SOLAR DECATHLON 2015
CLEMSON UNIVERSITY

INDIGO PINE
AS-BUILT DOCUMENT SUBMITTAL

08.17.15

PROJECT DESCRIPTION

PROJECT NAME: INDIGO PINE
PROJECT LOCATION: IRVINE, CALIFORNIA
OCCUPANCY TYPE: BUSINESS (TEMPORARY)
CONSTRUCTION TYPE: I-B
MAX BUILDING HEIGHT: 18'-0"
Clemson University’s Solar Decathlon team unites a multidisciplinary group of students and faculty from the fields of design, engineering, and social sciences. Due to this variety of expertise, one comprehensive product is made possible. The result is Indigo Pine, a prototype for a 1000 sq. ft., three bedroom, net zero solar home with all environmental impact engineered out in the design. Indigo Pine is an ideal home for the Southern family. Its innovative building method is supplemented by its use of local building products. As a team, Clemson addresses sustainability as an overall process rather than an end product. The sustainability of the construction process is equally as important as the performance of the finished home.

Small Home That Lives Big
Indigo Pine is a three-bedroom home to accommodate a family of four within a 1000 sq. ft. envelope. The exterior of the house includes all of the traditional elements of a Southern home, but rewrites the vernacular to deliver a home geared for modern living and solar performance. In keeping with traditional Southern design, Indigo Pine features a large porch, allowing the life of the home to spill outdoors. The home feel larger than its finished interior. Indigo Pine offers a high standard of sustainable Southern living that is affordable to our target market; a family of four with an annual income around $45,000.

Local Materials
Indigo Pine’s primary material is plywood. Allowing owners to use locally sourced and readily available materials for their home, plywood can be found in abundance across the United States and throughout most of the world. With comparable structural qualities, most of the project’s materials can be bought or ordered from home improvement stores, including all doors, windows and sheet goods. In addition to the accessibility of wood, this material is also a rapidly renewable, natural resource that has the lowest embedded energy of any structural material. In fact, solar power is an innate quality of wood due to the process of photosynthesis; it is most ecologically advantageous when indigenous to an area where it is sustainably harvested.

Global Application
While Clemson University designed Indigo Pine to fit within its Southern vernacular, Clemson, SC and Irvine, CA share a climate zone that covers 40% of the global population. This allows Indigo Pine to spread its roots throughout the world.

Innovation Within Existing Systems
Our team has developed a system of plywood construction that is cut entirely by a CNC router. Each piece can then be flat packed and shipped. Once on site, each individual plywood piece will interlock with one another via Indigo joins to form complete structural components. Finally these components are reinforced by stainless steel zip-ties. This process eliminates the need for large, unsafe tools and machinery, creating a safer work environment and reducing on-site waste. This unique process will allow team Clemson to build the Indigo Pine home entirely on-site in Irvine, California.

User Friendly Technology
Indigo Pine will feature an internal comfort monitoring system, regulating various features of the home including temperature, humidity, and lighting levels. This system informs the residents of the home on the best strategy to provide comfortable conditions while maintaining energy efficiency.

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User Friendly Technology
Indigo Pine will feature an internal comfort monitoring system, regulating various features of the home including temperature, humidity, and lighting levels. This system informs the residents of the home on the best strategy to provide comfortable conditions while maintaining energy efficiency.
1. ALL DIMENSIONS ARE SHOWN TO THE OUTSIDE FACE OF EXTERIOR SHEATHING.
2. ALL SQUARE FOOTAGES ARE CALCULATED TO BE GROSS CONSTRUCTED AREA.
3. ALL AREA CALCULATIONS ARE BASED ON DESIGN DIMENSIONS AND MAY FLUCTUATE IN FIELD.
4. LOT DIMENSIONS BASED ON DESIGN INFORMATION PROVIDED BY DEPARTMENT OF ENERGY, FIELD VERIFY ALL LOT DIMENSIONS PRIOR TO START OF CONSTRUCTION.

FINISHED SQUARE FOOTAGE COMPLIANCE PLAN

SOLAR ENVELOPE BOUNDARY

A1

FINISHED SQUARE FOOTAGE COMPLIANCE PLAN

1/4" = 1'-0"
**ACCESSIBILITY DIAGRAMS (ICC A117.1)**

- **KNEE CLEARANCE**
  - Minimum: 2'-3" (608 mm)
  - Maximum: 8" (203 mm)
  - Recommended: 11" (280 mm)

- **TOE CLEARANCE**
  - Minimum: 6" (152 mm)
  - Recommended: 9" (229 mm)

- **DOOR CLEARANCE**
  - Minimum: 48" X DOOR + 24" W (W/ CLOSER)
  - Maximum: 60" X DOOR + 36" W

- **CLEAR FLOOR SPACE**
  - Minimum: 6'-8" (2032 mm)
  - Recommended: 7'-0" (2134 mm)

- **TURNING SPACE**
  - Minimum: 6'-8" (2032 mm)

- **PROTRUDING OBJECTS**
  - Required at all accessible doors. Arrow indicates approach.

- **OPERABLE PARTS**
  - Required for all accessible lavatories and counters.

- **ACCESSIBILITY COMPLIANCE DIAGRAMS**
1. All routes to comply with ADA 2010 standards for accessible design.
2. TOUR ROUTE EXCLUDES SMALLER BEDROOM ROUTE AND TURNS DIRECTLY NORTH AT POINT "A".
3. All porch conditions without a 36" handrail utilize a 2" rim constructed out of anchored P.T. 2x4s.

GENERAL NOTES
1. See operations drawings for loading and unloading routes and locations.
2. All designed and constructed elements are to comply with SD Building Code 2015 Solar Envelope Requirements.

**GENERAL NOTES**

**LOT A03: ORANGE COUNTY**

**LOT A02: ORANGE COUNTY**

**THOROUGHFARE LANE**

**TEMPORARY LOADING LANE**

**SOLAR ENVELOPE, F.V.**

**MINIMUM CONSTRUCTION LIMITS, F.V.**

**ELECTRICAL ALLEY**

**LOT B02:**

**SOLAR ENVELOPE COMPLIANCE PLAN**

**NOTES:**

1. See operations drawings for loading and unloading routes and locations.
2. All designed and constructed elements are to comply with SD Building Code 2015 Solar Envelope Requirements.
1. All designed and constructed elements are to comply with 2015 Solar Decathlon Building Code - Solar Envelope Requirements.

2. Maximum designed construction height: +/- 16'-5"
1. All perspective views are for representational purposes only and should not be used for construction.

**GENERAL NOTES**

**KEY PLAN**

**MARK DATE DESCRIPTION**

1. Exterior Perspective 2
2. Exterior Perspective 3
3. Exterior Perspective 1
4. West Elevation Perspective
5. South Elevation Perspective
6. South Elevation Perspective
1. All perspective views are for representational purposes only and should not be used for construction.

2. Kitchen Interior Perspective

3. Living Interior Perspective

4. Bedroom Interior Perspective
NOMENCLATURE SYSTEM

ABBR-XYZM

ABBREVIATION

X-POSITION Y-POSITION Z-POSITION MODIFIER

S - NULL E - EXTERIOR M - MIDDLE
I - INTERIOR D - EXTERIOR N - MIDDLE
S - SWITCH H - HIGH L - LOW

0 - NULL P - POCKET W - WINDOWS
E - EXTERIOR M - MIDDLES
I - INTERIORS - SWITCH C - CORNER
1, 2, 3, 4 - IDENTIFIER

SEQUENTIAL MEMBERS SHALL HAVE THEIR SEQUENCE NUMBER IN THEIR NAME ABBREVIATION.
SEQUENTIAL MEMBERS SHALL BE SEQUENCED FROM A PRE-DEFINED POSITION. IN THIS BUILD, THE
SEQUENCE STARTS FROM THE SOUTH.
INTERIOR (X) MEMBERS ARE REPEATABLE AND ARE DESIGNED TO EXPAND THE STRUCTURE AS
NEEDED.
SWITCH (X) MEMBERS ENABLE THE MIRRORING OF REPEATABLE MEMBERS.

ASSEMBLY ISOMETRIC

EXPLODED ASSEMBLY ISOMETRIC

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NOTE: SHOWN FROM ABOVE. COMPONENTS SHOULD BE MIRRORED PRIOR TO CNC FABRICATION AND CUT MIRROR SIDE DOWN.
GENERAL NOTES

1. All structural members are to be fastened at prefabricated notches with stainless steel zip ties, zip tie gun tightened and cut (TYP.).

2. All dimensions are for reference only. All structural member locations will be determined by structural system interlocking.

3. Refer to project manual for structural, envelope, and testing results.

4. Refer to component layout located on sheets S-003 - S-005 for named part configurations.

OVERALL STRUCTURAL ISOMETRIC
ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS, WITHIN CONFINEMENT OF STRUCTURAL SYSTEM INTERLOCKING, REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS.

REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.


PIECES NOT SHOWN: B1-EI00, B2-I000, B3-IE00, AND B4-EE00.

ATTACH MEMBER ACCORDING TO DRAWING. 1/4" = 1'-0" IN ALL DRAWINGS. ALL DIMENSIONS ARE FOR REFERENCE ONLY. STRUCTURAL SYSTEM INTERLOCKING.

ATTACHING DIMENSIONS TO EACH ASSEMBLY. STRUCTURAL SYSTEM INTERLOCKING.

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ATTACHING DIMENSIONS TO EACH MEMBER. STRUCTURAL SYSTEM INTERLOCKING.

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GENERAL NOTES

1. ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

2. ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS LOCATIONS WILL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING.

3. REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS.

4. REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

1. SOUTH WALL FLANGE ASSEMBLY

2. NORTH WALL FLANGE ASSEMBLY

3. EAST WALL FLANGE ASSEMBLY

4. WEST WALL FLANGE ASSEMBLY

SHEET TITLE: STRUCTURAL ASSEMBLY DIAGRAMS

DESIGN TEAM

CONSULTANTS

CLIENT

SOLAR DECATHLON

WWW.SOLARDECATHLON.GOV
1. ALL CMU BLOCK TO BE 8X8X16 OR 1-1/4X8X16 CAP BLOCK.

2. SAW CUT AND KNOCK OUT WEBS AS NECESSARY TO ACCOMMODATE REBAR AND ANCHORING. SEE S-102.
GRADE LEVEL
TOP OF SUBFLOOR 1'-7 3/4"
COMPACT EARTH (EXISTING, F.V.)
ASPHALT PAVING, (EXIST., F.V. DEPTH)
36" #6 GROUND ANCHORING TIES, EXTEND TAILS 6" ABOVE GRADE AT 8" O.C. AT BONDBEAM LOCATIONS, SEE FOUNDATION PLAN
8" CMU, SAW CUT BONDBEAM, FILL SOLID W/ HIGH STRENGTH QUICK SETTING CONC.
#4 CONT. REBAR 1/2" THREADED ROD AT 4' OC. EXTEND INTO CMU 4" MIN, EPOXY GROUT
7/16" HUBER ZIP SHEATHING, BARRIER FACE DOWN, TAPE OPPOSITE SIDE RIM JOIST SERIES (RJ), SEE ASSEMBLY DIAGRAMS LEVELING JOIST SERIES (RJ), SEE ASSEMBLY DIAGRAMS FLOOR JOISTS BEYOND NOGGING, SEE ASSEMBLY DIAGRAMS HUBER ADVANTECH 3/4" SUBFLOORING
8X16 STRETCHER CMU 8" CMU, SIDESTACKED TAPE ALL JOINTS PER MFG SPECS THROUGH BOLTED ANCHORING ANGLE, 4' OC ANCHORING DETAIL
ANCHORING DETAIL
REINFORCING PLAN
ANCHORING DETAIL
REINFORCING PLAN, DETAILS, AND SCHEDULE
S-102
FLOOR JOIST FRAMING PLAN

GENERAL NOTES

1. All structural members are to be fastened at prefabricated notches with stainless steel zip ties. Zip tie damage is expected to be repaired by the installer.
2. All dimensions and references only. All structural and nonstructural framing should be determined by the structural designer.
3. Refer to the project manual for structural, mechanical, and electrical specifications. All dimensions are for reference only.
4. All structural member locations will be determined by structural system interlocking. Refer to the project manual for structural diagrams, calculations, and testing results.
5. Refer to component layout located on sheets S-003 through S-005 for named part configurations.

1. 
2. 
3. 
4. 
5.
GENERAL NOTES

1. All structural members are to be fastened at prefabricated notches with stainless steel zip ties, zip tie gun tightened and cut (TYP).

2. All dimensions are for reference only. All structural members locations will be determined by structural system interlocking.

3. Refer to component layout located on sheets S-003 - S-005 for named part configurations.

4. All isometric views are for reference only and should not be used for dimensioning.

5. Refer to project manual for structural diagrams, calculations, and testing results.

6. All elevation views are for reference only and should not be used for dimensioning.
1. All structural members are to be fastened at prefabricated notches with stainless steel ZIP ties, gun tightened and cut (TYP.).
2. All dimensions are for reference only. All structural member locations will be determined by the structural system.
3. Refer to component layout located on sheets S-003 - S-005 for named part configurations.

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S-211
WALL FRAMING PLAN

REFERENCE ELEVATION

ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, GUN TIGHTENED AND CUT (TYP.).
ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBER LOCATIONS WILL BE DETERMINED BY STRUCTURAL SYSTEM.
REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

GENERAL NOTES

DESIGN TEAM

CONSULTANTS

CLIENT

INDIGOPINE.COM

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INDIGOPINE2015@GMAIL.COM

ISSUE DATE:
02/12/2015

COPYRIGHT:
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CONSULTANTS

GENE WILSON | GREENVILLE TECH

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SOLAR DECATHLON 2015

U.S. DEPARTMENT OF ENERGY

TEAM CLEMSON

ARCH STUDIO

DAN HARDING

DESIGN TEAM

CONTRACTOR:

ARCH STUDIO

DAN HARDING

DESIGN TEAM

CONTRACTOR:

ARCH STUDIO

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GENERAL NOTES

1. ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.)

2. ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL DIMENSIONS SHALL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING.

3. REFER TO PROJECT MANUAL FOR STRUCTURAL ENGINEERING CALCULATIONS AND TESTING RESULTS.

4. REFER TO COMPONENT LOCATIONS LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

5. ALL ACCURACY VALUES ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.

ALL ISOMETRIC VIEWS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.

1. WALL FRAMING TYPICAL DETAIL
2. WALL FRAMING CORNER DETAIL
3. WALL FRAMING BOX GIRDER SUPPORT

WALL FRAMING DETAILS

S-212
GENERAL NOTES

1. All structural members are to be fastened at prefabricated notches with stainless steel zip ties, zip tie gun tightened and cut (t yp).

2. All dimensions are for reference only. All structural member locations will be determined by structural system interlocking.

3. Refer to component layout located on sheets S-003 - S-005 for named part configurations.

4. Refer to architectural drawings for window types and installation.

REFERENCE ELEVATION

ROUGH OPENING FRAMING PLAN

A2

ROUGH OPENING PLAN

S-221
GENERAL NOTES

1. All structural members are to be notched at fabricated sections. All fabricated notches are to be fit and threaded to allow for proper attachment.

2. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

3. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

4. All structural members are to be fastened at prefabricated notches with stainless steel zip ties. Zip tie is to be tightened and cut (typ.)

5. All references are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

6. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

7. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

8. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

9. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

10. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

11. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

12. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

13. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

14. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

15. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

16. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

17. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

18. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

19. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

20. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

21. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

22. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

23. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

24. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

25. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

26. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

27. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

28. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

29. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

30. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

31. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

32. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

33. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

34. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

35. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

36. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

37. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

38. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

39. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

40. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

41. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

42. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

43. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

44. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

45. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

46. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

47. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

48. Refer to component layout located on sheets S-003 – S-005 for named part configurations.

49. All dimensions are for reference only. All structural members’ locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.

50. Refer to component layout located on sheets S-003 – S-005 for named part configurations.
GENERAL NOTES

1. All structural dimensions are for reference only.
2. Dimensions are for reference only. All structural members will be fabricated based on structural system mock-ups.
3. Incomplete project manual for structural systems calculations and testing results.
4. Refer to components layout located on sheet S-000 for named part configurations.
5. All geometric views are for reference only and should not be used for dimensioning.

STAINLESS STEEL ZIP-TIE FASTENER (TYP.)

HEADER FRAMING DETAIL 1

HEADER FRAMING DETAIL 2

HEADER FRAMING DETAIL 3

ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS WILL BE FABRICATED BASED ON STRUCTURAL SYSTEM MOCK-UP.

ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS WILL BE FABRICATED BASED ON STRUCTURAL SYSTEM MOCK-UP.

REFER TO PROJECT MANUAL FOR STRUCTURAL SYSTEMS CALCULATIONS AND TESTING RESULTS.

REFER TO COMPONENTS LAYOUT LOCATED ON SHEET S-000 FOR NAMED PART CONFIGURATIONS.

ALL ISOMETRIC VIEWS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.
GENERAL NOTES

1. ALL STRUCTURAL MEMBERS FOR THIS PROJECT ARE TO BE FASTENED AT PRE-FABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

2. ALL DIMENSIONS ARE A REFERENCE ONLY. ALL STRUCTURAL MEMBERS WILL BE INTERLOCKING BASED ON THE INTER-COMMUNICATIONS SYSTEM INTERFACES.

3. REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS.

4. REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

MARK DATE DESCRIPTION

1. ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

2. ALL DIMENSIONS ARE FOR REFERENCE ONLY, ALL STRUCTURAL MEMBER LOCATIONS WILL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING.

3. REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS.

4. REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

1. BOX GIRDER WEB (A, B) SEE DETAIL A1/S-242

2. BOX GIRDER FRAMING (X, Y, Z) SEE DETAIL A2/S-242
GENERAL NOTES

1. ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PRE-FABRICATION NOTCHES WITH STAINLESS STEEL ZIP TIES. ZIP TIES TIGHTENED AND CUT (TYP.).

2. ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS LOCATIONS WILL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING.

3. GENERAL NOTES USE FOR STRUCTURAL ENGINEERING, CONSTRUCTION, AND TESTING RESULTS.

4. REFER TO COMPONENT LOCATION LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

5. ALL ISOMETRIC VIEWS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.

BOX GIRDER DETAIL

A1 BOX GIRDER WEB
A2 BOX GIRDER DETAIL
A3 BOX GIRDER ANCHOR PLATE
A4 BOX GIRDER WEB BRACE

ALL ISOMETRIC VIEWS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.
GENERAL NOTES

1. All structural members are to be fabricated of
2. All dimensions are for reference only. All structural
3. Refer to structural drawings, calculations, and testing results
4. Refer to component layout located on sheets
5. Refer to component layout located on sheets

ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES. ZIP TIES CAN BE TIGHTENED AND CUT (TYP.)
ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS WILL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING. REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS. REFER TO COMPONENT LAYOUT LOCATED ON SHEETS FOR FASTENING REQUIREMENTS.
GENERAL NOTES

1. All structural members are to be fastened at prefabricated notches with stainless steel zip ties. Use of the same tightened and cut (TYP).
2. All dimensions are for reference only. All structural member locations will be determined by structural system interlocking. Refer to project manual for structural diagrams, calculations, and testing results.
3. Refer to component layout located on sheets S-003 - S-005 for named part configurations.

1. [Notes]
2. [Notes]
3. [Notes]
4. [Notes]
GENERAL NOTES

1. ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.).

2. ALL DIMENSIONS ARE FOR REFERENCE ONLY. ALL STRUCTURAL MEMBERS ARE TO BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING. REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS.

3. REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS.

1. NORTH SHEATHING ELEVATION

2. EAST SHEATHING ELEVATION

3. SOUTH SHEATHING ELEVATION

4. WEST SHEATHING ELEVATION
GENERAL NOTES

1. All structural members are to be notched at interior structural notches. Refer to project manual for structural system.
2. All structural members are to be notched at interior structural notches. Refer to project manual for structural system.
3. All structural members are to be notched at interior structural notches. Refer to project manual for structural system.
4. All structural members are to be notched at interior structural notches. Refer to project manual for structural system.
5. All structural members are to be notched at interior structural notches. Refer to project manual for structural system.

MARK DATE DESCRIPTION

ALL STRUCTURAL MEMBERS ARE TO BE FASTENED AT PREFABRICATED NOTCHES WITH STAINLESS STEEL ZIP TIES, ZIP TIE GUN TIGHTENED AND CUT (TYP.)

ALL DIMENSIONS ARE FOR REFERENCE ONLY, ALL STRUCTURAL MEMBER LOCATIONS WILL BE DETERMINED BY STRUCTURAL SYSTEM INTERLOCKING

REFER TO PROJECT MANUAL FOR STRUCTURAL DIAGRAMS, CALCULATIONS, AND TESTING RESULTS

REFER TO COMPONENT LAYOUT LOCATED ON SHEETS S-003 - S-005 FOR NAMED PART CONFIGURATIONS

1. 
2. 
3. 
4. 
5. 
6.

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

1'-6"

0'-0"

1'-7 3/4"

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

1'-6"

0'-0"

1'-7 3/4"

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

1'-6"

0'-0"

1'-7 3/4"

TRANSVERSE STRUCTURAL FRAMING SECTION

LONGITUDINAL STRUCTURAL FRAMING SECTION

1/4" = 1'-0"

C3

A3

B3

S-411

B5

S-411

S-401
GENERAL NOTES

1. All structural members for the interior framing of prefabricated sections with fabricated steel I-JOIST TOP OF THE ALUMINUM REACTOR (TYP.) ALL ENGINERED AND FOR PERIODICAL INSPECTIONS INSPECTED/arb/ structural Punching Rigging ALL PLATING/ARB STRUCTURAL SYSTEMS ORLDING.

2. Refer to project manual for structural and fire engineering calculations and testing results to be performed.

3. Refer to component layout located on sheets R-003-R-005 for named part configurations.

4. Dimensions are for reference only, all structural member locations will be determined by structural system interlocking.

5. Refer to structural system interlocking.

6. Refer to component layout located on sheets R-003-R-005 for named part configurations.

7. All structural members are to be fastened at prefabricated notches with stainless steel zip ties, zip tie gun tightened and cut (TYP.).

8. Structural Wall Sections (3/4" = 1'-0"

WEST WALL FRAMING SECTION

SOUTH WALL FRAMING SECTION

NORTH WALL FRAMING SECTION

S-411
GENERAL NOTES

1. ALL DIMENSIONS ARE FOR REFERENCE ONLY. TOLERANCES SHOULD BE CONSIDERED.
2. ALL CONSTRUCTION SHOULD FOLLOW THE ASSEMBLY DIAGRAMS AND REQUIRE NO FIELD MEASUREMENTS, CUTTING, OR MODIFICATION.
3. ALL EXTERIOR DIMENSIONS ARE SHOWN TO EXTERIOR FACE OF FINISH SHEATHING.
4. ALL INTERIOR DIMENSIONS ARE SHOWN TO INTERIOR FACE OF STUD FLANGE.
5. ALL CABINET DIMENSIONS ARE TO THE OUTSIDE OF FINISH FACE. SEE A500 SERIES FOR CABINET DETAILS.
6. ALL DOORS AND WINDOWS ARE DIMENSIONED TO THEIR CENTERLINE. SEE DOOR SCHEDULE AND WINDOW DETAILS FOR MORE INFORMATION.
GENERAL NOTES

1. ALL DIMENSIONS ARE FOR REFERENCE ONLY.
2. ALL CONSTRUCTION SHOULD FOLLOW ASSEMBLY DIAGRAMS AND REQUIRE NO FIELD MEASUREMENTS, CUTTING, OR MODIFICATION.
3. ALL FIXTURES ARE SHOWN FOR REFERENCE ONLY AND DIMENSIONED FROM EDGE OF HOSTED CEILING PANEL. REFER TO ELECTRICAL DRAWINGS FOR FIXTURE TYPE AND CIRCUITING.
4. ALL MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY, REFER TO MECHANICAL DWGS FOR EQUIPMENT TYPE AND DUCTING.
5. ALL CEILING PANELS ARE TO BE INSTALLED PRIOR TO INSTALLATION OF CABINETRY.
6. ALL FIXTURES TO BE CENTERED WITHIN CEILING PANEL UNLESS OTHERWISE NOTED.
7. SCREW ATTACH ALL CEILING PANELS, TYP.

CENTER ALL FIXTURES WITHIN LIGHT SOURCE AT PORCH (TYP.)

RCP LEGEND

[Legend for RCP (Reflected Ceiling Plan) symbols]

BOX GIRDER, SEE STRUCTURAL

SUPPLY DIFFUSER AND GRILLE, SEE MECH.

5" UPLIGHT, SEE ELEC.

5" DOWNLIGHT, SEE ELEC.

MECHANICAL SUPPLY CHASE, SEE MECH.

9/16" CABINETRY PANEL INSET, SEE CABINET DRAWINGS

CNC CUT CEILING PANEL, SEE STRUCTURAL.

7" DOWNLIGHT, SEE ELEC.

52" CEILING FAN WITH LIGHT KIT, SEE ELEC.

52" CEILING FAN, SEE ELEC.

COVE DOWNLIGHTING, SEE ELEC.

COVE UPLIGHTING, SEE ELEC.

FIRE SPRINKLER HEAD, SEE FIRE PROTECTION.
1. ALL DIMENSIONS ARE FOR PHOTOVOLTAIC PANEL LAYOUT ONLY, SEE ELEC. DRAWINGS FOR TYPES. DIMENSIONS ARE SHOWN FROM EXTERIOR EDGE OF PHOTOVOLTAIC PANEL TO EXTERIOR FACE OF BUILDING ELEMENT.

2. ALL CONSTRUCTION SHOULD FOLLOW THE ASSEMBLY DIAGRAMS AND REQUIRE NO FIELD MEASUREMENTS. ONLY FIELD MEASUREMENTS TRANSFERRED ON LOCATION.

GENERAL NOTES
ENLARGED WASHROOM AND TOILET PLAN

TA-1
TOILET

TA-2
A

TA-2
5'-10 1/4"

1/2" CNC CUT PLYWOOD PANELS
IN INTERIOR WALLS (TYP.)

CNC CUT PLYWOOD CABINETRY (TYP.). SEE A500 SERIES FOR DETAILS.

 TA-3
5'-2 1/2"

CNC CUT PLYWOOD CABINETRY (TYP.). SEE A500 SERIES FOR DETAILS.

GENERAL NOTES

1. REFER TO PLUMBING SPECIFICATIONS FOR FIXTURE TYPES.

TOILET ACCESSORIES

TA-1
TOILET PAPER DISPENSER

TA-2
18" x 36" MIRROR

TA-3
SHOWER CURTAIN AND ROD

NOTE: REFER TO FULL SPECIFICATIONS FOR TOILET ACCESSORY PRODUCT SELECTION.
1. All PolyMetal Siding and Porch Screens to be prefolded off-site.
2. All PolyMetal Siding to be screw attached at predrilled holes then riveted at predrilled holes.
3. Siding is assembled from ground up. Ensure all wiring is installed prior to siding panels.
4. For door and window details, see A-401.
5. Roof slope to be 1:12 unless otherwise noted.

GENERAL NOTES

EXTERIOR ELEVATIONS

1/4" = 1'-0"

C1 NORTH ELEVATION

A2 EAST ELEVATION
GENERAL NOTES
1. ALL POLYMETAL SIDING AND PORCH SCREENS TO BE PREFOLDED OFF SITE.
2. ALL POLYMETAL SIDING TO BE SCREW ATTACHED AT PREDRILLED HOLES, THEN RIVETED AT PREDRILLED HOLES.
3. SIDING IS ASSEMBLED FROM GROUND UP. ENSURE ALL WIRING IS INSTALLED PRIOR TO SIDING PANELS.
4. ROOF SLOPES TO BE 1:12 UNLESS NOTED OTHERWISE.

A1 SOUTH ELEVATION

C1 WEST ELEVATION

PHOTOVOLTAIC PANELS, RACK MOUNTED (TYP.), SEE ELEC.
PHOTOVOLTAIC PANELS BEYOND, SEE ELEC.

PHOTOVOLTAIC PANELS, RACK MOUNTED (TYP.), SEE ELEC.

PHOTOVOLTAIC PANELS, RACK MOUNTED (TYP.), SEE ELEC.

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PHOTOVOLTAIC PANELS, RACK MOUNTED (TYP.), SEE ELEC.
GENERAL NOTES

1. ALL DIMENSIONS ARE FOR REFERENCE ONLY.
2. ALL CONSTRUCTION SHOULD FOLLOW THE ASSEMBLY DIAGRAMS AND REQUIRE NO FIELD MEASUREMENTS, CUTTING, OR MODIFICATION.
3. ALL INTERIOR DIMENSIONS ARE SHOWN FROM TOP OF SUBFLOOR TO CURVED WALL PANELS.
4. ALL PANELS ARE TO BE SCREW ATTACHED "A" SIDE OUT AT PREDRILLED SCREW HOLES.
5. FINISH FLOOR AND RUBBER BASE TO BE INSTALLED PRIOR TO PANEL INSTALLATION, TYP ALL WALLS.
6. ALL INTERIOR PANELS TO BE INSTALLED PRIOR TO INSTALLATION OF CABINETRY.
7. INTERIOR PANEL IDENTIFICATION NUMBERS SHOWN FOR REFERENCE, SEE STRUCTURAL.

INTERIOR PANEL LAYOUTS:

D1 NORTH WALL INTERIOR PANEL LAYOUT
D4 EAST WALL INTERIOR PANEL LAYOUT
B1 SOUTH WALL INTERIOR PANEL LAYOUT
B4 WEST WALL INTERIOR PANEL LAYOUT

SYSTEMS:
STRUCTURAL
MECHANICAL
ELECTRICAL
PLUMBING

CONSULTANTS:
TY MONKS | NISHKIAN MONKS
VINCENT BLOUIN | CLEMSON

TEAM NAME:
TEAM CLEMSON
INDIGOPINE2015@GMAIL.COM
INDIGOPINE.COM

ARCH STUDIO
DAN HARDING
LEE HALL
CLEMSON, SC
29632

IID DATE DESCRIPTION

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A-213
GENERAL NOTES

1. Notes 1 through 7 apply to all sheets unless otherwise noted. Explanations of symbols are given on Sheet A-301.

2. Diagrams and require no field measurements, cutting, or modification. Utilize prefabricated connections, zip tie holes, and openings for assembly.

3. Insulation is installed. TYP.

4. Solar envelope, photovoltaic panels, rack mounted (TYP.), see Elec.

5. Curtain walls, track mounted sliding screen beyond.

6. Metal deck, fibergrating beyond window trim and shade, reinforced and grouted at anchoring points (at perimeter). Side stacked CMU @ 8" CMU, 1/4" = 1'-0" compact earth, F.V.

7. Alpine roof, PBR metal roofing panels screw attached to 2x4 exterior grade wood joists at 12" O.C. on double exterior grade 2x8 wood beam, bolt attached to exterior grade 4x4 posts.

NOTES

1. Width of roof overhang:

2. Width of foundation overhang:

3. Width of wall overhang:

4. Width of floor overhang:

5. Width of cabinet overhang:

6. Width of partition overhang:

7. Width of porch overhang:

SHEET NOTES

PHOTOVOLTAIC PANEL PACK MOUNTED ON 3/4" CNC CUT PLYWOOD.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

POLYMETAL SIDING SCREW ATTACHED.

1/8" CNC CUT METAL 

SCREEN BEYOND MILLWORK.

1/2" CELLULOSE BATT INSULATION. 1/2" CNC CUT FINISH GRADE PLYWOOD PANELS ON INTERIOR SIDE AND 7/16" HUBER ZIP SYSTEM TOGETHER AT ALL SEAMS. 1/8" CNC CUT POLYMETAL WINDOW TRIM AND SHADE, REINFORCED AND GROUTED AT ANCHORING POINTS (AT PERIMETER). SIDE STACKED CMU @ 8" CMU, 1/4" = 1'-0" COMPACT EARTH, F.V.

MECHANICAL EQUIP.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

ASPHALT PAVING, F.V.

DEAD LOAD, F.V.

SUBFLOOR

GRADE LEVEL

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

SOLAR ENVELOPE

SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

NOTES

1. Width of roof overhang:

2. Width of foundation overhang:

3. Width of wall overhang:

4. Width of floor overhang:

5. Width of cabinet overhang:

6. Width of partition overhang:

7. Width of porch overhang:

SHEET NOTES

PHOTOVOLTAIC PANEL PACK MOUNTED ON 3/4" CNC CUT PLYWOOD.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

POLYMETAL SIDING SCREW ATTACHED.

1/8" CNC CUT METAL 

SCREEN BEYOND MILLWORK.

1/2" CELLULOSE BATT INSULATION. 1/2" CNC CUT FINISH GRADE PLYWOOD PANELS ON INTERIOR SIDE AND 7/16" HUBER ZIP SYSTEM TOGETHER AT ALL SEAMS. 1/8" CNC CUT POLYMETAL WINDOW TRIM AND SHADE, REINFORCED AND GROUTED AT ANCHORING POINTS (AT PERIMETER). SIDE STACKED CMU @ 8" CMU, 1/4" = 1'-0" COMPACT EARTH, F.V.

MECHANICAL EQUIP.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

ASPHALT PAVING, F.V.

DEAD LOAD, F.V.

SUBFLOOR

GRADE LEVEL

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

SOLAR ENVELOPE

SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

NOTES

1. Width of roof overhang:

2. Width of foundation overhang:

3. Width of wall overhang:

4. Width of floor overhang:

5. Width of cabinet overhang:

6. Width of partition overhang:

7. Width of porch overhang:

SHEET NOTES

PHOTOVOLTAIC PANEL PACK MOUNTED ON 3/4" CNC CUT PLYWOOD.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

POLYMETAL SIDING SCREW ATTACHED.

1/8" CNC CUT METAL 

SCREEN BEYOND MILLWORK.

1/2" CELLULOSE BATT INSULATION. 1/2" CNC CUT FINISH GRADE PLYWOOD PANELS ON INTERIOR SIDE AND 7/16" HUBER ZIP SYSTEM TOGETHER AT ALL SEAMS. 1/8" CNC CUT POLYMETAL WINDOW TRIM AND SHADE, REINFORCED AND GROUTED AT ANCHORING POINTS (AT PERIMETER). SIDE STACKED CMU @ 8" CMU, 1/4" = 1'-0" COMPACT EARTH, F.V.

MECHANICAL EQUIP.

MOUNTED ON 3/4" CNC CUT PLYWOOD.

ASPHALT PAVING, F.V.

DEAD LOAD, F.V.

SUBFLOOR

GRADE LEVEL

SOLAR ENVELOPE

TOP OF SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

SOLAR ENVELOPE

SUBFLOOR

GRADE LEVEL

BASEMENT

FOUNDATION

NOTES

1. Width of roof overhang:

2. Width of foundation overhang:

3. Width of wall overhang:

4. Width of floor overhang:

5. Width of cabinet overhang:

6. Width of partition overhang:

7. Width of porch overhang:
## DOOR AND FRAME SCHEDULE

<table>
<thead>
<tr>
<th>PANEL TYPES</th>
<th>FRAME TYPES</th>
<th>WINDOW TYPES</th>
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<td>TYPE &quot;A&quot;</td>
<td>TYPE &quot;B&quot;</td>
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<tr>
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<th>FRAME WIDTH</th>
<th>WINDOW HEAD, JAMB, AND SILL DETAILS</th>
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<tr>
<td>3'-0&quot;</td>
<td>1 3/4&quot;</td>
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<tr>
<td>4'-0&quot;</td>
<td>1 1/8&quot;</td>
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<td>5'-0&quot;</td>
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### Door, Window, & Frame Types

#### DOOR HEAD, JAMB, AND SILL DETAILS

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</tr>
<tr>
<td>5'-0&quot;</td>
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### General Notes

- Head, jamb, and sill details shown for reference only. Coordinate with drawings.
- Reference only. Structures, window types, colors, materials, and finishes required in structural design.
1. All non-cove lighting fixtures to be installed off-site in prefabricated fixture mounting points.

2. All cove lighting shall be installed on site prior to anchoring of cabinetry soffit boxes.

3. See elevation drawings for fixture types and circuitry.

GENERAL NOTES:

- All non-cove lighting fixtures to be installed off-site in prefabricated fixture mounting points.
- All cove lighting shall be installed on site prior to anchoring of cabinetry soffit boxes.
- See elevation drawings for fixture types and circuitry.

RCP LEGEND:

- RCP: CABINETRY PANEL, SEE CABINET DRAWINGS
- RCP: MACHINERY RCP, SEE MECH.
- RCP: 5" UPLIGHT, SEE ELEC.
- RCP: 5" DOWNLIGHT, SEE ELEC.
- RCP: MECHANICAL SUPPLY CHASE, SEE MECH.
- RCP: 9/16" CABINETRY PANEL INSET, SEE CABINET DRAWINGS
- RCP: CNC CUT CEILING PANEL, SEE STRUCTURAL.
- RCP: 7" DOWNLIGHT, SEE ELEC.
- RCP: 52" CEILING FAN, SEE ELEC.
- RCP: COVE DOWNLIGHTING, SEE ELEC.
- RCP: COVE UPLIGHTING, SEE ELEC.
- RCP: FIRE SPRINKLER HEAD, SEE FIRE PROTECTION.

CABINETRY REFLECTED CEILING PLAN

B2
1. All structure, interior finish paneling, and ceiling paneling must be installed prior to installation of cabinetry.
2. All cabinets and doors prefabricated off-site and installed as units at prefabricated tabs in subflooring.
3. Prefabricate and install as much plumbing and electrical elements off-site.
4. Provide any junction boxes and wire extensions as required to utilize cabinets and integrate with main wiring.
5. All dimensions are for reference only, dimensions will be predetermined by cut pieces.
6. All cabinets to be finished off-site prior to installation, no wet finish products on site.

GENERAL NOTES

KITCHEN CABINET SECTION
LIVING ROOM CABINET SECTION
CLOSET CABINET SECTION
**GENERAL NOTES**

1. **ALL WORK TO BE PERFORMED BY QUALIFIED PERSONS ONLY.**
2. **ALL SYSTEMS, FIXTURES, AND PIPING TO COMPLY WITH NFPA 13-D.**
3. **ALL SPRINKLER HEADS TO BE LOCATED AT THE LOWERMOST CEILING LEVEL IMMEDIATELY ADJACENT TO OCCUPIED SPACES.**
4. **HOME HYDRANT SYSTEM CONTAINS FIRE WATER TANK, PUMP, AND RISER. SEE F-102 AND SPECS.**
5. **ALL EXTERIOR PLUMBING TANKS, PUMPS, AND FIXTURES SHALL BE ENCLOSED TO PREVENT ALL UV EXPOSURE. ACCESS SHALL BE GRANTED BY REMOVABLE PANELS. SEE ARCHITECTURAL DRAWINGS.**

---

**FIRE SPRINKLER SYSTEM**

**FIRE SPRINKLER SYSTEM - ISOMETRIC**
GENERAL NOTES
1. ALL WORK TO BE PERFORMED BY QUALIFIED PERSONS ONLY.
2. ALL SYSTEMS, FIXTURES, AND PIPING TO COMPLY WITH NFPA 13D.
3. ALL SPRINKLER HEADS TO BE LOCATED AT THE LOWERMOST CEILING LEVEL IMMEDIATELY ADJACENT TO OCCUPIED SPACES.
4. HOME HYDRANT SYSTEM CONTAINS FIRE WATER TANK, PUMP, AND RISER. SEE F-102 AND SPECS.
5. ALL EXTERIOR PLUMBING TANKS, PUMPS, AND FIXTURES SHALL BE ENCLOSED TO PREVENT ALL UV EXPOSURE. ACCESS SHALL BE GRANTED BY REMOVABLE PANELS. SEE ARCHITECTURAL DRAWINGS.
6. ALL COVERAGE BASED ON MANUFACTURER SPECIFICATIONS AND MUST BE FOLLOWED DURING INSTALLATION.

LEGEND
- FIRE WATER DISTRIBUTION AREA

FIRE SPRINKLER COVERAGE

HOME HYDRANT
NFPA-13D Packaged Residential Fire Pump & Tank
HH3-150C
400GPM @ 40PSI

- 250 Gallon Water Tank
  1. Tank Drain 1/2" (GHT)
  2. Overflow Fitting 1" (NPT)
  3. Auto-Off Valve 1/2" (NPT)

- 1.5HP Electric Motor
  240 Volt Single-Phase 8.1 Amp (Full Load)

- 1.5" Discharge (NPT)
  Smart Riser Control System
  1. Isolation Ball Valve
  2. Test Line/System Drain
  3. 40-60 Pressure Switch
  4. Pressure Gauge
  5. Flow Switch
  6. Discharge Check Valve
  7. Suction Shut-off Valve

HOME HYDRANT LAYOUT
GENERAL NOTES

1. ALL WORK TO BE PERFORMED BY QUALIFIED PERSONS ONLY.
2. ALL FIRE PROTECTION SYSTEMS, FIXTURES, AND PIPING TO COMPLY WITH NFPA 13-D.
3. HOME INTEGRITY SYSTEM CONTAINS FIRE WATER TANK, PUMP, AND RISER. SEE ARCHITECTURAL DRAWINGS.
4. ALL EXTERIOR PLUMBING TANKS, PUMPS, AND FIXTURES SHALL BE ENCLOSED TO PREVENT ALL UV EXPOSURE. ACCESS SHALL BE GRANTED BY REMOVABLE PANELS.
5. SEE WATER BUDGET FOR SPECIFIC FILL QUANTITIES, FIELD VERIFY CAPACITY, AND FILL LEVELS.
6. ALL EXTERIOR PLUMBING ISOMETRIC VIEWS ARE REPRESENTATIONAL ONLY. ALL HARD PIPING SHOULD BE INSTALLED IN PRECUT HOLES. ALL CPVC MUST BE INSTALLED THROUGH PREASSEMBLED CHASES WITHIN THE CABINETS.
PLUMBING SITE PLAN

LOT 106: CLEMSON UNIVERSITY

GENERAL NOTES
1. ALL WORK TO BE PERFORMED BY QUALIFIED PERSONS ONLY.
2. ALL FIRE PROTECTION SYSTEMS, FIXTURES, AND PIPING TO COMPLY WITH NFPA 13-D.
3. HOME HYDRANT SYSTEM INCLUDES FIRE WATER TANK, PUMP, AND RISER. SEE F-102 AND SPECS.
4. ALL EXTERIOR PLUMBING TANKS, PUMPS, AND FIXTURES SHALL BE ENCLOSED TO PREVENT ALL UV EXPOSURE. ACCESS SHALL BE PROVIDED BY REMOVABLE PANELS. SEE ARCHITECTURAL DRAWINGS.
5. SEE WATER BUDGET FOR SPECIFIC FILL QUANTITIES, FIELD VERIFY CAPACITY, AND FULL LEVELS.

EQUIPMENT LEGEND
1. DOMESTIC SUPPLY TANK, 1065 GALLON CAPACITY FOR COMPETITION PURPOSES ONLY
2. DOMESTIC SUPPLY PUMP, 1 HP, FOR COMPETITION PURPOSES ONLY
3. SEWAGE WASTE TANK, 525 GALLON CAPACITY
4. SEWAGE WASTE GRINDER AND PUMP, SEE SPECS.
5. HOME HYDRANT INTEGRATED TANK, PUMP, AND RISER, 350 GALLON CAPACITY, SEE F-102 AND SPECS

DOMESTIC WATER SUPPLY/SEWAGE RETURN

P-101
1. DOMESTIC WATER SUPPLY TANK
2. SEWAGE RETURN TANK
3. DOMESTIC WATER SUPPLY PUMP
4. SEWAGE RETURN PUMP
5. TOILET
6. SHOWER
7. BATHROOM SINK
8. HOT WATER HEATER
9. WASHER/DRYER
10. KITCHEN SINK
11. DISHWASHER
12. REFRIGERATOR

GENERAL NOTES
1. ALL WORK TO BE PERFORMED BY QUALIFIED PERSONS ONLY.
2. ALL FIRE PROTECTION SYSTEMS, FIXTURES, AND PIPING TO COMPLY WITH NFPA 13-D.
3. HOME HYDRANT SYSTEM CONTAINS FIRE WATER TANK, PUMP, AND RISER. SEE F-102 AND SPECS.
4. ALL EXTERIOR PLUMBING TANKS, PUMPS, AND FIXTURES SHALL BE ENCLOSED TO PREVENT ALL UV EXPOSURE. ACCESS SHALL BE GRANTED BY REMOVABLE PANELS. SEE ARCHITECTURAL DRAWINGS.
5. SEE WATER BUDGET FOR SPECIFIC FILL QUANTITIES. FIELD VERIFY CAPACITY AND FILL LEVELS.
6. ALL SUPPLY LINES SHOWN DIAGRAMMATICALLY. ALL CPVC MANSION THROUGH PREBUILT CABINET CHASES AND SECURED EVERY 3'-0" MIN. ALL CONNECTORS MUST BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.

FIXTURE LEGEND
1. DOMESTIC WATER SUPPLY TANK
2. SEWAGE RETURN TANK
3. DOMESTIC WATER SUPPLY PUMP
4. SEWAGE RETURN PUMP
5. TOILET
6. SHOWER
7. BATHROOM SINK
8. HOT WATER HEATER
9. WASHER/DRYER
10. KITCHEN SINK
11. DISHWASHER
12. REFRIGERATOR

PLUMBING FIXTURE AND SUPPLY PLAN

MECHANICAL ROOM ISOMETRIC

MANIFOLD LAYOUT

COLD WATER TO MANIFOLD
CPVC MANIFOLD, SEE SPECS
COLD WATER TO MANIFOLD
2" VENT STACK, SEE ISO
HOT WATER TO MANIFOLD
MANSION/DRUIN DRAIN AND SUPPLY
HOT WATER HEATER, SEE SPECS
MANIFOLD, SEE BY PVC AND SPECS

3/8" = 1'-0"

P-102

P-102

P-102

P-102

P-102

P-102

P-102
THE 4 DOMESTIC WATER AND 2 SEWAGE WATER TANKS WILL BE SHADED BY A FABRICATED WOODEN BOX.

GENERAL NOTES

A2
SEWAGE WATER COLLECTION

B2
SEWAGE WATER COLLECTION

VENT PIPE

DRAIN PIPE

VENT RISER ABOVE ROOF LEVEL

VENT THROUGH NORTH WALL

VENT ROOF ABOVE ROOF LEVEL

SEWAGE WATER COLLECTION PLAN AND ISOMETRIC

P-103
GENERAL NOTES

1. All linear runs of duct shall be 1 1/2" fiberglass duct board, all edges and connections to be foil taped.

2. All Damper "T" junctions and angles shall be CNC cut, riveted, and taped on each edge and connection.

3. All return and distribution grilles shall be milled directly into wall and ceiling panels, see Arch drawings.

4. All duct work shall be surrounded in 5 1/2" cellulose batt insulation.

5. All duct work or junctions that come in contact with or near structural elements shall be padded with 1" foam mat, cut to fit.

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### Mechanical Schedule

#### Transitions

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**SEE DIAGRAM 2 / M601 FOR CLARIFICATION.**
GENERAL NOTES

1. ALL LINEAR RUNS OF DUCT SHALL BE 1 1/2" FIBERGLASS DUCT BOARD, ALL EDGES AND CONNECTIONS TO BE FOIL TAPED.
2. ALL DAMPENER "T" JUNCTIONS AND ANGLES SHALL BE 1/8" CNC CUT ACM, RIVETED, AND TAPED ON EACH EDGE AND CONNECTION.
3. ALL RETURN AND DISTRIBUTION GRILLES SHALL BE MILLED DIRECTLY INTO WALL AND CEILING PANELS, SEE ARCH DRAWINGS.
4. ALL DUCT WORK SHALL BE SURROUNDED IN 5 1/2" CELLULOSE BATT INSULATION.
5. ALL DUCT WORK OR JUNCTIONS THAT COME IN CONTACT WITH OR NEAR STRUCTURAL ELEMENTS SHALL BE PADDED WITH 1" FOAM MAT, CUT TO FIT.
1. All linear runs of duct shall be 1 1/2" fiberglass duct board, all edges and connections to be foil taped.

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3. All return and distribution grilles shall be milled directly into wall and ceiling panels, see arch drawings.

4. All duct work shall be surrounded in 5 1/2" cellulose batt insulation.

5. All duct work or junctions that come in contact with or near structural elements shall be padded with 1" foam mat, cut to fit.

**MECHANICAL DISTRIBUTION PLAN**

**GENERAL NOTES**
SEE ROOF PLAN (A-113) FOR PANEL LAYOUT DIMENSIONS.

ALL EQUIPMENT RECEIVED MUST BE EARTHLED PER MANUFACTURER SPECIFICATIONS AND DRAWINGS.

ALL WIRING TO THE PANELS SHALL BE 6AWG MIN. GROUND UNLESS OTHERWISE NOTED.

SEE SPECIFICATIONS FOR MANUFACTURER INFORMATION

GENERAL NOTES

EQUIPMENT

PHOTOVOLTAIC PANELS

- SOLARWORLD - SUNMODULE PLUS SW 285 MONO
- MICROINVERTER - ENPHASE M250

ANGLE: 14.8 DEG SOUTHWARD FACING
COUNT: 29

EQUIPMENT

PHOTOVOLTAIC PANELS

- SOLARWORLD - SUNMODULE PLUS SW 285 MONO
- MICROINVERTER - NONE

ANGLE: 14.8 DEG SOUTHWARD FACING
COUNT: 5

EQUIPMENT

PHOTOVOLTAIC PANELS

- SOLARWORLD - SUNMODULE PLUS SW 285 MONO
- MICROINVERTER - ENPHASE M250

ANGLE: 14.8 DEG SOUTHWARD FACING
COUNT: 29

WIRE TYPES (WT-##)

- ENPHASE ET10-240 BULK TRUNK CABLE
NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01
- 10 AWG MC4 EXTENSION WIRE
TYPE: PV WET TYPE W/ UV RES. COATING
- 6AWG MIN. GROUND
TYPE: THWN
NOTE: 1 3/4" PVC CONDUIT UNTIL HOUSE ENTRY
- 10-2 WITH GROUND
TYPE: THWN
- 4/0-4/0-4/0
TYPE: ALUMINUM SERVICE ENTRY CABLE
NOTE: MIN 10'-0" EXTENSION FOR CONNECTION
- 10-3 WITH GROUND
TYPE NM-B
SEE SHEET E-113, E-114, E-115, OR E-116 FOR INTERIOR WIRING TYPES

ACXIS EN-240 AC JUNCTION BOX
SOLADECK DC JUNCTION BOX
BREAKER TYPE AC COMBINER BOX W/ LOCKOUT POINT
NOTE: MIN 20 AMP BREAKER EACH SERIES
SWITCH TYPE DC CURRENT DISCONNECT
DC JUNCTION BOX IN MECHANICAL CLOSET
THERMALUX DC WATER HEATER, SEE A3 / E-112
MAIN ELECTRICAL PANEL, SEE A5 / E-112
ELECTRICAL METER, 200A SERVICE DISCONNECT AND LOCK OUT PROVIDED. D.O.E FURNISHED
BOSCH 240V EL-51254 CHARGING STATION EVSE
WATTAGE: 7200W

1.
2.
3.
4.
SEE SHEET E-112 FOR CONTINUATION

PHOTOVOLTAIC WIRING PLAN

GENERAL NOTES

1. ALL PHOTOS WERE INSTALLED ON SCHLTER FIXZ-7 RACKING SYSTEM WITH EQUIPMENT GROUND.

2. All wiring for this plan shall be Type WT-01 UNLESS OTHERWISE NOTED.

3. SEE SPECIFICATIONS FOR MANUFACTURER INFORMATION.

PHOTOVOLTAIC PANELS

TYPE A: SolarWorld SUNMODULE PLUS SW 285 MONO TYPE B: SolarWorld SUNMODULE PLUS SW 285 MONO

EQUIPMENT

E-EQ01: ACXIS EN-240 AC JUNCTION BOX
E-EQ02: SOLADECK DC JUNCTION BOX
E-EQ03: BREAKER TYPE AC COMBINER BOX W/ LOCKOUT POINT
E-EQ04: DC JUNCTION BOX IN MECHANICAL CLOSET
E-EQ05: THERMALUX DC WATER HEATER, SEE A3 / E-112
E-EQ06: ELECTRICAL METER, 200A SERVICE DISCONNECT AND LOCK OUT/PROGRESS 500 SERIES
E-EQ07: MAIN ELECTRICAL PANEL, SEE A5 / E-112

E-EQ08: ELECTRICAL METER, 200A SERVICE DISCONNECT AND LOCK OUT/PROGRESS 500 SERIES
E-EQ09: MAIN ELECTRICAL PANEL, SEE A5 / E-112

WIRE TYPES (WT-##)

WT01: GAUGE: 10 AWG MC4 EXTENSION WIRE TYPE: PV WET TYPE W/ UV RESISTANT COATING WT02: GAUGE: 10-2 WITH GROUND TYPE: THWN

WT03: GAUGE: 4/0-4/0-4/0 TYPE: ALUMINUM SERVICE ENTRY CABLE

WT04: GAUGE: 10-3 WITH GROUND TYPE: NM-B

WT05: SEE SHEET E-113, E-114, E-115, OR E-116 FOR INTERIOR WIRING TYPES

NOTES:

1. GENERAL NOTES
2. TYPE A:
3. TYPE B:
GENERAL NOTES

TYPE A: SOLARWORLD - SUNMODULE PLUS SW 285 MONO MICROINVERTER

COUNT: 29

TYPE B: SOLARWORLD - SUNMODULE PLUS SW 285 MONO MICROINVERTER

COUNT: 5

EQUIPMENT

PHOTOVOLTAIC PANELS

ACXIS EN-240 AC JUNCTION BOX

SOLADECK DC JUNCTION BOX

BREAKER TYPE AC COMBINER BOX W/ LOCKOUT POINT

NOTE: MIN 20 AMP BREAKER EACH SERIES

SWITCH TYPE DC CURRENT DISCONNECT

DC JUNTION BOX IN MECHANICAL CLOSET

THERMALUX DC WATER HEATER, SEE A3 / E-112

MAIN ELECTRICAL PANEL, SEE A5 / E-112

ELECTRICAL METER, 200A SERVICE DISCONNECT AND LOCK OUTPROVIDED. DOE FURNISHED

NOTE: 1 3/4" PVC CONDUIT UNTIL HOUSE ENTRY

CONDUIT: 3/4" PVC CONDUIT

GAUGE: 10-3 W/ GROUND

TYPE NM-B

SEE SHEET E-113, E-114, E-115, OR E-116 FOR INTERIOR WIRING TYPES

WIRE TYPES (WT-##)

WT01: TYPE: PV WET TYPE W/ UV RES. COATING

GAUGE: 6-3 WITH GROUND

TYPE: THWN

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT02: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT03: GAUGE: 4/0-4/0-4/0

TYPE: ALUMINUM SERVICE ENTRY CABLE

NOTE: MIN 10'-0" EXTENSION FOR CONNECTION

WT04: GAUGE: 10-3 W/ GROUND

TYPE: NM-B

SEE SHEET E-113, E-114, E-115, OR E-116 FOR INTERIOR WIRING TYPES

WT05: TYPE: THWN

NOTE: MIN 10'-0" EXTENSION FOR CONNECTION

WT06: 10-2 WITH GROUND

TYPE: THWN

GAUGE: 10-2 WITH GROUND

TYPE: THWN

GAUGE: 10-3 W/ GROUND

TYPE NM-B

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT07: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT08: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT09: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT10: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT11: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT12: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT13: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT14: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT15: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT16: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT17: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT18: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT19: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT20: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT21: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT22: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT23: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT24: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT25: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT26: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT27: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT28: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT29: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT30: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT31: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT32: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT33: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT34: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT35: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT36: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT37: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT38: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT39: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

WT40: GAUGE: 10 AWG MC4 EXTENSION WIRE

TYPE: PV WET TYPE W/ UV RES. COATING

NOTE: 1 3/4" PVC CONDUIT AFTER E-EQ01

AC IN - 120V

DC IN - 24V

DC OUT - 120V

AC OUT - 120V

NOTES

A4

A5

E-112

ELEVATIONS AND DIAGRAMS

ELECTRICAL

DIAGRAMS

8/17/2015 5:00:19 PM

DDP DESIGNED TO PUBLIC DOMAIN
1. ALL WIRING, THIS PLAN ONLY, SHALL BE 14-3 WITH GROUND NM-B UNLESS OTHERWISE NOTED.
2. ALL EXTERIOR CIRCUITS REQUIRE WET TYPE WIRE.
3. ALL MOUNTING HEIGHTS ARE PREDETERMINED BY STRUCTURAL SYSTEM INTERIOR FLANGE CUTS OR CABINETRY PANELING CUTS. SEE STRUCTURAL.
4. ALL RECEPTACLE LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHOULD BE INSTALLED AT THE NEAREST STRUCTURAL SYSTEM FLANGE CUT OR CABINETRY PANELING CUT.
5. PROVIDE JUNCTION BOXES AT ALL CONNECTIONS FROM CABINETRY TO MAIN STRUCTURE.
1. ALL SMOKE DETECTORS MUST BE TESTED PRIOR TO INTRODUCTION TO SERVICE BY A QUALIFIED PERSON.
2. OWNER TO PROVIDE COMPUTER FOR LOW VOLTAGE DISPLAY AND INTERFACE.
3. ALL EQUIPMENT LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHOULD BE INSTALLED AT THE NEAREST STRUCTURAL SYSTEM FLANGE CUT OR CABINETRY PANELING CUT. SEE ARCH DWGS.
4. ALL WIRE SHALL BE 18-7 AWG NM-B LOW VOLTAGE WIRE UNLESS OTHERWISE NOTED.
5. SEE SPECIFICATIONS FOR LOW VOLTAGE SYSTEMS NARRATIVE AND FUNCTION.

EQUIPMENT

MICROCONTROLLER: Arduino Mega 2560 Microcontroller
QUANTITY: 1

SENSOR PLATE:
- DS18B20 Digital Temperature Sensor
- DHT11 Temperature-Humidity Sensor
- GL5549 Photocell Light Sensitive Resistor
- HC-SR501 Adjustable Pyroelectric Infrared PIR Motion Sensor
QUANTITY: 5

SMOKE DETECTOR:
- Kidde Battery Wireless Smoke Alarm
QUANTITY: 5
### Dwelling Unit Electric Service Load Calculation

**General Lighting:**
- Total lighting area, including general space, adaptable for future use.
  - First Floor Area: 500 ft²
  - Second Floor Area: 500 ft²

**Small Appliance Load:**
- Total 100% load for each 20 amp branch circuit, per NEC Section 210.12(C)(2), for kitchen, pantry, bathroom, laundry, dining room, or office areas.
  - Small Appliance Branch Circuits = 15
  - Total Small Appliance Demand = 1,500 VA

**Laundry Load:**
- Total 100% load for each 20 amp branch circuit, for laundry, bathroom, or office area.
  - Laundry Branch Circuits = 1
  - Total Laundry Demand = 1,000 VA

**Lighting Load Factor Demand Factors:**
- For 200% load at 50%, Full load at 100%, over 150% at 15%
  - Full load at 100% = 1,000 VA
  - Over 150% at 15% = 150 VA

**Total General Lighting & Appliance Load = 2,500 VA**

**Electric Clothes Dryers:**
- Electric clothes dryer, 120V, 3kW, 20amp, NEMA 14-20R.
  - Electric Clothes Dryer = 3kW

**Electric Baseboards:**
- Electric baseboards, 120V, 1kW, 20amp, NEMA 14-20R.
  - Electric Baseboard = 1kW

**Non-Connected Loads:**
- Load = Baseboard heat at 120V.
  - Baseboard Heat = 1kW

**Appliance Load-Dwelling Unit:**
- Total Appliance Demand Load = 3,000 VA

**Water Heaters:**
- Load = 15kW, 20amp.

**Total Connected Appliance Load = 3,150 VA**

**Total Electrical Load:**
- Load = 3,150 VA

**Total Meter Load:**
- Load = 3,150 VA

**MMPH Industrial Load:**
- Load = 3,150 VA