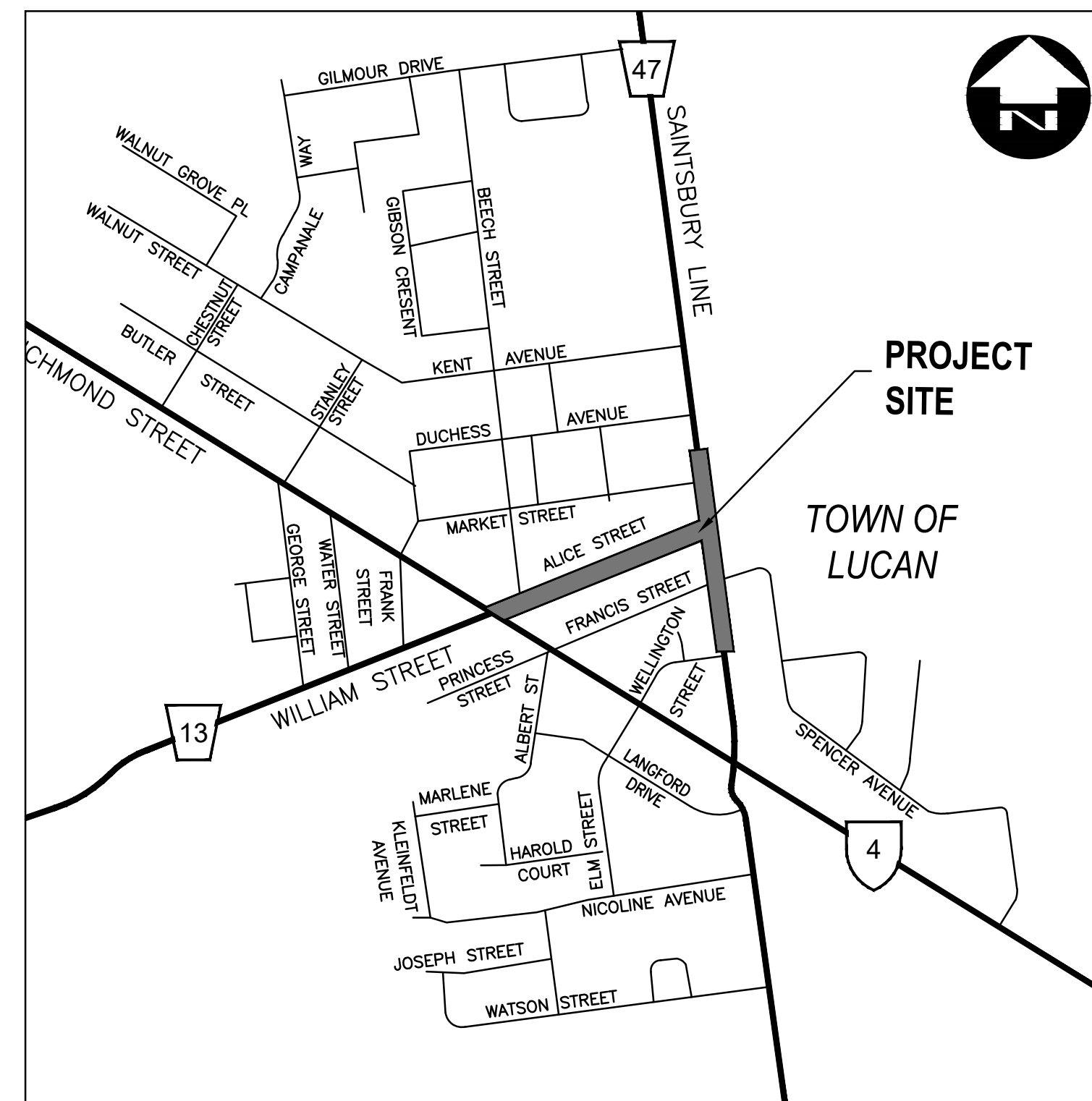




SAINTSBURY LINE AND ALICE STREET RECONSTRUCTION TOWNSHIP OF LUCAN-BIDDULPH

LEGEND	
	EXISTING SANITARY SEWER AND MAINTENANCE HOLE
	EXISTING STORM SEWER AND MAINTENANCE HOLE
	EXISTING WATERMAIN AND VALVE
	EXISTING CATCHBASIN
	EXISTING CATCHBASIN MAINTENANCE HOLE
	EXISTING FIRE HYDRANT AND VALVE
	PROPOSED SANITARY SEWER AND MAINTENANCE HOLE
	PROPOSED STORM SEWER AND MAINTENANCE HOLE
	PROPOSED WATERMAIN AND VALVE
	PROPOSED WATER SERVICE AND VALVE
	PROPOSED CATCHBASIN
	PROPOSED FIRE HYDRANT AND VALVE
	PROPOSED WM BEND
	PROPOSED CAP
	EXISTING TREE
	INDICATES BURIED GAS MAIN
	INDICATES BURIED BELL TELEPHONE CABLE
	EXISTING BELL / TV PEDESTAL
	EXISTING LIGHT STANDARD



KEY PLAN

ALL EXISTING INVERTS TO BE FIELD CHECKED BY THE CONTRACTOR PRIOR TO CONSTRUCTION

DILLON PROJECT: 21-2406/1788
DATE: MAY 2022

DRAWING INDEX	
DRAWING No.	DESCRIPTION
GENERAL NOTES AND DETAILS	
G1	SAINTSBURY LINE AND ALICE STREET
REMOVALS	
R1	SAINTSBURY LINE STA. 10+000 TO STA. 10+380
R2	SAINTSBURY LINE STA. 10+380 TO 10+440
R3	ALICE STREET 10+000+10+230
R4	ALICE STREET STA. 10+230 TO STA. 10+420.110
NEW CONSTRUCTION	
C1	SAINTSBURY LINE STA. 10+000 TO STA. 10+190
C2	SAINTSBURY LINE STA. 10+190 TO STA. 10+380
C3	SAINTSBURY LINE STA. 10+380 TO STA. 10+420
C4	ALICE STREET STA. 10+000 TO STA. 10+160
C5	ALICE STREET STA. 10+160 TO STA. 10+230
C6	ALICE STREET STA. 10+230 TO STA. 10+420.427
TYPICAL SECTIONS	
TS1	SAINTSBURY LINE STA. 10+230
TS2	SAINTSBURY LINE STA. 10+300
TS3	ALICE STREET. STA. 10+085
PAVEMENT MARKINGS AND SIGNAGE PLAN	
PM1	SAINTSBURY LINE 10+000 TO 10+330
PM3	ALICE STREET STA. 10+000 TO STA. 10+230
PM3	ALICE STREET STA. 10+000 TO STA. 10+230
PM4	ALICE STREET STA. 10+230 TO STA. 10+420.427
STORM SEWER SYSTEM	
ST1	STORM SEWER DRAINAGE AREA PLAN
ST2	STORM SEWER DESIGN SHEET
STREET LIGHTING	
E1	STREET LIGHTING LAYOUT
E2	STREET LIGHTING LAYOUT
E3	WIRING DIAGRAM AND DETAILS
E4	LUMINAIRES SPEC SHEET

BENCHMARKS				
ID	NORTHING (m)	EASTING (m)	ELEVATION (m)	DESCRIPTION
BM-A	4783423.3156	394450.7882	304.45	SOUTHWEST BOLT IN SIGN FOOTING AT MACEWEN GAS STATION
BM-B	4783513.8763	394299.0335	304.50	SOUTHEAST CORNER OF PORCH AT 114 MAIN STREET



GENERAL NOTES

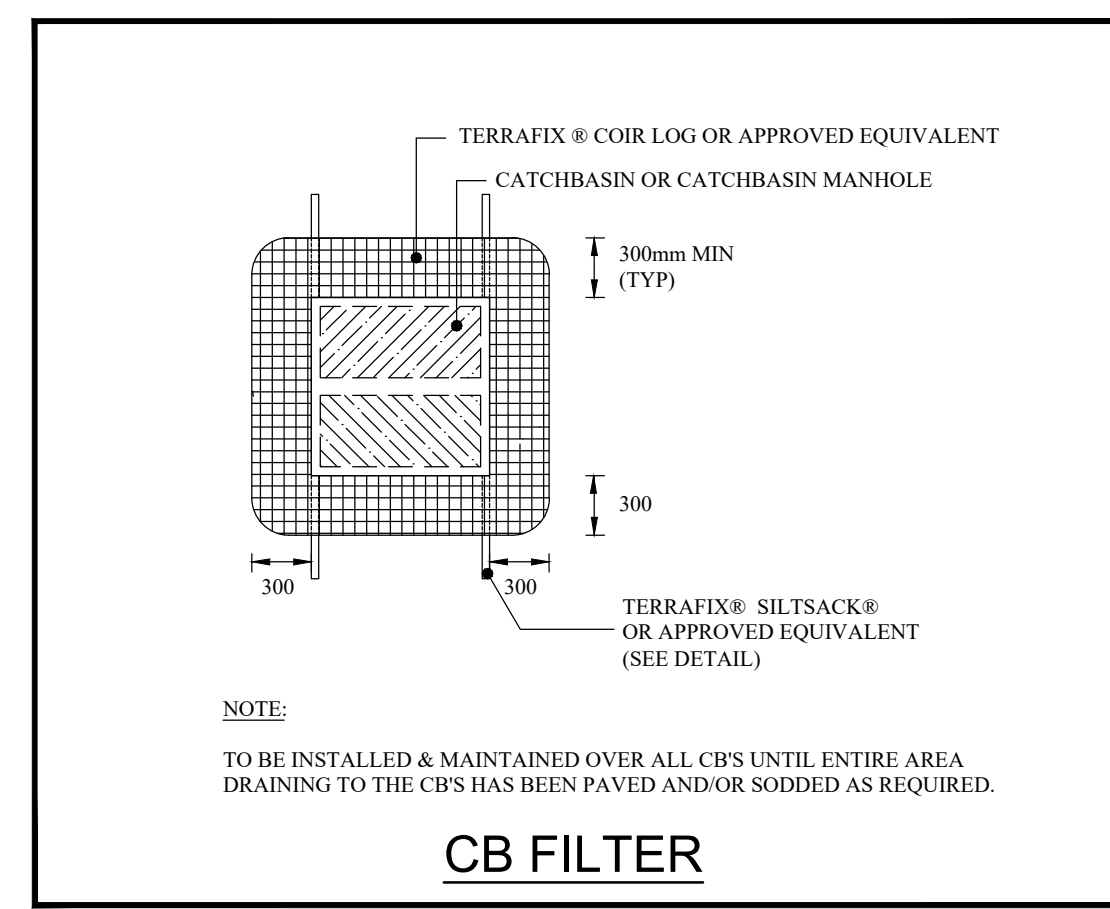
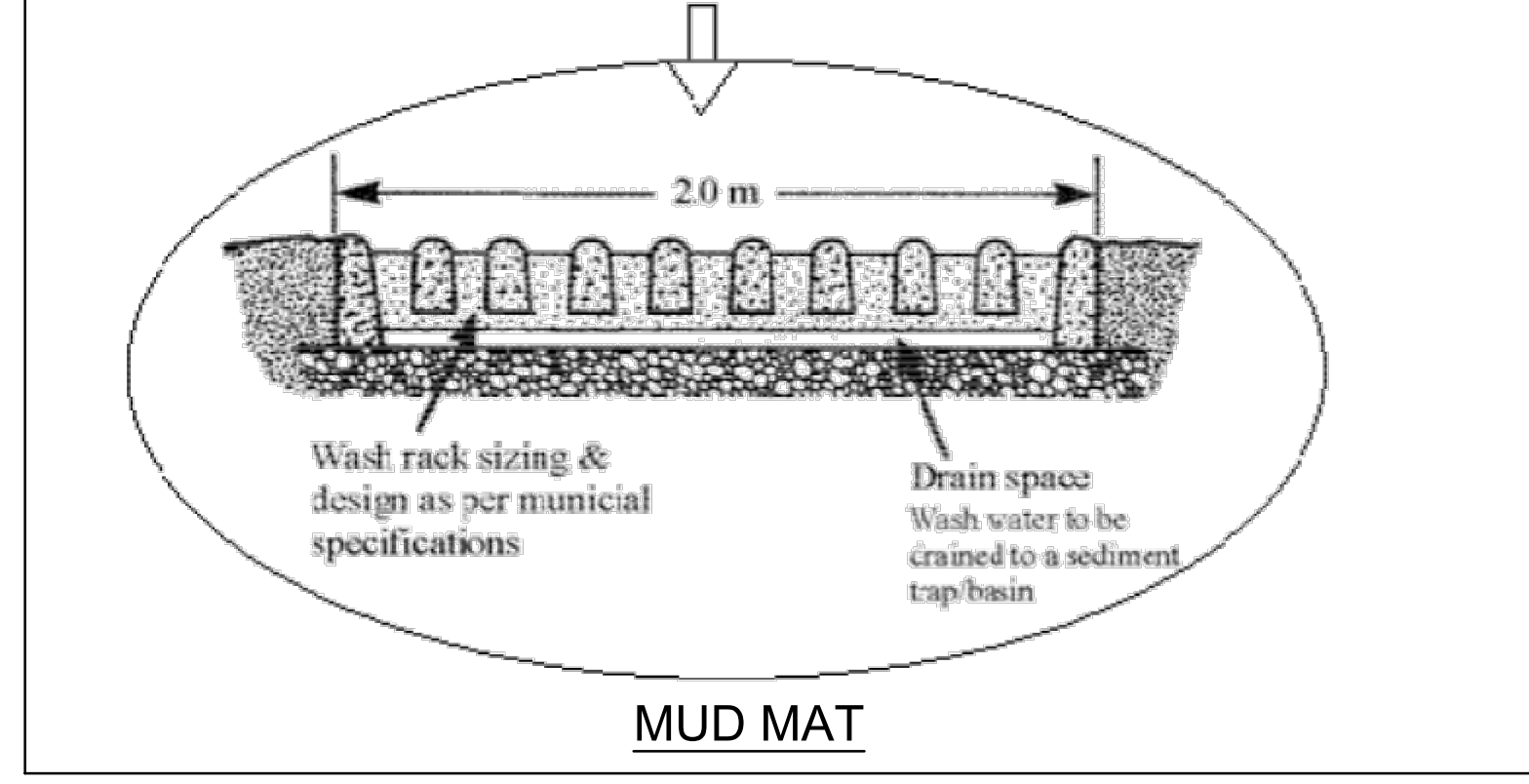
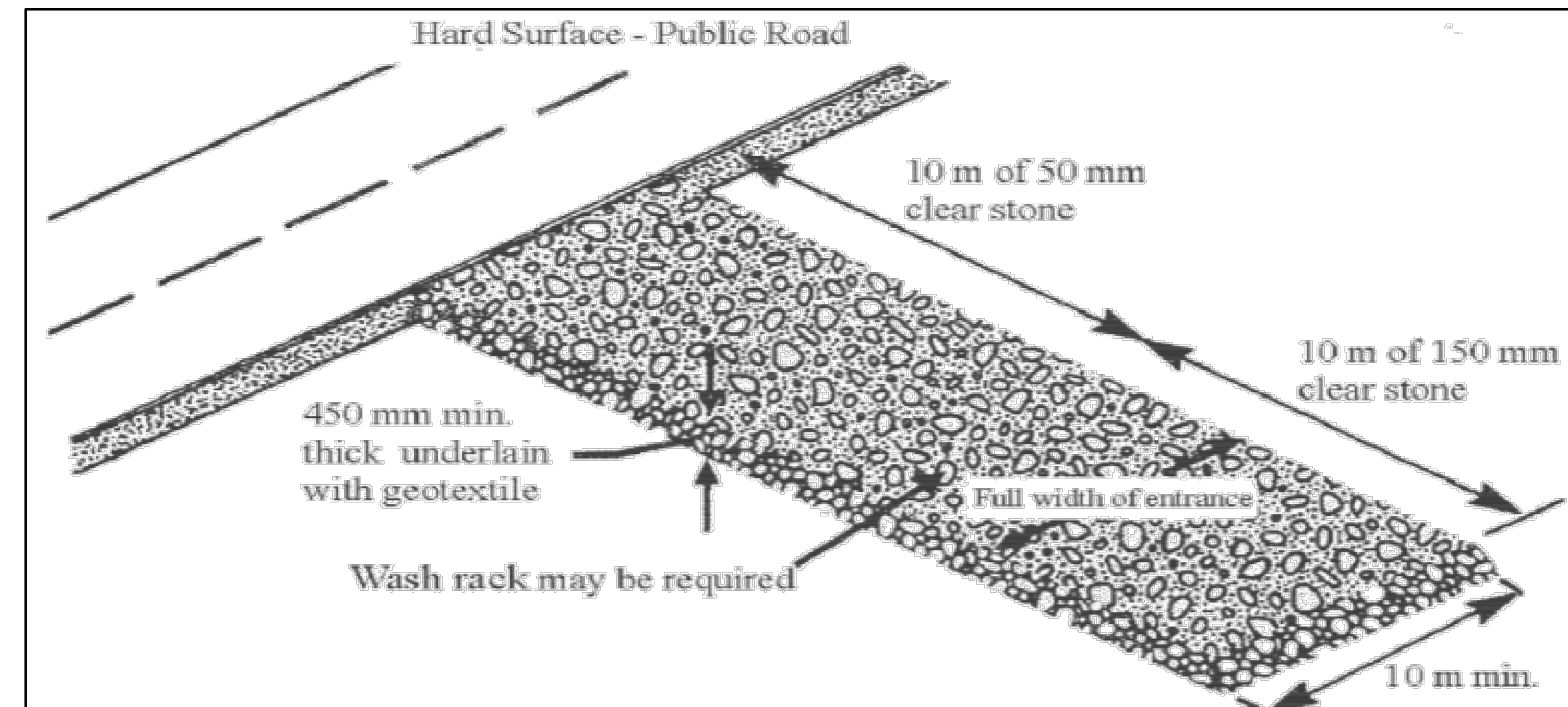
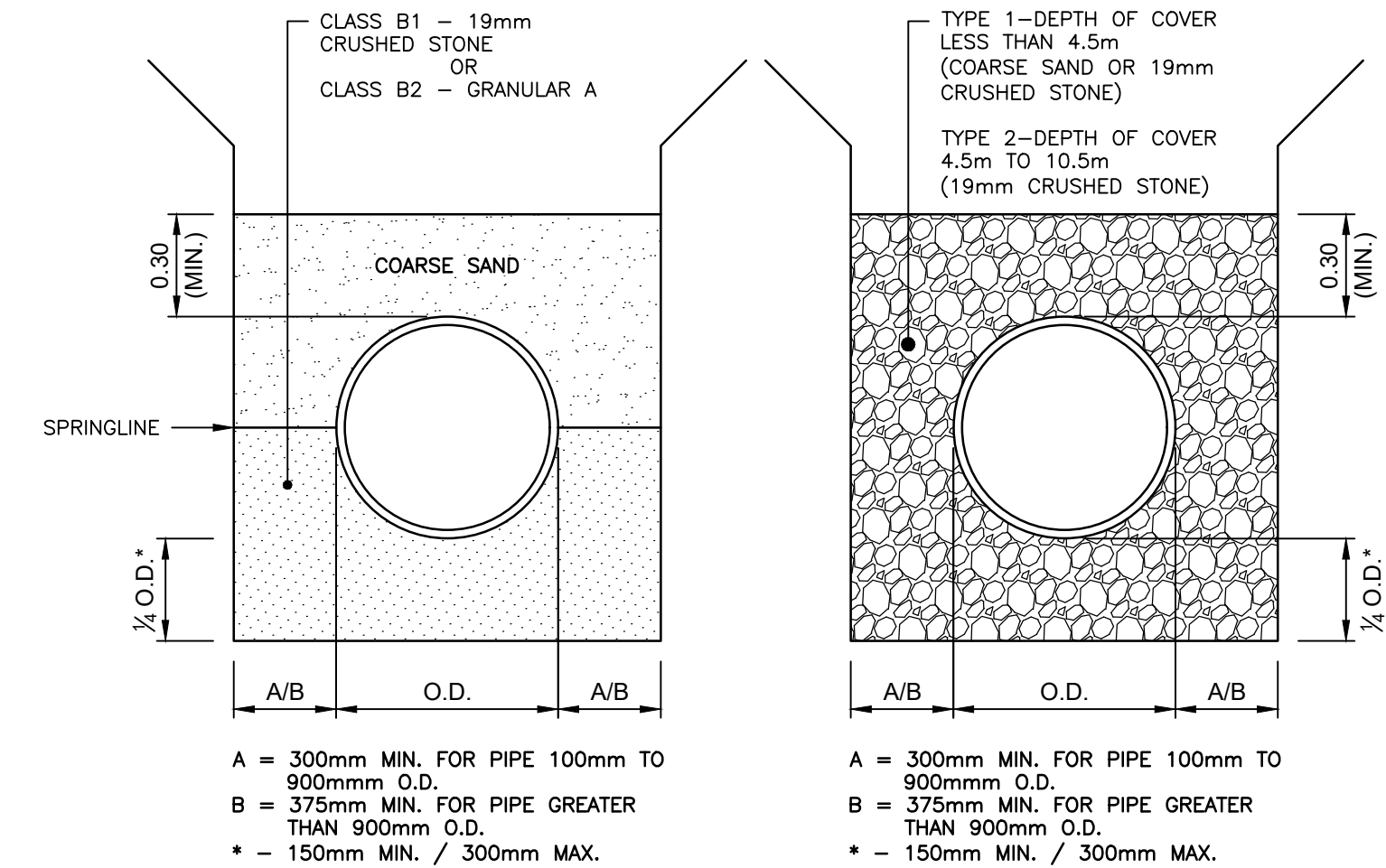
- PERFORM ALL WORK TO THE TOWNSHIP OF LUCAN BIDDULPH AND ONTARIO PROVINCIAL STANDARDS & SPECIFICATIONS.
- THE OWNER AND DILLON CONSULTING LIMITED DO NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWING. OTHER UTILITIES MAY BE PRESENT OR THE UTILITY SHOWN MAY DIFFER IN SIZE AND LOCATION FROM THOSE SHOWN. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES FOR LOCATES AND NOTIFY THE OWNER AND DILLON CONSULTING LIMITED OF ANY DISCREPANCIES. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND REPAIR ANY DAMAGE THAT THEY MAY CAUSE TO THESE UTILITIES OR TO ANY OTHER THIRD PARTY. THE CONTRACTOR AGREES TO INDEMNIFY THE OWNER AND DILLON CONSULTING LIMITED AGAINST ANY CLAIMS WHICH MAY ARISE FROM THE CONTRACTOR'S ACTION.
- TOPOGRAPHIC SURVEY COMPLETED BY AGM, LEGAL BOUNDARIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.
- ALL DISTURBED AREA'S TO BE RESTORED TO MATCH EXISTING CONDITIONS OR BETTER WITH THE FOLLOWING MINIMUMS:
 BOULEVARD AREA
 150mm TOPSOIL AND SOD
 GRAVEL D/W
 300mm GRAN. 'A'
 ASPHALT D/W
 50mm HL3 ON 250mm GRAN. 'A'
 CONC S/W
 100MM CONC. ON 150mm GRAN 'A'
 CONC S/W THROUGH D/W
 150mm CONC. ON 150mm GRAN 'A'
 CONC D/W
 150mm CONC. ON 250mm GRAN 'A'
- CONTRACTOR TO SUBMIT A TRAFFIC CONTROL PLAN TO THE COUNTY OF MIDDLESEX AND ENGINEER FOR REVIEW PRIOR TO COMMENCING ANY WORK.
- ALL BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- BACKFILL SHALL BE AS PER DETAILS INCLUDED IN CONTRACT DRAWINGS.
- ALL EXISTING UNDERGROUND PLANT (HYDRO, TELEPHONE, GAS MAINS, WATERMANS, SEWERS) WHICH WILL BE CROSSED UNDER DURING THE INSTALLATION OF THE SERVICES SHALL BE SUPPORTED BY A SUPPORT BEAM OR BY OTHER METHODS, AS MAY BE REQUIRED BY THE OWNERS OF THE PLANT BEING CROSSED UNDER.
- PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, ALL SEWER OUTLET INFORMATION, BENCHMARKS, ELEVATIONS, AND DIMENSIONS MUST BE CHECKED AND VERIFIED, AND ANY DISCREPANCIES REPORTED TO THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY MIDDLESEX COUNTY AND DILLON CONSULTING LIMITED AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION ON THE ROAD ALLOWANCE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS UNDER THE OCCUPATIONAL HEALTH AND SAFETY ACT WHILE WORKING IN THE VICINITY OF OVERHEAD POWER LINES.
- ALL EXCAVATION WHOLLY OR PARTLY WITHIN PROPOSED OR EXISTING ROADWAYS, SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH ONTARIO PROVINCIAL STANDARD SPECIFICATIONS.
- EXISTING TREES ARE NOT TO BE REMOVED UNLESS APPROVED BY THE APPLICABLE AUTHORITY HAVING JURISDICTION.

EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL PREPARE A SEDIMENT AND EROSION CONTROL PLAN AND SUBMIT TO THE TOWNSHIP AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK COMMENCING.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY MEASURES TO CONTROL SILT ENTERING THE STORM DRAINAGE SYSTEM.
- PROTECT ALL EXPOSED SURFACES AND CONTROL RUN-OFF DURING CONSTRUCTION.
- ALL EROSION CONTROL MEASURES TO BE IN PLACE BEFORE STARTING CONSTRUCTION AND REMAIN IN PLACE UNTIL RESTORATION IS FULLY DEVELOPED (I.E. GRASS).
- MAINTAIN EROSION CONTROL MEASURES DURING CONSTRUCTION.
- ALL COLLECTED SEDIMENT TO BE DISPOSED OF AT AN APPROVED LOCATION.
- MINIMIZE AREA DISTURBED DURING CONSTRUCTION. ALL DISTURBED AREAS NOT SUBJECT TO ACTIVE CONSTRUCTION SHALL BE TOPSOILED AND SODDED.
- ALL DEWATERING TO BE DISPOSED OF IN AN APPROVED SEDIMENT BASIN. UNDER NO CIRCUMSTANCES WILL DEWATERING EFFLUENT BE DISCHARGED DIRECTLY TO A WATERCOURSE.
- PROTECT ALL EXISTING CATCH BASINS, MANHOLES AND PIPES ENDS FROM SEDIMENT INTRUSION.
- KEEP ALL DITCHES AND SUMPS CLEAN DURING CONSTRUCTION.
- STRAW BALES TO BE USED IN LOCALIZED AREAS AS DIRECTED BY THE ENGINEER.
- PROVIDE A GRANULAR MATT TO PREVENT SOIL TRACKING AT ALL ENTRANCES TO EXISTING ROADS.
- SEDIMENT CONTROL MEASURES TO CONFORM TO "EROSION AND SEDIMENT CONTROL GUIDE FOR URBAN CONSTRUCTION", 2019.
- ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED ON ALL DAYS WHEN CONSTRUCTION IS ACTIVE AND AFTER ALL RAINFALL EVENTS GREATER THAN 10mm.
- IN THE EVENT OF A FAILURE OF AN EROSION AND SEDIMENT CONTROL MEASURE, THE CONTRACTOR WILL CEASE ALL OTHER CONSTRUCTION RELATED ACTIVITY UNTIL THE MEASURE IS REPAIRED.
- ANY DISCHARGE OF SEDIMENT LADEN WATER OUTSIDE OF THE WORK LIMITS WILL BE IMMEDIATELY REPORTED TO THE ONTARIO SPILLS ACTION CENTRE 1-800-268-6060.
- INSTALL FILTER CLOTH AT ALL CATCHBASINS TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER.

WATERMAIN NOTES

- ALL WATERMANS SHALL BE PVC CL 150-C900-DR18 IF INSTALLED BY OPEN CUT AND IF INSTALLED BY TRENCHLESS THE CONTRACTOR SHALL CHOOSE AN EQUIVALENT PIPE MATERIAL TO ACCOMMODATE SUCH INSTALLATION (SUBMIT MATERIAL SPEC. FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL).
- RESTRAINED JOINTS: RESTRAINED PIPE JOINTS ARE REQUIRED AT ALL HORIZONTAL AND VERTICAL DEFLECTIONS. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND RESTRAINT DETAILS TO ENGINEER AND TOWNSHIP PRIOR TO PIPE FABRICATION FOR APPROVAL.
- A MINIMUM OF 0.5m VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN ALL WATERMAIN AND SEWER CROSSINGS.
- THE CONTRACTOR SHALL SUBMIT A SWABBING AND CHLORINATION PLAN FOR TESTING OF THE NEW WATERMAIN SYSTEM FOR APPROVAL.
- ALL WATERMANS AND SERVICES SHALL HAVE TYPE 1 BEDDING.



Specifications:

- Any alternate equal must be independently tested to the 2002 NUDEP Laboratory Separator Protocol. Separator must be sized based on this data.
- Alternate equal must be NETE Certified, MASTEP Verified, Massachusetts Plumbing Board approved and ConnDOT approved.
- Any testing performed by the manufacturer and/or field testing is unacceptable to demonstrate an alternate equal.
- Grab sampling has been deemed inaccurate by multiple independent agencies. Only mass balance testing will be accepted to verify an alternate equal.
- The separator must be designed based on the following criteria:

Flow Criteria	
Water Quality Flow Rate cfs (L/s)	
Peak Design Flow Rate cfs (L/s)	

TSS Removal Criteria	
Annual TSS Removal (%)	
NUDEP/EV Canada TSS	
OK110 Sand	
City of Toronto	
Other	

HydroGuard Components
 A. Inner Chamber
 B. Outer Baffle Wall
 C. Inner Chamber Inlet
 D. Inner Chamber Outlet
 E. Outer Baffle Opening
 F. Frame and Cover (Qty: 1-3)
 G. Inlet and Outlet Pipes
 H. Structure Diameter
 I. Sump Depth

HydroGuard Dimensions / Capacities

Model	Diameter (ft) / (mm)	Height (ft) / (mm)	Inner Chamber Depth (ft) / (mm)	Max Pipe Dia. (ft) / (mm)	Oil Spill Volume (gal) / (L)	Oil Spill Volume (ft³) / (m³)	Total Volume gal (L)
HG 4	4 (1.2)	5 (1.5)	32 (9.8)	21 (555)	65 (246)	35 (0.9)	465 (1779)
HG 5	5 (1.5)	5.5 (1.7)	40 (1.0)	24 (610)	130 (492)	55 (1.5)	805 (3057)
HG 6	6 (1.8)	6 (1.8)	48 (1.2)	30 (760)	200 (757)	85 (2.4)	1265 (4803)
HG 7	7 (2.1)	6.5 (2.0)	56 (1.4)	36 (915)	310 (1173)	115 (3.2)	1870 (7082)
HG 8	8 (2.4)	7 (2.1)	64 (1.6)	42 (1065)	455 (1722)	145 (4.1)	2630 (9962)
HG 10	10 (3.0)	9 (2.7)	80 (2.0)	54 (1370)	855 (3236)	320 (9.0)	5285 (20014)
HG 12	12 (3.6)	10.5 (3.2)	96 (2.4)	60 (1524)	1500 (5678)	480 (13.5)	8880 (33624)

Notes:

- Headloss K factor of 1.6 for hydraulic gradeline calculations
- Sump depths shown are typical. Additional depth can be added as required.
- Drops greater than 4" allowed with custom trough attachment.
- Inlet invert elevations should be the same or higher than the outlet invert elevation.
- Solid Cover shown. HydroGuard can be designed with an inlet grate if required.
- Oil capacities given are spill capacities.
- Sediment depths are maximum holding capacities and not recommended capacities for regular maintenance.
- Capacities are rounded down to nearest 5 gal or ft³ (L or 0.1 m³ for metric units)
- Base Extensions are not provided on standard units larger than the HG 6. Extensions can be provided if required due to groundwater/buoyancy concerns at the request of the engineer of record.
- HG4 model requires one cover. HGS and HG6 models require two covers. HG7 to HG12 models require three covers.

Hydroworks Hydroguard

PROJECT: _____
 LOCATION: _____
 REVISION DATE: 08/05/2020

Hydroworks

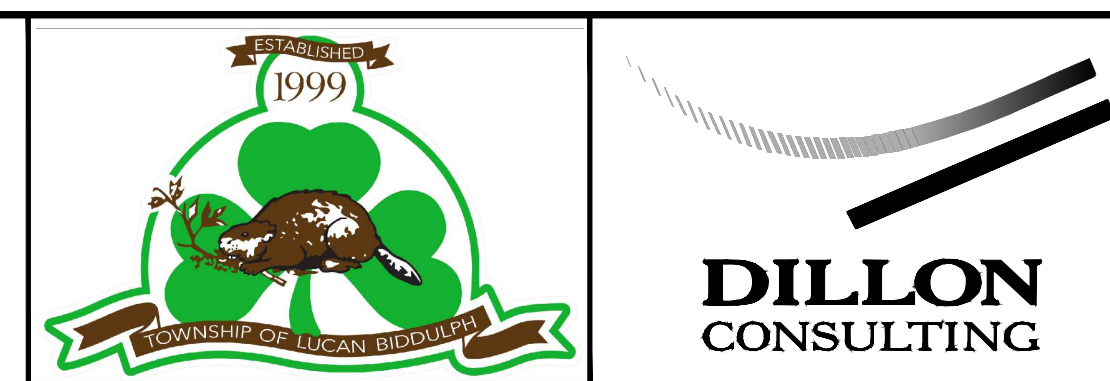
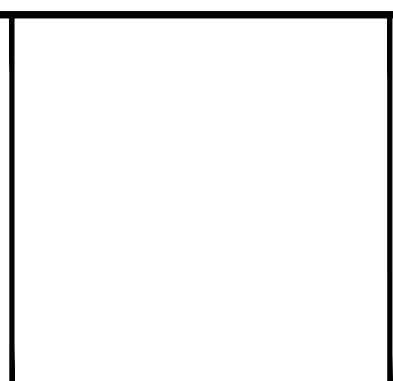
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 PLOT DATE: 2022-02-24 @ 7:51:45 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON_STANDARD.ctb

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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN: JCW, REVIEWED BY: JDJ
 DRAWN: JCW, CHECKED BY: JDJ
 DATE: FEBRUARY 2022
 SCALE: _____

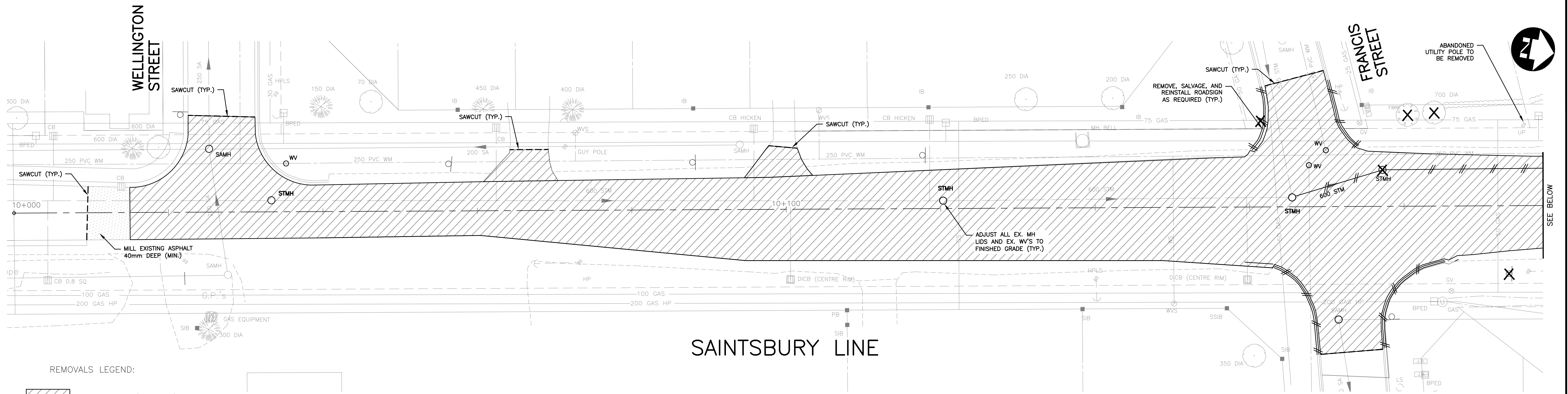
SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

GENERAL NOTES AND DETAILS

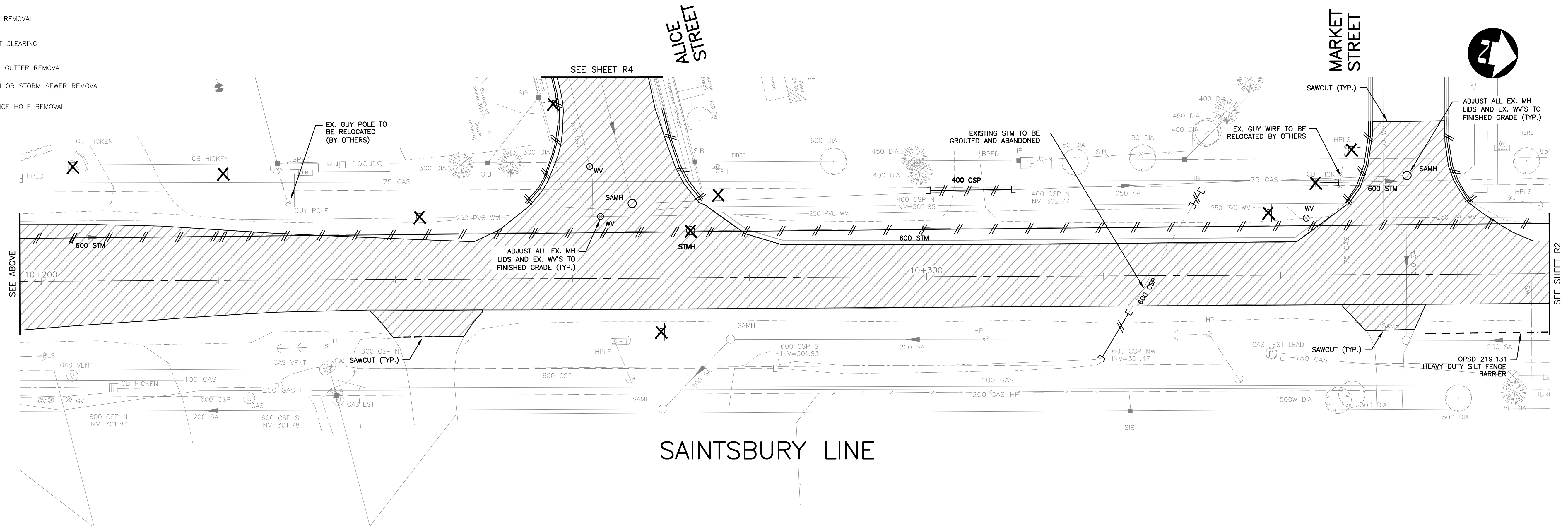
PROJECT NO:
21-2406/1788

SHEET NO:
G1

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 PLOT DATE: 2022-02-24 @ 7:55:55 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



- REMOVALS LEGEND:**
- ASPHALT REMOVAL (ALL DEPTHS)
 - PARTIAL DEPTH ASPHALT REMOVAL (MILLING)
 - CONCRETE REMOVAL
 - CLOSE CUT CLEARING
 - CURB AND GUTTER REMOVAL
 - WATERMAIN OR STORM SEWER REMOVAL
 - MAINTENANCE HOLE REMOVAL



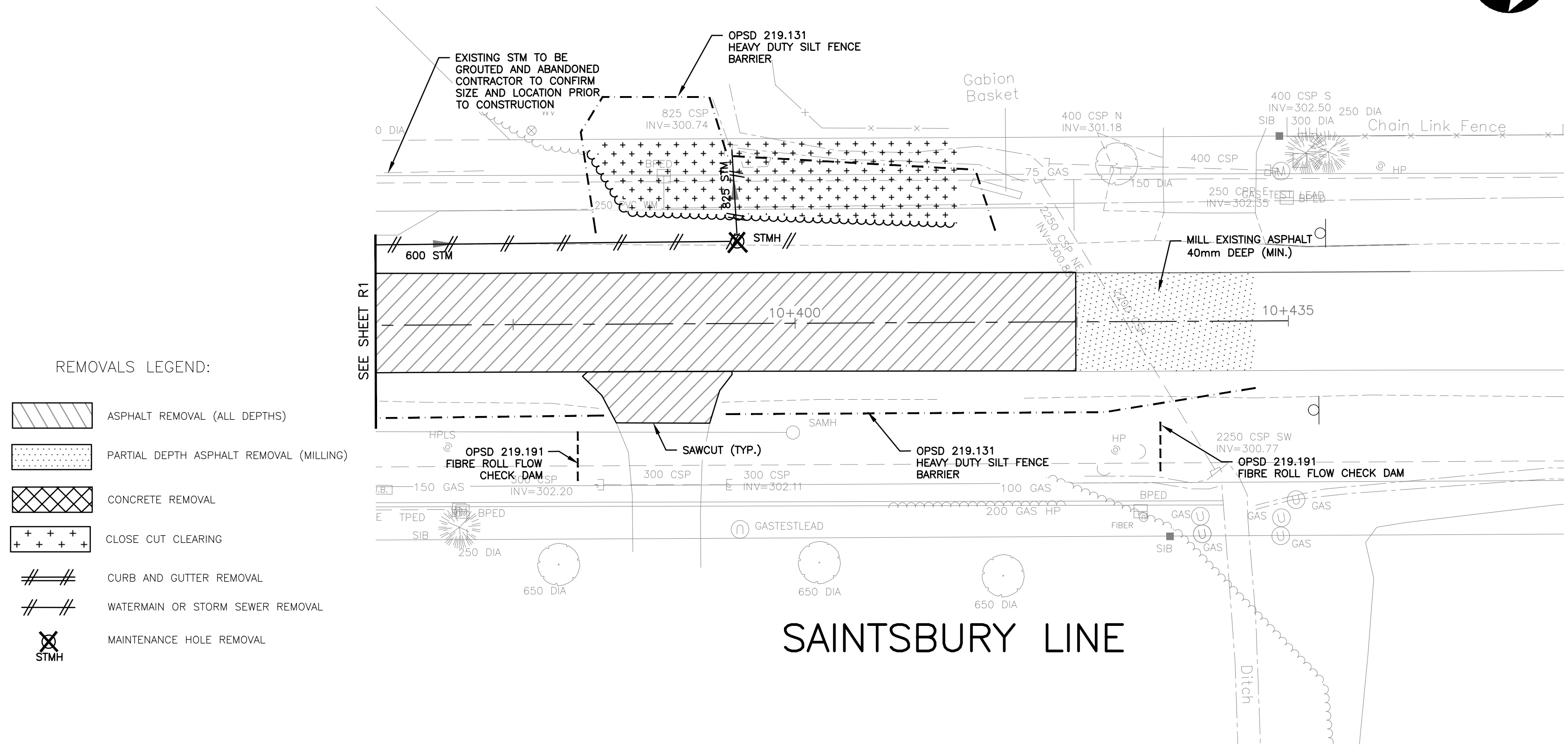
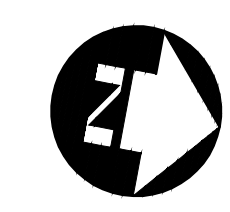
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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN JCW	REVIEWED BY JDJ	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-2406/1788
DRAWN JCW	CHECKED BY JDJ		SHEET NO.
DATE FEBRUARY 2022 SCALE 1:250		REMOVALS SAINTSBURY LINE STA. 10+000 TO STA. 10+380	R1

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- REMOVALS LEGEND:
- ASPHALT REMOVAL (ALL DEPTHS)
 - PARTIAL DEPTH ASPHALT REMOVAL (MILLING)
 - CONCRETE REMOVAL
 - CLOSE CUT CLEARING
 - CURB AND GUTTER REMOVAL
 - WATERMAIN OR STORM SEWER REMOVAL
 - MAINTENANCE HOLE REMOVAL

SAINTSBURY LINE

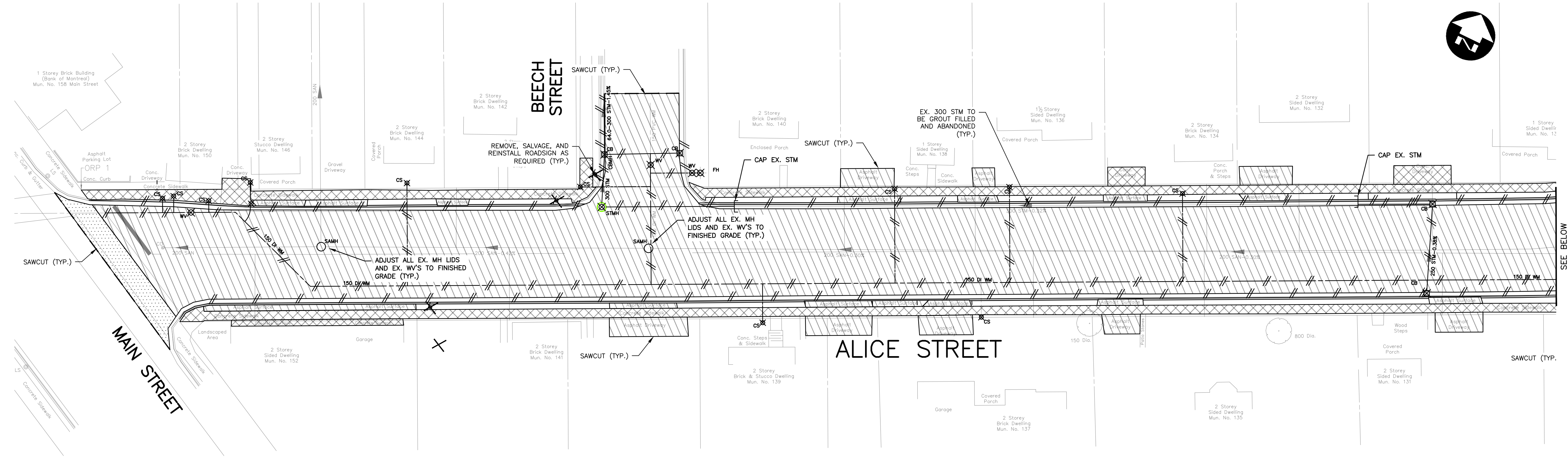
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DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	1:250		
No.	ISSUED FOR	DATE	BY
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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

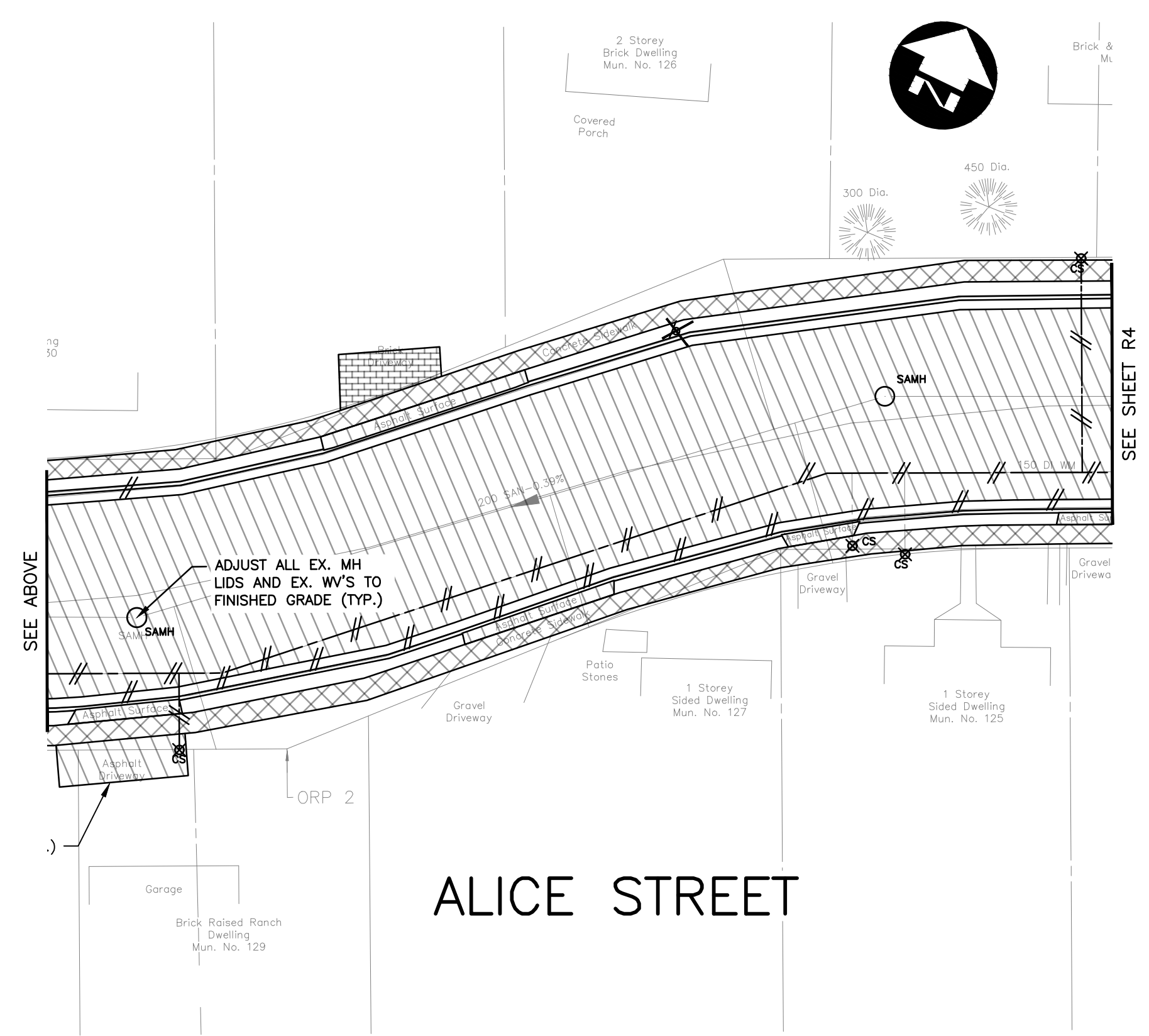
SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH		PROJECT NO. 21-2406/1788
REMOVALS SAINTSBURY LINE STA. 10+380 TO 10+440		SHEET NO. R2

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 PLOT DATE: 2022-02-24 @ 15:50:05 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



REMOVALS LEGEND:

- ASPHALT REMOVAL (ALL DEPTHS)
- PARTIAL DEPTH ASPHALT REMOVAL (MILLING)
- CONCRETE REMOVAL
- CLOSE CUT CLEARING
- CURB AND GUTTER REMOVAL
- WATERMAIN OR STORM SEWER REMOVAL
- MAINTENANCE HOLE REMOVAL



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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ
DRAWN	CHECKED BY
JCW	JDJ
DATE	SCALE
FEBRUARY 2022	1:250

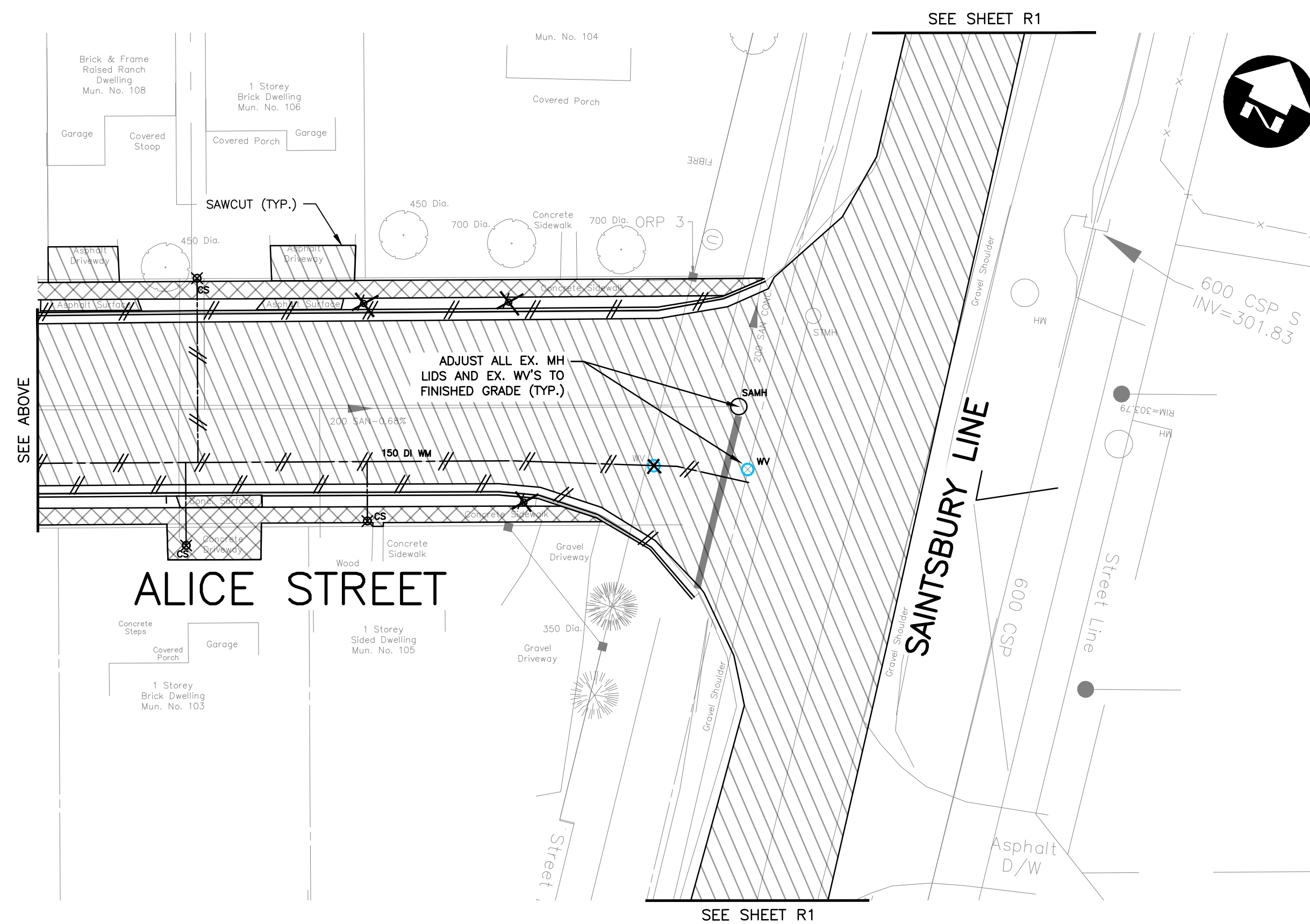
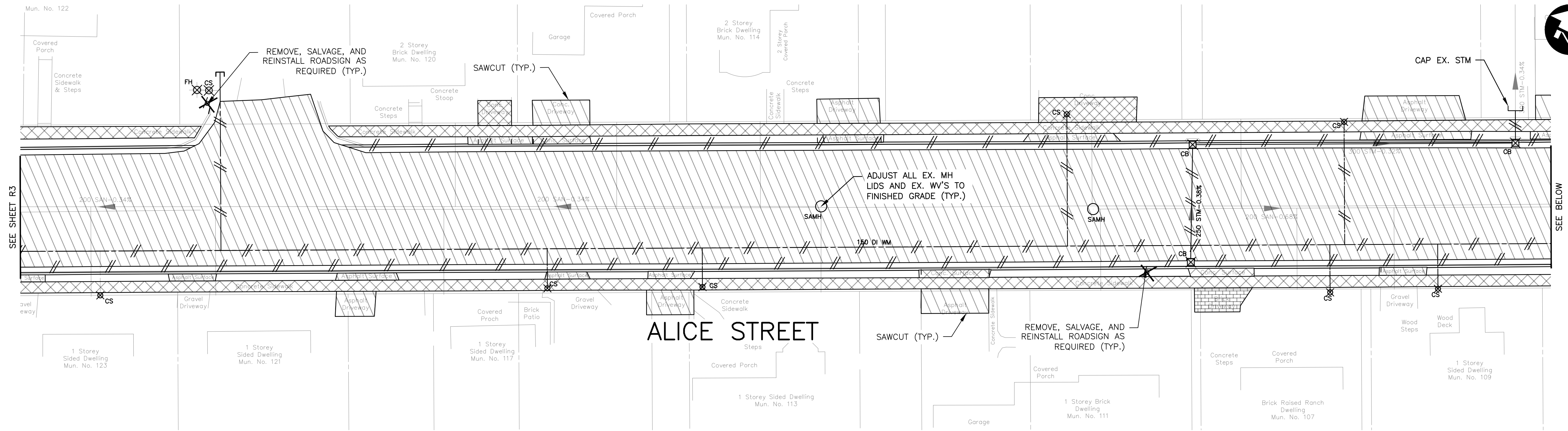
**SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH**

**REMOVALS
 ALICE STREET 10+000+10+230**

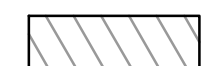
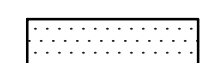

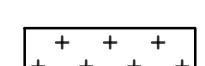
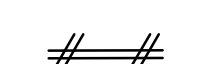
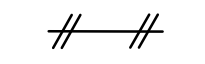

PROJECT NO.
21-2406/1788

SHEET NO.
R3

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REMOVALS LEGEND:

-  ASPHALT REMOVAL (ALL DEPTHS)
-  PARTIAL DEPTH ASPHALT REMOVAL (MILLING)
-  CONCRETE REMOVAL
-  CLOSE CUT CLEARING
-  CURB AND GUTTER REMOVAL
-  WATERMAIN OR STORM SEWER REMOVAL
-  MAINTENANCE HOLE REMOVAL

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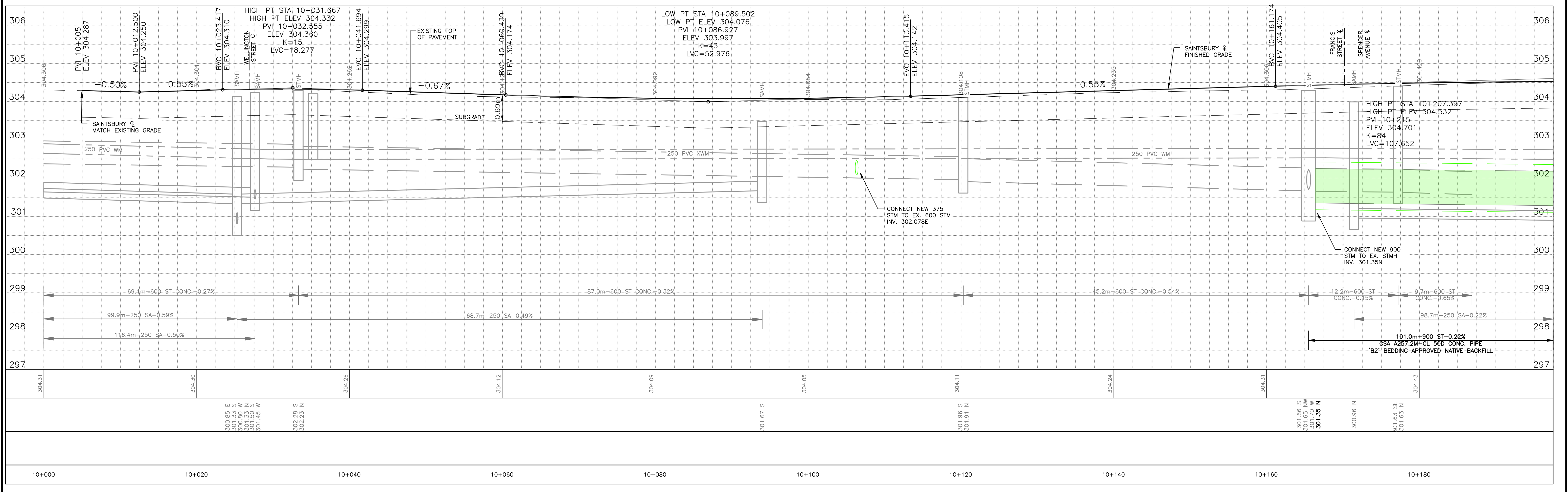
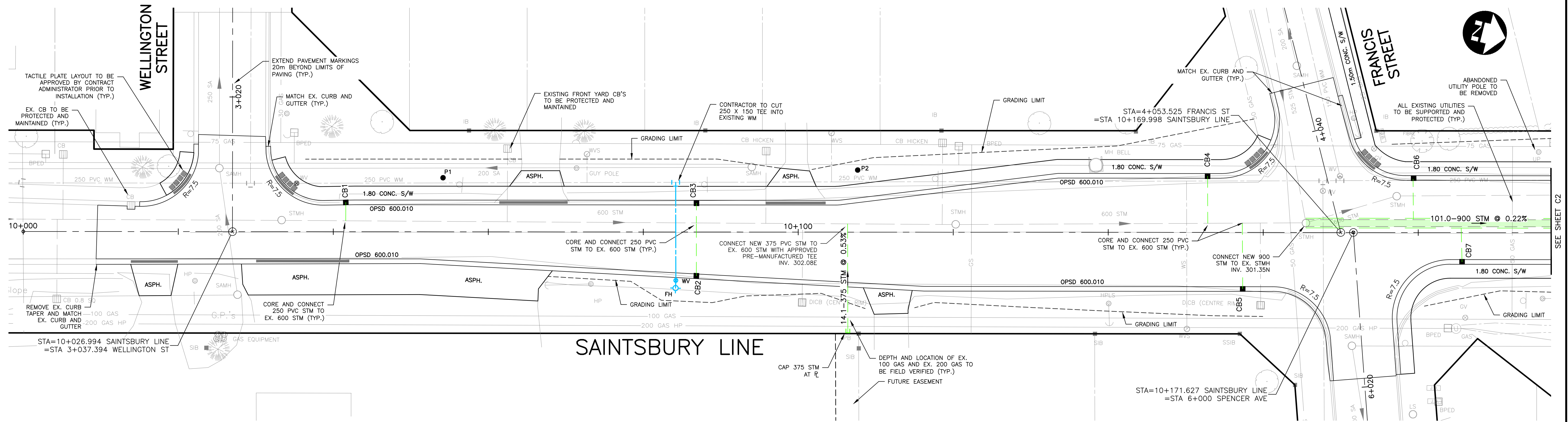


No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ
DRAWN	CHECKED BY
JCW	JDJ
DATE	DATE
	FEBRUARY 2022
SCALE	SCALE
	1:250

SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH		PROJECT NO. 21-2406/1788
REMOVALS ALICE STREET STA. 10+230 TO STA. 10+420.110		SHEET NO. R4

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\10\WMS\21788-10-NC2-CON.DWG PLOTTED BY: WEAVER, JARROLD@DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 @ 10:52:25 AM PLOT SCALE: 1:25.4 PLOT SIZE: 11.25 x 17.25 METERS



Conditions of Use
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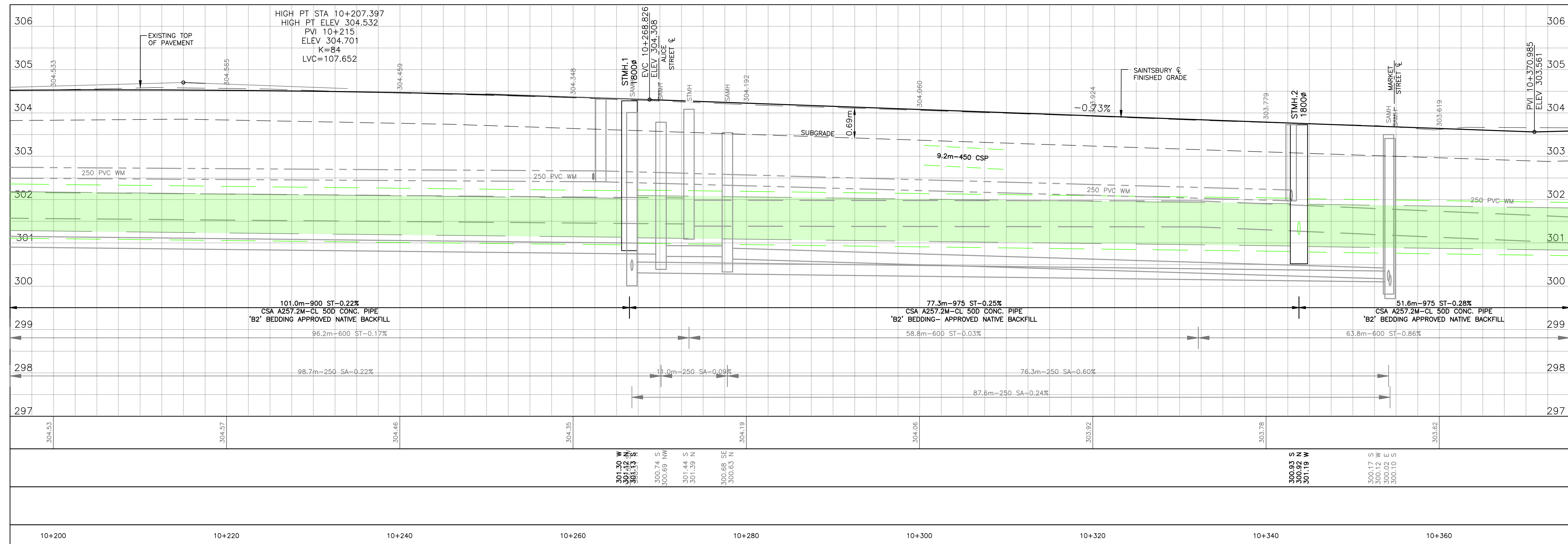
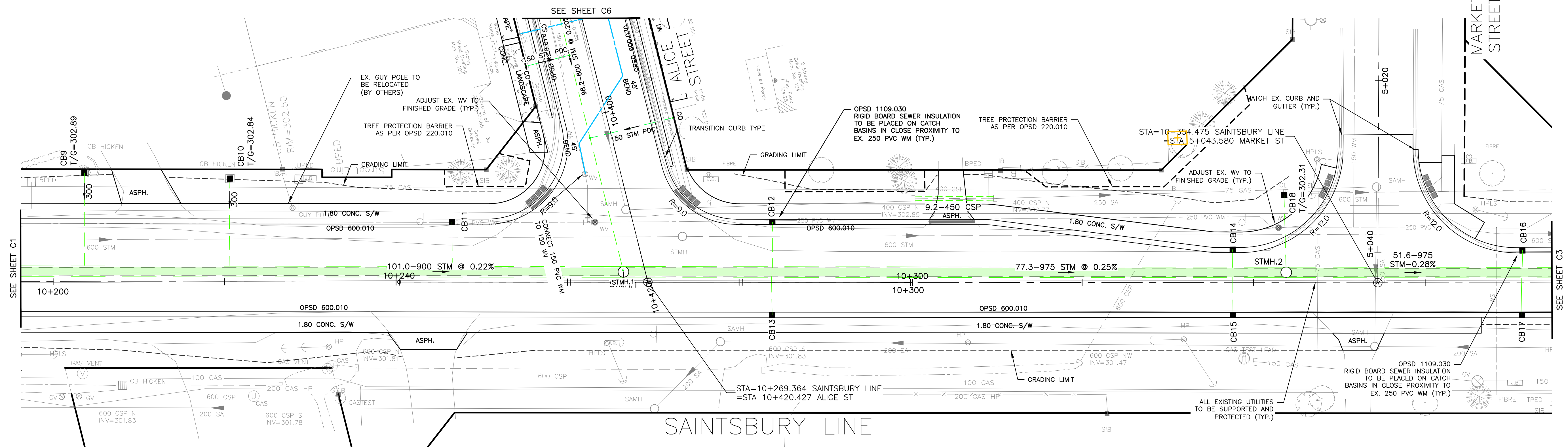
DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	H: 1:250 V: 1:50		
No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

NEW CONSTRUCTION
 SAINTSBURY LINE STA. 10+000 TO STA. 10+190

PROJECT NO.
 21-2406/1788

SHEET NO.
C1



FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS\2021\00\WMS3725\211788-10-NC2-CON.DWG PLOTTED BY: MEYER, JARROLD@DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 @ 15:53:34 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

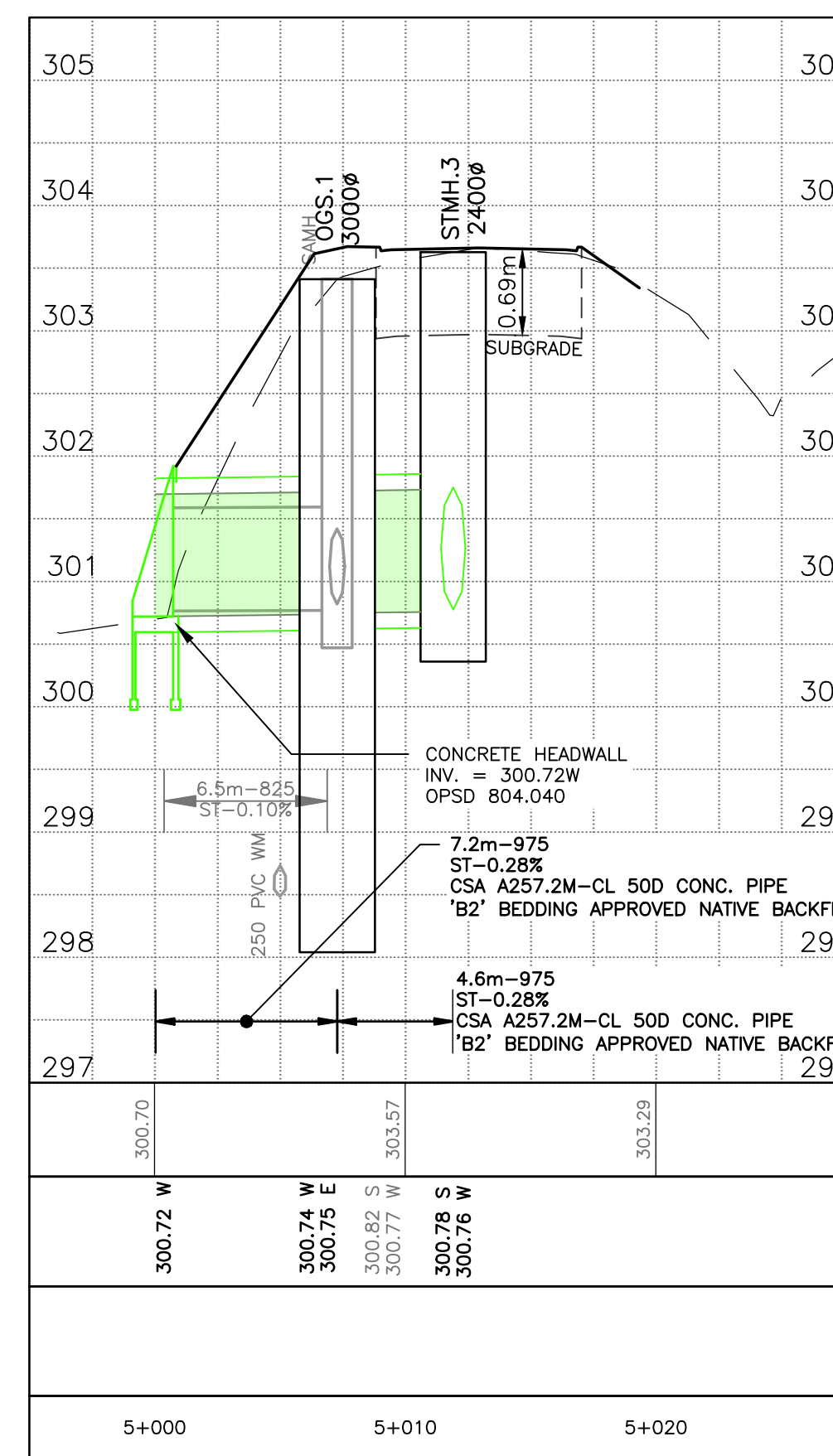
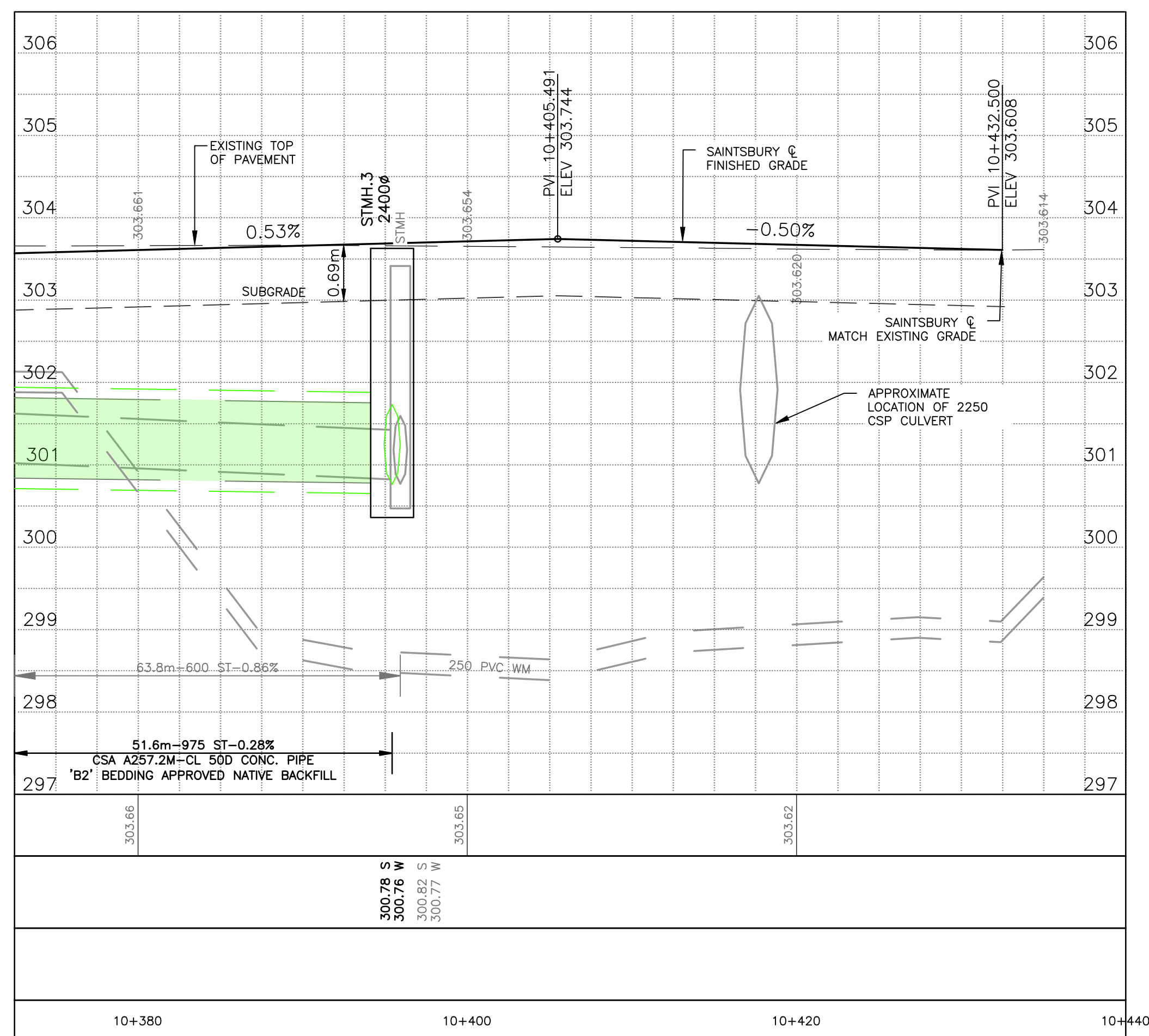
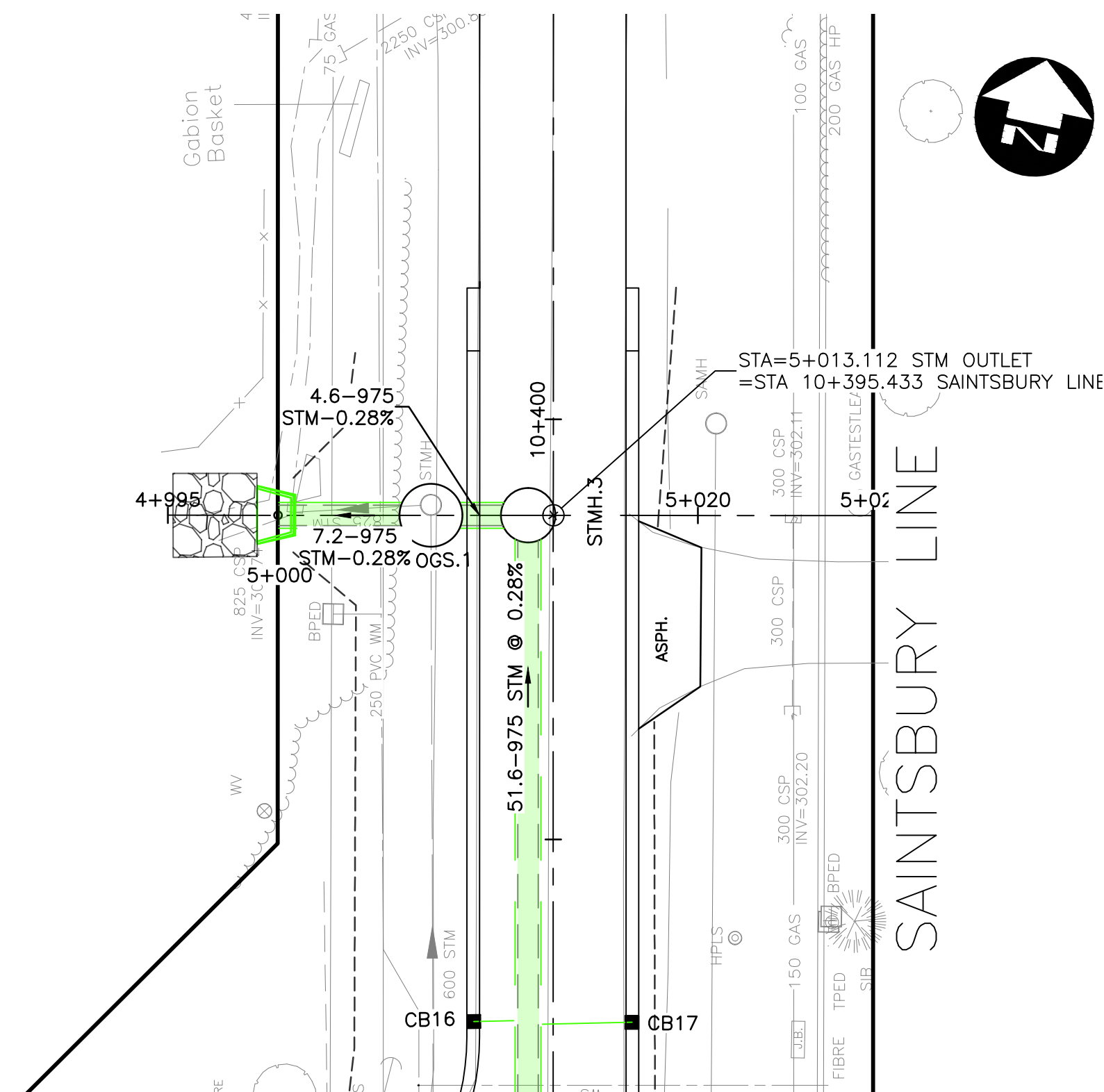
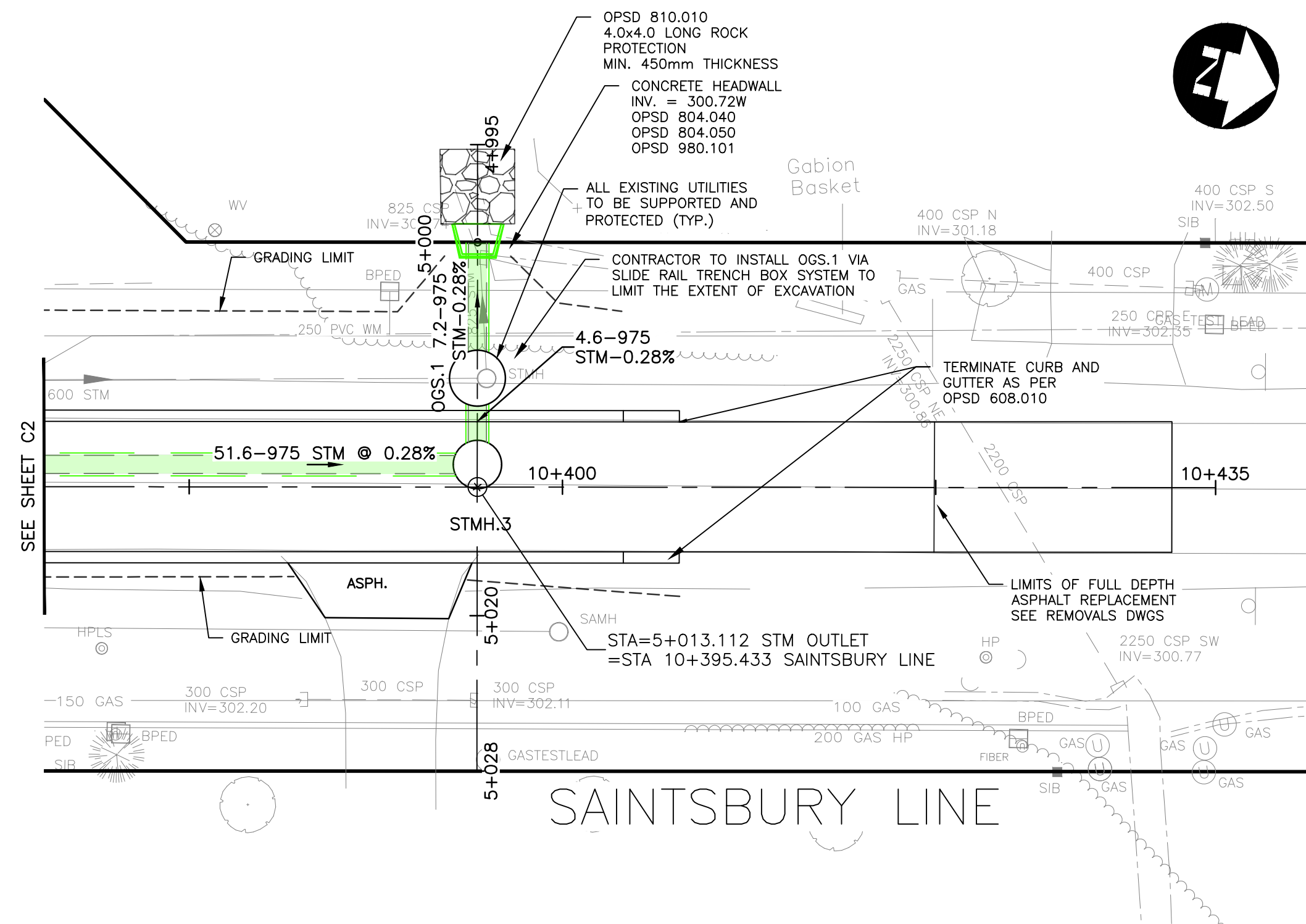
DESIGN: JCW
 REVIEWED: JDJ
 DRAWN: JCW
 CHECKED: JDJ
 DATE: FEBRUARY 2022
 SCALE: H: 1:250, V: 1:50

SAINTSBURY LINE AND ALICE STREET
TOWNSHIP OF LUCAN-BIDDULPH

NEW CONSTRUCTION
SAINTSBURY LINE STA. 10+190 TO STA. 10+380

PROJECT NO. 21-2406/1788
 SHEET NO. **C2**

FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS\2021\04\SAINTSBURY LINE\10+380-10+420-CONC.DWG PLOTTED BY: MEAVER, JARROLD\BILLION CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 9:35:51 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STD.ACT



Conditions of Use

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No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ
DRAWN	CHECKED BY
JCW	JDJ
DATE	FEBRUARY 2022
SCALE	H: 1:250 V: 1:50

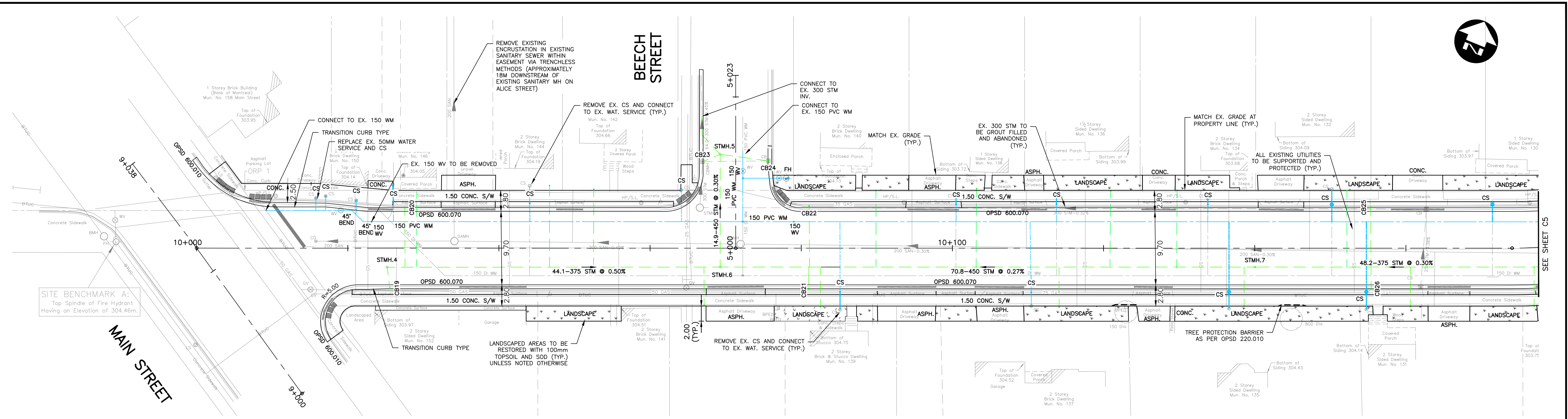
SAINTSBURY LINE AND ALICE STREET
TOWNSHIP OF LUCAN-BIDDULPH

PROJECT NO.
21-2406/1788

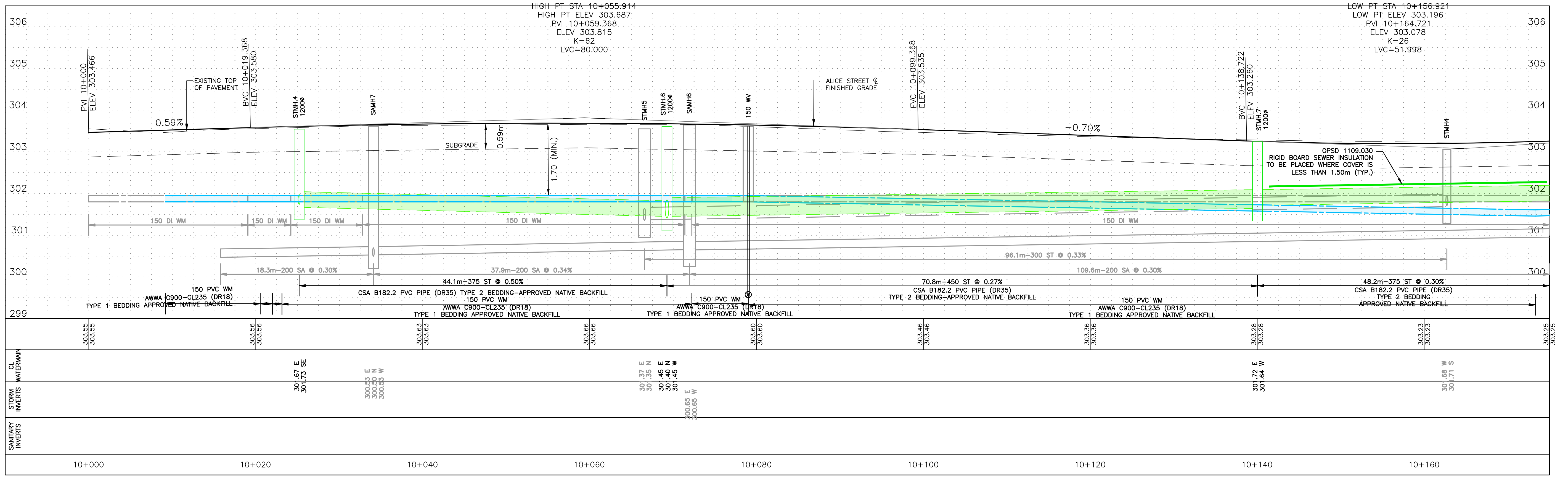
NEW CONSTRUCTION
SAINTSBURY LINE STA. 10+380
TO STA. 10+420

SHEET NO.
C3

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\CONSTRUCTION\211788-00-NC2-CON.DWG PLOTTED BY: GONSALVES, MARILYN CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, CANADA M6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-04-21 @ 12:42:17 PM PLOT SCALE: 1:25.4 PLOT SIZE: DILLON-STANDARD - NCG-02B



ALICE STREET



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2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ

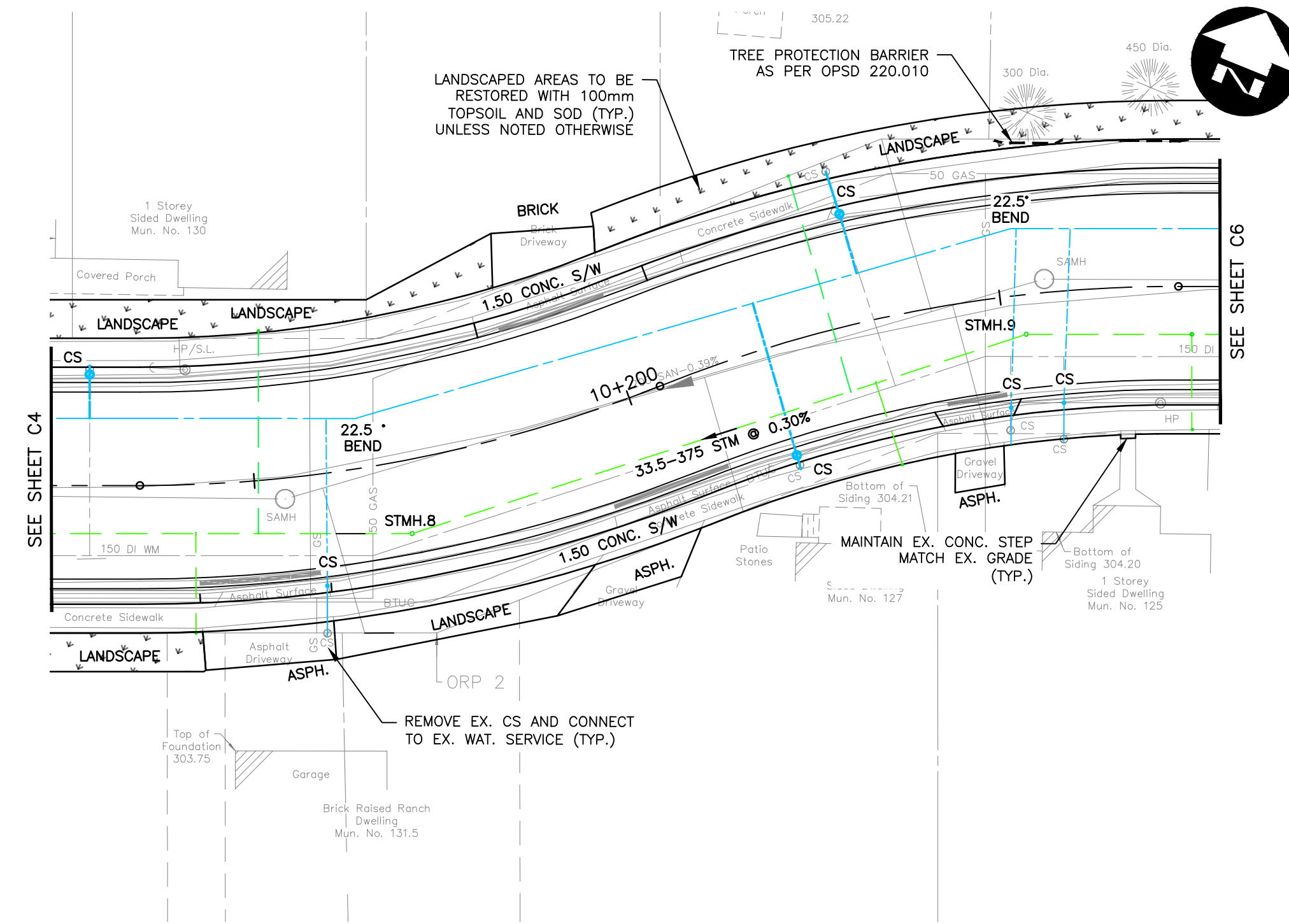
DATE	SCALE
FEBRUARY 2022	H: 1:250 V: 1:50

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

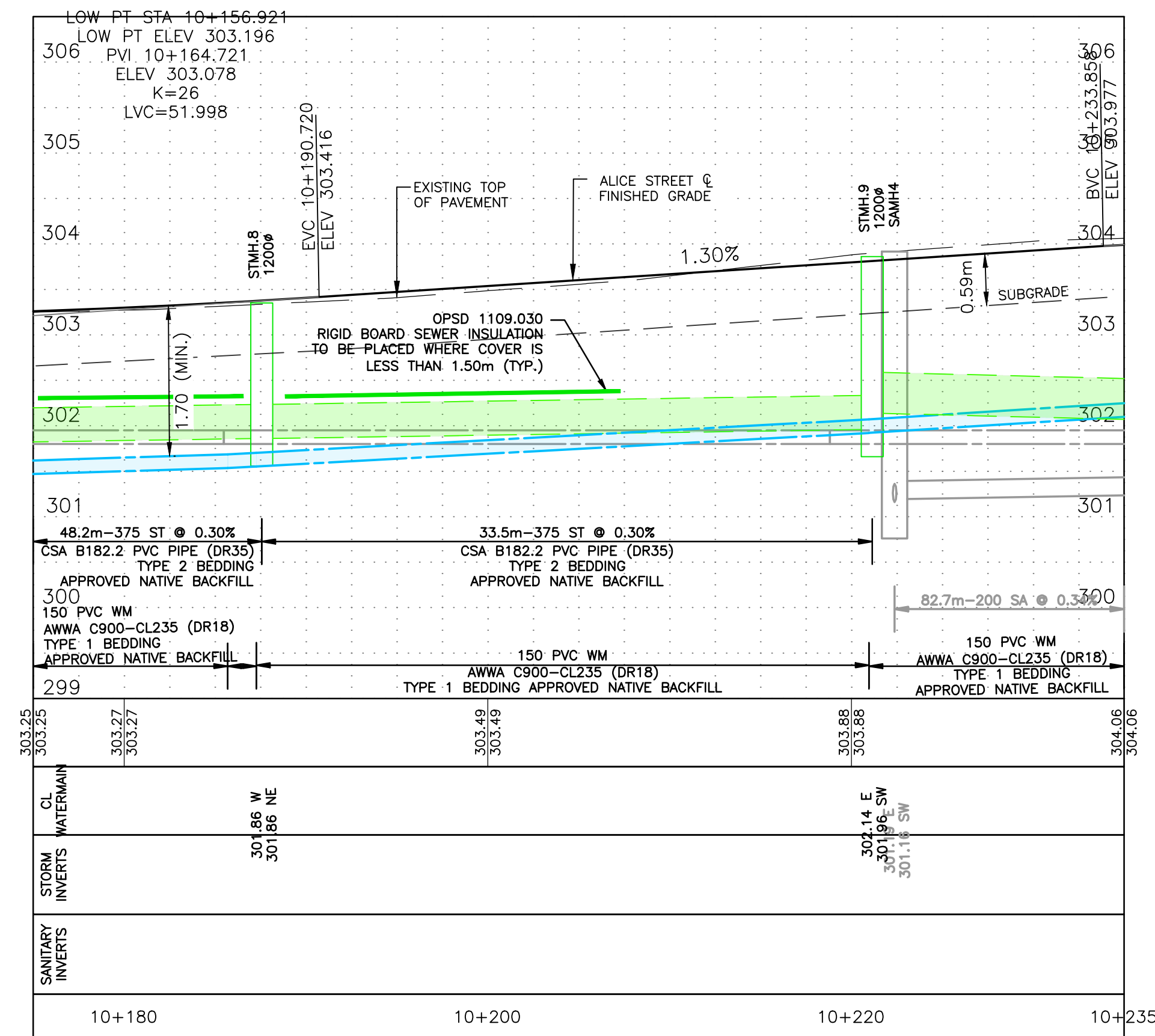
NEW CONSTRUCTION
 ALICE STREET STA. 10+000 TO STA. 10+160

PROJECT NO. 21-2406/1788
 SHEET NO. **C4**

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\LONGSDON\2375\211788-00-NC2-CON.DWG PLOTTED BY: GONSALVES, MARIAM CONSULTING LIMITED 130 DUFFERIN AVENUE LONDON, ONTARIO, M6A 5R2, PHONE (919) 438-6192, FAX (919) 672-8209
 PLOT DATE: 2022-02-21 @ 12:44:53 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD - NCC-07B



ALICE STREET



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DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	H: 1:250 V: 1:50		
NO.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

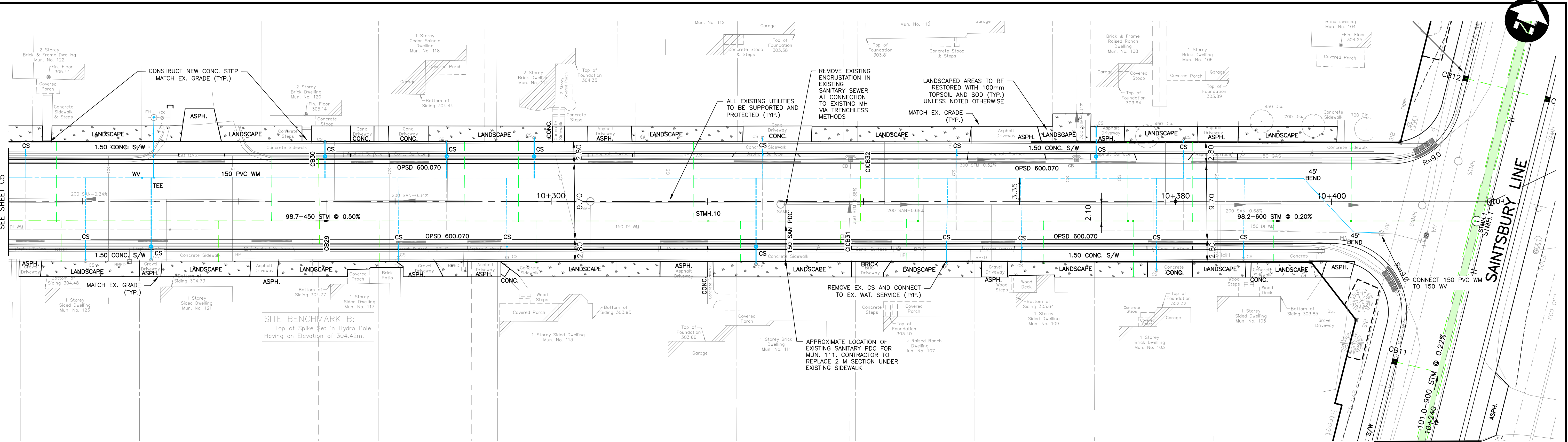
PROJECT NO. 21-2406/1788

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

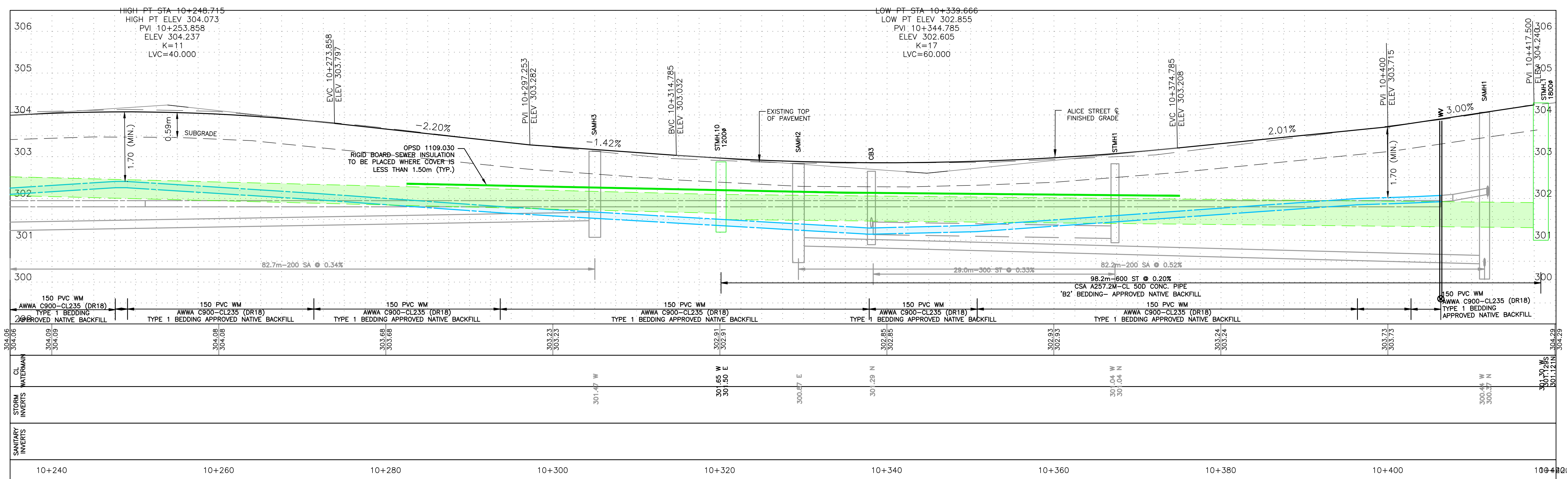
NEW CONSTRUCTION
 ALICE STREET STA. 10+160 TO STA. 10+230

SHEET NO. C5

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\CONSTRUCTION\211788-00-NC-CON.DWG PLOTTED BY: CONSALVES, MARILYN CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209
 PLOT DATE: 2022-04-21 @ 12:46:43 PM PLOT SCALE: 1:25.4 PLT. STYLE: DILLON-STANDARD - NCG-07B



ALICE STREET



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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ
DRAWN	CHECKED BY
JCW	JDJ
DATE	FEBRUARY 2022
SCALE	H: 1:250 V: 1:50

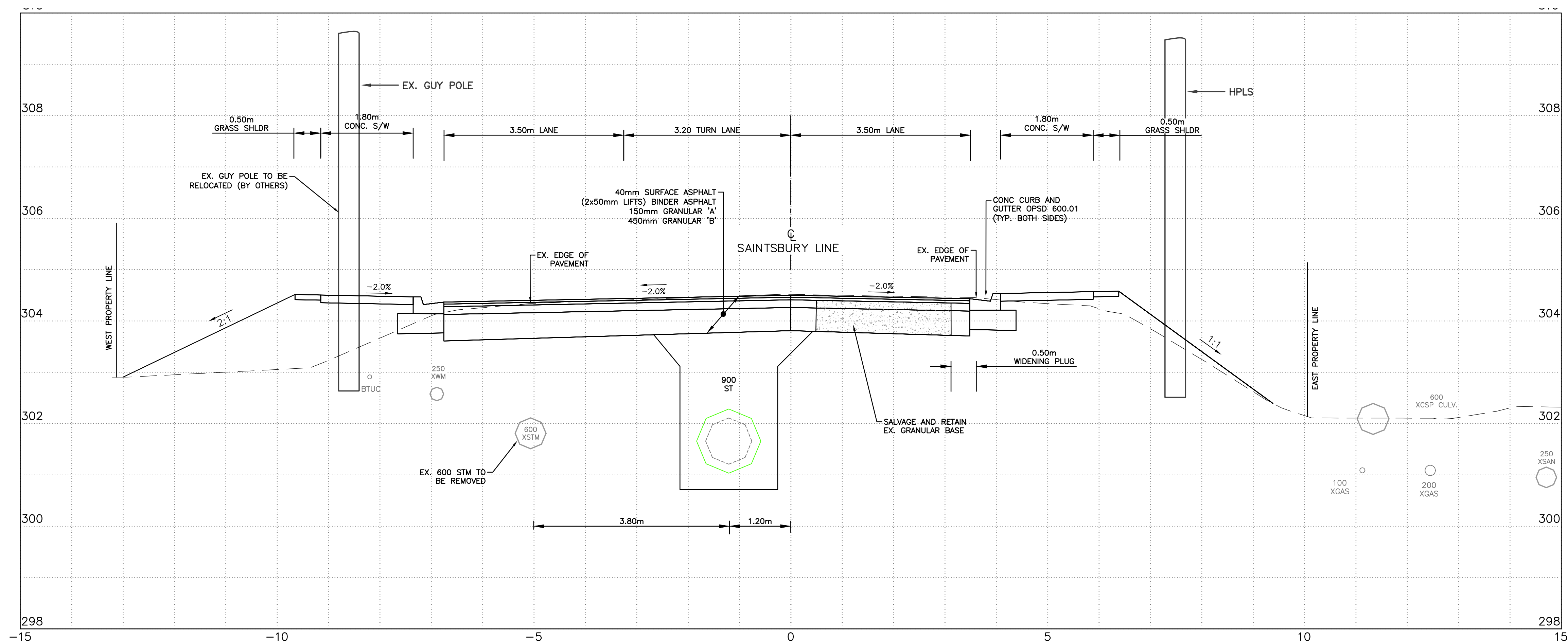
SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

NEW CONSTRUCTION
 ALICE STREET STA. 10+230 TO STA. 10+420.27

PROJECT NO.
21-2406/1788

SHEET NO.
C6

FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS_2021\0\WWW\23725\211788-02-TYP-CON.DWG PLOTTED BY: WEAVER, JARRON@DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209
 PLOT DATE: 2022-02-24 9:37:09 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



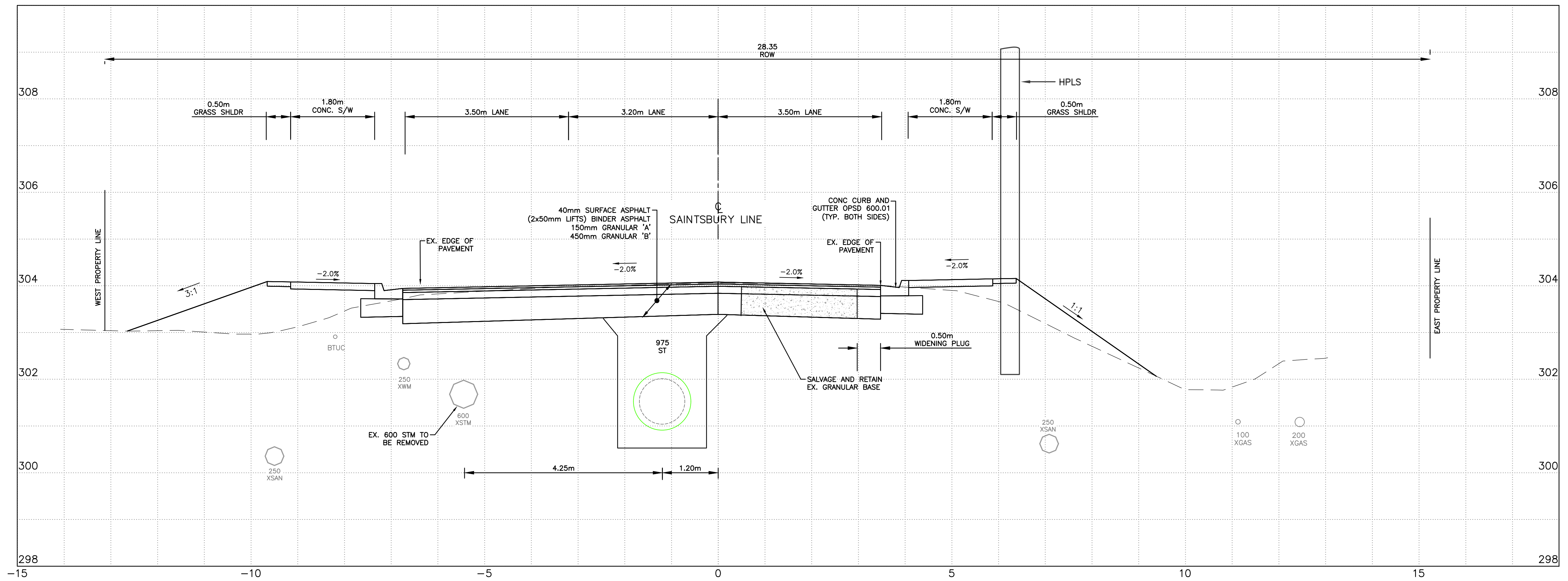
Conditions of Use
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No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN JCW	REVIEWED BY JDJ	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-2406/1788
DRAWN JCW	CHECKED BY JDJ		SHEET NO. TS1
DATE FEBRUARY 2022		TYPICAL SECTIONS SAINTSBURY LINE STA. 10+230	
SCALE 1:50			

FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS_2021\0\WWW\237275\211788-02-TYP-CON.DWG PLOTTED BY: WEAVER, JARRON@DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209
 PLOT DATE: 2022-02-24 9:32:11 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.ctb



Conditions of Use

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No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	1:50		

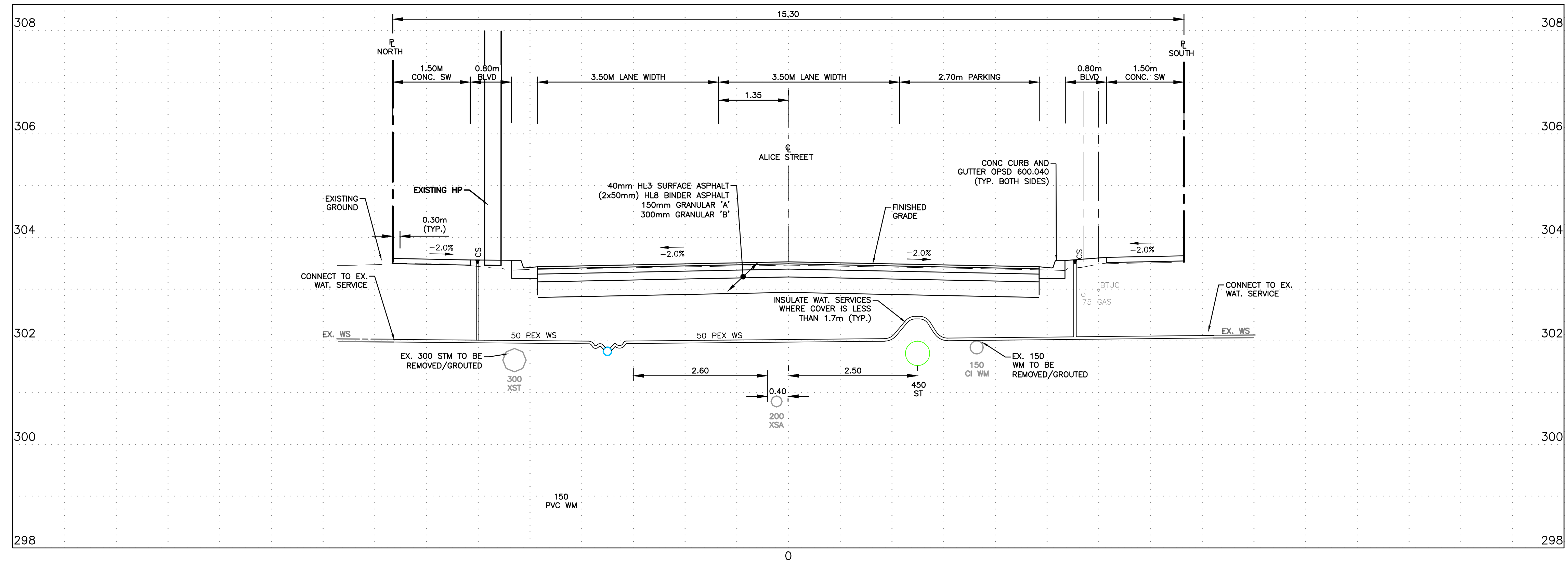
SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

TYPICAL SECTIONS
 SAINTSBURY LINE STA.
 10+300

PROJECT NO.
 21-2406/1788

SHEET NO.
TS2

FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS 2021\0\WWW\23725\211788-00-NCP-CON.DWG PLOTTED BY: WEAVER, JARROLD\BILLOW CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209
 PLOT DATE: 2022-02-24 9:27:22 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	1:50		

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

TYPICAL SECTIONS
 ALICE STREET, STA. 10+085

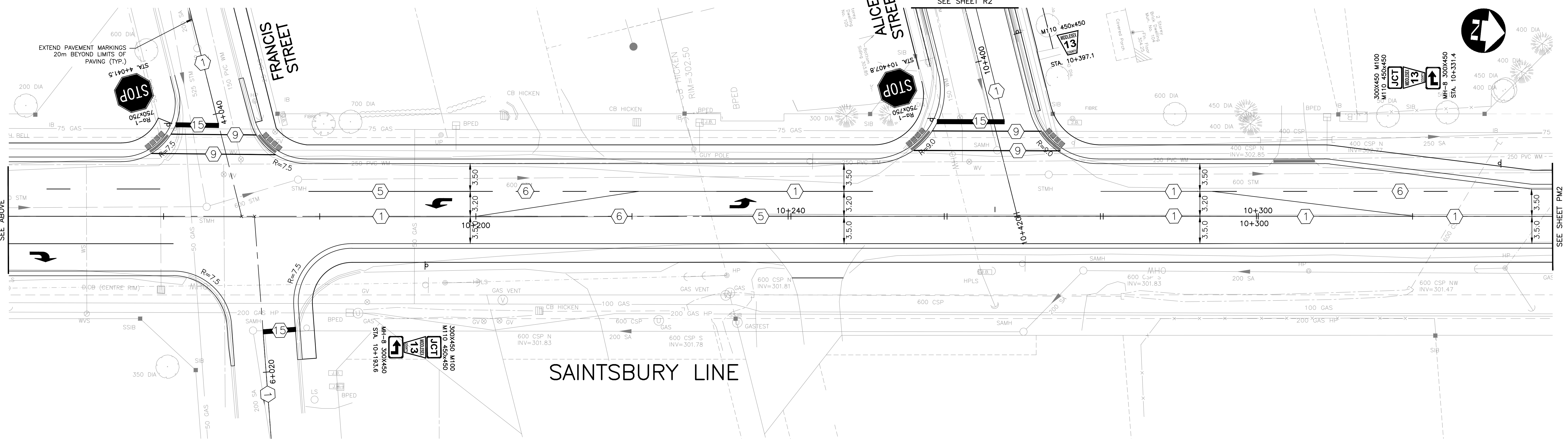
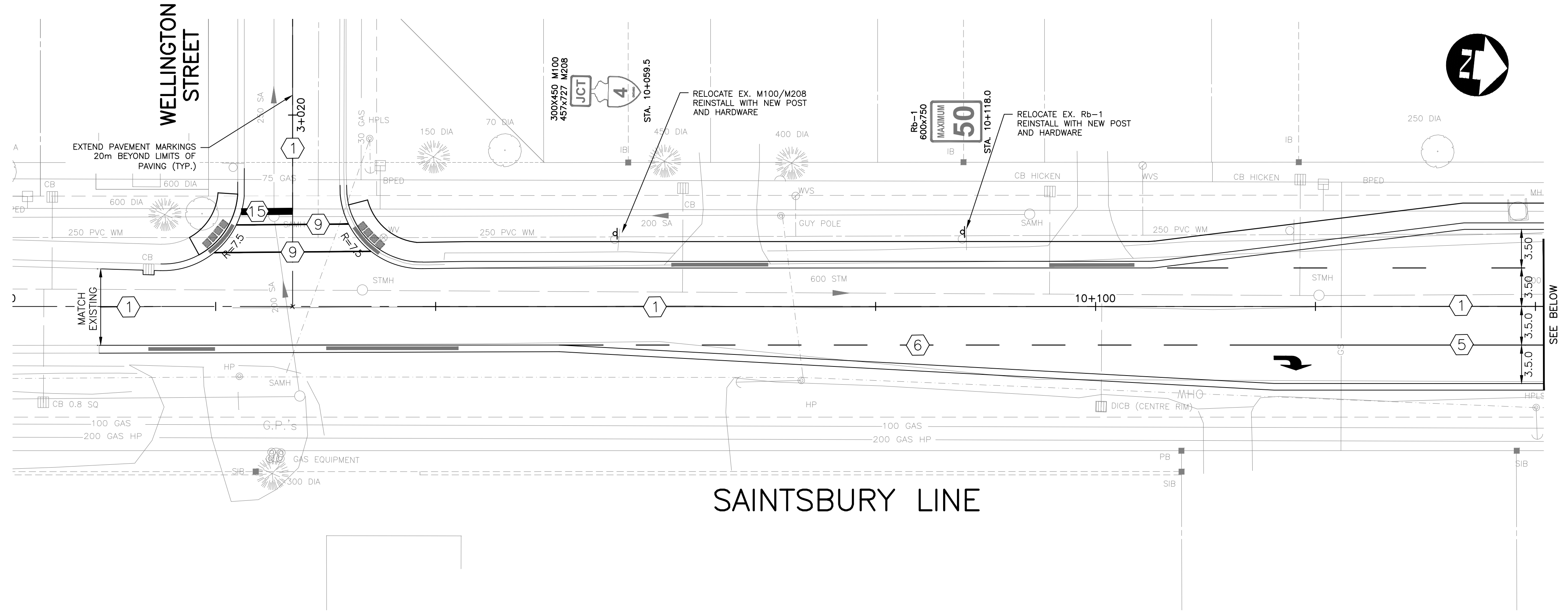
PROJECT NO.
 21-2406/1788

SHEET NO.
TS3

SUPPLEMENTAL PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,20cm
11	333 BROKEN WHITE,20cm
12	333 BROKEN WHITE,30cm
13	SOLID WHITE,30cm
14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
16	SOLID YELLOW,60cm
20	SYMBOLS
[]	LIMITS OF MARKINGS

- NOTES:**
- LANE DIMENSIONS PROVIDED ARE THE THEORETICAL LANE WIDTHS, NOT EFFECTIVE LANE WIDTHS
 - 333, 363, 393 DENOTES SPACING OF PAVEMENT MARKINGS (i.e., 3m LINE, 3m GAP, 3m LINE)
- ⊘ DENOTES PAVEMENT MARKING
 - # DENOTES PAVEMENT MARKING - TEMPORARY
 - ⊘ DENOTES PAVEMENT MARKING - TEMPORARY REMOVABLE
 - ⊘ DENOTES PAVEMENT MARKING - DURABLE



FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS_2021\10\MM\23725\211788-10-PMK-CON.DWG PLOTTED BY: MEAVER, JARROLD\BILLOU CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 @ 7:54:01 AM PLOT SCALE: 1:250 PLOT STYLE: DILLON-STANDARD.ctb

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DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	1:250		
NO.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

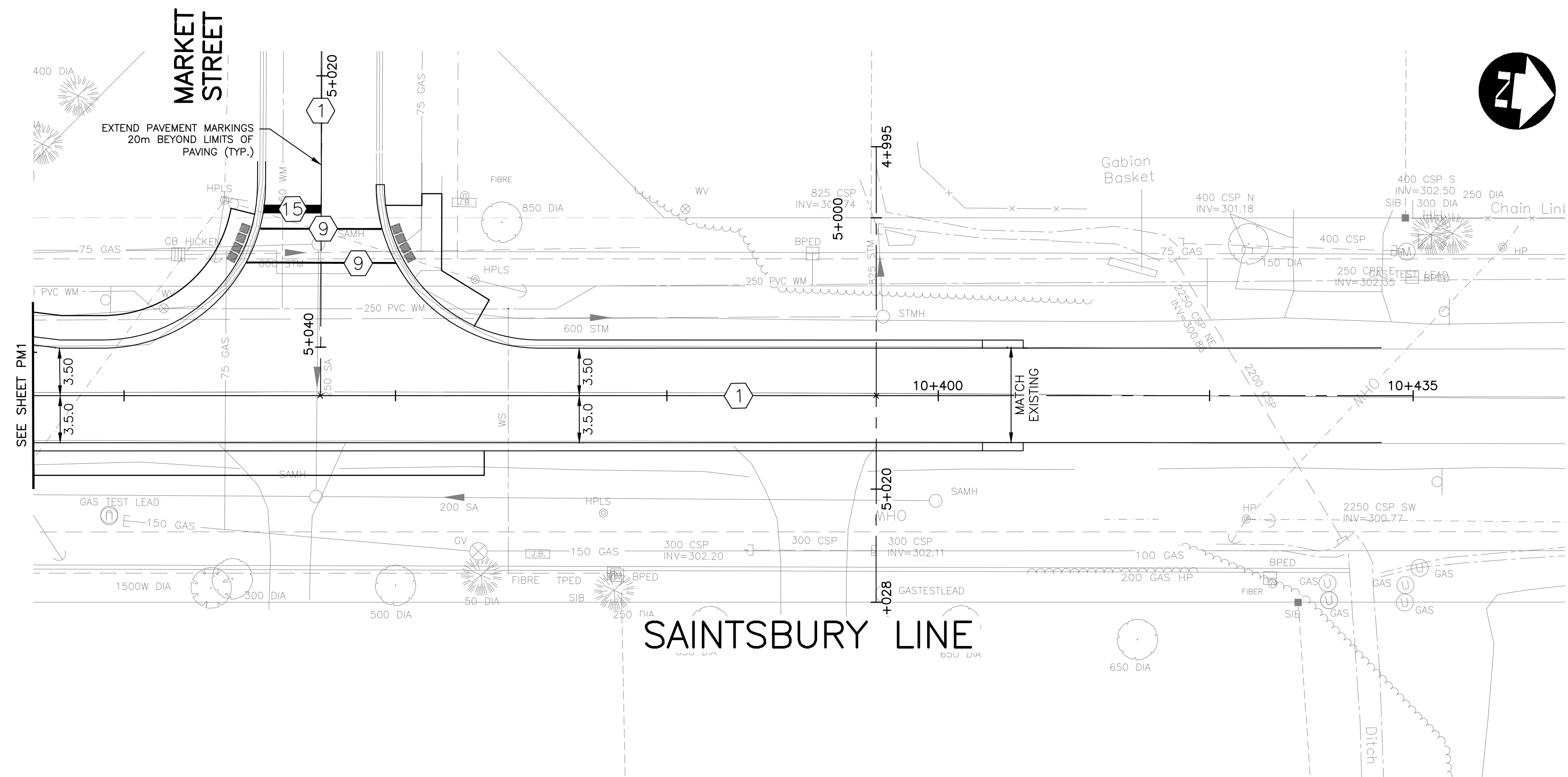
SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

PAVEMENT MARKINGS AND SIGNAGE PLAN
 SAINTSBURY LINE 10+000 TO 10+330

PROJECT NO.
21-2406/1788

SHEET NO.
PM1

FILENAME: C:\P\WORKING DIRECTORIES\PROJECTS 2021\00\MM\23725\211788-02-PMK-CON.DWG PLOTTED BY: MEYER, JARROLD\ILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 436-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 @ 10:50:05 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	REVIEWED BY
JCW	JDJ

DRAWN	CHECKED BY
JCW	JDJ

DATE	DATE
FEBRUARY 2022	

SCALE	SCALE
1:250	

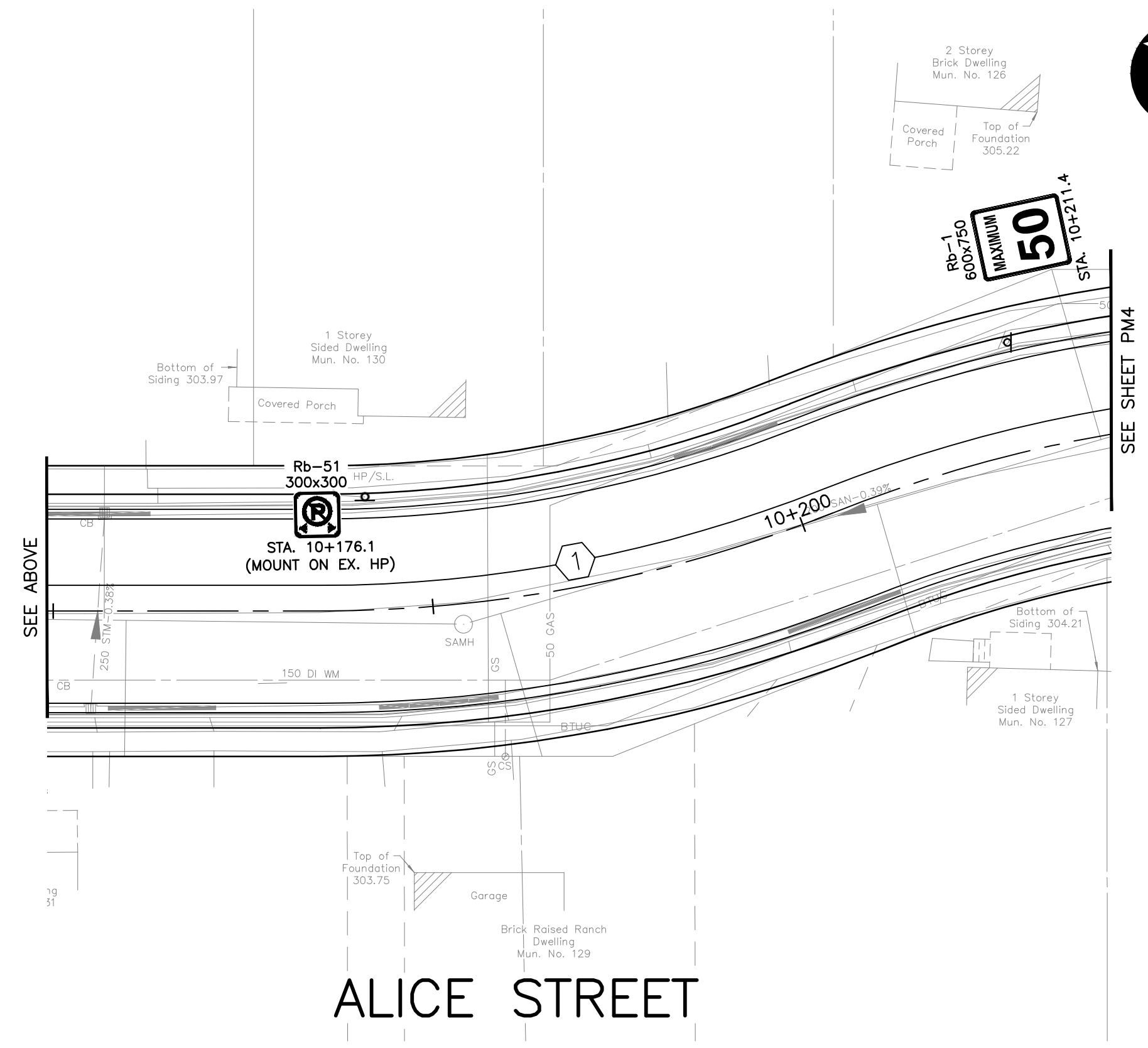
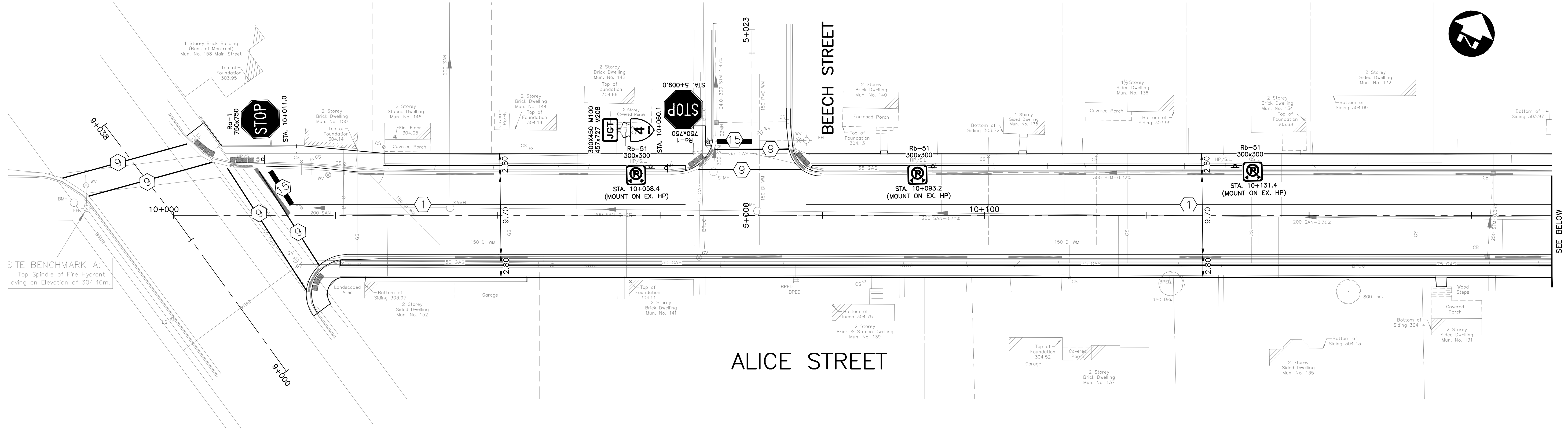
SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

PAVEMENT MARKINGS AND SIGNAGE PLAN
 SAINTSBURY LINE 10+330 TO STA. 10+420.110

PROJECT NO.
 21-2406/1788

SHEET NO.
PM2

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS 2021\QJ\MM\DM52375\211788-02-PMK-COULDWG PLOTTED BY: WEAVER, JARROD DILLON CONSULTING LIMITED 100 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8929
 PLOT DATE: 2022-02-24 @ 15:41:11 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

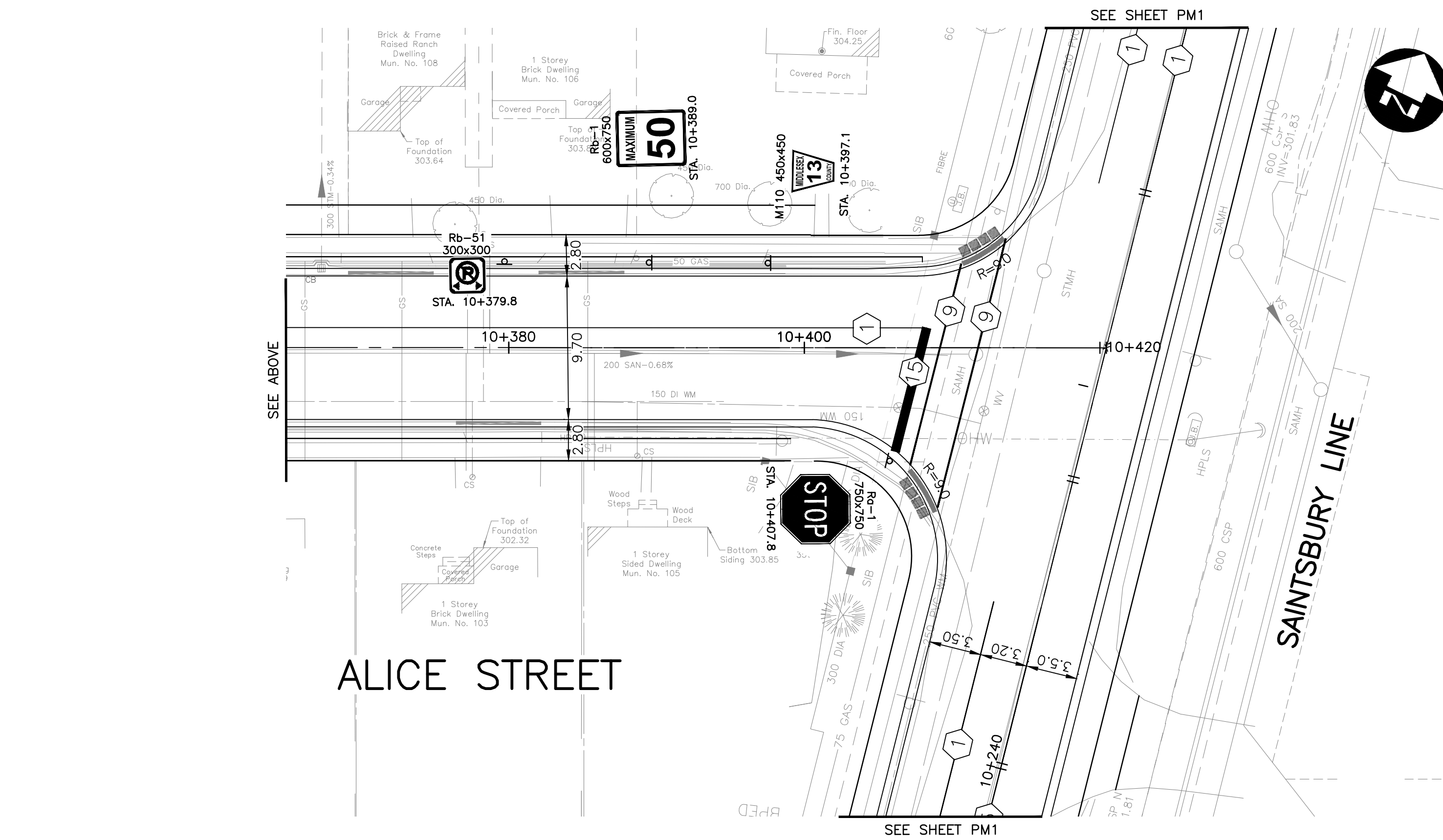
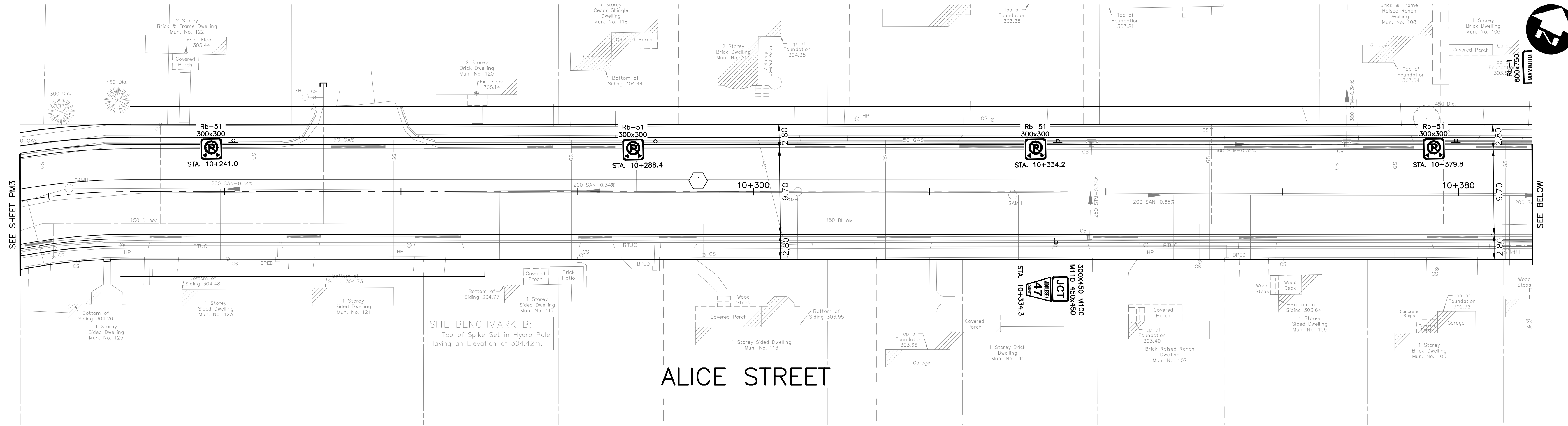


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2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN JCW	REVIEWED BY JDJ	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-2406/1788
DRAWN JCW	CHECKED BY JDJ		SHEET NO. PM3
DATE FEBRUARY 2022		PAVEMENT MARKINGS AND SIGNAGE PLAN ALICE STREET STA. 10+000 TO STA. 10+230	
SCALE 1:250			



FILENAME: C:\PW\WORKING\DIRECTOR\PROJECTS\2021\04\MM\23725\211788-02-PMK-CON\DWG PLOTTED BY: MEAVER, JARROLD\ILLON CONSULTING LIMITED 180 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5S2, PHONE (519) 438-6192, FAX (519) 672-8209
 PLOT DATE: 2022-02-24 07:35:18 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

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2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE	1:250		

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

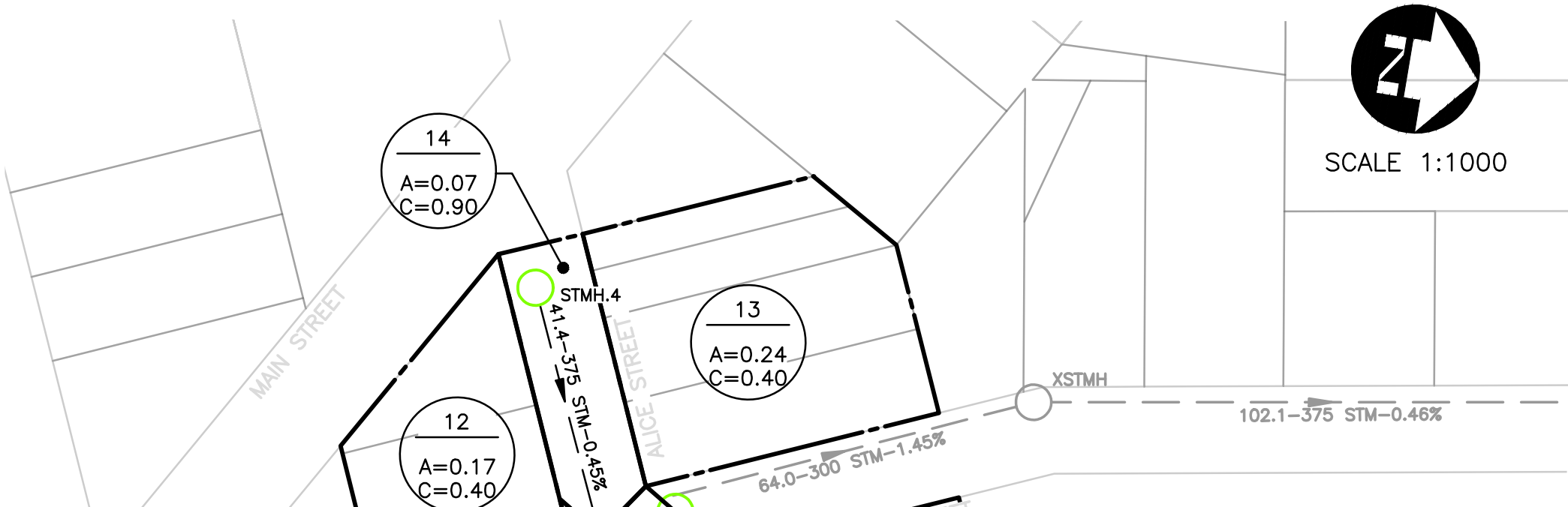
PAVEMENT MARKINGS AND SIGNAGE PLAN
 ALICE STREET STA. 10+230 TO STA. 10+420.427

PROJECT NO.
21-2406/1788

SHEET NO.

PM4

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\04\STMA-CONDWG\211788-04-STMA-CONDWG_PLOTTED BY: WEAVER, JARROLD\CON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, M6A 5P2, PHONE (519) 438-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 07:35:35 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



- LEGEND**
- EXISTING STORM SEWER
 - 375 ST PROPOSED STORM SEWER
 - PROPOSED STORM MANHOLE
 - STORM DRAINAGE AREA
 - DESC. No.
AREA SIZE
RUNOFF COEFFICIENT
 - STORM DRAINAGE AREA LIMITS
 - EXTERNAL STORM DRAINAGE AREA

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3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
2	ISSUED FOR TENDER	2022-02-28	AMB
1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

DESIGN JCW	REVIEWED BY JDJ	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-2406/1788
DRAWN JCW	CHECKED BY JDJ		SHEET NO.
DATE FEBRUARY 2022		STORM SEWER SYSTEM STORM SEWER DRAINAGE AREA PLAN	ST1
SCALE AS SHOWN			

STORM SEWER DESIGN SHEET

RUNOFF COEFFICIENT 'C' VALUES

THE FOLLOWING 'C' VALUES WILL APPLY WHEN DESIGNING STORM SEWERS:
 PARKS, OPEN SPACE 0.20
 SINGLE FAMILY/SEMI DETACHED 0.50 - 0.55
 TOWNHOUSE/ROWHOUSE 0.65
 APARTMENTS 0.65 - 0.70
 COMMERCIAL, INSTITUTIONAL & INDUSTRIAL 0.70 - 0.90
 DENSELY BUILT, PAVED 0.90

FLOW Q=2.78 x C x A x I

WHERE Q = PEAK FLOW IN LITRES PER SECOND (L/sec)
 A = AREA IN HECTARES (Ha)
 C = RUNOFF COEFFICIENT
 I = RAINFALL INTENSITY (mm/hr)
 RETURN PERIOD = 2 YEARS

DATE: 28-Feb-22

DESIGNED BY: JCW

PROJECT NAME: Alice Street and Saintsbury Line Storm Sewer, Township of Lucan-Biddulph

PROJECT FILE NO.: 211788/212406

Area No.	LOCATION	From Manhole	To Manhole	AREA		C	AxC	TOTAL (A X C)			RAINFALL INTENSITY				SEWER DESIGN				PROFILE							
				Delta Hectares	Total Hectares			Total Section	Total Lateral	Total Sewer	Total 2.78AxC	Time Entry (min)	Intensity mm/hr	Q L/sec	n	Pipe Size mm	Slope %	Capacity L/sec	Velocity m/sec	Length m	Time of Flow	Fall in Sewer	Headloss	Drop in U.S. M.H.	Invert Elevation U.S.	D.S.
EXT1	Saintsbury Line			3.50	3.50			2.37			6.59	1.17	23.40	67.36	443.81	0.013	600	0.65	495.03	1.75	43.90	0.42	0.285	0.010		
EXT2	Francis Street			1.97	1.97	0.60	1.18	1.18			3.29	24.33	47.73	39.77	130.68	0.013	600	0.65	495.03	1.75	43.90	0.42	0.285	0.010		
1	Saintsbury Line			0.17	5.64	0.40	0.07	0.07			0.19															
2	Saintsbury Line			0.22	5.86	0.90	0.20	3.82			10.61															
3	Saintsbury Line	XSTMH	STMH.1	0.16	6.02	0.40	0.06	3.88			10.79	0.42	23.82	66.59	718.67	0.013	900	0.22	849.11	1.33	101.00	1.26	0.222		301.350	301.129
4A	Alice Street			0.55	0.55	0.40	0.22	0.22			0.61															
4B	Alice Street			0.53	1.08	0.40	0.21	0.43			1.20															
4C	Alice Street	STMH.9	STMH.10	0.17	1.25	0.90	0.15	0.59			1.63	19.00	19.00	76.56	124.51	0.013	450	0.50	201.60	1.27	98.70	1.30	0.494		302.140	301.647
4D	Alice Street			0.21	1.46	0.40	0.08	0.67			1.86															
4E	Alice Street			0.21	1.67	0.40	0.08	0.75			2.09															
4F	Alice Street	STMH.10	STMH.1	0.13	1.80	0.90	0.12	0.87			2.42	1.30	20.30	73.61	178.03	0.013	600	0.20	274.59	0.97	98.20	1.69	0.196	0.150	301.497	301.300
4G	Saintsbury Line			0.18	8.00	0.40	0.07	4.82			13.41															
5	Saintsbury Line			0.24	8.24	0.90	0.22	5.04			14.01															
6	Saintsbury Line			0.25	8.49	0.40	0.10	5.14			14.29															
7	Saintsbury Line			0.17	8.66	0.40	0.07	5.21			14.48															
8	Saintsbury Line	STMH.1	STMH.2	0.75	9.41	0.20	0.15	6.23			17.31	1.26	25.08	64.38	1114.61	0.013	975	0.25	1120.53	1.50	77.30	0.86	0.193	0.010	301.121	300.928
9	Saintsbury Line			0.11	9.52	0.40	0.04	6.27			17.44															
10	Saintsbury Line			0.34	9.86	0.40	0.14	6.41			17.81															
11	Saintsbury Line	STMH.2	STMH.3	0.23	10.09	0.90	0.21	6.62			18.39	0.86	25.94	62.95	1157.55	0.013	975	0.28	1185.85	1.59	51.60	0.54	0.144	0.010	300.918	300.773
	Saintsbury Line	STMH.3	OGS.1		10.09						18.39	0.54	26.48	62.95	1157.55	0.013	975	0.28	1185.85	1.59	4.60	0.05	0.013	0.010	300.763	300.750
	Saintsbury Line	OGS.1	OUTLET		10.09						18.39	0.05	26.53	62.95	1157.55	0.013	975	0.28	1185.85	1.59	7.20	0.08	0.020	0.010	300.740	300.720
12	Alice Street			0.17	0.17	0.40	0.07	0.07			0.19															
13	Alice Street			0.24	0.41	0.40	0.10	0.16			0.46															
14	Alice Street	STMH.4	STMH.6	0.07	0.48	0.90	0.06	0.23			0.63		19.00	76.56	48.31	0.013	375	0.50	123.98	1.12	44.10	0.65	0.221		301.670	301.450
18	Alice Street			0.20	0.20	0.40	0.08	0.08			0.22															
19	Alice Street			0.21	0.41	0.40	0.08	0.16			0.46															
20	Alice Street	STMH.9	STMH.8	0.10	0.51	0.90	0.09	0.25			0.71		19.00	76.56	54.06	0.013	375	0.30	96.03	0.87	33.50	0.64	0.101		301.960	301.860
	Alice Street	STMH.8	STMH.7		0.51	0.90	0.00	0.25			0.71	0.64	19.64	75.07	53.01	0.013	375	0.30	96.03	0.87	48.20	0.92	0.145		301.860	301.715
15	Alice Street			0.27	0.78	0.40	0.11	0.36			1.01															
16	Alice Street			0.40	1.18	0.40	0.16	0.52			1.45															
17	Alice Street	STMH.7	STMH.6	0.14	1.32	0.90	0.13	0.65			1.80	0.92	20.57	73.03	131.55	0.013	450	0.27	148.15	0.93	70.80	1.27	0.191	0.070	301.645	301.454
	Alice Street	STMH.6	STMH.5		1.80			0.65			1.80	0.65	19.65	75.04	135.19	0.013	450	0.30	156.16	0.98	14.90	0.25	0.045	0.050	301.404	301.359

FILENAME: C:\PW\WORKING DIRECTORIES\PROJECTS\2021\00\00\00\21788-04-STM-COND.WMG PLOTTED BY: WEAVER, JARRON\LOW CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, M6A 5R2, PHONE (519) 435-6192, FAX (519) 672-8208
 PLOT DATE: 2022-02-24 8:35:36 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

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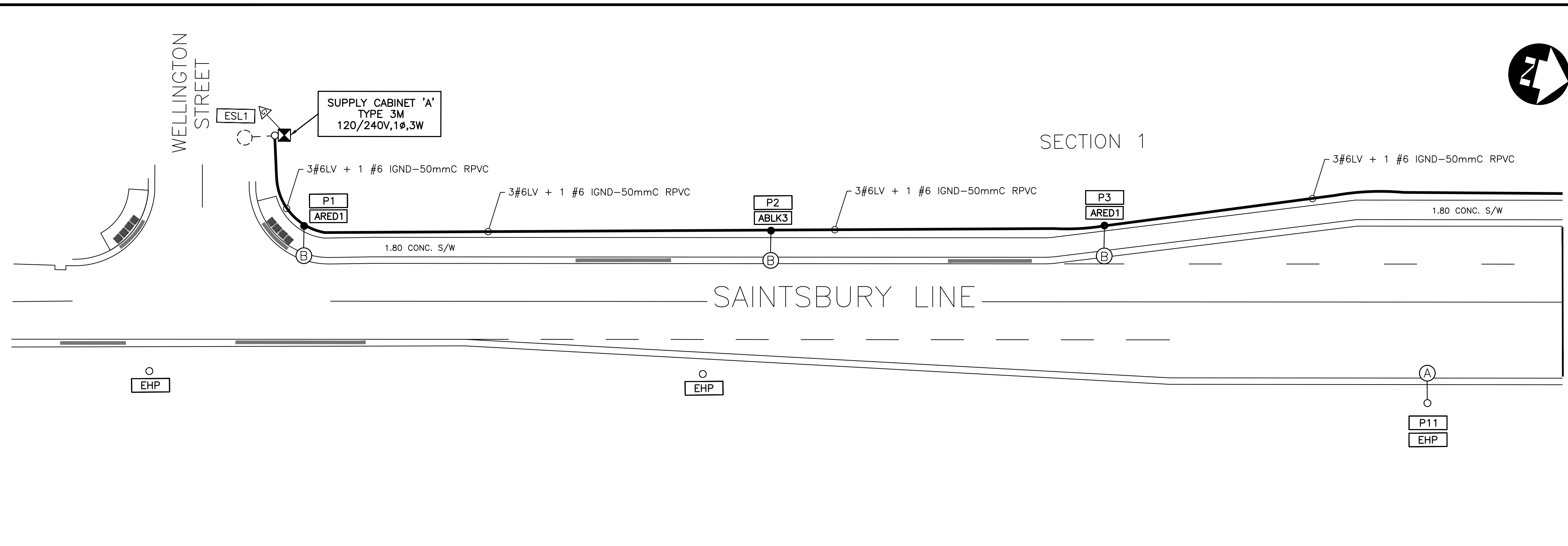
DESIGN	JCW	REVIEWED BY	JDJ
DRAWN	JCW	CHECKED BY	JDJ
DATE	FEBRUARY 2022		
SCALE			
No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022-05-02	NCG
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1	ISSUED FOR FINAL CLIENT REVIEW	2022-02-04	JCW

SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

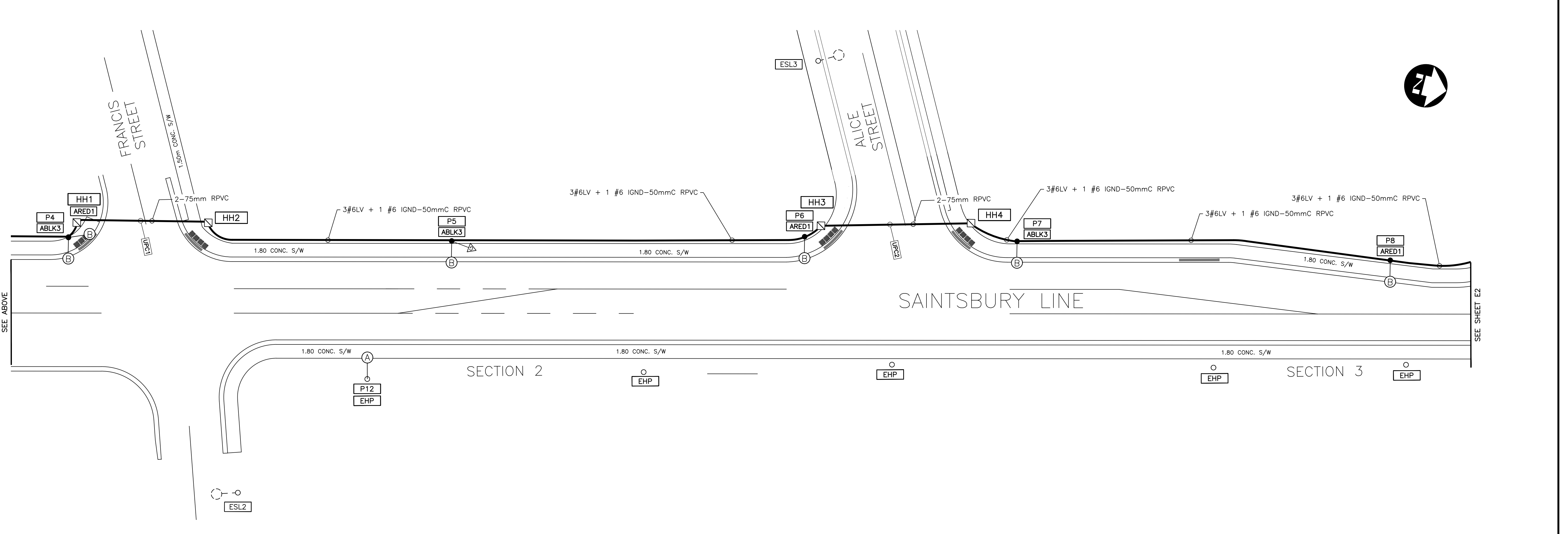
PROJECT NO. 21-2406/1788

STORM SEWER SYSTEM
 STORM SEWER DESIGN SHEET

SHEET NO. ST2



- LEGEND**
- PHOTOMETRIC LEGEND ACUITY BRANDS (AEL)**
- Ⓐ 88W_ATB0 P204 MVOLT R3 NL P7 A0 PCLL HSS REPLACING
 - Ⓑ EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - Ⓒ 88W_ATB0 P204 MVOLT R3 NL P7 A0 PCLL HSS MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE
- PHOTOMETRIC LEGEND GE LIGHTING**
- Ⓐ 98W_ERLH 0 11 C3 40 E GRAY I L R V1 ELSHS REPLACING
 - Ⓑ EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - Ⓒ 98W_ERLH 0 11 C3 40 E GRAY I L R V1 ELSHS MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE
- PHOTOMETRIC LEGEND COOPER**
- Ⓐ 83W_ARCH M PA2 80 740 U T3 AP HSS 10MSP LLPC FADC PR7 REPLACING EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - Ⓑ 83W_ARCH M PA2 80 740 U T3 AP HSS 10MSP LLPC FADC PR7 MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE

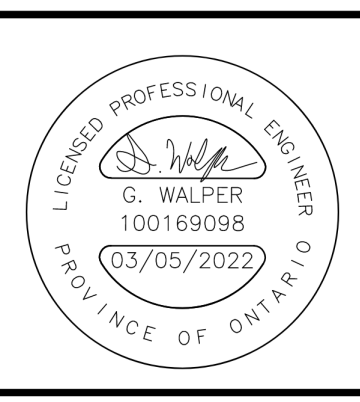


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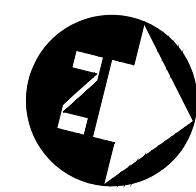
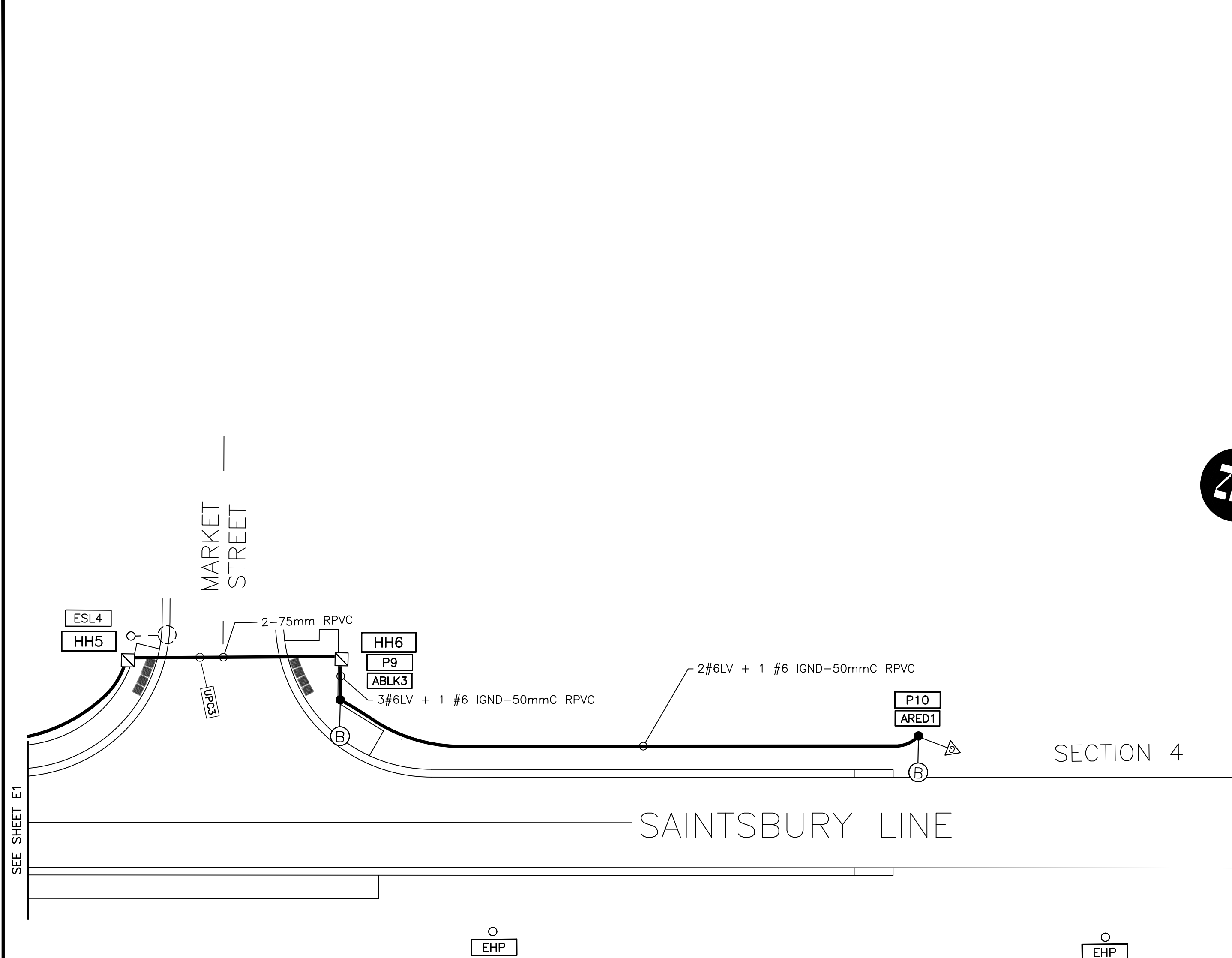
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2	ISSUED FOR CLIENT TENDER	2022.02.28	GDW
1	ISSUED FOR CLIENT REVIEW	2021.11.15	EAC

DESIGN EAC	REVIEWED BY GDW	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-1788
DRAWN EAC	CHECKED BY GDW		SHEET NO. E1
ELECTRICAL STREET LIGHTING LAYOUT			



GENERAL NOTES:

- A. THE TOWNSHIP OF LUCAN AND DILLON CONSULTING LIMITED DO NOT GUARANTEE THE ACCURACY OF THE UTILITIES SHOWN ON THE DRAWINGS. OTHER UTILITIES MAY BE PRESENT OR THE UTILITIES SHOWN MAY DIFFER IN SIZE OR LOCATION FROM THOSE SHOWN. THE CONTRACTOR SHALL NOTE THAT SERVICES FROM THE MAIN LINES ARE NOT SHOWN. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES AND TO REPAIR ANY DAMAGE IT MAY CAUSE TO THESE UTILITIES OR TO OTHER THIRD PARTIES. THE CONTRACTOR AGREES TO INDEMNIFY THE OWNER AND DILLON CONSULTING LIMITED AGAINST ANY CLAIMS WHICH MAY ARISE FROM THE CONTRACTOR'S ACTIONS.
- B. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (LATEST EDITION) AND THE REQUIREMENTS OF THE TOWNSHIP OF LUCAN.
- C. ANY WORKER PERFORMING WORK ON OR NEAR ELECTRICAL TRANSMISSION OR ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE CERTIFIED UNDER THE UTILITY WORK PROTECTION CODE LATEST EDITION. WORK SHALL BE PERFORMED IN ACCORDANCE TO THE ELECTRICAL SAFETY RULES AS PUBLISHED BY THE ELECTRICAL AND UTILITIES SAFETY ASSOCIATION OF ONTARIO AND THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT FOR CONSTRUCTION PROJECTS.
- D. ALL ELECTRICAL WORK PERFORMED MUST MEET THE REQUIREMENTS OF THE ONTARIO ELECTRICAL SAFETY CODE, WHICH INCLUDES INSPECTIONS BY THE ELECTRICAL SAFETY AUTHORITY.
- E. CHECK ALL FIELD CONDITIONS AND ALL DIMENSIONS, REPORT ANY INCONSISTENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS. CONTRACTOR SHALL HOLD SITE MEETING WITH CONSULTING ENGINEER AFTER UTILITY LOCATES AND PRIOR TO VACUUMING FOR POLE BASES (IF NECESSARY).
- F. ALL FINAL CONNECTIONS OF LUMINARIES TO POLES ARE NOT DETAILED ON THIS DRAWING. ALL CONNECTIONS INCLUDING HOW THE LUMINARIES ARE INSTALLED IS TO BE FINALIZED AND COMPLETED ON SITE AND APPROVED BY HYDRO ONE
- G. CONTRACTOR IS REQUIRED TO COORDINATE WITH HYDRO ONE FOR THE LUMINAIRE CONNECTIONS AND POWER SUPPLY

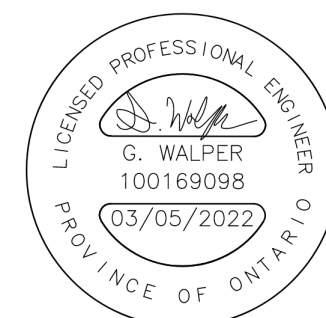
LEGEND

- PHOTOMETRIC LEGEND ACUITY BRANDS (AEL)**
- 88W_ATBO P204 MVOLT R3 NL P7 AO PCLL HSS REPLACING EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - 88W_ATBO P204 MVOLT R3 NL P7 AO PCLL HSS MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE
- PHOTOMETRIC LEGEND GE LIGHTING**
- 98W_ERLH 0 11 C3 40 E GRAY I L R V1 ELSHS REPLACING EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - 98W_ERLH 0 11 C3 40 E GRAY I L R V1 ELSHS MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE
- PHOTOMETRIC LEGEND COOPER**
- 83W_ARCH M PA2 80 740 U T3 AP HSS 10MSP LLPC FADC PR7 REPLACING EXISTING LUMINAIRE ON HYDRO POLE, LLF: 0.9
 - 83W_ARCH M PA2 80 740 U T3 AP HSS 10MSP LLPC FADC PR7 MOUNTING HEIGHT: 8.5m, BASE MOUNTING, ON ALUMINUM POLE, 2.4m ARM, LLF: 0.9
 - EXISTING LUMINAIRE

ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS)

- 106 GENERAL SPECIFICATION FOR ELECTRICAL WORK
- 602 CONSTRUCTION SPECIFICATION FOR ELECTRICAL CHAMBERS
- 603 CONSTRUCTION SPECIFICATION FOR INSTALLATION OF DUCTS
- 604 CONSTRUCTION SPECIFICATION FOR INSTALLATION OF CABLE
- 609 CONSTRUCTION SPECIFICATION FOR GROUNDING
- 614 CONSTRUCTION SPECIFICATION FOR POWER SUPPLY EQUIPMENT
- 615 CONSTRUCTION SPECIFICATION FOR INSTALLATION OF POLES
- 616 CONSTRUCTION SPECIFICATION FOR FOOTINGS AND PADS
- 617 CONSTRUCTION SPECIFICATION FOR ROADWAY LUMINAIRES

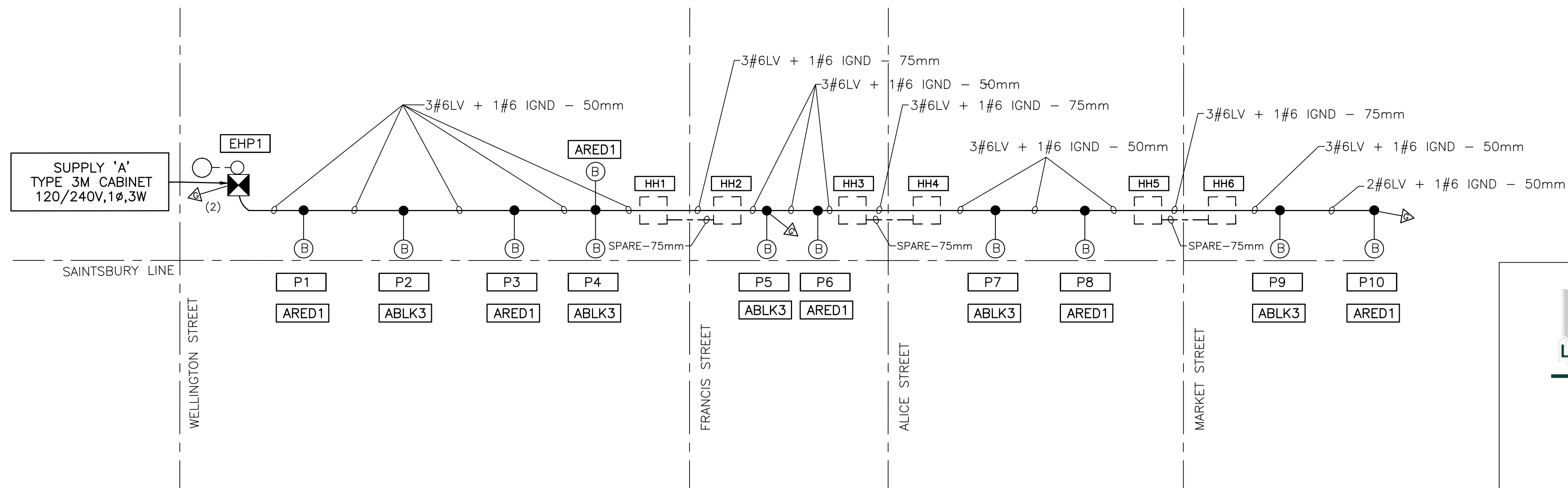
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DESIGN EAC	REVIEWED BY GDW	SAINTSBURY LINE AND ALICE STREET TOWNSHIP OF LUCAN-BIDDULPH	PROJECT NO. 21-1788
DRAWN EAC	CHECKED BY GDW		SHEET NO. E2
DATE APRIL 25, 2022		ELECTRICAL STREET LIGHTING LAYOUT	
SCALE 1:250			

WIRING DIAGRAM



SUPPLEMENTARY LEGEND

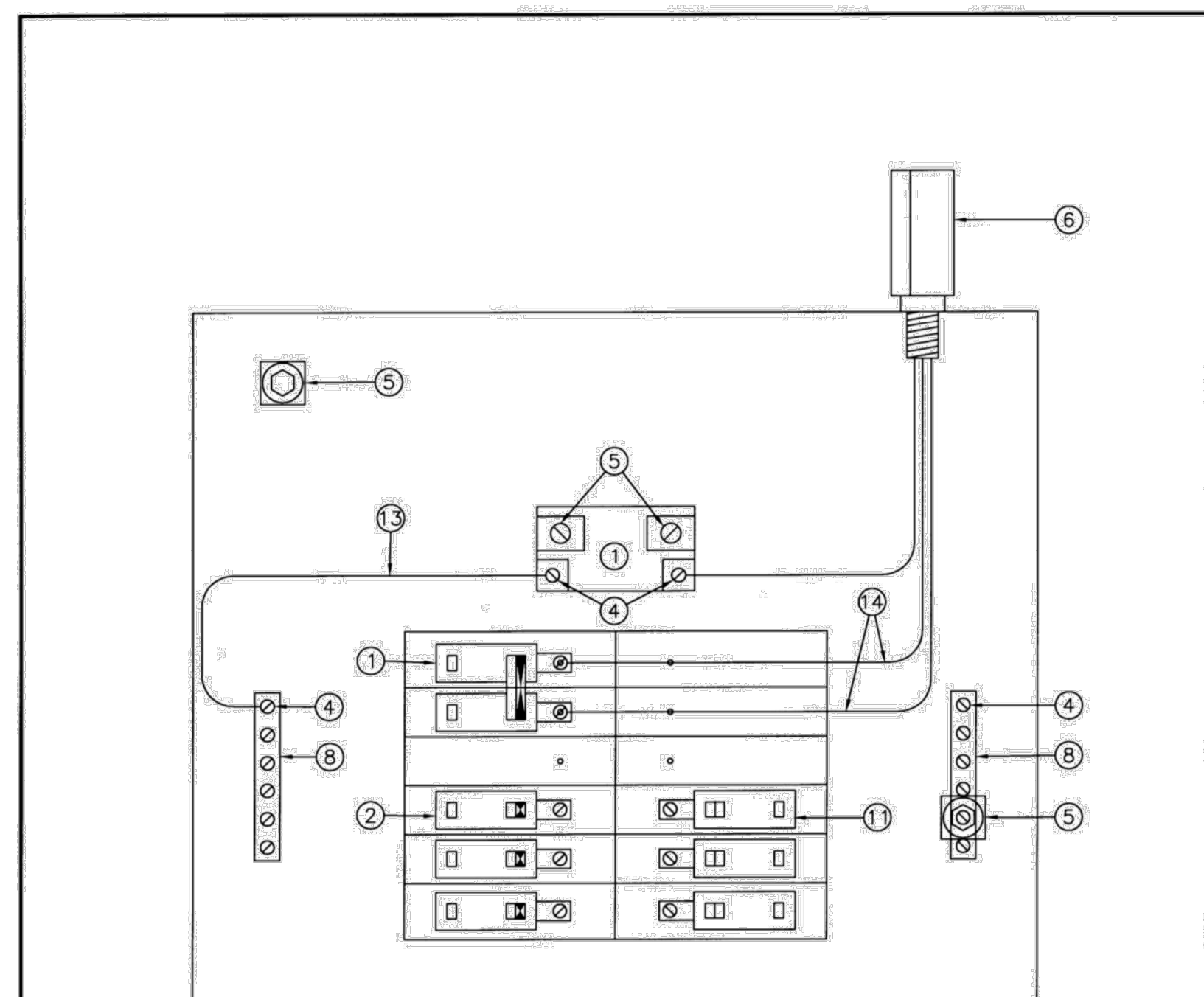
- (A) — NEW LUMINAIRE AND TYPE WITH EXISTING BRACKET
- (B) — NEW POLE AND LUMINAIRE
- — EXISTING HYDRO POLE
- — BASE MOUNTED POLE
- ⊠ — POWER SUPPLY ASSEMBLY
- ⚡(2) — PROPOSED GROUND ROD (2 - DENOTES TWO GROUND RODS AT THIS LOCATION)

LOADING TABLE SUPPLY 'A' SAINTSBURY LINE

SUPPLY LOCATION	AMPS	CIRCUIT No.	LOAD DESCRIPTION	TOTAL LOAD
SAINTSBURY LINE	20/1P	ARED1	6 x 98 LTG	588
	20/1P	ABLK3	5 x 98 LTG	490
			TOTAL LOAD	= 1078 W



Supplemental Standards for Traffic Signal and Street Lighting (STS)



NOTES:
 A. For wiring details and list of materials, refer to STS-3.08 and STS-3.09.

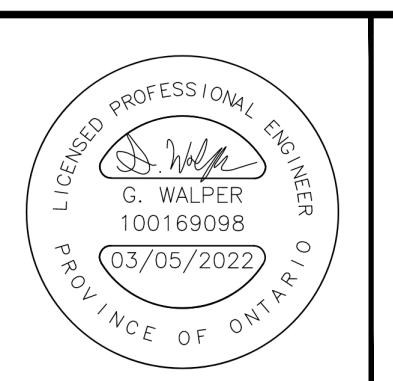
CITY OF LONDON STANDARD DRAWING
LS3M SUPPLY CONTROL CABINET ASSEMBLY TYPE 3M
INSTRUMENT LAYOUT

DWG STS-3.13 DATE 2008-1-22 APPROVED BY *[Signature]*
 CITY ENGINEER

Standard Contract Documents for Municipal Construction Projects 2020 Edition

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SAINTSBURY LINE AND ALICE STREET
 TOWNSHIP OF LUCAN-BIDDULPH

ELECTRICAL
WIRING DIAGRAM AND DETAILS

PROJECT NO. 21-1788
 SHEET NO. **E3**



Autobahn Series ATB0 Roadway Lighting

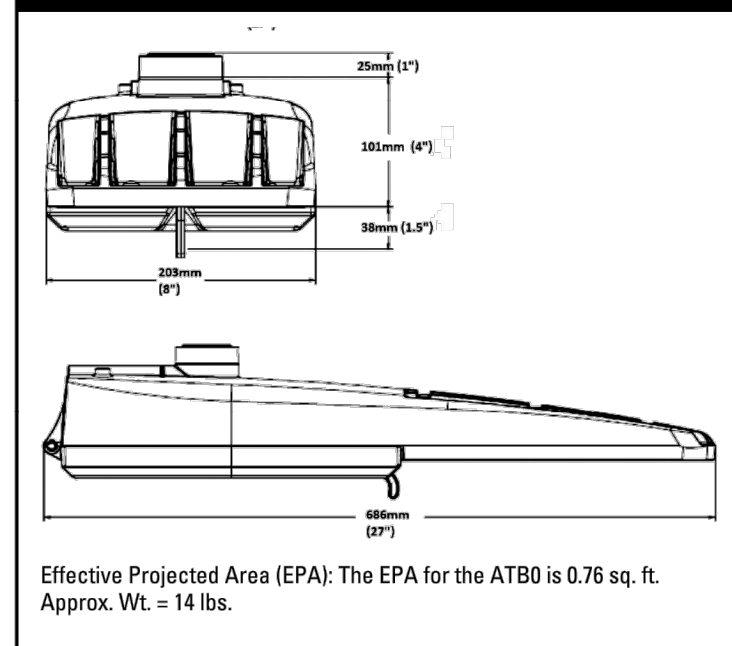
PRODUCT OVERVIEW



Applications:

- Roadways
- Off ramps
- Residential streets
- Parking lots

DIMENSIONS



STANDARDS

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Color temperatures of $\leq 3000\text{K}$ must be specified for International Dark-Sky Association certification.

Rated for -40°C to 40°C ambient
 CSA Certified to U.S. and Canadian standards
 Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

Note: Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.

© 2014-2021 Acuity Brands Lighting, Inc. ATB0 05/10/21



Features:

OPTICAL

The Autobahn's new molded silicone optics provide exceptional performance. Silicone optics are superior to other polymeric materials in the areas of: optical efficiency, thermal performance, and reduction in dirt accumulation, all of which can lead to long term lumen degradation and a shift in optical distribution. Also, because silicone allows for the molding of fine details as well as thick sections, it produces the most crisp, clean and well-defined lighting distributions available. Silicone optics paired with modern LEDs allow the Autobahn to take full advantage of both technologies.

Same Light: Performance is comparable to 100 - 400W HPS roadway luminaires.

White Light: Correlated color temperature - 4000K, or optional 2700K, 3000K or 5000K, all 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. Available in Type II, III, IV, and V roadway distributions.

ELECTRICAL

Expected Life: LED light engines are rated $>100,000$ hours at 25°C , L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an expected of 40-60% over comparable HID luminaires.

Robust Surge Protection: Two different surge protection options provide a minimum of ANSI C136.2 10kV/5kA protection. 20kV/10kA protection is also available.

Luminaire ships with a 0-10v dimmable driver. Luminaire is continuous and step dimming capable via AO option or controls installed on P7 photocontrol receptacle option.

MECHANICAL

Includes standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easily leveling at installation.

Rugged die-cast aluminum housing and door are polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 7 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117).

Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter. Provides a 3G vibration rating per ANSI C136.31

Wildlife shield is cast into the housing (not a separate piece).

CONTROLS

NEMA 3 pin photocontrol receptacle is standard, with the Acuity designed ANSI standard 7 pin receptacle optionally available.

Premium solid state locking style photocontrol - PCSS (10 year rated life) Extreme long life solid state locking style photocontrol - PCLL (20 year rated life).

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.

Project	Catalog #	Type
Prepared by	Notes	Date



Streetworks

Archeon Medium

Roadway Luminaire

Product Features



Product Certifications



Connected Systems

- WaveLinx
- Enlighted

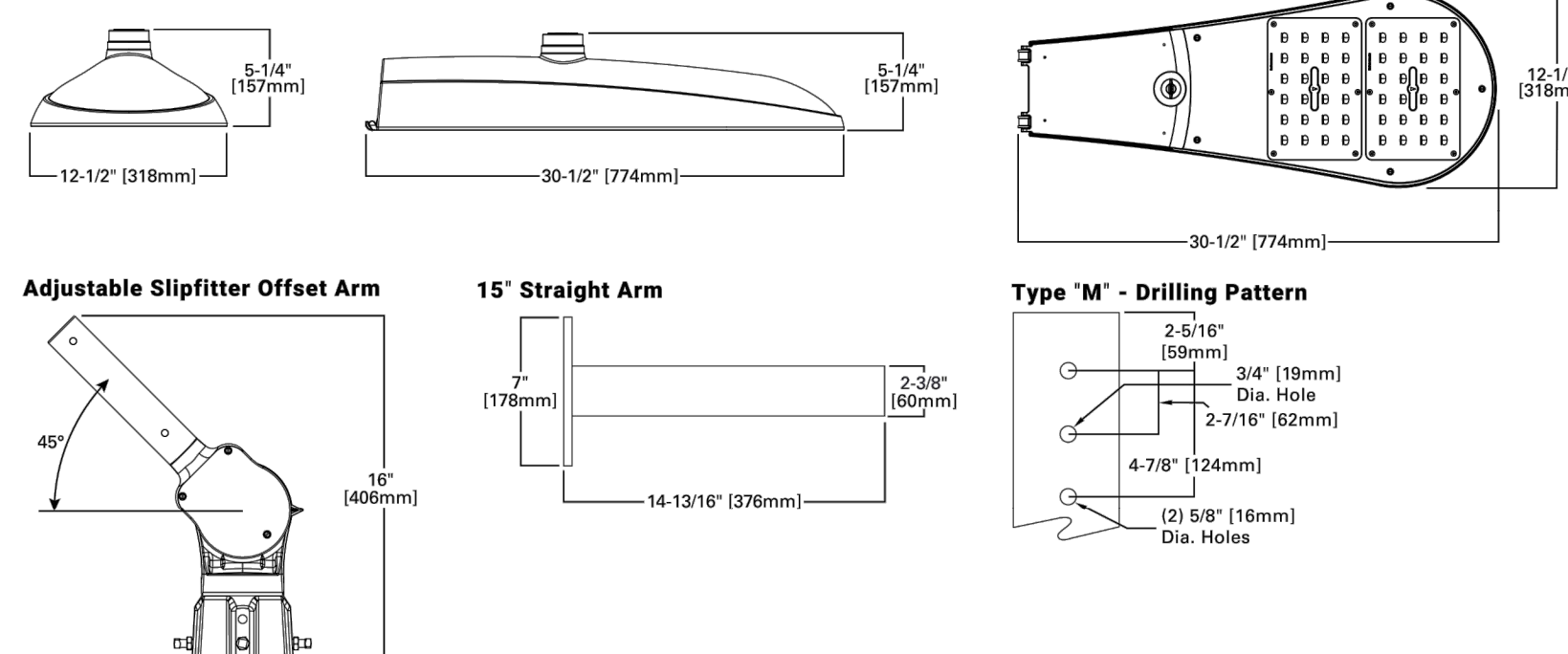
Interactive Menu

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- Product Specifications page 2
- Energy and Performance Data page 3

Quick Facts

- Die-cast aluminum construction; Single latch tool-less entry
- Replaces up to 400W equivalent HID; -40°C to 40°C operating range
- Pole-mounted; Optional arm and offset adjustable arm mounting
- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation; IP66 rated

Dimensional Details



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May 12, 2021 10:34 AM

Evolve® LED Roadway Lighting Cobra Head (ERLH)



Project Name _____
 Date _____ Type _____
 Notes _____

The **Evolve®** LED Roadway ERLH Luminaire is optimized utilizing advanced LED reflective optical system for local, collector and major roadways. The modern design incorporates the heat sink directly into the unit for heat transfer to prolong LED life.

CONSTRUCTION

Housing:	Aluminum die cast enclosure casting integral heat sink for maximum heat transfer
Lens:	Impact resistant tempered glass
Paint:	Corrosion resistant powder paint, ≥ 2.0 mil thickness (RAL & custom colors available) Standard = Black, Dark Bronze, Gray, White Optional = Coastal Finish
Weight:	15.15 lbs (6.9 kgs) w/ 2 Bolt Slipfitter 15.85 lbs (7.2 kgs) w/ 4 Bolt Slipfitter

OPTICAL SYSTEM

Lumens:	10,000-16,000
Distribution:	Type II Narrow, Type II Wide, Type III, Type IV and Type II Enhanced Back Light
Efficacy:	110-143 LPW
CCT:	2700K, 3000K, 4000K
CRI:	≥ 70

ELECTRICAL

Input Voltage:	120-277V or 347-480V
Input Frequency:	50/60Hz
Power Factor:	$\geq 90\%$ at rated watts
Total Harmonic Distortion:	$\leq 20\%$ at rated watts

SURGE PROTECTION*

Standard	Optional
<input type="checkbox"/> 10kV/5kA	<input type="checkbox"/> Secondary 10kV/5kA (R Option) or
	<input type="checkbox"/> Secondary 20kV/10kA (T Option)

*Per ANSI C136.2-2018



LUMEN MAINTENANCE

Projected Lxx per IES TM-21-11 at 25°C

Lumen Codes	Distributions	LXX(10K) @ Hours		
		25,000 HR	50,000 HR	60,000 HR
A3, B3, C3, D3, E3	10,11	L97	L96	L96
A3, B3, C3, D3, E3	13,14	L95	L93	L92
A3, B3, C3, D3, E3	15,16	L94	L91	L91

Note: Projected Lxx based on LM80 ($\geq 10,000$ hour testing). Accepted Industry tolerances apply to initial luminous flux and lumen maintenance measurements.

RATINGS

Operating Temperature:	ERLH Lumen outputs 10-11, 13 (-40°C to 50°C) ERLH Lumen outputs 14-16 (-40°C to 45°C)
Vibration:	3G per ANSI C136.31-2018
LM-79:	Testing in accordance with IES Standards

CONTROLS

Dimming:	Standard - 0-10V <input type="checkbox"/> Optional - DALI (Option U) <input type="checkbox"/>
Sensors:	Photo Electric Sensors (PE) available LightGrid Compatible

WARRANTY

5 Year (Standard) 10 Year (Optional)



Not all product variations listed on this page are DLC qualified. Visit www.designlights.org/search to confirm qualifications.

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.



No.	ISSUED FOR	DATE	BY
3	ISSUED FOR CONSTRUCTION	2022.05.02	GDW
2	ISSUED FOR CLIENT TENDER	2022.02.28	GDW
1	ISSUED FOR CLIENT REVIEW	2021.11.15	EAC

DESIGN	REVIEWED BY
EAC	GDW
DRAWN	CHECKED BY
EAC	GDW
DATE	APRIL 25, 2022
SCALE	

SAINTSBURY LINE AND ALICE STREET
TOWNSHIP OF LUCAN-BIDDULPH

PROJECT NO.
21-1788

ELECTRICAL
LUMINAIRES SPEC SHEET

SHEET NO.

E4