



ENGINEERING
& SURVEY INC.



CHARLTON, MA

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March 8, 2021

Leicester Planning Board
Town of Leicester
3 Washburn Square
Leicester, MA 01524

**Subject: 124 Green Street
Marijuana Outdoor Cultivator
Special Permit/Site Plan Review**

To the Board:

Please find this response letter to Quinn Engineering, Inc. review dated March 3, 2021. For clarity, the original comment is shown and our response is shown in italics.

As to 5.15.04,C, Performace Standards under Marijuana Outdoor Cultivator Requirements:

1. No information is found addressing the separation of the proposed facilities from education facilities, playgrounds, or daycare. *A note has been added to the cover sheet stating that none of these facilities are within 500 feet to the project limits.*
2. The fenced growing area is shown approximately 57 feet from the north property line; the required minimum setback from property lines is 200 feet. *The proposed facility has been relocated to be a minimum of 200 feet from all property lines.*
3. Plans call for an 8 foot chain link with green wind screen, but no not call for signs. Signs identifying the site as "Limited Access Area" are required. *The fence detail has been added to the plans and a note has been added to show the "Limited Access Area" signage to be added.*
4. Information received does not document compliance with 5.15,C,7 a,c,d,e,f,g,h,j,k,m,n,o,p,q. *This section pertains to security measures which are discussed in the project narrative.*
5. Site plans call for a generator, however, do not document that standby power must be sufficient to power the entire site. *The generator details are discussed within the project narrative.*

Pertaining to Site Plan Regulations:

6. No information is found pertaining to stormwater analysis, design nor compliance with Massachusetts Stormwater Management Policy. The Engineer should document the status of the proposed development, in relation to the Leicester Stormwater Bylaw. *The stormwater design is discussed in the Stormwater Drainage Analysis. Further, a crushed stone bed is shown to be constructed under the greenhouse to recharge runoff and exceeds the requirement for the additional impervious surface.*
7. No information is found to document the supply of drinking water. The Well Construction Permit Application provided indicates that the proposed well shown on plan is for "irrigation purposes, not serving a building".

Wastewater service appears to be provided with “porta potties”, shown on plan. Drinking water will be brought on site (bottled water) on an as needed basis. Porta potties will be located on site as shown.

8. Areas of earth removal or filling not shown on the plan, nor volume. *No earth removal or filling is proposed on the site. The site has been used for agricultural purposes for many years, with vehicular traffic that is able to maneuver throughout the existing fields along existing farm roads. The applicant wishes to keep the grades primarily as they are.*
9. Elevations of exterior facades of proposed structures not received. *Literature of the proposed green-house structure attached.*

Pertaining to Site Plan Review approval standards:

10. Plans call for 2 parking spaces, but in the statement accompanying the application it is indicated that 4-7 full-time employees as well as 5 part-time will be onsite as well as vendors and regulatory personnel. Parking capacity must accommodate the anticipated number of persons who may be onsite at any one time. Plans also do not provide any details of parking space construction (material finish, grades, nor vehicle maneuvering). *The revised plans now show 12 parking spaces. This will allow adequate parking for the 4-7 full time employees and 5 additional part time employees. The applicant wishes to keep the finish material in the same state as it is currently. As discussed in previous responses, this property has been used as an agricultural field with vehicular traffic and the proposed use will be utilized in the same manner.*
11. Site plans call for planting mint, lavender, peppermint, and sun flowers for “odor plan” but does not provide specific requirements as to area or density of plantings. *The planting and odor control has been discussed in the project narrative and the odor control plan.*

Respectfully submitted,

DC Engineering & Survey, Inc.
Jason Dubois, P.E.



STAR STEEL STRUCTURES

30'
NORTHERN STAR

INSTALLATION MANUAL



BASIC LAYOUT

Set your batter boards as shown in Photo #1, approximately 1' beyond the location that you would drive your first pipe post in each line, do the same at the rear of your greenhouse. Using a transit set your horizontal boards level to each other 1' above your finished grade. A line level can also be used if a transit is not available. Special care should be used when placing the line level. The line level should always be placed at the mid point between the two string supports. If you ordered longer than the standard posts to increase the over all height of your greenhouse, then your horizontal boards should be set above your finished grade as follows:

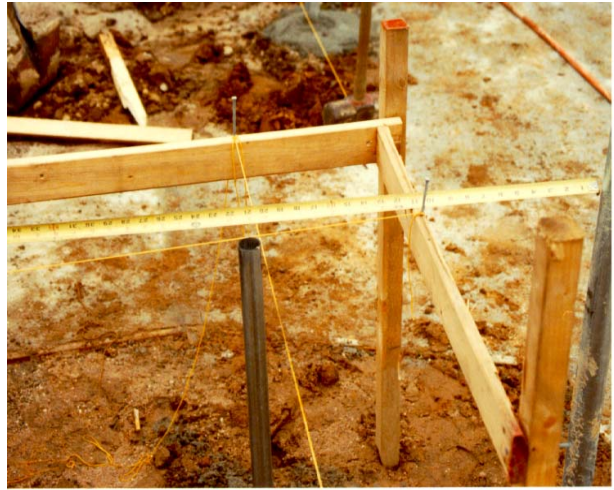


Photo 1

- Std 3'6" posts = 1'0" above grade.
- Opt 5'0" posts = 2'0" above grade.

Posts in some cases may actually measure slightly different than the measurements given, but your height above grade should be as indicated

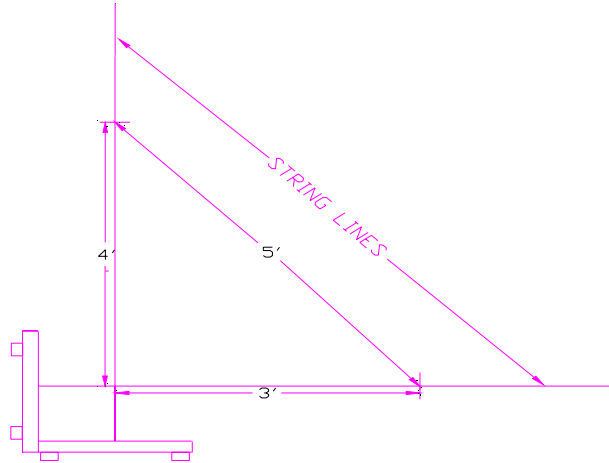
STRING LINES

Lines for width are set apart the same distance as your house is wide (i.e. for a 30' house set your lines 30' apart). The posts for your greenhouse are driven to the inside of these lines, 4' center to center even with the top of the line as shown on page 8. A line is also shown in the drawing indicating the front of the greenhouse. This line is used as the starting point for driving your posts. It is also used to square off the lines. Nylon masons line is preferred as it can be stretched to get the sag out from front to rear. If after stretching the line there is still sag from front to rear, a support stake can be driven 1" from the side of the string line half way between the front and rear batter boards. A 10d nail driven into the side of the stake will help support the line. A transit can be used to check to make sure the height is the same at the support stake. A line level will not work as it will show that the line is level no matter how much sag there is. The best you can do is to sight the line from front to rear.

SQUARING

Figure 1

Squaring of your greenhouse is done by measuring 3' along one line, 4' along the other line from the intersection of the two lines. Your cross measurement should be 5'. (See Figure 1). If it is not 5' exactly, adjust your front line and re-measure from the new intersection. You can adjust the side line also, but you will have to reset the width from front to back on the other side line. Any multiple of 3, 4, 5 will also work such as 6, 8, 10 as long as all numbers are multiplied by the same number, in the example all numbers were multiplied by 2.



DRIVING POSTS

Install a post driver in the top of the post to protect the top of the post from being damaged. Then drive the first post in each line to the inside of the front string and the inside of the side string. After this is done attach a tape measure hooking it over the top of the post and attaching it with tape. You can now proceed to drive all the other posts in line spacing them 4' center to center using the tape measure. Your tape measure should be long enough to measure the entire length of your greenhouse without taking it off the first post (up to 100'), this is to prevent compounding of errors. An example of this is, if you measure from post to post one at a time always using the post that you just drove in to measure to the next one, and you are only 1/8" off at each post (1/8" x 24 spaces), your total measurement could be off 3". With a long tape measure you might be off on any given post but your overall measurement should be right. A certain amount of care should be used driving your posts. Keeping your posts 4' center to center and vertical will make installing the rest of the structure that much easier.

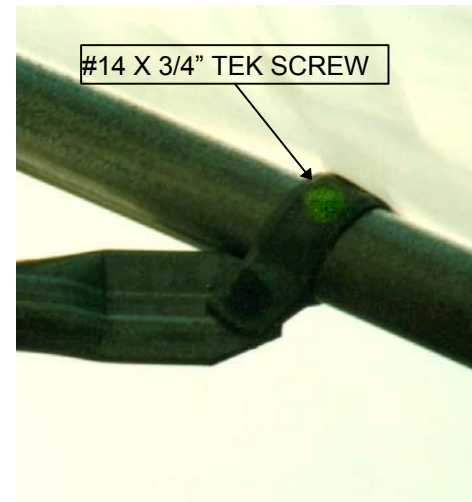
SPECIAL NOTE ON CUTTING POSTS

Cutting posts as a rule is not recommended as they act as the foundation for your greenhouse. They should be set into grade as indicated in the instructions. Exceptions do occur when you can not drive the post far enough into grade because of rock or ledge that can not be broken through. If you must cut your post, it is recommended that you first dig down to the obstruction, making a 12" round hole. Turn your post upside down placing the top of the post on top of the obstruction, mark the bottom of the post even with the string line and cut it on the mark. Fill the hole with concrete and set your post into the concrete in the same location as you would be driving it. If the hole is shallow, it's recommended that you dig it wide enough so that after the concrete hardens, it has good bearing against the soil. Do not erect the rafter on top of the post until the concrete is dry.

CROSSTIES

Photo 2

If crossties are to be installed read this before erecting rafters to posts. All rafters are drilled with a locating hole on the side of the rafter. This is used to locate the brace band. Install the brace bands over the rafters by slightly opening them up and sliding them down the rafter. Line up the brace band locating hole with the locating hole on the side of the rafter and attach the band with one #14 x 3/4" tek screw (See Photo #2). You will have to assemble your rafters together on the ground **before you erect** them. After this is done attach the crossties to the brace bands using 5/16" x 1 1/4" C.B.'s. You will have to slightly compress the rafters to make the crosstie connections. Stand rafter sections up and them over the (#162) Internal splice onto the post, using 3/8" x 2 1/2" M.B.'s. No crossties are installed at your gable end rafters.



ERECTING STRUCTURE

Assemble the rafter sections together on the ground using the 3 hole coupling (#163), and two 3/8" x 2 1/2" machine bolts. Hand tighten only. You may have to adjust the rafters if they are being assembled on uneven ground. Install the (#162) lower splice inserts into posts using 3/8" x 2 1/2" M.B.'s. After rafters are assembled, attach rafters to the top of the posts by sliding the rafter over the (#162) splice and attaching with a 3/8" x 2 1/2" M.B. When all rafters are erected check to make sure they are not corkscrewed. Corkscrewing is when half of a rafter section appears to be twisted in relation to the other, they should both appear the same. If they are not pushing the two 1/2 sections sideways in opposite directions will correct this. When all rafters appear to be straight you can at that time tighten all bolts. Bolts at the ridge are tightened as you install the ridge.

GABLE RAFTER TRIM

Gable Rafter Trim is an optional item on the 30' Northern Star. If you ordered Gable Rafter Trim, It is already installed on your rafters. Please locate and read completely the instructions labeled ***Gable Rafter Trim***.

RIDGE

The ridge of your greenhouse is drilled in equal 12' sections (based on 4' spacing). Starting with the plain end, attach the ridge of your greenhouse to the top of your rafter with a 1/4" X 3 1/2" carriage bolt through the center hole. (See Figure 2) Slide your next 12' section of ridge pipe over the tapered end, splicing the two pieces at the rafter. Repeat this through the length of your house. Optional 5' spacing will require splicing the ridge sections with a 1/4" x 2" carriage bolt. (See figure 3)

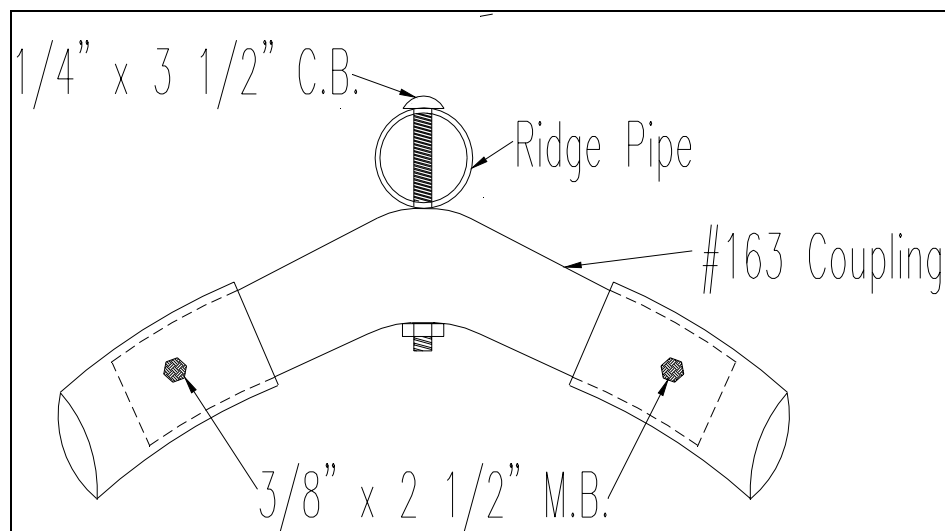


Figure 2

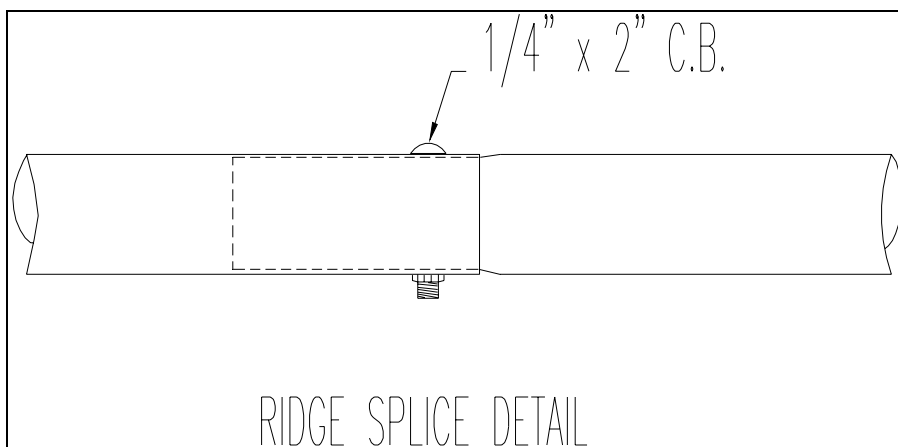


Figure 3

PURLINS

After all connections are made up to this point and all rafters appear straight, especially the gable rafters, you can begin to install the purlins. Purlins are attached to the under side of the rafters with two #14 x 3/4" tek screws through the 1" pipe strap into the two pilot holes provided. A 3/8" magnetic nut driver is provided for this. Install the 3/8" driver into a 3/8" hand drill to drive the screws into the pilot holes. Begin the purlin line with a full length purlin, with the tapered end pointing in. The purlin sections are the same as the ridge sections except that they are installed with 1" pipe straps (See Figure #4). At the gable rafters, attach the pipe strap to the purlin by driving a tek screw through the strap and into the purlin. This is done to prevent the gable rafter from being pushed in by high winds. At each purlin joint also pin the purlins together with a tek screw. If you are not familiar with tek screws you will notice that at the end of the screw there appears to be a drill point, this is for the screw to drill its own hole. Even though pilot holes are provided for the purlins, the tek screws will drill their own. The pilot holes are drilled only for alignment.

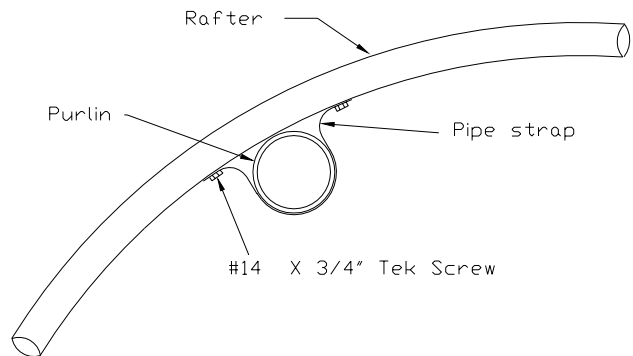


Figure #4

BASEBOARDS

A pressure treated 2" x 8" or larger is recommended. The baseboards should be attached at each post with two 1/4" x 4 1/2" C.B.'s. The baseboards should be slightly into grade to prevent the house from sinking, and to create a seal along the bottom (See Figure #5). We recommend that the splices for the base board be made in-between two posts (See Photo #3). Use either carriage bolts or nails. Try not to splice the boards together on a post. It will not be possible to get two 1/4" x 4 1/2" C.B. into each board.

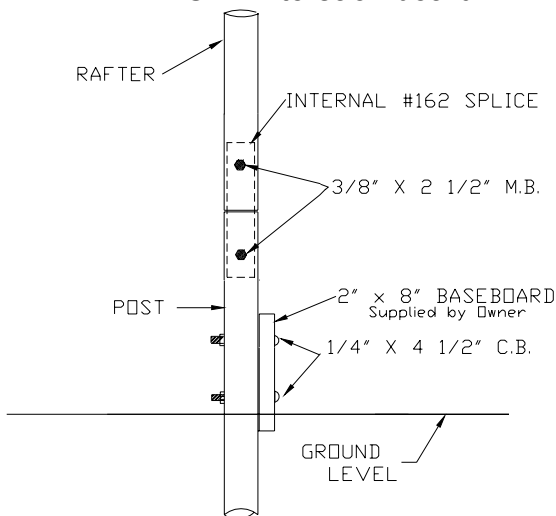


Figure #5



Photo #3

GABLE FRAME BRACKETS

Thirty gable Frame Brackets, (GFB-1) are provided for your 30' Northern Star Greenhouse. GFB's are attached to the bottom of your gable rafter with two #14 x 3/4" tek screws. They are also attached into the wood framing with two #14 x 1 1/2" hex head wood screws (See Photo's #4 & #5). Your framing should be flush with the outside of your gable rafter. The bend of the GFB-1 can be adjusted to fit the angle of the rafter. Use the 3/8" nut driver to install all screws.



Photo #4



Photo #5

GABLE FRAMING

Railroad ties can be installed at the end of your greenhouse to act as a foundation. Ties should be installed half way into grade and even with the outside of the gable rafter post and level. Omit the tie for any overhead doors as heavy equipment driven over it will cause it to sink. To the top of the tie you can nail a wood sill and begin framing in a conventional manner. For personnel doors omit the wood sill but leave the tie to act as a threshold. Use the gable frame brackets mentioned earlier to attach the top of the 2 x 4 framing to the rafter, and toe nail the bottom of the 2 x 4 framing to the wood sill that is on the railroad tie.

GABLE WIND BRACING

Gable wind bracing is two struts, 60" long. A vertical needs to be placed near the purlins. Attach one end of the gable brace strut to the purlin using a 1" brace band and one 5/16" x 1 1/4" galvanized carriage bolt. If 2 x 4 framing is being used, then fasten the other end of the gable brace strut to the 2 x 4 using a #14 x 1 1/2" hex head wood screw. If steel framing is being used, a 1 1/4" brace band is used to attach the brace to the vertical. Try to make the gable brace strut form a perfect triangle. (See Photo #6.)



Photo #6

