

Solar Photovoltaic System Building Permit Application Packet for String or Central Inverter



Planning and Development Services Department

48 West Young Street, PO Box 886
Morgan County, Utah 84050
(801) 845-4015 / (801) 845-4008
Fax (801) 845-6087



MORGAN
C O U N T Y
Planning and Development Services Department

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Dear Applicant,

This application packet has been developed as a means to assist you in understanding the application procedure and requirements when applying for a **Building Permit**. This packet includes all the necessary background information you will need to prepare and file a complete submittal, and will allow your application to be processed and reviewed in the timeliest manner possible. The following materials have been included in this application packet for your convenience:

- Building Permit Application
- Morgan County Building Policies
- Solar Panel Building Permit Submittal Checklist
- Residential Solar Photovoltaic (PV) System Plan Review Utilizing String or Central Inverter Submittal Checklist
- Land Use Permit Application
- Wildland Urban Interface Code and Fire Protection Plan Approval
- Memorandum of Understanding
- Owner/Builder Certification and Agreement
- Required Inspection Checklist
- Design Criteria for Morgan County
- Utility companies operating in Morgan County
- Building Permit Review Process Chart
- Example site plan.

Incomplete applications will not be accepted, receipted, or processed. In order to adequately process your building permit request, the following materials will be required at the time of submission of your application:

- Building Permit Application Form
- All items listed on the Submittal Checklists (incomplete applications will not be accepted).
- Residential Solar Photovoltaic (PV) System Plan Review Utilizing String or Central Inverter Submittal Checklist
- Land Use Permit Application
- Fire Protection Plan Approval (where applicable)
- Memorandum of Understanding
- Owner Builder Certification and Agreement Form
- Application & Processing Fees, as specified in the current Morgan County Fee Schedule.
- Other supporting materials as applicable.
- Hold harmless agreement (restricted lots or geo-hazard study areas)

The application you are submitting may become a public record pursuant to the provisions of the Utah State Government Records Access and Management Act (GRAMA). You are asked to furnish the information on this form for the purpose of identification and to expedite the processing of your request.

Should you have any further questions regarding the application materials, process, or laws and ordinances governing building permit applications, please feel free to contact the Planning and Development Services Department at the address and phone number listed on the front page of this packet. Thank you for your interest in Morgan County, and we look forward to working with you very soon.

Sincerely,
Morgan County Planning and Development Services Department

MORGAN COUNTY BUILDING POLICIES

1. All of the subdivision infrastructure must be completed in accordance with County code before building permits will be issued.
2. If a subdivision has curb, gutter, and/or sidewalks a cash bond and performance agreement is required to guarantee the integrity/quality of the concrete. Based on the lineal footage of the lot street frontage the minimum amount is \$2500.00. At the time of final occupancy inspection an inspection to assess the condition of the curb, gutter, and sidewalk will be made. If the inspection reveals no deficiencies the bond will be returned to the recipient named on the bond receipt. (Documentation of any pre-existing damage is the responsibility of the property owner)
3. Temporary occupancies are not guaranteed and are reviewed on a case by case basis and will not be issued if there are any outstanding issues concerning an immediate risk to health, life, or limb. A cash bond and agreement is required to be posted in the amount of \$1025.00 of which \$1,000 will be refunded when final occupancy is obtained and \$25.00 will be retained by the county to pay office administrative expenses.
4. All inspections need to be requested 24 hours in advance. "Same day" inspections requests will be scheduled on the following day.
5. For all inspection requests contact the Planning and Development Services Department at 801-845-4015.
6. Inspection requests that are found to be "unprepared" will require a re-inspection fee of \$70.00 before a re-inspection can be scheduled; the fee must be paid to the County.
7. Because the County does not own any water systems, any temporary use of water for construction purposes must be negotiated between the owner/contractor and any party that has a legal, usable, source within a reasonable distance of the project.
8. There are no special requirements for mechanical systems for a residence at the plan review and permitting stage, but the County does require a complete and accurate gas line schematic to be submitted to review and approval prior to the meter set. Morgan county does not do gas or permanent power clearances at the 4-way inspection unless requested by the contractor.



Residential Solar Photovoltaic (PV) System Plan Submittal Checklist

This checklist is only a basic list of items needed for a solar PV system plan review and is not all-inclusive. Having all the items listed on this checklist does not guarantee a permit will be issued and any additional plans, information, and/or requirements may be requested or required by Morgan County at any time.

- One** copy of the recorded property plat. (Obtained from the Morgan County Assessor's Office)
- One** Copy of the "Tax Roll Master Record" (Obtained from the Morgan County Assessor's Office)
- One** complete 'Building Permit Application'
- One** complete 'Land Use Application'
- Architectural Review Committee approval of plans when required by a 'Development Agreement' (Cottonwoods, Rollins Ranch, and Whisper Ridge)**
- One** copy of signed 'Memorandum of Understanding'
- One** copy of signed 'Fire Protection Plan'
- One** copy of signed 'Wildland Urban Interface Fire Protection Plan'
- One** copy of the 'Owner/Builder-Exemption' form (If owner is going to act in place of any contractor-either general or sub-contractor) (Make sure that the signature is notarized.)
- One** Copy of a Morgan County 'Hold Harmless' agreement. (Only if the lot is listed on the recorded plat as 'restricted lot' for geologic or geotechnical reasons, or when otherwise required by Morgan County.)
- Two** copies of a plot plan (Site plan) A detailed site plan (refer to example in packet) showing the location of the home, accessory buildings and all PV system components on the property is required (Architectural Review Committee approval stamp is required on both copies of site plans).
- Two** copies of the elevations
- copies of the electrical plans, equipment, and specifications
- Two** copies of Engineering information (drawings, specifications, and calculation) as needed for roof dead load, roof wind load, side hill, etc.
- Two** hard copies of Mounting system: Provide detailed information on the module mounting system and also the weight of all components on the roof. Note if the home roof rafters are engineered trusses or provide information on the type and size of the roof rafters if they are other than engineered trusses. Also note the type of the roof covering (shingles, metal, or tile) and how many layers of the covering there are.
- Two** hard copies of One-line diagram: A detailed one-line diagram is required and must show: the type of PV system being installed (a single inverter system with one or more strings of modules connected in series, a micro inverter system, or an AC module system), the exact number and layout of modules and how they are connected together (in series or in parallel), all wire types, all wire sizes, conduit types and sizes, the locations of all circuits and system components on or in the house, and the ratings of all fuses or breakers. Also note which home electrical panel the PV system will back-feed and give the location and rating of that panel.
- Two** hard copies of Module spec sheets: Provide the PV module (solar panels) spec sheets showing the modules' STC rated watts (Pmp), volts (Vmp), amps (Imp), open circuit voltage (Voc), and short circuit current (Isc). Modules must be listed UL 1703.
- Two** hard copies of Inverter spec sheets: Provide the inverter manufacture spec sheets showing the amount of watts and volts the inverter can safely handle, and also noting what the inverter's max rated AC output amps and voltage is. Utility tied inverters must be listed as "utility interactive" meeting UL 1741, and have ground fault protection.
- Two** hard copies of Total array power: (This is not required for systems with micro inverters) Provide the total amount of watts, amps, volts, open circuit voltage (Voc at the coldest possible outside temperature-see NEC 690.7), and short circuit current that the array can produce.
- Two** hard copies of System components: Provide information on the different types of components that will be used in the system and how they are to be installed. Also show that all equipment is listed and rated for the type of voltage (AC or DC), amount of voltage, and the amount of current that it could be subjected to.
- One** digital copy of the plans in a PDF file format on a disc. Engineer and architect stamps and signatures are NOT required on the digital plans only.
- A \$100.00 non-refundable pre-plan review deposit.** All other fees, i.e. building permit fees, balance due of plan review fees, and any other pertinent fees are due at the time the 'Building Permit' is issued.
- One signed** Residential Solar Photovoltaic (PV) System Plan Review Utilizing String or Central Inverter Submittal Checklist
- Or*
- One signed** Residential Solar Photovoltaic (PV) System Plan Review Utilizing Micro Inverter Submittal Checklist

Whenever two copies are required to be submitted, one copy will be returned to the applicant when the building permit is issued. All other documents will be retained by Morgan County offices. Morgan County retains the right to dispose of documents as allowed by Utah State Archive law.



Residential Solar Photovoltaic (PV) System Plan Review

For systems utilizing a STRING OR CENTRAL INVERTER
with or without battery backup

BUILDING ADDRESS _____
SUBDIVISION _____ LOT _____
OWNER'S NAME _____
CONTRACTOR _____

This checklist is compiled for plan checking purposes for residential solar photovoltaic (PV) systems utilizing a **STRING OR CENTRAL INVERTER** (non-micro inverter systems) with or without battery backup. The information contained herein is compiled from the *2011 National Electrical Code (NEC)*, manufacture and PV industry standards, and Morgan County requirements. This checklist is not intended to indicate any change in any code or ordinance by inference or omission.

Items circled on this checklist shall be corrected on the plans and the requested information shall be provided before a permit shall be issued. This checklist shall be attached to and become a part of the approved plans. Next to the item circled, put the page number of the plans or submitted info where the corrections were made.

Items checked on this checklist shall be corrected during construction and installation and will be verified during field inspection(s).

1. Site plan shall contain the following information:

- 1.1 On the site plan, show the location of the following: the home relative to property lines, all PV modules (solar panels), inverter(s), PV system disconnects, batteries (if used), and other associated PV equipment on the property.
- 1.2 If PV modules (solar panels) are going to be mounted on a detached structure, provide the size of the structure and distances to property lines in addition to all PV system components.
- 1.3 Additional comments: _____

2. PV Module System Mounting shall meet the following requirements:

- 2.1 If PV modules (solar panels) are going to be mounted on the roof, the following must be provided:
 - 2.1.1 Note the type of roof covering on the home and how many layers.

- 2.1.2 Indicate what type of rafters the roof is composed of (engineered trusses, dimensional lumber, TJI etc...), and the size and spans of the rafters.
- 2.1.3 Provide manufacture info that shows the mounting system is listed for the mounting of PV modules on the roof.
- 2.1.4 The mounting system manufacture requirements must be submitted and all connections, support sizes, and support spacing noted. The manufacture specs must also show that the support system (with modules installed) can handle **3 second wind gusts up to ___ mph (in exposure B) and snow loads of ___ psf.**
- 2.1.5 Provide manufacture info on weight of all supports and modules. The total combined weight of all supports and modules must not exceed 5 lbs per square foot (divide the total weight of all components by the amount of square footage area that the modules cover) and no more than 45 lbs per support (divide the total weight of all components by the number of supports). If loads exceed these numbers, or if the home's roof rafters are other than engineered trusses that do not meet the minimum requirements of the code, or if the roof covering is a heavy material (like tile), then an engineer analysis of the roof must be submitted and the roof deemed adequate to handle the new loads.
- 2.1.6 Provide information on how all roof penetrations (supports, J-boxes, conduit etc...) are going to be properly flashed.
- 2.1.7 Modules cannot be installed over or block any attic vents, plumbing vents, furnace or water heater vents etc...
- 2.2 If PV modules are going to be mounted on a detached structure the following must be provided:
 - 2.2.1 A plan of the structure indicating that all associated requirements of the code are met (setbacks, square footage, footings, connectors, snow loads, wind loads etc...).
 - 2.2.2 If a prebuilt manufactured structure designed for the mounting of PV modules is going to be used, then a complete set of manufacture instructions must be provided and all requirements followed.
 - 2.2.3 The structure must be designed to handle **3 second wind gusts of up to ___ mph (in exposure B) and snow loads of ___ psf.**

2.3 Additional comments: _____

3. Single-Line or Three-Line Diagram must contain the following:

- 3.1** Please specify whether the PV system will have battery backup or not. Also indicate if the inverter is the “ungrounded” type (if applicable). Note: See also section 12 in this plan check if system will have battery backup, and see section 13 if system will have an “ungrounded” inverter (transformerless inverter).
- 3.2** Show the **exact** number and layout of the modules and how they are connected together (in series or parallel).
- 3.3** Show all PV system components like: J-boxes, combiner box, inverter(s), all disconnects, and other equipment like charge controllers and batteries if used. Indicate where all the components will be located in or on the home.
- 3.4** Indicate the home electrical panel that the PV system will tie into: to a sub-panel or to the home’s electrical service panel. Give the amperage rating of that panel, the rating of the main breaker protecting that panel, and what breaker slot the PV tie-in-breaker will be located in that panel. *NEC 690.64 and NEC 705.12* (see also **7.8** for more details)
- 3.5** A PV system will backfeed the home’s electrical service panel regardless of where on the home’s electrical system the PV circuits will be connected, because of this please note what type of service panel it is, the name of the manufacture, model #, and where in the service panel the backfed breaker is located: on the service (utility side) of the home’s main breaker, or on the load (house side) of the home’s main breaker. Please also provide a picture of the panel with the front panel door open, and pictures of interior labels if possible (due to safety concerns removing covers exposing live connections is **NOT** required). Detailed panel manufacture diagrams and info can be submitted in lieu of pictures. Please see **section 7.8** in this plan check for more information.
- 3.6** Show all wire sizes, and wire types. Please also include info for the size and type of existing feeder conductors for the electrical panel(s) being tied into and the size of each breaker protecting any panel that will be backfed by the new PV or battery system.
- 3.7** Indicate on plans where in or on the home each group of circuit conductors will be ran. If exposed outside, wires must be type USE-2 or listed “PV” conductors (*NEC 690.31(B)*). Wires installed outside (even if in conduit) must be listed for wet locations (*NEC 300.9*). All wires are strongly recommended to be rated 90°C (for example: RHW-2, THWN-2, and XHHW-2) due to deration issues.
- 3.8** Show conduit types, sizes, and how many conductors will be in each conduit.
- 3.9** Note that any **DC** circuits that penetrate and enter the home will be ran in metal conduit or be MC cable until the first readily accessible disconnect is reached. *NEC 690.31(E)*
- 3.10** Show the ratings of all fuses and breakers.
- 3.11** Additional comments: _____

- 6.2 PV inverters for residential use must be equipped with a ground fault protection device (GFPD). A listed detached GFPD is permitted to be used if one is not provided as part of the inverter and must be installed as per manufacture’s instructions. *NEC* 690.5
- 6.3 Any PV system with **DC** circuits on or penetrating a building operating at 80 volts or more must be protected by a listed DC arc-fault circuit interrupter (AFCI) that is the “PV type” or have other components listed to provide equivalent protection, *NEC* 690.11. This device is permitted to be a detached device if not provided as part of the inverter and if installed as per manufacture’s requirements.
- 6.4 Inverter manufacture spec sheets must be provided.
 - 6.4.1 The manufacture spec sheets must show the following:
 - a. The maximum allowable current, voltage, and wattage (produced by the PV array or batteries) that the inverter can safely handle.
 - b. The inverter’s AC max continuous output current (amps), and voltage.
 - c. How many strings (source circuits) can be combined together inside of the inverter. Note: see also section 7.1.1 for more info on source circuits.
 - d. If each string (source circuit) is protected by a fuse internal of the inverter please show the rating of each fuse. Also show whether the inverter allows backfeed or not if no fuses are provided for only one or two strings of modules.
- 6.5 Additional comments: _____

7. Circuit Conductors and Overcurrent Protection Devices:

7.1 Circuit sizing and ratings:

Informational Note: As a general concept, PV modules (solar panels) connected in series have their voltages from each added together but the amps for the whole string (circuit) stay the same. Any parallel connections result in amps adding together, but voltage staying the same. These basic electrical concepts can also be applied to batteries.

7.1.1 The string or “source circuit” conductors’ ampacity and its breaker or fuse rating must meet *NEC* 690.8(A)(1), (B)(1) and (B)(2). This would require that the short circuit current (Isc) STC rating of the source circuit be multiplied by 1.56 (note: 1.56 is used because 1.25 is applied twice). Use the final figured ampacity to size the conductors and to size the fuse or breaker protecting the string (source circuit). If the final figured ampacity does not correspond with a standard fuse or breaker size, then use the next size up, *NEC*

240.4(B). If the conductors' ampacity must be adjusted or corrected due to conduit fill, ambient temp., or in conduit exposed to sunlight on the roof, then *NEC* 690.8(B)(2) must be followed (see also 7.2 in this plan check for ampacity corrections and adjustments of conductors).

The string circuits (source circuits) may not be required to be protected by a fuse or breaker when only 2 strings are combined together at an inverter and if the inverter does not allow backfeed, *NEC* 690.9(A).

Note: the string or "source circuit" is the circuit(s) between the modules and a combiner box if a detached combiner box is used, or the circuit(s) between the modules and inverter if a detached combiner box is *not* used.

- 7.1.2 The PV output circuit (the circuit between a combiner box and the inverter) conductors' ampacity and its breaker or fuse rating must meet *NEC* 690.8(A)(2), (B)(1) and (B)(2). This would require simply adding together all the combining strings' (source circuits') I_{sc} rating that has already been multiplied by 1.56 (as figured from section 7.1.1). If the total added I_{sc} ratings of all combining strings (source circuits) does not correspond with a standard fuse or breaker size, then use the next size up. If the PV output circuit conductors' ampacity must be adjusted or corrected due to conduit fill, ambient temp., or for conduit exposed to sunlight on the roof, then *NEC* 690.8(B)(2) must be followed (see also section 7.2 in this plan check for conductor ampacity corrections and adjustments).

Overcurrent protection for the PV output circuit may not be needed if all of the following is met: each string circuit (source circuit) is protected by its own fuse or breaker, there is only one PV output circuit connecting to the inverter, the PV output wires are sized to handle the combined short circuit currents (I_{sc}) from all strings, and if the inverter does not allow backfeed, *NEC* 690.9(A).

Note: if the string (source circuit) conductors tie directly into the inverter and are not combined in a detached combiner box, then the system will not have a PV output circuit.

- 7.1.3 Breakers or fuses protecting **DC** circuits must be listed for **DC** use and be rated for the maximum cold temperature voltage (V_{oc}) on that circuit, *NEC* 690.9(D).
- 7.1.4 The inverter's **AC** output circuit (the circuit between the inverter and the tie-in-breaker at the home's electrical panel) conductors' ampacity and breaker or fuse rating must meet *NEC* 690.8(A)(3), (B)(1) and (B)(2). This is figured by taking the inverter's rated continuous AC output amp rating and multiplying it by 1.25. Use the final figured ampacity to size the conductors and breaker. If the final ampacity does not correspond to a standard fuse or breaker

rating, use the next size up. See section 7.2 in this plan check if conductors' ampacity must be adjusted or corrected.

- 7.2** All conductors for **any** electrical system must be installed within their temperature range based on ambient temperature or the conductors' ampacity (as per *NEC* table 310.15(B)(16)) must be corrected and adjusted for the conditions of use. If more than 3 current carrying conductors will be ran in the same conduit, the ampacity of the wires must be adjusted as per *NEC* table 310.15(B)(3)(a). If wires are ran in conduit exposed to sunlight on the roof, the wires ampacity must be adjusted further as per **2011** *NEC* table 310.15(B)(3)(c), and table 310.15(B)(2)(a).
- 7.3** All PV source circuits, PV output circuits, and inverter AC output circuits must each be identified separately from one another by an approved marking or color coded tape at all points of terminations, connections, and splice points. All conductors from different PV systems entering the same enclosures must be grouped separately. *NEC* 690.4(B)(1-4)
- 7.4** Any conduits, enclosures, or MC cable that contain **DC** circuits shall be marked with the wording "Photovoltaic Power Source." The markings shall be provided at every enclosure, every 10' along conduit or MC cable, and at each side of where the conduit or cable passes through a wall, floor, or any other partition. The markings shall be permanently affixed and visible after installation. *NEC* 690.31(E)(3-4)
- 7.5** Any **DC** circuits that are ran in an attic must be installed at least 10" or more below the roof deck unless installed directly under the PV modules, *NEC* 690.31(E)(1).
- 7.6** All conductors (both AC and DC circuits) that are readily accessible or subject to damage must be protected (in conduit). *NEC* 690.31(A) and 300.4
- 7.7** The voltages of any DC circuits that feed DC utilization equipment must meet the requirements of *NEC* 210.6. *NEC* 690.7(B)
- 7.8** **PV point of connection breaker(s). This section also applies to any breakers, conductors, or equipment busbars that are backfed from a PV and/or battery system.**
- 7.8.1 All panel busbars and conductors in the home's electrical system that are backfed by the PV system must comply with a, b, c, and d. **Important: A PV system that is tied into a sub-panel not only effects the panel it is being connected to, but also every additional panel or conductors that are backfed all the way back to the electrical service panel. Compliance with all of 2011 *NEC* 705.12(A) & (D) is required for all panel busbars and conductors being backfed from the PV system- see *NEC* 705.12(D)(7) for panels in series.**
- a. If the PV system is going to backfeed the home's electrical service box **on the supply side** (utility side) of the home's main service breaker(s), then the rating of the PV tie-in-breaker cannot exceed the rating of the service panel's busbars or the ampacity of the utility service conductors.

For example: if the service panel busbars are rated for 200 amps and the utility service conductors to the home are also rated for 200 amps, then up to a 200 amp PV tie-in-breaker could backfeed the service panel **if** the busbars in the panel would allow that size of a breaker to be plugged into it (see service box manufacture's limitations) **and** if the busbars are on the **service** side (utility side) of the service panel's main breaker(s). 705.12(A) in the 2011 *NEC*.

NOTE: IF THE SERVICE SIDE CONNECTION IS GOING TO BE MADE BY TAPPING THE SERVICE CONDUCTORS, THE POWER COMPANY MUST GIVE FULL PERMISSION BEFORE DOING SO.

Note: For compliance with b or c: the home's existing electrical loads calculated per article 220 in the *NEC* cannot exceed the following: the rating of the panel being tied into (*NEC* 408.30), the ampacity of the panel's feeder wires (*NEC* 215.2(A)(1)), and the rating of the breaker protecting the feeder wires (*NEC* 215.3).

A calculated load *may* be required to show that this is the case.

- b. If the PV tie-in-breaker(s) are going to backfeed any panel on the load side (house side) of the home's main service breaker(s) **and** the backfed breaker(s) are located at the end of the panel's busbars, opposite to the main feeder wire connections to that panel, then the sum of the PV tie-in-breaker(s) rating(s) and the panel's main breaker rating cannot exceed **120%** of the rating of the panel being backfed. For example: if a 100 amp rated panel is protected by a 100 amp main breaker, then a 20 amp PV tie-in-breaker is allowed to backfeed that panel if the backfed breaker is located at the end of the busbars (last breaker slot furthest from where the panel receives its power). *NEC* 705.12(D)(2) and (D)(7)
- c. If the PV tie-in-breaker(s) are going to backfeed any panel on the load side (house side) of the home's main service breaker and the backfed breaker cannot be located at the end of the panel's busbars as noted in 7.8.1(b), then the sum of the ratings of the PV tie-in-breaker(s) and the rating of the main breaker protecting that panel cannot exceed **100%** of the rating of that panel. For example: If the panel being tied into is rated for 100 amps and is protected by a 100 amp main breaker; in order for a 30 amp PV tie-in-breaker to backfeed the panel, the main breaker protecting the panel must be reduced down to 70 amps (30+70=100). In order for this to be allowed, the home's existing electrical loads on that panel (calculated as per *NEC* 220) do not exceed the rating of the new 70 amp breaker. *NEC* 705.12(D)(7).

- d. Conductor (wire) protection. The sum of the ratings of all overcurrent protection devices supplying power to any conductor cannot exceed 120% of the rating of that conductor (the regular conductor breaker rating + the PV breaker(s) rating cannot exceed 120% of the ampacity rating of the conductor being fed by both sources).
NEC 705.12(D)(2)

7.8.2 Feeder taps. If a feeder tap is going to be performed in order to tie the PV system into the home's electrical system, the following must be submitted or noted on the plans and complied with during installation:

- a. The PV breaker or fused disconnect must be located **immediately next to** where the conductors tap the feeder wires (the feeder tap distance rules of section 240.21(B) in the *NEC* were not designed for PV systems and should not be used).
- b. The sum of the rating of the main breaker protecting the feeder conductors and the rating of the PV breaker (or fuses) cannot exceed **120%** of the ampacity rating of the feeder conductors being tapped, *NEC 705.12(D)(2)*.
Note: the 120% allowance rule can only be utilized if the home's existing electrical loads on the feeder wires do not exceed the ampacity of the feeder wires (*NEC 215.2(A)(1)*) or the feeder wires' breaker rating. A load calculation (based on article 220 in the *NEC*) may need to be submitted showing that this is the case. *NEC 705.12(D)(2)*

7.9 Additional comments: _____

8. Disconnects

8.1 A main PV system disconnect is required to be able to completely disconnect the PV system from the home's AC electrical system and must be located at a readily accessible location nearest the point of entrance of the PV system conductors into the house. If the disconnect is located further inside the home from the nearest point of entrance of any **DC** circuit conductors, then those DC conductors must be installed in **metal conduit** or be **MC cable** until the first readily accessible disconnect is reached. *NEC 690.14(C)* and *690.31(E)*

- 8.2 Equipment such as inverters, batteries, and charge controllers for batteries all require disconnects to be able to shut off all sources of power to the equipment. For example: an inverter must have a DC disconnect to be able to disconnect the PV power source to the inverter, and must also have an AC disconnect to be able to disconnect the utility power to the inverter. If batteries are installed, the inverter must be able to be disconnected from them as well. **If multiple disconnects for a piece of equipment are required, then they must be grouped together in the same area.** *NEC 690.15*
- 8.3 Fuses are required to be able to be disconnected from all sources of power provided to them. For smaller DC fuses, the disconnecting means is permitted to be the fuse holders if the holders are listed and permitted to be used as a disconnect, and the fuse holders are also the “finger safe” type that do not have any exposed current carrying metal parts when changing the fuses. *NEC 690.16*
- 8.4 When fuses are to be used for any 240v AC circuits, provide information showing that the disconnecting means for both fuses is simultaneous. *NEC 210.4(B)*
- 8.5 Additional comments: _____

9. Equipment and Connectors

- 9.1 Provide manufacture info showing that inverters (UL 1741), PV modules (UL 1703), AC modules (UL 1703 and 1741), combiner boxes (UL 1741), and charge controllers (UL 1741) for batteries used in a PV system are all indentified and listed for the application. *NEC 690.4(D)*
- 9.2 Provide info showing that all equipment is listed and rated for wet locations and is listed as “rain tight” if installed outdoors. *NEC table 110.28*
- 9.3 Provide info showing all equipment is listed and rated for the **type** of voltage (AC or DC), the maximum **amount** of voltage (Voc that has been increased for the coldest possible outside temperature), and the maximum amount of short circuit current (Isc) that it could be subjected to. *NEC 110.3 and 110.4*
- 9.4 If fine stranded cables are going to be installed only terminals, lugs, devices, and connectors that are listed and marked for such use can be installed. *NEC 690.31(F) and 110.14*
Note: All fittings for fine stranded cables must also meet UL 486 A&B.
- 9.5 Additional comments: _____

10. Grounding

10.1 Equipment grounding:

- 10.1.1 All metal parts of all modules (solar panels), module supports, system equipment, and conductor enclosures shall be bonded together and connected to the grounding system. Provide detailed info on the types of connectors and/or devices that will be used for bonding modules, supports, and boxes to the equipment grounding conductor. All devices used for bonding frames of PV modules or other equipment to the grounding system must be listed and identified for the purpose. *NEC 690.43*
- 10.1.2 Provide info showing that if the metallic mounting structures (rails, supports etc.) for the PV modules that are also going to be used for grounding purposes are identified as equipment grounding conductors or shall have identified bonding jumpers connected between each separate metallic section and be bonded to the grounding system. *NEC 690.43 (C)*
- 10.1.3 Lugs for bonding aluminum rails and modules must be listed for outdoor use and also for bonding PV rails and modules. Burndy CL50.1TN lugs, ILSCO GBL4 DBT lugs, and WEEBL 6.7 lug and clip assemblies are all ok for this purpose *if* installed per manufacture requirements. Must provide info on any other types of connectors if used.

10.2 DC system grounded conductor:

Note: Either the positive conductor or the negative conductor that is connected to earth by the grounding electrode conductor, is considered as the grounded conductor of the DC system.

- 10.2.1 All grounded conductors must be isolated from ground except at the point where the conductor is connected to the ground bonding point (which is usually located in the inverter at the GFPD for PV systems), *NEC 690.42*.

Note: See also the informational note in section 690.47(C) in the 2011 *NEC* for clarification.

- 10.2.2 Grounded conductor marking. Grounded conductors of size #4 AWG or larger shall be indentified at the time of installation by distinctive white markings at all terminations (this also applies to grounded conductors smaller than #4 AWG if the conductors are USE or “PV type” conductors installed at the PV array). All other grounded conductors must be marked white or grey as per *NEC 200.6(A)*. *NEC 200.6(A)* and (B)

10.3 Equipment grounding conductors: *NEC 690.43*

- 10.3.1 Equipment grounding conductors shall be ran with the associated circuit conductors when those conductors leave the vicinity of the PV array, *NEC 690.43(F)*.
- 10.3.2 Show the size of all equipment grounding conductors on plans. Equipment grounding conductors shall be sized per *NEC* table

250.122 based on the size of the fuse or breaker protecting the circuit. If there isn't a breaker or fuse used in a circuit, an assumed breaker or fuse rating that is sized per *NEC* 690.8(B) shall be used for sizing the equipment grounding conductors. *NEC* 690.45(A)

10.4 Grounding electrode conductors: *NEC* 690.47

10.4.1 Show the grounding electrode conductor on plans. A grounding electrode conductor must originate at the grounding electrode conductor connection point located on or inside of the inverter(s) (for PV systems), and ran to the building's grounding electrode per one of three methods listed in *NEC* 690.47 (C)(1)-(C)(3). If the building's grounding electrode (UFER, ground rod, metal water pipe, etc.) are not accessible then the grounding electrode conductor can connect to the electrical service panel's grounding busbar.

10.4.2 Show the size of the PV grounding electrode conductor on plans. The grounding electrode conductor must be sized per *NEC* 250.166 based on the size of the largest **DC** conductor feeding the inverter. However, the grounding electrode conductor does not have to be larger than #6 copper if connecting to a ground rod, or a #4 copper if connecting to a UFER. If the equipment grounding conductor from the inverter to the existing **AC** electrical service panel is also going to be used for the PV system grounding electrode conductor, then the larger required size of either 250.122 or 250.166 must be used (note: please also read section 10.4.3 regarding combined grounding conductors.). 2011 *NEC* 690.47(C)(1)-(C)(3)

10.4.3 Grounding electrode conductors must be installed per *NEC* 250.64(E). **Notice:** Section 250.64(E) makes it very difficult to use **AC** equipment grounding conductors as also the PV system grounding electrode conductor due to the fact that the wire must be bonded every time the conductor enters, and bonded again when it leaves a ferrous metal (containing iron) conduit or enclosure-see *NEC* 250.64(E) for full requirements. The conductor must also remain continuous or be irreversibly spiced. *NEC* 690.47(C)(3)

10.5 Ground wire protection. Indicate how the equipment grounding conductors and the grounding electrode conductor will be ran and protected from damage. If grounding conductors are exposed then a minimum of #6 copper conductors must installed. All grounding conductors must be protected from damage or be installed in conduit. *NEC* 690.46, 250.120(C), and 250.64(B)

10.6 Grounding electrodes:

10.6.1 Note on plans the type of grounding electrode the PV system's grounding electrode conductor will be connecting to (UFER, metal water pipe, ground rod, etc.). If no grounding electrodes are accessible then note that the conductor will be ran to the home's service panel and connect to the grounding busbar. Grounding electrodes are required to be one of the types given in *NEC* 250.52.

10.6.2 If a new grounding electrode is installed for the PV system, then it must be bonded to the home's existing grounding electrode to form a grounding electrode system. *NEC 250.50*

10.7 Additional comments: _____

11. Signage

- 11.1 Signs at the home's utility service panel:
 - 11.1.1 A sign is required at the service panel stating that the home has a PV system as an additional power source. *NEC 705.10*
 - 11.1.2 A sign is required at the home's service box giving the location of the main PV system disconnect (or main disconnect of any other power production system) if the disconnect is not located next to the utility service panel. *NEC 690.4(H)* and *NEC 705.10*
- 11.2 Signs at main system disconnect(s):
 - 11.2.1 A sign is required at the main PV system disconnect (and at any other power production main system disconnect) labeling it as such. *NEC 690.14(C)(2)*
 - 11.2.2 A sign is required at the main PV system disconnect (usually at the inverter) giving the total **DC** system **STC** rated max current (Impp), the rated max voltage (Vmpp), the open circuit voltage (Voc) which has been increased for coldest possible outside temperature, short circuit current (Isc), and the rated max output of a battery charge controller (if a charge controller is installed). *NEC 690.53*. See also section 5 in this plan check for more info.
 - 11.2.3 Any PV system employing battery storage must also have a sign giving the max operating voltage (including any equalization voltage), and the polarity of the grounded circuit conductor (positive or negative). *NEC 690.55*
- 11.3 Signs at the interconnection point between the PV system and the home's electrical system:
 - 11.3.1 A sign is required at the PV tie-in-breaker location giving the rated **AC** output current (amps) and voltage of the inverter(s). *NEC 690.54*
 - 11.3.2 A sign is required at the PV tie-in-breaker if the breaker is located at the end of the panel opposite to the panels main feeder wire connections, and the 120% rule of *NEC 705.12 (D)(2)* and *(D)(7)* is utilized.
- 11.4 Signs at equipment:
 - 11.4.1 Where all terminals of any disconnecting means may be energized in the open position, a warning sign shall be mounted on or

adjacent to the disconnection means and state the following:
“WARNING ELECTRIC SHOCK HAZARD. DO NOT TOUCH
TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD
SIDE MAY BE ENERGIZED IN THE OPEN POSITION.”
NEC 690.17

11.5 Additional comments: _____

12. Battery Backup Systems (These requirements, where applicable, shall be in addition to those already covered in this plan review.)

12.1 Inverter:

- 12.1.1 Detailed manufacture’s installation instructions and requirements for the inverter or a listed PV center (if used) must be submitted for plan review and all requirements must be followed when installing the system.
- 12.1.2 Provide manufacture’s info that the inverter is specifically designed and listed for the use, and also be designed for the types of systems that will be connecting to it.
- 12.1.3 Provide manufacture’s info indicating that the battery inverter is listed as being utility interactive meeting UL 1741 if grid tied.
NEC 690.60, 690.61 and 705.40
- 12.1.4 Show that a ground fault protection device (GFPD) is provided for the DC portion of the PV system **if** the PV system and the battery system share the same inverter. Note: Only the DC portion of PV systems mounted on a house require a ground fault protection device (GFPD), not battery systems that use a separate inverter than the PV system. *NEC 690.5*
- 12.1.5 Any PV systems with DC circuits on or penetrating a building operating at 80 volts or more must be protected by a listed DC arc-fault circuit interrupter (AFCI) that is the “PV type” or have other components listed to provide equivalent protection, *NEC 690.11*. Note: Only the DC portion of the PV system requires arc-fault protection (AFCI), not battery systems that use a separate inverter than the PV system.
- 12.1.6 Provide information showing the maximum allowable voltage and amperage from the PV array and/or the batteries that the inverter can safely handle.
- 12.1.7 The inverter’s AC output circuit conductors and overcurrent protection device (OCPD) must be sized as per *NEC 690.8(A)(3), (B)(1) and (B)(2)*.
Note: For sizing PV source circuits and PV output circuits see sections 7.1.1 and 7.1.2 in this plan check.

12.1.8 The AC output circuit overcurrent protection device (as noted in 12.1.7) shall be located at the output of the stand alone or battery backup inverter, *NEC* 690.10(B). If this overcurrent device is a plug-in type breaker, it must be secured in accordance with *NEC* 408.36 (secured in place by an additional fastener that requires other than a pull to release the breaker from the panel busbars), *NEC* 690.10(E).

12.2 Batteries:

12.2.1 Indicate what types of batteries are going to be installed and if they are the flooded/vented type or sealed type.

12.2.2 Provide info that the battery type is compatible with the inverter and also that the inverter will **not** “equalize” or overcharge sealed batteries.

12.2.3 Show on plans how many batteries are to be installed, how they are connected (in series or parallel), the voltage of each battery, and the total battery bank voltage. Total battery system voltage in a residential home is typically limited to 48 volts unless the live parts of the batteries are not accessible during routine battery maintenance (*NEC* 690.71 (B)(1)). An example of a 48 volt battery system would be four-12 volt batteries connected in series per string (more than one string can be parallel connected together if the total battery system amp-hours is within the limits of the inverter).

12.2.4 Show the size of the conductors from the batteries to the inverter and also the rating of the overcurrent device protecting those conductors. The size of conductors from the battery bank to the inverter must be as per *NEC* 690.8(A)(4) and (B)(2), and the breaker or fuse rating protecting the conductors as per *NEC* 690.8(B)(1).

Note: the formula for figuring the max current of 690.8(A)(4) is taking the inverters rated continuous AC output wattage and dividing it by the lowest battery voltage that can sustain that wattage, and also by dividing by the inverters AC to DC conversion efficiency %. For example: 5,000 watts ÷ 44 volts ÷ .85= 133.68 amps. The conductor ampacity and the rating of the breaker are then figured by increasing the 133.68 amps by 125%, which is 167.1 amps. The next size up breaker would be 175 A. The size of the conductors would be based on the 167.1 amps if no ampacity correction or adjustments are required (see also 12.2.6 for minimum conductor size if fine stranded cables used).

12.2.5 Provide information to show that the batteries’ overcurrent protection device(s) protect all other equipment or conductors in the system from any overcurrent from the batteries and also be rated for the available short circuit current that could be produced by the batteries. These breakers or fuses must be located **as close as possible** to the batteries (no more than 4 or 5 feet is usually

required by manufacture's instructions, but closer is better) and cannot be located in a different room than the batteries. *NEC* 690.71(C), 240.21(H), and 480.5

12.2.6 If flexible (fine stranded) cables are going to be used to connect the batteries together, then a minimum of 2/0 copper conductors must be used. The conductors must also be listed for "hard-service" and be identified as moisture resistant. The cables can only be ran between the batteries and from the batteries to a nearby junction box where there they must be connected to an approved wiring method. *NEC* 690.74

Important: Flexible, fine-stranded cables must be terminated with terminals, lugs, devices, and connectors that are listed for such (UL 486 A&B). Consult manufacture of all equipment involved with the fine stranded conductors and provide detailed info on listing and installation requirements concerning them.

12.2.7 Batteries must be located inside a lockable enclosure or room (guarded against accidental contact by persons), and cannot be installed in the inverter's working space area. Please indicate this on plans. *NEC* 690.71(B)(2)

12.2.8 Working space must be provided per *NEC* 110.26 around any battery enclosure or electrical equipment. *NEC* 480.9(C)

12.2.9 Battery ventilation:

a. Provide information on how the battery enclosure will be ventilated. *NEC* 480.9(A) requires "provisions to be made for sufficient diffusion and ventilation of the gases from the battery to prevent the accumulation of an explosive mixture" (see manufacture's recommendations). Note: The 2011 *NEC* or 2009 *International Residential Code (IRC)* do not specifically require *mechanical* ventilation to be provided for batteries, but may be required if no other ventilation options exist. The battery manufacture's recommendations should always be followed.

b. The conduit for the battery conductors must enter the enclosure at a point lower than the tops of the batteries and must be sealed to prevent hydrogen gas from entering the conduit.

12.2.10 If a battery system over 48 volts is going to be installed, the batteries cannot be installed on or within conductive cases or racks. This requirement does not apply to VRLA or other types of sealed batteries. *NEC* 690.71(D)

12.2.11 If a battery system over 48 volts is going to be installed, all requirements of *NEC* 690.71(E) and (F) (battery disconnect requirements) must be followed.

12.2.12 If an ungrounded battery system over 48 volts is going to be installed, all requirements of 690.71(G) must be followed.

12.3 Charge controllers:

- 12.3.1 Provide manufacture’s installation requirements and specifications for the charge controller(s).
Charge controllers are required for battery backup systems to regulate the charge of the batteries (*NEC 690.72(A)*). Note: charge controllers should also be listed to meet UL 1741.
- 12.3.2 One or more charge controller(s) are required to prevent over-charging and excessive discharging of the batteries. There must be a charge controller between the batteries and any source of power (utility, generator, PV, wind turbine etc.) that is directly connected to the batteries in order to control the charge of the batteries (this may sometimes require multiple charge controllers). *NEC 690.72*
- 12.3.3 When buck/boost charge controllers and other DC to DC power converters that increase or decrease the output current or output voltage with respect to the input current and input voltage are installed, the ampacity of the output conductors shall be based on the maximum rated continuous output current (max output current multiplied by 125%) of the controller or converter, and the output circuit conductors must be rated for the maximum output voltage of the controller or converter, *NEC 690.72(C)*.

12.4 Grounding:

- 12.4.1 Detailed information from the inverter manufacture on the requirements for grounding the battery system must be provided.
Note: Some battery inverter manufactures require a grounding electrode conductor to be connected to the negative conductor at a single point external of the inverter, and others may require a grounding electrode conductor to connect within the inverter (always follow manufacture’s requirements). See also section 10 for additional grounding requirements.

12.5 Additional comments: _____

13. Ungrounded Inverter/Transformerless Inverters: (These requirements, where applicable, shall be in addition to those already covered in this plan review.)

13.1 System equipment:

- 13.1.1 Provide manufacture’s info showing that the inverter(s) and charge controllers (if used) in an ungrounded PV system are listed for the purpose. *NEC 690.35(G)*
- 13.1.2 If the inverter(s) are going to be grid tied, provide information showing that it/they are listed as “utility interactive” having anti-islanding protection. *NEC 690.61 and 690.62*

- 13.1.3 Provide info showing that the PV inverter(s) have GFPD protection. *NEC 690.35(C)*
- 13.1.4 Provide info indicating that the PV system is protected by an arc-fault device (AFCI). *NEC 690.11*

13.2 Batteries:

- 13.2.1 If an ungrounded battery system is going to be used with a PV system (whether the PV system is grounded or ungrounded), all requirements of *NEC 690.71(G)* must be followed.

13.3 Conductors and overcurrent protection:

- 13.3.1 In an ungrounded PV system (transformerless inverter), all DC current carrying conductors are considered as ungrounded and shall have disconnects where disconnects are required (*NEC 690.35(A)*), **and** each conductor (both positive *and* negative DC conductors) are required to be protected by a breaker or fuse where overcurrent protection is required (*NEC 690.35(B)*).

- 13.3.2 Since there are not any grounded circuit conductors in an ungrounded system (transformerless inverter), the color white cannot be used to identify any wire. *NEC 310.12(C)*

13.4 Grounding. Equipment grounding conductors must still be provided to bond all metal parts and equipment of the PV system and be installed with the circuit conductors they are associated with, even though neither the positive conductor nor the negative conductor is connected to ground (no grounded DC conductor). Also, a grounding electrode conductor must be installed from the PV equipment as per manufacture’s requirements, and connect to an approved grounding electrode. The equipment grounding conductors and grounding electrode conductor must be installed as per article 250 in the *NEC* (see also *NEC 250.169*).

13.5 Required signs:

- 13.5.1 A sign is required at each junction box, combiner box, disconnects, and devices where energized ungrounded conductors may be exposed while being serviced and must state: “WARNING, ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THIS SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED.” *NEC 690.35 (F)*

13.6 Additional comments: _____

14. Any Additional Comments Concerning This Proposed PV System: _____

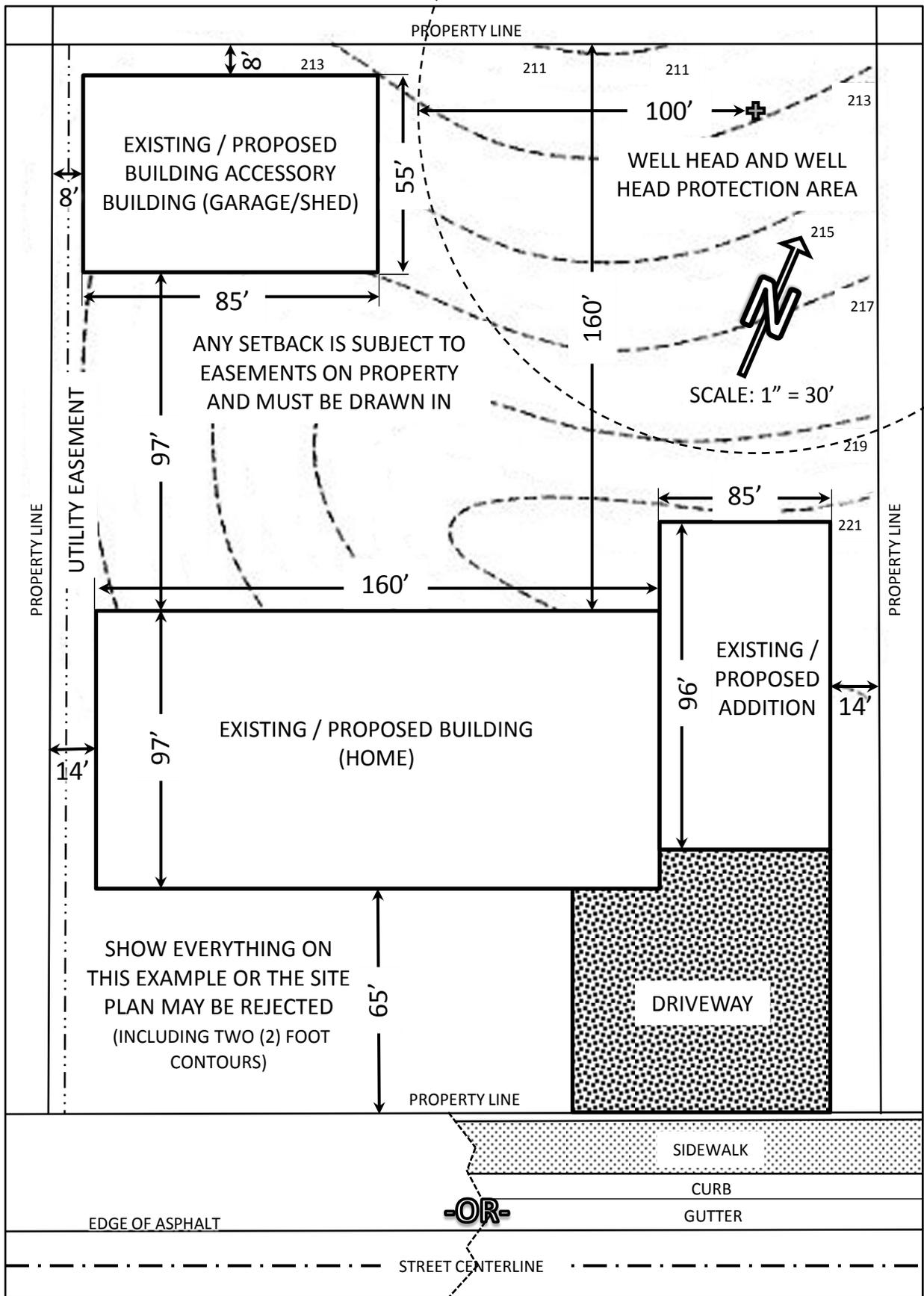
15. Validity of Permit

15.1 The issuance or granting of a permit or approval of plans, specifications, and computations shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of any state adopted code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code, national codes, or other ordinances of the jurisdiction shall not be valid.

15.2 The issuance of a permit based upon plans, specifications and other data shall not prevent the building official from thereafter requiring the correction of errors in said plans, specifications and other data, or from preventing building or installing operations being carried on thereunder when in violation of this code, national codes, or of any other ordinances of this jurisdiction.

Contractor or Owner Signature

Date



SITE PLAN EXAMPLE

THIS IS AN EXAMPLE ONLY & IS NOT DRAWN TO SCALE
 SITE PLANS SHOULD BE DRAWN TO SCALE, & ZONING WILL DETERMINE SETBACKS



Application Date	Water/Well Approval	Sewer/Septic Approval	Access Permit	Occupant Load	Occupancy or Use	Construction Type	Building Permit #		
							MRG		Year
							Month	Day	#

Box to be filled in by applicant-Please type or print legibly in ink					For Office Use Only				
Property Owner:			Home Phone#	Cell#	SITE ADDRESS: (Assigned by Zoning Official)				
Owner's Mailing Address			City	State	Zip	Plans Examiner Signature			Date
Subdivision	Lot#	Lot Size	Tax Roll Serial #	Tax Roll Parcel#		Zone	Section	Township	Range
State type of land use or construction intended; <i>Explain</i>					Wildland-Urban Interface		Fire Sprinklers Required?		Conditional Use Permit Required?
Residential					(Yes) (No)		(Yes) (No)		(Yes) (No)
Commercial/Industrial									
Agricultural					Valuation – (Building Official) \$				
Accessory Building					DESCRIPTION				
Utility					FEE'S				
OTHER:					Building Permit				
Will any part of the structure be used as a business?		Yes/No			Electrical				
Contractor's Business Name:			Total valuation by applicant, as requested (labor and materials): \$		Plumbing				
Mailing Address:			Telephone #		Mechanical				
Contractor's License #					Sub-Total (A)				
Architect/Engineer			Mailing Address		Telephone #		1% State Tax (B + C)		
Architect/Engineer License #					Plan Review (D)				
Electrical Contractor			Mailing Address		Telephone #		TOTAL FEE		
Electrical Contractor License #					Deposit < > (E)				
Mechanical Contractor			Mailing Address		Telephone #		PERMIT BALANCE \$		
Mechanical Contractor License #					IMPACT FEES Yes / No				
Plumbing Contractor			Mailing Address		Telephone #		Transportation		
Plumbing Contractor License #					Fire				
# of Dwellings Now on Lot			Restricted Lot? Yes or No		Geotechnical Review Required? Yes No		EMS		
List Other Buildings Now on Lot					Police				
Previous Use of Land/Structure:			Building Dimensions X		Carport/Garage Dimensions X		Reg. Parks		
Is Basement to be Finished? Yes / No / Partial					Comm. Parks				
Retaining Walls? Yes / No Height:					IMPACT FEE BALANCE \$ (F)				
<p align="center">APPLICANT: PLEASE READ CAREFULLY</p> <p>I agree to comply with all County and State Building laws and ordinances, and the representation in this application of a building permit are true and accurate, and any misrepresentations or errors herein are the sole responsibility of the applicant, and shall in no way incur or accrue the liability or obligation to enforcing officers or agents. This permit becomes null and void if work on construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced.</p> <p align="center">USE OR OCCUPANCY OF A STRUCTURE IS PROHIBITED UNTIL AFTER FINAL INSPECTION IS APPROVED AND "CERTIFICATE OF OCCUPANCY" IS ISSUED</p>					Improvement Bond Yes / No \$ (G)				
					ft @ \$15.00/ft (\$2500 min)				
Owner's Signature _____ Date _____					TOTAL BALANCE DUE \$ (H)				
Email Owner: _____ Email Contractor: _____					RECIPT NUMBER				
Or Contractor's Signature _____ Date _____					FLOORS				
Printed Name _____ Owner/Contractor (circle)					SQUARE FEET				
Type of Improvement/Kind of Construction:					Basement-Finished				
<input type="checkbox"/> Sign <input type="checkbox"/> Build <input type="checkbox"/> Remodel <input type="checkbox"/> Addition					Basement-Unfinished				
<input type="checkbox"/> Repair <input type="checkbox"/> Move <input type="checkbox"/> Convert Use <input type="checkbox"/> Demolish					Main Floor				
Issued By:					Date:		Zoning Official:		
							Date:		

Number of off-street parking spaces:
Covered : _____ Uncovered : _____

Zoning Compliance				Minimum Setbacks	
Front	Rear	Side	Side Street		

Comments/Conditions:

Utah Code 15A-1-209 (4) Decisions relative to this application are subject to review by the chief executive officer of the municipal or county entity issuing the single-family residential permit and appeal under the International Residential Code as adopted by the Legislature.



MORGAN C O U N T Y

Land Use Permit Application

DATE _____ PERMIT NUMBER _____

PROPERTY ADDRESS _____

PARCEL# _____ SERIAL# _____ SECTION: _____ Township: _____ Range: _____

PROPOSED USE OF PROPERTY/STRUCTURE _____

PROPERTY OWNER _____ OWNER PHONE _____

OWNER MAILING ADDRESS _____

GENERAL CONTRACTOR _____ PHONE _____

Submission Requirements if separate from building permit application:

___ County Plat Map ___ County Tax Roll

General Property Information:

Zone: _____ Total Acreage: _____ Total Square Footage (acreage x 43,560):..... _____

Square footage of footprint of existing and proposed buildings on lot: _____

Proposed % Lot Coverage:.....% _____

Total proposed square feet of footprint of buildings divided by total square footage of lot multiplied by 100) _____

Number of Dwelling Units now on lot: _____ Number of Accessory Buildings now on lot _____

Number of off street parking spaces: _____ Covered: _____ Uncovered: _____

Land Use Permit Checklist

Building (General)

Yes/No

- _____ Will there be plumbing in the structure?
- _____ Will there be electrical in the structure?
- _____ Property connected to public sewer (current or proposed)?
- _____ Property connected to septic system (current or proposed)?

Legal Building Lot:

Check One

- _____ Lot of Record with valid address.
(See tax role for valid property information):
Frontage along County Right of Way: _____ Feet
- _____ Subdivision Lot.
Subdivision Name _____
- _____ Lot# _____

Check all that apply

- _____ Meets notes on plat.
- _____ Meets Development Agreement.
- _____ Reviewed by Architectural Review Committee (as applicable):
Date: _____

Setback Requirements (see supporting information):

Check One

- _____ Meets setbacks per ordinance #: _____
Front: _____ Side: _____ Rear: _____ Side Street: _____
- _____ Meets setback requirements per Development Agreement: _____
Front: _____ Side: _____ Rear: _____ Side Street: _____
- _____ Meets setback requirements per recorded plat:

Front: _____ Side: _____ Rear: _____ Side Street: _____

Height Requirements (see supporting information):

Check One

- _____ Meets maximum height requirements per ordinance (see supporting documents):
#: _____
- _____ Meets max. height requirements per Development Agreement: _____
- _____ Meets height requirements per recorded plat:

- _____ Received special exception approval for additional height.
Approved height: _____

Geologic Hazards (see supporting information):

Check One

- The lot is a lot of record and **IS NOT** encumbered by potentially hazardous geologic units.
- The lot is in a subdivision and **DOES NOT** have geologic restrictions.
- The lot **IS** encumbered by potentially hazardous geologic units as indicated by local geologic maps (lots of record) or restrictions on the plat (subdivisions).

Yes/No

A Geologic Hazards Report and Geotechnical report is part of the submittal.

Flood Plain (see supporting information):

Yes/No

Is the lot in a flood plain or on wetlands?

Yes/No

If yes, are requirements of MMC 9 met?

Wildland Urban Interface (see supporting information):

Check One

- The lot **EXEMPT** from the Wildland Urban Interface.
- The lot is **NOT EXEMPT** from the Wildland Urban Interface.

Yes/No

An approved fire protection plan is part of the submittal.

Fees and Taxes:

Yes/No

All County fees and taxes are paid current including, but not limited to:

- Geologic Hazards Review
- Conditional Use Permit
- Subdivision
- Building Permit Deposit
- Land Use Permit
- Taxes
- Contracted Services Fees

SITE PLAN REQUIRED

A SITE PLAN IS REQUIRED TO BE SUBMITTED WITH ALL LAND USE PERMITS. SITE PLANS SHALL BE DESIGNED WITH THE FOLLOWING MINIMUM ELEMENTS: SCALE; NORTH ARROW; EXISTING AND PROPOSED BUILDINGS WITH SETBACKS; 2 FOOT TOPOGRAPHIC CONTOURS; PROPOSED SITE DEVELOPMENT AND LIMITS OF DISTURBANCE; EXISTING EASEMENTS; ALL CURRENT AND PROPOSED MANMADE STRUCTURES; FLOOD PLAIN LIMITS; AND GEOGRAPHIC UNIT DELINEATION.

NOTICE TO APPLICANT

PROPOSALS FOR THE INSTALLATION OF AN INDIVIDUAL WATER SUPPLY AND FOR A SANITARY WASTE DISPOSAL SYSTEM (SEPTIC TANK) FOR ANY STRUCTURE DESIGNED FOR HUMAN OCCUPATION MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION.

THIS PERMIT BECOMES NULL AND VOID IF USE OR CONSTRUCTION AUTHORIZED IS NOT COMMENCED WITHIN **180 DAYS FOR LAND USE PERMIT (1 YEAR FOR CONDITIONAL USE) OR ZONE CHANGE AFFECTING THIS PROPERTY.** I HEREBY CERTIFY THAT I HAVE READ AND EXAMINED THIS APPLICATION AND KNOW THE SAME TO BE TRUE AND CORRECT. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS LAND USE WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT. I MAKE THIS STATEMENT UNDER PENALTY OF PERJURY. I HEREBY AGREE TO MEET THE REQUIREMENTS AS SPECIFIED ON THIS PERMIT ISSUED TO THE OWNER OF LAND AS SIGNED BELOW.

Applicant Signature: _____

Date _____

THE FOLLOWING CONDITIONS MUST BE ADHERED TO: _____

SIGNATURE OF APPROVAL-PLANNING/BUILDING DEPARTMENT

DATE

Supporting Documentation and Information:

- **Setbacks** can be found either in adopted ordinance, in a development agreement, or on an approved subdivision plat.
 - Setbacks in adopted ordinances can be found in the Codified Morgan County Code (MCC). A link to the code is on the County website at www.morgan-county.net.
 - Setbacks for lots in the F-1, MU-160, A-20, RR-10, RR-5, and RR-1 zones can be found in MCC § 8-5A-6.
 - Setbacks in the R1-20, R1-12, R1-8, RM-7, and RM-15 zones can be found in MCC § 8-5B-7.
 - Setbacks for commercial and manufacturing zones can be found in MCC § 8-5C-5.
 - Setbacks for the CD zone can be found in MCC § 8-5D-5(C).
 - A list of County recorded development agreements is below. Full copies of development agreements and adopted plat can be purchased from the County Recorder's Office.
- **Height limitations** can be found either in adopted ordinance, in a development agreement, or on an approved subdivision plat.
 - Height limitations in adopted ordinances can be found in the Codified Morgan County Code (MCC). A link to the code is on the County website at www.morgan-county.net.
 - Height limitations for lots in the F-1, MU-160, A-20, RR-10, RR-5, and RR-1 zones can be found in MCC § 8-5A-7.
 - Height limitations in the R1-20, R1-12, R1-8, RM-7, and RM-15 zones can be found in MCC § 8-5B-8.
 - Height limitations for commercial and manufacturing zones can be found in MCC § 8-5C-4.
 - Height limitations for the CD zone can be found in MCC § 8-5D-5(D).
 - A list of County recorded development agreements is below. Full copies of development agreements and adopted plat can be purchased from the County Recorder's Office.
 - A special exception ordinance to maximum height of the main building can be found in MCC § 8-6-13
- Flood Plain maps can be obtained through the FEMA website: www.msc.fema.gov.
- Geologic Hazards are determined by existing geologic mapping of Morgan County. Maps can be obtained from the Utah Geologic Survey (UGS) website: geology.utah.gov.
- Wildland Urban Interface (WUI) area is determined by existing County maps. A link to the WUI map is on the Planning and Development Services webpage on the Morgan County website: www.morgan-county.net.

List of Recorded Development Agreements:

Aspen Meadows PUD
Cottonwoods
Coventry Cove
Mountain Brook Estates
Rivala
Rollins Ranch
Whisper Ridge



FIRE PROTECTION PLAN APPROVAL

Applicant name: _____

Site address: _____

Project type: _____

Before being granted any occupancy of a home or business in Morgan County, this form must be filled out, signed by the appropriate fire code official, and returned to the Morgan County Planning and Development Services Department.

THIS BUILDING COMPLIES WITH THE INTERNATIONAL FIRE CODE SECTION 507 "FIRE PROTECTION WATER SUPPLIES" AND WITH MORGAN COUNTY ORDINANCES SPECIFIC TO FIRE PROTECTION WATER SUPPLIES, INCLUDING THE WILDLAND URBAN INTERFACE CODE.

Conditions (If any):

Fire Chief

Date



Morgan County Wildland Urban Interface Fire Protection Plan Application

A supplement of the building, conditional use, land use, subdivision, and MPDR permits

All applications for building and development in the Wildland Urban Interface Area are required to receive approval of a wildfire protection plan from the local fire code official. This packet is supplemental instruction to help you prepare a wildfire protection plan in accordance with the 2006 Utah Wildland Urban Interface Code. A wildfire protection plan can be designed and incorporated into the overall building and/or development plan, or it can be submitted separately as its own plan. Depending on plan complexity, the Fire Code Official may require plans to be designed by a licensed architect or engineer. Prior to approval of permits, the attached Wildland Urban Interface Code Fire District Approval Form must be signed and submitted to the County with the stamped approved fire protection plan.

A wildland fire hazard assessment will be conducted by the Fire Code Official to determine the wildfire hazard potential of the proposed building/development site. Proposed plans should be designed in accordance with this assessment. Call the District Fire Chief to schedule an assessment:

Mountain Green Fire Chief, Les Stone: 801-829-2023

Morgan Fire Chief, Dave Rich: 801-829-2027

A copy of the 2006 Wildland Urban Interface Code can be obtained from the Planning and Development Services webpage on the Morgan County website (www.morgan-county.net), or from the Planning and Development Services Department front office.

Project Name: _____

Name of Owner(s): _____

Address: _____

Mailing Address (if different): _____

Phone # (_) _____ Fax # (_) _____ E-Mail _____

Name of Applicant or Authorized Agent(s): _____

Agent Address: _____

Agent Mailing Address (if different): _____

Phone # (_) _____ Fax # (_) _____ E-Mail _____

Owners Signature of Authorization to file:(may attach) _____

General Description of Project: _____

The wildfire protection plan should include the following:

1. Written narrative including a general description of the plan and how it conforms to applicable requirements of the Wildland Urban Interface Code (WUIC) with respect to:
 - a. Conforming water supply—WUIC section 404;
 - b. Conforming defensible space—WUIC section 603;
 - c. Access—WUIC section 403;
 - d. Driveways—WUIC section 403;
 - e. Fire apparatus road—WUIC section 403;
 - f. Marking of roads;
 - g. Marking of fire protection equipment;
 - h. Address markers;
 - i. Vegetation management plan—WUIC appendix B; and
 - j. Proposed ignition resistant construction—WUIC Chapter 5.

2. Graphical representation including:
 - a. Scaled site plan;
 - b. Distance from proposed building(s) to road;
 - c. Driveways:
 - i. If the distance from proposed buildings to a fire apparatus access road exceeds 150 feet, driveways must be engineered to support a 75,000 lbs fire apparatus; be 12.5 feet wide; have an unobstructed height of 13.5 feet; and have an approved turnaround with a radius of 45 feet.
 - ii. In addition, turnouts are required for driveways that exceed 200 feet in length and are less than 20 feet wide.
 - d. Location of existing and proposed posted vehicle load limit signs for driveways, private roads, and bridges.
 - e. Location of existing and proposed street signs.
 - f. Location of existing and proposed permanently posted address markers that are visible from both directions.
 - g. Proposed defensible space around structures and/or building sites.
 - h. Location and specification of proposed water supply system.
 - i. Location of permanent fire protection equipment, and their markers.
 - j. Site topography.
 - k. Proposed grade of driveways and access roads—not to exceed 12%.
 - l. Proposed and existing landscape and vegetation details.
 - m. Locations of proposed and existing structures and building envelopes, with annotation of occupancy ratings of proposed and existing structures.
 - n. Existing overhead utility lines.
 - o. Existing and proposed ignition resistant construction materials.
 - p. Proposed roof fire rating classification.
 - q. A vicinity plan that includes: Area within 300 feet of the site; Property lines; Other structures; Slope; Vegetation; Fire breaks; Other water supply systems; Access roads.



Fire District Approval Form

Wildland Urban Interface Code

Applicant Name _____

Date Reviewed _____

Reviewed by _____

The fire protection plan submitted for the:

_____ application

conforms to the requirements of the 2006 Utah Urban Wildland Interface Code with the following conditions:

Fire Code Official Approval Signature

Date



Memorandum of Understanding

Morgan County Planning and Development Services Department
48 West Young Street, P.O. Box 886
Morgan, UT 84050 (801)845-4008/4015

Permit #: _____

Owner: _____

Contractor: _____

Please read and initial the following statements:

_____ Inspection request must be made a minimum of 24 hours in advance; this does not guarantee next day inspections. Requests should be made by calling the planning and development services office at (801)845-4008. Be prepared with Permit #, building site address, owner & contractor names, and type of inspection.

_____ Every effort will be made to accommodate inspections as scheduled with specific times. However, due to weather, time constraints, work load, location or other factors inspections may occur earlier or later than the requested appointment time. For these reasons inspection requests should not be made until the work is ready for inspection.

_____ A re-inspection fee will be charged if approved plans are not on the job site for EACH inspection.

_____ A re-inspection fee will be charged if the job site is not ready for the requested inspection, inspections canceled after 8:30 a.m. on the day of inspection, or if the inspector cannot obtain entry to the structure and/or property.

_____ A re-inspection fee must be paid in the office. Inspector cannot take fees in the field.

_____ If a re-inspection fee is assessed, no additional inspections will be scheduled until such time that the fee has been paid in the office.

_____ Building plans altered after issuance of permit shall require that 2 copies of the changes be submitted to the Planning and Development Services office for approval prior to the change being made. Additional review fees may be assessed.

_____ Morgan county ordinances prohibit the occupancy of a dwelling until such time as a Certificate of Occupancy has been issued after final inspection approval. This precludes moving any furniture into the structure until such issuance.

_____ Performance bonds for curb, gutter, and sidewalk are required per the County's fee schedule. Documentation of any pre-existing damage is the responsibility of the property owner.

_____ Certificate of Occupancy will be issued only after final building inspection has been approved and after verification that curb, gutter, and/or sidewalk, where existing, is in good repair. Accommodations may be made due to climate.

_____ The issuance of your Certificate of Occupancy may take between 24-48 hours after final building inspection approval. Mortgage closings should be scheduled accordingly.

_____ Temporary occupancies are reviewed on a case by case basis and will not be issued if there are any outstanding issues concerning an immediate risk to health, life, or limb. A cash bond and agreement is required to be posted in the amount of \$1025.00 of which \$1,000 will be refunded when final occupancy is obtained and \$25.00 will be retained by the County to pay office administrative expenses.

_____ There are no special requirements for mechanical systems for a residence at the plan review and permitting stage, but the County does require a complete and accurate gas line schematic to be submitted to review and approve prior to meter set.

The following applies ONLY to building permits to be issued in The Cottonwoods PUD

_____ No building permit application will be accepted by the Planning and Development Service Department unless two (2) sets of plans are submitted that have the approval stamp of the Development's Architectural Review Committee. This is to ensure that the building plans and materials used are in conformance with the adopted architectural covenants and development agreement.

_____ Construction Access: Due to the load design of Willow Creek Road, it is not approved to be used as a construction access into the Cottonwoods. All delivery of materials and construction traffic shall be via Silver Leaf Dr. Any owner/contractor found to be in violation of this prohibition may be ticketed by the Morgan County Sheriff. Recurrent violations shall necessitate the use of stop work orders on the project and/or additional violation fines.

_____ The storage of building materials, supplies, equipment, rocks, gravel, dumpsters, etc. upon streets is prohibited.

_____ ALL CONTRACTORS and OWNERS shall be responsible to clean and remove any mud, dirt, or other debris from the street each day.

THESE PLANS HAVE BEEN REVIEWED BY MORGAN COUNTY. CORRECTIONS ARE NOTED IN RED. THERE ARE ALSO ILLUSTRATIONS TO HELP CLARIFY SOME, BUT NOT ALL CODE REQUIREMENTS.

I, THE UNDERSIGNED, CONFIRM THAT ALL CONTRACTORS AND WORKERS READ AND **COMPLY WITH THESE PLANS FOR THE PORTION OF WORK THEY ARE DOING**. I ALSO UNDERSTAND AND ACKNOWLEDGE THAT ANY OTHER PERSON WHO ENGAGES IN BUILDING THIS STRUCTURE MUST BE LICENSED UNDER THE PROVISIONS OF THE CONSTRUCTION TRADES LICENSING ACT. I UNDERSTAND THAT I AM PERSONALLY RESPONSIBLE IN ASSURING THAT SUCH INDIVIDUAL IS LICENSED, AND MAYBE SUBJECT TO PROSECUTION FOR ANY VIOLATION OF THE ABOVE ACT.

Contractor/Owner

Date

Witness by (Morgan County Official)



DEPARTMENT OF COMMERCE
Division of Occupational
& Professional Licensing
160 E 300 S Fourth Floor
PO Box 146741
Salt Lake City, UT 84114-6741
(801) 530-6628

OWNER/BUILDER CERTIFICATION
and
AGREEMENT TO COMPLY WITH
CONSTRUCTION TRADES
LICENSING ACT

Name of Owner/Builder: _____

Address: _____

City, State, Zip: _____

LOCATION OF CONSTRUCTION SITE

Address: _____

City, State, Zip: _____

Subdivision Name: _____ Lot # _____

CERTIFICATION

I, _____, certify under penalty of perjury that the following statements are true and correct and are based upon my understanding of the Utah Construction Trades Licensing Act:

1. I am the sole owner of the property and construction project at the above described location; the project described is the only residential structure I have built this year; I have not built more than three residential structures in the past five years.
2. The improvements being placed on the property are intended to be used and will be used for my personal, non-commercial, non-public use.
3. I understand that work performed on the project must be performed by the following:
 - a. **Myself as the sole property owner; or**
 - b. **A licensed contractor; or**
 - c. **My employee(s) for whom I have worker's compensation insurance coverage, for who I withhold and pay all required payroll taxes, and with respect to whom I comply with all other applicable employee/employer laws; or**
 - d. **Any other person working under my supervision as a owner/builder to whom no compensation or only token compensation is paid; and**
4. I understand that if I retain the services of an unlicensed contractor or compensate an unlicensed person, other than token compensation, or other than as an employee for wages, to perform construction services for which licensure is required, I may be quality of a Class A Misdemeanor and may be additionally subject to an Administrative fine in the maximum of \$2,000 for each day I violate the law.

Dated this _____ Day of _____ 20 _____

 Signature of Owner/Builder

Subscribed and sworn before me this _____ day of _____ 20 _____, in the County of _____ State of Utah

 Notary Public

OWNERS ACKNOWLEDGEMENTS OF
RESPONSIBILITY AND INDEMNIFICATION

STATE OF UTAH)
)
COUNTY OF MORGAN)

We, _____ are the said owners of the property located at:

also known as:

We agree to indemnify and hold Morgan County harmless from any claim, damages, or liability that may arise against the County or its employees, agents or representatives related to improvements constructed on the property that may be damaged due to geologic hazards, regardless of level of identification of said hazard. We further acknowledge that failure of the County or any agents of the County to observe or recognize hazardous, unknown or unsightly conditions, or to recommend denial of this use because of said unrecognized hazardous, unknown or unsightly conditions shall not relieve the developer or owner from responsibility for the condition or damages resulting there from and shall not result in the County, its officer or agents being responsible for the conditions and damages resulting there from.

(Property Owner)

(Property Owner)

On this _____ day of _____, _____, personally appeared before me, _____, being the signer(s) of the instrument herein and who duly acknowledged to me that the (he/she/they/said Trust) executed the same.

Notary Public

Required Inspection Checklist

IMPORTANT NOTICE: Make sure that all the insulation, lumber size, windows, etc. (including brand names and specifications) are **EXACTLY AS SPECIFIED** in your approved Energy Report Analysis or it could be very costly to fix or adjust. **NOTE:** All approved plans, including the MecCheck/ResCheck/energy analysis, engineering calculations, plot plan, building plans, specifications, engineer stamped truss sheets, etc. are required to be on site for all inspections.

- TEMPORARY POWER:** Pedestal must be in place with grounding equipment installed and visible. All receptacles must be GFCI protected. The neutral bus must be bonded to the grounding system.
- FOOTING/SPOT FOOTINGS/SETBACK/ELECTRICAL UNDER GROUND:** Formed-with steel hung in place, on natural ground, without fill material, without ice or standing water, with property lines clearly identified.
- FOUNDATION/PIER/COLUMN/ELECTRICAL UFER GROUND:** Formed-with steel tied in place-including all concrete-to-structure straps required by the plans. (It should be noted that straps that have to span a floor joist system are required to be longer than those that don't).
- UNDER SLAB PLUMBING:** All piping must be exposed and supported (full length). This inspection requires a 10' head of water or an air pressure test.
- UNDER SLAB HEATING:** Any under slab heat duct material shall be listed for the specific way it is being used or installed as per the International Residential Code or the International Mechanical Code. All material must be left fully exposed until after the inspection. Hydronic systems must be tied in place and left fully exposed until after the inspection. Hydronic systems must be tied in place and left fully exposed until after the inspection.
- UNDER SLAB ELECTRICAL:** Any electrical systems that are to be covered by concrete must be left totally exposed and inspected before covering. This includes ground wiring going to ground rods.
- SUSPENDED CONCRETE SLAB:** all suspended concrete slabs require inspection with all steel and shoring properly spaced and secured in place as per approved engineering.
- ANY OTHER STUCTURAL CONCRETE:** All structural concrete must be inspected with all steel and forms in place.
- ALL RETAINING WALLS: NOTE: ALL** retaining walls that are over four (4') feet high are required to be **ENGINEERED** and the design must be submitted to the Building Department office, and approved prior to any construction!! **(THIS INCLUDES ALL "ROCK" RETAINMENT OVER 4' HIGH.)** Concrete retaining walls must be inspected with all steel and forms in place. **ROCK RETAINING WALLS MUST BE INSPECTED "DURING CONSTRUCTION" BY THE DESIGN ENGINEER AND APPROVED BY THE DESIGN ENGINEER AT COMPLETION.** A copy of the engineers report showing approval must be received by our office within two (2) working days of completion of the retaining wall.
- LOG AND BEAM GRADING:** Note: This includes ALL "structural" rough cut lumber. This inspection is done for all logs, rough cut beams and lumber when they are delivered to the site and before they are installed. Note that each piece of lumber must have a visible ink stamp from a 'nationally recognized lumber grading organization.'

- ❑ **EXTERIOR SHEATHING AND WINDOW FLASHING**: this inspection is required to be done prior to any material being installed over the structural sheathing of the structure. This inspection requires the proper size, type, and spacing of fasteners. It also requires any concrete-to-structure, floor-to-floor, and any other straps to be in place and properly fastened. Note that the fasteners in structural panels are approved to be driven flush only. Counter sinking fasteners may require the exterior sheathing to be re-fastened or replaced. The window flashing inspection requires the use of approval flashing material that is installed as required by the window manufacturer. The window flashing material must be 9” wide minimum. This inspection will be done with the 4-way rough inspection if possible.
- ❑ **MASONRY AND STUCCO FLASHING**: This inspection is usually done with the 4-way rough inspection but can be done at any time after the exterior sheathing and shear walls.
- ❑ **GAS LINE SIZING AND PRESSURE TEST**: This inspection is usually done with the four-way rough inspection but can be done at any time after the gas lines are installed. There needs to be a gas line schematic drawing on site that is drawn by the heating contractor. This should include all of the gas piping lengths, sizes, specific type of pipe, pressure reduction valve information and locations, appliance type, location, and BTU requirement. Also include the property owner’s name, general contractor’s name, heating contractor’s name and phone number, the permit number, the building address, subdivision, and lot number.
- ❑ **4-WAY ROUGH**: This inspection is to be done before any insulation is installed. All rough framing, electrical, heating, air-conditioning, and plumbing should be complete. The project should be ready for insulation and sheetrock before calling for this inspection. All plumbing should have either water or an air test ready for inspection at this time.
- ❑ **HYDRONIC/PLUMBED HEATING SYSTEMS IN OR ON FRAMED FLOORS**: This inspection is done when the plumbing is in place and pressurized but prior to concrete or insulation coverage.
- ❑ **POWER – TO- PANEL**: This inspection is done after the 4-way rough inspection has been completed and approved and when the electrical wiring is complete enough for at least one circuit on each floor to function properly when the power company meters (or energizes) the meter base. All grounding systems must be in place at this time and the building must be able to be locked and secured.
- ❑ **INSULATION**: This inspection is done after the walls, floors, heat ducts, around windows, floor penetrations, etc. (this includes the basement and crawlspaces) have been insulated and before any sheetrock or wall covering of any kind has been applied. Note: Make sure that you have your approved MecCheck, ResCheck, or other energy calculations on site for the inspector to review!
- ❑ **DRYWALL/LATH/SHEETROCK**: This inspection is done when all of the sheetrock is glued and nailed in place but prior to the taping and mudding of the sheetrock. Don’t forget to sheetrock the ceiling and walls under the stairs if the space is accessible.
- ❑ **FINAL**: This inspection is done when all items are complete and the structure is ready to be occupied (this includes drainage systems, retaining walls and any other geotechnical/geological required items must be in place and approved in writing by the design engineers). There is to be NO personal items in the structure at this time and until an occupancy has been issued to the structure.
- ❑ **OTHER INSPECTIONS**: As required by the Building/Planning/Engineering departments.

NOTE: All approved plans, including the MecCheck/ResCheck/energy analysis, engineering calculations, plot plan, building plans, specifications, engineer stamped truss sheets, etc. are required to be on site for all inspections.

Design criteria for Morgan County

- SNOW: Site specific depending on elevation. The chart below may be used to find the minimum loads at higher elevations.

$$\text{Ground Snow} = P_g - [P_o^2 + S^2 (A - A_o)^2]^{1/2}$$

P_o=57

S=63

A_o = 4.5

Normal or Common roof snow loads = ground snow (P_g) x .7

Sheltered or Protected roof snow loads = ground snow (P_g) x .9

A= Elevation x .001

Elevation	Location	Ground Snow	Sheltered Roof	Common roof
4800'	Mountain Green Exit	60	54	42
4900'	Lamb's subdivision	62	56	44
	Kent Smith Memorial Park			
	Heinz Quick Stop			
5000'	Trappers Loop/Old Highway intersection	65	59	46
5100'	Morgan County Fairgrounds	68	62	48
	Young Street/Morgan Valley Dr. Intersection			
5200'	Trappers Pointe Subdivision	72	65	50
	Mountain Green Airport			
	Enterprise-low areas			
	Stoddard lane			
	Peterson Exit			
	Richville Lane			
	Hardscrabble/Morgan Valley Dr. Intersection			
	Round Valley Golf Course			
	Taggarts Camp			
	Highway 66/Morgan Valley Drive Intersection			
	Cottonwoods Phse II - IV			
5300'	Top of Woodland Heights	76	68	53
	White's Crossing			
5400'	Croydon Park	80	72	56
5500'	Croydon Cemetary	85	76	59
	Holcim Cement Plant			
5700'	East Canyon Reservoir Spillway	95	85	66
5800'	East Canyon Resort	100	90	70
6000'	Lost Creek Reservoir Spillway	110	99	77
9300'	Top of Strawberry Bowl Ski Lift	308	277	215

Design Criteria for Morgan County (continued)

- WIND
 - Speed: 90 MPH, 3-second wind gust.
 - Exposure: Site specific
- SEISMIC:
 - Seismic Design Category: Site specific.
- SOILS:
 - Frost depth: 36 inches minimum
 - Site class: Site specific
 - Geotechnical information: All commercial projects require site-specific geotechnical reports meeting the requirements of Section 1802.2.7 of the IBC. Many of the residential (and other) projects require site specific geotechnical reports. Information regarding possible geotechnical requirements should be asked for before designing any structures in Morgan County.
- MISCELLANEOUS:
 - All professionally designed plans must be wet signed, on the first page only, by the architect or engineer of record who drew them. All other sheets shall be stamped, signed, and dated but may be electronically reproduced.
 - Commercial remodels over 3,000 square feet must be designed by an architect, stamped, signed and dated.
 - All commercial additions, regardless of size, must be signed by an architect, stamped, signed and dated.
 - All commercial site plans must be engineered. Many residential (and other) site plans are required to be engineered and inquiries should be made prior to designing a structure about site plan requirements.

UTILITY COMPANIES OPERATING IN MORGAN COUNTY

Morgan County Water Companies

- **Cottonwood Mutual Water Company**
4000 W Old Highway Rd Mtn. Green
Secretary – Jenalee (801)876-3895
Manager- Mike Johanson (801) 876-3895
mike@cottonwoodwater.com
Monday-Thursday 9 a.m. – 1 p.m.
Service is provided to the following:
Cottonwoods Phases 1-9; Old Highway to Rollins Ranch; Mountain Brook Subdivision; Canyon Rd. to Airport; Lamb Subdivision; Coventry Cove; Rollins Ranch (all Phases); Portions of Powder Horn Road.
- **Highlands Water Company**
5880 Highland Drive Mtn. Green
(801) 876-2510 24-hour message service
Provides service to the following: Nye’s Glass building; First Bank; Kent Smith Park; Whisper Ridge Subdivision; Highlands; Highlands West; Trapper’s Pointe; Woodland Heights; Old Highway to Highland Drive.
- **Monte Verde Water System**
5890 W 5900 S Mtn. Green
Bill Weaver – (801)791-9269
Provides service to: Monte Verde Subdivision
- **Peterson Pipeline Association**
Trevor Kobe, President (801)876-2525
Provides service to: Along Morgan Valley Drive from Bigler Lane North to Sessions Lane
- **Central Enterprise Water Association**
Kent Poll, President, (801)876-3143
Provides service along: Old Highway Rd from the Summer Ridge Subdivision to Spring Hollow Subdivision.
- **Richville (Porterville) Water System**
Robert Kilmer, President (801)791-9577
2537 S Morgan Valley Drive, Porterville
- **Hidden Hollow Water**
Jeffrey Haberstick, President (435) 720-3058
Water Engineer- Ken Orton (801)725-8004

Sewer – Fire – Health - Utilities

- **Mtn. Green Sewer District**
Dennis Baldwin, Administrator,(801) 645-5636
Janet Boudero, Secretary (801) 876-3416
Monday-Friday 1 p.m. to 5:30 p.m.
- **Morgan County Fire District**
Dave Rich, Chief – (801)845-4049
- **Mtn. Green Fire District**
Fire Station (801)876-2277
4565 West Old Highway Mtn. Green
Les Stone, Chief – (801)829-2023
- **Weber Morgan Health Department**
477 23rd St., Ogden, UT 84401
Brian Cowen - (801) 399-7176 (Septic systems)
Michelle Cook – (801) 399-7167 (Wells)
- **Rocky Mountain Power**
Customer Service 888-221-7070
- **Questar Gas**
Customer Service (801)621-3262
Pipeline (800) 300-2025
- **Weber Basin Water**
Collette (801) 771-4350
- **Fema**
Judy Watanabe (801) 538-3400
- **U.D.O.T.**
Permit to enter highway
Tom Vigil (801)791-4988
- **Croydon Water System**
Steve Pentz – (801)829-3378
Logan Wilde (801)940-2995
- **Blue Stakes**
(800)622-4111

Morgan County Building Permit and Construction Review Flowchart

