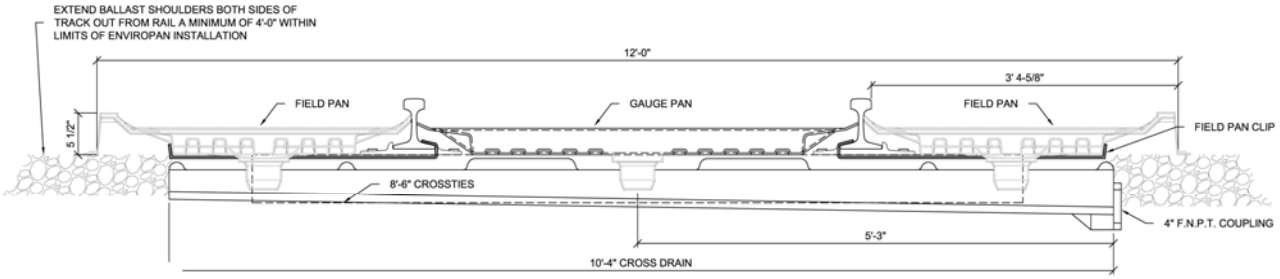
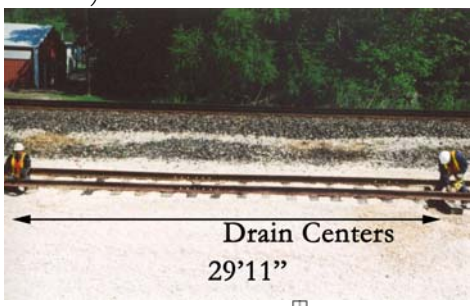
INSTALLATION PROCEDURES

Thank you for selecting Century HDPE Enviropan®, the absolute best railroad spill collection system for your project.

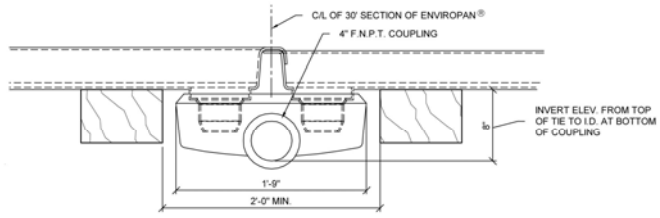
1. To ensure that your Enviropan® system will have a long service life, it is important that it is installed on railroad tracks that are in good condition. It is highly recommended that the services of an experienced railroad contracting company be utilized to inspect the track, perform any necessary maintenance work and install the Century Enviropan® system. In order to properly install the HDPE Enviropan® system, your contractor will need railroad clawbars, spike mauls and at a minimum have trained personnel that can re-spike and tamp crossties to railroad specifications. The contractor should inspect the railroad tracks to make sure that it is level within the limits of the Enviropan® installation. The crossties must be in good condition with the tops of all ties in the same plane and the track must have proper gauge. There must be at least 3'6" of clearance from the outside ball of rail to the shoulder of the track on each side to accept the field pans. The rail should be a minimum of 90#, but it is recommended the Enviropans be installed in 112# rail or larger **(Enviropans must be modified for 85# rail)**. It is recommended that the railroad tracks be surfaced and aligned and that all joints be welded within the limits of the Enviropan® system. Century Group recommends that all rail within the limits of the spill collection system be welded to enhance the track integrity and to eliminate the need to trim the Enviropans to allow for fit around the joint bars. Trimming of the Enviropan® improperly may cause expansion/contraction problems and lessens containment capacity in the areas around the joint bars. If rail is not welded in area where the Enviropans are to be installed contact **Century Group at 1-800-527-5232, Ext 118.**



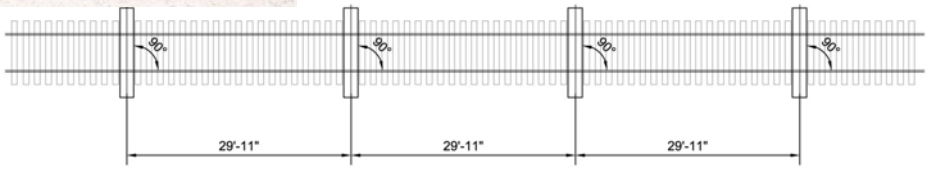
2. The Century Enviropan® system consists of two 15' pans draining to a common cross drain. All Enviropan® installations should be based on the cross drains being installed 29'11" center to center. (In extreme cold weather applications or curved track, consult with Century for proper cross drain centers.)



3. Space crossties at locations of the cross drains to allow for 24" clearance to accept the cross drain.



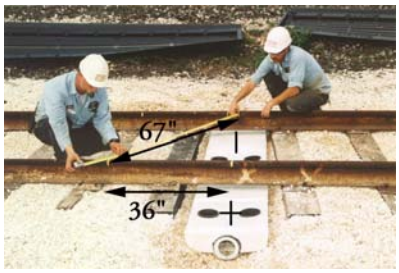
TYPICAL SECTION THRU CROSS DRAIN
SCALE: 1" = 1'-0"



STEP 1
INSTALL CROSS DRAINS ON 29'-11" CENTERS @ 90° TO RAIL
TOP OF CROSS DRAIN RIB TO BE INSTALLED 1" BELOW TOP OF CROSSTIES

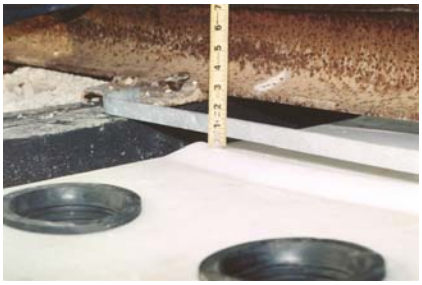
4. Install the elastomeric gaskets in the downspout holes at the top of the cross drain. Insert the cross drain into the excavated crib area.

5. In tangent track, make sure that the cross drains are placed in the track 90° to the rail. This can be done by marking desired center of cross drain on rail. Measure 36' down rail from mark. Measure 67" from mark diagonally to opposite rail. The two marks on the rail must be lined up with center of cross drain. Contact Century if the track is not tangent.

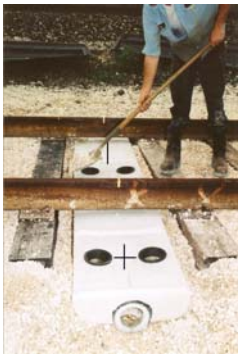


6. Align the center of the cross drain with the center line of the track. The HDPE Enviropan® is designed for standard track gauge of 56 1/2".

7. Install the cross drain with the raised rib 1" below the top of the crosstie on each side of the rail. This will allow proper drainage of the cross drain due to its unique built-in slope design. Check to make sure that the center of the cross drain is still centered with the center line of the track (tangent 28 1/4") and the cross drain is square to the rail.



8. Place ballast around sides and ends of cross drain to hold it in place. Make sure that cross drain is kept square with the rail and the proper height maintained during the entire installation.

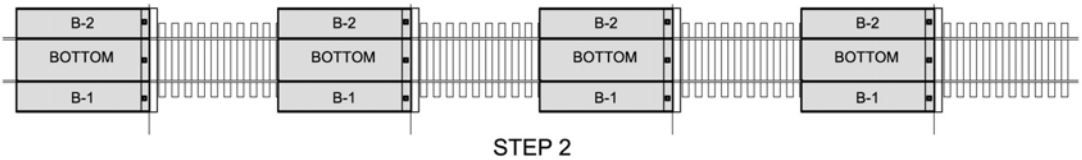


9. Once the cross drains are properly installed, begin connecting the discharge piping to the cross drains. The cross drains have a 4" F. N. P. T. coupling to connect the discharge piping. Owner/Engineer shall be responsible for determining correct type, size and slope of piping for the project. Once the piping is connected to the cross drains, make sure that the cross drains remain square with the rail on 29'11" center to center and the ribs on top of the cross drains are 1" below the top of the ties. The center holes of the cross drains should be checked to make sure they remain in the center of the track 28 1/4" from inside ball of rail to center of holes. **(NOTE: In heavy sanding applications consult with owner/engineer as sand traps may be needed to help keep piping clear of sand.)**

10. Ballast shoulders should extend 4'0" from the outside ball of rail on both sides of track (see diagram below). Ballast should be dressed off level with top of crossties on the outside of the rail and 1/2" below the ties between the rails. The track structure is now ready to accept the HDPE Enviropans. The tops of the crossties must be clear of all ballast stone.

TRACK BALLAST DETAIL
SCALE: 1" = 1'-0"

11. Once the cross drains, piping and ballast shoulders are installed, begin installing all the bottom gauge pans (see diagram). Each gauge pan will be marked either bottom or top. Field pans will be marked for B bottom and T for top. The field pans will be marked with a #1 or #2 to designate which side of the rail they will be installed.



STEP 2
INSTALL ALL BOTTOM FIELD & BOTTOM GAUGE PANS AS SHOWN

NOTE: B-1 FIELD PANS WILL INSTALL ON ONE SIDE OF TRACK.
B-2 FIELD PANS WILL INSTALL ON OPPOSITE SIDE OF TRACK.

12. To install center gauge pans, position the center gauge pan labeled "Bottom Gauge" over the cross drain with the downspout directly over the opening with the elastomeric gasket in the cross drain. The outside edges of the gauge pan should rest on the top of the ball of the rail, evenly on both sides.

13. Lubricate the down spout and elastomeric gaskets with liquid soap to aid in the installation of the down spout into the cross drain.

14. Insert the down spout in the rubber gasket by stepping on pan directly over the down spout as shown.

15. After the spout is installed in the cross drain, use the blunt end of a spike maul to force the lip of the pan under the ball of the rail. Carefully install the lip of the pan under the rail alternating from side to side working toward the end of the pan. Install all remaining bottom gauge pans by repeating previous steps.

16. After all bottom gauge pans are installed, begin installing the top gauge pans as depicted in step 12. The top gauge pans will overlap the bottom gauge pans.

17. Once all gauge pans are installed, begin installing the field pans. The first step is to install the field pan restraining clips by sliding the "rolled" end of the clips under the base of the rail. Make sure the clips are attached to the base as shown. The outside edge of the clip should be turned 90° upward and resting on the ballast shoulder after installed. These clips will prevent the field pans from moving away from the rail after they are installed. (Picture shown without gauge pan installed for clarity.)

18. One clip should be placed midway of the pan and the second placed approximately one (1) foot from the end of the pan opposite the cross drain. (Use only two clips per field pan.)

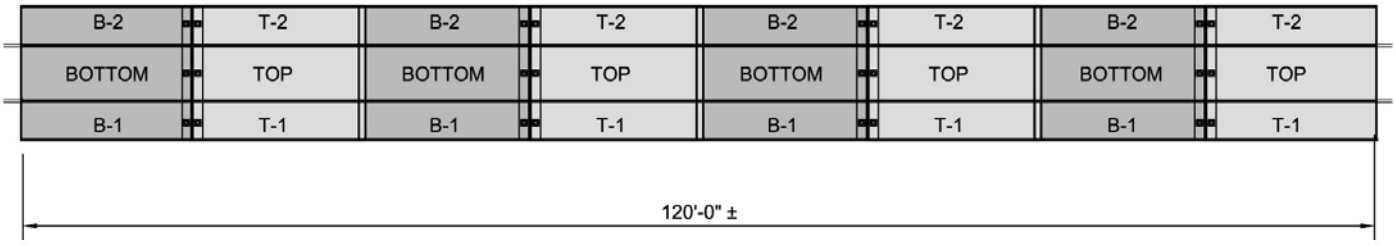
19. Install the "Bottom Field" pan by placing the downspout over the elastomeric gasket in the cross drain. With the flashing side of the pan resting on top of the rail, slide the outside wall of the pan over the field restraining clip.

20. Next lubricate the downspout and elastomeric gasket with liquid soap. Insert the downspout into the opening with the elastomeric gasket in the cross drain by stepping on it.

21. With the pan connected to the cross drain and the restraining clips holding the pan from sliding away from the rail, use the blunt end of a spike maul to carefully force the flashing edge under the rail.

22. Install the #2 "Bottom Field" pans as shown in steps 15 through 18 on the opposite side of the rail from the #1 pan. After the bottom field pans are set, install the top field pans as depicted in steps 17 through 21. The top field pans will overlap the bottom field pans.

23. Install grating over each drain.



STEP 3

AFTER ALL BOTTOM PANS ARE INSTALLED,
INSTALL ALL TOP PANS AS SHOWN

NOTE: T-1 FEILD PANS WILL OVERLAP ALL B-1 PANS ON ONE SIDE OF TRACK.
T-2 FIELD PANS WILL OVERLAP ALL B-2 PANS ON OPPOSITE SIDE OF TRACK.

24. Make sure that all field and gauge pans are level. Ballast may need to be tamped under the outside wall of the field pans to facilitate proper drainage to the cross drains. After pans are level, install ballast on top of ballast lip on the outside of all field pans. This will help ensure pans will remain secure and stable throughout its service life.

25. If there is the possibility that there will be a substantial amount of pedestrian traffic, it is recommended that a grated crosswalk be added to the pans for safety.

Patent #5,782,405
Patent #6,290,143
Patents Pending

SPILL COLLECTION COMPLIANCE SAFETY AND DISCLAIMER

Because of the diverse conditions and the wide variety of materials which may be found in field conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used, seller has not made and does not make any representation, warranty or covenant, express or implied, with respect to the product or any part thereof; Buyer/User hereby disclaiming any and all liability of seller with respect thereto. Seller shall not be liable or responsible to Buyer/User for any damage, defect, failure to meet specifications, late delivery, failure to deliver or shortage in respect to the products, or for failure to properly install, use or maintain the products.

In addition, Seller shall not be liable or responsible to Buyer/User for claim, loss, damage, liability, or expense of any kind or nature caused, directly or indirectly, by the products or any part thereof, or in inadequacy thereof for any purpose, or any defect or deficiency therein, or in use, operation, storage thereof, or the interruption or loss of the service or use thereof, or arising from any other reason or cause whatsoever relating to or concerning the products, or any part thereof. Seller accepts no responsibility for the results obtained by the application of this information or the safety or suitability of our products, either alone or in combination with other products.

It is the responsibility of the Buyer/User to review and test its site specific requirements and to evaluate the products to determine the safety and suitability of the products for their own specific purposes. It is the responsibility of the Buyer/User to ensure that they are in compliance with all Federal and Sate laws and regulations when using these products.

Century Group Inc. reserves the right to modify or change, without notice, any materials, specifications, equipment and/or accessories. All measurements are approximate.

The Century Enviropans are designed to capture liquid and dry materials. The Enviropan® surface may be slippery when wet or dry and should never be used as a walking surface. Allowing the Enviropan® to be used as a walking surface could result in falls and/or injuries. If walking on the Enviropan® is necessary for normal operations/maintenance, it should be done in a designated area where protective grating has been installed to accommodate such traffic. The Century Enviropans should be inspected after each load/off load operation for spills, clogged drains, etc... All employees who work in the vicinity of the Enviropan® system should be instructed in proper use and maintenance of the system. Always wash down any Enviropans after any spillage.

CENTURY HDPE ENVIROPANS

1-800-527-5232, Ext. 118 * Fax 1-800-887-2153
Email: railroad@centurygrp.com
These instructions can also be viewed at www.centurygrp.com

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