TYPICAL DECK FRAMING PLAN

- ledger board
- tension−ties at end joist and first inside joist
- end joist
- rim joist
- joist span
- L
- overhang
- desking
- diagional bracing
- joist hanger
- beam
- joists
- footing
- overhang
- beam span
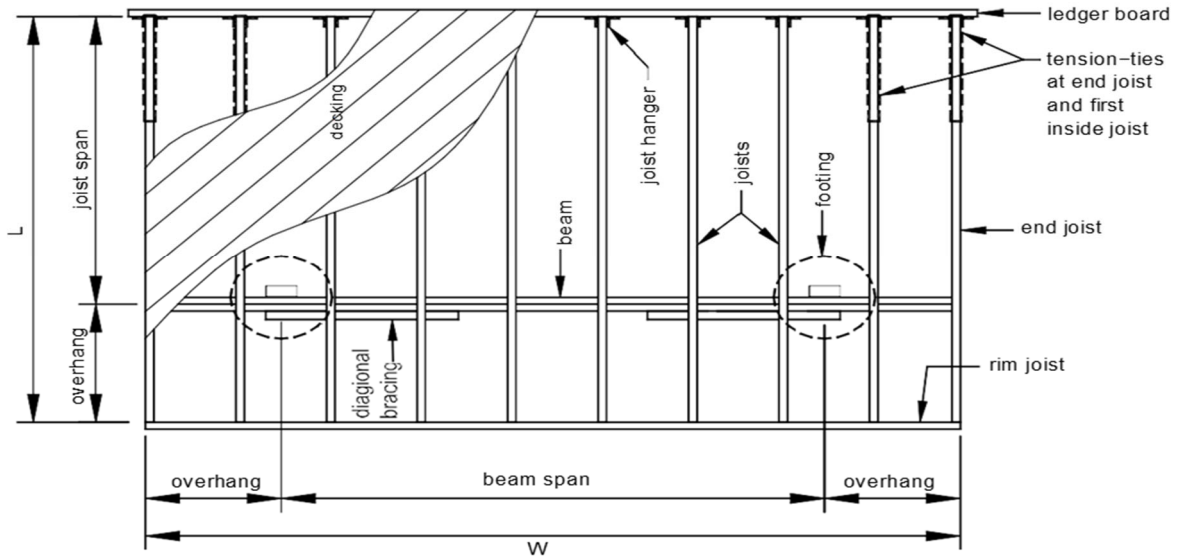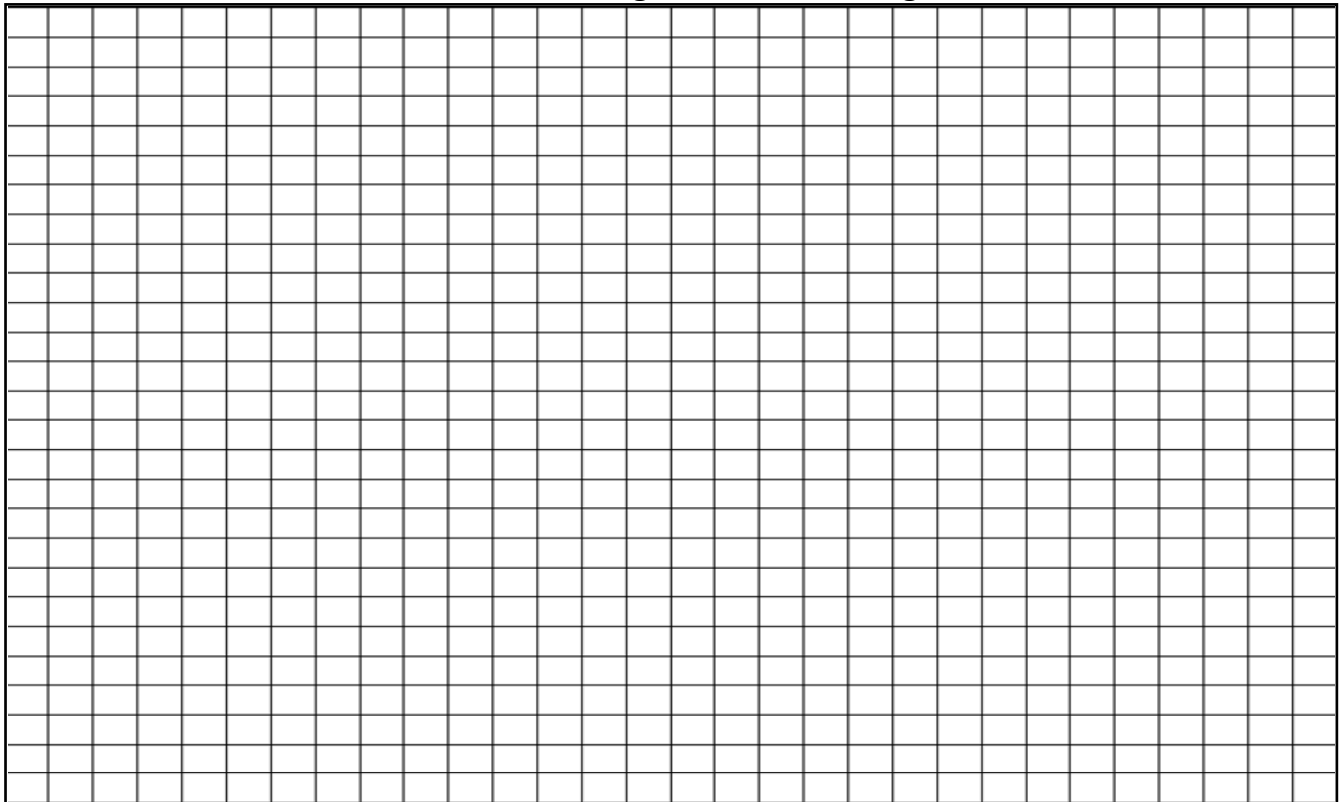- overhang
- W

Draw in your Deck Layout
Locate footings, beams, overhangs

What is your Deck size?

Section 1 Length= _____ft. – _____in. Width= _____ft. – _____in.

Section 2 Length= _____ft. – _____in. Width= _____ft. – _____in.

Section 3 Length= _____ft. – _____in. Width= _____ft. – _____in.

List your building materials:

Deck boards: ___2x4 ___2x6 ___five–quarter board wood–plastic composite (per ASTM D 7032)
___Other decking, evaluation report number: _____

Ledger board size: ___2x8 ___2x10 ___2x12 Not applicable (free–standing deck)

Floor Joists: size: ___2x6 ___2x8 ___2x10 ___2x12

Floor Joist spacing: ___12 in. ___16 in. ___24 in. on center

Floor joist span dimension: ____ft. – ____in.

Floor Joist overhang: ___Yes, overhang dimension: ____ft. – ____in. ___No

Rim joist size: ___2x6 ___2x8 ___2x10 ___2x12

Beam span: _____ft. - _____in. _____ft. - _____in. (distance between post)

Beam(s): number of plies: ___2 ___3   size: ___2x6 ___2x8 ___2x10 ___2x12

Beam overhang: ___Yes, overhang dimension: ____ft. – ____in. ___No

Posts size above grade: ___4x4 ___4x6 ___6x6 ___other _____

Post height above grade: ____ft. – ____in. (distance from the ground up)

Sonotube/Pier depth below grade: ____in. (minimum is 40")

Sonotube/Pier size diameter around: ____in.

Concrete Corner Footings: size: _____in. ___square or ___round and footing thickness: _____in. (minimum is 8")

Concrete Intermediate Footings: size: _____in. ___square or ___round and footing thickness: _____in. (minimum is 8")

Other types of footing: ____Dimond pier ___size or other _____

Type of fasteners used: ___Through bolt ___Lag screw ___Expansion anchor ___Adhesive anchor ___Wood screw

Lateral support used: ___Tension–tie (not permitted for free–standing deck) ___Diagonal bracing, size: 2x____

Go to REM Inspecting's website to view Deck code standards and prescriptive tables for footings; beams; joints, etc.

As an alternate you can use the below formulas to calculate your footing sizes

If you have any questions or need help, please contact the inspector to review the information together.

Loading

Live load   =   40   PSF
Dead load   =   10   PSF
Other   =_____PSF
Total load   =_____PSF

Soil Bearing =_____PSF*

*Minimum soils bearing 2,000 PSF

PSF=pounds per square foot

_____

Tributary Area

(See Example on Right)

Corner Footing
_____X_____=_____

Intermediate Footing
_____X_____=_____

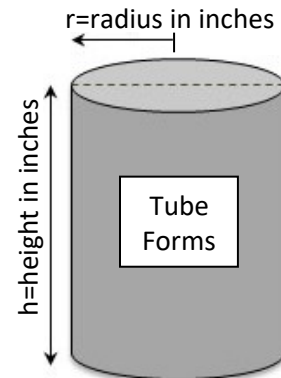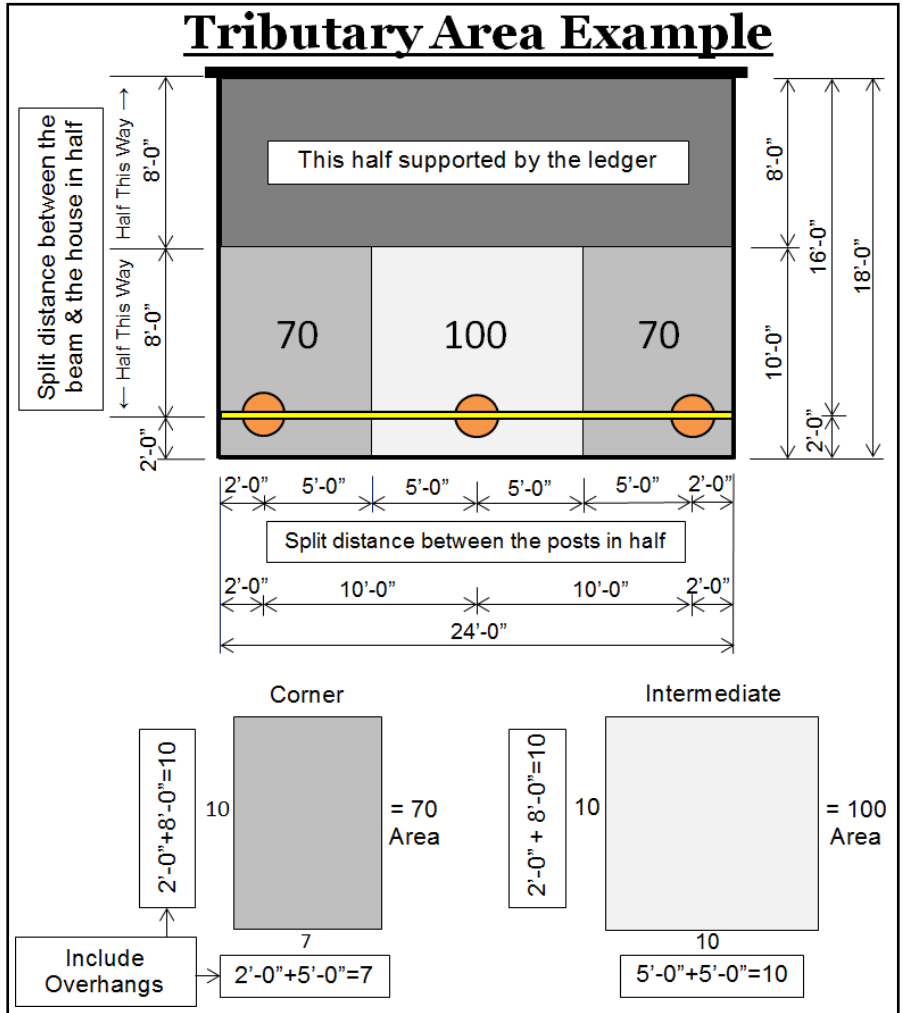## Tributary load

Tributary area x total load= tributary load

Use this formula for tube forms, I.e. Sonotubes®

Tributary area x total load + $(150\left(\frac{\pi r^2 h}{1728}\right))$ = tributary load

Corner footing

_____x_____(+150 $\left(\frac{\pi_____^2\_\_\_\_\_}{1728}\right)$) =_____

Intermediate footing

_____x_____(+150 $\left(\frac{\pi_____^2\_\_\_\_\_}{1728}\right)$) =_____

Tributary Area Example

This half supported by the ledger

Split distance between the beam & the house in half

← Half This Way →   8'-0"

← Half This Way →   8'-0"

2'-0"

8'-0"
16'-0"
18'-0"
10'-0"
2'-0"

70   100   70

2'-0"   5'-0"   5'-0"   5'-0"   5'-0"   2'-0"

Split distance between the posts in half

2'-0"   10'-0"   10'-0"   2'-0"

24'-0"

Corner

2'-0"+8'-0"=10

10

= 70 Area

Include Overhangs → 2'-0"+5'-0"=7

7

Intermediate

2'-0" + 8'-0"=10

10

= 100 Area

10

5'-0"+5'-0"=10

r=radius in inches

h=height in inches

Tube Forms

Footing Area   In² =inches squared

Tributary load ÷ Soil bearing=Load PSF × 144(change to square inches) = Area in In²

Corner footing

_____ ÷ _____ = _____ × 144 = _____ Area in In²

Intermediate footing

_____ ÷ _____ = _____ × 144 = _____ Area in In²

Round footings π= 3.1416

$2 \times \sqrt{area \div \pi}$ = diameter of footing
(round to nearest inch)

Corner
$2x\sqrt{\rule{1cm}{0.15mm} \div \pi}$ = _____ inches

Intermediate
$2x\sqrt{\rule{1cm}{0.15mm} \div \pi}$ = _____ inches

Square footings

$\sqrt{area}$ = length of each side
(round to nearest inch)

Corner
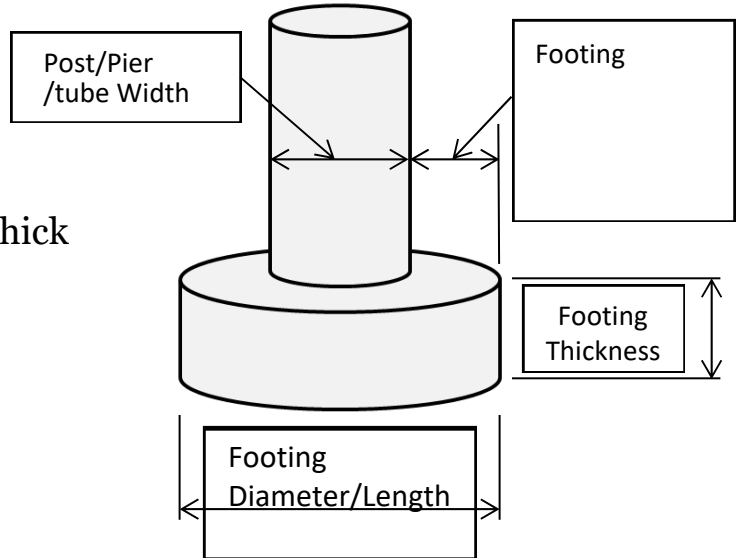$\sqrt{\rule{1cm}{0.15mm}}$ = _____ inches

Intermediate
$\sqrt{\rule{1cm}{0.15mm}}$ = _____ inches

Footing thickness[2]

(Diameter or length - post width)÷2= thickness
(in inches)

(_____ - _____)÷2= _____ inches

Note: Footings may <u>not</u> be less than 8" thick

Post/Pier /tube Width

Footing

Footing Thickness

Footing Diameter/Length

[2]Footing thickness formula from American Wood Council.
Prescriptive Residential Wood Deck Construction Guide, 2015.