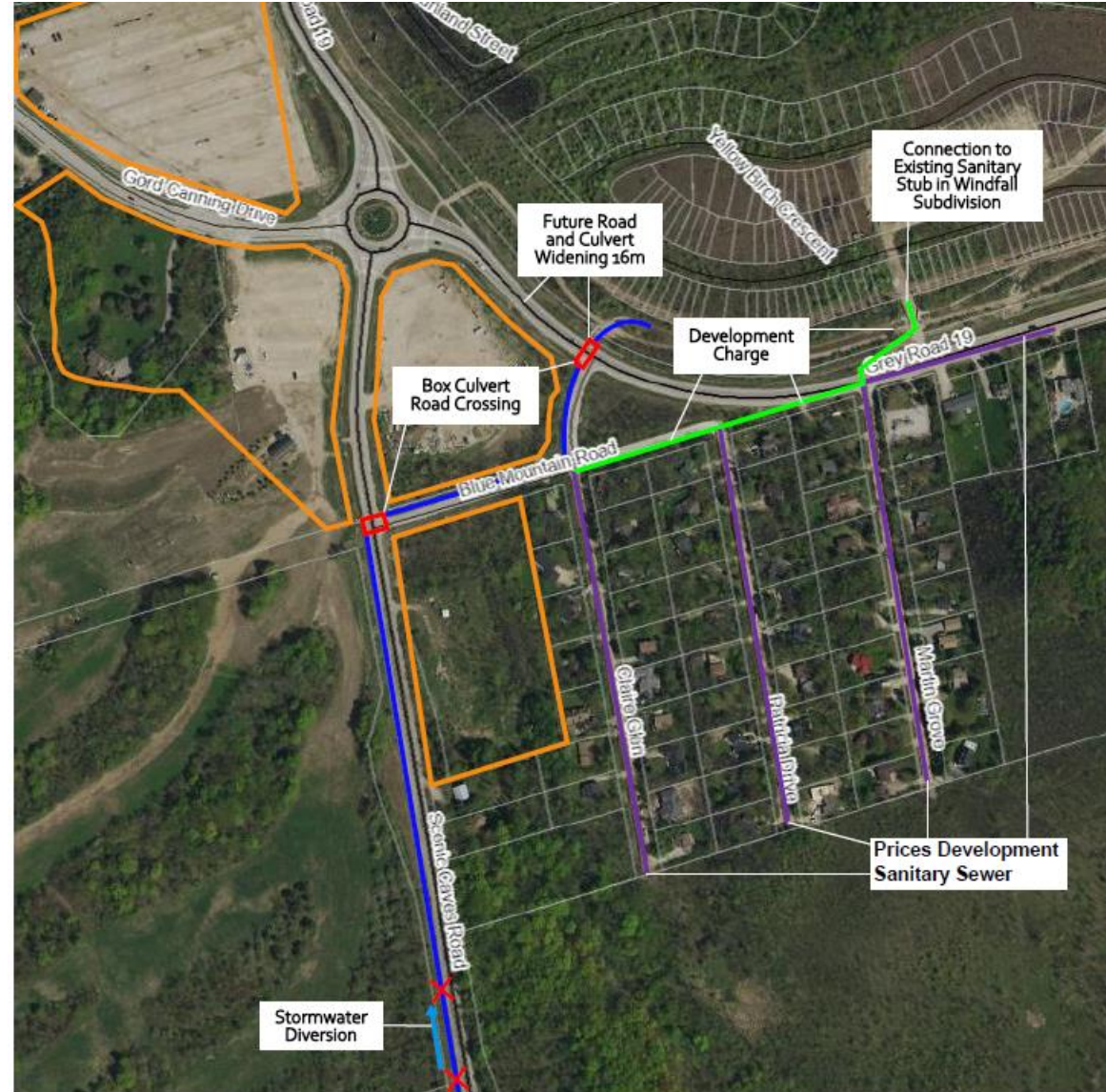


Prices Development – Drainage Improvements & Wastewater Servicing Detailed Design

--Greenland Consulting Engineers--

Study Location

- The Study Location (Prices Development) consists of the lots fronting onto Claire Glen, Patricia Drive, and Martin Grove as well as four lots on Grey Road 19.
- Prices Development located at the base of Blue Mountain is bound by forested area to the south and east, Grey Road 19 to the North and Scenic Caves Road to the west.

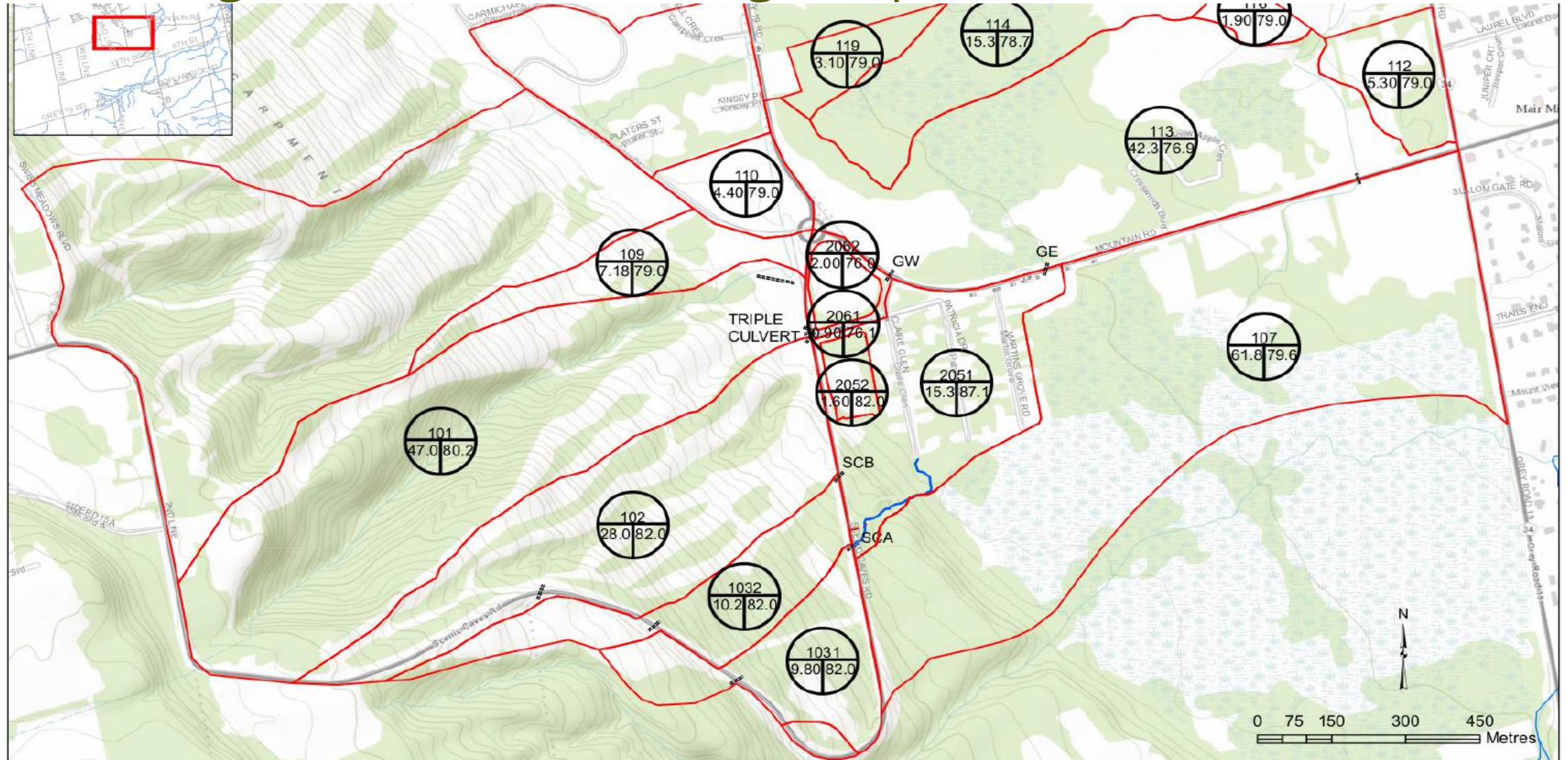


Project History & Detailed Design

1. Concerns from local residents about localized flooding, specifically during spring snow melt, precipitation events, and inadequate road drainage. Prices Development is not an engineered subdivision where fill elevations and proper ditches were not specified.
2. Lots are currently serviced by private septic systems. The Town stated goal, within the Official Plan, is to provide municipal servicing to existing un-serviced residential areas as deemed necessary and affordable.
3. Greenland completed a preliminary design in 2018 and Council directed staff to continue with detailed design based on the preliminary studies.
4. Greenland was successful proponent through open bidding process and awarded the work.

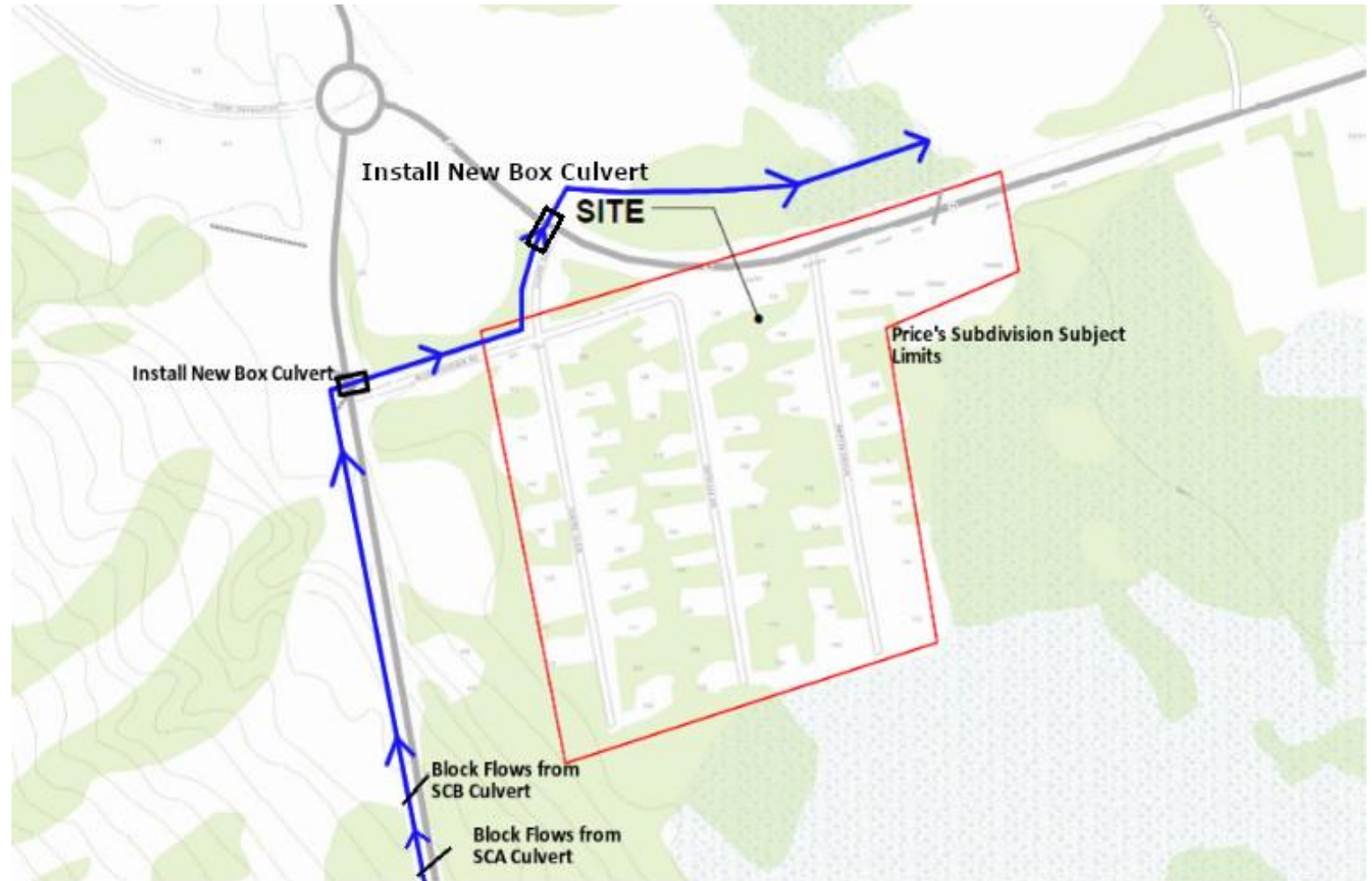
Stormwater Drainage Improvement

Existing Conditions – Drainage Map



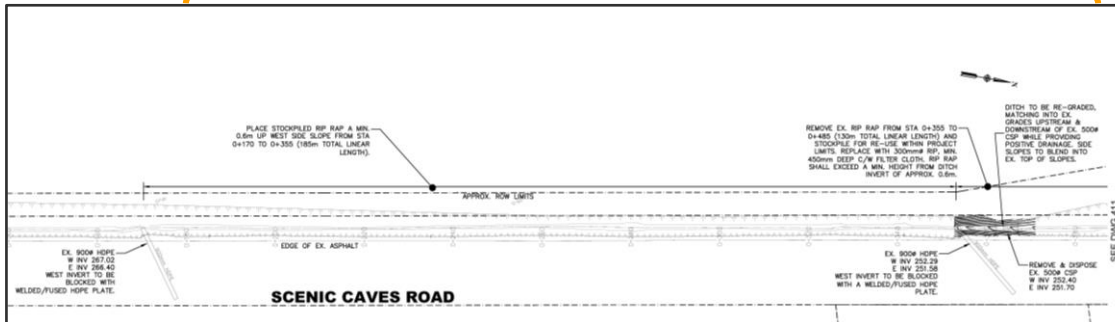
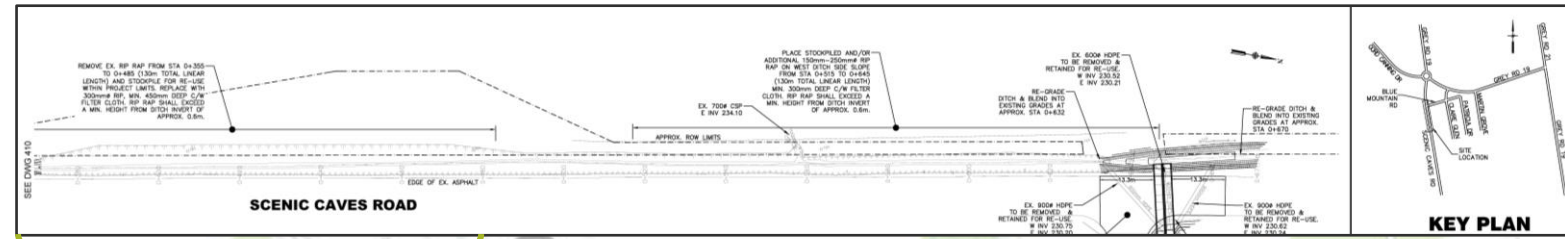
Drainage Improvement 2018 Preliminary Design

- Block Culvert SCA & Culvert SCB diverting all external flows from Blue Mountain north along Scenic Caves Rd.
- Improve drainage works on west side of Grey Road 119.
- Replace Triple HDPE culverts at Blue Mountain Road with 900mm x 3000mm Box Culvert.
- Install 1260mm x 1830mm CSPA Culvert under Grey Road 19.
- Internal Ditch improvements provided but deemed too expensive by the residents.



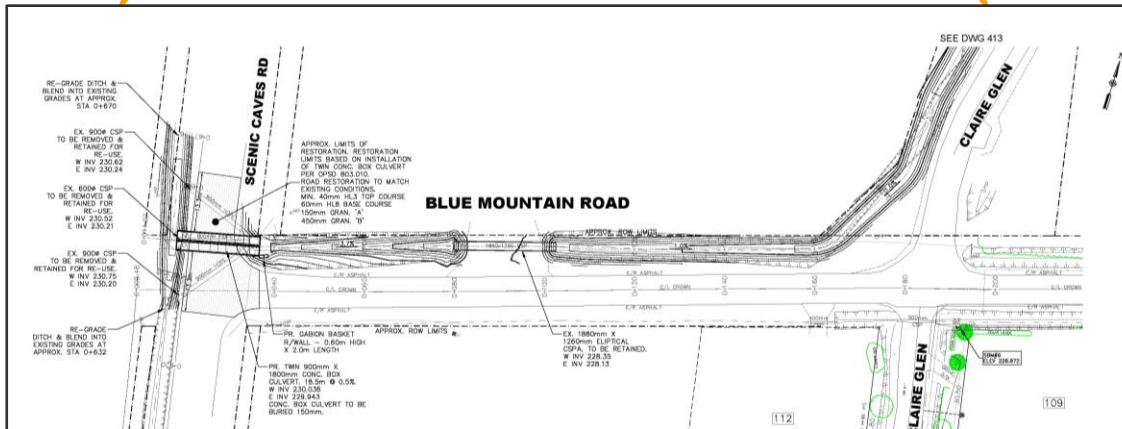
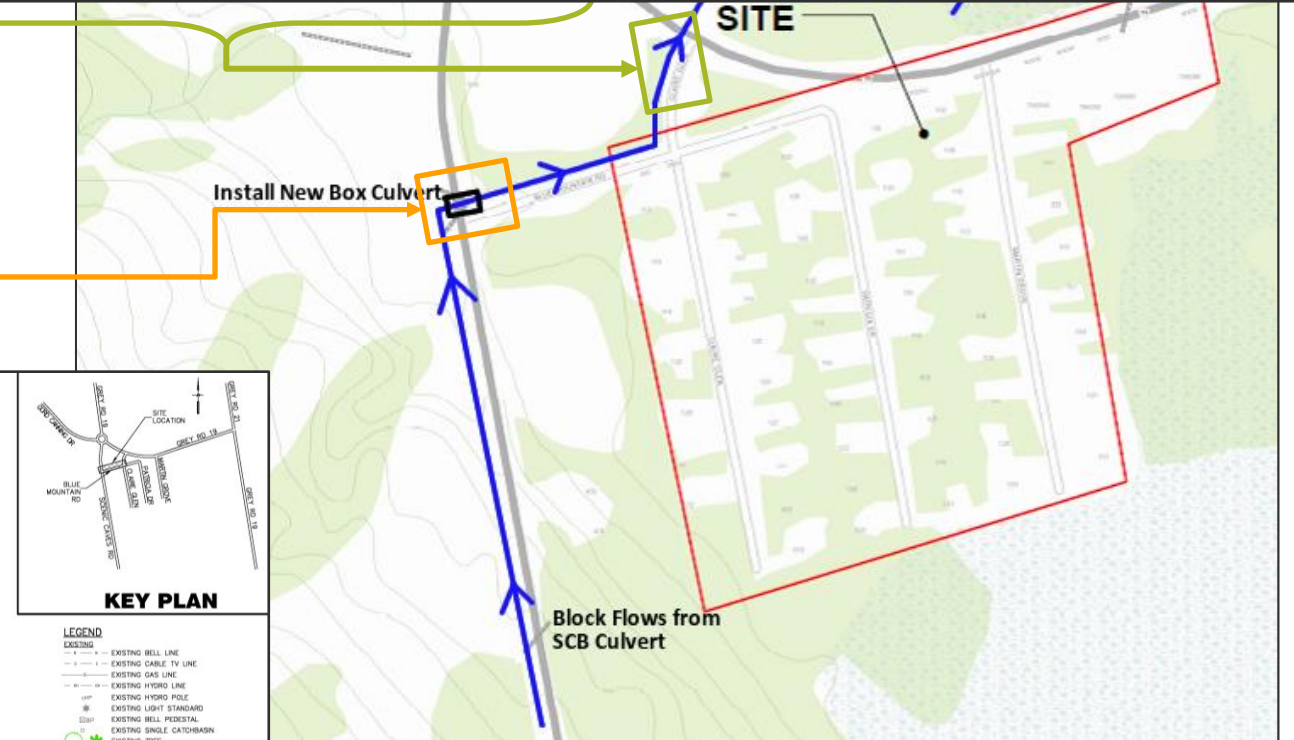
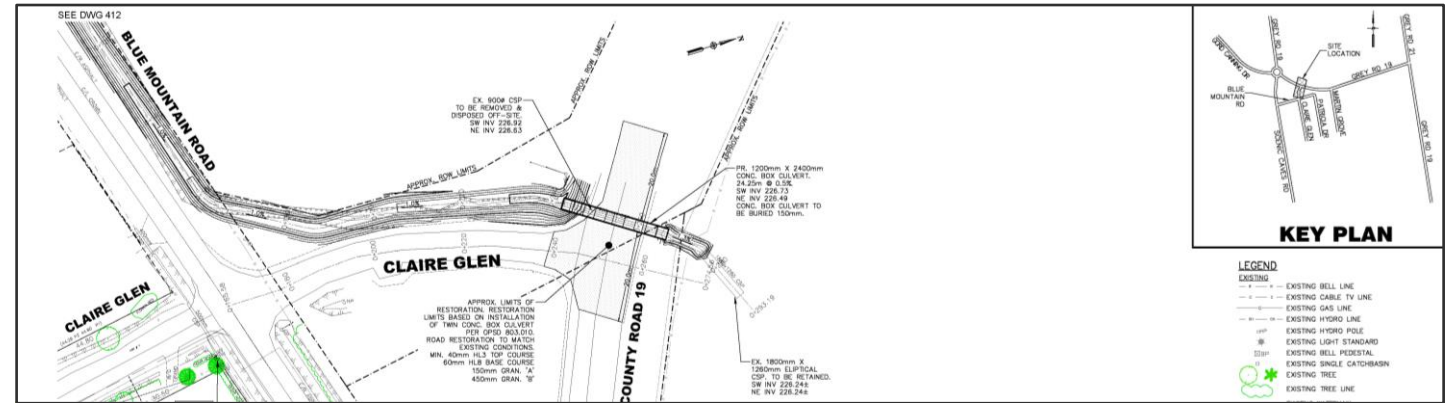
2021 Detailed Design

- Block SCB & SCA Culvert and divert all external flows from Blue Mountain north along Scenic Caves Rd.
- Improve drainage works on west side of Grey Road 119
- Remove ditch obstacles i.e. access driveways.
- Install Twin 900mm x 1800mm Box Culvert under GR 119



2021 Detailed Design

- Re-Grade Blue Mountain Rd. + Claire Glen Ditch System
- Install 1200mm x 2400mm Box Culvert under Grey Road 19, and connect with peripheral drain around Windfall Subdivision.
- Eliminate road overtopping at GR 119, Blue Mountain Rd., Claire Glen and GR 19.



Drainage Improvement Costs

- County Works ~ **\$221,000**(incl. Engineering, Provisional items & Contingency)
 - 1200mm x 2400mm Grey Road 19 Box Culvert Crossing 34m in length
 - Restoration
- Town Works ~ **\$290,000** (Incl. Engineering Provisional items & Contingency)
 - Grey Road 119 Ditching Improvements
 - Twin 900mm x 1800mm GR 119 Box Culvert Crossing 18.5m in length
 - Blue Mountain Rd. Ditching Improvements
 - Restoration

Wastewater Servicing

Existing Conditions – Wastewater Servicing

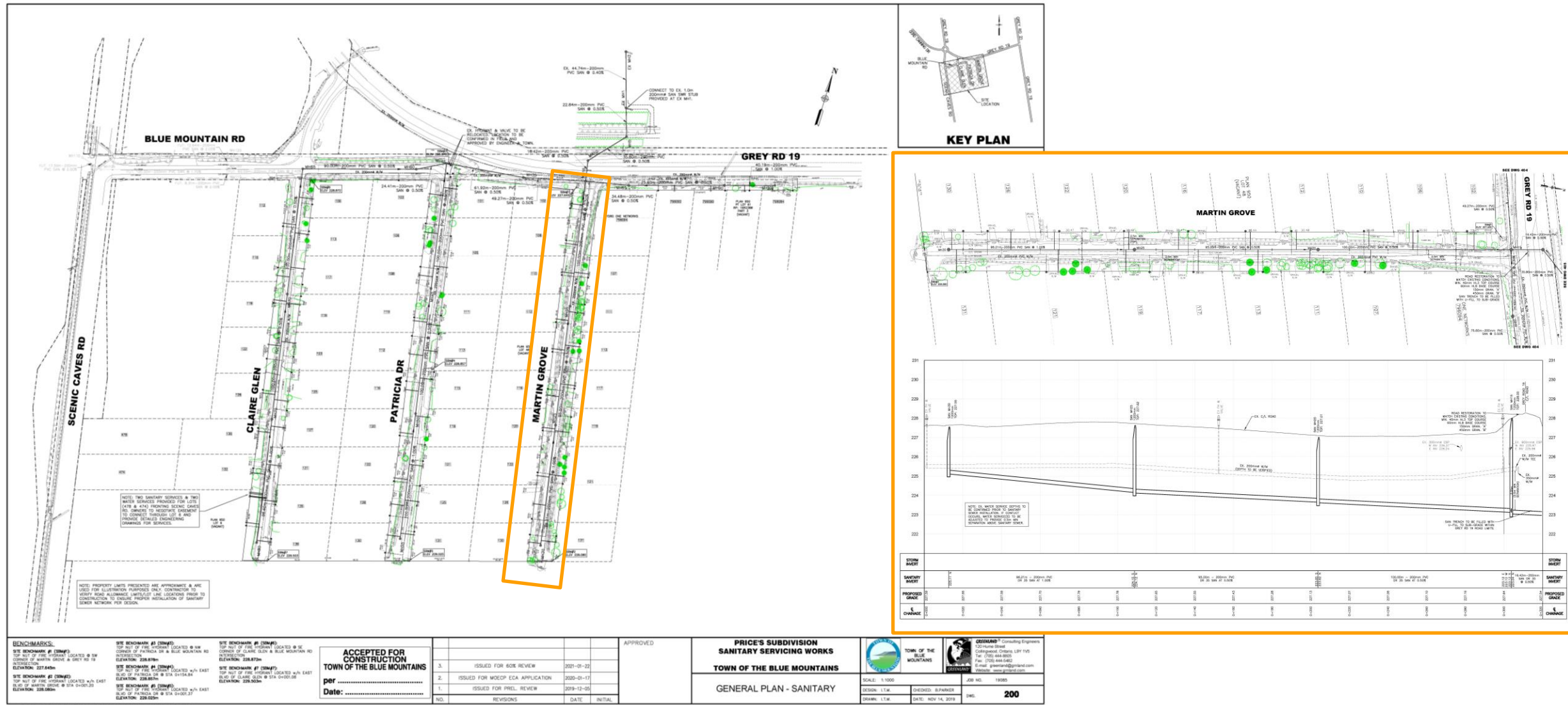
- Prices Development currently has no communal wastewater servicing, however, a stub for future connection to the existing municipal system has been installed north of Grey Road 19 extending from Windfall Subdivision.
- All lots utilize private septic systems which are at various stages in their life cycle (i.e. some are newer and others may be in need of replacement).
- Imperfect lot grading due to lack of comprehensive drainage design results in wet conditions at most septic systems.
- Geotechnical investigation identified relatively high groundwater table and shallow shale rock layer at a depth of 2.3m below grade.

Project History –2018 Preliminary Wastewater Servicing Improvement

Conventional Gravity Servicing

- A trunk sanitary sewer will be installed in the Municipal Right-of-Way (ROW) where flow is conveyed via gravity to the existing stub north of Grey Road 19 extending from the Windfall Subdivision.
- All infrastructure required for sanitary servicing will be installed in the ROW up to each property line. It will be the responsibility of the homeowner to install piping from the residence to the connection point at the property line and decommission their septic systems.
- Generally deep excavations and associated restorations are required for this option.
- There are no expected ongoing (O&M, energy etc.) charges to the homeowner after installation, beyond municipal wastewater user rates.
- At the homeowners discretion, Septic Systems could be re-purposed for rain water collection and irrigation or other uses as opposed to fully removing all infrastructure. All connections to the municipal system must however be disconnected.

Gravity Sewer Configuration



Municipal Wastewater Servicing Costs

Total Cost of Wastewater Servicing

- \$2,012,560 (incl. Engineering, Provisional Items and Contingency)

Prices Development Residential Portion

- ~\$1,421,000 (incl. Engineering, Provisional Items and Contingency)
- \$21,857.42 per Lot (based on 65 services installed)
- \$4,769.00 development charge to connect to the Municipal System
- \$26,626.42 to the resident
- Additional (varying) costs to de-commission private septic tanks
- Additional Cost to install sanitary service from home to property line.

Development Charge Portion

- \$527,000 (incl. Engineering, Provisional Items and Contingency)

Next Steps

- Award and execute Tender 2021-10-T-OPS with low bidder at Council / Town's discretion.
- Proceed to construct the Stormwater Diversion and Wastewater Servicing works in summer / fall 2021.
- Total Construction window expected to be approximately 16 weeks.



Thank You



If there are any questions, please Contact the representatives below:

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For More Information, Please visit the Towns website at:
<https://thebluemountains.ca/prices-subdivision.cfm?is=27>

--Greenland Consulting Engineers --