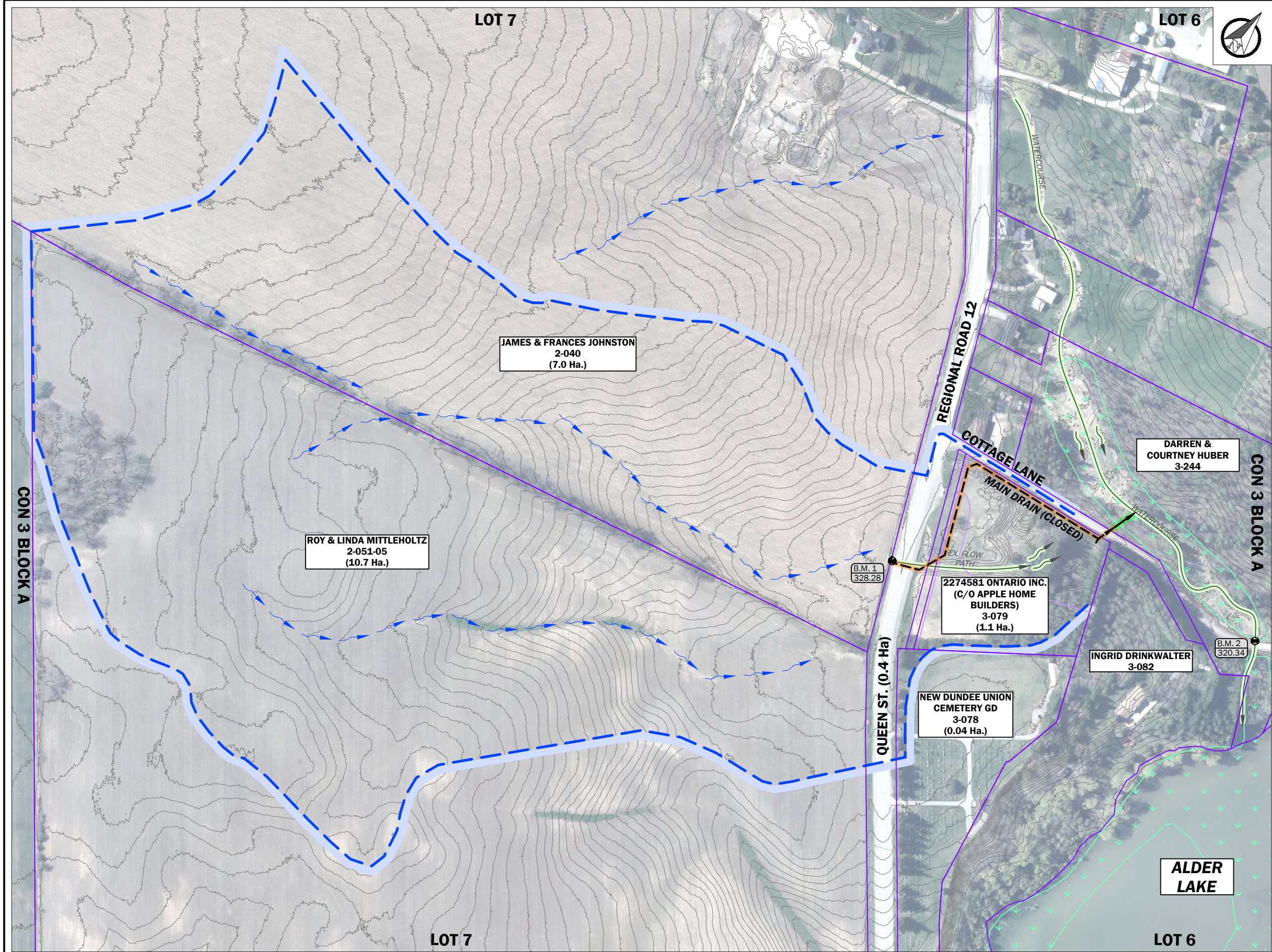




WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

Watershed Plan

- NOTES:**
- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
 - CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

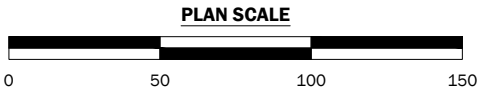
BENCHMARK DESCRIPTIONS

- BENCHMARK No. 1** **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)
- BENCHMARK No. 2** **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).

- LEGEND:**
- PROPERTY LINE
 - FUTURE PROPERTY LINE
 - MAJOR WATERSHED BOUNDARY
 - MINOR WATERSHED BOUNDARY
 - BENCHMARK LOCATION
 - BENCHMARK No.
 - BENCHMARK ELEVATION
 - LANDOWNER NAME(S)
 - ASSESSMENT ROLL No. (ABBREVIATED)
 - AREA WITHIN WATERSHED
 - EXISTING FEATURES:
DRAIN NAME OPEN DRAIN WITH CROSSING AND FLOW DIRECTION
 - OVERLAND FLOW PATH
 - GRCA WETLAND FEATURE
 - PROPOSED FEATURES:
DRAIN NAME OPEN DRAIN WITH CROSSING AND FLOW DIRECTION
 - DRAIN NAME CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION

	6	ISSUED FOR TENDER	22-09-27
	5	REPORT SUBMISSION	22-06-28
	4	INFORMATION MEETING	22-05-19
	3	PETITIONER MTG. NO. 2	22-04-26
	2	PETITIONER MTG. NO. 1	22-03-31
	1	ON-SITE MEETING	21-10-20
No.	REVISION		DATE (YY-MM-DD)

DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 1 OF 9





WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

Working Area Plan

- NOTES:**
- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
 - CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

BENCHMARK DESCRIPTIONS

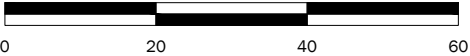
- BENCHMARK No. 1** **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)
- BENCHMARK No. 2** **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).

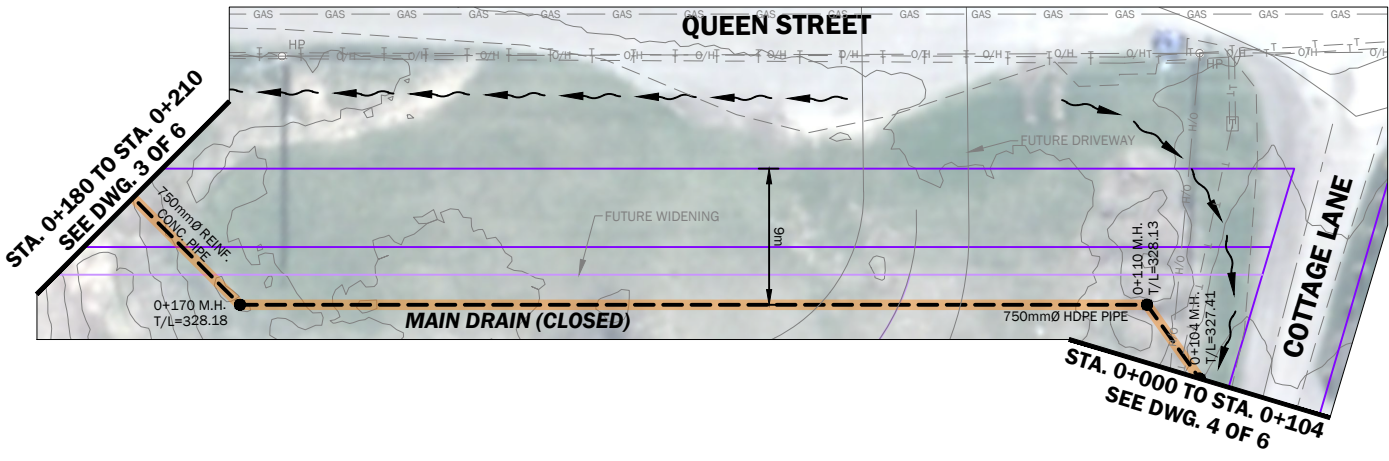
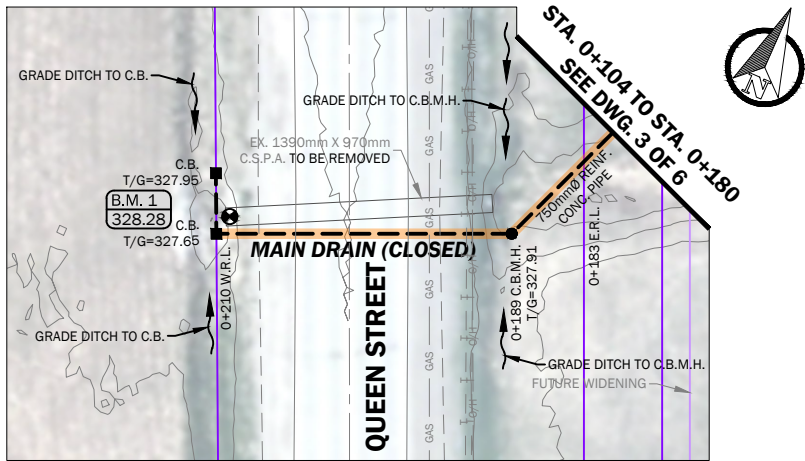
- LEGEND:**
- PROPERTY LINE
 - FUTURE PROPERTY LINE
 - MAJOR WATERSHED BOUNDARY
 - MINOR WATERSHED BOUNDARY
 - BENCHMARK LOCATION
 - BENCHMARK No.
 - BENCHMARK ELEVATION
 - LANDOWNER NAME(S)
 - ASSESSMENT ROLL No. (ABBREVIATED)
 - AREA WITHIN WATERSHED
 - EXISTING FEATURES:
 - OPEN DRAIN WITH CROSSING AND FLOW DIRECTION
 - OVERLAND FLOW PATH
 - GRCA WETLAND FEATURE
 - PROPOSED FEATURES:
 - OPEN DRAIN WITH CROSSING AND FLOW DIRECTION
 - CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION

	6	ISSUED FOR TENDER	22-09-27
	5	REPORT SUBMISSION	22-06-28
	4	INFORMATION MEETING	22-05-19
	3	PETITIONER MTG. NO. 2	22-04-26
	2	PETITIONER MTG. NO. 1	22-03-31
	1	ON-SITE MEETING	21-10-20
No.	REVISION		DATE (YY-MM-DD)

DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 2 OF 9

PLAN SCALE

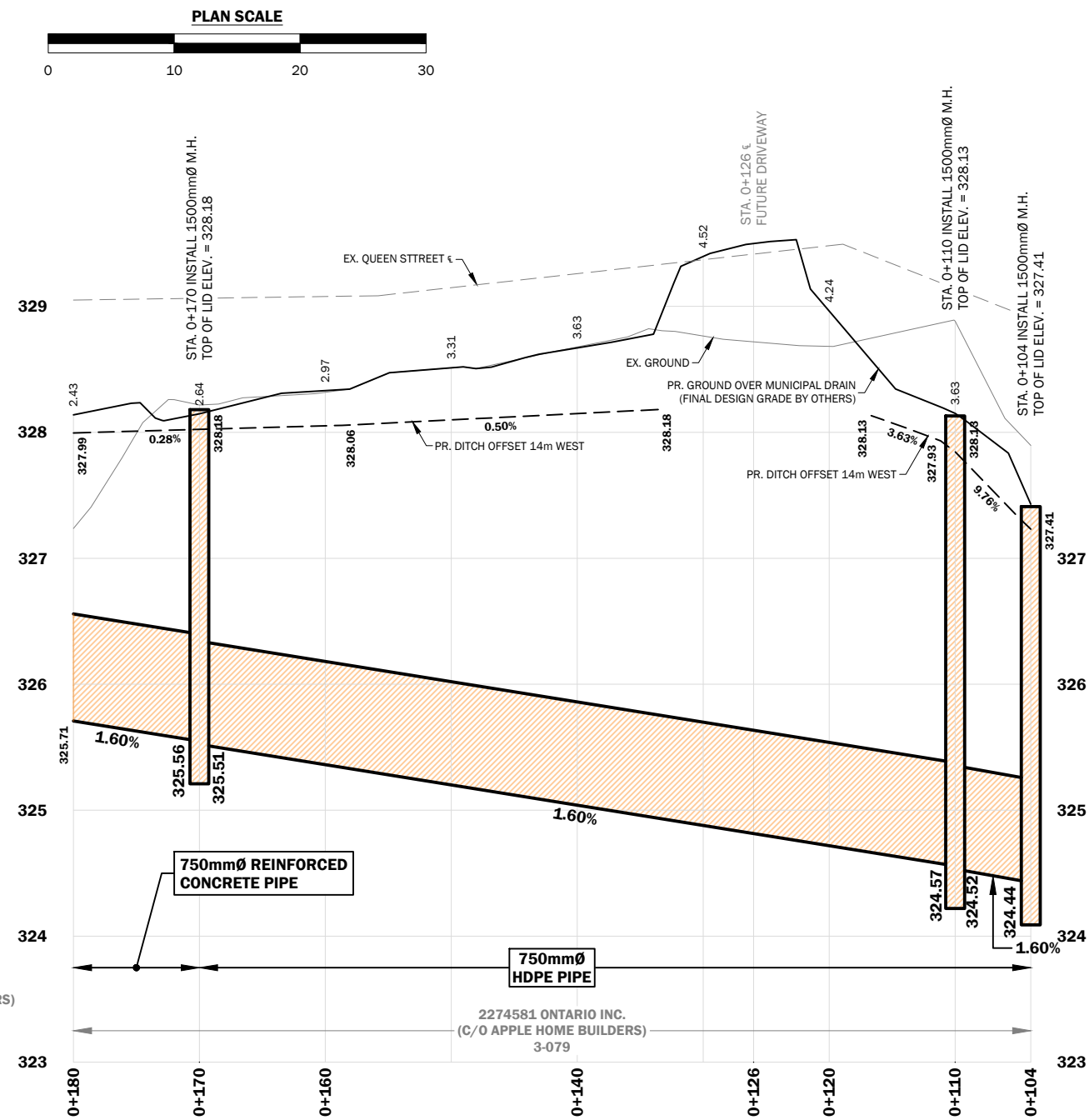
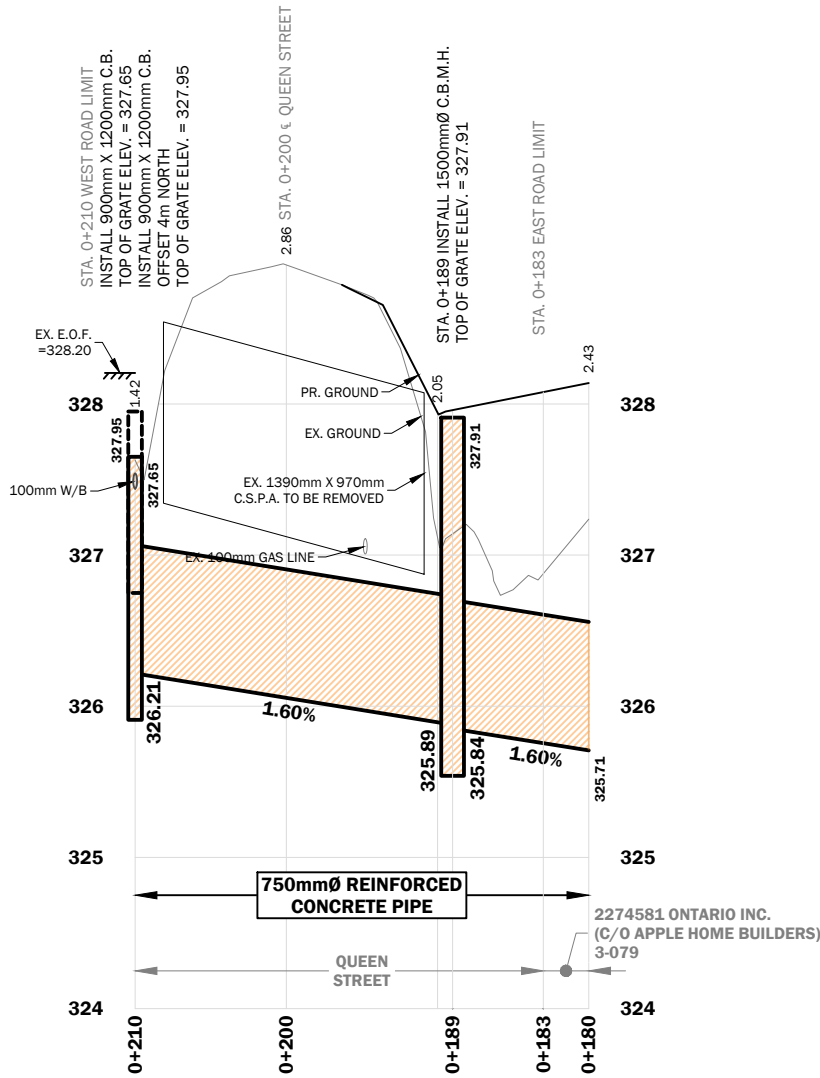




BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).



SCHEDULE OF PIPE MATERIALS

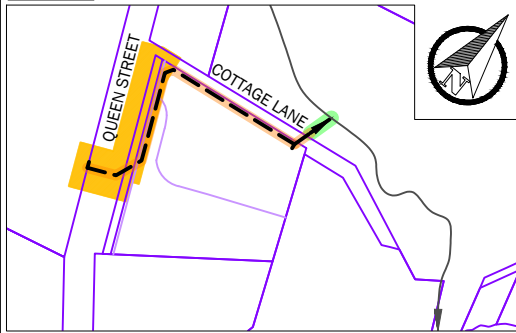
MATERIAL	DIAMETER (mm)	STATION RANGE	LENGTH (m)
1. HIGH DENSITY POLYETHYLENE PIPE	750	0+104 - 0+170	66
2. REINFORCED CONCRETE PIPE	750	0+170 - 0+210	40

WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

**Main Drain (Closed) Plan & Profile
(Sta. 0+104 to Sta. 0+210)**

KEY PLAN



NOTES:

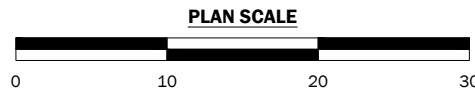
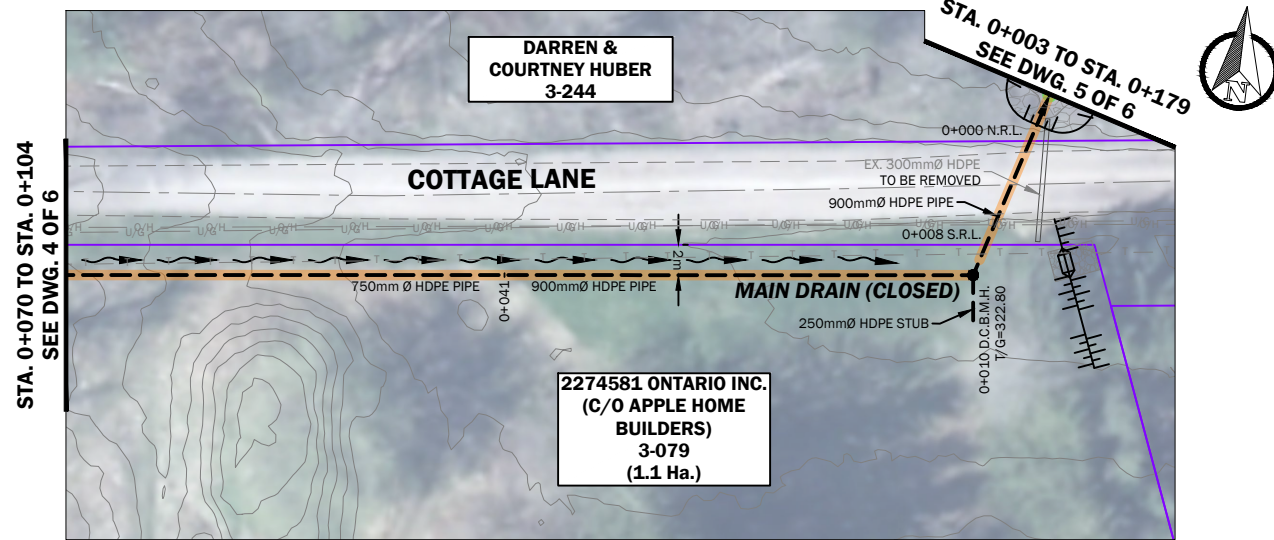
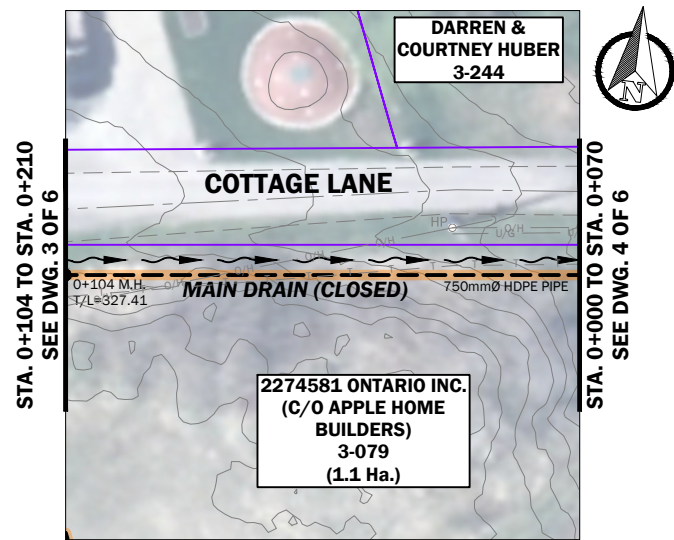
- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
- CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

LEGEND:

- PROPERTY LINE
- FUTURE PROPERTY LINE
- BENCHMARK LOCATION
- BENCHMARK No.
- BENCHMARK ELEVATION
- LANDOWNER NAME(S)
- ASSESSMENT ROLL No. (ABBREVIATED)
- AREA WITHIN WATERSHED
- EXISTING FEATURES:
 - GAS
 - TELEPHONE LINE
 - OVERHEAD UTILITY LINE
 - HYDRO POLE WITH GUY WIRE
 - TELEPHONE PEDESTALS
- PROPOSED FEATURES:
 - DRAIN NAME**
 - CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION

6	ISSUED FOR TENDER	22-09-27
5	REPORT SUBMISSION	22-06-28
4	INFORMATION MEETING	22-05-19
3	PETITIONER MTG. NO. 2	22-04-26
2	PETITIONER MTG. NO. 1	22-03-31
1	ON-SITE MEETING	21-10-20
No.	REVISION	DATE (YY-MM-DD)

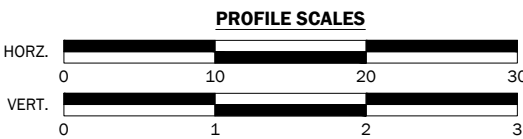
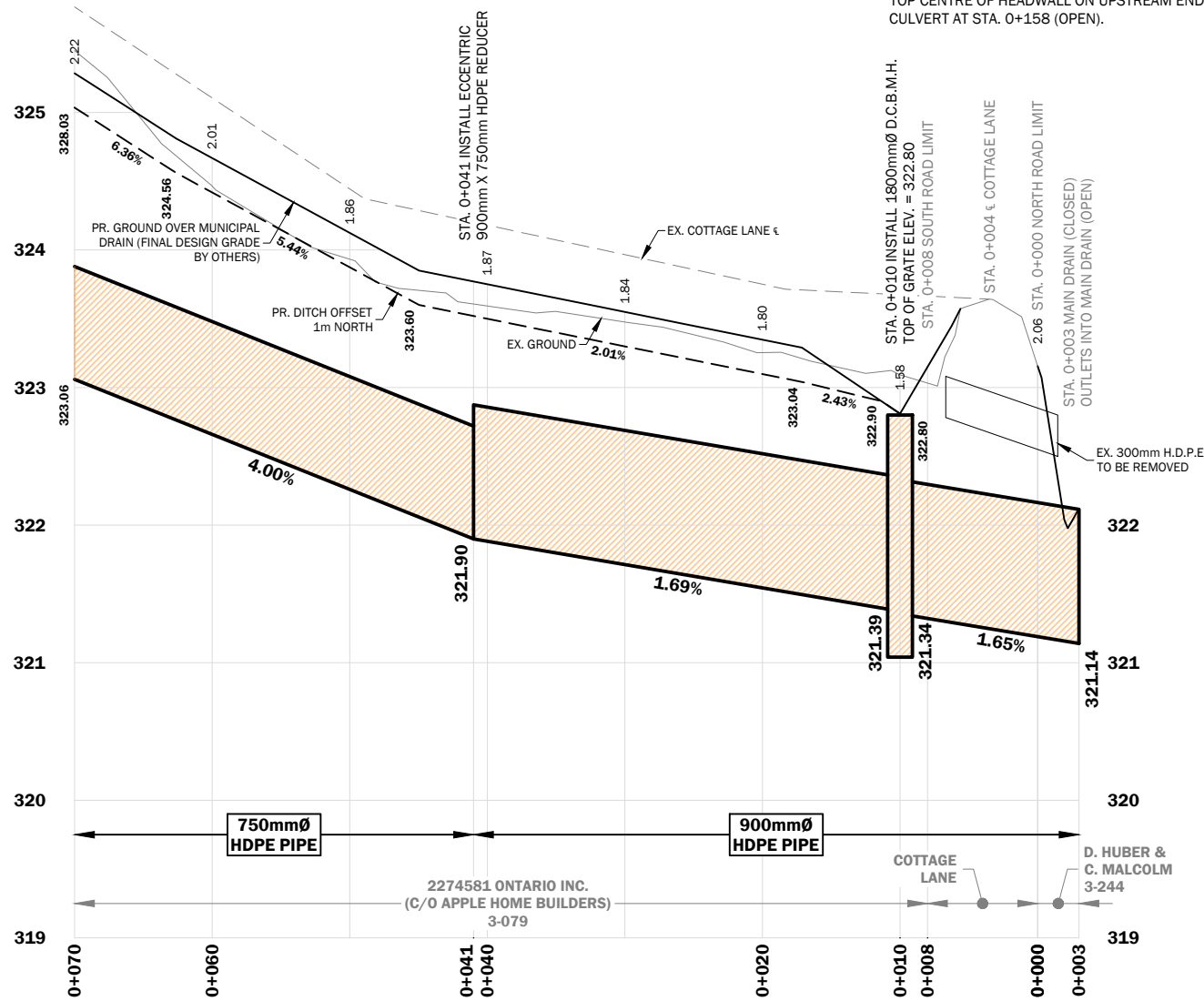
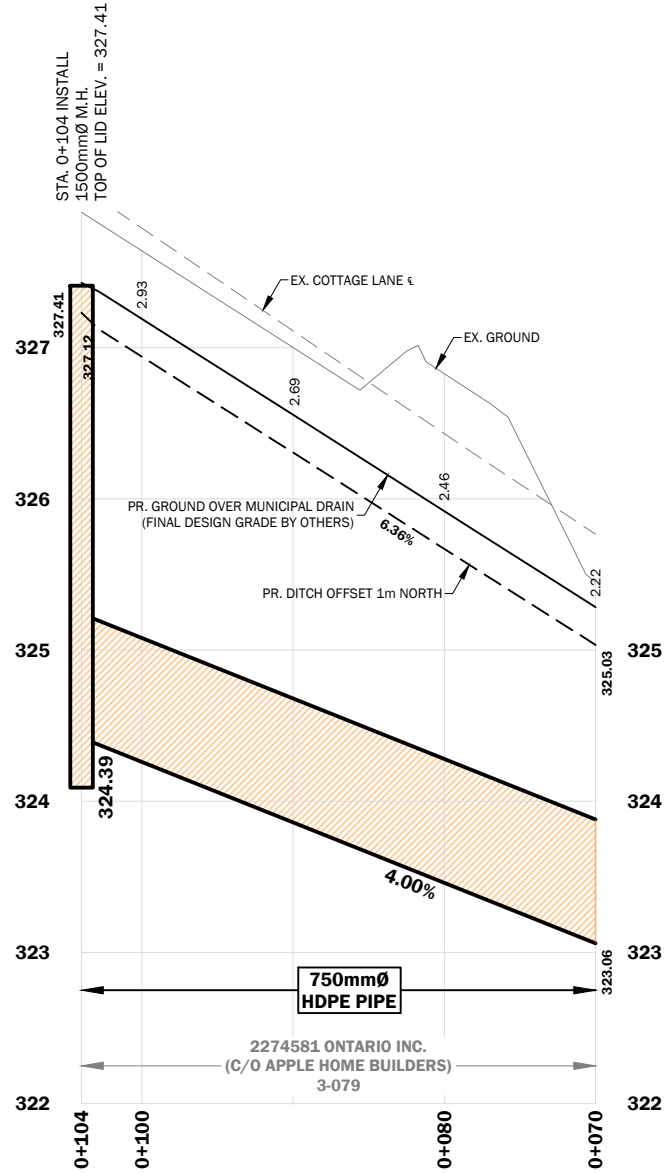
DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 3 OF 9



BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).



SCHEDULE OF PIPE MATERIALS

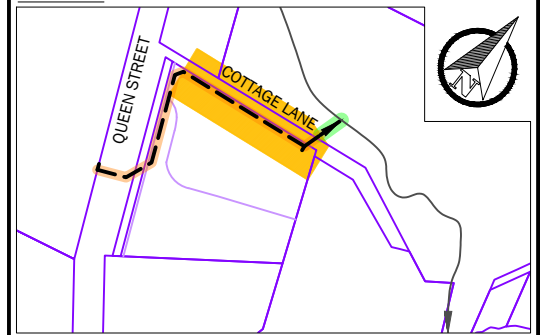
MATERIAL	DIAMETER (mm)	STATION RANGE	LENGTH (m)
1. HIGH DENSITY POLYETHYLENE PIPE	900	0+003 - 0+041	44
2. HIGH DENSITY POLYETHYLENE PIPE	750	0+041 - 0+104	63

WARD 1

QUEEN STREET
MUNICIPAL DRAIN

Main Drain (Closed) Plan & Profile
(Sta. -0+003 to Sta. 0+104)

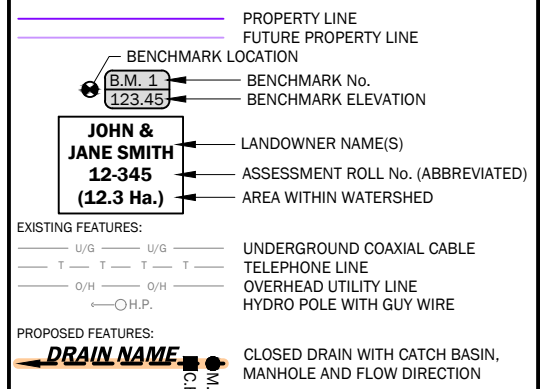
KEY PLAN



NOTES:

- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
- CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

LEGEND:



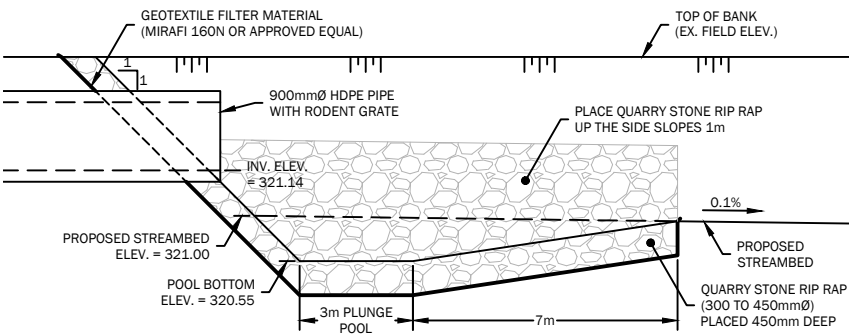
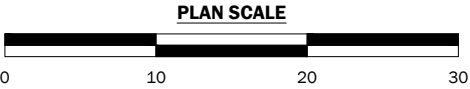
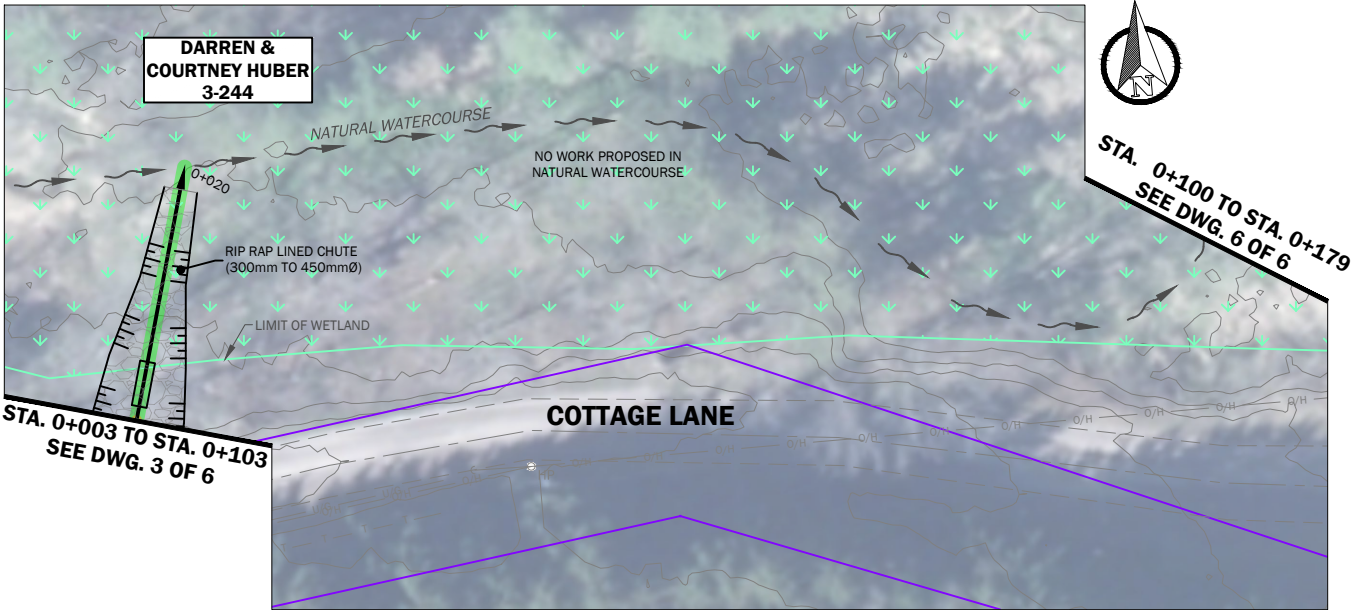
6	ISSUED FOR TENDER	22-09-27
5	REPORT SUBMISSION	22-06-28
4	INFORMATION MEETING	22-05-19
3	PETITIONER MTG. NO. 2	22-04-26
2	PETITIONER MTG. NO. 1	22-03-31
1	ON-SITE MEETING	21-10-20
No.	REVISION	DATE (YY-MM-DD)

DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 4 OF 9

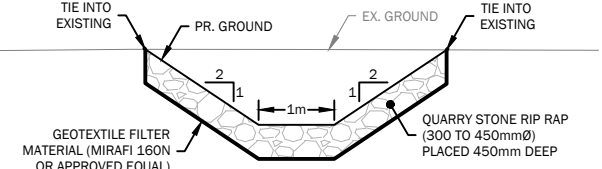
BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

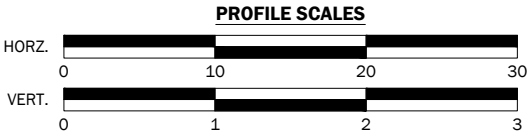
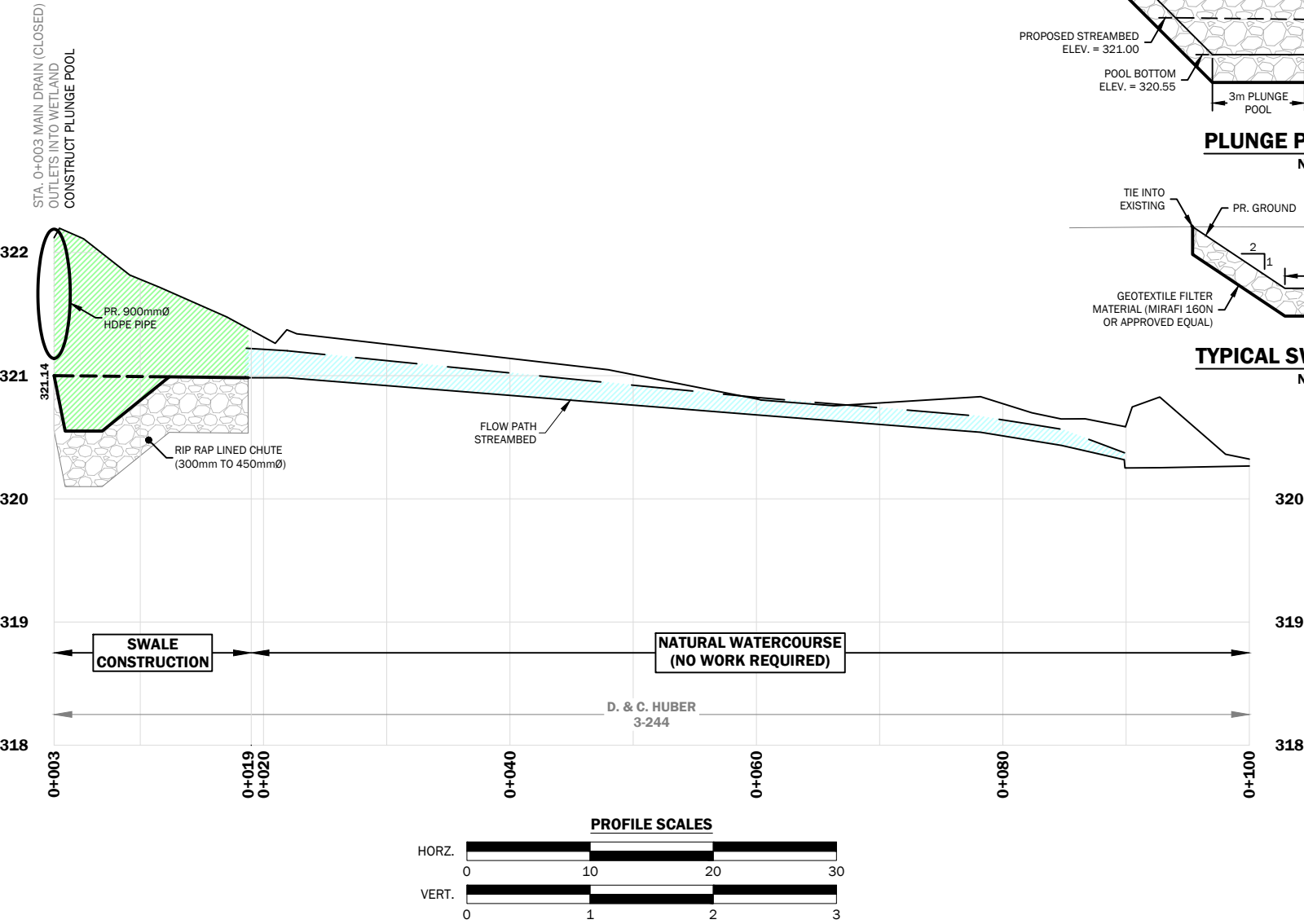
BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).



PLUNGE POOL DETAIL
N.T.S.



TYPICAL SWALE DETAIL
N.T.S.

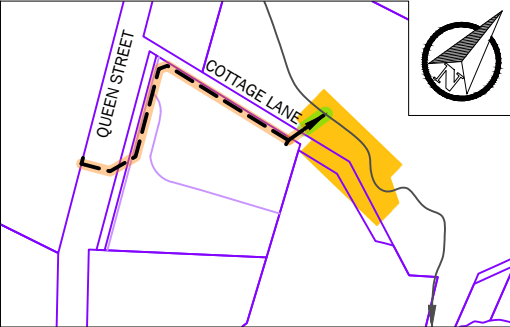


WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

Wetland Flow Path Plan & Profile
(Sta. 0+003 to Sta. 0+100)

KEY PLAN



- NOTES:**
- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
 - CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

LEGEND:

- PROPERTY LINE
- FUTURE PROPERTY LINE
- BENCHMARK LOCATION
- BENCHMARK No. 123.45
- BENCHMARK ELEVATION
- LANDOWNER NAME(S) JOHN & JANE SMITH
- ASSESSMENT ROLL No. (ABBREVIATED) 12-345
- AREA WITHIN WATERSHED (12.3 Ha.)
- EXISTING FEATURES:
 - U/G UNDERGROUND COAXIAL CABLE
 - T TELEPHONE LINE
 - O/H OVERHEAD UTILITY LINE
 - H.P. HYDRO POLE WITH GUY WIRE
 - GRCA WETLAND FEATURE
- PROPOSED FEATURES:
 - DRAIN NAME OPEN DRAIN WITH CROSSING AND FLOW DIRECTION

	6	ISSUED FOR TENDER	22-09-27
	5	REPORT SUBMISSION	22-06-28
	4	INFORMATION MEETING	22-05-19
	3	PETITIONER MTG. NO. 2	22-04-26
	2	PETITIONER MTG. NO. 1	22-03-31
	1	ON-SITE MEETING	21-10-20
No.	REVISION		DATE (YY-MM-DD)

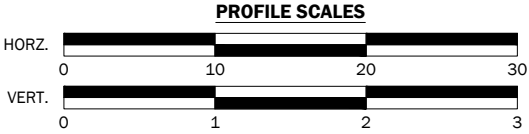
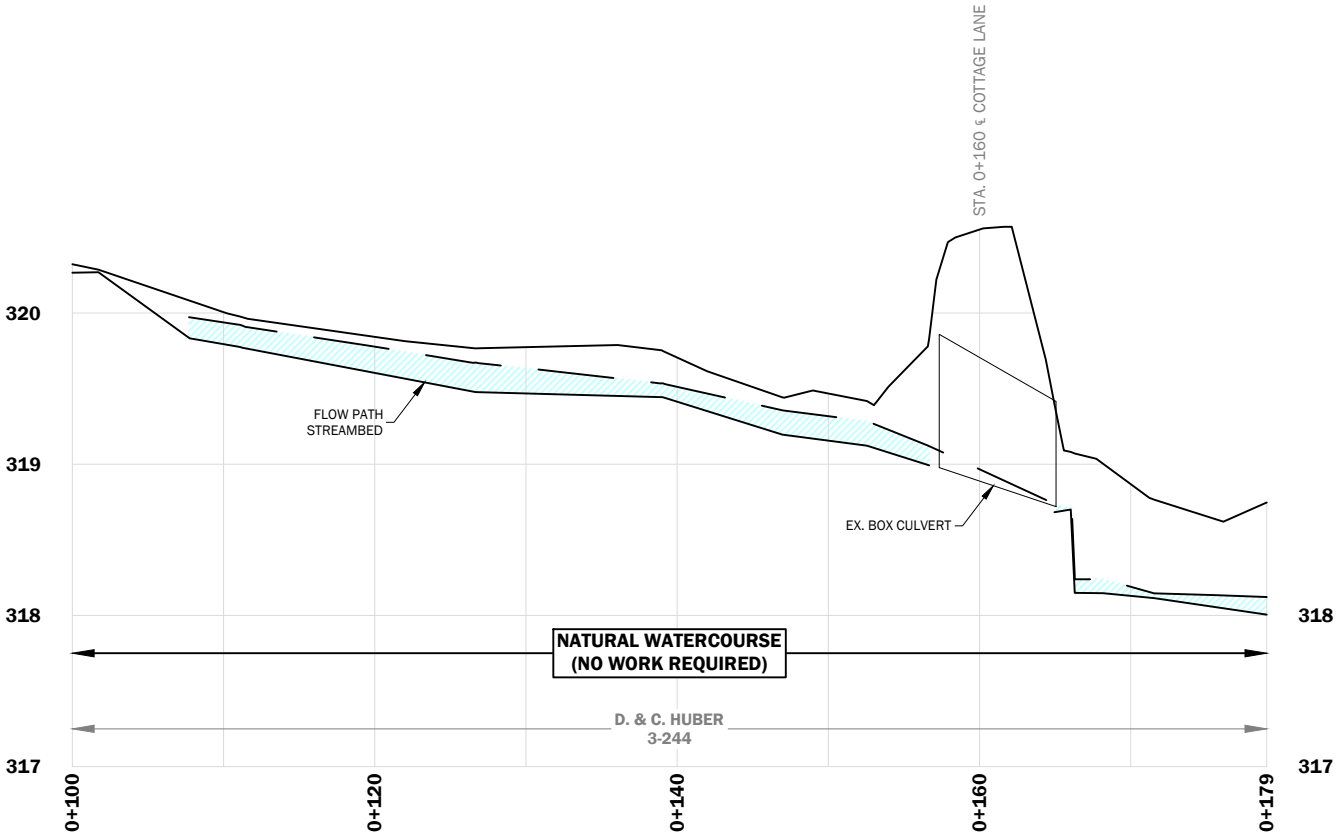
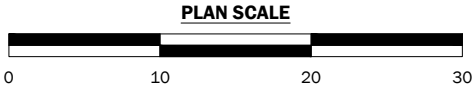
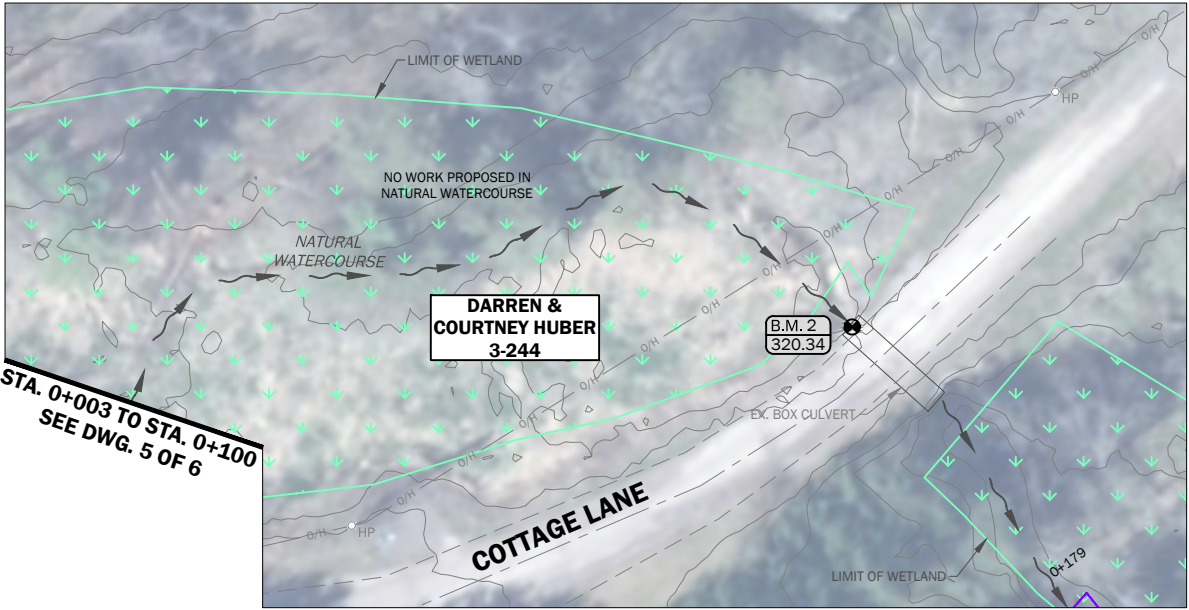


DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 5 OF 9

BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).

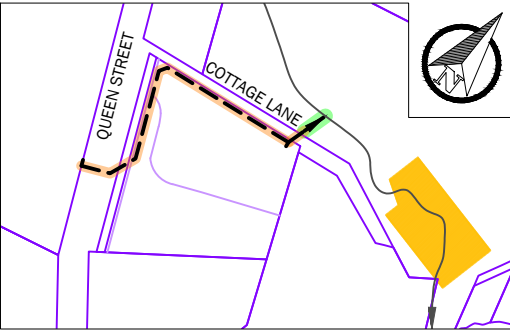


WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

Wetland Flow Path Plan & Profile
(Sta. 0+100 to Sta. 0+179)

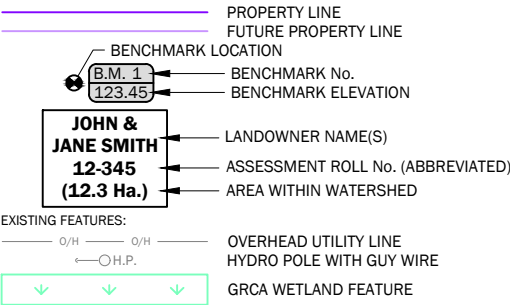
KEY PLAN



NOTES:

- 2018 AERIAL PHOTOGRAPHY PROVIDED BY WILMOT TOWNSHIP.
- CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.

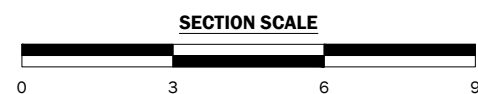
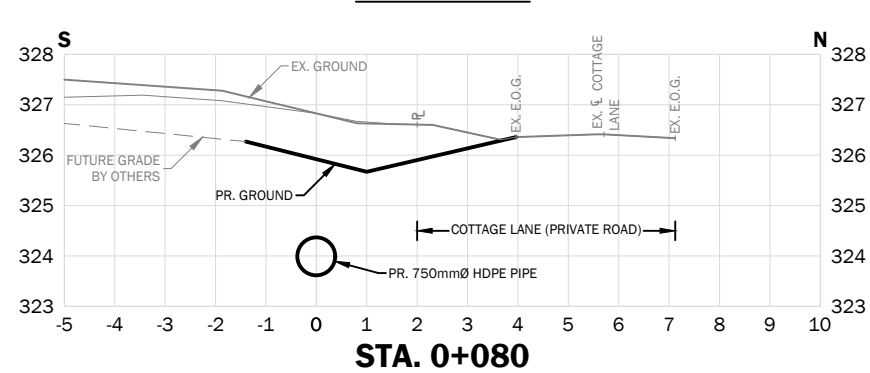
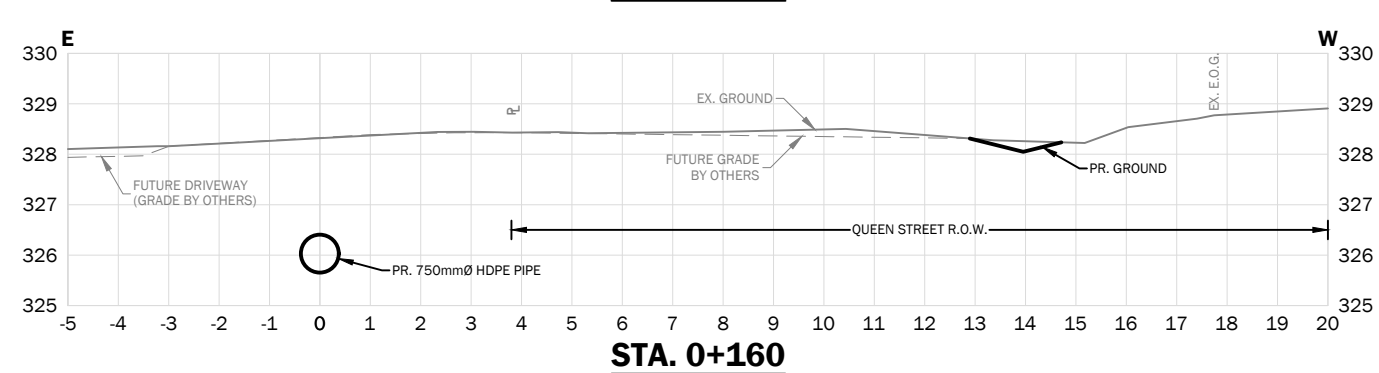
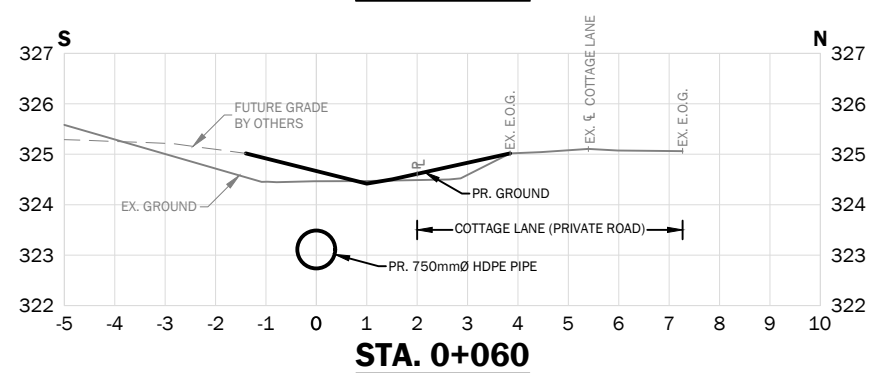
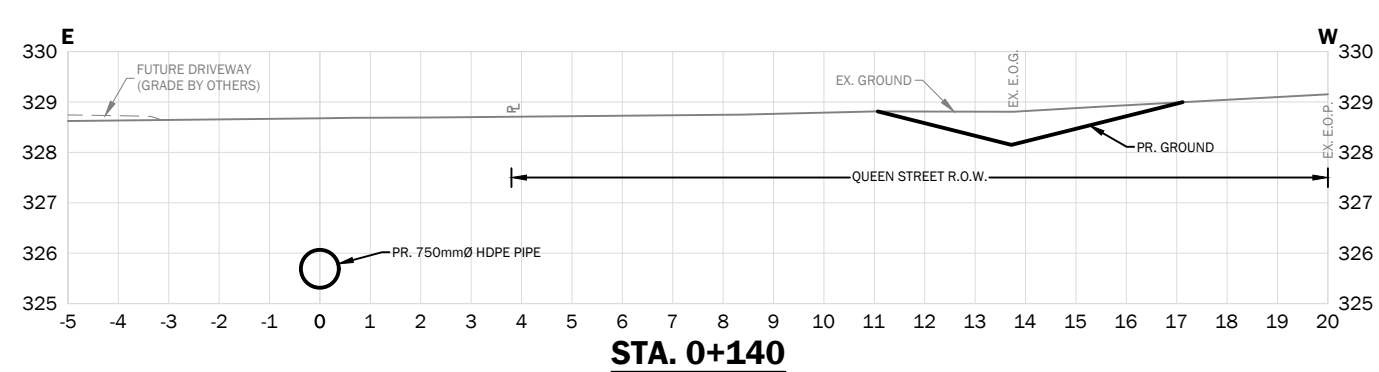
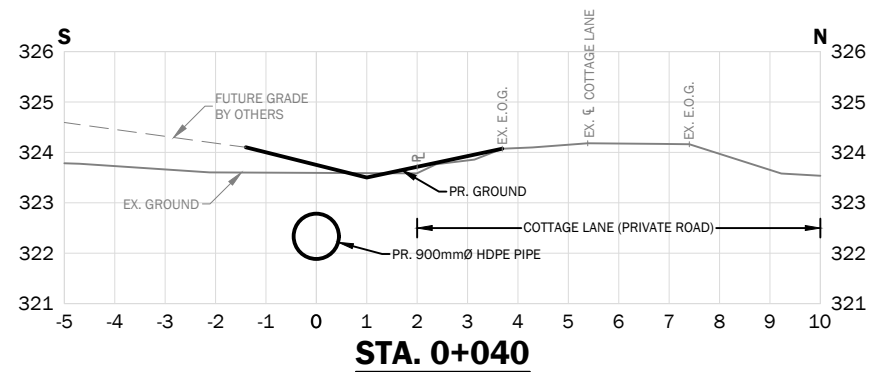
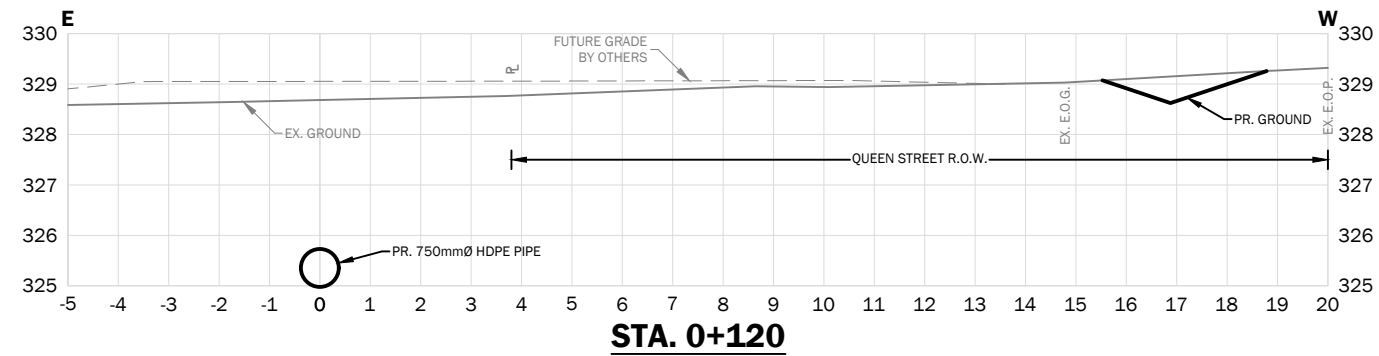
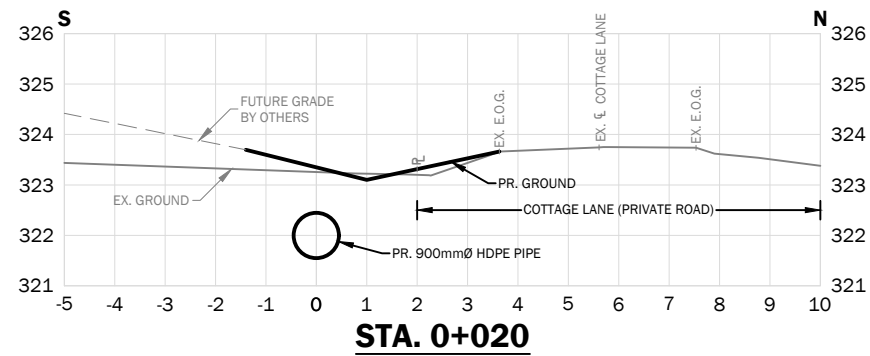
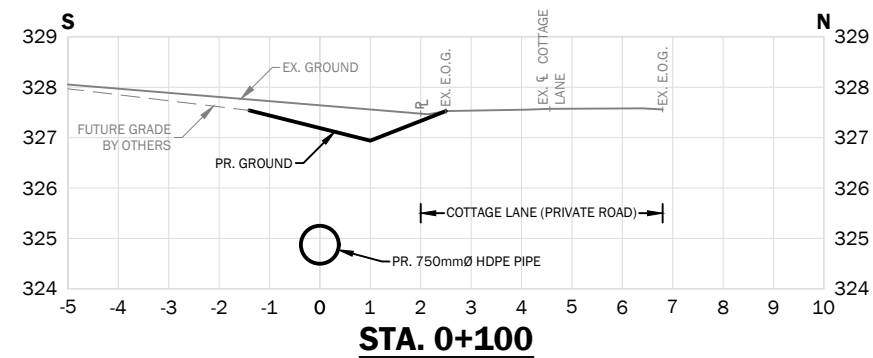
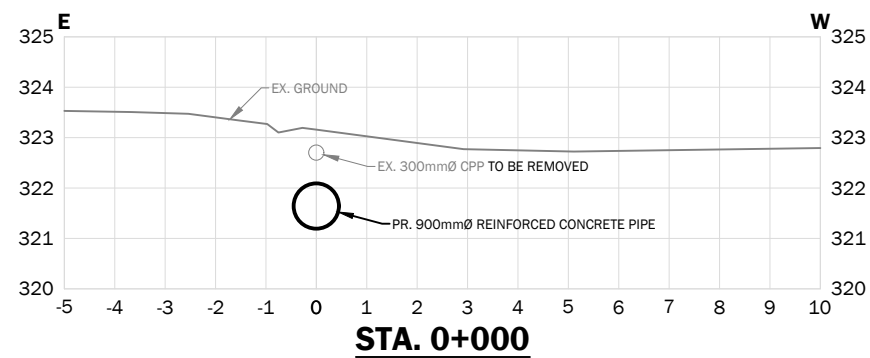
LEGEND:



6	ISSUED FOR TENDER	22-09-27
5	REPORT SUBMISSION	22-06-28
4	INFORMATION MEETING	22-05-19
3	PETITIONER MTG. NO. 2	22-04-26
2	PETITIONER MTG. NO. 1	22-03-31
1	ON-SITE MEETING	21-10-20
No.	REVISION	DATE (YY-MM-DD)



DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 6 OF 9



WARD 1

**QUEEN STREET
MUNICIPAL DRAIN**

Sections

BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT
STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX
CULVERT AT STA. 0+158 (OPEN).

	6	ISSUED FOR TENDER	22-09-27
	5	REPORT SUBMISSION	22-06-28
	4	INFORMATION MEETING	22-05-19
	3	PETITIONER MTG. NO. 2	22-04-26
	2	PETITIONER MTG. NO. 1	22-03-31
	1	ON-SITE MEETING	21-10-20
No.	REVISION	DATE (YY-MM-DD)	



DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 7 OF 9

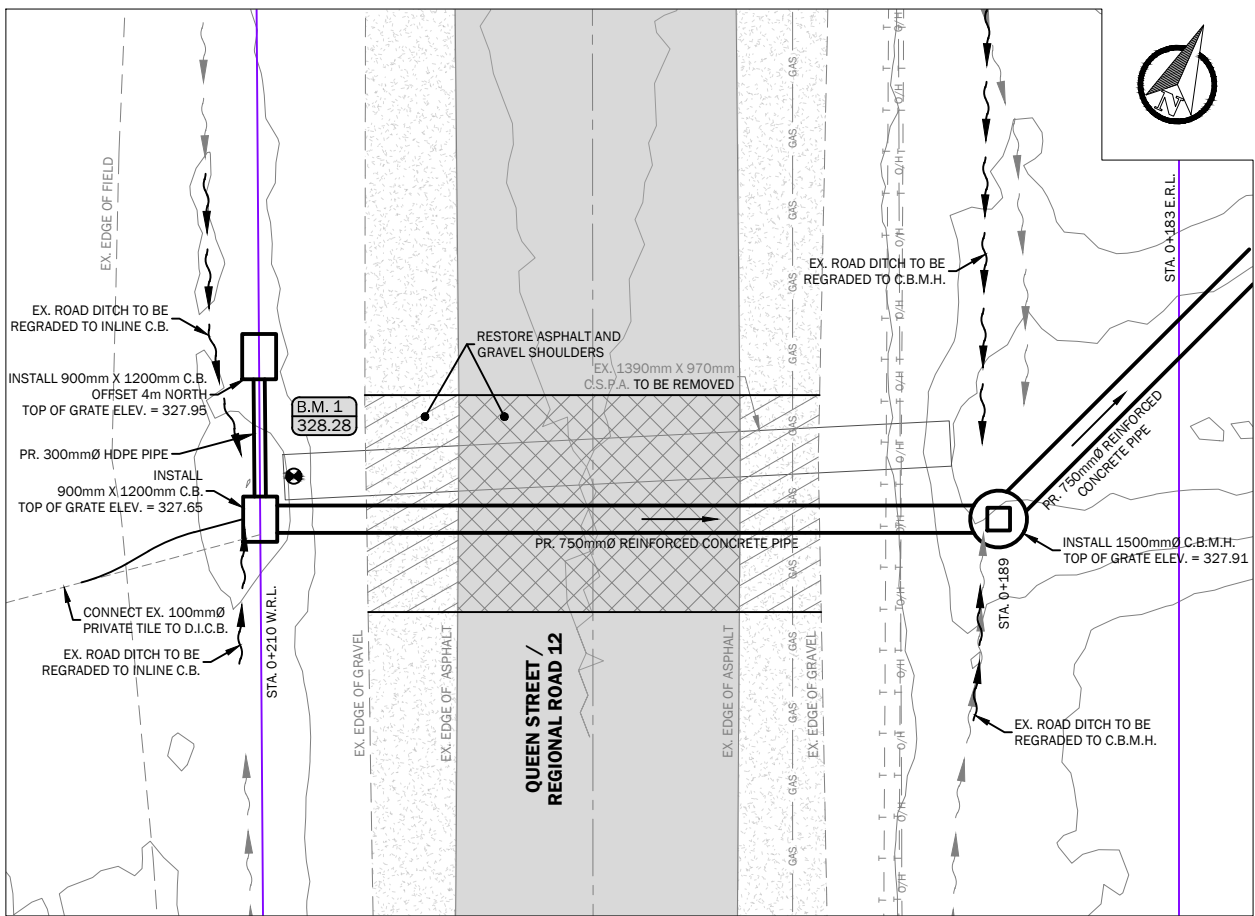
NOTES:

1. CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE ALL TRAFFIC CONTROL SIGNALS, SIGNS AND DEVICES THAT ARE REQUIRED FOR SAFE AND PROPER TRAFFIC MANAGEMENT DURING THE INSTALLATION OF THE DRAINAGE SYSTEM. THE CONTRACTOR SHALL CONTACT THE TOWNSHIP OF WILMOT AND REGION OF WATERLOO FOR SPECIFIC LOCAL PROCEDURES, GUIDELINES, AND TIMELINES. TRAFFIC CONTROL SHALL MEET THE STANDARDS OF BOOK 7 OF THE ONTARIO TRAFFIC MANUAL.

BENCHMARK DESCRIPTIONS

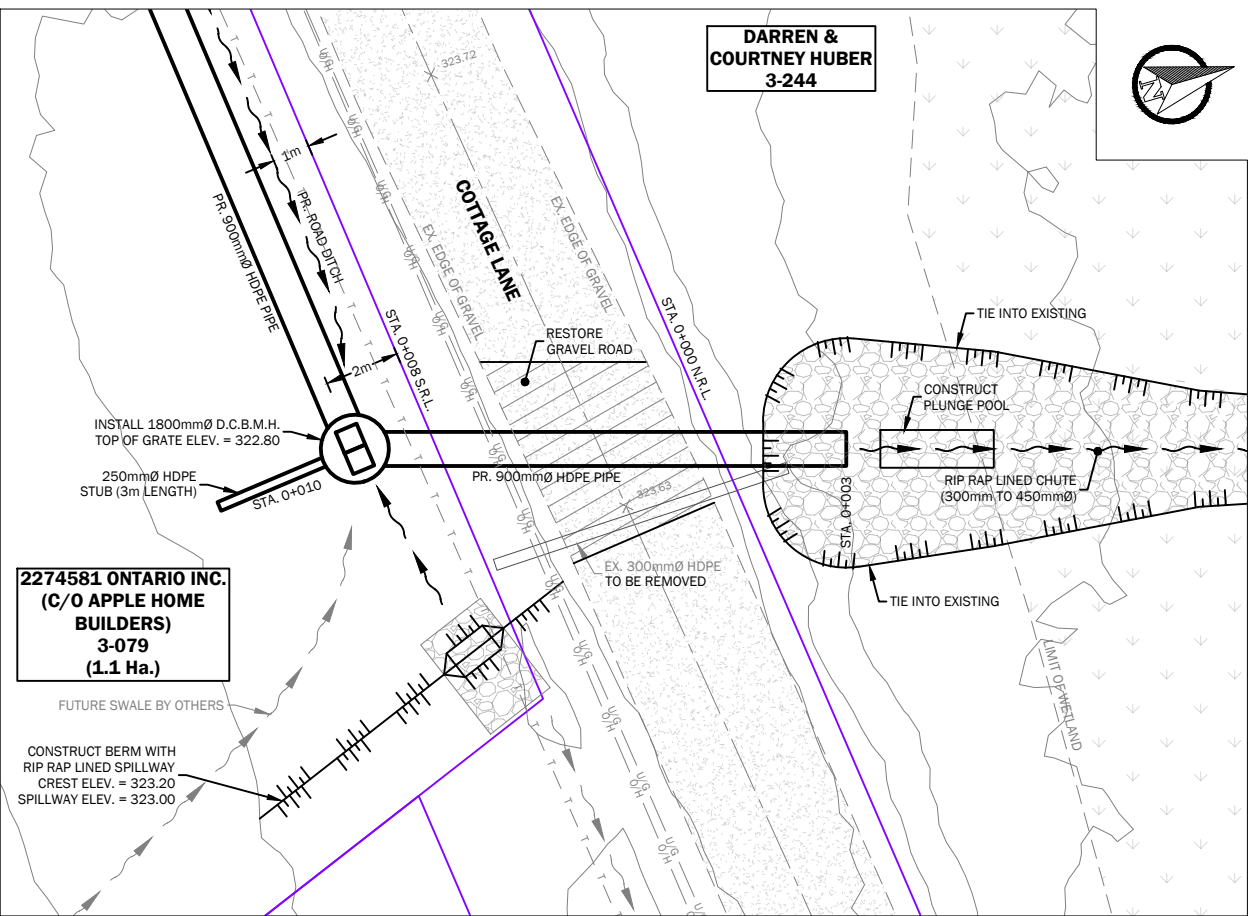
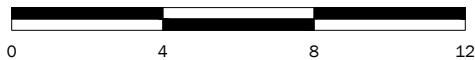
BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).



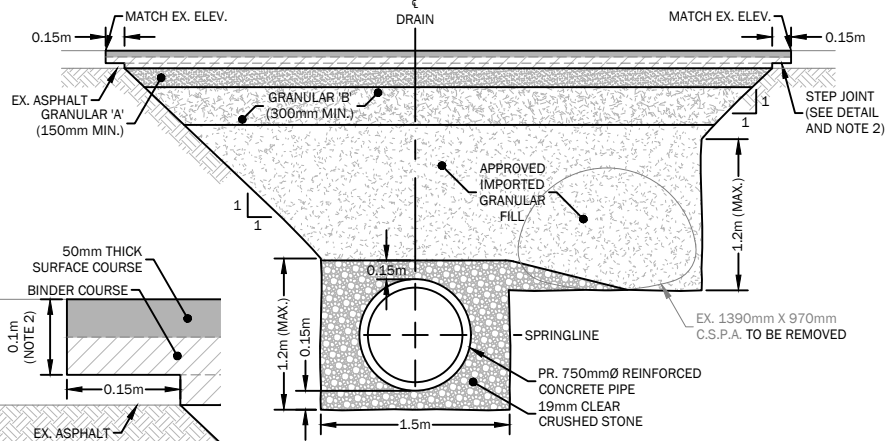
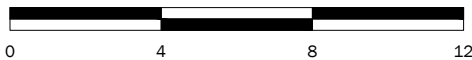
QUEEN STREET CROSSING DETAIL

DETAIL SCALE



COTTAGE LANE CROSSING DETAIL

DETAIL SCALE



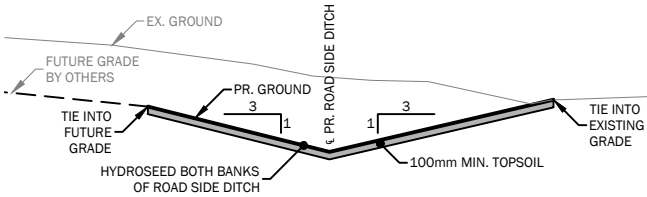
STEP JOINT DETAIL

NOTES:

1. THE HOT MIX ASPHALT SURFACE COURSE TO BE PLACED IN A 50mm LIFT, OTHER BINDER COURSE LIFT THICKNESS NOT TO EXCEED 80mm.
2. WHERE EXISTING HOT MIX ASPHALT DEPTH IS BETWEEN 80mm AND 120mm, A 40mm STEP JOINT IS REQUIRED. A STEP JOINT IS NOT REQUIRED FOR ASPHALT DEPTHS LESS THAN 80mm.

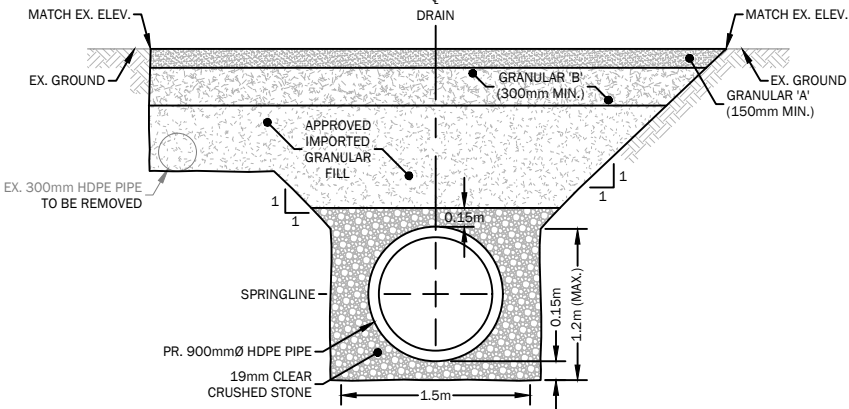
QUEEN STREET CROSSING SECTION

N.T.S.



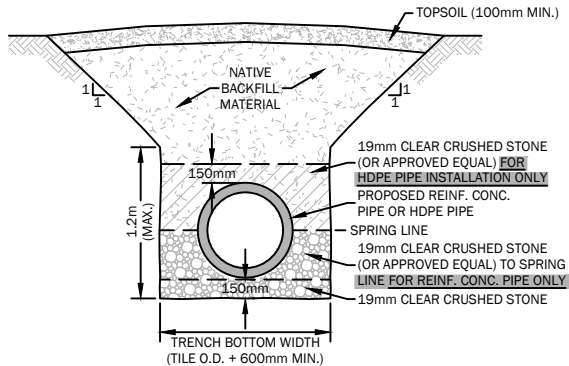
TYPICAL ROAD SIDE DITCH DETAIL

N.T.S.



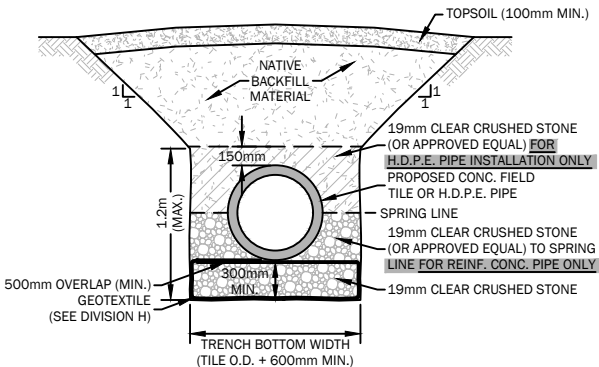
COTTAGE LANE CROSSING SECTION

N.T.S.



**TYPICAL PIPE INSTALLATION
ON STONE BEDDING DETAIL**

N.T.S.



**TYPICAL PIPE INSTALLATION ON WRAPPED
STONE BEDDING DETAIL (PROVISIONAL ITEM)**

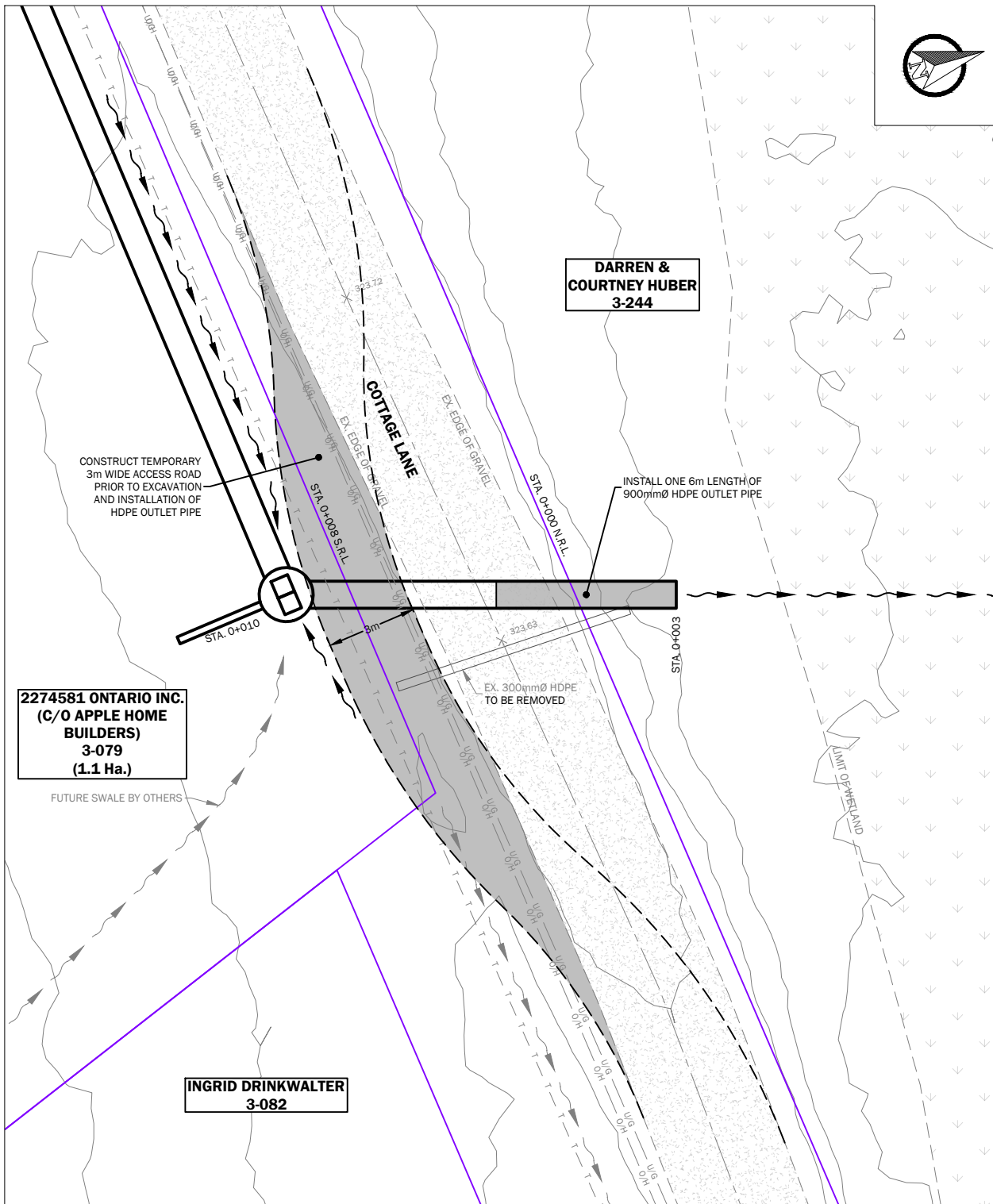
N.T.S.



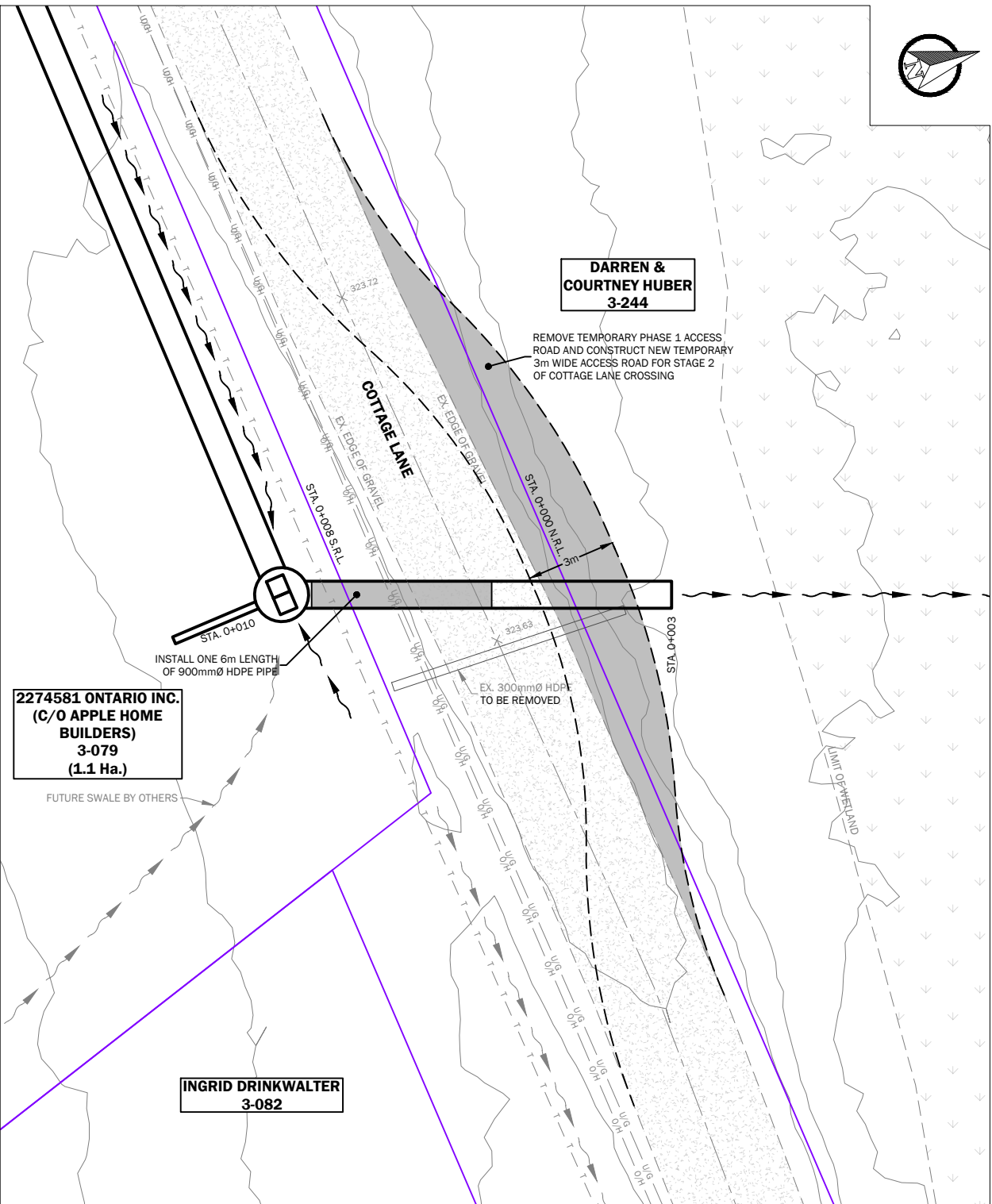
6	ISSUED FOR TENDER	22-09-27
5	REPORT SUBMISSION	22-06-28
4	INFORMATION MEETING	22-05-19
3	PETITIONER MTG. NO. 2	22-04-26
2	PETITIONER MTG. NO. 1	22-03-31
1	ON-SITE MEETING	21-10-20
No.	REVISION	DATE (YY-MM-DD)



DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.
DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 8 OF 9



COTTAGE LANE CONCEPTUAL TRAFFIC CONTROL DETAIL (STAGE 1)



COTTAGE LANE CONCEPTUAL TRAFFIC CONTROL DETAIL (STAGE 2)

SUGGESTED TRAFFIC CONTROL STAGING

1. CONSTRUCT TEMPORARY 3m WIDE ACCESS ROAD FOR STAGE 1 INCLUDING ALL TRAFFIC CONTROL DEVICES THAT ARE REQUIRED PER BOOK 7 OF THE ONTARIO TRAFFIC MANUAL.
2. INSTALL 6m LENGTH OF 900mmØ HDPE OUTLET PIPE.
3. CONSTRUCT TEMPORARY 3m WIDE ACCESS ROAD FOR STAGE 2 INCLUDING ALL TRAFFIC CONTROL DEVICES THAT ARE REQUIRED PER BOOK 7 OF THE ONTARIO TRAFFIC MANUAL.
4. INSTALL 6m LENGTH OF 900mmØ HDPE PIPE.
5. RESTORE COTTAGE LANE TO ORIGINAL CROSS SECTION.
6. DECOMMISSION TEMPORARY ACCESS ROADS.

**QUEEN STREET
MUNICIPAL DRAIN**

**Cottage Lane Suggested
Traffic Contrtl Staging**

NOTES:

1. CONTOURS GENERATED USING THE 2018 LIDAR DERIVED DATA SET REPRESENTING BARE-EARTH TERRAIN FROM LAND INFORMATION ONTARIO.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE ALL TRAFFIC CONTROL SIGNALS, SIGNS AND DEVICES THAT ARE REQUIRED FOR SAFE AND PROPER TRAFFIC MANAGEMENT DURING THE INSTALLATION OF THE DRAINAGE SYSTEM. THE CONTRACTOR SHALL CONTACT THE TOWNSHIP OF WILMOT AND REGION OF WATERLOO FOR SPECIFIC LOCAL PROCEDURES, GUIDELINES, AND TIMELINES. TRAFFIC CONTROL SHALL MEET THE STANDARDS OF BOOK 7 OF THE ONTARIO TRAFFIC MANUAL.
3. ONE LANE OF TRAFFIC TO BE MAINTAINED FOR DURATION OF CONSTRUCTION.
4. ADJUSTMENTS TO SUGGESTED TRAFFIC CONTROL STAGING PLAN SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.

BENCHMARK DESCRIPTIONS

BENCHMARK No. 1 **ELEV.=328.28**
TOP UPSTREAM END OF EX. 1200mmØ C.S.P. SURFACE CULVERT AT STA. 0+208 (CLOSED)

BENCHMARK No. 2 **ELEV.=320.34**
TOP CENTRE OF HEADWALL ON UPSTREAM END OF EX. CONC. BOX CULVERT AT STA. 0+158 (OPEN).



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2	PETITIONER MTG. NO. 1	22-03-31
1	ON-SITE MEETING	21-10-20
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DATE: 2022-09-27	REFERENCE No. WLMT-003	DRAWING No. 9 OF 9