Authentisign ID: 60F633C1-A8C1-453B-8312-C6C0BA5DD2E6

Robison Engineering Company, Inc
846 Victorian Avenue, Suite 20, Sparks, NV 89431

775-852-2251 ~ www.robisoneng.com

State of Nevada
Manufactured Housing Division
1830 E College Pkwy #120
Carson City, NV 89706

Date:2020/04/02

SUBJECT: **Certification of Permanent Foundation**
For a Manufactured Home
4035 Grouse Way, Cold Springs, NV 89508
Washoe County APN: 087-453-04

RENG Project No.
1-1137-01.058

Dear Building Inspector,

I have inspected the subject manufactured home foundation system and find it to be in substantial compliance with the US Housing and Urban Development (HUD) Guidelines of 1996 and State of Nevada manufactured building code.

Please note that Robison Engineering cannot assume those liabilities and duties, including insurance coverage, which are the responsibility of the builder, installer, and original engineer or designer for the installation (where other than Robison Engineering).

The following are general findings and observations:

- The silty clay loam is adequate for foundation bearing capacity and lateral load resistance stability.
- The foundation type for this unit consists of:
  - CMU Block Piers on Manufactured 18"x18" bearing plates
  - Foundation Systems' Xi2 engineered lateral braces, consistent with other manufactured homes in this seismic and wind zone.
- The building is within FEMA flood hazard zone X (unshaded).
- Water and electric service are public. Sanitary sewer (septic) and gas (propane) are private. All utilities are intact and appear to be sound and serviceable.

Please contact me if additional information is required.

Sincerely,
ROBISON ENGINEERING COMPANY



2020-04-03

Nathan Earl Robison, PE
775-852-2251 x 700
nathan@robisoneng.com

Authentisign
Sean T Bingham
5/19/2020 6:23:32 PM PDT
05/19/2020

Authentisign ID: 60F633C1-A8C1-453B-8312-C6C0BA5DD2E6

Authenticator
Sean T Bingham
5/19/2020 6:23:33 PM PDT
05/19/2020

1		JURISDICTION	WASHOE COUNTY, NV	
		GENERAL LOCATION	SECTION 16 , T21N, R18E, MDM	
		ZONING	MDS	
2		BUILDING CODE	2015 H.U.D.	
		PROJECT DESCRIPTION: MANUFACTURED HOME REPLACEMENT OF EXISTING RESIDENCE		
3		GRAVITY LOADING		
	A	GROUND SNOW LOAD	30	PSF
	B	BUILDING ELEVATION	5073	FEET
4		H.U.D. DESIGN STANDARD		
	A	THERMAL	ZONE 3	
	B	WIND	ZONE 1	
5		FEMA FLOOD HAZARD RATING		
	A	ZONE X (UNSHADED) = OUTSIDE 100-YEAR FLOODPLAIN		
	B	FLOOD MAP PANEL	32031C2825H	
	C	FLOOD MAP EFFECTIVE DATE	2019-06-18	
6		SITE FACTORS		
	A	SOIL CLASSIFICATION	JOWEC SILTY CLAY LOAM	CL/CH
	B	AT DEPTH RANGE INCL. FOUNDATION DESIGN BASE	0-20	INCHES
	C	IBC BEARING CAPACITY	1500	PSF

NOTE:
- SKIRTED INSTALLATION: PROVIDE 1 EACH REMOVABLE PANEL 4' WIDE MINIMUM WITHIN 5' OF WATER AND SEWER CONNECTIONS.
- CONCRETE FOUNDATION: PROVIDE MINIMUM 36"x36" COVERED CRAWSPACE ACCESS WITHIN 5' OF WATER AND SEWER CONNECTIONS. PROVIDE VENTILATION CONSISTING OF OPERABLE 6"x14" (MINIMUM) AT 20' O/C (MAXIMUM SPACING) FULL PERIMETER OPENINGS, AS CLOSE TO CORNERS AS PRACTICAL.

MANUFACTURED HOME INSTALLATION NOTE:
THIS FOUNDATION PLAN CONFORMS TO THE REQUIREMENTS OF THE U.S. HOUSING AND URBAN DEVELOPMENT (H.U.D.) MODEL MANUFACTURED HOME INSTALLATION STANDARDS, 2003 EDITION, AND THE 2015 NEVADA MANUFACTURED HOME & COMMERCIAL COACH INSTALLATION STANDARDS, WHICH ARE HEREIN INCORPORATED BY REFERENCE. THESE PLANS ARE INTENDED TO PROVIDE FOR A PERMANENT ATTACHED RESIDENCE SUITABLE FOR RECOGNITION AS A REAL ESTATE IMPROVEMENT, RATHER THAN A MOVABLE/RECREATIONAL VEHICLE/MOBILE BUILDING.

FORMAL ENGINEERING CALCULATIONS ARE NOT PROVIDED: ALL SPECIFIED ELEMENTS ARE PRESCRIPTIVE FOR THE SITE-SPECIFIC LOADING AND SOIL CONDITIONS INDICATED ABOVE. THIS NOTE COMPRISES THE ENGINEER'S CERTIFICATION THAT THE FOUNDATION IS PROPERLY DESIGNED TO THE RELEVANT CODES, INCLUDING 2015 STATE OF NEVADA GUIDELINES, 1996 AND 2003 HUD FOUNDATION GUIDELINES, AND 2015 CHAMPION MANUFACTURED HOME INSTALLATION INSTRUCTIONS, AS APPLICABLE.

GENERAL NOTES:

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE BELIEVED TO BE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUES, CITY ORDINANCES, AND/OR COUNTY STANDARDS. IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND JURISDICTIONAL STANDARDS PROMPTLY NOTIFY ENGINEER. THE JURISDICTIONAL STANDARDS SHALL APPLY. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

1. IF THE CONTRACTOR(S) OBSERVES ANY CONDITION ON THE SITE WHICH CONFLICTS WITH THE INFORMATION SHOWN HEREON, THEY SHALL CONTACT ROBISON ENGINEERING AT 775-852-2251 FOR RESOLUTION.

2.~ THE ENGINEER SHALL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER. IF THE INSPECTOR OR SUBCONTRACTOR(S) OBSERVE CONSTRUCTION MATERIALLY DEVIATING FROM THESE PLANS, THEY SHALL NOTIFY THE ENGINEER AT 775-852-2251 OR STRUCTURAL@ROBISONENG.COM FOR RESOLUTION. THE OWNER SHALL BE RESPONSIBLE FOR THE COST IN TIME AND MATERIALS TO CONTRACTOR, SUBCONTRACTOR AND ENGINEER FOR SUCH DEVIATION.

3. COORDINATION: IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL PUBLIC AGENCIES AND TO BE AWARE OF THEIR PERMITTING, INSPECTION, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN PERMITS FOR RIGHT-OF-WAY OCCUPANCY, TEMPORARY AND PERMANENT UTILITY USE AND CONNECTIONS, AND ALL OTHER PERMISSIONS, AUTHORIZATIONS, FEES, AND COORDINATION WITH PRIVATE AND PUBLIC AGENCIES AND UTILITY PROVIDERS.

4. NO INFORMATION HEREON SHALL BE CONSTRUED TO REPRESENT A FORMAL SURVEY OF THE SUBJECT PROPERTY OR LANDS. MAPPING AND DESIGN ARE INTENDED FOR ENGINEERING AND CONSTRUCTION USE ONLY AND REPRESENT NO OPINION AS TO PRIVATE OR PUBLIC LAND BOUNDARIES.

5. CLEANING OF THE PROJECT: AT THE COMPLETION OF CONTRACTED OR SUBCONTRACTED WORK THE CONTRACTOR SHALL THOROUGHLY CLEAN THE PROJECT WORK AREA, REMOVING ALL RUBBISH, SCRAP, AND DEBRIS PRODUCED BY THEIR WORK, EMPLOYEES, OR SUBCONTRACTORS. ALL SUCH MATERIAL SHALL BE PROPERLY RECYCLED, WHERE FEASIBLE, OR DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.

6. CONTRACTOR SHALL FIELD-VERIFY ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTIONS WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE). ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

MISCELLANEOUS NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY PRECAUTIONS, COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS, AND FOR RESPONSIBLE DIRECTION OF WORKERS AND ERECTION SCHEDULING TO AVOID HAZARDOUS, UNSTABLE, AND PUBLIC NUISANCE CONDITIONS AT THE JOB SITE.

2. MEANS AND METHODS OF ERECTION OF STRUCTURAL MATERIALS ARE SOLELY THE CONTRACTOR'S AND SUBCONTRACTOR'S RESPONSIBILITY.

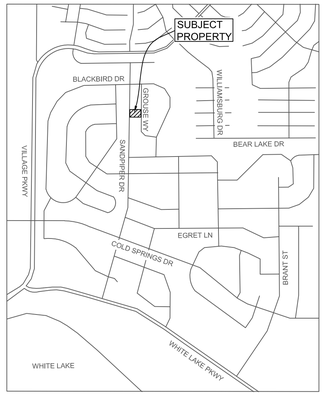
3. CONFIRM ALL VERTICAL AND LATERAL SUPPORTS, INCLUDING CAPACITY AND SPACING, WITH MANUFACTURER'S PLANS AND SPECIFICATIONS. CONTACT THE ENGINEER IN THE EVENT OF CONFLICT, AND DO NOT PROCEED WITH CONSTRUCTION WITHOUT RESOLUTION OR ADOPTION OF THE MOST CONSERVATIVE INTERPRETATION OF PLAN AND INSTALLATION REQUIREMENTS.

DRAINAGE AND GRADING NOTE
1. THIS PLAN INCLUDES ADOPTION OF GRADING REQUIREMENTS CONSISTENT WITH THE 2012 IBC TO PREVENT DRAINAGE TOWARD THE BUILDING.

2. DRAINAGE SHALL NOT BE DIRECTED ONTO ADJACENT PROPERTIES, BUT SHALL BE DIRECTED TO ON-SITE INFILTRATION AREAS OR THE PUBLIC RIGHT-OF-WAY IF A STORM DRAIN SYSTEM EXISTS (SEE PLAN)

3. HOME INSTALLATION SHALL NOT MODIFY THE NATURAL DRAINAGE PATTERN, EXCEPT TO DIRECT RUN-ON AROUND THE BUILDING.

4. LOCAL GRADING SHALL BE LIMITED TO EXCAVATION OF SHALLOW (<1 FT DEEP) SWALES WITH THE GENERATED MATERIAL USED TO ELEVATE THE BUILDING PAD AREA (<0.5 FT FILL, MECHANICALLY COMPACTED) TO PROMOTE DRAINAGE UNLESS OTHER GRADING IS SPECIFIED ON THIS PLAN.



VICINITY MAP

NOT TO SCALE

Know what's below. Call before you dig.

ABBREVIATIONS
E EXISTING
ELEC ELECTRIC
F FINISHED
FND FOUND
ISDS INDIVIDUAL SEWAGE DISPOSAL SYSTEM (AKA "SEPTIC" OR "OSDS" = ONSITE SDS)
POC POINT OF CONNECTION
SD STORM DRAIN
SS SANITARY SEWER
W WATER

LEGEND
LIMITS OF GRADING
FLOW LINES
SS SANITARY SEWER
W WATER
G GAS
E ELECTRIC

CAST-IN-PLACE (CIP) CONCRETE
- REINFORCED CONCRETE SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE IBC AND ACI STANDARD 318-05, AND FURTHERMORE:

1) CONCRETE SPECIFICATIONS:
A) DESIGN COMPRESSIVE STRENGTH AT 28 DAYS = 2500psi (NO SPECIAL INSPECTION REQUIRED: COORDINATE WITH GENERAL CONTRACTOR AND/OR OWNER FOR HIGHER STRENGTH MIX DESIGN REQUIREMENTS, IF ANY)

2) CONCRETE SHALL NOT BE PLACED UNTIL INSPECTION BY; AT A MINIMUM, THE OWNER OR OWNER'S REPRESENTATIVE, OR SPECIAL INSPECTOR. SPECIAL INSPECTION REQUIRED WHEN INDICATED HEREON (SEE TABLE THIS SHEET)

3) "NEAT" EARTH FORMING MAY BE USED FOR FOOTINGS ONLY, UNLESS NOTED OTHERWISE.

4) REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS. ADDITIONAL JOINTS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE LOCATED AWAY FROM STRUCTURAL CONNECTIONS.

5) CHAMFER OR BEVEL ALL EXPOSED FINISHED EDGES OF CONCRETE: 1" RADIUS U.N.O.

6) WHERE NOT SPECIFIED, FINISHES SHALL BE COORDINATED WITH OWNER AND SHALL CONFORM TO TYPICALLY ACCEPTED STANDARDS OF WORKMANSHIP, OR TO COMPLY WITH THE GOVERNING JURISDICTION.

7) MECHANICAL, ARCHITECTURAL, AND ELECTRICAL DRAWINGS SHALL BE CONSULTED SO THAT REQUIRED SLEEVES, PENETRATIONS, OUTLET BOXES, ETC. SHALL BE INCORPORATED INTO THE CONCRETE PLACEMENT SCHEDULE.

8) WEATHER PROTECTION:
A) IN HOT WEATHER FOLLOW "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING" ACI 305
B) IN COLD WEATHER FOLLOW "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" ACI 306

GRADING SUMMARY:

AREA OF DISTURBANCE: 5969.12 SQFT

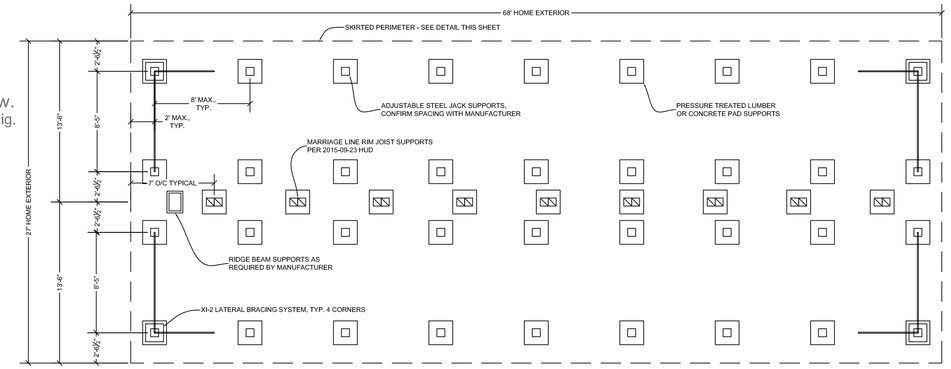
CUT VOLUME: 25 CUBIC YARDS

FILL VOLUME: 31 CUBIC YARDS

NET VOLUME: 6 CUBIC YARDS

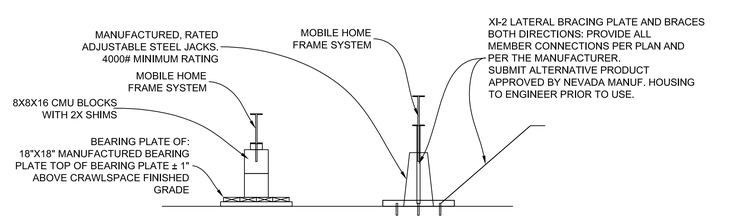
SURFACE TREATMENT NOTES:

ALL AREA DISTURBED BY CONSTRUCTION SHALL RECEIVE EITHER:
1) 3" GRAVEL SURFACE
2) DRYLAND GRASS SEED MIX RAKED INTO SOIL
3) SHRUB, LAWN, OR SMALL TREE LANDSCAPING IN CONFORMANCE WITH W.U.I CODE.

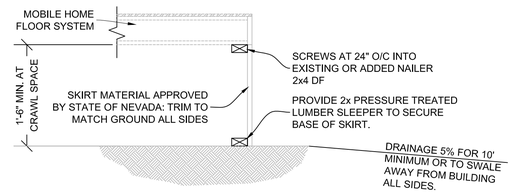


FOUNDATION PLAN

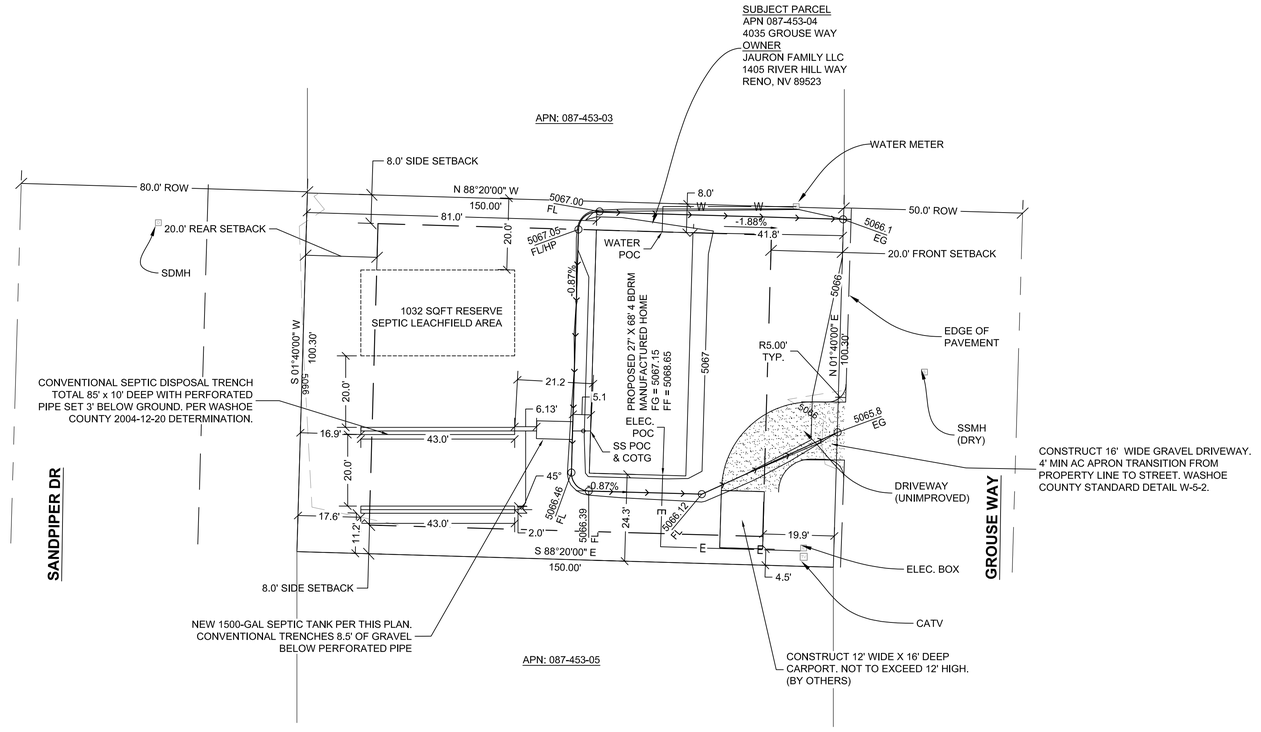
SCALE: 1" = 6'



1 VERTICAL & LATERAL SUPPORT DETAILS
SCALE: ½" = 1'-0"



2 SKIRT FRAMING DETAIL
SCALE: ½" = 1'-0"



SITE PLAN

SCALE: 1" = 20'

NOTE: ALL FEATURES EXCEPT CLEARLY MARKED "PROPOSED" ARE EXISTING AT THE LOCATIONS SHOWN; ADAPT UTILITIES TO PROVIDER REQUIREMENTS TO SERVICE FINAL BUILDNIG LOCATION (TYPICAL)

4035 GROUSE WAY
Manufactured Home Replacement
SHEET S1
FOUNDATION AND SITE PLAN
WASHOE COUNTY NEVADA
PROJECT NO. 1-137-01.058

0 1/2 1/1 INCH@FULL SCALE

PREPARED FOR:
STARWEST
info@starwesthomes.com
Reno, Nevada
775-386-6245

Robison Engineering
845 TAHOYAN AVENUE
RENO, NEVADA 89509
www.robisoneng.com

DRAWN: VDJ
DATE: 2019-08-07

NO	DESCRIPTION	DATE	BY	CHK'D
P1	PRELIMINARY - FOR CLIENT REVIEW	2019-08-06	ARVJ	NER
P2	PRELIMINARY - UPDATED SEPTIC PER CLIENT REQUEST	2019-08-07	VDJ	NER
0	ISSUED FOR CONSTRUCTION	2019-08-07	VDJ	NER
1	RESPONSE TO WASHOE COUNTY HEALTH	2019-08-27	VDJ	NER

REVISIONS

SHEET S1