

Deck Designer Specification Kit For  
**TimberTech**

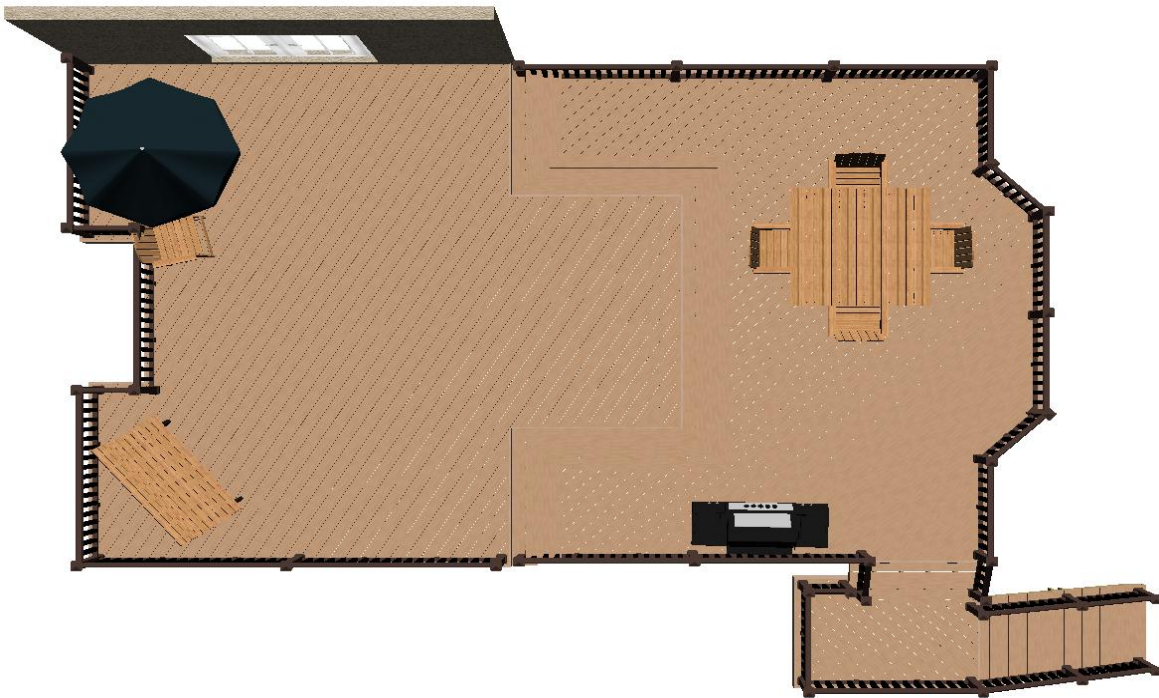
**Deck layout diagram**



Top view without planks

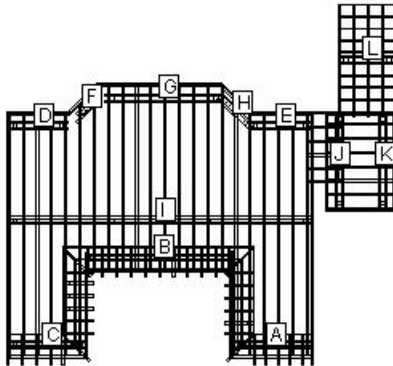


Bottom view with planks



Top view with planks

Permit Page: Level 1



**LOAD AND SUPPORT:**

Your deck will support a 51 PSF live load.  
Posts have 36" below ground support.

**DECK AND POST HEIGHT:**

You selected a height of 96" from the top of the decking to the ground level. The top of the deck support posts will therefore be 87" above ground level.

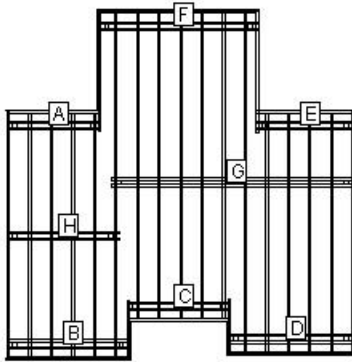
**Joists:**

Set joists on top of beams, 16"; center to center.

**Stress Analysis: Level 1**

|                   |       |
|-------------------|-------|
| Joist Deflection  | 18651 |
| Joist Bending     | 973   |
| Joist Shear       | 579   |
| Joist Compression | 579   |
| Beam Deflection   | 240   |
| Beam Bending      | 77    |
| Beam Shear        | 61    |
| Post Stability    | 115   |

**Permit Page: Level 2**



**LOAD AND SUPPORT:**

Your deck will support a 40 PSF live load.  
Posts have 36" below ground support.

**DECK AND POST HEIGHT:**

You selected a height of 117" from the top of the decking to the ground level. The top of the deck support posts will therefore be 108" above ground level.

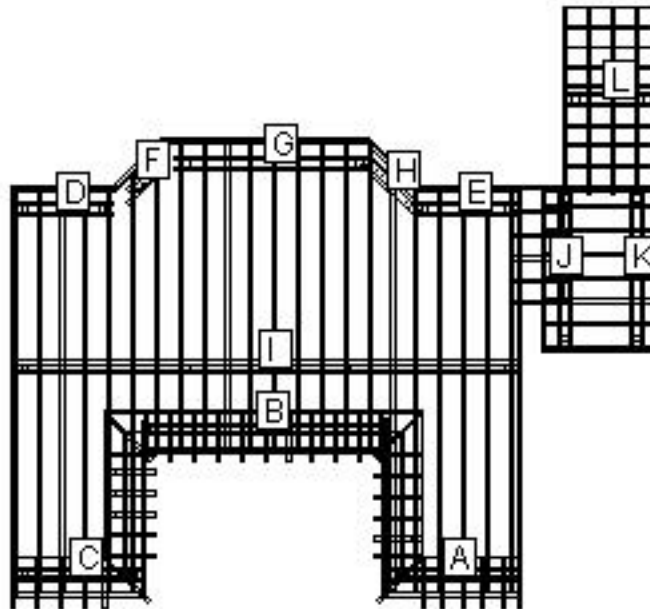
**Joists:**

Set joists on top of beams, 16"; center to center.

**Stress Analysis: Level 2**

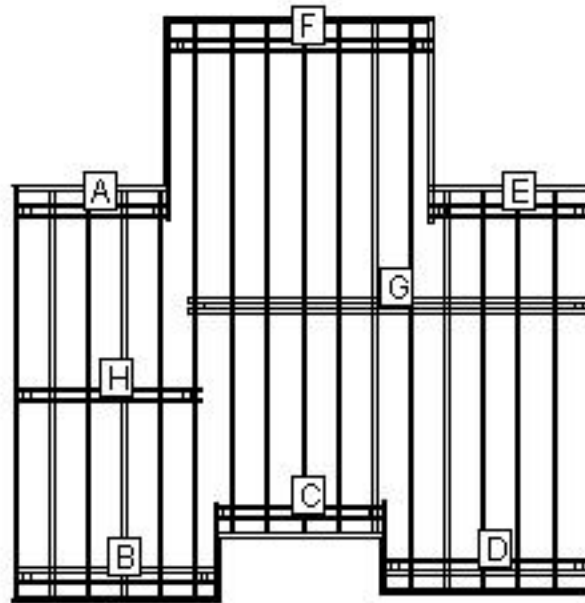
|                   |     |
|-------------------|-----|
| Joist Deflection  | 139 |
| Joist Bending     | 51  |
| Joist Shear       | 93  |
| Joist Compression | 93  |
| Beam Deflection   | 189 |
| Beam Bending      | 61  |
| Beam Shear        | 50  |
| Post Stability    | 94  |

### Beam Layout Level 1



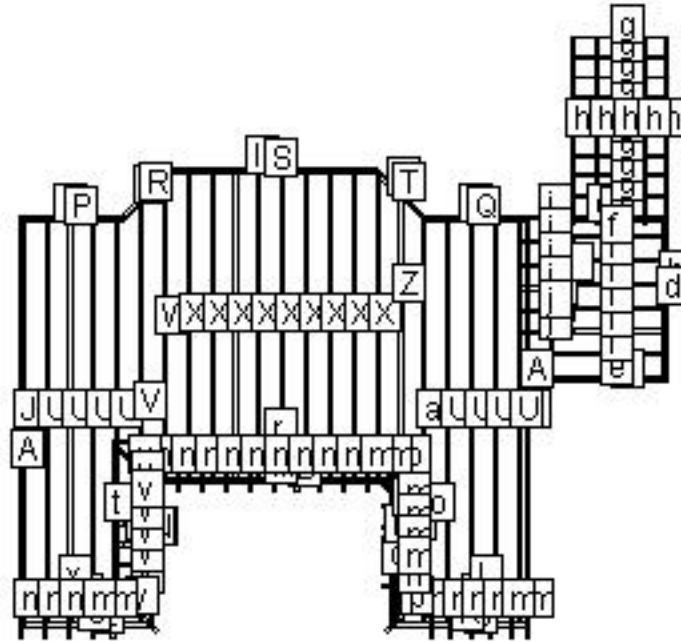
| BEAM LABEL | BEAM LENGTH | POST COUNT | POST SPACING |
|------------|-------------|------------|--------------|
| A          | 5' 9 1/4"   | 2          | 4' 9 3/4"    |
| B          | 10' 4 3/4"  | 2          | 9' 5 1/4"    |
| C          | 5' 6 1/4"   | 2          | 4' 6 3/4"    |
| D          | 4' 3"       | 2          | 3' 3 1/2"    |
| E          | 4' 6"       | 2          | 3' 6 1/2"    |
| F          | 2'          | 2          | 9"           |
| G          | 8' 4"       | 2          | 7' 4 1/2"    |
| H          | 3' 1"       | 2          | 1' 10"       |
| I          | 21' 5 1/4"  | 4          | 6' 10"       |
| J          | 6' 10 1/4"  | 2          | 5' 10 3/4"   |
| K          | 6' 10 1/4"  | 2          | 5' 10 3/4"   |
| L          | 4' 1/4"     | 2          | 3' 3/4"      |

### Beam Layout Level 2



| BEAM LABEL | BEAM LENGTH | POST COUNT | POST SPACING |
|------------|-------------|------------|--------------|
| A          | 5' 9 1/2"   | 2          | 4' 10"       |
| B          | 7' 6 1/4"   | 2          | 6' 6 3/4"    |
| C          | 6' 4 3/4"   | 2          | 5' 5 1/4"    |
| D          | 7' 9 1/4"   | 2          | 6' 9 3/4"    |
| E          | 6' 1/2"     | 2          | 5' 1"        |
| F          | 9' 10 1/4"  | 2          | 8' 10 3/4"   |
| G          | 15' 1/4"    | 3          | 7' 1/4"      |
| H          | 6' 11"      | 2          | 5' 11 1/2"   |

Materials Cut List: Level 1



| LABEL | NAME      | QTY | LENGTH     | BEVELS | LABEL | NAME           | QTY | LENGTH     | BEVELS |
|-------|-----------|-----|------------|--------|-------|----------------|-----|------------|--------|
| A     | Cladding  | 2   | 17' 5"     | 45, 45 | a     | Internal Joist | 1   | 17' 1/2"   | 0, 0   |
| B     | Cladding  | 1   | 5' 11"     | 45, 45 | b     | Cladding       | 2   | 7'         | 45, 45 |
| C     | Cladding  | 2   | 6' 3"      | 45, 45 | c     | Cladding       | 2   | 5'         | 45, 45 |
| D     | Cladding  | 1   | 10' 2"     | 45, 45 | d     | Header         | 2   | 6' 7 1/4"  | 0, 0   |
| E     | Cladding  | 1   | 5' 8"      | 45, 45 | e     | Rim Joist      | 2   | 4' 10 1/4" | 0, 0   |
| F     | Cladding  | 1   | 4' 4 1/4"  | 23, 45 | f     | Internal Joist | 6   | 4' 7 1/4"  | 0, 0   |
| G     | Cladding  | 1   | 4' 5 1/4"  | 45, 23 | g     | Riser          | 9   | 4' 1/4"    | 0, 0   |
| H     | Cladding  | 2   | 2' 10 1/4" | 23, 23 | h     | Stringer       | 5   | 9' 4 1/2"  | 0, 0   |
| I     | Cladding  | 1   | 8' 10"     | 23, 23 | i     | Riser          | 2   | 5'         | 0, 0   |
| J     | Rim Joist | 2   | 17' 3 1/4" | 0, 0   | j     | Stringer       | 6   | 2' 3 1/2"  | 0, 0   |
| K     | Header    | 1   | 5' 6 1/4"  | 0, 0   | k     | Riser          | 1   | 5' 1"      | 0, 45  |
| L     | Rim Joist | 1   | 7' 5 3/4"  | 0, 0   | l     | Riser          | 1   | 4' 3"      | 0, 45  |

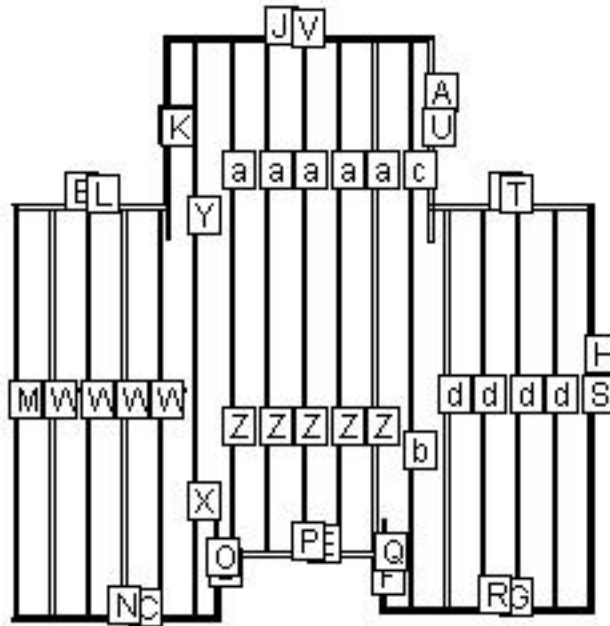
Cut Angles: L=Left, R=Right, F=Front, S=Side

| LABEL | NAME           | QTY | LENGTH      | BEVELS | LABEL | NAME     | QTY | LENGTH  | BEVELS |
|-------|----------------|-----|-------------|--------|-------|----------|-----|---------|--------|
| M     | Header         | 1   | 10' 4 3/4"  | 0, 0   | m     | Stringer | 28  | 2' 1"   | 0, 0   |
| N     | Rim Joist      | 1   | 7' 4 3/4"   | 0, 0   | n     | Riser    | 1   | 6' 3"   | 45, 45 |
| O     | Header         | 1   | 5' 3 1/4"   | 0, 0   | o     | Riser    | 1   | 6' 3"   | 45, 45 |
| P     | Header         | 1   | 4' 2"       | 0, 0   | p     | Stringer | 2   | 2' 8"   | 0, 0   |
| Q     | Header         | 1   | 4' 3"       | 0, 0   | q     | Riser    | 1   | 11' 10" | 45, 45 |
| R     | Header         | 1   | 2' 10"      | 0, 0   | r     | Riser    | 1   | 13' 6"  | 45, 45 |
| S     | Header         | 1   | 8' 9 1/4"   | 0, 0   | s     | Riser    | 1   | 6' 3"   | 45, 45 |
| T     | Header         | 1   | 2' 10"      | 0, 0   | t     | Riser    | 1   | 6' 3"   | 45, 45 |
| U     | Internal Joist | 8   | 17' 1/4"    | 0, 0   | u     | Stringer | 1   | 2' 8"   | 0, 0   |
| V     | Internal Joist | 1   | 17' 9 3/4"  | 45, 0  | v     | Stringer | 6   | 2' 1"   | 0, 0   |
| W     | Internal Joist | 1   | 12' 7 3/4"  | 45, 0  | w     | Riser    | 1   | 4' 10"  | 45, 0  |
| X     | Internal Joist | 9   | 12' 10 1/4" | 0, 0   | x     | Riser    | 1   | 4'      | 45, 0  |
| Y     | Internal Joist | 1   | 9' 6 1/2"   | 45, 0  | y     | Stringer | 1   | 2' 8"   | 0, 0   |
| Z     | Internal Joist | 1   | 8' 6"       | 45, 0  |       |          |     |         |        |

Cut Angles: L=Left, R=Right, F=Front, S=Side



Materials Cut List: Level 2



| LABEL | NAME      | QTY | LENGTH    | BEVELS | LABEL | NAME           | QTY | LENGTH     | BEVELS |
|-------|-----------|-----|-----------|--------|-------|----------------|-----|------------|--------|
| A     | Cladding  | 2   | 6' 3"     | 45, 45 | P     | Header         | 1   | 6' 4 3/4"  | 0, 0   |
| B     | Cladding  | 1   | 5' 9"     | 45, 45 | Q     | Rim Joist      | 1   | 3' 3 3/4"  | 0, 0   |
| C     | Cladding  | 1   | 7' 8"     | 45, 45 | R     | Header         | 1   | 7' 6 1/4"  | 0, 0   |
| D     | Cladding  | 1   | 2' 5"     | 45, 45 | S     | Rim Joist      | 1   | 15' 1/4"   | 0, 0   |
| E     | Cladding  | 1   | 6' 2"     | 45, 45 | T     | Header         | 1   | 5' 11"     | 0, 0   |
| F     | Cladding  | 1   | 2' 1"     | 45, 45 | U     | Rim Joist      | 1   | 7' 5 3/4"  | 0, 0   |
| G     | Cladding  | 1   | 7' 11"    | 45, 45 | V     | Header         | 1   | 9' 7 1/4"  | 0, 0   |
| H     | Cladding  | 1   | 15' 2"    | 45, 45 | W     | Internal Joist | 4   | 15' 1 1/4" | 0, 0   |
| I     | Cladding  | 1   | 6'        | 45, 45 | X     | Internal Joist | 1   | 7' 5 1/2"  | 0, 0   |
| J     | Cladding  | 1   | 10'       | 45, 45 | Y     | Internal Joist | 1   | 13' 9 3/4" | 0, 0   |
| K     | Rim Joist | 1   | 7' 4 3/4" | 0, 0   | Z     | Internal Joist | 5   | 8' 5 1/2"  | 0, 0   |
| L     | Header    | 1   | 5' 8"     | 0, 0   | a     | Internal Joist | 5   | 10' 5 3/4" | 0, 0   |

Cut Angles: L=Left, R=Right, F=Front, S=Side

| LABEL | NAME      | QTY | LENGTH     | BEVELS | LABEL | NAME           | QTY | LENGTH     | BEVELS |
|-------|-----------|-----|------------|--------|-------|----------------|-----|------------|--------|
| M     | Rim Joist | 1   | 15' 4 1/4" | 0, 0   | b     | Internal Joist | 1   | 10' 6 1/2" | 0, 0   |
| N     | Header    | 1   | 7' 3 1/4"  | 0, 0   | c     | Internal Joist | 1   | 10' 4 3/4" | 0, 0   |
| O     | Rim Joist | 1   | 3' 6 3/4"  | 0, 0   | d     | Internal Joist | 4   | 14' 9 1/4" | 0, 0   |

Cut Angles: L=Left, R=Right, F=Front, S=Side

## Component Descriptions

These recommendations are for railing with a 4" gap from deck surface to the bottom of the bottom rail. Always refer to your local building codes to determine if other requirements must be met. Canadian requirements may vary.

TimberTech RadianceRail and AZEK Black and White rail sections are available in 10 ft. sections. See your local TimberTech or AZEK Dealer for more information.

### Lumber Materials

| COMPONENT       | QTY | DESCRIPTION  | WOOD TYPE  |
|-----------------|-----|--|------------|
| Rim Joist       | 24  | 2X8X18 Treated   | TREATED    |
| Internal Joist  | 15  | 2X8X14 Treated   | TREATED    |
| Internal Joist  | 7   | 2X8X10 Treated   | TREATED    |
| Beam            | 3   | 2X10X12 Treated  | TREATED    |
| Beam            | 5   | 2X10X10 Treated  | TREATED    |
| Beam            | 16  | 2X10X8 Treated   | TREATED    |
| Beam            | 5   | 2X10X16 Treated  | TREATED    |
| Railing Post    | 6   | 4X4X18 Treated   | TREATED    |
| Railing Section | 5   | TimberTech 6' RadianceRail Rail Pack - Kona® - 6'                  | TIMBERTECH |
| Railing Section | 13  | TimberTech 8' RadianceRail Rail Pack - Kona® - 8'                  | TIMBERTECH |
| Railing Section | 18  | TT/AZEK 31" Square Composite Baluster - Black - 31"                | TIMBERTECH |
| Cladding        | 18  | TimberTech TwinFascia Board - Cedar - 12'                          | TIMBERTECH |
| Decking         | 3   | TimberTech ReliaBoard® Deck Plank, Square Shouldered - Cedar - 12' | TIMBERTECH |
| Decking         | 93  | TimberTech ReliaBoard® Deck Plank, Square Shouldered - Cedar - 16' | TIMBERTECH |
| Decking         | 23  | TimberTech ReliaBoard® Deck Plank, Square Shouldered - Cedar - 20' | TIMBERTECH |
| Header          | 6   | 2X8X8 Treated  | TREATED    |
| Header          | 13  | 2X8X16 Treated   | TREATED    |
| Beam            | 2   | 2X10X18 Treated  | TREATED    |
| Post            | 24  | 4X4X8 Treated  | TREATED    |
| Riser           | 12  | TimberTech TwinRiser Board - Cedar - 12'                           | TIMBERTECH |
| Internal Joist  | 7   | 2X8X12 Treated   | TREATED    |
| Railing Post    | 1   | 4X4X12 Treated   | TREATED    |
| Post            | 17  | 4X4X10 Treated   | TREATED    |

To find an AZEK and/or TimberTech Dealer or Contractor in your area, please go to [www.timbertech.com](http://www.timbertech.com)

### Other Materials

| Qty | Description  |
|-----|--|
| 1   | 5 LB. 10D X1 1/2" Nail   |
| 2   | 5 LB. 10D Hot-Dip Galvanized Nail                                    |
| 4   | 1 LB. 10D Hot-Dip Galvanized Nail                                    |
| 81  | 2x8-10" Triple Zinc Joist Hanger JUS28-TZ                            |
| 1   | 1LB. 16D Galvanized Common Nail                                      |
| 2   | 2x6-8" Triple Zinc Left Skewed Joist Hanger SKH26L-TZ                |
| 1   | 2x6-8" Triple Zinc Right Skewed Joist Hanger SKH26R-TZ               |
| 18  | 7" Triple Zinc Angle Clip AC7-TZ                                     |
| 1   | 5 LB. 8D Galvanized Nail   |
| 5   | 1 LB. 1-1/2" Joist Hanger Nail                                       |
| 150 | Triple Zinc Rafter Tie RT7-TZ  |
| 43  | Anchor Bolt AB128  |
| 43  | 4X4 Triple Zinc Deck Post Anchor PA44E-TZ                            |
| 69  | 80 L.B. Basic Concrete Mix   |
| 33  | 8" X 48" Concrete Form Tube  |
| 688 | 1/2 Galvanized Flat Washer   |
| 14  | 1/2 Galvanized Hex Nut   |
| 344 | 1/2 X 8" Galvanized Carriage Bolt                                    |
| 49  | 7" Triple Zinc Angle Clip AC7-TZ                                     |
| 66  | 4X4 Triple Zinc Deck Post Tie SDPT7-TZ                               |
| 1   | 1 LB. 8X3" Philips Head Stainless Deck Screws                        |
| 33  | TimberTech 5" Post Skirt - Kona®                                     |
| 132 | 3/8 Galvanized Hex Nut   |
| 264 | 3/8 Galvanized Flat Washer   |
| 132 | 3/8 X 8" Galvanized Carriage Bolt                                    |
| 33  | TimberTech 5" x 5" Post Sleeve - Kona® - 42"                         |
| 33  | TimberTech 5" LED Post Cap Light                                     |
| 33  | TimberTech 5" Post Cap - Kona®                                       |
| 1   | TT/AZEK Wire Guide - 60 Packs of 12 ea.                              |
| 3   | TT/AZEK 100' wire 16/2   |
| 1   | TT/AZEK Decklites Dimmer   |
| 1   | TT/AZEK Transformer - 12 Volt 150 W                                  |
| 8   | 2 Pieces of Joist Material Nailed to Each Joist Splice               |
| 72  | TT/AZEK LED Riser Light - Architectural Bronze                       |
| 4   | TimberTech TOPLoc 100 Sq. Ft. Pack Cedar - Cedar                     |
| 2   | TimberTech TOPLoc Stainless Steel 3" - 85 Sq. Ft. Pack Cedar - Cedar |
| 1   | TimberTech TOPLoc Fascia Bit   |
| 4   | TimberTech TOPLoc Fascia Pack Cedar - Cedar                          |
| 32  | 1/2 X 6" Galvanized Lag Screw  |

| <b>Qty</b> | <b>Description</b>             |
|------------|--------------------------------|
| 2          | 1 LB. 10D X1 1/2" Nail         |
| 3          | 1LB. 8D Galvanized Common Nail |
| 1          | 40 LB. Basic Concrete Mix      |

**LEGAL DISCLAIMER:** The suggested design is a construction guide and is **NOT** a finished building plan. It is your responsibility to verify its accuracy, completeness, suitability for your particular site conditions, and compliance with local building codes and practices. Please consult your local building codes for requirements for deck lighting, railing, and stairs.

**AZEK Building Products and its affiliates assume no responsibility for any damages, including direct or consequential, personal injuries suffered, or property or economic losses incurred as a result of the information published within this Deck Design, AZEK Building Products and its affiliate websites or Deck Design Detail Report. Before beginning any project, review the instructions carefully. We cannot anticipate all of your working conditions or the characteristics of your materials and tools. For your safety, you should consider your own skill level and use caution, care and good judgment when following the instructions. If you have doubts, concerns or questions, consult local experts, architects, soil engineers or building authorities. Because local zoning and building codes and regulations vary greatly, you should ALWAYS CHECK WITH LOCAL AUTHORITIES TO ENSURE THAT YOUR PROJECT COMPLIES WITH ALL APPLICABLE CODES AND REGULATIONS. Always read and observe instructions and safety precautions provided by any tool or equipment manufacturer, and follow all accepted safety procedures.**

**You are responsible for ensuring that all measurements are correct. Due to the size, shape, location or other considerations, your design may require supporting structures, such as knee braces and bridging between joists and posts and are not included on the materials list and other information provided. YOU ARE RESPONSIBLE FOR ENSURING THAT YOUR DESIGN IS SAFE AND STRUCTURALLY SOUND FOR ITS SIZE, LOCATION AND ANTICIPATED USE. You are also responsible for verifying that the design and any substitutions or modifications you make meet all local building codes and regulations.**

**AZEK Building Products and its affiliates assume no liability or responsibility for your design, construction or use of any product supplied by AZEK Building Products.**

**YOU ASSUME TOTAL RESPONSIBILITY AND RISK FOR YOUR USE OF THE AZEK BUILDING PRODUCTS DESIGN, THE AZEK BUILDING PRODUCTS WEBSITE AND SUPPLIED DECK DESIGN DETAIL REPORT. AZEK BUILDING PRODUCTS PROVIDES THIS WEB-BASED TOOL, ALL INFORMATION, PRODUCTS, AND SERVICES "AS IS" AND DOES NOT MAKE EXPRESS OR IMPLIED WARRANTIES, REPRESENTATIONS, OR ENDORSEMENTS OF ANY KIND WHATSOEVER (INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE).**