Design Considerations:

- Can transfer internal diaphragm forces
- Will develop volume change restraint forces that must be considered in design of connections

Fabrication Considerations:

- Slab manufacturing system must allow bottom weld anchors
- Beam inserts must align with slab inserts allowing fabrication tolerances

Erection Considerations:

- Connections can be completed by follow-up crew
- Access for welding may require ladders or scaffold
- Spacer may be required to make weld

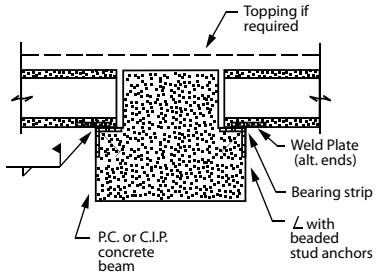

Fig. 5.3.5

Design Considerations:

- Can transfer internal diaphragm forces
- Can be designed as structural integrity tie
- Horizontal shear from beam cap must be transferred
- Opposing slab joints must line up

Fabrication Considerations:

- Clean and simple for slabs

Erection Considerations:

- Beam may have to be shored until cap is cured
- Horizontal shear reinforcement may present safety hazard for erector
- Core dams must be placed

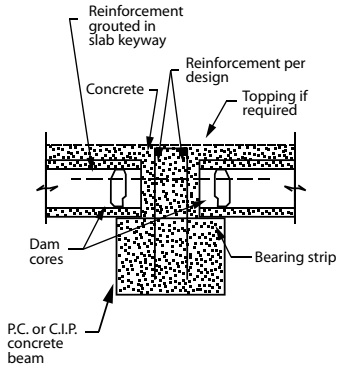

Fig. 5.3.6

Fig. (3.17c) Connections

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Design Considerations:

- Can transfer internal diaphragm forces
- Can be designed as structural integrity tie
- Horizontal shear in composite beam must be transfered
- Opposing slab joints must line up

Fabrication Considerations:

- Clean and simple for slabs

Erection Considerations:

- Beam may have to be shored until topping is cured
- Horizontal shear reinforcement may present safety hazard for erector
- Core dams must be placed

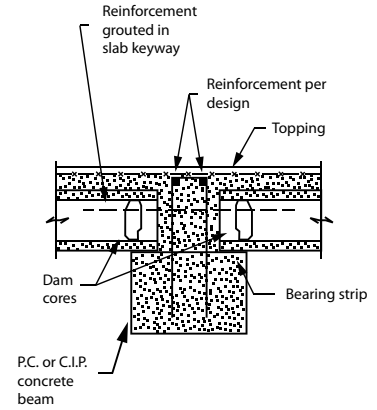

Fig. 5.3.7

- Beam and slab inserts must align

Design Considerations:

- Can transfer diaphragm shear
- Can provide lateral brace for beam
- Potential for negative moment in slabs

Fabrication Considerations:

- Slab insert difficult to install. Because of tolerance on sawcut ends, the insert should be installed after slabs are cut to length
- Beam and slab inserts must align

Erection Considerations:

- If required for lateral beam stability, welding may have to be completed as slabs are set

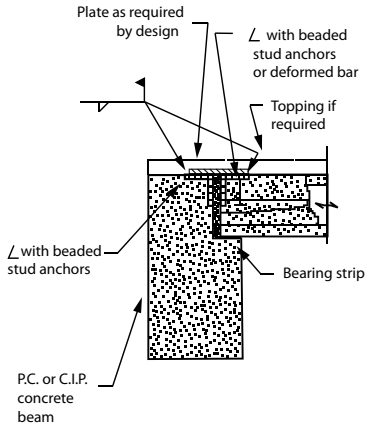

Fig. 5.3.8

Fig. (3.17d) Connections