

Safence

Maintenance and Repair Instructions

These instructions should be read in conjunction with:

- CSP Pacific drawings – WR STD 01 to WR STD 07
- Safence General Details

ON-GOING MAINTENANCE

There is little, if any ongoing maintenance that is required to be done to Safence other than repair due to vehicle or other damage. Things to consider however are:

1. The tension of the installation need not be adjusted over the course of the life of the installation. Unless the rope needs to be cut and re-joined (for whatever reason), no maintenance is required to alter or monitor the tension.
2. All components other than the wire rope itself and the anchor bracket are made of stainless steel or plastic. Consideration may need to be given to the long term performance of the wire rope in conditions of excessive corrosion eg. near the ocean. Maintenance from time to time of the galvanised components should be considered in these situations.
3. After major impacts involving larger vehicles or trucks, maintenance crews should take note if there is any significant or unusual damage to the rope or rope tension which may cause concern.
4. From time to time, maintenance crews should visually inspect the rope for unusual wear and tear. The presence of frayed cable should be noted when repairing the barrier after an accident.
5. Plastic caps from time to time can be removed either through excessive winds or vandalism. From time to time, replacement of these caps may be necessary.
6. Excessive vegetation and weeds should be kept under control around Safence as vegetation can alter the performance of the barrier in the event of an impact.

However, there are two situations that need to be considered for the repair of Safence:

1. Repair of Safence along the length of the installation
2. Repair of Safence on, or near the anchors.

Both require slightly differing approaches.

REPAIR OF DAMAGE ALONG THE LENGTH OF THE INSTALLATION

1. Ensure there is adequate and safe site access.
2. Remove damaged **posts** from the socket. To do this will require the wire rope to be lifted from some of the **posts**.
3. Replace with the damaged posts with new **posts** into all the sockets. Ensure all **posts** have a **dust cover** sitting at the ground line installed the right way up.

4. Starting from either end of the damaged section, lift and place the bottom rope into the post slot. Continue along the rope until you reach the other end. (This can be one by one person, although it is quicker and easier using two people).
5. Walk back along the length of the damaged section placing **plastic spreaders** into the post slot. Use the **plastic spreaders** that are not damaged to minimise the cost of repair.
6. Place the second bottom rope into the post slot along the length of the damaged section.
7. Place **plastic spreaders** into the post slots again.
8. Place the third bottom rope in the post slot along the full length.
9. Place the **plastic spreaders** in the post slot and at the same time place the **stiffening frame** around the top of the post. Again re-using stiffening frames and **plastic spreaders** that are not damaged.
10. Place the final and top rope into the post slot.
11. Finally, place the **plastic caps** onto the top of the post. Ensure that are firmly secured.
12. Clean up all remaining debris from the site.
13. Look over the entire length of the previously damaged section. The repaired section should appear uniform and tidy.

NOTE: If one of the ropes is required to be cut in the event of an emergency, the rope will need to be re-joined and re-tensioned. In this event, please contact CSP Pacific to arrange supervision of the re-tensioning.

REPAIR OF DAMAGE OF ON OR NEAR THE ANCHOR

1. Ensure there is adequate and safe site access.
2. Remove all damaged **posts** from the sockets. To do this will require the wire rope to be lifted from some of the **posts**.
3. Replace with the damaged posts with new **posts** into all the sockets. Ensure all **posts** have a **dust cover** sitting at the ground line installed the right way up.
4. Starting from the end furthest from the anchor, lift and place the bottom rope into the post slot. Continue along the rope until you reach the other end. Leave the "anchor end" of the wire rope loose for the time being.
5. Continue to place the ropes, the **spreaders**, the **stiffening frames** and finally the **plastic caps** in the post slot in the required order. Leave the ends of the wire rope loose and not connected to the **anchor bracket**.

NOTE: You must use **steel spreaders** in the post slot of the post closest to the **anchor bracket**.

6. At this stage, access to a digger or hiab will be required to "grab" the bottom rope first and pull the rope until the **end fitting** can be positioned in the **anchor bracket**. Use of a strop or webbing wrapped 4-6 times around the rope should provide enough hold to perform this operation.
7. Continue doing this to all of the ropes until all are positioned securely into the **anchor bracket**. Ensure that the washer is snug against the **anchor bracket**.
8. Ensure that the **check ropes** are securely attached to each rope and the **shackle** is attached to the **anchor bracket**.
9. Clean up all remaining debris from the site.
10. Look over the entire length of the previously damaged section. The repaired section should appear uniform and tidy.

NOTE: This operation assumes that there in the course of the damage, there has been no change to the system to modify the tension. I.e. the wire has not been stretched and the **nuts** on the **end fittings** near the anchor have not changed. If the **nuts** on the **end fitting** have been altered materially, then re-tensioning of the entire installation may be required using on-site tensioning equipment. To avoid this, do not alter the nuts on the **end fitting**.