

**Appendix N:
Final Preferred Solutions
Conceptual Designs – Bear Creek
Watershed**

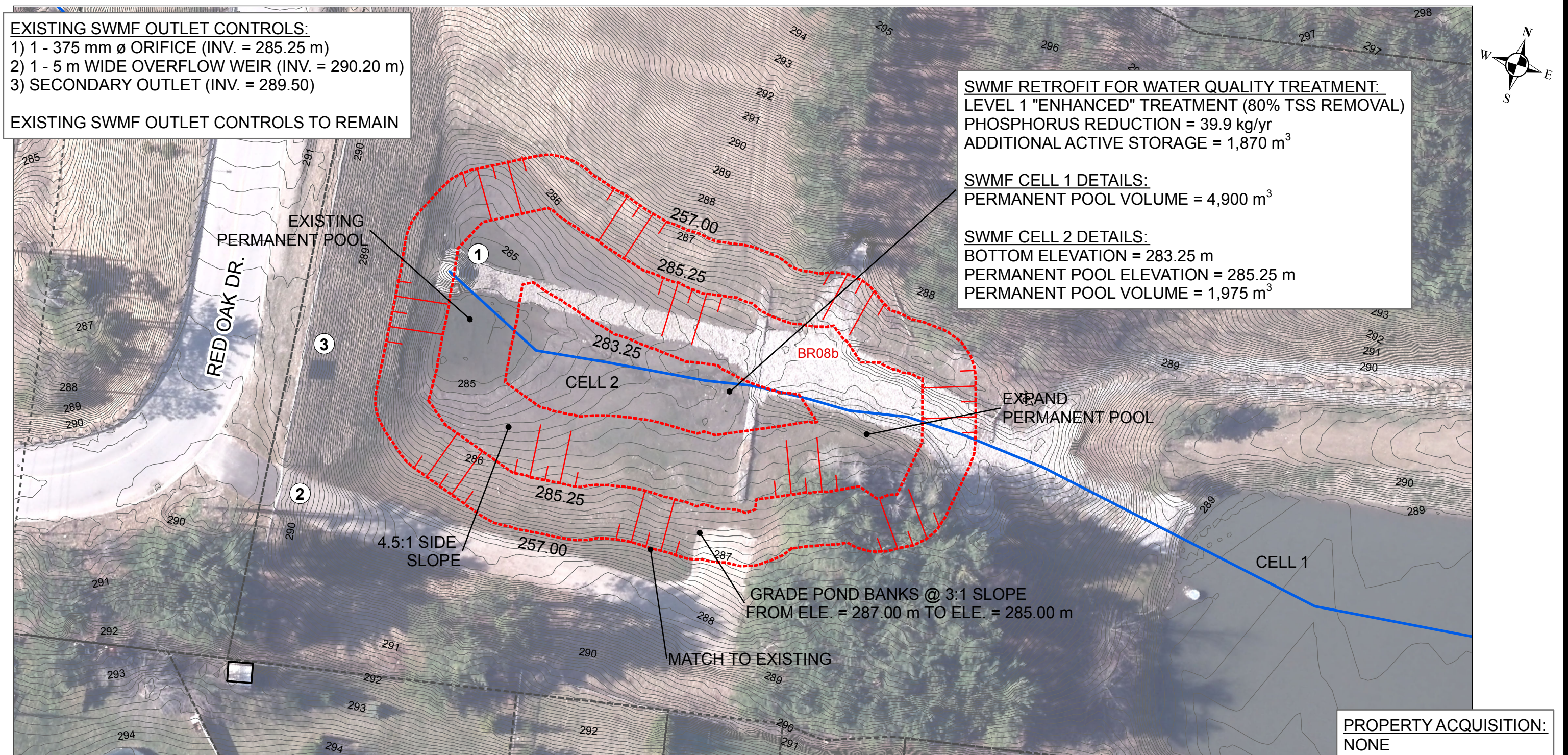
EXISTING SWMF OUTLET CONTROLS:
1) 1 - 375 mm Ø ORIFICE (INV. = 285.25 m)
2) 1 - 5 m WIDE OVERFLOW WEIR (INV. = 290.20 m)
3) SECONDARY OUTLET (INV. = 289.50)

EXISTING SWMF OUTLET CONTROLS TO REMAIN

SWMF RETROFIT FOR WATER QUALITY TREATMENT:
LEVEL 1 "ENHANCED" TREATMENT (80% TSS REMOVAL)
PHOSPHORUS REDUCTION = 39.9 kg/yr
ADDITIONAL ACTIVE STORAGE = 1,870 m³

SWMF CELL 1 DETAILS:
PERMANENT POOL VOLUME = 4,900 m³

SWMF CELL 2 DETAILS:
BOTTOM ELEVATION = 283.25 m
PERMANENT POOL ELEVATION = 285.25 m
PERMANENT POOL VOLUME = 1,975 m³



DISCLAIMER

The information contained in this drawing is solely for the use of the Corporation of the City of Barrie for the purpose for which it has been prepared and C.C. Tatham & Associates Ltd. undertakes no duty to or accepts any responsibility to any third party who may rely upon this drawing. This drawing may not be used for any purpose other than that provided in the contract between the Corporation of the City of Barrie and C.C. Tatham & Associates Ltd. nor may any detail or element of this drawing be removed, reproduced, electronically stored or transmitted in any form without the express written consent of C.C. Tatham & Associates Ltd.

LEGEND

- PR STORM MAINTENANCE HOLE
- PR. STORM SEWER
- EX. SANITARY SEWER
- EX. SANITARY MAINTENANCE HOLE
- ▨ PR. LID

- EX. WATERMAIN
- EX. STORM MAINTENANCE HOLE
- EX. STORM SEWER
- EX. WATERCOURSE
- ▨ EX. PROPERTY LINE
- ▨ PROPERTY ACQUISITION

DRAINAGE MASTER PLAN
FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 150
SWMF RETROFIT No. 61 (BR08B)
BEAR CREEK WATERSHED

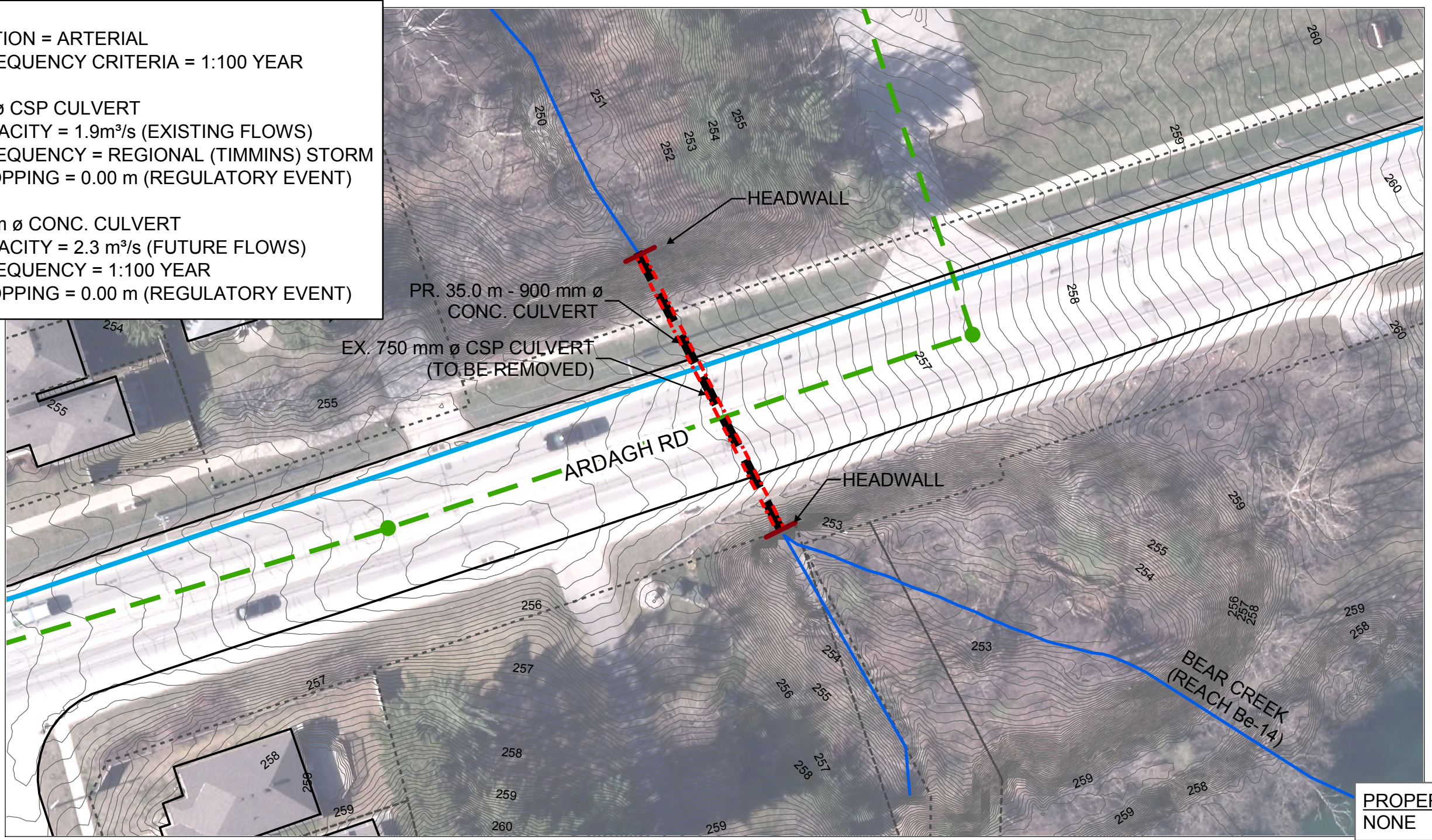
SCALE = 1:500

DATE: MARCH 2019

ARDAGH ROAD:
ROAD CLASSIFICATION = ARTERIAL
DESIGN FLOOD FREQUENCY CRITERIA = 1:100 YEAR

EXISTING: 750 mm ø CSP CULVERT
CONVEYANCE CAPACITY = 1.9m³/s (EXISTING FLOWS)
DESIGN FLOOD FREQUENCY = REGIONAL (TIMMINS) STORM
DEPTH OF OVERTOPPING = 0.00 m (REGULATORY EVENT)

PROPOSED: 900 mm ø CONC. CULVERT
CONVEYANCE CAPACITY = 2.3 m³/s (FUTURE FLOWS)
DESIGN FLOOD FREQUENCY = 1:100 YEAR
DEPTH OF OVERTOPPING = 0.00 m (REGULATORY EVENT)



PROPERTY ACQUISITION:
NONE



DISCLAIMER
The information contained in this drawing is solely for the use of the Corporation of the City of Barrie for the purpose for which it has been prepared and C.C. Tatham & Associates Ltd. undertakes no duty to or accepts any responsibility to any third party who may rely upon this drawing. This drawing may not be used for any purpose other than that provided in the contract between the Corporation of the City of Barrie and C.C. Tatham & Associates Ltd. nor may any detail or element of this drawing be removed, reproduced, electronically stored or transmitted in any form without the express written consent of C.C. Tatham & Associates Ltd.

LEGEND

- PR. CULVERT
- PR. STORM SEWER
- PR STORM MAINTENANCE HOLE
- EX. STORM SEWER
- EX. STORM MAINTENANCE HOLE
- WATERCOURSE
- EX. SANITARY SEWER
- EX. SANITARY MAINTENANCE HOLE
- EX. WATERMAIN
- EX. CULVERT
- EX. PROPERTY LINE
- PROPERTY ACQUISITION

DRAINAGE MASTER PLAN
FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 154
CULVERT IMPROVEMENT No. 78
(ARDAGH ROAD)
BEAR CREEK WATERSHED
SCALE = 1:500

DATE: MARCH 2019



Disclaimer

The information contained in this drawing is solely for the use of the Corporation of the City of Barrie for the purpose for which it has been prepared and Tatham Engineering Ltd. undertakes no duty or accepts any responsibility to any third party who may rely upon this drawing. This drawing may not be used for any purpose other than that provided in the Contract between the Corporation of the City of Barrie and Tatham Engineering Ltd. nor may any detail or element of this drawing be removed, reproduced, electronically stored or transmitted in any form with the express written consent of the Corporation of the City of Barrie.

LEGEND

- | | | | |
|--|-------------------------------|--|----------------------------|
| | BANK EROSION | | EX. SANITARY SEWER |
| | BED EROSION/ KNICKPOINT | | EX. WATERCOURSE |
| | INFRASTRUCTURE AT RISK | | EX. WATERMAIN |
| | PR. STORM MAINTENANCE HOLE | | EX. STORM MAINTENANCE HOLE |
| | PR. STORM SEWER | | EX. STORM SEWER |
| | EX. SANITARY MAINTENANCE HOLE | | EX. PROPERTY LINE |
| | | | PROPERTY ACQUISITION |

DRAINAGE MASTER PLAN **FINAL PREFERRED ALTERNATIVE SOLUTION**

PROJECT No. 155
WATERCOURSE IMPROVEMENT No. 33
BEAR CREEK WATERSHED

SCALE = 1:1,500

DATE: MARCH 2019