

## **PUBLIC NOTICE**

In accordance with the Statutes of the State of Illinois and the Ordinances of the City of Highland Park, the next meeting of the Natural Resources Commission of the City of Highland Park is scheduled to be held at the hour of 6:30 p.m. on Wednesday, April 13, 2016 at the City of Highland Park City Hall, 1707 St. Johns Avenue, Highland Park, Illinois, during which it is anticipated there will be a discussion of the following:

### **City of Highland Park NATURAL RESOURCES COMMISSION**

Wednesday, April 13, 2016  
Highland Park City Hall  
1707 St. Johns Avenue  
Highland Park, Illinois  
6:30 p.m.

### **MEETING AGENDA**

#### **I. Call to Order**

#### **II. Roll Call**

#### **III. Approval of Minutes: March 9, 2016**

#### **IV. Business from the Public**

#### **V. Old Business**

#### **VI. New Business**

- (a) 2016 Environmental Screening Series
  - i. "Just Eat It" (April 18, 2016, 7:00pm, Highland Park Library)
  - ii. Planning for May Film (Scheduled Date: May 15, 2:00pm, Highland Park Library)
- (b) Central District Streetscape Open House – Concept Plan for Downtown Streetscape Amenities and Wayfinding/Gateway Signs
  - i. Open House – April 16, 2016 at City Hall (10:00am to 2:00pm)
- (c) Steep Slope Variation Review
  - i. 381 Woodland Road – Proposed Construction of Tree-Mounted Deck Platform in SSZ
- (d) *Highlander* Articles – Deadlines & Posting Procedures
- (e) Dark Sky Lighting – Potential Code Amendments
  - i. Public Hearing – April 19, 2016 Plan & Design Commission
- (f) Discussion of Great Lakes & St. Lawrence Cities Initiative (GLSCI) and potential renewed City membership and participation
- (g) Commissioner Updates on Q1/Q2 Work Plan Items
  - i. Education & Outreach for Steep Slope Issues
  - ii. Expansion of Construction & Demolition Debris Recycling
  - iii. Removing Obstacles to Renewable Energy in City Codes
  - iv. Storm Water Management & Addressing Water Pollution (*Including Coal Tar Efforts*)
  - v. Policy Recommendations for Improving Air Quality Community-Wide
  - vi. Community Garden Efforts
  - vii. Lighting Code Amendments

#### **VII. Other Business**

- (a) Commissioner Comments
- (b) Administrative Items

#### **VIII. Adjournment**

*Posted in City Hall on March 8, 2016*

**PLEASE RECYCLE**

## **PUBLIC NOTICE**

In accordance with the Statutes of the State of Illinois and the Ordinances of the City of Highland Park, a Special Meeting of the Natural Resources Commission of the City of Highland Park is scheduled to be held at the hour of 5:30 p.m. on Wednesday, April 13, 2016 at the property located at 381 Woodland Road, Highland Park, Illinois, 60035 during which it is anticipated the following will occur:

### **City of Highland Park NATURAL RESOURCES COMMISSION**

Wednesday, April 13, 2016  
381 Woodland Road  
Highland Park, Illinois  
5:30 p.m.

### **SPECIAL MEETING AGENDA**

**I. Call to Order**

**II. New Business**

- (a) SITE VISIT for Steep Slope Variation Request – 381 Woodland Road
  - i. Proposed Construction of a Tree-Mounted Deck Platform within Steep Slope Zone

**III. Adjournment**

*Posted in City Hall on March 8, 2016*

**PLEASE RECYCLE**

**MINUTES OF A REGULAR MEETING OF  
THE NATURAL RESOURCES COMMISSION OF THE CITY OF HIGHLAND PARK,  
ILLINOIS**

**MEETING DATE:** March 9, 2016

**MEETING LOCATION:** Pre-Session Conference Room – Highland Park City Hall  
1707 St. Johns Avenue, Highland Park, Illinois

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**CALL TO ORDER**

At 6:30 p.m., Chairman Ross called the meeting to order and Eric Olson called the roll.

**ROLL CALL**

Members Present: LaCosse, Pagoria, Nichols, Yates, Wagenius (VC), Ross (C)

Members Absent: Coyle

Chairman Ross declared that there was a quorum of the Commission present.

Staff Present: Eric Olson, Planner

Also Present: Kim Stone, City Council Liaison  
Miranda Dotson, Student Representative  
Garren Kalter, Student Representative  
Amalia Schwartz, Park District of Highland Park

**MINUTES**

Vice Chair Wagenius moved to approve the minutes for the February 10, 2015 meeting of the Natural Resources Commission, with corrections to content in Agenda Items B and E to add missing words. Commissioner Pagoria seconded the motion. On a voice vote, the minutes were approved.

**BUSINESS FROM THE PUBLIC**

There was no business from the public.

**OLD BUSINESS**

None

**NEW BUSINESS**

A. Discussion of Past Events

Chairman Ross stated that both he and Commissioner LaCosse attended the Sustainability Workshop event hosted at Heller Nature Center on February 11, 2016. Commissioner LaCosse stated that storm water issues in Lake County, achievements in reducing run-off, and de-icing were discussed in detail.

Chairman Ross stated that the final portion of the meeting was centered on setting goals for public facilities over the next year. He noted that the City's Department of Public Works may wish to be involved in these efforts, if they are not already. Chairman Ross then asked whether the City has performed energy audits, and both Planner Olson and Councilwoman Stone stated that they were not

sure. Councilwoman Stone then stated that the City does not pay for part of its utility usage through agreements within ComEd.

Commissioner LaCosse then stated that SWALCO participated in the event and that soils were a topic of discussion. He stated that they may be producing a product similar to the *Milorganite* produced by the Milwaukee Metropolitan Sewerage District.

B. Updated Campaign Materials from City Manager's Office

The Chairman asked whether there was still time for feedback regarding the Sustainability Communication Plan. Planner Olson stated that some of the efforts will extend into May and that any feedback regarding the Plan will be forwarded to the City Manager's Office. Commissioner Pagoria stated that he would prepare some comments for the Storm Water materials. Chairman Ross stated he would do the same for the Light Pollution materials.

C. Staff Presentation – Overview of the City's Existing Ravine, Bluff and Beach Regulations

Planner Olson provided a detailed presentation on the City's existing regulations related to ravine and bluff properties and improvements along the Lake Michigan shoreline.

Councilwoman Stone then notified the commissioners that the City has retained a consultant to provide third-party review of steep slope/shoreline construction proposals to assist the Natural Resources Commission in their reviews.

Chairman Ross stated that in 2015 the NRC discussed encouraging property owners to pursue a pre-application meeting with the Commission to help them understand the application process and the materials that would be required of them, and asked that Staff continue to do so as applications for Steep Slope variances are submitted.

Councilwoman Stone then discussed the challenge of doing shoreline projects and property owners not being aware of City requirements until they have already spent a great deal of time and money working with other jurisdictions. Planner Olson added that in some cases the City may not be aware of such projects until a property owner applies for a City permit, and suggested that engineering consultants may be able to better advise property owners to meet with the City earlier in the process.

D. Commissioner Updates on Q1 Work Plan Items

Chairman Ross stated that the City Manager has agreed that the Steep Slope Landscape Best Practices Brochure can be sent out to landscape contractors in the spring as part of the regular certification process. He then stated that it would be a good idea repost the information on the City website and that he would prepare an article for the *Highlander* on the topic. Chairman Ross then stated that he would explore buffer issues related to the slopes and offered to translate the brochure into Spanish. Commissioner Nichols stated that she believes it is a good idea to translate the brochure and that she knows several native Spanish speakers that could assist if needed.

Chairman Ross asked whether there were any updates for the "Expansion of Construction & Demolition Debris Recycling" work plan item. There were no updates from the group, and Chairman Ross stated that they would check again in March.

Vice Chair Wagenius stated that there were no updates on efforts related to "Removing Obstacles to Renewable Energy in City Codes" at the time. He then added that Councilwoman Stone provided information on code changes related to renewable energy in Arlington Heights, Illinois.

Planner Olson then notified the Vice Chair that Department of Community Development staff have prepared some research on wind energy systems and a small windmill located at a property on Skokie Valley Road.

For the “Storm Water Management & Addressing Water Pollution” item, Commissioner Pagoria requested a status update on a potential coal tar ban. Planner Olson notified the NRC that the coal tar ban is not currently on the Department’s work plan. He added that a code change may be implemented by different City departments depending on the nature of the proposed ban. He stated that additional research may be necessary in order to provide a more detailed recommendation on how a ban could be implemented. Vice Chair stated that the NRC’s recommendation regarding a coal tar ban was vague, and stated that he’d be willing to develop a more detailed analysis and recommendation for a ban. Commissioner Pagoria stated that he would also participate in preparing a more detailed recommendation.

For “Community Garden Efforts”, Councilwoman Stone notified the group that the City Forester, Joe O’Neill, will be the best contact for determining the next steps for community gardens along the train tracks. She then added the City removed many of the community gardens last fall as they appeared to be abandoned and the City Forester was not able to contact people previously involved. She then added that Commissioner Coyle expressed concern about soil quality and that future gardens might require raised beds if food would be grown.

Chairman Ross stated that for “Lighting Code Amendments”, the public hearing for Dark Sky Lighting was postponed. Councilwoman Stone stated that the Department of Public Works is willing to give a directive to ComEd to replace failed mercury vapor fixtures with new LED fixtures of like color temperatures, though he was uncertain whether this directive was given. Chairman Ross stated that he would follow up with the Director of Public Works on this issue and would request additional information on pilot programs from ComEd. He then stated that a light inventory would be helpful and that he would start to prepare one, but asked whether a GoogleDoc spreadsheet would be considered a violation of the Open Meetings Act. Vice Chair Wagenius then suggested that a Google Form may be a better way to get people in the community to contribute.

Commissioner LaCosse asked whether there have been efforts to involve the school districts and their environmental groups to advance environmental work plan goals.

Planner Olson stated that he would ask Corporation Counsel about the types of crowdsourcing efforts for environmental projects that would not be in violation of the Open Meetings Act.

The NRC members then discussed the Bird-Friendly Task Force developed by the City Manager’s Office and its upcoming meeting dates.

## **OTHER BUSINESS**

### **A. Commissioner Comments**

- Vice Chair Wagenius – Stated that the NRC is waiting for an official request from the City Manager’s Office for their participation in the Bird-Friendly Task Force. Councilwoman Stone then discussed the make-up of the Task Force and stated she will ask the City Manager’s Office for additional information.
- Commissioner Pagoria – Discussed microbeads in personal care products, their environmental impact, and an upcoming ban in 2017-2018. He then suggested preparing an article for the *Highlander* to keep the community informed on the upcoming ban and alternatives to products.
- Commissioner LaCosse – Stated that SWALCO would be eliminating electronics recycling but whether it would be possible to just reduce the number of dates available. Councilwoman Stone stated that earlier success in Lake County has reduced the amount the electronics now being recycled and discussed how it is now not economically feasible. However, the City’s contract with Lakeshore Recycling allows for some limited electronics recycling as part of curb-side pickup.

- Student Representative Dotson – Asked whether the Sustainability communications plan would be implemented over the City’s Facebook page. Planner Olson stated that the City Manager’s Office manages the City’s social media accounts. Chairman Ross asked whether Facebook might be an alternative to posting articles in the *Highlander*. Planner Olson stated that content could be sent to the City’s Communications Intern to be posted on social media.
- Councilwoman Stone – Discussed the upcoming April 18<sup>th</sup> Environmental Film Screening of “Just Eat It” at Highland Park Library and stated that she has the previous film “Terra Blight” if others were interested in viewing it. She then notified that staff is currently evaluating proposals associated with energy aggregation services.
- Planner Olson stated that he would be preparing a flyer for the film “Just Eat It” and will communicate with Andi Rosen of District 112 to assist in community outreach. He also notified the NRC that there will be an upcoming Open House to present conceptual designs for the Central District Streetscape project and that he would share that information with the Commission when available.
- Chairman Ross stated that he communicated with Karen Brunetti, former staff liaison to the Natural Resources Commission, who expressed thanks the NRC for their kind messages and gifts for her child.

B. Administrative Items – *None*

**ADJOURNMENT**

Commissioner Pagoria motioned to adjourn the meeting. Vice Chair Wagenius seconded the motion. Chairman Ross adjourned the meeting at 8:00 p.m.

Respectfully Submitted,

**Eric Olson, Planner**

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MINUTES APPROVED BY THE NATURAL RESOURCES COMMISSION ON \_\_\_\_\_

- WITH NO CORRECTIONS \_\_\_\_\_
- WITH CORRECTIONS \_\_\_\_\_  
(SEE MINUTES OF [ \_\_\_\_\_ ] MEETING FOR CORRECTIONS)



# OPEN HOUSE

TO SHARE CONCEPT PLAN FOR  
DOWNTOWN STREETScape  
AMENITIES AND WAYFINDING /  
GATEWAY SIGNS.

April 16, 2016 at City Hall  
10:00 a.m. to 2:00 p.m.

The City is presenting concept plans for Downtown streetscape, wayfinding and gateway improvements. Please join us for an opportunity to share your thoughts and help shape the future for Downtown!



The city has worked with Ratio Architects to develop a concept plan for updating & improving downtown's streetscape and its gateways & wayfinding signs

GATEWAY &  
WAYFINDING  
SIGNS

STREET  
FURNITURE

PEDESTRIAN  
ARCADE  
IMPROVEMENTS

NEW DESIGN FOR  
CROSSWALKS

HIGHLAND PARK  
CITY HALL  
1707 St Johns Ave.  
Highland Park, IL

April 16, 2016  
10am – 2pm

# Memorandum



To: Members of the Natural Resources Commission  
From: Eric Olson, Planner II  
Date: April 11, 2014  
Re: **381 Woodland Road – Steep Slope Variation Request**

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The existing home at on the property located at 381 Woodland Road (*shown below*) was constructed in 1927. A large portion of the property is located within what is currently regulated by the City as the ravine Steep Slope Zone. The applicant wishes to construct a 12'x12' tree-mounted deck platform in an area of the property that is located within on the ravine steep slope.

City Engineering staff visited the property to confirm the location of the proposed improvement relative to the Steep Slope Zone and determined that limit of the steep slope at 381 Woodland Road is defined by the 658' contour; making approximately the entire rear yard Steep Slope Zone.



Section 150.1903(A) of the Zoning Code prohibits the construction of structures within a Steep Slope Zone, except as exempted in Section 150.1906. Decks and patios having a total ground cover area not exceeding 150 square feet may be located within the Steep Slope Zone between the top edge and the ten foot Steep Slope Zone setback line for ravines. However, because the proposed deck platform would be on the ravine slope rather than within the 10 foot setback, it is not an exempt improvement.

Since the proposed deck platform will be mounted within two existing trees, no earth moving or other disturbance is proposed to occur. The applicant has submitted materials stating that the deck platform would be supported by two tri-beam structures that would be mounted to the tree with at least four bolts that can bear at least 2,000 each.

The applicant has also submitted a letter from Jon Shabica of Shabica & Associates, Inc. (*attached*), which provides the following commentary with respect to potential impacts to the ravine:

- The deck as proposed would not increase the potential for soil creep or erosion on the ravine slope.
- By having the deck higher up in a tree it allows for surface vegetation to still grow below the deck.
- The deck in the tree would be partially pervious and there is no need for any additional drainage to be installed or special considerations in the winter regarding snow on the deck.
- Clearing off the leaves and seeding the slope with a native ravine seed mix is recommended.

The applicant is also currently working with a certified arborist to assess the trees to which the proposed deck would be mounted. It is expected that an arborist report will be available for NRC consideration at the time of the meeting.

### **Steep Slope Variation Process, Policy & Standards:**

Per Section 150.1912, the Natural Resources Commission is being asked to consider the variation application and vote to direct staff to draft Findings of Fact for Zoning Board of Appeals consideration. The Basic Technical Standards by which the Natural Resource Commission must review this request are established in Section 150.1903(C).

- (1) The proposed development recognizes and fits the natural topography, soils, geology, hydrology and other existing conditions on the proposed sites.
- (2) The proposed development will be oriented so that earth moving, landscaping and other site preparation is kept to an absolute minimum.
- (3) The landscape will be preserved and enhanced and natural terrain and existing vegetation will be minimally disrupted.
- (4) Disruption or alteration of natural drainage ways will be minimal.
- (5) The time in which areas are bare and exposed will be minimized.
- (6) The amount of impervious surface to be placed on the tableland adjacent to steep slopes has been minimized.
- (7) Structures have been designed and properly located so that structure weight does not jeopardize slope stability.

The applicant's public hearing at the Zoning Board of Appeals is currently scheduled for the evening of April 21, 2016. If the Natural Resources Commission so chooses, staff may be directed to prepare Findings of Fact for that meeting without further consideration. If the Natural Resources Commission determines that further information is required before making a recommendation, the public hearing at the Zoning Board will be continued accordingly.

### **Attachments:**

- Application Materials & Plans
- Letter of Situation and Hardship
- Letter of Support – Shabica & Associates (March 31, 2016)

# APPLICATION FOR ZONING VARIATION REQUEST



**CITY OF HIGHLAND PARK**  
1150 Half Day Road  
Highland Park, IL 60035  
phone: 847/ 432-0867 fax: 847/432-0964  
www.cityhpil.com

OFFICE USE ONLY  
VAR No.: #16-04-VAR-012  
Submitted: 03/24/2016 Fee Paid: \$ 825.00  
Hearing Date: 04/21/2016 Planner: ERO

Address: 381 WOODLAND ROAD Zoning District: R5  
Present Use of Property: RESIDENTIAL

Petitioner Name(s): CRISTINA MERLO  
Address (City, State, ZIP): 381 WOODLAND ROAD  
Daytime Phone: 347-432-7579 Alternate Phone/Cell: Fax:  
Email: CRISTINAMERLOWAS@AOL.COM

Title Holders Name(s): CRISTINA MERLO & GEORGE O. WHITE III  
Address (City, State, ZIP): SEC ABOVE  
Phone: Fax:  
Email:

Attorney Name:  
Address (City, State, ZIP):  
Phone: Fax:  
Email:

Architect/Builder:  
Address (City, State, ZIP):  
Phone: Fax:  
Email:

## AFFIDAVIT

I HEREBY DEPOSE AND SAY THAT I HAVE READ THE REQUIREMENTS AND PROCEDURES OUTLINED IN ARTICLE XII OF THE 1997 HIGHLAND PARK ZONING ORDINANCE, AS AMENDED, AND ALL OF THE ABOVE STATEMENTS AND THE STATEMENTS CONTAINED IN MY APPLICATION PACKET ARE TRUE.

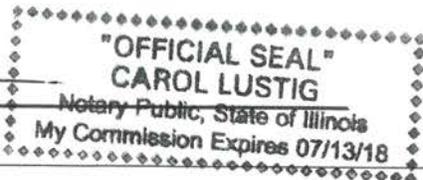
Cristina Merlo  
Property Owner(s)

\_\_\_\_\_  
Petitioner, if different from Property Owner

Sworn to before me this 24 day of March, 2016.

Sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Carol Lustig  
Notary



\_\_\_\_\_  
Notary

Property Address:



DESCRIPTION OF PROJECT:

CONSTRUCTION OF TREE-MOUNTED DECK

1. COMPLETE THE FOLLOWING: (regardless of requested variance)

A) Height Calculations: (see also: 'Useful Definitions')

- Maximum Allowable Height per Zoning District: 32 feet
Maximum Height of Proposed Structure: N/A feet

B) Floor Area Ratio (F.A.R.) Calculations (see 'Useful Definitions' sheet)

- Area of Lot: \_\_\_\_\_ square feet

F.A.R. = Floor Area / Lot Size

\*\*NOTE\*\* Properties requesting a Variation are NOT eligible for Bonus F.A.R.

- Allowable Floor Area: \_\_\_\_\_ square feet Allowable F.A.R.: \_\_\_\_\_ %
Total Existing Floor Area: \_\_\_\_\_ square feet Existing F.A.R.: \_\_\_\_\_ %
Area of Addition: \_\_\_\_\_ square feet
Total Proposed Floor Area: \_\_\_\_\_ square feet Proposed F.A.R.: \_\_\_\_\_ %

2. INDICATE ALL REQUESTED VARIANCES:

Front Yard Encroachment: (note as many as apply - corner lots have two front yards, one on each street frontage)

Structure will encroach \_\_\_\_\_ feet into the minimum front yard of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Structure will encroach \_\_\_\_\_ feet into the established building setback of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Structure will encroach \_\_\_\_\_ feet into the minimum front yard of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Structure will encroach \_\_\_\_\_ feet into the established building setback of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Side Yard Encroachment: (note as many as apply)

Structure will encroach \_\_\_\_\_ feet into the minimum side yard of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Structure will encroach \_\_\_\_\_ feet into the minimum side yard of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a distance of \_\_\_\_\_ feet.

Structure will encroach \_\_\_\_\_ feet into the total combined side yard of \_\_\_\_\_ feet on the (north / south / east / west) side of the property for a total distance of \_\_\_\_\_ feet.

Property Address:

**SUMMARY SHEET**

**Rear Yard Encroachment:**

Structure will encroach \_\_\_\_\_ feet into the *minimum rear yard* of \_\_\_\_\_ feet for a distance of \_\_\_\_\_ feet.

**F.A.R.: (For existing structures only)**

Structure will exceed the *maximum permitted F.A.R.* of \_\_\_\_\_% [or \_\_\_\_\_ sq. ft.] by \_\_\_\_\_% [or \_\_\_\_\_ sq. ft.] for a total F.A.R. of \_\_\_\_\_% [or \_\_\_\_\_ sq. ft].

**Fence:**

Structure will exceed the maximum permitted fence height of \_\_\_\_\_ feet by \_\_\_\_\_ feet for a distance of \_\_\_\_\_ linear feet.

**Lot Coverage:**

Structure will exceed the *maximum permitted lot coverage* of \_\_\_\_\_% [or \_\_\_\_\_ sq. ft.] by \_\_\_\_\_% [or \_\_\_\_\_ sq. ft.] for a total lot coverage of \_\_\_\_\_% [or \_\_\_\_\_ sq. ft].

**Other: (please specify):** BUILD A 12'x12' TREE-MOUNTED DECK PLATFORM IN STEEP SLOPE ZONE.

**\*\*The following requests include additional information or review beyond the Zoning Board of Appeals\*\***

**Subdivision Setback Encroachment: (Neighbor approval required – [Section 150.1202 \(D\)](#))**

*(Also known as a Building Line)*

Structure will encroach \_\_\_\_\_ feet into the *subdivision setback* of \_\_\_\_\_ feet on the (north / south / east/ west) side of the property for a distance of \_\_\_\_\_ feet.

**Steep Slope Encroachment: (requires review by the Lakefront Commission and additional submission materials)**

Structure will encroach \_\_\_\_\_ feet into the *10' / 40' / Special Steep Slope setback* for a distance of \_\_\_\_\_ feet.

**Height: (Requires Compere Referral)**

Structure will exceed the *maximum permitted height* of \_\_\_\_\_ feet by \_\_\_\_\_ feet for a height of \_\_\_\_\_ feet.

<b>COMPERE REFERRAL TO CITY COUNCIL: YES / NO</b>		<b>OFFICE USE ONLY</b>	
City Council Date: _____	Describe Referral: _____		
ZBA Final Disposition: YES / NO	ZBA Recommendation to City Council on: _____		

Property Address:

ZBA Application 4





*EXAMPLE OF FINISHED PRODUCT*

From: **Cristina Merlo** cristinamerlowas@aol.com  
Subject: Platform  
Date: March 14, 2016 at 1:54 PM  
To: **Cristina Merlo** cristinamerlowas@aol.com



TREE  
IS  
50  
INCH  
CIRCUM-  
FERENCE

TREE  
IS  
86  
INCH  
CIRCUM-  
FERENCE





## Steps to Installing a TAB

1. Determine the desired height of your platform at the point of attachment.

2. Determine the distance between the center of the TAB and the top of the floor. This may include the thickness of flooring, joists, beams, a bracket, and half the TAB's perch, to be very precise!

3. Mark the center of the hole temporarily with a nail or screw.

4. If you need to mark any other holes on the other side of the tree or on other trees, do this now. If there is a straight line of sight from one TAB to another, then any standard level with a long straight edge will do. Otherwise, a water level (clear tube with water in it) will help you find level around corners.

5. Double check level before drilling (worth the time to avoid a critical mistake).

6. Prepare to drill. Use ladders & scaffolding, and/or safety ropes as necessary. A high torque drill is required, and as a result, make sure you are in a good position to safely handle all of the torque. It actually saves time to get set up properly before drilling.

7. Set up a guide line, if desired. Tie a string around the tree just above where you're going to drill. Then stretch and tie it off in the direction that you want the perch of the TAB to stick out when you're done. Use the line as a guide to aim your drill properly left to right.

8. Drill the 3" hole with a self feeding timber bit. I like the Milwaukee, but other manufacturers make similar models. For a 1x6 TAB, you'll drill in about  $\frac{3}{4}$ " to 1" past the cambium layer of the tree (into the sapwood). For other larger TABs, you may drill farther, but there is no table for depth as it should be determined by the overall engineering plan of your treehouse.

9. Drill a 1 1/8" hole 2" deep.

10. Drill the 1" hole with a long ship auger bit. Before drilling, put a torpedo level on the bit to make sure you are drilling level. Also sight off the string you set in step #7. Drill to 6.25" deep past the 3" hole, to ensure that the back of the collar installs tight to the 3" hole.

11. Install the TAB. Turn it clockwise, the first few turns by hand. Then use either a large pipe wrench or a  $\frac{3}{4}$ " drive socket wrench with a 1 7/8" socket. Each tool has it's drawbacks. The pipe wrench can damage the powder coat on the perch, so be prepared to file if necessary and touch up with black paint. The socket wrench can put the nut on so tightly that it is hard to remove - so put the bracket on before turning the TAB into the tree.

This is one tried and true method for installing Treehouse Attachment Bolts by Treehouse Supplies, Inc. We also have phone support if you have any trouble or further questions with installing your TABs!

**TREEHOUSE SUPPLIES, INC.**  
1325 GOSHEN PARKWAY  
WEST CHESTER, PA 19380  
WWW.TREEHOUSESUPPLIES.COM

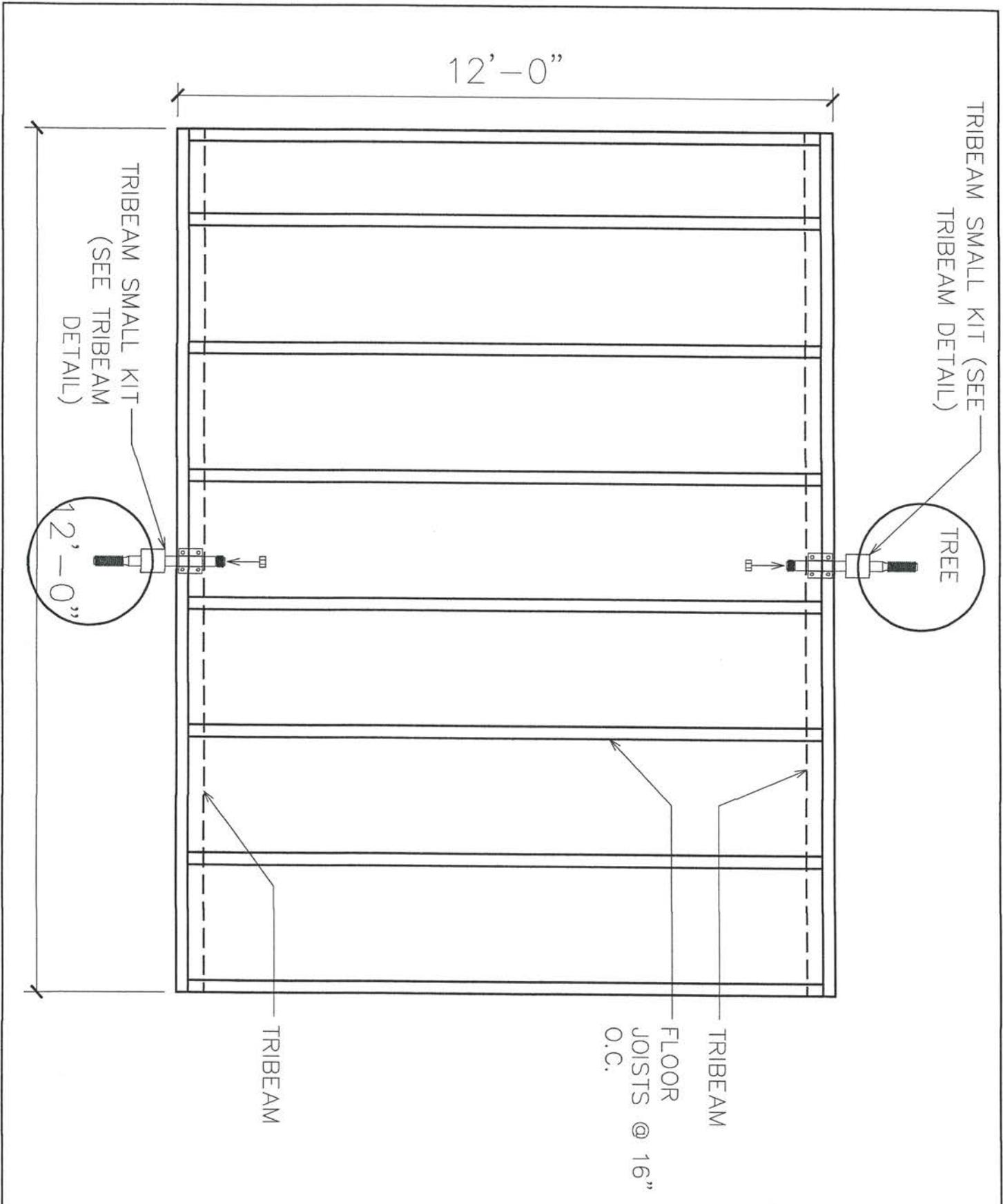
10-2-13

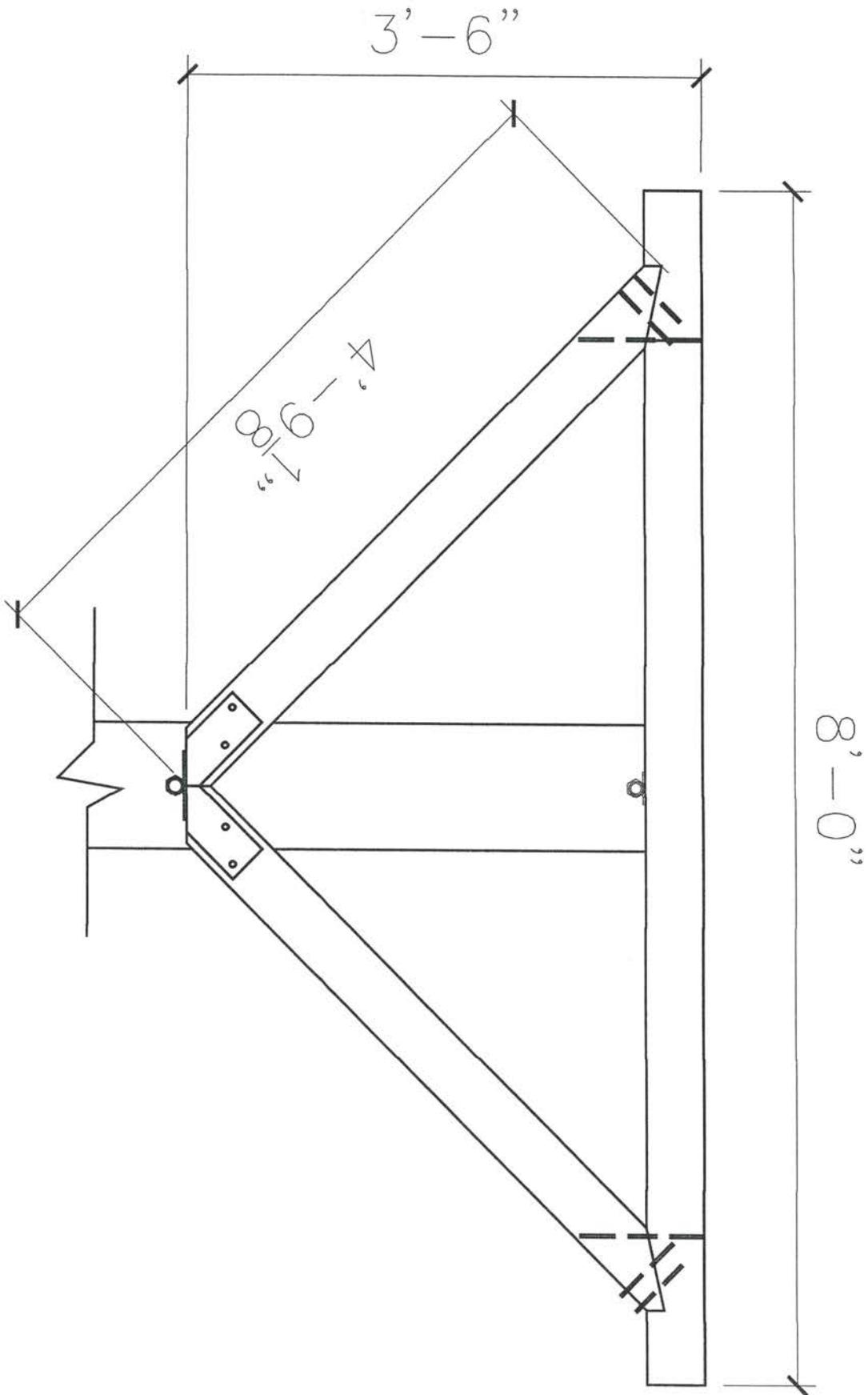
**TAB INSTALLATION**

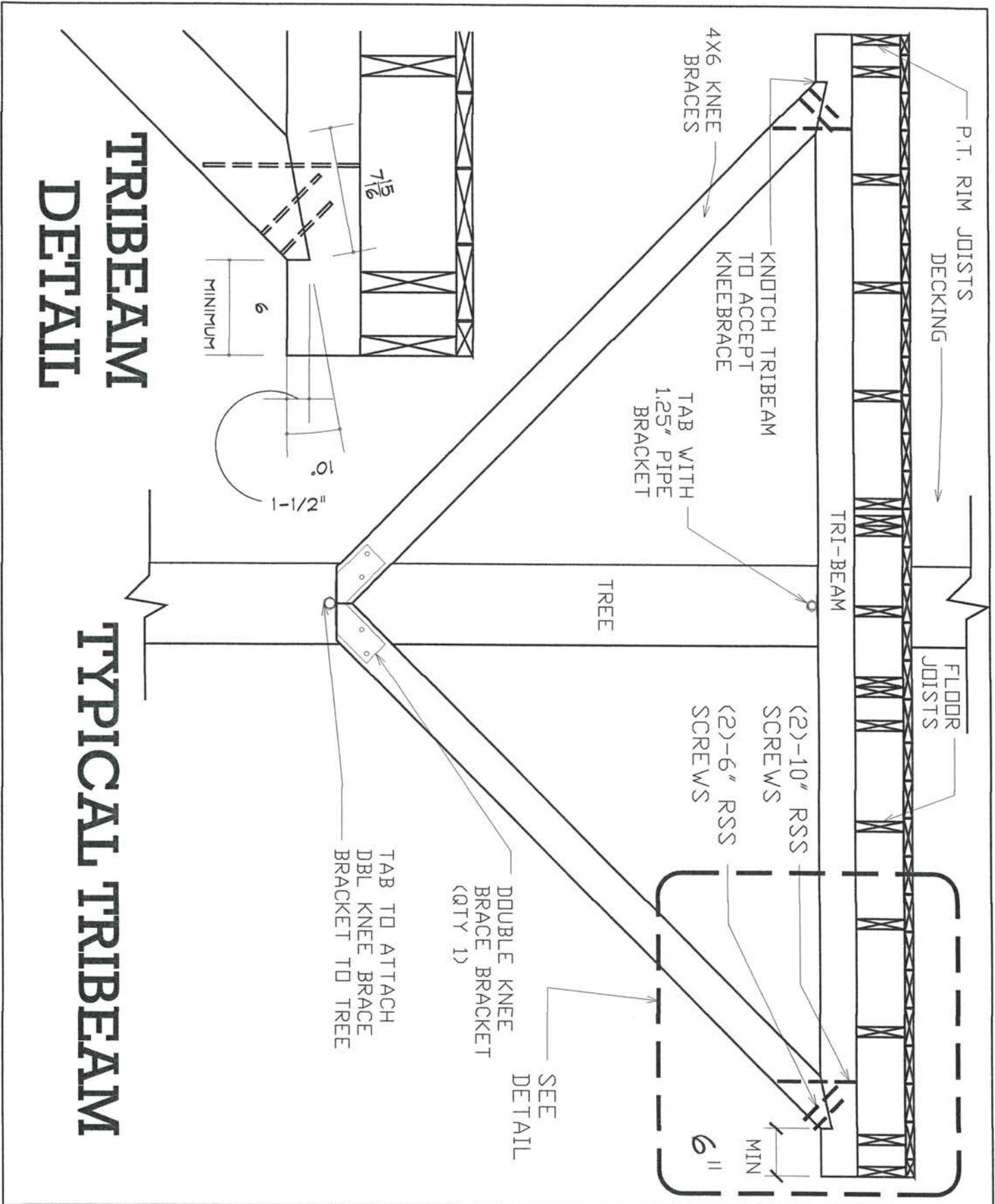
**DETAIL**

**Sheet #**

**INFO**







**TRIBEAM  
DETAIL**

**TYPICAL TRIBEAM**

**TREEHOUSE SUPPLIES, INC.**  
 1325 GOSHEN PARKWAY  
 WEST CHESTER, PA 19380  
 WWW.TREEHOUSESUPPLIES.COM

4-3-14

TRI-BEAM DETAIL  
**DETAIL**

Sheet #  
**D-17**

# SECTION VIEW TRIBEBEAM

STEP #1

INSTALL TOP  
TAB W/1.25"  
PIPE BRACKET  
ALREADY  
INSTALLED ON  
PERCH, FULLY  
TIGHTEN THE  
TAB INTO THE  
TREE

PERCH

TAB NUT

STEP #2

#1 HANG  
TRIBEBEAM ON  
PIPE BRACKET  
AND TIGHTEN  
SCREWS.

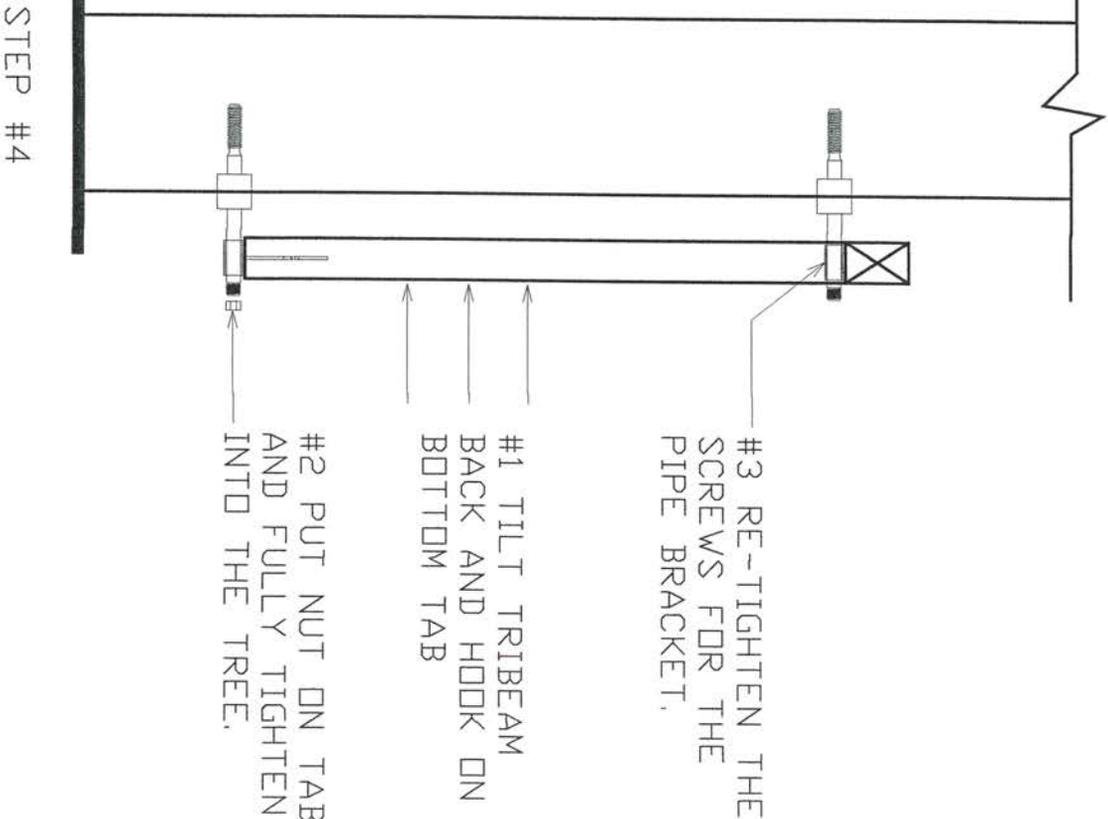
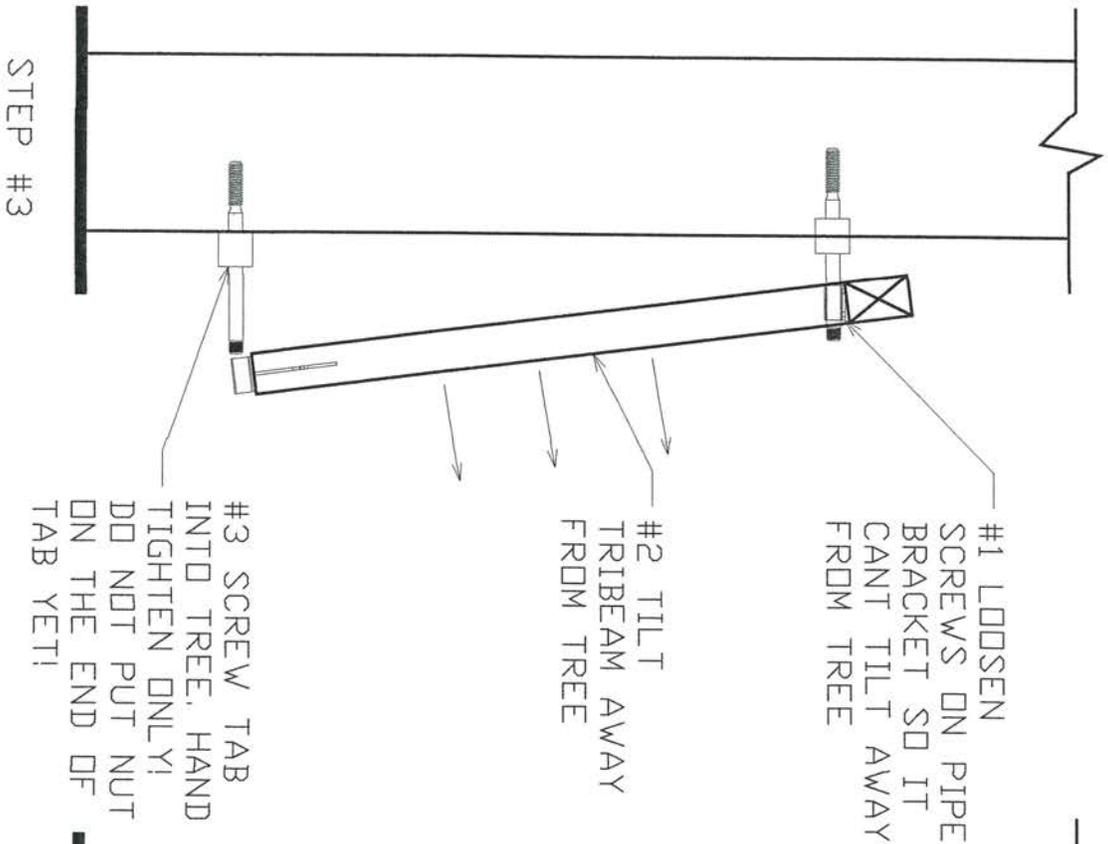
#2 LEVEL TRIBEBEAM  
AND MARK A POINT  
THRU THE DOUBLE  
KNEE BRACE  
BRACKET ON WHERE  
TO DRILL BOTTOM  
TAB, SPIN TRIBEBEAM  
OUT OF THE WAY  
AND DRILL HOLE.

TREEHOUSE SUPPLIES, INC.  
1325 GOSHEN PARKWAY  
WEST CHESTER, PA 19380  
WWW.TREEHOUSESUPPLIES.COM

10-21-14

TRI-BEAM DETAIL  
**DETAIL**

Sheet #  
**D-17.1**



# SECTION VIEW TRIBEAM

**TREEHOUSE SUPPLIES, INC.**  
 1325 GOSHEN PARKWAY  
 WEST CHESTER, PA 19380  
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TRI-BEAM DETAIL

**DETAIL**

Sheet #  
**D-17.2**

# Treehouse Supplies

We help you build the treehouse of your dreams!

## How Strong are these Bolts?

March 24, 2015 March 26, 2015 treehousesuppliesblog



(<https://treehousesupplies.files.wordpress.com/2015/03/how-to-test-deflection.jpg>) The deflection is one of the most important measurements of your tree house. Andrew, one of our builders, shows you how to do it.

Making sure that the bolts are strong enough to match the design load of your treehouse is one of the most important safety measures you can take when constructing your treehouse. There is no set amount of weight a bolt can hold, as the type of tree, the bending moment, bolt placement, and weather, all affect its deflection. This is our method for testing the strength of our [treehouse attachment bolts](http://www.treehousesupplies.com/Treehouse_Bolts_s/41.htm) ([http://www.treehousesupplies.com/Treehouse\\_Bolts\\_s/41.htm](http://www.treehousesupplies.com/Treehouse_Bolts_s/41.htm)).



1. First, we place our hydraulic ram under our TAB to ensure it is plum, and that perpendicular force is being applied to the bolt, preventing slippage.
2. Then, we make sure the dial indicator is placed securely on the tree, and make sure it is directly in line with our hydraulic ram.
3. Next, we zero all our measuring devices before applying ANY pressure to the bolt.
4. Then, we may apply pressure by pumping the jack on the hydraulic ram and watch as the reading changes!
5. When the force gauge reaches our desired pressure, we take the reading of the dial indicator to determine the amount of deflection at that distance from the tree. (We also take into consideration that when setting up, the further out on the bolt that we apply force, the more the bolt will deflect. We adjust our design accordingly before installing the bolt.)
6. Lastly, after we release the pressure on the hydraulic ram, we wait a minute and take a reading of the permanent deflection where the tree has been deformed and will not return to its pre-test state.



What does all this mean? The more load you place on any bolt, the more likely it is to crush the wood fibers beneath the bolt. We are testing the crushing strength of the tree.

Although trees are resilient, we test the initial and permanent deflection. This is because trees are elastic, and they will support a temporary load initially, and when that load is removed, it will spring back to somewhere near the deflection from normal loads, showing us the permanent deflection.

We test for the permanent deflection because we want to avoid stressing a bolt to failure. Failure occurs when there is a permanent crushing of the wood fibers beneath a bolt. We feel that if we load a tree within its elastic limits, the tree will spring back to where it was.

What are these limits, you ask? In varying circumstances, our bolts have tested between 500 and 15,000 pounds. This may not be the same range for you, as it depends on your individual situation, and that's why you have to test them.

Those are the basics, but feel free to contact us if you have any questions!

Dear Members of the Zoning Board,

We are writing to request approval to construct a 12 x 12 foot wood deck, supported by two mature trees, in the rear of our property. The deck will be supported by two tri-beam structures constructed and mounted to the trees per a plan from Treehouse Supplies (West Chester, PA) using four industry-standard "Treehouse Attachment Bolts" which are well-tolerated by mature trees and are capable of bearing minimally 2,000 lbs per bolt. Per Sec. 150.1921 of the Steep Slope Zone ordinance, we wish to build a, "well designed accessory structure which does not interfere with the Steep Slope Zone."

The unique circumstances that necessitate the approval of a variance for this project are quite clear. Our home, 381 Woodland Road, was built in 1927 and is sited well into the steep slope zone setback for ravines. Due to our home's positioning in the steep slope zone, our ability to make structural improvements to enjoy and enhance our property is severely curtailed by the Steep Slope Zone ordinance. We have no setback at all.

The deck we are requesting approval to construct is permissible as described in Sec. 150.1906 (F), "decks...having a total ground cover area not exceeding 150 square feet may be located within the Steep Slope Zone."

Our proposed variation will certainly not be materially detrimental to the public welfare or injurious to other properties or improvement in the neighborhood. We have intentionally planned for the deck to be visually open to avoid any obstruction of views through the ravine. In addition, we have planned to construct the side rails of the deck out of cedar porch railing that will weather down to a natural shade and blend well with it's wooded surroundings.

Our proposed variation will categorically not impair the supply of light or air to adjacent properties, nor will it have any impact on the

structure or stability of the ravine. No portion of the deck will be attached to the ground.

Our proposed variation will not alter the essential character of our beautiful neighborhood, and we wish to build it specifically to enjoy our wonderful, wooded and wild property's scenic qualities to the fullest!

Our proposed variation is definitely in harmony with the spirit of the zoning code. We do not intend to impact any flora, fauna, or soil. The deck will not contribute to erosion or soil destabilization. The deck is meant to be virtually invisible in the spring, summer and fall months.

We are grateful for your careful consideration of our request, and appreciate your time. Please let us know if we can provide you any further information.

Best,

A handwritten signature in cursive script, appearing to read "Cristina Merlo and George White".

Cristina Merlo and George White  
381 Woodland Road  
347-432-7579  
cristinamerlowas@aol.com



Shabica & Associates, Inc.  
WE BUILD BEACHES

Ms. Cristina Merlo and Mr. George White  
381 Woodland Ave  
Highland Park, IL 60035

Dear Ms. Merlo and Mr. White,

March 31, 2016

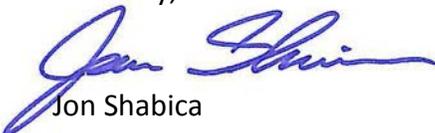
Thank you very much for walking the ravine and backyard regarding the installation of a small tree deck. Here are my comments regarding any potential impacts on the deck to the ravine environment:

- The 12' by 12' tree deck, as installed, will not create any hardship or increase the potential for soil creep or erosion on the ravine slope. Additionally, by having the deck higher up in a tree it allows for surface vegetation to still grow below the deck.
- As I am not an engineer and therefore I cannot comment on the technical aspects of the tree anchor system. I did enjoy reading up on the technical specifications of the anchoring system which was engineered to support 2,000# per bolt (you are using four bolts) and was designed by a certified arborist with over 400 tree houses using this method of anchoring.
- As the deck in the tree would be partially pervious, I do not see the need for any additional drainage to be installed or special considerations in the winter regarding snow on the deck.
- Given the amount of leaf cover on the ravine slope, I would recommend clearing off the leaves and seeding the slope with a native ravine seed mix. The City of Highland Park has done a great job refining a native ravine steep slope seed mix which I highly recommend.

Overall the healthiest ravine is a ravine that is monitored, used and improved with proper stewardship and attention. The addition of a tree deck, in my personal opinion, is a chance to interact with nature at a vantage point unique to ravine sites and in a way that appeal to all ages. There is also a nationwide movement called "Leave No Child Inside" that is trying to get today's youth reconnect to nature so that they can better understand and more importantly respect it. As a Boy Scoutmaster, I support it fully!

If you have any additional questions about the ravine, streambed or slopes, please don't hesitate to contact our office. We are available to speak with you at any time.

Sincerely,



Jon Shabica

# 2016 Newsletter Deadline Schedules

\*Articles completed and saved in share drive before deadline dates are appreciated.

HIGHLANDER	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
ARTICLES DUE TO Pcshare, Dept._cmo, Highlander*	NO ISSUE THIS MONTH	Friday 1-29	Friday 2-26	Monday 3-25	Thursday 4-29	Friday 5-27	Monday 6-24	Thursday 7-29	Monday 8-26	Wed. 9-30	Friday 10-28	Monday 11-23
DISTRIBUTION TO RESIDENTS		Thursday 2-15	Thursday 3-15	Saturday 4-14	Tuesday 5-15	Friday 6-15	Saturday 7-14	Wed. 8-15	Saturday 9-15	Monday 10-15	Thursday 11-15	Saturday 12-15
MESSENGER	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
ARTICLES DUE TO Pcshare, Dept._ cmo, Messenger*	Wed. 20	Wed. 17	Wed. 23	Wed. 20	Wed. 18	Wed. 22	Wed. 20	Wed. 24	Wed. 21	Wed. 19	Wed. 16	Wed. 14
DISTRIBUTION TO EMPLOYEES	Fri. 29	Mon. 29	Thu. 31	Fri. 29	Tue. 31	Thu. 30	Fri. 29	Wed. 31	Fri. 30	Fri. 28	Wed. 30	Fri. 30

**NATURAL RESOURCES COMMISSION ACTION PLAN 2016**

Action #	ACTION ITEM	TASK	RESPONSIBLE PARTY	First Quarter 2016	Second Quarter 2016	Third Quarter 2016	Fourth Quarter 2016
<b>2016 WORK PLAN PROPOSED FOR CITY COUNCIL CONSIDERATION</b>							
1	Education & Outreach regarding 2014 Steep Slope Landscape Best Practices Brochure	Provide Public Outreach on Steep Slope BMP	Ross, Park District & City Staff	√		√	
2	Make Policy Recommendations to Improve Recycling Output Community-Wide	Monitor & Review Recycling & Composting Services as part of the City's Waste Hauling Agreement	Coyle, Yates & Staff				√
		Expand Construction and Demolition Debris Recycling by Updating City's Current Mandate	Coyle, Yates & Staff	√	√		
		Evaluate the Feasibility of Initiating a Shoe Recycling Program and Off-Season Compost Site in Partnership with SWALCO	Coyle, Yates & Staff			√	
3	Make Policy Recommendations to Improve Energy Efficiency Community - Wide	Evaluate & Make Recommendations to Remove Obstacles to Renewable Energy in the City's Building & Zoning Codes	Wagenius, Kalter & Staff	√	√		
4	Improving Stormwater Management and Address Water Pollution	Provide Recommendations on Stormwater Best Management Practices, Rain Garden Incentives, Downspout Disconnection and Permeable Paving	Wagenius, Pagoria, and Staff	√	√		
		Evaluate the Feasibility of a Coal Tar & Other Pollutants Ban Community-Wide	Wagenius, Pagoria, and Staff	√			
5	Make Policy Recommendations to Improve the Air Quality Community-Wide	Provide a Recommendation on a City Anti-Idling Policy	Ross & Nichols			√	√
		Evaluate and Provide a Recommendation on Licensing/Registering of Private Mosquito and Insect Spraying Companies	Ross & Nichols		√	√	
6	Develop and Maintain Community Garden	Work with Community Partners and Leaders to Reinvigorate a Community Garden	Ross, Yates, LaCosse, Dotson and Stone	√	√		
7	Follow-up on Lighting Code Amendments for All Zoning Districts	Continue discussions with ComEd and downtown lighting district, Provide Public Outreach As Necessary	Ross	√	√	√	√
8	Grant Award for Meritorious Service to the Highland Park Environment	Accept & Consider Nominations and Grant Award	Entire Commission & Staff			√	√
9	Organize & Host Environmental Movie Series	Contact Library & Park District to Establish Event Dates	Staff	ONGOING BASIS			
		Acquire License to Screen Film	Staff	ONGOING BASIS			
		Promote Film Screenings	Staff	ONGOING BASIS			
10	Assist in the Accomplishment of Sustainability Plan Initiatives	Establish Implementation Plan	Entire Commission & Staff	ONGOING BASIS			
11	Review & Recommend on Variations and Beach Structure Permit Applications	Forward Findings of Fact to ZBA & City Council	Entire Commission & Staff	ONGOING BASIS			
		Conduct Refresher on Steep Slope & Beach Permits	Entire Commission & Staff	√			
		Conduct Educational Workshop on Coastal Management As Needed	Entire Commission & Staff	AS NEEDED			

Pink Highlighted Cell = Task Accomplished

**FOR 2017:**

**Consider Business Recycling Program**