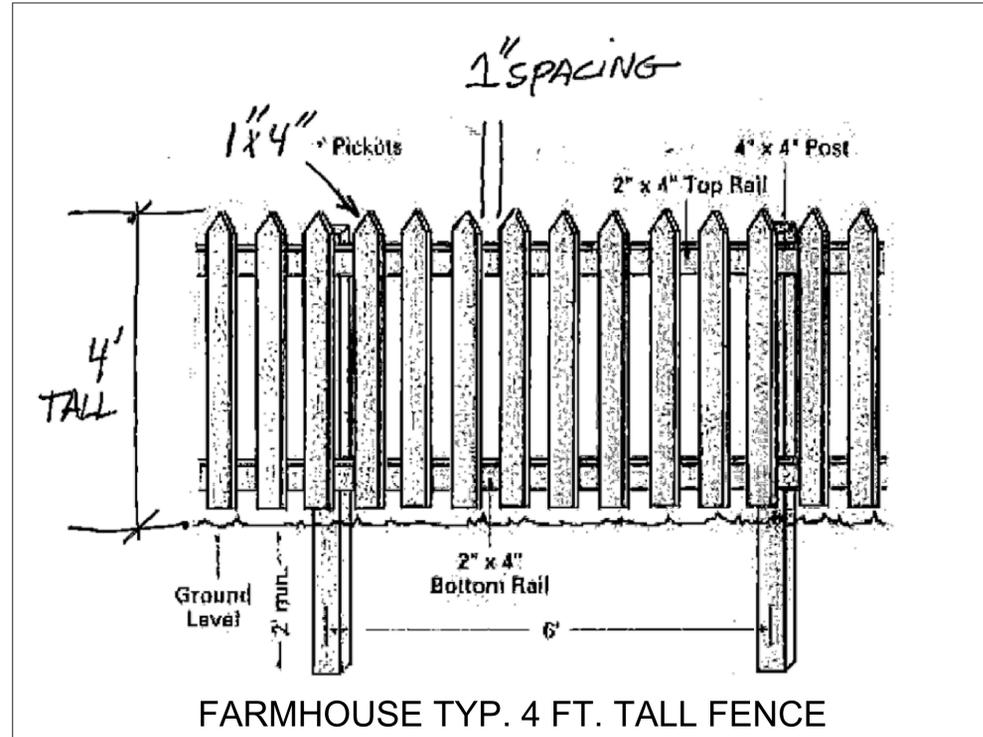
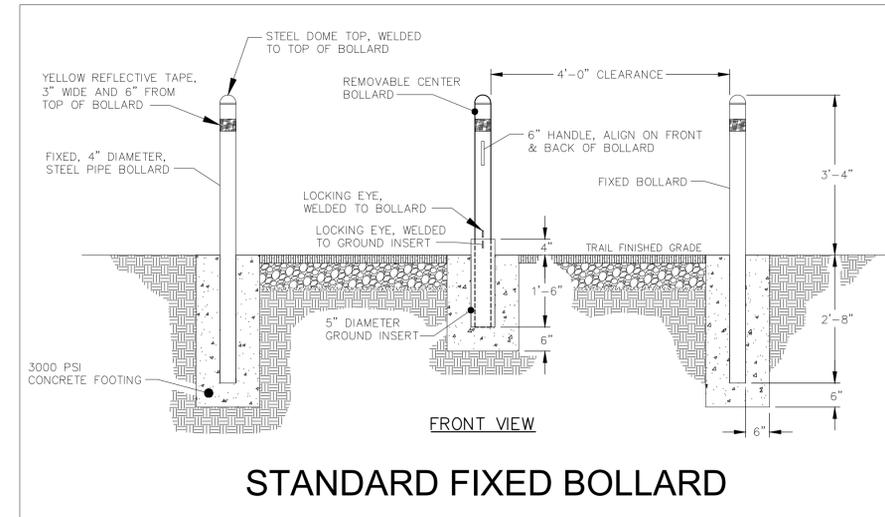
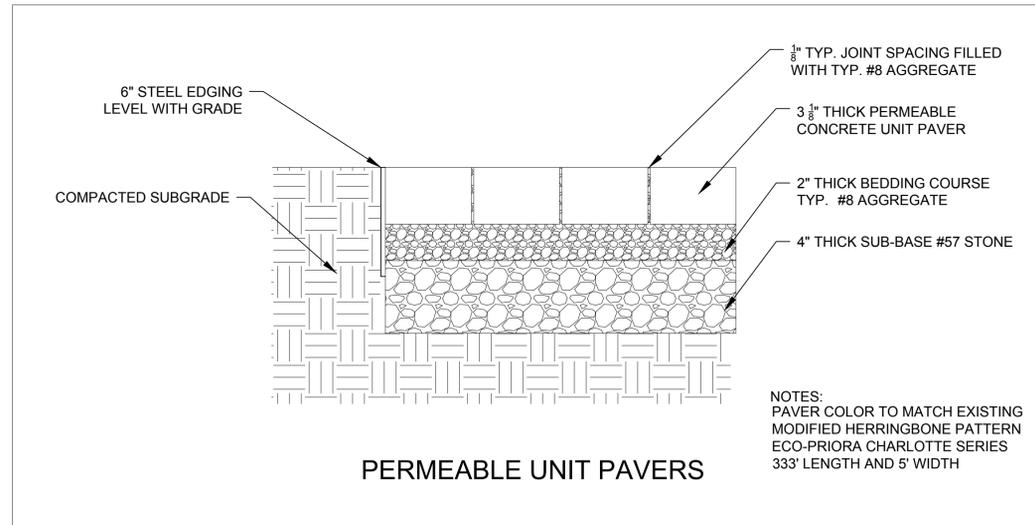
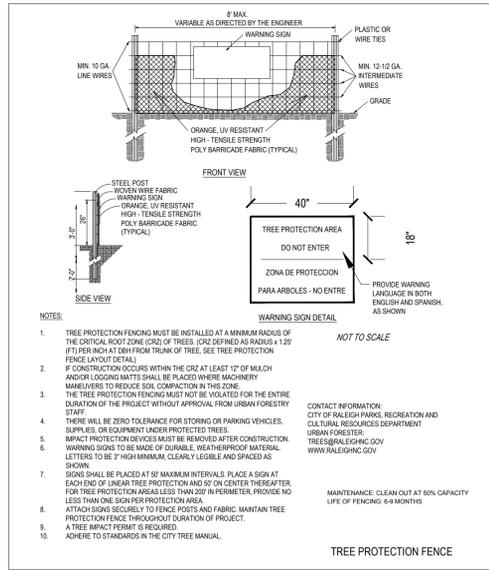


HORSESHOE FARM NATURE PRESERVE,
FARMHOUSE
CITY OF RALEIGH PARKS AND
RECREATION Shoe Farm Road,
2900 Horse Raleigh, NC 27587

Job No.	Date	Scale	Checked	Drawn	Sheet
1504	10/30/2015	AS NOTED	-	-	L103

Parks Recreation and Cultural Resources Department
222 W. HARGETT ST. - RALEIGH, NC 27601
TEL: 919 850 3265 FAX 919 850 3299

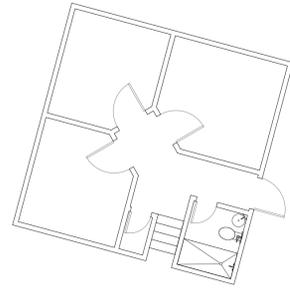
PROPOSED PLAN



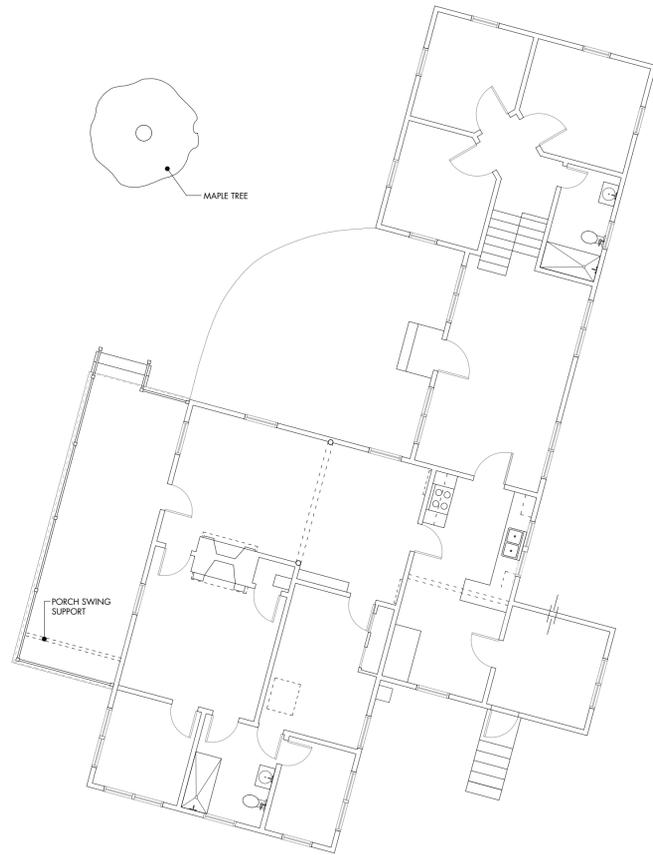
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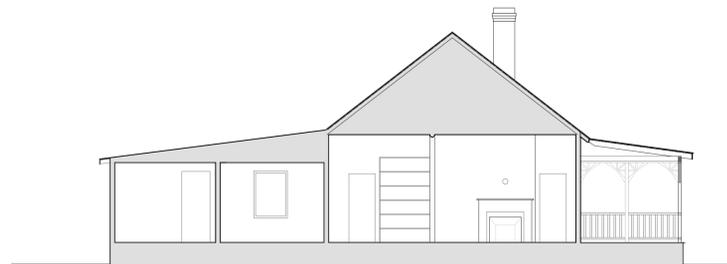
HORSESHOE FARM NATURE PRESERVE,
FARMHOUSE
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2900 Horse Shoe Farm Road,
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1 5 EXIST. BASEMENT FLOOR PLAN
1/8" = 1'-0"



1 6 EXIST. GROUND FLOOR PLAN
1/8" = 1'-0"



7 EXIST. SECTION LOOKING SOUTH
1/8" = 1'-0"



1 EXIST. EAST ELEVATION
1/8" = 1'-0"



2 EXIST. NORTH ELEVATION
1/8" = 1'-0"



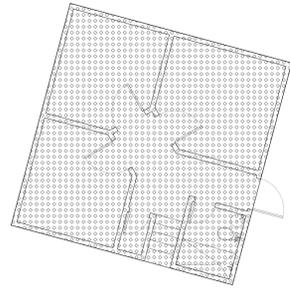
3 EXIST. WEST ELEVATION
1/8" = 1'-0"



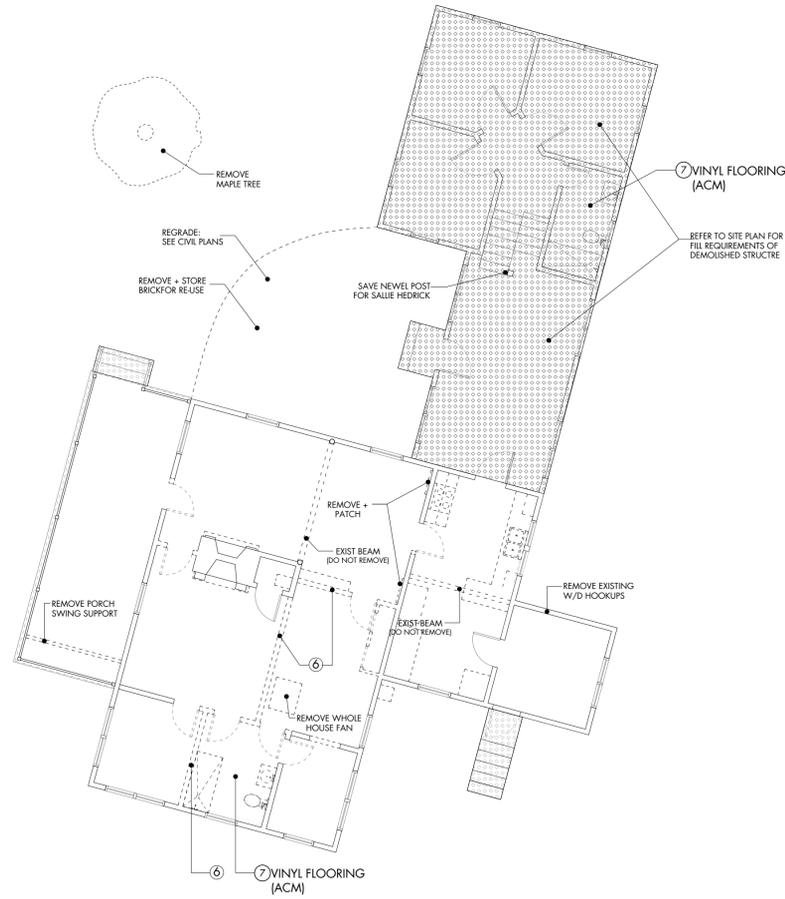
4 EXIST. SOUTH ELEVATION
1/8" = 1'-0"



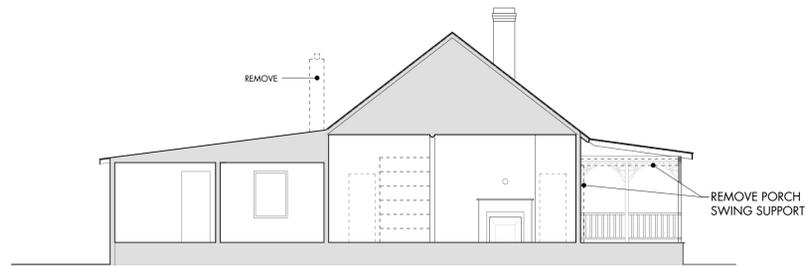
PERMIT SET
10.30.2015



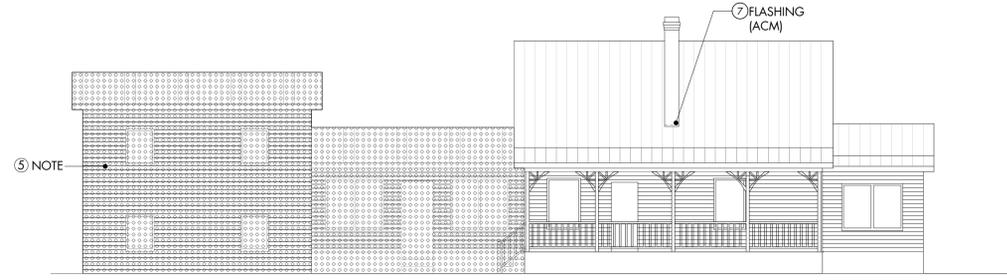
1 5 BASEMENT FLOOR PLAN OF DEMO
1/8" = 1'-0"



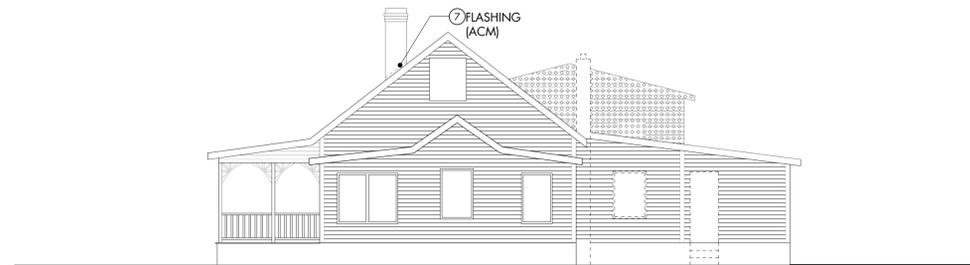
1 6 GROUND FLOOR PLAN OF DEMO
1/8" = 1'-0"



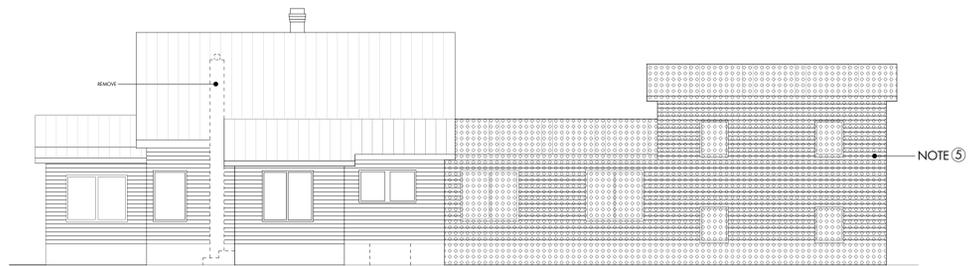
7 SECTION LOOKING SOUTH
1/8" = 1'-0"



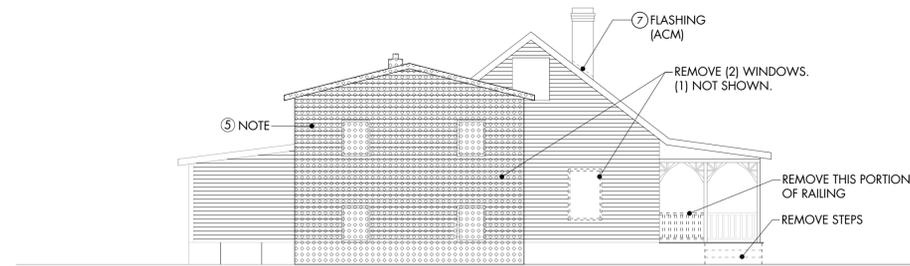
1 DEMOLITION WEST ELEVATION
1/8" = 1'-0"



2 DEMOLITION SOUTH ELEVATION
1/8" = 1'-0"



3 DEMOLITION EAST ELEVATION
1/8" = 1'-0"



4 DEMOLITION NORTH ELEVATION
1/8" = 1'-0"

DEMOLITION KEY

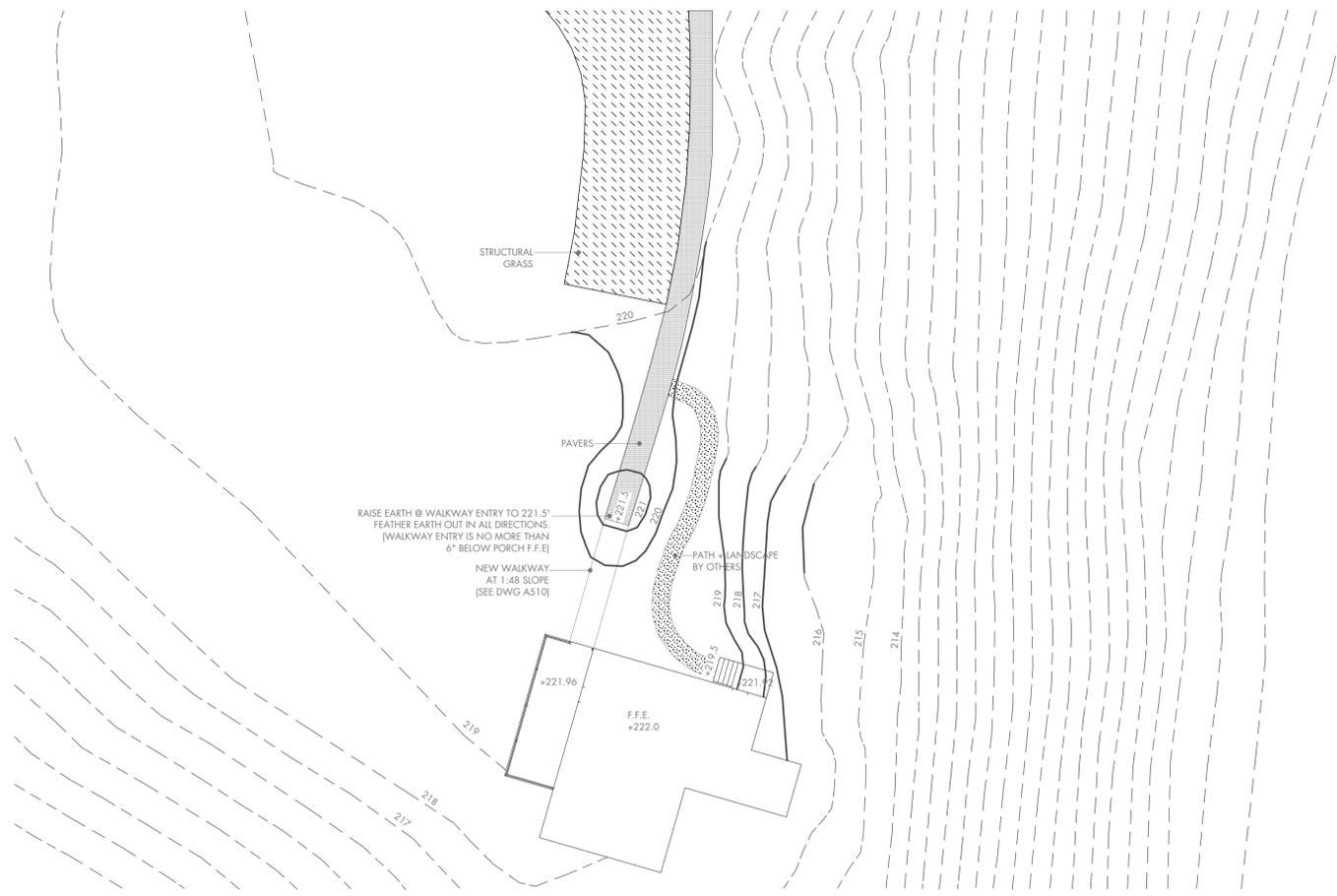
	EXISTING WALL TO REMAIN
	DEMOLISH WALL OR PARTITION
	REMOVE BUILDING

- GENERAL DEMOLITION NOTES:
1. REMOVE ALL EXISTING PLUMBING AT FARM HOUSE INCLUDING BUT NOT LIMITED TO FIXTURES, PIPING, VENTS; SEE PM+E DRAWINGS
 2. REMOVE ALL EXISTING MECHANICAL AT FARM HOUSE INCLUDING BUT NOT LIMITED TO DUCTS, VENTS, EQUIPMENT; SEE PM+E DRAWINGS
 3. REMOVE ALL EXISTING ELECTRICAL AT FARM HOUSE INCLUDING BUT NOT LIMITED TO WIRING, SWITCHES, OUTLETS; SEE PME DRAWINGS
 4. REMOVE EXISTING SPIGOT/YARD HYDRANT LOCATED NEAR EXISTING WELL, SEE SITE PLAN
 5. SALVAGE EXISTING WOOD SIDING FOR PATCHING AND REPAIRS AT RENOVATED HOUSE.
 6. SALVAGE EXISTING INTERIOR TONGUE + GROOVE WALL PANELING FOR PATCHING AND REPAIRS.
 7. REMOVE ASBESTOS CONTAINING MATERIAL (ACM). SEE ASBESTOS REMOVAL SPECIFICATION + REPORT.

NOTE
For Asbestos and Lead Abatement see specifications issued by City of Raleigh.

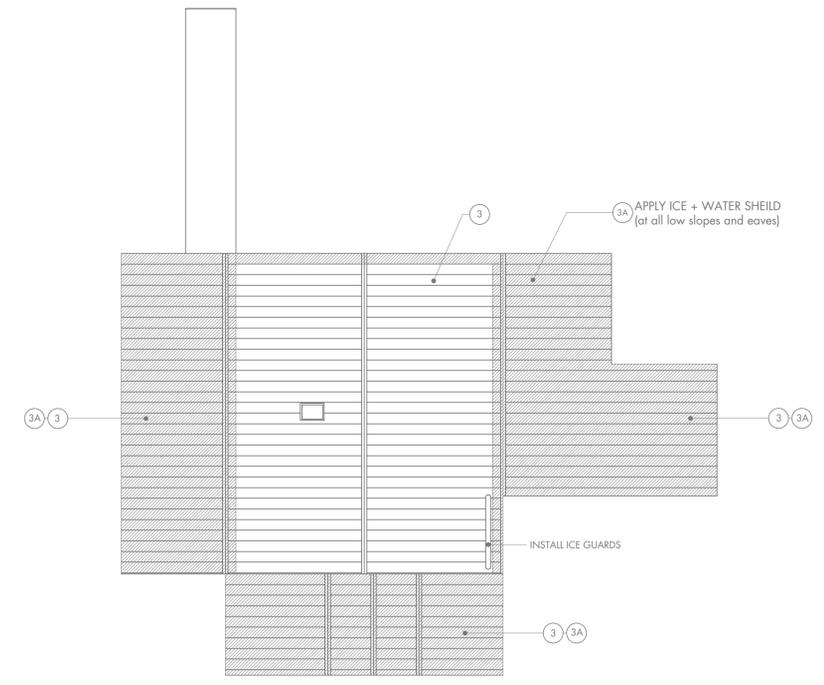


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10.30.2015

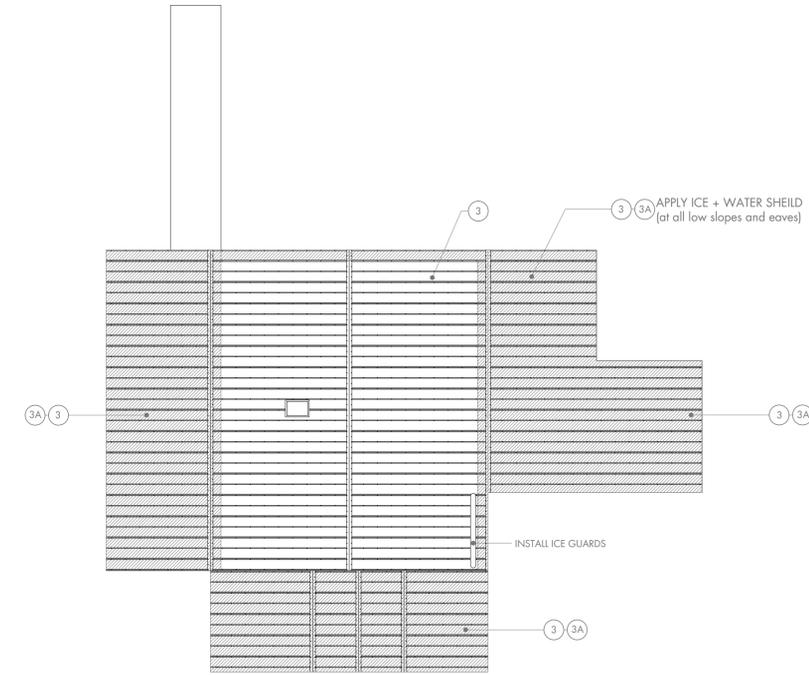


1 3 SITE PLAN
1/16" = 1'-0"

NOTE: REFER TO LANDSCAPE DRAWINGS FOR ADDITIONAL SITE PLAN AND DETAILS



1 1 ROOF PLAN BASE BID (STANDING SEAM)
1/8" = 1'-0"



1 2 ROOF PLAN ALTERNATE 1 (5V TIN)
1/8" = 1'-0"

MATERIAL NOTES

- 1 NEW DOOR
- 2 ASBESTOS REMEDIATION AND PAINT ALL EXTERIOR SURFACES. SEE SPECIFICATION
- 3 REMOVE EXISTING ROOF AND SHEATHING. INSTALL NEW PLYWOOD ROOF SHEATHING AND METAL ROOF. SEE SPECIFICATION
- 3A AT LOW SLOPE ROOFS INSTALL ICE + WATER SHIELD OVER ENTIRE PLYWOOD DECK
- 4 RAILING
- 5 REPLACE WINDOWS. SEE SPECIFICATION
- 6 REPUTTY + REPAINT WINDOW
- 6A REMOVE INTERIOR WINDOW MOULDING. SAND + REPAINT FLAT INTERIOR CASING.
- 7 NEW 5 1/2" FASCIA BOARD (REPLACE ALL EXISTING FASCIA BOARD)
- 8 NEW WALL TO MATCH EXISTING
- 9 EXISTING WOOD PANELING. PATCH WHERE SHOWN TO MATCH EXISTING
- 10 PATCH/FINISH INTERIOR WALL WITH NEW GYP. BD. TO MATCH EXISTING
- 11 PATCH/FINISH EXTERIOR WALL WITH SALVAGED WOOD SIDING TO MATCH EXISTING



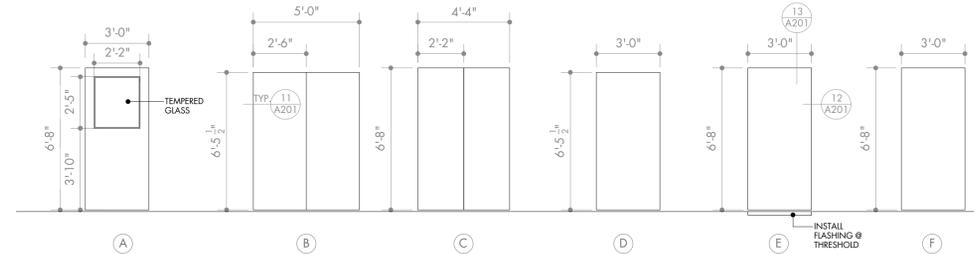
PERMIT SET
10.30.2015

DOOR SCHEDULE

MARK	CLEAR OPENING	DOOR TYPE	DOOR	FRAME	HW SET	NOTES
D101	3'-0" x 6'-8" x 1 3/4"	A	WD SOLID CORE	WD	01	6'-8" DOOR NEEDED FOR EXIT CODE. ASSESS HEADER AFTER DEMO.
D102	EXISTING	-	-	-	07	USE EXISTING DOOR AND REPLACE HARDWARE.
D103	5'-0" x 6'-5 1/2" x 1 3/4"	B	WD DBL SOLID CORE	WD	02	HEIGHT TO MATCH EXISTING HEIGHT OF D104.
D103.2	4'-4" x 6'-8" x 1 3/8"	C	WD DBL SLIDING HOLLOW CORE	WD	08	-
D104	3'-0" x 6'-5 1/2" x 1 3/4"	D	WD SOLID CORE	WD	05	-
D105	3'-0" x 6'-8" x 1 3/4"	E	HM	HM	06	-
D105.1	3'-0" x 6'-8" x 1 3/4"	F	WD SOLID CORE	WD	04	6'-8" DOOR NEEDED FOR EXIT CODE. ASSESS HEADER AFTER DEMO.
D106	3'-0" x 6'-8" x 1 3/4"	F	WD SOLID CORE	WD	03	-

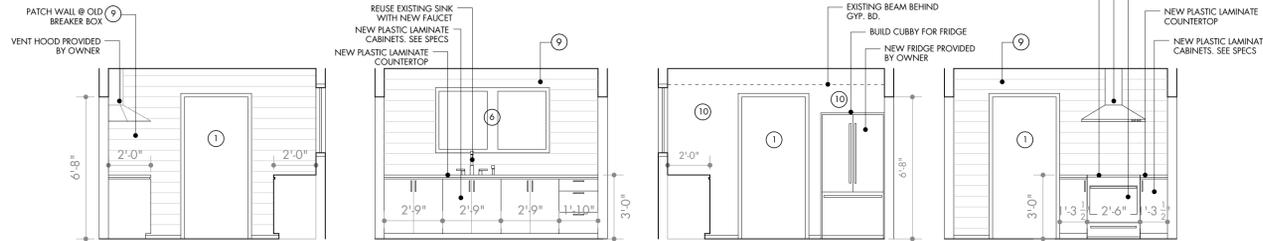
FINISH SCHEDULE

No.	SPACE	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	CEILING	NOTES
100	PORCH	WOOD (EXIST)	N/A	N/A	EXTERIOR SIDING	N/A	N/A	EXPOSED RAFTERS	-
101	RECEPTION	WOOD (EXIST)	N/A	WOOD	WOOD	WOOD	WOOD	WOOD	KEEP EXISTING MOULDING AT WALL CORNERS AND AT CEILING CORNERS
102	GATHERING HALL	WOOD (EXIST)	N/A	WOOD	WOOD	WOOD	WOOD	WOOD	KEEP EXISTING MOULDING AT WALL CORNERS AND AT CEILING CORNERS. PATCH AND REFINISH FLOOR + WALLS @ CLOSET DEMO AND @ EXISTING BATHROOM DOOR. PATCH CEILING @ WHOLE HOUSE FAN DEMO.
103	OFFICE	EPOXY RESIN	WOOD	GYP. BD. (10)	GYP. BD. (10)	GYP. BD. (10)	GYP. BD. (10)	GYP. BD./WOOD (10)	REMOVE CARPET, BASE + WALLPAPER. WEST CEILING GYP. BD./EAST CEILING WOOD
104	RESTROOM	EPOXY RESIN	WOOD	GYP. BD.	GYP. BD.	GYP. BD.	GYP. BD. (10)	GYP. BD.	REMOVE CARPET + BASE
105	KITCHEN	EPOXY RESIN	WOOD	WOOD	WOOD	GYP. BD. (10)	WOOD	GYP. BD.	REMOVE PLASTIC LAMINATE + REFINISH WOOD BEHIND (REPAIR AS NECESSARY + PAINT)
106	STORAGE	EPOXY RESIN	WOOD	GYP. BD. (10)	WOOD	WOOD	WOOD	GYP. BD.	-
107	STORAGE	EPOXY RESIN	WOOD	GYP. BD. (10)	GYP. BD. (10)	GYP. BD. (10)	WOOD	GYP. BD. (10)	REMOVE EXISTING PANELING FROM N. E. + S. WALLS AND CEILING. REPAIR FRAMING AS NECESSARY + INSTALL NEW GYP. BD. @ N. E. + S. WALLS AND CEILING



VERIFY ALL DIMENSIONS BEFORE FABRICATION
HANDING + SWING AS SHOWN ON PLANS

2 DOOR SCHEDULE
1/4" = 1'-0"

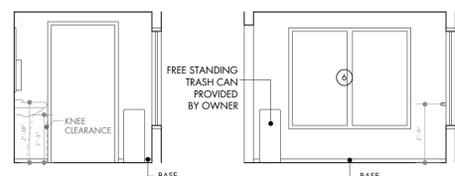


3 KITCHEN 105 NORTH
1/4" = 1'-0"

4 KITCHEN 105 EAST
1/4" = 1'-0"

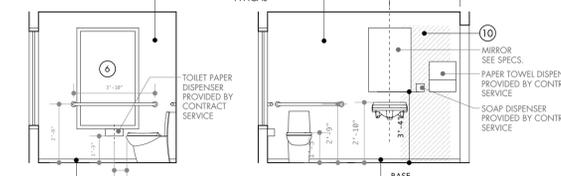
5 KITCHEN 105 SOUTH
1/4" = 1'-0"

6 KITCHEN 105 WEST
1/4" = 1'-0"



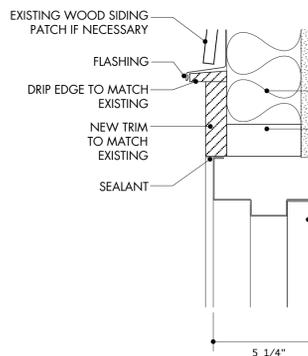
7 RESTROOM 104 NORTH
1/4" = 1'-0"

8 RESTROOM 104 EAST
1/4" = 1'-0"

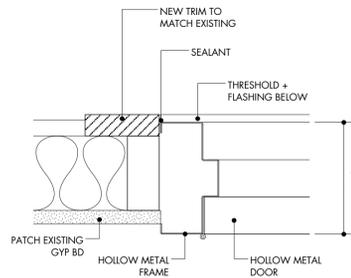


9 RESTROOM 104 SOUTH
1/4" = 1'-0"

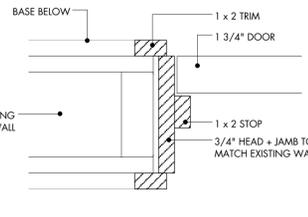
10 RESTROOM 104 WEST
1/4" = 1'-0"



13 HOLLOW METAL DOOR HEAD
3" = 1'-0"



12 HOLLOW METAL DOOR JAMB
3" = 1'-0"



11 TYPICAL DOOR JAMB + HEAD
3" = 1'-0"

INTERIOR PAINT SCHEDULE

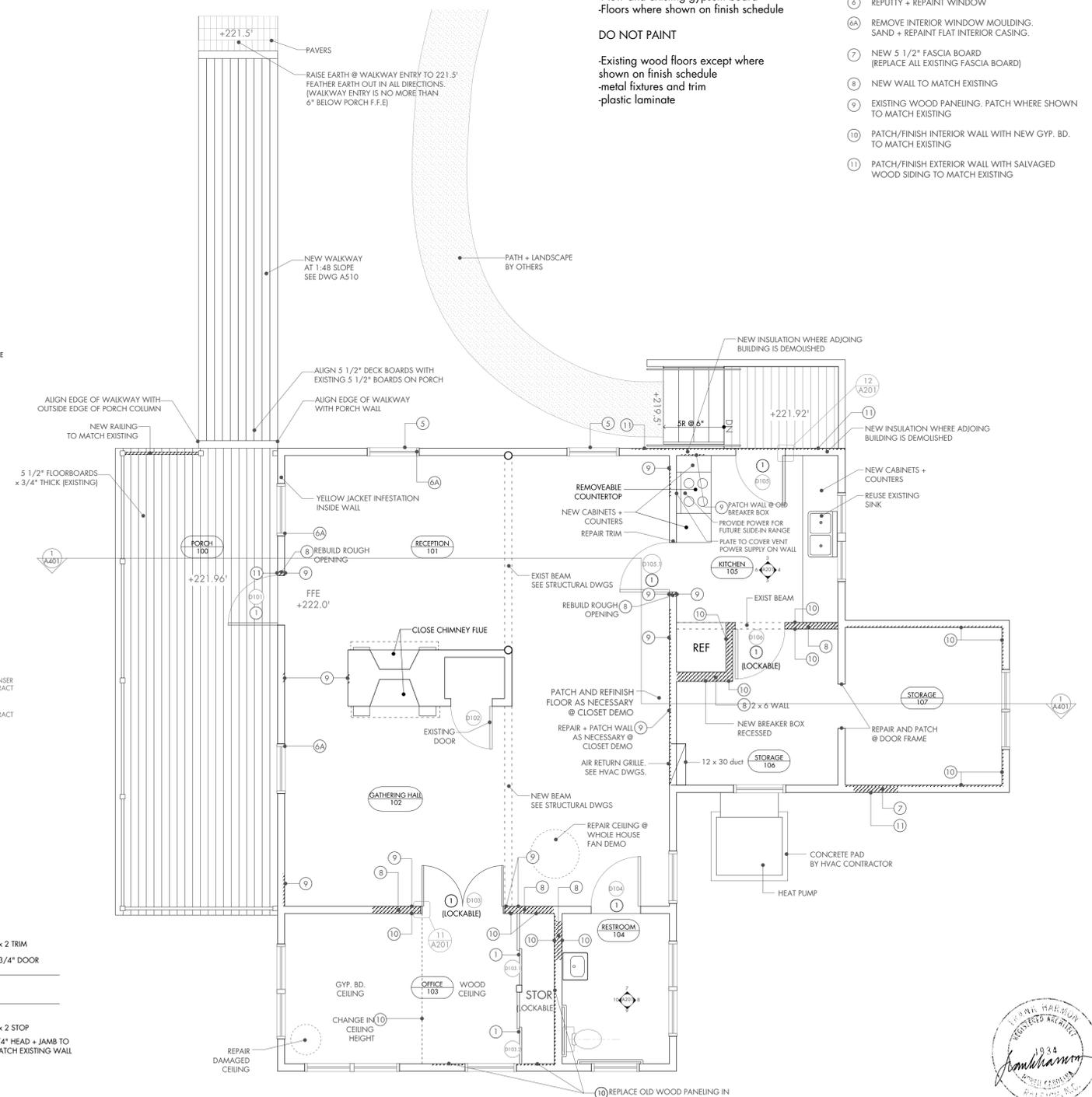
-New and existing wood paneling and trim including doors
-New and existing gypsum board
-Floors where shown on finish schedule

DO NOT PAINT

-Existing wood floors except where shown on finish schedule
-metal fixtures and trim
-plastic laminate

MATERIAL NOTES

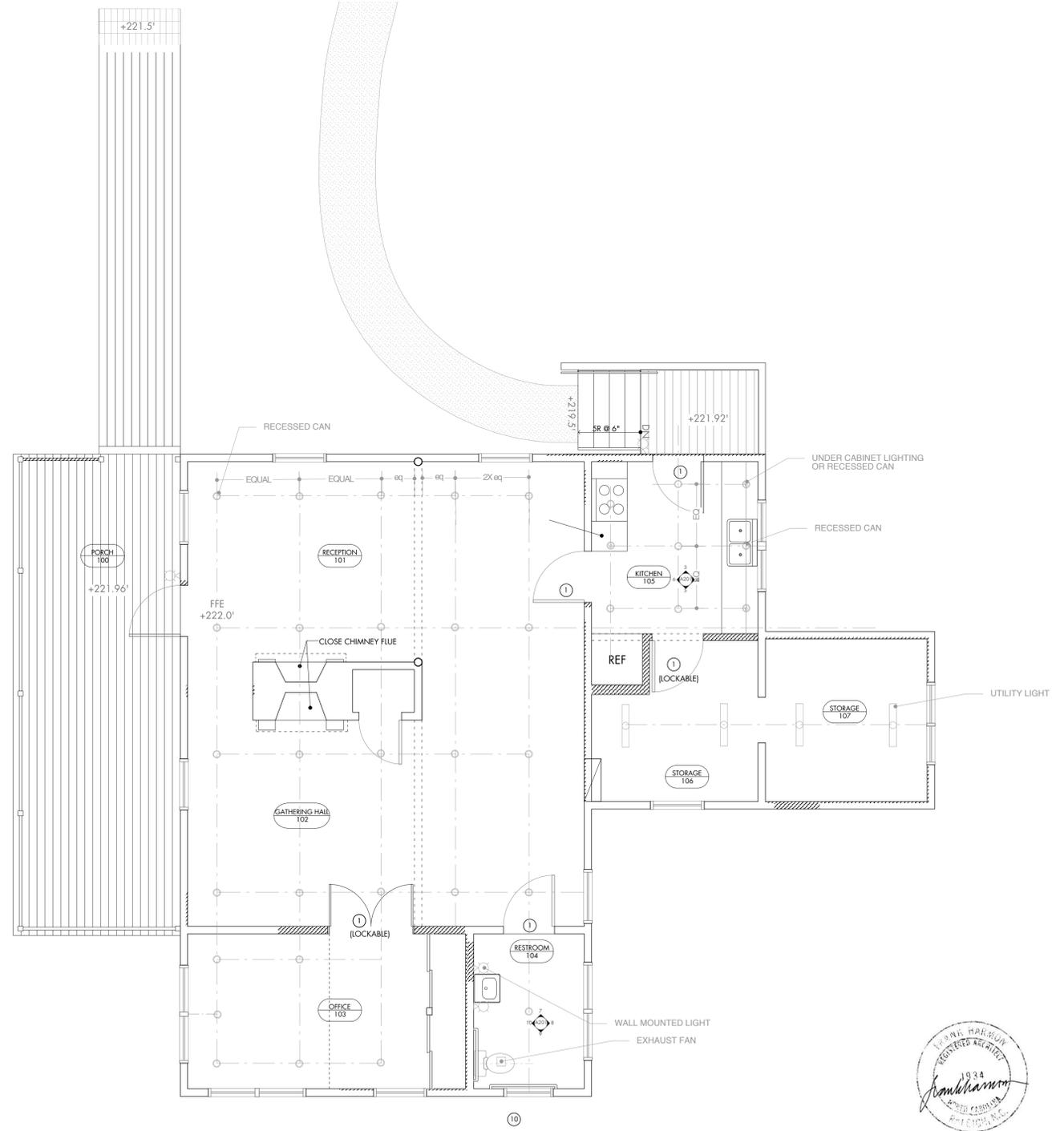
- NEW DOOR
- ASBESTOS REMEDIATION AND PAINT ALL EXTERIOR SURFACES. SEE SPECIFICATION
- REMOVE EXISTING ROOF AND SHEATHING. INSTALL NEW PLYWOOD ROOF SHEATHING AND METAL ROOF. SEE SPECIFICATION
- AT LOW SLOPE ROOFS INSTALL ICE + WATER SHIELD OVER ENTIRE PLYWOOD DECK
- RAILING
- REPLACE WINDOWS. SEE SPECIFICATION
- REPUTTY + REPAIR WINDOW
- REMOVE INTERIOR WINDOW MOULDING. SAND + REPAIR FLAT INTERIOR CASING.
- NEW 5 1/2" FASCIA BOARD (REPLACE ALL EXISTING FASCIA BOARD)
- NEW WALL TO MATCH EXISTING
- EXISTING WOOD PANELING. PATCH WHERE SHOWN TO MATCH EXISTING
- PATCH/FINISH INTERIOR WALL WITH NEW GYP. BD. TO MATCH EXISTING
- PATCH/FINISH EXTERIOR WALL WITH SALVAGED WOOD SIDING TO MATCH EXISTING



1 GROUND FLOOR PLAN
1/4" = 1'-0"



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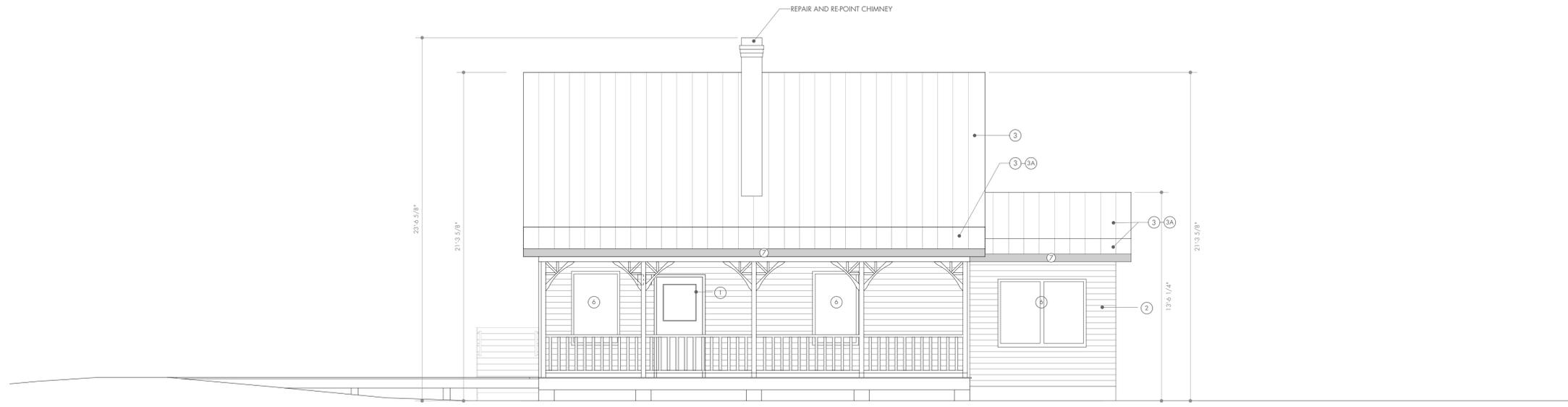
REFLECTED CEILING PLAN
1/4" = 1'-0"



PERMIT SET
10.30.2015

Job No.	1504
Date	10.30.2015
Scale	as noted

Drawn	SC
Checked	FH



1 WEST ELEVATION
1/4" = 1'-0"

MATERIAL NOTES

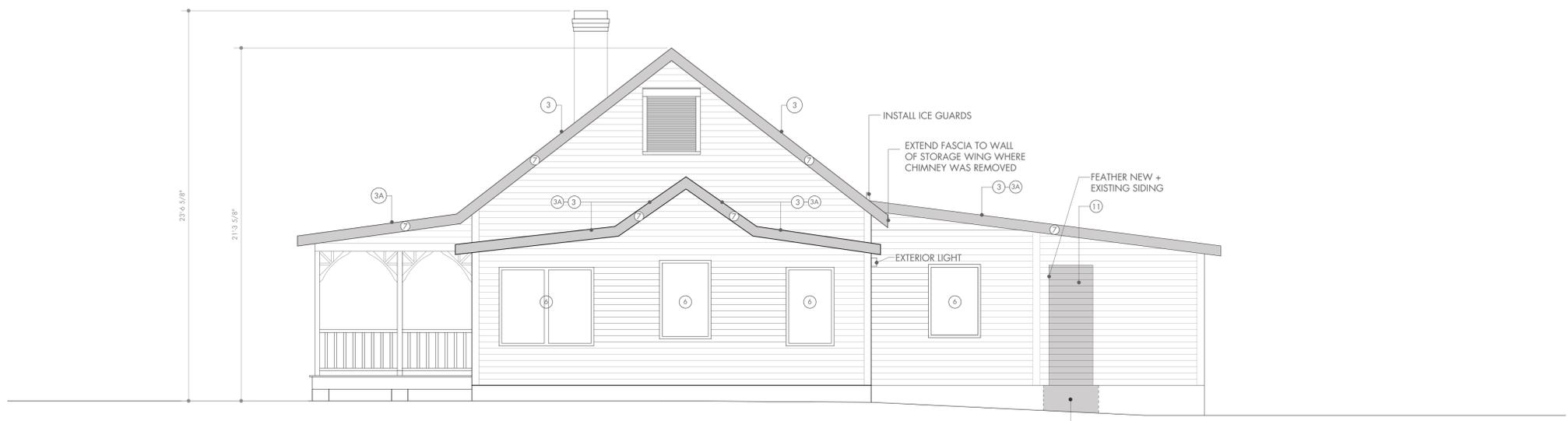
- 1 NEW DOOR
- 2 ASBESTOS REMEDIATION AND PAINT ALL EXTERIOR SURFACES. SEE SPECIFICATION
- 3 REMOVE EXISTING ROOF AND SHEATHING. INSTALL NEW PLYWOOD ROOF SHEATHING AND METAL ROOF. SEE SPECIFICATION
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EXTERIOR PAINT SCHEDULE

PAINT OR STAIN
Existing wood siding and trim including porch, fascias, soffits and all other exposed wood.

PAINT
Exposed ferrous metal.

DO NOT PAINT
Galvanized metal, aluminum, stainless steel, masonry.



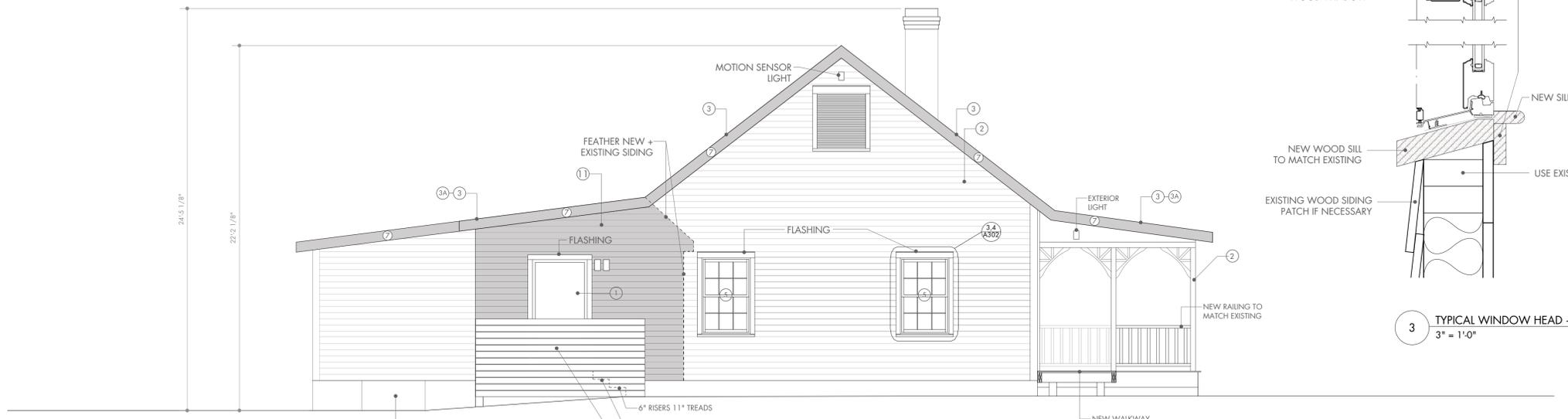
2 SOUTH ELEVATION
1/4" = 1'-0"



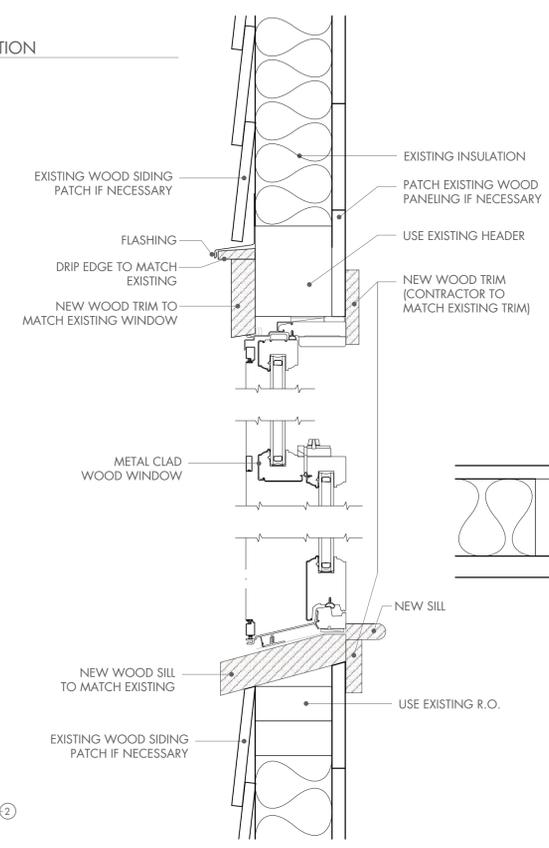
PERMIT SET
10.30.2015



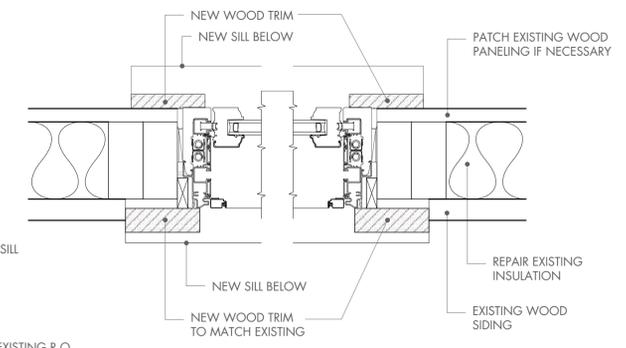
1 EAST ELEVATION
1/4" = 1'-0"



2 NORTH ELEVATION
1/4" = 1'-0"



3 TYPICAL WINDOW HEAD + SILL
3" = 1'-0"



4 TYPICAL WINDOW JAMB
3" = 1'-0"

MATERIAL NOTES

- 1 NEW DOOR
- 2 ASBESTOS REMEDIATION AND PAINT ALL EXTERIOR SURFACES. SEE SPECIFICATION
- 3 REMOVE EXISTING ROOF AND SHEATHING. INSTALL NEW PLYWOOD ROOF SHEATHING AND METAL ROOF. SEE SPECIFICATION
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EXTERIOR PAINT SCHEDULE

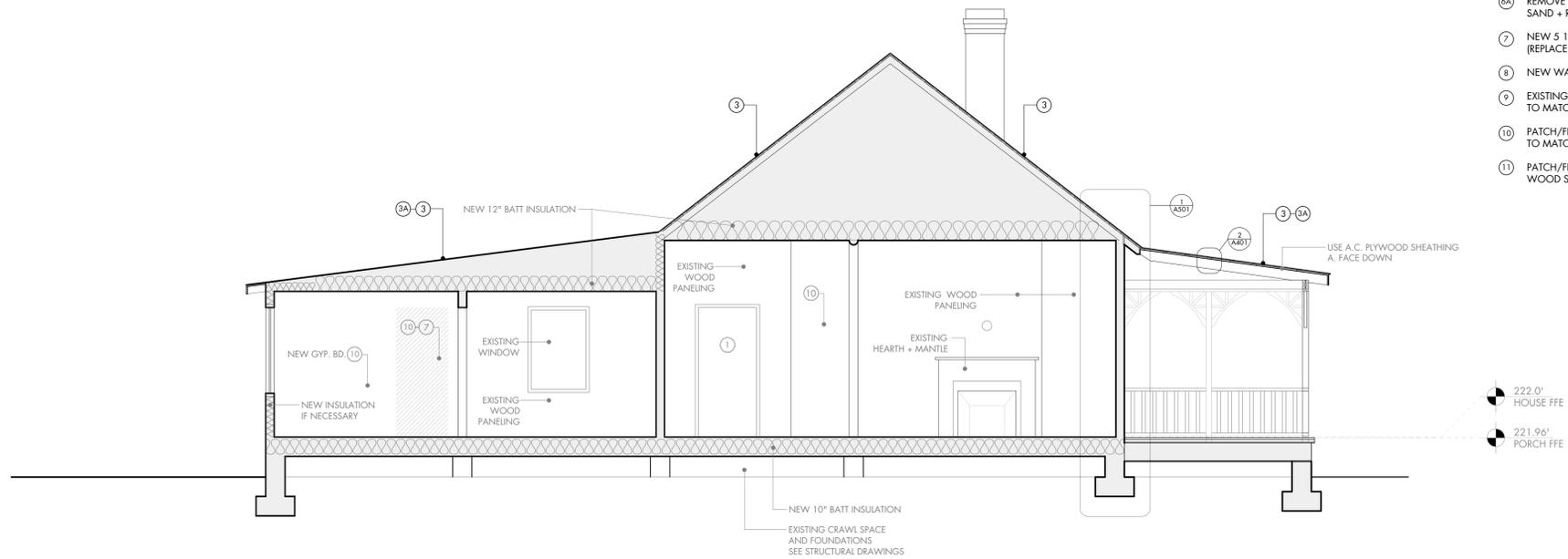
PAINT OR STAIN
-Existing and new wood siding and trim including porch, fascias, soffits and all other exposed wood.
-New porch floors (2)

PAINT
-Exposed ferrous metal.

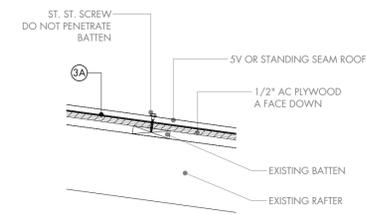
DO NOT PAINT
-Galvanized metal, aluminum, stainless steel, masonry.



PERMIT SET
10.30.2015



1 SECTION LOOKING SOUTH
1/4" = 1'-0"



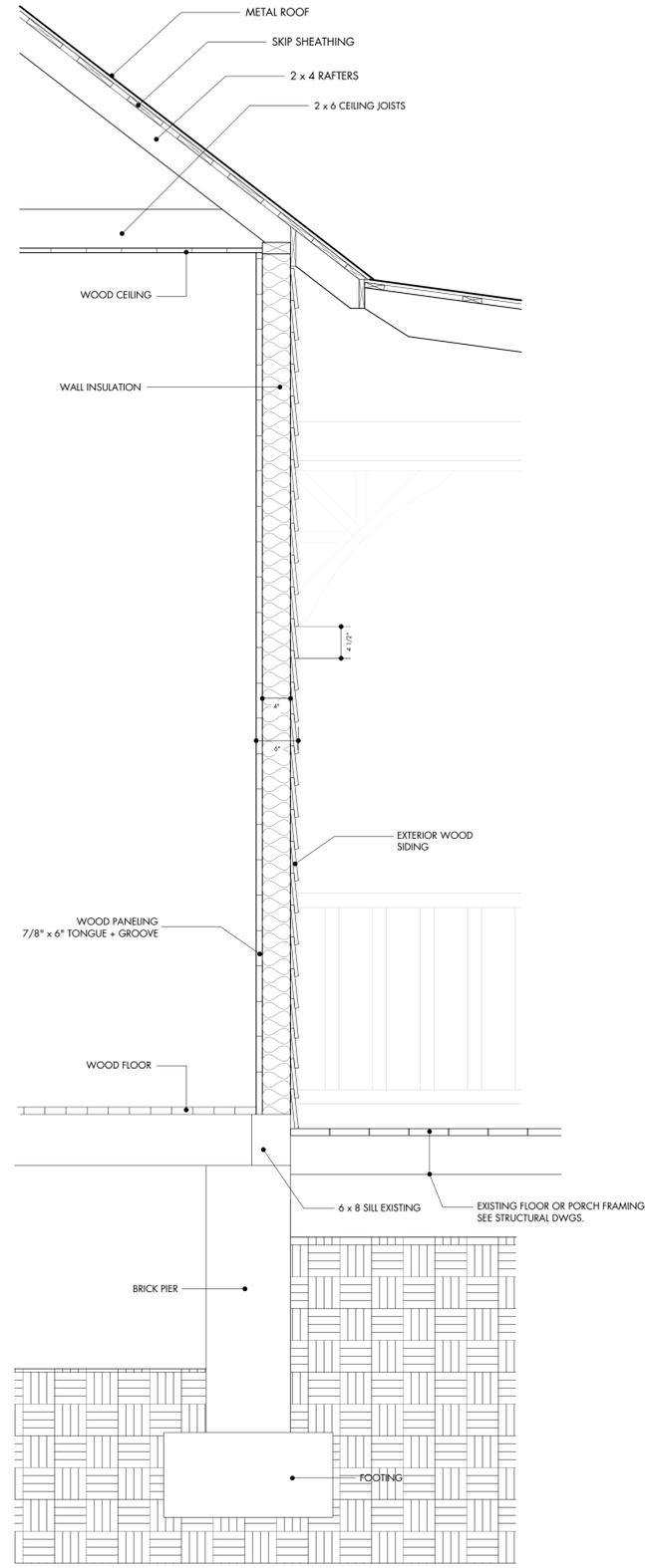
2 PORCH ROOF DETAIL
1 1/2" = 1'-0"

- MATERIAL NOTES**
- 1 NEW DOOR
 - 2 ASBESTOS REMEDIATION AND PAINT ALL EXTERIOR SURFACES. SEE SPECIFICATION
 - 3 REMOVE EXISTING ROOF AND SHEATHING. INSTALL NEW PLYWOOD ROOF SHEATHING AND METAL ROOF. SEE SPECIFICATION
 - 3A AT LOW SLOPE ROOFS INSTALL ICE + WATER SHIELD OVER ENTIRE PLYWOOD DECK
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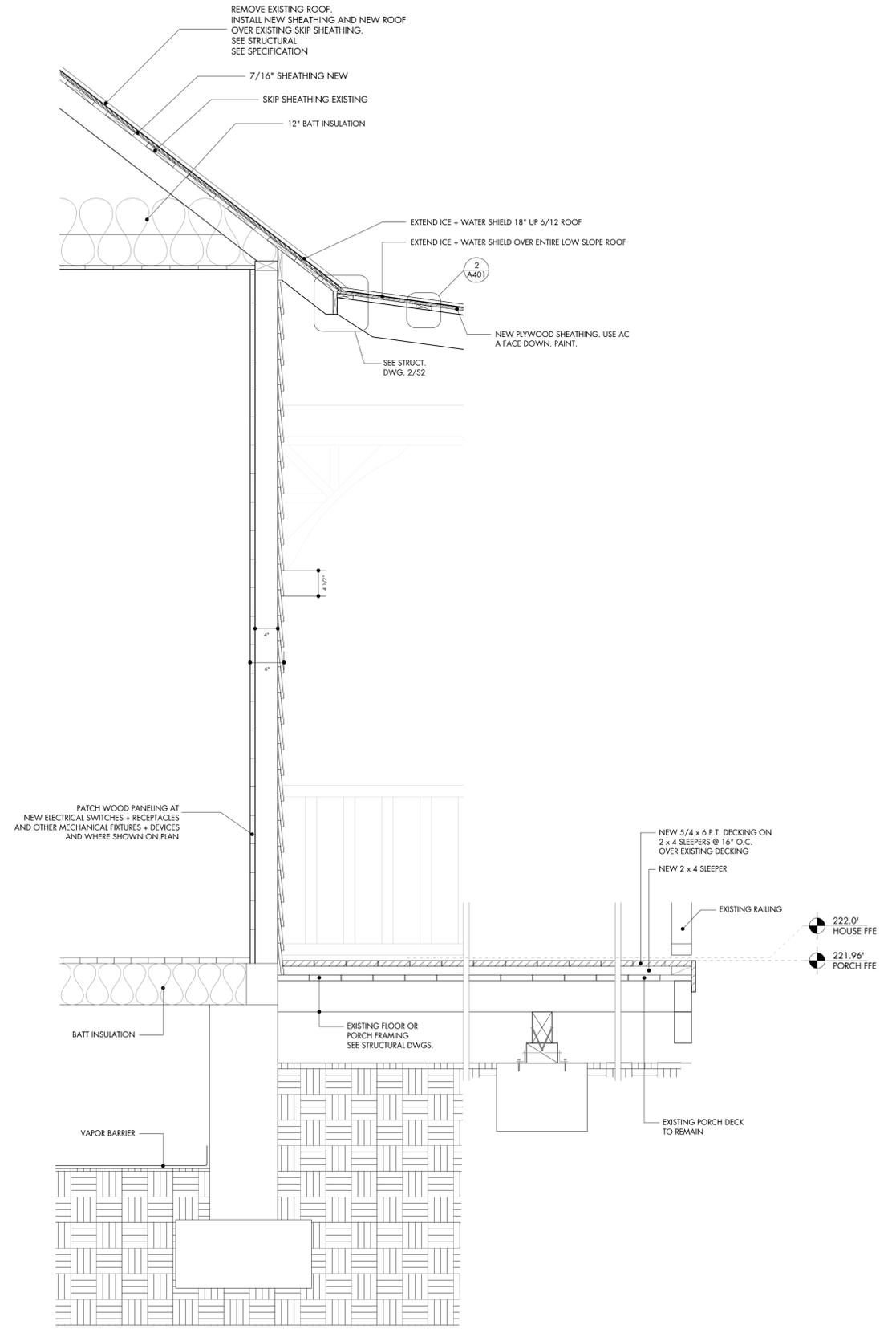
222.0' HOUSE FFE
221.96' PORCH FFE



PERMIT SET
10.30.2015



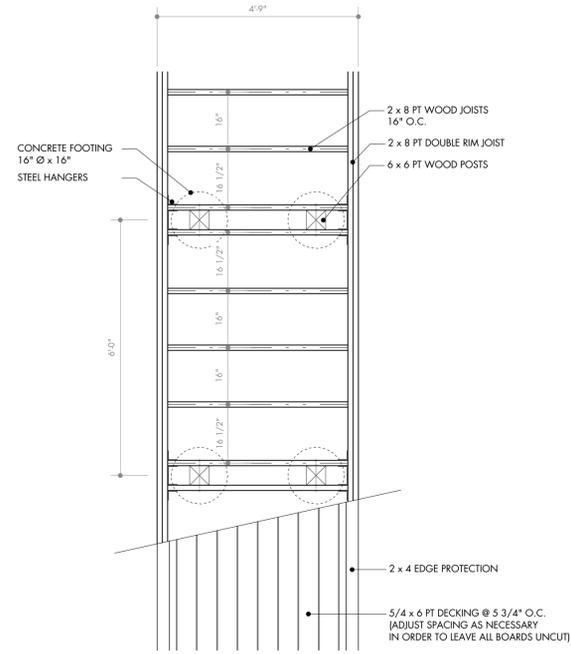
2 WALL SECTION - EXISTING
1" = 1'-0"



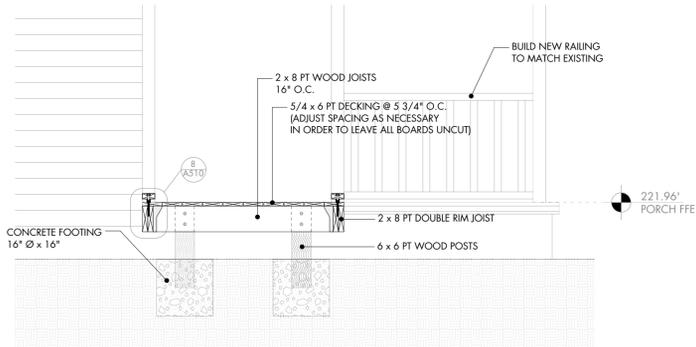
1 WALL SECTION - NEW
1" = 1'-0"



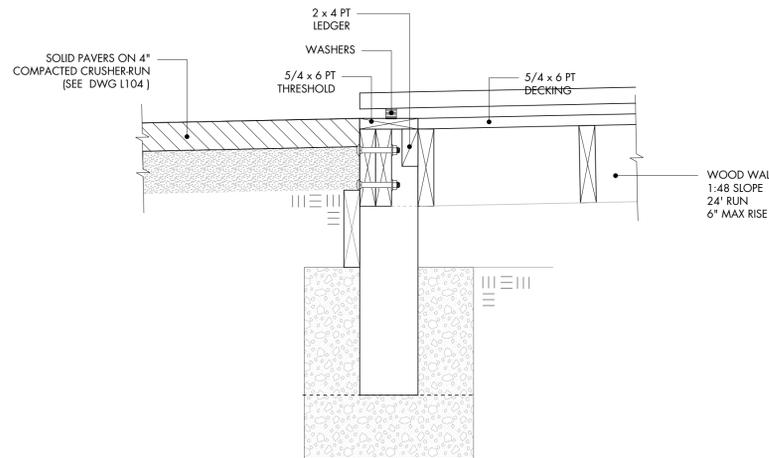
PERMIT SET
10.30.2015



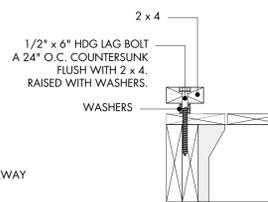
5 WALKWAY FRAMING PLAN
1/2" = 1'-0"



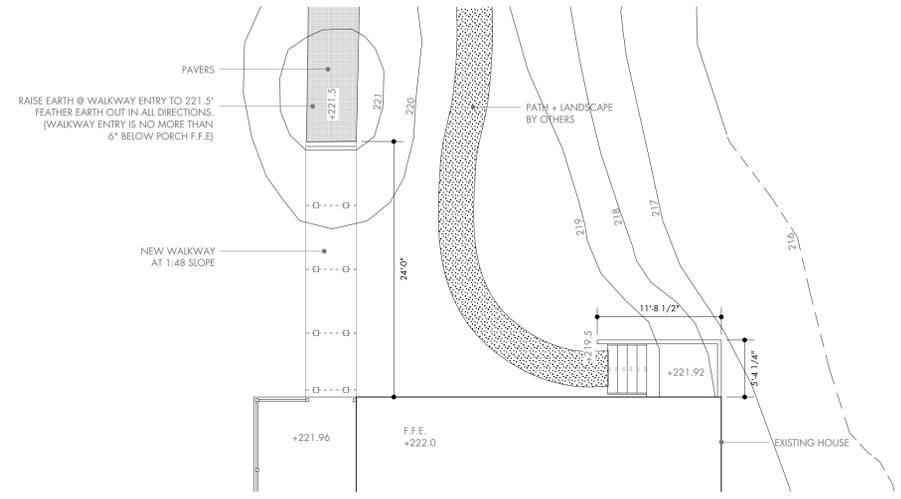
6 WALKWAY FRAMING SECTION
1/2" = 1'-0"



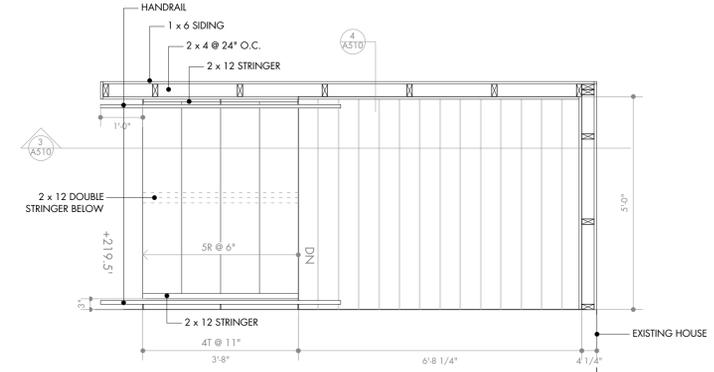
7 WALKWAY @ PAVERS
1 1/2" = 1'-0"



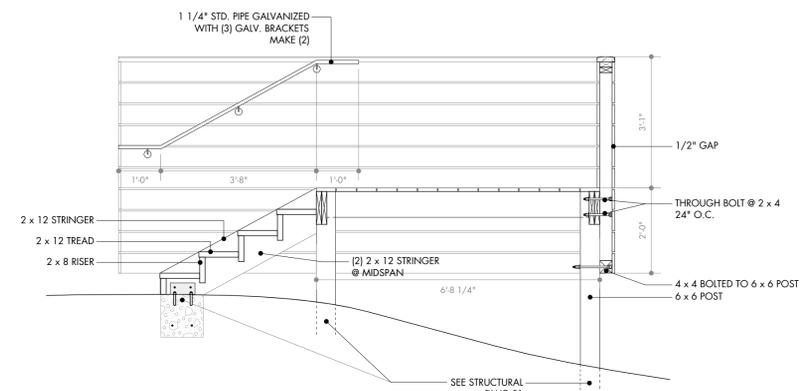
8 EDGE PROTECTION @ WALKWAY
1 1/2" = 1'-0"



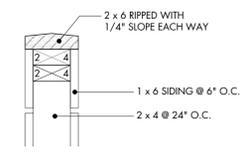
1 WALKWAY + LANDING LAYOUT
1/8" = 1'-0"



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



3 LANDING SECTION
1/2" = 1'-0"



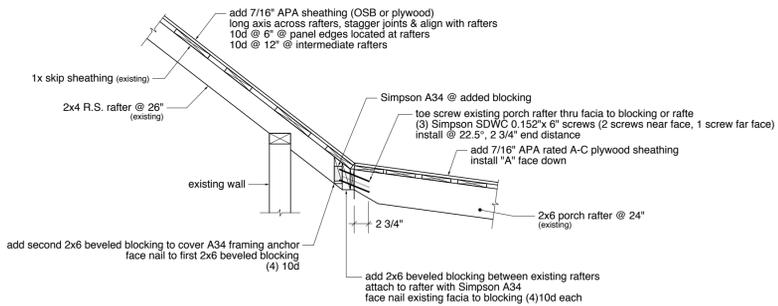
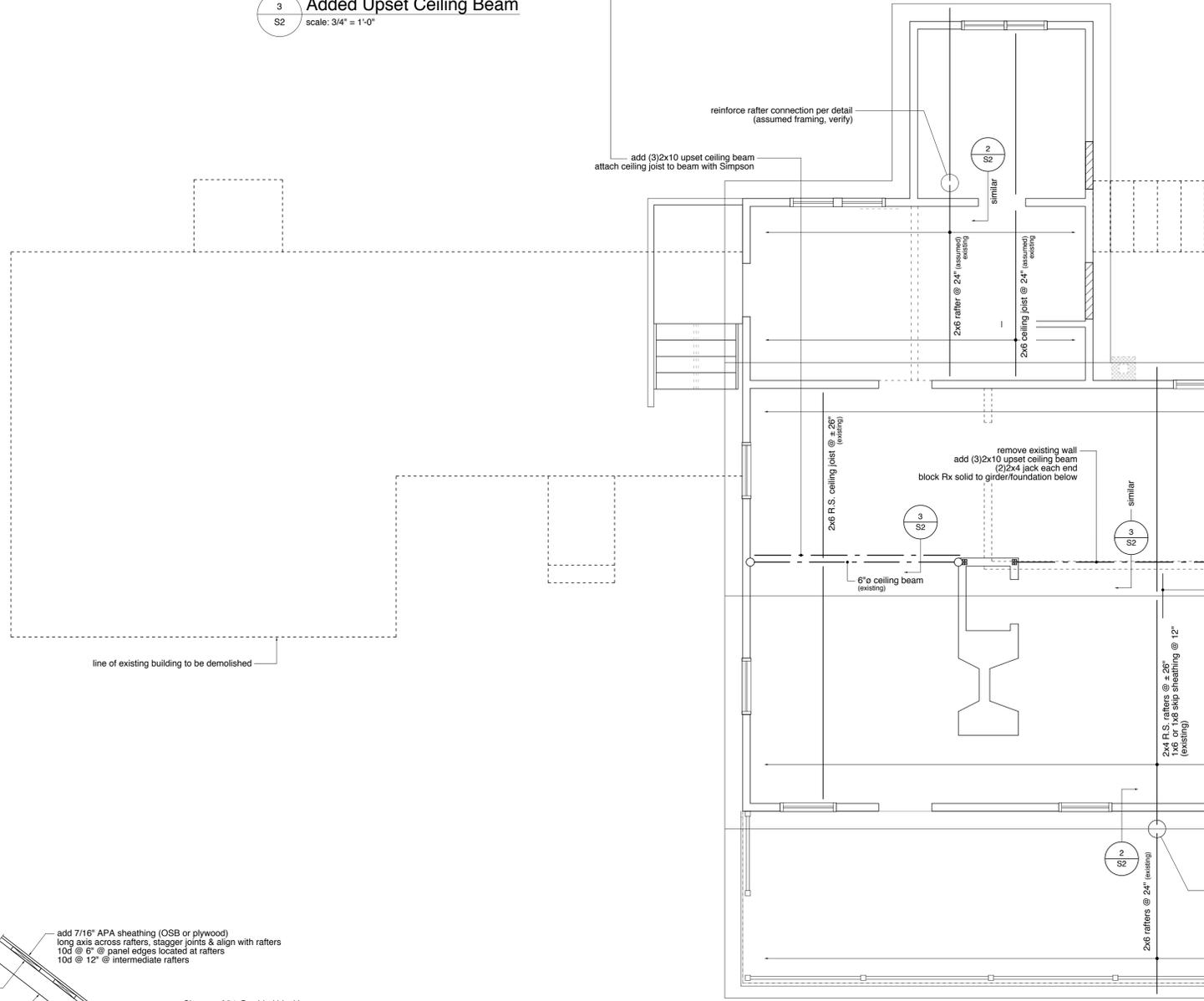
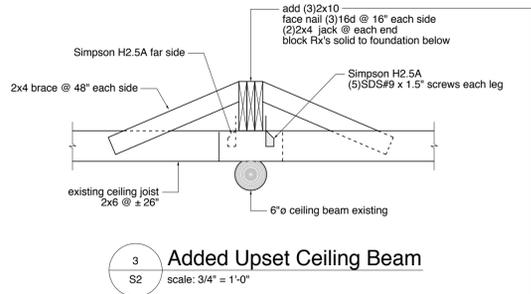
4 TOP OF WOOD SCREEN
1 1/2" = 1'-0"

NOTE:

USE PRESSURE TREATED WOOD FOR ALL DECK, WALKWAY, STEPS, RAILING, AND PORCH CONSTRUCTION



PERMIT SET
10.30.2015



Charles E. Murphy, P.A. d.b.a. SGI Engineering 200 N. Greensboro St., Suite B13-A, Carrboro, NC 27510 Phone: (919) 942-7612 Fax: (919) 942-3647		
Project	# E11007.3	
Horseshoe Farm House		
Drawing Title Roof & Ceiling Reinforcing		
Revisions		
Number	Description	Date
Drawn By	Sheet	
Checked By	S2	
Date		10-30-15

SCOPE OF PLUMBING WORK:

PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONAL WASTE, VENT, DOMESTIC COLD AND HOT WATER PIPING SYSTEMS, FIXTURES, AND EQUIPMENT AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS. THE SCOPE OF WORK INCLUDES ALL WORK INDICATED OR IMPLIED BY THE DRAWINGS AND SPECIFICATIONS. IT INCLUDES ALL ITEMS THAT MAY OR MAY NOT BE SPECIFICALLY SHOWN, BUT ARE REQUIRED FOR A COMPLETE AND FINISHED JOB OR MAY BE REQUIRED BY NC STATE BUILDING CODE AND LOCAL REGULATIONS.

THIS PROJECT SHALL REQUIRE DEMOLITION OF EXISTING PLUMBING FACILITIES AS COORDINATED WITH GENERAL DEMOLITION.

THERE SHALL BE NEW INSTALLATION OF TOILET ROOM FACILITIES WHICH SHALL INCLUDE WATER CLOSET AND LAVATORY IN RESTROOM. THERE SHALL BE NEW INSTALLATION OF A KITCHEN SINK. PLUMBER SHALL PROVIDE WATER, WASTE AND DRAIN TO CONNECT TO NEW FACILITIES.

THE ELECTRIC POINT OF USE WATER HEATER SHALL BE IN A STORAGE ROOM AS SHOWN.

GENERAL NOTES (ALL NOTES ON THIS PAGE APPLY TO ALL SHEETS U.O.N.)

- Drawings are diagrammatic. Drawings are not intended to be absolutely precise, and do not specify or show every offset, fitting, and component. The purpose of the drawings is to indicate a system concept, the main components of the systems, and the approximate geometrical relationships. Based on the systems concept, the main components and approximate geometrical relationships, the contractor shall provide all other components and materials necessary to make the systems fully complete and operational. The contractor shall route piping or provide offsets to avoid interference with structural elements, equipment, electrical panels and junction boxes, etc. Verify locations, dimensions, flow directions, etc., before construction.
- The design documents indicate the products that were used as the basis of the design. This establishes the product parameters and other systems interacting with the product (size, power requirements, pipe size, pump capacity, etc.). Contractor shall specifically bring to the Designer's attention any changes in other systems required when products are used other than those which constitute the basis of design. The contractor shall bear all costs, including design, for the changes.
- The contractor shall verify existing conditions, dimensions and sizes before fabricating or ordering equipment.
- Visit the site of this project and become thoroughly familiar with all existing field conditions. Verify every aspect of the proposed work as described or implied by the contract documents. The contractor shall receive no compensation or reimbursement for additional expenses due to failure or neglect to make a thorough investigation of the contract documents, site, and existing field conditions.
- Repair and patch all (new and demolished) wall and floor penetrations to match existing finish.
- All work and materials shall comply with applicable state, local, and national codes (including OSHA). Compliance with the latest edition of the North Carolina State Building Code and these specifications shall be the absolute minimum standard of acceptance.
- Obtain and pay for any and all required permits, inspections, certificates of inspections and approval, and the like and shall deliver such certificates to the owner. The architect shall be notified of all inspection requests at the same time as the inspection authority.
- Support all piping from building structure, floor or pavement. Refer to detail drawings for requirements.
- Locations shown for fixtures, equipment, piping, valves, devices, etc. are approximate and shall be verified by instruction on the drawing or by consultation with the owner.
- Adjustments in these locations shall be made by the contractor to fully coordinate the work of all trades. Install all equipment so that all code related and manufacturer's recommended servicing clearances are maintained. This shall include all clearances necessary for electrical disconnects, and starters provided as part of the plumbing trades work.
- Mechanically and electrically secure all existing equipment, fixtures, piping, devices, etc., which are abandoned. Remove all abandoned fixtures and piping back to the nearest point that remains in service. Provide all piping, caps, valves, fittings, insulations, and etc. necessary to restore the remaining portions of the plumbing system to service. Reconnect, clean, sanitize, repair, piping to be left in service or restored to service, including all equipment, materials, and devices to be reused.
- Perform all excavating and backfilling in a safe manner which shall not endanger the stability of any structures or any part thereof, or any work in place by other trades. The location of all excavations shall be approved by the architect before excavating begins. No trench running parallel to the building shall be located closer than 6" from the wall. Provide all necessary shoring for the protection of trenches. All surplus earth shall be removed from the building site. Restore all walks, streets, walls, or other paved areas damaged during construction to their original finish.
- Provide only new materials and equipment listed and labeled for the intended purpose by an approved third party laboratory service such as Underwriter's Laboratories.
- Label all equipment, pipes, etc. in accordance with specifications.
- Provide appropriate equipment enclosures for all locations. Equipment intended for exterior locations shall have weather-tight enclosures. Electrical disconnects and starters shall have NEMA 1 enclosures indoors, and NEMA 3R enclosures outdoors, unless otherwise noted.
- Submit shop drawings and catalog data for plumbing fixtures, water heaters, piping materials, piping specialties, insulation, and etc. Obtain all approvals for equipment substitutions seven (7) calendar days prior to bid date.
- Testing shall comply with all local, state, and national codes.
- Warrant all materials, equipment, and workmanship shown or implied by these documents to be free of defects for a period of one year from the time of acceptance by the owner. If within one year after the owner's acceptance date any work or equipment is found to be defective, correct it promptly at no cost to the owner.
- A plumbing inspection certificate shall be issued by the inspection authorities having jurisdiction before work will be approved for final payment.

ABBREVIATIONS	
A/C	AIR CONDITIONING
ABV	ABOVE
AC	ACRE
ACOUST	ACOUSTICAL
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ATV	ATMOSPHERIC VENT
BBD	BOILER BLOWDOWN
BD	BOARD
BFF	BELOW FINISH FLOOR
BOTM	BOTTOM
BTU	BRITISH THERMAL UNITS
C.O.	CLEAN OUT
C.U.	CONDENSING UNIT
CB	CATCH BASINS
CD	CONDENSATE DRAIN
CEIL	CEILING
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHWR	CHILLED WATER RETURN
CHWR	CHILLED WATER REVERSE RETURN
CHWS	CHILLED WATER SUPPLY
COL	COLUMN
CONC	CONCRETE
COND	CONDUIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CR	CONDENSATE RETURN (STEAM)
CW	COLD WATER SUPPLY
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DMC	DOMESTIC COLD
DN	DOWN
DTR	DUAL TEMP. RETURN

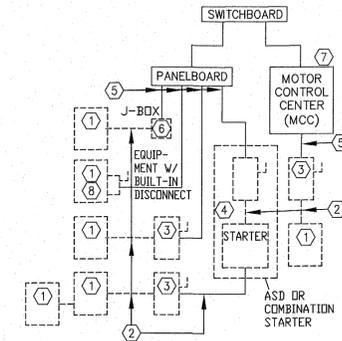
DTRR	DUAL TEMP. REVERSE RETURN
DTS	DUAL TEMP. SUPPLY
DWGS	DRAWING
E.C.	ELECTRICAL CONTRACTOR
EA	EACH
EDC	ELECTRIC DUCT COIL
EH	ELECTRIC HEATER
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
FCC	FAN COIL CONTRACTOR PANEL
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FIN	FINISH
FL	FLOOR
FPS	FEET PER SECOND
FR	FIRE RESISTANT
FT	FOOT
G	GAS
G.C.	GENERAL CONTRACTOR
GA	GAUGE
GALV	GALVANIZED
GSHP	GROUND SOURCE HEAT PUMP
HORIZ	HORIZONTAL
HP	HORSEPOWER
HP_	HEAT PUMP - #
HPS	HIGH - PRESSURE STEAM
HR	HOUR
HTWR	HOT WATER RETURN (HEATING)
HTWRR	HOT WATER REVERSE RETURN (HEATING)
HTWS	HOT WATER SUPPLY (HEATING)
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HW	DOMESTIC HOT WATER
JST	JOIST
LG	LONG
LPS	LOW - PRESSURE STEAM
M.C.	MECHANICAL CONTRACTOR

MANUF.	MANUFACTURER
MAS	MASONRY
MAX	MAXIMUM
MBTU	THOUSAND BRITISH THERMAL UNITS
MECH	MECHANICAL
MET	METAL
MIN	MINIMUM
MPS	MEDIUM PRESSURE STEAM
MU	MAKEUP WATER
O.A.	OUTDOOR AIR
O.C.	ON CENTER
OZ	OUNCE
P.C.	PLUMBING CONTRACTOR
PC	PUMPED CONDENSATE
PERIM	PERIMETER
PSI	POUNDS PER SQUARE INCH
PVMT	PAVEMENT
R.A	RELIEF AIR
R.V.	RELIEF VENT
REFRIG	REFRIGERANT
REINF	REINFORCING
REQ'D	REQUIRED
RET. A.	RETURN AIR
RM	ROOM
S.F.	SQUARE FOOT
SCHED	SCHEDULE
SHT. MET.	SHEET METAL
SPECS	SPECIFICATIONS
SPRN	FIRE PROTECTION SPRINKLER PIPING
SQ. IN.	SQUARE INCH
STL	STEEL
STM	STORM
STRUCT	STRUCTURAL
TLT	TOILET
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
UL	UNDERWRITERS LABORATORIES
W	WITH
WWF	WELDED WIRE FABRIC

BUILDING DRAIN SIZE	NUMBER OF BUILDING DRAINS	TOTAL FIXTURE UNIT LOAD	WATER SERVICE SIZE	NUMBER OF WATER SERVICES	TOTAL FIXTURE UNIT LOAD	NOTES
4"	1	7.5	1"	1	7.5	WELL AND SEPTIC SYSTEM

PLUMBING LEGEND

SYMBOL	ABBREVIATION	COMPONENT
---	V	VENT
---	SAN	SANITARY WASTE
---	DCW	DOMESTIC COLD WATER SUPPLY
---	DHW	DOMESTIC HOT WATER SUPPLY
---	DHC	DOMESTIC HOT WATER RECIRC
○	CO or XCO	FLOOR CLEANOUT (CO) OR EXTERIOR CLEANOUT (XCO)
---	WHA	WATER HAMMER ARRESTOR
---	WCO	WALL CLEANOUT
---	HB	HOSE BIBB
FD	FD	FLOOR DRAIN OR FUNNEL AS INDICATED.
W	WM	WATER METER
---	BFP	BACK FLOW PREVENTER
---	STR	STRAINER
---	VTR	VENT THRU ROOF
---	AFF	ABOVE FINISHED FLOOR
...		FIXTURE NUMBER REFER TO PLUMBING SCHEDULES
○		POINT OF CONNECTION, NEW/EXISTING
○		BALL VALVE
NAT	NAT	NATURAL GAS



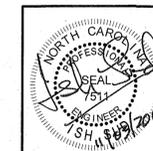
GENERAL NOTES

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- WHERE ELECTRICAL WIRING IS REQUIRED BY TRADES OTHER THAN COVERED BY DIVISION 26, THE INSTALLER SHALL REFER TO THE WIRING MATERIALS AND METHODS AS SPECIFIED UNDER DIVISION 26. NO EXCEPTIONS.

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EQUIPMENT WIRING RESPONSIBILITY
N.T.S.



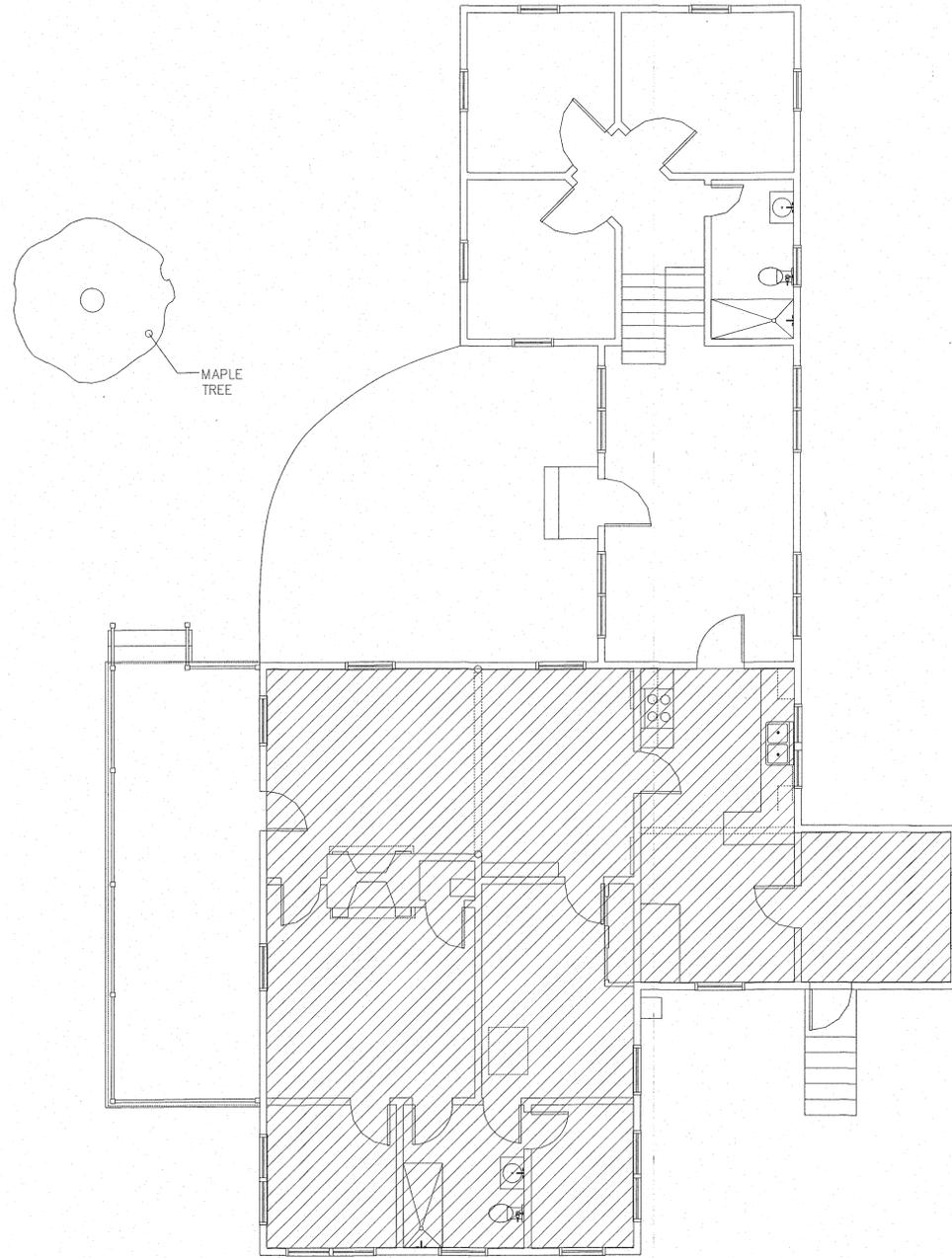
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LICENSE NO. C-0315

1813 CHAPEL HILL ROAD
DURHAM, NORTH CAROLINA
(919) 493-5277

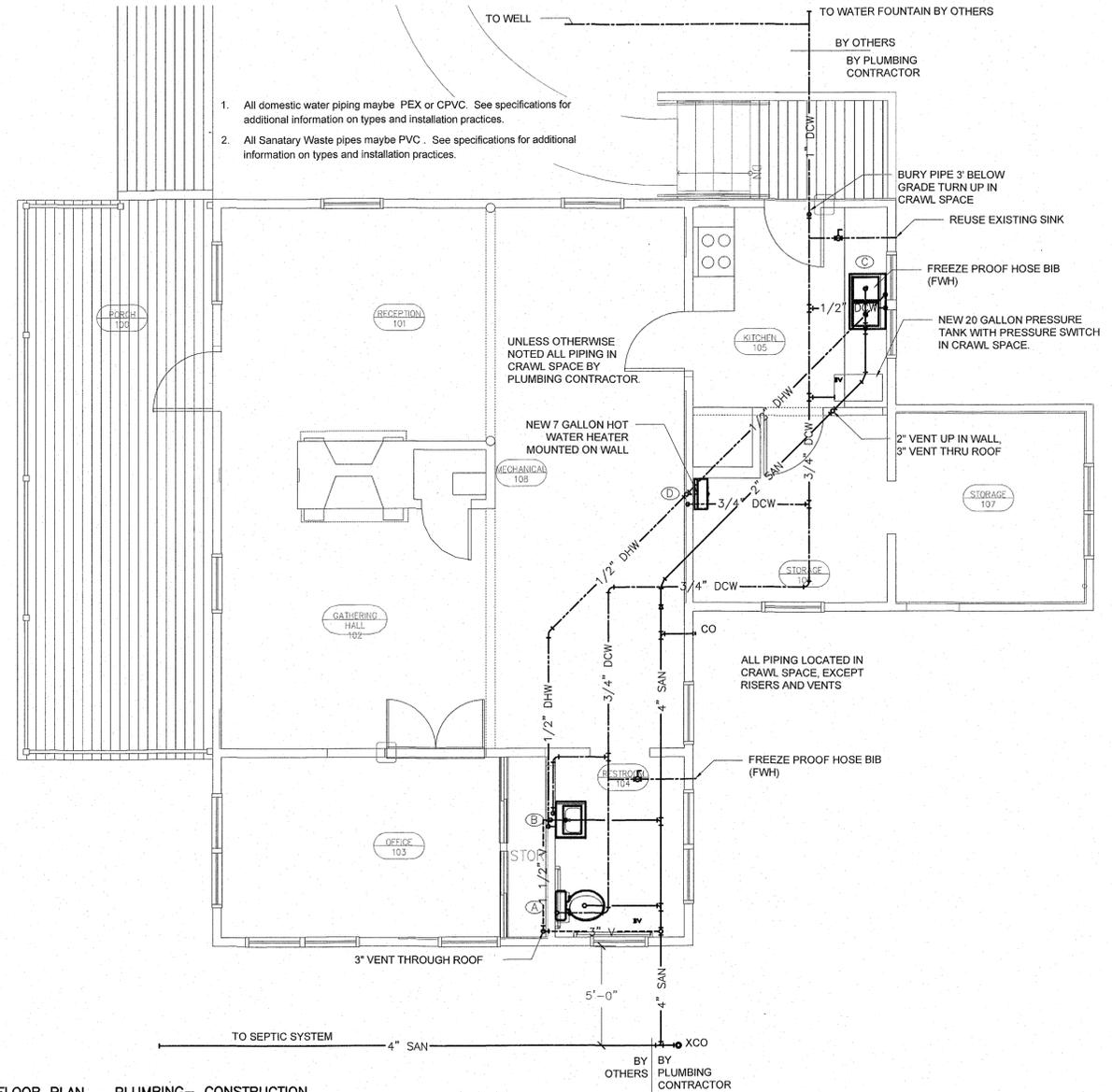
FLAT IRON BUILDING SUITE 706
20 BATTERY PARK AVENUE
ASHEVILLE, NORTH CAROLINA
(828) 255-4691

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GC will remove all Plumbing equipment, piping, valves, fittings, wiring, conduit and other associated electrical devices in hatched area. The owner shall be consulted to determine which removed items are to be turned over to the owner. Items will include all plumbing fixtures, piping in crawl space and exposed piping etc. All material and equipment which is not to be turned over to the owner shall be removed from the job site and disposed of offsite by legal means. Contractor shall obtain all necessary permits to facilitate removal and disposal. GC will patch and repair surfaces damaged during demolition to match existing after coordinating with the PC which openings will be reused for new Plumbing system. No piping will be removed from inside walls unless wall is being opened up for another trade.



FLOOR PLAN -- PLUMBING -- DEMOLITION
3/16" = 1'-0"



FLOOR PLAN -- PLUMBING-- CONSTRUCTION
1/4" = 1'-0"

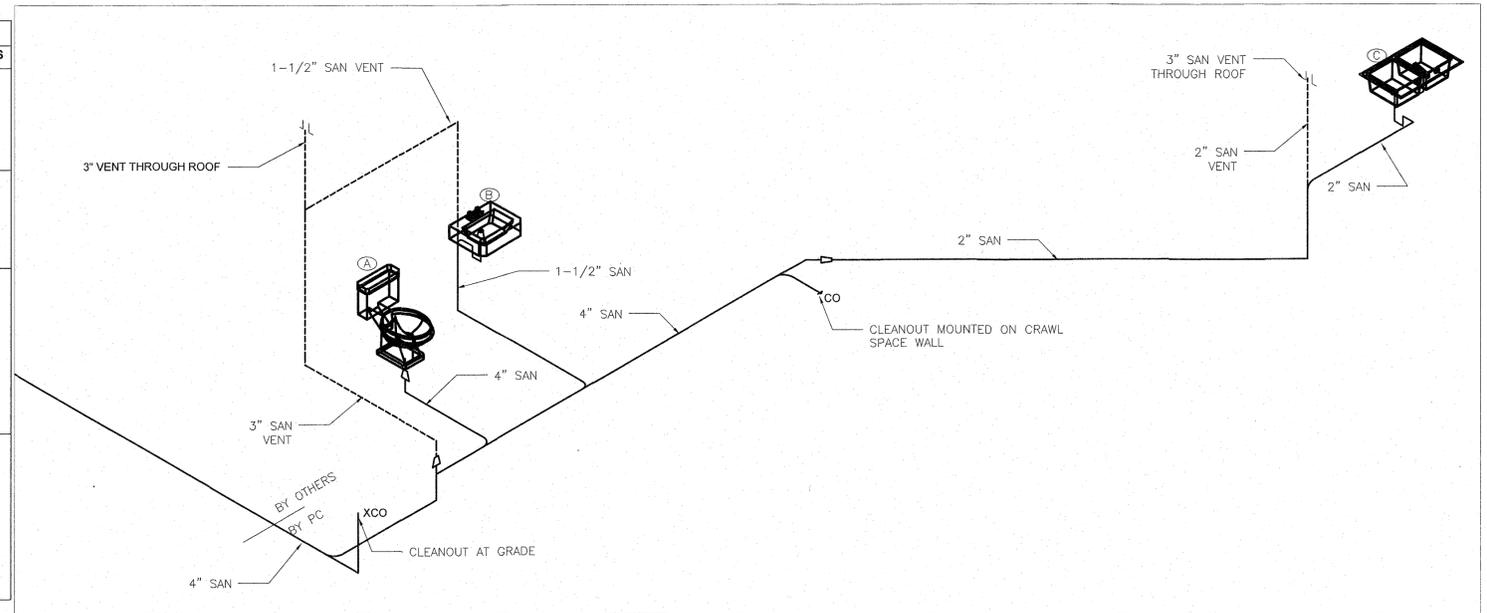
1. All domestic water piping maybe PEX or CPVC. See specifications for additional information on types and installation practices.
2. All Sanitary Waste pipes maybe PVC. See specifications for additional information on types and installation practices.



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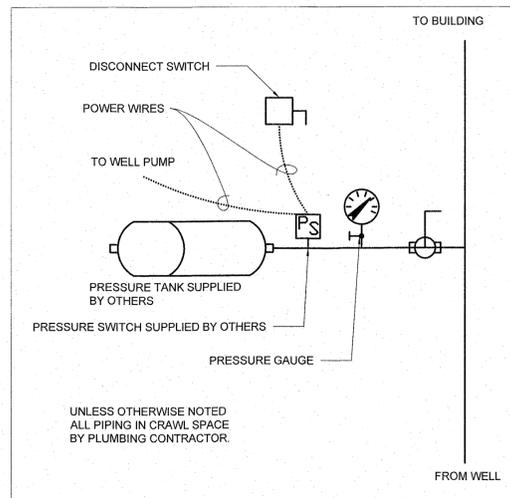
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PLUMBING FIXTURE SCHEDULE							
MARK	DESCRIPTION BASE BID	ACCESSORIES & TRIM	CW	HW	TEMPERED	WASTE	GAS
A	TOILET, TWO PIECE, TANK TYPE, FLOOR-MOUNTED, ADA APPROVED, FLOOR OUTLET, 12" ROUGHIN, 1.6 GPF, PRESSURE ASSISTED SIPHON JET FLUSHING, ELONGATED BOWL, WHITE VITREOUS CHINA, ASME A112.19.2M (AND 19.9M), SOLID PLASTIC OPEN FRONT ELONGATED SEAT, AMERICAN STANDARD CADET 3 FLOWWISE RIGHT HEIGHT ELONGATED.	PRESSURE ASSISTED FLUSHING, CHROME PLATED COPPER SUPPLY WITH ANGLE STOP, 100% FACTORY FLUSH TESTED	1/2"	-	-	4"	-
B	LAVATORY, 20"x18.25", AMERICAN STANDARD BARRIER FREE COMRADE WALL HUNG, MOUNT RIM 34" AFF, WHITE VITREOUS CHINA, ASME A112.19.2	SINGLE LEVER, 4" CENTERSET, CHROME PLATED BRASS FAUCET, DELTA B510LF-PPU, GRID DRAIN, 1-1/4" TRAP, 3/8" SUPPLIES WITH ANGLE STOPS, PREFORMED INSULATION KIT FOR WASTE & SUPPLIES, ADA APPROVED, CONCEALED ARM CARRIER TO BE JOSAM 17000 SERIES OR EQUAL BY ZURN, WADE OR SMITH.	1/2"	1/2"	-	1-1/2"	-
C	REUSE EXISTING SINK BASIN. INSTALL NEW FITTINGS AND FAUCET.	QUINCE™ 4433.001 F15 KITCHEN FAUCET WITH SEPARATE SPRAY SPOUT AS MANUFACTURED BY AMERICAN STANDARD, OR APPROVED EQUAL (SEE SPEC SECTION 224000). CAST BRASS BODY AND SWIVEL SPOUT (360° ROTATION), METAL ESCUTCHEON PLATE AND METAL LEVER HANDLE, WASHERLESS 40MM CERAMIC DISC VALVE CARTRIDGE, BRAIDED FLEXIBLE STAINLESS STEEL SUPPLY HOSES WITH 3/8" COMPRESSION CONNECTIONS, 1.5 GPM@67 L/MIN, MAXIMUM FLOW RATE FOR F15 MODELS, METAL MOUNTING SHANK WITH BRASS FIXATION RING (FOR INSTALLATION ON COUNTERTOPS UP TO 2"), CAN BE MOUNTED WITH OR WITHOUT SUPPLIED ESCUTCHEON PLATE (ESCUTCHEON SIZE 10-1/16" L X 2-1/2" W), COLOR-MATCHED HAND SPRAY.	1/2"	1/2"	-	1-1/2"	-
D	MINI-TANK WATER HEATER SHALL BE AN ARISTON MODEL GL8 WITH 1500 KW RATING, 120 VAC, 12.5 AMPS TO HEAT 7 GPH @ A TEMPERATURE RISE OF 90 DEGREES F. UNIT SHALL BE HARD WIRED TO DISCONNECT, TEMPERATURE/PRESSURE RELIEF VALVE INCLUDED, TANK SHALL BE GLASS LINED, UNIT MOUNTS ON FLOOR OR WALL, WATER CONNECTION SIZE IS 1/2" NPT, MAX OPERATING PRESSURE OF 150 PSI, TEMPERATURE RANGE 65-145°F, UNIT SHALL MEET ASHRAE 90.1, UNIT SHALL BE ARISTON OR APPROVED EQUAL.		3/4"	3/4"			

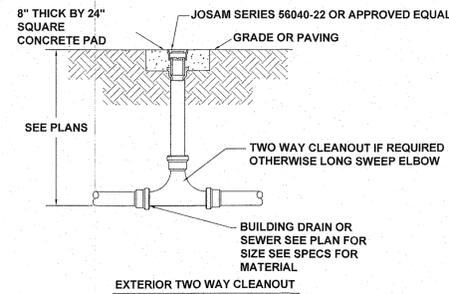


ISOMETRIC OF WASTE AND VENT SYSTEM
NTS

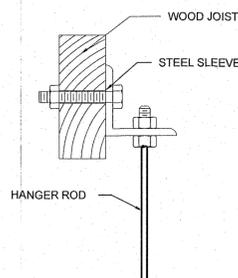
PLUMBING SPECIALTIES SCHEDULE						
TYPE MARK	DESCRIPTION	ACCESSORIES & TRIM	CW	HW	WASTE	REMARKS
CO	CLEANOUT, COATED CAST IRON, ADJUSTABLE HEAD, SCORIATED ROUND NICKEL ALLOY TOP. JOSAM SERIES 56000 OR EQUIVALENT BY ZURN, J.R. SMITH OR WADE.		--	--	VARIES	
FWH	FREEZEPROOF WALL HYDRANT, AUTOMATIC DRAINING, BOX TYPE, LOOSE KEY OPERATED, WITH VACUUM BREAKER, WOODFORD B65, OR EQUIVALENT BY JOSAM, J.R. SMITH OR ZURN.		3/4"	--	--	
XCO	CLEANOUT, FLOOR, COATED CAST IRON, ADJUSTABLE HEAD, SCORIATED ROUND NICKEL ALLOY TOP. JOSAM SERIES 56000 OR EQUIVALENT BY ZURN, J.R. SMITH OR WADE.		--	--	VARIES	2-WAY CLEANOUT



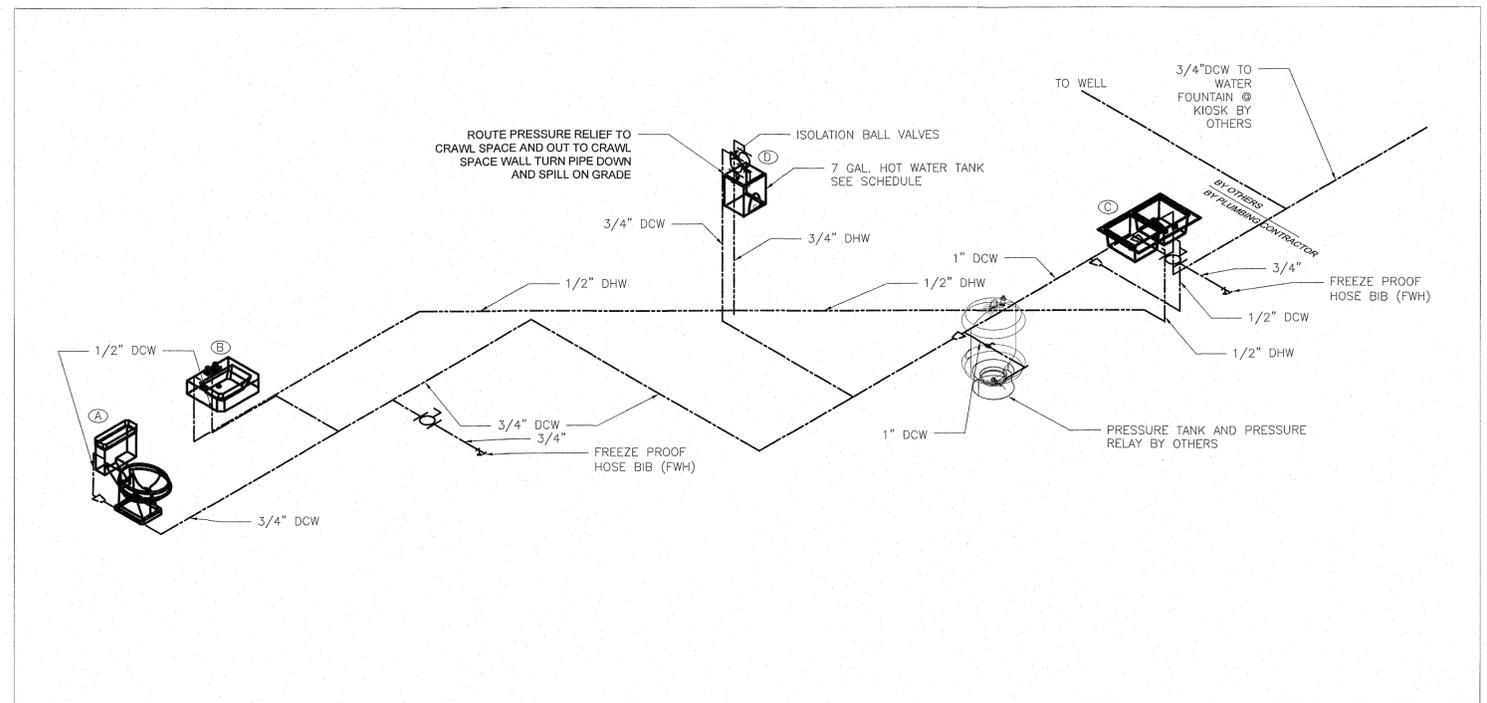
WELL SYSTEM IN CRAWL SPACE DIAGRAM
NTS



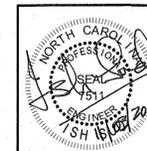
EXTERIOR TWO WAY CLEANOUT



DETAIL OF PIPE HANGER ATTACHMENT TO WOOD JOIST
NTS



ISOMETRIC OF DOMESTIC WATER SYSTEM
NTS

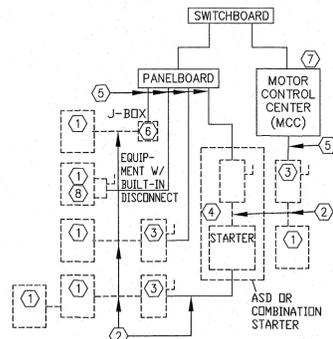


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N.T.S.

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DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DMC	DOMESTIC COLD
DN	DOWN
DTR	DUAL TEMP. RETURN

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EDC	ELECTRIC DUCT COIL
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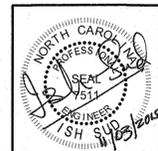
MECHANICAL AND DDC LEGEND							
SYMBOL			DESCRIPTION	SYMBOL			DESCRIPTION
PLAN	ELEVATION	SCHEMATIC		PLAN	ELEVATION	SCHEMATIC	
---	---	---	DHC HOT WATER RECIRC PIPING	⊙	⊙	⊙	GATE VALVE
---	---	---	DHW HOT WATER PIPING	⊙	⊙	⊙	GLOBE VALVE
---	---	---	DCW COLD WATER PIPING	⊙	⊙	⊙	GLOBE VALVE
---	---	---	V VENT PIPING	⊙	⊙	⊙	GLOBE VALVE
---	---	---	SAN SANITARY DRAIN PIPING	⊙	⊙	⊙	PRESSURE GAGE
* MECHANICAL PIPES SEE ABBREVIATION TABLE FOR * (PSIG)							
⊙	⊙	⊙	POINT OF CONNECTION OR DISCONNECTION	⊙	⊙	⊙	THERMOMETER
ES	ES	ES	EMERGENCY SHUT-DOWN	⊙	⊙	⊙	THERMOMETER
⊙	⊙	⊙	TEMPERATURE WELL	⊙	⊙	⊙	CIRCUIT SETTER
⊙	⊙	⊙	ANALOG INPUT TO DDC	⊙	⊙	⊙	CIRCUIT SETTER
⊙	⊙	⊙	ANALOG OUTPUT TO DDC	⊙	⊙	⊙	BALL VALVE
⊙	⊙	⊙	DIGITAL INPUT TO DDC	⊙	⊙	⊙	BALL VALVE
⊙	⊙	⊙	DIGITAL OUTPUT TO DDC	⊙	⊙	⊙	BUTTERFLY VALVE
⊙	⊙	⊙	THERMOSTATIC RADIATOR VALVE	⊙	⊙	⊙	BUTTERFLY VALVE
⊙	⊙	⊙	TEMPERATURE SENSOR (EMCS)	⊙	⊙	⊙	CHECK VALVE
⊙	⊙	⊙	MANUAL OVERRIDE (EMCS)	⊙	⊙	⊙	CHECK VALVE
⊙	⊙	⊙	HUMIDISTAT (EMCS)	⊙	⊙	⊙	TRIPLE DUTY VALVE
⊙	⊙	⊙	HEAT PUMP THERMOSTATS	⊙	⊙	⊙	TRIPLE DUTY VALVE
⊙	⊙	⊙	THERMOSTAT * INDICATES UNIT	⊙	⊙	⊙	RELIEF VALVE
⊙	⊙	⊙	DUCT STATIC PRESSURE SENSOR	⊙	⊙	⊙	RELIEF VALVE
⊙	⊙	⊙	FLOW METER	⊙	⊙	⊙	THREE WAY CONTROL VALVE
⊙	⊙	⊙	DUCT SMOKE DETECTOR	⊙	⊙	⊙	THREE WAY CONTROL VALVE
⊙	⊙	⊙	ONE HOUR FIRE RATED WALL	⊙	⊙	⊙	TWO WAY CONTROL VALVE
⊙	⊙	⊙	TWO HOUR FIRE RATED WALL	⊙	⊙	⊙	TWO WAY CONTROL VALVE
⊙	⊙	⊙	FIRE DAMPER	⊙	⊙	⊙	STRAINER
⊙	⊙	⊙	BALANCING DAMPER	⊙	⊙	⊙	IN-LINE PUMP
⊙	⊙	⊙	HANGER	⊙	⊙	⊙	AD - AREA DRAIN FD - FLOOR DRAIN FS - FLOOR SINK RD - ROOF DRAIN
⊙	⊙	⊙	TEMPERATURE TRANSMITTER	⊙	⊙	⊙	COCK OR PLUG

EQUIPMENT TAG SYMBOLS

- (A 1000S) AIR TERMINAL
- (AHU-1) AIR HANDLING UNIT
- (AS-1) AIR SEPARATOR
- (B-1) BOILER
- (CUH-1) CABINET UNIT HEATER
- (CH-1) CHILLER
- (CU-1) CONDENSING UNIT
- (CT-1) COOLING TOWER
- (ET-1) EXPANSION/COMPRESSION TANK
- (FCU-1) FAN COIL UNIT
- (F-1) FAN
- (FUR-1) FURNACE
- (HEX-1) HEAT EXCHANGER
- (HP-1) HEAT PUMP
- (P-1) PUMP
- (RTU-1) ROOFTOP UNIT
- (AH-1) SPLIT SYSTEM AIR HANDLER
- (SCP-1) STEAM CONDENSATE PUMP
- (TNK-1) TANK
- (EUH-1) ELECTRIC UNIT HEATER
- (UH-1) GAS UNIT HEATER
- (HUH-1) HYDRONIC UNIT HEATER
- (SUH-1) STEAM UNIT HEATER
- (V-1) VAV BOX
- (FPB 1-1) FAN POWERED VAV BOX
- (WHP 1-1) WATER SOURCE HEAT PUMP

GENERAL NOTES (ALL NOTES ON THIS PAGE APPLY TO ALL SHEETS U.O.N.)

1. Drawings are diagrammatic. Drawings are not intended to be absolutely precise, and do not specify or show every offset, fitting, and component. The purpose of the drawings is to indicate a system concept, the main components of the systems, and the approximate geometrical relationships. Based on the systems concept, the main components and approximate geometrical relationships, the contractor shall provide all other components and materials necessary to make the systems fully complete and operational. The contractor shall route piping or provide offsets to avoid interference with structural elements, equipment, electrical panels and junction boxes, etc. Verify locations, dimensions, existing flow directions, available power characteristics (volts/phase), etc., before construction.
2. The design documents indicate the products that were used as the basis of the design. This establishes the product parameters and other systems interacting with the product (size, power requirements, pipe sizes, pump capacity, etc.). Contractor shall specifically bring to the Designer's attention any changes in other systems required when products, other than those used as the basis of the design, are used. The contractor shall bear all costs, including design, for the changes.
3. The contractor shall verify existing conditions, dimensions and sizes before fabricating or ordering equipment.
4. Repair and patch all (new and demolished) wall and floor penetrations to match existing finish. Repair and patch all concrete floors, slabs or asphalt paving to match existing finishes where equipment, slabs or supports are removed. Seal all penetrations of walls/floors to prevent infiltration of air, water, and vermin.
5. Welding Procedure Qualifications and Welder Qualifications shall be submitted to the Engineer prior to the start of any fabrications. Procedures shall comply with applicable sections of ASME and ANSI Codes. A burn permit shall be obtained from the Owner prior to any burning or welding being started.
6. Support all piping from building structure, floor or pavement. Refer to specification section pertaining to "Pipe Supports", and detail drawings for requirements.
7. Label all equipment, ducts, etc. in accordance with specifications.
8. After completion of construction test and balance the air distribution systems to the flow values indicated in the plans. A Test and Balance Report shall be submitted and any discrepancies shall be noted and brought to the attention of the Engineer. See specification section pertaining to "Test and Balancing".
9. Unless otherwise noted, all mechanical equipment shall be mounted on 4" thick, 3000 psi concrete housekeeping pads, minimum 4" larger than equipment on each side.
10. Refer to plans, equipment schedules and details for capacities and additional requirements.
11. Install all equipment in compliance with manufacturer's written recommendation and requirements. If recommendations conflict with drawings, request clarifications from Engineer before proceeding.
12. Contractor shall be responsible for safety at the site. Provide barricades and covers at the excavation areas as appropriate. Comply with safety requirements of OSHA, etc. Except for interruptions specifically permitted by the Owner, vehicular and pedestrian traffic shall be maintained at all times. Coordinate with the Owner.
13. Field-verify existing and coordinate new equipment sizes with associated contractors (electrical, kitchen vendors etc.) after completion of shop drawing review. Adjust voltage rating, capacity and size of wiring, starters, disconnect switches and overcurrent protection devices as required. Notify engineer of any discrepancies before ordering supplies and start of construction. Failure to comply will require the contractor to bear the cost for correctly sized equipment and wiring.
14. Work and materials shall comply with applicable state, local, and national codes (including OSHA). Compliance with the latest edition of the North Carolina State Building code and these Specifications shall be the absolute minimum standard of acceptance.



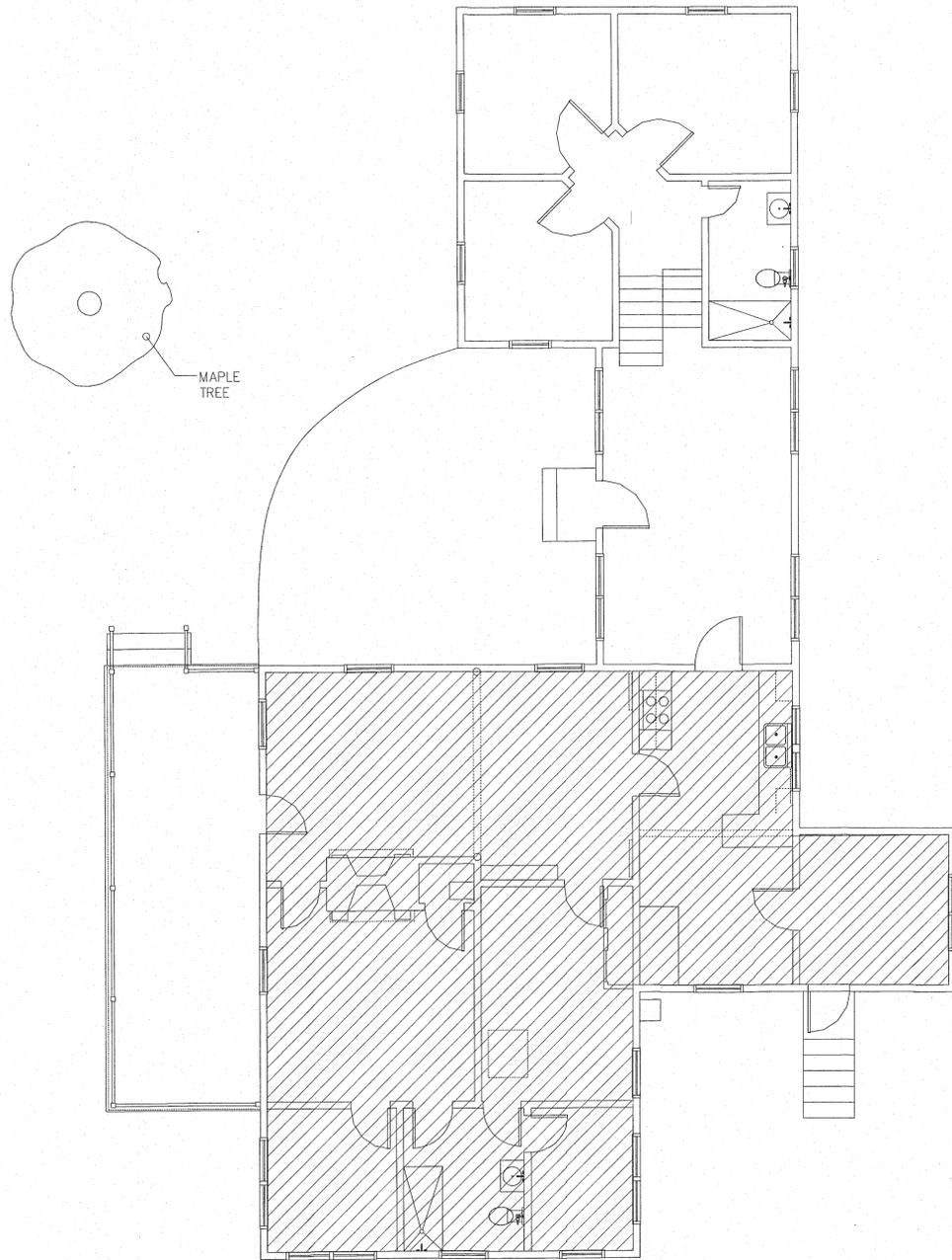
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CONSULTING ENGINEERS
LICENSE NO. C-0315
1813 CHAPEL HILL ROAD
DURHAM, NORTH CAROLINA
(919) 493-5277

FLAT IRON BUILDING SUITE 706
20 BATTERY PARK AVENUE
ASHEVILLE, NORTH CAROLINA
(828) 255-4691

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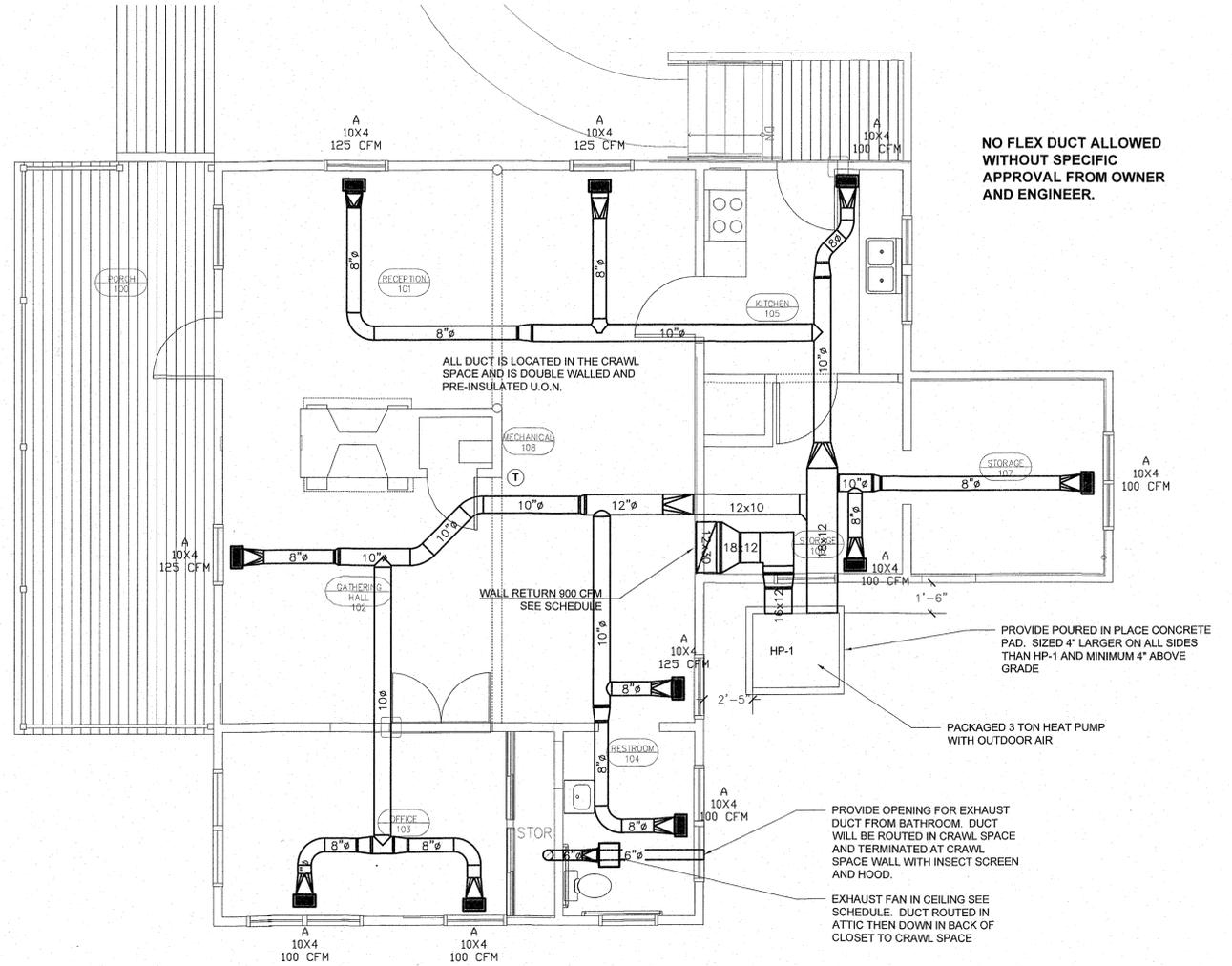
GC will remove all HVAC equipment, piping, valves, fittings, wiring, conduit and other associated electrical devices. The owner shall be consulted to determine which removed items are to be turned over to the owner. Items will include all ductwork, grilles, louvers, building ventilation system, etc. All material and equipment which is not to be turned over to the owner shall be removed from the job site and disposed of offsite by legal means. Contractor shall obtain all necessary permits to facilitate removal and disposal. GC will patch and repair surfaces damaged during demolition to match existing after coordinating with the MC which openings will be reused for new HVAC system.



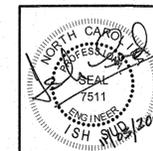
FLOOR PLAN - MECHANICAL - DEMOLITION
1/4" = 1'-0"

GENERAL NOTES:

- BEFORE TRIMMING ANY WOOD FRAMING IN THE JOIST SPACE VERIFY WITH THE G.C.
- ALL DUCT TAKE-OFFS SHALL HAVE MANUAL LOCKING BALANCING DAMPERS U.O.N.
- ALL DUCT SIZES ARE BASED ON INSIDE DIMENSIONS. ALL DUCTWORK SHALL BE DOUBLE WALLED PRE-INSULATED DUCTS.
- ALL FLOOR GRILLES SHALL HAVE DUCT BOOTS AS SHOWN IN "DETAIL OF FLOOR DIFFUSER/REGISTER BOOT W/DIRT LEG" ON SHEET M102



FLOOR PLAN - MECHANICAL - CONSTRUCTION
1/4" = 1'-0"



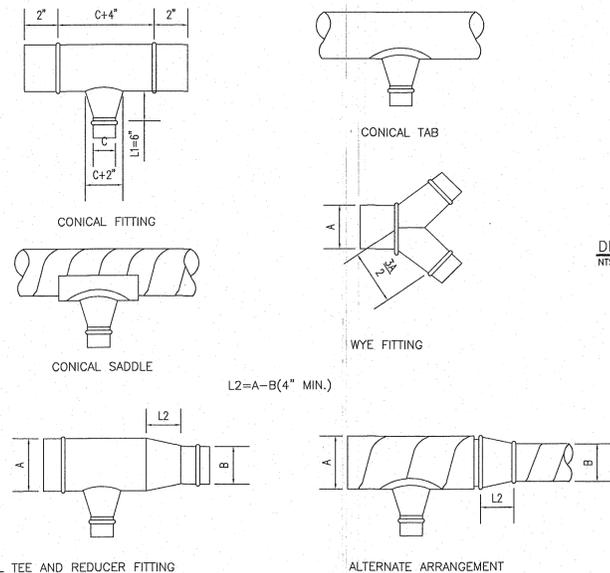
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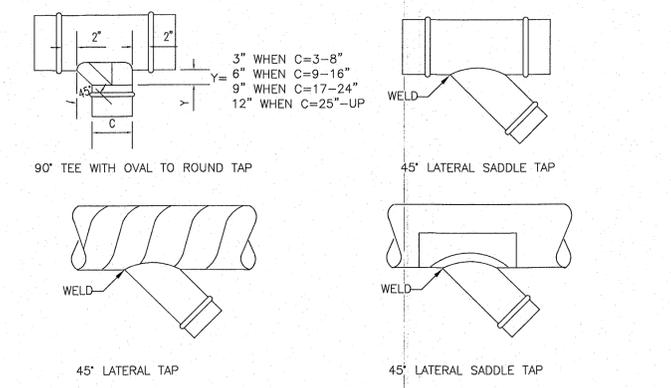
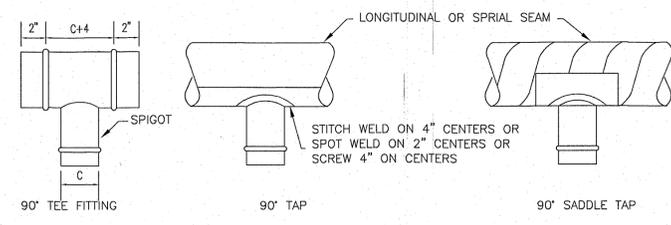
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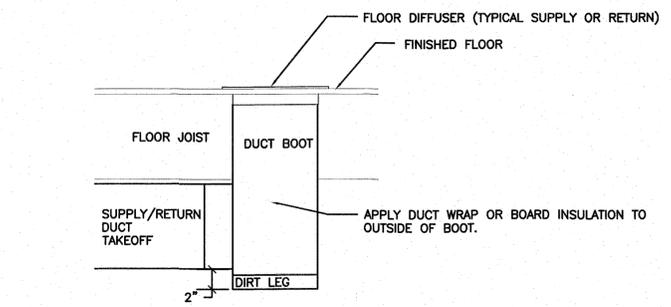
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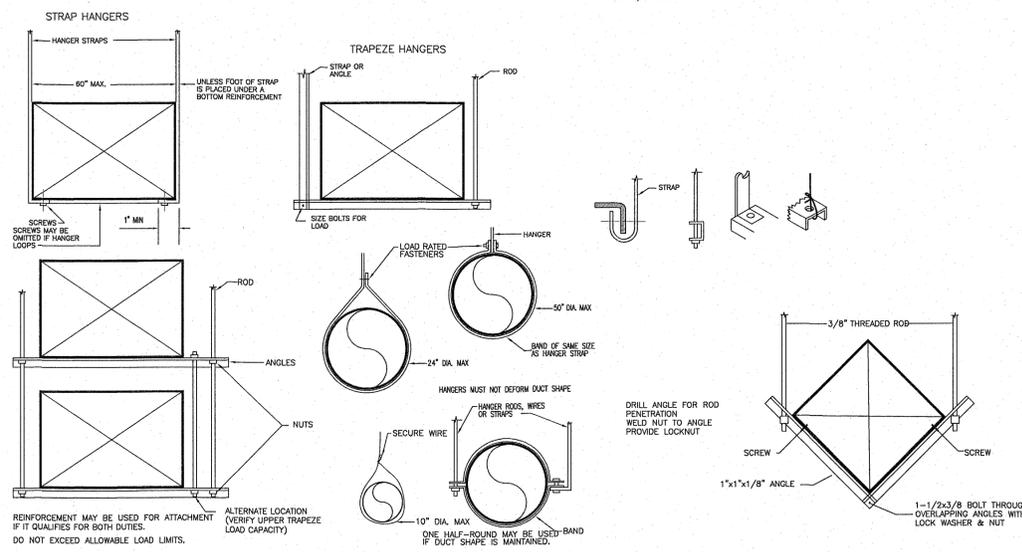
CONICAL TEES
NO SCALE



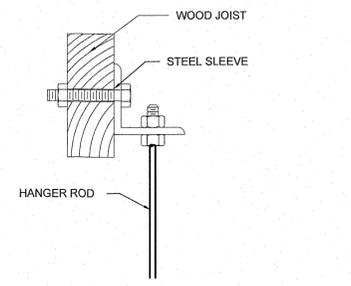
90° TEES AND LATERALS
NO SCALE



DETAIL OF FLOOR DIFFUSER/REGISTER BOOT W/DIRT LEG
NTS



DUCT HANGER ATTACHMENTS
NO SCALE



DETAIL OF PIPE HANGER ATTACHMENT TO WOOD JOIST
NTS

BATHROOM EXHAUST FAN
Panasonic WhisperValue 80 CFM ceiling super low profile exhaust bath fan or equal by Broan, Nutone or Air King. Provide 6" discharge hood with insect screen.

WhisperValue ENERGY STAR rated performance-valued exhaust fans feature totally enclosed AC condenser motors. These low flow models have a 3-3/4 in. height, operates with 4 in. round. All models comply with Green building IAQ standards.

- Super low profile housing design
- Ultra low quiet operation
- Energy Star qualified
- UL listed for wall and ceiling installation
- ASHRAE 62.2, LEED for homes, Energy Star IAP, CA Title24, EarthCraft and WIA ventilation code compliant
- Rustproof paint treatment on galvanized housing
- Thermal fuse protection
- Totally enclosed condenser motor for long life—rated for 30,000 hours continuous run
- Built-in damper to prevent back-draft
- Installation (double hanger bar system)

A - SUPPLY GRILLE
TruAire Part# 150 Stamped Face Floor Register or equal by others.
4" x 10" Steel Floor Register - Color to be determined by Owner

- Damper Box Included
- Inside Dimensions: 4" x 10"
- Outside Dimensions: 5 1/2" x 11 1/2"

RETURN GRILLE
Speedi-Grille or equal by Krueger, TrueAire or Airtac
30 in. x 24 in. White Return Air Vent Filter Grille with Fixed Blades
Hand operated lever for easy filter access. Filter door hinges to longest side and is removable for cleaning. The door is 4-way reversible on square models. It has a white paintable powder coat finish.

- Holds up to a 2 in. depth filter (not included)
- Stamped 1/2 in. fan shaped louvers
- Louvers are parallel to longest side
- Soft white paintable powder coat finish
- Made in USA
- Provide filters during construction as needed and install new filter at final inspection. Turn over a minimum of 3 filters to owner after final acceptance.

PACKAGED HEAT PUMP SYSTEMS (HP-1)			
Manufacturer	TRANE		
Model Number	4WC26036A		
RATED Volts/PH/Hz	208-230/1/60		
Performance Cooling	BTUH (High)	36000	
	Indoor Airflow (CFM)	1125	
	Power Input (KW)	3	
	BTUH (Low)	25200	
	Indoor Airflow (CFM)	825	
	Power Input (KW)	2	
Performance Heating	EER - HI / LOW / SEER	12.2/13.3/16.4	
	Sound Power Rating [dB(A)]	70	
	(47 ambient) BTUH / COP (Both Stages)	34000 / 3.9	
	Power Input (KW)	2.59	
	(17 ambient) BTUH / COP (Both Stages)	20800 / 2.62	
	Power Input (KW)	2.371	
POWER CONN.	(47 ambient) BTUH / COP (1 Stage)	23400 / 3.9	
	Power Input (KW)	1.8	
	(17 ambient) BTUH / COP (1 Stage)	13300 / 2.2	
	Power Input (KW)	1.78	
	HSPF (BTU / Watt-Hr.)	9	
	RATED Volts/PH/Hz	208-230/1/60	
OUTDOOR FAN	Min. Brch. Cir. Ampacity	26.2	
	Fuse Size — Max. / Recmd. (amps)	40 / 40	
	TYPE	PROPELLER	
	Drive/No. Speeds	DIRECT / 1	
	CFM @ 0.0 in. w.g.	3020	
	Motor — HP/R.P.M.	1/8 / 830	
INDOOR FAN	Volts/Ph/Hz	208-230/1/60	
	F.L. Amps/L.R. Amps	0.9 / 1.65	
	TYPE	CENTRIFUGAL	
	Drive/No. Speeds	DIRECT / VARIABLE	
	400 per ton Setting CFM @ 0.8 in. w.g.	1190	
	Motor — HP/R.P.M.	1/2 / VARIABLE	
AUX. HEAT	Volts - Phase	208/1	
	Model Number	BAYHTRV115E	
	REFRIGERANT / Charge (lbs.)	R410A / 7.8	
	Recmd. Face Area (sq. ft.)	4	
	Filter / FURNISHED	NO	
	Type Recommended	THROWAWAY	
Htg Capacity (KW) @ 208V	11.27/38500 BTUH		

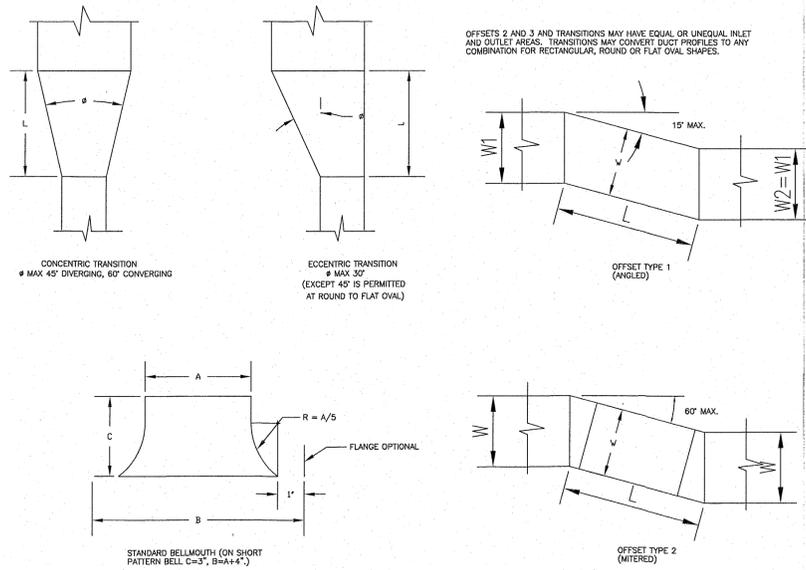
1. Cooling load rating is based on ARI Standard, 95 deg F DB Ambient, 80 deg F DB/67 deg F WB, entering evaporator.
2. High Heating is based on Standard, 47 deg F DB Ambient. Low Heating is based on Standard, 17 deg F DB Ambient.
3. Manufacturer: Trane or equals by Carrier, York or Lennox.
4. Heat pump unit shall have high/low pressure switches and coil guard.
5. Heat Pump system shall have a programmable thermostat with built in humidity control.
6. Provide Suction Line Filter Drier.
7. Provide units with complete control including relays, transformer, terminal board, etc.
8. Provide factory installed through the base electrical with circuit breaker.
9. Provide single point power.
10. Provide convenience outlet.
11. Provide Low Ambient Control.

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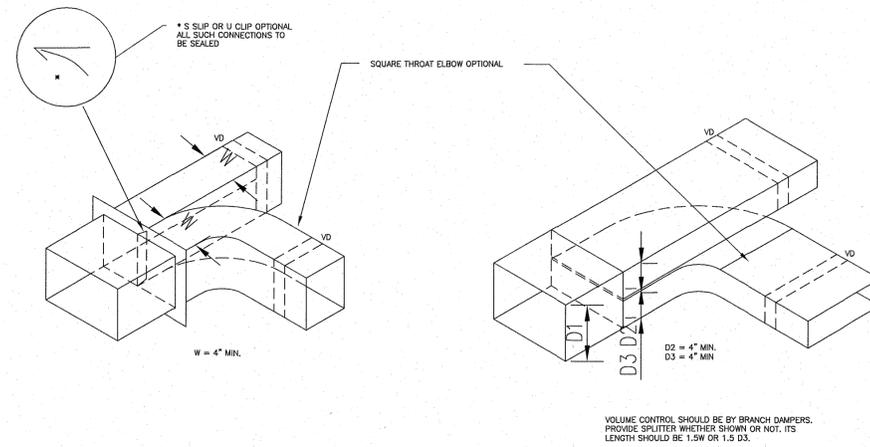
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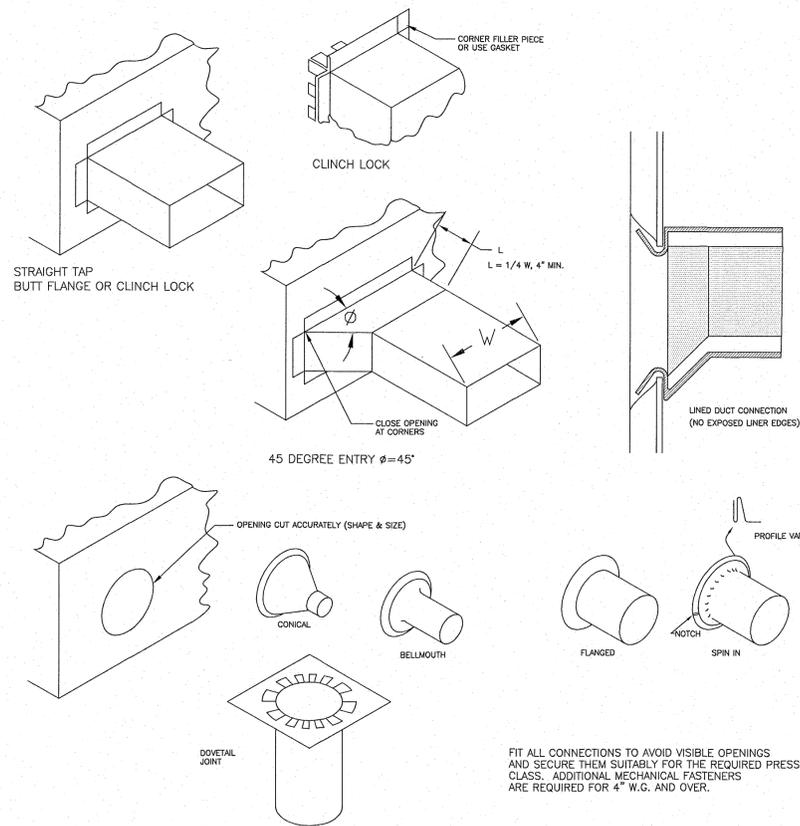
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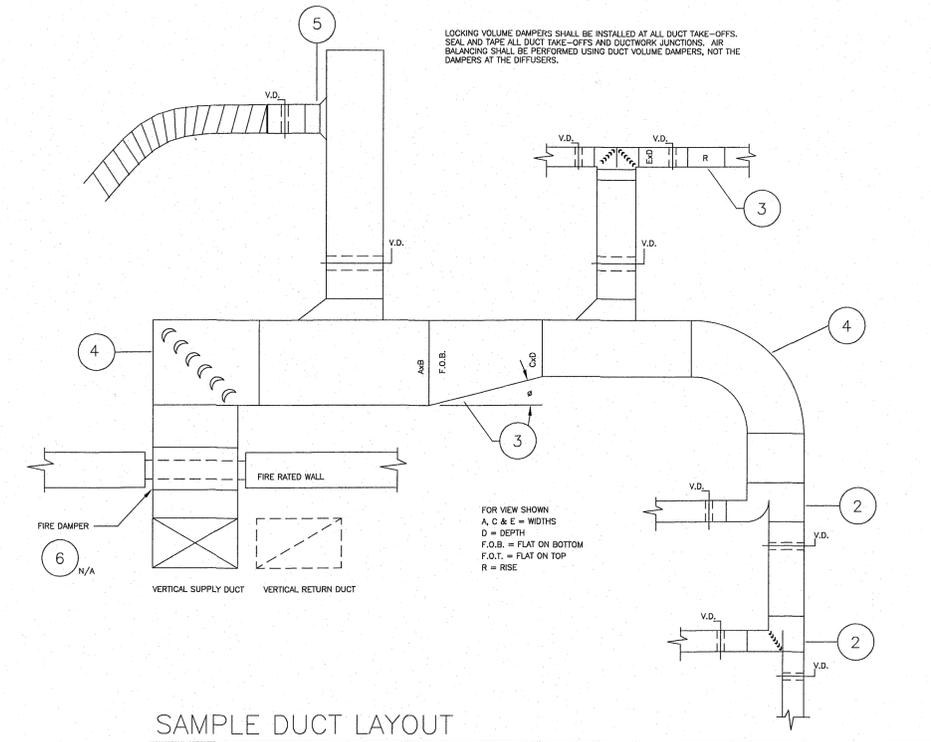
3 OFFSETS AND TRANSITIONS
NO SCALE



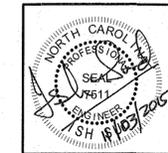
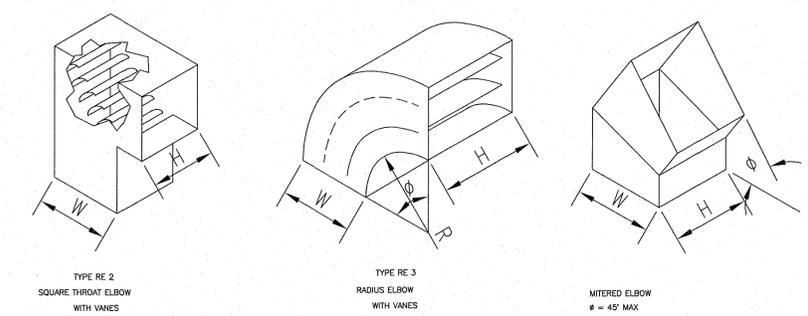
2 PARALLEL FLOW BRANCHES
NO SCALE



5 BRANCH CONNECTIONS
NO SCALE



4 RECTANGULAR ELBOWS
NO SCALE



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ELECTRICAL SYMBOLS

(ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT)

	TYP. LINEAR FLUOR. LIGHT FIXTURES	UPPERCASE ALPHANUMERIC DESIGNATORS INDICATE LIGHT FIXTURE TYPE. REFER TO LIGHT FIXTURE SCHEDULE.	S	SWITCH, SINGLE POLE TOGGLE
	TYP. DOWNLIGHT FIXTURE	LOWER CASE ALPHANUMERIC DESIGNATORS INDICATE ASSOCIATED SWITCHED CIRCUIT.	S ₃	SWITCH, 3 WAY TOGGLE
	TYP. WALL MOUNTED FIXTURES	UPPERCASE "F" INDICATES UNSWITCHED EMERGENCY CIRCUIT	S ₄	SWITCH, 4 WAY TOGGLE
	TYP. WALL MOUNTED UPLIGHT FIXTURE	A DIAGONAL LINE INDICATES LAY-IN MOUNTING.	S _{DM}	SWITCH, DIMMER
	EXIT LIGHT, DARKENED SIDE INDICATES FACE	TWO DOTS INDICATE PENDANT MOUNTING.	S _{3D}	SWITCH, 3 WAY DIMMER
	DUAL HEAD EMERGENCY BATTERY LIGHT	A CENTERED SINGLE CIRCLE INDICATES SURFACE MOUNTING.	S _K	SWITCH, KEY-OPERATED
	DUAL HEAD REMOTE LIGHT FIXTURE	DIAGONAL SOLID HATCH INDICATES AN EMERGENCY LIGHT FIXTURE. PROVIDE 1100 LUMENS EMERGENCY BALLAST IF NO EMERGENCY CIRCUITS ARE AVAILABLE. TIE BATTERY UNITS INTO GENERAL LIGHTING CIRCUIT AHEAD OF SWITCHING.	S _P	SWITCH, SINGLE POLE & PILOT LIGHT COMBINATION
	RECEPTACLE, DUPLEX	INDICATES MOUNTING HEIGHT AFF. REFER TO ARCH. DRAWINGS.	S _L	SWITCH, LOW VOLTAGE RELAY SYSTEM
	RECEPTACLE, QUAD		S _E	SWITCH, EMERGENCY BOILER OFF, 3-WAY
	RECEPTACLE, SINGLE		S _U	OCCUPANCY SENSOR (P=PASSIVE INFRARED, U=ULTRASONIC, D=DUAL TECHNOLOGY, A=ACOUSTIC DUAL TECHNOLOGY)
	GROUND FAULT INTERR. RECEPTACLE		PC	PHOTO CELL
	RECEPTACLE SPECIAL (NEMA CONFIGURATION INDICATED)		PC	HAND DRYER
	RECEPTACLE, CEILING MOUNTED		R	RELAY
	6" CORE DUAL SERVICE FLUSH DUPLEX FLOOR BOX (2) POWER AND (4) TEL./DATA OUTLETS		EM	EXPOSED RACEWAY
	8" CORE DUAL SERVICE FLUSH QUAD FLOOR BOX (4) POWER AND (4) TEL./DATA OUTLETS		EM	LOW VOLTAGE WIRING
	DUAL SERVICE TELE./DATA & POWER POLE		EM	CONDUIT CONCEALED IN WALLS OR CEILING
	JUNCTION BOX, CEILING, FLOOR MOUNTED		EM	EMERGENCY CIRCUIT
	JUNCTION BOX, TELEPHONE		EM	CONDUIT CONCEALED IN OR UNDER FLOOR OR UNDER GROUND
	JUNCTION BOX, DATA		EM	FLEXIBLE CONNECTION TO EQUIPMENT
	JUNCTION BOX, TELEPHONE & DATA		EM	HOMERUN - CIRCUIT & PANEL AS INDICATED (#2#12 + 1#12G, 3/4" C. UNLESS NOTED OTHERWISE)
	JUNCTION BOX, POWER		EM	CABLE TRAY
	LIGHTING/RECEPTACLE PANEL SURFACE MOUNT, FLUSH MOUNT		EM	SURFACE RACEWAY, WIREMOLD
	POWER PANEL SURFACE MOUNT, FLUSH MOUNT		EM	DOOR BELL PUSH BUTTON
	DISTRIBUTION PANEL		EM	DOOR BELL
	EQUIPMENT CABINET OR PANEL AS INDICATED		EM	ITEMS FURNISHED BY OTHERS, BUT INSTALLED & WIRED BY E.C.
	NON-FUSED DISCONNECT SWITCH		EM	ITEMS FURNISHED & INSTALLED BY OTHERS, BUT WIRED BY E.C.
	FUSED DISCONNECT SWITCH		EM	ITEMS FURNISHED, INSTALLED AND WIRED BY OTHERS
	COMBINATION STARTER/DISCONNECT SWITCH ("F" INDICATES FUSED)		EM	ITEMS FURNISHED & WIRED BY E.C., BUT INSTALLED BY OTHERS
	CONTACTOR, MAGNETIC		EM	DEMOTES POINT OF CONNECTION OF OLD TO NEW
	STARTER, MAGNETIC		EM	TIME CLOCK SWITCH
	MOTOR RATED SWITCH		EM	EXISTING EQUIPMENT TO REMAIN
	FRACTIONAL HP STARTER		EM	EXISTING EQUIPMENT TO BE REMOVED
	MOTOR (# INDICATES HORSEPOWER)		EM	EXISTING EQUIPMENT TO BE REMOVED & REINSTALLED IN SAME LOCATION
	CIRCUIT BREAKER IN ENCLOSURE, WITH PERMANENT HASP FOR LOCKING IN THE ON AND OFF POSITIONS.		EM	NEW EQUIPMENT
	CIRCUIT BREAKER		EM	REPLACE EXISTING WITH NEW EQUIPMENT IN SAME LOCATION. REPLACE WIRING AS REQUIRED.
	ADJUSTABLE FREQUENCY DRIVE		EM	GENERATOR ANNUNCIATOR
	ADJUSTABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT SWITCH		EM	REMOTE KEY PAD
	EQUIPMENT TERMINATION. SEE MECHANICAL DRAWINGS FOR DETAILS.		EM	ELECTRIC DOOR LOCK & CONTACT

	FIRE ALARM CONTROL PANEL		EM	SECURITY SYSTEM GLASSBREAK DETECTOR
	FIRE ALARM ANNUNCIATOR		EM	CARD READER
	FIRE ALARM TERMINAL CABINET		EM	PUSH BUTTON STATION
	SPRINKLER FLOW SWITCH		EM	ELECTRIC UTILITY METER
	SPRINKLER TAMPER SWITCH		EM	CURRENT TRANSFORMER
	SPRINKLER ZONE VALVE		EM	DIGITAL METER MONITOR
	FIRE ALARM PULL STATION		EM	
	FIRE ALARM STROBE LIGHT, WALL, CEILING MOUNTED		EM	
	COMBINATION FIRE ALARM HORN/STROBE		EM	
	FIRE ALARM HORN		EM	
	ISOLATION MODULE		EM	
	ADDRESSABLE INPUT MODULE		EM	
	ADDRESSABLE OUTPUT MODULE		EM	
	PHOTO-ELECTRIC TYPE SMOKE DETECTOR.		EM	
	BT & BR INDICATE BEAM TRANSMITTER & RECEIVER.		EM	
	SB INDICATES SOUNDER BASE.		EM	
	HEAT DETECTOR (COMBINATION FT/RR U.O.N., A=ANTICIPATOR TYPE, AC=ABOVE CEILING.)		EM	
	HEAT DETECTOR (FIXED TEMPERATURE)		EM	
	HEAT DETECTOR (RATE OF RISE)		EM	
	PHOTO-ELECTRIC TYPE DUCT SMOKE DETECTOR WITH REMOTE ANNUNCIATING TEST STATION 'RAL'.		EM	
	REMOTE ANNUNCIATING TEST STATION 'RAL'		EM	
	SMOKE DETECTOR REMOTE MONITOR STATION		EM	
	MAGNETIC DOOR HOLDER		EM	
	TELEPHONE OUTLET (1" RACEWAY ROUGH-IN ONLY)		EM	
	DATA OUTLET (1" RACEWAY ROUGH-IN ONLY) WALL, CEILING MOUNTED		EM	
	COMBINATION TELEPHONE AND DATA OUTLET (1" RACEWAY ONLY) WALL, CEILING MOUNTED		EM	
	SOUND SYSTEM WALL PHONE (ROUGH-IN ONLY)		EM	
	MICROPHONE OUTLET		EM	
	SPEAKER CEILING MOUNTED		EM	
	SPEAKER WALL MOUNTED		EM	
	SPEAKER HORN		EM	
	SPHERICAL SPEAKER		EM	
	CLOCK, WALL MOUNTED		EM	
	CLOCK/SPEAKER BAFFLE		EM	
	SOUND VOLUME CONTROL		EM	
	SECURITY SYSTEM DOOR CONTACTS		EM	
	INTERCOM		EM	
	ALARM BELL		EM	
	DUPLEX RECEPTACLE AND CATV RECEPTACLE AT 6" RACEWAY		EM	
	INFRARED SECURITY SENSOR		EM	

GENERAL NOTES

- THIS WORK SHALL COMPLY WITH STATE CONSTRUCTION OFFICE AND NORTH CAROLINA DEPARTMENT OF INSURANCE STANDARDS AND ALL OTHER STATE AND LOCAL BUILDING, ELECTRICAL, AND FIRE CODES AND REGULATIONS.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, THE SPECIFICATIONS FOR GROUNDING, THE CONTRACT DRAWINGS, FEDERAL, STATE AND LOCAL CODES AND TO THE SATISFACTION OF THE ENGINEER. ALL GROUNDING CONNECTIONS TO BE MADE BY THE CADDLED PROCESS OR EQUAL.
- ALL CONDUITS AND ELECTRICAL EQUIPMENT ARE SHOWN DIAGRAMMATICALLY AND MAY BE ALTERED TO SUIT FIELD CONDITIONS PENDING ENGINEER'S APPROVAL.
- ALL PLANS ELEVATIONS AND CLEARANCES SHALL BE CHECKED IN THE FIELD PRIOR TO INSTALLATION TO AVOID ALL OBSTRUCTIONS.
- ALL JUNCTION BOXES SHALL BE OF SUFFICIENT SIZE TO PROVIDE FREE SPACE FOR ALL CONDUCTORS ENCLOSED IN THE BOX AND SHALL BE SIZED WITH THE LATEST N.E.C. ARTICLE 314.
- ALL DIMENSIONS ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
- CONTRACTOR SHALL CHECK FOR OBSTRUCTIONS AND CLEAN OUT ALL CONDUITS PRIOR TO PULLING IN CABLES.
- PHASING OF ALL ELECTRICAL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND SHALL BE MADE IN ACCORDANCE WITH THE LOCAL UTILITY COMPANY REQUIREMENTS.
- ALL HOLES THROUGH STRUCTURE TO ACCOMMODATE ELECTRICAL CONDUITS SHALL BE CORE DRILLED AND SEALED WITH NON-SHRINK GROUTING COMPOUND. WHERE RACEWAYS PASS THROUGH FLOORS AND FIRE RATED WALLS AND/OR PARTITIONS, CONTRACTOR SHALL FURNISH UL RATED FIREPROOFING MATERIAL TO BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND RESTORE ORIGINAL FIRE RATING.
- THE CONTRACTOR SHALL FURNISH STRUCTURAL SUPPORT FOR ALL EQUIPMENT. FOR SURFACE MOUNTED EQUIPMENT, SUCH AS PANELBOARDS, STARTERS, SAFETY SWITCHES AND THE LIKE, PROVIDE "UNISTRUT" WITH CORROSION RESISTANT MOUNTING HARDWARE.
- NO CONDUIT SMALLER THAN 1/2" SHALL BE USED UNLESS OTHERWISE SPECIFIED.
- ALL JOINTS BETWEEN DISSIMILAR METALS SHALL BE COATED WITH A LITHIUM BASED THREAD LUBRICANT.
- RACEWAYS SHALL BE PROVIDED WITH EXPANSION-DEFLECTION FITTINGS WHERE CROSSING BUILDING CONSTRUCTION EXPANSION JOINTS AND WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION.
- FURNISH AND INSTALL CONCRETE PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.
- PRIOR TO SUBMITTING PROPOSALS, BIDDERS ARE INSTRUCTED TO REVIEW PLANS AND SPECIFICATIONS OF ALL CONCURRENT WORK TO DETERMINE QUANTITIES OF LABOR AND MATERIAL NECESSARY TO INSTALL, CONNECT, AND TEST MATERIAL FURNISHED UNDER THESE SPECIFICATIONS. ANY ADDITIONAL LABOR AND MATERIAL REQUIRED DUE TO FAILURE OF THE CONTRACTOR TO FOLLOW THESE INSTRUCTIONS, SHALL BE FURNISHED AT NO ADDITIONAL COST TO THE OWNER.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER CONTRACTORS EMPLOYED ON THIS PROJECT PRIOR TO BEGINNING HIS WORK. THE CONTRACTOR SHALL OBTAIN AND REVIEW APPROVED SHOP DRAWINGS OF ALL OTHER TRADES AFFECTING HIS WORK.
- THE CONTRACTOR SHALL CHECK AND TORQUE TIGHTEN ALL CONNECTIONS, WHETHER FACTORY MADE OR MADE UNDER THIS CONTRACT, USING ACCURATELY CALIBRATED TOOLS. TORQUE SETTINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC RECOMMENDATIONS. IN THE ABSENCE OF THE MANUFACTURER'S RECOMMENDATIONS, THE CONTRACTOR SHALL USE THE VALUES LISTED IN TABLES 110-2, 110-3, 110-4, AND 110-5 OF THE NATIONAL ELECTRICAL CODE HANDBOOK.
- INSTALL AN 1/8 INCH POLY PROPYLENE (PULL-IN-ROPE) IN ALL SPARE CONDUITS.
- INSULATED GREEN COPPER CONDUCTORS FOR EQUIPMENT GROUNDING SHALL BE ROUTED WITH ALL POWER CONDUCTORS.
- MULTIWIRED BRANCH CIRCUITS ARE NOT PERMISSIBLE. PROVIDE DEDICATED NEUTRAL WIRES WITH ALL SINGLE PHASE BRANCH CIRCUITS.
- CONDUCTORS USED FOR CONTROL WIRING SHALL BE AT LEAST NO. 14 A.W.G. AND ALL POWER CONDUCTORS SHALL BE AT LEAST NO. 12 A.W.G. UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFETY EQUIPMENT AND EXERCISE PRECAUTIONARY PROCEDURES WHEN WORKING WITH OR NEAR ENERGIZED EQUIPMENT.
- CONTRACTOR SHALL REMOVE ALL EQUIPMENT, MADE OBSOLETE BY THIS WORK, CONDUITS AND WIRING, EXCEPT WHERE OTHERWISE NOTED.
- INTERRUPTION OF SERVICE SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER AND HELD TO MINIMUM IN ORDER TO MAINTAIN THE PROPER OPERATION OF THE FACILITY.
- WHEN CONDUIT OR CABLE RUNS FOR POWER AND LIGHTING EXCEED 50 FT. FOR 120 VOLT OR 125 FT. FOR 277 VOLT TO CENTER OF LOAD, NO. 10 AWG WIRE OR LARGER SHALL BE USED AS REQUIRED FOR A MAXIMUM 2% VOLTAGE DROP AT FULL CIRCUIT CAPACITY.
- HEAVY LINEWEIGHT SYMBOLS AND TEXT INDICATE NEW WORK UNLESS OTHERWISE NOTED. LIGHT LINEWEIGHT SYMBOLS AND ITALICIZED TEXT INDICATE EXISTING CONDITIONS TO REMAIN UNLESS OTHERWISE NOTED.
- FIELD-VERIFY EXISTING AND COORDINATE NEW EQUIPMENT SIZES WITH ASSOCIATED CONTRACTORS (MECHANICAL, KITCHEN VENDORS ETC.) AFTER COMPLETION OF SHOP DRAWING REVIEW. ADJUST VOLTAGE RATING, CAPACITY AND SIZE OF WIRING, STARTERS, DISCONNECT SWITCHES AND OVERCURRENT PROTECTION DEVICES AS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE ORDERING SUPPLIES AND START OF CONSTRUCTION. OMISSION TO COMPLY WILL REQUIRE THE ELECTRICAL CONTRACTOR TO BEAR THE COST FOR CORRECTLY SIZED EQUIPMENT AND WIRING.
- TERMINATIONS OF LIGHT FIXTURES SHALL BE MADE DIRECTLY FROM A JUNCTION BOX. JUMPERS FROM FIXTURE TO FIXTURE ARE NOT ACCEPTABLE. "FIXTURE WHIPS" CONNECTING JUNCTION BOXES AND FIXTURES IN SUSPENDED CEILINGS SHALL BE FLEXIBLE METAL OR SEALTIGHT CONDUIT NOT TO EXCEED 6 FEET. NO JUNCTION BOX SHALL HAVE MORE THAN 4 TERMINATIONS.

SCOPE OF ELECTRICAL WORK

- GENERAL: PROVIDE ALL WORK REQUIRED TO SUPPORT THE TRADES IN THIS PROJECT INCLUDING BUT NOT LIMITED TO TEMPORARY POWER, DISCONNECTING AND MAKING CIRCUITS SAFE FOR DEMOLITION AND OTHER WORK SHOWN. REROUTING OF LINE AND LOW VOLTAGE CIRCUITS AND RELOCATION OF BOXES WHERE THEY WOULD BE MADE UN-ACCESSIBLE BY THE NEW WORK. COORDINATE ALL NEW WORK WITH G.C., ARCHITECT AND OWNER.
- DEMOLITION: REMOVE ALL EXISTING WIRING AND CONDUIT UNLESS NOTED OTHERWISE.
- LIGHTING: PROVIDE NEW GENERAL AND EMERGENCY LIGHTING AND SIGNAGE AS SHOWN ON PLANS.
- POWER: TRACE EXISTING CIRCUITS AND LOCATE SERVICE LATERAL. PROVIDE NEW SERVICE IN COORDINATION WITH UTIL. CO.
- PROVIDE NEW POWER DISTRIBUTION SYSTEM AS SHOWN ON PLANS.

WIRE AND CONDUIT SIZING SCHEDULE

WIRE SIZE (AWG/KCMIL)	NO. OF WIRES & CONDUIT SIZE IN INCHES		
	A	B	C
1 14	14	3/4	3/4
2 12	12	3/4	3/4
3 10	10	3/4	3/4
4 8	10	3/4	3/4
5 6	10	3/4	3/4
6 4	10	3/4	1-1/4
7 4	8	3/4	1-1/4
8 3	8	1	1-1/4
9 2	8	1	1-1/4
10 1	8	1-1/4	1-1/2
11 1	6	1-1/4	1-1/2
12 1/0	6	1-1/4	1-1/2
13 2/0	6	1-1/2	2
14 3/0	6	1-1/2	2
15 4/0	4	1-1/2	2-1/2
16 250	4	2	2-1/2
17 300	4	2	2-1/2
18 350	4	2	2-1/2
19 400	3	2	2-1/2
20 500	3	2-1/2	3
21 (2)4/0	(2)2	(2)2	(2)2-1/2
22 (2)250	(2)2	(2)2	(2)2-1/2
23 (2)350	(2)1	(2)2-1/2	(2)3
24 (2)500	(2)1/0	(3)	(2)3-1/2
25 (3)300	(3)1/0	(3)2-1/2	(3)3
26 (3)450	(3)2/0	(3)3	(3)3
28 (4)550	(4)3/0	(4)3-1/2	(4)3
30 (6)400	(6)4/0	(6)3	(6)3
32 (6)400	(6)350	(6)3	(6)3
33 (7)500	(7)350	(7)3	(7)3-1/2
34 (8)500	(8)400	(8)3	(8)3-1/2

NOTE: THE ABOVE SCHEDULE IS BASED ON 600VOLT WIRE TYPE THWN/XHHN. THE FOLLOWING IS A SAMPLE OF CONDUIT AND WIRE READOUT FROM ABOVE SCHEDULE:

(2A) 2#12+1#12G IN 3/4" C.

(11B) 3#1+1#6G IN 1-1/4" C.

(25C) (3) 3" C. W/ 4-300KCMIL+1#1/0G EA.

STANDARD MOUNTING HEIGHTS

ITEM	HEIGHT
SWITCHES	3'-0" A.F.F.
TELEPHONE - WALL TYPE	4'-0" A.F.F.
TELEPHONE - DESK TYPE	1'-6" A.F.F.
RECEPTACLE - GENERAL	1'-6" A.F.F.
RECEPTACLE - MECHANICAL ROOMS	3'-0" A.F.F.
FIRE ALARM GONG OR HORN	6'-8" TO BOTTOM OF GONG OR HORN
FIRE ALARM PULL STATION	4'-0" A.F.F. TO CENTER OF PULL
FIRE ALARM STROBE LIGHT	6'-8" A.F.F. TO BOTTOM OF STROBE
FIRE ALARM MODULE	6'-0" A.F.F. TO BOTTOM OF MODULE
MOTION DETECTORS	6'-5" AFF
PANELBOARDS	6'-0" TO TOP OF CB MAX.
EXIT LIGHTS- WALL OR END MOUNTED	ABOVE DOORS (MIN. 7'-6" A.F.F. CLEAR)
KEY PAD	3'-8" AFF
DATA	1'-6" AFF
VOLUME CONTROL	3'-8" AFF
TIMERS	4'-6" AFF

ABBREVIATIONS

% PERCENT	COMP COMPLETE	F.O. FIBER OPTIC	KVAR KILOVAR	P.I.L.C. PAPER INSULATED LEAD COVERED	THRU THROUGH
& AND	CONC. CONCRETE	FDN. FOUNDATION	KWH KILOWATT HOUR	PULL BOX, BREAKER OR SW. POLE	XFER TRANSFORMER
Ø PH PHASE	CONDR. CONDUCTOR	FIG. FIGURE	LF LINEAR FEET	PNL. PANELBOARD	TYP. TYPICAL
C.° CENTIGRADE DEGREES	CONN. CONNECTED, CONNECTOR	FIN. FINISH/FINISHED	LG LENGTH	PORC. PORCELAIN	U.O.N. UNLESS OTHERWISE NOTED
F.° FAHRENHEIT DEGREES	CONST. CONSTRUCTION	FIXT. FIXTURE	LRA LONG	PRI. PRIMARY	UH UNIT HEATER
1C SINGLE CONDUCTOR	CONTR. CONTINUATION	FL. FLOOR	LRA LOCKED ROTOR AMPERES	PS PAYSTATION TELEPHONE	UL UNDERWRITING LABORATORIES
A.C.B. AIR CIRCUIT BREAKER	CONTR. CONTRACTOR	FLA. FULL LOAD AMPERES	LT LIGHT	PTD. PAINTED	UPS UNINTERRUPTIBLE POWER SOURCE
A.I.C. AMPERES INTERRUPTING CAPACITY	COORD. COORDINATE	FLEX. FLEXIBLE	LTG. LIGHTING	PVC POLYVINYLCHLORIDE	V VOLTAGE VOLTS
AMM ADDRESSABLE I/O MODULE	CORR. CORRIDOR	F.L.M.C. FLEX. LIQUIDTIGHT METAL COND.	M.L.O. MAIN LUGS ONLY	R. RADIUS	VD VOLTAGE DROP
A.T.C. AUTOMATIC TEMP. CTRL. AUTOMATIC	CPJ. CENTRAL PROCESSING UNIT	FLUOR. FLUORESCENT	M.C. MULTI-CONDUCTOR	R.C.S.W. REMOTE CONTROL SWITCH	VERT. VERTICAL
A.T.S. AUTOMATIC TRANSFER SWITCH	CU COPPER, CONDENSING UNIT	FC FOOTCANDLE	MFR. MANUFACTURER	REBAR. REINFORCING BAR	VS. VERSUS
A.C. AIR CONDITION	CU FT. CUBIC FEET	FT. FEET	REC. RECESSED RECEPTACLE	W WIRE	W WROUGHT IRON
AC ALTERNATING CURRENT	CFW. CLOCKWISE, COOL WHITE	FU. FUSE/FUSED	RECPT. RECEPTABLES	WITH WITH	
ADDL. ADDITIONAL	G.C. GENERAL CONTRACTOR	G.C. GENERAL CONTRACTOR	REV. REVISIONS	W/O WITHOUT	
AF AMPERE FRAME	D. DEMAND	G.A. GAGE/GAUGE	REV. REVISIONS	W/O WITHOUT	
A.F. AMPERE FUSE	DEM. DEMAND	GALV. GALVANIZED	RF RADIO FREQUENCY	WD. WIDE	
AFF ABOVE FINISHED FLOOR	DIA. DIAMETER	GEN. GENERATOR	RGA REMOTE GENERATOR ANNUNCIATOR	WP. WEATHER PROOF	
AFG ABOVE FINISHED GRADE	DISC. DISCONNECT SWITCH	GFCI GROUND FAULT INTERRUPTER	RGS RIGID GALVANIZED STEEL CONDUIT	XLP CROSSLINKED POLYETHYLENE	
AHU AIR HANDLING UNIT	DIV. DIVISION	GFI GROUND FAULT INTERRUPTER	RM ROOM		
AJH AUTHORITY HAVING JURISDICTION	DN. DOWN	GND. GROUND	RT ROOFTOP		
AL ALUMINUM	DPST DOUBLE POLE SINGLE THROW	H.I.D. HIGH INTENSITY DISCHARGE	S.F. SQUARE FEET		
AMP. A AMPERE	DWG. DRAWING	H.O.A. HAND OFF AUTO	S.S. STAINLESS STEEL, SET SCREW		
APPROX APPROXIMATE	E.C. ELECTRICAL CONTRACTOR	H.P.S. HIGH PRESSURE SODIUM	SEC. SECONDARY		
ARCH. ARCHITECTURAL	E.F. EXHAUST FAN	HEX. HEXAGON	SECT. SECTION		
AT AMPERE TRIP	E.H. ELECTRIC HEATER	HH HANDHOLE	SEP. SEPARATE		
ASY ASYMMETRICAL	E.P.R. ETHYLENE PROPYLENE RUBBER	HORIZ. HORIZONTAL	SERV. SERVICE		
AUX. AUXILIARY	E.W. EACH WAY	HPF HIGH POWER FACTOR	SHT. SHEET		
B.F.C. BELOW FINISHED CEILING	E.A. EACH	HT, H HEIGHT	SIG. SIGNAL		
BKR BREAKER	EHT ELEC. HEAT TRACING CABLE	HT, H HEIGHT	SK. SKETCH		
BLDG. BUILDING	ELEC. ELECTRIC	HWH HOT WATER HEATER	SLC F.A. SIGNALING LINE CIRCUIT		
BSMT. BASEMENT	ELEV. ELEVATION/ELEVATOR	HZ. HERTZ	SN SOLID NEUTRAL		
C CONDUIT	EM. EMERGENCY POWER PACK	IMC INTERMEDIATE CONDUIT	SPD SURGE PROTECTION DEVICE		
C OF U COEFFICIENT OF UTILIZATION	EMT ELECTRICAL METALLIC TUBING	INC. INCANDESCENT	SPECS. SPECIFICATIONS		
C.T. CT CURRENT TRANSFORMER	ENCL. ENCLOSURE	INSUL. INSULATION/INSULATED	SQ. SQUARE		
CB, CB CIRCUIT BREAKER	ENT. ENTRANCE	ISOL. ISOLATED	STA. STATION		
CCTV CLOSED CIRCUIT TELEVISION	EQ. EQUAL	JB, J JUNCTION BOX	SURF. SURFACE		
CKT. CIRCUIT	EQUIP. EQUIPMENT	KVIC KILOVOLT INTERRUPT. CAPACITY	SUSP. SUSPENDED	</	

GENERAL NOTES

1. PROVIDE NEW UNDERGROUND SERVICE. EXISTING UNDERGROUND CONDUIT MAY BE REUSED WHERE POSSIBLE. COORDINATE NEW SERVICE WORK WITH UTIL. CO.
2. PROVIDE CONDUCTORS IN RACEWAY FOR PANEL FEEDERS.
3. PROVIDE MC CABLE FOR BRANCH CIRCUITS.
4. COORDINATE EXACT ELEVATIONS W/ ARCHITECT. ELEVATIONS ABOVE FLOORS AND GRADES SHOWN ARE GENERAL GUIDES ONLY.
5. COORDINATE LOCATIONS OF EQUIPMENT TERMINATIONS W/ M.C. AND ARCHITECT.

KEYED NOTES

- ① PROVIDE NEW SERVICE LATERAL. REFER TO SITE PLAN. COORDINATE SERVICE UPGRADE WITH UTIL. CO.. ANY EXISTING UNDERGROUND CONDUIT MAY BE REUSED WHERE POSSIBLE. COORDINATE NEW SERVICE WORK WITH UTIL. CO.. ANY SERVICE FEES ARE INCLUDED.
- ② PROVIDE NEW MAIN DISTRIBUTION PANEL AND REPLACE EXISTING PANEL 'M' IN PLACE.
- ③ PROVIDE 2-POLE TIME DELAY SWITCH TO TURN ON LIGHTS AND FAN SIMULTANEOUSLY AND DELAY TIME OFF FOR FAN SIMILAR TO "Air King AKDT60 Delay Timer Switch" PROVIDE ADDITIONAL MOTOR RATED SWITCH IN CEILING AS REQUIRED BY AHJ.
- ④ PROVIDE CIRCUIT TO WELL PUMP VIA SERVICE DISC. SW. AND PRESSURE SWITCH AT HOLDING TANK IN CRAWL-SPACE BELOW. COORDINATE EXACT LOCATIONS W/ OWNER.
- ⑤ PROVIDE 1-1/2" CONDUIT FOR FUTURE KIOSK IN TRENCH WITH NEW UG SERVICE LATERAL. REFER TO SITE PLAN. COORDINATE EXACT LOCATION OF TURN-UP W/ OWNER.
- ⑥ PROVIDE 1-1/2" SCHED. 40 PVC CONDUIT FOR FUTURE EFFLUENT PUMP AND SERVICE RECEPTACLE CIRCUITS IN CRAWLSPACE. REFER TO SITE PLAN. PROVIDE CORE DRILLING 12" AFG AT FOUNDATION WALL AND LB FITTING WITH PLUG IN PREPARATION FOR UNDERGROUND WORK BY OTHERS.
- ⑦ COORDINATE FRAMING FOR NEW RECESSED PANEL W/ ARCHITECT. INSTALL PANEL BEHIND DOOR IF ACCEPTABLE TO AHJ.
- ⑧ CENTER OUTLET BETWEEN CABINETS. COORDINATE HEIGHT AND TERMINATION TYPE W/ OWNER'S EQUIPMENT VENDOR.
- ⑨ PROVIDE 3/4"x10" COPPER CLAD STEEL GROUNDING ELECTRODE TRIAD 10' O.C. WITH 12" DIA. GROUND INSPECTION WELLS.

LEGEND

REMOVE ALL ELECTRICAL DEVICES, EQUIPMENT, WIRING AND ASSOCIATED RACEWAY.

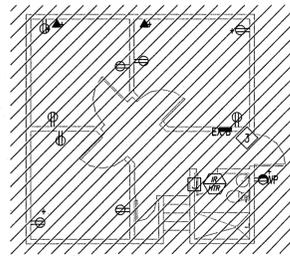
GENERAL DEMOLITION NOTES

1. REFER TO ELECTRICAL SITE PLAN SHEET E-101.
2. COORDINATE AND SCHEDULE REMOVAL AND REPLACEMENT OF EXISTING SERVICE WITH OWNER AND UTIL. CO. (2) WEEKS IN ADVANCE OF INTENDED SHUT-DOWN.
3. EXISTING CONDITIONS SHOWN ARE PER ENGINEER'S OBSERVATIONS. FIELD-VERIFY QUANTITIES OF DEVICES AND CIRCUITS PRIOR TO BID FOR A COMPLETE REMOVAL OF ALL CIRCUITS AND FEEDERS.

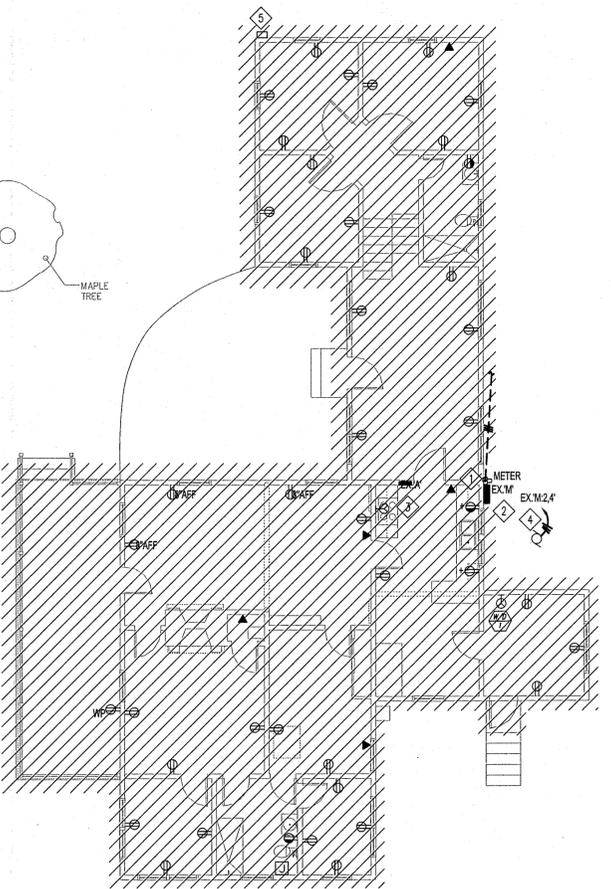
KEYED DEMOLITION NOTES

- ① REMOVE WEATHERHEAD AND SERVICE DROP CONDUIT. PLUG AND MAINTAIN METER BASE IN STRICT COMPLIANCE WITH UTIL. CO..
- ② MAINTAIN EXISTING MAIN PANEL. REMOVE UG SERVICE CONDUCTORS AND PREPARE FOR NEW. SEE SINGLE LINE DIAGRAMS.
- ③ REMOVE EXISTING PANEL, BACKPAN AND ASSOCIATED FEEDERS AND BRANCH CIRCUITS. COORDINATE REPLACEMENT OF AFFECTED BOARDS OF THE WALL OPENING AND SEAL PENETRATIONS NOT TO BE RE-USED.
- ④ REMOVE CIRCUIT SERVING THE WELL IN ITS ENTIRETY INCLUDING PRESSURE HOLDING CONTROLS.
- ⑤ REMOVE TELCO SERVICE DEMARK BOX AND PULL TELCO CABLE BACK INTO NEW 10" DIA. COMPOSITE HANDHOLE W/ EMBOSSED COVER "TELCO".

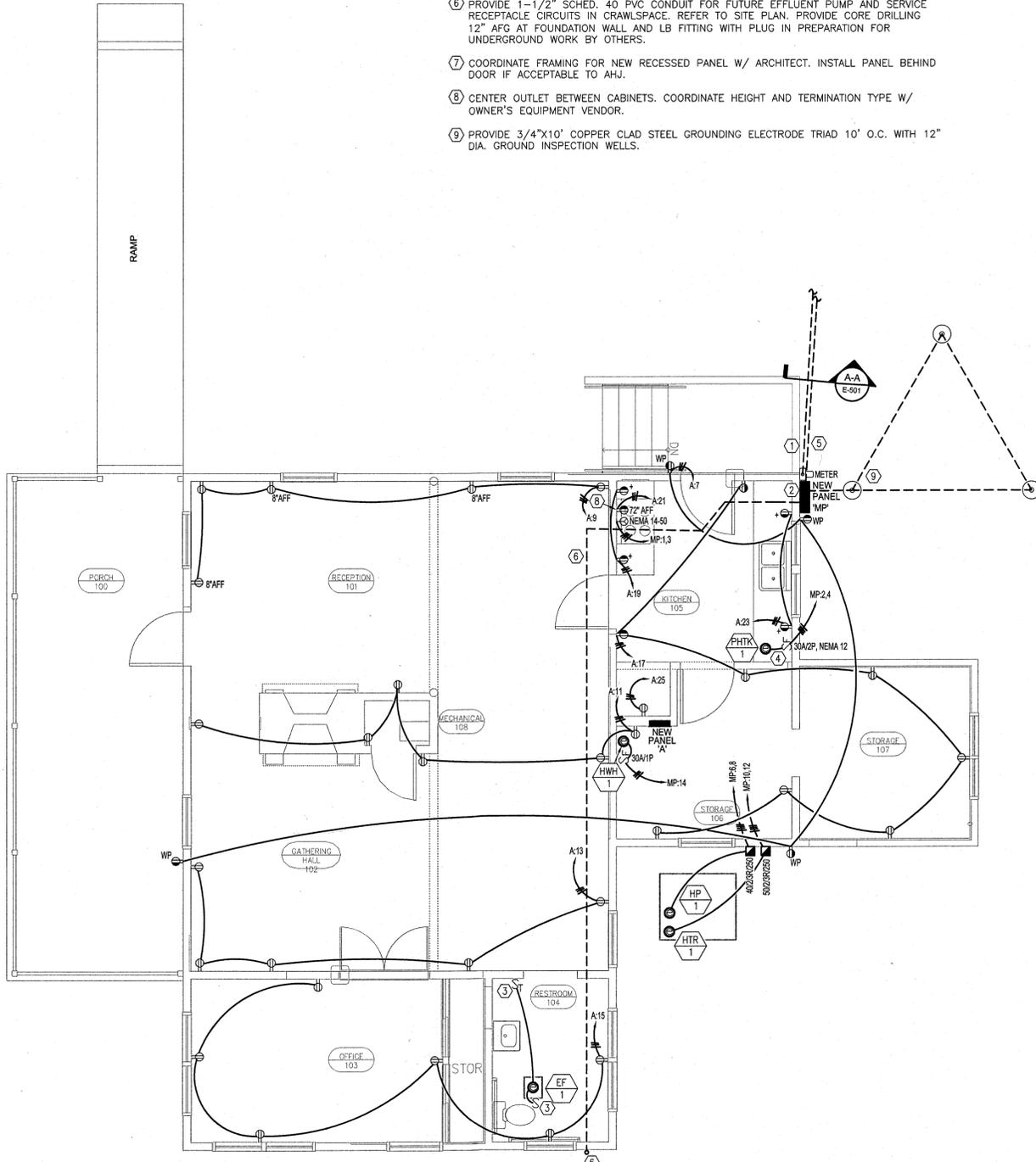
2 POWER & SYSTEMS DEMOLITION UPPER FLOOR PLANS
 E-101 1/8" = 1'-0"



1 POWER & SYSTEMS DEMOLITION LOWER FLOOR PLANS
 E-101 1/8" = 1'-0"



3 POWER & SYSTEMS CONSTRUCTION PLANS
 E-101 1/4" = 1'-0"



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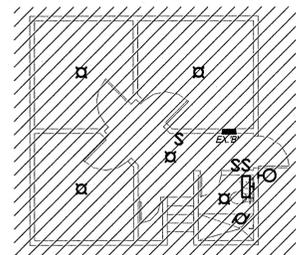
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LEGEND

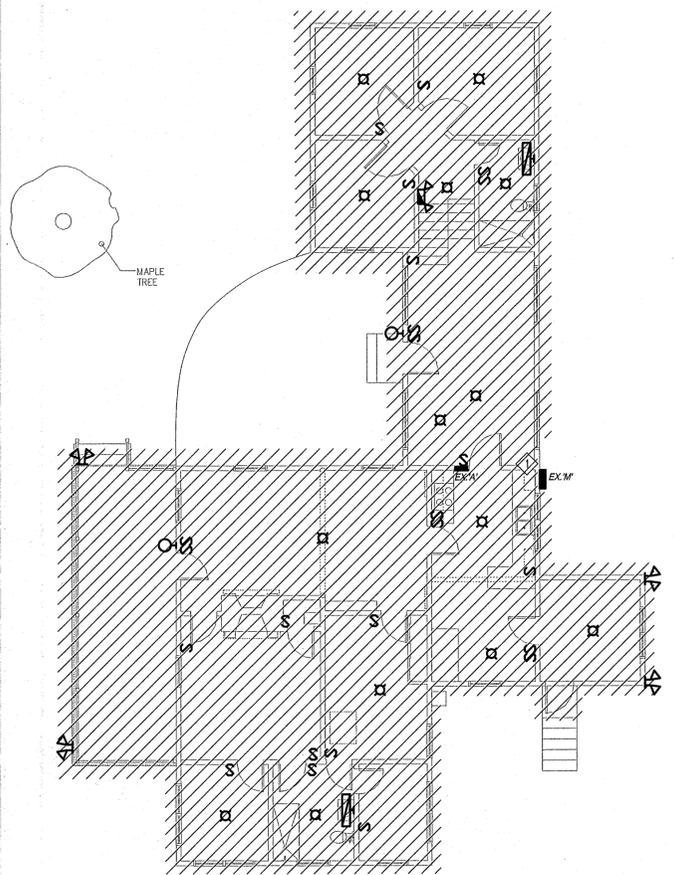
REMOVE ALL ELECTRICAL DEVICES, EQUIPMENT, WIRING AND ASSOCIATED RACEWAY.

GENERAL DEMOLITION NOTES

- EXISTING CONDITIONS SHOWN ARE PER ENGINEER'S OBSERVATIONS. FIELD-VERIFY QUANTITIES OF DEVICES AND CIRCUITS PRIOR TO BID FOR A COMPLETE REMOVAL OF ALL CIRCUITS AND FEEDERS.



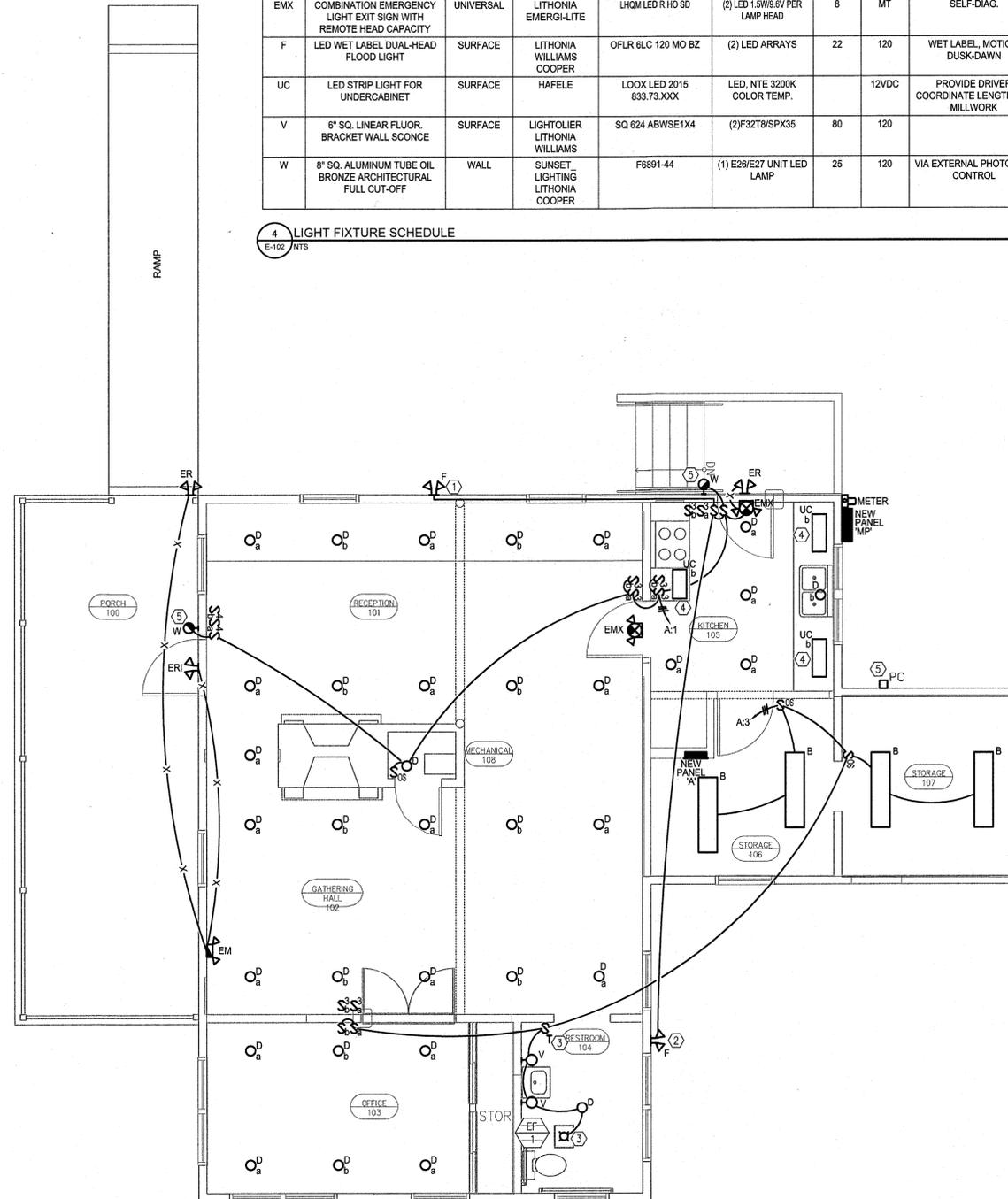
2 LIGHTING DEMOLITION UPPER REFLECTED CEILING PLAN
E-102 1/8" = 1'-0"



1 LIGHTING DEMOLITION LOWER REFLECTED CEILING PLAN
E-102 1/8" = 1'-0"

LIGHT FIXTURE SCHEDULE									
LUMINAIRES SHOWN ARE BASIS OF DESIGN. REVIEWED EQUAL ARE ACCEPTABLE.									
TYPE	STYLE	MOUNTING	MANUFACTURER	CATALOG NO.	LAMPS *	VA	VOLTS	REMARKS	
B	1'x4' ACRYL. WRAP-AROUND LENS	SURFACE	LITHONIA WILLIAMS COOPER	LB 2 32 MVOLT GEB10PS	(2)F32T8/SPX35	80	MT		
D	6" DIA. IC RATED LED DOWNLIGHT	RECESSED	CREE	LR6 10L 30K 120V A LT6WH-DR H6-GU24	LED ARRAY	12.5	120	IC - RATED HOUSING H6	
EM	INTERIOR EMERGENCY LIGHT UNIT WITH REMOTE HEAD CAPACITY	UNIVERSAL	LITHONIA EMERGI-LITE	ELM2 LED HO SD	(2) LED 1.5W3.6V	8	MT	SELF-DIAG.	
ER	EXTERIOR REMOTE EGRESS LIGHT	SURFACE	LITHONIA EMERGI-LITE	ELA T QWP SD	(2) LED 1.5W	4	3.6V/ 9.6V	WET LABEL. MATCH VOLTAGE OF BASE UNIT	
ERI	BLACK DAMP PROOF REMOTE EGRESS LIGHT	SURFACE	LITHONIA EMERGI-LITE	ELA B T Q SD	(2) LED 1.5W	4	3.6V/ 9.6V	DAMP LABEL. MATCH VOLTAGE OF BASE UNIT	
EMX	COMBINATION EMERGENCY LIGHT EXIT SIGN WITH REMOTE HEAD CAPACITY	UNIVERSAL	LITHONIA EMERGI-LITE	LHQM LED R HO SD	(2) LED 1.5W/9.6V PER LAMP HEAD	8	MT	SELF-DIAG.	
F	LED WET LABEL DUAL-HEAD FLOOD LIGHT	SURFACE	LITHONIA WILLIAMS COOPER	OFLR 6LC 120 MO BZ	(2) LED ARRAYS	22	120	WET LABEL. MOTION, DUSK-DAWN	
UC	LED STRIP LIGHT FOR UNDERCABINET	SURFACE	HAFELE	LOOX LED 2015 833.73.XXX	LED, NTE 3200K COLOR TEMP.		12VDC	PROVIDE DRIVER COORDINATE LENGTHS W/ MILLWORK	
V	8" SQ. LINEAR FLUOR BRACKET WALL SCONCE	SURFACE	LIGHTOLIER LITHONIA WILLIAMS	SQ 624 ABWSE1X4	(2)F32T8/SPX35	80	120		
W	8" SQ. ALUMINUM TUBE OIL BRONZE ARCHITECTURAL FULL CUT-OFF	WALL	SUNSET LIGHTING LITHONIA COOPER	F6891-44	(1) E28/E27 UNIT LED LAMP	25	120	VIA EXTERNAL PHOTOCCELL CONTROL	

4 LIGHT FIXTURE SCHEDULE
E-102 NTS



3 LIGHTING CONSTRUCTION REFLECTED CEILING PLAN
E-102 1/4" = 1'-0"

GENERAL NOTES

- PROVIDE MC CABLE FOR BRANCH CIRCUITS.

KEYED NOTES

- MOUNT 12" BELOW GABLE TOP. AIM TO H/C RAMP AND STAIRS. ADJUST MOTION SENSOR TO COVER APPROACH AREAS.
- MOUNT BELOW EAVES. AIM AT HP-1 AND BACK OF BUILDING. ADJUST MOTION SENSOR TO COVER APPROACH AREAS.
- PROVIDE 2-POLE TIME DELAY SWITCH TO TURN ON LIGHTS AND FAN SIMULTANEOUSLY AND DELAY TIME FOR FAN OFF SIMILAR TO "Air King AK0T60 Delay Timer Switch"
- COORDINATE LENGTHS OF UNDER-CABINET LIGHTS WITH MILLWORK. TERMINATE BUILDING WIRING AT LIGHT FIXTURE VIA J-BOX.
- CONTROL TYPE 'W' FIXTURES VIA EXTERNAL PHOTOCCELL IN SERIES AHEAD OF MANUAL SWITCHING.

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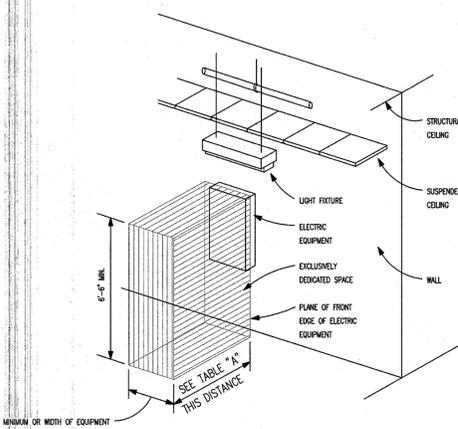
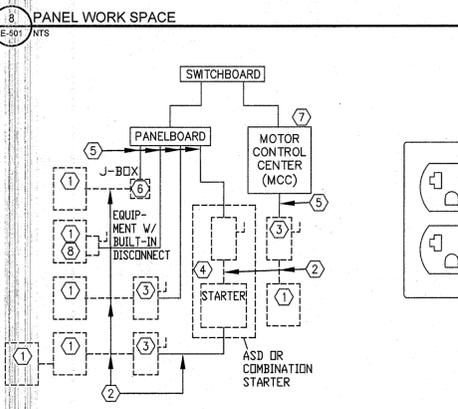


TABLE "A" WORKING CLEARANCES

VOLTAGE TO GROUND, NOMINAL	MINIMUM CLEAR DISTANCE (FEET)		
	CONDITION: 1	2	3
0-150	3	3	3
151-600	3	3 1/2	4

WHERE THE "CONDITIONS" ARE AS FOLLOWS:
 1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS, INSULATED WIRE OR INSULATED BUSBARS OPERATING AT OVER 300 VOLTS SHALL BE CONSIDERED LIVE PARTS.
 2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
 3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.
 NOTE: THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110.16 OF THE NATIONAL ELECTRICAL CODE.



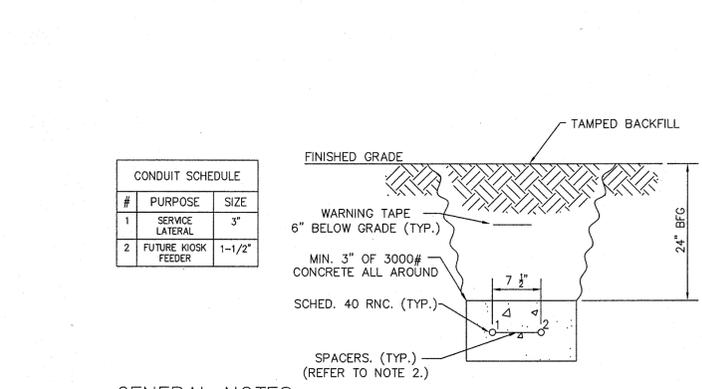
GENERAL NOTES

- IN ALL CASES THE CONTRACTOR FURNISHING THE EQUIPMENT SHALL MAKE FINAL CONNECTIONS, START UP AND TEST THE EQUIPMENT.
- WHERE ELECTRICAL WIRING IS REQUIRED BY TRADES OTHER THAN COVERED BY DIVISION 26, THE INSTALLER SHALL REFER TO THE WIRING MATERIALS AND METHODS AS SPECIFIED UNDER DIVISION 26. NO EXCEPTIONS.

KEYED NOTES

- EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
- CONDUIT AND WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
- IF AN ADDITIONAL DISCONNECT SWITCH IS REQUIRED BY THE NEC IT SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR FURNISHING THE EQUIPMENT.
- A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO THE EQUIPMENT. IT SHALL BE PROVIDED BY THE CONTRACTOR FURNISHING THE EQUIPMENT.
- FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND CIRCUIT BREAKER SIZES.
- A JUNCTION BOX MAY BE SHOWN ON THE ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO THE EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY THE CONTRACTOR FURNISHING THE EQUIPMENT.
- IN PROJECTS UTILIZING AN MCC, THE STARTER, CIRCUIT BREAKER OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- IF ROOF TOP EQUIPMENT (RTE) IS NOT PROVIDED WITH A BUILT-IN DISCONNECT SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.

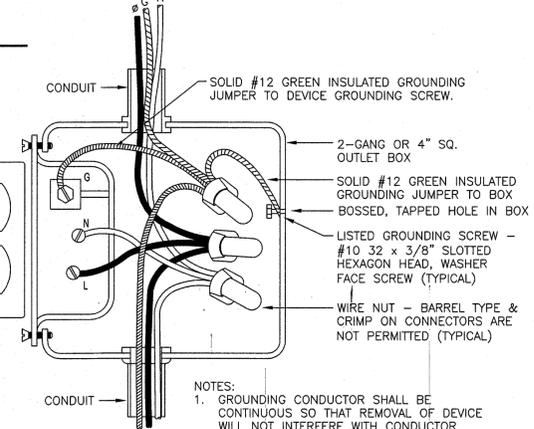
6 EQUIPMENT WIRING RESPONSIBILITY
 E-501 N.T.S.



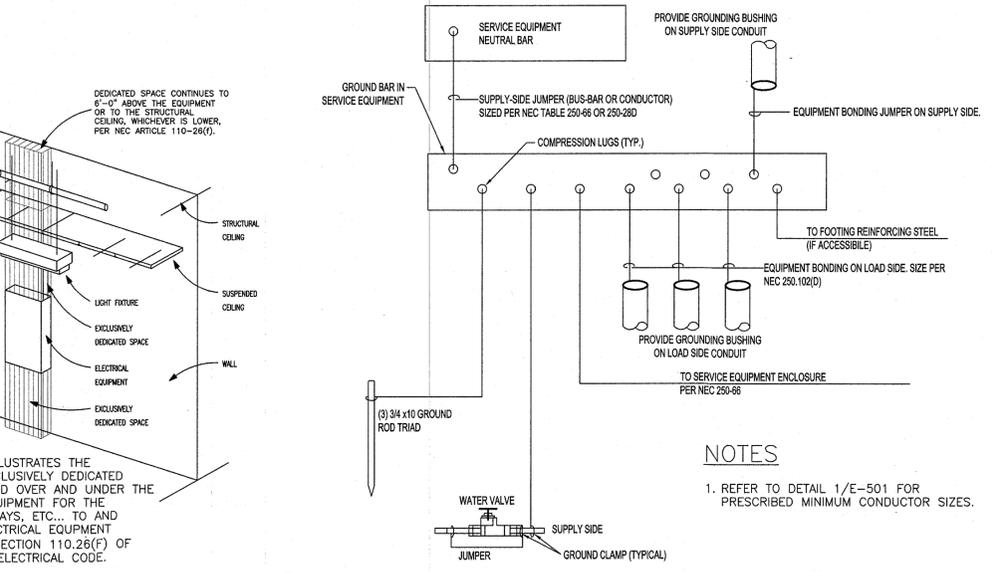
GENERAL NOTES:

- DUCT SHALL BE PITCHED TO DRAIN AWAY FROM BUILDINGS AND EQUIPMENT. MINIMUM SLOPE SHALL BE 4 INCHES IN 100 FEET.
- NONMETALLIC CONDUITS SHALL BE SUPPORTED ON PLASTIC SEPARATORS 4"-6" ON CENTER. METALLIC CONDUITS SHALL BE SUPPORTED 6"-8" ON CENTER.
- WATERPROOF MARKING TAPE SHALL BE INSTALLED AS INDICATED. USE 130 POUND TENSILE TEST AND MARK ABOUT EVERY 12\"/>

A-A DUCTBANK DETAILS
 E-501 N.T.S.



7 RECEPTACLE CONNECTION DETAIL
 E-501 N.T.S.



4 GROUNDING AND BONDING DIAGRAM
 E-501 N.T.S.

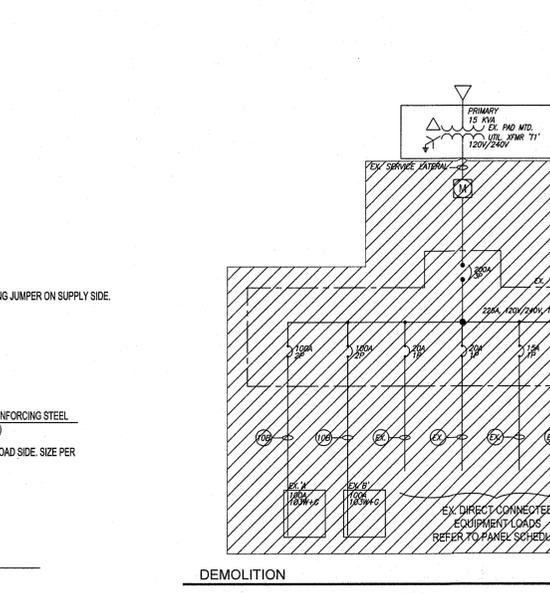
LOAD TABULATION 208Y/120V

LOADS IN KVA	EXIST. DEMAND 10	NEW CONNECTED 10	DIVERSITY FACTOR	NEW DEMAND 10	TOTAL KVA EXIST & NEW DEMAND
PF: 85%					
LIGHTING		1.38	100%	1.38	1.38
AIR CONDITIONING		100%	100%	0.00	0.00
HEATING		100%	100%	0.00	0.00
LARGE MOTORS		100%	100%	0.00	0.00
VENTILATION, HEAT PUMP		17.54	100%	17.54	17.54
KITCHEN EQUIPMENT		8.00	100%	8.00	8.00
RECEPTACLES ≤ 10KVA		7.20	100%	7.20	7.20
>10KVA			50%	0.00	0.00
EMERGENCY			100%	0.00	0.00
MISCELLANEOUS		10.42	100%	10.42	10.42
FUTURE ALLOWANCE			100%	0.00	0.00
TOTAL		44.54		44.54	44.54

3 ELECTRICAL LOAD ESTIMATE
 E-501 N.T.S.

KVA LOAD	DESIGNATION TYPED ON DIRECTORY	COND (in)	WIRE SIZE	BRKR RATIO	CKT NO.	SIN	CCT NO.	BRKR RATIO	WIRE SIZE	COND (in)	DESIGNATION TYPED ON DIRECTORY	KVA LOAD	
												A	B
0.85	OUTSIDE LIGHTS											1.20	1.20
0.53	KITCHEN PANEL 'A'											1.20	1.20
0.72	DOWNSTAIRS PANEL 'B'											2.64	2.64
0.90	A) DISH B) EL. FENCE											2.64	2.64
0.90	REC RECEPTION NORTH	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
1.08	REC RECEPTION SOUTH	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
1.08	REC OFFICE BATH	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
1.44	REC STORAGE / REC COUNTER STOVE	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
0.36	REC RANGE HOOD	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
0.18	REC COUNTER SINK	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
0.18	REC REFRIGERATOR	1/2"	2#12+1#12G	20	1	1	1	20	1	1	20		
4.45	4.13	KVA										4.45	4.13

2 PANEL SCHEDULES
 E-501 N.T.S.



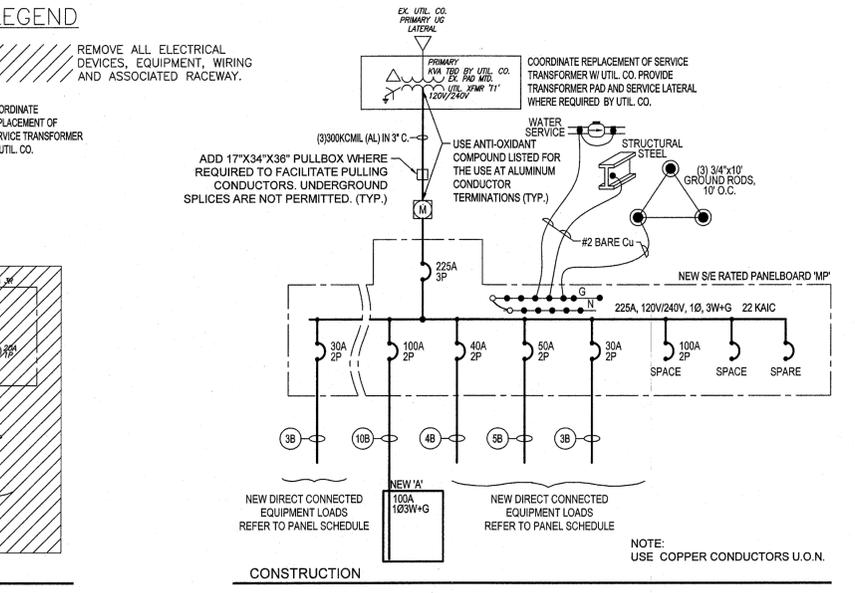
1 SINGLE LINE DIAGRAMS
 E-501 N.T.S.

1. REFER TO DETAIL 1/E-501 FOR PRESCRIBED MINIMUM CONDUCTOR SIZES.

KVA LOAD	DESIGNATION TYPED ON DIRECTORY	COND (in)	WIRE SIZE	BRKR RATIO	CKT NO.	SIN	CCT NO.	BRKR RATIO	WIRE SIZE	COND (in)	DESIGNATION TYPED ON DIRECTORY	KVA LOAD				
												A	B			
4.00	REC. RANGE	3/4"	3#6+1#10G	40	2	3	1	30	3#10+1#10G	3/4"	NEW WELL PUMP VIA PHTK-1	1.44	1.44			
	SPARE							6			NEW HEAT PUMP HP-1	3.14	3.14			
	SPARE							10	40	2#10+1#10G	3/4"	NEW HEAT STRIPS HTR-1	5.63	5.63		
	SPARE							12	14	2#12+1#12G	1/2"	NEW HW-H1	1.50	1.50		
	SPARE							16	16	2#16+1#16G	1/2"	NEW HW-H1	0.20	0.20		
	SPARE							18	2	30	FUTURE	1-1/2"	FUTURE EFFLUENT PUMP & REC	1.92	1.92	
	SPARE							20				FUTURE	1-1/2"	FUTURE KIOSK	1.00	1.00
4.13	SUB PANEL 'A'	1-1/4"	3#1+1#6G	100	2	2	2	28	1	20	SPARE					
4.45	8.45	8.13	KVA									14.63	13.33			

KVA LOAD	DESIGNATION TYPED ON DIRECTORY	COND (in)	WIRE SIZE	BRKR RATIO	CKT NO.	SIN	CCT NO.	BRKR RATIO	WIRE SIZE	COND (in)	DESIGNATION TYPED ON DIRECTORY	KVA LOAD	
												A	B
1.00	OUTSIDE LIGHTS							2	20		REMOVE CIRCUIT	1.20	1.20
6.00	KITCHEN PANEL 'A'							2	30		REMOVE CIRCUIT	2.64	2.64
2.00	DOWNSTAIRS PANEL 'B'							2	30		REMOVE CIRCUIT	2.64	2.64
1.00	A) DISH B) EL. FENCE							14	1	0	REMOVE CIRCUIT		
	SPARE							14	1	0	REMOVE CIRCUIT		
	SPARE							16	1	0	REMOVE CIRCUIT		
	SPARE							18	1	0	REMOVE CIRCUIT		
	SPARE							20	1	0	REMOVE CIRCUIT		
	SPARE							22	1	0	REMOVE CIRCUIT		
	SPARE							24	1	0	REMOVE CIRCUIT		
	SPARE							26	1	0	REMOVE CIRCUIT		
	SPARE							28	1	0	REMOVE CIRCUIT		
	SPARE							30	1	0	REMOVE CIRCUIT		
9.00	9.00	KVA										6.48	6.48

EX. PANELBOARD 'M'
 ROOM NO.



LEGEND

1. REFER TO DETAIL 1/E-501 FOR PRESCRIBED MINIMUM CONDUCTOR SIZES.

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