A. PROJECT INFORMATION

1. APPLICATION IS: ☒ Development Project  ☐ Protest Appeal

2. STAFF REVIEW DATE: June 2021

3. SITE INFORMATION
Development Address: 4 PPG Plaza
Parcel ID(s)/Lot-and-Block Number(s): 1-H-30
Project Description: Installation of new tree at the annual ice-skating rink as electronic, non-advertising, ground sign.

3. CONTACT INFORMATION
Applicant (phone and email): Alex Lacey, Alex <alex.lacey@dentons.com>

B. ZBA HEARING INFORMATION
Zone Case # of
Date of Hearing: Time of Hearing:
Zoning Designation: Golden Triangle- A (GT- A)
Neighborhood: Downtown
Zoning Specialist: AK

C. ZBA REQUESTS
Type of Request: Variance  Code Section: 919.01.C
Description: Only Advertising and Public Destination Facility signs may promote off-site or sponsorships. Proposed is neither Advertising (billboard) not Public Destination Facility.

Type of Request: Variance  Code Section: 919.03.M.1
Description: Maximum vertical sign face area of signs is 20FT; proposed sign is 60 FT.

Type of Request: Variance  Code Section: 919.03.M.7(d)
Description: Maximum height for a ground signs within the GT is 40 FT; proposed sign is 60 FT plus the height of the skating rink and podium.

Type of Request: Variance  Code Section: 919.03.O.3.d and 919.03.M.7(d)
Description: Total area for an electronic, non-advertising, ground signs within the GT is 75 SF; proposed is 2,914.5 SF
Type of Request: Variance  Code Section: 919.03.O.3
Description: Electronic signs shall be permitted within the HC, UI, and GI only; This sign is proposed for the Golden Triangle (GT)

Type of Request: Variance  Code Section: 919.03.O.3(a)
Description: Any motion of any kind is prohibited on an electronic non-advertising sign face; proposed sign has motion.

Type of Request: Variance  Code Section: 919.03.O.3(b)
Description: Text, image, or display on an electronic non-advertising sign may not change more than once every thirty (30) seconds; proposed sign has changes images and display.

Type of Request: Variance  Code Section: 919.03.O.3(c)
Description: Maximum brightness for an electronic non-advertising sign shall be 2,500 NITs between sunrise and sunset and 250 NITS for all other times; proposed is 285.1 NITS.

Type of Request: Variance  Code Section: 919.03.O.3(e)i
Description: Electronic non-advertising signs shall not be primarily directed towards, City Designated Historic Districts; proposed sign faces the Market Street Historic district.
OUT WITH THE OLD, IN WITH THE NEW

Highwoods Properties is in the process of replacing our 20-year old holiday tree. The tree is installed over the obelisk in the center of PPG Plaza’s Ice Rink. It is on display from Light Up Night through the first week in January. The existing tree has outlived its useful life.
APPLES TO APPLES

The new tree will have the same dimensions as the existing tree-60’ tall x 28’ base. This allows the same fit over the obelisk and opening at the center of the ice rink. There are no changes to the ice rink.
A DOWNTOWN DESTINATION FOR THE HOLIDAYS
IMPROVED ENERGY EFFICIENCY

The new tree will utilize energy efficient LED lights with the ability to perform various light shows to entertain residents, skaters and customers along with visitors to downtown Pittsburgh during the holiday season.

• Shows will be 3 to 8 minutes in length and light every hour or half hour.
• Between shows the tree will run various lighting movements.
• Highwoods Properties will be the host for the American Cancer Society’s Tribute of Lights Ceremony. A child, who is a cancer survivor, lights the tree.
Proposed New Holiday Tree
HIGHWOODS ALSO SPONSORS

• The Spirit of Giving Around the World, an exhibit comprised of life-size Santas and original paintings capturing the entire world’s Christmas folklore and fantasy

• The Ice Rink at PPG Place
THANK YOU
MARKET SQUARE

A DOWNTOWN DESTINATION FOR THE HOLIDAYS

PPG PLAZA
SURROUNDED BY SIX PPG PLACE BUILDINGS
Density, Dimension & Brightness Calculations
60ft HD 2021 Pixel Pines

V2.1

This S4i-Created Calculation Worksheet is built to serve as a resource to assist in understanding comparative pixel quantities of Christmas Trees of Varying Heights. It also provides Pixel Count Equivalents of various Pixel Pines Models.

### Tree Dimensions

<table>
<thead>
<tr>
<th>Unit of Measure</th>
<th>Feet</th>
<th>Height</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Diameter</td>
<td>30</td>
<td>Radius</td>
<td>15</td>
</tr>
<tr>
<td>Radius</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (m)</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (ft)</td>
<td>60.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (in)</td>
<td>720.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius (m)</td>
<td>4.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius (ft)</td>
<td>15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radius (in)</td>
<td>180.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lateral Surface Area

$A = \pi \sqrt{(h^2 + r^2)}$

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Area (m)</td>
<td>270.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Area (ft)</td>
<td>2914.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Area (in)</td>
<td>419681.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pixel Density - PIX/AREA

Calculated at Pixel Count

| Pixels/m^2 | 381.15 |
| Pixels/ft^2 | 35.41 |
| Pixels/in^2 | 0.25 |

### Pixel Density - AREA/PIX

Calculated at Pixel Count

| m^2/ Pixel | 0.003 |
| ft^2/ Pixel | 0.028 |
| in^2/ Pixel | 4.067 |

### LUX to NIT CONVERSION

<table>
<thead>
<tr>
<th>Max; Full RGB</th>
<th>Max, Red</th>
<th>Max, Green</th>
<th>Max, Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td># Pixels per m^2</td>
<td>381.1</td>
<td>381.1</td>
<td>381.1</td>
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<tr>
<td>Lux per m^2</td>
<td>895.7</td>
<td>274.4</td>
<td>598.0</td>
</tr>
<tr>
<td>NIT</td>
<td>285.1</td>
<td>87.4</td>
<td>190.4</td>
</tr>
</tbody>
</table>
USER MANUAL
28ft to 60ft Classic Pixel Pines, HD

Tradition meets Technology.
# Table of Contents

- **Section A | Product Details & Specs**
  - Mechanical Specs
  - Tree Frame
  - Electrical Specs
  - Parts & Components
  - Assembly Process
  - Shipping & Receiving
  - Frame & Hardware
  - Power Components
  - Data Components

- **Section B | Installation Details**
  - Process Chart
  - Tree Frame Assembly
  - Power & Data Assembly
  - Branch Hanging

- **Section C | Warranty Information**

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**IMPORTANT NOTE:**
Details in this document are subject to change. Please confirm with your S4 Sales Rep prior to on-site preparations.
Your S4i Pixel Pines is built from a combination of materials using a variety of processes. Individual pieces vary in weight and can be easily carried by an average adult. When properly assembled, individual pieces create large and heavy sections, which culminate into one single, sturdy structure.

**Weight**

All data below is in POUNDS (lbs.) and measured when dry. In structural calculations, additional weight must be accounted for, such as Precipitation, Birds & Bees, Ornaments & Décor, Star Toppers, and other TBD power and data needs of other items.

<table>
<thead>
<tr>
<th>Tree Height</th>
<th>Branches, Total Pre-Lit</th>
<th>Frame Only</th>
<th>On-Frame Power &amp; Data Parts</th>
<th>Additional Buffer (10%)</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>1140</td>
<td>594</td>
<td>274</td>
<td>221</td>
<td>1734</td>
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<tr>
<td>32</td>
<td>1536</td>
<td>920</td>
<td>274</td>
<td>260</td>
<td>2456</td>
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<td>36</td>
<td>2016</td>
<td>1393</td>
<td>274</td>
<td>305</td>
<td>3409</td>
</tr>
<tr>
<td>40</td>
<td>2544</td>
<td>1936</td>
<td>313</td>
<td>356</td>
<td>4480</td>
</tr>
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<td>52</td>
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<td>3973</td>
<td>508</td>
<td>573</td>
<td>8509</td>
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<td>56</td>
<td>5328</td>
<td>4762</td>
<td>508</td>
<td>647</td>
<td>10090</td>
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<tr>
<td>60</td>
<td>6192</td>
<td>5747</td>
<td>508</td>
<td>729</td>
<td>11939</td>
</tr>
</tbody>
</table>

**Dimensions**

All measurements are in FEET (ft.). The frame design is decades-old, tried and true, and fabricated using a combination of man and machine. There is a possibility of +/- 1% difference from tree to tree. Always leave a buffer, in fabrication of stages, placement of objects around the tree, etc.

<table>
<thead>
<tr>
<th>Tree Height</th>
<th>Base Diameter, Frame Only</th>
<th>Base Diameter Fully Branched*</th>
<th>Base Circumference Frame Only</th>
<th>Base Circumference Fully Branched*</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>12.0</td>
<td>14</td>
<td>37.7</td>
<td>44.0</td>
</tr>
<tr>
<td>32</td>
<td>14.0</td>
<td>16</td>
<td>44.0</td>
<td>50.3</td>
</tr>
<tr>
<td>36</td>
<td>16.0</td>
<td>18</td>
<td>50.3</td>
<td>56.5</td>
</tr>
<tr>
<td>40</td>
<td>18.0</td>
<td>20</td>
<td>56.5</td>
<td>62.8</td>
</tr>
<tr>
<td>44</td>
<td>20.0</td>
<td>22</td>
<td>62.8</td>
<td>69.1</td>
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<td>48</td>
<td>22.0</td>
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<td>69.1</td>
<td>75.4</td>
</tr>
<tr>
<td>52</td>
<td>24.0</td>
<td>26</td>
<td>75.4</td>
<td>81.7</td>
</tr>
<tr>
<td>56</td>
<td>26.0</td>
<td>28</td>
<td>81.7</td>
<td>88.0</td>
</tr>
<tr>
<td>60</td>
<td>28.0</td>
<td>30</td>
<td>88.0</td>
<td>94.2</td>
</tr>
</tbody>
</table>

*Branches extend roughly 12-16 inches from the frame. Above data is calculated using 12 inches. Please allow additional “soft” room in your planning.
Mechanical Spec.'s I Tree Frame

The S4i Pixel Pines Tree Frame is a slightly-modified version of the Original Tower Tree Frame designed and produced in the 1950s. Over the years, simple improvements have been made, but the design maintains its Tried & True Heritage Design using 100% American Steel & Fabrication.
**Electrical Specifications**

**Power Needs**

In order for your Pixel Pines to operate properly, you must supply the Tree & Systems with Constant, Clean Power in sufficient quantity.

**Clean Power = AC Inputs of perfect sinusoidal 60 hertz, 110V-120V peak to peak voltage.**

Your Pixel Pines is not just a container of light strings, it is a highly-complex data network requiring significant current.

**Remember:** A maximum of 2x Power Supplies can be used on 1x 20A Circuit, based on Spec.

<table>
<thead>
<tr>
<th>Tree Height</th>
<th>Total Number of 600W PSUs</th>
<th>Total 20A, 110-120V AC Circuits</th>
<th>Available AC-Input Outlets*</th>
<th>Max. Power Consumption, Watts, Tree Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>3292</td>
</tr>
<tr>
<td>32</td>
<td>9</td>
<td>6</td>
<td>10</td>
<td>7317</td>
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<tr>
<td>36</td>
<td>9</td>
<td>6</td>
<td>10</td>
<td>7317</td>
</tr>
<tr>
<td>40</td>
<td>9</td>
<td>6</td>
<td>10</td>
<td>7317</td>
</tr>
<tr>
<td>44</td>
<td>16</td>
<td>9</td>
<td>17</td>
<td>12952</td>
</tr>
<tr>
<td>48</td>
<td>16</td>
<td>9</td>
<td>17</td>
<td>12952</td>
</tr>
<tr>
<td>52</td>
<td>16</td>
<td>9</td>
<td>17</td>
<td>12952</td>
</tr>
<tr>
<td>56</td>
<td>24</td>
<td>13</td>
<td>25</td>
<td>19392</td>
</tr>
</tbody>
</table>

**NOTE:** The numbers above are based on Maximum Limits. Use these as a guide to help you build/prepare your AC Circuit Side. Always plan for additional power needs, including things such as the S4i HQ or Central Control System, work lights, and other decorative elements.

*Total Outlets includes: Tree PSU’s, S4i ShowHQ, 1x RGB Star Outlet, and 1x Spare Outlet.

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S4 Lights has designed an optional, custom breaker panel. If interested, let us know early.
The items below are what are used to operate your S4i Pixel Pines. Your tree comes with enough components for operation, and a pre-determined percentage of on-site spare components.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ITEM</th>
<th>PRODUCT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>M25 Power Cable</td>
<td>S4i 15ft Power Cable, M25-4 Connectors, 12AWG/4C Cable, Black</td>
</tr>
<tr>
<td>POWER</td>
<td>600W PSU</td>
<td>S4i 24V DC, 600W Power Supply, 1x M25-4 Output, PowerCON 90-305V AC Input. Includes PowerCON to NEMA 5-15 Adaptor</td>
</tr>
<tr>
<td>P/C MOD</td>
<td>Power/Control Module</td>
<td>S4i Pixel Pines DOP Power/Control Module, 8x TL48F Outputs (2, 4, 6, &amp; 8ft Lengths), M19-18M Data Input, M25-4M Power Input. Weatherproof Housing. Max. 600W.</td>
</tr>
<tr>
<td>DATA</td>
<td>Pixel Controller</td>
<td>S4i Pixel Pines DOP Pixel Controller, 1x RJ45-IP Data Input, 1x M19-18 Data Output. Weatherproof Construction, External Test Button</td>
</tr>
<tr>
<td>DATA</td>
<td>M19 Data Cable</td>
<td>S4i 15ft Data Cable, M19-18 Connectors, 9xPair Cable, Black</td>
</tr>
<tr>
<td>DATA</td>
<td>Ethernet Cable</td>
<td>S4i 25ft Ethernet Cable, RJ45-IP Connectors, Black, Outdoor</td>
</tr>
<tr>
<td>DATA</td>
<td>Ethernet Cable</td>
<td>S4i 10ft Ethernet Cable, RJ45-IP Connectors, Black, Outdoor</td>
</tr>
<tr>
<td>DATA</td>
<td>Outdoor Switch</td>
<td>S4i® Outdoor Switch, 8x RJ45-IP Connections, Gigabit Network, Allows for Connection of up to 7x Pixel or DMX Controllers + 1x Home-Run to HQ. Includes external 24V PSU</td>
</tr>
<tr>
<td>TAP</td>
<td>DOP Branch Tap, 1x Per Branch</td>
<td>S4i® DOP Tap, 18” TL48M Lead, 12” TL48F Tail, Black Cable, 6” Drop with DOP Molded Female Connector, Epoxy-Filled Pre-Attached to Branches &amp; Pre-Connected to Light Strings</td>
</tr>
<tr>
<td>INSTALL</td>
<td>Fluffing Controllers</td>
<td>S4i DOP Simple Controller with Pre-Programmed Fluffing Sequences 24V, 12W External PSU, 1x DOP Female Connector Output</td>
</tr>
<tr>
<td>BRANCHES</td>
<td>Pre-Lit Branches, Standard</td>
<td>Standard, 4ft Height, ~30in Width, Pre-Lit Branches, Made in USA. Each branch is pre-lit for optimal pixel resolution. Epoxy-filled husk Construction. UL Wire.</td>
</tr>
<tr>
<td>TREE TOP</td>
<td>Tree-Top, 4ft Topper Branches</td>
<td>The Tree Top! 100% Made in USA. 4ft Height, Custom-Shaped Topper Branches. Each branch is pre-lit for optimal pixel resolution. Epoxy-filled husk Construction. UL Wire.</td>
</tr>
</tbody>
</table>

**NOTE:** Not all tree sizes require/use all of the components above.
Tree Frame I Shipping & Receiving

The Steel Tree Frame will ship by dedicated truck, direct from factory to your loading dock. This is to ensure the frame arrives exactly as it was built, for you to use for years and years to come.

• The truck is hand-loaded by the men & women who fabricated the frame.
• The tree frame is shipped in individual sections, and not on pallets.
• Each section is padded & protected, and then sections are banded together for safe transport.
• The frame pieces nest beautifully together, which should be remembered for storage.
• Frame pieces are almost never stacked more than one-layer high. Should the frame need to stack, the process and mechanisms used are thorough, detailed, and over-engineered.
• Hardware is organized by part/piece and shipped in boxes, with the tree.
• You will receive a Digital Pack List via email as soon as the truck is loaded, and then an additional copy with the truck.

Should there be any discrepancy between the packing slip and what you receive, immediately contact your S4 Lights Sales Representative.

Your Fluffing Stands will also be included in this shipment.

Dedicated Trucks will deliver your frame and branches. These frame sections nest together well for storage.

Picture Left: 36ft Pixel Pines, Frame + Branches.
Pre-Lit Branches I Shipping & Storage

S4i Pixel Pine branches are shipped and stored on custom-built branch racks. Roughly the dimension of a pallet, they are able to be moved via forklifts. In storage, these keep the branches and lights safe and secure. S4i Pixel Pine branches are required to be stored on these racks to ensure proper content, year after year.

Pixel Pines’ Branch Racks are easily transported via their Rolling Casters, or by Pallet Jack/Forklift to the fluffing location.

With Branch Receptacles built on, Racks also serve as additional stands for Fluffing.
Horizontal Bolts

- Used between Frame Pieces
- Each Ring Section has 2x Holes Pre-Drilled on outer Verticals
- Each Bolt uses 2x Washers & 1x Nut
- All hardware is Zinc-Plated Steel
- Hardware Grades
  - **Bolts**: Grade 5
  - **Washers**: Grade 2

![Hardware Specifications & Details Table](image)
Hardware Specifications & Details

**Ring Clamps**
- Used between Ring Levels
- Frames are delivered with Bottom Clamp welded in-place.
- Each Clamp uses 2x Bolts, 2x Nuts & 4x Washers
- All hardware is Zinc-Plated Steel
- Hardware Grades
  - **Bolts**: Grade 5
  - **Washers**: Grade 2

70ft Frame Uses 3x Sizes of Clamps

Total Ship Quantities above include ~10% Spares.

Clamps per Ring refers to Clamp Locations.
Each Location has 1x Clamp Pre-Welded and 1x Clamp Loose. Clamps per Ring = Loose Clamps.
Power | Specifications & Details

Power Supply: S4i 24V DC, 600W
- S4i Pixel Pines Steel Frame is entirely Low-Voltage.
- AC>DC Switching Power Supplies are used, at base.
- S4 supplies custom-finished HLG-600H-24A PSU's
- Full Specification Document is available.
- Product Specifications Overview:

DIMENSION / LINE DRAWING

ELECTRICAL SPECS

INPUT
Max Input Current: 6A @ 120V
Input Voltage: 90–305V AC
Per 16A Circuit Max: 2x Units

OUTPUT
Max Output: 25A (600W)
Voltage Out: 24V DC
Connector: M25-4, 30A Rated, Listed.

MECHANICAL SPECS

Housing: Epoxy-Filled Aluminum
Input Connector: SC3MX, PowerCON
Output Connector: S4i M25-4
Operating Temp: -40° to 180° F
Weight: 9lbs (3.9kg)
Adaptor: NEMA 5-15 to PowerCON (optional PowerCON extensions not incl. in drawing).

Overview Notes for Pixel Pines Power at Installation

• Importance of Clean Power
- Your Pixel Pines is not made using inexpensive, retail light strings. Every part of the system contains highly-complex circuitry which relies on being fed with Clean Power in order to operate.
- If the system experiences Voltage Spikes or Surges, there may be components which cannot handle them.
- Contact your local Electrician to ensure that your site has true, Clean Power.

• AC Plug Options: NEMA 5-15 or PowerCON
- Protecting our Products and Your Guests from High Voltage AC Leakage, we offer both Standard Plug and an Industry-Standard IP65 Connector: PowerCON.
- If using PowerCON (weatherproofing your final 120V connections) is of interest, please inquire further about the components necessary to implement.

• On-Site Spares Included
- Preparing you for the worst, with the goal of minimizing any unexpected downtime: your Pixel Pines Tree includes an additional 600W Power Supply.
- This PSU should be readily available for fast fixes, should something go wrong.
  (Of course, we do everything possible to ensure nothing ever does go wrong.)

• Dedicating Circuits
- It is very important that the Pixel Pines Power Supplies live and operate on their own dedicated circuits.
- Many things can go wrong when high-wattage items are combined on the same circuit. Issues such as Ground Loops, Ground Planes, EMI/EMC, are all concerns.
- In particular, the Audio System must be on different circuits than your tree PSU’s.

• Power Supplied does not equal Power Used
- The amount of power spec’ed for proper operation of your Pixel Pines will be much greater than actual power consumed. Max Power Consumed is listed to allow you to plan Electricity Costs, not as the minimum amount to supply.

Power Supply Installation
- These 600W Power Supplies can be placed anywhere near the base of your tree frame.
- They can be mounted to the frame itself, using standard mounting hardware, or you can erect simply wood stands to mount them to.
- Each Power Supply will provide enough power for one Distribution Section of your tree, connecting to the Power/Control Module via one cable.
Power/Control Module | Mounting Details

The S4i Power/Control Module will be distributed at height to the frame. S4 provided ½ round slings to make a safe rated connection to the frame. The round sling will be secured to the enclosure using a stainless steel locking carabiner connected into a M5 forged stainless steel shouldered eyebolt. Each unit will have 2 points of attachment.

S4i PP PCMOD Rigging Components:

- Black ½ x 24” sewn round sling applied directly to the frame horizontals in choke or basket configurations
- M5 Stainless Steel Eye bolt mounted to the enclosure
- 9mm Stainless Steel Carabiner to connect between the round sling and the eye bolt

½” x 24” Sewn Round Sling

- Strength 2200lbs in Straight configuration
- 1551lbs in Choke configuration
- 4900lbs in Basket Configuration
- End to End Length 24”
- Width ½”

9mm 316 Stainless Steel Carabiner

- 90mm x 45mm x9mm (L x W x D).
- 316 stainless steel with screw lock
- 600lb Breaking Strength

M5 304 Stainless Steel Eyebolt

- 34.7mm x 21mm x4.8mm (L x W x D).
- 304 Stainless Steel
- 300lb Breaking Strength
Tree Assembly | Overview Steps

Technically, there is an endless variety of methods to install a large, artificial Christmas Tree. We have experienced many of these, and will assist you in any way that we can. Most often, the final method is determined by factors based on location, available equipment, personnel, and time.

While actual methods can vary, S4 recommends a specific order of assembly for your S4i Pixel Pines. The list below, should be executed as closely as possible every time you install your Pixel Pines.

**IMPORTANT NOTE:**
The steps and process below are based on the assumption that all preparatory work has already been completed. These include: ensuring sufficient and proper power is run; exact site-location is chosen; frame securing process and materials are prepped.

**1) Start Fluffing**
- Make your branches beautiful!
- You will utilize the included Pixel Pines Fluffing Controllers to test each branch for proper assembly & operation.
- Branch Fluffing can take place almost anywhere*
  *Just need to have power provided and a way of getting the fluffed branches safely to tree frame.
- Assume 5-10 minutes of Fluffing per Branch. Varies widely by crew.

**2) Build the Frame**
- This is the construction of a multiple ton structure built using 2ft height frame pieces and hundreds of bolts, nuts and plates.
- Whether building in sections and craning into place, or piece by piece, the most critical rule is: **Make sure that your Seam always matches.**

**3) Install Power & Data Infrastructure**
- Lay all Power & Data Cables & Components, before branches are hung.
- The Tree Frame acts as the perfect ladder, allowing the Tech’xperts to hang all components without climbing the inside of the tree.

**4) Hang Branches**
- Always start from the top, working down towards the base.
- Each Branch is Hung & Connected, in one step, before moving to next branch.
- As each branch is connected, visual cues will inform if mistake is made.
- Be careful with the branches! Always grab by the spine, not by a twig.
Frame Assembly | Installation Details

1. Determine Base Ring: Find your tree height on the Frame Ring Sheet and locate the associated LETTER Identifier. Each Ring Section is numbered. “Example: G1 | G2”

2. Locate and place “The Seam” pieces for the bottom ring level. These two pieces will both contain a “1” on the Ring ID Tab. Start each ring level with these two pieces, to create “The Seam” up the tree. Lining up all of the 1st pieces in that ring as the tree grows.

3. Continue placing the ring pieces together to create a full circle and bolt the ring pieces together.

4. Move on to the next vertical Ring Level (one letter down in alphabet). Always start with the seam pieces for each new ring. Then place all pieces, and bolt together in both vertical and horizontal directions to the ring below.

5. Use clamp bars and bolts to clamp and hold finished rings together. Place at all locations where tabs are welded to the lower ring.

6. Continue this process until your frame turns into a full cone! Note: For Ring Levels A through E, each ring is a single section with a single Ring ID Tab. Line this ID Tab up with the seam.

7. Find the Tree Top Pole and insert it into the center of Ring A. Let it slide down until it stops, then secure tightly with the safety bolt.
Power & Data units will remain at the base of the tree. 2 Cables, one for power and one for data rise up the tree to a series of Power Control modules that supply the branches with operational signal. Each S4iPP-PCMOD output will supply 5 branches connected end to end in the air, while all power and data infrastructure remain at ground level.

### S4i PP Power/Control Module
- Installed & attached to tree frame at pre-determined locations.
- 8x TL48F Outputs to Branch Taps
  - Variable length (2, 4, 6, & 8ft)
  - Labeled and Color-Coded
- 1x M19-18 Data Input, Panel Mount
- 1x M25-4 Power Input, Panel Mount
- Simply joins power & data, outputting to branch taps via TL48 Connectors.

### S4i 600W PSU, 24V DC
- Model: Meanwell HLG-600H-24A
- 24V DC, 25A Output
- 1x M25 4-Pin Output
- 1x PowerCON Input, 100-240V AC
- Includes PowerCON to NEMA 5-15 Adaptor

### S4iPPCTRL8
- Pixel Pines Network Controller
- 1x Control Card Inside
- 1x RJ45-IP Input from HQ
- 1x M19 Data Outputs
- Test Button on Exterior
- All CTRL’s connect back to the S4i Switch

25ft S4i RJ45-IP Ethernet Cable Cat6, Outdoor, Black. Included.
Installation Details | Power & Data

The importance of proper connections inside of the tree is critical to the final result. Connection Routing inside of the tree should be done prior to branch hanging. Completing this task before branches are on the frame makes the entire process significantly smoother.

You are provided with “Routing Maps” inside of Armbands which will allow your installation crew to safely have these Routing Maps as they work. Armbands are laminated, in case installation occurs during inclement weather.

Example of Armbands Provided

Advises which Power Cable to use for connection between the PCMOD and the PSU.

Advises the Quantity of 15ft Data Cables which will be required for connection between each PCMOD & CTRL.

CTRL# Denotes the PCMOD/CTRL Section of the Branch Run.

OUTPUT The Output # run from the PCMOD to the First Branch.

BR#1 The First Branch connected to the Output. Following branches daisy-chain end-to-end, until the next Output starts.
Installation Details | Branch Hanging

Hanging Branches:

1. Start with the Mini Tree Top. Insert into the protruding steel pipe. Make sure the Taps are hanging free, then pre-staged PCMOD Output to the DOP Tap.

2. Immediately below the Mini Tree Top, you will begin using the Standard Branches. Load the outside of the Lift basket branches to increase efficiency. Start at The Seam, placing the branch hook into the branch receptacle on the frame. Make sure the leads are hanging free, above the tree frame. Work Counter clockwise from the seam around the tree.

3. After each branch is hung, immediately connect its DOP Tap to either: The Tap from previous branch OR the pre-staged PCMOD Output. CONFIRM branch is lit properly, then move on.

While one team is fluffing branches at the base of the tree, another team should be hanging the branches onto the frame.

General Rule of Thumb for Branch Hanging:

Be Gentle! Counter Clockwise from The Seam!
Pixel Pines Warranty Policy

Your S4i Pixel Pines, RGB Tower Tree, is protected by a variety of warranties. Warranties are generally issued by the original manufacturer, S4 Lights being one of them.

You receive all of these warranties through S4 Lights directly.

Improper storage and usage is the most common way to void a warranty. Please ensure you follow guidelines and ask questions before doing anything that you are unsure of.

The generalized warranty policy is:

All electronics are supported by S4 Lights' Standard Warranty Policy, which is for 3-Years, under normal Seasonal Use.

In some cases, the Original Manufacturer’s Warranty supersedes that of S4 Lights'. Those warranty terms are passed on to you.

The Tower Tree Frame and Branches are supported by a 5-Year, Heavy Weather Warranty, provided by the Original Manufacturer of the Tower Tree & Branches.

Branch Refurbishment Plan

S4i Pixel Pines utilize a custom lighting style on each of its branches, in order to provide you the canvas you deserve.

Due to the unique process, S4 Lights provides with the Pixel Pines a 3-Year Branch Refurbishment Plan:

After each season, client is able to test light strings on the Pixel Pines Branches.

S4 provides to you a form, requesting the quantity of defective branches and expected issue. You package the branches into boxes, and S4 sends Shipping Labels. Branches are then fixed/repaired and shipped back to you.

Any branch containing a defective light string or physically defective branch will be fixed or refurbished to its proper operational condition and returned to its owner.

On-Site Spares

With the purchase of the Pixel Pines, you receive a spare percentage of each electrical component which is used for successful operation of your S4i Pixel Pines.

These items are not intended for any purpose other than to be immediately available for replacement, should any issue occur during the season.

After each season, your S4 Sales Rep will communicate with you regarding any replacement needs which you or your tree require for the following season.

V20.0X
S4 Lights Limited Warranty
3-Year, Seasonal Use

Limited Warranty – LED Lights

S4 Lights LED light sets are guaranteed to light for 3 seasons from date of purchase or 3,000 hours of use, whichever comes first. A season is defined as installation of lights for a period of no more than 90 days per year. Light sets are warranted for non-permanent installation and temporary use for no more than 90 days at a time as defined by UL code 588 as this product is not intended for year around, permanent installation and use.

FULL DISCLOSURE OF THE SPECIFICS FOR LIGHTS WARRANTY

Should S4 Lights sets fail to light within the specified warranty period due to defects in materials or workmanship, S4 will, at S4’s option, repair or replace the defective light set or offer a substitution in the event the item is not in stock or is discontinued, with proper proof of purchase where applicable. Replace burned out or broken bulbs immediately. Burned out or broken bulbs shorten the life of all other bulbs in the light set. Broken, faded, or burned out bulbs, bulb covers and fuses are the responsibility of the user. This warranty is void if the light set is damaged due to accident, abuse, misuse, neglect, weather, if any identifying labels are removed (UL tag and white manufactures date tag), installation damage and/or if non-S4 bulbs are inserted into light sets. S4 does not provide warranty coverage for lost or stolen lights. In no event shall S4 be liable for incidental, consequential, special to indirect damages, including without limitation, property damage, personal injury or lost business sales or profits, resulting from any defects in the light set.

Consumers and other users must communicate directly with the Point Of Purchase location from which the sale was made and retain repair or replacement authorization from the retailer or distributor, with proper proof of purchase. Warranty is governed by same S4 Lights warranty guidelines, options and discretion.

REV 3.24.17
VIA ELECTRONIC MAIL

Corey Layman
AICP Assistant Director and Zoning Administrator
Department of City Planning
City-County Building
414 Grant Street
Pittsburgh, PA 15219
Corey.Layman@pittsburghpa.gov

April 19, 2021

Re: PPG Place Plaza Holiday Decorations

Dear Corey:

As I am sure you know, for the past two decades, PPG Place Plaza, in the City’s GT-A (Golden Triangle, subdistrict A) District, has been the site of a seasonal ice skating rink, which has been a festive and vibrant presence that has attracted many visitors to downtown. The rink surrounds the Plaza’s iconic obelisk and, since its inception, the ice skating rink has included the use of the obelisk for a decorated holiday tree. The ice skating rink typically operates from early November through the end of February (approximately 105 days). The holiday tree is typically in place for Light Up Night, in mid-November, and removed the first week of January (remaining in place for approximately 45 days).

Highwoods Properties, which now owns the site, is exploring opportunities to enhance the ice skating rink attraction and is working with other significant downtown property owners to encourage more visitors to make downtown a destination for entertainment, retail shopping and dining. One opportunity involves the installation of an enhanced holiday decoration/tree display on the obelisk at the center of the ice skating rink. The new display would involve a tree of approximately the same dimensions as the holiday tree and would include changeable LED lighting that would allow for light animation to be choreographed to music (“New Tree”). Because of the investment involved with the New Tree, Highwoods is working with potential sponsors, with the idea that the light display on the New Tree would occasionally include sponsor names or logos (no products, services or activities of sponsors would be included). Before any investment is made in the New Tree, Highwoods would like to ascertain whether any zoning approvals would be required to allow for its reasonable use.
The relevant zoning questions seem to be:

1) Is the New Tree “accessory” to the permitted seasonal ice skating rink?

2) Is the New Tree a “sign” under the Zoning Code’s definitions?

3) If considered a “sign,” whether the New Tree constitutes a permitted “holiday display” or whether any other approvals would be required.

Accessory Use:

The seasonal ice skating rink was originally permitted with a November 2001 Certificate of Occupancy. Although the Certificate of Occupancy does not specifically identify the holiday tree that decorates the obelisk, the tree has been consistently included as part of the skating rink’s holiday decorations. Section 912.03 identifies the types of accessory uses that are permitted by right in nonresidential districts. Although none of the listed accessory uses encompasses temporary decoration accessory to a seasonal use, Section 912.03(12) allows the Zoning Administrator to determine that an accessory use is “appropriate, incidental and subordinate” to the primary use on the lot.

The New Tree would be part of the permitted seasonal ice skating rink and would be “appropriate, incidental and subordinate” to that use. The New Tree would only remain on the obelisk for only a portion of the time that the seasonal ice skating rink use is in place and would be clearly subordinate to the primary use of both the rink and PPG Place. It would thus be within your jurisdiction to approve the New Tree as an accessory amenity to the seasonal ice skating rink.

“Sign” Definitions:

Section 919.01.C sets forth special definitions for the Code’s sign provisions. Section 919.01.C.1 lists different types of “signs” but also states that the definition does not include “holiday decorations” or “works of art.” The “holiday decorations” exclusion, for business uses, seems to be limited to decorations in windows, “without business advertising;” and the “works of art” exclusion does not allow for promotion of products, services or activities. Under these definitions, the New Tree would include elements of both holiday decorations and works of art. The sponsor recognition would be incidental to the tree’s primary decorative purpose and would not involve the advertisement of products, services or activities. The New Tree, as proposed, thus seems to fall within the “holiday decoration” and “work of art” exclusions from the Code’s definition of “sign.”

Approvals for the New Tree, if considered a “Sign”:

If the New Tree is considered a “sign,” it could be permitted under Section 919.03.H as a “holiday display.” That section provides that “temporary displays or signs in the nature of decorations, clearly incidental and commonly associated with any national, local or religious holiday” are permitted in any district, but for no more than a period of 90 consecutive days in a year. The intended period of display for the New Tree would be for approximately 45 days and thus would be consistent with the limitations for permitted holiday displays.
Highwoods also recognizes that the City may be concerned about the LED components of the New Tree and about whether it should be subject to the requirements for “electronic non-advertising signs” under Section 919.03.O, including the limitation to HC, UI and GI Districts.

The New Tree could thus be approved 1) under the accessory use provisions of Section 912.03(12); 2) as a combination of holiday decoration and work of art, which are excluded from the Section 919.01.C.1 definition of “sign;” or 3) as a permitted “holiday display” under Section 919.03.H. If you could confirm this interpretation, Highwoods will submit an appropriate application for your review. To the extent that any approvals under any other Code provisions would be required, Highwoods would appreciate your interpretation and the opportunity to address your concerns before it proceeds with the proposed New Tree project.

I hope that we can schedule a time to discuss the proposed project at your earliest convenience. Thank you for your consideration.

Sincerely,

Clifford B. Levine
Shareholder
Dentons Cohen & Grigsby P.C.