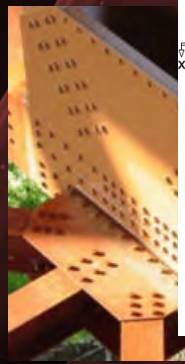
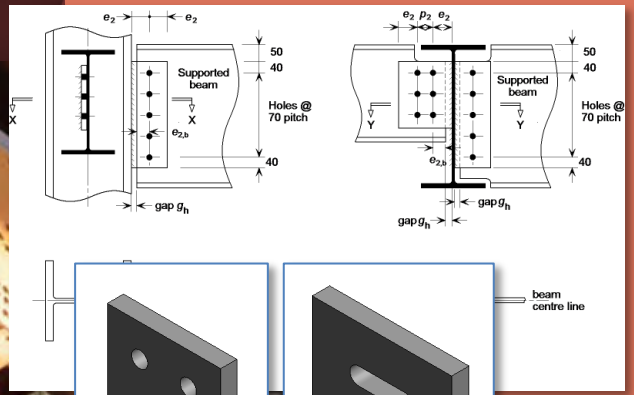
ARCH 2431
Building Technology III
Steel Assembly & Building Information Modeling (BIM) with Revit





Steel Connections Series

- #1 Introduction to Columns & Beams
- #2 Column Base Plates
- #3 Photos & Videos – Connections & Fasteners
- #4 Concrete footing to baseplate connection
- **#5 Fin & Splice Plates – Notched Beams**
- #6 Diagonal Bracing

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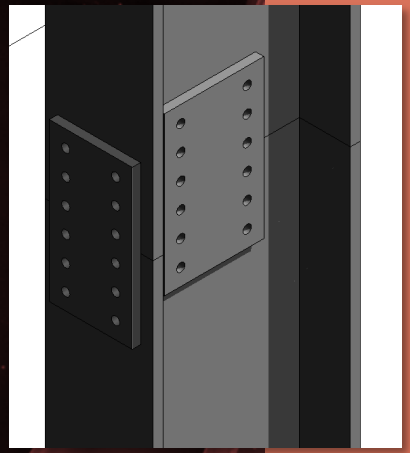
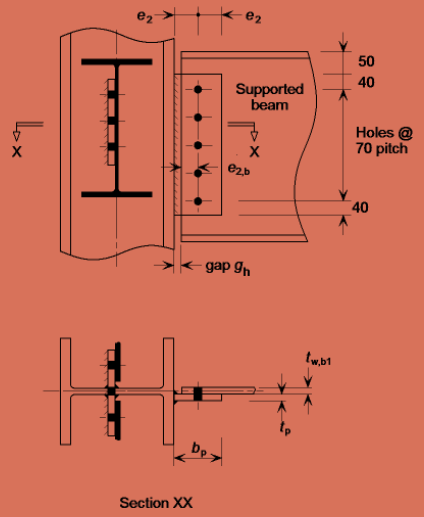
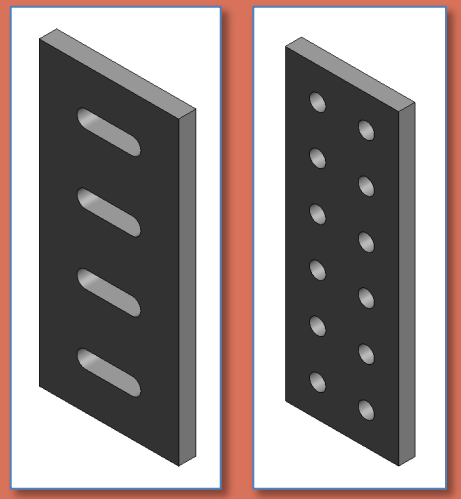
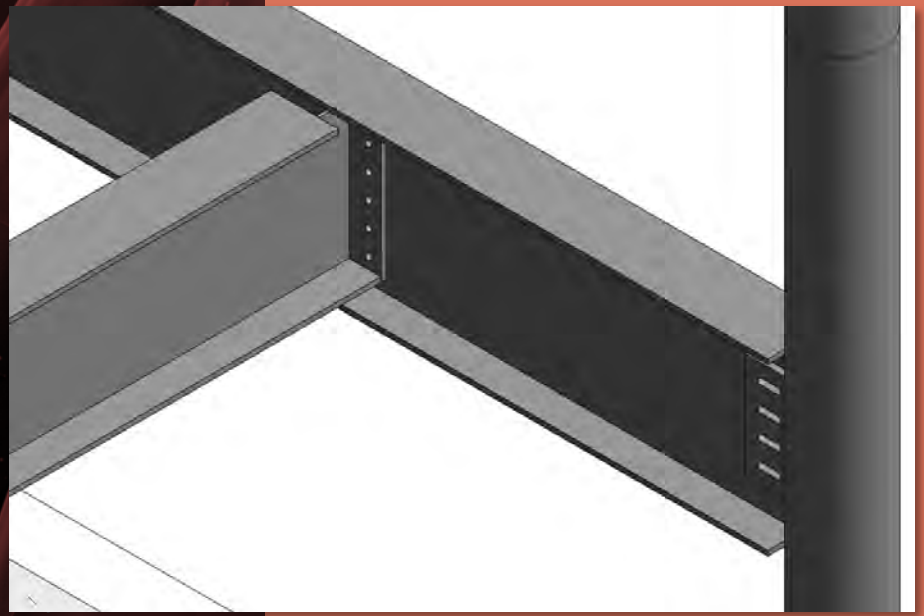
Steel Connections

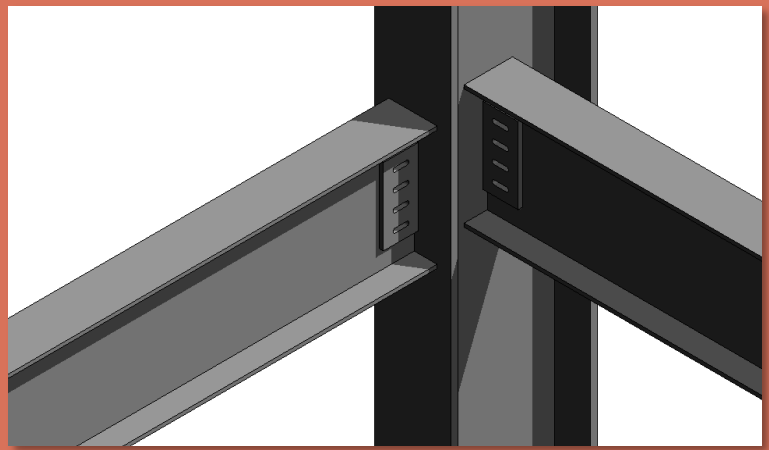






Fin & Splice Plates
Notched Beam Connections





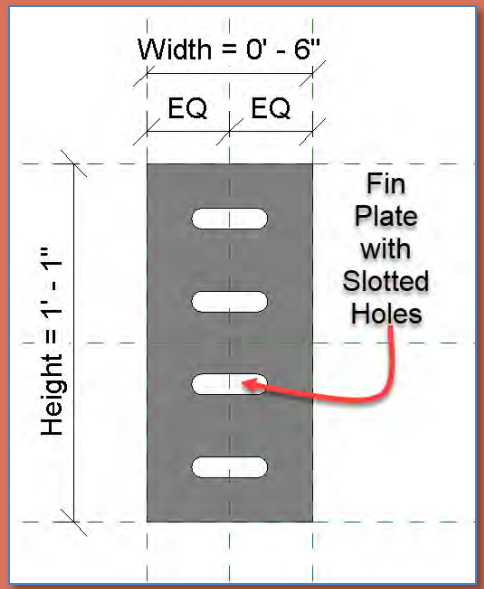
Fin Plates & Splice Plates for Column Connections

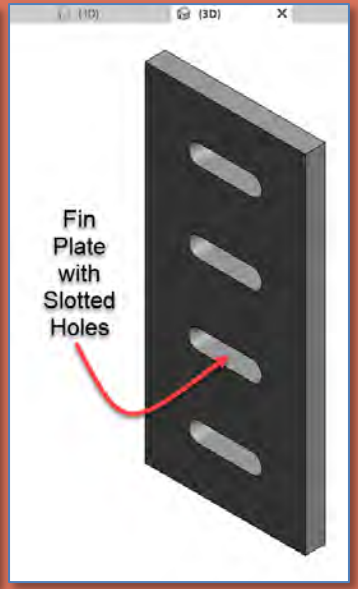
Fin Plate

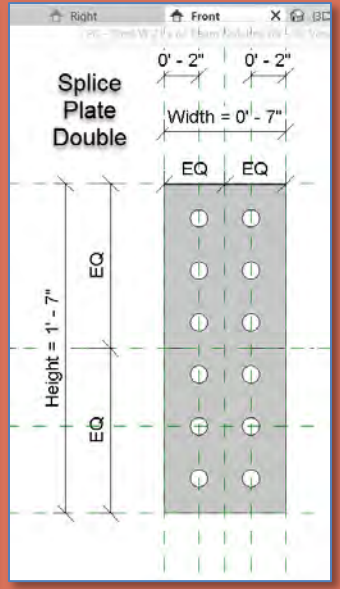
- Welded to columns or beams for connecting beams
- 3/8” Radius Slotted holes allow for horizontal adjustment

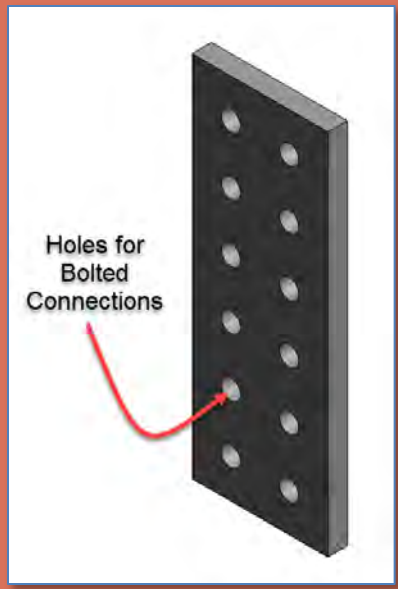
Splice Plates

- Used for vertical connections from column to column
- 3/8” Radius Holes allow for bolted connections

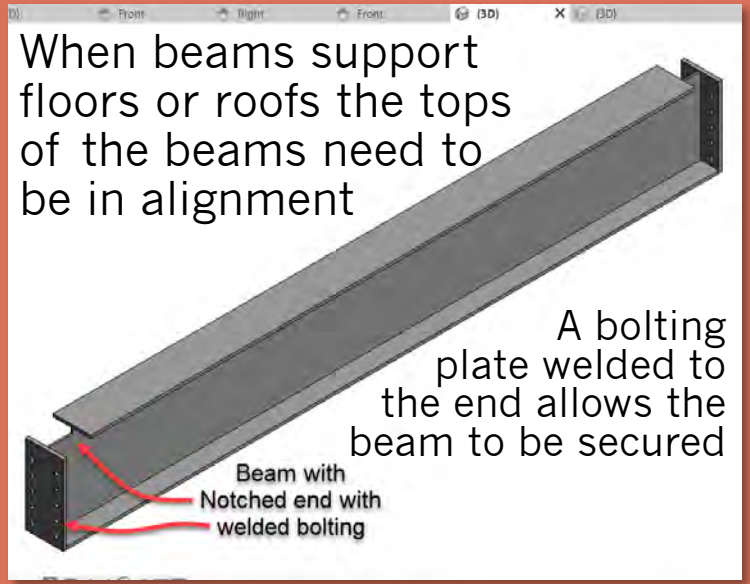


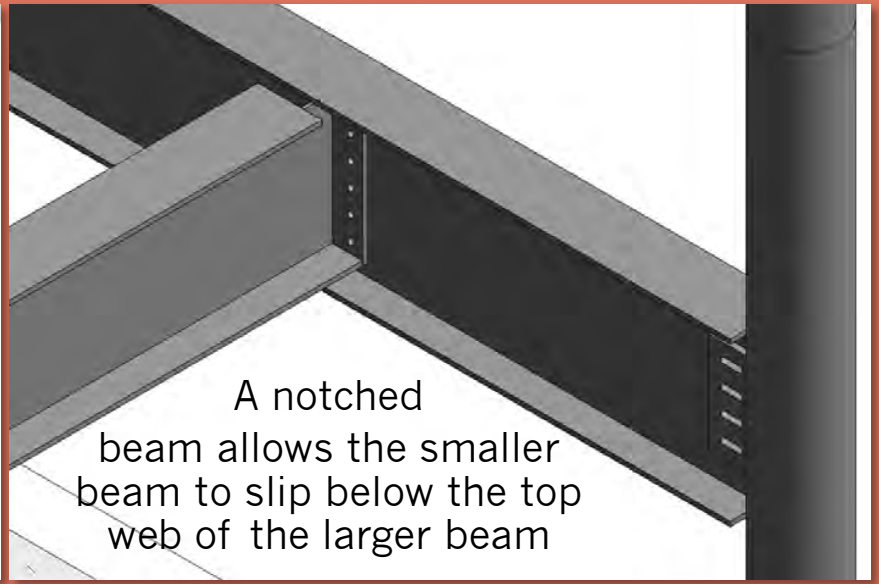


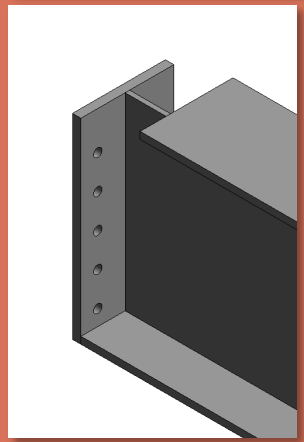


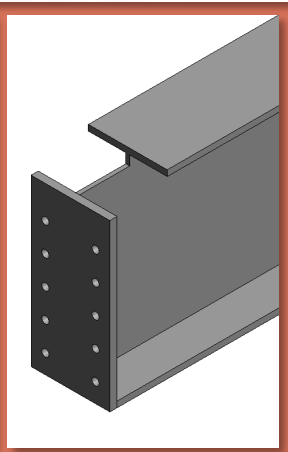


Notched Beam with Bolting Plate









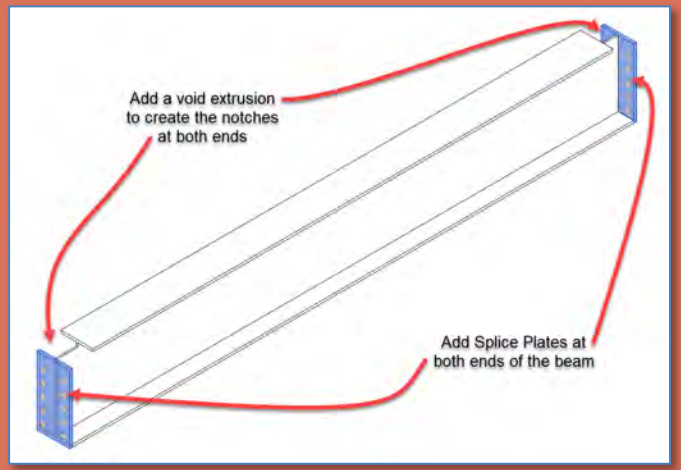
Use W 18 x 119 Notched Beam with Bolting plate

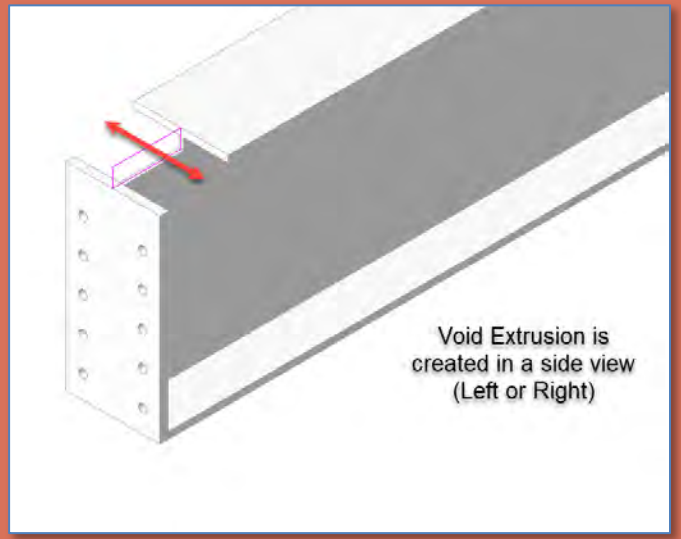
Designation Imperial (in x lb/ft)	Depth h (in)	Width w (in)	Web Thickness t_w (in)	Flange Thickness t_f (in)	Sectional Area (in^2)	Weight (lb_f/ft)	Static Parameters			
							Moment of Inertia		Elastic Section Modulus	
							I_x (in^4)	I_y (in^4)	S_x (in^3)	S_y (in^3)
W 27 x 178	27.8	14.09	0.725	1.190	52.3	178	6990	555	502	78.8
W 27 x 161	27.6	14.02	0.660	1.080	47.4	161	6280	497	455	70.9
W 18 x 119	19	11.27	0.655	1.060	35.1	119	2190	253	231	44.9
W 18 x 106	18.7	11.2	0.590	0.940	31.1	106	1910	220	204	39.4
W 18 x 97	18.6	11.15	0.535	0.870	28.5	97	1750	201	188	36.1

Depth = 19’’ **Width=11.27**

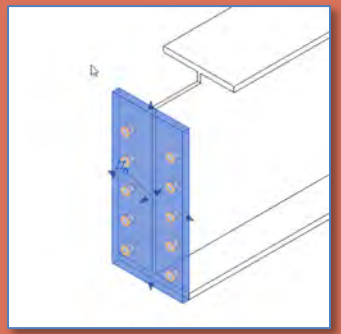
Web .655’’ **Flange = 1.060’’**

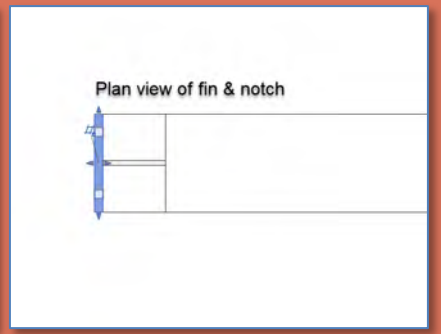
Notched Beam with Bolting Plate

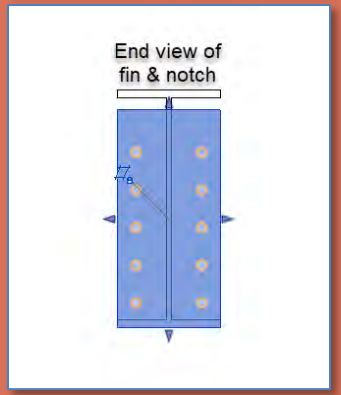


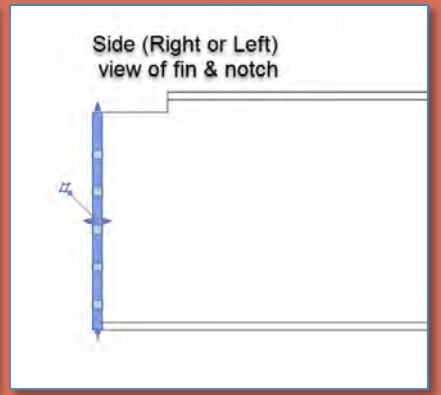


- Make a copy of a Beam Family
- Load a splice plate to use on the end – *Align and lock in place*
- Create the Void Extrusion to create a notch – **Align and lock** the void to stay in place
- You can create parameters to control the length of the beam or the size of the notch

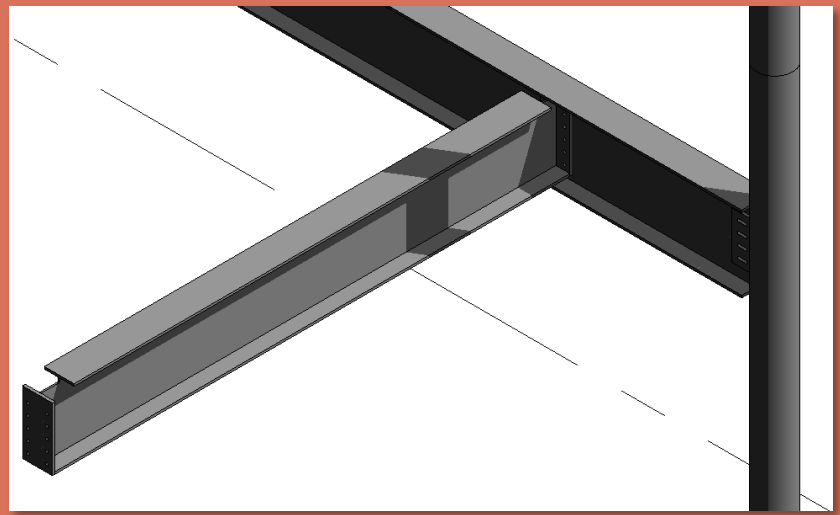


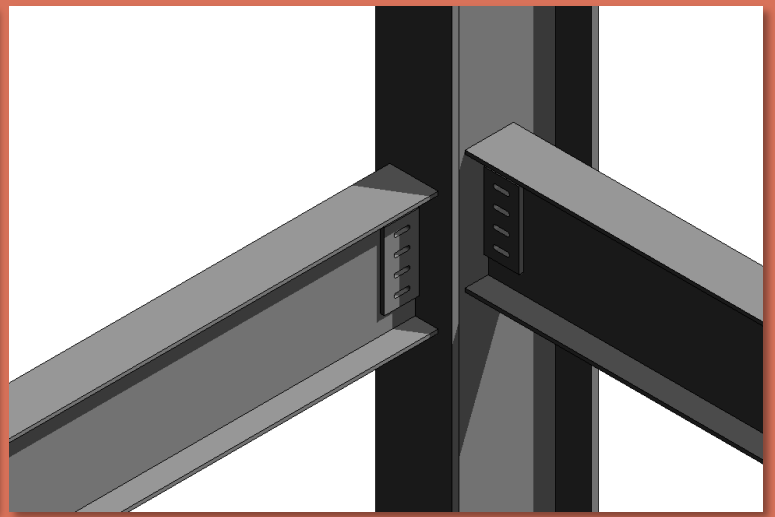


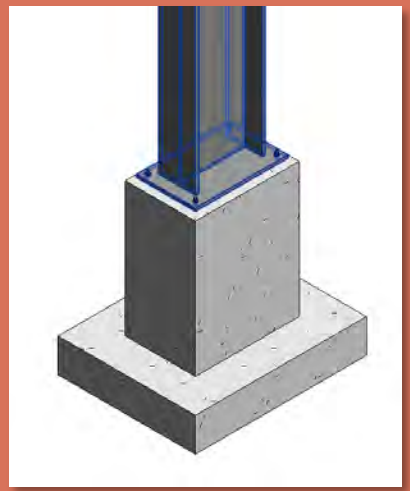


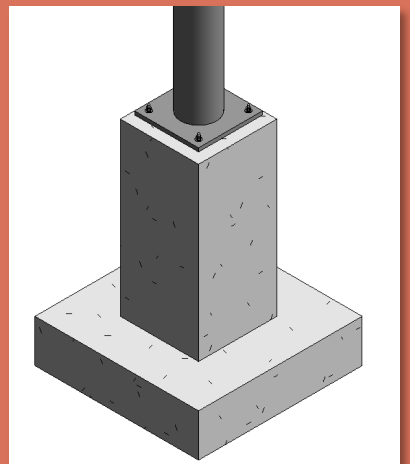


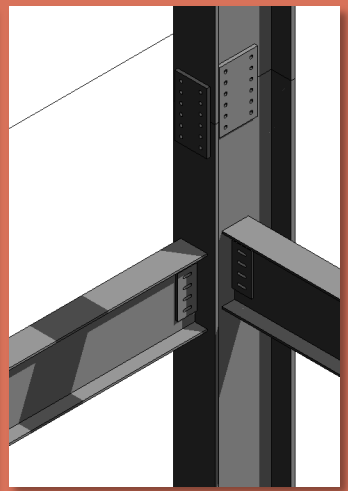
Isometric Views of the Project File

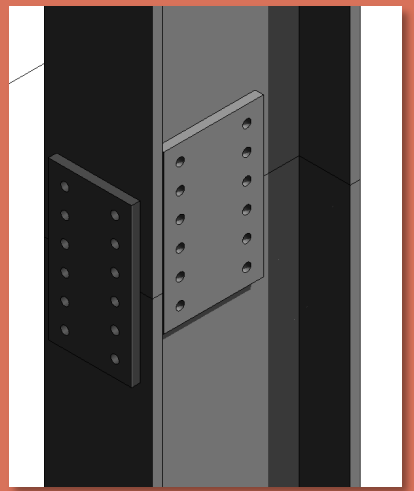








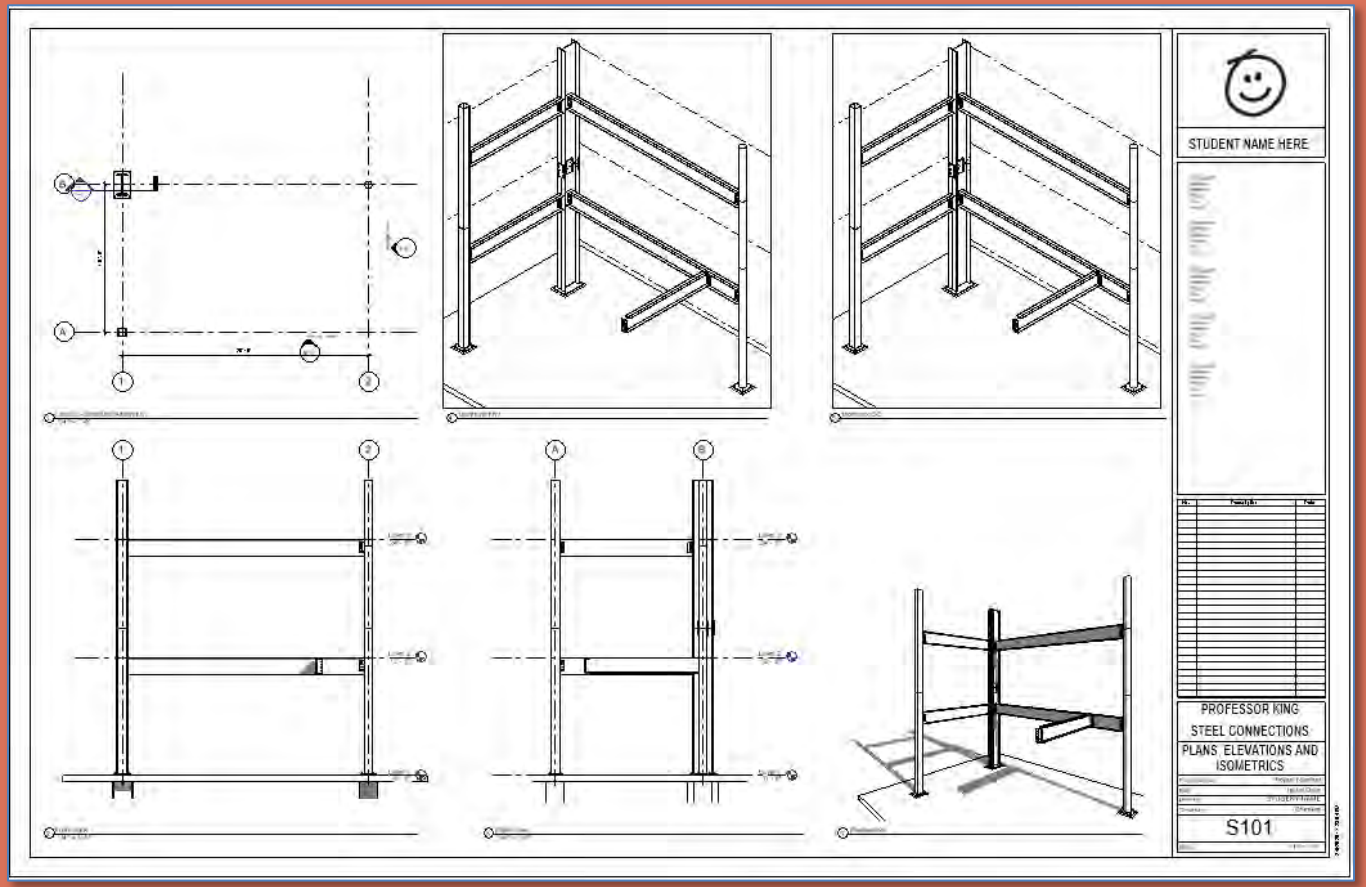




Fin & Splice Plates – Notched Beams

- Fin Plate
- Splice Plate
- Notched Beam
- Isometric Views
- Sheet

Updated Sheet - Add Additional Sheets



- **Create additional sets of 4 views of connections & develop details**
- **Annotate with Notes & Leaders, Dimensions, Hatch & Detail Items**

That's all Folks!