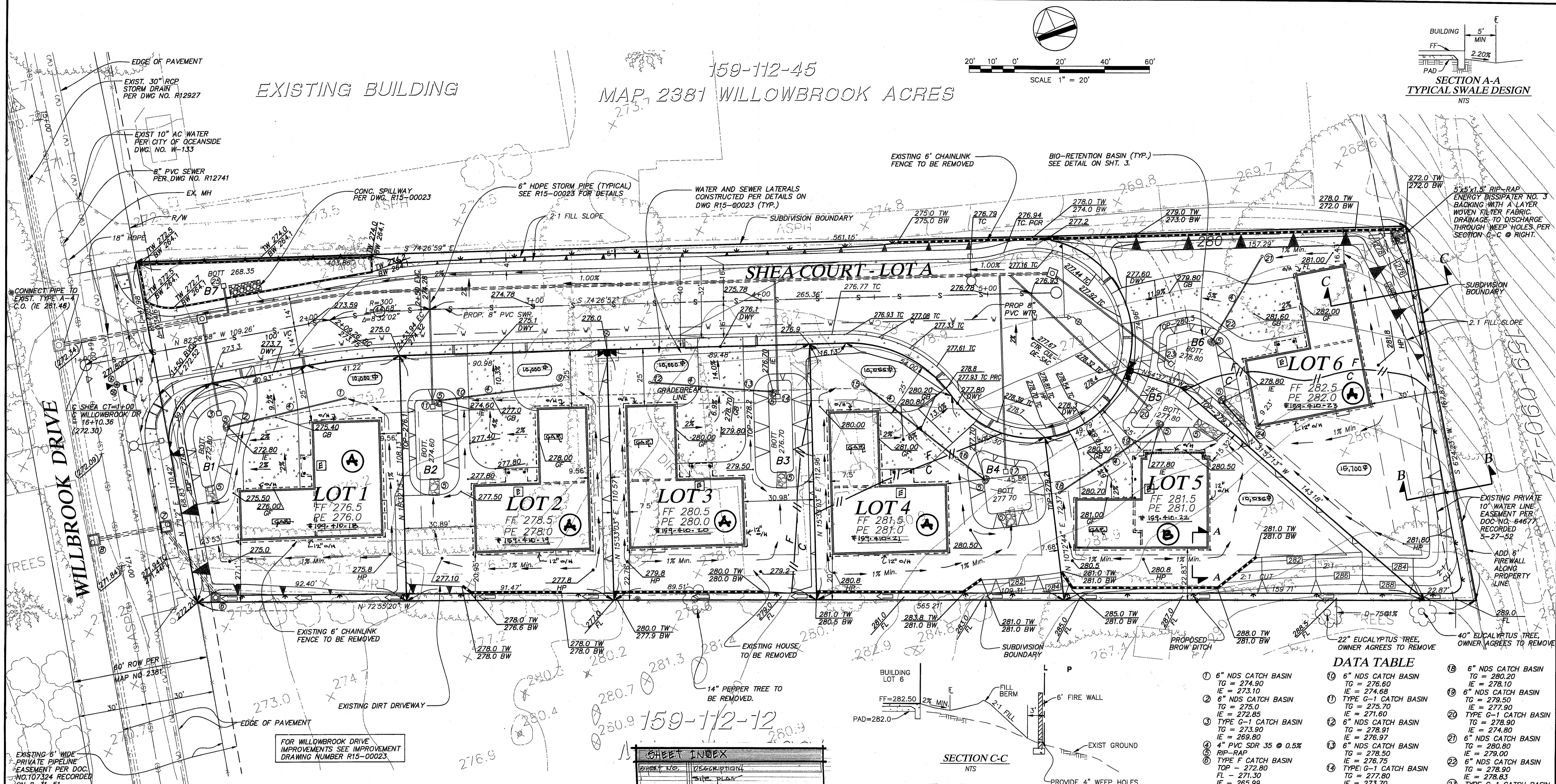


EXISTING BUILDING

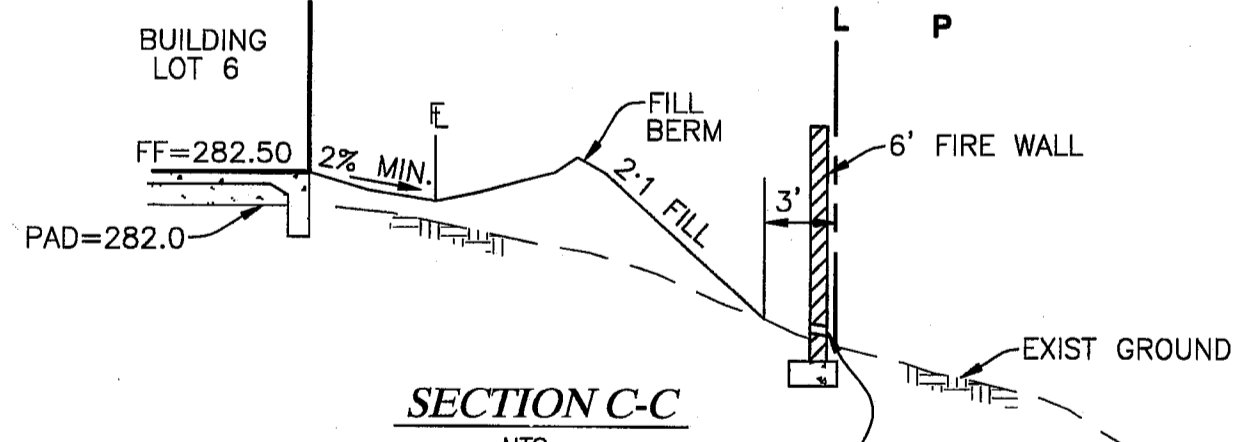
159-112-45
MAP 2381 WILLOWBROOK ACRES



DATA TABLE

1 6" NDS CATCH BASIN TG = 274.90 IE = 273.10	10 6" NDS CATCH BASIN TG = 276.60 IE = 274.68	18 6" NDS CATCH BASIN TG = 280.20 IE = 278.10
2 6" NDS CATCH BASIN TG = 275.00 IE = 272.85	11 TYPE G-1 CATCH BASIN TG = 275.70 IE = 271.60	19 6" NDS CATCH BASIN TG = 279.50 IE = 277.90
3 TYPE G-1 CATCH BASIN TG = 273.90 IE = 269.80	12 6" NDS CATCH BASIN TG = 278.91 IE = 276.97	20 TYPE G-1 CATCH BASIN TG = 278.90 IE = 274.80
4 4" PVC SDR 35 @ 0.5% RIP-RAP	13 6" NDS CATCH BASIN TG = 278.50 IE = 276.75	21 6" NDS CATCH BASIN TG = 280.80 IE = 279.00
5 TYPE F CATCH BASIN TOP = 272.80 FL = 271.30 IE = 265.99	14 TYPE G-1 CATCH BASIN TG = 277.90 IE = 273.70	22 6" NDS CATCH BASIN TG = 278.90 IE = 278.83
6 TYPE B CURB INLET SD = 265.08	15 6" NDS CATCH BASIN TG = 279.80 IE = 278.05	23 TYPE G-1 CATCH BASIN TG = 279.80 IE = 275.20
7 SD CO TYPE A-4 TOP = 271.40 IE = 262.19	16 6" NDS CATCH BASIN TG = 279.50 IE = 277.78	24 6" NDS CATCH BASIN TG = 281.00 IE = 279.00
8 6" NDS CATCH BASIN TG = 276.90 IE = 274.90	17 TYPE G-1 CATCH BASIN TG = 278.80 IE = 274.70	25 TYPE G-1 CATCH BASIN TG = 270.00 IE = 264.35

WDID# 937C347490 T-5-04 D-20-04



SHEET INDEX

SHEET NO.	DESCRIPTION
1	SITE PLAN
2	PLAN A = FLOOR PLAN
3	ELECTRICAL PLANS
4	TITLE 24 / LOT #1
5	TITLE 24 / LOT #2
6	TITLE 24 / LOT #3
7	TITLE 24 / LOT #4
8	TITLE 24 / LOT #5
9	ELEVATIONS / LOT #1
10	ELEVATIONS / LOT #2
11	ELEVATIONS / LOT #3
12	ELEVATIONS / LOT #4
13	ELEVATIONS / LOT #5
14	FOUNDATIONS PLAN
15	FRAMING PLANS
16	FRAMING SECTIONS
17	PLAN B = FLOOR PLAN
18	MECHANICAL PLANS
19	TITLE 24
20	ELEVATIONS
21	FOUNDATION PLAN
22	FRAMING PLANS
23	FRAMING SECTIONS
24	ELEVATIONS
25	FOUNDATIONS PLAN
26	FRAMING PLANS
27	FRAMING SECTIONS
28	ELEVATIONS
29	FOUNDATIONS PLAN
30	FRAMING PLANS
31	FRAMING SECTIONS
32	ELEVATIONS
33	FOUNDATIONS PLAN
34	FRAMING PLANS
35	FRAMING SECTIONS
36	ELEVATIONS
37	FOUNDATIONS PLAN
38	FRAMING PLANS
39	FRAMING SECTIONS
40	ELEVATIONS

Part 2 The 2013 California Building Code (CBC) is based on the 2012 IBC, but includes numerous State of California amendments

Part 2.5 The 2013 California Residential Code (CRC) is based on the 2012 IRC, but includes numerous State of California amendments and does not include the electrical, energy, mechanical, or plumbing portions of the IRC, and instead parts 3 through 6 of Title 24 as listed below apply

Part 3 The 2013 California Electrical Code (CEC) is based on the 2011 NEC with State of California amendments

Part 4 The 2013 California Mechanical Code (CMC) is based on the 2012 UMC with State of California amendments

Part 5 The 2013 California Plumbing Code (CPC) is based on the 2012 UPC with State of California amendments

Part 6 The 2013 California Energy Code is currently based on the 2008 Building Energy Efficiency Standards, please visit the California Energy Commission website at <http://www.energy.ca.gov/title24/2008standards/index.html> where the Standards, Compliance Manuals, and additional information can be downloaded for free. The Energy Code is often mistakenly referred to as Title 24, but as seen here it is only part 6 of Title 24

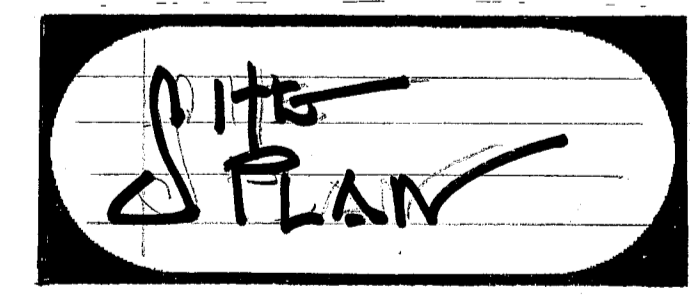
Part 9 The 2013 California Fire Code (CFC) is based on the 2012 IFC with State of California amendments

Part 11 The 2013 California Green Building Standards Code (CALGreen Code) This Part is known as the California Green Building Standards Code, and it is intended that it shall also be known as the CALGreen Code

REQUIRED SPECIAL INSPECTIONS

In addition to the regular inspections, the following checked items will also require Special Inspection in accordance with Sec. 306 of the Uniform Building Code.

ITEM	REQ. BY	INSPECTION CHECKED	REMARKS
SOILS COMPLIANCE PRIOR TO FOUNDATION INSP.	X		
STRUCTURAL CONCRETE OVER 2500 PSI			
PRESTRESSED STEEL			
FIELD WELDING			
HIGH STRENGTH BOLTS			
EXPANSION ANCHORS			
SPECIAL MAGNIFY			
STRAPPED ON FIRE PROOFING			
FILES/CAISSONS			
DESTONER-SPECIFIED			



FOR BFI DEVELOPMENT

5946 PRIESTLY DR. SUITE 103
CARLSBAD, CALIF. 92008 FAX/TEL # 760-271-8461

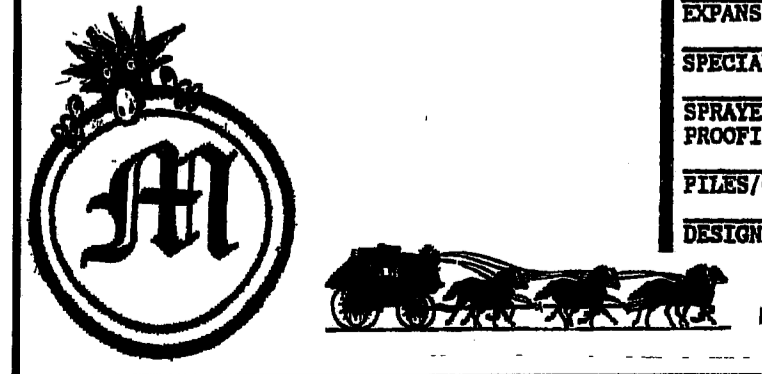
MILLS DESIGN & CONSTRUCTION

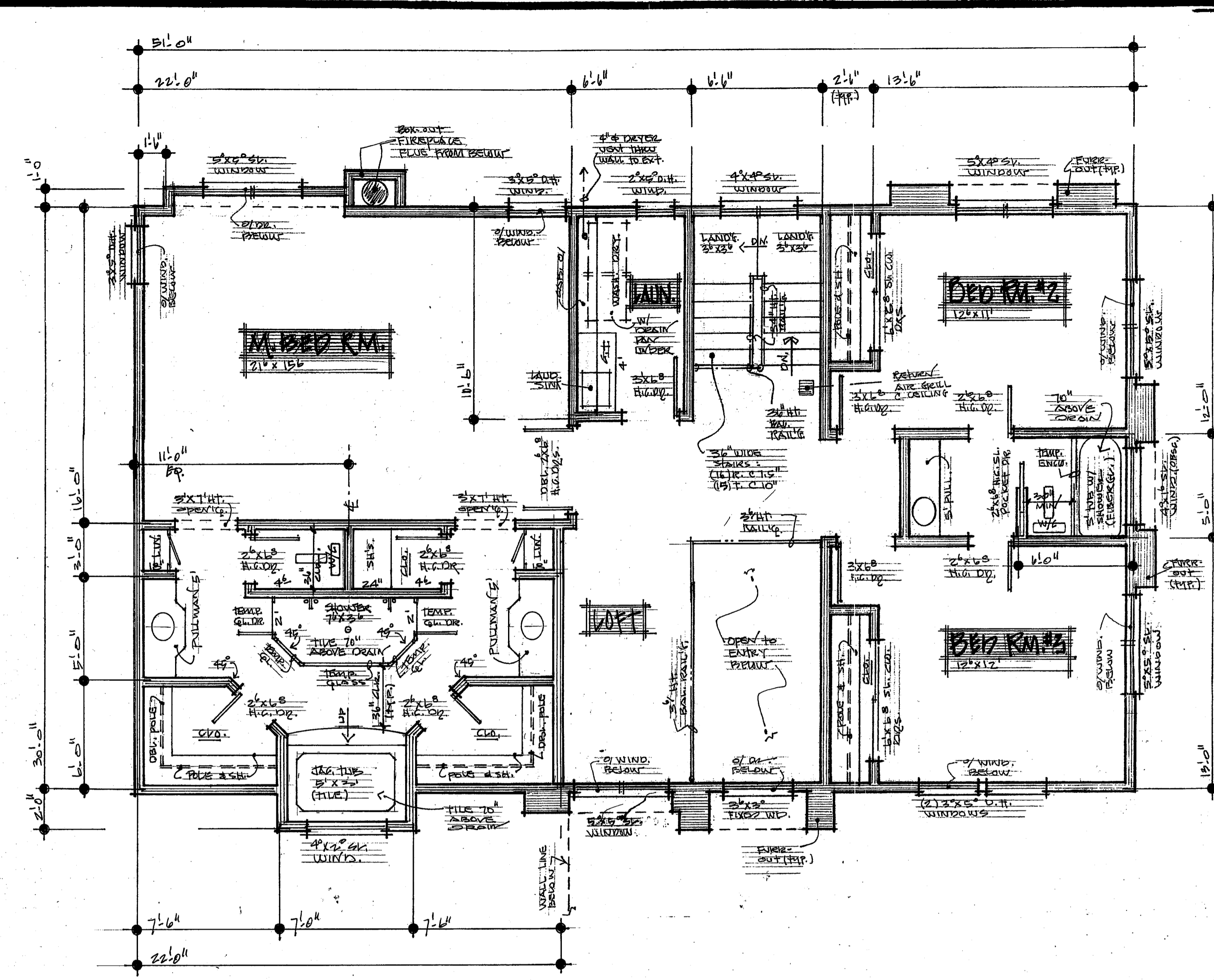
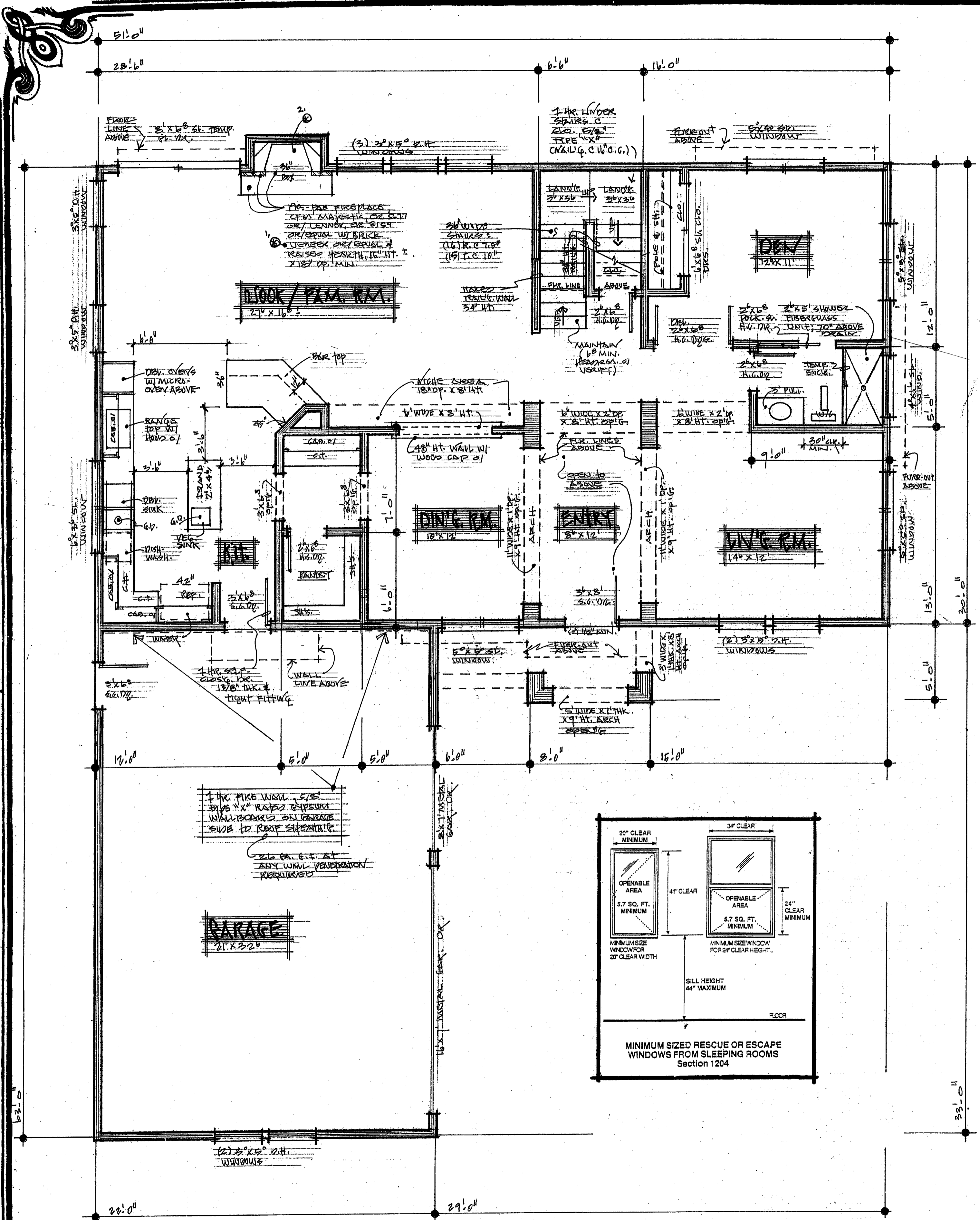
760-630-4071
(SINCE 1966)

bha, inc.
land planning, civil engineering, surveying

5115 AVENIDA ENCINAS
SUITE "L"
CARLSBAD, CA 92008-4387
(760) 931-8700

THIS GRADING PLAN IS THE PROPERTY OF BHA, INC. MICHAEL E. MILLS AS REG'D. FILE THIS PLAN.





PLAN VIEW - 2ND FLR.

- SCALE: 1/4" = 1'-0"
- REFER TO ATTACHED SHEET FOR ADDITIONAL NOTES AS APPLICABLE.
 - WATER CONSERVATION; HOT WATER TO TAP WITHIN 10 SECONDS.
 - WATER HEATERS; TANKLESS, REFER TO ELECTRICAL PLAN SHEET (GAS).
 - HEATING; LOCATED IN ATTIC AREA, REFER TO ELECTRICAL PLAN SHEET (GAS) - PALS.

MANDATORY NOTES:

- 1) ABS PLASTIC PIPE APPROVED FOR DOMESTIC DWV.
- 2) COPPER REQUIRED FOR WATER SUPPLY INSIDE BUILDING
- 3) FLOOR DRAINS TO BE PRIMED -
 - A) INDIRECT LAVATORY TO FLOOR DRAIN, OR
 - B) TRAP PRIMER INSTRUMENT.

PLUMBING NOTES RESIDENTIAL

1. ABS PLASTIC PIPE APPROVED FOR DOMESTIC DWV.
2. COPPER PIPE REQUIRED FOR WATER SUPPLY INSIDE BUILDINGS.
3. 10-FOOT COPPER WATER PIPE OUTSIDE BUILDING REQUIRED FOR ELECTRICAL SERVICE GROUND.
4. GAS LINES NOT PERMITTED UNDER SLABS. GAS LINES MAY BE INSTALLED IN RECESSED AND VENTED CHANNELS AND PIPE SLEEVES TO THE OUTSIDE.
5. GAS LOG LIGHTERS IN FIREPLACES NOT PERMITTED IN BEDROOMS.
6. KITCHEN CLEANOUT SHALL EXTEND TO THE OUTSIDE.
7. PERMANENT SIGNS 24 X 18 INCHES SHALL BE INSTALLED IN GARAGES WHERE BACKWATER VALVES ARE INSTALLED.
8. LAUNDRY TUB FAUCETS WITH THREADS SHALL HAVE ANTISIPHON DEVICES INSTALLED.
9. OPENINGS IN WALLS AND ROOFS FOR PIPES SHALL BE CLOSED AND PROTECTED WITH APPROVED METAL COLLARS TO PREVENT RODENT ACCESS.
10. DRIP PANS REQUIRED UNDER WATER HEATERS INSTALLED INSIDE BUILDINGS.
11. AS-BUILT DRAWING OF PRIVATE SEPTIC TANK IS REQUIRED PRIOR TO FINAL INSPECTION. DRAWING TO BE FILED WITH PERMANENT PERMIT RECORDS.
12. EXPOSE SEWER LATERAL FOR INSPECTION OF THE DEPTH PRIOR TO CALLING UNDERGROUND PLUMBING OR FOUNDATION INSPECTION.

- 1) VENTERS & VENTED PIPES, HORIZ. C.I.U.O.C. & VENT. C.I.U.O.C., # 1 GA. LINE W/USE OF 2" DIA. HORIZ. IN RESULT JOINT @ 1" SOLID RESULT, IS # 1/2" RPT TOP 2" HORIZ. & 1" VERT. JOINTS, (VENTERS = 82-356R).
- 2) ALL W/ GAS LOG LIGHTERS ARE REQUIRED TO HAVE THE FLUE DAMPER PERMANENTLY FIXED IN THE OPEN POSITION.

Water closets not to exceed 1.28 gallons per flush.
Urinals not to exceed 0.5 gallons per flush.
Single shower head not to exceed 2.0 gallons at 80 psi.
Residential Faucets not to exceed 1.5 gallons at 80 psi, minimum 0.8 at 20 psi.
Kitchen faucets not to exceed 1.8 gallons at 60 psi.
Plumbing fixtures and fittings shall comply with the specified performance requirements of section 4.303.2

PLAN VIEW - 1ST FLR.
SCALE: 1/4" = 1'-0"

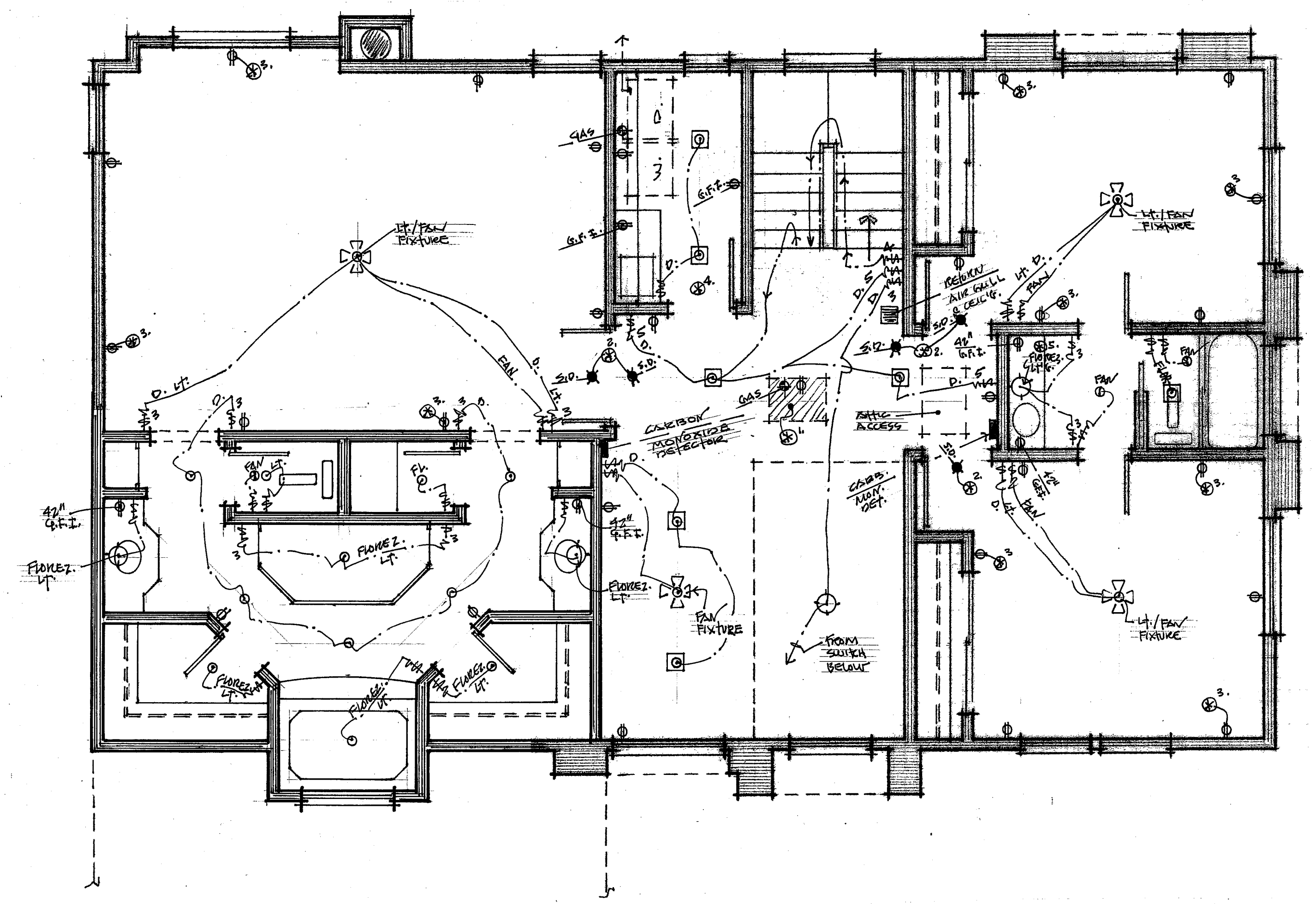
RESIDENCE 1ST FLR. 1,530 SF
RESIDENCE 2ND FLR. 1,426 SF
RESIDENCE TOTAL 2,956 SF
GARAGE 126 SF

DATE: 6-14-10

MILLS DESIGN & CONSTRUCTION
760-690-4071
FOR: PFT DEVELOPMENT
5946 FREESTLY DR., SUITE 103
CAROL SPRING, CALIF. 92008 FAX: 760-271-8445

FLOOR PLANS

Sheet 26 OF 26



PLAN VIEW - 2ND FL.
SCALE: 1/4" = 1'-0"

- ELECTRICAL NOTES RESIDENTIAL**
- GFI RECEPTACLES REQUIRED
 - A. BATHROOMS
 - B. ATTACHED GARAGES AND DETACHED GARAGES WITH POWER
 - C. OUTDOORS
 - D. ACCESSIBLE CRAWL SPACES
 - E. UNFINISHED BASEMENTS
 - F. RECEPTACLES SERVING KITCHEN COUNTER TOPS
 - G. WET BAR SINKS
 - A 40 AMP BRANCH CIRCUIT REQUIRED FOR ELECTRIC RANGES WITH RATING OF 8,750 WATTS.
 - A MAXIMUM OF TWELVE (12) RECEPTACLES ON CIRCUITS SUPPLYING CORD AND PLUG CONNECTED LOADS.
 - BRANCH CIRCUITS REQUIRED FOR THE PURPOSE OF LIGHTING, CENTRAL ALARM, SIGNAL COMMUNICATIONS, OR OTHER NEEDS FOR PUBLIC OR COMMON AREAS OF A TWO-FAMILY OR MULTIFAMILY DWELLING SHALL NOT BE SUPPLIED FROM EQUIPMENT THAT SUPPLIES AN INDIVIDUAL DWELLING UNIT.
 - OUTLETS FOR APPLIANCES SHALL BE INSTALLED WITHIN 6 FEET OF THE INTENDED LOCATION OF THE APPLIANCE.
 - OUTLETS TO BE SIX (6) FEET MAXIMUM FROM WALL END, MAXIMUM OF TWELVE (12) FEET APART, DOORWAYS AND SLIDING PORTION OF SLIDING DOOR EXCLUDED.
 - FLOOR OUTLETS SHALL BE WITHIN 18 INCHES FROM THE WALL TO BE INCLUDED, OUTLETS LOCATED IN CABINETS OR LOCATED OVER 5 1/2 FT. ABOVE THE FLOOR ARE EXCLUDED.
 - REFRIGERATION EQUIPMENT AND GARBAGE DISPOSAL SHALL BE ON SEPARATE CIRCUITS. KITCHEN OUTLETS SHALL HAVE A BALANCED LOAD.
 - IN THE KITCHEN, ONE OUTLET REQUIRED FOR EVERY 12-INCH COUNTER SPACE OR WIDER.
 - ISLAND COUNTER SPACES REQUIRE 1 OUTLET.
 - OUTLETS MAXIMUM 18 INCHES ABOVE COUNTER TOP.
 - OUTLETS SHALL NOT BE LOCATED FACE-UP IN COUNTER TOPS.
 - ONE 20-AMP GFI RECEPTACLE REQUIRED IN BATHROOMS, SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
 - FRONT AND BACK OF DWELLING UNIT REQUIRES GFI OUTLET, NOT MORE THAN 6' ABOVE FINISHED GRADE.
 - EACH HALLWAY SHALL BE PROVIDED WITH ONE OUTLET FOR EACH 10-FOOT LENGTH.
 - ONE WALL SWITCHED OUTLET REQUIRED IN EACH HABITABLE ROOM.
 - SWITCHED LIGHTING REQUIRED AT ENTRANCES AND EXTERIOR DOORS OF DWELLINGS (EXCLUDES VEHICLE DOOR IN GARAGE)

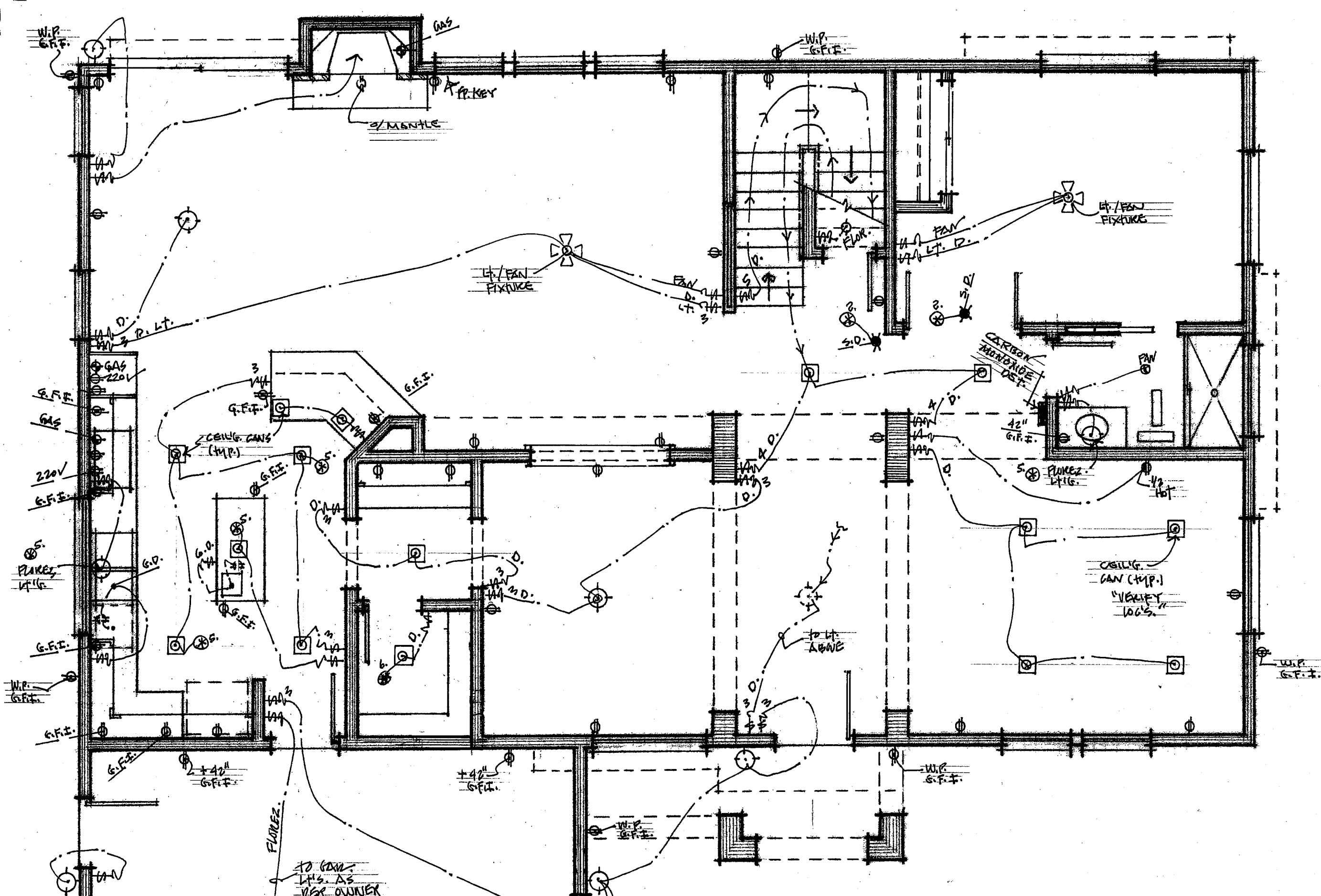
NOTES:

- REFER TO SHEET #13 FOR ELECTRICAL NOTES, AS APPLIES.
- FAN (HORN) GAS TO BE LOCATED IN THE ATTIC AREA; VENTED TO THE OUTSIDE (N.F. ROOF), COMBUSTION AIR LOOP REQ'D. (1/2 HI @ 1/2 LOW) FROM ATTIC VENTING. PROVIDE OUTLET LIGHT FIXTURE W/ SWITCH. REFER TO MECH. NOTES ON SHEET #3. ALL HABITABLE ROOMS TO BE HEATED. MAINTAIN 30" OP. UNOBSTRUCTED WORKING SPACE IN FRONT OF F.A.U.
- SMOKE DETECTORS; PERMANENTLY WIRED W/ BATTERY BACK-UP; INSTALLED EACH BEDROOM, CENTRALLY LOCATED IN AREA GIVING ACCESS TO BEDROOMS (SOUND AN ALARM AUDIBLE IN ALL BEDROOMS), & ON EACH FLOOR. INSTALLATION TO COMPLY.
- ALL BEDROOM OUTLETS TO BE GFCI; ALSO ALL OTHER ROOMS.
- LAUNDRY ROOM, PROVIDE 100# MIN. FIBER WARE-UP SILE & SUPPLY AIR TO COME FROM OTHER CONDITIONED SPACES, IF CAN NOT COME FROM THE OUTSIDE, OR THE GARAGE.
- ALL RECESSED INCANDESCENT L.F.'S. UNDER INSULATION MUST BE IC RATED.
- KITCHEN & BATH - R.M.'S.; FIXTURES MUST BE OF THE BALLASTED TYPE, THAT CAN ONLY ACCEPT FLOREZ. BULBS.
- SURFACE L.F.'S. TO BE 18" MIN. FROM STAIR, FLUSH L.F.'S. TO BE 6" MIN. FROM STAIR.
- F.A.U. TYPE AS 6 MIN. MEETING THE REQUIREMENTS OF UL181, 181A OR 181B SHALL BE USED OR ADDITIONAL DUCT ATTACHMENT DEVICES SUCH AS THE WRAPS OR MASTIC WILL BE REQ'D. BE INSTALLING MECH. DUCTING. THE RETURN AIR PLenum SCREWING THE F.A.U. MUST BE FULLY DISTED FROM THE F.A.U. TO COND. SPACE.
- ALL VENTS (FLUES) SHALL BE INSTALLED & SUPPORTED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

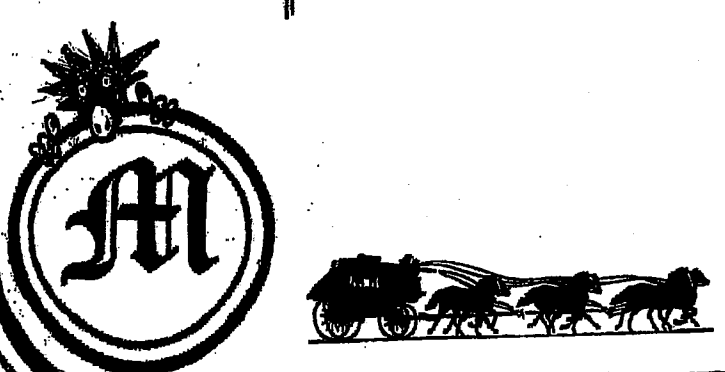
COLD AIR RETURN SHALL BE DUCT MATERIAL

Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support plenums shall not be compressed to cause reductions in the cross sectional area of the ducts.

- KITCHENS; FLORESCENT L.F. OR CEVAL TO OBTAIN 40 LUMENS/WATT OR HIGHER.
- BATHROOMS; & CLOSE 2' TOP, AT GARAGE, IN THE ATTIC, IN LAUNDRY RM.'S PROVIDE FLORESCENT FIXTURES, OR INCANDESCENT FIXTURES ON 5 "MANUAL ON" OCCUPANT SENSOR.
- ALL OTHER HABITABLE SPACES & HALLWAYS, PROVIDE FLORESCENT FIXTURES, OR INCANDESCENT FIXTURES ON "MANUAL ON" OCCUPANT SENSORS, OR ON DIMMER SWITCHES.
- EXTERIOR L.F.'S. TO BE FLORE. OR INCANDESCENT ON OCC. SENSORS OR PHOTO CONTROLS T.G.



PLAN VIEW - 1ST FL.
SCALE: 1/4" = 1'-0"



Notes #1, #2, #3, #4, #16

NEEDS

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 1 of 8

GENERAL INFORMATION	Project Name	Shee Court Lot 2
01	Calculation Description	Title 24 Analysis
02	Project Location	Lot 2, Shee Ct, Orangeville, CA 92653
03	City	Orangeville
04	Zip Code	92653
05	Climate Zone	CZ7
06	Building Type	Single Family
07	Project Name	Shee Court Lot 2
08	Total Const. Floor Area (sqft)	2050
09	Const. Floor Area (sqft)	1830
10	Additional Const. Floor Area (sqft)	220
11	Additional Const. Area (sqft)	21
12	Number of Dwelling Units	1
13	Number of Zones	2
14	Number of Stories	2
15	National Gas Availability	Yes
16	Climate Percentage (%)	17.2%

COMPLIANCE RESULTS

Item	Description	Compliance
01	This building complies with California Title 24, Part 6, Section 01304.2.	Yes
02	This building complies with California Title 24, Part 6, Section 01304.2.	Yes

ENERGY USE SUMMARY

Category	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Energy Use (BTU/yr-ft²)	134	222	-68	76.5%
Space Cooling	1.42	2.22	-0.8	-56.3%
HVAC Heating	0.34	0.00	0.34	0.0%
Water Heating	9.50	7.00	2.51	27.7%
Photovoltaic Offset	---	0.00	0.00	---
Compliance Energy Total	13.89	12.45	1.44	8.4%

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 3 of 8

OPaque SURFACE CONSTRUCTIONS	01	02	03	04	05	06	07	08	09
Construction Name	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck
Surface Type	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck
Construction Type	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck	Roof Deck
U-Value	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Area (sqft)	150	150	150	150	150	150	150	150	150

ATTIC

01	02	03	04	05	06	07	08
Name	Attic	Attic	Attic	Attic	Attic	Attic	Attic
Surface Type	Attic	Attic	Attic	Attic	Attic	Attic	Attic
Construction Type	Attic	Attic	Attic	Attic	Attic	Attic	Attic
U-Value	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Area (sqft)	150	150	150	150	150	150	150

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 5 of 8

SLAB FLOORS	01	02	03	04	05	06	07	08	09
Construction Name	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor
Surface Type	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor
Construction Type	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor
U-Value	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Area (sqft)	150	150	150	150	150	150	150	150	150

BUILDING ENVELOPE - HEAT VERIFICATION

01	02	03	04	05	06
Quality Installation (QI)	Quality Installation (QI)	Quality Installation (QI)	Quality Installation (QI)	Quality Installation (QI)	Quality Installation (QI)
Not Required	Not Required	Not Required	Not Required	Not Required	Not Required

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 7 of 8

HVAC - DISTRIBUTION SYSTEMS	01	02	03	04	05	06	07	08
System Name	System Name	System Name	System Name	System Name	System Name	System Name	System Name	System Name
Type	Type	Type	Type	Type	Type	Type	Type	Type
Material	Material	Material	Material	Material	Material	Material	Material	Material
Insulation	Insulation	Insulation	Insulation	Insulation	Insulation	Insulation	Insulation	Insulation
Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)

HVAC - FAN SYSTEMS

01	02	03	04	05	06
Name	Name	Name	Name	Name	Name
Type	Type	Type	Type	Type	Type
Material	Material	Material	Material	Material	Material
Insulation	Insulation	Insulation	Insulation	Insulation	Insulation
Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 2 of 8

REQUIRED SPECIAL FEATURES

The following are features that must be installed as conditions for meeting the modeled energy performance for this computer analysis.

NO SPECIAL FEATURES REQUIRED

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building compliance software report.

HERS Feature Summary:

- 1. High-efficiency ventilation
- 2. High-efficiency ventilation
- 3. High-efficiency ventilation
- 4. High-efficiency ventilation
- 5. High-efficiency ventilation
- 6. High-efficiency ventilation
- 7. High-efficiency ventilation
- 8. High-efficiency ventilation
- 9. High-efficiency ventilation
- 10. High-efficiency ventilation

ENERGY DESIGN RATING

This is the sum of the annual 100 energy consumption for energy use, transportation for the standard design building (Energy Budget) and the annual 100 energy consumption for energy use, transportation for the proposed design building (Energy Budget) and the annual 100 energy consumption for energy use, transportation for the proposed design building (Energy Budget).

Category	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Energy Use (BTU/yr-ft²)	134	222	-68	76.5%
Space Cooling	1.42	2.22	-0.8	-56.3%
HVAC Heating	0.34	0.00	0.34	0.0%
Water Heating	9.50	7.00	2.51	27.7%
Photovoltaic Offset	---	0.00	0.00	---
Compliance Energy Total	13.89	12.45	1.44	8.4%

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 4 of 8

WINDOWS	01	02	03	04	05	06	07	08	09	10
Name	Window 0001	Window 0002	Window 0003	Window 0004	Window 0005	Window 0006	Window 0007	Window 0008	Window 0009	Window 0010
Surface	Window	Window	Window	Window	Window	Window	Window	Window	Window	Window
U-Value	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Area (sqft)	10	10	10	10	10	10	10	10	10	10

WATER HEATERS

01	02	03	04	05	06	07	08
Name	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater
Model	Model	Model	Model	Model	Model	Model	Model
Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)
Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor
Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)

WATER HEATING SYSTEMS

01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
System Type	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
Area (sqft)	Area (sqft)	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
U-Value	U-Value	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
Area (sqft)	Area (sqft)	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 6 of 8

WATER HEATERS

01	02	03	04	05	06	07	08
Name	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater	Water Heater
Model	Model	Model	Model	Model	Model	Model	Model
Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)	Capacity (gal)
Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor	Energy Factor
Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)	Area (sqft)

WATER HEATING SYSTEMS

01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
System Type	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
Area (sqft)	Area (sqft)	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
U-Value	U-Value	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
Area (sqft)	Area (sqft)	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shee Court Lot 2
 Calculation Date/Time: 15:36, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 2-618.rvt
 Page 8 of 8

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, the undersigned, certify that the information provided in this Certificate of Compliance is accurate and complete.

RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

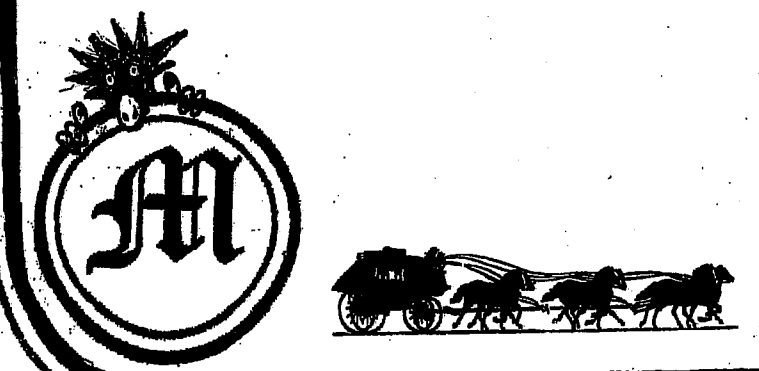
This is the sum of the annual 100 energy consumption for energy use, transportation for the standard design building (Energy Budget) and the annual 100 energy consumption for energy use, transportation for the proposed design building (Energy Budget) and the annual 100 energy consumption for energy use, transportation for the proposed design building (Energy Budget).

HERS Feature Summary:

- 1. High-efficiency ventilation
- 2. High-efficiency ventilation
- 3. High-efficiency ventilation
- 4. High-efficiency ventilation
- 5. High-efficiency ventilation
- 6. High-efficiency ventilation
- 7. High-efficiency ventilation
- 8. High-efficiency ventilation
- 9. High-efficiency ventilation
- 10. High-efficiency ventilation

Registration Number: 216-0421554-0000000000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CF18-04072016-744
 Report Generated at: 2016-06-28 15:38:18

DATE 06-16
MILLS
 DESIGN & CONSTRUCTION
 700-099-4071
 (SANTA ANA, CALIF.)
FOR: BFI DEVELOPMENT
 3946 FINESTAY DR., SUITE 103
 CARLETON, CALIF. 92608 FANELLI / DR. # 760-271-8466
 SHEET 26 OF 31
 TITLE 24
 POT # 2



Item	Project Name	Shea Court Lot 3
01	Calculation Description	Title 24 Analysis
02	Project Location	Lot 3, Shea Ct.
03	City	Chico
04	Zoning Code	OS10
05	Climate Zone	CSZ
06	Building Type	Single Family
07	Project Status	New Construction
08	Total Cost	1000000
09	Site Area (sq ft)	10000
10	Site Area (sq ft)	10000
11	Additional Cost	0
12	Additional Site Area (sq ft)	0

Item	Compliance Results
01	Building Complies with Computer Performance
02	This building incorporates features that require field verification for meeting the required energy performance for this computer analysis.

Item	Energy Use Summary
01	Energy Use (kWh/yr)
02	Space Heating
03	Space Cooling
04	Water Heating
05	Domestic Hot Water
06	Photovoltaic Offset
07	Compliance Energy Total

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Surface	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Roof	10000	0.03	3000
02	Walls	10000	0.05	5000
03	Floors	10000	0.10	10000
04	Windows	1000	1.00	10000
05	Doors	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Construction Name	Surface Type	Construction Type	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Roof	Roof	Asph/Flt	10000	0.03	3000
02	Walls	Walls	CMU	10000	0.05	5000
03	Floors	Floors	Concrete	10000	0.10	10000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	System Name	System Type	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Roof	Roof	10000	0.03	3000
02	Walls	Walls	10000	0.05	5000
03	Floors	Floors	10000	0.10	10000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

Item	Window	Area (sq ft)	U-Value	Heat Loss (BTU/hr)
01	Window 1	100	1.00	1000
02	Window 2	100	1.00	1000
03	Window 3	100	1.00	1000

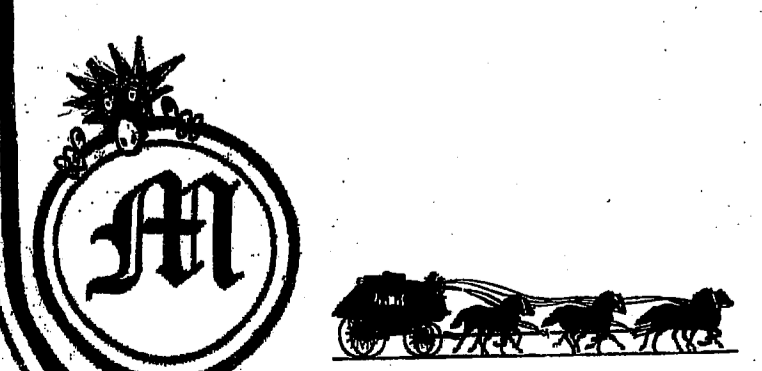
Registration Number: 216-00000000-0000 Registration Date/Time: 2016-06-28 16:01:13 HERS Provider: CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072016-744 Report Generated at: 2016-06-28 14:03:04

DATE 06-16

DESIGN & CONSTRUCTION
 760-639-4071
 (SINCE 1966)

MILLS
 FOR BFI DEVELOPMENT
 5941 PRAIRIELY OR SUITE 103
 CARLSBAD, CALIF 92008 FAX/TEL/TEL: 760-271-8466

lot #3
 SHEET OF 26



DATE 06-21-16

DESIGN & CONSTRUCTION
760-639-4071
(Central Valley)

MILLS

FOR: BFI DEVELOPMENT
8946 PRIESTLY DR., SUITE 103
CARLSBAD, CALIF. 92008 FAX/TEL: 760-271-8766

THE 24
SHEET OF 26

lot #6

WESLEY

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 6 Calculation Date/Time: 15:17, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis Input File Name: Lot 6-616.rvt

CFIR-PRF-01
Page 1 of 8

01	02	03	04	05	06	07	08
12	Calculation Description	12D 24 Analysis					
13	Project Location	Lot 6 Shea Ct					
14	Code	California	Standard Version	Compliance 2015			
15	Zen Code	92006	Compliance Version	CEM/CM/MP 2015.4 (24)			
16	Climate Zone	CE7	Software Version	EnergyPro 8.6			
17	Building Type	Single-Family	Code/Standard	EnergyPro 8.6			
18	Project Scope	Heavily Constructed	Number of Dwelling Units	1			
19	Total Cond. Floor Area (SF)	2590	Number of Zones	2			
20	Slab Area (SF)	1500	Number of Stories	2			
21	Additional Cond. Floor Area	N/A	Natural Gas Available	Yes			
22	Additional Slab Area (SF)	N/A	Gazing Percentage (%)	17.7%			

COMPLIANCE RESULTS

01	02	03	04	05	06	07	08
01	Building Complies with Computer Performance						
02	This building incorporates measures that reduce energy consumption by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis.						

ENERGY USE SUMMARY

01	02	03	04	05	06
Energy Use (kBtu/yr)	Standard Energy	Proposed Design	Compliance Margin	Percent Improvement	
Space Heating	1.24	2.06	-0.82	-65.1%	
Space Cooling	1.82	2.03	-0.21	-11.5%	
Water Heating	0.00	0.00	0.00	0.0%	
Photovoltaic Offset	0.00	0.00	0.00	0.0%	
Compliance Energy Total	3.06	4.09	-1.03	-33.6%	

Registration Number: 216-04281714-0000000-0000 Registration Date/Time: 2016-06-16 16:08:02 HERS Provider: CaCERTS Inc.
 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072015-744 Report Generated at: 2016-06-28 15:19:08

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 6 Calculation Date/Time: 15:17, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis Input File Name: Lot 6-616.rvt

CFIR-PRF-01
Page 3 of 8

01	02	03	04	05	06	07	08
01	Name	Zone	Construction	Admitt.	Orientation	Gross Area (ft²)	Window & Door Area (ft²)
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

ATTIC

01	02	03	04	05	06	07	08
01	Name	Construction	Admitt.	Orientation	Gross Area (ft²)	Window & Door Area (ft²)	SHGC
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

Registration Number: 216-04281714-0000000-0000 Registration Date/Time: 2016-06-16 16:08:02 HERS Provider: CaCERTS Inc.
 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072015-744 Report Generated at: 2016-06-28 15:19:08

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 6 Calculation Date/Time: 15:17, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis Input File Name: Lot 6-616.rvt

CFIR-PRF-01
Page 5 of 8

01	02	03	04	05	06	07	08
01	Construction Name	Surface Type	Construction Type	Finishing	Total Ceiling Reflectance	Winter Change Coefficient	Assembly Layers
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

SLAB FLOORS

01	02	03	04	05	06	07	08
01	Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. Swath & Depth	Created Fraction	Heated
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05	06
01	Quality Installation Information (QI)	Quality Installation of Energy Film Installation	Building Envelope Air Leakage	CF700	
02	Not Required	Not Required	Not Required		

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08
01	Name	System Type	Distribution Type	Water Heater	Number of Drawers	Solar Fraction (%)	
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

Registration Number: 216-04281714-0000000-0000 Registration Date/Time: 2016-06-16 16:08:02 HERS Provider: CaCERTS Inc.
 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072015-744 Report Generated at: 2016-06-28 15:19:08

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 6 Calculation Date/Time: 15:17, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis Input File Name: Lot 6-616.rvt

CFIR-PRF-01
Page 7 of 8

01	02	03	04	05	06	07	08
01	Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

MECHANICAL SYSTEMS - HERS VERIFICATION

01	02	03	04	05	06	07	08
01	Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

M&B (Indoor Air Quality) FANS

01	02	03	04	05	06	07	08
01	Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
02	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
03	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
04	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
05	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
06	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
07	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading
08	Area (ft²)	Height (ft)	U-factor	SHGC	Visible Transmittance	SHGC	Exterior Shading

Registration Number: 216-04281714-0000000-0000 Registration Date/Time: 2016-06-16 16:08:02 HERS Provider: CaCERTS Inc.
 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version: CF18-04072015-744 Report Generated at: 2016-06-28 15:19:08

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 6 Calculation Date/Time: 15:17, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis Input File Name: Lot 6-616.rvt

CFIR-PRF-01
Page 2 of 8

REQUIRED SPECIAL FEATURES

The following are features that must be installed as a condition for meeting the modeled energy performance for this computer analysis.

NO SPECIAL FEATURES REQUIRED

HERS FEATURE SUMMARY

This building is a residential structure that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the additional compliance table below.

MECHANICAL VERIFICATION

1. All mechanical systems shall be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis.

MECHANICAL SYSTEMS VERIFICATION

1. Duct Leakage

2. Duct Insulation

3. Duct Sealing

4. Duct Location

5. Bypass Duct

6. Duct Location

7. Duct Location

8. Duct Location

9. Duct Location

10. Duct Location

11. Duct Location

12. Duct Location

13. Duct Location

14. Duct Location

15. Duct Location

16. Duct Location

17. Duct Location

18. Duct Location

19. Duct Location

20. Duct Location

21. Duct Location

22. Duct Location

23. Duct Location

24. Duct Location

25. Duct Location

26. Duct Location

27. Duct Location

28. Duct Location

29. Duct Location

30. Duct Location

31. Duct Location

32. Duct Location

33. Duct Location

34. Duct Location

35. Duct Location

36. Duct Location

37. Duct Location

38. Duct Location

39. Duct Location

40. Duct Location

41. Duct Location

42. Duct Location

43. Duct Location

44. Duct Location

45. Duct Location

46. Duct Location

47. Duct Location

48. Duct Location

49. Duct Location

50. Duct Location

51. Duct Location

52. Duct Location

53. Duct Location

54. Duct Location

55. Duct Location

56. Duct Location

57. Duct Location

58. Duct Location

59. Duct Location

60. Duct Location

61. Duct Location

62. Duct Location

63. Duct Location

64. Duct Location

65. Duct Location

66. Duct Location

67. Duct Location

68. Duct Location

69. Duct Location

70. Duct Location

71. Duct Location

72. Duct Location

73. Duct Location

74. Duct Location

75. Duct Location

76. Duct Location

77. Duct Location

78. Duct Location

79. Duct Location

80. Duct Location

81. Duct Location

82. Duct Location

83. Duct Location

84. Duct Location

85. Duct Location

86. Duct Location

87. Duct Location

88. Duct Location

89. Duct Location

90. Duct Location

91. Duct Location

92. Duct Location

93. Duct Location

94. Duct Location

95. Duct Location

96. Duct Location

97. Duct Location

98. Duct Location

99. Duct Location

100. Duct Location

101. Duct Location

102. Duct Location

103. Duct Location

104. Duct Location

105. Duct Location

106. Duct Location

107. Duct Location

108. Duct Location

109. Duct Location

110. Duct Location

111. Duct Location

112. Duct Location

113. Duct Location

114. Duct Location

115. Duct Location

116. Duct Location

117. Duct Location

118. Duct Location

119. Duct Location

120. Duct Location

121. Duct Location

122. Duct Location

123. Duct Location

124. Duct Location

125. Duct Location

126. Duct Location

127. Duct Location

128. Duct Location

129. Duct Location

130. Duct Location

131. Duct Location

132. Duct Location

133. Duct Location

134. Duct Location

135. Duct Location

136. Duct Location

137. Duct Location

138. Duct Location

139. Duct Location

140. Duct Location

141. Duct Location

142. Duct Location

143. Duct Location

144. Duct Location

145. Duct Location

146. Duct Location

147. Duct Location

148. Duct Location

149. Duct Location

150. Duct Location

151. Duct Location

152. Duct Location

153. Duct Location

154. Duct Location

155. Duct Location

156. Duct Location

157. Duct Location

158. Duct Location

159. Duct Location

160. Duct Location

161. Duct Location

162. Duct Location

163. Duct Location

164. Duct Location

165. Duct Location

166. Duct Location

167. Duct Location

168. Duct Location

169. Duct Location

170. Duct Location

171. Duct Location

172. Duct Location

173. Duct Location

174. Duct Location

175. Duct Location

176. Duct Location

177. Duct Location

178. Duct Location

179. Duct Location

180. Duct Location

181. Duct Location

182. Duct Location

183. Duct Location

184. Duct Location

185. Duct Location

186. Duct Location

187. Duct Location

188. Duct Location

189. Duct Location

190. Duct Location

191. Duct Location

192. Duct Location

193. Duct Location

194. Duct Location

195. Duct Location

196. Duct Location

197. Duct Location

198. Duct Location

199. Duct Location

200. Duct Location

201. Duct Location

202. Duct Location

203. Duct Location

204. Duct Location

205. Duct Location

206. Duct Location

207. Duct Location

208. Duct Location

209. Duct Location

210. Duct Location

211. Duct Location

212. Duct Location

213. Duct Location

214. Duct Location

215. Duct Location

216. Duct Location

217. Duct Location

218. Duct Location

219. Duct Location

220. Duct Location

221. Duct Location

222. Duct Location

223. Duct Location

224. Duct Location

225. Duct Location

226. Duct Location

227. Duct Location

228. Duct Location

229. Duct Location

230. Duct Location

231. Duct Location

232. Duct Location

233. Duct Location

234. Duct Location

235. Duct Location

236. Duct Location

237. Duct Location

238. Duct Location

239. Duct Location

240. Duct Location

241. Duct Location

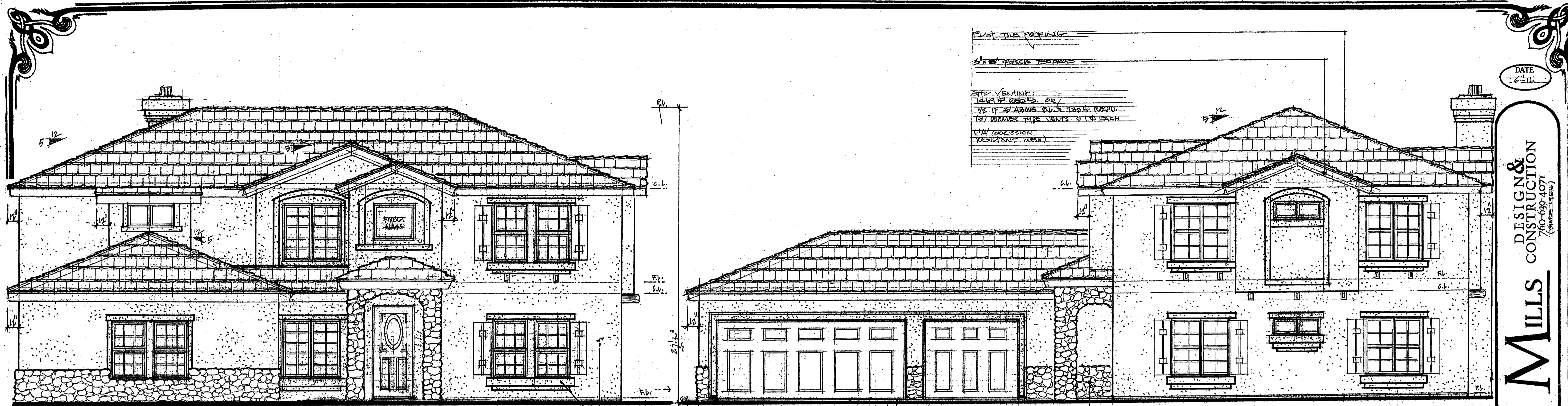
242. Duct Location

243. Duct Location

244. Duct Location

245. Duct Location

246. Duct Location



FLAT TILE ROOFING
 5/12 ROOF
 1/2" ASPH/FLT SHEETING
 (2) DORMER RAPE VENTS @ 10' EACH
 (1/4" GALV. STAINL. WASH)

FRONT & RIGHT SIDE ELEVATIONS

EXTERIOR STUCCO FINISH W/
 PENNY PANEL (TOP STUCCO 2")
 1/4" SOFFIT

FINISH GRADE TO SLOPE &
 DRAIN AWAY FROM STRUCTURE
 REFER TO GRADING PLAN FOR
 OTHERS

FIREPLACE CHIMNEY W/ 1/4" SPIRO 2" W/
 SPARK ARRESTER, APPROVED & UL LISTED (W/ 1/2 GA.
 MESH) & HAVING 1/2" PREPARATIONS FOR ARRESTING
 SMOKE (CARBON OR SPARKS & INSTALLED TO BE VISIBLE
 FOR THE PURPOSES OF MAINT. & INSPECTION)



REAR & LEFT SIDE ELEVATIONS

DATE
 6-2-11

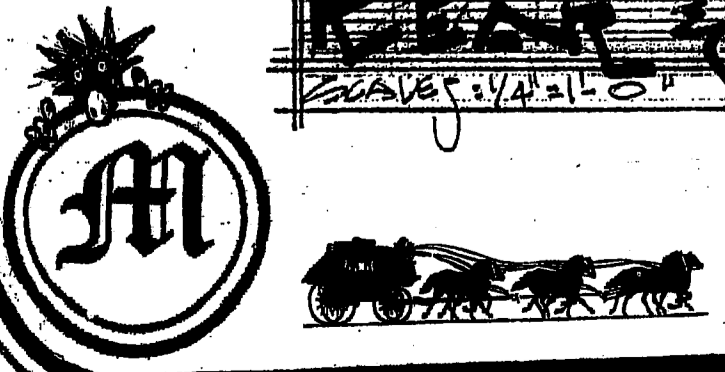
DESIGN &
 CONSTRUCTION

MILLS

FOR: BFI DEVELOPMENT
 5946 PRIESTLY DR. - SUITE 103
 CARLESDALE, CALIF. 92008 FAX: 760-271-8466

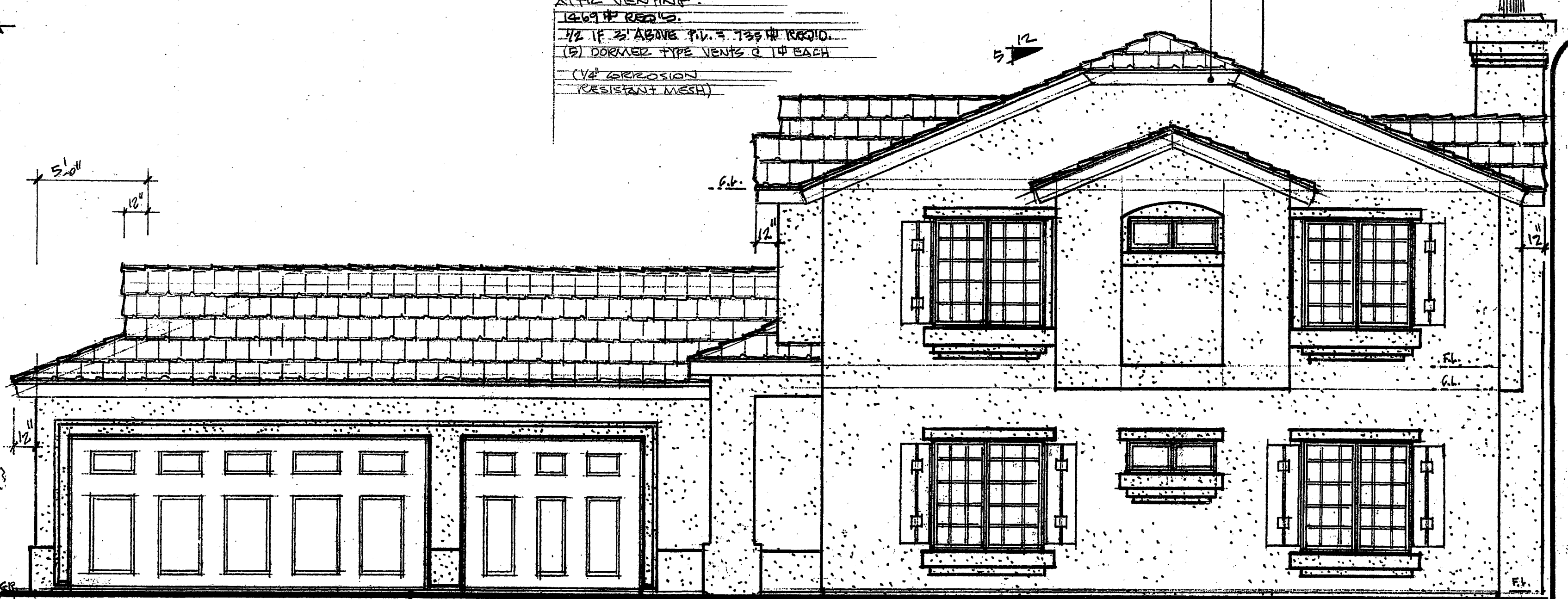
ELEVATIONS

SHEET
 OF
 26



lot #1

MILLS

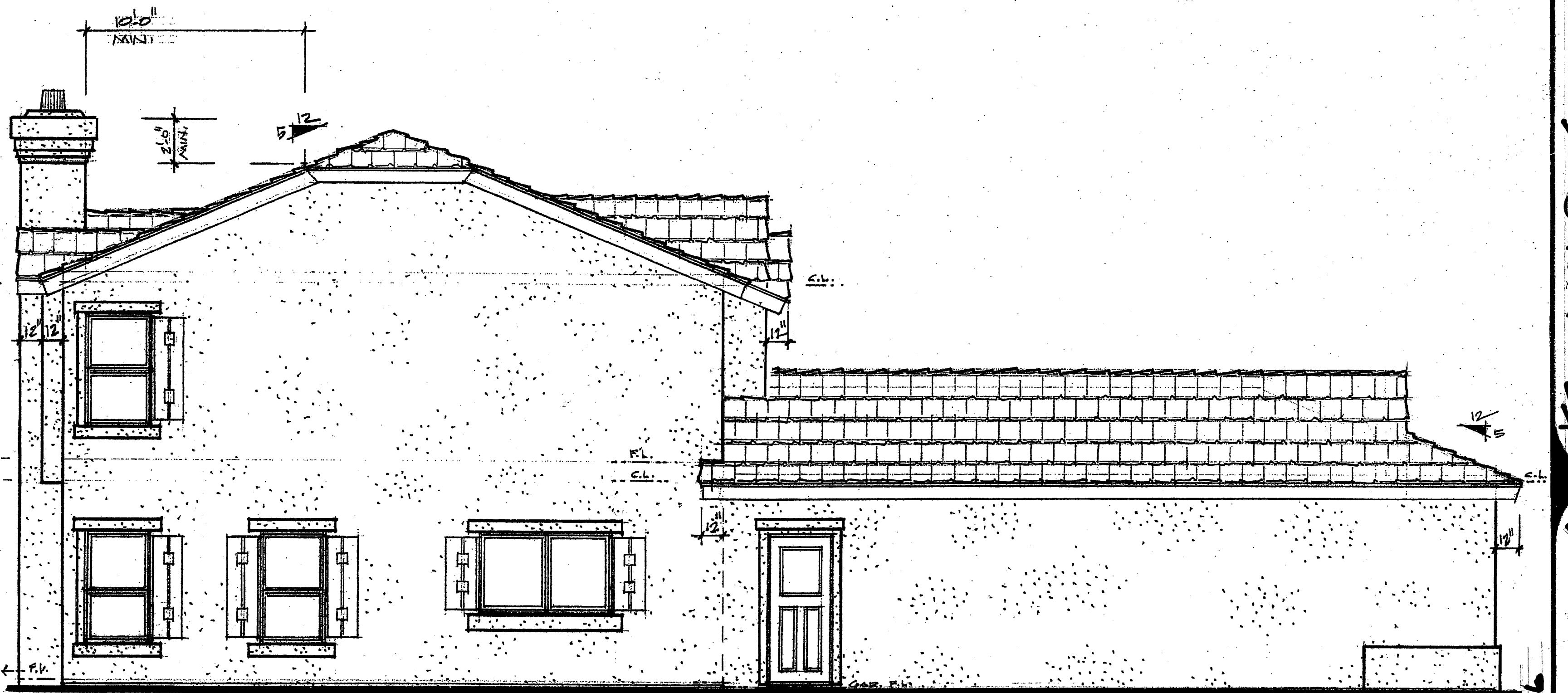


FLAT TILE ROOFING
 2" X 4" FASCIA BOARDS
 RAIN VENTING:
 1/2" 1" X 4" ABOVE FIN. 7/8" 1" X 4" BELOW
 (1) DRAINAGE TYPE VENTS @ 10' EACH
 (1) CORROSION RESISTANT MESH

EXTERIOR STUCCO FINISH W/
 STAIN PROTECTANT (TOP STUCCO)
 1/4" THICK
 FINISH GRADE TO STAIRS &
 DRAIN AWAY FROM SPREADERS
 REFER TO FOUNDATION PLAN FOR
 OTHERS

FRONT & RIGHT SIDE ELEVATIONS

FIREPLACE CHIMNEY W/ TOP SIZE OF 4" W/
 SPARK ARRESTER APPROVED & UL LISTED
 (1/2" 1" X 4" MIN. THICK & FINISH 1/2" PROJECTIONS
 FOR EXCESSIVE BURNING CARBON OR SPARKS
 & INSTALLED TO BE VISIBLE FOR THE PURPOSES
 OF MAINT. & INSPECTION)



REAR & LEFT SIDE ELEVATIONS

ALL GLASS OR BRICK OR OTHER TRANSPARENT OR OPaque
 GLAZING MATERIALS SHALL BE CONSTRUCTED
 OF TEMP. GLASS OR DR. GLAZED WINDOWING
 NO SKYLIGHTS WILL BE ALLOWED ON ROOF ASSEMBLIES
 PACING ANY FLOOR VENT. IF APPLICABLE

DATE
 6-16

DESIGN &
 CONSTRUCTION
 700-099-4071
 (SANTA ANITA)

MILLS

FOR: BFI DEVELOPMENT

5746 PINEBURY DR. - SUITE 103
 CARLEBAD, CALIF. 92008 FAX/CELL/CR. # 760-271-8466

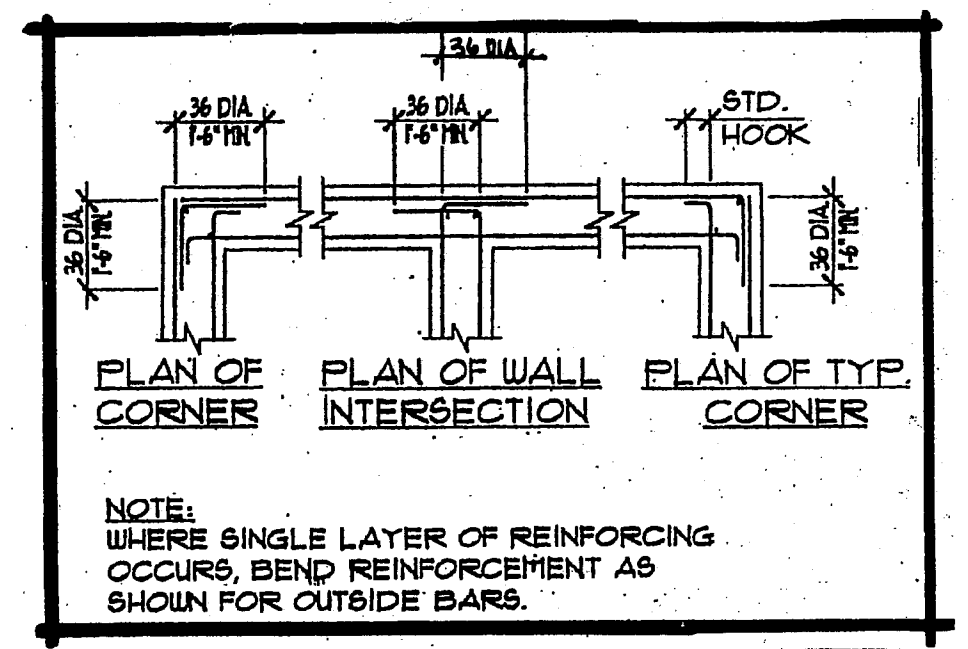
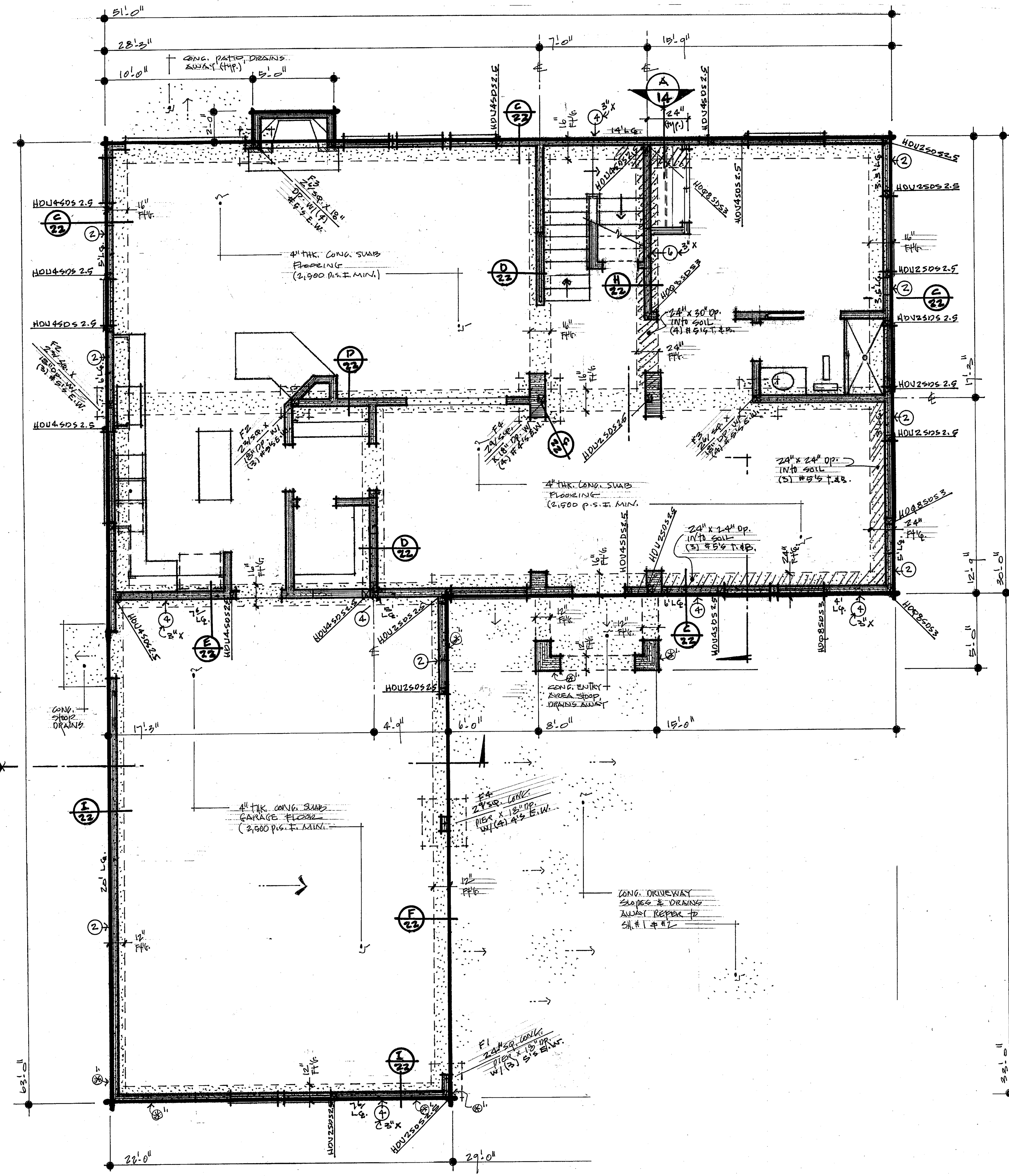
ELEVATIONS

SHEET
 OF
 26



Notes #2, #4, #6

MS/MLB



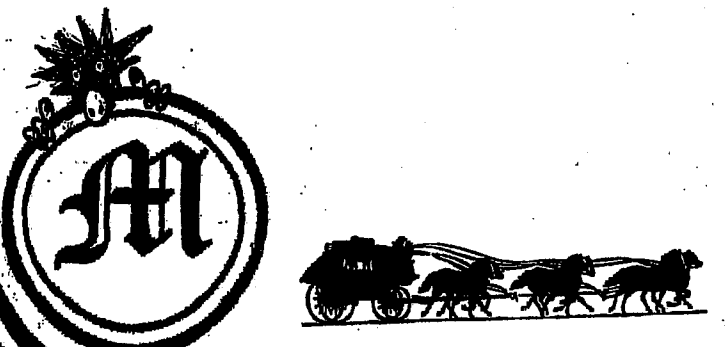
The soils engineer recommended that he/she review the foundation excavations. Note on the foundation plan that "Prior to the contractor requesting a Building Department foundation inspection, the soils engineer shall advise the building official in writing that:

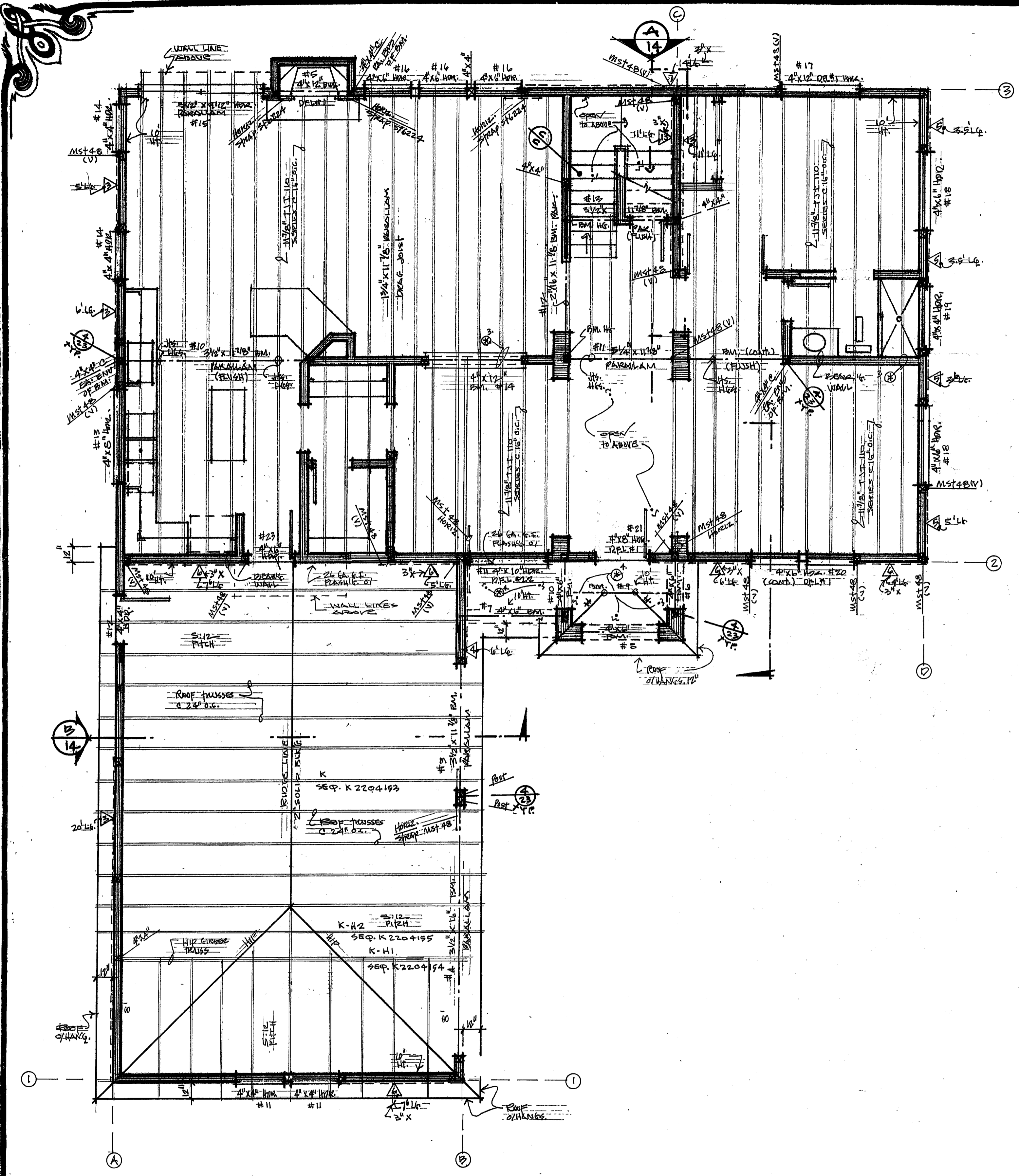
- The building pad was prepared in accordance with the soils report,
- The utility trenches have been properly backfilled and compacted, and
- The foundation excavations, the soils expansive characteristics and bearing capacity conform to the soils report."

PLAN VIEW - 1/4" = 1'-0"

- REFER TO SHEET #527 FOR FOUNDATION NOTES, AS APPLIES.
- FOUNDATIONS TO BE TIED IN PLACE, PRIOR TO FOUNDATION INSPECTION & SHOT PINS NOT TO BE USED IN LIEU OF ANCHOR BARS AT SWMB BASES.
- SOIL REPORT BY: GERTER, INC., 13341 PINEHURST AVE., VISTA, CALIF. 92081 & REFER TO GRADING PLAN BY OTHERS, FOR WORK TO BE DONE.

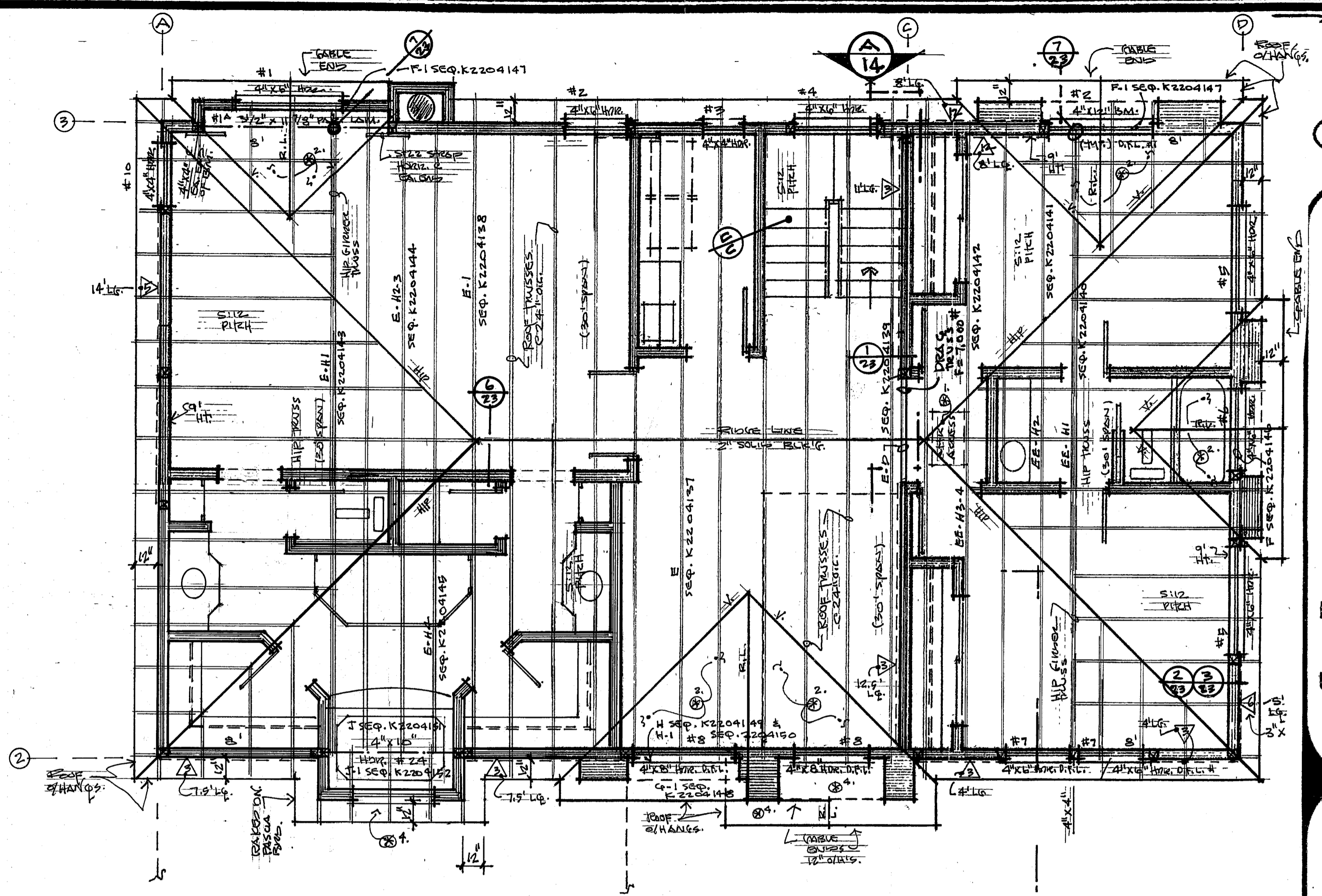
Notes #1, #2, #3, #4 & #6





PLAN VIEW - 1" = 1'-0"

- 1. REFER TO SHEET #3-1 FOR FRAMING NOTES, AS APPLIES.
- 2. PER. #3-1 TO HAVE 2" W.P. (MIN.)



PLAN VIEW - 1" = 1'-0"

- 1. REFER TO SHEET #3-1 FOR FRAMING NOTES, AS APPLIES.
- 2. STIC ACCESS: 22" X 22" MIN., IF EQUIPMENT CAN BE REMOVED THROUGH SUCH OPENING, OR 30" X 30" TO THE VERTICES - PROVIDE UNOBSTRUCTED PASSAGEWAY, 22" WISE X 20" LG. MAX. TO FURNACE AS REQ'D. SEE WASH. NOTES ON SH. #3.
- 3. CONF. FRAMING FULL OF ROOF TRUSSES AS PER FRAMING PLAN & ELEVATIONS. THE S.P. PITCH 2"x6" RIBBLE BOSSING 2"x6" US LST. LAMB FOOT 2"x4" JACK RAFTERS @ 24" O.C.
- 4. CONVENTIONAL FRAMING: 2"x4" RAFT. G. W.P. 2"x6" (2"x6" PITCH) 1) 2"x6" HIPS & 2"x6" RIBBLE. (2"x4" G.W.P. IF APPLIES)

Notes #1, 2, 3, 4 & 6

FRAMING PLANS

SHEET 13 OF 26

FOR: BFI DEVELOPMENT

2166 PERRY ST., SUITE 103
CARLESSO, CALIF. 92008 FANELLI/DEL. #760-271-846

MILLS
DESIGN & CONSTRUCTION
760-699-4071
(COMMERCIAL)

DATE 6-21-06



MS/LLD

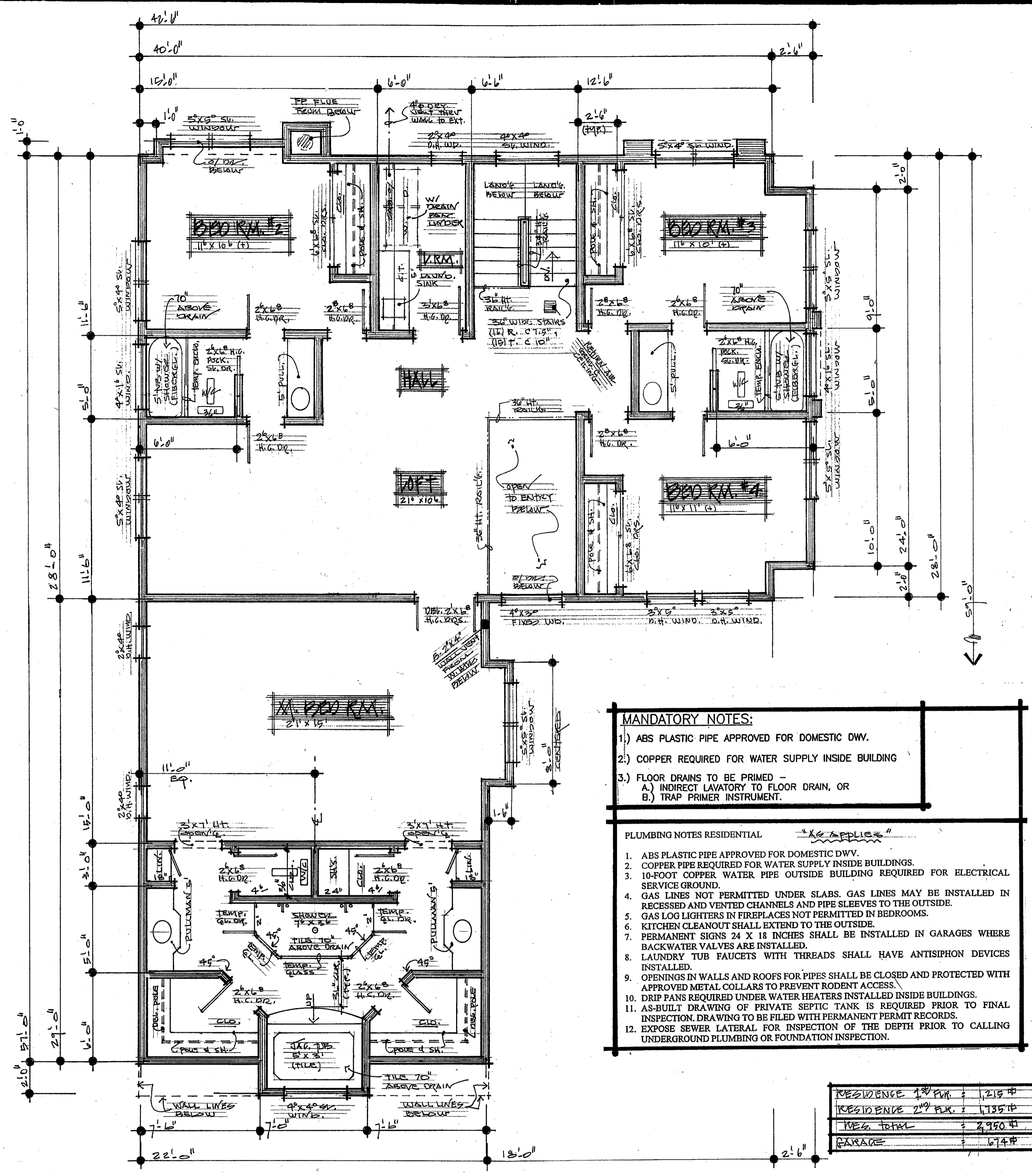
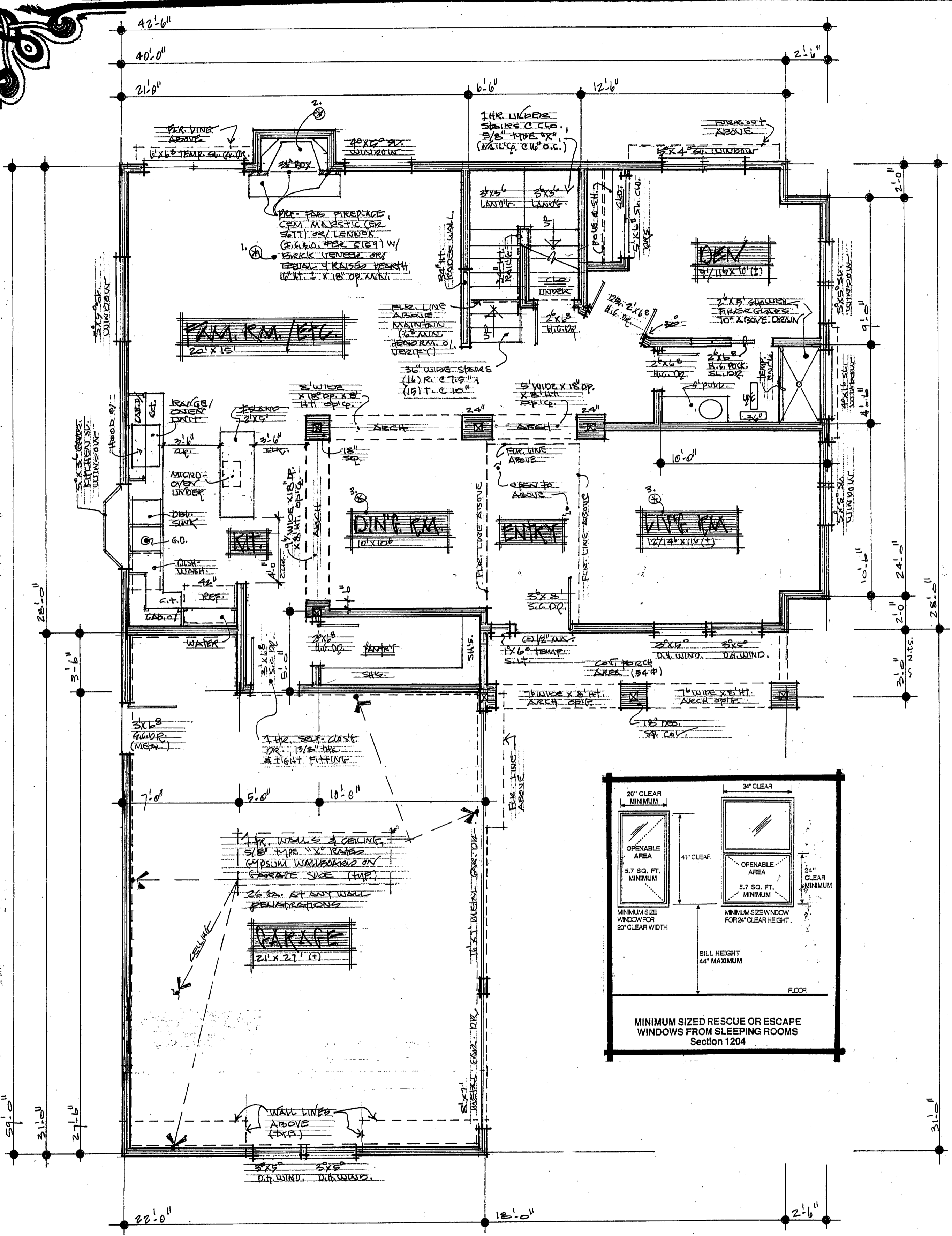
DATE: 6-11

DESIGN & CONSTRUCTION
MILLS

FOR: BFI DEVELOPMENT
1946 PRIESTLY DR., SUITE 102
CARLETON, CALIF. 92008 PAVELLI/CAF. #160-271-8468

FLOOR PLANS

SHEET 15 OF 26



- MANDATORY NOTES:**
- 1) ABS PLASTIC PIPE APPROVED FOR DOMESTIC DWV.
 - 2) COPPER REQUIRED FOR WATER SUPPLY INSIDE BUILDING
 - 3) FLOOR DRAINS TO BE PRIMED -
 - A) INDIRECT LAVATORY TO FLOOR DRAIN, OR
 - B) TRAP PRIMER INSTRUMENT.

- PLUMBING NOTES RESIDENTIAL**
1. ABS PLASTIC PIPE APPROVED FOR DOMESTIC DWV.
 2. COPPER PIPE REQUIRED FOR WATER SUPPLY INSIDE BUILDINGS.
 3. 10-FOOT COPPER WATER PIPE OUTSIDE BUILDING REQUIRED FOR ELECTRICAL SERVICE GROUND.
 4. GAS LINES NOT PERMITTED UNDER SLABS. GAS LINES MAY BE INSTALLED IN RECESSED AND VENTED CHANNELS AND PIPE SLEEVES TO THE OUTSIDE.
 5. GAS LOG LIGHTERS IN FIREPLACES NOT PERMITTED IN BEDROOMS.
 6. KITCHEN CLEANOUT SHALL EXTEND TO THE OUTSIDE.
 7. PERMANENT SIGNS 24 X 18 INCHES SHALL BE INSTALLED IN GARAGES WHERE BACKWATER VALVES ARE INSTALLED.
 8. LAUNDRY TUB FAUCETS WITH THREADS SHALL HAVE ANTISIPHON DEVICES INSTALLED.
 9. OPENINGS IN WALLS AND ROOFS FOR PIPES SHALL BE CLOSED AND PROTECTED WITH APPROVED METAL COLLARS TO PREVENT RODENT ACCESS.
 10. DRIP PANS REQUIRED UNDER WATER HEATERS INSTALLED INSIDE BUILDINGS.
 11. AS-BUILT DRAWING OF PRIVATE SEPTIC TANK IS REQUIRED PRIOR TO FINAL INSPECTION. DRAWING TO BE FILED WITH PERMANENT PERMIT RECORDS.
 12. EXPOSE SEWER LATERAL FOR INSPECTION OF THE DEPTH PRIOR TO CALLING UNDERGROUND PLUMBING OR FOUNDATION INSPECTION.

RESIDENCE 1 ST FLR	1,215 #
RESIDENCE 2 ND FLR	1,135 #
WEG TOTAL	2,350 #
GARAGE	674 #

PLAN VIEW - 1ST FLR

SCALE: 1/4" = 1'-0" O.C. = R-3/11 - V-9 APR. CONSTRUCTION

- REFER TO ATTACHED SHEET, FOR ADDITIONAL NOTES, AS APPLIES.
- WATER CONSERVATION; HOT WATER TO TAP WITHIN 10 SECONDS.
- WATER HEATER; TANKLESS, REFER TO ELECTRICAL PLAN SHEET, (GAS).
- HEATING; LOCATED IN ATTIC AREA, REFER TO ELECTRICAL PLAN SHEET, (GAS) - FAN.

PLAN VIEW - 2ND FLR

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

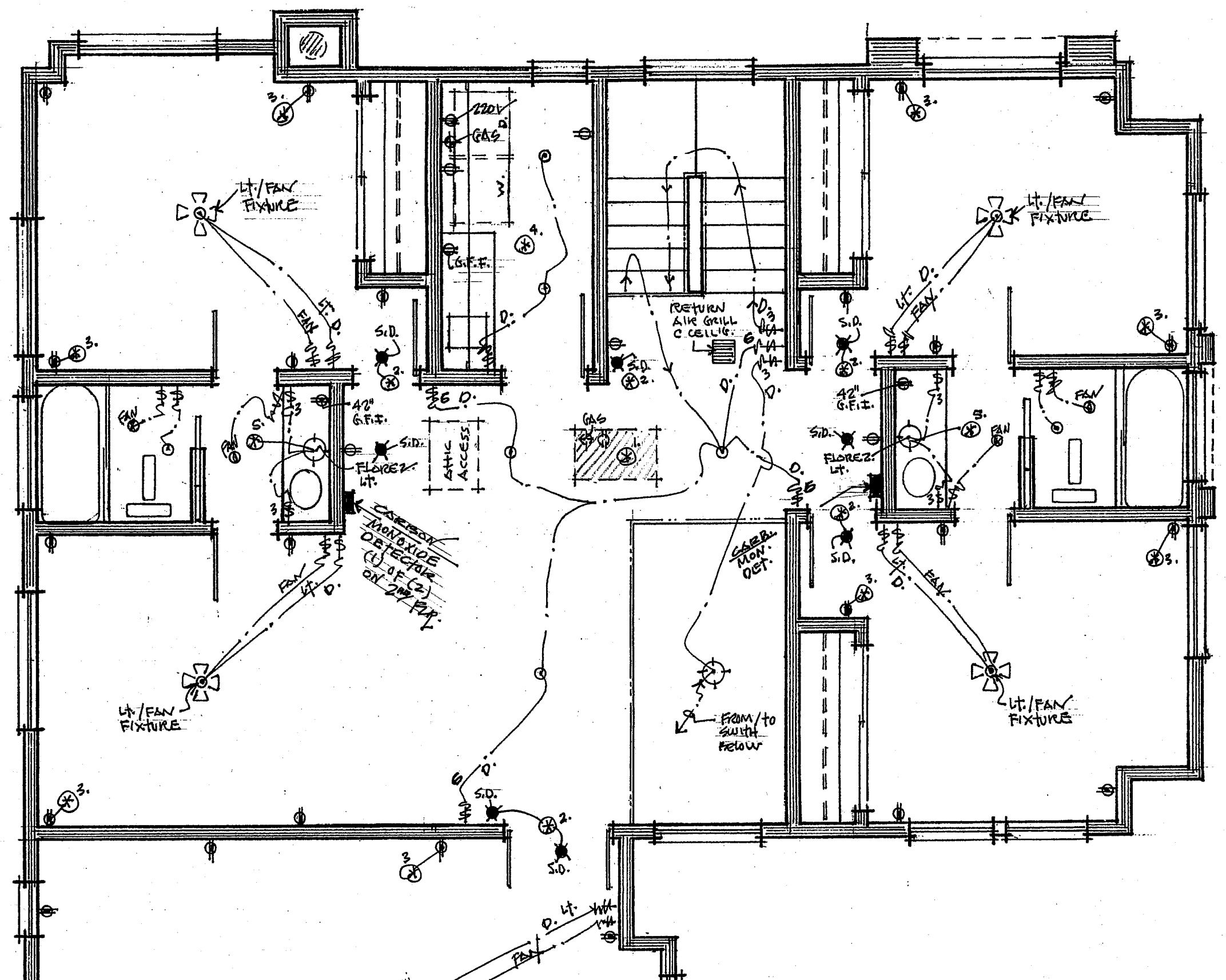
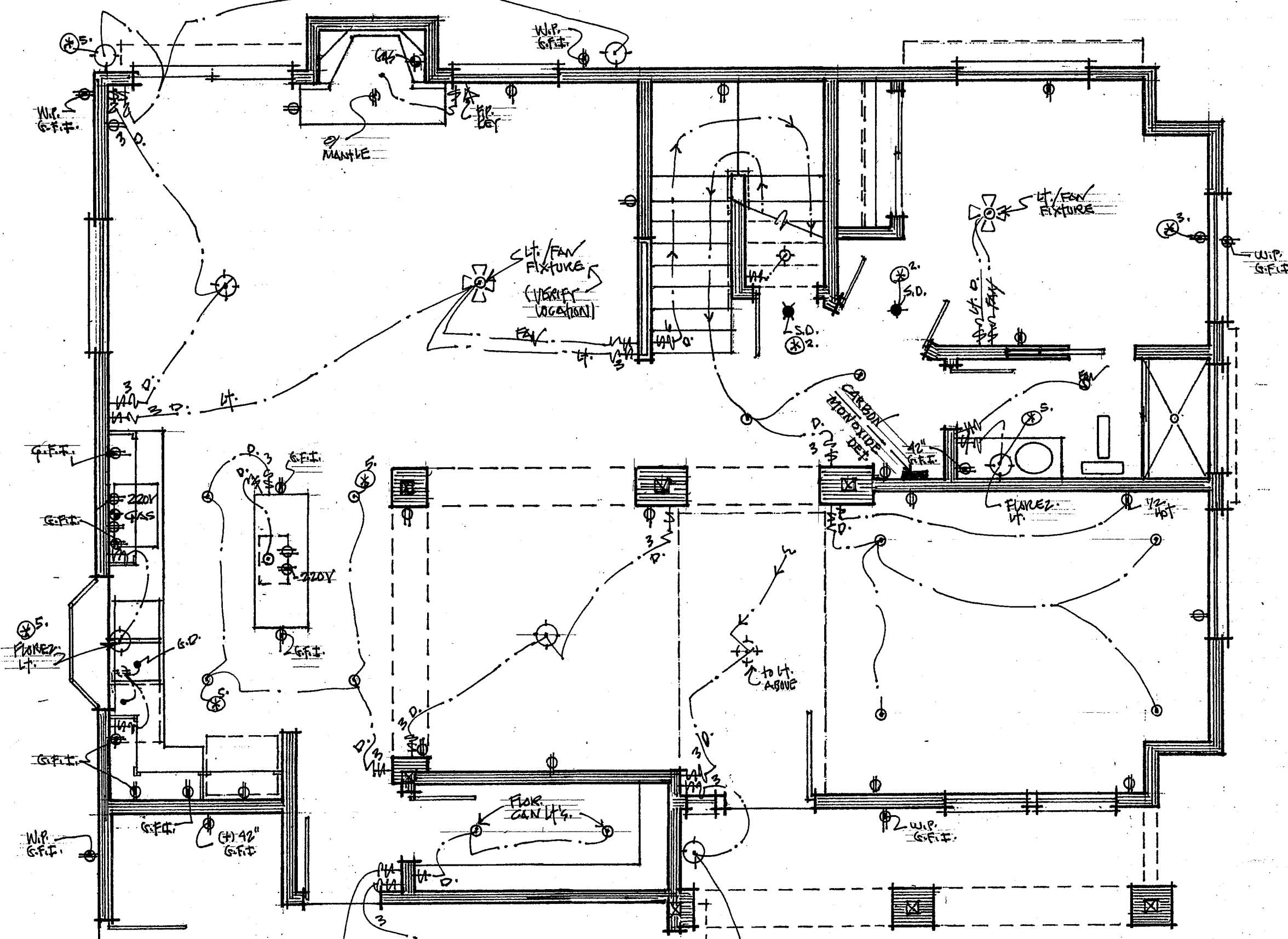
1. VENEER & VENEER TIES, HORIZ. @ 16" O.C. & VERT. @ 12" O.C. & 1" GA. ZINC WIRE @ 24" O.C. HORIZ. IN GROUT JOINT @ 1" SOLID GROUT @ 15" PAIR LAP @ 2" HORIZ. @ 6" O.C. VERT. JOINTS, (VENEER EX-354B).
2. PP W/ GAS LOG LIGHTERS ARE REQ'D. TO HAVE THE FLUE DAMPER PERMANENTLY FIXED IN THE OPEN POSITION.
3. MIN. VENTILATION @ DINING & LIVING R.M. AREAS = 30 X 11 @ MAX. SPACES = 34 @ = 35 @ IF W/ VENT. HAVE = 5 @ W/ 1/2 @ (21.5 @).

Water closets not to exceed 1.28 gallons per flush.
Urinals not to exceed 0.5 gallons per flush.
Single shower head not to exceed 2.0 gallons at 80 psi.
Residential Faucets not to exceed 1.5 gallons at 80 psi, minimum 0.8 at 20 psi.
Kitchen faucets not to exceed 1.8 gallons at 80 psi.
Plumbing fixtures and fittings shall comply with the specified performance requirements of section 4.303.2

PLAN B

15/26

(2014.04.05 / R-2008.06.16)



NOTES:

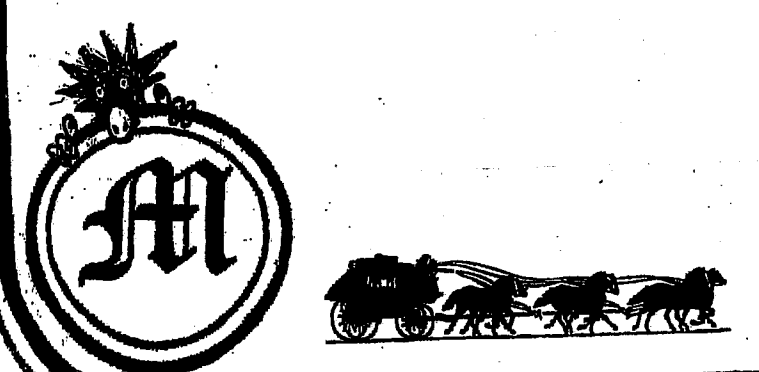
- 1. REFER TO SHEET #13, FOR ELECTRICAL NOTES, AS APPLIES.
- 2. P.S.U. (H.V.H., GAS) TO BE LOCATED IN THE ATTIC AREA & VENTED TO THE OUTSIDE (V.T. ROOF). COMBUSTION AIR 100 # REQ'D. (1/2\"/>

PLAN VIEW - 1ST FLR.
SCALE: 1/4\"/>

PLAN VIEW - 2ND FLR.
SCALE: 1/4\"/>

COLD AIR RETURN SHALL BE DUCT MATERIAL
Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support plenums shall not be compressed to cause reductions in the cross sectional area of the ducts.

- ELECTRICAL NOTES RESIDENTIAL**
1. GFI RECEPTACLES REQUIRED
 - A. BATHROOMS
 - B. ATTACHED GARAGES AND DETACHED GARAGES WITH POWER
 - C. OUTDOORS
 - D. ACCESSIBLE CRAWL SPACES
 - E. UNFINISHED BASEMENTS
 - F. RECEPTACLES SERVING KITCHEN COUNTER TOPS
 - G. WET BAR SINKS
 2. A 40 AMP BRANCH CIRCUIT REQUIRED FOR ELECTRIC RANGES WITH RATING OF 8,750 WATTS.
 3. A MAXIMUM OF TWELVE (12) RECEPTACLES ON CIRCUITS SUPPLYING CORD AND PLUG CONNECTED LOADS.
 4. BRANCH CIRCUITS REQUIRED FOR THE PURPOSE OF LIGHTING, CENTRAL ALARM, SIGNAL, COMMUNICATIONS, OR OTHER NEEDS FOR PUBLIC OR COMMON AREAS OF A TWO-FAMILY OR MULTIFAMILY DWELLING SHALL NOT BE SUPPLIED FROM EQUIPMENT THAT SUPPLIES AN INDIVIDUAL DWELLING UNIT.
 5. OUTLETS FOR APPLIANCES SHALL BE INSTALLED WITHIN 6-FEET OF THE INTENDED LOCATION OF THE APPLIANCE.
 6. OUTLETS TO BE SIX (6) FEET MAXIMUM FROM WALL END, MAXIMUM OF TWELVE (12) FEET APART, DOORWAYS AND SLIDING PORTION OF SLIDING DOOR EXCLUDED.
 7. FLOOR OUTLETS SHALL BE WITHIN 18-INCHES FROM THE WALL TO BE INCLUDED, OUTLETS LOCATED IN CABINETS OR LOCATED OVER 5/2 FT. ABOVE THE FLOOR ARE EXCLUDED.
 8. REFRIGERATION EQUIPMENT AND GARBAGE DISPOSAL SHALL BE ON SEPARATE CIRCUITS. KITCHEN OUTLETS SHALL HAVE A BALANCED LOAD.
 9. IN THE KITCHEN, ONE OUTLET REQUIRED FOR EVERY 12-INCH COUNTER SPACE OR WIDER.
 10. ISLAND COUNTER SPACES REQUIRE 1 OUTLET.
 11. OUTLETS MAXIMUM 18-INCHES ABOVE COUNTER TOP.
 12. OUTLETS SHALL NOT BE LOCATED FACE-UP IN COUNTER TOPS.
 13. ONE 20-AMP GFI RECEPTACLE REQUIRED IN BATHROOMS, SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
 14. FRONT AND BACK OF DWELLING UNIT REQUIRES GFI OUTLET, NOT MORE THAN 6\"/>



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 1 of 8

Item	Project Name	City	City Code	Standard Version	Compliance Version	Compliance Date
01	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
02	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
03	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
04	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
05	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
06	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
07	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
08	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
09	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
10	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
11	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
12	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
13	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
14	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
15	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
16	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
17	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
18	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
19	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
20	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14
21	Shea Court Lot 5	Oceanside	City Code 2009E	Standard Version	Compliance 2014	01/01/14

ENERGY USE SUMMARY

Item	Standard Design	Proposed Design	Change	Percent Improvement
Energy Use (kBtu/sq-ft)	1.53	2.22	-0.69	-45.1%
Space Heating	2.78	3.09	-0.31	-11.2%
Water Heating	0.24	0.88	-0.64	-26.7%
Lighting	0.32	1.10	-0.78	-24.2%
Photovoltaic Offset	0.00	0.00	0.00	0.0%
Compliance Energy Total	16.87	13.93	2.94	17.4%

Registration Number: 216-0224161-000000-0000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CFIR-04072016-744
 Report Generated at: 2016-06-28 15:28:05

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 2 of 8

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

NO SPECIAL FEATURES REQUIRED

SPECIAL FEATURES SUMMARY

The following is a summary of the features that must be installed as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building components table below.

Building System Verifications:

- 1. IACD mechanical ventilation
- 2. IACD system verifications
- 3. IACD system verifications
- 4. IACD system verifications
- 5. IACD system verifications
- 6. IACD system verifications
- 7. IACD system verifications
- 8. IACD system verifications
- 9. IACD system verifications
- 10. IACD system verifications
- 11. IACD system verifications
- 12. IACD system verifications
- 13. IACD system verifications
- 14. IACD system verifications
- 15. IACD system verifications
- 16. IACD system verifications
- 17. IACD system verifications
- 18. IACD system verifications
- 19. IACD system verifications
- 20. IACD system verifications
- 21. IACD system verifications
- 22. IACD system verifications
- 23. IACD system verifications
- 24. IACD system verifications
- 25. IACD system verifications
- 26. IACD system verifications
- 27. IACD system verifications
- 28. IACD system verifications
- 29. IACD system verifications
- 30. IACD system verifications
- 31. IACD system verifications
- 32. IACD system verifications
- 33. IACD system verifications
- 34. IACD system verifications
- 35. IACD system verifications
- 36. IACD system verifications
- 37. IACD system verifications
- 38. IACD system verifications
- 39. IACD system verifications
- 40. IACD system verifications
- 41. IACD system verifications
- 42. IACD system verifications
- 43. IACD system verifications
- 44. IACD system verifications
- 45. IACD system verifications
- 46. IACD system verifications
- 47. IACD system verifications
- 48. IACD system verifications
- 49. IACD system verifications
- 50. IACD system verifications
- 51. IACD system verifications
- 52. IACD system verifications
- 53. IACD system verifications
- 54. IACD system verifications
- 55. IACD system verifications
- 56. IACD system verifications
- 57. IACD system verifications
- 58. IACD system verifications
- 59. IACD system verifications
- 60. IACD system verifications
- 61. IACD system verifications
- 62. IACD system verifications
- 63. IACD system verifications
- 64. IACD system verifications
- 65. IACD system verifications
- 66. IACD system verifications
- 67. IACD system verifications
- 68. IACD system verifications
- 69. IACD system verifications
- 70. IACD system verifications
- 71. IACD system verifications
- 72. IACD system verifications
- 73. IACD system verifications
- 74. IACD system verifications
- 75. IACD system verifications
- 76. IACD system verifications
- 77. IACD system verifications
- 78. IACD system verifications
- 79. IACD system verifications
- 80. IACD system verifications
- 81. IACD system verifications
- 82. IACD system verifications
- 83. IACD system verifications
- 84. IACD system verifications
- 85. IACD system verifications
- 86. IACD system verifications
- 87. IACD system verifications
- 88. IACD system verifications
- 89. IACD system verifications
- 90. IACD system verifications
- 91. IACD system verifications
- 92. IACD system verifications
- 93. IACD system verifications
- 94. IACD system verifications
- 95. IACD system verifications
- 96. IACD system verifications
- 97. IACD system verifications
- 98. IACD system verifications
- 99. IACD system verifications
- 100. IACD system verifications

ENERGY DESIGN SUMMARY

This is the sum of the annual TDE energy consumption for energy use components included in the performance compliance approach in the Standard Design Building Energy Budget and the annual TDE energy consumption for lighting and components not regulated by Title 24, Part 6 (such as swimming pool pumps and conveyer elevators) and accounting for the annual TDE energy offset by an on-site renewable energy system.

Item	Standard Design	Proposed Design	Change	Percent Improvement
Total Energy (kWh/sq-ft)	1.53	2.22	-0.69	-45.1%

BUILDING - FEATURES INFORMATION

Item	Project Name	Conditioned Floor Area (sq ft)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Heating/Cooling Systems	Number of Water Heating Systems
01	Shea Court Lot 5	2960	1	3	2	0	1

ZONE INFORMATION

Item	Zone Name	Zone Type	HVAC System Name	Zone Floor Area (sq ft)	Avg Ceiling Height	Water Heating System 1	Water Heating System 2
01	1st Floor	Conditioned	IACD System 1	2716	8	DHW Sp1	
02	2nd Floor	Conditioned	IACD System 1	2244	8	DHW Sp1	

Registration Number: 216-0224161-000000-0000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CFIR-04072016-744
 Report Generated at: 2016-06-28 15:28:05

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 3 of 8

OPAQUE SURFACES

Item	Name	Zone	Construction	Area (sq ft)	U-Value	SHGC	SHCE	Window & Door Area (sq ft)	TDI (Btu/h-ft²)
01	Front Wall	1st Floor	R-13 Wall	387	0.17	0.75	0.26	387	0.26
02	Left Wall	1st Floor	R-13 Wall	17	0.17	0.75	0.26	17	0.26
03	Right Wall	1st Floor	R-13 Wall	107	0.17	0.75	0.26	107	0.26
04	Front Wall	2nd Floor	R-13 Wall	387	0.17	0.75	0.26	387	0.26
05	Left Wall	2nd Floor	R-13 Wall	17	0.17	0.75	0.26	17	0.26
06	Right Wall	2nd Floor	R-13 Wall	107	0.17	0.75	0.26	107	0.26
07	Front Wall	R-19 Floor No Compliance							

ATRIUM

Item	Name	Construction	Area (sq ft)	U-Value	SHGC	SHCE	Window & Door Area (sq ft)	TDI (Btu/h-ft²)
01	Attic	Attic						
02	Attic	Attic						

Registration Number: 216-0224161-000000-0000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CFIR-04072016-744
 Report Generated at: 2016-06-28 15:28:05

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 4 of 8

OPAQUE SURFACE CONSTRUCTIONS

Item	Construction Name	Surface Type	Construction Type	Framing	Total U-Value	Window & Door Area (sq ft)	TDI (Btu/h-ft²)
01	R-13 Wall	Exterior Wall	Wood Framed Wall	2x4 @ 16 in. O.C.	R-13	0.096	
02	Attic R-19 Floor	Attic Floor	Wood Framed Ceiling	2x4 Top Chord of Roof Joist @ 24 in. O.C.	R-19	0.084	
03	R-19 Floor No Compliance	Interior Floor	Wood Framed Floor	2x12 @ 16 in. O.C.	R-19	0.084	

SLAB FLOORS

Item	Name	Zone	Area (sq ft)	Perimeter (ft)	Edge Insul. Review A Depth	Crystalline Fraction	Heated	Cool
01	1st Floor	1st Floor	2960	141	None	0.0		

BUILDING ENVELOPE - HERS VERIFICATION

Item	Quality Insulation Installation (QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	CFM50
01	Not Required	Not Required	Not Required	

WATER HEATING SYSTEMS

Item	Name	System Type	Distribution Type	Water Heater	Number of Fixtures	Solar Fraction (%)
01	DHW Sp 1 - 1st	DHW	Standard	DHW Heater 1	1	0%

Registration Number: 216-0224161-000000-0000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CFIR-04072016-744
 Report Generated at: 2016-06-28 15:28:05

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 7 of 8

HVAC - DISTRIBUTION SYSTEMS

Item	Name	Type	Duct Leakage	Location	Insulation R-Value	Attic	Bypass Duct	HERS Verification
01	All Distribution System 1	Duct/Misc	Sealed and Insulated	Attic	6	None	None	HERS Verification 1-hrs-60

HVAC DISTRIBUTION - HERS VERIFICATION

Item	Name	Duct Leakage	Location	Verified Duct	Design	Ducts	Low Leakage	HERS Verification
01	All Distribution System 1-hrs-60	Sealed and Insulated	Attic	None	None	None	None	HERS Verification 1-hrs-60

HVAC - FAN SYSTEMS

Item	Name	Type	Fan Power (Watt/CFM)	HERS Verification
01	HVAC Fan 1	Single Speed PSC Furnace Fan	0.03	HERS Verification

IACD (Indoor Air Quality) FANS

Item	Name	Model	Flow Rate (CFM)	UQ Recovery Efficiency (%)	HERS Verification
01	Dwelling Unit	IAQ CMV	3.5	9	HERS Verification
02	System	IAQ CMV	3.5	9	HERS Verification

Registration Number: 216-0224161-000000-0000
 CA Building Energy Efficiency Standards - 2013 Residential Compliance
 Report Version: CFIR-04072016-744
 Report Generated at: 2016-06-28 15:28:05

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: Shea Court Lot 5
 Calculation Date/Time: 15:26, Tue, Jun 28, 2016
 Calculation Description: Title 24 Analysis
 Input File Name: Lot 5-616.rvt

CFIR-PHF-01
Page 4 of 8

WINDOWS

Item	Name	Type	Surface Orientation/Adjustment	Width (ft)	Height (ft)	Area (sq ft)	U-Value	SHGC	SHCE	Energy Modeling
01	Window 2000	Window	Front Wall (Front-20)	1	3.0	3.0	0.17	0.75	0.26	Insulated Screen (Default)
02	Window 3000-2	Window	Front Wall (Front-20)	1	10.0	10.0	0.17	0.75	0.26	Insulated Screen (Default)
03	Window 5000	Window	Rear Wall (Back-10)	1	1.0	0.25	0.17	0.75	0.26	Insulated Screen (Default)
04	Window 5000-2	Window	Left Wall (Left-17)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
05	Window 5000-3	Window	Right Wall (Right-10)	1	17.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
06	Window 4000	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
07	Window 4000-2	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
08	Window 4000-3	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
09	Window 4000-4	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
10	Window 4000-5	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
11	Window 4000-6	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
12	Window 4000-7	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
13	Window 4000-8	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
14	Window 4000-9	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
15	Window 4000-10	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
16	Window 4000-11	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
17	Window 4000-12	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
18	Window 4000-13	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
19	Window 4000-14	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
20	Window 4000-15	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
21	Window 4000-16	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
22	Window 4000-17	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
23	Window 4000-18	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
24	Window 4000-19	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
25	Window 4000-20	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
26	Window 4000-21	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
27	Window 4000-22	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
28	Window 4000-23	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
29	Window 4000-24	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Insulated Screen (Default)
30	Window 4000-25	Window	Rear Wall (Back-10)	1	20.0	0.32	0.17	0.75	0.26	Ins

DATE
6-15

DESIGN &
CONSTRUCTION
700-099-4071
(SUNCOAST 151666)

MILLS

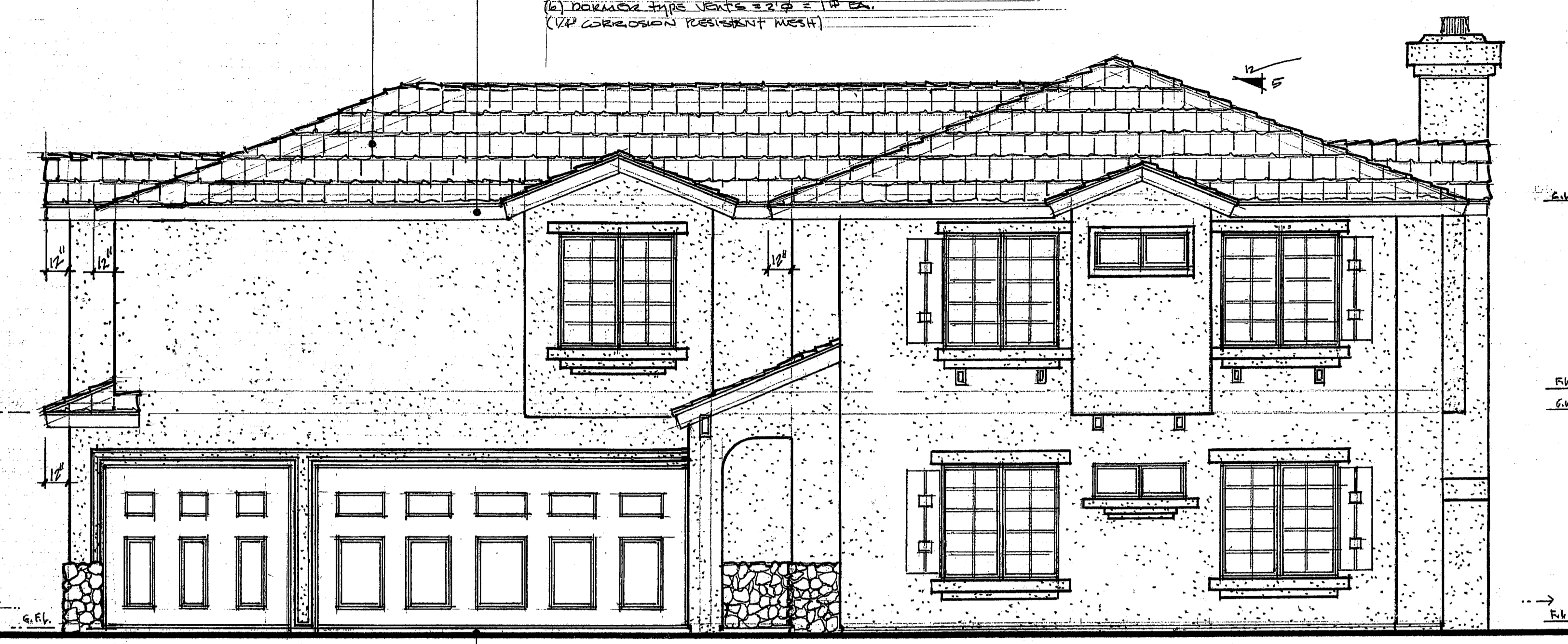
FOR: BFI DEVELOPMENT

5946 PINEBLY DR., SUITE 103
CARLETON, GA 30138 FAX: 770-271-8466

ELEVATIONS

SHEET
20
OF
20

BEST TILE ROOFING
BEST PAVIA ROOFING
ROOF VENTING:
(1) 6" x 6" ROOF VENT = 11" (S-1920)
(2) 1/2" ROOF VENT = 1" (S-1920)
(3) DOMED TIRE VENT = 2" (S-1920)
(4) CORROSION RESISTANT MESH

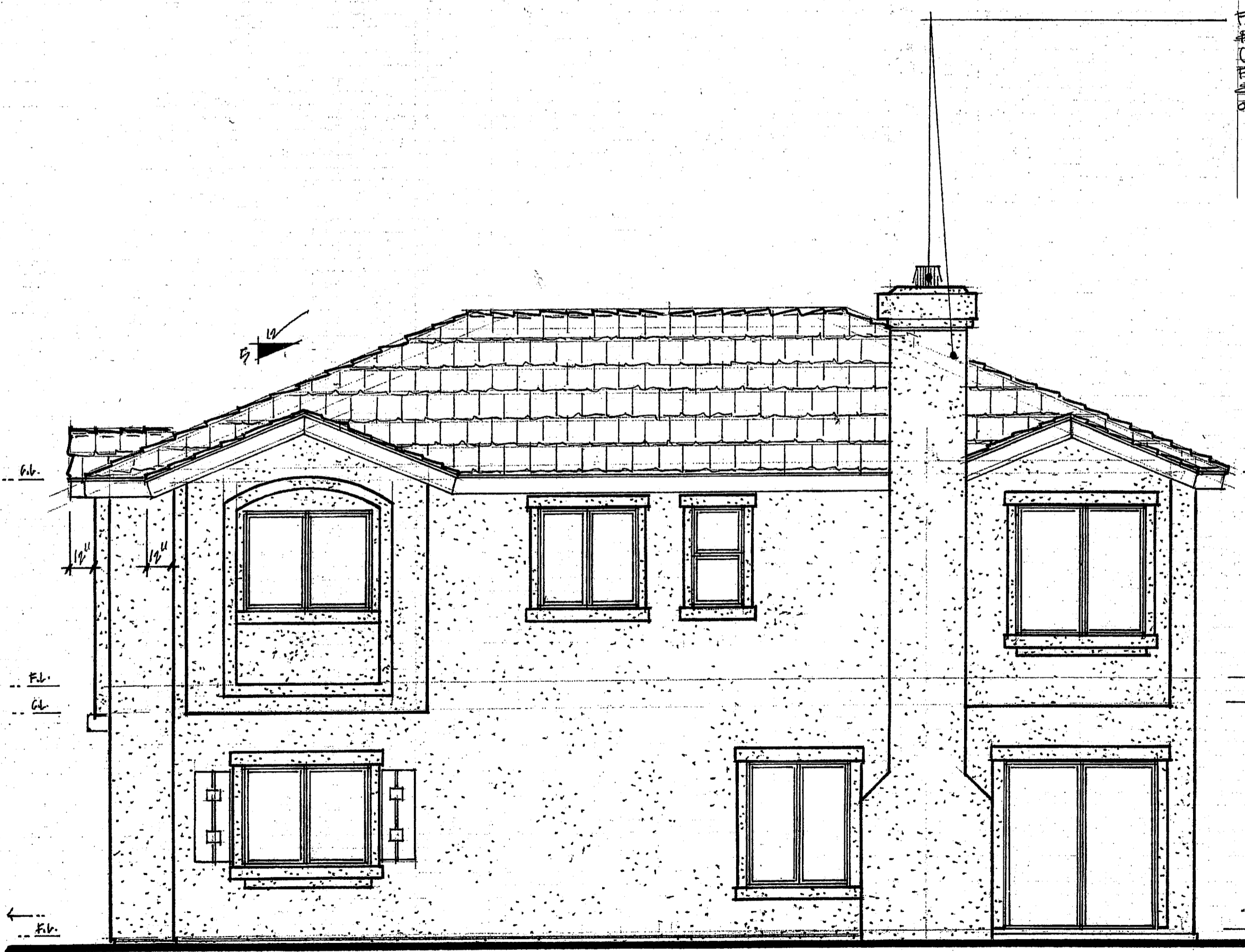


RIGHT SIDE & FRONT ELEVATIONS
SCALE: 1/4" = 1'-0"

EMERGENCY SHUT-OFF SWITCH W/
PUSH BUTTON (TYP. SHUT-OFF)
STONE VENUE
EX-3568

FINISH GRADE TO SLOPE
EDGES TO MATCH FROM SHEDDING
#16 GAGES - 1/2" DIA. - 1/2" DIA.
FRONT & REAR TO READING
PLANS BY OTHER

FIREPLACE CHIMNEY W/ TYP. SHUT-OFF
#16 W/ SPARK ARRESTER, APPROVED & UL LISTED
(W/ 1/2" MIN. THK. & HAVING 12" PERFORATIONS
FOR AIRCRAFTING BURNING CARBON OR SPARKS
& INSTALLED TO THE VISIBLE FOR THE PURPOSES
OF MAINTENANCE & INSPECTION



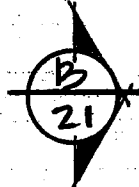
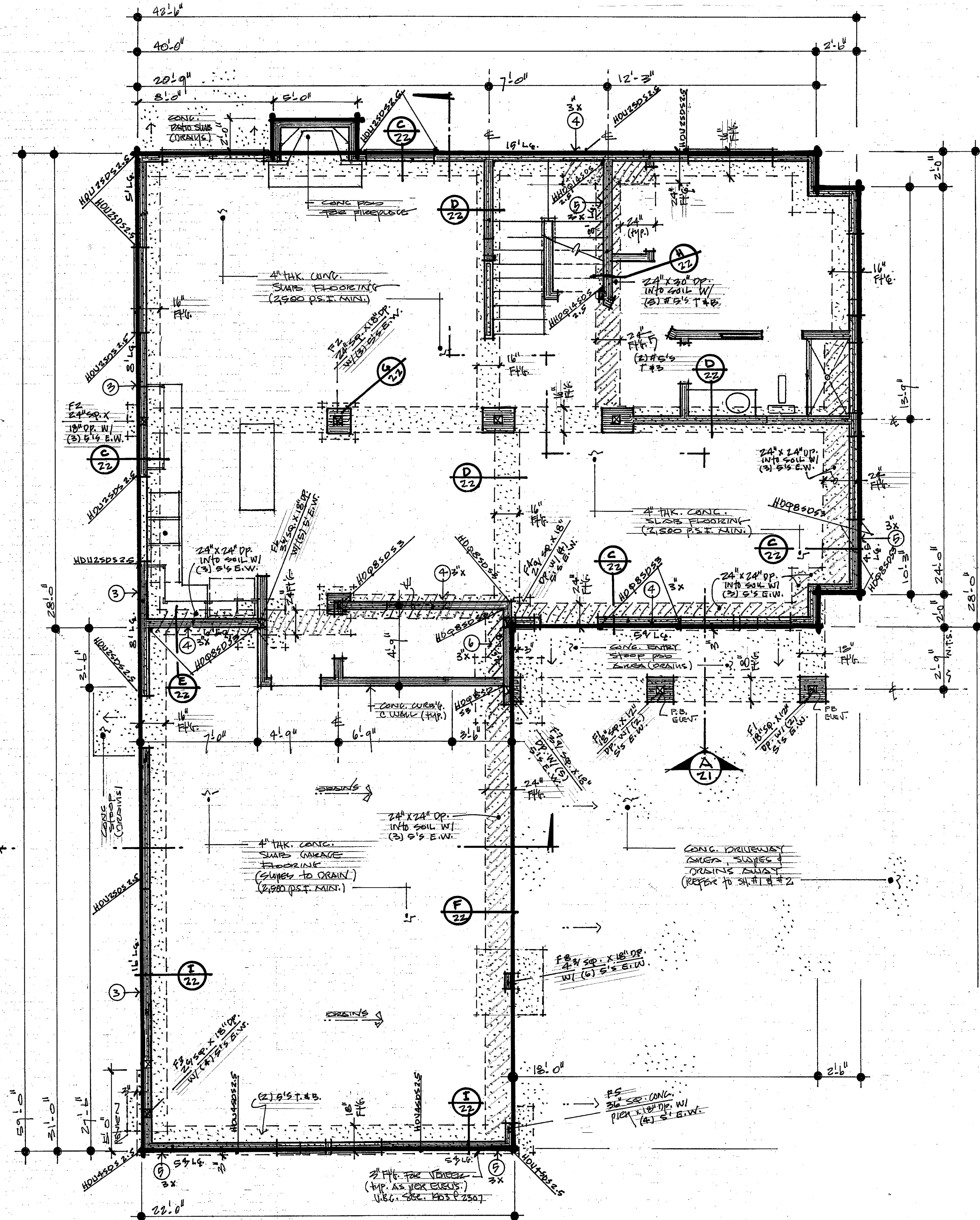
LEFT SIDE & REAR ELEVATIONS
SCALE: 1/4" = 1'-0"

ALL GLASS OR EQUAL OR OTHER TRANSPARENT OR
OPAQUE GLAZING MAT'N. & SKYLIGHTS SHALL BE
CONSTRUCTED OF TEMP. GLASS OR DRW. GLAZES
W/ INDOORS.
NO SKYLIGHTS WILL BE ALLOWED ON ROOF ASSEMBLIES
FACING ANY HAZ. VEG. IF APPLIES.



lot # 6

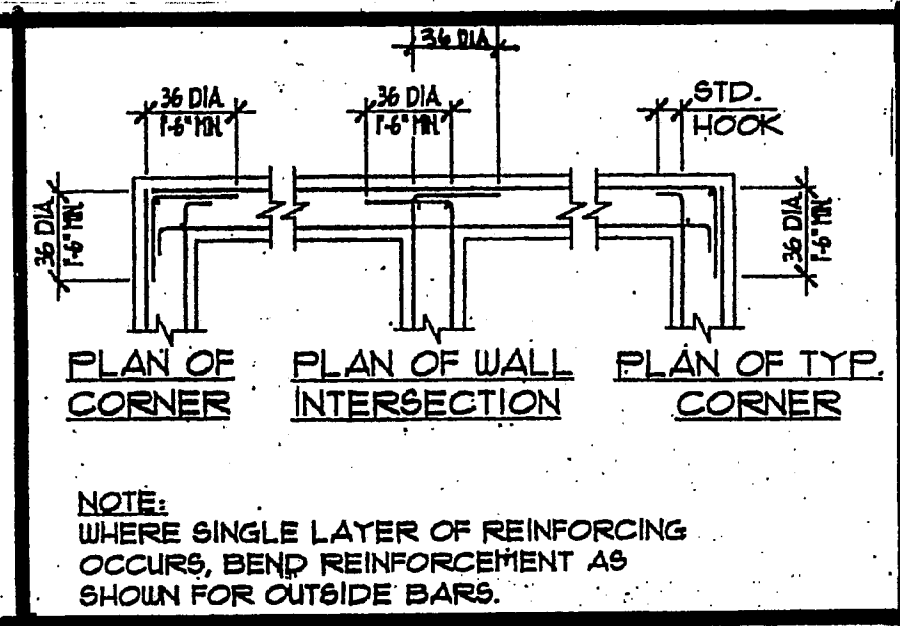
MS/ML



PLAN VIEW - 1st FUR.

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

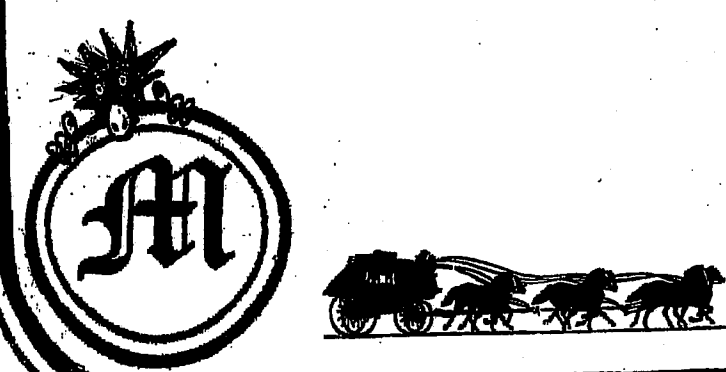
- REFER TO SHEET #S-2, FOR FOUNDATION NOTES, AS APPLIES.
- HOWEVER TO BE TIED IN PLACE, PRIOR TO FOUNDATION INSPECTION & SHOT PINS NOT TO BE USED IN VIEW OF ANCHOR BOLTS AT SUBS EDGES.
- SOIL REPORT BY: KESTER, INC., 1384 POINSETTIA AVE., VISTA, CALIF. 92081 & REFER TO GRADING PLAN BY OTHERS, FOR WORK TO BE DONE.



NOTE:
WHERE SINGLE LAYER OF REINFORCING OCCURS, BEND REINFORCEMENT AS SHOWN FOR OUTSIDE BARS.

The soils engineer recommended that he/she review the foundation excavations. Note on the foundation plan that "Prior to the contractor requesting a Building Department foundation inspection, the soils engineer shall advise the building official in writing that:

- a) The building pad was prepared in accordance with the soils report.
- b) The utility trenches have been properly backfilled and compacted, and
- c) The foundation excavations, the soils expansive characteristics and bearing capacity conform to the soils report."



not #5

MS/MS

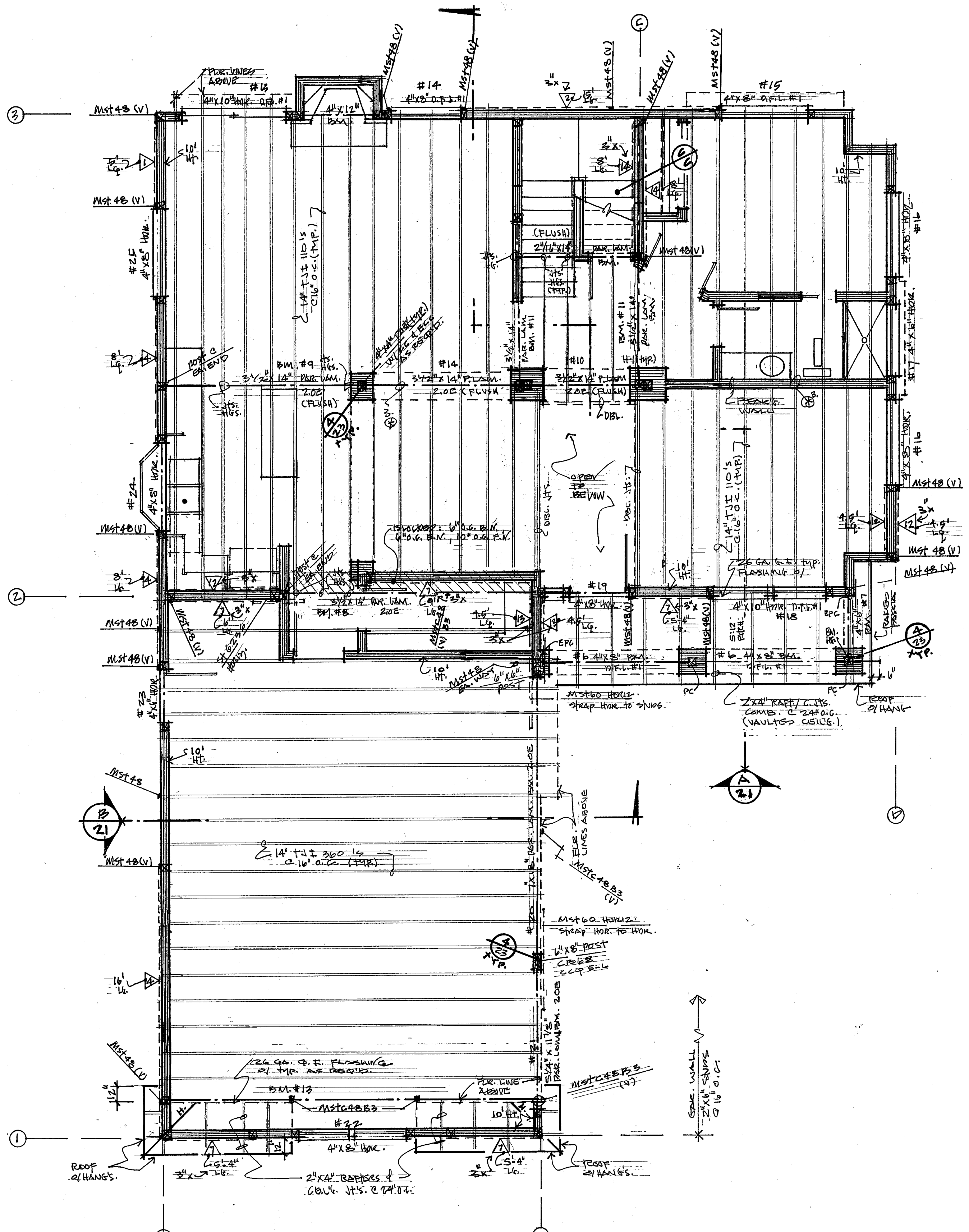
DATE 6-16

DESIGN & CONSTRUCTION
MILLS

FOR: BFI DEVELOPMENT
9444 PRIESTLY CR., SUITE 103
CARLSBAD, CALIF. 92008
FANELLI/CEL # 760-271-8466

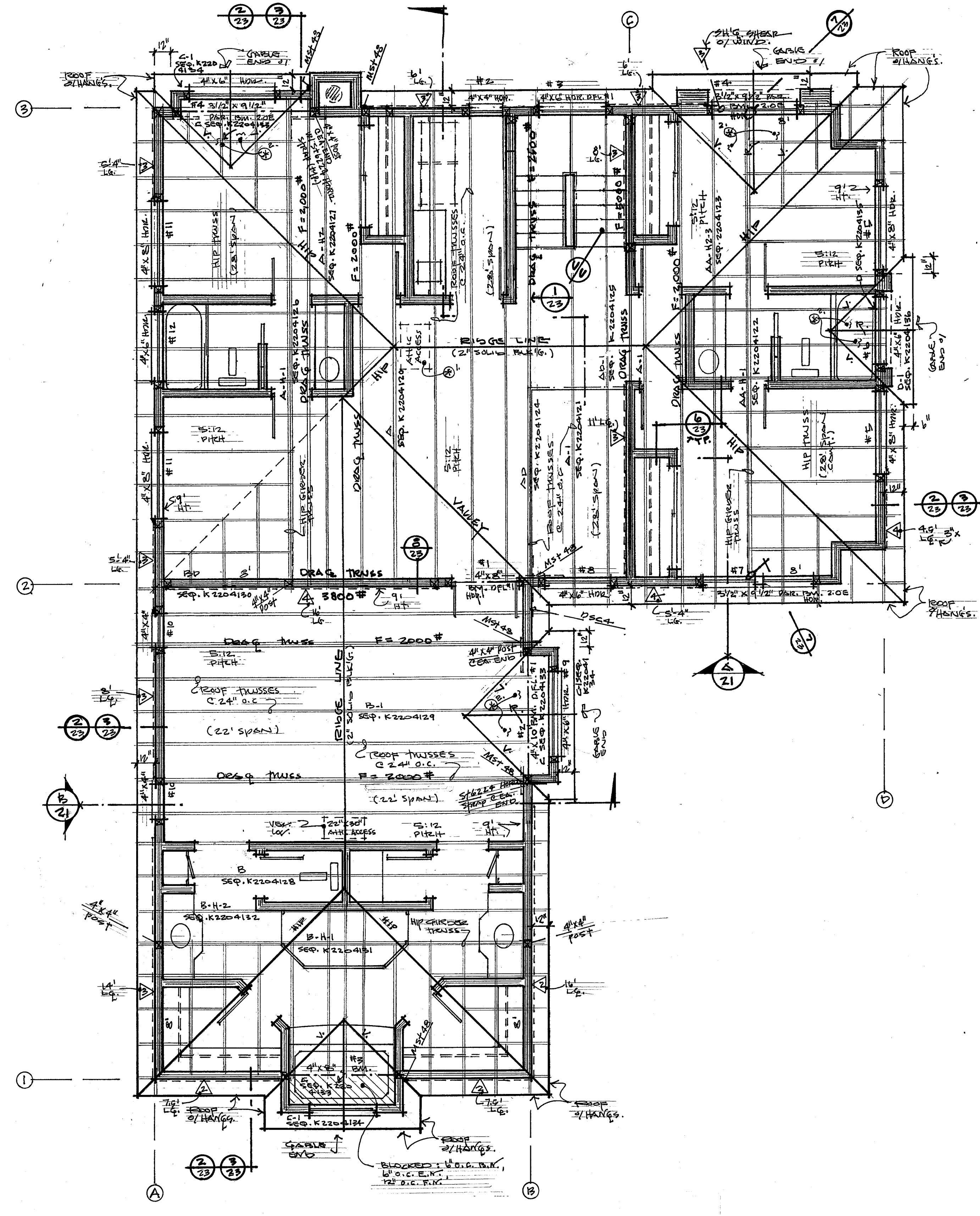
FRAMING PLANS

SHEET 20 OF 26



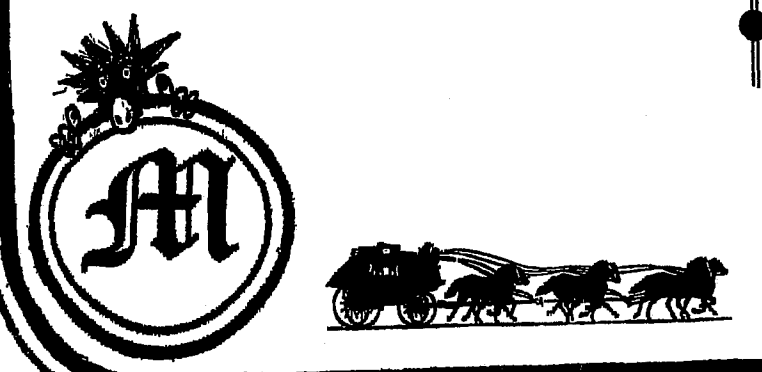
PLAN VIEW - 1ST FLOOR

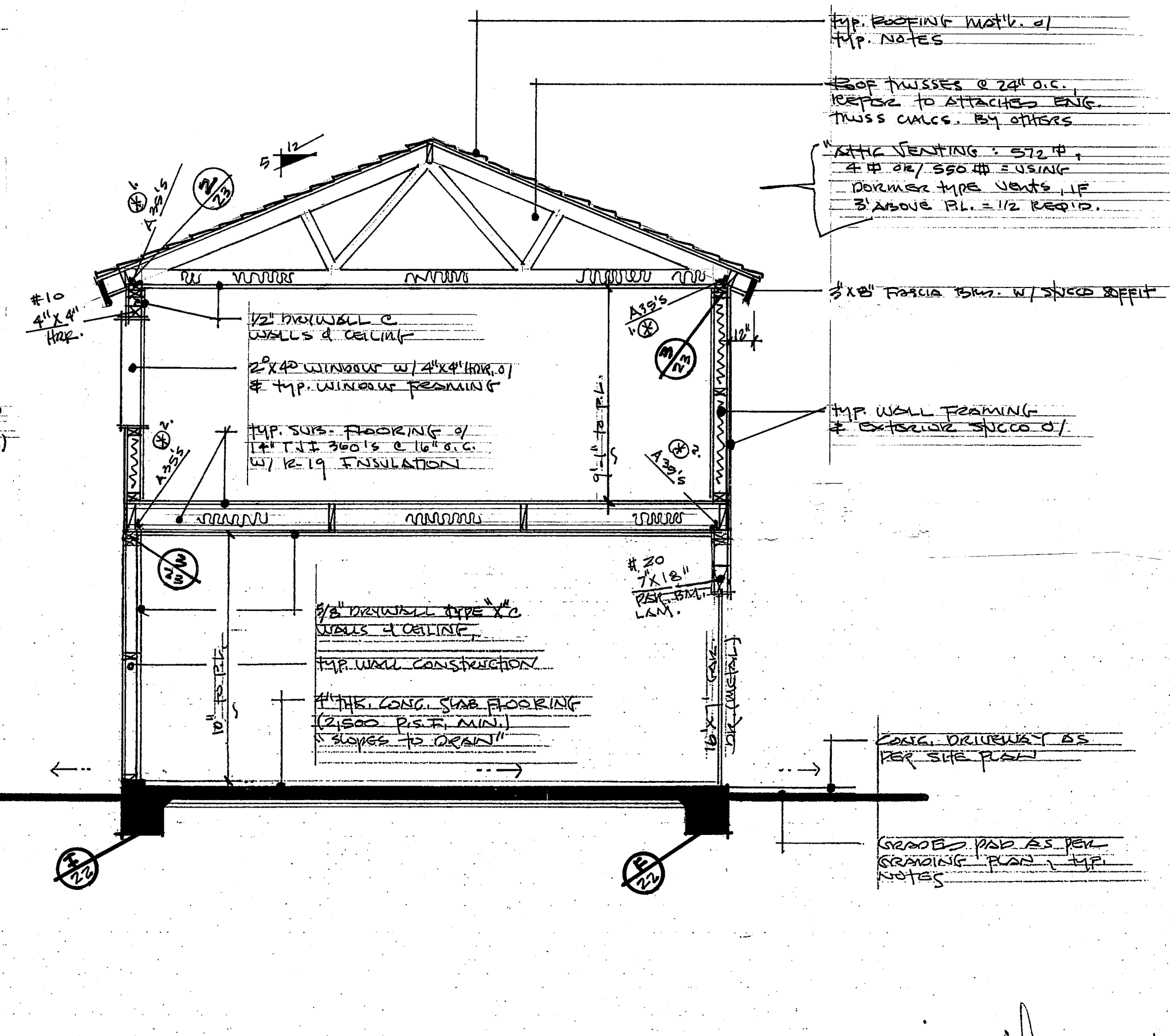
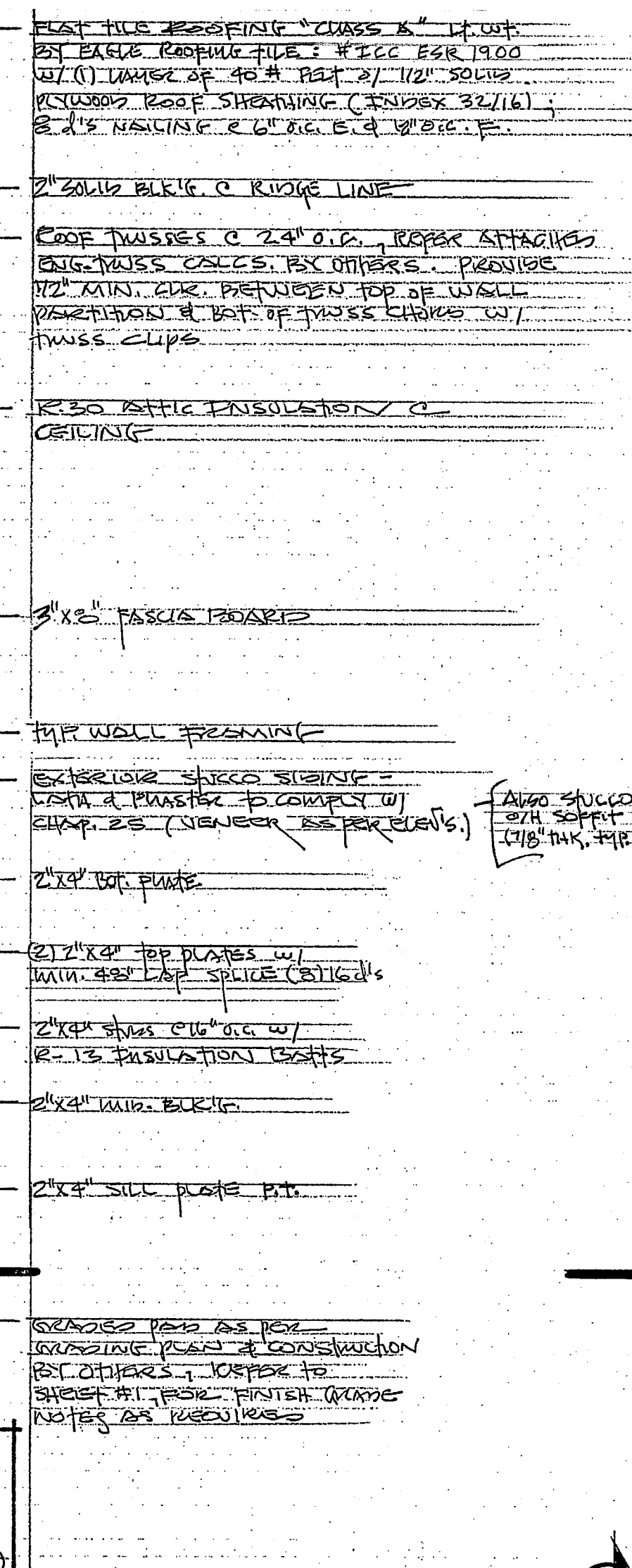
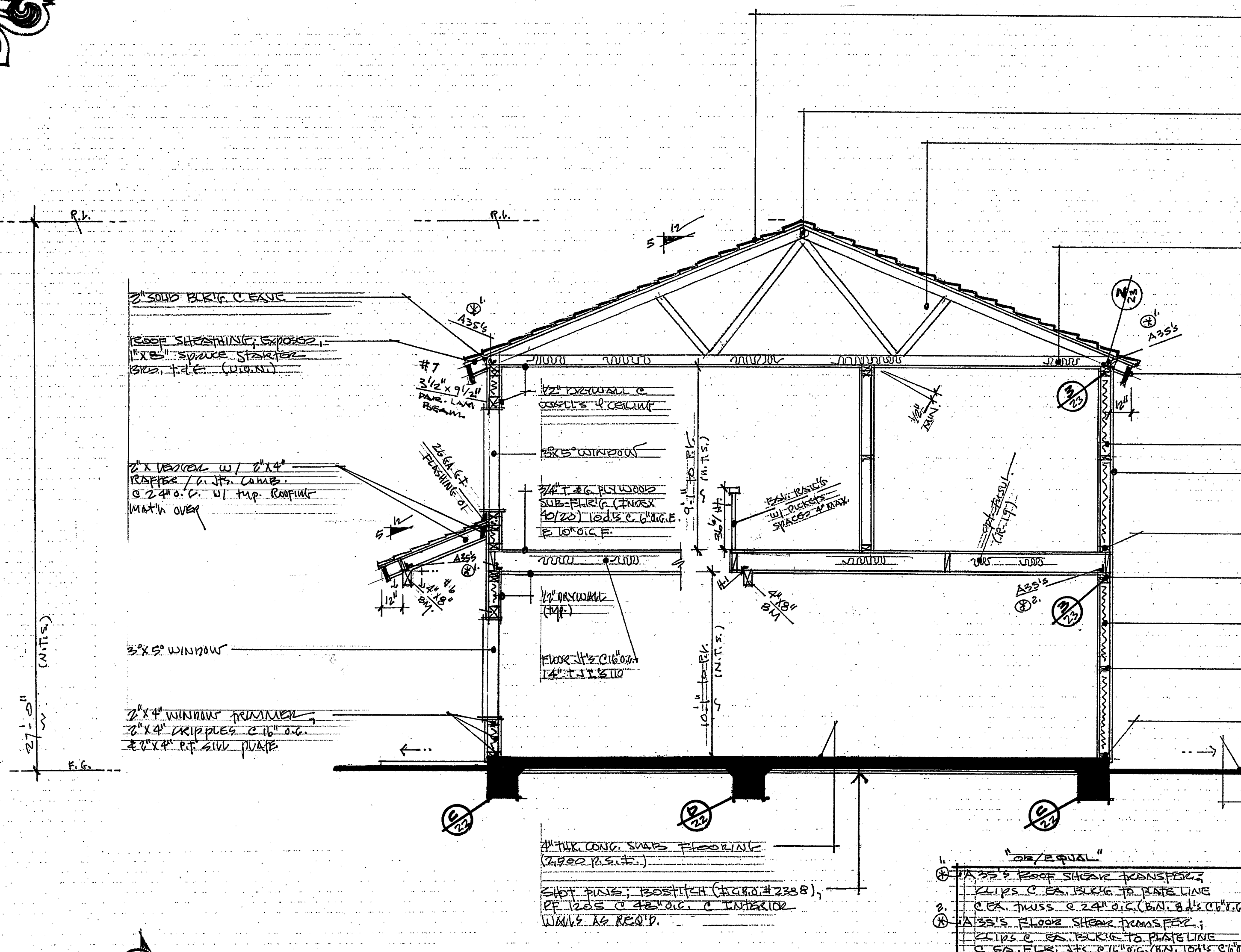
- SCALE: 1/4" = 1'-0"
- REFER TO SHEET # ; FOR FRAMING NOTES, AS APPLIES.
 - FLOOR JOIST # 1 TO HAVE 2" MIN. VAP.
 - ALL JOISTMANS REQUIRE 4" X 4" POST (U.O.N.);



PLAN VIEW - 2ND FLOOR

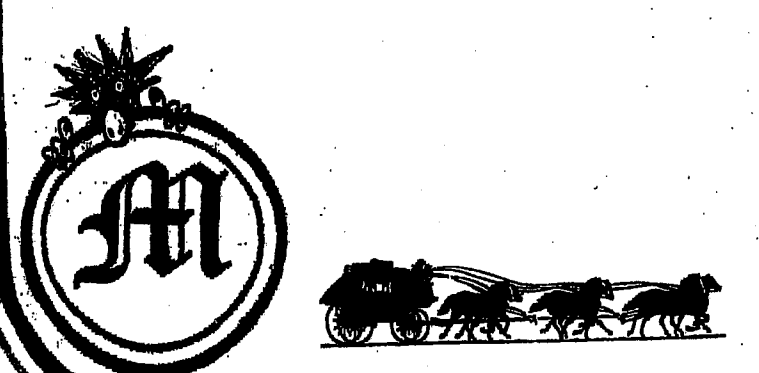
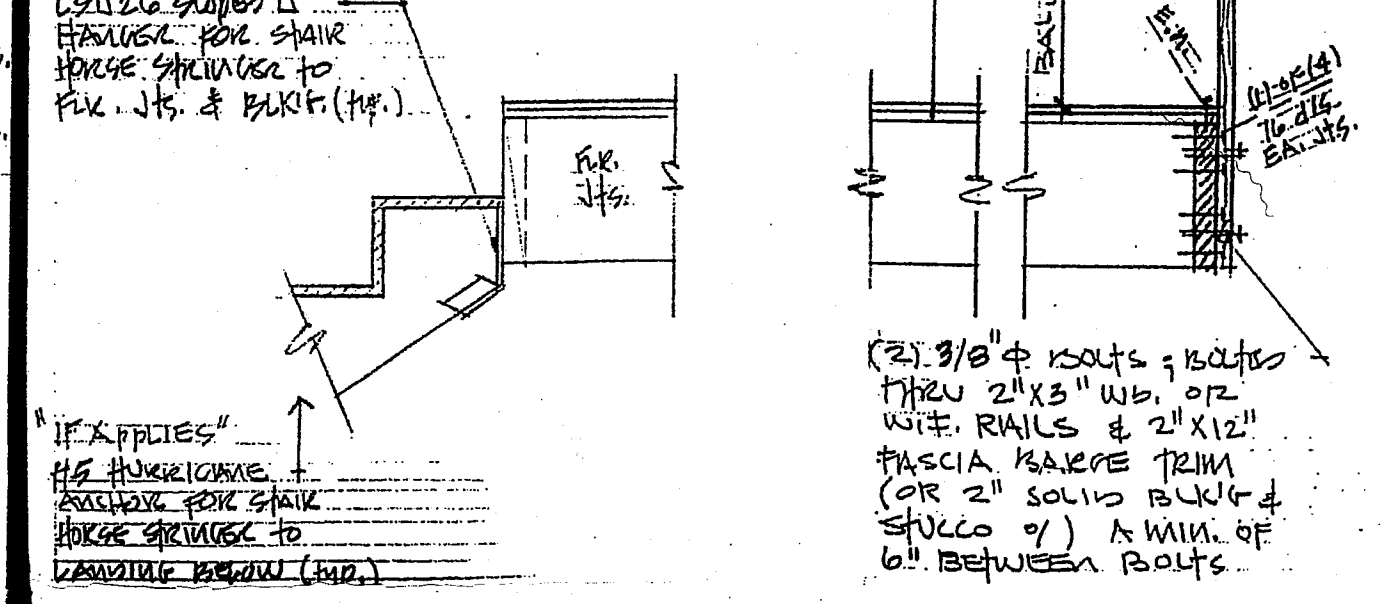
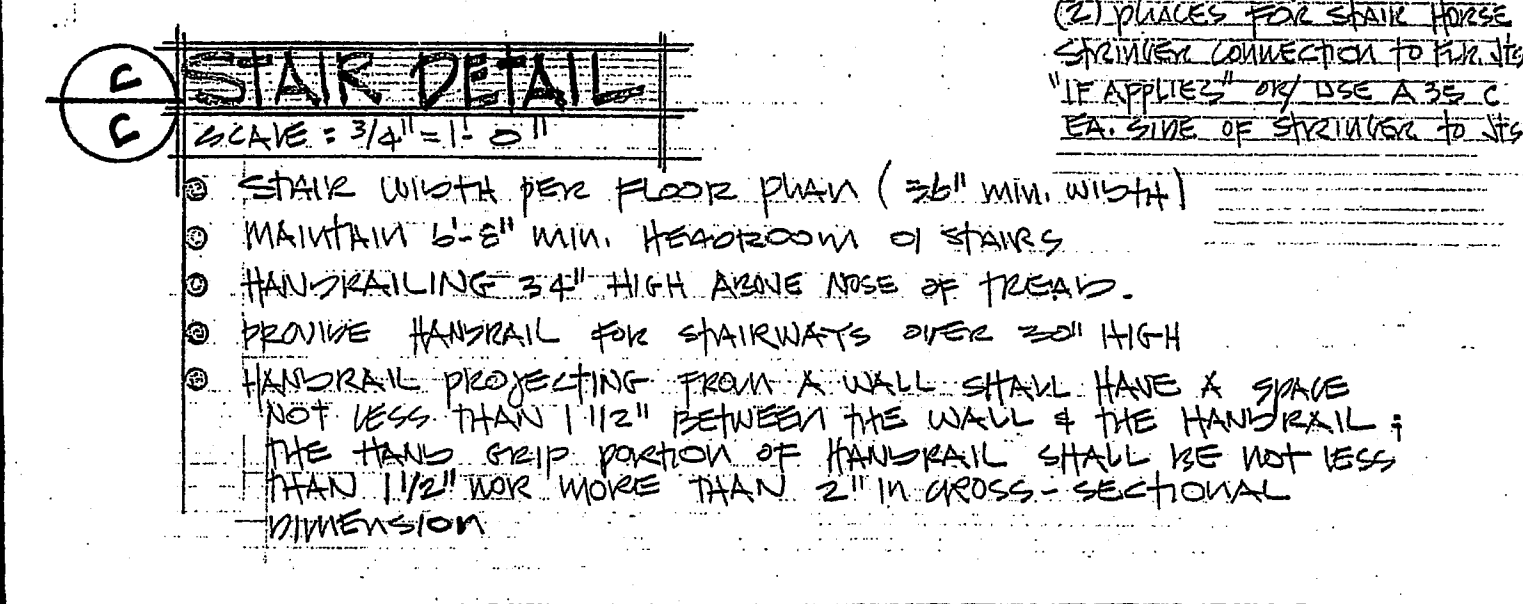
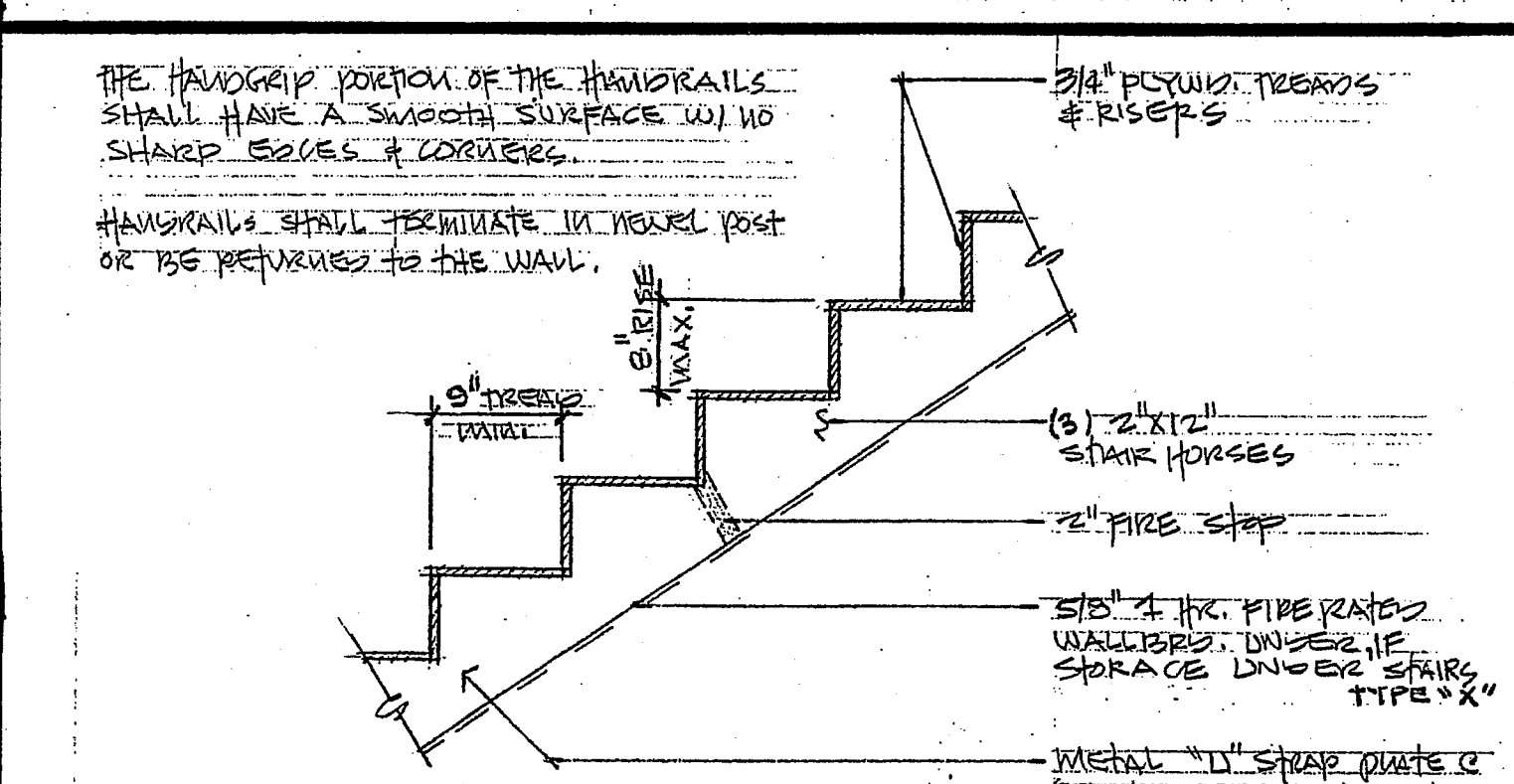
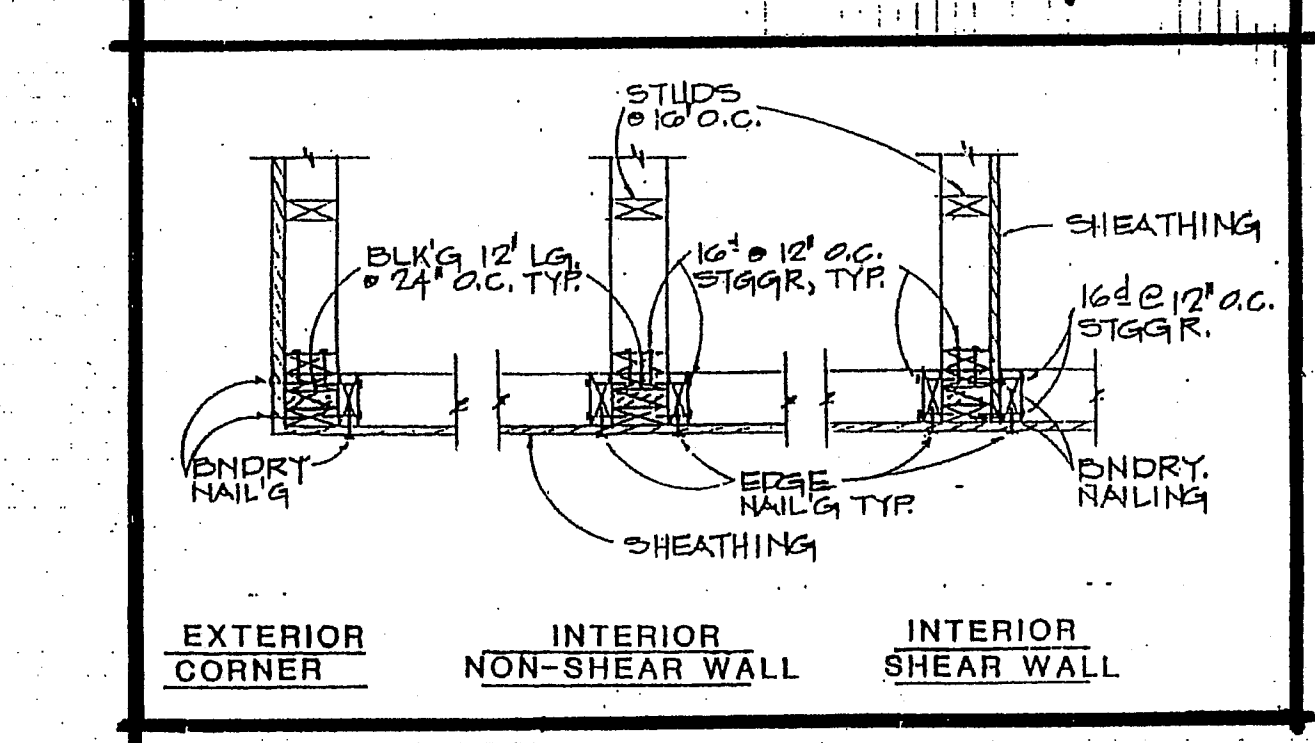
- SCALE: 1/4" = 1'-0"
- REFER TO SHEET # ; FOR FRAMING NOTES, AS APPLIES.
 - ATTIC ACCESS: 22" X 30" MIN. IF EQUIPMENT CAN BE REMOVED THROUGH SUCH OPENING, OR 30" X 30" TO BE USED FOR 2" PROVIDE UNOBSTRUCTED PASSAGEWAYS, 24" WIDE X 22" LG. MAX. TO FURNACE AS REQUIRED; SEE MECH. NOTES ON SH.#'S.
 - GAUF. FRAMING FILL OF ROOF TRUSSES W/ ROOF SHEATHING AS PER FRAMING PLAN & ELEVATIONS; THP. 5/12 PITCH
2" X 6" RIDGE BOARDS
2" X 6" VALLEY, LAID FLAT
2" X 4" RAFTERS @ 24" O.C.





REFER TO SHEET #1 FOR PREVIOUS NOTES
REFER TO SHEET #20 FOR DETAILS

Per UBC Section 2343.6, provide the following note on the plans if trusses are used: "Each truss shall be legibly branded, marked or otherwise have permanently affixed thereto the following information located within 2 feet of the center of the span on the face of the bottom chord:
a) Identity of the company manufacturing the truss.
b) The design load.
c) The spacing of the trusses."



Lot #5

MS/ML

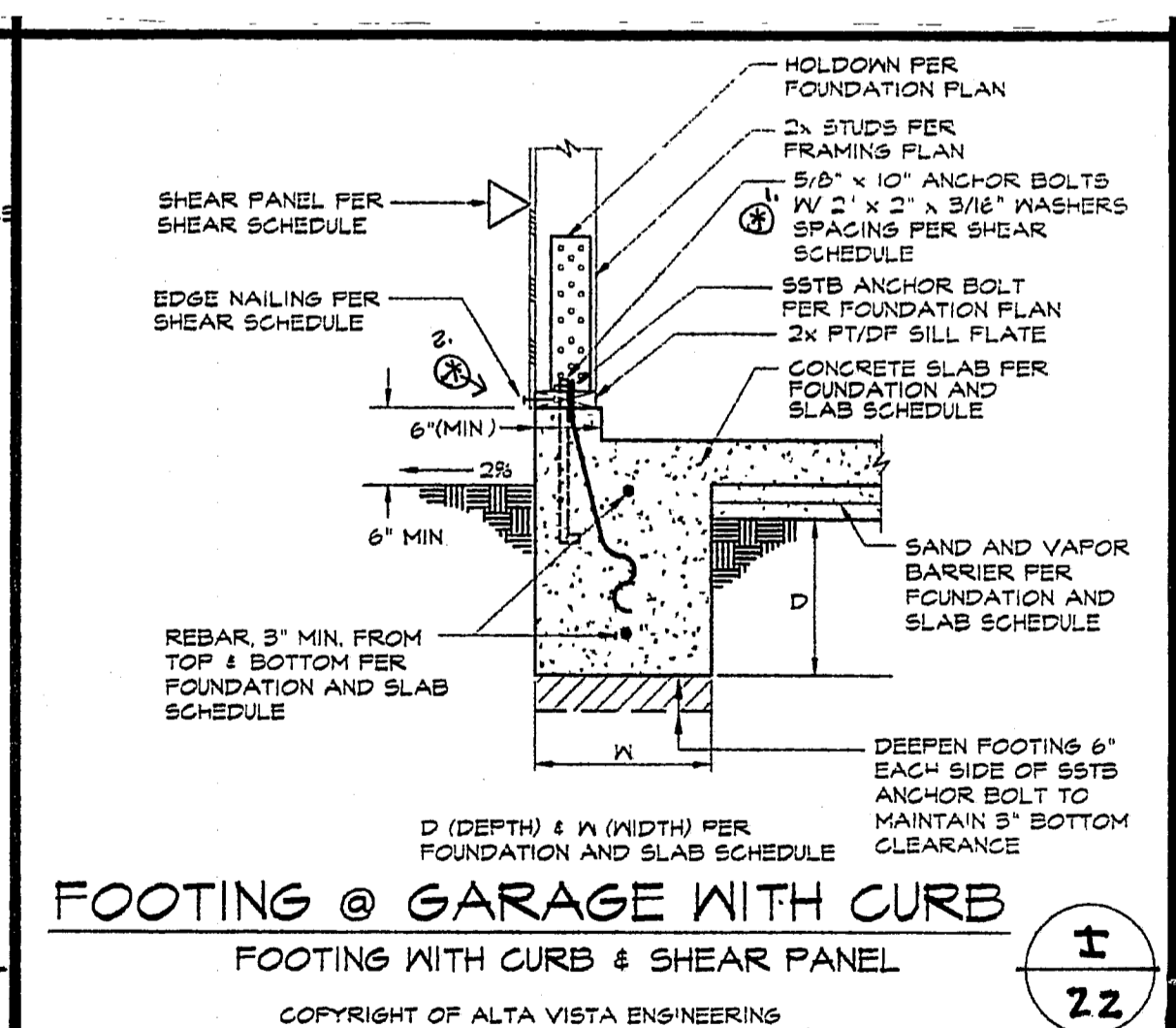
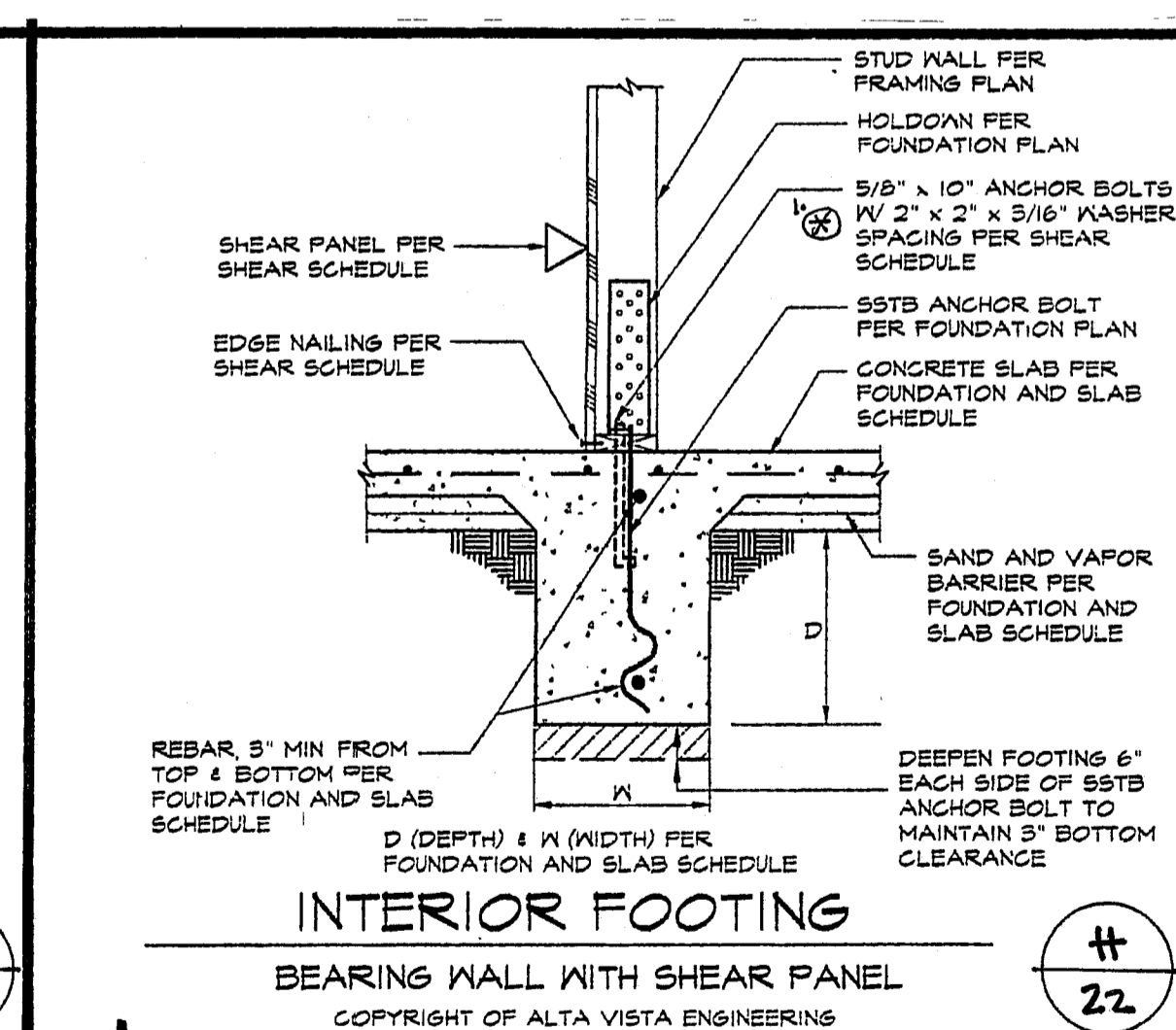
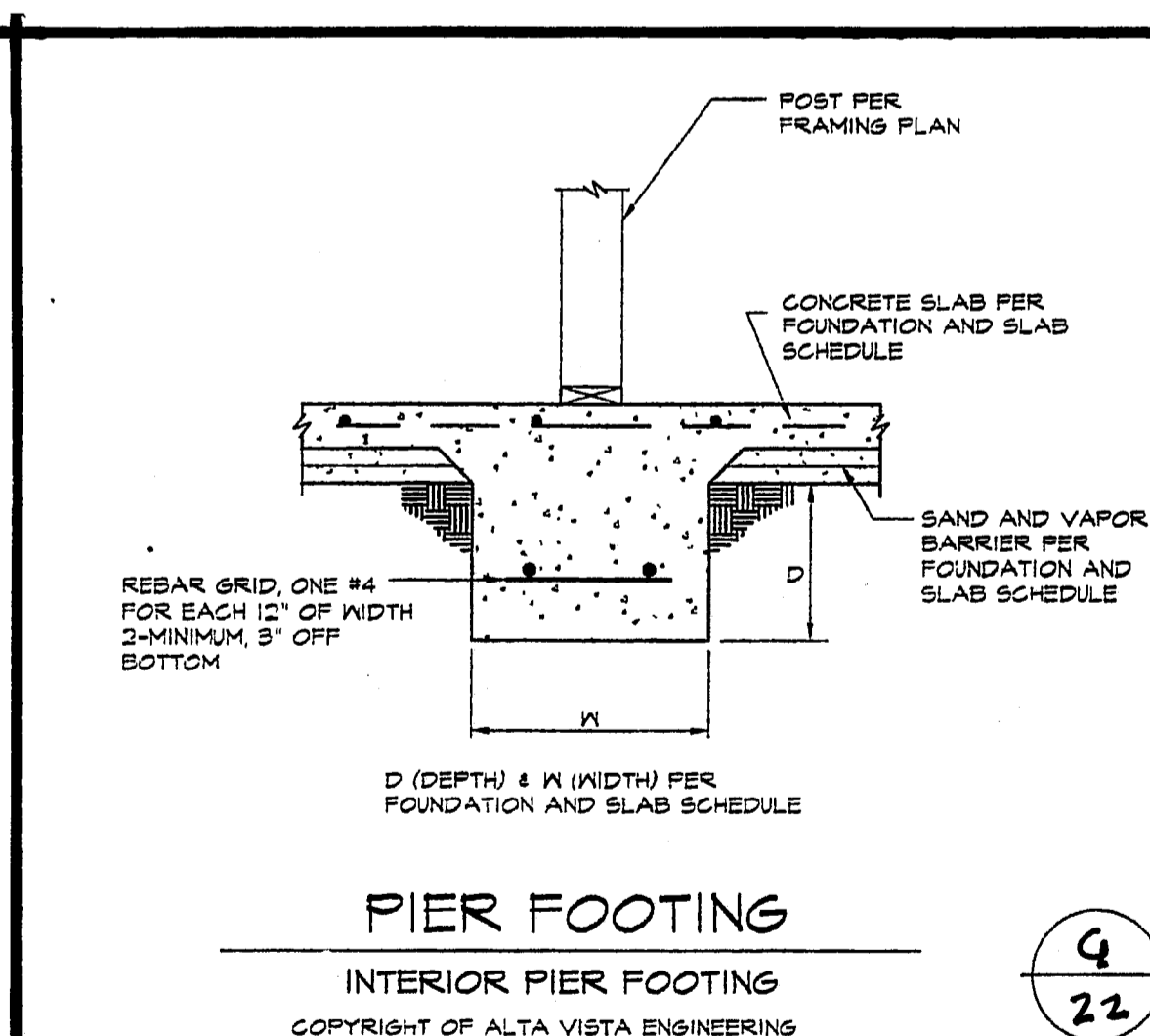
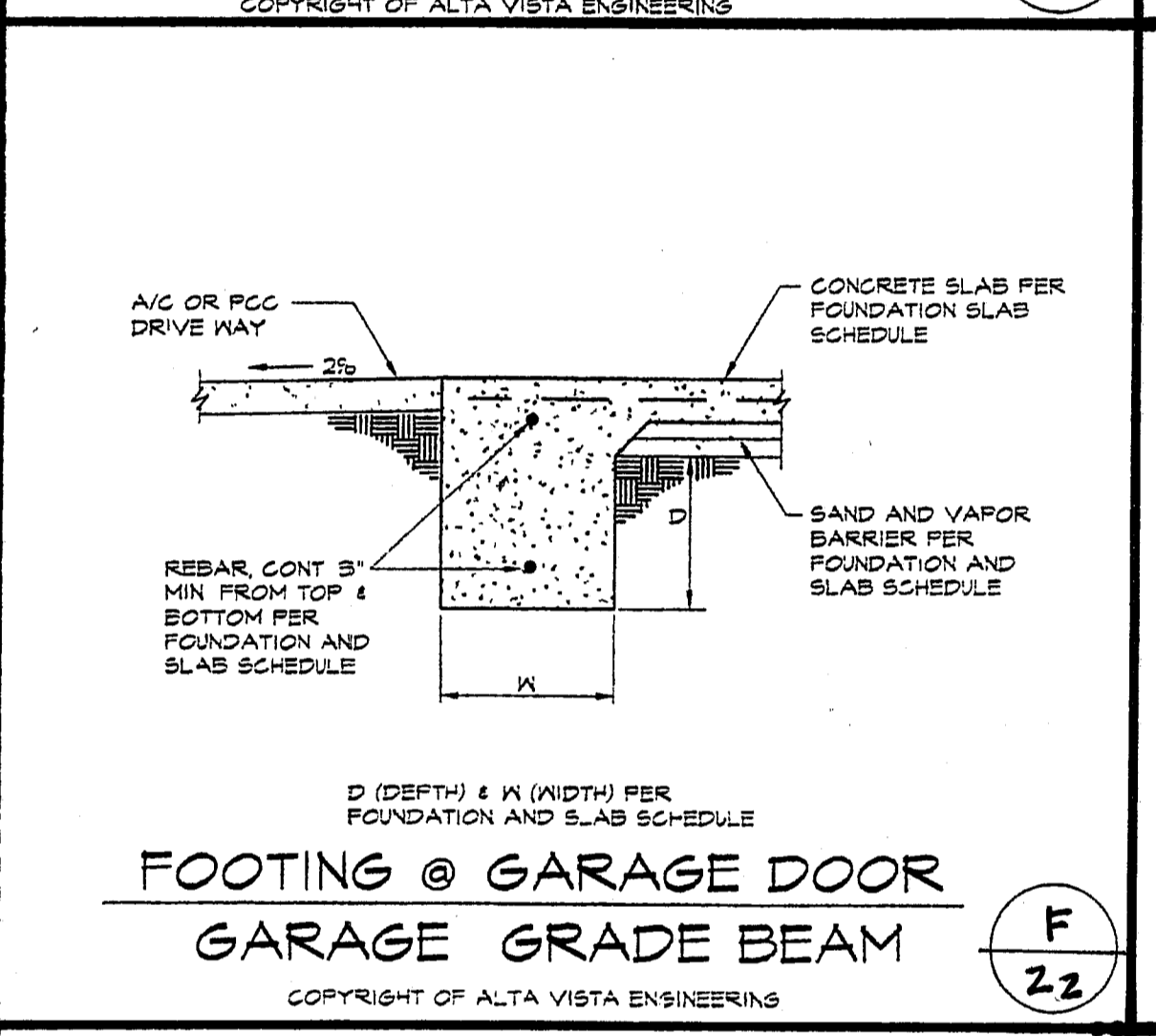
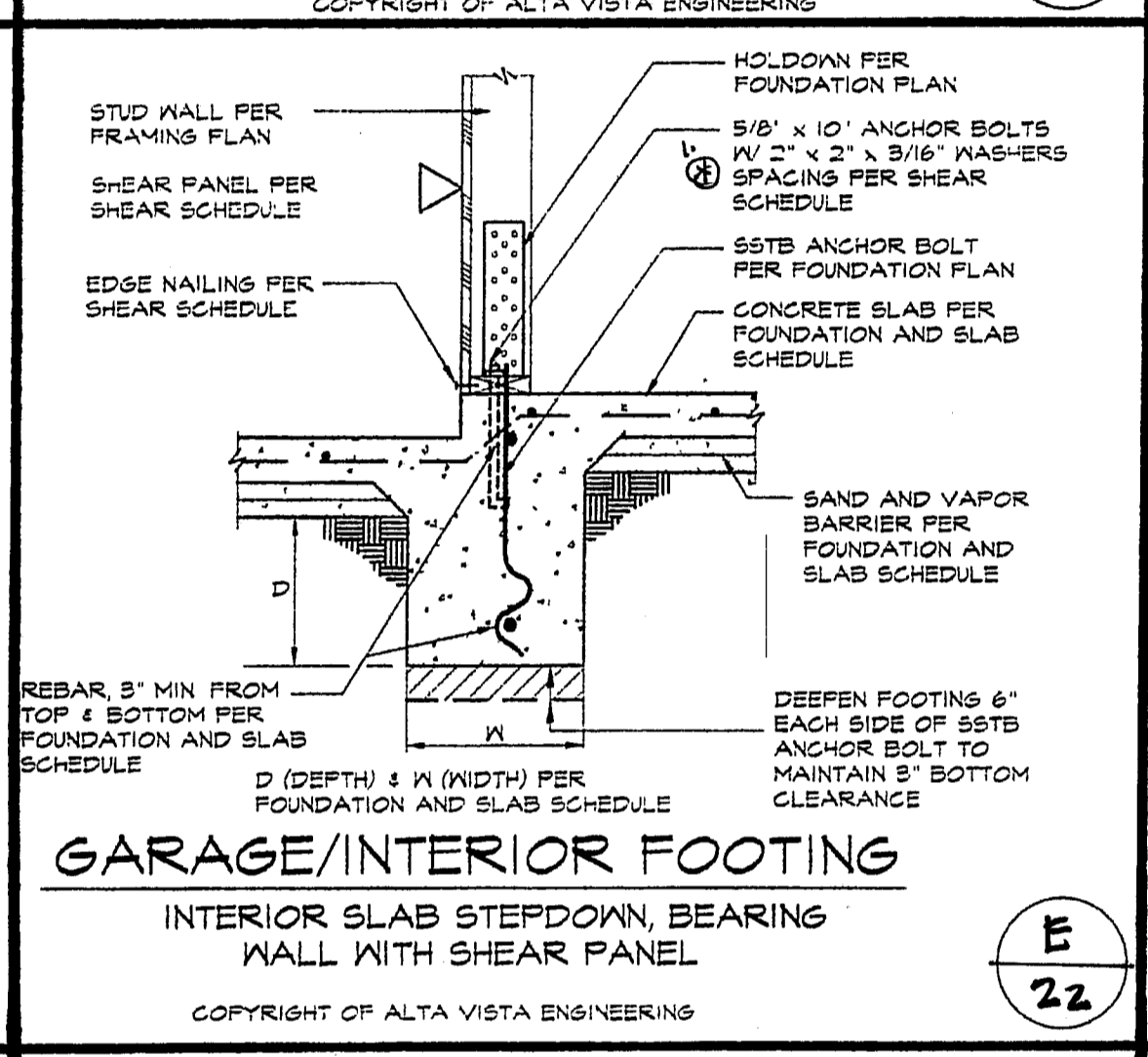
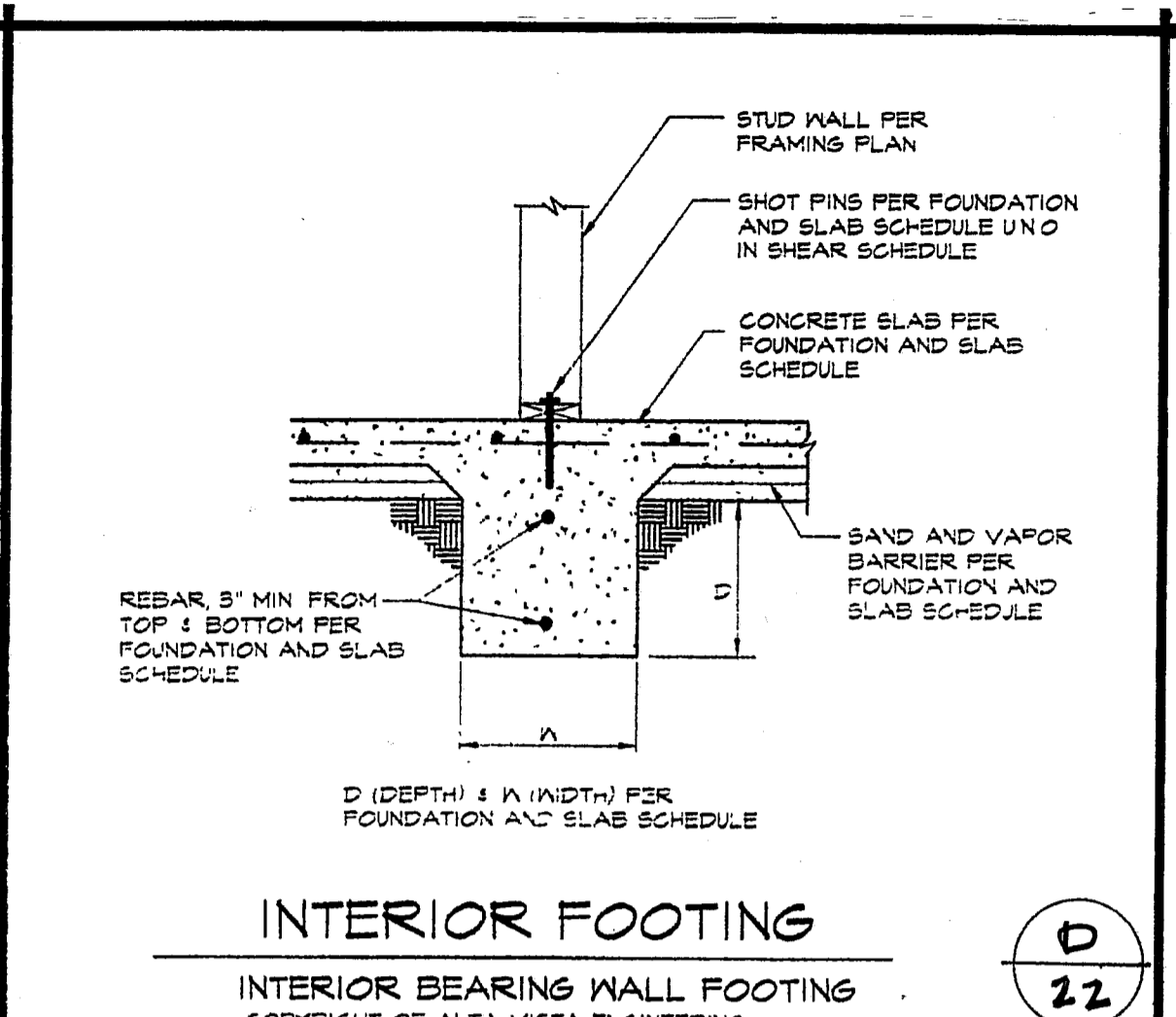
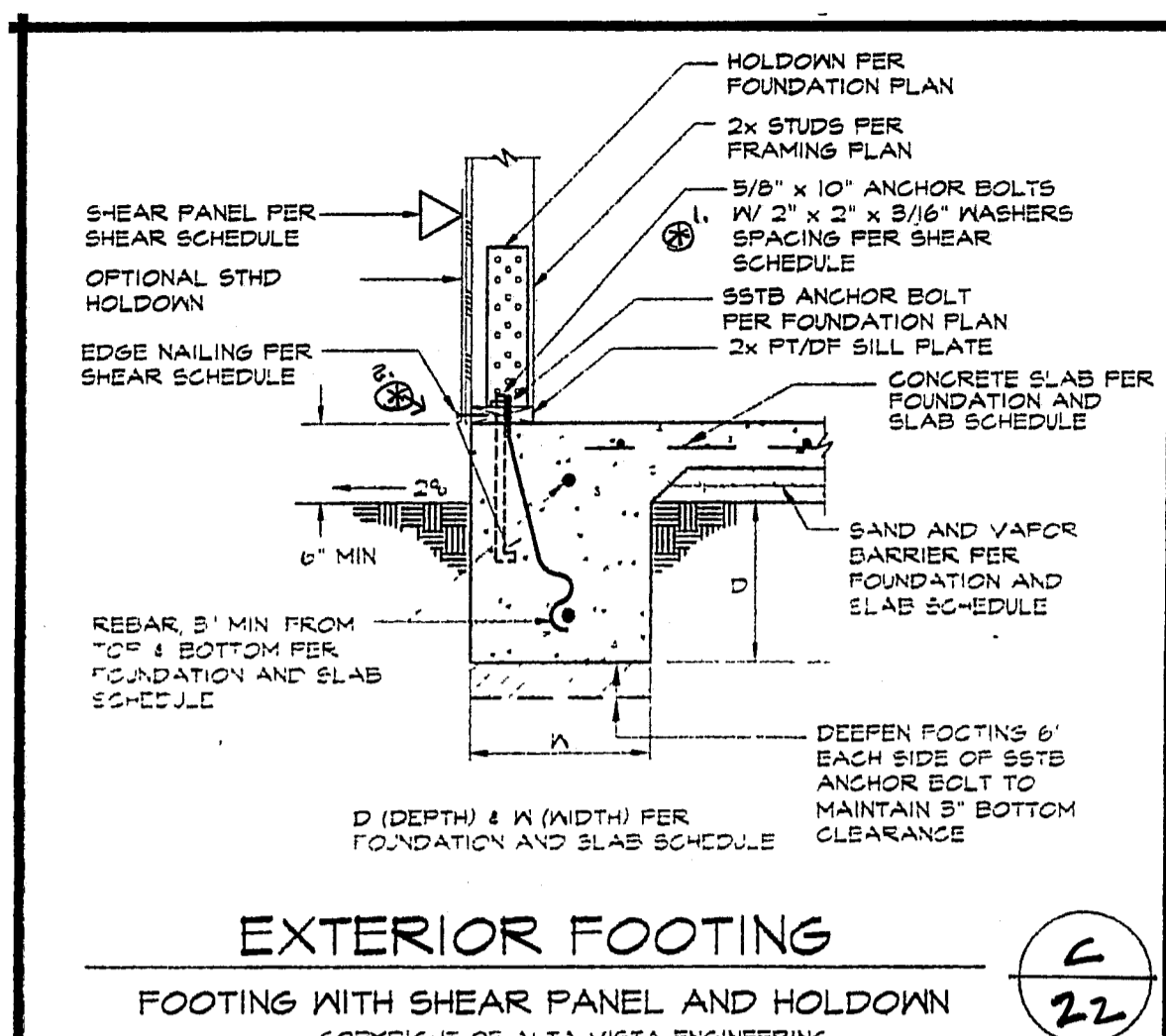
DATE
6-2-16

DESIGN & CONSTRUCTION
760-699-4071
(SUNBELT STATES)
MILLS

FOR: BFI DEVELOPMENT
5146 PRIESTLY DR., SUITE 103
PASADENA, CALIF. 91109 FAX: 760-311-8466

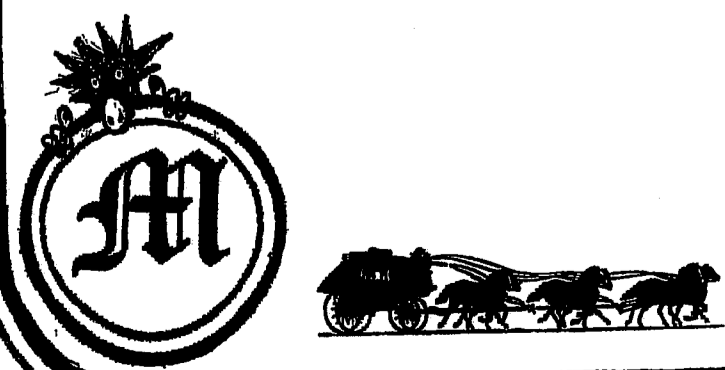
FOUNDATION
DETAILS

SHEET
22
OF
26

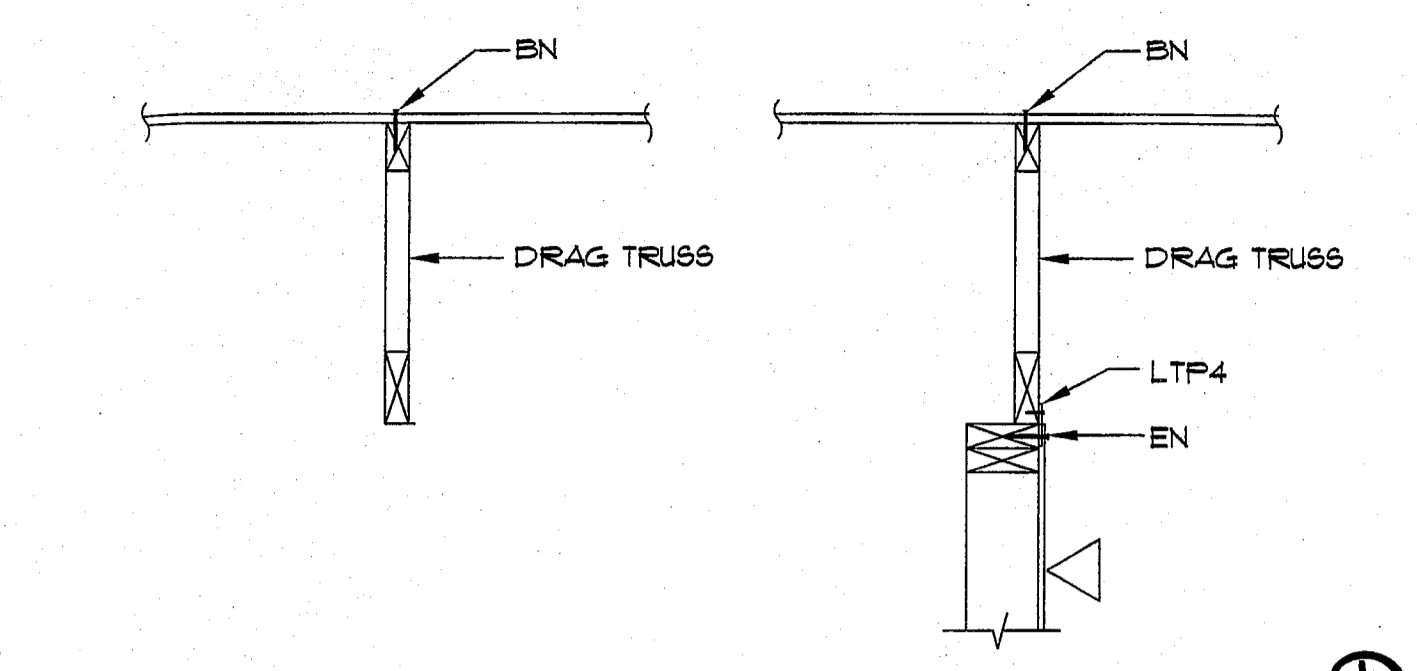


① ANCHOR BOLTS: 5/8\"/>

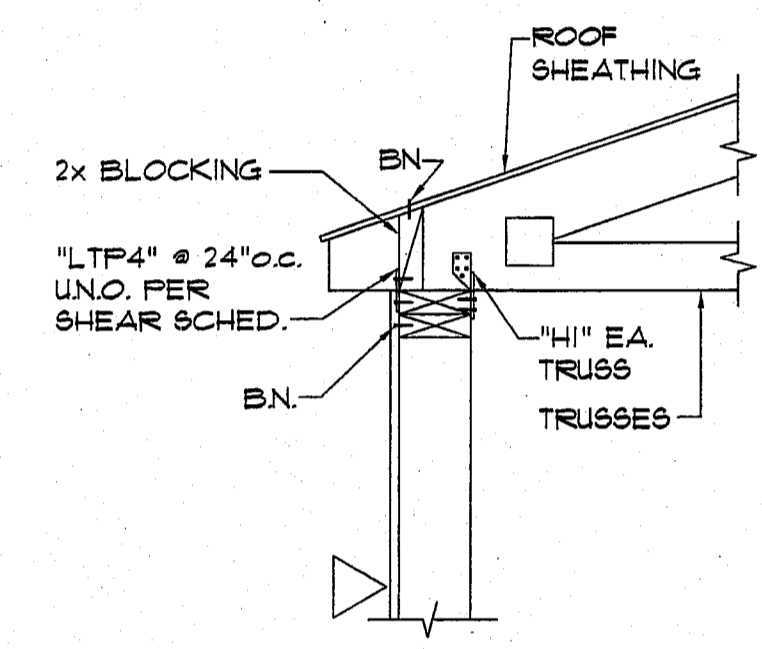
② PROVIDE 4 WOOD STUDS AT ROOF OF FINISH WALLS, 2\"/>



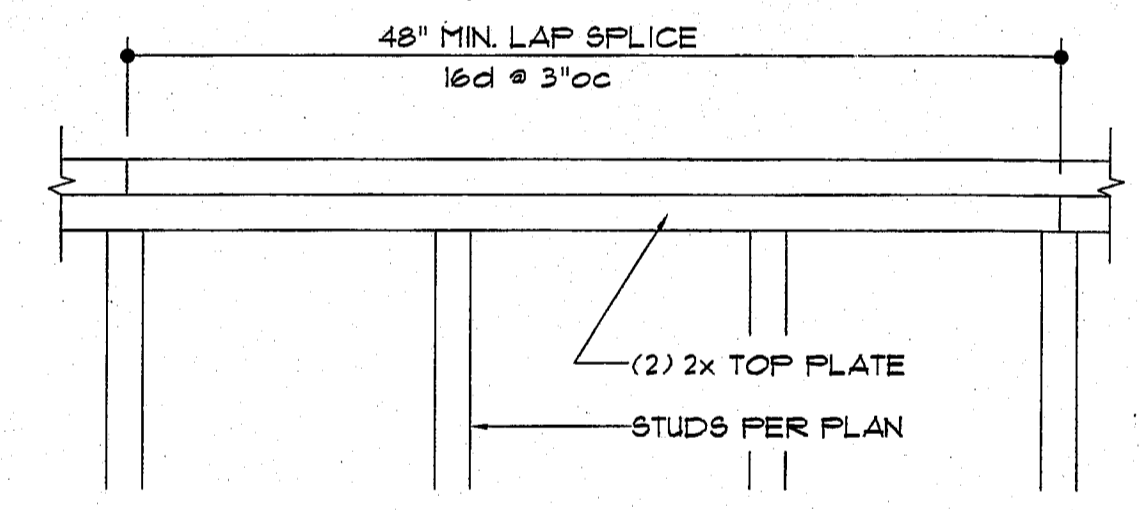
MILLS



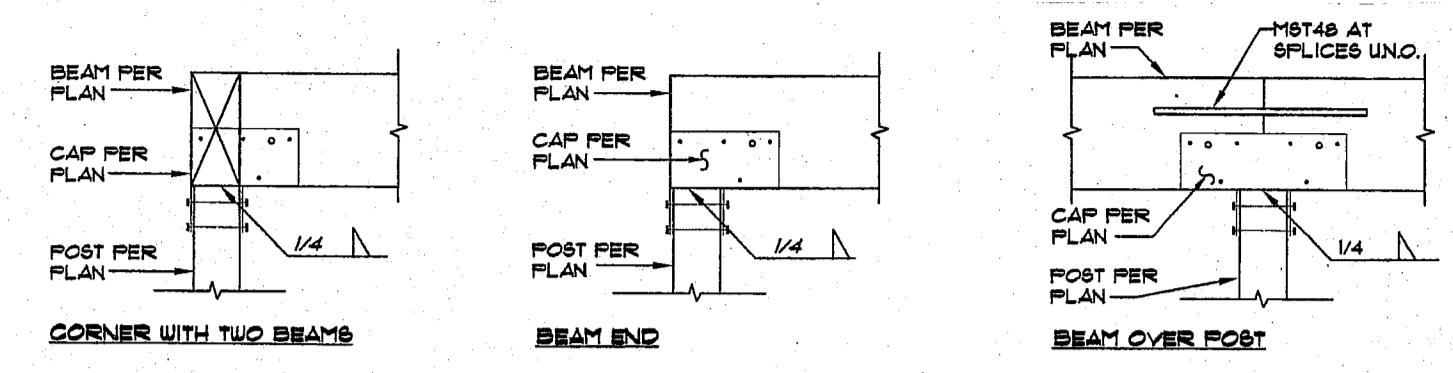
SHEAR TRANSFER SCALE 3/4" = 1'-0"



SHEAR TRANSFER SCALE NTS

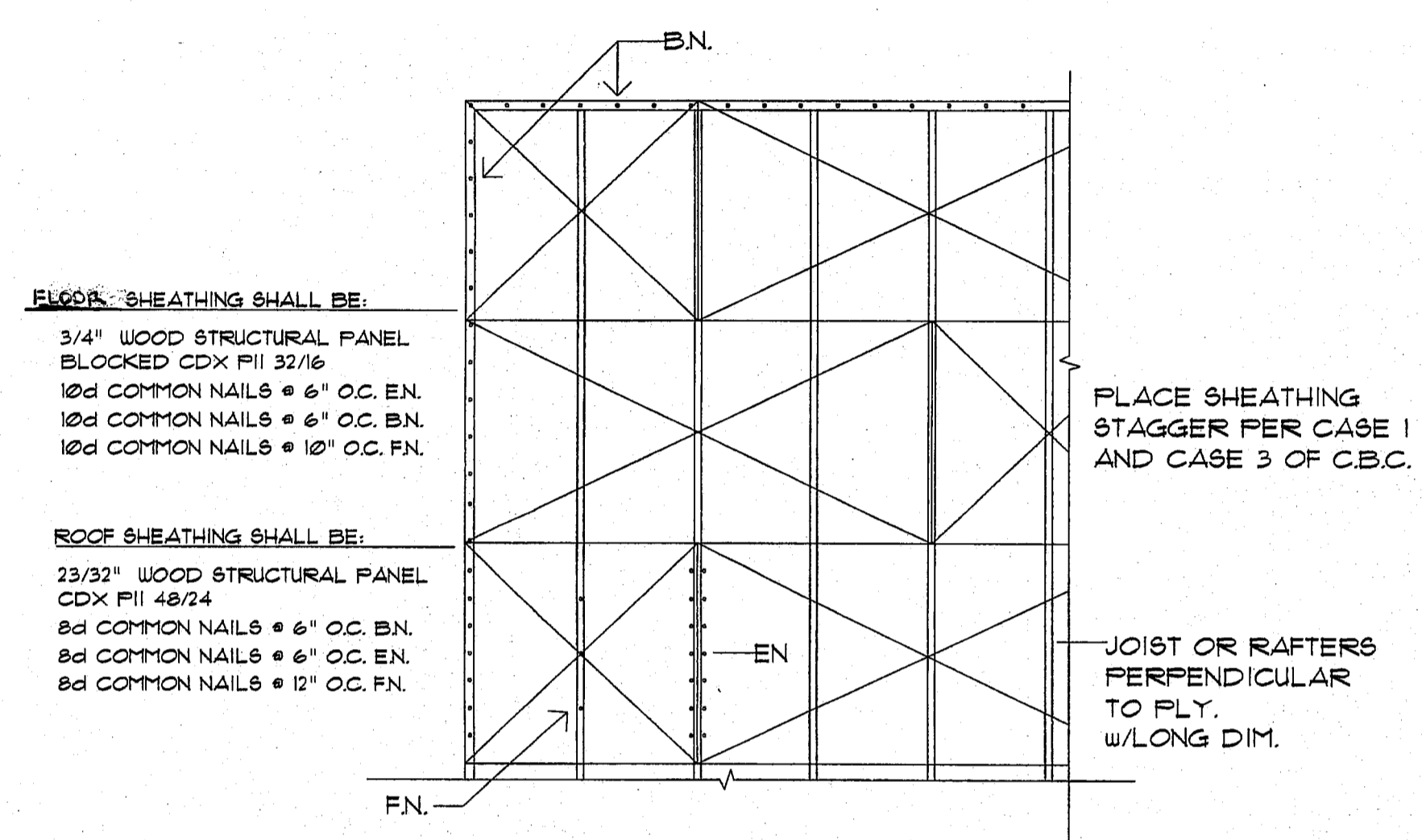


TYPICAL CHORD SPLICE SCALE NTS



BEAM	POST	CAP (CORNER)	CAP (END)	CAP (BEAM OVER)
4x	4x4	ECCL44	EPCL44	PC44
6x	6x6	ECCL66	EPCL66	PC66
3-1/8 GLB	4x4	ECCL44	EPCL44	CC44
5-1/8 GLB	6x6	ECCL66	EPCL66	CC66

POST / BEAM CONNECTION SCALE NTS



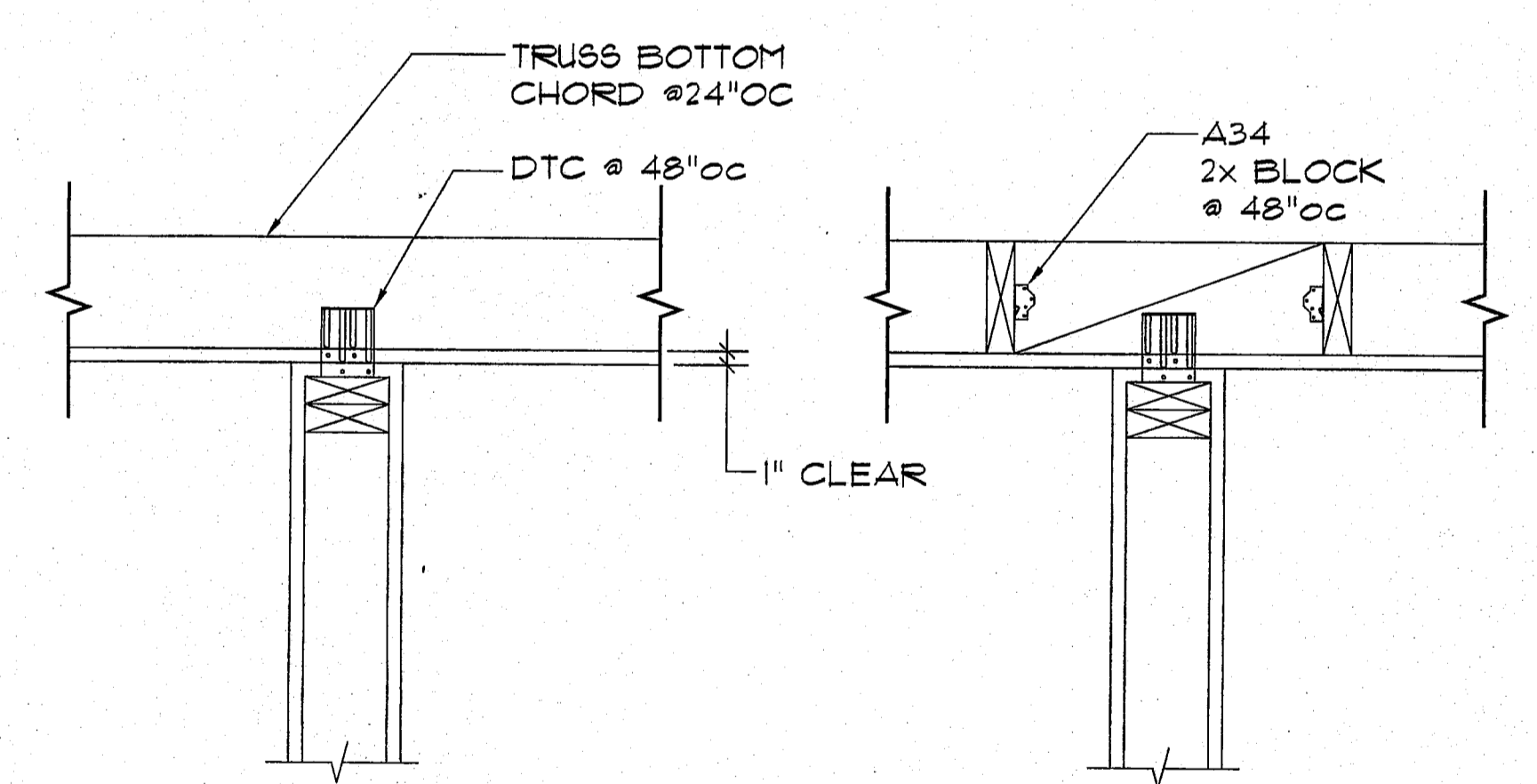
FLOOR SHEATHING SHALL BE:
3/4" WOOD STRUCTURAL PANEL
BLOCKED CDX PII 32/16
10d COMMON NAILS @ 6" O.C. EN.
10d COMMON NAILS @ 6" O.C. BN.
10d COMMON NAILS @ 10" O.C. FN.

ROOF SHEATHING SHALL BE:
23/32" WOOD STRUCTURAL PANEL
CDX PII 48/24
8d COMMON NAILS @ 6" O.C. BN.
8d COMMON NAILS @ 6" O.C. EN.
8d COMMON NAILS @ 12" O.C. FN.

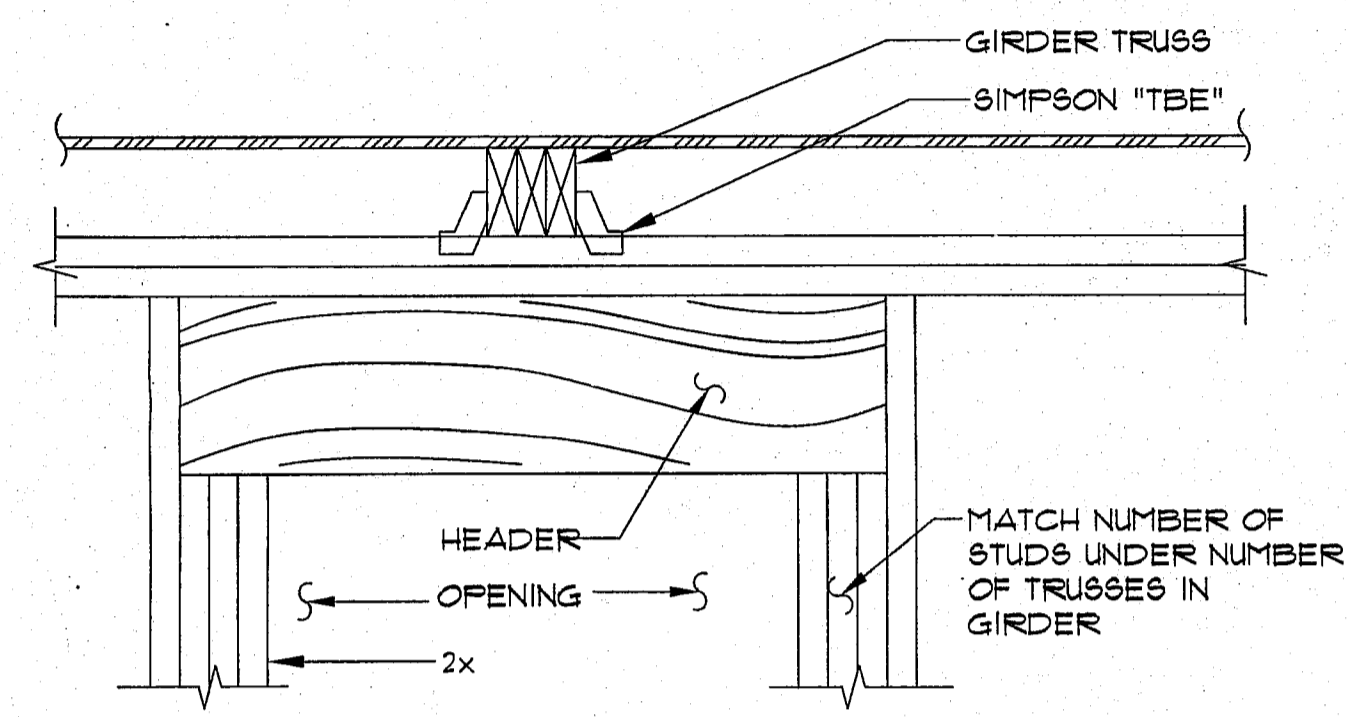
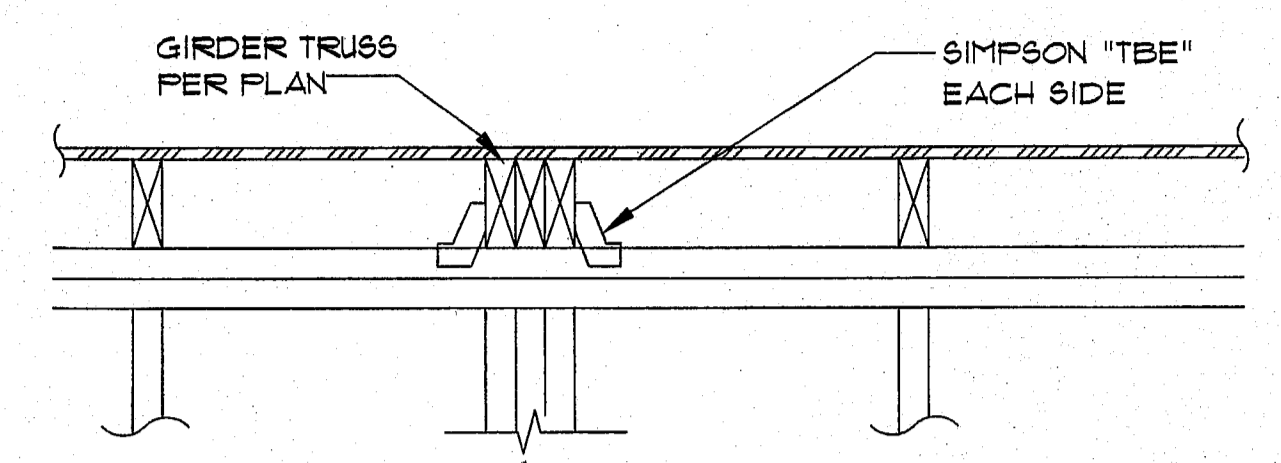
PLACE SHEATHING STAGGER PER CASE 1 AND CASE 3 OF C.B.C.

JOIST OR RAFTERS PERPENDICULAR TO FLY. w/ LONG DIM.

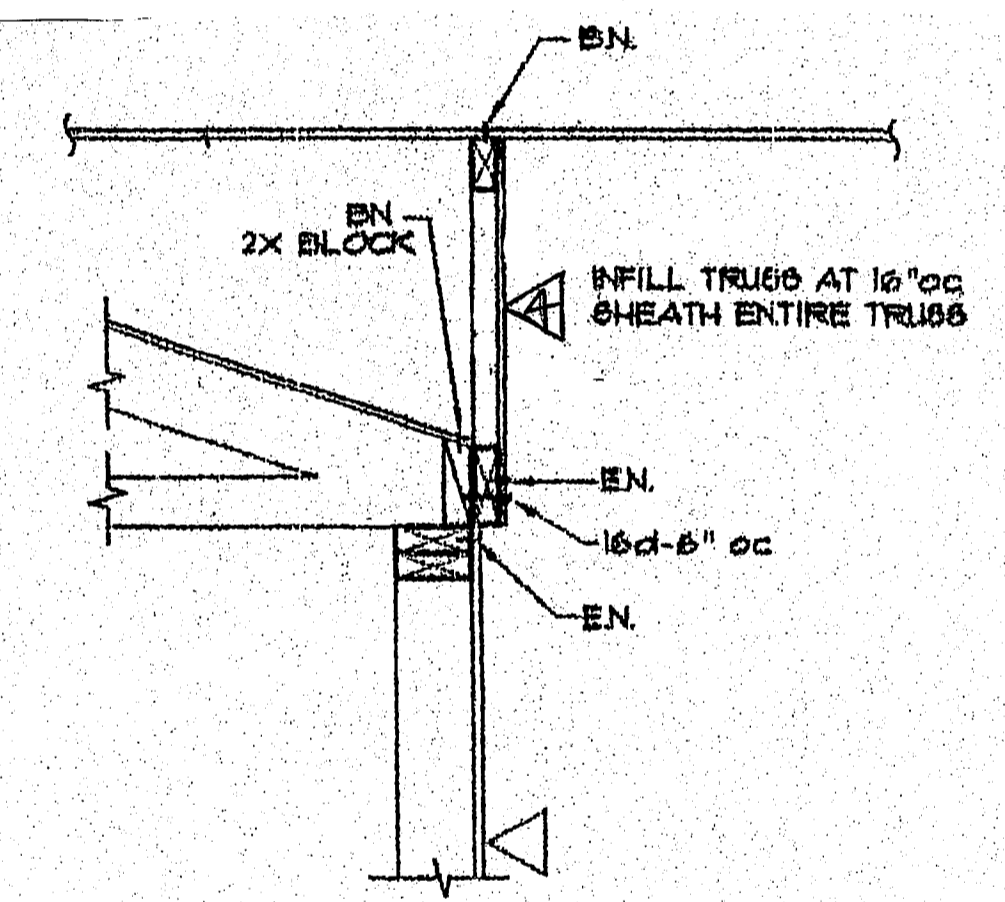
DIAPHRAGM SCHEDULE SCALE NTS



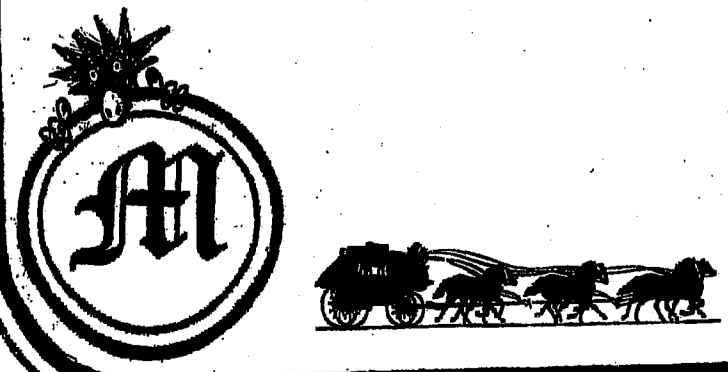
DETAIL SCALE NTS



DETAIL SCALE 3/4" = 1'-0"



SHEAR TRANSFER SCALE 3/4" = 1'-0"



MS/110

1.0 GENERAL NOTES

- 11 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK AND THE ENGINEERING/ARCHITECT SHALL BE NOTIFIED IN WRITING IMMEDIATELY OF ANY DISCREPANCIES.
- 12 ALL DIMENSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
- 13 NO PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL BE PLACED IN SLABS, BEAMS, OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED. NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS OTHERWISE NOTED.
- 14 IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THESE DRAWINGS.
- 15 PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL A BUILDING PERMIT HAS BEEN ISSUED.
- 16 ALL WORK TO BE PERFORMED BY A LICENSED CONTRACTOR THE CONTRACTOR IS TO INSURE THAT THE PLANS ARE REVIEWED BY THE SOILS ENGINEER FOR COMPLIANCE WITH SOIL CONDITIONS.

2.0 FOUNDATION

- 21 BOTTOM OF FOOTINGS SHALL BE (UNLESS OTHERWISE NOTED):
ONE STORY - 12" WIDE x 12" INTO SOIL
TWO STORY - 15" WIDE x 18" INTO SOIL
ALL FOOTINGS TO HAVE A #5 REBAR TOP AND BOTTOM
- 22 SOIL PREPARATION, GRADING AND FOOTINGS TO BE IN CONFORMANCE WITH THE 2013 CBC CLASS V SOIL (UNLESS OTHERWISE NOTED PER SOILS REPORT).
- 23 FINISH EXCAVATION FOR FOUNDATION SHALL BE NEAT AND TRUE TO LINE WITH ALL LOOSE MATERIAL REMOVED FROM EXCAVATIONS, THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER BEFORE ANY CONCRETE IS PLACED. EXCAVATION SHALL BE CHECKED AND APPROVED BY A QUALIFIED SOIL ENGINEER TO INSURE COMPLIANCE WITH REQUIREMENTS.
- 24 PROVIDE SHORING AT TOP OF ALL RETAINING EARTH PRIOR TO BACKFILLING UNLESS OTHERWISE NOTED. SHORING TO REMAIN IN PLACE UNTIL PERMANENT STRUCTURAL SUPPORTING MEMBERS ARE INSTALLED. (IF SUPPORTING MEMBERS ARE CONCRETE, SHORING IS TO REMAIN IN PLACE FOR (7) DAYS MIN. AFTER CONCRETE PLACEMENT)
- 25 BACKFILL FOR ALL RETAINING WALLS SHALL BE PREVIOUS MATERIAL.
- 26 BACKFILLING SHALL NOT BEGIN UNTIL ALL MASONRY OR CONCRETE RETAINING MEMBERS HAVE BEEN PLACED A MINIMUM OF (14) DAYS.
- 27 TESTING LAB SHALL SUBMIT COMPACTION FOR ALL FILL TO THE SOILS ENGINEER PRIOR TO REQUESTING FOUNDATION INSPECTION. ALL LOOSE SOIL AND FILL DIRT (INCLUDING BACKFILL BEHIND RETAINING WALLS) SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY. COMPACTION SHALL ALSO COMPLY WITH THE SOILS REPORT.

3.0 REINFORCED CONCRETE

- 31 CEMENT SHALL CONFORM TO ASTM C 150, TYPE I OR TYPE II.
- 32 CONCRETE SHALL BE WATER CEMENT RATIO .45 WITH NORMAL WEIGHT AGGREGATES CONFORMING TO ASTM C 33.
- 33 READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.
- 34 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT (28) DAYS AS FOLLOWS:
SLAB ON GRADE : 2500 PSI
FOOTINGS : 2500 PSI
- 35 ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM A 494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT. (CALCIUM CHLORIDE SHALL NOT BE USED.)
- 36 NO CONDUIT PLACED IN CONCRETE SLAB SHALL HAVE AN OUTSIDE DIAMETER GREATER THAN 1/2" THE THICKNESS OF THE SLAB, EXCEPT FOR LOCAL OFFSETS, MINIMUM CLEARANCE BETWEEN CONDUITS SHALL BE 6".
- 37 PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS ETC., SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS NOTED OTHERWISE.
- 38 NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT (28) DAYS OF 1000 PSI AS MEASURED BY ASTM C 109. PREGRROUTING OF BASE PLATES SHALL NOT BE PERMITTED.
- 39 CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 308 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, EXCEPT AS MODIFIED BY THESE NOTES.
- 310 SLABS POURED ON GRADE SHALL BE LEVEL (OR PLANAR) TO WITH 1/8" IN 8'-0" IN ANY DIRECTION EXCEPT AS NOTED OTHERWISE ON THE PLANS. MODIFIED BY THESE NOTES.

4.0 REINFORCING STEEL

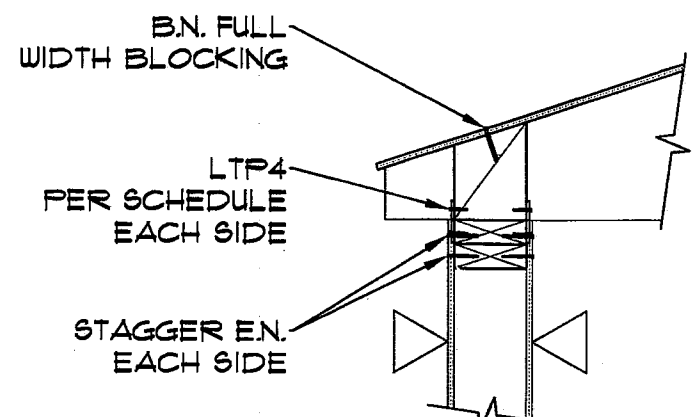
- 41 BAR REINFORCEMENT SHALL BE ASTM A 615, GRADE 40 FOR #5 AND SMALLER AND GRADE 60 FOR BARS LARGER THE #5
- 42 WELDED WIRE FRABRIC SHALL CONFORM TO ASTM A 1025.
- 43 VERTICAL BARS IN WALLS SHALL BE ACCURATELY POSITIONED PER THE PLANS AND TIED INTO POSITION TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING (192) TIMES THE BAR DIAMETER.
- 44 REINFORCING DETAILING, BENDING AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE" LATEST EDITION.
- 45 REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM COVER:
FOOTINGS ADJACENT TO EARTH 3" CLEAR
CONCRETE SURFACE (FORMED) EXPOSED TO EARTH OR WEATHER 2"
SLABS 3/4"
- 46 ALL REINFORCING STEEL, ANCHORS BOLTS, DOUELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE OR GROUT.
- 47 DOUELS BETWEEN FOOTINGS AND MASONRY SHALL BE THE SAME GRADE, SPACING AND SIZE.
- 48 SPACER TIES #3 SHALL BE PLACED APPROX. AT 2'-6" O.C. IN ALL FOOTINGS TO SECURE REINFORCING IN PLACE.

5.0 STRUCTURAL WOOD

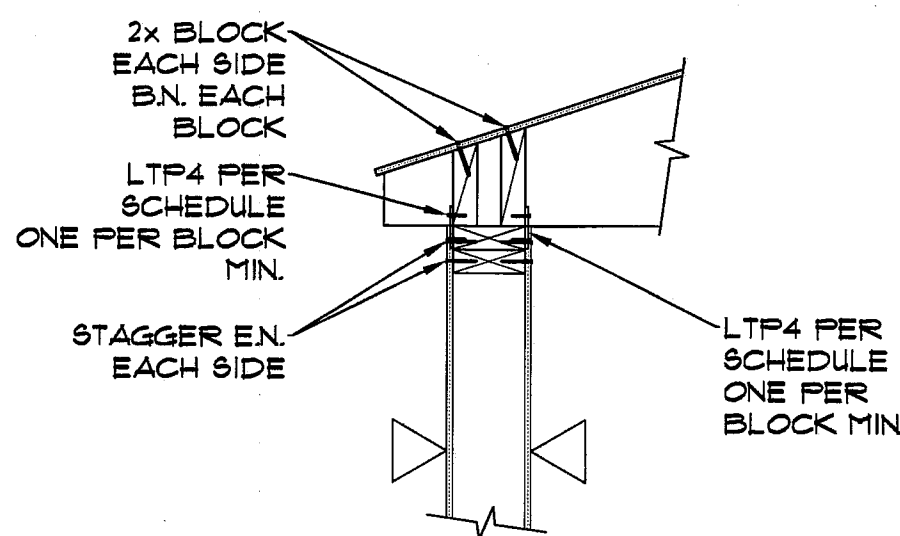
- 51 ALL WOOD MEMBERS SHALL BE DOUGLAS FIR (D.F.) OR LARCH GRADE PER DOC F920 MARKED BY A RECOGNIZED GRADING AGENCY (W.C.I.A. AND W.M.P.A.)
- 52 WOOD GRADES (UNLESS OTHERWISE NOTED):
A) HORIZONTAL MEMBERS:
JOISTS : GRADE #2
4x4 BEAMS & STRINGERS : GRADE #1
4x FRAMING : GRADE #1
LEDGERS : GRADE #2
MUDSILLS : PRESSURE TREATED #2
B) VERTICAL MEMBERS:
2"x4" - 8'-0" TO 14' : STUD
2"x4" STUDS 8'-0" TO 14' : CONST.
2"x6" AND LARGER STUDS : GRADE #2
POSTS AND TIMBERS : GRADE #1
- 53 PLYWOOD SHEATHING SHALL BE DOUGLAS FIR CONFORMING TO COMMERCIAL PRODUCTS STANDARDS DOC F91 OR DOC F92 (EXT. GLUE).
- 54 WOOD TO BE DETAILED OR APPROVED BY ENGINEER PER 2013 CBC SEC 2304.
- 55 ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY, WHICH IS IN CONTACT WITH THE EARTH OR RESTING ON FOUNDATIONS, SHALL BE PRESSURE TREATED DOUGLAS FIR. BOLTS SHALL BE PLACED (3") FROM THE END OF A BOARD OR FROM A NOTCH AND SPACED AT INTERVALS AS NOTED.
- 56 ALL BOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE A STANDARD CUT WASHERS. ALL BOLT HOLES IN WOOD SHALL BE DRILLED 1/2" DIAMETER LARGER THAN THE SPECIFIED BOLT DIAMETER.
- 57 ALL FRAMING ANCHORS, POST CAPS, COLUMN BASE, STRAPS, ETC. SHALL BE MANUFACTURED BY 'SIMPSON COMPANY' OR EQUAL.
- 58 BLOCKING AND BRIDGING TO BE PER 2013 CBC SEC. 2308.9.9 & 2308.9.5.
- 59 ALL HOLD-DOWNS TO BE ON 4x FRAMING MINIMUM UNLESS NOTED OTHERWISE PER PLAN. 'FWD' TYPE OF HOLD-DOWNS MAY BE ON (2) - 2x NAILED TOGETHER WITH 16d AND 6" O.C.
- 510 BOLTS TO BE A307 GRADE STEEL FOR MUDSILLS AND WOOD TO WOOD CONNECTIONS.
- 511 NAILS TO BE COMMONS UNLESS OTHERWISE NOTED.

6.0 GLUED LAMINATED TIMBERS

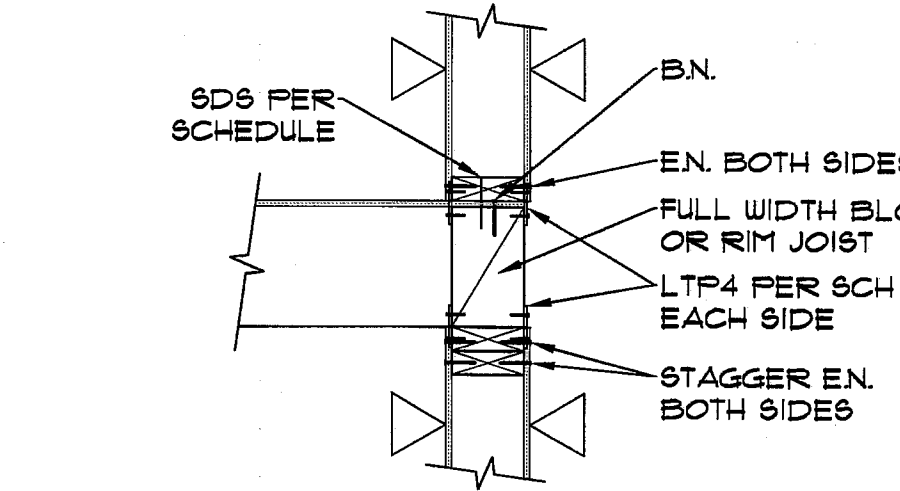
- 61 MANUFACTURE OF GLUED-LAMINATED TIMBERS SHALL BE IN CONFORMANCE WITH U.S. PRODUCT STANDARD F9-96-T3, AITC IIT-82, AND FABRICATED IN A PLANT WITH AN APPROVED QUALITY CONTROL SYSTEM, LICENSED BY AITC. MANUFACTURER SHALL STAMP MEMBERS WITH A QUALITY MARK AND SHALL SUBMIT AN AITC INSPECTION CERTIFICATE TO THE BUILDING DEPARTMENT AND ENGINEER PRIOR TO INSTALLATION.
- 62 USING EXTERIOR GLUE, COMBINATION SYMBOL 24F-V4 SIMPLE SPANS AND 24F-V8 FOR CONTINUOUS OR CANTILEVERED MEMBERS.
- 63 PARALLAMS TO BE 20E PSL AS MANUFACTURED BY 'TRUSS JOIST' OR EQUAL
- 64 T.J.I. JOIST TO BE PER PLAN AS MANUFACTURED BY 'TRUSS JOIST' OR EQUAL



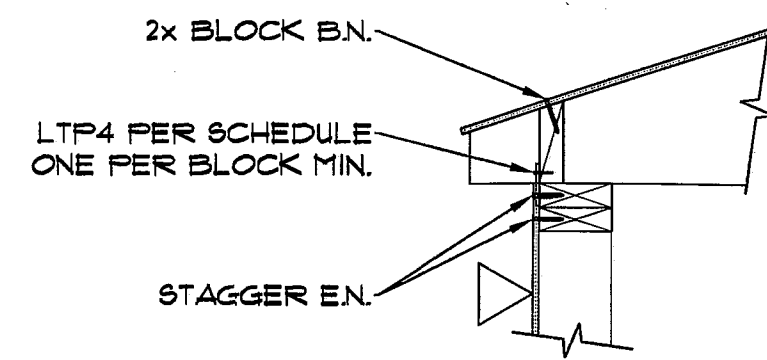
(SWS) DOUBLE SHEAR
TYPICAL UNO. BLOCK LTP4 EACH SIDE PER SHEAR SCHEDULE



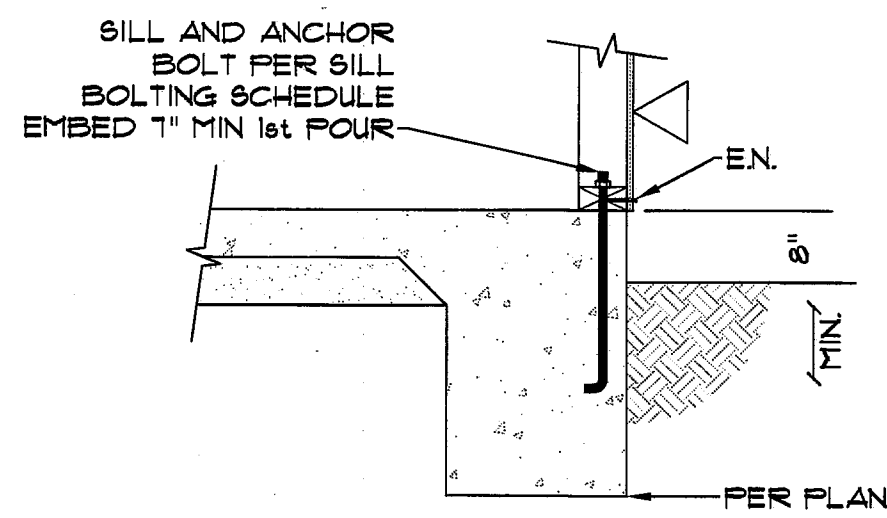
(SWS) ALTERNATE DOUBLE SHEAR
TYPICAL UNO. BLOCK LTP4 EACH SIDE PER SHEAR SCHEDULE



(SWS) RAISED FLOOR DOUBLE SHEAR
TYPICAL UNO.



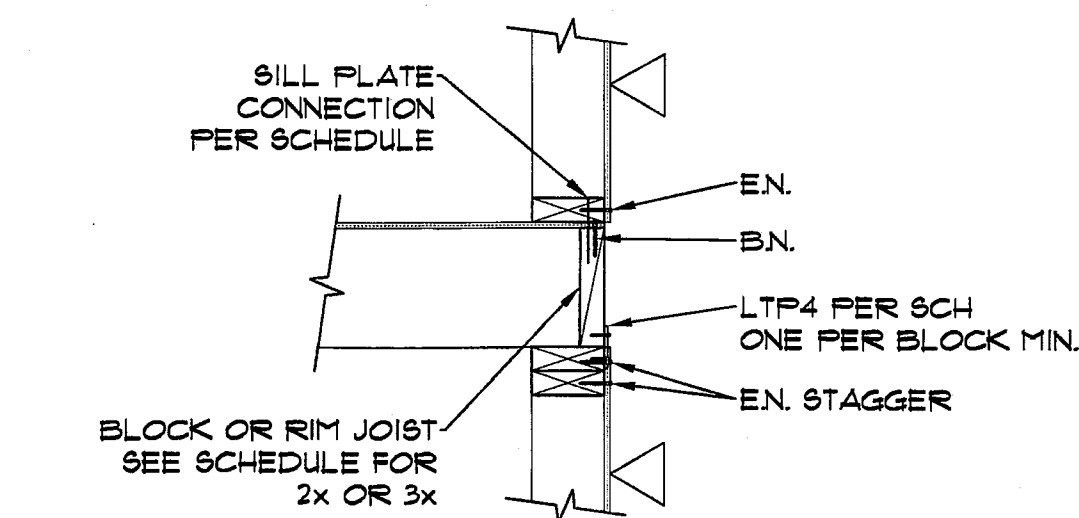
(SW1) SINGLE SHEAR
TYPICAL UNO.



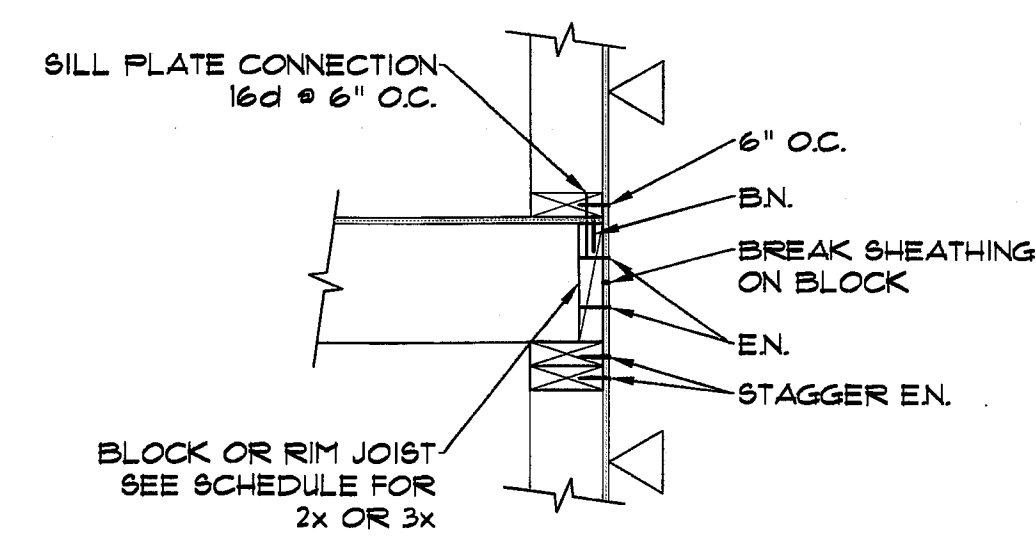
(SW5) TYPICAL UNO.

SEE SW5 SILL BOLTING

MARK	V (plf) (allowable)	SILL AND BOLTING SEE SW5
1	2x4 = 125 2x6 = 200 2x8 = 200	2x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 48" O.C.
2	2x4 = 115 2x6 = 300 2x8 = 300	2x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 32" O.C.
3	2x4 = 250 2x6 = 350 2x8 = 350	2x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 24" O.C.
4	3x4 = 250 3x6 = 500 3x8 = 500	3x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 24" O.C.
5	3x4 = 315 3x6 = 1150 3x8 = 1000	3x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 16" O.C.
6	3x4 = 500 3x6 = 1000 3x8 = 1350	3x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 12" O.C.
7	3x4 = 550 3x6 = 1300 3x8 = 1600	3x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 12" O.C.
8	3x4 = 144 3x6 = 1800 3x8 = 2100	3x PRESSURE TREATED 3/4" x 12" ANCHOR BOLTS @ 9" O.C.



(SW2) RAISED FLOOR SINGLE SHEAR
TYPICAL UNO.



(SW2) ALTERNATE RAISED FLOOR SINGLE SHEAR
TYPICAL UNO.

2013 CBC SHEARWALL AND CONNECTIONS SHEATHING ONE SIDE

SEE SW5 FOR BOLTS TO CONC.

MARK	V (allowable)	MATERIAL (PER 2013 CBC STAPLES)	MATERIAL (PER ESR-1539 ALTERNATE USING NAILS)	TOP PLATE CONNECTION SEE SW1	CONNECTION SEE SW3
180 PFL		3/8" EXPANDED METAL OR WOVEN WIRE LATH AND PORTLAND CEMENT PLASTER UNBLOCKED WITH #6 GA GALV. STAPLES 3/8" LEGS @ 6" O.C.	N/A	LTP4 - 24" O.C.	16d - 6" O.C.
155 PFL (217) ***		3/8" STR 1 SHEATHING, BLOCKED 16 GA 1/2" LEGS STAPLES @ 6" O.C. EDGES, 12" O.C. FIELD 2x FRAMING @ 16" O.C.	3/8" WOOD STRUCTURAL PANEL 8d#6 1/2" O.C. EN. 12" O.C. FN. STUDS 2x FRAMING 16" O.C. BLOCKED	LTP4 - 24" O.C.	16d - 6" O.C.
235 PFL (329)		3/8" STR 1 SHEATHING, BLOCKED 16 GA 1/2" LEGS STAPLES @ 4" O.C. EDGES, 12" O.C. FIELD 2x FRAMING @ 16" O.C.	3/8" WOOD STRUCTURAL PANEL 8d#6 1/2" O.C. EN. 12" O.C. FN. STUDS 2x FRAMING 16" O.C. BLOCKED	LTP4 - 16" O.C.	16d - 4" O.C.
315 PFL (350)		3/8" STR 1 SHEATHING, BLOCKED 16 GA 1/2" LEGS STAPLES @ 3" O.C. EDGES, 12" O.C. FIELD 2x FRAMING @ 16" O.C.	3/8" WOOD STRUCTURAL PANEL 8d#6 1/2" O.C. EN. 12" O.C. FN. STUDS 2x FRAMING 16" O.C. BLOCKED	LTP4 - 12" O.C.	16d - 3" O.C.
350 PFL		3/8" STR 1 SHEATHING, BLOCKED 16 GA 1/2" LEGS STAPLES @ 2" O.C. EDGES, 12" O.C. FIELD 2x FRAMING @ 16" O.C. ADJOINING PANEL EDGES 3x + MUDSILL 2x F.T.	3/8" WOOD STRUCTURAL PANEL 8d#4 1/2" O.C. EN. 12" O.C. FN. STUDS 2x FRAMING 16" O.C. BLOCKED	LTP4 - 12" O.C.	SD525800 @ 9" O.C. 3x BLOCK OR RIM JOIST
400 PFL (560)		3/8" STR 1 SHEATHING, BLOCKED 16 GA 1/2" LEGS STAPLES @ 2" O.C. EDGES, 12" O.C. FIELD 2x FRAMING @ 16" O.C. ADJOINING PANEL EDGES 3x + MUDSILL 3x F.T.	3/8" WOOD STRUCTURAL PANEL 8d#4 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 12" O.C.	SD525800 @ 9" O.C. 3x BLOCK OR RIM JOIST
475 PFL (665)		3/8" STR 1 SHEATHING BLOCKED 16 GA 1/2" LEGS STAPLES @ 2" O.C. EDGES, 12" O.C. FIELD ADJOINING PANEL EDGES 3x + MUDSILL 3x F.T.	3/8" WOOD STRUCTURAL PANEL 8d#3 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 8" O.C.	SD525800 @ 6" O.C. 3x BLOCK OR RIM JOIST
550 PFL (710)		N/A	3/8" WOOD STRUCTURAL PANEL 8d#3 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 8" O.C.	SD525800 @ 6" O.C. 3x BLOCK OR RIM JOIST
725 PFL (1015)		N/A	3/8" WOOD STRUCTURAL PANEL 8d#2 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE FAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 6" O.C.	SD525800 @ 4" O.C. 3x BLOCK OR RIM JOIST
870 PFL (1210)		N/A	3/8" WOOD STRUCTURAL PANEL 10d#2 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 6" O.C.	SD525800 @ 3" O.C. 3x BLOCK OR RIM JOIST

SHEATHING TWO SIDE (DOUBLE SHEAR) **

EACH SIDE

MARK	V (allowable)	MATERIAL (PER 2013 CBC STAPLES)	PER ESR-1539 ALTERNATE USING NAILS	TOP PLATE CONNECTION SEE SW3 EACH SIDE	SILL PLATE CONNECTION SEE SW4
470 PFL (665)		3/8" STR 1 SHEATHING BOTH SIDES BLOCKED 16 GA 1/2" LEGS STAPLES @ 4" O.C. EDGES, 12" O.C. FIELD OFFSET PANEL JOINTS FOR 2x OR USE 3x STUDS WHEN EN. IS ON BOTH SIDES TO COMMON MEMBER	3/8" WOOD STRUCTURAL PANEL 8d#6 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 16" O.C.	SD525800 @ 6" O.C.
630 PFL (882)		3/8" STR 1 SHEATHING BOTH SIDES BLOCKED 16 GA 1/2" LEGS STAPLES @ 3" O.C. EDGES, 12" O.C. FIELD OFFSET PANEL JOINTS FOR 2x OR USE 3x STUDS WHEN EN. IS ON BOTH SIDES TO COMMON MEMBER	3/8" WOOD STRUCTURAL PANEL 8d#4 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 12" O.C.	SD525800 @ 6" O.C.
800 PFL (1120)		3/8" STR 1 SHEATHING BOTH SIDES BLOCKED 16 GA 1/2" LEGS STAPLES @ 2" O.C. EDGES, 12" O.C. FIELD OFFSET PANEL JOINTS FOR 2x OR USE 3x STUDS WHEN EN. IS ON BOTH SIDES TO COMMON MEMBER	3/8" WOOD STRUCTURAL PANEL 8d#4 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 12" O.C.	SD525800 @ 4" O.C.
950 PFL (1330)		3/8" STR 1 SHEATHING BOTH SIDES BLOCKED 16 GA 1/2" LEGS STAPLES @ 2" O.C. EDGES, 12" O.C. FIELD OFFSET PANEL JOINTS FOR 2x OR USE 3x STUDS WHEN EN. IS ON BOTH SIDES TO COMMON MEMBER	3/8" WOOD STRUCTURAL PANEL 8d#3 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 8" O.C.	SD525800 @ 4" O.C.
1100 PFL (1540)		N/A	3/8" WOOD STRUCTURAL PANEL 8d#3 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 8" O.C.	SD525800 @ 3" O.C.
1450 PFL (2044)		N/A	3/8" WOOD STRUCTURAL PANEL 10d#2 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE FAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 6" O.C.	2 ROWS @ 4" O.C.
1740 PFL (2436)		N/A	3/8" WOOD STRUCTURAL PANEL 10d#2 1/2" O.C. EN. 12" O.C. FN. INTERMEDIATE STUDS 2x @ EDGE NAILING TO ABUTTING PANELS 3x STUDS REQUIRED FRAMING 16" O.C. BLOCKED	LTP4 - 6" O.C.	2 ROWS @ 4" O.C.

- IN LIEU OF 3x TWO 2x MAY BE USED WITH 16d @ 4" O.C. TOGETHER WITH A THRU AND SD525300 @ 4" O.C. THRU A
- ** 3x STUD REQUIRED FOR EN. @ 2" O.C. OR DOUBLE SIDED WITH EN. ON EACH SIDE TO COMMON STUD 4" O.C. OR LESS - 3x MUDSILL ALL DOUBLE SHEATHED WALLS STAGGER SHEATHING FOR EN. ON DIFFERENT SIDES
- *** VALUES IN () ARE FOR WIND ALLOWABLE LOAD
- NOTE: SHEATHING TO BE STRI. NAILS TO BE COMMON

SEE SW5 SILL BOLTING

1. NOTE SILL SCHEDULE 13x THRU 3x REQUIRES 3x SILL CONTRACTOR TO VERIFY BOLT SIZE AND SPACING PER SILL SCHEDULE
2. BOLTS TO BE EMBEDDED A MINIMUM OF 1" INTO FIRST FOUR ON TWO POUR SYSTEMS.
3. BOLTS AT CONCRETE CURBS TO BE EMBEDDED 1" MINIMUM IN POUR EXCLUDING CURBS.
4. BOLTS 13x AND 3x TO HAVE 3"x3"x229" PLATE WASHER

DESIGN CRITERIA

GOVERNING CODE: 2013 CBC

SOIL TYPE: D, 1500 PSF BEARING
SEISMIC CATEGORY D
Ss=1073 Fa=1071 Sps=11
R=6.5 V=108 OR II W 1=10
Rho X=13 Rho Y=13

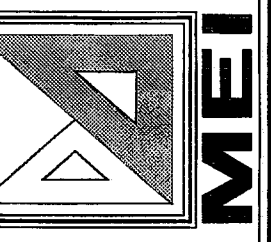
WIND:
EXP C
VELOCITY 110 MPH 50D
VELOCITY 85 MPH ASD

*DESIGN METHOD USED ASD

VERTICAL:
ROOF DL=22 PSF LL=20 PSF
FLOOR DL=10 PSF LL=40 PSF

REVISIONS	BY

MANNING ENGINEERING INC.
Civil / Structural Consultants
41892 Enterprise Circle So., Suite E
Temecula, CA 92590
Tel: (951) 296-1044 Fax: (951) 296-1047
www.manninginc.com



GENERAL NOTES

DATE: JUN 2015
SCALE: AS NOTED
DRAWN BY: JJJ
JOB:
FILE:
UPDATED:
SHEET NO. 24
OF 26 SHEETS

A. General

- 1. Applicable codes.** All projects shall comply with the *2013 California Building Code (CBC) and/or California Residential Code (CRC), 2013 California Green Building Standards Code (CalGreen), 2013 California Electrical Code (CEC), 2013 California Mechanical Code (CMC), 2013 California Plumbing Code (CPC), 2013 California Fire Code (CFC), 2013 California Building Energy Efficiency Standards (CBEES).*

B. Electrical, Plumbing, and Mechanical

- 1. Exterior lighting.**
- 2. GFCl outlets.** Ground Fault (Circuit Interrupter (GFCl) outlets are required in bathrooms, at kitchen countertops, at laundry and wet bar sinks, in garages, in crawlspaces, in unfinished basements, and outdoors. (CEC 210.8)
- 3. AFCI outlets.** Electrical circuits in bedrooms, living rooms, dining rooms, dens, closets, hallways, or similar rooms must be protected by Arc Fault Circuit Interrupters (AFCI). (CEC 210.12)

- 4. Luminaire requirements.** Installed luminaires shall meet the efficacy and fixture requirements of CBEES 160.0(k).
- 5. Smoke detectors in building remodels.** Smoke detectors are required in each existing sleeping room, outside each separate sleeping area in the immediate vicinity of sleeping rooms, and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R314.3.1)
- 6. Carbon monoxide detectors in building remodels.** Carbon monoxide detectors are required outside each separate sleeping area in the immediate vicinity of sleeping rooms and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R315.2)

- 7. Water heater seismic strapping.** Minimum two 3/4-inch-by-24-gauge straps required around water heaters, with 1/4-inch-by-3-inch lag bolts attached directly to framing. Straps shall be at points within upper third and lower third of water heater vertical dimension. Lower connection shall occur minimum 4 inches above controls. (CPC 507.2)
- 8. Gas appliances in garages.** Water heaters and heating/cooling equipment capable of igniting flammable vapors shall be placed on minimum 18-inch-high platform unless listing report number provided showing ignition-resistant appliances. (CPC 507.13 and CMC 308.1)

- 9. Impact protection of appliances.** Water heaters and heating/cooling equipment subject to vehicular impact shall be protected by bollards or an equivalent measure. (CPC 507.13.1 and CMC 308.1.1)
- 10. Water closet clearance.** Minimum 30-inch-wide by 24-inch-deep clearance required at front of water closets. (CPC 402.6)
- 11. Water closet efficiency.** All water closets shall use maximum 1.6 gallons average per flush. (CPC 403.2)

- 12. Shower size.** Shower compartments shall have minimum area of 1024 square inches and be able to enclose a 30-inch-diameter circle. Shower doors shall have a minimum 22-inch unobstructed width. (CPC 408.5 and CPC 408.6)
- 13. Fireplaces appliances.** Fireplaces with gas appliances are required to have the fire damper permanently fixed in the open position and fireplaces with LPG appliances are to have no 'pit' or 'sump' configurations. (CMC 303.7.1)

- 14. Chimney clearance.** Minimum 2-foot chimney clearance required above building within 10-foot horizontally of chimney. The chimney shall extend minimum 3 feet above highest point where chimney passes through roof. (CRC R1003.9)

C. Mechanical Ventilation and Indoor Air Quality (ASHRAE 62.2-2010)

- 1. Transfer air.** Ventilation air shall be provided directly from the outdoors and not as transfer air from adjacent dwelling units or other spaces, such as garages, unconditioned crawlspaces, or unconditioned attics. (CBEES 150.0(o))
- 2. Instructions and labeling.** Ventilation system controls shall be labeled and the home owner shall be provided with instructions on how to operate the system. (CBEES 150.0(f))
- 3. Combustion and solid-fuel burning appliances.** Combustion appliances shall be properly vented and air systems shall be designed to prevent back drafting. (CBEES 150.0(j))
- 4. Garages.** The wall and openings between occupiable spaces and the garage shall be sealed. HVAC systems that include air handlers or return ducts located in garages shall have total air leakage of no more than 6% of total fan flow when measured at 0.1 in. w.c. using California Title 24 or equivalents. (CBEES 150.0(o))
- 5. Minimum filtration.** Mechanical systems supplying air to occupiable space through ductwork shall be provided with a filter having a minimum efficiency of MERV 8 or better. (CBEES 150.0(n))
- 6. Air inlets.** Air inlets (not exhaust) shall be located away from known contaminants. (CBEES 150.0(o))
- 7. Air moving equipment.** Air moving equipment used to meet either the whole-building ventilation requirement or the local ventilation exhaust requirement shall be rated in terms of airflow and sound. (CBEES 150.0(l))

- a.** All continuously operating fans shall be rated at a maximum of 1.0 sone.
- b.** Intermittently operated whole-building ventilation fans shall be rated at a maximum of 1.0 sone.
- c.** Intermittently operated local exhaust fans shall be rated at maximum of 3.0 sone.
- d.** Remotely located air-moving equipment (mounted outside of habitable spaces) need not meet sound requirements if at least 4 feet of ductwork between fan and intake grill.

D. Foundation and Underfoot

- 1. Foundation reinforcement.** Continuous footings and stem walls shall be provided with a minimum two longitudinal No. 4 bars, one at the top and one at the bottom of the footing. (CRC R403.1.3.2)
- 2. Shear wall foundation support.** Shear walls shall be supported by continuous foundations. (CRC 403.1.2)
- 3. Concrete slabs-on-grade.** Slabs-on-grade shall be minimum 3-1/2-inches thick. (CRC R506.1)
- 4. Vapor retarder.** A 6-mil polyethylene or approved vapor retarder with joints lapped minimum 6 inches shall be placed between a concrete slab-on-grade and the base course or subgrade. (CRC 506.2.3)
- 5. Anchor bolts and sills.** Foundation plates or sills shall be bolted or anchored to the foundation or foundation wall per the following (CRC R403.1.6 and CRC R602.11.1):

- a.** Minimum 1/2-inch-diameter steel bolts
- b.** Bolts embedded at least 7 inches into concrete or masonry
- c.** Bolts spaced maximum 6 feet on center
- d.** Minimum two bolts per plate/sill piece with one bolt located maximum 12 inches and minimum 7 bolt diameters from each end of each plate/sill piece
- e.** Minimum 3-inch by 3-inch by 0.299-inch steel sill washer between sill and nut on each bolt

- 6. Hold-downs.** All hold-downs must be tied in place prior to foundation inspection.
- 7. Protection of wood against decay.** Naturally durable or preservative-treated wood shall be provided in the following locations (CRC R317.1):

- a.** All wood in contact with ground, embedded in concrete in direct contact with ground, or embedded in concrete exposed to weather
- b.** Wood joists within 18 inches and wood girders within 12 inches of the exposed ground in crawl spaces shall be of naturally durable or preservative-treated wood
- c.** Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood
- d.** Wood framing, sheathing, and siding on the exterior of the building and having clearance less than 6 inches from the exposed ground or less than 2 inches vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surfaces exposed to weather
- e.** Sills and sleepers on concrete or masonry slab in direct contact with ground unless separated from such slab by impervious moisture barrier

D. Foundation and Underfoot (Continued)

- f.** Ends of wood girders entering masonry or concrete walls with clearances less than 1/2 inch on tops, sides, and ends
- g.** Wood structural members supporting moisture-permeable floors or roofs exposed to weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier
- h.** Wood furring strips or other wood framing members attached directly to interior of exterior concrete or masonry walls below grade except where vapor retarder applied between wall and furring strips or framing members

- 8. Underfoot ventilation.** Underfoot areas shall have ventilation openings through foundation walls or exterior walls, with minimum net area of ventilation openings of 1 square foot for each 160 square feet of underfoot area. On such ventilating opening shall be within 3 feet of each corner of the building. (CRC R408.1)
- 9. Underfoot access.** Underfoot areas shall be provided with a minimum 18-inch by 24-inch access opening. (CRC R408.4)

E. Wood Framing

- 1. Fastener requirements.** The number, size, and spacing of fasteners connecting wood members/elements shall not be less than that set forth in CRC Table R602.3(1). (CRC R502.9, CRC R602.3, and CRC R602.2)
- 2. Stud size, height, and spacing.** The size, height, and spacing of studs shall be in accordance with CRC Table R602.3(5). (CRC R602.3.1)
- 3. Sill plate.** Studs shall have full bearing on nominal 2-inch-thick or larger sill plate with width at least equal to stud width. (CRC R602.3.4)
- 4. Bearing studs.** Where joists, trusses, or rafters are spaced more than 16 inches on center and the bearing studs below are spaced 24 inches on center, such members shall bear within 5 inches of the studs beneath. (CRC R602.3.3)
- 5. Drilling and notching of studs.** Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25% of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40% of a single stud width. Any stud may be bored or drilled, provided the diameter of the resulting hole is no more than 60% of the stud width, the edge of the hole is no more than 5/16 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior wall or bearing partitions drilled over 40%, and up to 60% shall also be doubled with no more than two successive studs bored. (CRC R602.6)
- 6. Top plate.** Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and at intersections with other partitions. End joints in double top plates shall be offset at least 24 inches. Joints in plates need not occur over studs. Plates shall be minimum nominal 2 inches thick and have width at least equal to width of studs. (CRC R602.3.2)
- 7. Top plate splices.** Top plate lap splices shall be face-nailed with minimum 8 16d nails on each side of splice. (CRC R602.10.8.1)
- 8. Drilling and notching of top plate.** When piping or ductwork is placed in or partly in an exterior wall or interior wall, necessitating cutting, drilling, or notching of the top plate by more than 50% of its width, a galvanized metal nail less than 0.054-inch thick and 1-1/2 inches wide shall be fastened across and to the plate at each side of the opening with not less than 8 10d nails having a minimum length of 1-1/2 inches at each side or equivalent. The metal tie must extend minimum 6 inches past the opening. (CRC R602.6.1)
- 9. Cripple walls.** Foundation cripple walls shall be framed of studs not less in size than the studs above. Cripple walls more than 4 feet in height shall have studs sized as required for an additional story. Cripple walls with stud height less than 14 inches shall be sheathed on at least one side with wood structural panel fastened to both the top and bottom plates in accordance with Table R602.3(1), or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations. (CRC R602.9)
- 10. Wall bracing.** Buildings shall be braced in accordance with the methods allowed per CRC R602.10.2, CRC R602.10.4, and/or CRC R602.10.5.

- 11. Braced wall line spacing.** Spacing between braced wall lines shall not exceed 25 feet or alternate provisions of CRC R602.10.1.5.
- 12. Shear wall cumulative length.** The cumulative length of shear walls within each braced wall line shall meet the provisions of CRC Table R602.10.1.2(1) for wind loads and CRC Table R602.10.1.2(2) for seismic loads. (CRC R602.10.1.2)
- 13. Shear wall spacing.** Shear walls shall be located not more than 25 feet on center. (CRC R602.10.1.4)
- 14. Shear wall offset.** Shear walls may be offset out-of-plane not more than 4 feet from the designated braced wall line and not more than 8 feet from any other offset wall considered part of the same braced wall line. (CRC R602.10.1.4)
- 15. Shear wall location.** Shear walls shall be located at the ends of each braced wall line or meet the alternate provisions of CRC R602.10.1.5.

- 16. Individual shear wall length.** Shear walls shall meet minimum length requirements of CRC R602.10.3.
- 17. Cripple wall bracing.** Cripple walls shall be braced per CRC R602.10.9.
- 18. Shear wall and diaphragm nailing.** All shear walls, roof diaphragms, and floor diaphragms shall be nailed to supporting construction per CRC Table R602.3(1). (CRC R604.3)
- 19. Shear wall joints.** All vertical joints in shear wall sheathing shall occur over, and be fastened to, common studs. Horizontal joints in shear walls shall occur over, and be fastened to, minimum 1-1/2-inch-thick blocking. (CRC R602.10.6)
- 20. Framing over openings.** Headers, double joists, or trusses of adequate size to transfer loads to vertical members shall be provided over window and door openings in load-bearing walls and partitions. (CRC 2304.3.2)
- 21. Joists under bearing partitions.** Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists, spaced to adequately support the load, that are separated to permit the installation of piping or vents shall be full-depth solid-blocking with minimum 2-inch nominal lumber spaced at maximum 4 feet on center. Bearing partitions perpendicular to joists shall not be offset from supporting girders, walls, or partitions more than the joint depth unless such joints are of sufficient size to carry the additional load. (CRC R502.4)
- 22. Joists above or below shear walls.** Where joists are perpendicular to a shear wall above or below, a rim joint, band joint, or blocking shall be provided along the entire length of the shear wall. Where joists are parallel to a shear wall above or below, a rim joint, end joint, or other parallel framing shall be provided directly above and/or below the shear wall. Where a parallel framing member cannot be located directly above and/or below the shear wall, full-depth blocking at 16-inch spacing shall be provided between the parallel framing members on each side of the shear wall. (CRC R602.10.6)
- 23. Floor member bearing.** The ends of each floor joist, beam, or girder shall have minimum 1-1/2 inches of bearing on wood or metal and minimum 3 inches of bearing on masonry or concrete except where supported on a 1-inch-by-4-inch ribbon strip and nailed to the adjoining stud or by the use of approved joist hangers. (CRC R502.6)
- 24. Floor joist lap.** Floor joists framing opposite sides over a bearing support shall lap minimum 3 inches and shall be nailed together within minimum 3 10d face nails. A wood or metal splice with strength equal to or greater than that provided by the lap is permitted. (CRC R502.6.1)
- 25. Floor joist-to-girder support.** Floor joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips minimum nominal 2 inches by 2 inches. (CRC R502.6.2)
- 26. Floor joist lateral restraint.** Floor joists shall be supported laterally at ends and each intermediate support by minimum 2-inch full-depth blocking, by attachment to full-depth header, band joint, or rim joint, or to an adjoining stud, or shall be otherwise provided with lateral support to prevent rotation. (CRC R502.7)
- 27. Floor joist bridging.** Floor joists exceeding nominal 2 inches by 12 inches shall be supported laterally by solid blocking, diagonal bracing (wood or metal), or a continuous 1-inch-by-3-inch strip nailed across the bottom of joists perpendicular to joists at maximum 8-foot intervals. (CRC R502.7.1)
- 28. Framing of floor openings.** Openings in floor framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the floor joist. Single trimmer joists may be used to carry a header joist located within 1 foot of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joist and header joist shall be doubled and of sufficient cross section to support the floor joists framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joint connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)

E. Wood Framing (Continued)

- 29. Girders.** Girders for single-story construction or girders supporting loads from a single floor shall not be less than 4 inches by 6 inches for spans 6 feet or less, provided that girders are spaced not more than 8 feet on center. Other girders shall be designed to support the loads specified in the CBC. Girder end joints shall occur over supports. When a girder is spliced over a support, an adequate tie shall be provided. The ends of beams or girders supported on masonry or concrete shall not have less than 3 inches of bearing. (CBC 2308.7)
- 30. Ridges, hips, and valleys.** Rafters shall be framed to a ridge board or to each other with a gusset plate as a tie. Ridge boards shall be minimum 1-inch nominal thickness and not less in depth than the cut and end of the rafter. At all valleys and hips, there shall be a valley or hip rafter not less than 2-inch nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than 3:12 slope (25% gradient), structural members that support rafters and ceiling joists, such as ridges, hips, and valleys, shall be designed as beams. (CRC R602.3)
- 31. Ceiling joist and rafter connections.** Ceiling joists and rafters shall be nailed to each other per CRC Table R602.5.1(9), and the rafter shall be nailed to the wall top plate per CRC Table R602.3(1). Ceiling joists shall be continuous or securely joined per CRC Table R602.5.1(9) where they meet over interior partitions and are nailed to adjacent rafters to provide a continuous tie across the building when joists are parallel to rafters. Where ceiling joists are not connected to the rafters at the wall top plate, joists connected higher in the attic shall be installed as rafter ties, or rafter ties shall be installed to provide a continuous tie. Where ceiling joists are not parallel to rafters, rafter ties shall be installed. Rafter ties shall be minimum 2 inches by 4 inches nominal, installed per CRC Table R602.5.1(9), or connections of equivalent capacities shall be provided. Where ceilings joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or engineer-designed girder. (CRC R602.3.1)
- 32. Ceiling joists lapped.** Ends of ceiling joists shall be lapped minimum 3 inches or butted over bearing partitions or beams and toenailed to the bearing element. Where ceiling joists provide resistance to rafter thrust, lapped joists shall be nailed together per CRC Table R602.3(1) and butted joists shall be tied together in a manner to resist such thrust. (CRC R602.3.2)
- 33. Collar ties.** Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space. Collar ties shall be a minimum 1 inch by 4 inches nominal and spaced at maximum 4 feet on center. (CRC R602.3.1)
- 34. Purlins.** Purlins installed to reduce the span of rafters shall be sized not less than the required size of the rafters they support. Purlins shall be continuous and shall be supported by 2-inch-by-4-inch nominal braces installed to bearing walls at a minimum 45-degree slope from horizontal. The braces shall be spaced maximum 4 feet on center with a maximum 8-foot unbraced length. (CRC R602.5.1)
- 35. Roofceiling member bearing.** The ends of each rafter or ceiling joist shall have not less than 1-1/2 inches of bearing on wood or metal and not less than 3 inches of bearing on masonry or concrete. (CRC R602.6)
- 36. Roofceiling member lateral support.** Roof framing members and ceiling joists with a nominal depth-to-thickness ratio exceeding 5:1 shall be provided with lateral support at points of bearing to prevent rotation. (CRC R602.8)
- 37. Roofceiling bridging.** Rafters and ceiling joists with a nominal depth-to-thickness ratio exceeding 6:1 shall be supported laterally by solid blocking, diagonal bracing (wood or metal), or a continuous 1-inch-by-3-inch wood strip nailed across the rafters or ceiling joists at maximum 8-foot intervals. (CRC R602.8.1)
- 38. Framing of roofceiling openings.** Openings in roof and ceiling framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the ceiling joist or rafter. Single trimmer joists may be used to carry a single header joist located within 3 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafters framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joint connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)

- 39. Framing of roof openings.** Openings in roof framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the roof joist. Single trimmer joists may be used to carry a header joist located within 1 foot of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joist and header joist shall be doubled and of sufficient cross section to support the roof joists framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joint connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)

F. General Material Specifications

- 1. Lumber.** All joists, rafters, beams, and posts 2-inches to 4-inches thick shall be No. 2 grade Douglas Fir-Larch or better. All posts and beams 5 inches and thicker shall be No. 1 grade Douglas Fir-Larch or better. Studs not more than 8 feet long shall be stud-grade Douglas Fir-Larch or better when supporting not more than one floor, roof, and ceiling. Studs longer than 8 feet shall be No. 2 grade Douglas Fir-Larch or better.
- 2. Concrete.** Concrete shall have a minimum compressive strength of 2,500 psi at 28 days and shall consist of 1 part cement, 3 parts sand, and 4 parts 1-inch maximum size rock, and not more than 7-1/2 gallons of water per sack of cement. (CRC R402.2)
- 3. Mortar.** Mortar used in construction of masonry walls, foundation walls, and retaining walls shall conform to ASTM C 270 and shall consist of 1 part portland cement, 2-1/4 to 3 parts sand, and 1/4 to 1/2 part hydrated lime. (CBC 2103.9)
- 4. Grout.** Grout shall conform to ASTM C 476 and shall consist of 1 part portland cement, 1/10 part hydrated lime, 2-1/4 to 3 parts sand, and 1 to 2 parts grout. Grout shall attain a minimum compressive strength of 2,000 psi at 28 days. (CBC 2103.13)
- 5. Masonry.** Masonry units shall comply with ASTM C 90 for load-bearing concrete masonry units. (CBC 2103.1)
- 6. Reinforcing steel.** Reinforcing steel used in construction of reinforced masonry or concrete structures shall be deformed and comply with ASTM A 615. (CBC 2103.14)
- 7. Structural steel.** Steel used as structural shapes such as wide-flange sections, channels, plates, and angles shall comply with ASTM A36. Pipe columns shall comply with ASTM A53. Structural tubes shall comply with ASTM A500, Grade B.
- 8. Fasteners for preservative-treated wood.** Fasteners for preservative-treated and fire-retardant-treated wood - including nuts and washers - shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.1) Exception: 1/2-inch diameter or greater steel bolts
- 9. Fasteners for fire-retardant-treated wood.** Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.3)

G. Roofing and Weatherproofing

- 1. Roof covering.** All roof covering shall be installed per applicable requirements of CBC 1507. Roof coverings shall be at least Class A rated in accordance with ASTM E 1069 or UL 790, which shall include coverings of slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets. (County Building Code 92.1.1505.1)
- 2. Roof flashing.** Flashing shall be installed at wall and roof intersections, at gutters, wherever there is a change in roof slope or direction, and around roof openings. Where flashing is metal, the metal shall be corrosion-resistant with a thickness of not less than 0.019 inch (No. 26 galvanized sheet). (CRC R603.1.2)
- 3. Crickets and saddles.** A cricket or saddle shall be installed on the ridge side of any chimney or penetration more than 30 inches wide as measured perpendicular to the slope. Cricket or saddle covering shall be sheet metal or the same material as the roof covering. (CRC R603.2.2)
- 4. Water-resistant barrier.** A minimum of one layer of No. 15 asphalt felt shall be attached to studs or sheathing of all exterior walls. Such felt or material shall be applied to the wall horizontally with the upper layer lapped over the lower layer minimum 2 inches. Where joints occur, felt shall be lapped minimum 6 inches. The felt shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to maintain a weather-resistant exterior wall envelope. (CRC R703.2)
- 5. Wall flashing.** Approved corrosion-resistant flashing shall be applied shingle fashion at the following locations to prevent entry of water into the wall cavity or penetration of water to the building structural framing components (CRC R703.8):

- a.** Exterior door and window openings, extending to the surface of the exterior wall finish or to the water-resistant barrier for subsequent drainage
- b.** At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting joists on both sides under stucco copings
- c.** Under and at the ends of masonry, wood, or metal copings and sills
- d.** Continuously above all projecting wood trim
- e.** Where exterior porches, decks, or stairs attach to a wall or roof assembly of wood-frame construction
- f.** At wall and roof intersections
- g.** At built-in gutters

- 6. Damp-proofing.** Damp-proofing materials for foundation walls enclosing usable space below grade shall be installed on the exterior surface of the wall, and shall extend from the top of the footing to finished grade. (CRC R406.1)
- 7. Weep screed.** A minimum 0.019-inch (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed with a minimum vertical attachment range of 3-1/2 inches shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 92. The weep screed shall be placed a minimum 4 inches above the earth or 2 inches above paved areas and shall be of a type allowed trapped water to drain to the exterior of the building. (CRC R703.6.2.1) combustible material and the chimney. (CRC R1003.19)

H. Grading and soils

- 1. Grading permit.** Grading permit required if volume of earth moved exceeds 200 cubic yards or if any cuts or fills exceed 8 feet in height/depth.
- 2. Compaction report.** Compaction report required for fill material 12 inches or more in depth. (CBC 1803.5.8)

I. Green Building Standards Code (CALGreen) Requirements

- 1. Applicability.** CALGreen residential mandatory measures shall apply to every newly constructed building or structure and within any addition or alteration increasing a building's conditioned area, volume, or size. (CALGreen 101.3, CALGreen 301.1.4) Exception: All residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures per CalGreen 301.1.1 and CalGreen 4.303.1

I. (CALGreen) Requirements (Continued)

- 2. Water conserving plumbing fixtures and fittings.** Plumbing fixtures and fittings shall comply with the following per CalGreen 4.303.1:
 - a.** Water closets: Maximum 1.28 gallons per flush
 - b.** Urinals: Maximum 0.5 gallons per flush
 - c.** Single showerheads: Maximum flow rate of 2.0 gallons per minute at 80 psi
 - d.** Multiple showerheads serving one shower: Maximum combined flow rate of 2.0 gallons per minute at 80 psi
 - e.** Lavatory faucets: Maximum flow rate of 1.5 gallons per minute at 60 psi, minimum flow rate of 0.8 gallons per minute at 20 psi
 - f.** Kitchen faucets: Maximum flow rate of 1.8 gallons per minute at 60 psiException: Temporary increase allowed to maximum 2.2 gallons per minute at 60 psi if faucet defaults back to maximum 1.8 gallons per minute at 80 psi
- 3. Irrigation controllers.** Automatic irrigation system controllers for landscaping shall comply with the following (CalGreen 4.304.1):
 - a.** Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
 - b.** Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s).
 - c.** Soil moisture-based controllers are not required to have rain sensor input.
- 4. Joints and openings.** Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate utility and other penetrations must be sealed in compliance with the California Energy Code. (CALGreen 4.406.1) Exception: Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing the opening with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.
- 5. Construction waste reduction, disposal, and recycling.** Reduce and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition debris. (CALGreen 4.408.1) Exception: Excavated soil and land-clearing debris

TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENERS**	SPACING OF FASTENERS
1	Blocking between joists or rafters to top plate, toe nail	3-8d (2"x) @ 11"	-
2	Ceiling joists to plate, toe nail	2-8d (2"x) @ 11"	-
3	Ceiling joists attached to parallel rafter, laps over partitions, face nail	3-10d	-
4	Collar tie rafter, face nail or 1/2" x 20 gage ridge strap	3-10d (2"x) @ 12"	-
5	Rafter to plate, toe nail	3-16d (2"x) @ 13"	-
6	Roof rafters to ridge, valley or hip rafter: toe nail face nail	4-16d (2"x) @ 13"	-
7	Build-up studs-face nail	10d (2" x 12")	24" o.c.
8	Abutting studs at intersecting wall corners, face nail	16d (2"x) @ 13"	12" o.c.
9	Build-up header, two pieces with 7/8" spacer	16d (2"x) @ 13"	16" o.c. along each edge
10	Continuous header, two pieces	16d (2"x) @ 13"	16" o.c. along each edge
11	Continuous header to stud, toe nail	4-8d (2"x) @ 11"	-
12	Double studs, face nail	10d (2" x 12")	24" o.c.
13	Double top plates, face nail	10d (2" x 12")	24" o.c.
14	Double top plates minimum 24-inch offset of end joints, toe nail to ledger above	8-16d (2"x) @ 13"	-
15	Bob plate to joist or blocking, face nail	16d (2"x) @ 13"	16" o.c.
16	Bob plate to joist or blocking at spaced wall panels	3-16d (2"x) @ 13"	16" o.c.
17	Stud to sole plate, toe nail	3-8d (2"x) @ 11"	-
18	Top sole plate to stud, end nail	2-16d (2"x) @ 13"	-
19	Top joists, laps at corners and intersections, face nail	2-16d (2"x) @ 13"	-
20	1" x 6" brace to each stud and plate, face nail	2 staples 1"x	-
21	1" x 6" sheathing to each bearing, face nail	2-8d (2"x) @ 11"	-
22	1" x 6" sheathing to each bearing, face nail	2-8d (2"x) @ 11"	3 staples 1"x
23	Wider than 1" x 6" sheathing to each bearing, face nail	3-8d (2"x) @ 11"	4 staples 1"x
24	Joist to sill or girder, toe nail	3-8d (2"x) @ 11"	-
25	Rim joist to top plate, toe nail (roof applications also)	8d (2"x) @ 11"	8" o.c.
26	Rim joist to blocking to sill plate, face nail	8d (2"x) @ 11"	8" o.c.
27	1" x 6" subfloor or less to each joist, face nail	2 staples 1"x	-
28	2" subfloor to joist or girder, blind and face nail	2-16d (2"x) @ 13"	-
29	2" planks (gank & beam - floor & roof)	2-16d (2"x) @ 13"	-
30	Build-up girders and beams, 2-inch member layers	10d (2" x 12")	-
31	Ledger strip supporting joists or rafters	3-16d (2"x) @ 13"	-

DESCRIPTION OF BUILDING MATERIALS

ITEM	DESCRIPTION OF BUILDING MATERIALS	SPACING OF FASTENERS	Edge (End) Spacing** (inches)	Intermediate Spacing** (inches)
32	1/2" x 1/2" 8d common (2" x 0.131") nail (subfloor wall)	8	6"	12"
33	1/2" x 1" 8d common (2" x 0.131") nail	8	6"	12"
34	1" x 1" 10d common (2" x 0.131") nail or 8d (2" x 0.131") deformed nail	6	12"	12"
Other wall sheathing:				
35	1/2" structural cellulose fiberboard sheathing	1" x 16d galvanized roofing nail, 1/2" crown or 1" crown staple 16 ga., 1 1/2" long	3	6"
36	3/4" structural cellulose fiberboard sheathing			