General Guidelines for Erection of Cable Trays

- Individual GI cable trays shall inter connected over the length by bolted type connection. Welding of GI cable trays is not allowed the supports for laying the trays shall be welded in the structures on side and the trays shall be bolted on the supports. The trays shall be fixed in vertical orientation wherever falling of materials is anticipated.

- Sharp bends of cable trays shall be avoided in all type of cable trays of pre fabricated bends are not available. The 90° bends shall be fabricated with the two 45° offset.

- Installation of cable racks and support structure shall be carried out in all the required areas. Steel weld shall be ensured in the cable trenches ceiling slabs and concrete blocks for installing the cable racks and support structures.

- Ladder type cable trays shall be used in a cable trenches and vertical risers.

- Perforated type cable tray shall be used in higher elevations in boiler and TG areas.

- When cable passes through floors, walls, etc, it shall be passed through a pipe for mechanical protection and the pipe ends sealed suitably.

- Earthing shall be carried out by two separate and distinct connections.

- A continuous earthing conductor shall be installed in all cables trays and securely clamped to each tray section by suitable connectors for a continuous earthing system. When two or more trays supporting power cables run in parallel, a continuous earthning conductor shall be provided on trays only with tap offs to the control cable trays.

- Tray covers shall not be provided for the cable trays within trenches, tunnels and basements. Non-perforated type sheet steel covers shall

be provided for trays in the areas suspectable to accumulation of coal dust/atmospheric abuses etc.

- Cable trays shall be supported on ISA 50x50x6mm MS/GI brackets. Brackets shall be welded to steel plate inserts in the trenches/tunnels or supporting channel angle/inserts in other areas.

- Wherever specified or directed by Engineer, the contractor shall install galvanized MS sheets covers over cable trays. The width of the covers shall be same as that of cable trays. Bolting shall be done to fasten covers to the cable trays, elbows, reducers, tees, crosses etc.

- Cable trays within cable trenches, tunnels and basements shall be of ladder type. Bottom most trays within plant buildings for overhead runs of trays shall be of perforated type. Cable trays in the areas exposed to coal dust shall be installed in vertical formation. Where ever due to layout constraints, it is not possible to install the trays in vertical formation with Engineer's prior permission installing the trays in horizontal formation may be considered.

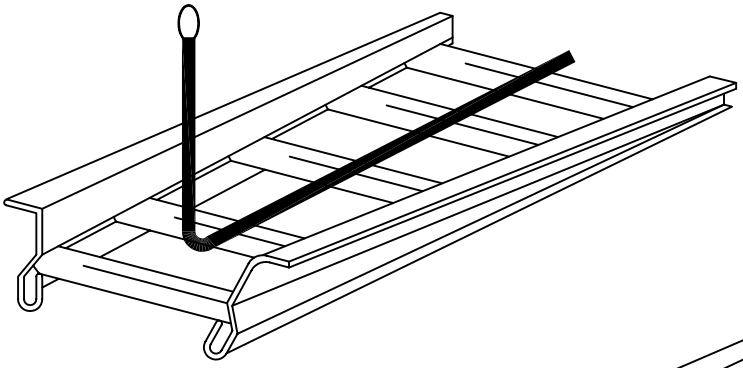
- Cable trays/racks shall be so arranged that they do not obstruct or impair clearances of passage way or maintenance of adjacent equipment.

- For installation of cable in GI conduits the conduits shall be installed first without cables but having suitable pull wires laid in conduits.

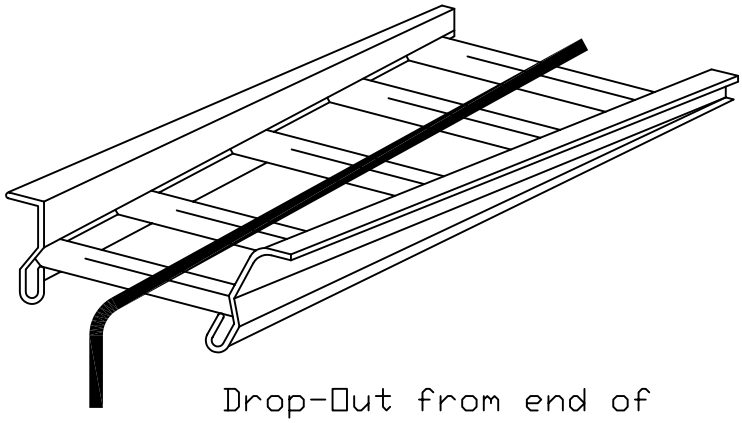
- The entire GI conduit system shall be firmly fastened in position. All boxes and fittings shall generally be secured independently from the GI pipes entering them.

- Bends of GI pipes/conduits shall be made without causing damage to the pipes/conduits.

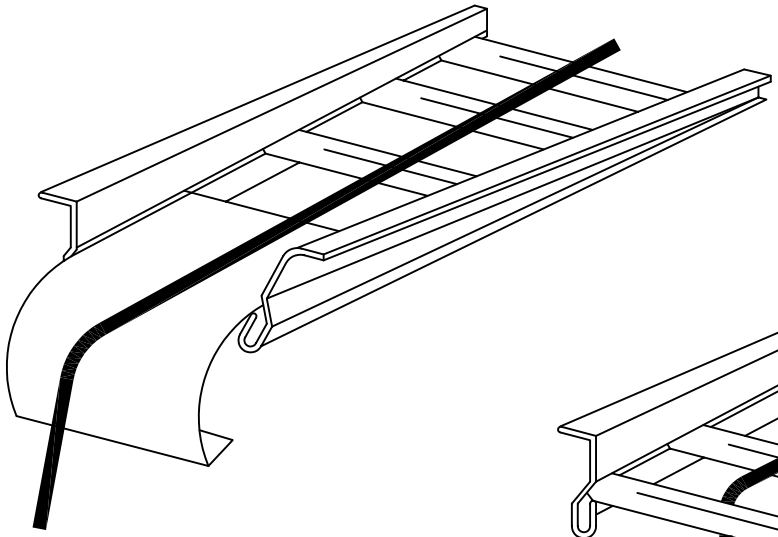
- Power cable terminations shall be carried out in such a manner as to avoid strain on the terminals by providing suitable clamps near the terminals.



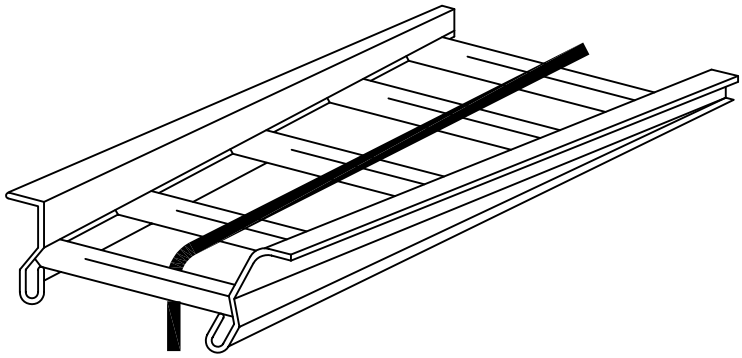
Simply Upward



Drop-Out from end of tray (No drop-out plate)



Drop-Out from end of tray (with drop-out plate)

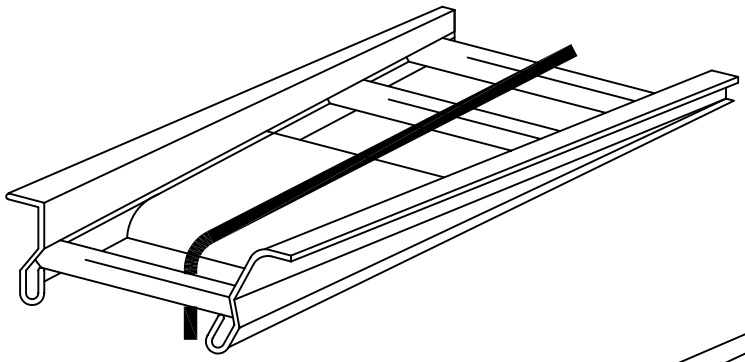


Drop-Out between rungs (No drop-out plate)

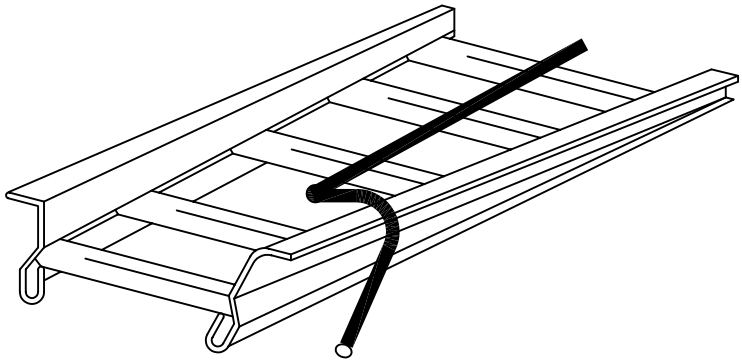
PS-SR

TITLE:

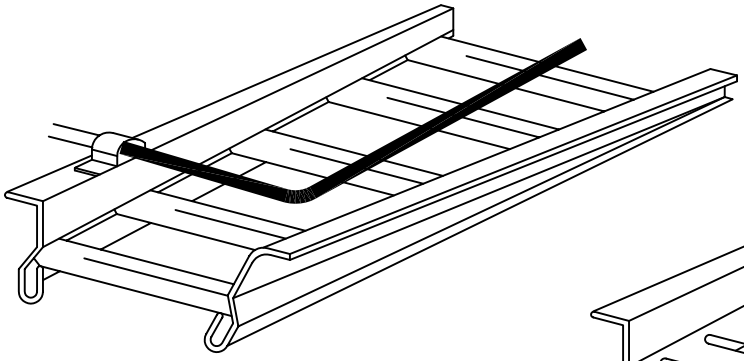
SEVERAL WAYS IN WHICH CABLES MAY EXIT FROM A CABLE TRAY.



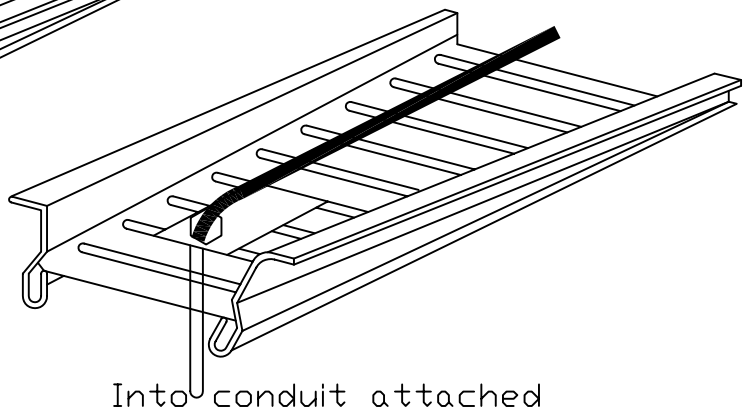
Drop-out between rungs
(with drop-out plate)



Over the side rail



Into conduit clamped
to the side rail.

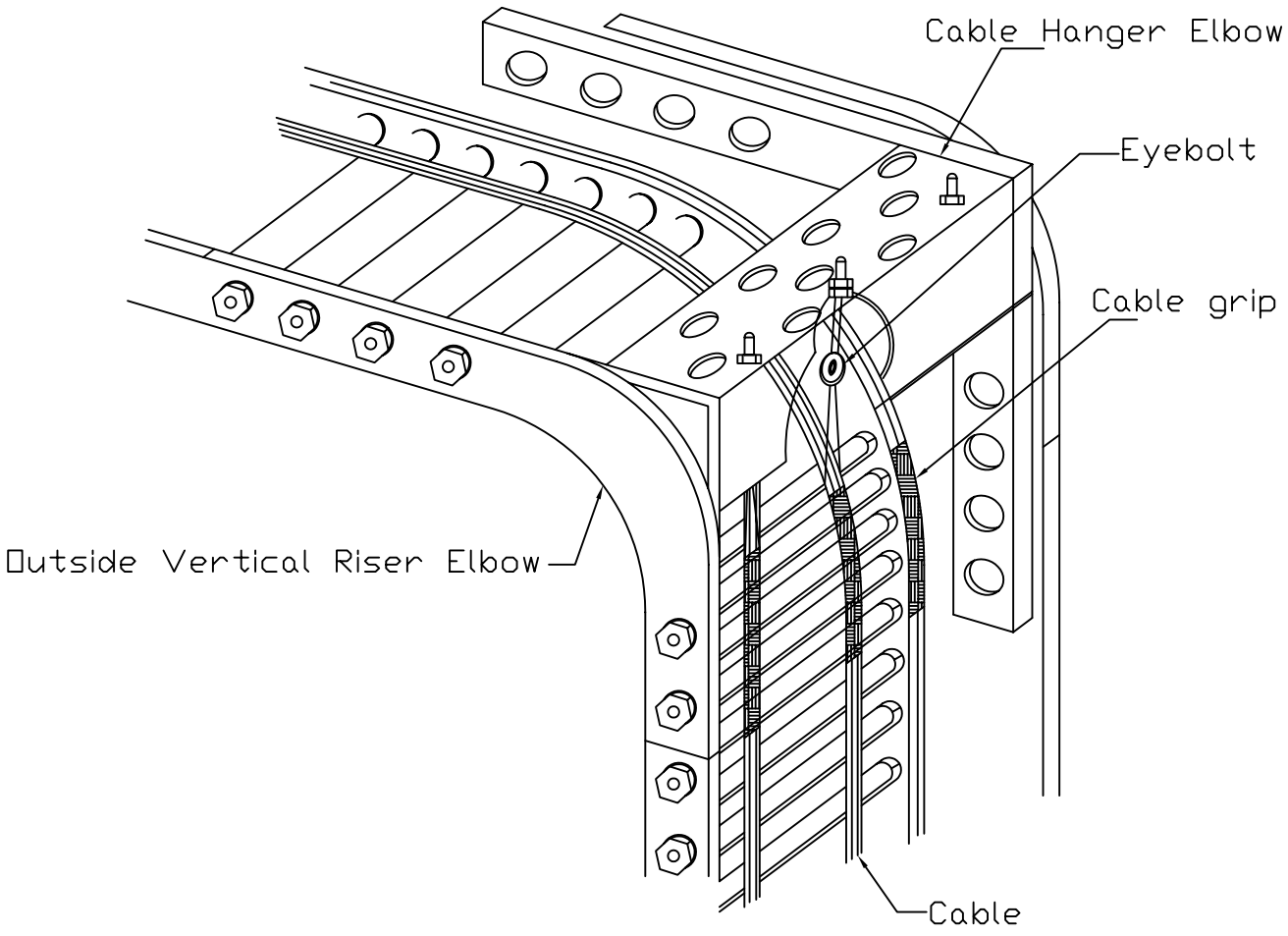


Into conduit attached
to the tray bottom

PS-SR

TITLE:

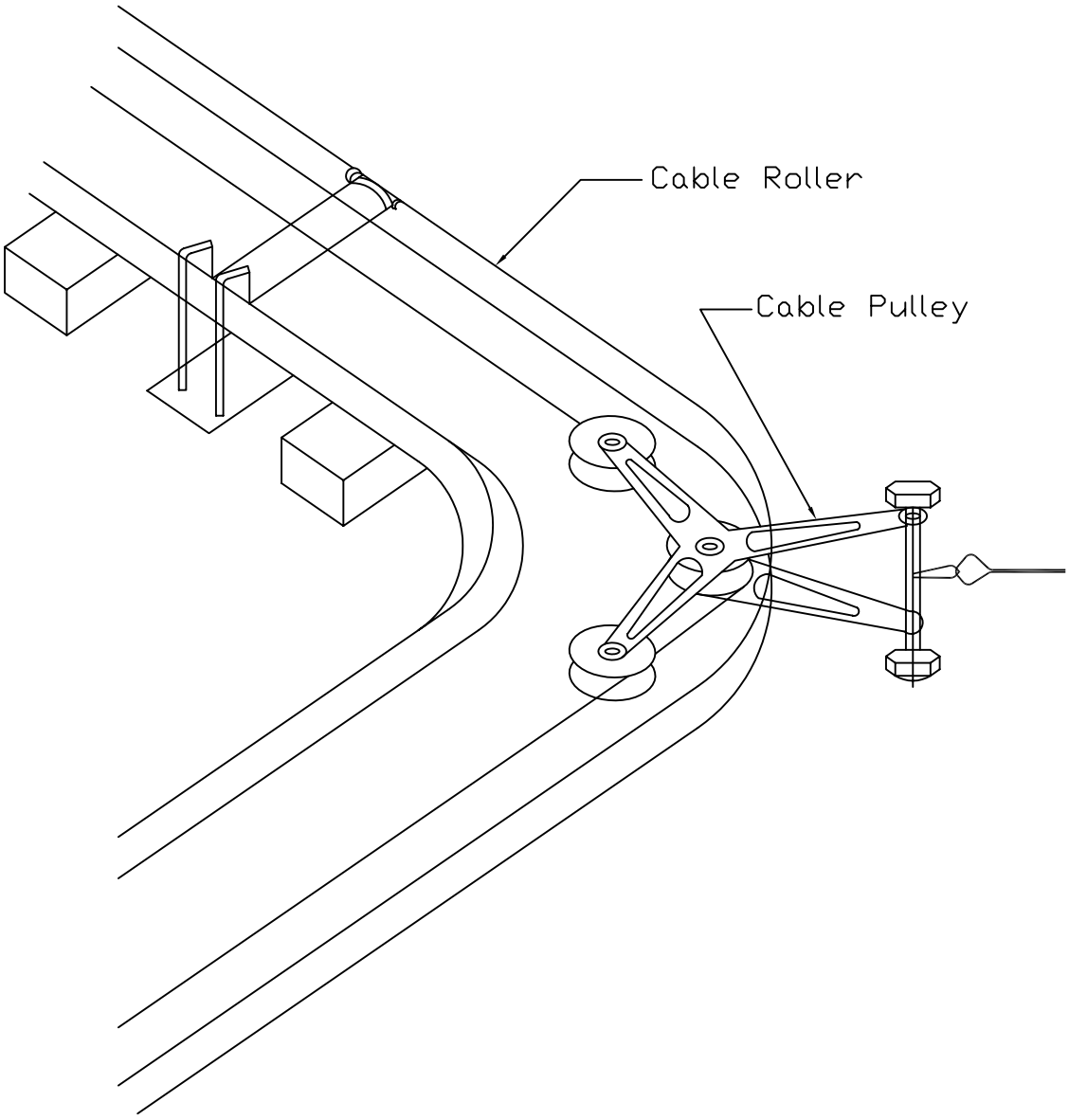
SEVERAL WAYS IN WHICH CABLES MAY EXIT FROM A CABLE TRAY.



PS-SR

TITLE:

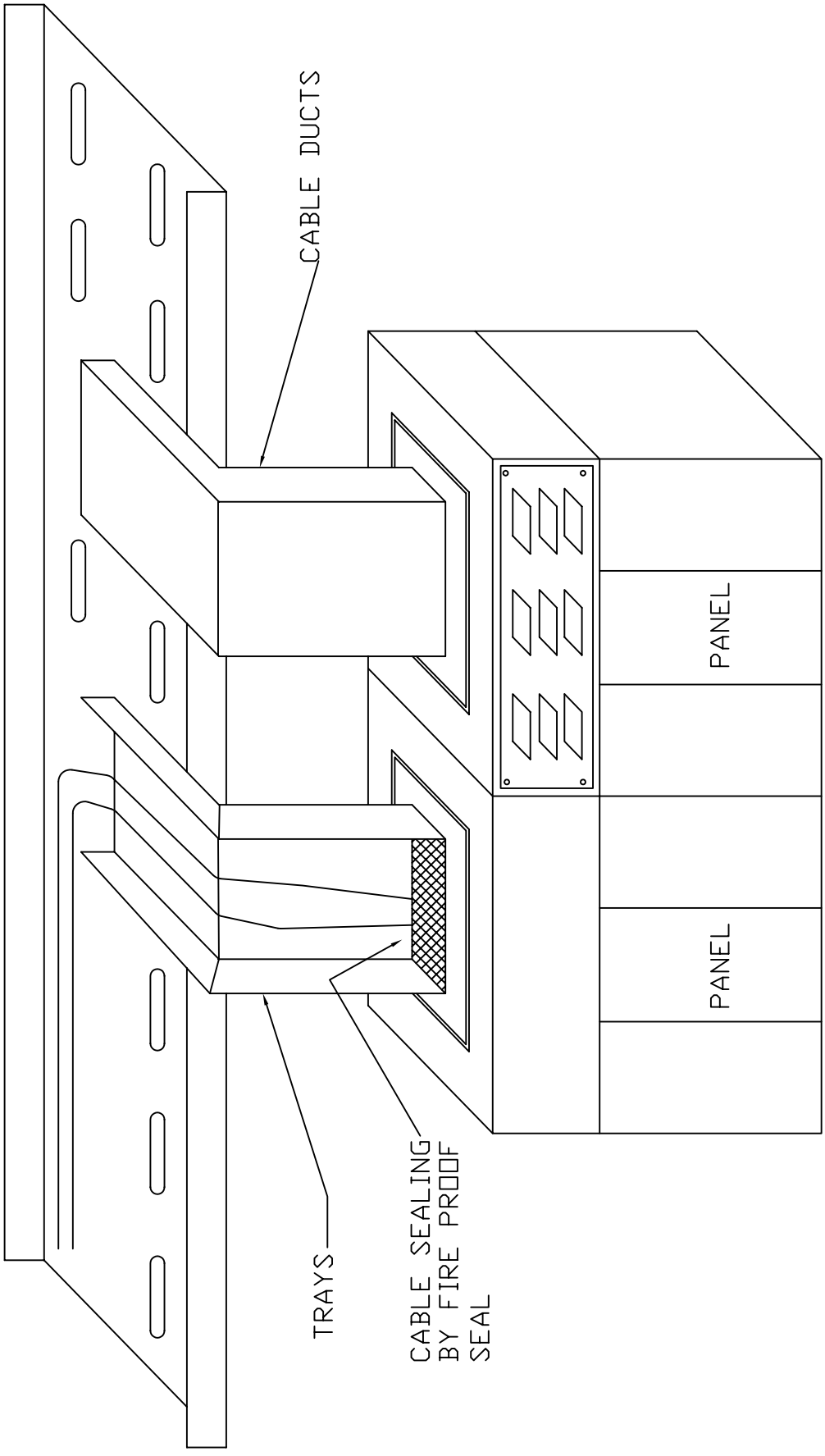
TYPICAL APPLICATION OF SUPPORTS IN A VERTICAL RUN.



PS-SR

TITLE:

CABLE PULLEY BEING USED TO FACILITATE A CABLE PULL IN A TRAY SUPPORTED BY TRAPEZE HANGERS.



PS-SR

TITLE:

TYPICAL CABLE INSTALLATION FOR

TOP ENTRY TYPE PANEL