

“V”

Building Plan set for

B16-01016

Bonny’s Vineyard Appeal P25-00020-APL

Board of Supervisors Hearing – May 6, 2025

# CAL GREEN BLDG CODE

- BUILDINGS SHALL CONFORM TO ALL CODE REQUIREMENTS AS OUTLINED IN THE "CAL GREEN" TITLE 24, PART 11, 2013 BUILDING CODE.
  - PROVIDE CAPABILITY FOR ELECTRIC VEHICLE CHARGING IN GARAGES.
- MATERIAL CONSERVATION AND RESOURCE EFFICIENCY**
- CEMENT USE IN FOUNDATION MIX DESIGN IS REDUCED, TIER 1 NOT LESS THAN A 20% REDUCTION IN CEMENT USE.
  - POST CONSUMER OR PRE-CONSUMER RECYCLE CONTENT VALUE (RVC) MATERIALS ARE USED ON THE PROJECT, TIER 1 NOT LESS THAN A 10% RECYCLED CONTENT VALUE.
- CONSTRUCTION WASTE REDUCTION**
- A MINIMUM OF 50% OF THE CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE.
  - WHERE LOCAL JURISDICTION DOES NOT HAVE A CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE A CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE SUBMITTED FOR APPROVAL TO THE ENFORCING AGENCY.
- ENVIRONMENTAL QUALITY**
- DUCT OPENINGS & OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED DURING CONSTRUCTION.
  - ADHESIVES, SEALANTS AND CAULKS SHALL BE COMPLIANT WITH VOC AND OTHER TOXIC COMPOUND LIMITS.
  - PAINTS, STAINS AND OTHER COATINGS SHALL BE COMPLIANT WITH VOC LIMITS.
  - AEROSOL PAINTS AND COATING SHALL BE COMPLIANT WITH PRODUCT WEIGHTED MIR LIMITS FOR ROC AND OTHER TOXIC COMPOUNDS.
  - DOCUMENTATION SHALL BE PROVIDED TO VERIFY THAT COMPLIANT VOC LIMIT FINISH MATERIALS HAVE BEEN USED.
  - 80% OF FLOOR AREA RECEIVING RESILIENT FLOORING, SHALL COMPLY WITH SPECIFIED VOC CRITERIA
  - PARTICLE BOARD, MEDIUM DENSITY FIBER BOARD (MDF), AND HARDWOOD PLYWOOD USED IN THE INTERIOR FINISH SYSTEMS SHALL COMPLY WITH LOW FORMALDEHYDE EMISSION STANDARDS.
  - USE COMPOSITE WOOD PRODUCTS MADE WITH EITHER CALIFORNIA AIR RESOURCES BOARD APPROVED NO-ADDED FORMALDEHYDES (NAF) RESINS OR ULTRA LOW EMITTING FORMALDEHYDE (ULEF) RESINS.
  - THERMAL INSULATION INSTALLED IN THE BUILDING SHALL MEET THE FOLLOWING REQUIREMENTS: TIER 1. INSTALL INSULATION IN COMPLIANCE WITH THE VOC LIMITS

# GENERAL NOTES

- GENERAL NOTES**
- ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES OF THE STATE OF CALIFORNIA.
  - ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED ON THE JOB SITE BY EACH SUB-CONTRACTOR BEFORE HE BEGINS HIS WORK. ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR BEFORE CONSTRUCTION BEGINS
  - ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE. NOTE THAT DIMENSIONS ARE TO CENTER LINE UNLESS OBVIOUSLY SHOWN OR MARKED FACE OF CONCRETE (F.O.C.) OR FACE OF STUDS (F.O.S.). SOME DIMENSIONS ARE MARKED AS OUTSIDE FACE OF RIGID INSULATION OR OSB.
  - JOINTS AND OPENING. ANNULAR SPACES AROUND PIPES, ELECTRICAL CABLES, CONDUITS, OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF AIR CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OF SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.
  - CONDUCT ALL ROOF DRAINAGE AWAY FROM BUILDING PERIMETER A MINIMUM OF 10' CONNECT TO SITE DRAINAGE SYSTEMS WHERE POSSIBLE.
  - BATHROOM FLOORS OVER WOOD SHALL HAVE WATER PROOF PROTECTION.
  - NO GAS IS PLANNED FOR THIS SITE.
  - ALL EXTERIOR OPENINGS EXPOSED TO THE WEATHER SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WATERPROOF. ALL FLASHING, COUNTER-FLASHING AND OPENINGS WITH CEMENT MORTAR, CONCRETE MINIMUM.
  - ALL PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE INSPECTED AND APPROVED BY BUILDING INSPECTOR BEFORE COVERING.
  - FIRE BLOCK AT MID-HEIGHT WALLS OVER 8'-0" HIGH.
  - PROVIDE 6' HIGH NON-ABSORBANT WALL ADJACENT TO SHOWER AND APPROVED SHATTER-RESISTANT MATERIALS FOR SHOWER ENCLOSURE.

- M.E.P. AND INSULATION**
- THE BUILDING DESIGN MEETS THE REQUIREMENTS OF TITLE 24, PART 2, CHAPTER 2-53.
  - INSULATION INSTALLER SHALL POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER AND BUILDER STATING THAT THE INSULATION CONFORMS WITH THE REQUIREMENTS OF TITLE 24, CHAPTER 2-53 AND THAT THE MATERIALS INSTALLED CONFORM WITH THE REQUIREMENTS OF TITLE 20, CHAPTER 2, SUBCHAPTER 4, ARTICLE 3.
  - ALL INSULATION MATERIALS SHALL BE CERTIFIED BY THE MANUFACTURER AS COMPLYING WITH THE CALIFORNIA QUALITY STANDARD FOR INSULATING MATERIAL.
  - MANUFACTURED DOORS AND WINDOWS SHALL BE CERTIFIED AND LABELED IN COMPLIANCE WITH THE APPROPRIATE INFILTRATION STANDARDS LISTED IN TABLE 2-53V OF ENERGY REGULATIONS.
  - ALL FAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING SHALL BE PROVIDED WITH BACK DRAFT DAMPERS.
  - CAULK AROUND ALL PLUMBING AND ELECTRICAL PENETRATIONS INTO THE BUILDING ENVELOPE.
  - CAULK AND SEAL AROUND ALL WINDOWS AND DOOR FRAMES AND BETWEEN WALL SOLE PLATES AND FLOORS AND BETWEEN EXTERIOR WALL PANELS.
  - DUCTS SHALL BE CONSTRUCTED, INSTALLED AND INSULATED ACCORDING TO CHAPTER 10 OF THE 2013 UNIFORM MECHANICAL CODE. ALL JOINTS OF THE DUCT SYSTEMS SHALL BE TIGHTLY SEALED WITH MASTIC OR TAPE AND FASTENERS.
  - STORAGE TYPE WATER HEATERS AND STORAGE TANKS FOR SOLAR WATER HEATING SYSTEMS SHALL BE EXTERNALLY WRAPPED WITH INSULATION OF R-12 OR GREATER, UNLESS SO INTERNALLY INSULATED.
  - PROVIDE MINIMUM R-3 INSULATION ON WATER HEATER INLET AND OUTLET PIPE THROUGHOUT THE BUILDING.
  - GENERAL LIGHTING IN KITCHEN AND BATHROOMS SHALL HAVE AN EFFICIENCY OF NOT LESS THAN 25 LUMENS/WATTS. (SPECIFY FLUORESCENT OR LED LIGHTING).
  - MECHANICAL VENTILATION**  
A. ALL BATHROOMS, TOILET ROOMS, POWDER ROOMS SHALL BE VENTILATED TO PROVIDE 5-MINUTE MINIMUM AIR CHANGES, AND CONNECTED DIRECTLY TO THE OUTSIDE. FAN SHALL BE OPERATED FROM A LIGHT.
- FIRE DEPARTMENT NOTES**
- RESIDENTIAL STRUCTURES SHALL BE LIMITED TO A MAXIMUM OF 60 PSI STATIC SERVICE PRESSURE; SITES CONSISTENTLY EXPERIENCING GREATER THAN 65 PSI SHALL REQUIRE INSTALLATION OF A PRESSURE REGULATOR. PIPING FOR FIRE SPRINKLER SYSTEMS IS EXCLUDED FROM THIS REQUIREMENT.
  - AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH PROVISIONS SET FORTH IN THE CALIFORNIA FIRE CODE AS AMENDED BY THE COUNTY OF LAKE AND THE APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION STANDARD (13D).
  - AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE DESIGNED BY A FIRE PROTECTION ENGINEER OR C-16 LICENSED CONTRACTOR.
  - PROVIDE U.L. APPROVED CARBON MONOXIDE DETECTORS WHERE SHOWN ON PLANS.
  - PROVIDE U.L. APPROVED SMOKE AND FIRE DETECTORS WITHIN 12" OF CEILING AND WHERE SHOWN ON PLANS.

# PROJECT DATA

**PROJECT ADDRESS:**  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

**OWNER:**  
BONNY MEYER

**LEGAL DESCRIPTION:**  
APN# 030-200-080

**SCOPE OF WORK:**  
NEW 1,500 SF BARN FOR STORAGE AND PARKING.

**TYPE OF USE:**  
GROUP U

**TYPE OF CONSTRUCTION:**  
VB

**SPRINKLED:**  
NOT REQUIRED

**BASE FLOOD ELEVATION:** 135.5' 136.0'

**GRADE ELEVATION:** 131'

**TOP OF CONCRETE FLOOR ELEVATION:** 131'

**DEFERRED SUBMITTAL:**  
SOLAR PV SYSTEM - *Separate Permit Required*

*FEMA Flood Zone Notes*  
1) Project located in 100-year FEMA designated floodzone AE based on FIRM panel 06055C0385E.  
2) Base Flood Elevation (BFE) = 136.0' NAVD88  
3) Design Flood Elevation (DFE) = 137.0' NAVD88  
4) All construction materials used below the DFE (137.0') shall be Flood Resistant Materials in accordance with FEMA Technical Bulletin 2.

16.04 FLOODPLAIN / FLOODWAY  
NAPA COUNTY  
PLANNING, BUILDING & ENVIRONMENTAL SERVICES  
BFE+1FT: 137.0' FIRM Panel: 06055C0385E  
FPMP#: ~~XXXX-XXXX~~ BY: DB

# PROJECT DATA

**ARCHITECT & CONTRACTOR**  
HEALTHY BUILDINGS  
3432 VALLE VERDE  
NAPA, CALIFORNIA 94558  
PH: 707.676.8999

**SOILS ENGINEER**  
RGH CONSULTANTS  
1041 JEFFERSON ST SUITE 4  
NAPA, CA 94559  
PH: 707.252.8105

**STRUCTURAL ENGINEER**  
ZFA STRUCTURAL ENGINEERING  
1212 FOURTH ST, SUITE Z  
SANTA ROSA, CA 95404

# DRAWING INDEX

- A1.0 - GENERAL NOTES & PROJECT DATA
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- A9.1 - WINDOW SCHEDULE, VENT SPEC & DETAILS
- SO.1 - GENERAL NOTES & SPECS
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- S1.3 - TYP. METAL STUD DETAILS
- S2.1 - FOUNDATION & ROOFING FRAMING PLANS
- S3.1 - WALL ELEVATIONS
- S4.1 - FOUNDATION & FRAMING DETAILS



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OFFICE SET

MEYER SOLAR BARN  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

GENERAL NOTES & PROJECT DATA

**ISSUE/REVISIONS:**

7/1/16	PERMIT SUBMITTAL
10/13/16	PERMIT SUBMITTAL

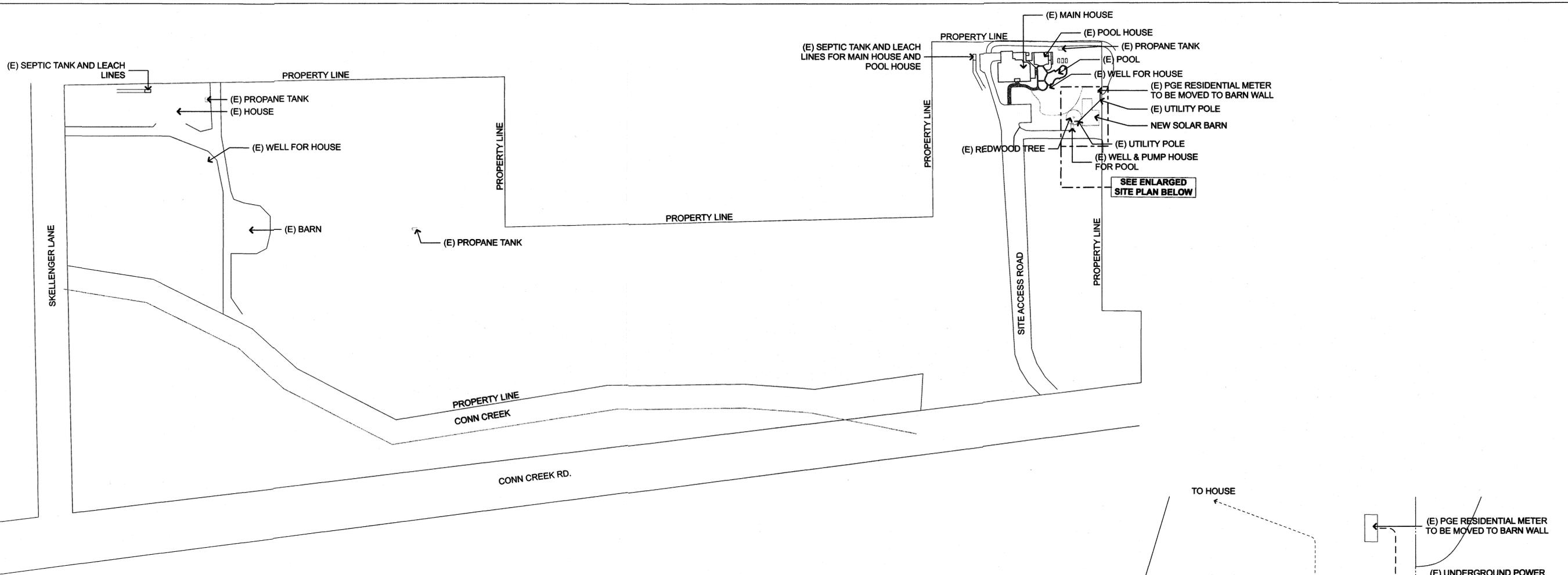
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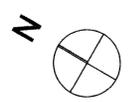
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By: *[Signature]* Date: OCT 18 2016  
No.: 16-01016  
Napa County Planning, Building & Environmental Services  
Bldg. Div.

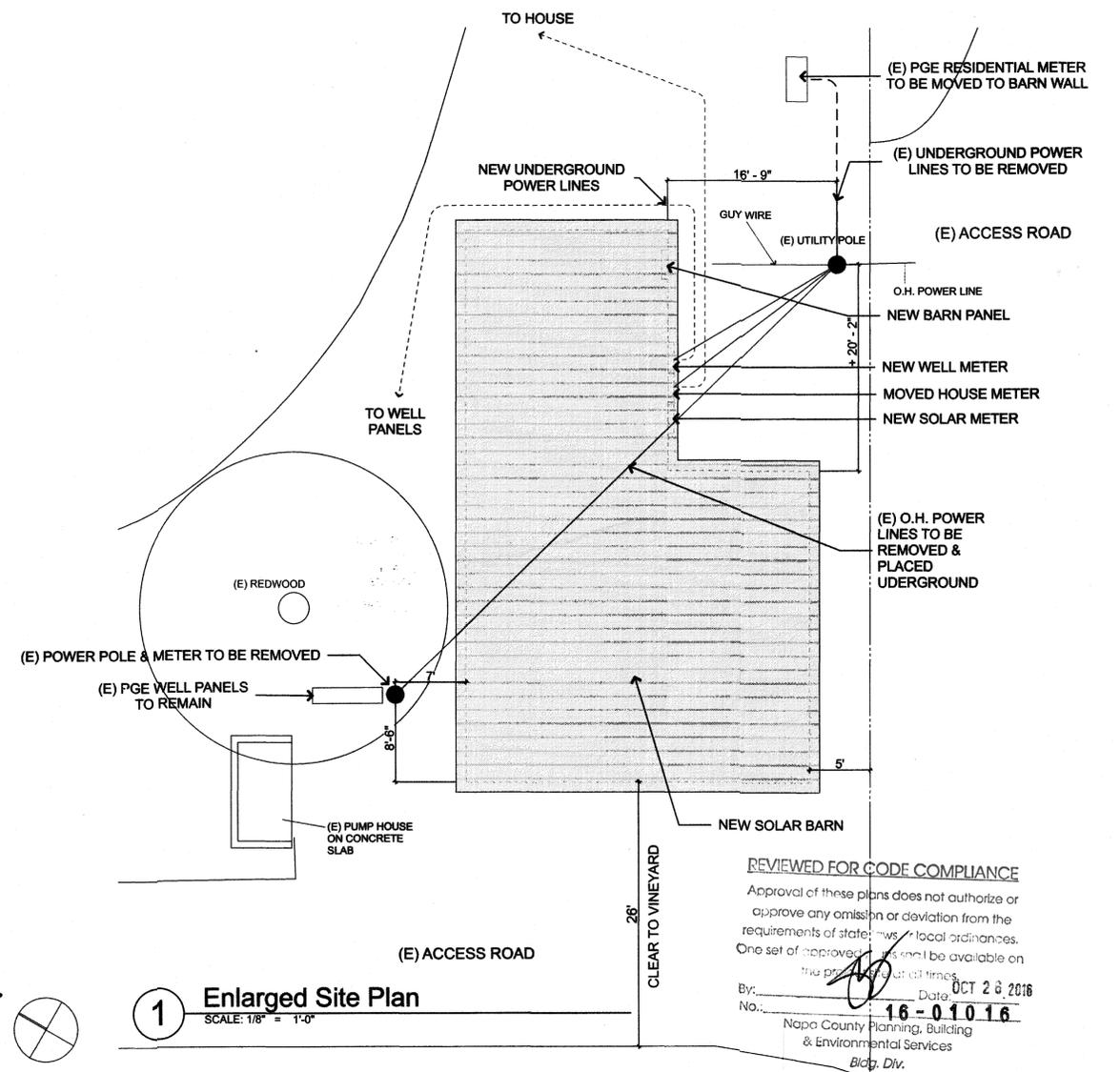
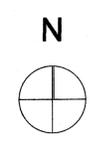
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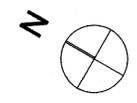
**2 SITE PLAN**  
SCALE: 1" = 100'



**VICINITY MAP**



**1 Enlarged Site Plan**  
SCALE: 1/8" = 1'-0"



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Blg. Div.



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**MEYER SOLAR BARN**  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

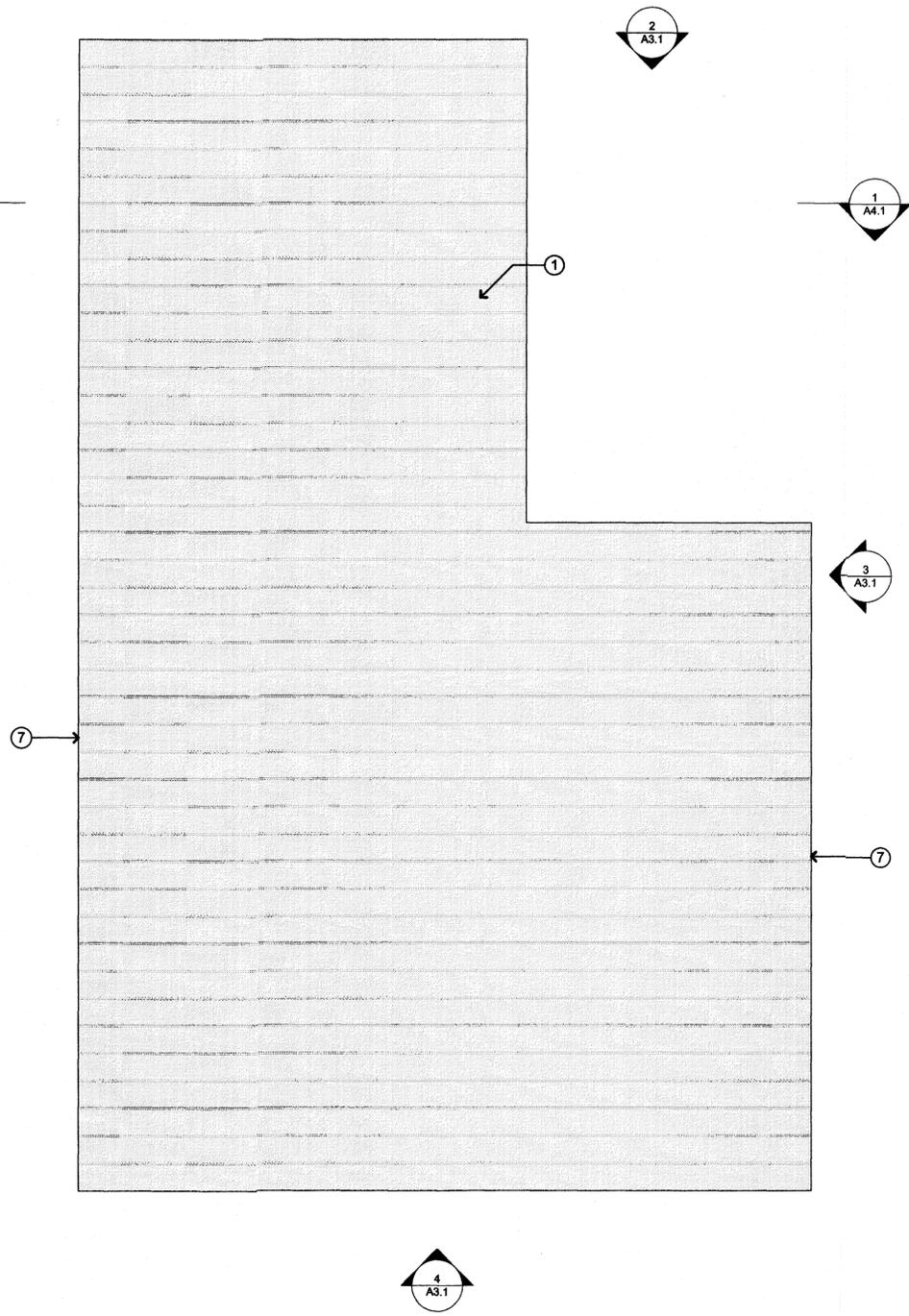
**SITE PLAN**

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10/13/16 PERMIT RESUBMITTAL

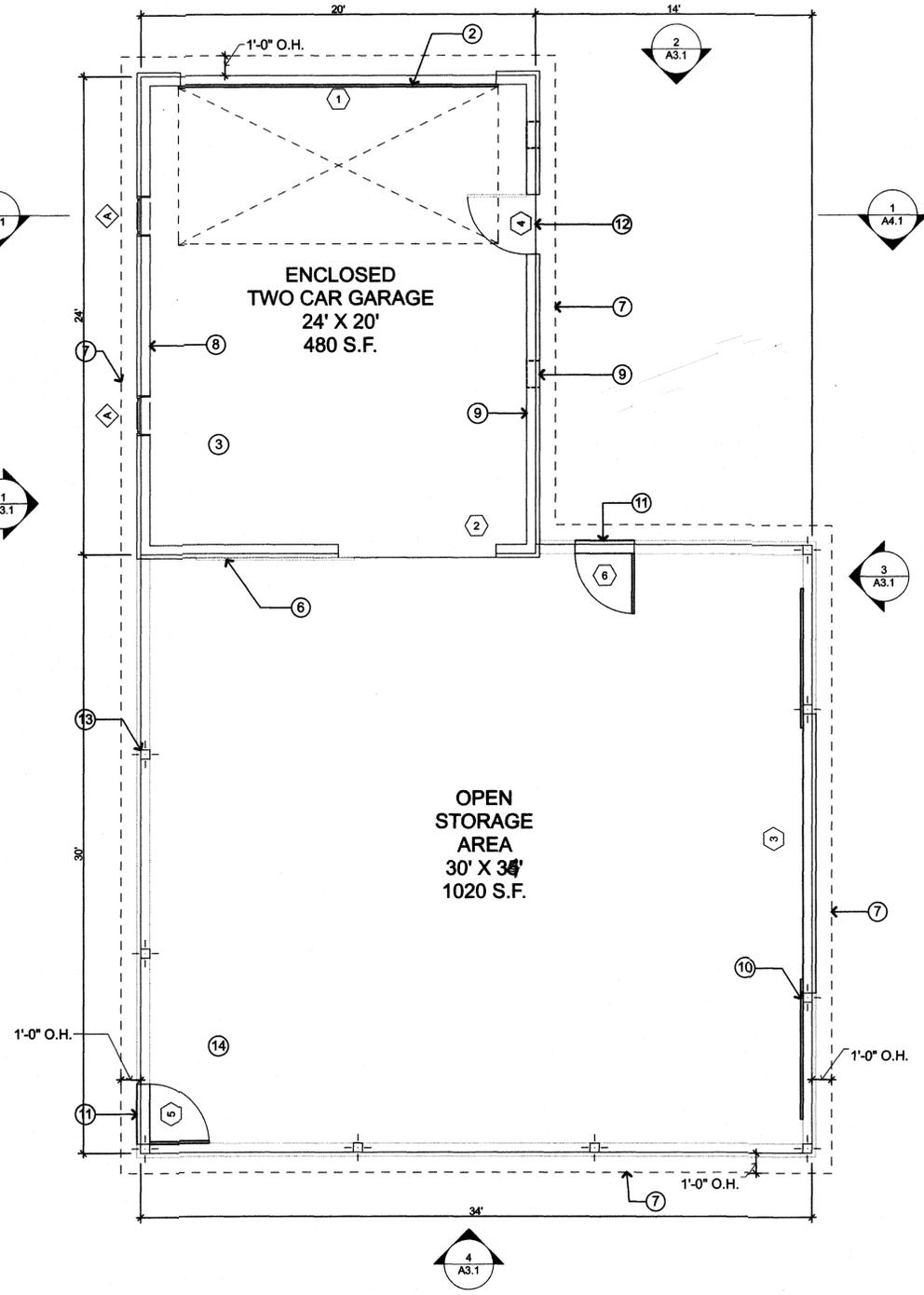
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**2** ROOF PLAN  
 SCALE: 1/4" = 1'-0"



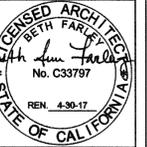
**1** FLOOR PLAN  
 SCALE: 1/4" = 1'-0"



- KEYNOTES - PLAN (NOT ALL NOTES USED ON EVERY SHEET)**
1. STANDING SEAM METAL ROOF.
  2. OVERHEAD GARAGE DOOR 16'-0" X 8'-0".
  3. CONCRETE FLOOR.
  4. GALVANIZED GUTTER GSM FASCIA.
  5. GALVANIZED DOWNSPOUT - GSM RECTANGULAR SHAPE.
  6. SINGLE SLIDING BARN DOOR 8'-0" X 8'-0".
  7. 12" O.H. - TYP.
  8. STEEL FRAMING OPEN @ INTERIOR SIDE. TYP.
  9. FLOOD VENT TYP. - BOTTOM OF FLOOD VENT 8" ABOVE GRADE.

10. DOUBLE SLIDING BARN DOOR W/ PERFERATED STEEL DOOR PANELS 14'-0" X 7'-0"
11. MAN DOOR W/ PERFERATED STEEL DOOR PANEL 3'-0" X 7'-0"
12. MAN DOOR STAINED FIBERGLASS 3'-0" X 6'-8"
13. STEEL COLUMN 5" X 5" TYP.
14. GRAVEL FLOOR

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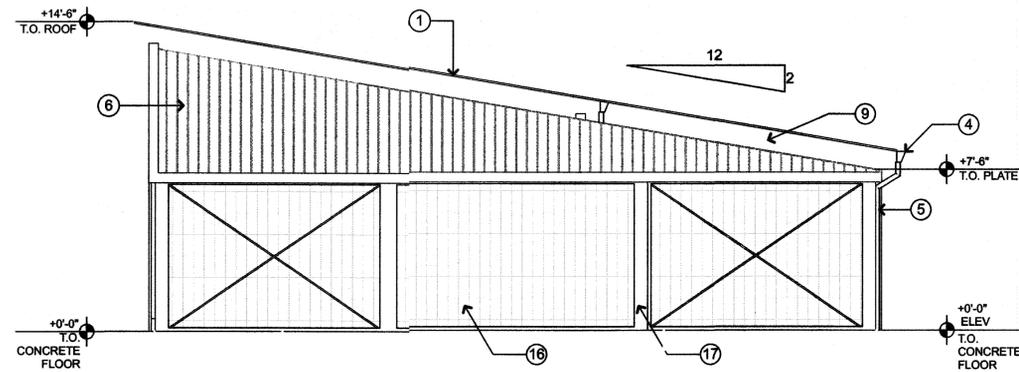
MEYER SOLAR BARN  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

BUILDING ELEVATIONS

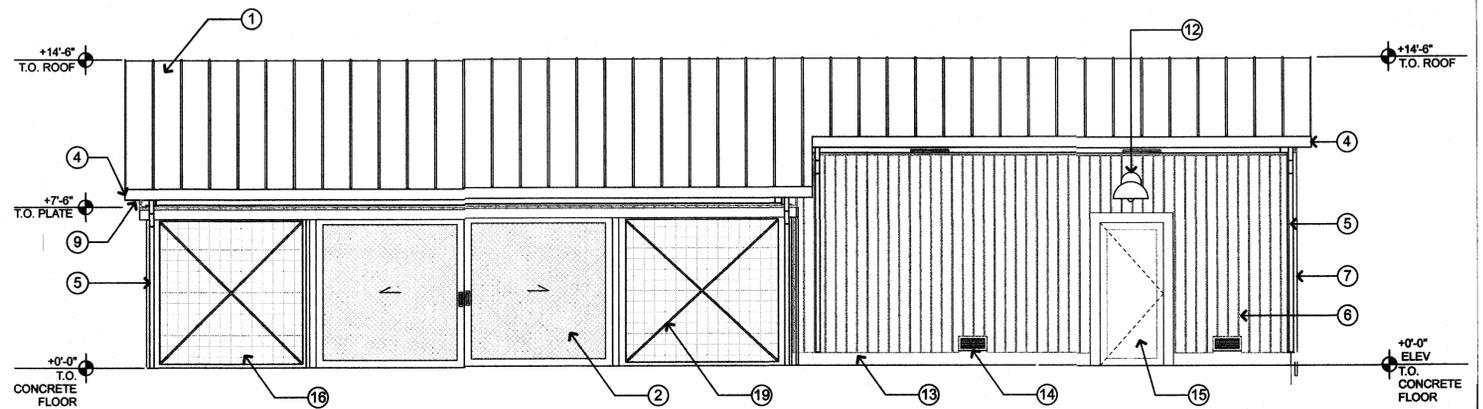
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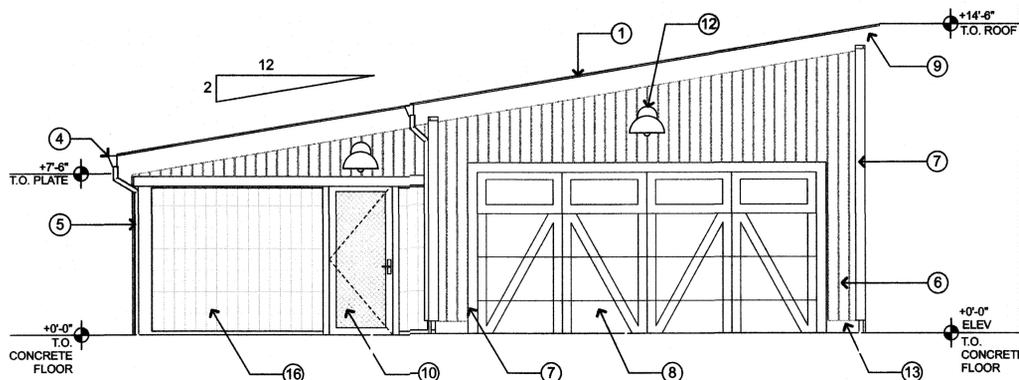
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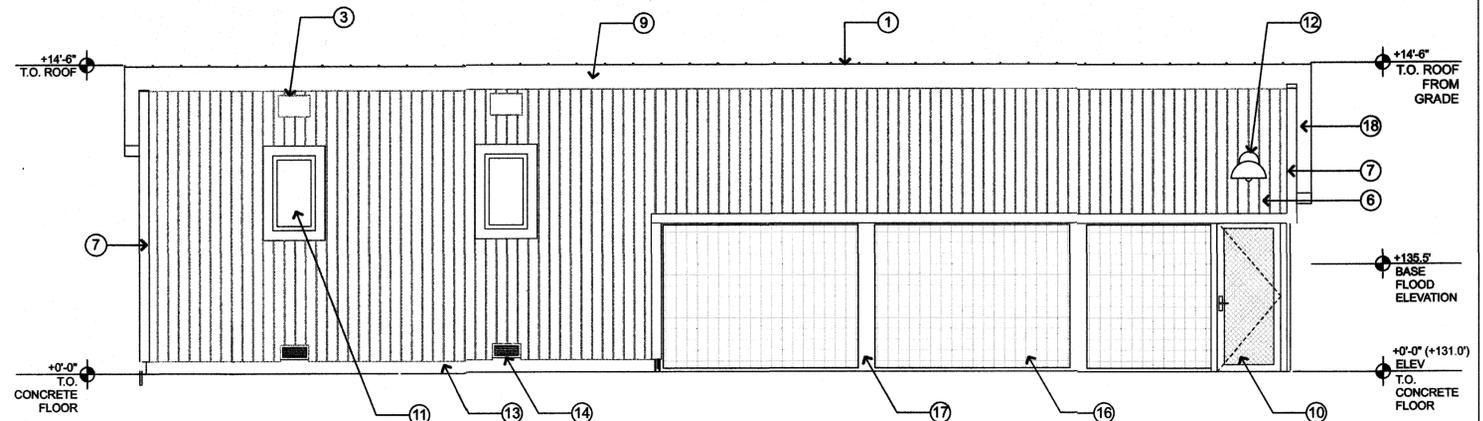
**4 WEST ELEVATION**  
A3.1 SCALE: 1/4" = 1'-0"



**3 SOUTH ELEVATION**  
A3.1 SCALE: 1/4" = 1'-0"



**2 EAST ELEVATION**  
A3.1 SCALE: 1/4" = 1'-0"



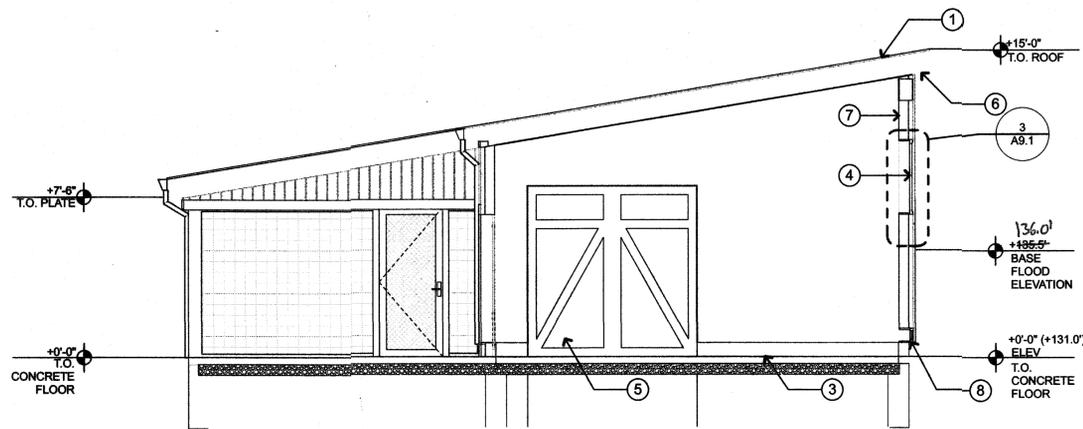
**1 NORTH ELEVATION**  
A3.1 SCALE: 1/4" = 1'-0"

**KEYNOTES - ELEVATION (NOT ALL NOTES USED ON EVERY SHEET)**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1. STANDING SEAM METAL ROOF (CLASS A).</li> <li>2. DOUBLE SLIDING BARN DOOR W/ PERFERATED STEEL DOOR PANELS 14'-0" X 7'-0"</li> <li>3. EAVE VENT WITH INSECT SCREEN.</li> <li>4. GALVANIZED GUTTER GSM FASCIA.</li> <li>5. GALVANIZED DOWNSPOUT - GSM RECTANGULAR SHAPE.</li> <li>6. STAINED "REDWOOD" FIBERCEMENT BOARD SIDING.</li> <li>7. PAINTED FIBERCEMENT CORNER BOARDS, DOORS, AND WINDOW, TYP.</li> <li>8. STAINED "REDWOOD" STEEL OVERHEAD GARAGE DOOR 16'-0" X 8'-0".</li> <li>9. PAINTED FIBERCEMENT BOARD FASCIA TYP.</li> <li>10. MAN DOOR W/ PERFERATED STEEL DOOR PANEL 3'-0" X 7'-0"</li> </ul> | <ul style="list-style-type: none"> <li>11. WOOD WINDOWS, TYP. - SEE WINDOW SCHEDULE FOR TYPE.</li> <li>12. LED WALL LIGHT W/ OCCUPANCY SENSOR</li> <li>13. CONCRETE SLAB FLOOR</li> <li>14. FLOOD VENTS WITH INSECT SCREEN, TYP. - BOTTOM OF FLOOD VENT 8" ABOVE GRADE</li> <li>15. MAN DOOR STAINED FIBERGLASS PANEL 3'-0" X 6'-8"</li> <li>16. HOG WIRE</li> <li>17. STEEL COLUMN 5" X 5"</li> <li>18. PAINTED FIBERCEMENT BOARD AT EAVES TYP.</li> <li>19. CABLE X BRACING, SSD.</li> </ul> |
|---|--|

**REVIEWED FOR CODE COMPLIANCE**

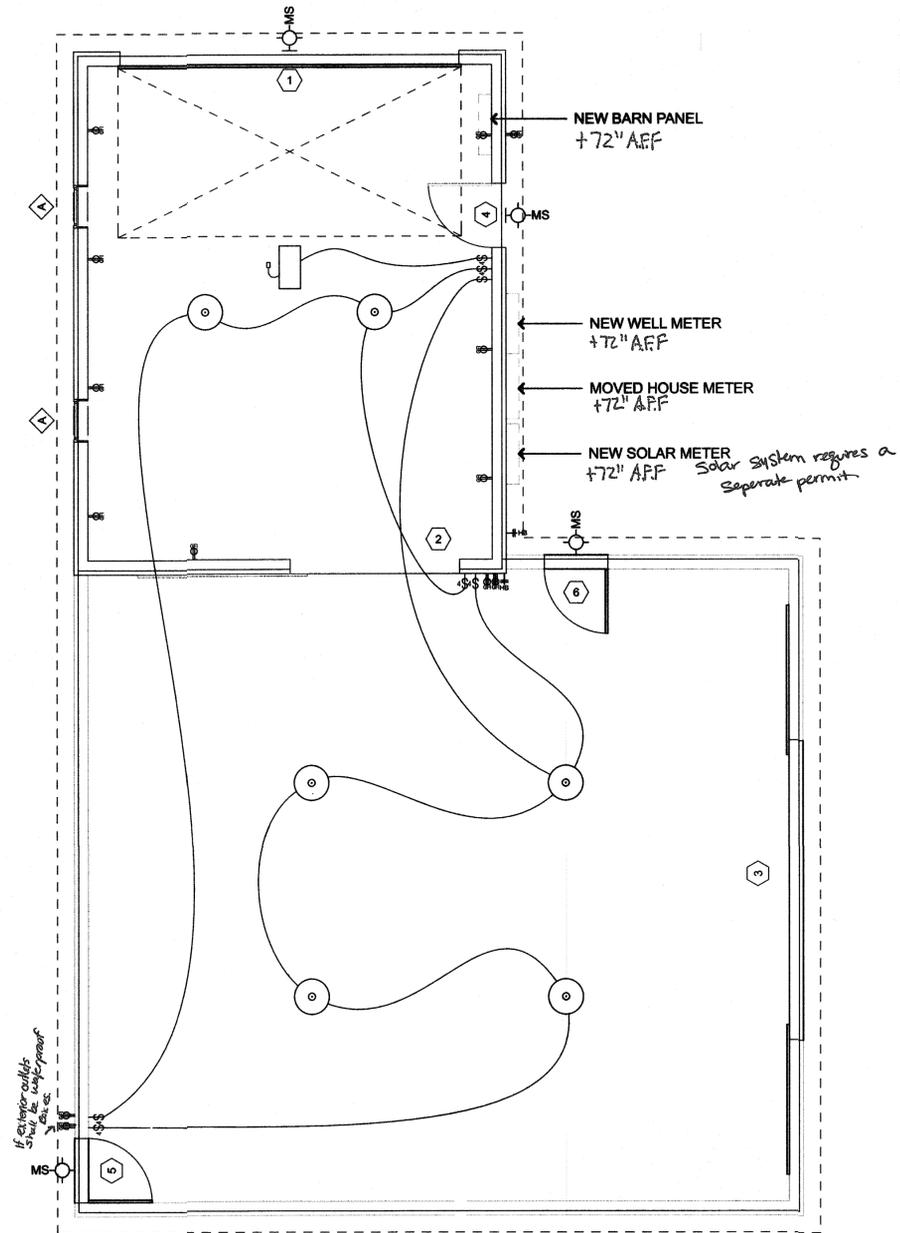
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No.: **16-01016**  
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Bldg. Div.



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

KEYNOTES - SECTION (NOT ALL NOTES USED ON EVERY SHEET)

1. STANDING SEAM METAL ROOF
2. SOLAR PANELS - *Separate permit required.*
3. CONCRETE SLAB, SLOPED TO DRAIN (MAX. 2% IN ANY DIRECTION).
4. WOOD WINDOWS, TYP. - SEE WINDOW SCHEDULE FOR TYPE.
5. BARN DOOR.
6. 12" O.H. TYP.
7. STEEL FRAMING OPEN @ INTERIOR SIDE, TYP.
8. FLOOD VENTS WITH INSECT SCREEN - BOTTOM OF FLOOD VENTS 8" ABOVE GRADE



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

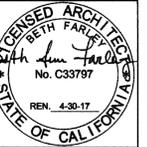
ELECTRICAL SYMBOLS & LEGENDS

- LED BARN LIGHT
- with 'H' Outdoor LED WALL LIGHT FIXTURE WATERPROOF W/ MOTION SENSOR
- ⊖ with 'M' 110V DUPLEX POWER RECEPTACLE
- ⊖ with '2M' 220V DUPLEX POWER RECEPTACLE
- LIGHT SWITCH - WATER PROOF
- ⊕ with 'HB' HOSE BIB

ELECTRICAL NOTES

1. ALL ELECTRICAL WIRING TO BE IN STEEL CONDUIT
2. ALL OUTLETS, SWITCHES, METERS & PANELS @ 72" A.F.F.

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MEYER SOLAR BARN  
794 OAKVILLE CROSS ROAD  
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WINDOW SCHEDULE, DETAILS & VENT SPECS.

ISSUE/REVISIONS:  
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10/13/16 PERMIT RESUBMITTAL  
DRAWN BY: CM  
SCALE:  
SHEET NO.:  
**A9.1**

**FLOOD VENTING REQUIREMENT\*:**

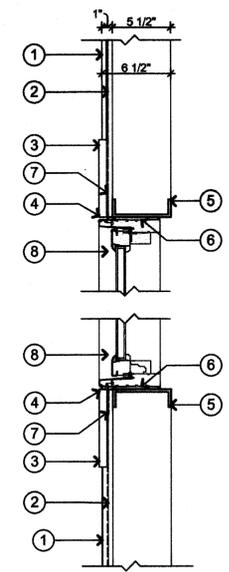
SMART VENT - ENGINEERED VENT  
MODEL #1540-510  
FLOOD COVERAGE 200 SF/VENT  
VENT SIZE 16"W X 8"H X 3"D  
ROUGH OPENING 16 1/4" X 8 1/4"

BARN: 480 S.F

480 SF / 200 SF = 2.4 FLOOD VENTS NEEDED  
4 FLOOD VENTS PROVIDED

\*SEE ATTACHED PDF

1. FIBERCEMENT SIDING PANEL MECHANICALLY FASTENED TO SHEATHING.
2. AIR AND MOISUTRE RAINSCREEN HOUSEWRAP MEMBRANE O/ 7/16" MARINE GRADE PLYWOOD SHEATHING.
3. 3/4" x 7.25" FIBERCEMENT BOARD TRIM AROUND WINDOW.
4. G.S.M. J-CHANNEL WEEP SCREED @ WINDOW HEAD, G.S.M. J-CHANNEL EDGE W/ CONT. SEALANT & BEAD AT WINDOW JAMB AND SILL.
5. 2x6 METAL STUD FRAMING TYP., S.S.D. FOR WINDOW HEAD AND SILL DETAILS.
6. CONTINUOUS SEALANT W/ LOW PROFILE FOAM AT WINDOW R.O.
7. 6" WIDE SELF ADHERING WEATHER BARRIER LAPPED O/ WINDOW NAIL FIN. WEATHER BARRIER ALSO LAPPED AROUND WINDOW R.O.
8. ALUMINUM CLAD WOOD WINDOW W/ INTEGRAL NAILING FIN.



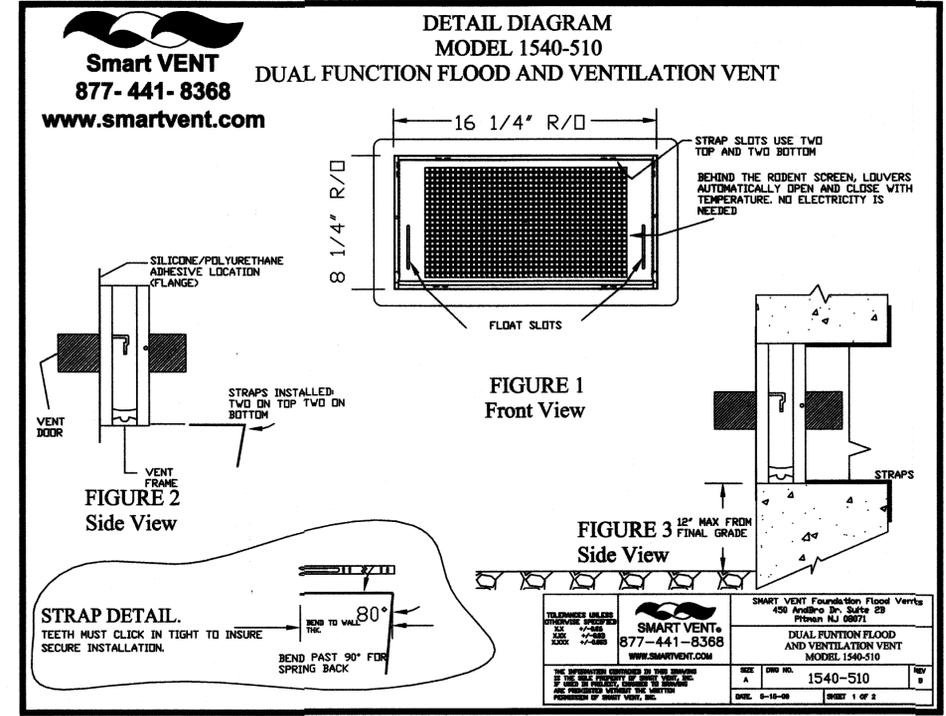
**3 WINDOW DETAIL**  
SCALE: 1 1/2" = 1'-0"

DOOR SCHEDULE									
MARK	#	TYPE	MATERIAL	NOMINAL SIZE	HAND	GLAZING	COLOR	FINISH	HARDWARE
1	1	OVERHEAD GARAGE	STEEL	16'x8'	N/A	NO	STAIN	CLEAR SEALED	SATIN NICKEL
2	1	SLIDING BARN	FIBERCEMENT	8'x8'	N/A	NO	STAIN	CLEAR SEALED	SATIN NICKEL
3	1	DOUBLE SLIDING BARN	POWDER COATED STEEL	14'x7'	N/A	NO	GALVANIZED STEEL	GALVANIZED STEEL	SATIN NICKEL
4	1	EXTERIOR SWING	FIBERGLASS	3'x6'-8"	RIGHT	NO	STAIN	CLEAR SEALED	SATIN NICKEL
5	1	EXTERIOR SWING	POWDER COATED STEEL	3'x7'	RIGHT	NO	GALVANIZED STEEL	GALVANIZED STEEL	SATIN NICKEL
6	1	EXTERIOR SWING	POWDER COATED STEEL	3'x7'	LEFT	NO	GALVANIZED STEEL	GALVANIZED STEEL	SATIN NICKEL

**2 Door Schedule**  
SCALE: 1" = 1'-0"

WINDOW SCHEDULE												
ID	QUANTITY	TYPE	HEAD HEIGHT	EGRESS WINDOW	DESCRIPTION	SIZE		GLAZING	COLOR	FINISH	HARDWARE	SCREEN
						WIDTH	HEIGHT					
A	2	Window	9'-0"	NO	CASEMENT	2'	3'-6"	DUAL LOW-EZ	STAINED REDWOOD INTERIOR & EXTERIOR	REDWOOD INTERIOR & EXTERIOR	SATIN NICKEL	ULTRAVUE

**1 WINDOW SCHEDULE**



**4 VENT SPEC SHEET**

REVIEWED FOR CODE COMPLIANCE  
Approval of these plans does not authorize or improve any provision or deviation from the requirements of state laws or local ordinances. One set of approved plans shall be available on the project site at all times.  
By: [Signature] Date: OCT 26 2016  
No.: 16-01016  
Napa County Planning, Building & Environmental Services  
Bldg. Div.

**G MATERIAL DATA**

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY ULTIMATE COMPRESSIVE STRENGTH:  
 F<sub>c</sub> = 4,000 PSI MAT SLAB FOUNDATIONS  
 F<sub>c</sub> = 3,000 PSI PATIO SLABS

REINFORCING STEEL YIELD STRENGTH:  
 F<sub>y</sub> = 40,000 PSI AT #3 AND SMALLER  
 F<sub>y</sub> = 60,000 PSI AT #4 AND LARGER

STEEL YIELD STRENGTH (UNO):  
 F<sub>y</sub> = 50,000 PSI W SHAPES  
 F<sub>y</sub> = 36,000 PSI ANGLES, CHANNELS, AND PLATES  
 F<sub>y</sub> = 48,000 PSI RECTANGULAR HSS  
 F<sub>y</sub> = 42,000 PSI ROUND HSS  
 F<sub>y</sub> = 35,000 PSI PIPES

FASTENERS:  
 MACHINE BOLTS SHALL BE ASTM A307  
 HIGH STRENGTH BOLTS SHALL BE ASTM A325 UNO  
 ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO  
 ARC-WELDING ELECTRODES SHALL BE E70

COLD FORMED METAL FRAMING YIELD STRENGTH:  
 F<sub>y</sub> = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)  
 F<sub>y</sub> = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

**E LIGHT GAUGE METAL FRAMING NOTES**

- SEE PLANS, DETAILS, AND ARCHITECTURAL DRAWINGS FOR METAL FRAMING LOCATIONS. SEE ARCHITECTURAL DRAWINGS FOR WALL WIDTHS AND CONFIGURATIONS.
- EACH FRAMING MEMBER IS DESIGNATED BY A FOUR PART CODE INDICATING THE SIZE (BOTH DEPTH AND FLANGE WIDTH), STYLE, AND MATERIAL THICKNESS. FOR EXAMPLE, 600S162-54:  
 600 - MEMBER DEPTH IN 1/100" (6")  
 S - MEMBER STYLE - S=STUD, T=TRACK  
 162 - FLANGE WIDTH IN 1/100" (1 1/2")  
 54 - MATERIAL THICKNESS IN MILS (0.054")
- TYPICAL METAL STUDS AND FRAMING ARE PER SCHEDULE 181.2 UNO. SUBMIT SHOP DRAWINGS AND MANUFACTURER'S INFORMATION SHOWING CONFORMANCE TO CRITERIA SHOWN ON DRAWINGS AND SPECIFICATIONS. MINIMUM METAL THICKNESS = 33MILS (20GA).
- TYPICAL SHEATHING:  
 A. SLOPING ROOF SHEATHING (SLOPE GREATER THAN 2:12): 1/2" APA RATED SHEATHING (32/16) EXP 1 WITH #10 SMS @ 8"oc EDGES (PEN) AND 12"oc FIELD UNO ON PLANS. LAY PERPENDICULAR TO FRAMING MEMBERS. PROVIDE SHTG CLIPS AT UNSUPPORTED EDGES. NO PANELS LESS THAN 24" WIDE SHALL BE USED. STAGGER SHEETS

- TYPICAL TRACKS ARE SAME GAUGE (MILS) AS STUD, 43 MILS MINIMUM UNO (IE. ON SHEAR WALL SCHEDULE). FLANGE TO BE 1 1/2" MIN.
- ALL STUDS TO BE CONTINUOUS. ALL TRACKS IN HEADERS AND SILLS TO BE CONTINUOUS SINGLE-PIECE BETWEEN JAMB STUDS OR PARAPET POSTS.
- FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OR WELDING. SCREWS OR WELDS NOT SHOWN SHALL BE OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED-UP WITH A ZINC-RICH PAINT. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED.

METAL SCREWS (MS) OR (SMS) TO BE PAN-HEAD OR HEX-HEAD, SELF-DRILLING OR IN PRE-DRILLED HOLE, OF SIZE AS NOTED ON DRAWINGS, AND OF SUFFICIENT LENGTH TO ACHIEVE FULL PENETRATION INTO ALL MEMBERS AT CONNECTIONS (3 - THREAD PENETRATION MINIMUM BEYOND LAST PLY). MINIMUM EDGE DISTANCE AND SPACING IS 1" IN ALL MEMBERS. SEE SHEAR WALL NOTES FOR ADDITIONAL REQUIREMENTS.

POWDER DRIVEN PINS (PDP) TO BE 0.157"Ø x MINIMUM 1 1/4" LONG HILTI X-U UNO. MINIMUM DISTANCE TO EDGE OF CONCRETE IS 3". MINIMUM SPACING TO BE 4"oc. DO NOT USE PDP AT CONCRETE CURBS. AT STRUCTURAL STEEL USE 0.157"Ø x 1 1/4" LONG HILTI X-U UNO.

SCREW ANCHOR SIZE AND EMBEDMENT ARE AS REQUIRED PER DRAWINGS. MINIMUM STEEL EDGE DISTANCE IN TRACK IS 2x ANCHOR DIAMETER AND MINIMUM SPACING IS 3x ANCHOR DIAMETER UNO. SEE SCREW ANCHOR SCHEDULE FOR CONCRETE REQUIREMENTS.

METAL STUDS TO BE LATERALLY BRACED WITH GYPSUM BOARD BOTH SIDES PER CBC OR BRACED AT 4'-0"oc MAXIMUM PER 181.3.

METAL JOISTS SPANNING GREATER THAN 8'-0" SHALL HAVE MIDSPAN BLOCKING PER 81.3. METAL JOISTS SPANNING GREATER THAN 16'-0" SHALL HAVE BLOCKING PER 81.3 AT THIRD POINTS.

TYPICAL STUD-TO-TRACK CONNECTIONS PER 211.3 UNO. MAXIMUM GAP OF 1/4" IS ALLOWED BETWEEN STUDS AND TRACK AT STANDARD WALLS. TRIM STUDS TO FULLY BEAR.

TYPICAL WALL INTERSECTIONS PER 71.3 UNO.

PROVIDE LIGHT GAUGE METAL BACKING FOR ARCHITECTURAL FINISHES AND FURNISHINGS, SAD.

TYPICAL PUNCHOUTS PER 81.3.

PROVIDE FLAT BLOCKING PER 81.3 OR FULL DEPTH BLOCKING PER 81.3 BELOW STRAPS IN WALLS AND FLOORS, TYPICAL UNO.

PROVIDE LIGHT GAUGE METAL BACKING FOR ARCHITECTURAL FINISHES AND FURNISHINGS, SAD.

TYPICAL PUNCHOUTS PER 81.3.

PROVIDE FLAT BLOCKING PER 81.3 OR FULL DEPTH BLOCKING PER 81.3 BELOW STRAPS IN WALLS AND FLOORS, TYPICAL UNO.

TYPICAL PUNCHOUTS PER 81.3.

**F LIGHT GAUGE METAL SHEAR WALL NOTES**

- PEN = PLYWOOD/OSB SHEATHING EDGE SCREWING. BLOCK ALL UNSUPPORTED EDGES WITH 18GA x 3" MIN WIDTH STRAP MATERIAL UNO.
- FIELD SCREWING TO BE 12"oc UNO.
- ALL SHEATHING SCREWS TO BE SELF DRILLING SELF TAPPING #8/#2 PILOT POINT BUGLE HEAD WITH A MINIMUM HEAD DIAMETER OF 0.3145" COMPLYING WITH ASTM C954.
- SHEAR WALL LENGTHS, WHERE NOTED, ARE MINIMUM. DO NOT LOCATE HOLD-DOWNS FROM THESE DIMENSIONS. SAD FOR ACTUAL WALL LENGTHS.
- HD REFERS TO SIMPSON STRONG TIE CO. HOLD-DOWN. INSTALL PER 311.2
- EDGE SCREW WALL SHEATHING TO DOUBLE STUDS WITH HOLD-DOWNS.
- PORTIONS OF WALL SURFACES ADJACENT TO SPECIFIED SHEAR WALLS SHALL BE SHEATHED FOR THE FULL, UNINTERRUPTED LENGTH PER NOTE #4 OR WITH GYPSUM BOARD OF THE SAME THICKNESS TO PROVIDE AN EVEN WALL SURFACE FOR FINISH MATERIALS.
- HOLE IN SHEATHING GREATER THAN 10 PERCENT OF PANEL LENGTH OR 5 PERCENT OF PANEL HEIGHT ARE NOT ALLOWED IN SHEAR WALLS UNLESS SHOWN ON THE STRUCTURAL DRAWINGS. NOTIFY ZFA FOR REVIEW OF PROPOSED HOLE LOCATIONS EXCEEDING THESE LIMITS. ALSO SEE 81.3 AND 91.3.
- STUDS SHALL BE BACK TO BACK AT ALL SHEAR WALL ENDS PER 51.2.

SHEAR WALL SCHEDULE					
SW	APA RATED SHEATHING	EDGE SCREW SPACING (PES)	ANCHORAGE		REMARKS
			AT FOUNDATION	AT FRAMING	
(A)	3/4" (24/16) MARINE GRADE PLYWOOD	#8 @ 8"oc	1/2"Ø x 4" @ 24"oc	(2) #8 @ 16"oc	43MIL STUDS AND TRACKS

1. ANCHORAGE AT FOUNDATION PER 181.1.

**C FOUNDATION NOTES**

- ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW, AND CHAPTER 18 OF THE CBC. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. MAXIMUM OVER EXCAVATION IN WIDTH SHALL BE LESS THAN 12 INCHES OR 25% OF FOOTING WIDTH, WHICH EVER IS LESS. 8 INCHES MAXIMUM PER SIDE. LARGER OVER EXCAVATION IN WIDTH SHALL BE FILLED WITH ADDITIONAL REINFORCED CONCRETE AS DIRECTED BY THE ENGINEER, OR FORMWORK SHALL BE PROVIDED. OVER-EXCAVATIONS IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. GEOTECHNICAL REPORT BY:  
 RGH CONSULTANTS  
 REPORT NO. 5475.14.04.2  
 DATED: NOVEMBER 2014
- USE 1/2" DIAMETER SCREW ANCHORS AT 48"oc PER 181.1 WHERE NOT OTHERWISE NOTED. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS. MINIMUM TWO ANCHOR BOLTS PER SILL PIECE.
- TYPICAL SLAB: 4" CONCRETE REINFORCED WITH #4 @ 16"oc AT MID-DEPTH OVER 6" MINIMUM FREE DRAINING COMPACTED ROCK PER SPECIFICATIONS ON SUBGRADE PER THE GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER.
- PROVIDE CONTROL JOINTS PER 81.1 (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x7' = 12'-0"oc MAX). INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION.
- REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR SLAB STEPS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB.
- TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

RGH CONSULTANTS  
 REPORT NO. 5475.14.04.2  
 DATED: NOVEMBER 2014

USE 1/2" DIAMETER SCREW ANCHORS AT 48"oc PER 181.1 WHERE NOT OTHERWISE NOTED. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS. MINIMUM TWO ANCHOR BOLTS PER SILL PIECE.

TYPICAL SLAB: 4" CONCRETE REINFORCED WITH #4 @ 16"oc AT MID-DEPTH OVER 6" MINIMUM FREE DRAINING COMPACTED ROCK PER SPECIFICATIONS ON SUBGRADE PER THE GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER.

PROVIDE CONTROL JOINTS PER 81.1 (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x7' = 12'-0"oc MAX). INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION.

REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR SLAB STEPS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB.

TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

**D STRUCTURAL SPECIFICATIONS**

CONCRETE CONSTRUCTION  
 1. CONCRETE SHALL BE HARD ROCK CONCRETE AND MEET THE FOLLOWING REQUIREMENTS:

LOCATION	MIN 28-DAY STRENGTH (PSI)	AGGREGATE SIZE	MAX WATER TO CEMENT RATIO <sup>3</sup>	MATERIAL PER CUBIC YARD <sup>3</sup>
<b>STRUCTURAL</b>				
INTERIOR SLAB ON GRADE <sup>2</sup>	3,000 (4,000 AT 96 DAYS)	1"x#4	0.45	6.1
FOUNDATIONS	3,000 (DESIGNED FOR 2,500)	1"x#4	0.53	5.0
<b>NON-STRUCTURAL</b>				
LEAN CONC FOR FTG BACKFILL	-	-	-	3.0
EXTERIOR SLAB ON GRADE (WALKS AND PATIOS)	2,500	1"x#4	0.55	4.5

2. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF CBC SECTIONS 1705 AND 1903, ACI 318 CHAPTER 5, AND THESE SPECIFICATIONS. CEMENT TO BE IN ACCORDANCE WITH ASTM C150 TYPE II. AGGREGATE TO MEET ASTM C33. FLY ASH TO MEET ASTM C618 CLASS F.

3. CONCRETE MIX DESIGN FOR INTERIOR SLABS ON GRADE TO HAVE 25% TO 35% CLASS F FLY ASH SUBSTITUTED FOR CEMENT AT A POUND-FOR-POUND RATE. REPLACE 200 POUNDS OF SAND WITH 200 POUNDS 3/4"(-) AGGREGATE TO REDUCE TOTAL SAND.

4. CLASS F FLY ASH MAY BE SUBSTITUTED UP TO 25% FOR CEMENT AT A POUND-FOR-POUND RATE, UNLESS SPECIFIED OTHERWISE. DO NOT USE FLY ASH IN HIGH EARLY STRENGTH CONCRETE.

5. UNDER SLAB VAPOR RETARDER TO BE ASTM E1745 CLASS A; 15 MILS MINIMUM THICKNESS; 0.01 U.S. PERMS MAXIMUM PERFORMANCE. INSTALL PER ASTM E1643 AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE "STEGO WRAP VAPOR BARRIER (15MIL) OR APPROVED EQUIVALENT. RETARDER SHALL EXTEND TO FOOTINGS BUT NOT TO BOTTOM OF FOOTING OR INTO A COLD JOINT.

6. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 OR A706 GRADE 60. BARS #3 AND SMALLER MAY BE ASTM A615 GRADE 40. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST. SECURELY TIE REBAR IN PLACE PRIOR TO CONCRETE PLACEMENT.

SLABS, BEAMS, WALLS AND OTHER CONCRETE SHALL BE KEPT CONTINUOUSLY WET FOR 48 HOURS AFTER PLACEMENT, AND SHALL BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. SLABS SHALL HAVE CURE/SEALER APPLIED IMMEDIATELY AFTER FINISHING IF OTHER FINISHES ARE NOT AFFECTED. WHEN CURE SEALER CAN NOT BE APPLIED, SLAB SHALL BE KEPT CONTINUOUSLY WET OR COVERED WITH CURING PAPER. CURE SHALL BE OF A TYPE THAT WILL NOT BE DETRIMENTAL TO SEALERS TO BE APPLIED LATER.

ANCHOR BOLTS - ASTM F1554 GRADE 36 THREADED ROD WITH DOUBLE NUTS OR ASTM A307 HEADED BOLTS. (NO "J" OR "L" BOLTS EXCEPT AT WOOD SILL PLATES). SECURELY TIE ANCHOR BOLTS IN PLACE PRIOR TO CONCRETE POUR.

MECHANICAL COUPLERS FOR REINFORCING STEEL TO BE "L-SERIES BAR LOCK" BY DAYTON SUPERIOR (ESR-2495) OR EQUAL COUPLER WITH ICC REPORT UNO.

CONCRETE EXPANSION ANCHORS ARE SIMPSON STRONG BOLT 2 (ESR-3037) OR HILTI KWIK BOLT TZ (ESR-1917). CONCRETE SCREW ANCHORS ARE SIMPSON TITEN HD (ESR-2713) OR HILTI KH-EZ (ESR-3027). CONCRETE EPOXY DOWEL ADHESIVE IS SIMPSON SET-XP (ESR-2508) OR HILTI HIT-RE 900-SD (ESR-3222).

**A DESIGN CRITERIA**

DESIGN CRITERIA:  
 ROOF LIVE LOAD: 20 PSF (REDUCIBLE)  
 RISK CATEGORY: II  
 WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 110  
 WIND EXPOSURE: C  
 INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18  
 MIN DESIGN PRESSURE FOR COMPONENTS AND CLADDING BY OTHERS: 42 PSF (W), AND AS REQD BY ASCE 7  
 SEISMIC IMPORTANCE FACTOR: I = 1.0  
 MAPPED SPECTRAL RESPONSE ACCELERATIONS: S<sub>ds</sub> = 1.956; S<sub>d1</sub> = 0.704  
 SITE CLASS: D  
 SPECTRAL RESPONSE COEFFICIENTS: S<sub>ds</sub> = 1.304; S<sub>d1</sub> = 0.704  
 SEISMIC DESIGN CATEGORY: D  
 SEISMIC FORCE RESISTING SYSTEM(S): METAL STUD FRAMED SHEAR WALLS, SPECIAL MOMENT FRAMES  
 RESPONSE MODIFICATION FACTOR(S): R = 6.5  
 DESIGN BASE SHEAR: 29.2k (ASD)  
 SEISMIC RESPONSE COEFFICIENT(S): C<sub>s</sub> = 0.154  
 ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

**B GENERAL NOTES**

- REFER TO SHEETS S1.1, S1.2 AND S1.3 FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
- BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK. ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
- REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
- SUBMIT ENGINEERING FOR DEFERRED APPROVAL ITEMS TO ARCHITECT/ENGINEER FOR REVIEW AND SUBMITTAL TO THE BUILDING DEPARTMENT FOR APPROVAL PRIOR TO FABRICATION. DEFERRED APPROVAL ITEMS SHALL BE DESIGNED AND DETAILED BY MANUFACTURER TO ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS AS NOTED IN STRUCTURAL DRAWINGS. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE DIMENSIONS AND DETAILS SHOWN ON THE SHOP DRAWINGS PRIOR TO SUBMITTAL. MANUFACTURER TO PROVIDE DRAWINGS AND CALCULATIONS DESIGNED IN ACCORDANCE WITH THE CBC AND SPECIFICATIONS, PREPARED AND SIGNED BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER FOR THE FOLLOWING ITEMS, UNLESS NOTED OTHERWISE:  
 A. PHOTOVOLTAIC SYSTEMS, INCLUDE ATTACHMENT TO STRUCTURE.

COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS 81.3, 81.3 AND 91.3 AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY. NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.

SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED.

SPECIAL INSPECTIONS ARE REQUIRED PER 181.1 AND THE TESTING AND INSPECTION FORM.

STRUCTURAL OBSERVATION PER CBC SECTION 1704.5 IS NOT REQUIRED. NOTIFY ZFA FOR GENERAL REVIEW OF:  
 - SHEAR WALLS, SHEAR PANELS AND FLOOR/ROOF DIAPHRAGMS, INCLUDING SCREWING, BOLTING, ANCHORAGE AND OTHER FASTENING TO OTHER COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM.

NOTIFY ZFA FOR REVIEW PRIOR TO COVERING ABOVE LISTED WORK. PROVIDE 2 WORKING DAYS MINIMUM SCHEDULING NOTICE PRIOR TO REVIEW DATE.

SHEET INDEX	
S0.1	GENERAL NOTES AND SPECIFICATIONS
S1.1	TYPICAL CONCRETE DETAILS
S1.2	TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS FOR CODE COMPLIANCE
S1.3	TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
S2.1	FOUNDATION AND ROOF FRAMING PLANS
S3.1	WALL ELEVATIONS
S4.1	FOUNDATION AND FRAMING DETAILS

One set of approved plans shall be available on the project site at all times. OCT 26 2016  
 By: [Signature] Date: 10/11/2016  
 No. 16-01016  
 Napa County Planning, Building & Environmental Services  
 Bldg. Div.



ZFA STRUCTURAL ENGINEERS  
 1212 Fourth Street, Suite 2  
 Napa, CA 94558  
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NOTICE

MEYER SOLAR BARN  
 794 OAKVILLE CROSS ROAD  
 NAPA, CA 94558

GENERAL NOTES AND SPECIFICATIONS

ISSUE/REVISIONS:  
 7/11/16 BLDG DEPT SUBMIT.  
 DRAWN BY: DRE  
 SCALE: As Indicated  
 SHEET NO.: S0.1

PERMIT SET

**MINIMUM BAR LAPS FOR REINFORCING STEEL**  
**CONCRETE STRENGTH: 2500 PSI OR GREATER (STAGGER SPLICES)**

SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH
#3	14"	#6	38"	#9	94"
#4	24"	#7	60"	#10	112"
#5	36"*	#8	76"	#11	132"

(CLASS B TOP BAR)  
 BAR SPGC SHALL NOT BE LESS THAN 4x BAR DIA OR 4".  
 \* WHERE COVER NOT LESS THAN 1 1/2", #5 LAP LENGTH = 30"

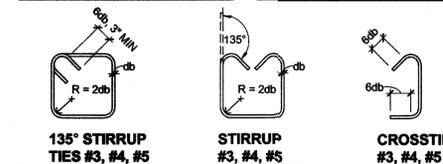
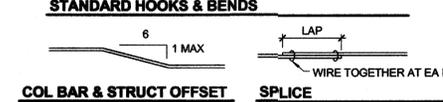
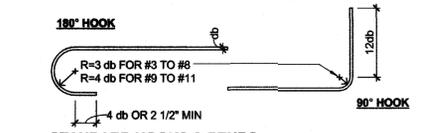
**CONC COVER FOR REINF STL** ..... "CLR"

CAST AGAINST EARTH OR GR ..... 3"

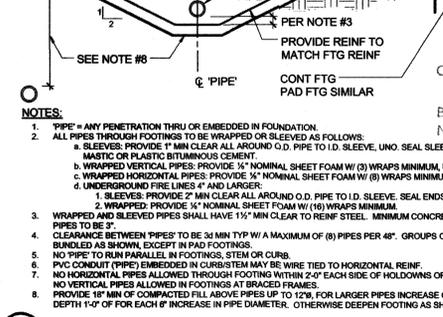
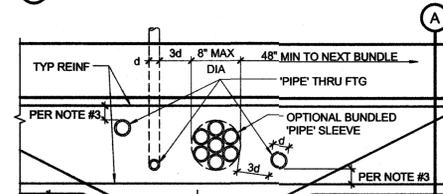
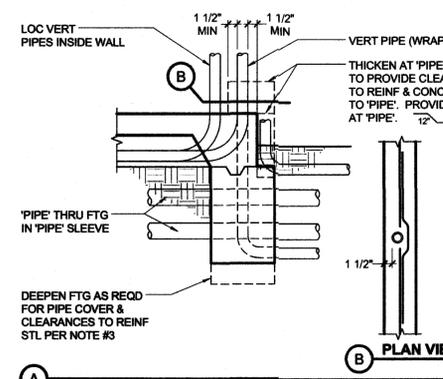
EXPOSED TO EARTH (FORMED) OR WEATHER  
 #5 & SMALLER ..... 1 1/2"  
 #8 & LARGER ..... 2"

NOT EXPOSED TO EARTH OR WEATHER  
 #5 & SMALLER ..... 1"  
 #8 & LARGER, & ALL BM STIRRUPS, COL TIES & SPIRALS ..... 1 1/2"

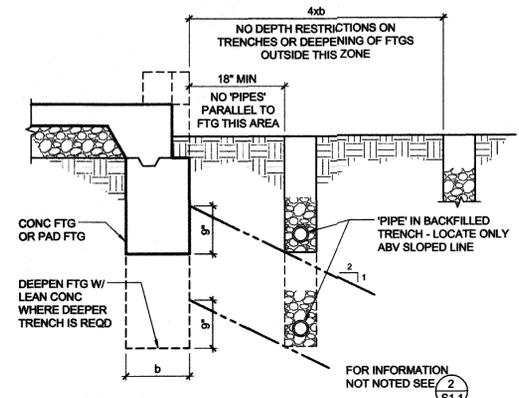
ALL REINF BARS SHALL EXTEND AS FAR AS POSSIBLE & END IN A STD 90° OR 180° HK UNLESS DETAILED OTHERWISE



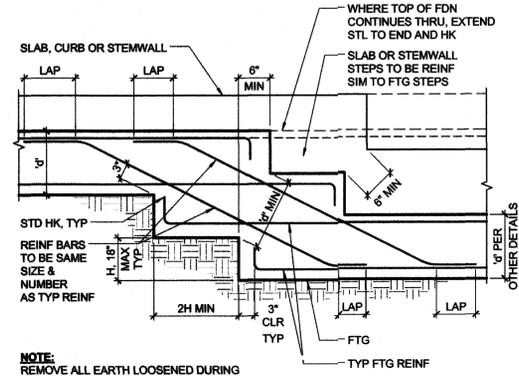
1 TYPICAL REINFORCING DETAILS (f<sub>c</sub> = 2500psi MIN)  
 3/4" = 1'-0"



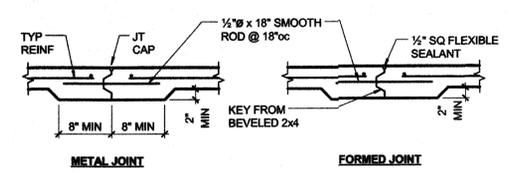
2 PIPES THRU FOOTING  
 3/4" = 1'-0"



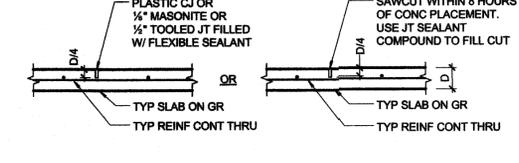
3 TRENCHING ADJACENT TO FOOTING  
 3/4" = 1'-0"



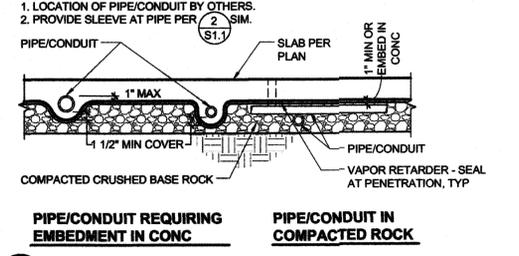
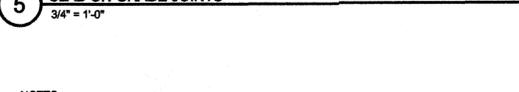
4 STEPPED FOOTING  
 3/4" = 1'-0"



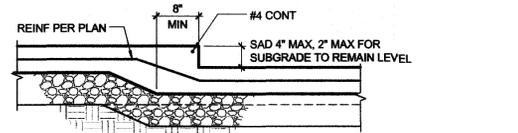
A CONSTRUCTION/DOWEL JOINT



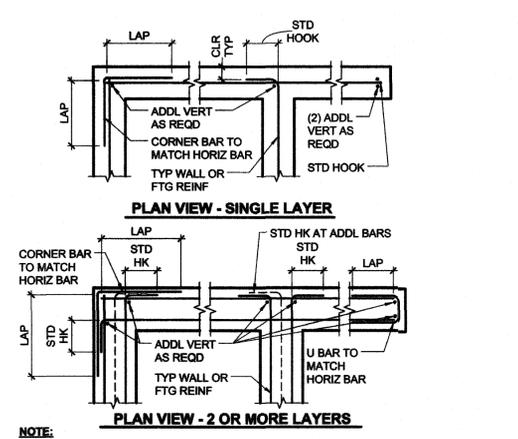
B CONTROL JOINT



6 CONDUIT & PIPE AT SLAB ON GRADE  
 3/4" = 1'-0"



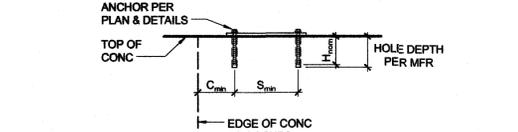
7 DEPRESSED SLAB - 4" MAX  
 3/4" = 1'-0"



8 TYPICAL CORNER, INTERSECTION AND END REINFORCING  
 3/4" = 1'-0"

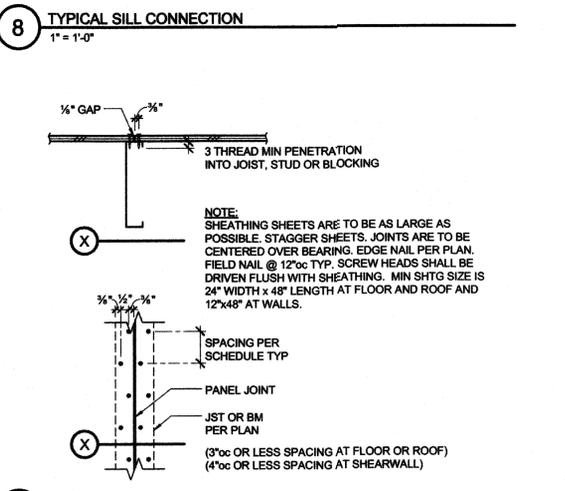
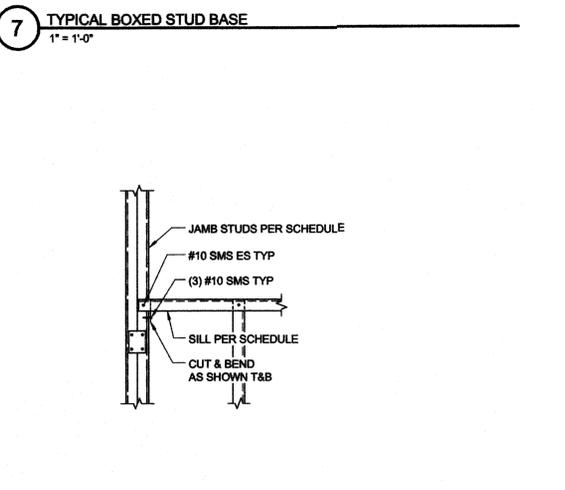
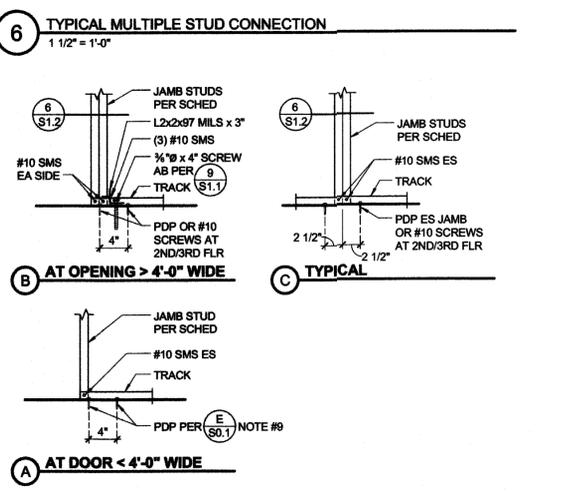
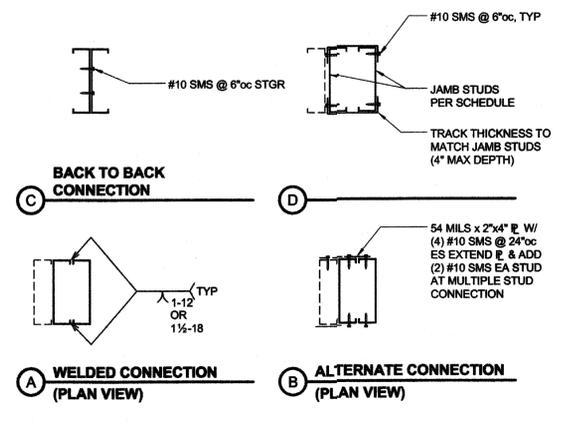
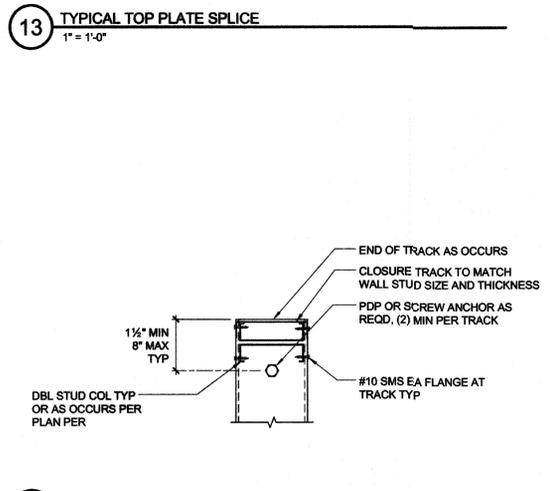
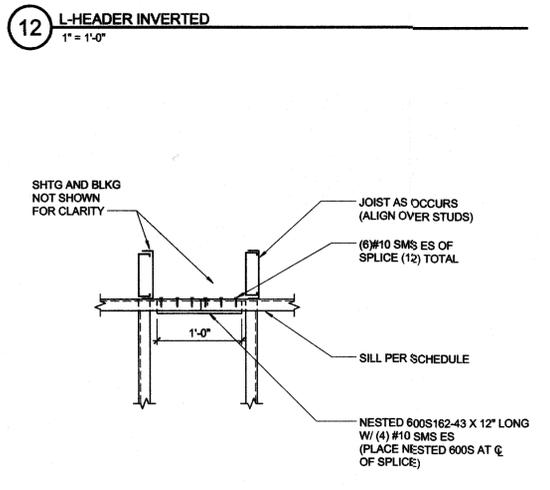
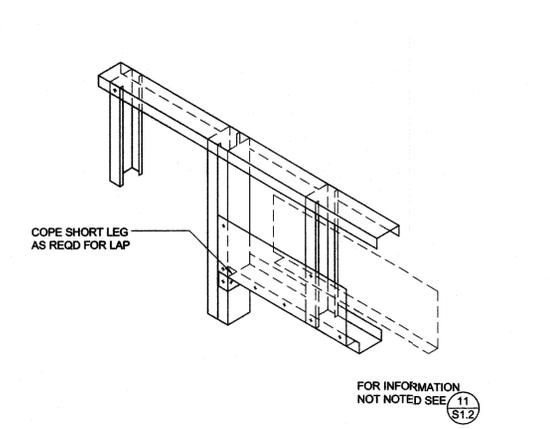
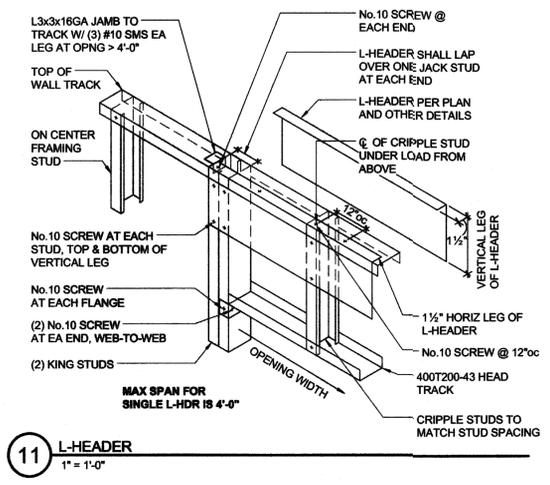
**SCREW ANCHOR IN 2500 PSI MIN CONCRETE**

ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT	MINIMUM EDGE DIST	MINIMUM SPACING	MINIMUM CONCRETE DEPTH	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	3/8"	2 1/2"	1 1/4"	3"	4"	10	50
	1/2"	3 1/4"	1 1/4"	3"	5"	10	65
	5/8"	4"	1 1/4"	3"	6"	10	100
HILTI KH-EZ (ICC-ESR 3027)	3/8"	5 1/2"	1 1/4"	3"	8 1/4"	20	150
	1/2"	3"	1 1/4"	3"	4 1/4"	10	45
	5/8"	3 1/4"	1 1/4"	4"	5"	10	85



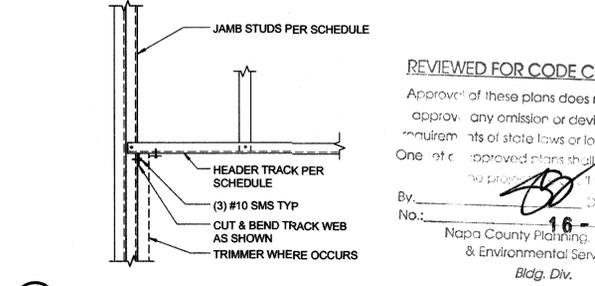
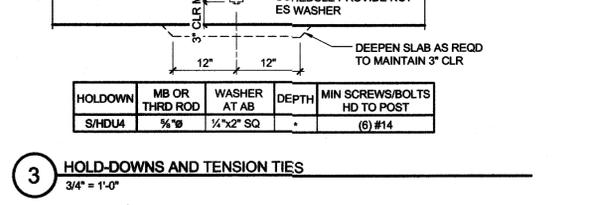
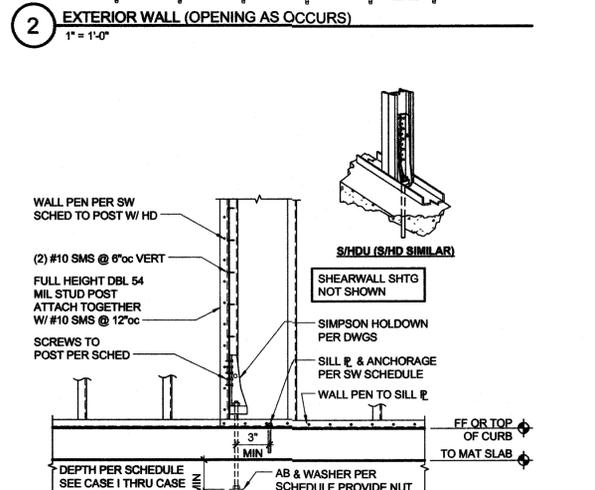
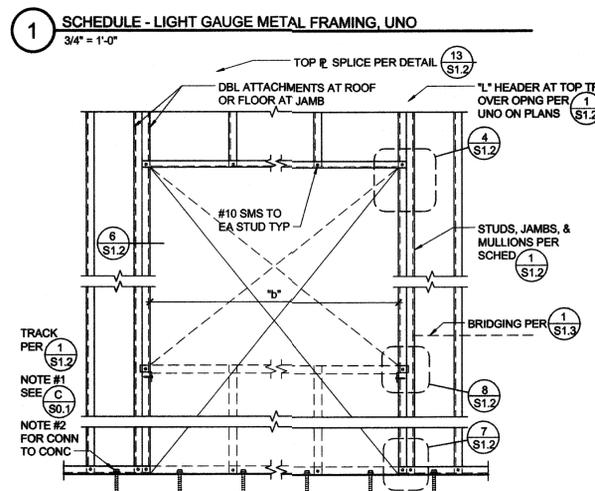
- NOTES:**
- INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705 OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
  - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE WITH SCHEDULE PRIOR TO INSTALLING ANCHOR.
  - HOLES TO BE DRILLED WITH ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES WITH HIGH STRENGTH GROUT.
  - THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.

9 SCREW ANCHOR IN CONCRETE  
 3/4" = 1'-0"



LIGHT GAUGE FRAMING SCHEDULE				
LOCATION	MINIMUM MEMBER SIZE	MAX SPAN/LENGTH	MAX SPACING UNO	REFERENCE DETAIL
TYPICAL STUDS	600S162-43	-	24"oc	
TYPICAL "L" HEADERS	800L150-54	b ≤ 4'-0"		SEE 11 S1.2 12 S1.2
TYPICAL HEADER TRACK	600T150-43 TRACK	b ≤ 8'-0"		SEE 4 S1.2
TYPICAL SILL TRACK	600T150-43 TRACK	-		SEE 8 S1.2
TYPICAL JAMBS	600S162-43	12'-6"	b ≤ 3'-0"	SEE 6 S1.2

- TYPICAL TRACK TO BE SAME GAUGE AS STUD OR 43 MILS MIN. UNO. FLANGE TO BE 1/2" MIN.
- MULTIPLE ADJACENT WINDOWS TO EACH HAVE INDIVIDUAL HEADERS AND FULL JAMB STUDS BETWEEN WINDOWS.
- TYPICAL WALL BRIDGING/BLOCKING PER 1 S1.3.
- TYPICAL STUD/JOIST TO TRACK PER 2 S1.3.
- COORDINATE STUD DEPTH W/ ARCH DRAWINGS. INCREASE MIN HDR, SILL OR JAMB MEMBER DEPTHS AS REQD TO MATCH ACTUAL WALL STUD DEPTH.
- "b" INDICATES OPENING WIDTH PER 2 S1.2.



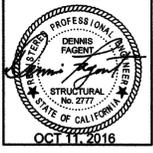
REVIEWED FOR CODE COMPLIANCE

Approval of these plans does not authorize or approve any omission or deviation from the requirements of state laws or local ordinances. One of the approved plans shall be available at the project site.

By: [Signature] Date: OCT 26 2016  
Napa County Planning, Building & Environmental Services Bldg. Div.



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NOTICE

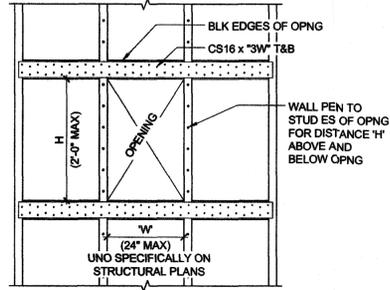
MEYER SOLAR BARN  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS

ISSUE/REVISIONS:  
7/11/16 BLDG DEPT SUBMIT.

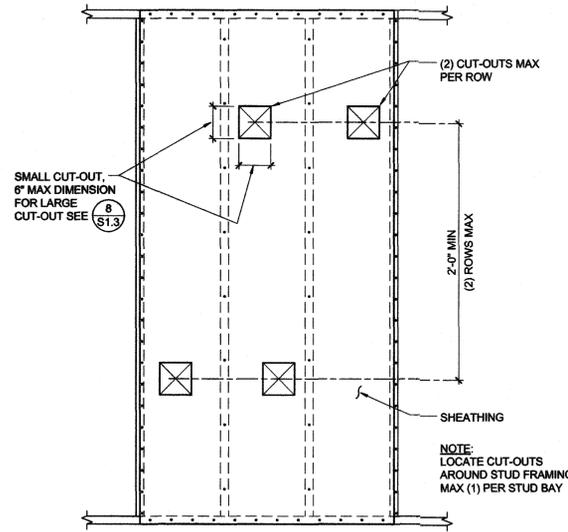
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SCALE: As Indicated

SHEET NO: S1.2

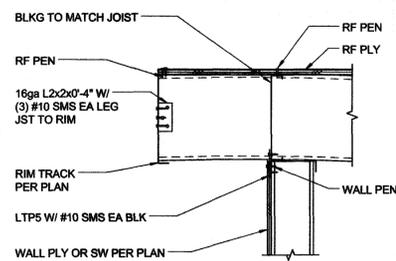


- NOTES:**
1. OPENINGS < 6" SQ DO NOT REQUIRE BLKG AND STRAPPING.
  2. NO ADDITIONAL OPENINGS WITHIN 4'-0" ALL AROUND.
  3. NO OPENINGS PERMITTED IN SW (C) OR HIGHER OR IN SHEAR WALLS LESS THAN 10'-0" LONG UNLESS SPECIFICALLY DETAILED ON STRUCTURAL PLANS. CONTACT STRUCTURAL ENGINEER FOR ASSISTANCE.
  4. FRAME OPENINGS PER 201.2 WHERE STUDS ARE INTERRUPTED.

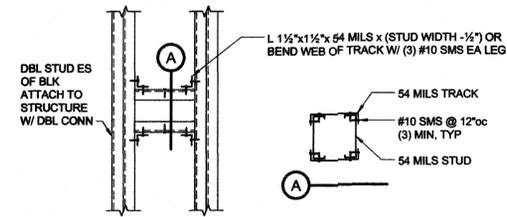
**8 SINGLE LARGE HOLE IN SHEAR WALL PANEL**  
NOT TO SCALE



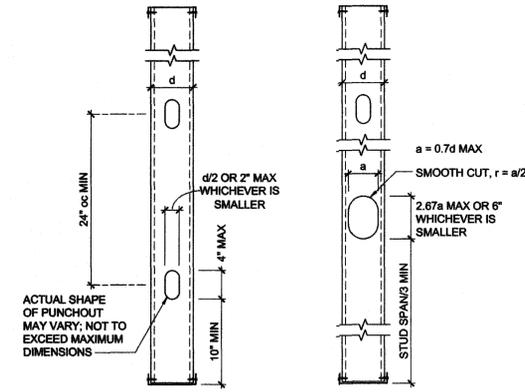
**9 SMALL HOLES IN SHEAR WALL PANEL**  
NOT TO SCALE



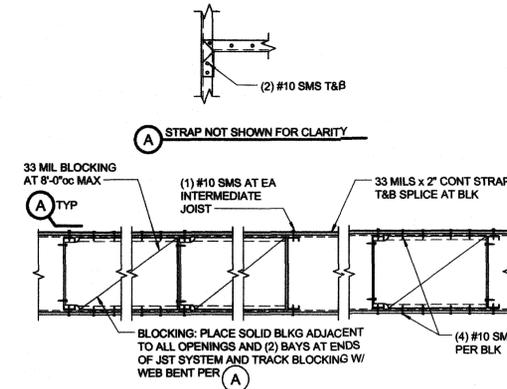
**10 ROOF OVERHANG**  
1" = 1'-0"



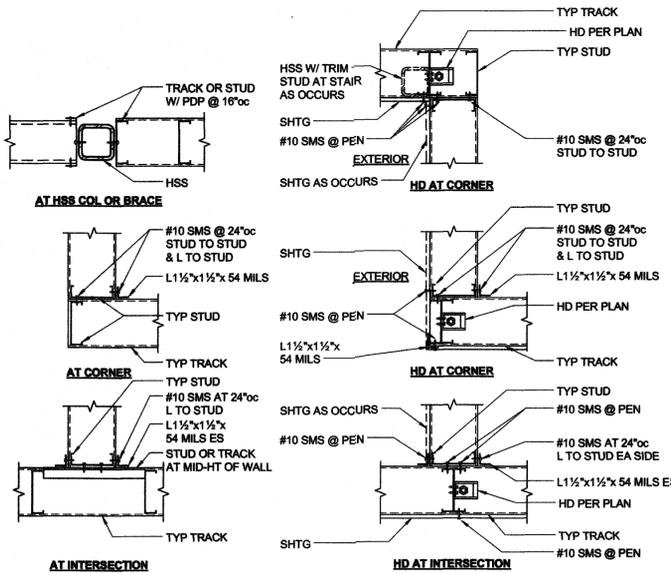
**4 HEAVY DUTY WALL BACKING PLATE**  
1" = 1'-0"



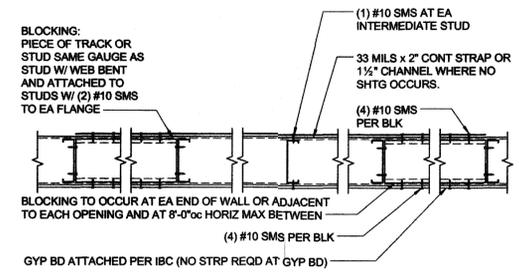
**5 TYPICAL STUD PUNCHOUT**  
1" = 1'-0"



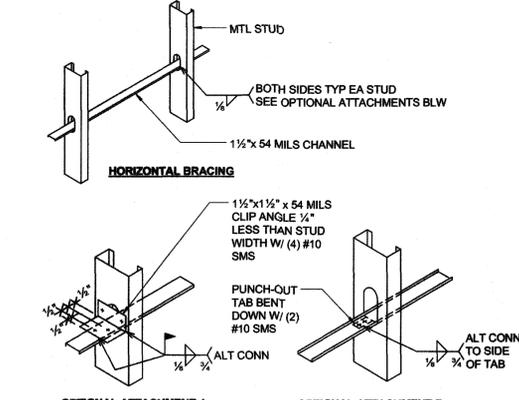
**6 JOIST BLOCKING**  
1" = 1'-0"



**7 TYPICAL CORNERS AND INTERSECTIONS**  
1" = 1'-0"

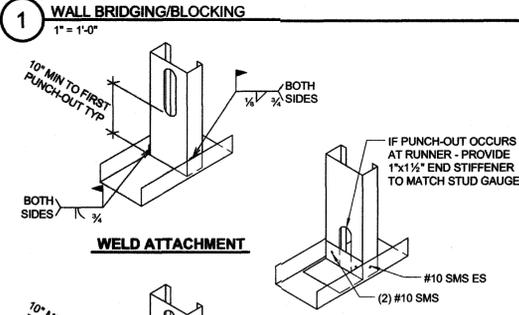


**3 WALL BRIDGING/BLOCKING**  
1" = 1'-0"

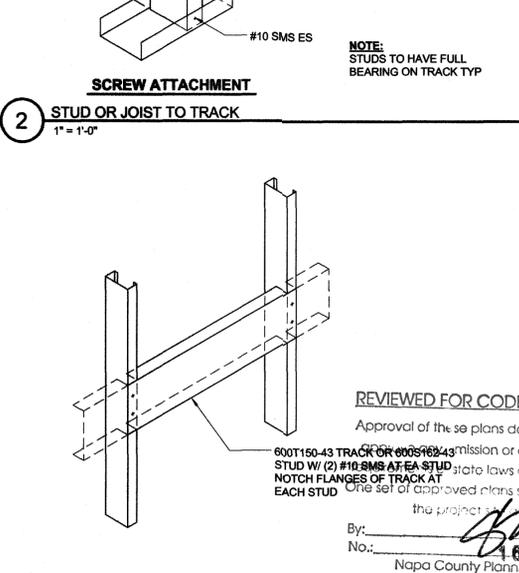


**1 WALL BRIDGING/BLOCKING**  
1" = 1'-0"

- NOTES:**
1. BRIDGING MAY BE PER OPTION 1 OR 2.
  2. PROVIDE BRIDGING @ 4'-0"oc.
  3. BRIDGING IS NOT REQUIRED WHERE PROPERLY ATTACHED SHEATHING OCCURS ON BOTH SIDES OF STUDS.
  4. THE MAX STUD DEPTH FOR OPTION 1 IS 8" MAX.
  5. PROVIDE BLOCKING PER OPTION 2 AT LOCATIONS INDICATED ON DRAWINGS OR OTHER DETAILS.



**2 STUD OR JOIST TO TRACK**  
1" = 1'-0"



**3 WALL BRIDGING/BLOCKING**  
1" = 1'-0"

**HEALTHY BUILDINGS**

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**PROFESSIONAL SEAL**  
DENNIS FABERT  
No. 2777  
STATE OF CALIFORNIA  
OCT 11, 2016

**NOTICE**

**MEYER SOLAR BARN**  
794 OAKVILLE CROSS ROAD  
NAPA, CA 94558

**TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS**

**ISSUE/REVISIONS:**  
7/1/16 BLDG DEPT SUBMIT.

**REVIEWED FOR CODE COMPLIANCE**  
Approval of these plans does not authorize or constitute an admission or deviation from the state laws or local ordinances. One set of approved plans shall be available on the project site at all times.

By: *[Signature]* Date: **OCT 26 2016**  
No.: **16-01016**  
Napa County Planning, Building & Environmental Services  
Blg. Div.

**PERMIT SET**

**S1.3**

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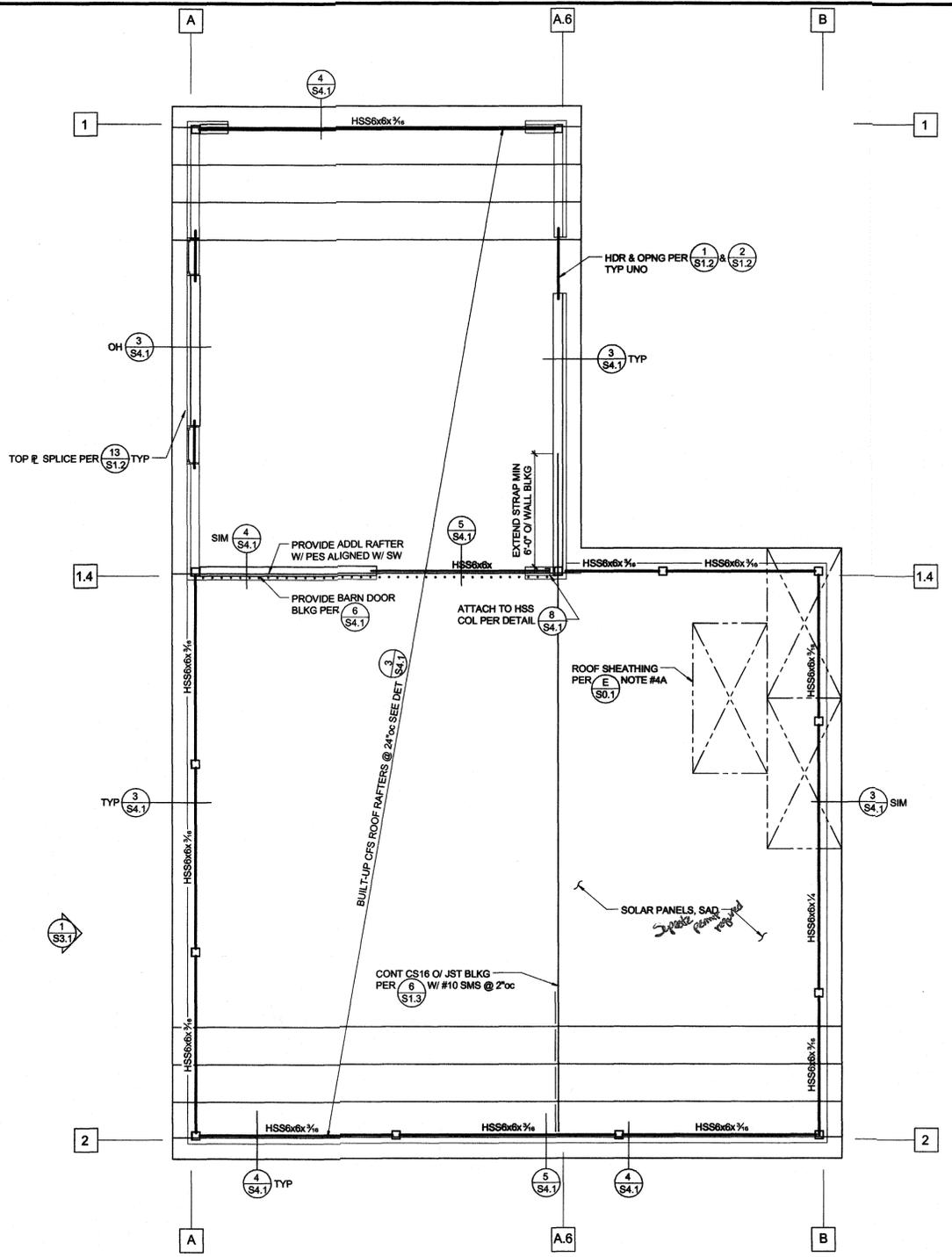
NOTICE

MEYER SOLAR BARN  
 794 OAKVILLE CROSS ROAD  
 NAPA, CA 94558

FOUNDATION AND ROOF FRAMING PLANS

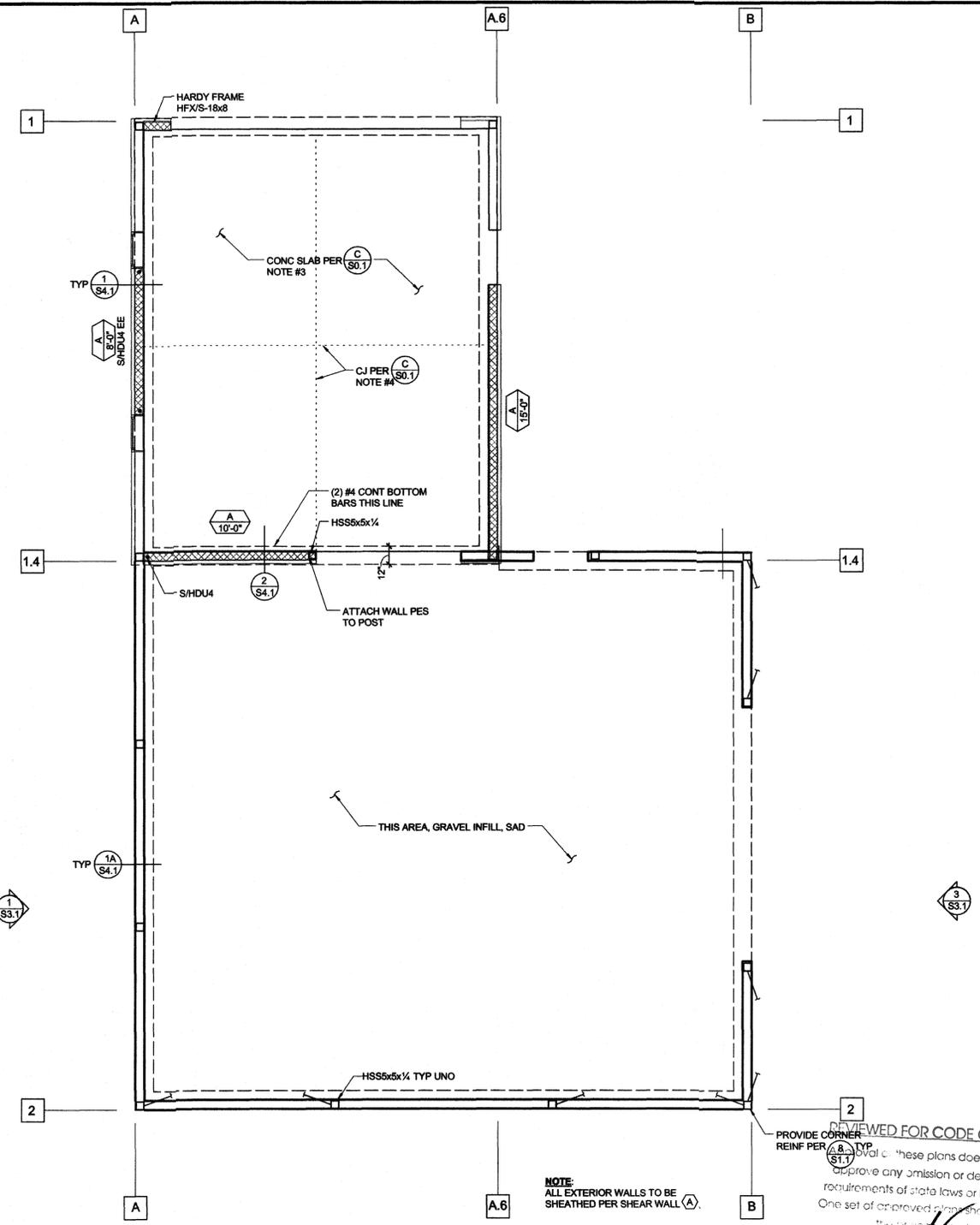
ISSUE/REVISIONS:  
 7/1/16 BLDG DEPT SUBMIT.  
 DRAWN BY: DRE  
 SCALE: As Indicated  
 SHEET NO.: S2.1

PERMIT SET



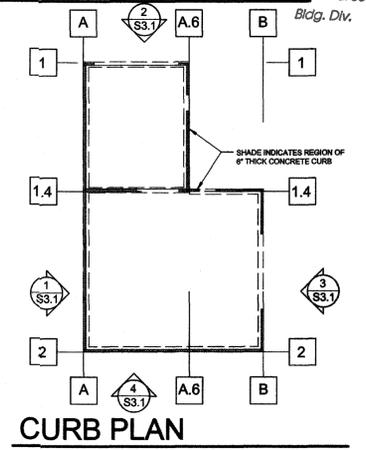
ROOF FRAMING PLAN  
 1/4" = 1'-0"

- FRAMING PLAN NOTES:**
- REFER TO SHEETS S0.1, S1.1, S1.2 AND S1.3 FOR STANDARD NOTES AND DETAILS.
  - COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
  - MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS OR ROOF SHALL BE PER S0.3, S0.1.3 AND S0.1.3 UNLESS SHOWN AND DETAILED ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
  - SAD FOR EDGE OF SLAB, FO WALL, ETC.
- LEGEND:**
- INDICATES METAL STUD WALL.
  - INDICATES GRIDLINE AT FACE OF STUD (FOS).



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

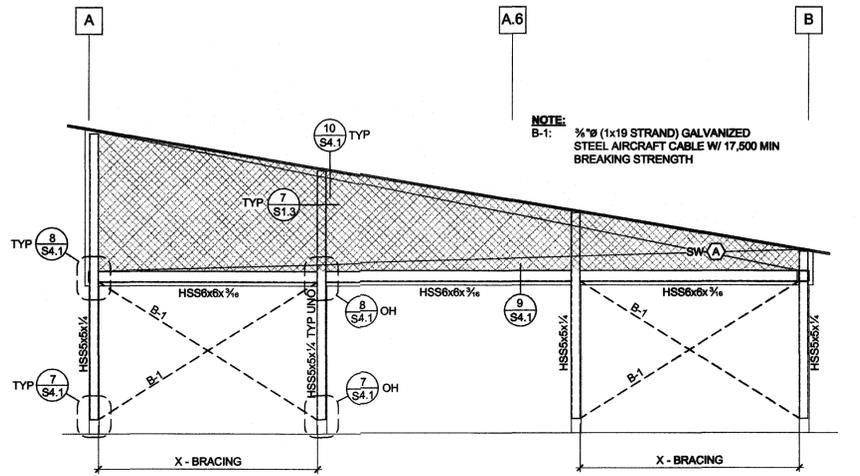
- FOUNDATION PLAN NOTES:**
- REFER TO SHEETS S0.1, S1.1, S1.2 AND S1.3 FOR STANDARD NOTES AND DETAILS.
  - COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
  - PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. ALL PLUMBING AND CONDUITS THROUGH FOUNDATIONS SHALL BE PER STANDARD DETAILS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
  - ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNO.
- LEGEND:**
- INDICATES METAL STUD WALL.
  - INDICATES SHEAR WALL PER SCHEDULE.
  - INDICATES FOUNDATION OR PAD.
  - INDICATES GRIDLINE AT FOS.
  - INDICATES POST WITH HOLDDOWN. POSTS WITH HOLDDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
  - INDICATES SHEAR WALL TYPE AND MINIMUM LENGTH NOTED, SAD FOR ACTUAL LENGTH.
  - INDICATES HSS COLUMN.
  - INDICATES CABLE X-BRACING PER ELEVATION S3.1.



CURB PLAN

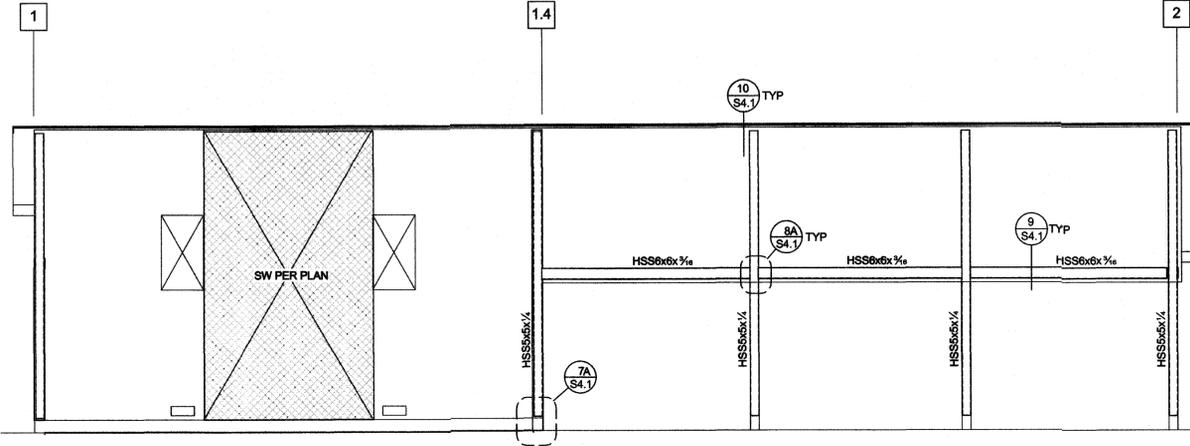
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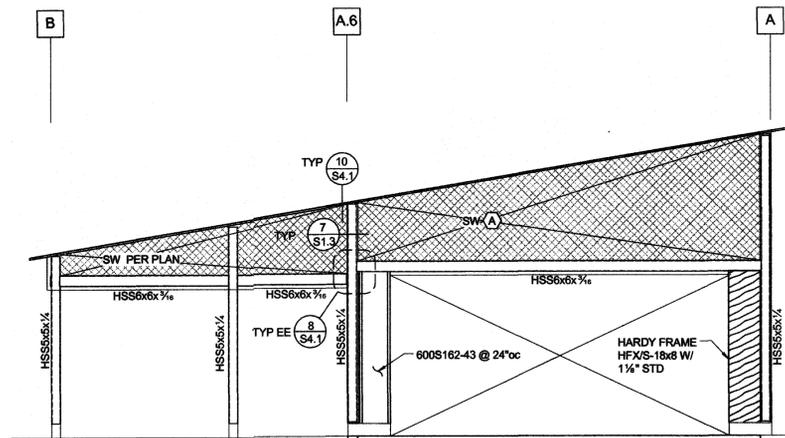


4 Elevation - WEST  
1/4" = 1'-0"

NOTE:  
B-1: 3/8" (1x19 STRAND) GALVANIZED STEEL AIRCRAFT CABLE W/ 17,500 MIN BREAKING STRENGTH

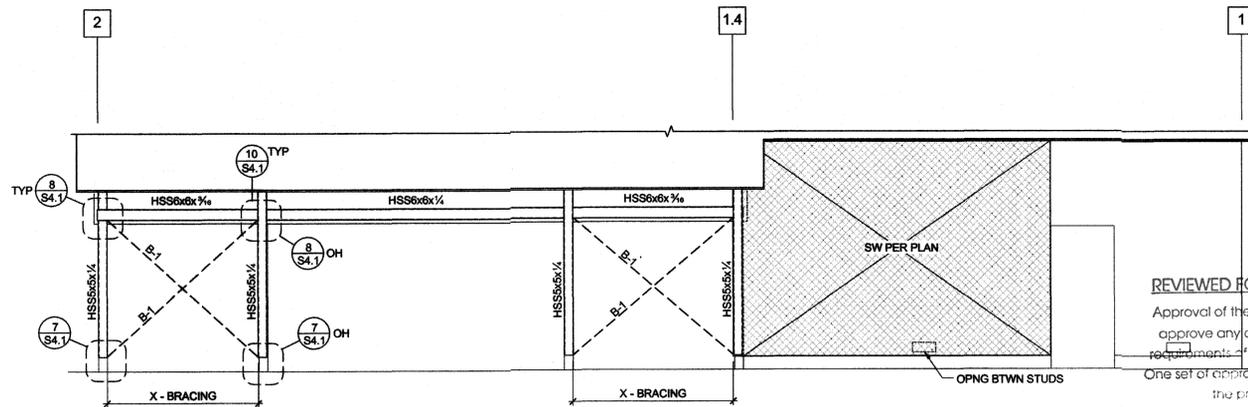


1 Elevation - NORTH  
1/4" = 1'-0"



2 Elevation - EAST  
1/4" = 1'-0"

ELEVATION VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER ELEVATION VIEWS.



3 Elevation - SOUTH  
1/4" = 1'-0"

NOTE:  
B-1: 3/8" (1x19 STRAND) GALVANIZED STEEL AIRCRAFT CABLE W/ 17,500 MIN BREAKING STRENGTH

REVIEWED FOR CODE COMPLIANCE  
Approval of these plans does not authorize or approve any omission or deviation from the requirements of state laws or local ordinances. One set of approved plans shall be available on the project site at all times.  
Date: OCT 26 2016  
By: [Signature]  
No.: 16-01016  
Napa County Planning, Building & Environmental Services  
Bldg. Div.



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NOTICE

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NAPA, CA 94558

WALL ELEVATIONS

ISSUE/REVISIONS:  
7/11/16 BLDG DEPT SUBMIT.

DRAWN BY: Author  
SCALE: 1/4" = 1'-0"

SHEET NO.:

S3.1

PERMIT SET

NOTICE

**MEYER SOLER BARN**  
 794 OAKVILLE CROSS ROAD  
 NAPA, CA 94558

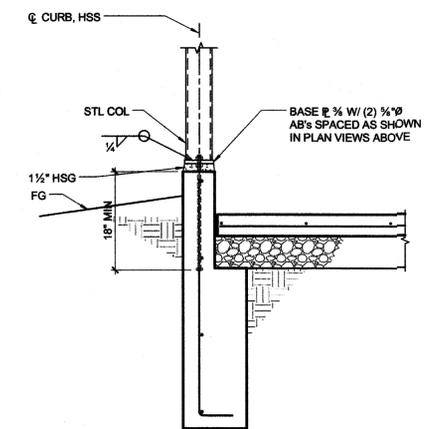
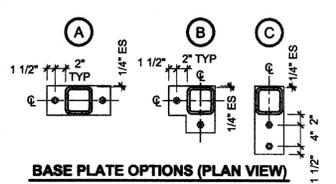
FOUNDATION AND FRAMING DETAILS

ISSUE/REVISIONS:  
 7/1/16 BLDG DEPT SUBMIT

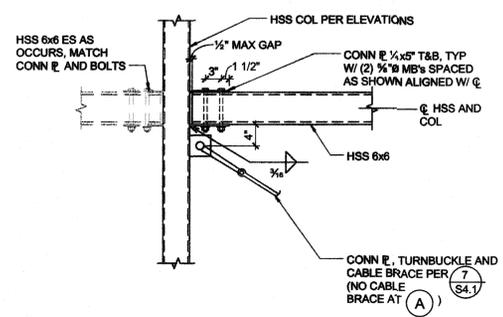
BRAWN BY: DRE  
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SHEET NO: S4.1

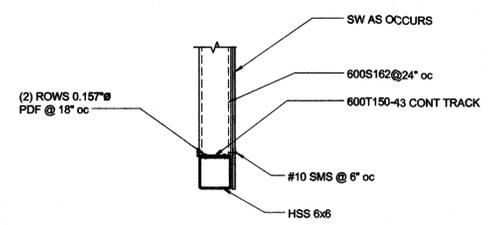
PERMIT SET



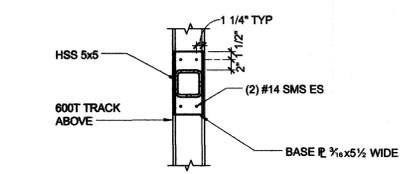
11 HSS COLUMN PAD FOOTING  
 3/4" = 1'-0"



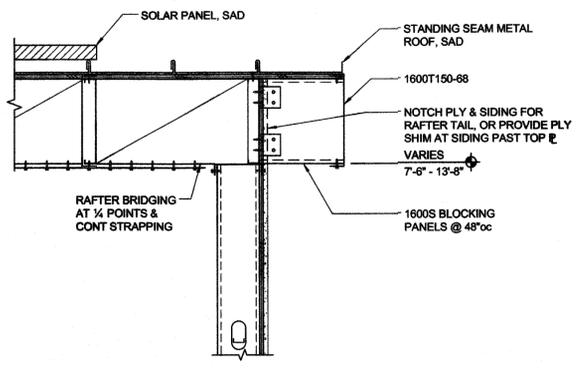
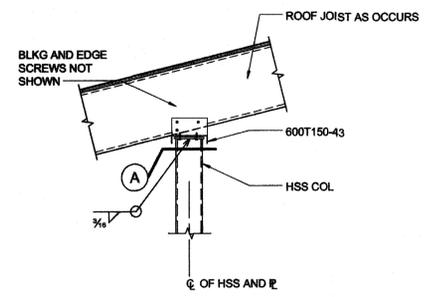
8 BRACE CONNECTION  
 3/4" = 1'-0"



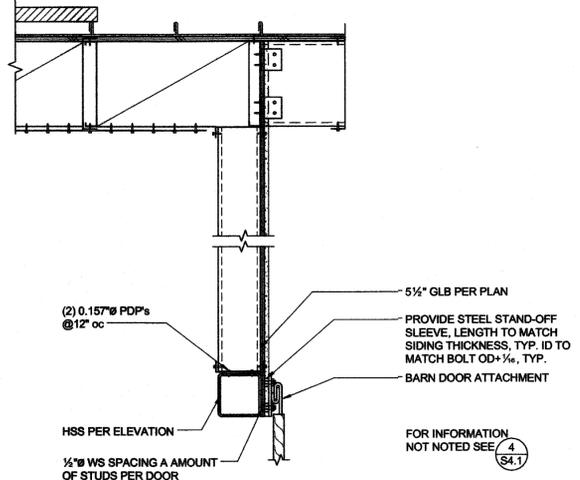
9 SECTION AT HSS  
 3/4" = 1'-0"



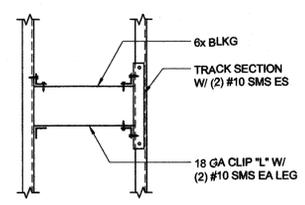
10 HSS CONN AT TOP P  
 3/4" = 1'-0"



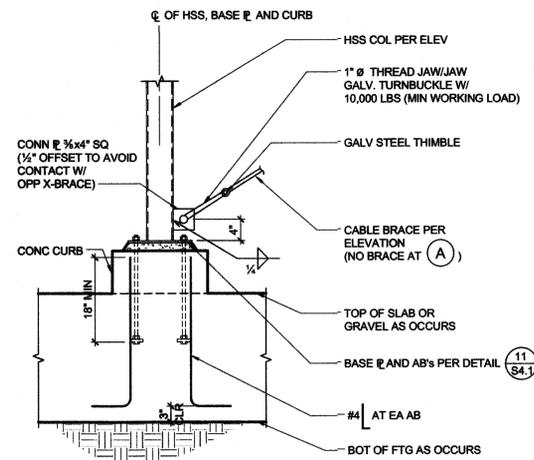
4 TYPICAL GABLE END ROOF FRAMING DETAIL  
 1" = 1'-0"



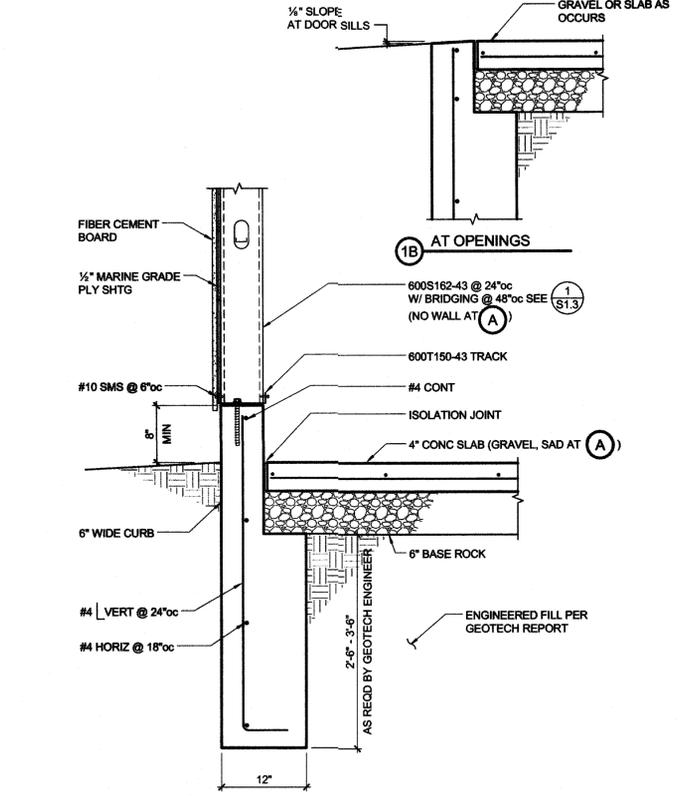
5 DETAIL AT BARN DOOR HEADER  
 1" = 1'-0"



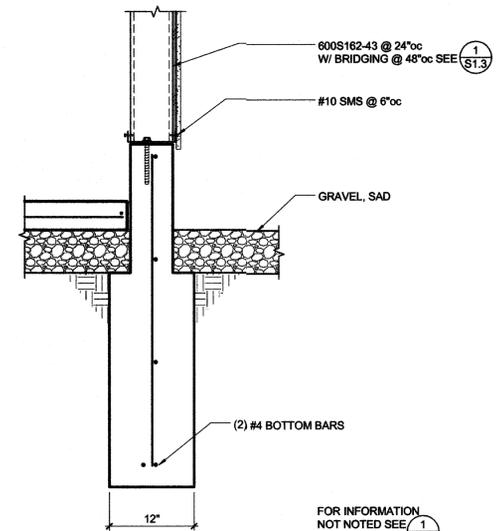
6 CFS WALL BLOCKING FOUR BARN DOOR  
 1" = 1'-0"



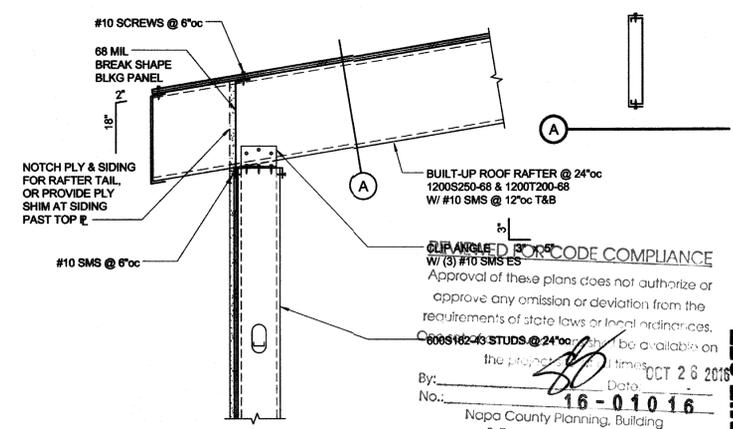
7 X-BRACE AT FOUNDATION  
 3/4" = 1'-0"



1A TYPICAL FOUNDATION DETAIL  
 1" = 1'-0"



2 TYPICAL FOUNDATION DETAIL  
 1" = 1'-0"



3 TYPICAL EAVE FRAMING DETAIL  
 1" = 1'-0"

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