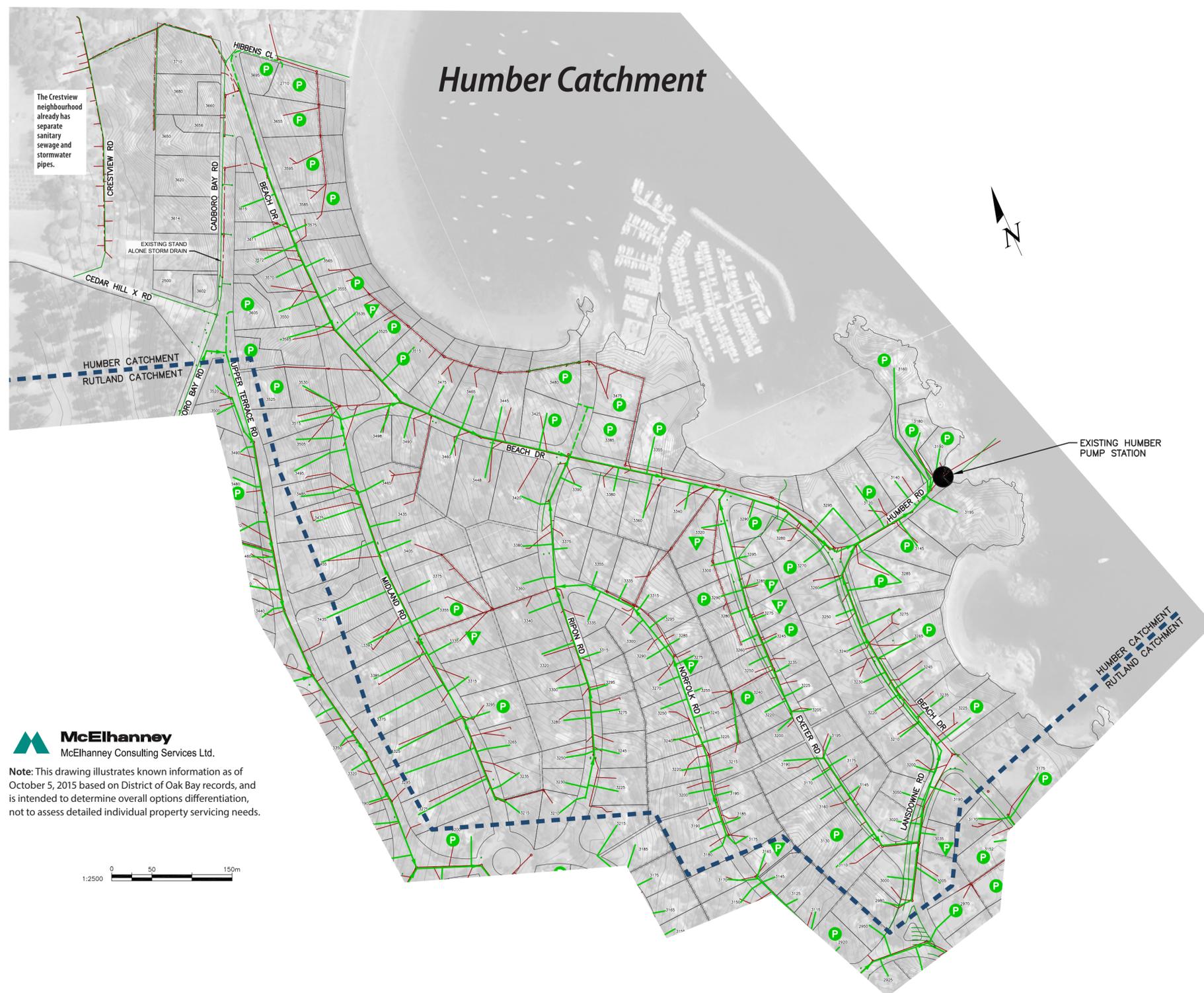


OPTION 2 - Install deeper gravity stormwater system and use existing combined system to carry sanitary sewage.



LEGEND	
	EXISTING SANITARY SEWER
	EXISTING STORM DRAIN
	COMBINED SANITARY/STORM DRAIN SYSTEMS
	PROPOSED GRAVITY STORM DRAIN
	PROPOSED LOW PRESSURE STORM DRAIN
	PROPOSED LOW PRESSURE STORM DRAIN PUMP
	EXISTING STORM DRAIN PUMP

Catchment	Humber
Proposed Stormwater Pumps	32
Existing Stormwater Pumps	7
Number of Properties	150

Option 2: Cost Estimate	
Total Project cost	\$20.7 M
District of Oak Bay cost	\$17.1 M
Range of costs to homeowners with new pump system	\$17K* to \$20K*
Range of costs to homeowners not requiring new pump system	\$8K* to \$11K*

Note that 13 existing pumped services and 80 existing gravity services are expected to be reused.

*Homeowner cost estimates are based on a general assessment of the work required on private property and will vary depending on the specific circumstances and actual work required on each property. Costs associated with the archaeological discoveries on private or public property and compliance with the *Heritage Conservation Act* are not included in the cost estimates.

McElhanney
McElhanney Consulting Services Ltd.

Note: This drawing illustrates known information as of October 5, 2015 based on District of Oak Bay records, and is intended to determine overall options differentiation, not to assess detailed individual property servicing needs.

1:2500
0 50 150m

Option 2: Key Considerations

- ▶ Five metres has been established as the maximum practical and economic depth for trench excavation.
- ▶ Existing pipe is old and leaks. Using this pipe to carry sanitary sewage minimizes project environmental benefits and would accelerate the need to rehabilitate or replace the existing pipe.
- ▶ Requires the least number of pumps on private property. Costs for pumps will be the responsibility of the homeowner. Backup power generators are recommended.
- ▶ Existing pipe is larger than required for sanitary sewage conveyance. Lower flows may result in insufficient volume to flush solids from the pipe, odor and solids accumulation may occur requiring more frequent maintenance.
- ▶ Deep trench excavation costs more to excavate and install pipes, and is more disruptive to neighbourhoods as it has a longer construction timeframe.
- ▶ Trench excavation is invasive and may negatively impact mature trees and landscaping on public and private property.