Prince George Template

Bowie, Glenarden, Gaithersburg, Montgomery, Prince George, Rocklerville

Choose Template

* Use MD Prince George Template and begin excel as normal.
  + Site near photo must include the property lines. (#1- Site Near)

Cad

* Design customer’s house as normal- Panel count, meters, and labels
* Draw out the property lines and driveway. The driveway and property lines will not need labels as these are in paper space (#2- Property Lines)
* Look at either the Engineer letter or Structural site visit action items for structural information. (#3- Structural Info)
* It is easier to have the example from cad next to the customers drawing because it will be used to match properties (this is for the layers to work properly within each view port) (#4- Example)
* Match properties to the property lines, driveway, and the equipment block (the equipment will not look like it does anything but it this will remove the block form the structural view port) (#5-Matched Properties)

Dimensions – Can be done either before the railings, rafters and footings or after (#6 -Dimensions)

* Each array needs to be dimensioned the length of the roof and length of the panel array
* Then dimensioned again the width of the roof and width of the panel array.
* Match property to these dimensions so they will appear of the correct view ports. Make sure they are close to your roof if multiple roofs. (do not worry about overlapping the equipment, equipment will not show in the same view if you match properties correctly)

Rafters

* Pick the rafter size that suits your job. Start at the top corner of each roof plane and place racking (#7- Rafter Location)
* Either eye ball it or you can draw a line at the end of the house to the next rafter as a reference point. This is to determine the midpoint of the rafter spacing (#8-Reference Pont). Make sure to delete your reference points
* Move entire set of rafters to the middle of the line you drew (or spacing available) and then erase the line you drew as a reference point. (#9- Rafter Spacing)
* Once rafters are moved the extra rafters outside the customer’s roof can be deleted (#10- Removing Rafters) and remaining rafters stretched to the roof planes. This will have to be done for each roof with panels. Roofs not containing panels do not need rafters. (#11- Rafters)

Panel placement

* After all the rafters are on look closely at each array and make sure all the rafters sit comfortable on the panels. (Rafter lines must be at least far enough away from the panel edges for the footings to sit) (#13 -Rafters on Panels)
* Single panels must have two rafters. (#14 - Panels)

Railing (#15- Details)

* Either eyeball ¼” or on one side of each panel draw a line as a place marker to the middle of the panel and again from the middle to the bottom. (#16 -Panel Reference) Make sure to delete your reference points
* The midpoints of these two lines will determine the placement for the railing (#17- Railing).
* Railings do not have to be far over the edge of the panel just enough to show that it will overhang (Easiest way is to place the racking at the edge of the panel and move it over from the interior line) (#18- Railing Reference)
* Railings can be copied from base points to the next row of panels on the same roof plane (railings will have to be done for each roof plan with panels due to pitch change, the railing location will change on panels) (#19- Railing Overhang) should look like (#20- Before Trim)
* Using the rectangle tool to trim will help get rid of railing in between panels without ruining the rafters or making extra sets of racking. (#21- Removing Railings) Make boxes close to the panels but leave room for railing to overhang still. Highlight rectangle and trim out railings make sure to leave rafters (#22- Removed Railings)
* Make sure to delete your reference points (#23- Remove Reference)

Footings

* At the top Left corner of each array take an automated footing detail and place it at the cross point of the rail and rafter location. (#24- Footing Placement)
* The automated foot details pull to the correct spacing needed. Footings are every 48”and every rafter needs a foot. (#25- Spacing)
* The next row of footings place one rafter over and continue that back and forth pattern. (#26- Row) if you are 16” o.c. there are three rows down before you begin at the first rafter again Multiple arrays on the same roof plane need to show continuous footings between the arrays (#27- Footings)
* Pull the footings all the way across then explode to delete the extra feet not on panels. (#28- Explode Feet)
* When you look at the array you will be able to see a diagonal line of footings from the top left corner of the array to the bottom row of panels (#29- Diagonal)
* Every panel at the end of a railing needs extra footings. Place a foot at the end of each panel railing if not already there (#30- End Feet)

Dimensions – If not done already (#6 -Dimensions)

* Each array needs to be dimensioned the length of the roof and length of the panel array
* Then dimensioned again the width of the roof and width of the panel array.
* Match property to these dimensions so they will appear of the correct view ports. Make sure they are close to your roof if multiple roofs. (do not worry about overlapping the equipment, equipment will not show in the same view if you match properties correctly)

3 Details (#31- Details)

* First details is either 2’ or 1’6” typical and it is this detail shows the distance between two feet (#32- Detail 1&2)
* Second detail is 12” max which indicates the spacing from the bottom of the panel to the railing (#33- Detail 1&2)
* Third detail is 12” which indicates the spacing from the foot to the edge of the panel (#34- Detail 3)
  + These 12” details indicate the distance from the foot to the edge of the panel

(#35- Finished Details/Drawing)

Structural (#36- Structural)

* Under the racking detail there is a space for a structural detail this will have to be changed and filled in properly depending on the information provided in the engineer letter (#37- Move)

3 lines (#38- Inverter)

* Maryland job needs an extra grounding rod attached to the inverter
* Maryland jobs do not get electrical reviews, they are pushed through without any new equipment

Pages

* Cover page- in the yellow box change from snap n rack to unirac also if back feed breaker or line tap (#39- Cover Page)
* Plot plan- you will see that the view port takes away certain details. Zoom in to see the property lines and use all the labels off to the side (#40- Plot Plan)
* Layout page is as usual. Do not need labels on side (#41- Layout Page)
* Structural tab is where you will see all your rafters, rails, and feet. You will notice the panels are also blue and the equipment block does not appear on this page (#42- Structural Page)

Designs are completed Congrats