Malone Road Subdivision Phase 1 & 2

Client: Private Developer
Location: Ladysmith, BC
Industry Segment: Transportation, Water, Sanitary, Stormwater
Timeline: September 2021 – January 2023
Budget: ~$2M

Key Team Members
Kailen Elander, Jordan May, Mike Shepard

Challenges:

- Multiple storm sewer outfalls into sensitive riparian areas, each requiring provincial approval.
- Road alignment required a creek crossing, with the culvert sized for the full tributary area.
- Sewer and water mains needed to be routed through an existing park while preserving mature trees.
- Steep, rocky topography required a detailed lot grading design for walkout lots.

Solutions:

- Coordinated with the environmental consultant to design storm outfalls that minimized creek erosion and secured provincial approvals.
- Selected HDPE fusion-bonded pipe for the park section, allowing sewer and water services to share a common trench and reduce required separation under Island Health guidelines.
- Integrated flow control rock pit detention facilities at each lot to manage peak storm discharge.
- Extended servicing beyond the Phase 1 subdivision boundary to support a future 8-lot Phase 2 without requiring a retrofit.

Deliverables:

- Stormwater, sanitary, and water servicing for a 13-lot Phase 1 subdivision, sized to support future Phase 2 development.
- Road design and utility coordination with BC Hydro, Fortis, Rogers, TELUS, and the electrical consultant.
- Creek crossing culvert design and storm outfall design with energy dissipation.
- Sewer and water extension through an existing park, coordinated with the biologist and provincial permitting requirements.
- Lot grading design, including rock blasting considerations and detailed cross-section modelling.

Newcastle Engineering was engaged to provide civil engineering services for a subdivision in Ladysmith, BC. Newcastle's scope included transportation, stormwater, sanitary, and water servicing, along with road design, utility coordination, and detailed lot grading.

The site presented several environmental and technical constraints, including sensitive riparian areas, creek crossings, an existing park, and steep, rocky terrain. Multiple storm sewer outfalls required provincial approvals, while the road alignment needed a culvert sized to manage the full tributary area.

By selecting HDPE fusion-bonded pipe, Newcastle Engineering reduced the required separation between sewer and water mains, allowing the services to be installed in a common trench through the park. Servicing was also extended beyond the initial subdivision boundary to support future development.

