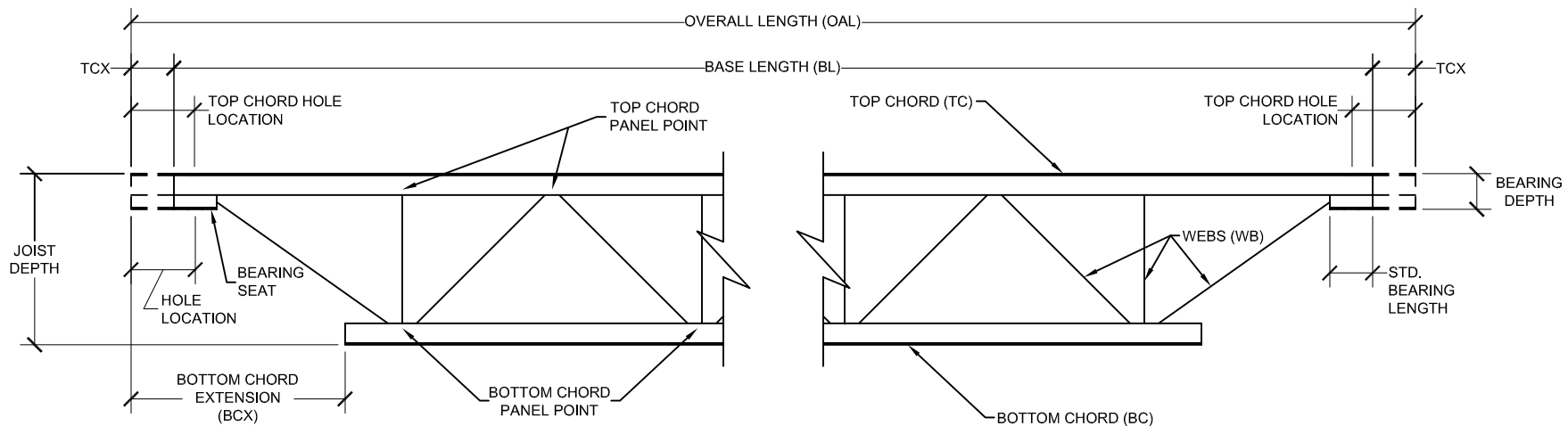


VULCRAFT OPEN WEB STEEL JOISTS AND JOIST GIRDERS

All open web steel joist and joist girders have five basic components. These are the top chord, bottom chord, webs (which connect the chords), bearing seats, and bridging for joists or bracing for girders. These components are sized to meet the requirements specified by the responsible design professional. All joist components are designed in accordance with the parameters established in the Steel Joist Institute (SJI) specifications. Vulcraft manufactures K and KCS series joists with either individual (rod, single angle, or double angle) webs or continuous (bend rod) webs. Other joist (LH, DLH, SLH, CJ) and joist girder types are manufactured with individual webs. Vulcraft manufactures all joists with top chord and bottom chords consisting of two angles separated by a designated space, which is generally 1.0 inch or less when smaller rod webs are used. Bearing seats are placed on the joists and joist girders to transfer the end reactions to the supporting structure. The installation of bridging and bracing is essential to laterally brace the joists and joist girders during the erection phase of the structure. Generally all material used in the fabrication of the joists has a yield strength of 50 ksi. Generally, all connections of components are made by welding, in accordance with the SJI welding specification. All open web steel joists and joist girders should be transported, stored, handled and erected in accordance with the recommended procedures.

Every Vulcraft product is custom designed and manufactured to meet the specific needs of that project. As part of the construction process each joist, joist girder and piece of bridging is assigned a "Mark Number" by a steel detailer as a steel joist placement plan is created. This placement plan indicates by the mark number where each joist, joist girder and piece of bridging is to be placed in the building or structure. A Vulcraft engineer with the aid of a computer program designs the components and connections of the joists and joist girders for the requirements specified by the responsible design professional in the construction documents.

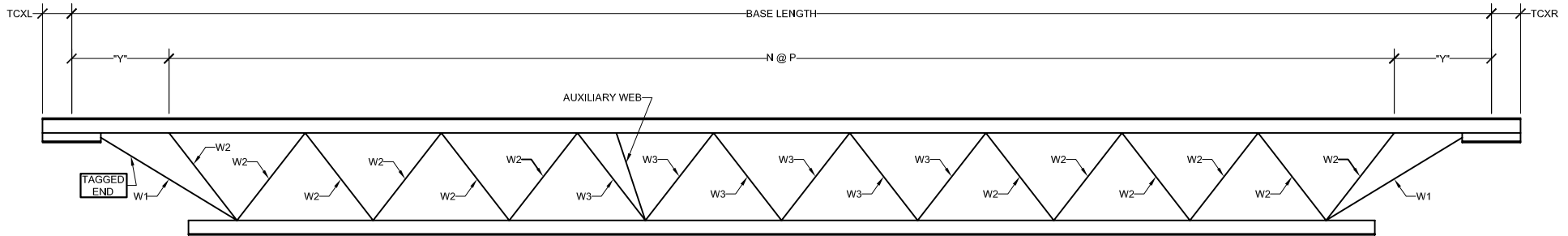
JOIST DEFINITIONS



ROD JOIST

ROD JOISTS:

WEBS ARE MADE OF CONTINUOUS ROUND RODS. WEBS ARE NUMBERED FOR DIFFERENT SIZES AND ARE SYMMETRICAL ABOUT THE CENTER OF THE JOISTS. AUXILIARY WEBS ARE MADE FROM ANGLES AND PLACED AT THE LOCATION OF A CONCENTRATED LOAD WHEN REQUIRED.



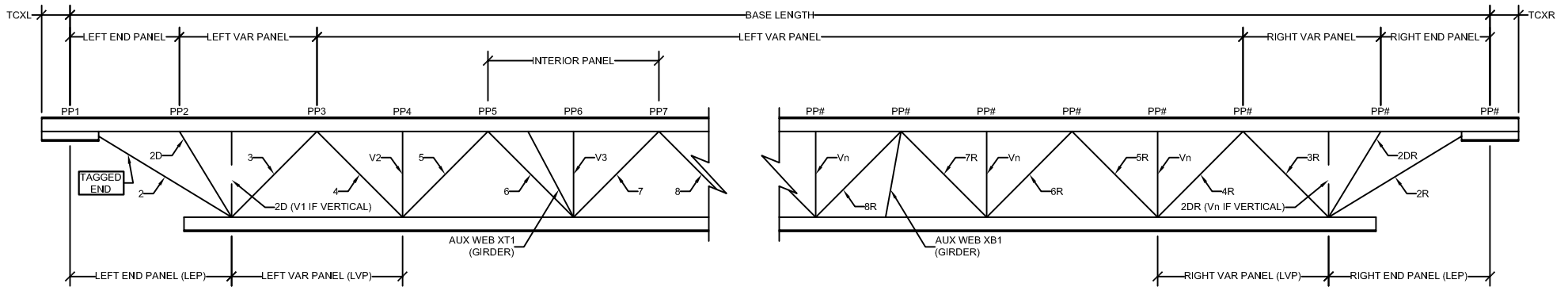
JOIST GIRDER AND K, KCS, LH, DLH, SLH SERIES JOIST

K, KCS, LH, SLH SERIES JOISTS:

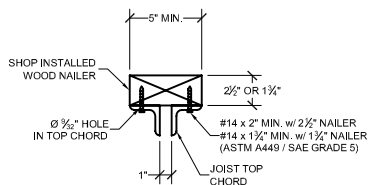
DIAGONAL WEBS NUMBERED IN SEQUENCE FROM TAGGED END TO CENTER OF JOIST AND SYMMETRICALLY ON OPPOSITE OR RIGHT END WITH "R" DESIGNATION. VERTICAL WEBS NUMBERED IN SEQUENCE AS V_n FROM THE TAGGED END TO OPPOSITE END.

JOIST GIRDERS:

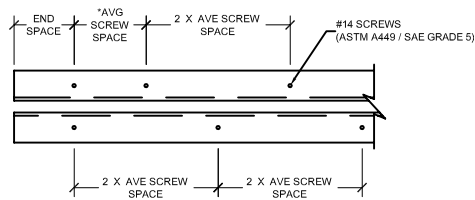
DIAGONAL WEBS NUMBERED IN SEQUENCE AND SYMMETRICALLY FROM THE ENDS TO THE CENTER OF THE JOIST GIRDER, WITH THE WEBS ON THE UNTAGGED OR RIGHT SIDE DESIGNATED "R". VERTICAL WEBS ARE NUMBERED IN SEQUENCE AS V_n FROM THE TAGGED END TO THE OPPOSITE END. AUXILIARY WEBS ARE MADE FROM ANGLES AND PLACED AT THE LOCATION OF A CONCENTRATED LOAD WHEN REQUIRED. THESE ARE NUMBERED IN SEQUENCE FROM THE TAGGED END. AUXILIARY WEBS TO TOP CHORD LOAD ARE LABELED XT_n AND AUXILIARY WEBS TO THE BOTTOM CHORD XB_n.



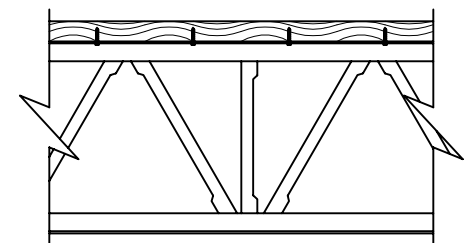
STANDARD NAILER ATTACHMENT



PLAN VIEW NAILER SCREW SPACING



AVG SCREW SPC = 12" MAX
SEE CALCULATIONS FOR ACTUAL SCREW SPACING



**STEEL - WOOD
HYBRID PROJECTS ONLY**