

RAIL TO TRUCK TERMINALS – EVEN PORTABILITY

Today, logistics networks are looking for the ability to change their minds. For example, in following the Frac Sand market, one rail-site location today may be center-of-market and another would be best tomorrow. How do we make these terminals mobile?



Figure 1: Rail To Truck Terminal; 500-2000 tons

Figure 1 illustrates a simple concept. Sand or Cement is unloaded from rail cars, transferred to a storage bin and trucks are loaded through the facility. Typically a single lane loading system can manage 10 trucks per hour.



Figure 2; Direct Burial Pit Form

How do we make this a “portable” location? The easy way is to excavate the pit, pour a leveling slab of concrete and use the metal form in Figure 2 to speed things along. After placement, the excavation is backfilled with lean concrete.



Figure 3: The Structural/Mechanical Piece

In Figure 3, the structural/mechanical piece (which is designed for the locomotive loads) is placed across the rail pit. Within a day, the rail track can be placed as shown in Figure 4.



Figure 4: Two Position Hopper-car Unloading pit (cement)

Bulky materials like Frac Sand and Cement use boot-lifts to quickly connect to the rail can.



Figure 5: Boot-lifts, Car Vibrators, Checker-plate Pit Covers

In Figure 5, the built in pneumatic circuit is shown, that will provide the vibration necessary to completely empty the hopper-car.



Figure 6: Rail Pit ready for use

Figure 6 shows the mechanics of transferring bulk materials (here cement) to the day bin for this terminal. Further portability can be designed into the terminal with the terminal office.



Figure 7; Portable Office; here Concrete, with Security Windows

In Figure 7, the owners choose a concrete modular office, for the terminal rest rooms and control room. This particular location was a tough inter-city location.

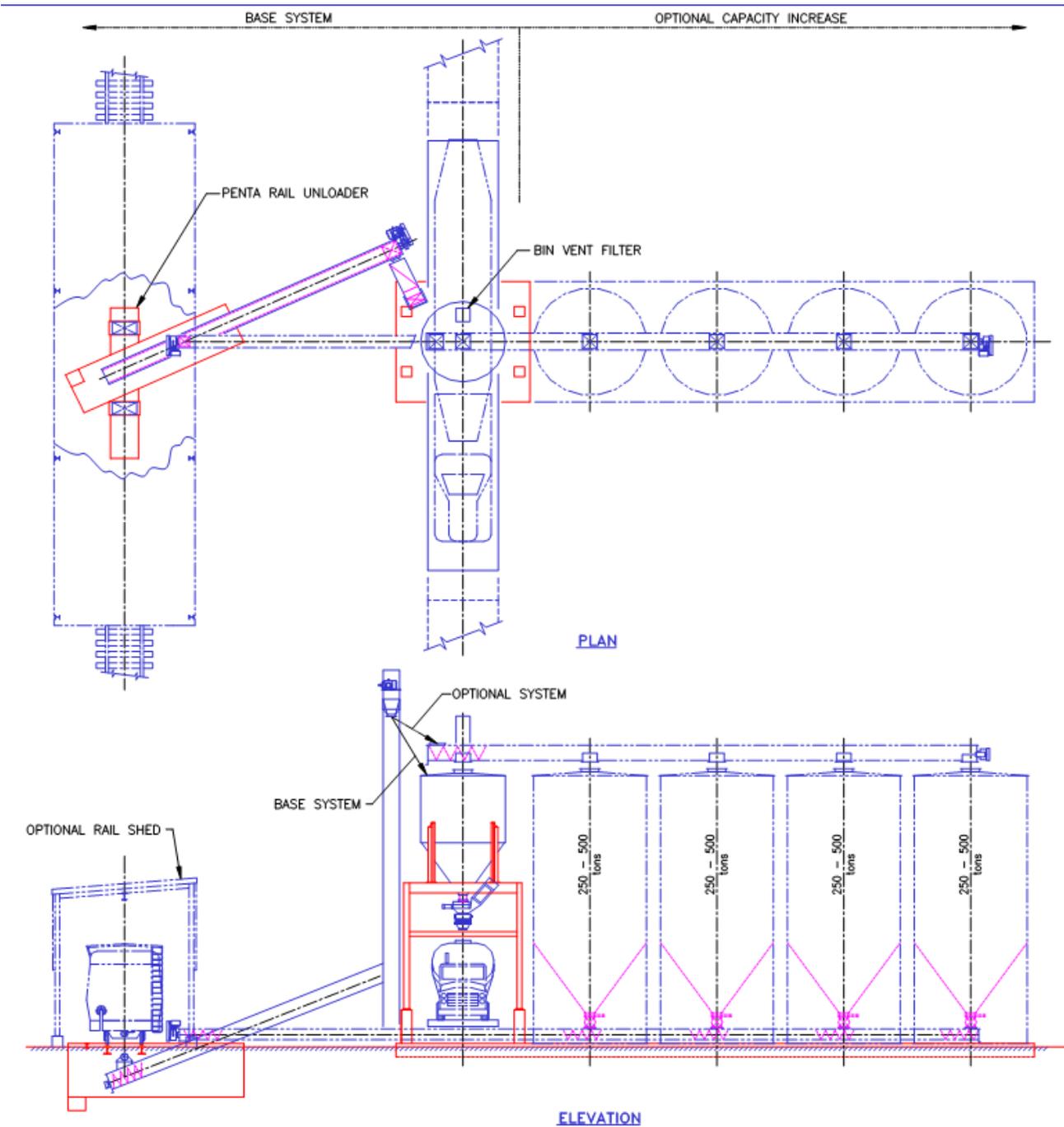


Figure 8: Expandability; Simplicity, all belong in good terminal design

The most elegant design is probably similar to Figure 8, where the flexibility to add capacity is just a node away.

To summarize, if the owner wants to move this terminal, only the metal pit formwork is left behind. All the remaining terminal works are re-purposed at the new location.