

ADMINISTRATIVE COMMITTEE

Monday, February 29, 2016
5:00 p.m.

NOTICE IS HEREBY GIVEN that the Bountiful City Administrative Committee will hold its regular meeting in the Conference Room at City Hall, 790 South 100 East, Bountiful, Utah, at the time and on the date given above. The public is invited. Persons who are disabled as defined by the Americans with Disabilities Act may request an accommodation by contacting the Bountiful City Planning Office at 298-6190. Notification at least 24 hours prior to the meeting would be appreciated.

AGENDA

1. Welcome and Introductions.
2. Consider approval of minutes for February 22, 2016.
3. **PUBLIC HEARING:** Consider approval of a Conditional Use Permit to allow for Solar Panels at 311 East North Canyon Road, Daniel and Janna Christensen, applicants.
4. **PUBLIC HEARING:** Consider approval of a Conditional Use Permit to allow for Solar Panels at 1115 East 250 South, Henry Larsen, applicant.
5. **PUBLIC HEARING:** Consider approval of a Conditional Use Permit to allow for Solar Panels at 637 East 2150 South, Matthew Jensen, applicant.
6. Consider approval of a Conditional Use Permit, in written form, to allow for Solar Panels at 1250 South Oakridge Lane, Alan Perkins, applicant.
7. Consider approval of a Conditional Use Permit, in written form, to allow for an Accessory Dwelling Unit at 1405 East Mueller Park Road, Gary and Annette Nelson, applicants.
8. Miscellaneous business and scheduling.


Chad Wilkinson, City Planner

Pending minutes have not yet been approved by the Administrative Committee and are subject to change until final approval has been made.

**Bountiful City
Administrative Committee Minutes
February 22, 2016**

Present: Chairman – Chad Wilkinson; Committee Members –John Marc Knight and Todd Christensen; Assistant Planner – Andy Hulka; Recording Secretary – Julie Holmgren

Excused: Lloyd Cheney

1. Welcome and Introductions.

Chairman Wilkinson opened the meeting at 5:00 p.m. and introduced all present.

2. Consider approval of minutes for February 8, 2016.

Mr. Knight made a motion to approve the minutes for February 8, 2016. Mr. Wilkinson seconded the motion.

<u> A </u>	Mr. Wilkinson
<u> A </u>	Mr. Knight
<u> </u>	Mr. Christensen (abstained)

Motion passed 2-0.

3. PUBLIC HEARING: Consider approval of a Conditional Use Permit to allow for Solar Panels at 1250 South Oakridge Lane, Alan Perkins, applicant.

Neal Barth (Go Solar Group), representing the applicant, was present.

Andy Hulka presented a summary of the staff report (the full staff report follows).

The property where the solar panels are to be installed is located in the R-3 Single Family Zone. Solar power panels are classified in the city ordinance as “private power plants” and require a conditional use permit if they are over 10 watts. The applicant has indicated that the photovoltaic system to be installed will produce 9.99 kilowatts (9,900 watts), requiring a conditional use permit.

The application submitted indicates the proposed installation of 2 photovoltaic arrays with a total of 37 panels. The arrays will occupy approximately 648 square feet, which is smaller than the 50% maximum roof coverage. One southeast facing roof slope will have 16 panels with 2 rows of 8 panels each. The other southeast facing roof slope will have 21 panels with 3 rows of 7 panels each. The panels will be connected to the roof by flash-mounted ¾” lag bolts. The roof is of truss construction, has a slope of 5:12, and the shingles are less than a year old. A review of information provided in the application indicates that all engineering requirements for the construction of solar panels in Bountiful City will be met. A reflection analysis of the roof pitch indicates that photovoltaic panels should not produce a reflection nuisance to surrounding properties.

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Based on the findings, staff has determined that the applicant would comply with all requirements for the conditional use permit. Staff recommends approval of the conditional use permit with the following conditions:

1. The applicant shall obtain a building permit.
2. The panels must be installed only as proposed in the application.
3. This conditional use permit is solely for this site and is non-transferable.

PUBLIC HEARING: Chairman Wilkinson opened and closed the Public Hearing at 5:03 p.m. with no comments from the public.

Mr. Knight noted this application was similar to most with the exception of the size. Mr. Wilkinson pointed out that the size of 9.99 kW is almost the maximum permitted. Mr. Barth stated his company's desire to adhere to the municipal's jurisdiction and policies. Mr. Christensen inquired if there were any concerns raised by neighbors. Mr. Hulka said there had not been any concerns brought to his attention. Mr. Christensen asked if the project complies with the code. Mr. Hulka stated that it does and that there are tall trees around the property which make the solar panels much less visible to neighbors. Mr. Barth also noted that the house is set back from the property line and the neighbors are below the property.

Mr. Knight made a motion for approval of a Conditional Use Permit to allow for Solar Panels at 1250 South Oakridge Lane, Alan Perkins, applicant. Mr. Christensen seconded the motion.

A Mr. Wilkinson
A Mr. Knight
A Mr. Christensen

Motion passed 3-0.

4. PUBLIC HEARING: Consider approval of a Conditional Use Permit to allow for an Accessory Dwelling Unit at 1405 East Mueller Park Road, Gary and Annette Nelson, applicants.

Annette Nelson, applicant, was present along with her contractor, Shane Anderson.

Andy Hulka presented a summary of the staff report (the full staff report follows).

The applicant's proposed home is in the R-3 Residential Single-Family Zone. The applicant would like to finish the attic space in their home to use as Accessory Dwelling Unit for a family member. Plans submitted show the accessory dwelling will include a full kitchen, a full bath, a washer/dryer, bedroom, and living space. The building permit application for the accessory dwelling unit has been submitted.

Single-family homes with second kitchens can be problematic in maintaining the proper use of the home once the property changes hands or when new situations arise. There can be a desire to use the space as an income producing unit which is not allowed. Therefore, the

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Code requires approval of a Conditional Use permit and recordation of a deed restriction to provide notice to future owners that the home is not a duplex and that future use of the accessory unit is subject to specific conditions.

10-9a-507 Conditional Uses

2. *A. A conditional use shall be approved if reasonable conditions are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of the proposed use in accordance with applicable standards.*

B. If the reasonably anticipated detrimental effects of a proposed conditional use cannot be substantially mitigated by the proposal or the imposition of reasonable conditions to achieve compliance with applicable standards, the conditional use may be denied.

According to the plans submitted the home will maintain the appearance of a single-family residential home. There is adequate off street parking to facilitate both the primary residence and the Accessory Dwelling Unit. With the construction of the ADU the home will still meet setbacks, easements, and height restrictions. The ADU will occupy approximately 20% of the square footage of primary structure, which is less than the 25% maximum. The lot is 0.31 acres and the ADU will have minimal impact on neighboring properties.

Based on the findings, staff has determined that the applicant would comply with all requirements for the conditional use permit. Staff recommends approval of the Conditional Use Permit with the following conditions:

1. The principal owner(s) of the property must occupy the primary structure.
2. No occupancy of the ADU shall occur until after passing final inspection.
3. The property is to be used only as a single-family use and shall be subject to a deed restriction, recorded with Davis County prior to obtaining a building permit.
4. Occupants of the Accessory Dwelling Unit shall be limited to: Legal dependents, children, parents, siblings, grandchildren, or grandparents of the primary occupant.
5. There will be no separate utility service connections
6. The ADU shall meet all the criteria in 14-14-124 of the city Ordinance
7. The Conditional Use Permit is solely for this property and is non-transferable.

Mr. Anderson noted that the ADU will be used for parents who will be staying a few months per year. The attic is basically framed, and Mr. Anderson will be finishing the space. He stated there will be no separate utilities, and it seems to meet all recommendations presented.

PUBLIC HEARING: Chairman Wilkinson opened and closed the Public Hearing at 5:08 p.m. with no comments from the public.

Mr. Knight asked Ms. Nelson if she understood the restrictions for occupancy, and Ms. Nelson responded in the affirmative. Mr. Knight noted that a home with an ADU cannot be sold as a duplex and that any person living in the ADU must be a relative.

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Mr. Christensen made a motion for approval of a Conditional Use Permit to allow for an Accessory Dwelling Unit at 1405 East Mueller Park Road, Gary and Annette Nelson, applicants. Mr. Knight seconded the motion.

A Mr. Wilkinson
A Mr. Knight
A Mr. Christensen

Motion passed 3-0.

5. Consider approval of a Conditional Use Permit, in written form, to allow for a Home Occupation Contractor Business (remodel and repair) at 1147 South 800 East, Thayne Gregory, applicant.

Mr. Knight made a motion for approval of a Conditional Use Permit to allow for a Home Occupation Contractor Business (remodel and repair) at 1147 South 800 East, Thayne Gregory, applicant. Mr. Wilkinson seconded the motion.

A Mr. Wilkinson
A Mr. Knight
A Mr. Christensen

Motion passed 3-0.

6. Miscellaneous business and scheduling.

Mr. Wilkinson ascertained there were no further items of business. The meeting was adjourned at 5:12 p.m.

Chad Wilkinson, City Planner



MAYOR
RANDY LEWIS

CITY COUNCIL
RICHARD HIGGINSON
BETH HOLBROOK
JOHN M. (MARC) KNIGHT
KENDALYN HARRIS
JOHN PITT

CITY MANAGER
GARY R. HILL

Memo

Date: February 24, 2016
To: Administrative Committee
From: Andy Hulka, Assistant Planner
Re: Staff Report for the Administrative Committee Meeting on Monday, February 29, 2016

Overview

- 3. PUBLIC HEARING** - Consider approval of a Conditional Use Permit to allow for Solar Panels at 311 East North Canyon Road, Daniel and Janna Christensen, applicants.

Item #3

Background

The property where the solar panels are to be installed is located in the R-3 Single Family Zone. Solar power panels are classified in the city ordinance as "private power plants" and require a conditional use permit if they are over 10 watts. The applicant has indicated that the photovoltaic system to be installed will produce 6.16 kilowatts (6,160 watts), requiring a conditional use permit.

Findings

The application submitted indicates the proposed installation of 3 photovoltaic arrays with a total of 22 panels. The arrays will occupy approximately 490 square feet, which is smaller than the 50% maximum roof coverage. The southeast facing roof on the west end of the house (Roof-A) will have 11 panels, the southwest facing roof in the middle (Roof-B) will have 5 panels, and the southeast facing roof on the east end of the house (Roof-C) will have 6 panels. The panels will be connected to the roof by lag bolts. The roof is of truss construction, has a slope of 6:12, and the shingles are 9 years old. A review of information provided in the application indicates that all engineering requirements for the construction of solar panels in Bountiful City will be met. A reflection analysis of the roof pitch indicates that photovoltaic panels should not produce a reflection nuisance to surrounding properties.

Staff Recommendation

Based on the findings, staff has determined that the applicant would comply with all requirements for the conditional use permit. Staff recommends approval of the conditional use permit with the following conditions:

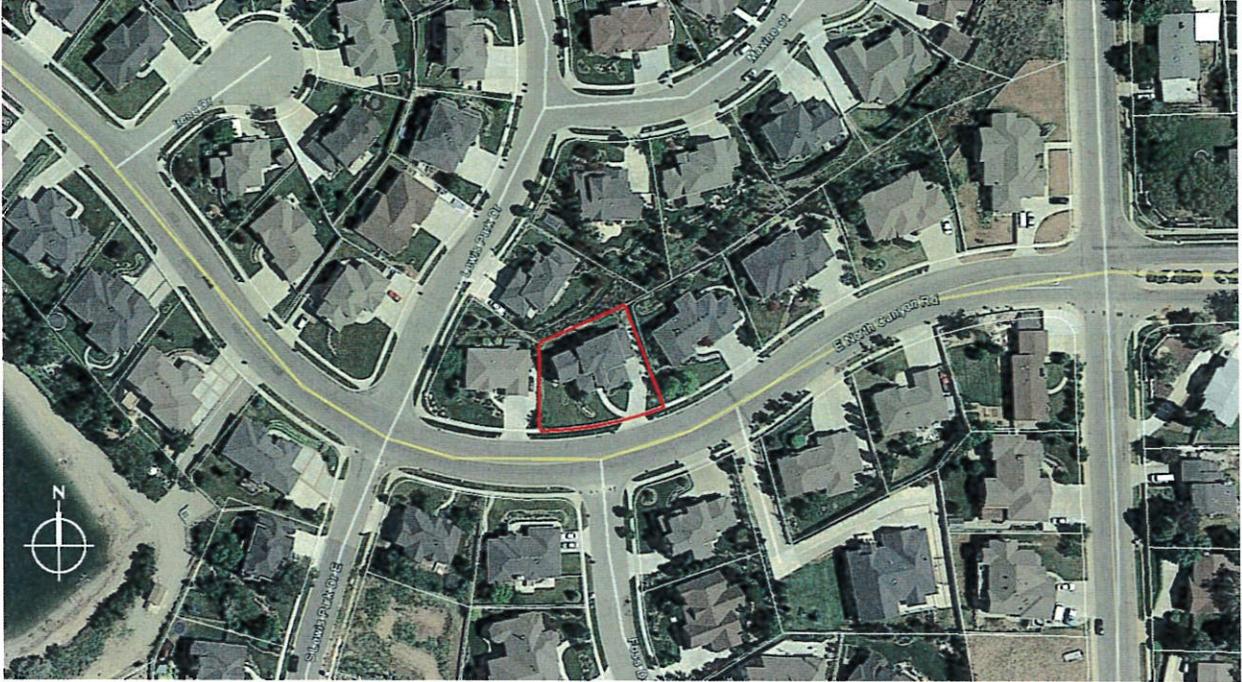
1. The applicant shall obtain a building permit.
2. The panels must be installed only as proposed in the application.
3. This conditional use permit is solely for this site and is non-transferable.

Bountiful Land Use Ordinance

14-14-126 PRIVATE POWER PLANTS

- A. A "Private Power Plant" is any device or combination of devices not owned and operated by a regulated utility company, which convert mechanical or chemical energy into electricity. A private power plant with a peak power generation capacity of 10 Watts/12v/500mAmp (or equivalent) is exempt from the provisions of this Section. A private power plant, including a windmill or wind turbine, shall not be permitted within Bountiful City limits, with the following exceptions:
1. A back-up power generator running on unleaded gasoline, diesel, natural gas, propane, or hydrogen fuel cell, rated for a single structure or building lot, located in accordance with the requirements of the zone in which it is located.
 2. A photovoltaic cell array or other passive solar energy system located in accordance with the requirements for occupied structures for the zone in which it is located.
- B. With the exception of a back-up power generator, no private power plant may be installed or used on any property unless a conditional use permit has been issued for the specific power generation device.
- C. A private power plant is not exempt from the height requirements of the Zone in which it is located, and shall be considered an occupied structure for the purposes of calculating height.
- D. Solar energy design standards and requirements
1. Solar energy panels or collectors that are mounted to the roof shall:
 - a. Not extend beyond the roofline.
 - b. Not reflect sunlight onto neighboring windows or rights-of-way.
 - c. Not exceed fifty (50) percent of the total roof area.
 - d. Shall be maintained in good condition.
 2. Prior to installation, use, and connection to the grid, the following shall be done:
 - a. A Conditional Use Permit shall be issued
 - b. A Building Permit shall be issued
 - c. The Power Department shall approve the application for net metering
 - d. The Power Department shall approve the physical installation

311 E North Canyon Rd



CONDITIONAL USE PERMIT APPLICATION

Date of Submittal: 2/7/16

Property Address: 311 E. North Canyon Road, Bountiful UT.

Applicant Name: Janna + Dan Christensen

Applicant Address: 311 E. North Canyon Road,

Applicant Phone #: 801-652-9463

Applicant Email: janna_banana1@icloud.com jake@isolarutah.com
Jake Owsley

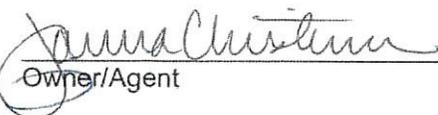
1. **Items that shall be included with any Conditional Use Permit application:**

- a. A completed Bountiful City Application for Conditional Use Permit cover sheet (this document).
- b. Payment of Filing Fee (\$200 P.C. / \$50 A.C.)
- c. If the conditional use permit is to be approved by the Planning Commission, a mailing list of all property owners within three hundred feet (300') of the subject property boundaries based on the most recent Davis County Tax Assessment records, submitted on self-adhesive mailing labels. Items heard by the Administrative Committee do not require mailing labels.
- d. If the conditional use permit requires site plan review, two (2) full sized, and one (1) 11x17 copy or one (1) .PDF file, of the proposed site plan drawn at 1:10 scale or as required by the City Engineer and City Planner. A site plan shall include:
 - i. A north arrow, the scale of the drawing, and the date of the drawing.
 - ii. Street names and addresses.
 - iii. Property lines with dimensions.
 - iv. All sidewalks, driveways, curbs and gutter, and parking areas.
 - v. All existing easements, rights-of-way, and any other restrictions on the use of the property.
 - vi. Existing buildings, proposed buildings, and other significant features on the site.
 - vii. Existing buildings and significant features located on adjacent properties within 50 feet (50') of the subject property boundaries
 - viii. When required by the City Planner or City Engineer, and for all new construction, a survey including both existing and proposed contours of the land at intervals of two feet (2') or better.

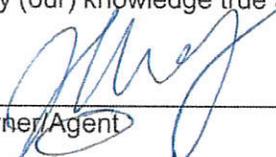
- e. Typed responses to the following questions:
 - i. How does your proposed project fit in with surrounding properties and uses?
 - ii. What will you do to mitigate the potential conflicts with surrounding properties and uses?

2. Property Owner Authorization and Affidavit

The undersigned, being duly sworn, depose that I am (we are) the owner(s) or authorized agent(s) of the owner(s) of the property involved in this application and that the statements contained herein or by attachment, are to the best of my (our) knowledge true and correct.



Owner/Agent



Owner/Agent
Contractor

Typed responses to the Conditional Permit questions.

Q: How does your proposed project fit in with the surrounding properties?

A: It is a rooftop mounted solar system, and should fit in with the surrounding properties as it is integrated into the existing structure, not requiring an additional support system.

Q: What will you do to mitigate the potential conflicts with surrounding properties and uses?

A: Only conflicts that could potentially arise from this project would be the noise parking space needed for the installation vehicles. There will be a job foreman as well as posted signs with contact information in case of neighbors need to contact us for any conflicts.



BOUNTIFUL

City of Beautiful Homes and Gardens

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CITY COUNCIL
Kendalyn Harris
Richard Higginson
Beth Holbrook
John M. Knight
John Pitt
CITY MANAGER
Gary Hill

SOLAR PANEL QUESTIONS

Please completely answer all questions (do not simply refer to an attachment)

Total Number of Panels	22
Array Dimensions	Roof A - 11'x20' Roof B - 13.5'x9' Roof C - 13.5'x11'
Total rating of photovoltaic system:	6.16 KW
Mounting Location	
Roof/Wall/Other	All modules are to be roof mounted
Roof Pitch (Rise/Run e.g. "5/12")	6/12
Roofing Material Asphalt Shingle/Tile/Steel/Other Age & Condition of Shingles	9 year old asphalt shingles in great condition
Roof Construction Rafter/Truss/Joist	2"x4" trusses 24" OC
Engineering Analysis	Vector Engineers
Connection to Roof	Lag Bolts
Analysis of Existing Roof Structure with added Solar Equipment	Based upon our review, it is our conclusion that the installation of solar panels on this existing roof will not adversely affect the structure of this house. The design of the solar panel supporting members and connections is by the manufacturer and/or installer. The adopted building code in this jurisdiction is the 2012 International Building Code and ASCE 7-10.
Adequate Uplift Resistance (120 mph Exp B)	Ground Snow Load: 46 psf per Utah amendments to the IBC Design wind speed for risk category II structures: 155 mph Wind Exposure: Category C



UTAH OFFICES
Sandy
Layton
St. George

Project Number: U1868-0006-161

January 29, 2016

Integrated Solar Solutions
4327 W. 9380 S.
West Jordan, UT 84088

ATTENTION: Jake Owsley

REFERENCE: **Janna Christensen: 311 E. North Canyon Road, Bountiful, UT 84010
Solar Panel Installation**

Dear Mr. Owsley:

Per your request, we have reviewed photos relating to the installation of solar panels at the above-referenced site.

Based upon our review, it is our conclusion that the installation of solar panels on this existing roof will not adversely affect the structure of this house. The design of the solar panel supporting members and connections is by the manufacturer and/or installer. The adopted building code in this jurisdiction is the 2012 International Building Code and ASCE 7-10. Appropriate design parameters which must be used in the design of supporting members and connections are listed below:

- Ground snow load: 46 psf per Utah amendments to the IBC (verify with local building department)
- Design wind speed for risk category II structures: 155 mph (3-sec gust)
- Wind exposure: Category C

If using documents referencing ASCE 7-05, the design wind speed may be converted to an ASCE 7-05 equivalent of 120 mph, Exposure C.

Our conclusion regarding the adequacy of the existing roof is based on the fact that the additional weight related to the solar panels is less than 3.5 pounds per square foot. In the area of the solar panels, no 20 psf live loads will be present. Regarding snow loads, it is our conclusion that since the panels are slippery and dark, effective snow loads will likely be reduced in the areas of the panels. Regarding wind loads, we conclude that any additional forces will be negligible due to the low profile of the flush-mounted panel system. Regarding seismic loads, we conclude that any additional forces will be small. With an assumed roof dead load of 15 psf, solar panel dead load of 3.5 psf, and affected roof area of 40% (maximum), the additional dead load (and consequential seismic load) will be 9.3%. This calculation conservatively neglects the weight of wall dead load. Because the increase is less than 10%, this alteration meets the requirements of the exception in Section 807.5 of the 2012 International Existing Building Code. Thus the existing structure is permitted to remain unaltered.

During design and installation particular attention must be paid to the maximum allowable spacing of attachments and the location of solar panels relative to roof edges. The use of solar panel support span tables provided by the manufacturer is allowed only where the building type, site conditions, and solar panel configuration match the description of the span tables. Attachments to existing roof joist or rafters must be staggered so as not to over load any existing structural member. Waterproofing around the roof penetrations is the responsibility of others. All work performed must be in accordance with accepted industry-wide methods and applicable safety standards. Vector Structural Engineering assumes no responsibility for improper installation of the solar panels.

Please note that we have reviewed photos taken of the existing roof framing, but a representative of Vector Structural Engineering has not physically observed the roof framing of this home. Our conclusions are based upon our review of the photos and the assumption that all structural roof components and other supporting elements are in good condition and are sized and spaced such that they can resist standard roof loads.

Very truly yours,

VECTOR STRUCTURAL ENGINEERING, LLC

Brett D. Veazie, P.E.
Project Engineer

Enclosure

BDV/kbh



1/29/2016

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CHRISTENSEN RESIDENCE RESIDENCE
 311 E. NORTH CANYON RD
 BOUNTIFUL, UT 84010

NABCEP
 ADVOCATE

PRINTED AT
 DATE: 2/4/18
 JOB # 1605TV
 T1
 SCALE: 1/8" = 1'-0"
 SHEET NO. 1605TV-01
 COVER SHEET

DESIGN TEAM:
 CONTRACTOR:
 1. INTEGRATED SOLAR SOLUTIONS
 NAME: JAKE OWLSLEY
 PHONE: +1(801)684-1175
 EMAIL: JAKE@SOLARUTAH.COM
 LICENSE #: S200-5868502-5501

FORTUNE ENERGY, INC.:
 2. HATEM ALYMANI
 SR. PV SYS DESIGNER
 B.S. ELECTRICAL ENGINEERING,
 M.S. SYSTEMS MANAGEMENT
 PROJECTS IN SOLID STATE
 PHOTOVOLTAIC DEVICES
 3. MARIAN MEHRNA
 DESIGN ASSOCIATE

SHEET INDEX
 T1 TITLE PLAN, GENERAL NOTES
 PV SYSTEM SUMMARY
 A1 SITE PLAN
 A2 PANEL AND RACKING LAYOUT
 A3 GENERAL DETAIL
 A4 STRUCTURAL CALCULATION
 E1 SINGLE LINE DIAGRAM
 E2 LABELS AND LACRARD
 MANUFACTURER SPEC SHEET

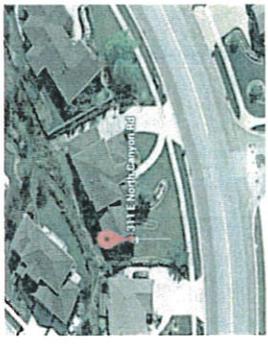
CODE SUMMARY
 THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODE:
 2013 CALIFORNIA ELECTRICAL CODE
 2013 CALIFORNIA RESIDENTIAL CODE
 2013 CALIFORNIA BUILDING CODE
 2013 CALIFORNIA GREEN BUILDING STANDARDS CODE
 2013 CALIFORNIA ENERGY CODE
 2013 CALIFORNIA PLUMBING CODE
 2013 CALIFORNIA MECHANICAL CODE
 2014 NATIONAL ELECTRICAL CODE
 ALL OTHER ORDINANCES ADOPTED BY THE LOCAL GOVERNING AGENCIES.

NOTE:
 THESE DRAWINGS ARE SUBJECT TO AN APPROVAL OF THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AGENCIES AUTHORITY HAVING JURISDICTION (A.H.J.) BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK. THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTS FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY A.H.J.

PHOTOVOLTAIC SYSTEM SUMMARY
 SYSTEM SIZE: DC STC 6.16 KW
 SYSTEM SIZE: AC CEC 5.4 KW
 MODULES: (2) CHINA SUNERGY CSUN 280M-60M
 POWER OPTIMIZERS: (22) SOLAREDGE P300
 MODULE MAX POWER (PIMAX): 280W
 INVERTER: (01) SOLAREDGE SE6000A-US
 RECOMMENDED MOUNTING SYSTEM: FORTUNE DUAL RACK
 ARRAY TILT: 26°
 AZIMUTH: (17)MODULES@159°
 (9)MODULES@249°

ELECTRICAL INFORMATION
 UTILITY COMPANY: BOUNTIFUL POWER
 MAIN SERVICE AMPERAGE: 200A
 BUILDING INFORMATION: TWO STORY HOUSE
 CONSTRUCTION: TYPE V - B
 OCCUPANCY: RESIDENTIAL GROUP R
 ROOF: ASPHALT/COMP. SHINGLE ROOF
 TRUSSES: 2'x4" @ 24" O.C.

23. ALL SPECIFIC WIRING IS BASED ON THE USE OF COPPER.
 24. NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION AND POWER DISTRIBUTION SWITCH BOARDS, PANEL BOARDS, DISCONNECTING SWITCHES, TERMINAL CABINETS, ETC. ALL NAMEPLATES SHALL BE PERMANENTLY ATTACHED AND BE OF SUFFICIENT CAPACITY TO WITHSTAND THE WEATHER.
 25. JUNCTION BOXES, PULL AND OUTLET LOCATED BEHIND MODULES SHALL BE SO INSTALLED THAT WIRING CONTAINED IN THEM CAN BE RENDERED ACCESSIBLE DIRECTLY OR BY DISPLACEMENT OF MODULE(S) SECURE BY REMOVABLE FASTENERS AND CONNECTED BY A FLEXIBLE WIRING SYSTEM, (NEC 690.34)
 26. ALL PHOTOVOLTAIC MODULES AND ASSOCIATED EQUIPMENT AND WIRING MATERIAL SHALL BE PROTECTED FROM ANY PHYSICAL DAMAGE.
 27. SEE PROVIDED CUT SHEETS FOR ADDITIONAL EQUIPMENT SPECIFICATIONS.



AERIAL VIEW
 SCALE: NTS



FRONT VIEW
 SCALE: NTS



VICINITY MAP
 SCALE: NTS

10. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF SERVICE POINTS AND SERVICE SIZES WITH THE SERVING UTILITIES. IF THE SOLAR BACK FEED BREAKER IS OVER THE BUS SIZE, THE CONTRACTOR SHALL INCLUDE THE COST TO REPLACE MAIN BREAKER OR ENLARGE THE MAIN CAPACITY.
 11. IF THE DISTANCES FOR CABLE RUNS ARE DIFFERENT THAN SHOWN, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL ENGINEER TO VALIDATE THE WIRE SIZE. FINAL DRAWINGS WILL BE RED-LINED AND UPDATED AS APPROPRIATE.
 12. ALL BROCHURES, OPERATION MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE HANDED OVER TO OWNERS REPRESENTATIVE AT THE COMPLETION OF WORK.
 13. ROOF TOP MOUNTED PHOTOVOLTAIC MODULES SHALL BE TESTED, LISTED & IDENTIFIED UL 1703.
 14. SOLAR SYSTEM SHALL NOT COVER ANY PLUMBING VENTS
 15. SOLAR INVERTER MUST HAVE A MANUFACTURE INSTALLED DISCONNECTING MEANS "ANTHSLANDING" THAT PREVENTS PARALLEL FEEDING UTILITY LINES DURING POWER OUTAGE.
 16. REMOVAL OF AN INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BONDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR AND THE PHOTOVOLTAIC SOURCE AND/OR OUTPUT CIRCUIT GROUNDED CONDUCTORS.
 17. OVERCURRENT PROTECTION FOR BOTH ALTERNATING AND DIRECT CURRENT MUST BE INSTALLED IN THE INVERTER OR FIELD INSTALLED AT THE TIME OF THE INSTALLATION.
 18. ALL EXTERIOR ELECTRICAL METALLIC TUBING (EMT) CONDUIT FITTING SHALL BE RAIN-TIGHT THREADLESS COMPRESSION TYPE STRAIN RELIEF POSITIONED FOR APPROPRIATE WATER RUN OFF.
 19. THE CONNECTORS SHALL BE OF THE LATCHING OR LOCKING TYPE. CONNECTORS THAT ARE READILY ACCESSIBLE AND THAT ARE USED IN CIRCUITS OPERATING AT OR ABOVE 60V AC OR DC, SHALL NOT BE SERVED TO A DISCONNECT UNDER LOAD OR "NOT FOR CURRENT INTERRUPTING" 690.33 (C) & (E)
 20. CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT WEATHERPROOF PULL BOXES OF JUNCTION BOXES/COMBINER BOXES PER APPROPRIATE NEC REQUIREMENTS.
 21. OUTDOOR EQUIPMENT SHALL BE AT LEAST NEMA 3R RATED.
 22. WIRING MATERIALS SHALL BE SUITABLE FOR THE SUN EXPOSURE AND WET LOCATIONS. FIELD APPLIED PROTECTIVE COATINGS ARE NOT ACCEPTABLE

GENERAL NOTES:
 1. DO NOT SCALE DRAWINGS. IF UNABLE TO LOCATE DIMENSIONS FOR ANY ITEM OF WORK, CONSULT ARCHITECT/ENGINEER FOR DIRECTIONS BEFORE PROCEEDING.
 2. IF THE EXACT ROOF DIMENSIONS WERE NOT PROVIDED, THE DRAWING WILL BE BASED ON GOOGLE MAP, AND THEREFORE TO SITE VERIFY ALL DIMENSIONS MAY NOT BE ACCURATE. CONTRACTOR TO VERIFY ALL ROOF OBSTACLES AND ALL REQUIRED CLEARANCES WITH A(H/S) PRIOR TO INSTALLATION, ORDERING OR FABRICATING ANY MATERIAL.
 3. CONTRACTORS SHALL OBTAIN ELECTRICAL PERMITS PRIOR TO INSTALLATION AND SHALL COORDINATE ALL INSPECTIONS, TESTING COMMISSIONING AND ACCEPTANCE WITH THE CLIENT, UTILITY CO. AND CITY INSPECTORS AS NEEDED.
 4. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER TRADES.
 5. IF THE ROOF MATERIAL OR ROOF STRUCTURE NOT ADEQUATE FOR PV INSTALLATION, CALL ENGINEER PRIOR TO INSTALL. THE CONTRACTOR IS RESPONSIBLE TO VERIFY THAT THE ROOF IS CAPABLE OF WITHSTANDING THE EXTRA WEIGHT.
 6. WHENEVER A DISCREPANCY IN QUANTITY OF EQUIPMENT ARISES ON THE DRAWING OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIALS REQUIRED FOR THE SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL SPECIFICATIONS TO ENSURE COMPLETE COMPLIANCE AND LONGEVITY OF THE OPERABLE SYSTEM REQUIRED BY THE ARCHITECT/ENGINEERS.
 7. THIS DESIGN IS FULLY BASED ON THE INFORMATION PROVIDED BY THE CONTRACTOR. ANY MODIFICATIONS OR REMOVAL OF THE LOGO OF THE SUPPLIER "FORTUNE ENERGY" OR THE DESIGNER "HATEM ALYMANI" IS NOT ALLOWED AND WILL RENDER THIS DESIGN VOID. THIS DESIGN CANNOT BE RESOLD OR REPRODUCED UNDER DIFFERENT NAMES.
 8. THE WORKING CLEARANCE AROUND THE EXISTING ELECTRICAL EQUIPMENT AS WELL AS THE NEW ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH (NEC-110.26)
 9. ADEQUATE SPACING MUST BE MAINTAINED BETWEEN ANY PLUMBING SERVICES EXTENDING THROUGH THE ROOF AND THE UNDERSIDE OF THE PHOTOVOLTAIC PANELS (6" MINIMUM RECOMMENDED)
 10. A NEW PROVISION IN THE 2013 CALIFORNIA RESIDENTIAL CODE (CRC) REQUIRES THAT SMOKE ALARMS AND CARBON MONOXIDE ALARMS BE RETROFITTED INTO THE EXISTING DWELLING. THESE SMOKE ALARMS ARE REQUIRED TO BE IN ALL BEDROOMS, OUTSIDE EACH BEDROOM, AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. CARBON MONOXIDE ALARMS ARE REQUIRED TO BE RETROFITTED OUTSIDE EACH BEDROOM AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. THESE ALARMS MAY BE SOLELY BATTERY OPERATED IF THE PHOTOVOLTAIC PROJECT DOES NOT INVOLVE THE REMOVAL OF INTERIOR WALL AND CEILING FINISHES INSIDE THE HOME, OTHERWISE, THE ALARMS MUST BE HARD WIRED AND INTERCONNECTED. (CRC R314, R316)

ELECTRICAL NOTES:
 1. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY RECOGNIZED ELECTRICAL TESTING LABORATORY. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY.
 2. PV EQUIPMENT, SYSTEMS AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED BY QUALIFIED PERSONS (NEC 690.4 E)
 3. THE PHOTOVOLTAIC SYSTEM CONDUCTORS SHALL BE IDENTIFIED AND GROUPED. THE MEANS OF IDENTIFICATION SHALL BE PERMITTED BY SEPARATE COLOR CODING, MARKING TAPE, TAGGING OR OTHER APPROVED MEANS. (NEC 690.4 B)
 4. ALL METALLIC RACEWAY AND EQUIPMENT SHALL BE BONDED AND ELECTRICALLY CONTINUOUS AND GROUNDED. (NEC 250.96)
 5. GROUNDING BUSHINGS ARE REQUIRED AROUND PRE-PUNCHED CONCENTRIC KNOCKOUTS ON THE DC SIDE OF THE SYSTEM (NEC 250.97)
 6. GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AT BUSBARS WITH IN LISTED EQUIPMENT. (NEC 250.64 C)
 8. MODULES AND SUPPORT STRUCTURES SHALL BE GROUNDED (NEC 690.43(C) AND (D))

23. ALL SPECIFIC WIRING IS BASED ON THE USE OF COPPER.
 24. NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION AND POWER DISTRIBUTION SWITCH BOARDS, PANEL BOARDS, DISCONNECTING SWITCHES, TERMINAL CABINETS, ETC. ALL NAMEPLATES SHALL BE PERMANENTLY ATTACHED AND BE OF SUFFICIENT CAPACITY TO WITHSTAND THE WEATHER.
 25. JUNCTION BOXES, PULL AND OUTLET LOCATED BEHIND MODULES SHALL BE SO INSTALLED THAT WIRING CONTAINED IN THEM CAN BE RENDERED ACCESSIBLE DIRECTLY OR BY DISPLACEMENT OF MODULE(S) SECURE BY REMOVABLE FASTENERS AND CONNECTED BY A FLEXIBLE WIRING SYSTEM, (NEC 690.34)
 26. ALL PHOTOVOLTAIC MODULES AND ASSOCIATED EQUIPMENT AND WIRING MATERIAL SHALL BE PROTECTED FROM ANY PHYSICAL DAMAGE.
 27. SEE PROVIDED CUT SHEETS FOR ADDITIONAL EQUIPMENT SPECIFICATIONS.



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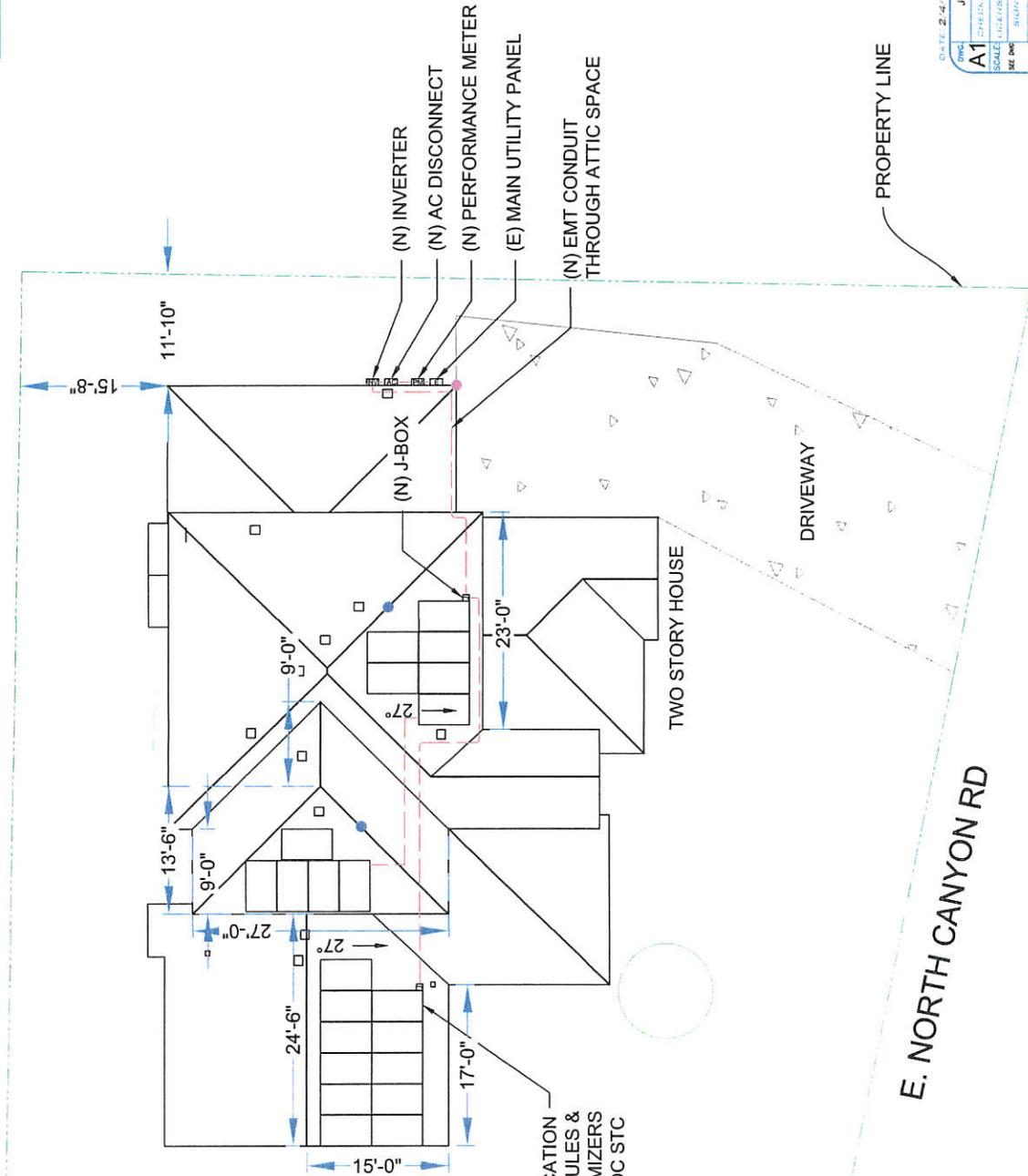
CHRISTENSEN RESIDENCE RESIDENCE
 311 E. NORTH CANYON RD
 BOUNTIFUL, UT 84010

DATE	2/4/16
BY	ADVOCATE
JOB #	1805TV
SCALE	AS SHOWN
PROJECT #	5200-5659502-55G
SHEET #	001

NABCEP
ADVOCATE

PLOT PLAN
 SHEET TITLE

NEIGHBOR
 PROPERTY LINE 100'



NEW PROPOSED PV ARRAY LOCATION
 (22) CHINA SUNERGY CSUN 280M MODULES &
 (22) SOLAREEDGE P300 POWER OPTIMIZERS
 6.16 kW DC STC

TREE

E. NORTH CANYON RD

605.11.3.2.3 Residential buildings with roof hips and valleys. Panels/modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be installed on only one side of a hip or valley, the panels shall be permitted to be placed a minimum of 12 inches from the hip or valley.

Roof Access Point

Roof access point shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs. (R331.4.1 of the 2013 CRC)

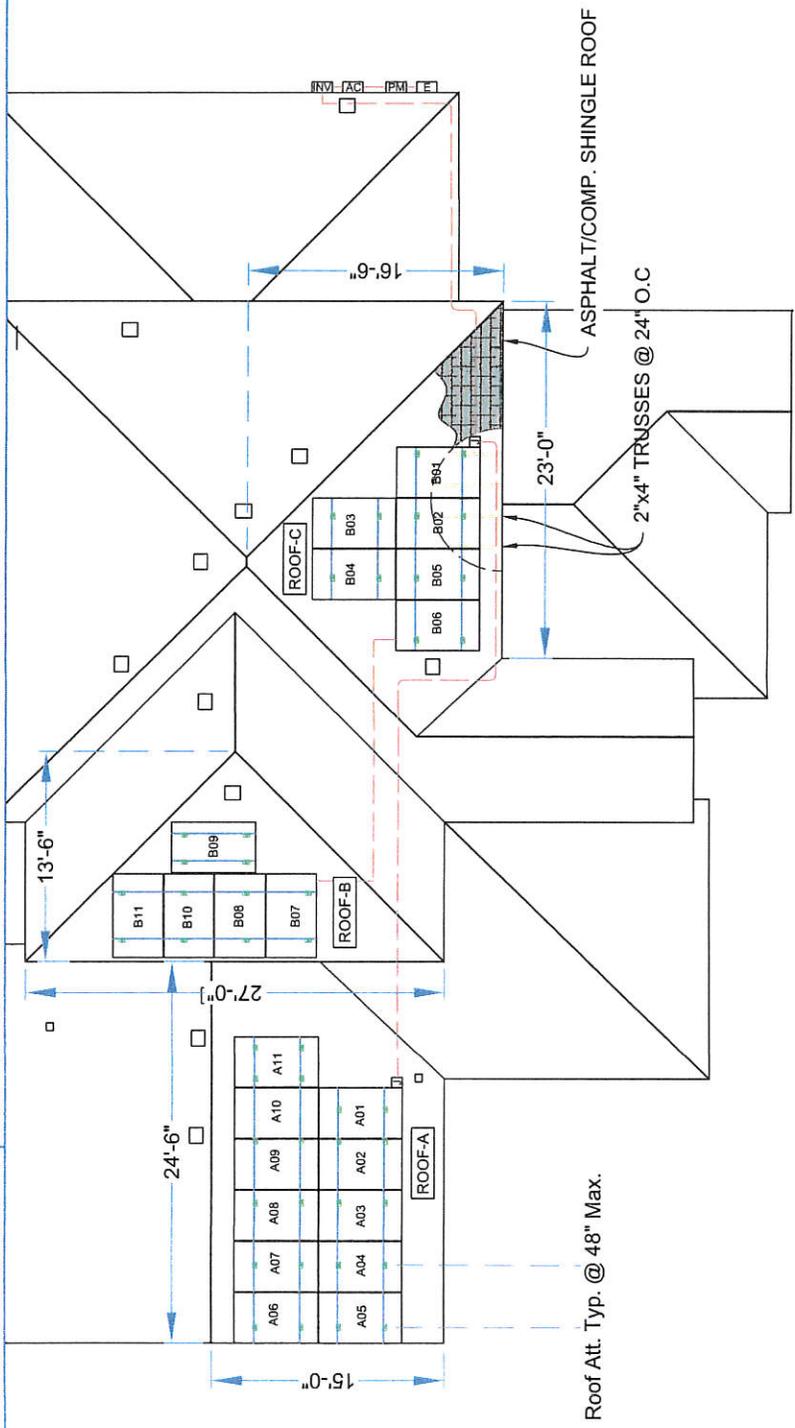
1 RACKING LAYOUT

SCALE: 1" = 8'



- PROPERTY LINE
- TRUSSES
- RAIL
- EMT CONDUIT
- ROOF OBSTRUCTIONS
- ROOF ATTACHMENT
- ROOF PERFORMER
- JUNCTION BOX
- MODULE
- INVERTER
- SKIPPED CONNECTOR
- MAIN SERVICE PANEL
- SUB PANEL
- FIRE PATH
- AG/AC DISCONNECT

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Roof Att. Typ. @ 48" Max.

CHRISTENSEN RESIDENCE RESIDENCE
 311 E. NORTH CANYON RD
 BOUNTIFUL, UT 84010



WIND LOAD CALCULATION - ROOF "A"

TOTAL SYSTEM WEIGHT	573.65	lbs
PV ARRAY SQ.FT	192.06	sq.ft
WIND PRESSURE	30	psf
LAG SCREW EMBEDMENT (MIN. 2.5")	587.5	lbs
QUANTITY OF LAG BOLTS	22	unit
WIND UP LIFT	5188.15	psf
LAG SCREW ENDURANCE	12925.00	psf
WIND UP LIFT < LAG SCREW ENDURANCE		

WIND LOAD CALCULATION - ROOF "B"

TOTAL SYSTEM WEIGHT	316.15	lbs
PV ARRAY SQ.FT	104.76	sq.ft
WIND PRESSURE	30	psf
LAG SCREW EMBEDMENT (MIN. 2.5")	587.5	lbs
QUANTITY OF LAG BOLTS	12	unit
WIND UP LIFT	2826.65	psf
LAG SCREW ENDURANCE	7050.00	psf
WIND UP LIFT < LAG SCREW ENDURANCE		

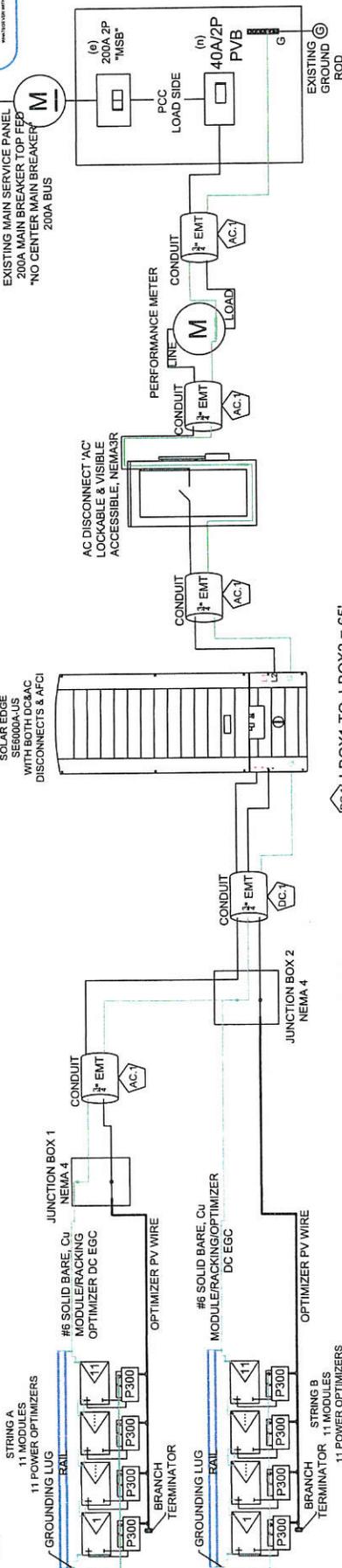
WIND LOAD CALCULATION - ROOF "C"

TOTAL SYSTEM WEIGHT	312.9	lbs
PV ARRAY SQ.FT	104.76	sq.ft
WIND PRESSURE	30	psf
LAG SCREW EMBEDMENT (MIN. 2.5")	587.5	lbs
QUANTITY OF LAG BOLTS	12	unit
WIND UP LIFT	2829.90	psf
LAG SCREW ENDURANCE	7050.00	psf
WIND UP LIFT < LAG SCREW ENDURANCE		

DATE: 2/4/16
 DWG: A2
 SCALE: 1/8" = 1'-0"
 SHEET: 1111
 JOB # 1605TY
 ADVOCATE
 NABCEP
 5200-5668902-5501
 RACKING LAYOUT

1 SINGLE LINE L.AGRAM

HI TEMP. 43°C
LOW TEMP. -35°C



GROUNDING "EGC" :

CONDUIT RUNS THROUGH ATTIC SPACE
TEMP. CORRECTION FACTOR @ 43°C = 0.87
RACKING, MODULES & OPTIMIZERS EGC:
1 FAULT MAX. MODULES = 9.71A * 1.56 = 15.15A
1 FAULT MAX. OPTIMIZERS = 15A * 1.25 = 18.75A
1 MIN. EGC PER 690.45 = 18.75A / 0.87 = 21.55A
PER 310.15(B)(16) EGC TO BE USED #10

DESIGNER NOTE:

- To comply with [250.120(C)]:
- If EGC is inside conduit OK to use #10, or #8 when calculation permits.
- If EGC in free air use #6 solid bare, Cu.
- Modules frames are bonded together using a UL 2703 CERTIFIED grounding mid clamp modules and rails are in contact with EGC using a UL 467 certified & UL 2703 recognized DR-GS-P6 grounding lay in lug
- Conduits are bonded to EGC using grounding bushing.
- EGC complies with [690.43], [690.45] & [690.46]

POWER OPTIMIZERS

OPTIMIZERS MFR: SOLAR EDGE
OPTIMIZER MODEL: P300
DC VOLT RATING = 48V
DC MAX INPUT CURRENT = 12.5A
MAX OUTPUT CURRENT = 15A
MAX OUTPUT VOLTAGE = 60V
MIN WIRE AMPACITY = 15 * 1.25 = 18.75A

J-BOX1 TO J-BOX2 = 65'
2 #10 (+ve, -ve) + MIN #10 EGC
J-BOX2 TO INVERTER = 40'
TERMINALS RATED @ 75°C
#10 AMPACITY PER 310.15(B)(16) = 40A
CONDUIT RUNS THROUGH ATTIC SPACE
TEMP. CORRECTION FACTOR @ 43°C = 0.87
DERATE FACTOR @ 4 C.C.C = 0.8
40A * 0.87 * 0.8 = 27.84A > 18.75A PER STRING
V DROP @ 105' = 0.6%
OK TO USE #10 "THWN-2", Cu RATED @ 90°C

INVERTER RATING

INVERTER MFR: SOLAR EDGE
INVERTER MODEL: SE6000A-US
DC VOLT RATING = 500V
DC MAX INPUT CURRENT = 18A
AC OUTPUT POWER @ 240V = 6.0 kW
AC NOMINAL OUTPUT CURRENT = 25 A

MIN WIRE AMPACITY = 25A * 1.25 = 31.25A
MIN (OCPD) = 35A, AVAILABLE (OCPD) = 40A
TERMINALS RATED @ 75°C

INVERTER TO AC DISC. = 10'
AC DISC. TO MAIN SERVICE PANEL = 5'
3 #8 (L1, L2, N) + MIN #8 EGC
TERMINALS RATED @ 75°C
#8 AMPACITY PER 310.15(B)(16) = 55A
TEMP. CORRECTION FACTOR @ 45°C = 0.87
55A * 0.87 = 47.85A > 40A (OCPD)
V_DROP @ 15' = 0.3%
OK TO INSTALL #8 "THWN-2", Cu RATED @ 90°C

AC DISCONNECT RATING

DISC SW RATING = 60A
DISC VOLT RATING = 240V
2POLES, NON-FUSED

MAIN PANEL RATING

EXISTING SPLIT PHASE 3W 120/240V
BUS BAR RATING = 200A
MAIN SERVICE BREAKER = 200A TOP FED
120% RULE:
MAX ALLOWED FEED = 1.2 * 200A = 240A
ACTUAL FEED = 200A "MSB" + 40A "SOLAR" = 240A = 240A MAX
OK TO ADD SOLAR BREAKER @ THE OPPOSITE END OF THE BUS AWAY FROM THE MAIN BREAKER.

OUTPUT CALCULATIONS

PV SYSTEM MAX DC OUTPUT = 280W * 22 = 6.16 kW
PV SYSTEM MAX AC OUTPUT:
(22) SOLAR WORLD SW280 MONO
(22) POWER OPTIMIZERS P300
(01) SOLAR EDGE SE6000A-US
P_{MAX} (PTC RATING) PER MODULE = 254.4 W
254.4 W * 22 = 5.6 kW
5.6 kW * 98.8% OPTIMIZERS = 5.54 kW
5.54 kW * 97.5% INVERTERS = 5.4 kW
DC WIRE LOSS 0.8% , AC WIRE LOSS 0.3%

PV MODULE RATINGS @ STC

MODULE MFR: SOLAR WORLD
MODEL: SW280 MONO
V_{OC} = 39.5V
V_{MP} = 31.2V
I_{SC} = 9.71A
I_{MP} = 9.07A

PV ARRAY INFORMATION

STRING A&B:
OF MODULES IN STRING: A&B11
V_{OC} BEFORE ACTIVATION:
V_{MP} STRING A&B = 11V
THE INVERTER & OPTIMIZERS
OPTIMIZER PV WIRE
OPTIMIZER TO JUNCTION BOX = 40'
2 #10 (+ve & -ve) + #6 EGC, Cu.
#10 AMPACITY PER 310.15(B)(16) = 55A
PV WIRE IS > 3"^h ABOVE THE ROOF
AMB. TEMP. PER (310.15)(B)(3)(C) > 3"^h = 60°C
TEMP. CORRECTION FACTOR @ 60°C = 0.71
55A * 0.71 = 39.05A > 18.75A PER STRING
V_DROP @ 40' = 0.2%
OK TO USE OPTIMIZERS PV WIRE #10

JUNCTION BOX

TRANSITION FROM
#10 PV WIRE TO #10 "THWN-2" RATED @ 90°C
Polaris connectors are recommended

CONVENTIONS:
1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
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10. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.



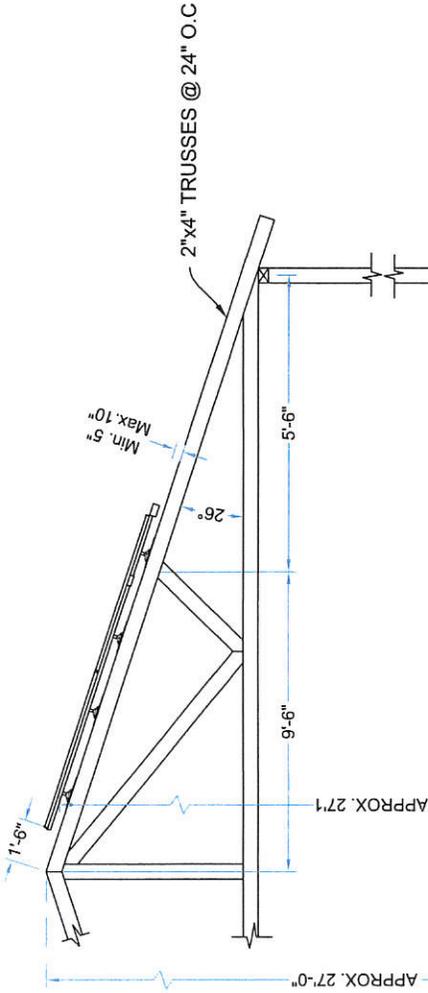
CHRISTENSEN RESIDENCE RESIDENCE:
311 E. NORTH CANYON RD
BOUNTIFUL, UT 84010

NABCEP	DATE: 2.4.15
ADVOCATE	JOB # 1505TV
	SCALE: FULL SIZE # 5200-SB69502-55C
	SEE THE
	STREET TITLE
	SINGLE LINE DIAGRAM

01 ROOF-A (SIDE V..EW)

SCALE: NTS

SOUTH WEST SIDE OF WALL



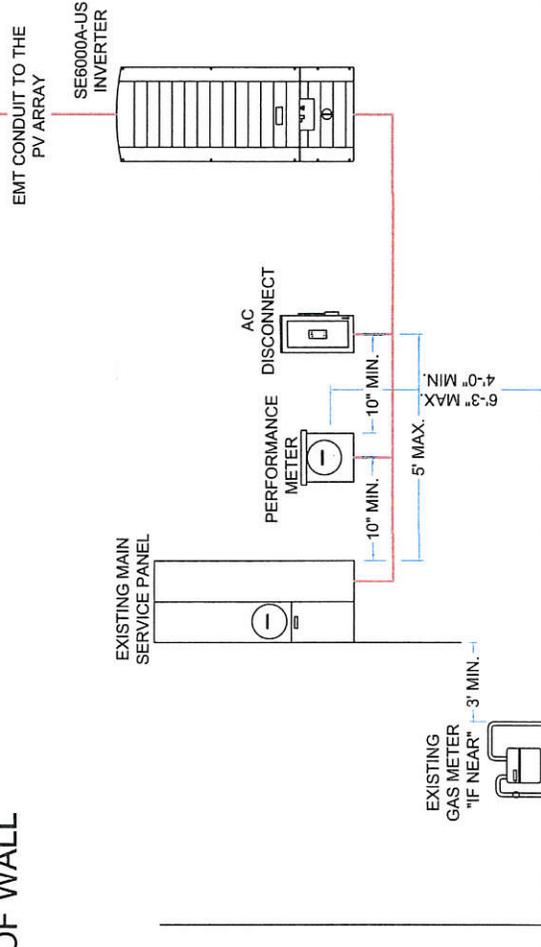
ROOF - A (STRUCTURAL CALCULATION)

TOTAL SQ.FT OF ARRAY	192.06	SQ.FT
TOTAL SYSTEM WEIGHT	573.65	LBS
WEIGHT PER ATTACHMENT	26.08	LBS/ATT
DISTRIBUTED WEIGHT	2.99	psf
MODULE WEIGHT	43.65	LBS
MICRO INVERTER WEIGHT	3.5	LBS
RACKING WEIGHT	0.75	LBS/FT
NO OF MODULES	11	UNIT
NO OF ATTACHMENTS	22	UNIT

02 ELECTRICAL EQUIPMENTS ELEVATION

SCALE: NTS

SOUTH EAST SIDE OF WALL



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CHRISTENSEN RESIDENCE RESIDENCE;
 311 E. NORTH CANYON RD
 BOUNTIFUL, UT 84010

NABCEP

ADVOCATE

DATE: 2-4-16

JOB # 1805TV

SCALE: LICENSE # S200-SB66502-55C

SHEET TITLE: GENERAL DETAIL



MAYOR
RANDY LEWIS

CITY COUNCIL
RICHARD HIGGINSON
BETH HOLBROOK
JOHN M. (MARC) KNIGHT
KENDALYN HARRIS
JOHN PITT

CITY MANAGER
GARY R. HILL

Memo

Date: February 24, 2016
To: Administrative Committee
From: Andy Hulka, Assistant Planner
Re: Staff Report for the Administrative Committee Meeting on Monday, February 29, 2016

Overview

4. **PUBLIC HEARING** - Consider approval of a Conditional Use Permit to allow for Solar Panels at 1115 East 250 South, Henry Larsen, applicant.

Item #4

Background

The property where the solar panels are to be installed is located in the R-4 Single Family Zone. Solar power panels are classified in the city ordinance as "private power plants" and require a conditional use permit if they are over 10 watts. The applicant has indicated that the photovoltaic system to be installed will produce 5.94 kilowatts (5,940 watts), requiring a conditional use permit.

Findings

The application submitted indicates the proposed installation of 1 photovoltaic array with a total of 22 panels. The arrays will occupy approximately 384 square feet, which is smaller than the 50% maximum roof coverage. The southwest facing roof will have all 22 panels with 2 rows of 11 panels each. The panels will be connected to the roof by 5/16" lag bolts. The roof is of truss construction, has a slope of 4:12, and the shingles are in good condition. A review of information provided in the application indicates that all engineering requirements for the construction of solar panels in Bountiful City will be met. A reflection analysis of the roof pitch indicates that photovoltaic panels should not produce a reflection nuisance to surrounding properties.

Staff Recommendation

Based on the findings, staff has determined that the applicant would comply with all requirements for the conditional use permit. Staff recommends approval of the conditional use permit with the following conditions:

1. The applicant shall obtain a building permit.
2. The panels must be installed only as proposed in the application.
3. This conditional use permit is solely for this site and is non-transferable.

Bountiful Land Use Ordinance

14-14-126 PRIVATE POWER PLANTS

- A. A "Private Power Plant" is any device or combination of devices not owned and operated by a regulated utility company, which convert mechanical or chemical energy into electricity. A private power plant with a peak power generation capacity of 10 Watts/12v/500mAmp (or equivalent) is exempt from the provisions of this Section. A private power plant, including a windmill or wind turbine, shall not be permitted within Bountiful City limits, with the following exceptions:
1. A back-up power generator running on unleaded gasoline, diesel, natural gas, propane, or hydrogen fuel cell, rated for a single structure or building lot, located in accordance with the requirements of the zone in which it is located.
 2. A photovoltaic cell array or other passive solar energy system located in accordance with the requirements for occupied structures for the zone in which it is located.
- B. With the exception of a back-up power generator, no private power plant may be installed or used on any property unless a conditional use permit has been issued for the specific power generation device.
- C. A private power plant is not exempt from the height requirements of the Zone in which it is located, and shall be considered an occupied structure for the purposes of calculating height.
- D. Solar energy design standards and requirements
1. Solar energy panels or collectors that are mounted to the roof shall:
 - a. Not extend beyond the roofline.
 - b. Not reflect sunlight onto neighboring windows or rights-of-way.
 - c. Not exceed fifty (50) percent of the total roof area.
 - d. Shall be maintained in good condition.
 2. Prior to installation, use, and connection to the grid, the following shall be done:
 - a. A Conditional Use Permit shall be issued
 - b. A Building Permit shall be issued
 - c. The Power Department shall approve the application for net metering
 - d. The Power Department shall approve the physical installation

1115 E 250 S



CONDITIONAL USE PERMIT APPLICATION

Date of Submittal: 2/16/2016 Henry Larsen

Property Address: 1115 E 250 S BOUNTIFUL UTAH 84010

Applicant Name: GO SOLAR GROUP

Applicant Address: 4892 S COMMERCE DRIVE SUITE C MURRAY UT 84107

Applicant Phone #: 801-938-8805

Applicant Email: nbarth@gosolargroup.com

1. Items that shall be included with any Conditional Use Permit application:

- a. A completed Bountiful City Application for Conditional Use Permit cover sheet (this document).
- b. Payment of Filing Fee (\$200 P.C. / \$50 A.C.)
- c. If the conditional use permit is to be approved by the Planning Commission, a mailing list of all property owners within three hundred feet (300') of the subject property boundaries based on the most recent Davis County Tax Assessment records, submitted on self-adhesive mailing labels. Items heard by the Administrative Committee do not require mailing labels.
- d. If the conditional use permit requires site plan review, two (2) full sized, and one (1) 11x17 copy or one (1) .PDF file, of the proposed site plan drawn at 1:10 scale or as required by the City Engineer and City Planner. A site plan shall include:
 - i. A north arrow, the scale of the drawing, and the date of the drawing.
 - ii. Street names and addresses.
 - iii. Property lines with dimensions.
 - iv. All sidewalks, driveways, curbs and gutter, and parking areas.
 - v. All existing easements, rights-of-way, and any other restrictions on the use of the property.
 - vi. Existing buildings, proposed buildings, and other significant features on the site.
 - vii. Existing buildings and significant features located on adjacent properties within 50 feet (50') of the subject property boundaries
 - viii. When required by the City Planner or City Engineer, and for all new construction, a survey including both existing and proposed contours of the land at intervals of two feet (2') or better.

- e. Typed responses to the following questions:
- i. How does your proposed project fit in with surrounding properties and uses?
 - ii. What will you do to mitigate the potential conflicts with surrounding properties and uses?

2. Property Owner Authorization and Affidavit

The undersigned, being duly sworn, depose that I am (we are) the owner(s) or authorized agent(s) of the owner(s) of the property involved in this application and that the statements contained herein or by attachment, are to the best of my (our) knowledge true and correct.

Henry F Larsen

Owner/Agent

Owner/Agent



BOUNTIFUL

City of Beautiful Homes and Gardens

MAYOR
Randy C. Lewis
CITY COUNCIL
Kendalyn Harris
Richard Higginson
Beth Holbrook
John M. Knight
John Pitt
CITY MANAGER
Gary Hill

SOLAR PANEL QUESTIONS

Please completely answer all questions (do not simply refer to an attachment)

Total Number of Panels	
Array Dimensions	22 PANELS
Total rating of photovoltaic system:	5.94 KW
Mounting Location	
Roof/Wall/Other	ROOF
Roof Pitch (Rise/Run e.g. "5/12")	4/12
Roofing Material Asphalt Shingle/Tile/Steel/Other Age & Condition of Shingles	ASPHALT SHINGLE
Roof Construction Rafter/Truss/Joist	TRUSS
Engineering Analysis	
Connection to Roof	5/16" LAG BOLTS
Analysis of Existing Roof Structure with added Solar Equipment	SOLAR EQUIPMENTS ADDS LESS THAN 3.5 LBS/SQFT. NO 20 PSF LOADS PRESENT
Adequate Uplift Resistance (120 mph Exp B)	YES - 120 MPH



UTAH OFFICES
Sandy
Layton
St. George

Project Number: U1943-0011-161

February 10, 2016

Go Solar
4892 S. Commerce Drive Ste. C
Murray UT 84107

**REFERENCE: Henry Larsen Residence: 1115 E. 250 S., Bountiful, UT 84010
Solar Panel Installation**

To whom it may concern:

Per the provided request, we have reviewed the attached layout relating to the installation of solar panels at the above-referenced site.

Based upon our review, it is our conclusion that the installation of solar panels on this existing roof will not adversely affect the structure of this house. The design of solar panel supporting members and connections is by the manufacturer and/or installer. The adopted building code in this jurisdiction is the International Building Code, 2012 Edition and ASCE 7-10. Appropriate design parameters which must be used in the design of the solar panel supporting members and connections are listed below:

- Ground snow load: 43 psf per Utah amendments to the IBC (verify with local building department)
- Design wind speed for risk category II structures: 120 mph (3-sec gust)
- Wind exposure: Category: C

If using documents referencing ASCE 7-05, the design wind speed may be converted to an ASCE 7-05 equivalent of 90 mph, Exposure C.

Our conclusion regarding the adequacy of the existing roof is based on the fact that the additional weight related to the solar panels is less than 3.5 pounds per square foot. In the area of the solar panels, no 20 psf live loads will be present. Regarding snow loads, it is our conclusion that since the panels are slippery and dark, effective snow loads will likely be reduced in the areas of the panels. Regarding wind loads, we conclude that any additional forces will be negligible due to the low profile of the flush-mounted panel system. Regarding seismic loads, we conclude that any additional forces will be small. With an assumed roof dead load of 15 psf, solar panel dead load of 3.5 psf, and affected roof area of 40% (maximum), the additional dead load (and consequential seismic load) will be 9.3%. This calculation conservatively neglects the weight of wall dead load. Because the increase is less than 10%, this alteration meets the requirements of the exception in Section 807.5 of the 2012 International Existing Building Code. Thus the existing structure is permitted to remain unaltered.

During design and installation particular attention must be paid to the maximum allowable spacing of attachments and the location of solar panels relative to roof edges. The use of solar panel support span tables provided by the manufacturer is allowed only where the building type, site conditions, and solar panel configuration match the description of the span tables. Attachments to existing roof joist or rafters must be staggered so as not to overload any existing structural member. Waterproofing around the roof penetrations is the responsibility of others. Electrical engineering is beyond our scope. All work performed must be in accordance with accepted industry-wide methods and applicable safety standards. Vector Structural Engineering assumes no responsibility for improper installation of the solar panels.

Please note that a representative of Vector Structural Engineering has not physically observed the roof framing of this home. Our conclusions are based upon the assumption that all structural roof components and other supporting elements are in good condition and are sized and spaced such that they can resist standard roof loads.

Very truly yours,

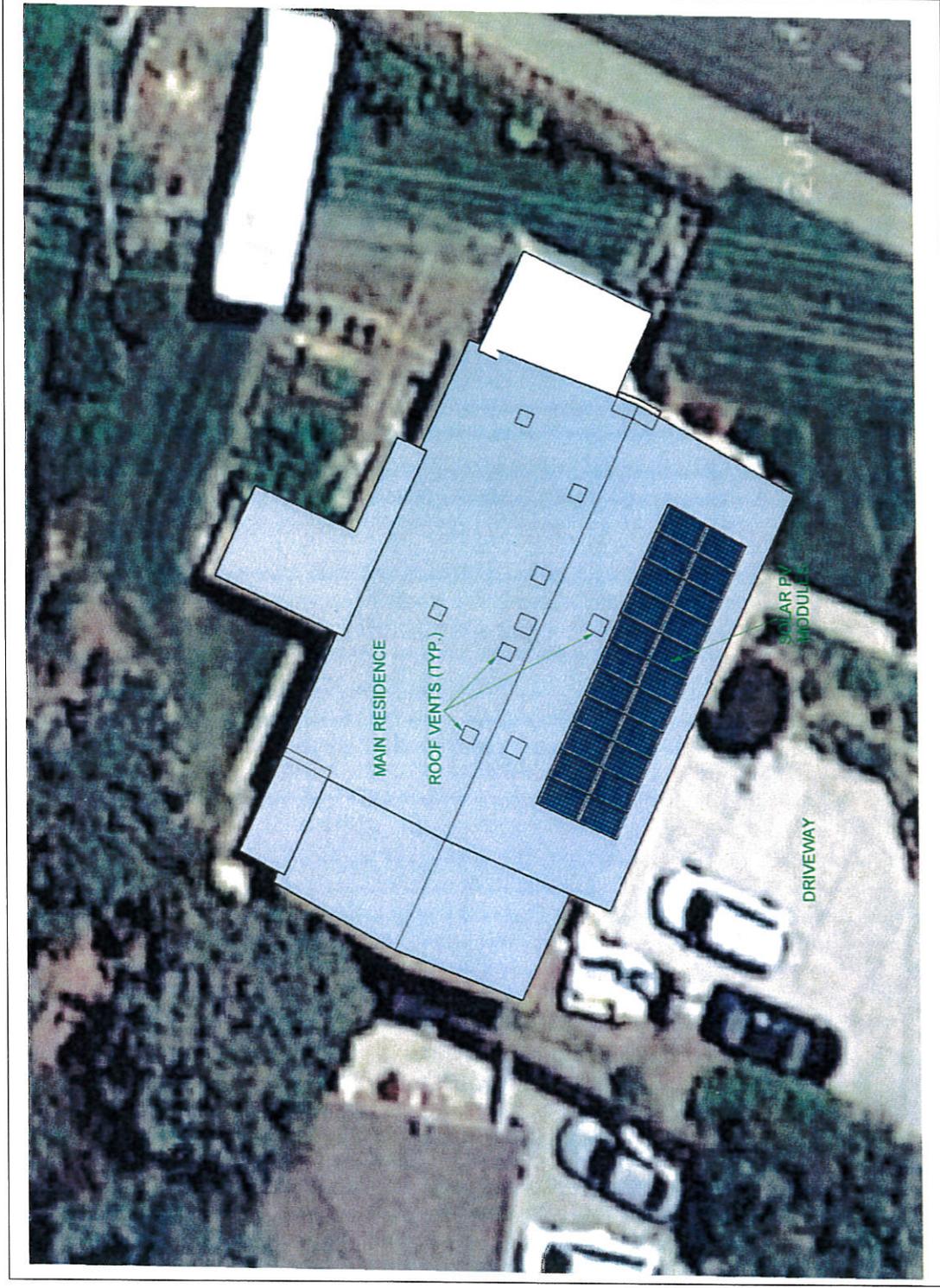
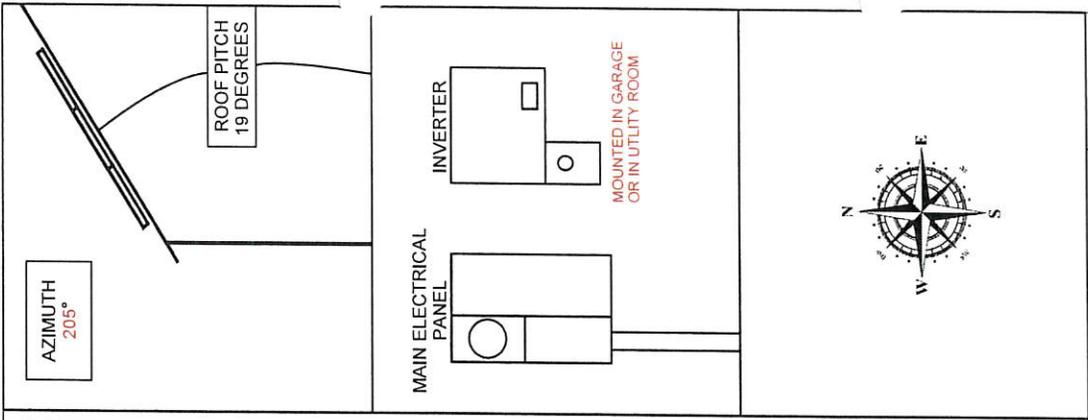
VECTOR STRUCTURAL ENGINEERING, LLC

Brett D. Veazie, P.E.
Project Engineer

BDV/jsp



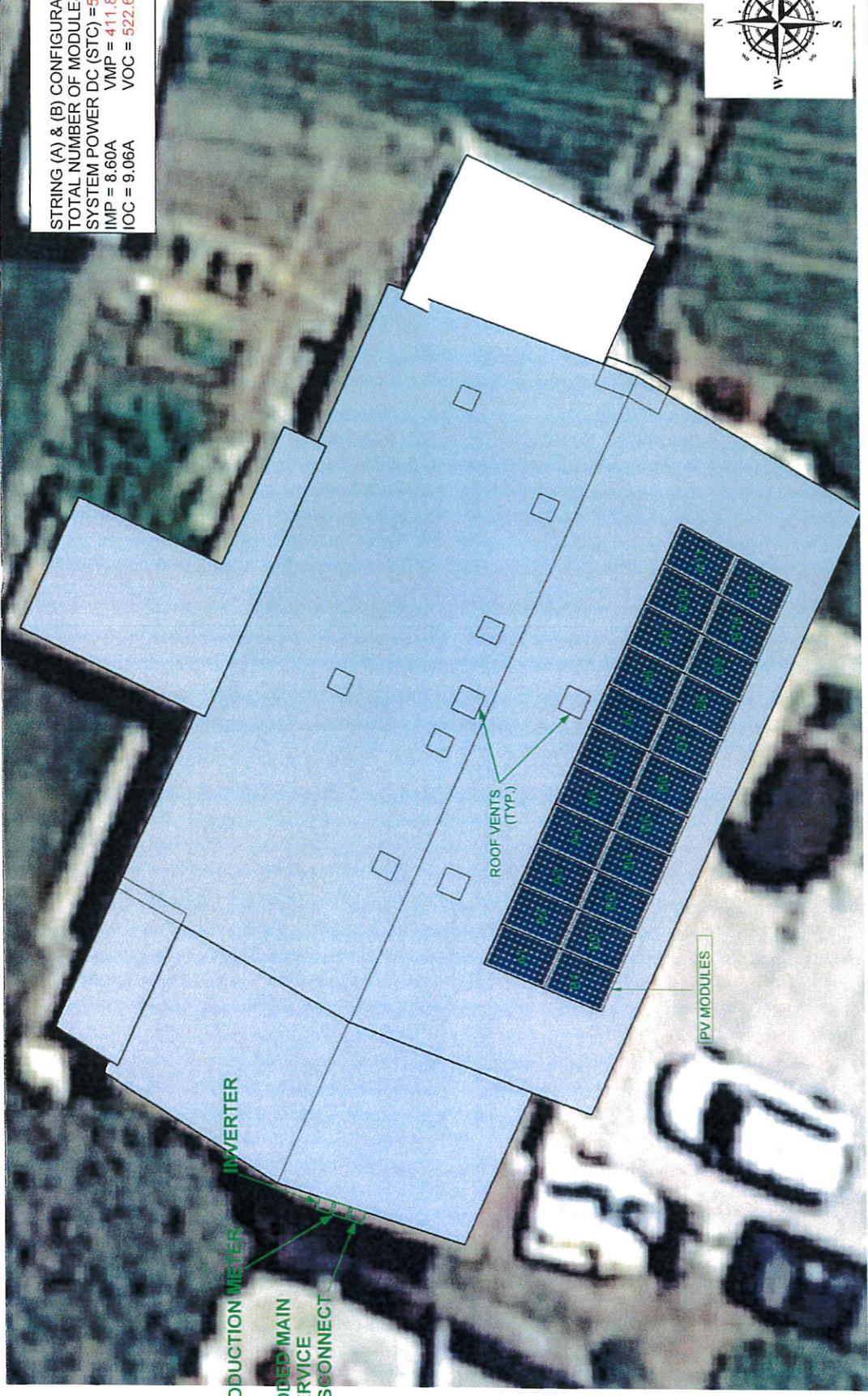
February 10, 2016



<p>Go Solar Group 4892 S Commerce Dr. #C Murray, UT 84107 License# 8543016-5501</p>	<p>PROJECT Solar Photovoltaic</p> <p>SYSTEM SIZE 5.94kW</p>	<p>ISSUE February 17, 2016</p> <p>DRAWN BY NB</p>	<p>Henry Larsen 1115 East 250 South Bountiful, UT 84010</p>
---	---	---	---



STRING (A) & (B) CONFIGURATION
 TOTAL NUMBER OF MODULES=11
 SYSTEM POWER DC (STC) =5940W
 IMP = 8.60A VMP = 411.8V
 IOC = 9.06A VOC = 522.6V



PRODUCTION METER

ADDED MAIN SERVICE DISCONNECT

INVERTER

ROOF VENTS (TYP.)

PV MODULES



Henry Larsen
 1115 East 250 South
 Bountiful, UT
 84010

ISSUE
 February 17, 2016

DRAWN BY
 NB

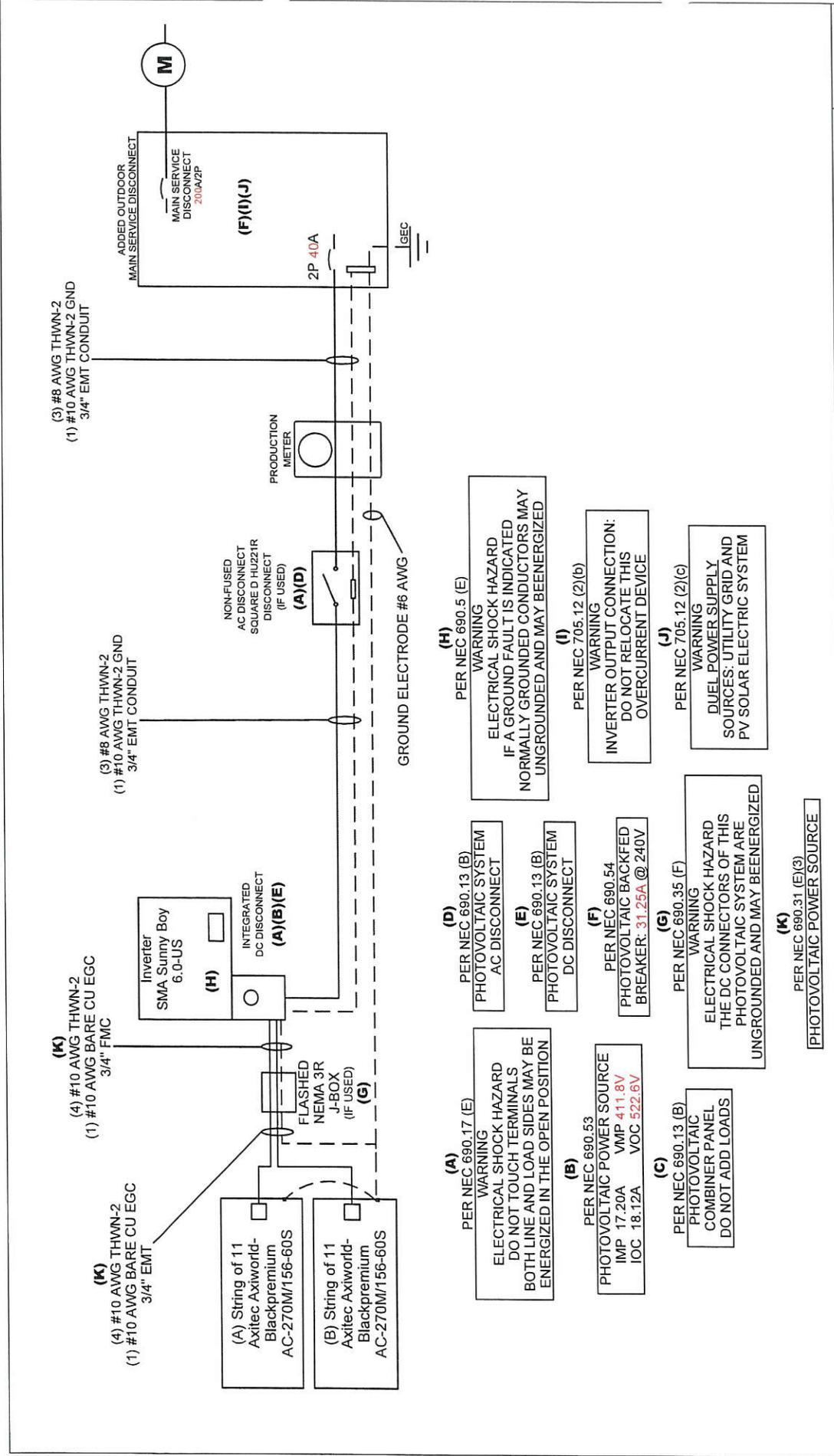
PROJECT
 Solar Photovoltaic

SYSTEM SIZE
 5.94kW

Go Solar Group
 4892 S Commerce Dr. #C
 Murray, UT 84107
 License# 8543016-5501

02

PV Layout



(3) #8 AWG THWN-2
(1) #10 AWG THWN-2 GND
3/4" EMT CONDUIT

(3) #8 AWG THWN-2
(1) #10 AWG THWN-2 GND
3/4" EMT CONDUIT

(K) #10 AWG THWN-2
(1) #10 AWG BARE CU EGC
3/4" FMC

(K) #10 AWG THWN-2
(1) #10 AWG BARE CU EGC
3/4" EMT

(A) String of 11
Axitec Axiorworld-
Blackpremium
AC-270M/156-60S

(B) String of 11
Axitec Axiorworld-
Blackpremium
AC-270M/156-60S

Inverter
SMA Sunny Boy
6.0-US
(H)

INTEGRATED
DC DISCONNECT
(A)(B)(E)

NON-FUSED
AC DISCONNECT
SQUARE D HJ221R
DISCONNECT
(IF USED)
(A)(D)

PRODUCTION
METER

ADDED OUTDOOR
MAIN SERVICE DISCONNECT
(F)(J)

2P 40A

GROUND ELECTRODE #6 AWG

- (A) PER NEC 690.17 (E)
WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS
BOTH LINE AND LOAD SIDES MAY BE
ENERGIZED IN THE OPEN POSITION
- (B) PER NEC 690.53
PHOTOVOLTAIC POWER SOURCE
IMP 17.20A VMP 411.8V
IOC 18.12A VOC 522.6V
- (C) PER NEC 690.13 (B)
PHOTOVOLTAIC
COMBINER PANEL
DO NOT ADD LOADS
- (D) PER NEC 690.13 (B)
PHOTOVOLTAIC SYSTEM
AC DISCONNECT
- (E) PER NEC 690.13 (B)
PHOTOVOLTAIC SYSTEM
DC DISCONNECT
- (F) PER NEC 690.54
PHOTOVOLTAIC BACKFED
BREAKER: 31.25A @ 240V
- (G) PER NEC 690.35 (F)
WARNING
ELECTRICAL SHOCK HAZARD
THE DC CONNECTORS OF THIS
PHOTOVOLTAIC SYSTEM ARE
UNGROUNDING AND MAY BE ENERGIZED
- (H) PER NEC 690.5 (E)
WARNING
ELECTRICAL SHOCK HAZARD
IF A GROUND FAULT IS INDICATED
NORMALLY GROUNDED CONDUCTORS MAY
UNGROUNDING AND MAY BE ENERGIZED
- (I) PER NEC 705.12 (2)(b)
WARNING
INVERTER OUTPUT CONNECTION:
DO NOT RELOCATE THIS
OVERCURRENT DEVICE
- (J) PER NEC 705.12 (2)(c)
WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND
PV SOLAR ELECTRIC SYSTEM
UNGROUNDING AND MAY BE ENERGIZED
- (K) PER NEC 690.31 (E)(3)
PHOTOVOLTAIC POWER SOURCE



Henry Larsen
1115 East 250 South
Bountiful, UT
84010

Go Solar Group
4892 S Commerce Dr. #C
Murray, UT 84107
License# 8543016-5501

ISSUE February 17, 2016 **PROJECT** Solar Photovoltaic

DRAWN BY NB **SYSTEM SIZE** 5.94kW

03
Electrical

PHOTOVOLTAIC NOTES:
EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2011/2014 NEC, 2012 IECC, 2012 IFC, 2012 IRC, 2012 IBC, 2012 IRC, AND ALL APPLICABLE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

PHOTOVOLTAIC SYSTEM IS FIXED, ROOF MOUNTED, AND RESIDENTIAL GRID TIED.

GROUND WIRE MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR MODULE REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690.43 - 690.46.

PHOTOVOLTAIC MODULES WILL BE BONDED TO RAIL WITH WILEY WEBB WASHERS. GROUNDING WILL BE BONDED TO RAIL USING WILEY WEBB LUGS 6.7.

FOLLOW MANUFACTURERS SUGGESTED INSTALLATION PRACTISES AND WIRING SPECIFICATIONS.

WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT TEMPERATURES.

ALL PHOTOVOLTAIC MODULES TO BE INSTALLED PER UTAH FIRE CODE TITLE 15A CHAPTER 5.

ALL PHOTOVOLTAIC WIRES WILL PERMANENTLY BE SUPPORTED OFF ROOF BY WILEY PV WIRE CLIPS.

ALL PHOTOVOLTAIC MODULES WILL NOT COVER OR BLOCK ANY ROOF VENTS, PLUMB VENTS, FURNACE, AND/OR WATER HEATER VENTS.

PHOTOVOLTAIC BACKFEED WILL BE INSTALLED IN MAIN SERVICE ENTERANCE LOCATED OUTSIDE ON WEST WALL OF RESIDENCE.

DC CONDUIT LABELS WILL BE PROVIDED EVERY 10' ALONG RACEWAY AND WITHIN 12" OF EVERY PENETRATION POINT PER NEC 390.31(E)(3).
BACK FED BREAKER WILL BE INSTALLED ON THE OPPOSITE END OF THE BUSBAR FROM THE MAIN FEEDERS PER NEC 705.12(D)(7).

ROOF NOTES:
ENGINEERED ROOF TRUSSES - UPPER CHORD AT 24" O.C.
ROOFING MAT COMPOSITE SHINGLE
SINGLE LAYER



Henry Larsen
1115 East 250 South
Bountiful, UT
84010

ISSUE
February 17, 2016

DRAWN BY
NB

PROJECT
Solar Photovoltaic

SYSTEM SIZE
5.94kW

Go Solar Group
4892 S Commerce Dr. #C
Murray, UT 84107
License# 8543016-5501

04

Notes



MAYOR
RANDY LEWIS

CITY COUNCIL
RICHARD HIGGINSON
BETH HOLBROOK
JOHN M. (MARC) KNIGHT
KENDALYN HARRIS
JOHN PITT

CITY MANAGER
GARY R. HILL

Memo

Date: February 24, 2016
To: Administrative Committee
From: Andy Hulka, Assistant Planner
Re: Staff Report for the Administrative Committee Meeting on Monday, February 29, 2016

Overview

5. **PUBLIC HEARING** - Consider approval of a Conditional Use Permit to allow for Solar Panels at 637 East 2150 South, Matthew Jensen, applicant.

Item #5

Background

The property where the solar panels are to be installed is located in the R-3 Single Family Zone. Solar power panels are classified in the city ordinance as "private power plants" and require a conditional use permit if they are over 10 watts. The applicant has indicated that the photovoltaic system to be installed will produce 6.75 kilowatts (6,750 watts), requiring a conditional use permit.

Findings

The application submitted indicates the proposed installation of 1 photovoltaic array with a total of 25 panels. The arrays will occupy approximately 437 square feet, which is smaller than the 50% maximum roof coverage. The southwest facing roof will have all 25 panels with 2 rows of 8 panels and one row of 9 panels. The panels will be connected to the roof by 5/16" lag bolts on an alpha rail mounting system. The roof is of truss construction, has a slope of 4:12, and the shingles 8 or 9 years old. A review of information provided in the application indicates that all engineering requirements for the construction of solar panels in Bountiful City will be met. A reflection analysis of the roof pitch indicates that photovoltaic panels should not produce a reflection nuisance to surrounding properties.

Staff Recommendation

Based on the findings, staff has determined that the applicant would comply with all requirements for the conditional use permit. Staff recommends approval of the conditional use permit with the following conditions:

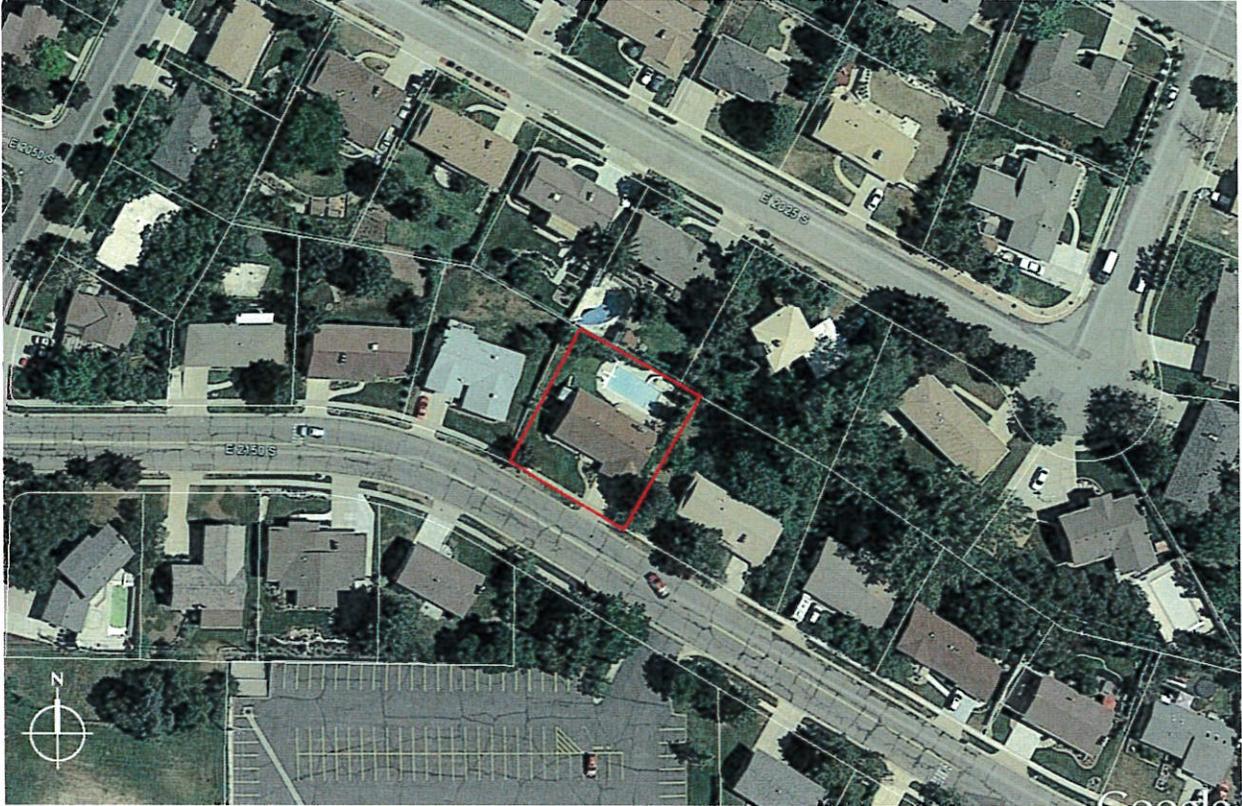
1. The applicant shall obtain a building permit.
2. The panels must be installed only as proposed in the application.
3. This conditional use permit is solely for this site and is non-transferable.

Bountiful Land Use Ordinance

14-14-126 PRIVATE POWER PLANTS

- A. A "Private Power Plant" is any device or combination of devices not owned and operated by a regulated utility company, which convert mechanical or chemical energy into electricity. A private power plant with a peak power generation capacity of 10 Watts/12v/500mAmp (or equivalent) is exempt from the provisions of this Section. A private power plant, including a windmill or wind turbine, shall not be permitted within Bountiful City limits, with the following exceptions:
1. A back-up power generator running on unleaded gasoline, diesel, natural gas, propane, or hydrogen fuel cell, rated for a single structure or building lot, located in accordance with the requirements of the zone in which it is located.
 2. A photovoltaic cell array or other passive solar energy system located in accordance with the requirements for occupied structures for the zone in which it is located.
- B. With the exception of a back-up power generator, no private power plant may be installed or used on any property unless a conditional use permit has been issued for the specific power generation device.
- C. A private power plant is not exempt from the height requirements of the Zone in which it is located, and shall be considered an occupied structure for the purposes of calculating height.
- D. Solar energy design standards and requirements
1. Solar energy panels or collectors that are mounted to the roof shall:
 - a. Not extend beyond the roofline.
 - b. Not reflect sunlight onto neighboring windows or rights-of-way.
 - c. Not exceed fifty (50) percent of the total roof area.
 - d. Shall be maintained in good condition.
 2. Prior to installation, use, and connection to the grid, the following shall be done:
 - a. A Conditional Use Permit shall be issued
 - b. A Building Permit shall be issued
 - c. The Power Department shall approve the application for net metering
 - d. The Power Department shall approve the physical installation

637 E 2150 S



CONDITIONAL USE PERMIT APPLICATION

Date of Submittal: 2/16/2016 Matthew Jensen

Property Address: 637 E. 2150 S. BOUNTIFUL UT 84010

Applicant Name: GO SOLAR GROUP

Applicant Address: 4892 S. COMMERCE DR STE C HURRY UT 84107

Applicant Phone #: 801.938.8805

Applicant Email: nbarth@gosolargroup.com

1. Items that shall be included with any Conditional Use Permit application:

- a. A completed Bountiful City Application for Conditional Use Permit cover sheet (this document).
- b. Payment of Filing Fee (\$200 P.C. / \$50 A.C.)
- c. If the conditional use permit is to be approved by the Planning Commission, a mailing list of all property owners within three hundred feet (300') of the subject property boundaries based on the most recent Davis County Tax Assessment records, submitted on self-adhesive mailing labels. Items heard by the Administrative Committee do not require mailing labels.
- d. If the conditional use permit requires site plan review, two (2) full sized, and one (1) 11x17 copy or one (1) .PDF file, of the proposed site plan drawn at 1:10 scale or as required by the City Engineer and City Planner. A site plan shall include:
 - i. A north arrow, the scale of the drawing, and the date of the drawing.
 - ii. Street names and addresses.
 - iii. Property lines with dimensions.
 - iv. All sidewalks, driveways, curbs and gutter, and parking areas.
 - v. All existing easements, rights-of-way, and any other restrictions on the use of the property.
 - vi. Existing buildings, proposed buildings, and other significant features on the site.
 - vii. Existing buildings and significant features located on adjacent properties within 50 feet (50') of the subject property boundaries
 - viii. When required by the City Planner or City Engineer, and for all new construction, a survey including both existing and proposed contours of the land at intervals of two feet (2') or better.

- e. Typed responses to the following questions:
 - i. How does your proposed project fit in with surrounding properties and uses?
 - ii. What will you do to mitigate the potential conflicts with surrounding properties and uses?

2. Property Owner Authorization and Affidavit

The undersigned, being duly sworn, depose that I am (we are) the owner(s) or authorized agent(s) of the owner(s) of the property involved in this application and that the statements contained herein or by attachment, are to the best of my (our) knowledge true and correct.



Owner/Agent

Owner/Agent



BOUNTIFUL

City of Beautiful Homes and Gardens

MAYOR
Randy C. Lewis
CITY COUNCIL
Kendalyn Harris
Richard Higginson
Beth Holbrook
John M. Knight
John Pitt
CITY MANAGER
Gary Hill

SOLAR PANEL QUESTIONS

Please completely answer all questions (do not simply refer to an attachment)

Total Number of Panels	
Array Dimensions # panels Total rating of photovoltaic system:	25 6.75 KW
Mounting Location	
Roof/Wall/Other	ROOF
Roof Pitch (Rise/Run e.g. "5/12")	4/12
Roofing Material Asphalt Shingle/Tile/Steel/Other Age & Condition of Shingles	ASPHALT SHINGLE
Roof Construction Rafter/Truss/Joist	TRUSS
Engineering Analysis	
Connection to Roof	5/16" LAG BOLTS , Alpha Rail
Analysis of Existing Roof Structure with added Solar Equipment	ADDS > 3.0 LBS/SQFT NO 20 PSF LIVE LOADS ADDITIONAL DEAD LOAD = 9.3%
Adequate Uplift Resistance (120 mph Exp B)	YES 120 mph



UTAH OFFICES
Sandy
Layton
St. George

Project Number: U1943-0010-161

February 10, 2016

Go Solar
4892 S. Commerce Drive Ste. C
Murray UT 84107

**REFERENCE: Matthew Jensen Residence: 637 E. 2150 S., Bountiful, UT 84010
Solar Panel Installation**

To whom it may concern:

Per the provided request, we have reviewed the attached layout relating to the installation of solar panels at the above-referenced site.

Based upon our review, it is our conclusion that the installation of solar panels on this existing roof will not adversely affect the structure of this house. The design of solar panel supporting members and connections is by the manufacturer and/or installer. The adopted building code in this jurisdiction is the International Building Code, 2012 Edition and ASCE 7-10. Appropriate design parameters which must be used in the design of the solar panel supporting members and connections are listed below:

- Ground snow load: 43 psf per Utah amendments to the IBC (verify with local building department)
- Design wind speed for risk category II structures: 120 mph (3-sec gust)
- Wind exposure: Category: C

If using documents referencing ASCE 7-05, the design wind speed may be converted to an ASCE 7-05 equivalent of 90 mph, Exposure C.

Our conclusion regarding the adequacy of the existing roof is based on the fact that the additional weight related to the solar panels is less than 3.0 pounds per square foot. In the area of the solar panels, no 20 psf live loads will be present. Regarding snow loads, it is our conclusion that since the panels are slippery and dark, effective snow loads will likely be reduced in the areas of the panels. Regarding wind loads, we conclude that any additional forces will be negligible due to the low profile of the flush-mounted panel system. Regarding seismic loads, we conclude that any additional forces will be small. With an assumed roof dead load of 15 psf, solar panel dead load of 3.5 psf, and affected roof area of 40% (maximum), the additional dead load (and consequential seismic load) will be 9.3%. This calculation conservatively neglects the weight of wall dead load. Because the increase is less than 10%, this alteration meets the requirements of the exception in Section 807.5 of the 2012 International Existing Building Code. Thus the existing structure is permitted to remain unaltered.

During design and installation particular attention must be paid to the maximum allowable spacing of attachments and the location of solar panels relative to roof edges. The use of solar panel support span tables provided by the manufacturer is allowed only where the building type, site conditions, and solar panel configuration match the description of the span tables. Attachments to existing roof joist or rafters must be staggered so as not to overload any existing structural member. Waterproofing around the roof penetrations is the responsibility of others. Electrical engineering is beyond our scope. All work performed must be in accordance with accepted industry-wide methods and applicable safety standards. Vector Structural Engineering assumes no responsibility for improper installation of the solar panels.

Please note that a representative of Vector Structural Engineering has not physically observed the roof framing of this home. Our conclusions are based upon the assumption that all structural roof components and other supporting elements are in good condition and are sized and spaced such that they can resist standard roof loads.

Very truly yours,

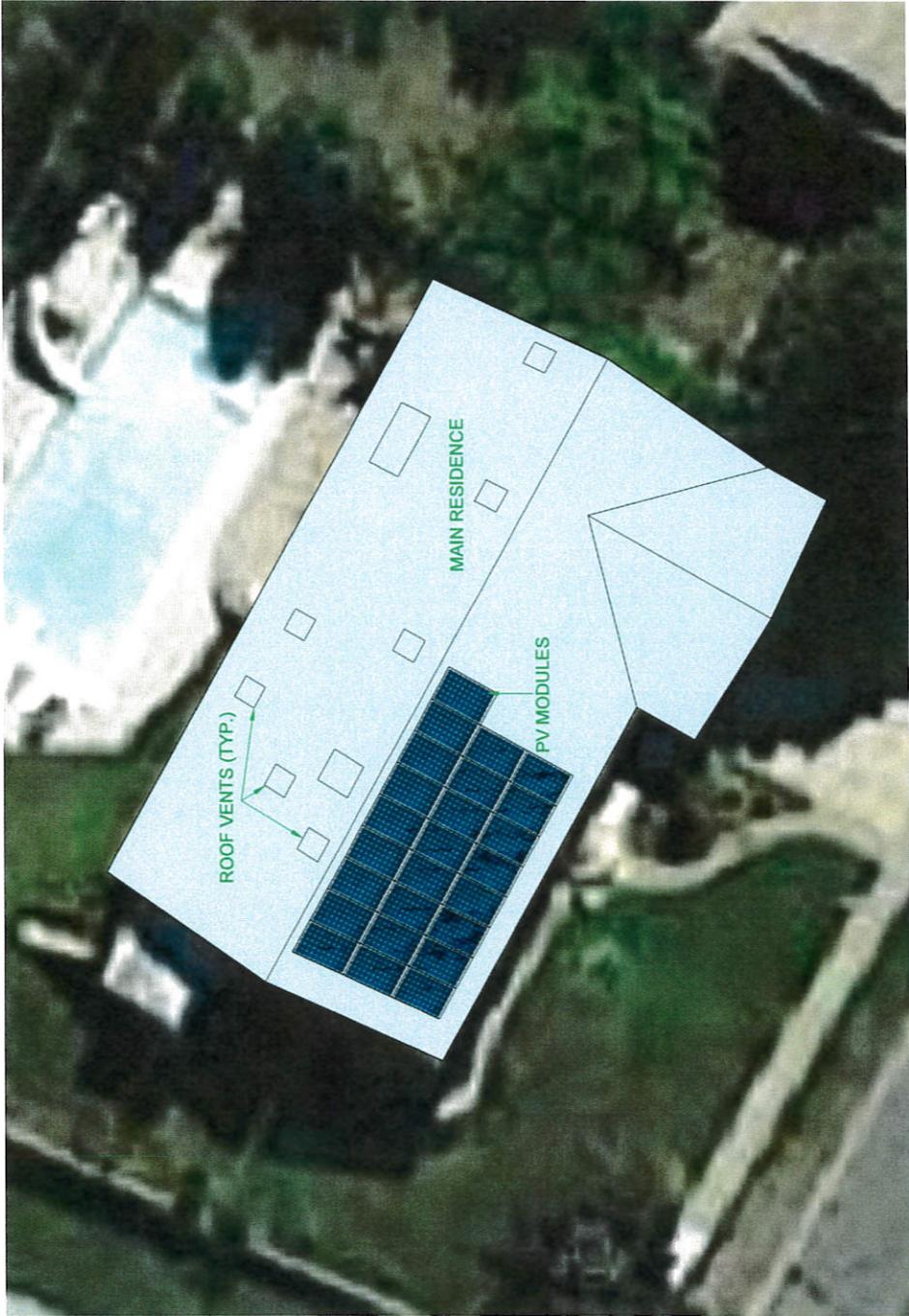
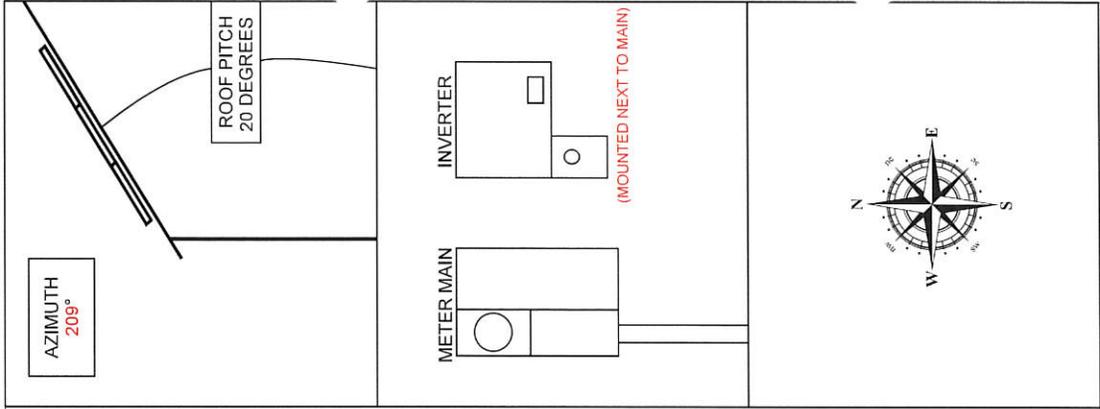
VECTOR STRUCTURAL ENGINEERING, LLC

Brett D. Veazie, P.E.
Project Engineer

BDV/jsp



February 10, 2016



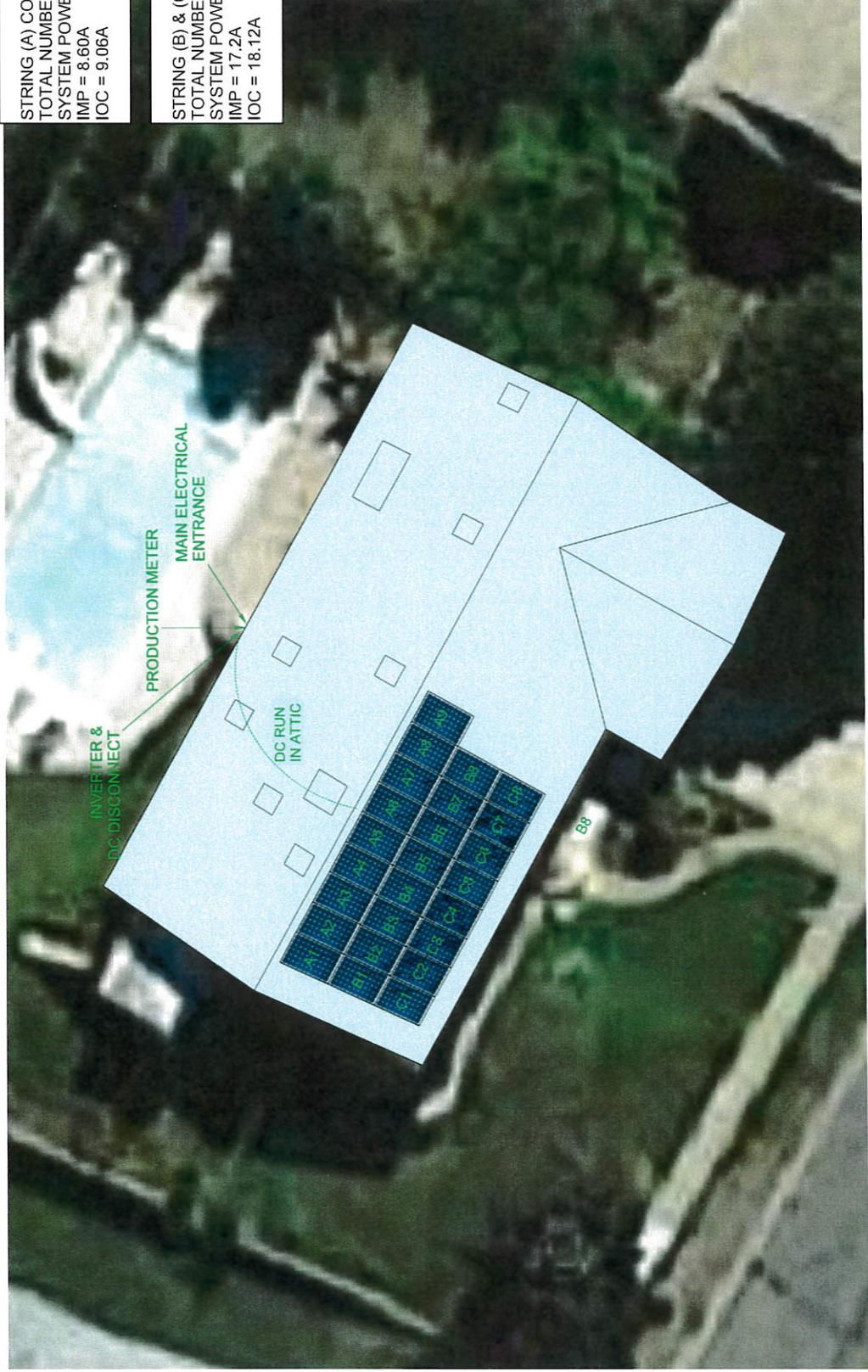
MATTHEW JENSEN
 637 E 2150 S
 BOUNTIFUL, UT
 84010

ISSUE February 11, 2016
DRAWN BY NB

PROJECT Solar Photovoltaic
SYSTEM SIZE 6.75kW

Go Solar Group
 4892 S Commerce Dr. #C
 Murray, UT 84107
 License# 8543016-5501

01
Site Info



STRING (A) CONFIGURATION
 TOTAL NUMBER OF MODULES=9
 SYSTEM POWER DC (STC) =2430W
 IMP = 8.60A VMP = 336.9V
 IOC = 9.06A VOC = 427.5V

STRING (B) & (C) CONFIGURATION
 TOTAL NUMBER OF MODULES=16
 SYSTEM POWER DC (STC) =4320W
 IMP = 17.2A VMP = 299.5V
 IOC = 18.12A VOC = 380.0V



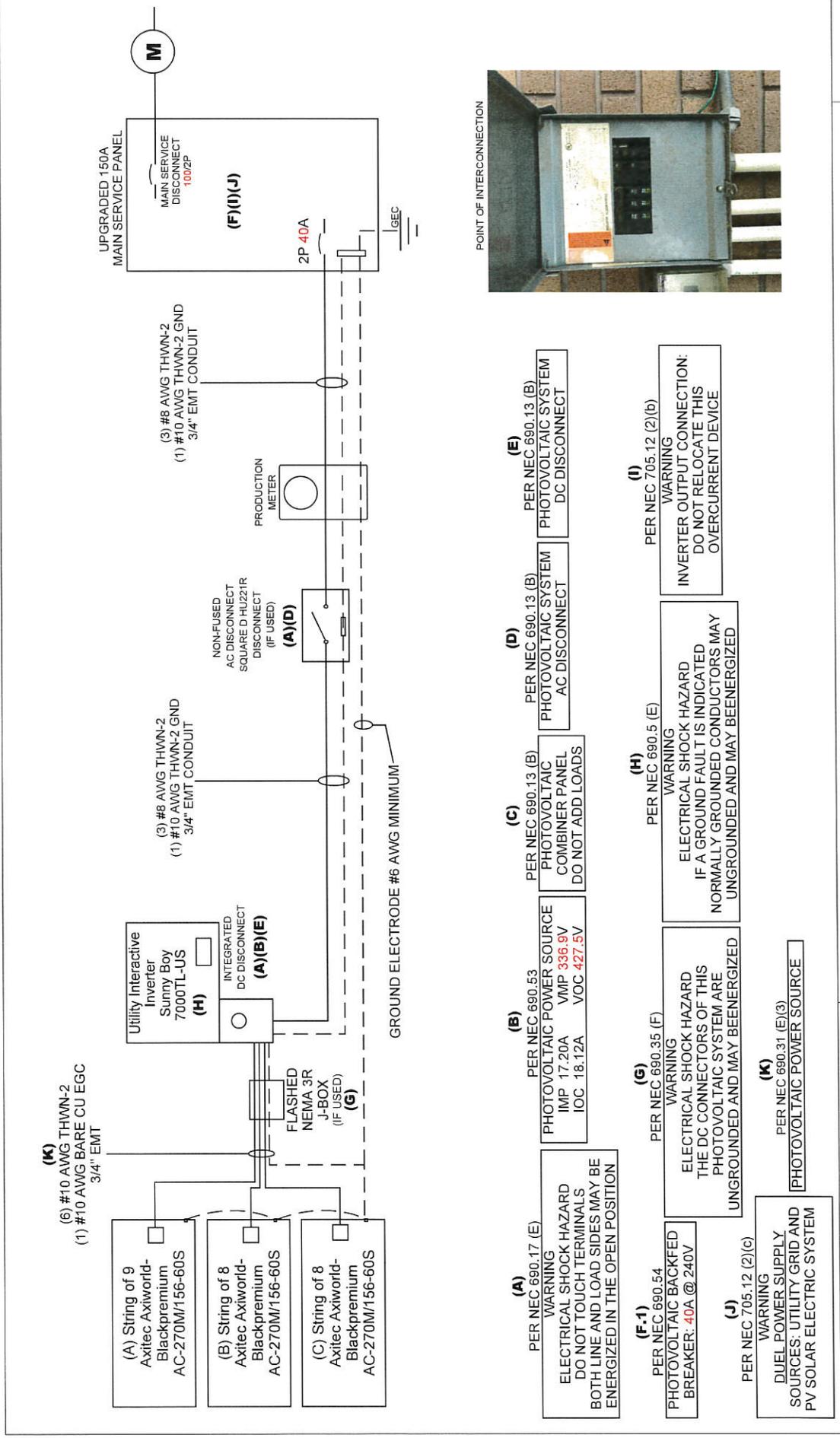
MATTHEW JENSEN
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 84010

ISSUE February 11, 2016
DRAWN BY NB

PROJECT Solar Photovoltaic
SYSTEM SIZE 6.75kW

Go Solar Group
 4892 S Commerce Dr. #C
 Murray, UT 84107
 License# 8543016-5501

02
PV Layout



MATTHEW JENSEN
637 E 2150 S
BOUNTIFUL, UT
84010

ISSUE February 11, 2016
DRAWN BY NB

PROJECT Solar Photovoltaic
SYSTEM SIZE 6.75KW

Go Solar Group
4892 S Commerce Dr. #C
Murray, UT 84107
License# 8543016-5501

PHOTOVOLTAIC NOTES:

EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2011/2014 NEC, 2012 IECC, 2012 IFC, 2012 IRC, 2012 IBC, 2012 IRC, AND ALL APPLICABLE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

PHOTOVOLTAIC SYSTEM IS FIXED, ROOF MOUNTED, AND RESIDENTIAL GRID TIED.

GROUND WIRE MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR MODULE REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690.43 - 690.46.

PHOTOVOLTAIC MODULES WILL BE BONDED TO RAIL WITH WILEY WEBB WASHERS. GROUNDING WILL BE BONDED TO RAIL USING WILEY WEBB LUGS 6.7.

FOLLOW MANUFACTURERS SUGGESTED INSTALLATION PRACTISES AND WIRING SPECIFICATIONS.

WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT TEMPERATURES.

ALL PHOTOVOLTAIC MODULES TO BE INSTALLED PER UTAH FIRE CODE TITLE 15A CHAPTER 5.

ALL PHOTOVOLTAIC WIRES WILL PERMANENTLY BE SUPPORTED OFF ROOF BY WILEY PV WIRE CLIPS.

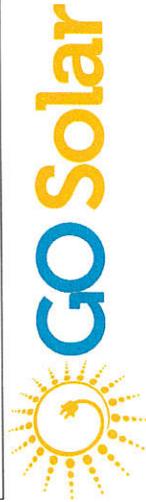
ALL PHOTOVOLTAIC MODULES WILL NOT COVER OR BLOCK ANY ROOF VENTS, PLUMB VENTS, FURNACE, AND/OR WATER HEATER VENTS.

PHOTOVOLTAIC BACKFEED WILL BE INSTALLED IN MAIN SERVICE ENTRANCE LOCATED ON **NORTH WALL** OF RESIDENCE.

DC CONDUIT LABELS WILL BE PROVIDED EVERY 10' ALONG RACEWAY AND WITHIN 12" OF EVERY PENETRATION POINT PER NEC 390.31(E)(3).
BACK FED BREAKER WILL BE INSTALLED ON THE OPPOSITE END OF THE BUSBAR FROM THE MAIN FEEDERS PER NEC 705.12(D)(7).

ROOF NOTES:

ENGINEERED ROOF TRUSSES - UPPER CHORD AT 24" O.C.
ROOFING MAT COMPOSITE SHINGLE
SINGLE LAYER



MATTHEW JENSEN

637 E 2150 S
BOUNTIFUL, UT
84010

ISSUE
February 11, 2016

DRAWN BY
NB

PROJECT
Solar Photovoltaic

SYSTEM SIZE
6.75KW

Go Solar Group

4892 S Commerce Dr. #C
Murray, UT 84107
License# 8543016-5501

04

Notes



MAYOR
RANDY LEWIS

CITY COUNCIL
RICHARD HIGGINSON
BETH HOLBROOK
JOHN M. (MARC) KNIGHT
KENDALYN HARRIS
JOHN PITT

CITY MANAGER
GARY R. HILL

Bountiful City, Utah Conditional Use Permit

A public hearing was held on February 22, 2016, at Bountiful City Hall to consider the request of Alan Perkins for a Conditional Use Permit allowing for a Private Power Plant (Solar Panels) at the following location:

1250 South Oakridge Lane, Bountiful City, Davis County, Utah

ALL OF LOT 6, BOUNTIFUL HILLS. ALSO: BEG AT NW COR OF LOT 5, BOUNTIFUL HILLS; & RUN TH N 89°30' E 41.0 FT; TH S 41°41'45" W 42.82 FT TO W'LY LINE OF SD LOT 5; TH N 21°37' W 34.0 FT ALG SD LOT LINE TO POB. CONT. 0.51 ACRES

Parcel: 04-088-0006

The Bountiful City Administrative Committee heard the matter and considered the statements of the applicant, the City staff, and the public. As a result, the Administrative Committee makes the following findings:

1. This matter is properly heard before the Administrative Committee.
2. Appropriate public notice has been provided and a public hearing held.
3. The proposed request to operate a Private Power Plant (Solar Panels) meets the letter and the intent of the specific requirements in §14-2 and 14-14 et seq (Conditional Use Permit provisions) of the Bountiful City Land Use Ordinance.

The Bountiful City Administrative Committee hereby grants this Conditional Use Permit for a Private Power Plant (Solar Panels) to be located at 1250 South Oakridge Lane, in Bountiful, Davis County, Utah, with the following conditions:

1. The applicant shall obtain a building permit.
2. The panels must be installed only as proposed in the application.
3. This conditional use permit is solely for this site and is non-transferable.

The Conditional Use Permit was approved on February 22, 2016, and this written form was approved this 29th day of February, 2016.

Chad Wilkinson
Planning Director

ATTEST: Julie Holmgren
Recording Secretary



RANDY C. LEWIS
MAYOR

CITY COUNCIL
Kendalyn Harris
Richard Higginson
Beth Holbrook
John Marc Knight
John S. Pitt

CITY MANAGER
Gary R. Hill

Bountiful City, Utah Conditional Use Permit

A public hearing was held on February 22, 2016, at Bountiful City Hall to consider the request of Gary and Annette Nelson for a Conditional Use Permit allowing an Accessory Dwelling at the following location:

1405 East Mueller Park Road, Bountiful City, Davis County, Utah

ALL OF LOT 401, JOE AND BETTE EGGETT SUBDIVISION PHASE 4. CONT. 0.31000 ACRES.

Parcel 04-171-0401

The Bountiful City Administrative Committee heard the matter and considered the statements of the applicant, the City staff, and the public. As a result, the Administrative Committee makes the following findings:

1. This matter is properly heard before the Administrative Committee.
2. Appropriate public notice has been provided and a public hearing held.
3. The proposed request for an accessory dwelling shall meet all the criteria in 14-14-124 and other applicable sections of the City Ordinance.

The Bountiful City Administrative Committee hereby grants this Conditional Use Permit for an Accessory Dwelling Unit (ADU) as requested by Gary and Annette Nelson, to be located at 1405 East Mueller Park Road, Bountiful, Davis County, Utah, with the following conditions:

1. The principal owner(s) of the property must occupy the primary structure.
2. No occupancy of the ADU shall occur until after passing final inspection.
3. The property is to be used only as a single-family use and shall be subject to a deed restriction, recorded with Davis County prior to obtaining a building permit.
4. Occupants of the Accessory Dwelling Unit shall be limited to: Legal dependents, children, parents, siblings, grandchildren, or grandparents of the primary occupant.
5. There will be no separate utility service connections.
6. The ADU shall meet all the criteria in 14-14-124 of the city Ordinance.
7. The Conditional Use Permit is solely for this property and is non-transferable.

The Conditional Use Permit was approved on February 22, 2016, and this written form was approved this 29th day of February, 2016.

Chad Wilkinson
Planning Director

ATTEST: Julie Holmgren
Recording Secretary