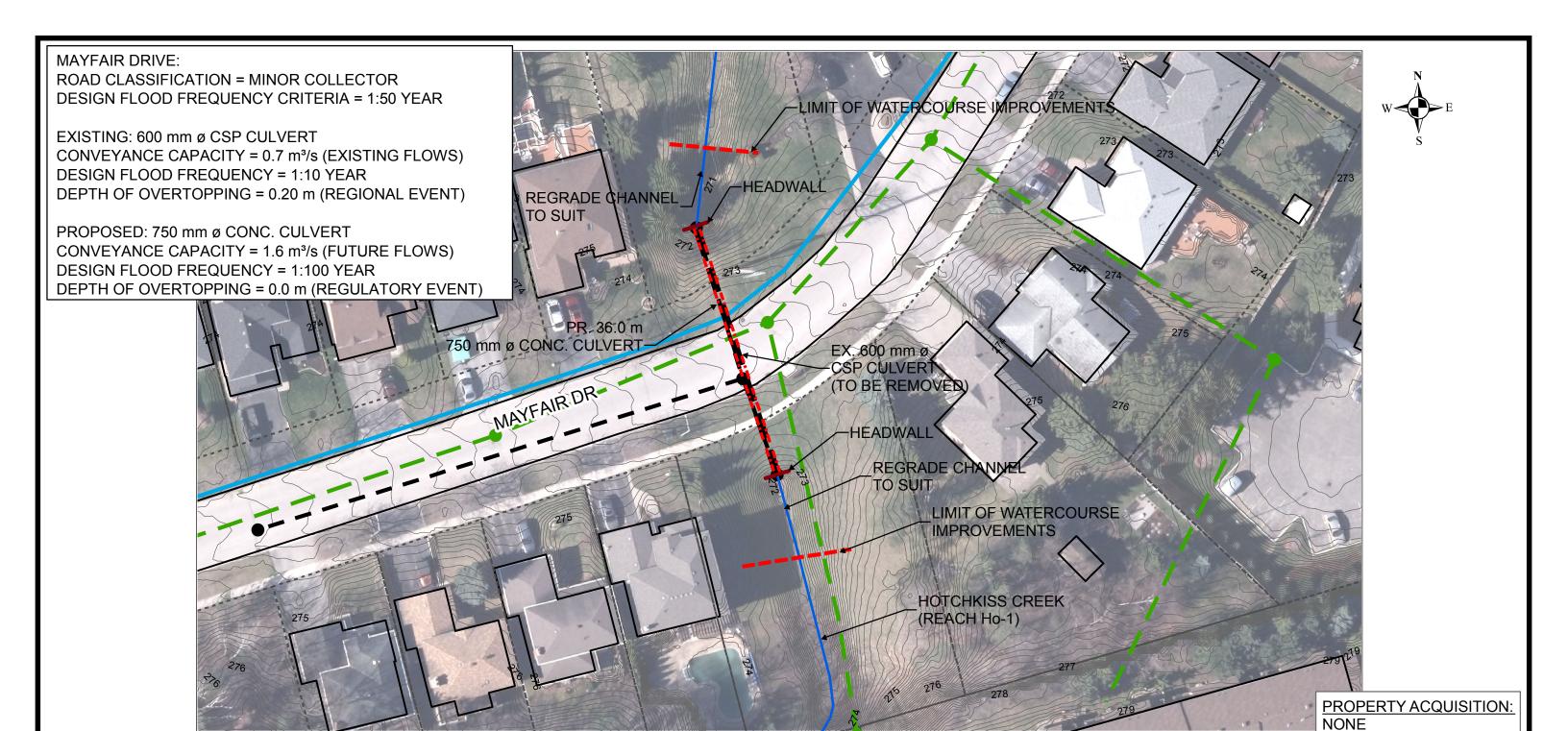
Appendix N: Final Preferred Solutions Conceptual Designs - Hotchkiss Creek Watershed







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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

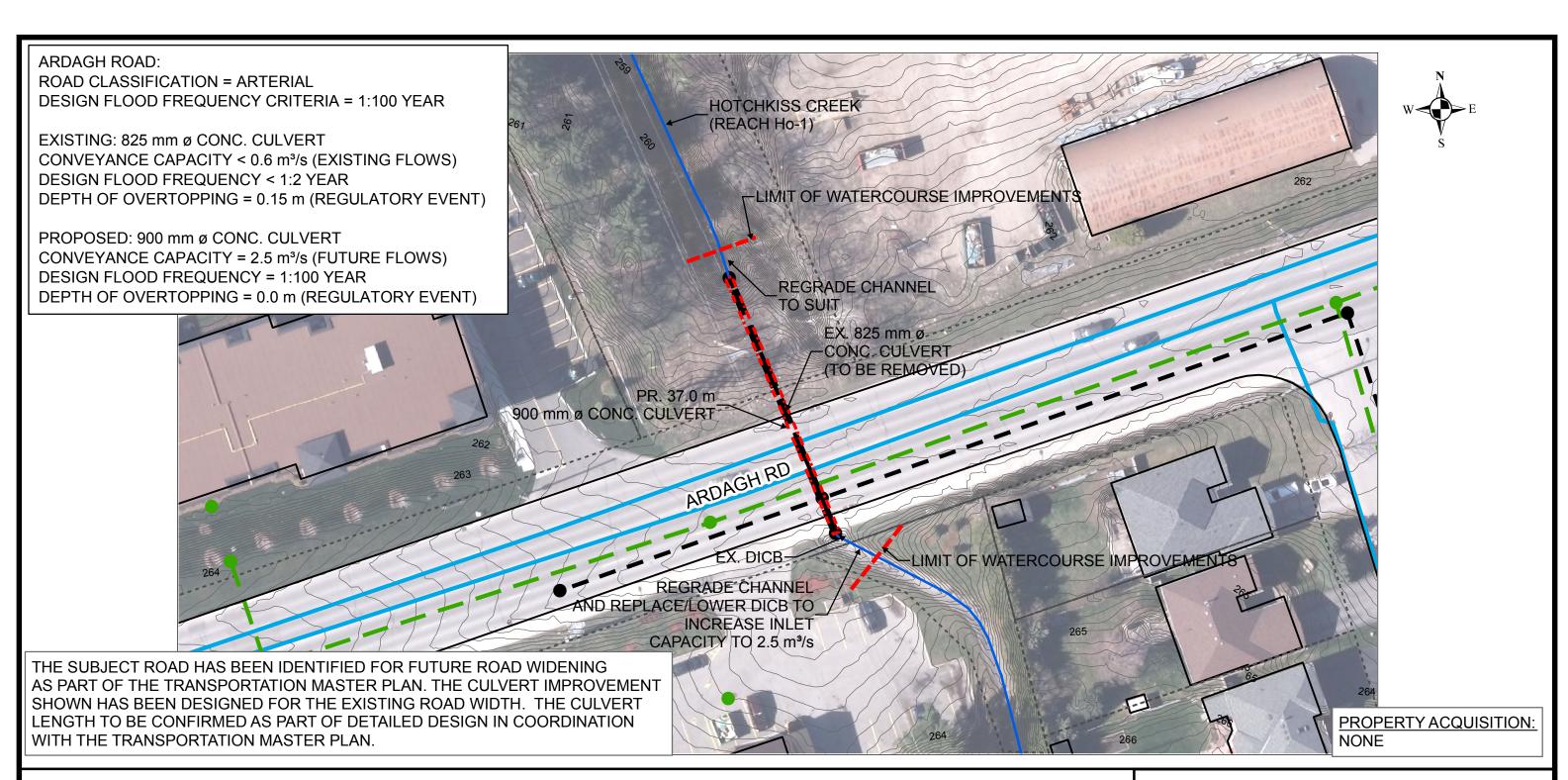
EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 12 CULVERT IMPROVEMENT No. 41 (MAYFAIR DR) HOTCHKISS CREEK WATERSHED

SCALE = 1:500







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LEGEND

HOLE

WATERCOURSE

PR. CULVERT

PR. STORM SEWER

PR. STORM SEWER

PR STORM MAINTENANCE
HOLE

EX. SANITARY MAINTENANCE
HOLE

EX. WATERMAIN

EX. CULVERT

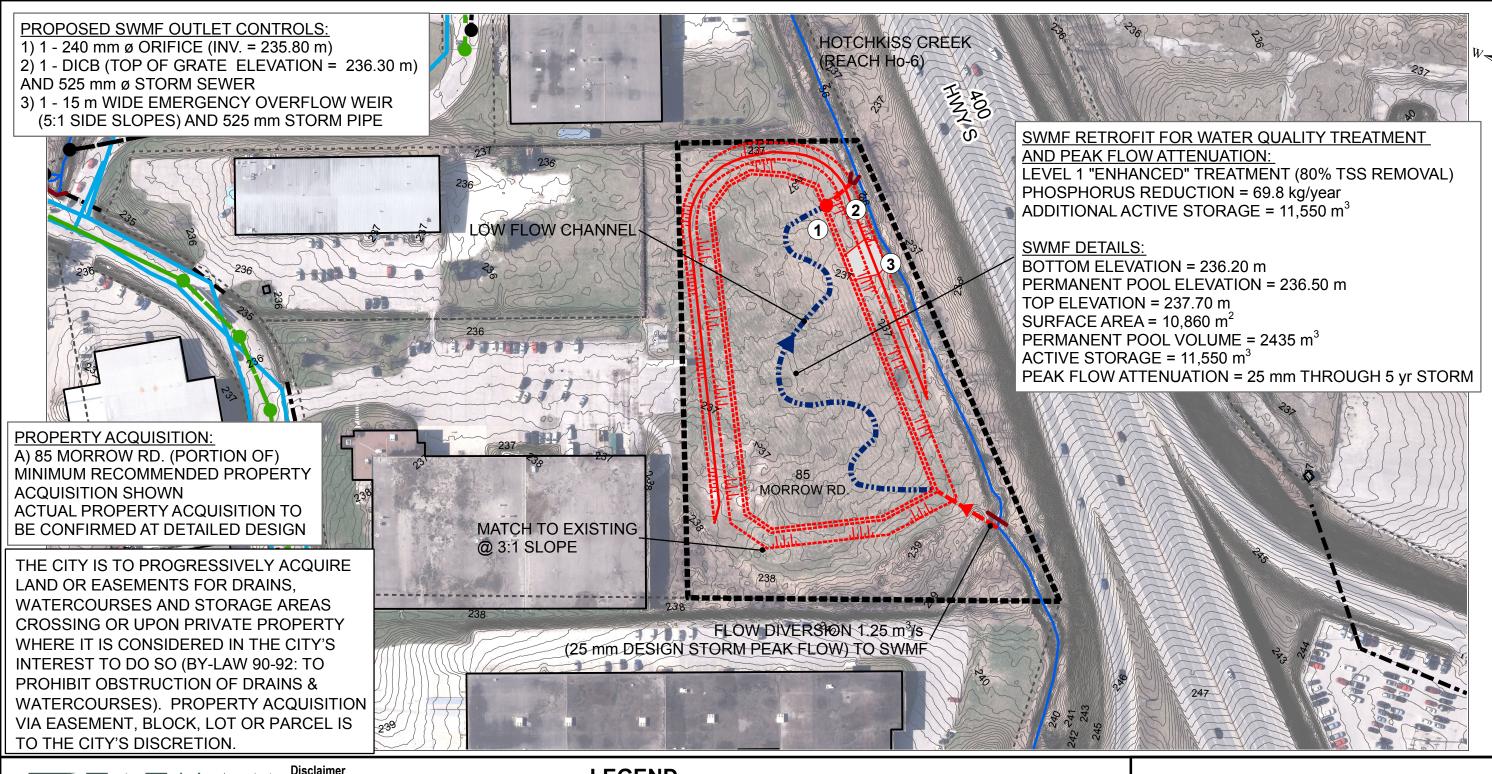
EX. STORM MAINTENANCE

EX. PROPERTY LINE PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 13 CULVERT IMPROVEMENT No. 42 (ARDAGH RD) HOTCHKISS CREEK WATERSHED

SCALE = 1:500







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LEGEND

PR STORM MAINTENANCE HOLE

PR. STORM SEWER

EX. SANITARY SEWER

EX. SANITARY MAINTENANCE HOLE



PR. LID

PR. CHANNEL REGRADING



EX. STORM MAINTENANCE HOLE

EX. STORM SEWER

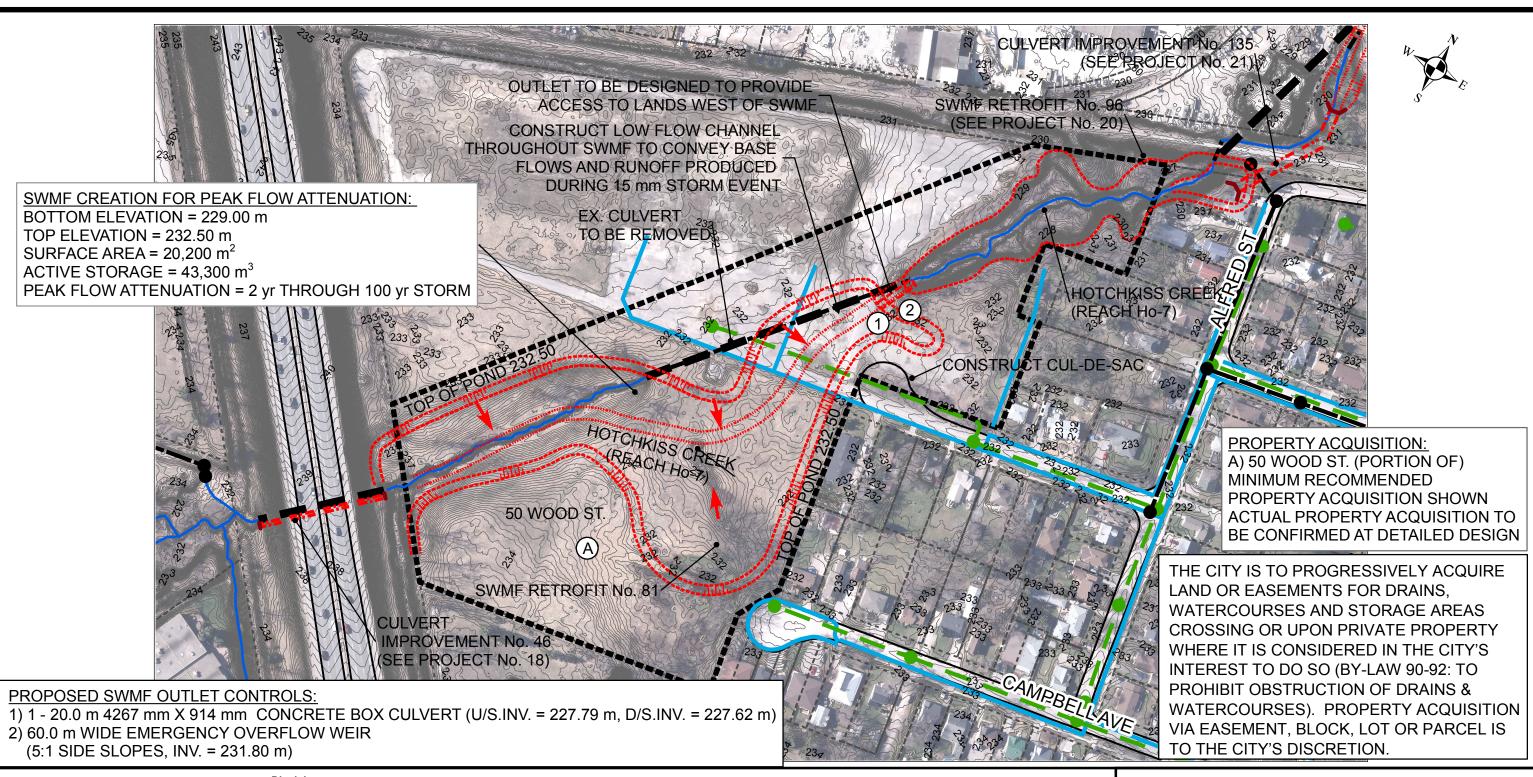
EX. WATERCOURSE EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No.17 SWMF RETROFIT No. 44 HOTCHKISS CREEK WATERSHED

SCALE = 1:1,500







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LEGEND

PR STORM MAINTENANCE HOLF

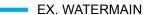
PR. STORM SEWER

EX. SANITARY SEWER

EX. SANITARY MAINTENANCE HOLE



PR. LID



EX. STORM MAINTENANCE
HOLF

EX. STORM SEWER

EX. WATERCOURSE

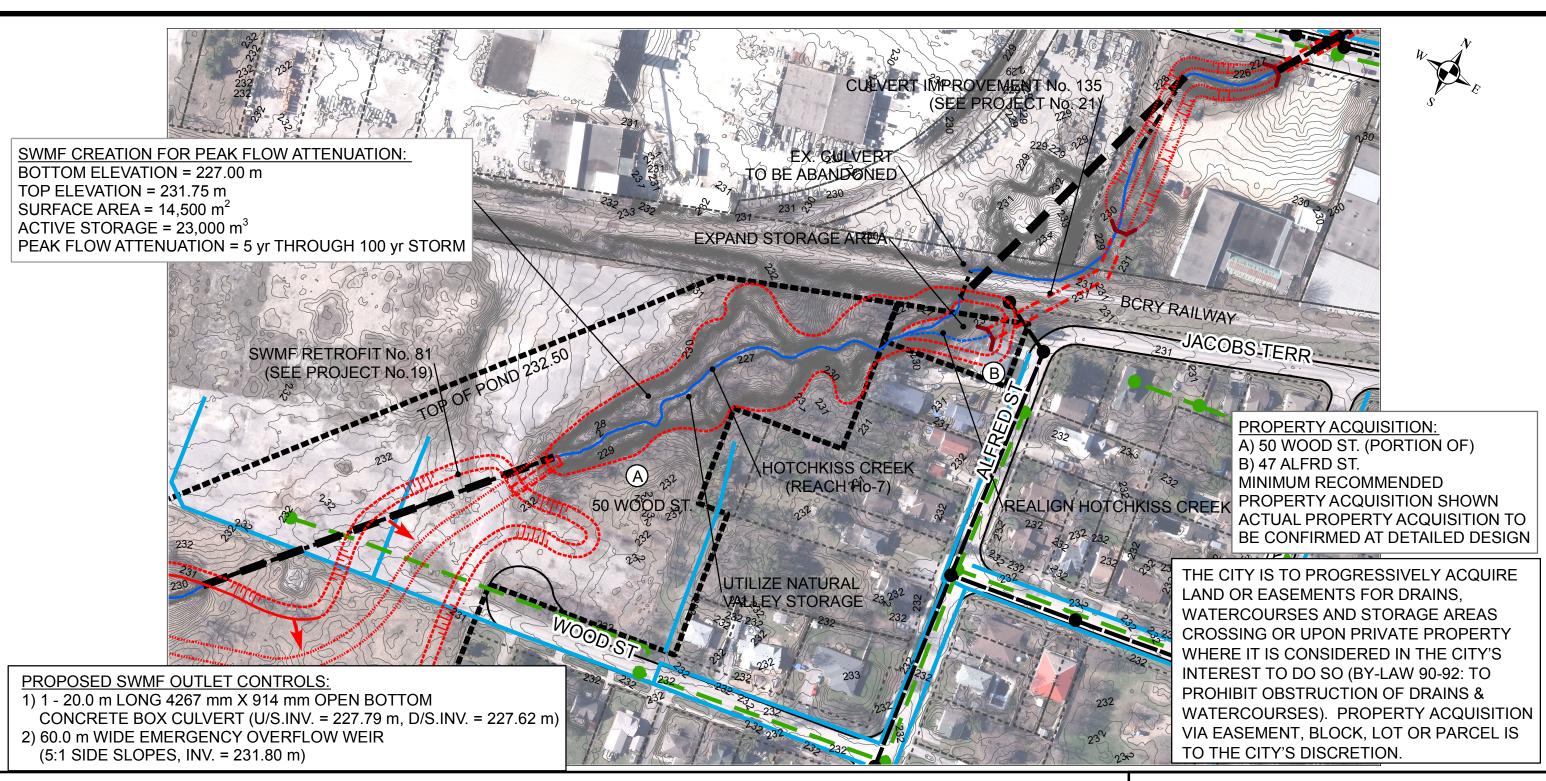
EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 19 SWMF RETROFIT No. 81 HOTCHKISS CREEK WATERSHED

SCALE = 1:2,000







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LEGEND

PR STORM MAINTENANCE

PR. STORM SEWER

EX. SANITARY SEWER

EX. SANITARY MAINTENANCE HOLE

PR. LID

EX. WATERMAIN

EX. STORM MAINTENANCE
HOLF

EX. STORM SEWER

EX. WATERCOURSE

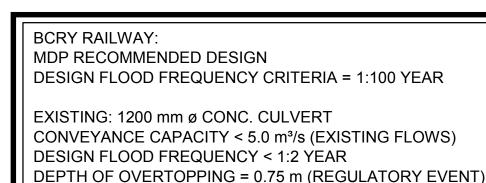
EX. PROPERTY LINE

PROPERTY ACQUISITION

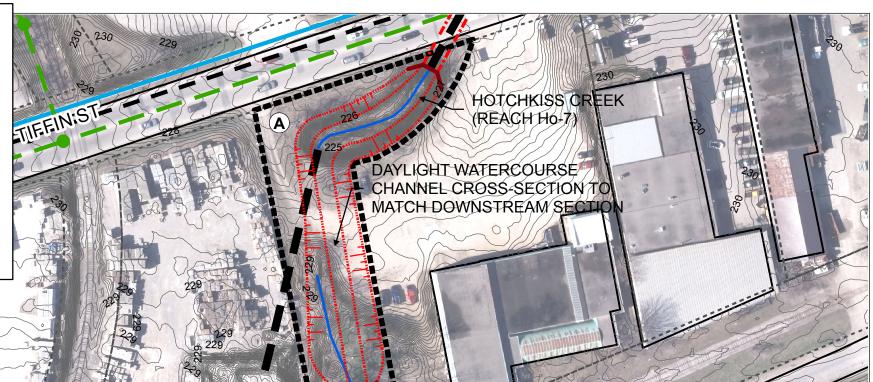
DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 20 SWMF RETROFIT No. 96 HOTCHKISS CREEK WATERSHED

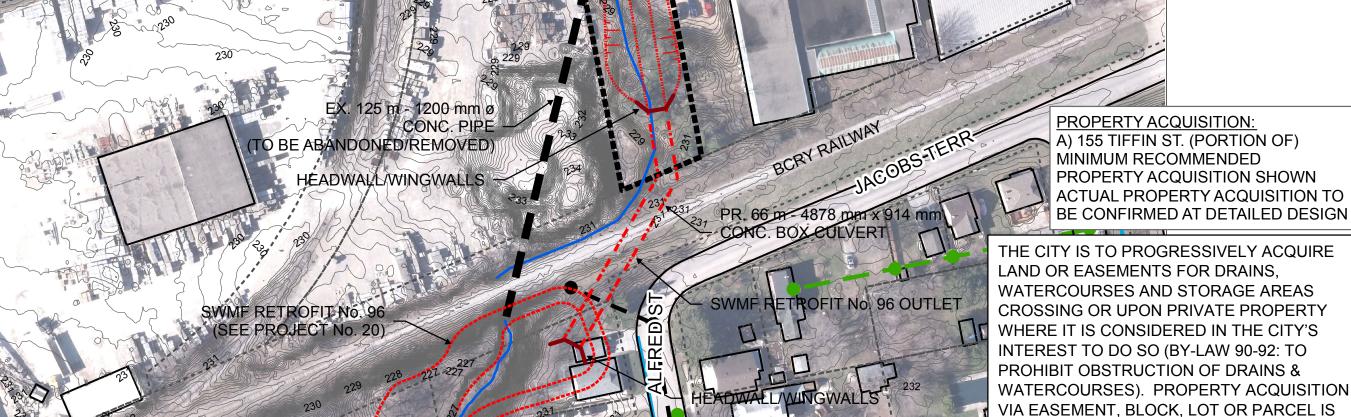
SCALE = 1:1,500



PROPOSED: 4878 mm x 914 mm CONC. BOX CULVERT CONVEYANCE CAPACITY = 19.8 m³/s (FUTURE FLOWS) DESIGN FLOOD FREQUENCY = 1:100 YEAR DEPTH OF OVERTOPPING = 0.57 m (REGULATORY EVENT)











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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

TO THE CITY'S DISCRETION.

PROJECT No. 21 CULVERT IMPROVEMENT No. 135 HOTCHKISS CREEK WATERSHED

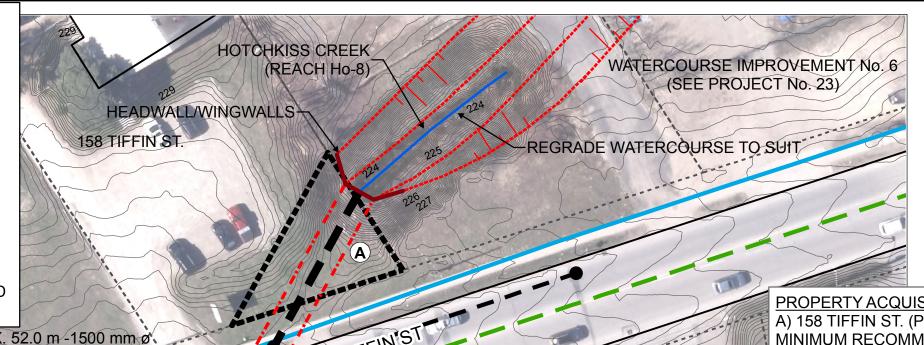
SCALE = 1:1,000

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

EXISTING: 1500 mm ø CONC. CULVERT CONVEYANCE CAPACITY < 0.6 m³/s (EXISTING FLOWS) DESIGN FLOOD FREQUENCY < 1:2 YEAR DEPTH OF OVERTOPPING = 0.98 m (REGULATORY EVENT)

PROPOSED: 4267 mm x 1830 mm CONC. BOX CULVERT CONVEYANCE CAPACITY = 17.0 m³/s (FUTURE FLOWS) DESIGN FLOOD FREQUENCY = 1:50 YEAR DEPTH OF OVERTOPPING = 0.56 m (REGULATORY EVENT)

PROPOSED CULVERT SIZE TO BE REVIEWED AT DETAILED DESIGN TO REDUCE THE DEPTH OF OVERTOPPING



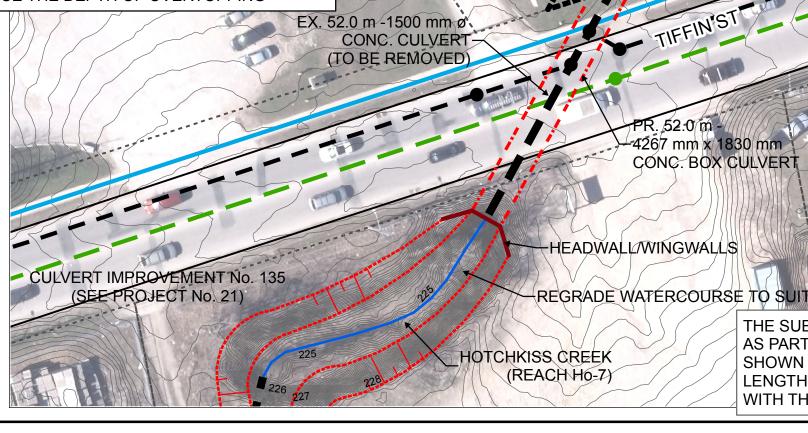


PROPERTY ACQUISITION:

A) 158 TIFFIN ST. (PORTION OF)
MINIMUM RECOMMENDED
PROPERTY ACQUISITION SHOWN
ACTUAL PROPERTY ACQUISITION TO
BE CONFIRMED AT DETAILED DESIGN

THE CITY IS TO PROGRESSIVELY ACQUIRE LAND OR EASEMENTS FOR DRAINS, WATERCOURSES AND STORAGE AREAS CROSSING OR UPON PRIVATE PROPERTY WHERE IT IS CONSIDERED IN THE CITY'S INTEREST TO DO SO (BY-LAW 90-92: TO PROHIBIT OBSTRUCTION OF DRAINS & WATERCOURSES). PROPERTY ACQUISITION VIA EASEMENT, BLOCK, LOT OR PARCEL IS TO THE CITY'S DISCRETION.

THE SUBJECT ROAD HAS BEEN IDENTIFIED FOR FUTURE ROAD WIDENING AS PART OF THE TRANSPORTATION MASTER PLAN. THE CULVERT IMPROVEMENT SHOWN HAS BEEN DESIGNED FOR THE EXISTING ROAD WIDTH. THE CULVERT LENGTH TO BE CONFIRMED AS PART OF DETAILED DESIGN IN COORDINATION WITH THE TRANSPORTATION MASTER PLAN.







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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

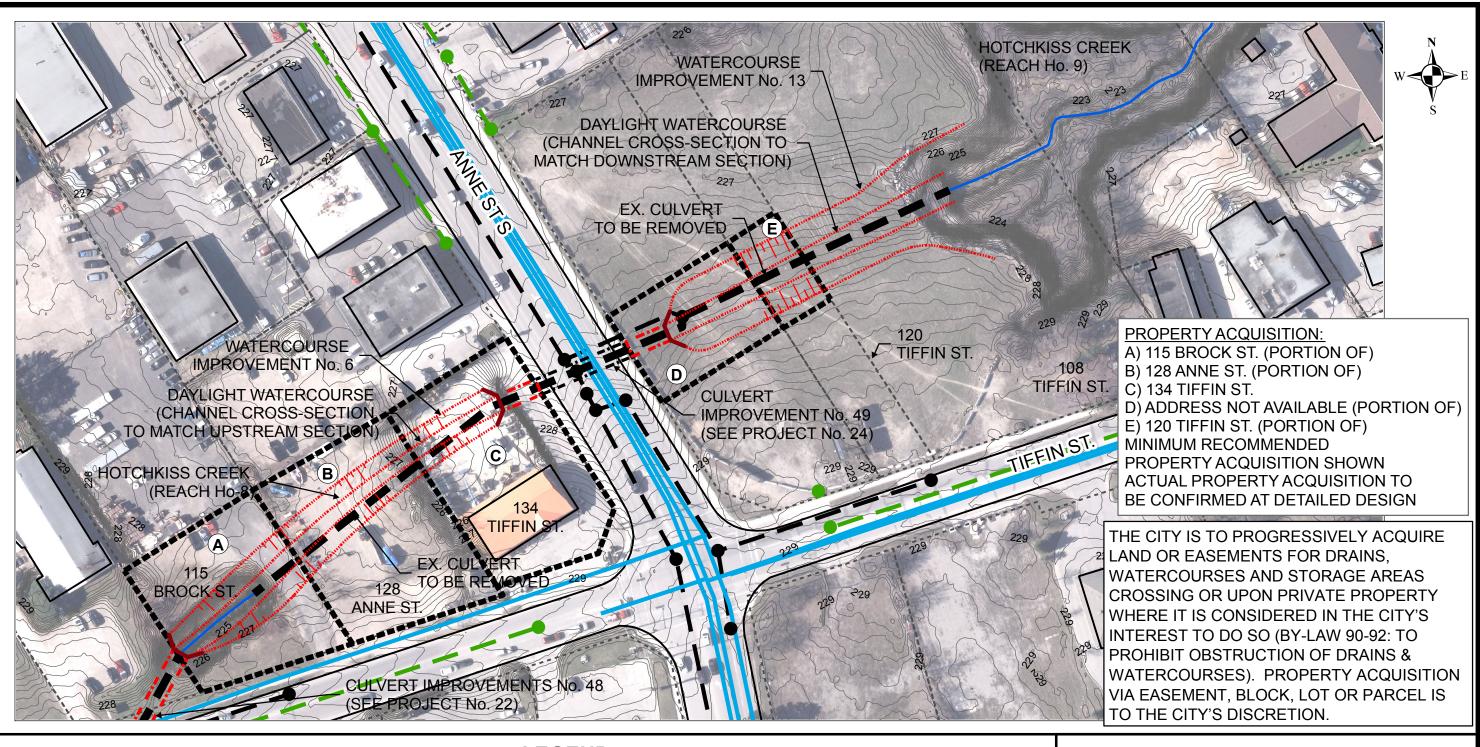
EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 22 CULVERT IMPROVEMENT No. 48 (TIFFIN ST) HOTCHKISS CREEK WATERSHED

SCALE = 1:500







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LEGEND

BANK EROSION

BED EROSION/ KNICKPOINT

INFRASTRUCTURE AT RISK

PR. STORM MAINTENANCE HOLE

PR. STORM SEWER

EX. SANITARY MAINTENANCE HOLE

EX. SANITARY SEWER

EX. WATERCOURSEEX. WATERMAIN

EX. STORM MAINTENANCE HOLE

EX. STORM SEWER

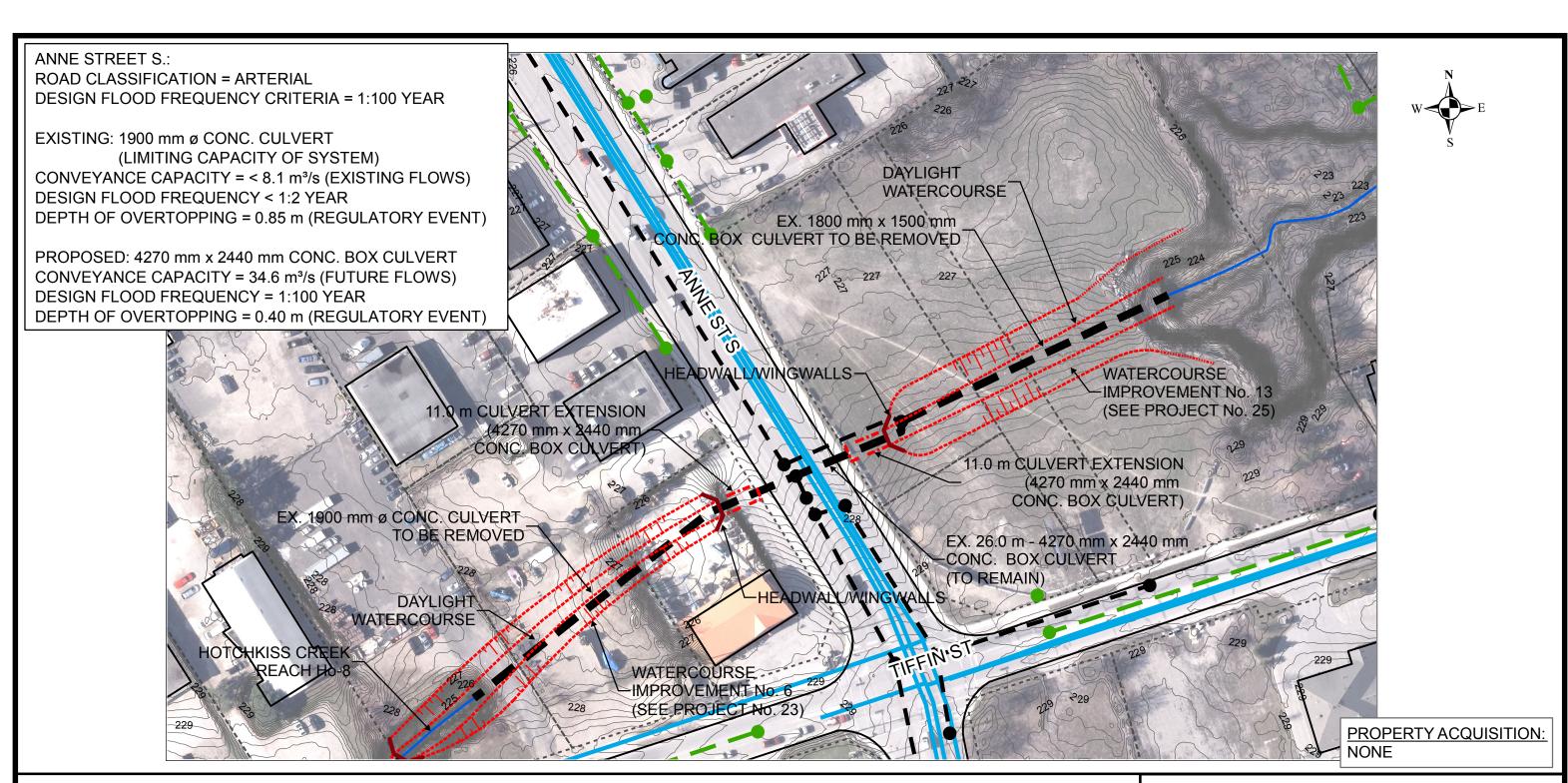
EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 23 & 25
WATERCOURSE IMPROVEMENT No. 6 & 13
HOTCHKISS CREEK WATERSHED

SCALE = 1:1,000







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LEGEND

PR. CULVERT
PR. STORM SEWER
PR STORM MAINTENANCE
HOLE
EX. STORM SEWER

EX. STORM SEWER

EX. STORM SEWER

EX. STORM MAINTENANCE HOLE

WATERCOURSE

EX. SANITARY SEWER

EX. SANITARY MAINTENANCE HOLE

EX. WATERMAIN

■ EX. CULVERT

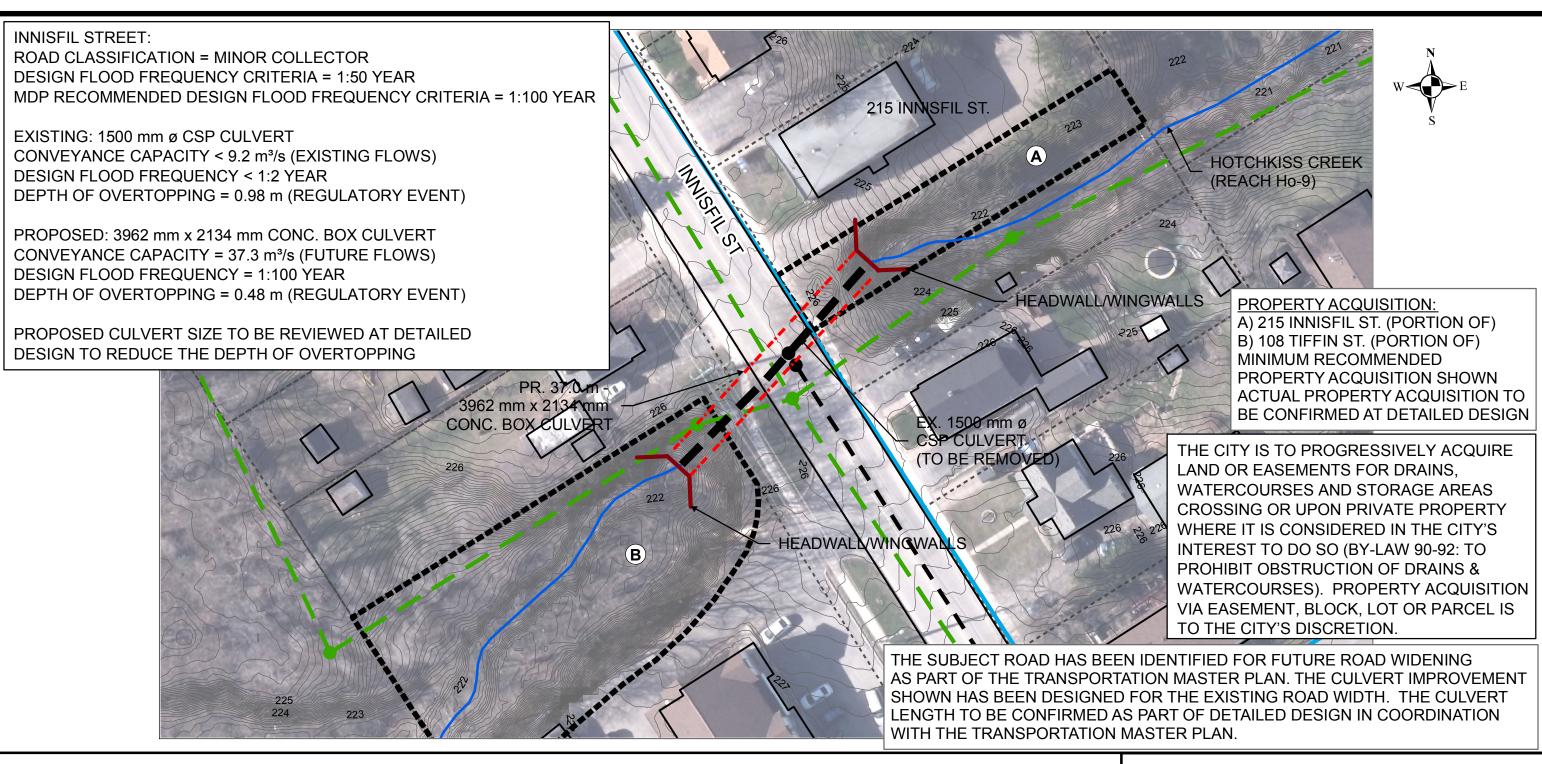
EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 24 CULVERT IMPROVEMENT No. 49 (ANNE ST S) HOTCHKISS CREEK WATERSHED

SCALE = 1:1,000







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LEGEND

WATERCOURSE

PR. CULVERT

PR. STORM SEWER

PR STORM MAINTENANCE
HOLE

EX. SANITARY MAINTENANCE
HOLE

EX. WATERMAIN

EX. CULVERT

EX. STORM MAINTENANCE
HOLE

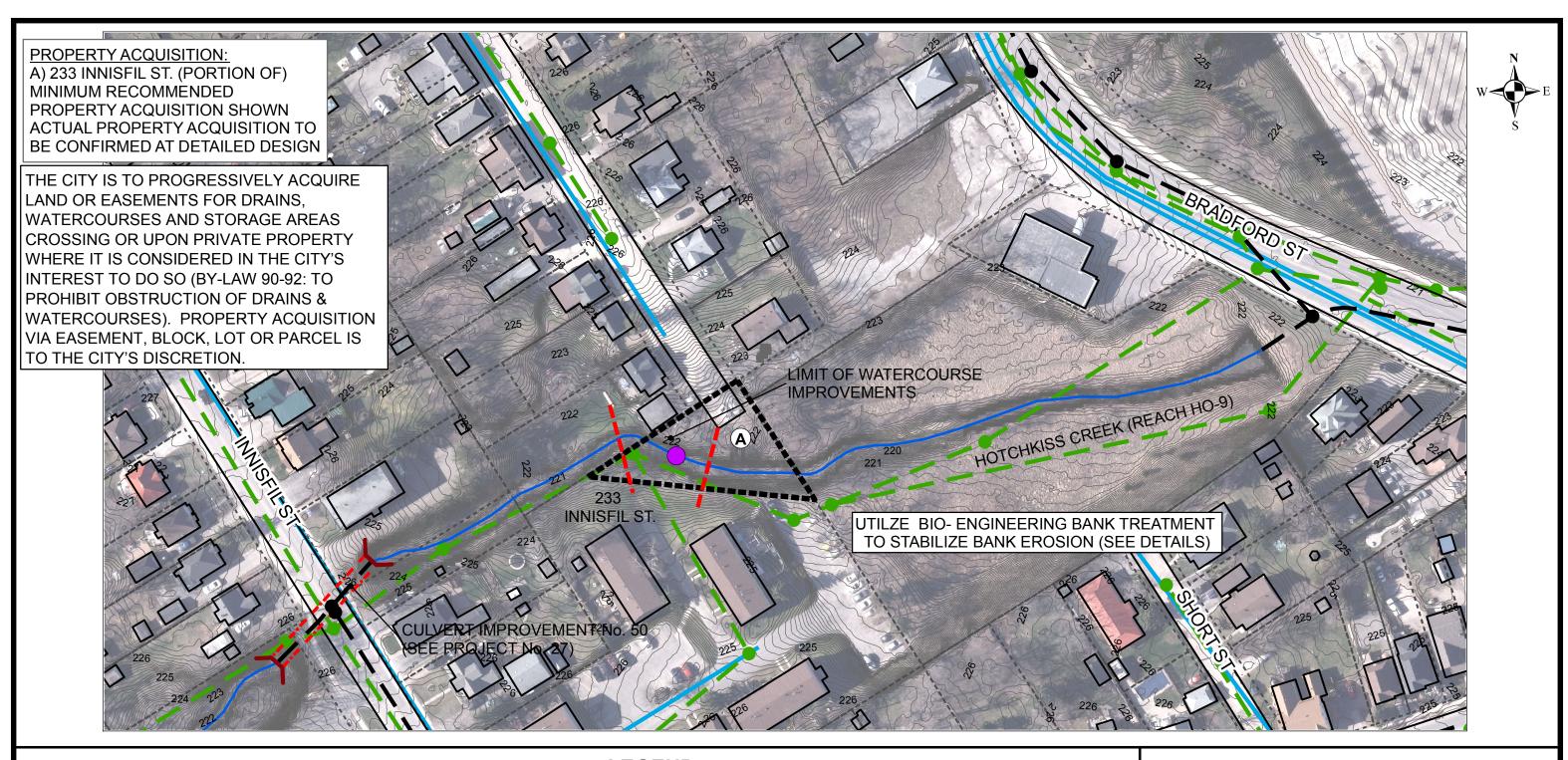
PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 27 CULVERT IMPROVEMENT No. 50 (INNISFIL ST) HOTCHKISS CREEK WATERSHED

SCALE = 1:500







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LEGEND

BANK EROSION

BED EROSION/ KNICKPOINT

INFRASTRUCTURE AT RISK

PR. STORM MAINTENANCE HOLE

PR. STORM SEWER

EX. SANITARY MAINTENANCE HOLE

EX. SANITARY SEWER

EX. WATERMAIN

EX. WATERCOURSE

EX. STORM MAINTENANCE
 HOLE

EX. STORM SEWER

EX. PROPERTY LINE

PROPERTY ACQUISITION

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 28
WATERCOURSE IMPROVEMENT No. 14
HOTCHKISS CREEK WATERSHED

SCALE = 1:1,000







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LEGEND

EX. WATERCOURSE

EX. STORM MAINTENANCE

EX. STORM SEWER

EX. PROPERTY LINE

PROPERTY ACQUISITION

TRUNK STORM SEWER (PREFERED ROUTE)

EX. SANITARY MAINTENANCE HOLE

EX. SANITARY SEWER

EX. WATERMAIN

DRAINAGE MASTER PLAN FINAL PREFERRED ALTERNATIVE SOLUTION

PROJECT No. 30 TRUNK STORM SEWER No. 10 HOTCHKISS CREEK WATERSHED

SCALE = 1:3,500