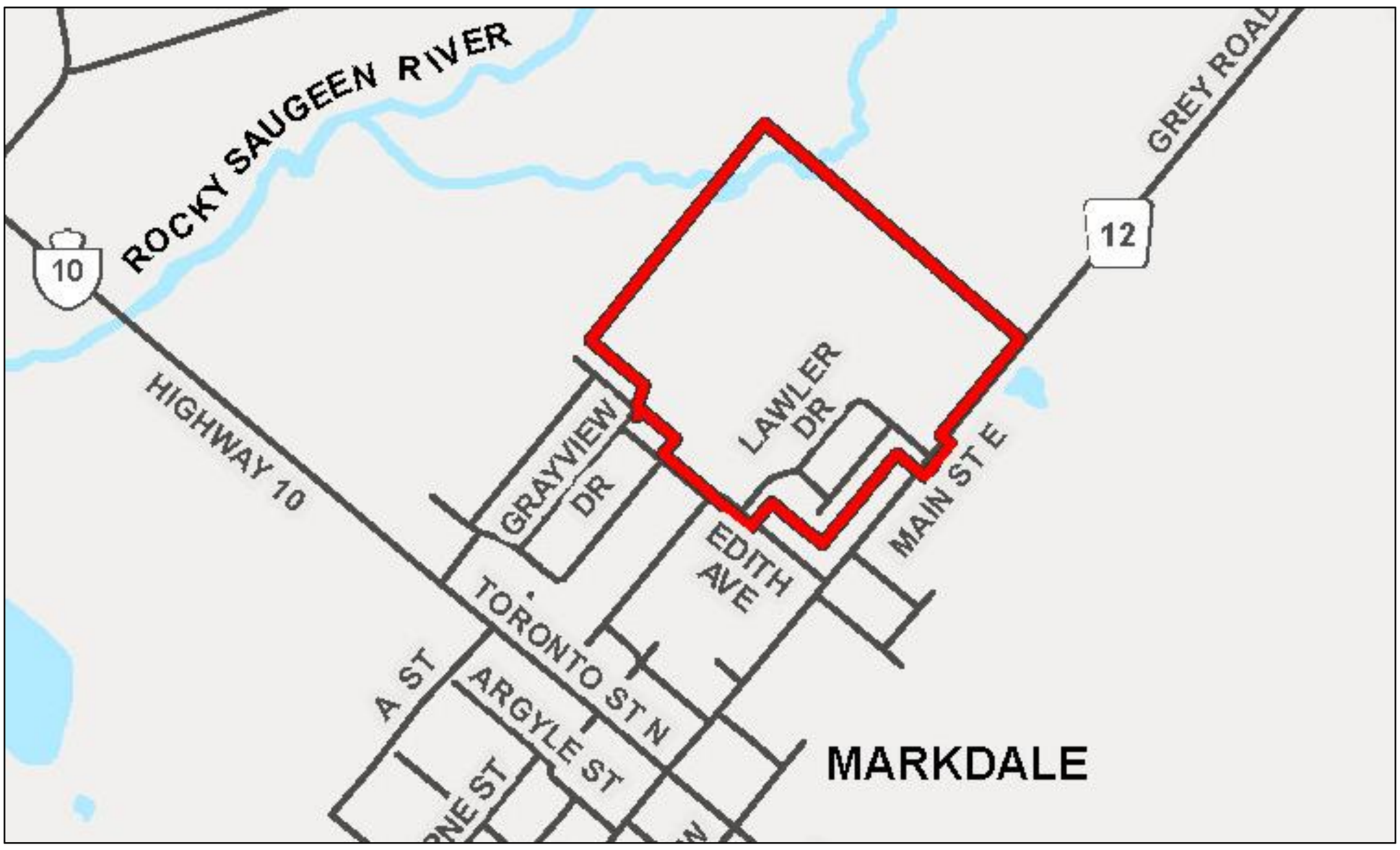
# MUNICIPALITY OF GREY HIGHLANDS

# CLASS EA FOR STORMWATER DRAINAGE IMPROVEMENTS TO LAWLER DRIVE AND BRACKENBURY STREET - MARKDALE




# WELCOME

## PUBLIC OPEN HOUSE
## NOVEMBER 21, 2024

Municipality of Grey Highlands

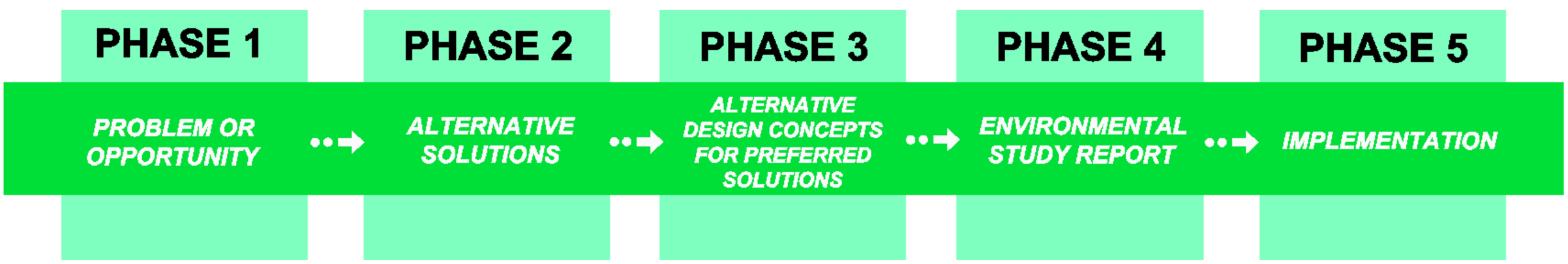
BMROSS engineering better communities

# MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

## SUMMARY OF CLASS EA PROCESS:

- PLANNING AND DESIGN PROCESS FOR MUNICIPAL WATER, WASTEWATER, AND ROAD PROJECTS
- CONDUCTED TO EVALUATE THE POTENTIAL IMPACTS OF THE PROJECT ON THE NATURAL, CULTURAL, SOCIAL, ECONOMIC, AND BUILT ENVIRONMENTS

## STUDY PHASES:




## SCOPE OF THIS STUDY:

- ESTABLISHMENT OF NEW STORMWATER DETENTION/RETENTION PONDS OR TANKS AND APPURTENANCES INCLUDING OUTFALL TO RECEIVING WATER BODY WHERE ALL SUCH FACILITIES ARE NOT LOCATED IN AN EXISTING UTILITY CORRIDOR, OR AN EXISTING ROAD ALLOWANCE OR WHERE PROPERTY ACQUISITION IS REQUIRED
  - SCHEDULE B PROJECTS APPROVED SUBJECT TO COMPLETION OF PHASES 1 AND 2 OF THE CLASS EA PROCESS (2024 MEA CLASS EA)
- GENERAL STUDY COMPONENTS:
  - DEFINE PROBLEM / OPPORTUNITY;
  - IDENTIFICATION OF ALTERNATIVE SOLUTIONS;
  - CONSULTATION WITH THE PUBLIC / REVIEW AGENCIES;
  - SELECTION OF A PREFERRED ALTERNATIVE;
  - EVALUATION OF ALTERNATIVES / IMPACT MITIGATION;
  - PREPARATION OF ENVIRONMENTAL SCREENING REPORT ; AND
  - FINAL PUBLIC NOTIFICATION.

# CLASS EA STUDY PROCESS (PHASES 1 & 2)

DEFINE PROBLEM OR OPPORTUNITY

↓

IDENTIFY ALTERNATIVE SOLUTIONS

↓

INVENTORY THE ENVIRONMENTAL SETTING

↓

IDENTIFY IMPACT OF ALTERNATIVE SOLUTIONS AND MITIGATING MEASURES

↓

CONSULT WITH PUBLIC AND REVIEW AGENCIES TO IDENTIFY ISSUES OF CONCERN

↓

EVALUATE ALTERNATIVE SOLUTIONS

↓

DOCUMENT STUDY FINDINGS AND PRESENT EVALUATIONS TO COUNCIL

↓

COUNCIL SELECTS PREFERRED ALTERNATIVE

↓

PREPARE PROJECT FILE AND PUBLISH NOTICE OF COMPLETION

↓

ADDRESS OUTSTANDING CONCERNS

↓

FINALIZE PROJECT FILE AND PROCEED TO DESIGN PHASE

**WHERE WE ARE TODAY**

# CLASS EA INVESTIGATION

## STUDY PURPOSE:

- TO IDENTIFY ALTERNATIVES TO ADDRESS CURRENT STORMWATER DRAINAGE DEFICIENCIES IN THE LAWLER DRIVE AND BRACKENBURY STREET AREA;
- DETERMINE POTENTIAL OUTLET LOCATION FOR EXCESS DRAINAGE FROM EXISTING STORMWATER DRAINAGE FACILITY AT NORTH END OF LAWLER DRIVE;
- CONSULT WITH POTENTIALLY AFFECTED PROPERTY OWNERS TO CONFIRM A ROUTE FOR DRAINAGE OUTLET
- DEFINE ANY POTENTIAL ENVIRONMENTAL IMPACTS WITH THE PROPOSED ALTERNATIVES AND EVALUATE MEASURES TO MITIGATE ANY IDENTIFIED CONCERNS; AND
- SELECT A PREFERRED ALTERNATIVE (INCLUDING DEFINING ANY REQUIRED MITIGATION).

## PRELIMINARY PREFERRED CLASS EA ALTERNATIVE:

1) CONSTRUCT A 1050MM STORMWATER DRAINAGE PIPE WITH OUTLET TO TRIBUTARY OF ROCKY SAUGEEN
2) FILL IN EXISTING POND ON LAWLER DRIVE AND OBTAIN EASEMENTS FROM GOLF COURSE AND ADJACENT PROPERTIES – CREATE BUILDING LOTS AT FORMER POND LOCATION

# PROJECT TIMELINES

## OCTOBER 2023 – PROJECT INITIATED

## OCTOBER 2023 – PUBLIC/AGENCY/FIRST NATION CONSULTATION

- NOTICE PLACED IN DUNDALK HERALD
- LETTERS SENT TO REVIEW AGENCIES AND ABORIGINAL COMMUNITIES
- RESPONSES SENT TO QUESTIONS FROM RESIDENTS

## SPRING 2024 – ARCHAEOLOGICAL ASSESSMENT

- TEST PIT SURVEY OF DRAINAGE ROUTE
- CONSULTATION WITH MCM REGARDING CEMETERY LANDS
- PRELIMINARY REPORT PREPARED

## JANUARY 2024 – MEETING WITH SVCA

- REVIEWED SCOPE OF PROJECT
- DISCUSSED PERMIT REQUIREMENTS FOR DRAIN OUTLET

## SUMMER 2024 – ENGINEERING REVIEW

- PRELIMINARY DESIGN OF DRAINAGE ROUTE
- CONSULTATION WITH GOLF COURSE ON ROUTE
- DESIGN OF POND AREA

## OCTOBER 2024 – COUNCIL PRESENTATION

- REVIEWED INVESTIGATIONS COMPLETED TO DATE
- DISCUSSED ALTERNATIVES AND EASEMENTS
- PRESENTED PREFERRED ALTERNATIVE

## NOVEMBER 2024 –PUBLIC OPEN HOUSE

- PRELIMINARY PREFERRED ALTERNATIVE PRESENTED
- OBTAIN ADDITIONAL INPUT FROM RESIDENTS

# STORMWATER ALTERNATIVES

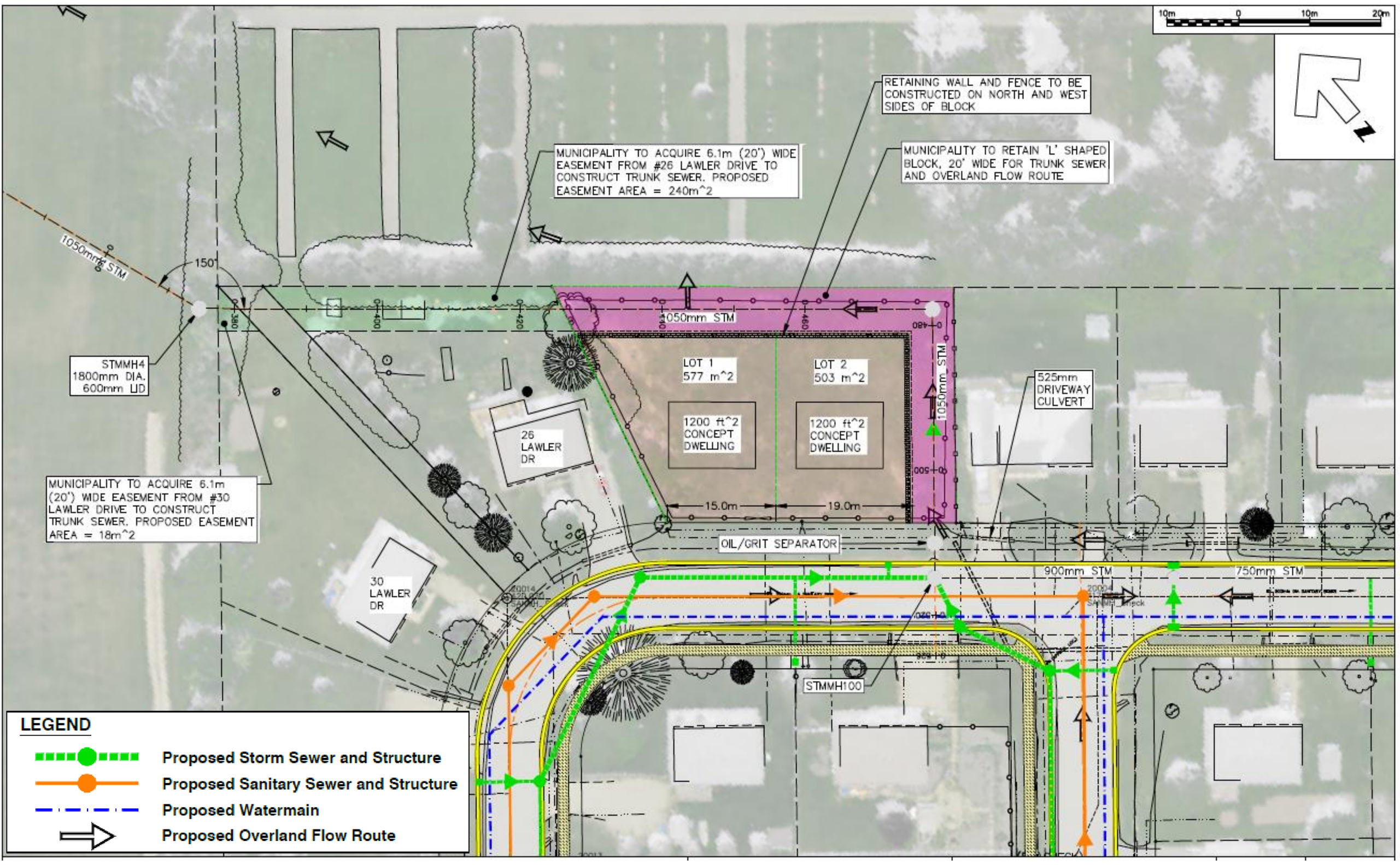
## **PREFERRED:** 1050MM PIPE/FILL POND

**Alternative 1:** Keep Pond and Construct 900mm Outlet

- Pond provides stormwater storage when 900mm outlet is full
- Easements/property purchases required for drainage pipe route

**Alternative 2:** Fill Pond and Construct 1050mm Outlet

- Allows for the creation of 2 building lots at former pond site
- Excavated road base from reconstruction of Lawler & Brackenbury road base can likely be used to fill the pond
- Easements/property purchases required for drainage pipe route



# SITE PHOTOS



EXISTING POND FACILITY



REAR YARD DRAINAGE



EXISTING ROAD DRAINAGE



ROUTE ACROSS GOLF COURSE



TRIBUTARY AT OUTLET LOCATION

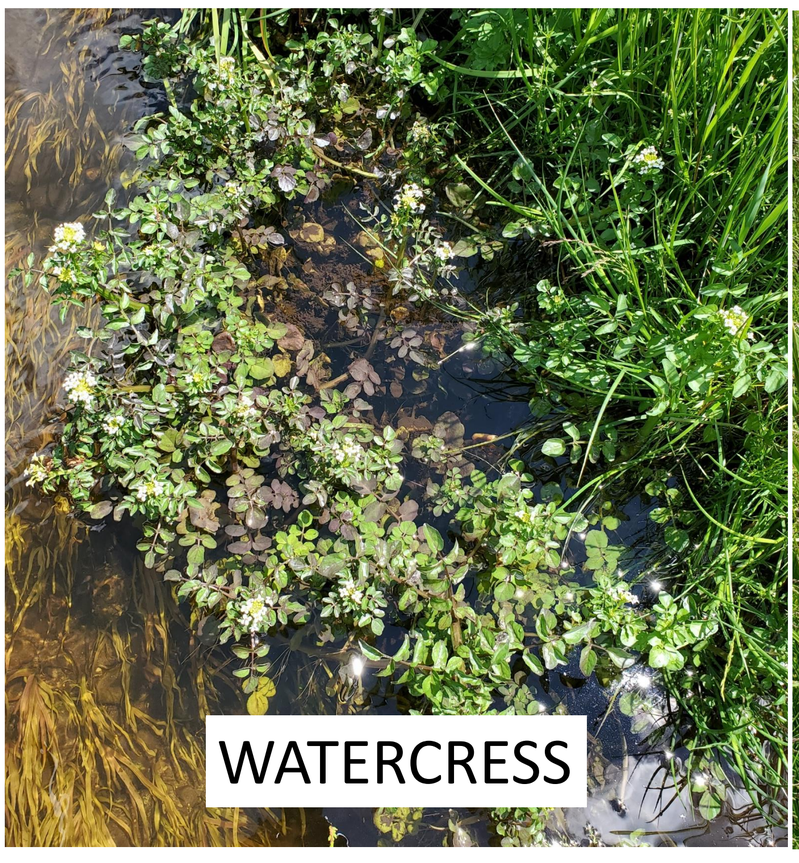


WOODED AREA

# NATURAL ENVIRONMENT

## AQUATIC AND TERRESTRIAL HABITAT ASSESSMENT

- BACKGROUND REVIEW
  - RECORDS OF SPECIES AT RISK IN GENERAL AREA INCLUDE EASTERN WOOD-PEWEE, MONARCH BUTTERFLY, SNAPPING TURTLE AND MIDLAND PAINTED TURTLE
- SITE VISITS COMPLETED IN DECEMBER 2023 AND JUNE 2024 IDENITIFIED:
  - NESTING HABITAT FOR NATIVE BIRD SPECIES
  - NATIVE AND INVASIVE PLANT SPECIES WITHIN WOODED AREA
  - TRIBUTARY PROVIDES COVER AND FORAGE HABITAT FOR FISH INCLUDING COLDWATER SPECIES
  - SPECIES AT RISK AND ASSOCIATED HABITATS NOT IDENTIFIED
- RECOMMENDED MITIGATION MEASURES
  - IN-WATER WORK BETWEEN JULY 15 AND OCTOBER 1
  - MINIMIZE VEGETATION AND TREE REMOVAL AND COMPLETE OUTSIDE OF MIGRATORY BIRD BREEDING WINDOW
  - INCLUDE OIL AND GRIT SEPARATORS TO REMOVE POLLUTANTS, CONTAMINANTS AND SEDIMENT FROM STORMWATER
  - PREVENT SPILLS AND ENTRY OF SEDIMENT INTO WATERBODIES DURING CONSTRUCTION
  - RESTORE DISTURBED AREAS WITH NATIVE SPECIES
  - OBTAIN PERMITS FROM SAUGEEN VALLEY CONSERVATION AUTHORITY, FISHERIES AND OCEANS CANADA, AND MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS, PRIOR TO PROJECT COMMENCEMENT


WATERCRESS

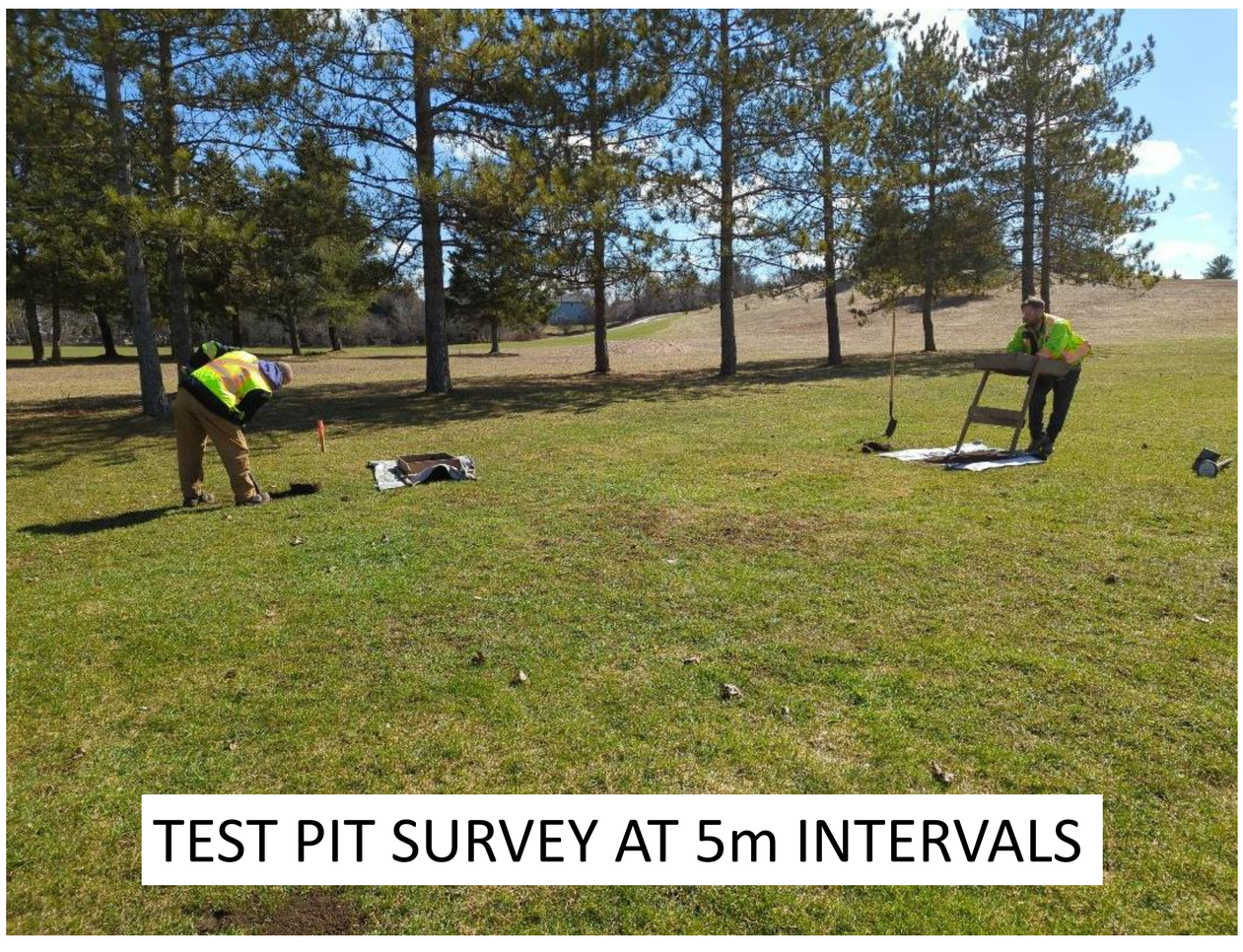

NORTHERN BLUE FLAG


JACK-IN-THE-PULPIT

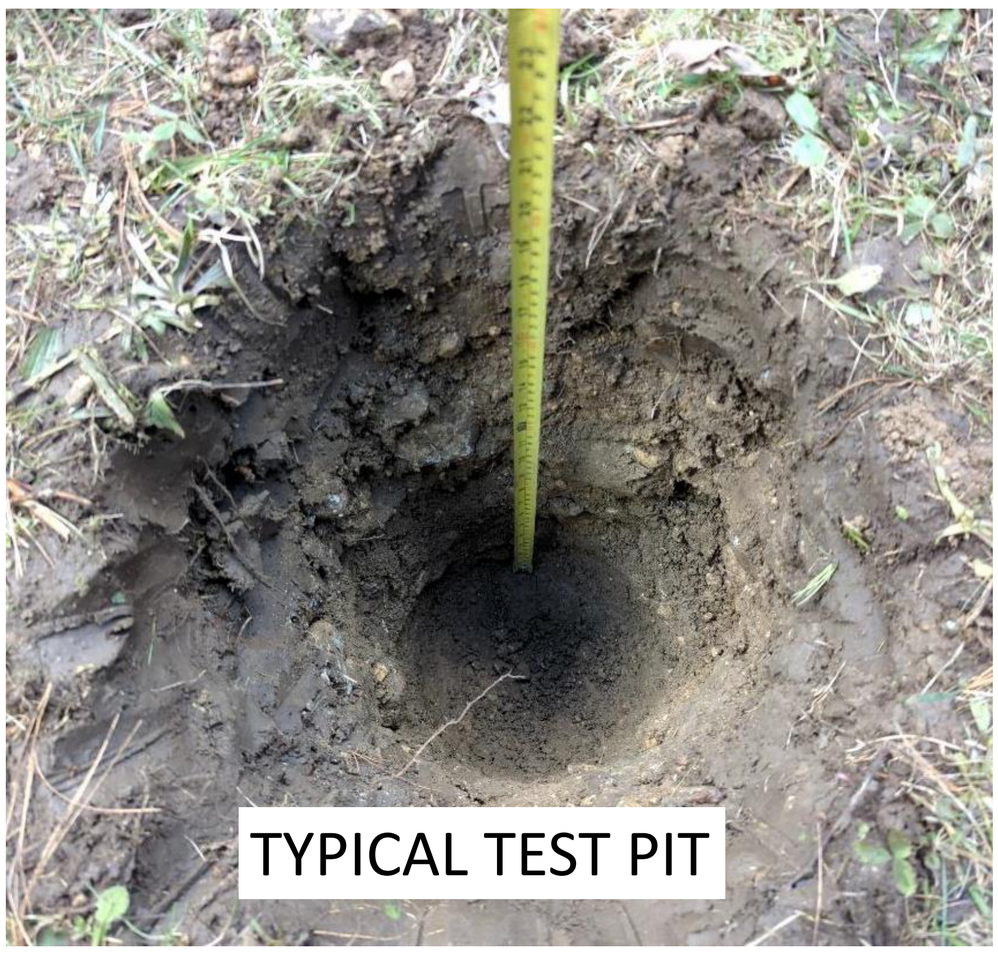
# ARCHAEOLOGY

## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

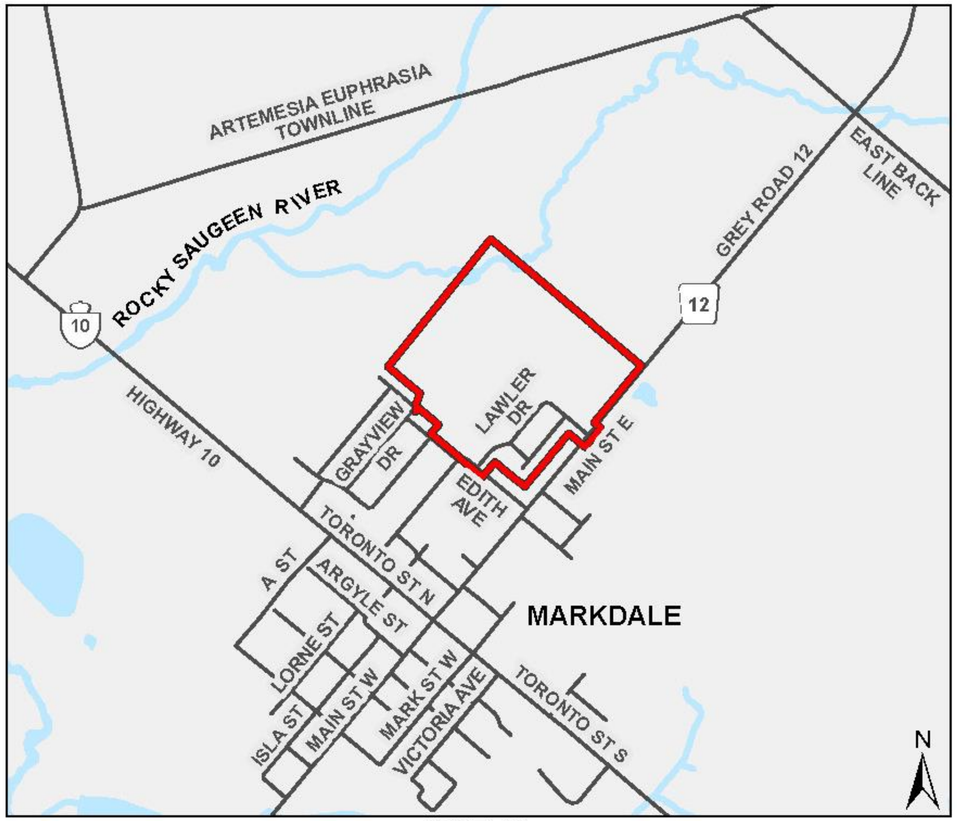
- COMPLETED BY TIMMINS MARTELLE HERITAGE CONSULTANTS IN JUNE 2024
- STAGE 1 ASSESSMENT IDENTIFIED POTENTIAL FOR THE DISCOVERY OF ARCHAEOLOGICAL RESOURCES
- STAGE 2 ASSESSMENT
  - 96% OF THE PROJECT AREA WAS SURVEYED USING A STANDARD TEST PIT ASSESSMENT AT 5M TRANSECT INTERVALS
  - DID NOT RESULT IN THE DOCUMENTATION OF ARCHAEOLOGICAL RESOURCES
  - STUDIED AREA IS FREE OF ARCHAEOLOGICAL CONCERN AND NO FURTHER ASSESSMENTS ARE REQUIRED
- RECOMMENDATIONS
  - ALL PORTIONS OF PROJECT AREA THAT WERE INCLUDED IN THE STAGE 2 TEST PIT SURVEY OR IDENTIFIED AS LOW ARCHAEOLOGICAL POTENTIAL, DO NOT REQUIRE FURTHER ASSESSMENT
  - PORTIONS OF PROJECT AREA THAT WERE NOT INCLUDED IN THE STAGE 2 TEST PIT SURVEY REQUIRE AN ASSESSMENT PRIOR TO GROUND DISTURBING ACTIVITIES
  - IF PROJECT AREA CHANGES TO INCORPORATE LANDS NOT PREVIOUSLY ASSESSED, FURTHER ASSESSMENT IS REQUIRED



TEST PIT SURVEY AT 5m INTERVALS



TYPICAL TEST PIT




**KEY PLAN**
NOT TO SCALE



1. LAWLER DR - REAR YARD DRAINAGE SWALE (PHOTO TAKEN JUNE 28, 2023)



2. EXISTING STORM FACILITY

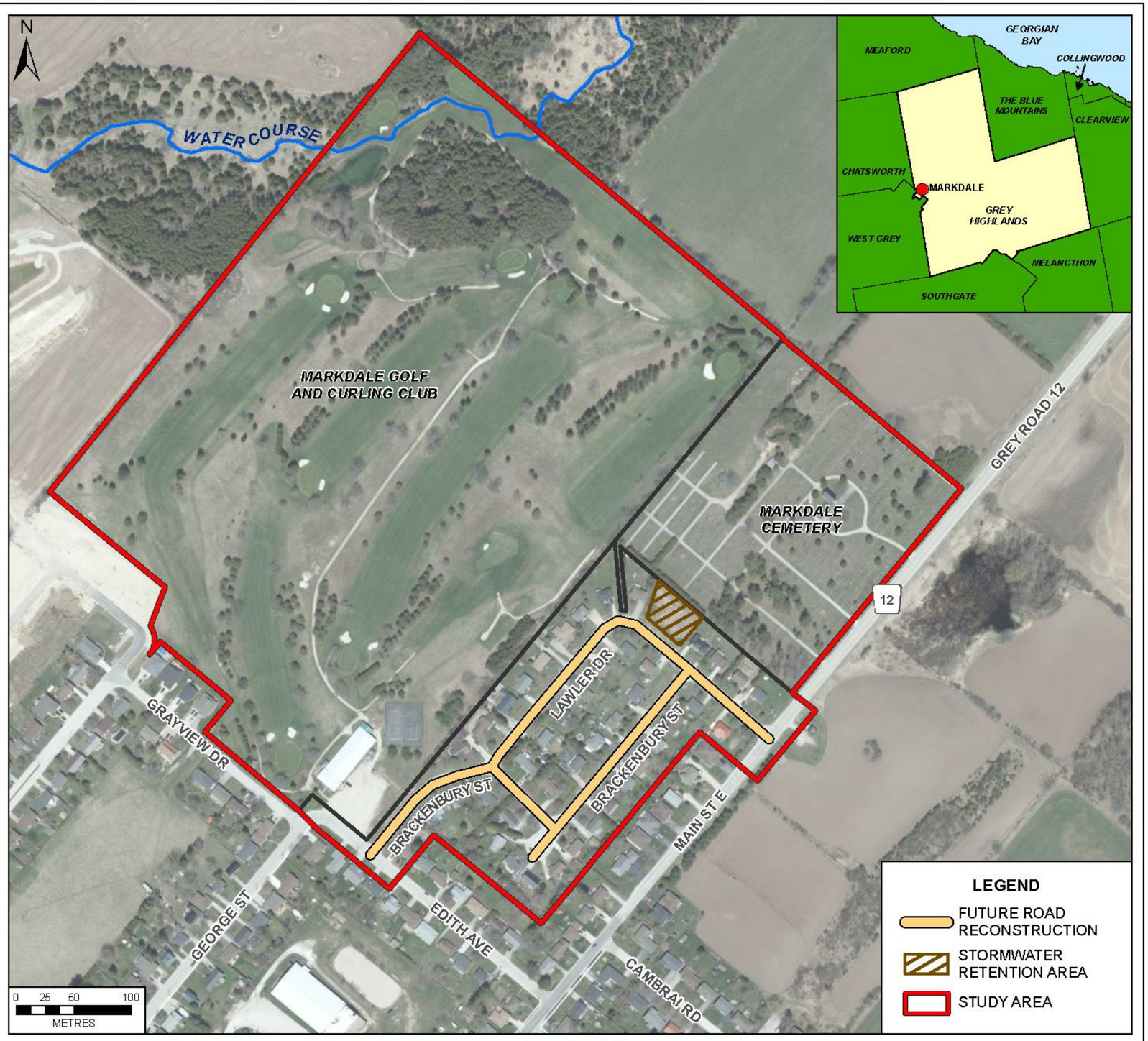


3. LAWLER DR FACING NORTH



4. BRACKENBURY ST FROM CUL-DE-SAC

*SOURCE FOR PHOTOS 2-4:*
*GOOGLE STREET VIEW*
*AUGUST 2023 IMAGERY*




**AERIAL PHOTOGRAPHY OF PROJECT AREA**

INCLUDES MATERIAL © 2024 OF THE KING'S PRINTER FOR ONTARIO. ALL RIGHTS RESERVED.

BMROSS engineering better communities

**MUNICIPALITY OF GREY HIGHLANDS**
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
STORMWATER DRAINAGE IMPROVEMENTS
FOR LAWLER DRIVE AND BRACKENBURY STREET
**GENERAL LOCATION PLAN**

| DATE | PROJECT No. |
|---|---|
| JULY 03, 2024 | 23198 |
| SCALE AS SHOWN | FIGURE No. 2.2 |

# Proposed Drainage Route




WATERCOURSE

MARKDALE GOLF AND CURLING CLUB

MARKDALE CEMETERY

GREY ROAD 12

LAWLER DR

CONNECT TO PROPOSED STORM SEWER

**LEGEND**

WOODED AREA

**PROPOSED STORMWATER ROUTE**

BURIED STORM SEWER

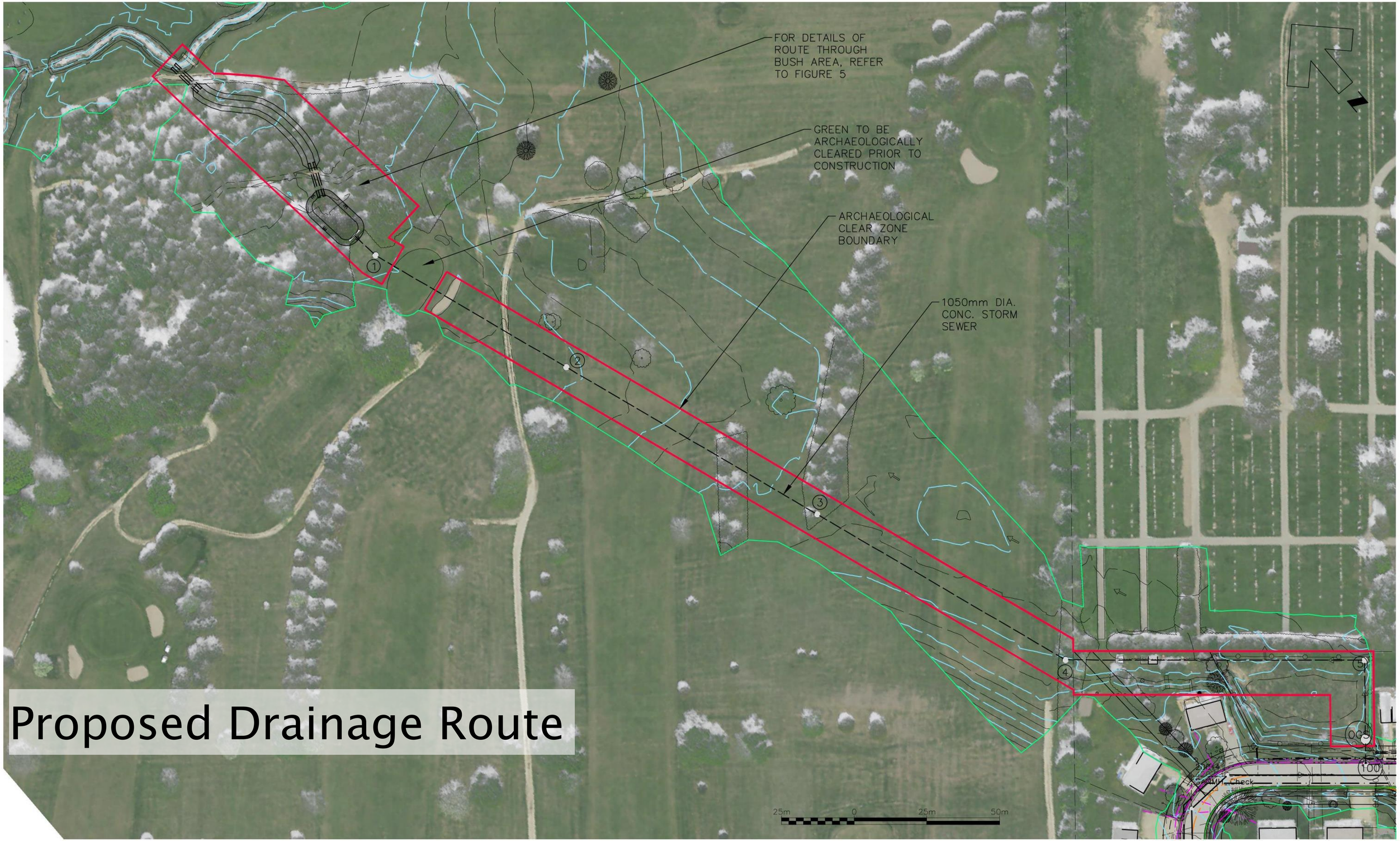
OPEN CHANNEL

0 50 100

METRES

N

INCLUDES MATERIAL © 2024 OF THE KING'S PRINTER FOR ONTARIO. ALL RIGHTS RESERVED.




# Proposed Drainage Route

**PRELIMINARY**

BMROSS engineering better communities

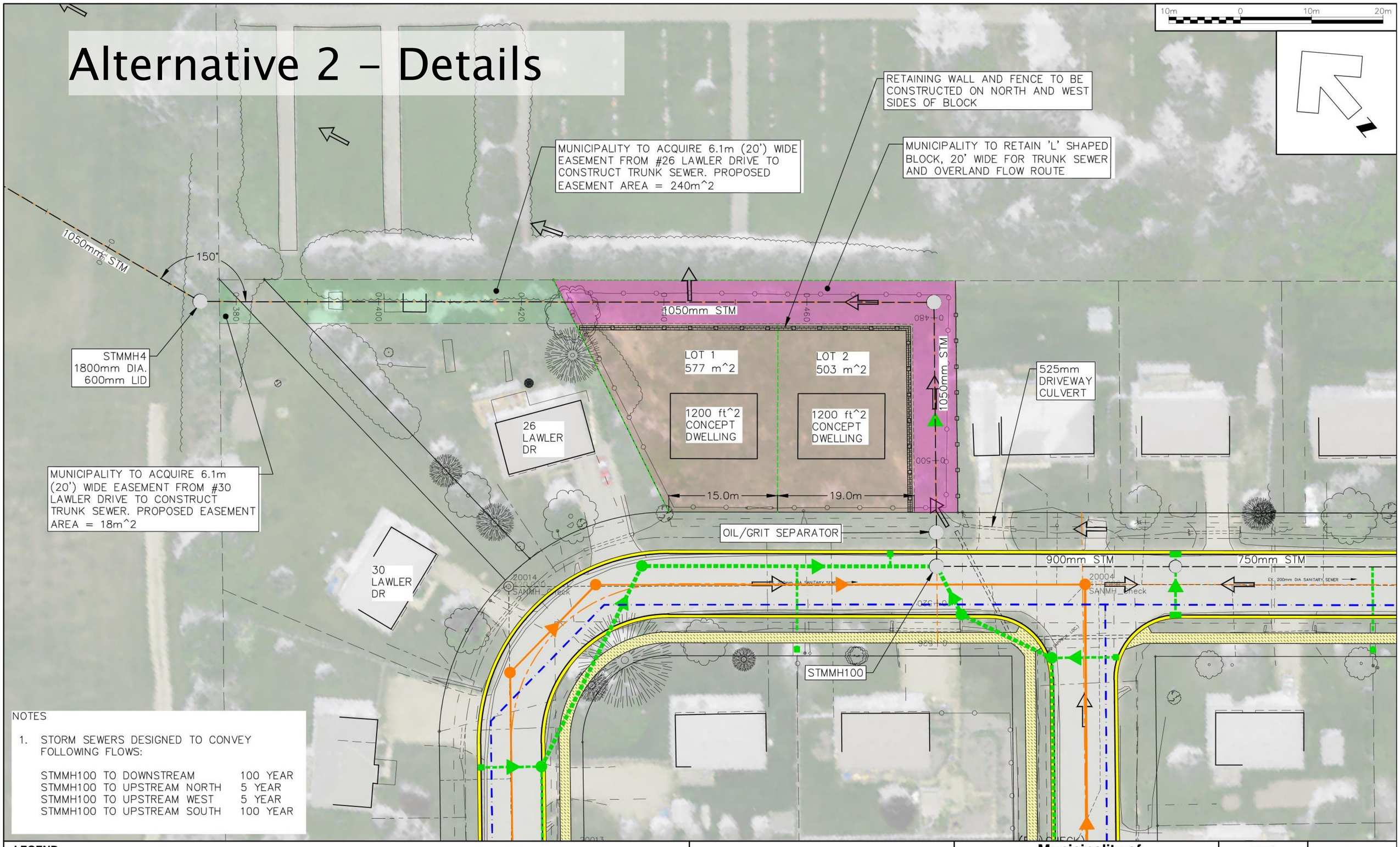
**Municipality of Grey Highlands**

**Brackenbury Street and Lawler Drive Reconstruction**

**Proposed Storm Outlet Route**

| DATE | PROJECT No. |
|---|---|
| July 23, 2024 | 23198 |
| SCALE | FIGURE No. |
| 1:1250 | 1 |

# Alternative 2 – Details




NOTES

1. STORM SEWERS DESIGNED TO CONVEY FOLLOWING FLOWS:

| | |
|---|---|
| STMMH100 TO DOWNSTREAM | 100 YEAR |
| STMMH100 TO UPSTREAM NORTH | 5 YEAR |
| STMMH100 TO UPSTREAM WEST | 5 YEAR |
| STMMH100 TO UPSTREAM SOUTH | 100 YEAR |

**LEGEND**

- Proposed Storm Sewer and Structure
- Proposed Sanitary Sewer and Structure
- Proposed Watermain
- Proposed Overland Flow Route

**PRELIMINARY**

BMROSS engineering better communities

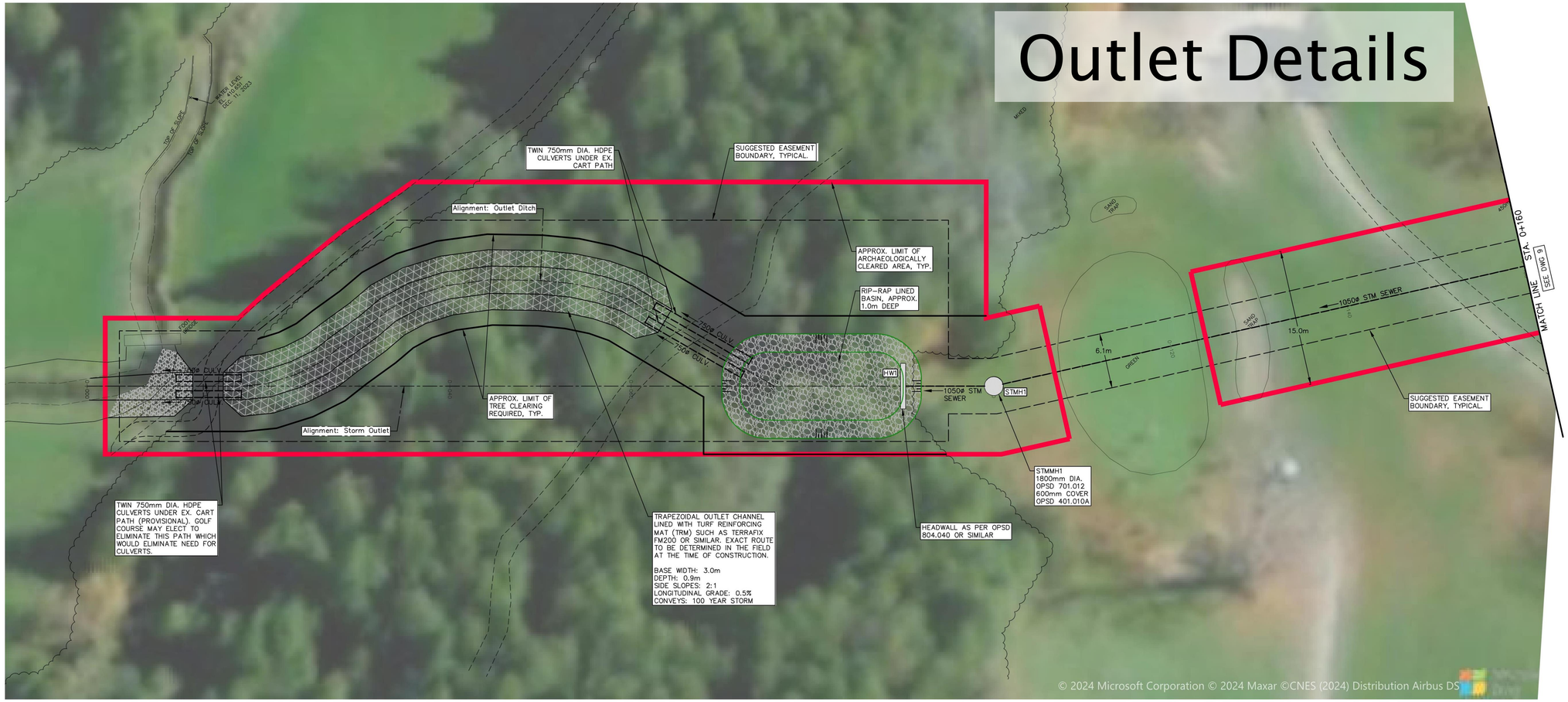
**Municipality of Grey Highlands**

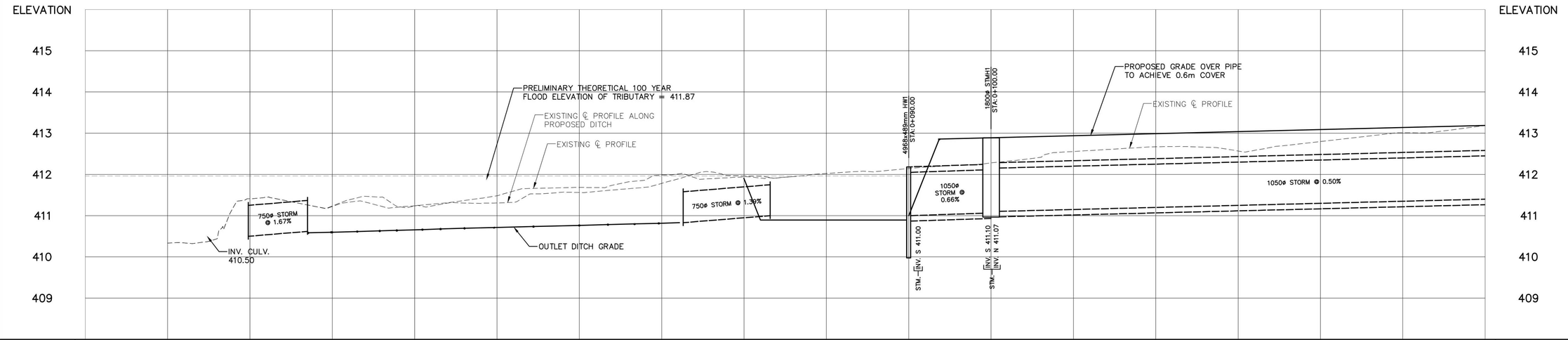
**Brackenbury Street and Lawler Drive Reconstruction**

**SWM Concept - Option 2**

| DATE | PROJECT No. |
|---|---|
| June 14, 2024 | 23198 |
| SCALE | FIGURE No. |
| 1:500 | 4 |

# Outlet Details




| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FINISHED ASPHALT GRADE | | | | | | | | | | | | | | | | | | FINISHED ASPHALT GRADE |
| EXISTING ℄ GRADE | 410.334 | 411.411 | 411.224 | 411.241 | 411.485 | 411.685 | 411.984 | 411.941 | 412.023 | 412.144 | 412.280 | 412.556 | 412.671 | 412.570 | 412.798 | 413.011 | 413.187 | EXISTING ℄ GRADE |
| STATION | 0+000 | 0+010 | 0+020 | 0+030 | 0+040 | 0+050 | 0+060 | 0+070 | 0+080 | 0+090 | 0+100 | 0+110 | 0+120 | 0+130 | 0+140 | 0+150 | 0+160 | STATION |

## LEGEND

- EXISTING SEWERS, SANITARY or STORM (SAN. or STM.)
- MANHOLE and CATCHBASIN (MH. CB.)
- WATERMAIN, FIRE HYDRANT (—W—)
- GASMAIN (—G—)
- UNDERGROUND TELEPHONE (—T—)
- UNDERGROUND HYDRO (—H—)
- UNDERGROUND T.V. CABLE (—TV—)
- UTILITY POLES (H, B, T, H-B, LP)
- GRUBBING
- REMOVE EXISTING CONC. SIDEWALK AND DRIVES
- REMOVE AND PLACE CONC. SIDEWALK AND DRIVES
- PLACE CONC. SIDEWALK AND DRIVES
- REMOVE EXISTING ASPHALT PAVT
- PLACE HOT MIX ASPHALT (DRIVES 50mm HL-3 HOT MIX MISC.)
- DROP CURB
- REMOVE EXISTING CONC. CURB

**NOTE**

The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

**BENCHMARK INFORMATION**

B.M. Elev.
-
-
-
-

1:250 (5m 0 5m 10m)
1:50 (1m 0 1m 2m)

Design By: I.S.D. Checked By: F.C.V.

**PRELIMINARY**

| No. | DATE | REVISION |
|---|---|---|
| 1. | 2024-08-08 | Preliminary Design |

BMROSS engineering better communities

Goderich | Mount Forest | Sarnia

Municipality of Grey Highlands

**Municipality of Grey Highlands (Markdale)**
**Brackenbury Street and Lawler Drive Reconstruction**
**Plan and Profile - Storm Sewer Outlet Outlet to Sta. 0+160**

Project No. 23198

Scale (24x36)
Horizontal : 1:250
Vertical : 1:50

Drawing No. 8 of ##