

Port Authority Parking Lot Retrofit

Project: Prince Rupert Parking Lot Retrofit

Location: Prince Rupert, British Columbia

Owner: Prince Rupert Port Authority

Engineer: Prince Rupert Port Authority

Contractor: JJM Construction Ltd.

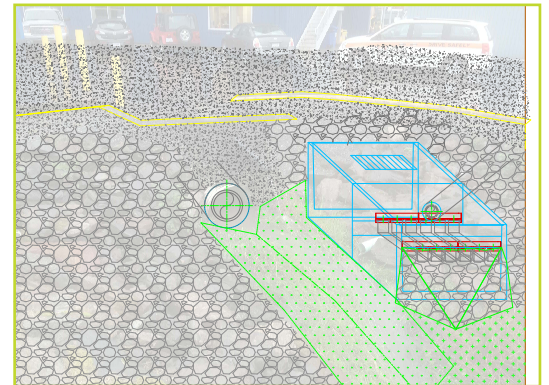
Approving Agency: Prince Rupert, BC

Product: Jellyfish Vault (JFVLAN-II-4-2 with 15-inch cartridges)



The Prince Rupert Port Authority is guided by the key principles of pollution prevention, preservation of environmental integrity, efficient use of resources, and continuous improvement. So when a parking lot upgrade was needed at their facility in Prince Rupert, British Columbia, treating the resulting stormwater runoff was a key consideration.

The treated drainage area is from a combination of the recently paved 50-vehicle parking lot which experiences significant daily traffic, and roof runoff. The increased impervious surface warranted the desire for implementing stormwater treatment. Without treatment, runoff would flow directly into an on-site drainage ditch, which discharges directly into a stream that has fish habitat, and eventually flows into the nearby Prince Rupert Harbour. The Prince Rupert Harbour is home to a flourishing network of integrated marine habitats. Water quality has a direct impact on marine life, and the Port of Prince Rupert is committed to ensure their operations are not negatively impacting the neighboring water body.



As with most retrofit projects, there were several challenges that needed to be addressed. Identifying the true drainage area and runoff volume had to be determined with the upgraded parking lot and associated slopes. The existing drainage pipe locations and runoff sources also each needed to be identified.

Implementing water quality treatment within this pre-existing site required a compact system to retrofit into the very limited land space. Considering the site constraints and tidal influence from the nearby harbour, and limited depth available for excavation, a small, low-depth Jellyfish Filter Vault configuration was conceptually presented as a treatment option and then selected to fit the project's and Port Authority's needs.

The Langley Concrete Group and Imbrium's Engineering Team worked closely with the Jason Scherr (Sustainability Manager) and Jamie Malthus (Manager, Asset Maintenance) of the Prince Rupert Port Authority to create a treatment solution that stayed within the budget while achieving the site's needs with a low installation cost.