

# Beach Drive Retaining Wall Extension Port McNeill, BC

Completed on Behalf of:  
Town of Port McNeill

Attention: Troy Simoneau (Interim Harbour Manager)



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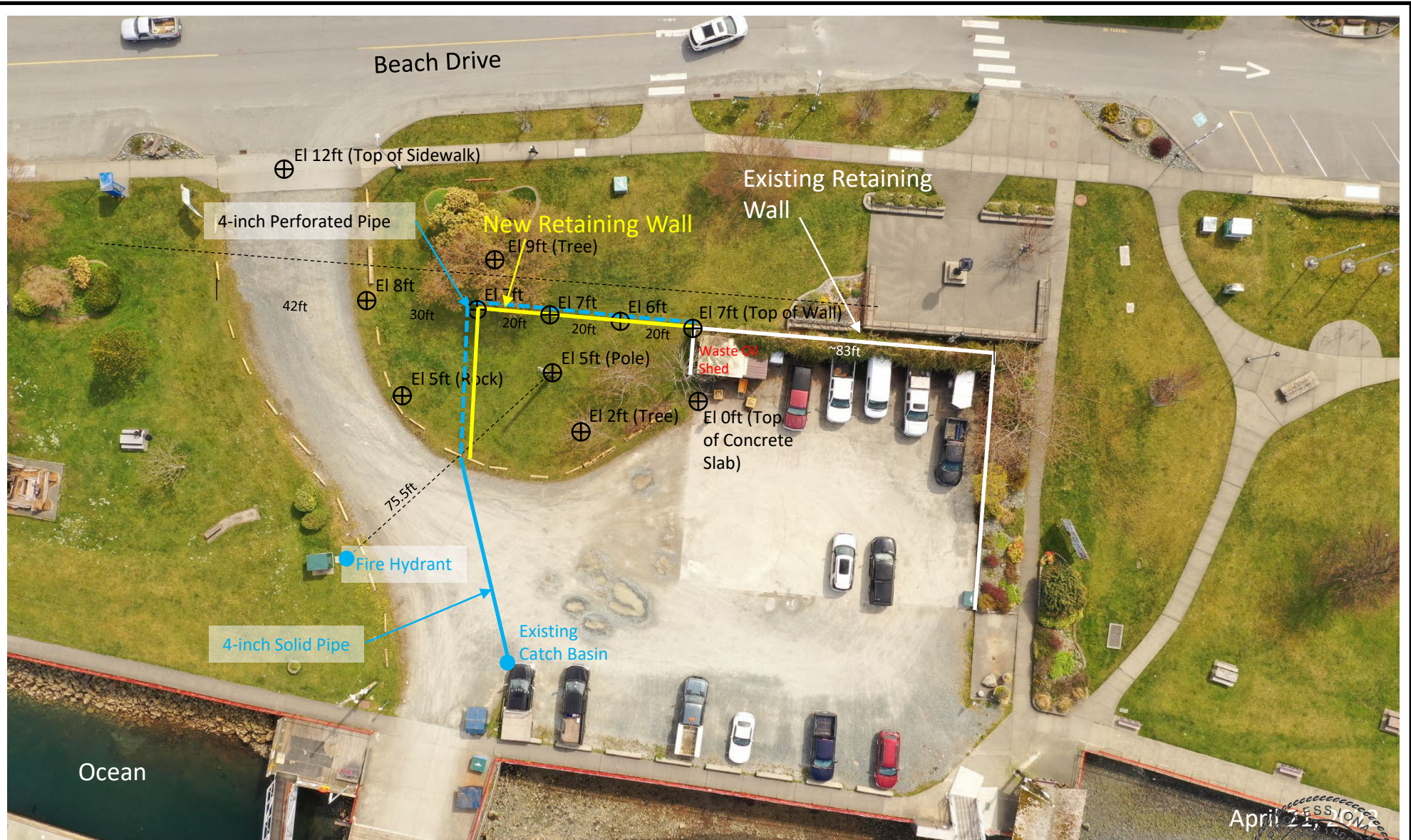


Figure 1 – Site Plan showing existing CIP Wall and proposed Lock-Block Wall. Drone Photo April 21, 2022. Elevations of existing ground surface and dimensions shown were surveyed by hand laser and approximate.



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Backfill within the reinforcement zone shall be comprised of well graded, free-draining, 50mm minus blast rock with < 10 percent passing the 4 mm sieve.

- Fill placed in maximum lifts of 250 mm (8-inch) and compacted to a minimum of 100% SPMD with appropriately sized vibratory tamper.
- Minimum of 6 passes with a 1000 lb. plate tamper or other suitable packer when >0.5 m away from block face.
- Within 0.5 m ensure a minimum of 98% SPMD but with additional care to ensure wall facing does not push outward.
- Compaction and placement must be overseen by BGI. Be sure to provide a minimum of 7 days notice.

100mm (4-inch) perforated pipe surrounded in drain rock plumbed with positive drainage to existing Storm drain.

Use Mirafi Woven 500X or Armtex 835 (or equivalent STRATAGRID® SGB30) placed between blocks and every mid-block height. Geotextile to run horizontal to cut slope or 5 m maximum.

- Note:
- The SGB30 is preferable as it is an open grid that will not impede water flow; however, the Mirafi 500X will perform equally well from a structural perspective and may be easier to procure.
  - SGB30 is uniaxial, so it is critical that the sheets be placed square (i.e., orthogonal to the face). 500x is biaxial so direction is not of concern.
  - Minimum 100 mm overlap with fabric starting just behind the face.

Barrier – by others

Lock Block  
 Approximate length of wall shown on Figure 1 (18m x 13.5m)  
 - 30" x 30" x 60"  
 (0.75m x 0.75m x 1.5m)  
 - Maximum 3 blocks high unless accepted by Base Geotechnical Inc. (BGI) in writing.

Temporary Excavation must follow OH&S minimum sloping requirements. A minimum slope angle of 1H:1V is recommended.

Height of Wall to Match Existing CIP Wall ~7 ft (2.13 m) above base.  
 - 0.4m minimum embedment below final grade

min. 1% final grade away from wall to prevent ponding

- Founded on dense unweathered, undisturbed soil with a minimum of 150mm open crush for leveling and drainage.
  - Must be reviewed and approved by Geotechnical Engineer in field prior to wall construction.
- NOTE – there is a potential that this site has been infilled. Actual site conditions and the fill material will not be known until excavation. There is a potential that a Granular Reinforced Mat foundation will be needed. See next page.



Figure 2 – Typical Retaining Wall Cross Section Design and Materials (Not to Scale)



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- Fill placed in maximum lifts of 250 mm (8-inch) and compacted to a minimum of 100% SPMD with appropriately sized vibratory tamper.
- Minimum of 6 passes with a 1000 lb. plate tamper or other suitable packer when >0.5 m away from block face.
- Within 0.5 m ensure a minimum of 98% SPMD but with additional care to ensure wall facing does not push outward.
- Compaction and placement must be overseen by BGI. Be sure to provide a minimum of 7 days notice.

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- Note:
- The SGB30 is preferable as it is an open grid that will not impede water flow; however, the Mirafi 500X will perform equally well from a structural perspective and may be easier to procure.
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Height of Wall to Match Existing CIP Wall ~7 ft (2.13 m) above base

Reinforced Granular Mat (RGM) - **\*\*actual spec to be confirmed by BGI**

- may be required below Retaining Wall if unsuitable subgrade is encountered.
- Use Mirafi Woven 500X or Armtex 835 (or equivalent STRATAGRID® SGB30).
- Bottom 2 lifts each 200mm (8-inch) thick and upper lift 100 mm (4-inch) thick, compacted to a minimum of 100% SPMD.
- Backfill can consist of same material used in the reinforcement zone behind the retaining wall. Alternatively, can use a 75 mm minus blast rock or pit run with <10% passing the No. 200 sieve.

min. 1% final grade

1.2m (min) 1.2m (min)



Figure 3 – Discussion Use Only - Construction of a Reinforced Granular Mat should be expected if infilling found under the foundation. (not to scale)



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