



Church Road – Throup Road Roundabout

TENDER DOCUMENTS



McElhanney

File: 2241-20128-01
May 2023

Invitation to Tenderers

Instructions to Tenderers – Part I

Instructions to Tenderers – Part II (Separate Cover, Refer to MMCD Platinum Edition, Vol. II)

Form of Tender

Appendix 1 – Schedule of Quantities and Prices

Appendix 2 – Construction Schedule

Appendix 3 – Experience of Superintendent

Appendix 4 – Comparable Work Experience

Appendix 5 – Subcontractors

Appendix 6 – Social Procurement

Form of Agreement

Schedule 1 – Schedule of Contract Documents

Schedule 2 – List of Contract Drawings

General Conditions (Separate Cover, Refer to MMCD Platinum Edition Volume II)

Supplementary General Conditions

Specifications (Separate Cover, Refer to MMCD Platinum Edition, Volume II)

Supplementary Specifications

Separate Cover – District of Sooke Bylaw 404, Subdivision and
Development Standards Bylaw

Contract Drawings

Geotechnical Report

Optional Works Explanatory Plan

Environmental Management Plan

Traffic Management Strategy

Reference Drawings

Standard Detail Drawings (Separate Cover, Refer to MMCD Platinum Edition,
Volume II)

Owner: District Of Sooke

(NAME OF OWNER)

Contract: Church Road – Throup Road Roundabout

(TITLE OF CONTRACT)

Reference No.: 2241-20128-01

(OWNER'S CONTRACT REFERENCE NO.)

The Owner invites tenders for: Roundabout construction at intersection of Church Road and Throup Road.
Infrastructure generally includes removals, earthworks, road works, storm
sewer, utility relocations, street lighting and landscaping.

(BRIEF DESCRIPTION OF THE WORK)

Digital (PDF) copies of the
Contract Documents are available
for no charge:

Through BC Bid website.

Tenders are scheduled to close: Tender Closing Time: 2: 00, P m local time
Tender Closing Date: June 23, 20 23

Address: 2205 Otter Point Road

Sooke, BC V9Z 1J2

Documents to be dropped off at front desk

(ADDRESS WHERE TENDERS MUST BE SUBMITTED)

Name of Owner's Representative: Jeff Carter

250-642-1631

(PHONE)

1.0	Introduction.....	IT - 1
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(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

(TO BE READ WITH “INSTRUCTIONS TO TENDERERS - PART II”
CONTAINED IN THE EDITION OF THE PUBLICATION
“MASTER MUNICIPAL CONSTRUCTION DOCUMENTS” SPECIFIED IN ARTICLE 2.2 BELOW)

Owner: District Of Sooke
(NAME OF OWNER)

Contract: Church Road – Throup Road Roundabout
(TITLE OF CONTRACT)

Reference No.: 2241–20128-00
(OWNER'S CONTRACT REFERENCE NO.)

1.0 Introduction

1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:

Roundabout construction at intersection of Church Road and Throup
Road. Infrastructure generally includes removals, earthworks, road works,
storm sewer, utility relocations, street lighting and landscaping.

(BRIEF DESCRIPTION OF THE WORK)

1.2 Direct all inquiries regarding the *Contract*, to:

McElhanney Ltd.

Jon Irving, P.Eng., Engineering Division Manager

(NAME AND POSITION OF INDIVIDUAL WHO WILL ANSWER INQUIRIES)

Address: 500 – 3960 Quadra Street
Victoria, BC
V8X 4A3

Phone: 250 252 - 5192

Email: jirving@mcelhanney.com

2.0 Tender Documents

2.1 The tender documents which a tenderer should review to prepare a tender consist of all of the *Contract Documents* listed in Schedule 1 entitled “Schedule of Contract Documents”. Schedule 1 is attached to the Agreement which is included as part of the tender package. The *Contract Documents* include the drawings listed in Schedule 2 to the Agreement, entitled “List of *Contract Drawings*”.

2.2 A portion of the *Contract Documents* are included by reference. Copies of

these documents have not been included with the tender package. These documents are the Instructions to Tenderers - Part II, General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings". Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *Tender Closing Date*. All sections of this publication are by reference included in the *Contract Documents*.

- 2.3 Any additional information made available to tenderers prior to the *Tender Closing Time* by the *Owner* or representative of the *Owner*, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the *Contract Documents*. Such additional information is made available only for the assistance of tenderers who must make their own judgment about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the *Owner* nor any representative of the *Owner* gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

**3.0 Submission of
Tenders**

- 3.1 Tenders must be submitted in a sealed envelope, marked on the outside with the above *Contract* Title and Reference No., and must be received by the office of:

Jeff Carter, Director of Operations

(TITLE OF POSITION)

on or before:

Tender Closing Time: 2: 00 , P^m local time
Tender Closing Date: June 23 , 20 23

at District Of Sooke

Address: 2205 Otter Point Road
Sooke, BC V9Z 1J2

Documents to be dropped off at front desk

- 3.2 Late tenders will not be accepted or considered, and will be returned unopened.

4.0 Supplemental
Instructions to
Tenderers

- 4.1 **Freedom of Information:** The District is subject to the provisions of the Freedom of Information and Protection of Privacy Act. As a result, while Section 21 of the Act does offer some protection for third party business interests, the District cannot guarantee that any information provided to the District can be held in confidence.
- 4.2 **Funding:** Proceeding with an award of this tender may be subject to available funding.
- 4.3 **Award:** The intent is to award the lowest bid price or bid prices but the lowest or any bid price will not necessarily be accepted. If the District elects to reject all bids, the District will not be liable to any bidder for any claims whether for costs incurred by any bidder in preparing the bid, damages, loss of anticipated profit in connection with the work, or any other matter whatsoever.
- 4.4 **Notice of Project:** Submit to WorkSafe BC a completed Notice of Project, providing a copy to the District.
- 4.5 **Construction Traffic Management Plan:** Submit to the Contract Administrator, prior to construction, a construction traffic management plan for review by the Contract Administrator and the Owner. See Supplemental Specifications for further details.
- 4.6 **Facsimile:** Faxed amendments or revocations will not be accepted.
- 4.7 **Inquiries:** All questions should be received at least 5 business days prior to the closing time and date.
- 4.8 **Working Hours:** The Contractor is required to abide by the following working hours set out in the District of Sooke Noise Bylaw
- 4.9 **Important Dates:**
- .1 The Last Addendum will be posted by the end of the day Friday June 16th, 2023
- 4.10 **Superintendent:** The *Owner* reserves the right to object to the *Superintendent* listed in the tender. If the *Owner* objects to the *Superintendent* then the *Owner* will permit a tenderer to, within 5 days, propose a substitute *Superintendent* acceptable to the *Owner* provided that there is no resulting adjustment in the *Tender Price* or the completion date set out in paragraph 2.2 of the Form of Tender. A tenderer will not be required to make such a substitution and, if the *Owner* objects to a listed *Superintendent*, the tenderer may, rather than propose a substitute *Superintendent*, consider its tender rejected by the *Owner* and by written notice withdraw its tender. The *Owner* shall, in that event, return the tenderer's bid security.
- 4.11 **Work By Other Utilities:** As noted in the Contract Drawings and Schedule of Quantities, there is work by other utility companies associated with the project, including Fortis gas relocation, CRD waterworks, BC Hydro Overhead works and Telus Overhead works. It is expected that the Contractor accommodate the work programs as they will coincide with the

project's phasing and scope of work.

- 4.12 **Contaminated Soils:** The District of Sooke is undertaking onsite soil sampling and reporting in compliance with Protocol 19 For Contaminated Sites issued by the Ministry of Environment and Climate Change, which will take place during the tender period. Results will be shared with the preferred bidder and depending on the results, may result in pricing negotiations, as required.
- 4.13 **Schedule:** See critical dates in Appendix 2 of the Form of Tender

FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS
AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.

Owner: District Of Sooke
(NAME OF OWNER)

Contract: Church Road – Throup Road Roundabout
(TITLE OF CONTRACT)

Reference No.: 2241-20128-01
(OWNER'S CONTRACT REFERENCE NO.)

To Owner:

WE, THE UNDERSIGNED: 1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the specified edition of the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

(ADDENDA, IF ANY)

1.2 have full knowledge of the *Place of the Work*, and the *Work* required; and

1.3 have complied with the Instructions to Tenderers; and

**ACCORDINGLY WE
HEREBY OFFER:**

2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material all as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and

2.2 to achieve Substantial Performance of the Work on or before April 30, 2024; and
(WORK DURATION OR DATE)

2.3 to do the *Work* for the price, which is the sum of the products of the actual quantities incorporated into the *Work* and the appropriate unit prices set out in Appendix 1, the "*Schedule of Quantities and Prices*", plus any lump sums or specific prices and adjustment amounts as provided by the *Contract Documents*. For the purposes of tender comparison, our offer is to complete the *Work* for the "*Tender Price*" as set out on Appendix 1 of this Form of Tender. Our *Tender Price* is based on the estimated quantities listed in the *Schedule of Quantities and Prices*, and excludes GST.

WE CONFIRM:

3.1 that we understand and agree that the quantities as listed in the *Schedule of Quantities and Prices* are estimated, and that the actual quantities will vary.

- WE CONFIRM:**
- 4.1 that the following appendices are attached to and form a part of this tender:
- 4.1.1 the appendices as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and
- 4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers – Part II.
- WE AGREE:**
- 5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of 60 calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice (*“Notice of Award”*) by which the *Owner* accepts our tender we will:
- 5.1.1 within 15 *Days* of receipt of the written *Notice of Award* deliver to the *Owner*:
- .1 a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract Price, covering the performance of the Work including the Contractor’s obligations during the Maintenance Period, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the Owner;
- .2 a Baseline Construction Schedule, as provided by GC 4.6.1;
- .3 a “clearance letter” indicating that the tenderer is in Worksafe BC compliance; and
- .4 a copy of the insurance policies as specified in GC 24 indicating that all such insurance coverage is in place; and
- .5 a Construction Traffic Management Plan as detailed in the Supplemental Specifications
- 5.1.2 within 2 *Days* of receipt of written *“Notice to Proceed”*, or such longer time as may be otherwise specified in the *Notice to Proceed*, commence the *Work*; and
- 5.1.3 sign the Contract Documents as required by GC 2.1.2.
- WE AGREE:**
- 6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:
- 6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

- 6.1.2 fail or refuse to commence the *Work* as required by the *Notice to Proceed*,
then such failure or refusal will be deemed to be a refusal by us to enter into the *Contract* and the *Owner* may, on written notice to us, award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:
- 6.1.3 the face value of the *Bid Security*; and
- 6.1.4 the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

OUR ADDRESS IS AS
FOLLOWS:

Phone:

Fax:

Attention:

email:

This Tender is executed this
_____ day of _____, 20 _____.

Contractor:

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

FORM OF TENDER

APPENDIX 1 – SCHEDULE OF QUANTITIES AND PRICES

Form of Tender - Appendix 1

SCHEDULE OF QUANTITIES AND PRICES
(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes*, but shall not include *GST*.)

Any work called for in these Contract Documents, shown on the plans, or which is necessary for the completion of the Work called for in these Contract Documents and which is not specifically listed as a separate payment item in this Appendix shall be deemed incidental to the performance of the Work and to the general purpose of the Contract; no separate payment will be made on account of any such Work, but the costs of any such incidental Work shall be included in the Unit and Lump Sum Prices.

Summary Sheet

Division 01:	General Requirements	\$ _____
Division 03:	Concrete	\$ _____
Division 26:	Electrical	\$ _____
Division 31:	Earthworks	\$ _____
Division 32:	Roads and Site Improvements	\$ _____
Division 33:	Utilities	\$ _____
Optional Items		\$ _____

TOTAL TENDER PRICE	\$ _____
GST (5%)	\$ _____
TENDER PRICE plus GST	\$ _____

Tenderer's Initials _____

DIV 01		GENERAL REQUIREMENTS				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	01 10 01SS	Quality Control Testing				
1.01	1.1	Quality Control Testing	Lump Sum	1		
	01 10 01SS	Survey				
1.02	1.2	Layout Survey, Quantity Survey, Volume Calculations, and Record Survey	Lump Sum	1		
	01 52 01	Temporary Structures				
1.03	1.6.2ss	Mobilization & De-mobilization	Lump Sum	1		
	01 55 00	Traffic Control, Vehicle Access and Parking				
1.04	1.4.15ss	Traffic Management Plan	Lump Sum	1		
	01 57 01	Environmental Protection				
1.05	1.6.2ss	Environmental Protection	Lump Sum	1		
	01 58 01	Project Identification				
1.06	1.2.1.1ss	Project Identification	Lump Sum	1		
Sub-Total					\$	

DIV 03		CONCRETE				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	03 30 20	Concrete Walks, Curbs and Gutters				
3.01	1.4.3	Concrete Curb & Gutter Non-mountable (incl. let-downs, Regular and Reverse Gutter)	Lineal Metre	885		
3.02	1.4.3	Concrete Curb & Gutter Mountable (Regular and Reverse Gutter)	Lineal Metre	110		
3.03	1.4.3	Concrete Curb & Gutter Median Curb	Lineal Metre	45		
3.04	1.4.5	Concrete Sidewalk and Walkways 100mm thickness, non-reinforced	Square Metre	190		
	03 40 01	Pre-cast Concrete				
3.05	1.4.2ss	Concrete Lock Block Retaining Wall Including Shop Drawings	Square Metre	75		
3.06	N/A	Restoration of Existing Allan Block Retaining Wall Following Construction (2207 Church Road)	Lump Sum	1		
Sub-Total					\$	

Tenderer's Initials _____

DIV 26		ELECTRICAL				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	26 56 01	Roadway Lighting				
26.01	1.9.4ss	Streetlight Pole incl. Base	Each	11		
26.02	1.9.4ss	Relocate Existing Streetlight Pole incl. Base	Each	1		
26.03	1.9.4ss	Streetlight Wiring & Conduit incl. Junction Boxes	Lineal Metre	450		
26.04	1.9.4ss	Pedestrian Flashers	Each	6		
		Electrical Works				
26.05	N/A	Underground Electrical Works – Complete, as per BC Hydro Drawing 500-U07-08875	Lump Sum	1		
26.06	N/A	Facilitate Overhead Pole Relocation works to be completed by BC Hydro and Telus – per BC Hydro Drawing 500-D07-03041	Lump Sum	1		
Sub-Total					\$	

DIV 31		EARTHWORKS				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	31 11 01	Clearing and Grubbing				
31.01	1.4.1, 1.4.2	Clearing & Grubbing	Lump Sum	1		
	31 23 01	Excavation, Trenching and Backfilling				
31.02	1.10.6	Roadside Channel Excavation & Berming (North of Roundabout)	Lineal Metre	45		
31.03	1.10.6	Trailside Ditch (South of Roundabout)	Lineal Metre	45		
	31 24 13	Roadway Excavation, Embankment and Compaction				
31.04	1.8.14ss, 1.8.12	Common Excavation Including Removals, Stripping, Excavation to Subgrade - Off-Site Disposal	Cubic Metre	3150		
31.05	1.8.7	Embankment Fill	Cubic Metre	1000		
31.06	1.8.9	Subgrade Preparation	Square Metre	7250		
	31 32 19	Geosynthetics				
31.07	1.6.1	Non woven geotextile (Channel)	Square Metre	90		
	31 37 10	RipRap				
31.08	1.4.1	Class 25kg Riprap (Channel)	Cubic Metre	15		
31.09	1.4.1	River Rock (Cobbles, Channel bed)	Cubic Metre	5		
Sub-Total					\$	

Tenderer's Initials _____

DIV 32		ROADS AND SITE IMPROVEMENTS				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	32 01 16.7	Cold Milling				
32.01	1.5.1	Cold Milling Including disposal offsite	Square Metres	305		
	32 11 23	Granular Sub-Base				
32.02	1.4.3	Granular Sub-Base 300mm Thickness - Roads	Square Metres	5350		
32.03	1.4.3	Granular Sub-Base 150mm Thickness - Sidewalks, MUP & Driveways	Square Metres	1900		
	32 11 23	Granular Base				
32.04	1.4.2	Granular Base 150mm Thickness - Roads, MUP & Driveways	Square Metres	7060		
	32 12 16	Hot-Mix Asphalt Concrete Paving				
32.05	1.5.1ss, 1.5.2	Asphalt Pavement 80mm thickness – Roads	Square Metres	4150		
32.06	1.5.3ss, 1.5.2	Asphalt Pavement 50mm thickness – Trails & Driveways, including stamped tactile warning strips	Square Metres	1535		
32.07	1.5.1ss, 1.5.2	Asphalt Pavement 40mm thickness – Milled Areas	Square Metres	305		
32.08	1.5.1ss, 1.5.2	Stamped Coloured Asphalt Pavement 80mm thickness – Mountable Islands, Red, Herringbone Pattern	Square Metres	285		
32.09	1.5.1ss, 1.5.2	Stamped Coloured Asphalt Pavement 50mm thickness – Non-mountable Islands, Buffer Strips, Red, Herringbone Pattern	Square Metres	135		
32.10	1.5.4	Asphalt Curb	Lineal Metres	55		
	32 17 23	Painted Pavement Markings				
32.11	1.5.2	Painted pavement markings, permanent	Lump Sum	1		
32.12	1.5.3	Thermoplastic Pavement Markings, permanent	Lump Sum	1		
32.13	1.5.5ss	Traffic Control Signs, including poles and concrete base	Each	15		
32.14	1.5.6ss	Relocated Existing Traffic Control Signs, including poles and concrete base	Each	1		
32.15	1.5.5ss	Flexible Delineators	Each	21		
	32 31 13	Chain Link Fences & Gates				
32.16	1.5.4ss	Handrail (On Retaining Wall)	Lineal Metre	37		
	32 91 21	Topsoil and Finish Grading				
32.17	1.4.1	Imported Topsoil 150mm thickness	Square Metres	2210		
32.18	1.4.1	Growing Medium (Roundabout Button) 450mm thickness	Square Metres	150		

Tenderer's Initials _____

	32 92 19	Hydraulic Seeding				
32.19	1.8.1, 1.8.2	Hydraulic Seeding	Square Metres	725		
	32 92 23	Sodding				
32.20	1.8.1	Sod	Square metre	685		
	32 93 01	Planting of Trees, Shrubs & Ground Cover				
32.21	1.9.1	Shrubs & Ground Cover (Roundabout Button)	Lump Sum	1		
32.22	1.9.3ss	Irrigation System (Design-Build)	Lump Sum	1		
32.23	1.9.1, 1.9.4ss	Re-plant Native Riparian Plantings (Channel Banks) – Salvage, if possible	Square Metres	200		
				Sub-Total	\$	

DIV 33		UTILITIES				
Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
	33 11 01	Waterworks				
33.01	1.8.12ss	Facilitate CRD Water Works – Meter Box Relocations/Upgrades, Main Lowering	Lump Sum	1		
	33 34 01	Sewage Force mains				
33.02	1.8.1, 1.8.2, 1.8.3	Existing Sanitary Force main Lowering	Lineal Metres	10		
33.03	1.8.1, 1.8.2	Sanitary Force main Service – 75mm, complete (6588 Throup Rd)	Each	1		
	33 40 01	Storm Sewers				
33.04	1.6.1, 1.6.2	Irrigation Sleeve - 100mm diameter PVC SCHD 40 (Driveways, MUP)	Lineal Metres	115		
33.05	1.6.1, 1.6.2	Irrigation Sleeve - 150mm diameter PVC SCHD 40 (Roads)	Lineal Metres	50		
33.06	1.6.1, 1.6.2	Drainage Pipe PVC SDR 35 250mm diameter, imported backfill (1-4m depth)	Lineal Metres	172		
33.07	1.6.1, 1.6.2	Drainage Pipe PVC SDR 35 300mm diameter, imported backfill (1-4m depth)	Lineal Metres	18		
33.08	1.6.1, 1.6.2	Drainage Pipe HDPE N12 450mm diameter, imported backfill (1-4m depth)	Lineal Metres	28		
33.09	1.6.1, 1.6.2	Drainage Pipe HDPE N12 600mm diameter, imported backfill (1-4m depth)	Lineal Metres	237		
33.10	1.6.1, 1.6.2	Drainage Pipe HDPE N12 900mm diameter, imported backfill (1-4m depth)	Lineal Metres	25		
33.11	1.6.1, 1.6.2	Drainage Pipe HDPE N12 1050mm diameter, imported backfill (1-4m depth)	Lineal Metres	46		
33.12	1.6.3	Drainage Service Connection 100mm c/w Inspection Chamber	Each	9		
33.13	1.6.3	Drainage Service Connection 200mm c/w Inspection Chamber	Each	1		
33.14	1.6.5	Catchbasin Lead 150mm diameter	Lineal Metres	145		

Tenderer's Initials _____

33.15	1.6.9	Drainage Tie -In Tie Into Existing Storm System	Each	5		
	33 42 13	Pipe Culvert				
33.16	1.5.3	Precast Headwall 300mm Storm Pipe	Each	1		
33.17	1.5.3	Precast Headwall 450mm Storm Pipe c/w grillage	Each	1		
33.18	1.5.3	Precast Headwall 600mm Storm Pipe c/w grillage	Each	1		
33.19	1.5.3	Precast Headwall 1050mm Storm Pipe c/w grillage and handrail	Each	2		
	33 44 01	Manholes and Catchbasins				
33.20	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 1050mm diameter	Each	4		
33.21	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 1200mm diameter	Each	6		
33.22	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 1500mm diameter	Each	1		
33.23	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 1800mm diameter	Each	1		
33.24	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 2100mm diameter	Each	1		
33.25	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 2400mm diameter	Each	2		
33.26	1.5.2	Catchbasin Top Inlet Standard Drawing S11	Each	20		
33.27	1.5.2	Offset Catchbasin Top Inlet	Each	1		
33.28	1.5.3	Adjustment of Existing Lids - Outside of Roadway	Each	14		
		Miscellaneous				
33.29	N/A	Facilitate Gas Main Relocation and 6588 Throup Rd Service work completed by Fortis forces, including Traffic Control	Lump Sum	1		
Sub-Total					\$	

Tenderer's Initials _____

OPTIONAL ITEMS
(Included in Tender Price)

This section forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts.

Optional items quoted on will be reviewed and accepted or rejected at the Owner's option. Accepted optional items prices will be identified in the construction agreement.

Coordinate related work and modify surrounding work to integrate the Work of each optional item.

Prices quoted should not include GST.

Item No.	Section	Specification Title	Unit	Quantity	Unit Price	Amount
1.0	OPT	Over-Excavation				
	31 24 13	Roadway Excavation, Embankment and Compaction				
1.1	1.8.14ss, 1.8.12	Common Excavation Excavation from Subgrade to Suitable Soils – Off-Site Disposal	Cubic Metre	2300		
1.2	1.8.7	Embankment Fill (Over-excavated Areas)	Cubic Metre	2300		
2.0	OPT	2182 Church Road – Frontage Works				
	03 30 20	Concrete Walks, Curbs and Gutters				
2.1	1.4.3	Concrete Curb & Gutter Non-mountable (incl. let-downs, Regular and Reverse Gutter)	Lineal Metre	32		
	26 56 01	Roadway Lighting				
2.2	1.9.4ss	Streetlight Pole incl. Base	Each	3		
2.3	1.9.4ss	Streetlight Wiring & Conduit incl. Junction Boxes	Lineal Metre	90		
	31 24 13	Roadway Excavation, Embankment and Compaction				
2.4	1.8.14ss, 1.8.12	Common Excavation Including Removals, Stripping, Excavation to Subgrade - Off-Site Disposal	Cubic Metre	350		
2.5	1.8.7	Embankment Fill	Cubic Metre	150		
2.6	1.8.9	Subgrade Preparation	Square Metre	362		
	32 11 23	Granular Sub-Base				
2.7	1.4.3	Granular Sub-Base 300mm Thickness - Roads	Square Metres	147		
2.8	1.4.3	Granular Sub-Base 150mm Thickness - MUP	Square Metres	215		
	32 11 23	Granular Base				
2.9	1.4.2	Granular Base 150mm Thickness - Roads, MUP & Driveways	Square Metres	362		

Tenderer's Initials _____

	32 12 16	Hot-Mix Asphalt Concrete Paving				
2.10	1.5.1ss, 1.5.2	Asphalt Pavement 80mm thickness - Roads	Square Metres	115		
2.11	1.5.3ss, 1.5.2	Asphalt Pavement 50mm thickness - MUP	Square Metres	220		
	32 17 23	Painted Pavement Markings				
2.12	1.5.2	Painted pavement markings, permanent	Lump Sum	1		
2.13	1.5.3	Thermoplastic Pavement Markings, permanent	Lump Sum	1		
2.14	1.5.5ss	Traffic Control Signs, including poles and concrete base	Each	3		
	32 91 21	Topsoil and Finish Grading				
2.15	1.4.1	Imported Topsoil 150mm thickness	Square Metres	800		
	32 92 23	Sodding				
2.16	1.8.1	Sod	Square metre	800		
	32 93 01	Planting of Trees, Shrubs & Ground Cover				
2.17	1.9.1	Trees – Garry Oak, 4.0cm cal, b&b (MDI Drawings)	Each	14		
	33 11 01	Waterworks				
2.18	1.8.12ss	Facilitate CRD Water Works – Church Rd Services, Main	Lump Sum	1		
	33 40 01	Storm Sewers				
2.19	1.6.1, 1.6.2	Irrigation Sleeve - 100mm diameter PVC SCHD 40 (Driveways, MUP)	Lineal Metres	10		
2.20	1.6.1, 1.6.2	Irrigation Sleeve - 150mm diameter PVC SCHD 40 (Roads)	Lineal Metres	28		
2.21	1.6.1, 1.6.2	Drainage Pipe PVC SDR 35 300mm diameter, imported backfill (1-4m depth)	Lineal Metres	10		
2.22	1.6.4	Drainage Clean Out	Each	1		
2.23	1.6.5	Catchbasin Lead 150mm diameter	Lineal Metres	7		
2.24	1.6.9	Drainage Tie -In Tie Into Existing Storm System	Each	1		
	33 44 01	Manholes and Catchbasins				
2.25	1.5.1.1ss	Manhole base, lid, slab, cover and frame - 1200mm diameter	Each	1		
2.26	1.5.2	Catchbasin Top Inlet Standard Drawing S11	Each	1		

Tenderer's Initials _____

3.0	OPT	Frances Gardens Storm System Replacement				
	31 32 19	Geosynthetics				
3.1	1.6.1	Non woven geotextile (Riprap Areas)	Square Metre	50		
	31 37 10	RipRap				
3.2	1.4.1	Class 50kg Riprap	Cubic Metre	26		
3.3	1.4.1	River Rock (Cobbles, Stream bed atop Riprap)	Cubic Metre	5		
	32 12 16	Hot-Mix Asphalt Concrete Paving				
3.4	1.5.3ss, 1.5.2	Asphalt Pavement 50mm thickness – Road Restoration	Square Metres	410		
3.5	1.5.4	Asphalt Curb	Lineal Metres	105		
	32 31 13	Chain Link Fences & Gates				
3.6	1.5.4ss	Chain Link Fence Restoration (on Retaining Wall)	Lump Sum	1		
	32 91 21	Topsoil and Finish Grading				
3.7	1.4.1	Imported Topsoil 150mm thickness	Square Metres	150		
	32 92 19	Hydraulic Seeding				
3.8	1.8.1, 1.8.2	Hydraulic Seeding	Square Metres	150		
	33 05 24	CIP Pipe Lining				
3.9	1.9.3, 1.9.8	900mm CSP Storm Sewer Lining, incl. Cleaning	Lineal Metres	50		
	33 40 01	Storm Sewers				
3.10	1.6.1, 1.6.2	Drainage Pipe HDPE N12 1200mm diameter, imported backfill (1-4m depth)	Lineal Metres	224		
3.11	1.6.5	Catchbasin Lead 150mm diameter	Lineal Metres	25		
3.12	1.6.9	Drainage Tie -In Tie Into Existing Storm System	Each	1		
	33 42 13	Pipe Culvert				
3.13	1.5.1	Concrete Box Culvert 1500mmx1800mm c/w fish baffles	Lineal Metres	18		
3.14	1.5.3	Precast Headwall 1200mm Storm Pipe	Each	1		
3.15	1.5.3	Precast Headwall 1500mmx1800mm Box Culvert	Each	2		

Tenderer's Initials _____

	33 44 01	Manholes and Catchbasins				
3.16	1.5.1.1ss	Manhole base, lid, slab,cover and frame - 2400mm diameter	Each	1		
		Miscellaneous				
3.17	N/A	Restoration of Existing Retaining Wall following Construction	Lump Sum	1		

[illegible]

Church Road – Throup Road Roundabout

(TITLE OF CONTRACT)

See paragraph 5.3.3 of the Instructions to Tenderers – Part II.

Name: _____

EXPERIENCE

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Church Road – Throup Road Roundabout

(TITLE OF CONTRACT)

See paragraph 5.3.4 of the Instructions to Tenderers – Part II.

[illegible]

(TITLE OF CONTRACT)

[illegible]

Church Road – Throup Road Roundabout

(TITLE OF CONTRACT)

	Social Procurement Principles or Practices	Yes	No	N/A	Describe where applicable
Diverse Employment Policies and Practices					
1	Does your enterprise work with employment support services within the communities you operate?				Answer prompt: identify the employment support services that you engage with to address workplace needs
Employee Training, Wellness, and Apprenticeship Programs					
2	Does your enterprise provide employee training and development programs?				Answer prompt: describe- what type of training and development do you offer employees?
3	Does your enterprise provide apprenticeships?				Answer prompt: what types of apprenticeships do you host, how many annually, which colleges and institutions do you partner with?

Living Wages				
4	Does your enterprise pay your employees a living wage? The 2021 living wage for Victoria -is \$20.46/hour.			<p><i>Answer prompt: what percentage of your employees earn above a living wage? What other considerations inform or influence your wages? What other benefits do you offer employees?</i></p>
Supply Chain Considerations				
5	Do you consider social value in your production process and/or supply chain (e.g. local sourcing for labour and/or materials, social and environmental considerations)			<p><i>Answer prompt: Describe your process for contracting suppliers- what criteria do you use in selecting and working with your suppliers?</i></p>
Other Community Benefits				
6	Does your enterprise support community initiatives and/or non-profits in the communities you operate?			<p><i>Answer prompt: Provide an example of a non-profit partnership, community initiative or other community contributions, outside of your regular course of business, that demonstrates your community engagement</i></p>

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND
OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

BETWEEN OWNER AND CONTRACTOR

This agreement made in duplicate this

_____ day of _____, 20_23_.

CONTRACT: Church Road – Throup Road Roundabout

REFERENCE No. 20128-01

BETWEEN:

The District Of Sooke
(the “Owner”)

AND:

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

(the “Contractor”)

THE OWNER AND THE CONTRACTOR AGREE AS FOLLOWS:

- | | | |
|--|-----|--|
| Article 1 THE WORK
START /
COMPLETION
DATES | 1.1 | The <i>Contractor</i> will perform all <i>Work</i> and provide all labour, equipment and material and do all things strictly as required by the <i>Contract Documents</i> . |
| | 1.2 | The <i>Contractor</i> will commence the <i>Work</i> in accordance with the <i>Notice to Proceed</i> . The <i>Contractor</i> will proceed with the <i>Work</i> diligently, will perform the <i>Work</i> generally in accordance with the construction schedules as required by the <i>Contract Documents</i> and will achieve <i>Substantial Performance</i> of the <i>Work</i> on or before <u>April 30, 2024</u> subject to the provisions of the <i>Contract Documents</i> for adjustments to the <i>Contract Time</i> . |
| | 1.3 | Time shall be of the essence of the <i>Contract</i> . |

Article 2 **CONTRACT**
DOCUMENTS

- 2.1 The “*Contract Documents*” consist of the documents listed or referred to in Schedule 1, entitled “Schedule of Contract Documents”, which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.
- 2.2 The *Contract* supersedes all prior negotiations, representations, or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents*.

Article 3 **CONTRACT**
PRICE

- 3.1 The price for the *Work* (“*Contract Price*”) shall be the sum in Canadian dollars of the following
- 3.1.1 the product of the actual quantities of the items of *Work* listed in the *Schedule of Quantities and Prices* which are incorporated into or made necessary by the *Work* and the unit prices listed in the *Schedule of Quantities and Prices*; plus
- 3.1.2 all lump sums, if any, as listed in the *Schedule of Quantities and Prices*, for items relating to or incorporated into the *Work*; plus
- 3.1.3 any adjustments, including any payments owing on account of *Changes* and agreed to *Extra Work*, approved in accordance with the provisions of the *Contract Documents*.
- 3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

Article 4 **PAYMENT**

- 4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.
- 4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

Article 5 **RIGHTS AND**
REMEDIES

- 5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.
- 5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall

constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

Article 6 NOTICES

- 6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by hand, or by fax, or by email, or by pre-paid registered mail to the addresses as set out below:

The *OWNER*:

District of Sooke
2205 Otter Point Road, Sooke, BC, V9Z 1J2

Email: jcarter@sooke.ca
Attention: Jeff Carter, Director of Operations

The *CONTRACTOR*:

Fax:

Email

Attention:

The *CONTRACT ADMINISTRATOR*:

McElhanney Ltd.
#500-3960 Quadra Street, Victoria, BC, V8X 4A3

Email: jirving@mcelhanney.com
Attention: Jon Irving, P.Eng.

- 6.2 A communication or notice that is addressed as above shall be considered to have been received
- 3.1.4 immediately upon delivery, if delivered by hand; or
 - 3.1.5 after 5 *Days* from date of posting if sent by registered mail
 - 3.1.6 n/a

- 6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.
- 6.4 The sender of a notice by fax assumes all risk that the fax is received in hard copy.

Article 7 GENERAL

- 7.1 This *Contract* shall be construed according to the laws of British Columbia.
- 7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.
- 7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.
- 7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.
- 7.5 This agreement shall ensure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

CONTRACTOR:

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

OWNER:

District Of Sooke

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

(INCLUDE IN LIST ALL DOCUMENTS INCLUDING, IF ANY, SUPPLEMENTARY GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS, SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

**Schedule 1 SCHEDULE OF
CONTRACT
DOCUMENTS**

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with “*” are contained in the “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings”, edition dated 2019. All sections of this publication are included in the *Contract Documents*.

- 8.1 Agreement, including all Schedules;
- 8.2 Supplementary General Conditions;
- 8.3 General Conditions*;
- 8.4 Supplementary Specifications;
- 8.5 District of Sooke Bylaw 404, Subdivision and Development Standards Bylaw;
- 8.6 Specifications*;
- 8.7 Supplementary Standard Detail Drawings;
- 8.8 Supplementary Standard Detail Drawings as per Bylaw 404;
- 8.9 Standard Detail Drawings*;
- 8.10 Executed Form of Tender, including all Appendices;
- 8.11 *Contract Drawings* listed in Schedule 2 to the Agreement – “List of *Contract Drawings*”;
- 8.12 Optional Works Explanatory Plan;
- 8.13 Geotechnical Investigation – “Proposed Church Road Phase 2, Church Road – Sooke, BC” prepared by Ryzuk Geotechnical, February 16, 2022;
- 8.14 “Environmental Management Plan for Throup Road and Church Road Roundabout Construction, adjacent to Throup Stream” prepared by Swell Environmental Consulting, May 18, 2023
- 8.15 “Charters Road and Church Road Constructions Traffic Management Strategy, District of Sooke” prepared by ISL Engineering Ltd, May 2023
- 8.16 Parts of 2182 Church Road Landscape Drawings prepared by Murdoch de Greeff Inc. – “Issued For Approval”, February 4, 2022
- 8.17 Fortis BC Drawings - Church Rd and Throup Rd. Sooke – “Issued For Construction”, October 25, 2022

- 8.18 BC Hydro Drawing 500-D07-03041 “Issued For Review”, April 17, 2023
- 8.19 Instructions to Tenderers - Part I;
- 8.20 Instructions to Tenderers - Part II*
- 8.22 The following Addenda:

(ADDENDA, IF ANY)

(COMPLETE LISTING OF ALL DRAWINGS, PLANS AND SKETCHES WHICH ARE TO FORM A PART OF THE CONTRACT,
OTHER THAN STANDARD DETAIL DRAWINGS AND SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

Schedule 2 LIST OF CONTRACT DRAWINGS

TITLE	DRAWING NO.	DATE	REVISION NO.	REVISION DATE
Cover		May 5, 2023	0	
General Notes & Legend	C001	May 5, 2023	0	
Church Road Roadworks – Sta. 9+500 to 9+665	C201	May 5, 2023	0	
Church Road Roadworks – Sta. 9+665 to 9+830	C202	May 5, 2023	0	
Throup Road Roadworks – Sta. 12+000 to 12+030 & 13+000 to 13+025	C203	May 5, 2023	0	
Church Street & Francis Gardens Roadworks – Sta. 12+000 to 12+030 & 13+000 to 13+025	C204	May 5, 2023	0	
Church & Throup Road – Storm Plan and Profiles	C205	May 5, 2023	0	
Church Road – Water & Storm Plan and Profiles	C206	May 5, 2023	0	
Ditch & Storm Connection – Plan, Profile and Details	C207	May 5, 2023	0	
Curb Plan and Profiles – Throup Road Northbound	C211	May 5, 2023	0	
Curb Plan and Profiles – Church Road Southbound	C212	May 5, 2023	0	
Curb Plan and Profiles – Throup Road Eastbound	C213	May 5, 2023	0	
Curb Plan and Profiles – Roundabout Button and Apron	C214	May 5, 2023	0	
Curb Plan and Profiles – Wadams Way and 2182 Access	C215	May 5, 2023	0	
Driveway Profiles	C221	May 5, 2023	0	

Details and Typical Sections	C301	May 5, 2023	0	
Road Cross Sections – Church Road Sta. 9+500.5 to 9+570	C401	May 5, 2023	0	
Road Cross Sections – Church Road Sta. 9+580 to 9+690	C402	May 5, 2023	0	
Road Cross Sections – Church Road Sta. 9+700 to 9+770	C403	May 5, 2023	0	
Road Cross Sections – Church Road Sta. 9+780 to 9+850	C404	May 5, 2023	0	
Road Cross Sections – Throup Road Sta. 11+020 to 11+100	C407	May 5, 2023	0	
Grading Plan	C501	May 5, 2023	0	
Geometrics and Signage	C601	May 5, 2023	0	
Landscape Plan	L101	May 19, 2023	0	
Landscape Plan	L102	May 19, 2023	0	
Landscape Details	L103	May 19, 2023	0	
Church Road – Lighting Layout	E1.00	May 12, 2023	6	
Church Road – Lighting Layout	E1.01	May 12, 2023	6	
Pole Details	E2.00	May 12, 2023	6	
Details & Specifications	E2.01	May 12, 2023	6	
Underground Duct and Structures For U/G Servicing Provisions (Civil Works Only) – 6588 Throup Road – Sooke	500-U07-08875	April 17, 2023	1	

Modifications and Additions to the Master Municipal Construction Documents

The following conditions form part of the Contract and are supplementary to the MMCD General Conditions and Specifications. In the event of a direct conflict between the MMCD General Conditions and these Supplementary GC's the Supplementary GC's take precedence. Notwithstanding this order of precedence, in the event of a conflict between or within any of the Contract Documents, the more stringent provisions shall apply with the intent that those which produce the highest quality and performance, shall govern.

SECTION	SUB SECTION	SUPPLEMENTARY GENERAL CONDITIONS
GC 1.0 DEFINITIONS	New 1.79 Archaeological Artifacts	" <i>Archaeological Artifacts</i> means any fossils, artifacts, coins, articles of value or antiquity, remains, and other things of geological, archaeological or historical interest or value discovered at the <i>Place of the Work</i> ."
	New 1.80 Engineer	" <i>Engineer</i> means the <i>Contract Administrator</i> ."
	New 1.81 Utilities	" <i>Utilities</i> is used broadly and includes but is not limited to any and all lines, poles, structures, facilities, utilities for power, cable, TV, telephone, telecommunications, all sanitary and storm sewers, and all water, oil, gas and electric services, all steam pipes and services, all survey monuments, all street lights, traffic lights, traffic detector loops embedded in pavement, culverts, rail tracks, whether located above or below ground, whether visible or invisible, whether man-made or natural."
GC 2.0 DOCUMENTS	2.2.4 Document Hierarchy	<p>Replace Section (1) with the following:</p> <p>"The Contract Documents shall govern and take precedence in the following order with the Agreement taking precedence over all other Contract Documents:</p> <ul style="list-style-type: none"> a) Agreement b) Addenda c) Supplementary General Conditions d) General Conditions e) Supplementary Specifications f) District of Sooke Bylaw 404, Subdivision and Development Standards Bylaw g) Specifications h) Drawings listed in Schedule 2 to the Agreement i) Supplementary Detail Drawings j) Supplementary Standard Detail Drawings as per Bylaw 404 k) Standard Detail Drawings l) Executed Form of Tender m) Instructions to Tenderers n) All other Contract Documents."

GC 2.0 DOCUMENTS	New 2.4.3 Copies of Contract Documents	"The <i>Contract Drawings</i> shall not be used for the construction of the Work unless marked "Issued for Construction" and sealed by a registered professional engineer."
GC 3.0 CONTRACT ADMINISTRATOR	3.3.5 Contract Administration	Amend Clause 3.3.5 by adding: "The <i>Contract Administrator</i> will conduct survey checks of the completed work at his/her discretion. The <i>Contractor</i> will provide a survey assistant, at the <i>Contract Administrator's</i> request, for such checks."
GC 4.0 CONTRACTOR	4.6 Construction Schedule	Amend 4.6.2 by deleting: "monthly" and substituting "monthly or as required by the <i>Contract Administrator</i> ".
GC 18.0 PAYMENT	18.5 Payment	Amend 18.5.1 by replacing: "15th day" to read "30th day".
GC 20.0 LAWS, NOTICES, PERMITS AND FEES	New 20.4.2 Environmental Laws	"The <i>Contractor</i> shall indemnify the <i>Owner</i> , the <i>Contract Administrator</i> , and their respective employees, agents, officers and consultants for any costs, fines, expenses and penalties that the <i>Owner</i> is required to pay on account of the <i>Contractor</i> performing <i>Work</i> in breach of any applicable Federal, or Provincial or municipal laws, regulations, or orders."
SGC 27.0 ARCHAEOLOGICAL ARTIFACTS	New 27.1.1 Archaeological Artifacts	"Any Archaeological Artifacts discovered by the <i>Contractor</i> shall, as between the <i>Owner</i> and the <i>Contractor</i> , be deemed to be the absolute property of the <i>Owner</i> ".
	New 27.1.2 Archaeological Artifacts	"The <i>Contractor</i> shall immediately advise the <i>Contract Administrator</i> of the discovery by the <i>Contractor</i> of any Archaeological Artifacts and take all reasonable precautions to protect and preserve same".
SGC 28.0 APPROVED SUPPLEMENTAL	New 28.1 Approved Supplemental	"All MMCD board approved Supplementary's as listed at www.mmcd.net/ are to be included and in effect for this contract as of tender closing date."

SUPPLEMENTARY SPECIFICATIONS		
Add the following Supplementary Specifications (attached at end):		
SECTION	SUB SECTION	SUPPLEMENTARY SPECIFICATION
01 10 00SS Measurement and Payment	All	
Revise the following Master Municipal Specifications Platinum Edition:		
SECTION	SUB SECTION	SUPPLEMENTARY SPECIFICATION
01 52 01 Temporary Structures	1.6 Payment	<p>Add Clause 1.6.2: "Payment for mobilization and demobilization shall include all the Contractor costs of mobilization at the beginning of the project and the cost of demobilization at the end of the project.</p> <p>.1 Included in the mobilization are such items as bonding, insurance, permits, moving personnel, equipment and materials to the site, setting up temporary facilities and all preparation for performing the <i>Work</i>.</p> <p>.2 Included in demobilization are preparation and submission of record drawings, operation and maintenance manuals, removal of all personnel, equipment and materials and cleanup of the <i>Site</i> and the <i>Work</i>.</p> <p>.3 The lump sum price bid for this work shall be relative to the costs involved but shall not exceed ten percent of the <i>Tender Price</i>.</p> <p>.4 Payment shall be made as follows, as approved by the Contract Administrator:</p> <p>.1 60% of the lump sum bid will be included in the first progress payment certificate</p> <p>.2 40% of the lump sum bid will be included in the final progress payment certificate</p> <p>.5 The Contract Administrator may at his discretion authorize partial payment if mobilization or demobilization is not complete</p> <p>.6 The cost of other items specified under General Requirements shall be considered incidental to the work and separate payment will not be made for any other items in the General Requirements unless specifically noted in the <i>Schedule of Quantities and Prices</i>."</p>
01 55 00 Traffic Control, Vehicle Access and Parking	1.4 Traffic Control	<p>Add Clause 1.4.15:</p> <p>"Provide a detailed Traffic Management Plan (TMP) and drawings with dedicated traffic control and pedestrian delineation for safety of motorists, pedestrians and bicycle traffic for all locations where roadways are affected by construction activities. The TMP shall be sealed by a qualified professional engineer and will be approved by the Contract Administrator in advance of implementation. This plan is to be submitted to the Contract Administrator a minimum of 14 calendar days prior to the</p>

		<p>contractor's desired date of construction commencement. The plan shall be updated and modified as requested by the Contract Administrator, as the construction project proceeds and traffic management needs warrant. The TMP is to contain sufficient details to allow the Contract Administrator and Owner a clear understanding of how the Contractor will ensure the following performance specification will be achieved, at a minimum.</p> <ol style="list-style-type: none">1. TMP shall be prepared in accordance with the "Charters Road and Church Roads Constructions Traffic Management Strategy" prepared by ISL Engineering Ltd. to accommodate the adjacent road corridor construction project on Charters Road, planned for 2023 / 2024 construction.2. TMP shall be in prepared in accordance with the 2020 BC Ministry of Transportation and Infrastructure guidelines specified in the Traffic Management Guidelines for Work on Roadways Manual, and the 2016 Standard Specifications for Highway Construction. Table of Contents to include the following:<ol style="list-style-type: none">2.1. General Information2.2. Operations and Signage2.3. Users and Access2.4. Traffic Control Drawings2.5. Public Information Plan2.6. Incident Management Plan2.7. Implementation Plan3. Partial closure of existing travel lanes to a minimum of single lane alternating traffic to facilitate construction of the Works may be requested4. Diverted travel lanes must be on paved or granular base surfaces. Travel surface will allow for vehicles to move through the construction zone at an intended speed of 20 km/h.5. Minimize stopping traffic in the travel lane. No dumping or off loading of materials shall be permitted in the travel lane. Stoppages are permitted for vehicle access to and egress from the construction zone or for construction vehicles crossing the travel lane. No delays for full lane closure of more than 5 minutes. Traffic cannot queue into the Sooke Road R/W at any time.6. Provide a plan of all off site and on site signage and traffic control devices for review and acceptance by the Contract Administrator and the Owner. Update the plan as requested whenever signage or traffic control device locations are changed.7. Provide access for garbage collection and recycling pick-up programs and mail delivery to all residents and businesses. Provide communication to and coordination with all service providers as necessary to ensure access as required.8. Provide for the BC Transit bus routes. Communicate to and coordinate with BC Transit as necessary regarding temporary bus stop locations, transit through the work zone and any other issues that may arise that require discussion and coordination.
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		<p>9. Work shall be in accordance with District Of Sooke Noise Bylaws.</p> <p>10. At the discretion of the Contract Administrator, the Contractor may be requested to modify the TMP to accommodate any irregularities or excessive congestion of traffic flow. Maximum total delays of up to 5 minutes are permitted</p> <p>11. Maintain at least one access to all properties, at all times unless otherwise authorized by the Contract Administrator or unless the work is directly in front of a residential driveway. Where closures of residential driveways are required, provide a hand delivered letter a minimum of 72 hours prior to construction to impacted property owner(s). Driveways shall be closed for 72 hours for concrete curing. Daily access shall be provided for trenching where possible using steel plates.</p> <p>12. Facilitate priority access through the work zone for fire trucks and all other emergency vehicles when they are operating with emergency lights and sirens active and where possible otherwise.</p> <p>13. Where sidewalks are closed, provide adequate signage regarding pedestrian detour including signage at closest pedestrian crossing at each side of the closed section. Where work directly impacts sidewalk accessibility, “fixed in place” ramps with a tactile surface are to be provided at either end of the work area allowing pedestrians to safely negotiate the grade change between the roadway surface and drop ramps, curbs, and boulevards. Ramps must be of solid / sound construction, a minimum of 1.5m wide, less than 8% grade, and fixed in place with a traction surface and have a raised barrier edge a minimum of 35mm high.</p> <p>14. Provide plan for on site or off site storage of materials and equipment, location of site trailers and all other storage facilities (e.g. shipping containers). Use of the road right-of way or other public lands will require a Permit to Occupy a Road Allowance.</p>
01 57 01 Environmental Protection	1.1 Section 10 57 01 Includes	Add Clause 1.1.5: “Qualified Environmental Professional”
	1.2 Temporary Erosion and Sediment Controls	Add Clause 1.2.1.4: “All catch basin, silt trap, and lawn basin inlet castings that may receive runoff from the work area to be covered with filter cloth. Ensure no silt or sediment enters the storm drainage system while removing the silt cloth once construction is complete”
	1.4 Environmental Protection	Add Clause 1.4.4: “Disposal of Waste: <ol style="list-style-type: none"> 1. Do not bury rubbish and waste materials on site. 2. Do not dispose of waste or volatile materials such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers. 3. Dispose of waste materials off property, in accordance with applicable provincial and/or federal regulations. 4. Removal and disposal of Asbestos Cement pipe shall follow current WCB requirements.”

		<p>Add Clause 1.4.5: “Concrete and Asphalt Cutting and Placing:</p> <ol style="list-style-type: none"> 1. Control and pick up all wet or dry residue from saw cutting, coring, grinding and milling operations by means of a vacuum device or street sweeper. Under no circumstances is any dust, debris or run-off to migrate into waterways, storm or sanitary sewers. 2. Minimize the volume of wastewater produced by cutting tools by recycling and reusing wastewater whenever possible. 3. Do not allow cement washout into the streets, driveways, gutters, storm drains, ditches or water courses. 4. Set up and operate portable mixers on tarps or heavy drop cloths to contain spillage. 5. When breaking up and milling pavement, remove broken pavement and sweep area clean.”
01 57 01 Environmental Protection	1.6 Measurement and Payment	<p>Add Clause 1.6.2: “Environmental Protection Plan to be prepared in accordance with “Environmental Management Plan for Throup Road and Church Road Roundabout Construction, Adjacent to Throup Stream” prepared by Swell Environmental Consulting. Payment for Environmental Protection Plan shall be lump sum and includes all work to prepare, deliver and enact an Environmental Management Plan prepared by a registered qualified environmental professional (QEP) that contains the following components: tree protection plan; sensitive ecosystem management plan; sediment and erosion control plan; invasive species management plan; waste disposal; storage areas and laydown area management plan; equipment idling control plan; hazardous material control and spill response plan.”</p>
01 58 01 Project Identification	1.2 Temporary Project Sign	<p>Clause 1.2.1.1 delete: “Provide and erect, within 3 weeks of signing Contract, a project sign in a location designated by the Contract Administrator.” Replace with: “Erect, within 2 weeks of being provided signs, two project signs in locations designated by the Contract Administrator.”</p> <p>Delete Clauses 1.2.1.2 and 1.2.1.3</p>
03 40 01 Pre-cast Concrete	1.4 Measurement and Payment	<p>Clause 1.4.2 delete: “concrete footing” Replace with: “finished ground”. Add “Shop drawings to be provided for approval.”</p>
26 56 01 Roadway Lighting	1.9 Measurement and Payment	<p>Add Clause 1.9.4: “All Streetlights, poles, bases, conduit, wiring, junction boxes and pedestrian flashers to be installed as a complete, functioning system as per AES Drawings, paid at the unit rates shown in the Schedule of Quantities and Prices. Payment to include all labour, equipment and materials required to undertake the installation.”</p>
31 24 13 Roadway Excavation, Embankment and Compaction	1.8 Measurement and Payment	<p>Add Clause 1.8.14: “Payment for common excavation (neat line area to design subgrade) includes excavation and offsite disposal to design subgrade, including asphalt and concrete removal. Payment includes removal of all existing site fixtures, retaining walls, signs, fencing, stumps, pipes, culverts, conduits and underground infrastructure as shown on the Drawings.</p>

		Measurement shall be based on the surface area neat lines required and shown on the Drawings and surveyed volume calculations as specified in Supplemental Specifications 01 10 00SS."
32 12 16 Hot Mix Asphalt Concrete Paving	1.5 Measurement and Payment	Clause 1.5.1 change: "based on weigh tickets provided to Contract Administrator as loads are delivered" to "based on area for each thickness specified in the Schedule of Quantities and Prices". Clause 1.5.3 change: "based on weigh tickets provided to Contract Administrator as loads are delivered" to "based on area for each thickness specified in the Schedule of Quantities and Prices".
32 17 23 Painted Pavement Markings	1.5 Measurement and Payment	Add Clause 1.5.5: "Supply and installation of traffic control signs and delineators shall be paid at the unit price shown on the Schedule of Quantities and Prices and shall include all labour, equipment and materials required to complete the installation as shown on the Contract Drawings."
		Add Clause 1.5.6: "Relocation of existing traffic control signs shall be paid at the unit price shown on the Schedule of Quantities and Prices and shall include all labour, equipment and materials required to complete the removal and re-installation as shown on the Contract Drawings. The post and signs shall be salvaged for re-installation and new concrete bases installed. Sign relocations required for construction that are not shown in the Contract Drawings will be considered incidental to the work."
32 31 13 Chain Link Fences and Gates	1.5 Measurement and Payment	Clause 1.5.4 delete: "Payment for handrails and bicycle baffles includes all materials, work and incidentals shown on Standard Detail Drawings C11 and C14 as separate items for each type of installation. Measurement will be made horizontally along surface of the ground for length of handrail or bicycle baffle installed." Replace with: "Payment for handrails includes all materials, work and incidentals shown on Contract drawings. Measurement will be made horizontally along surface of the ground for length of handrail installed."
32 91 21 Topsoil and Finish Grading	1.4 Measurement and Payment	Clause 1.4.1 delete: "Payment for growing medium will be by actual area provided and payment for imported topsoil will be based on loose truck box volume." Replace with: "Payment for growing medium and imported topsoil will be by actual area provided at depth specified in contract drawings and Schedule of Quantities and Prices."
33 44 01 Manholes and Catch basins	1.5 Measurement and Payment	Clause 1.5.1.1 delete: "except riser". Replace with: "including riser". Delete Clause 1.5.1.2: Clause 1.5.3 delete: "existing catchbasins,". Replace with: "existing manholes, catchbasins,".
32 93 01 Planting of Trees, Shrubs	1.9 Measurement	Add clause 1.9.3: "Payment for Irrigation System shall be paid at the unit price shown on the Schedule of Quantities and Prices

& Ground Cover	and Payment	and shall include all labour, equipment, and materials required to design, supply and install a complete functioning irrigation system to support sod, trees and shrubs in specified areas, as shown on the Contract Drawings. Contractor is to provide Shop Drawings for approval prior to construction.” Add Clause 1.9.4: “Native riparian plantings to be salvaged or supplied in 1-gallon pots, planted in a grid at 1m intervals, centre-to-centre, in an arrangement directed by the Owner’s QEP. Plantings to include mix of willow, red osier dogwood, slough sedge and soft-stemmed bullrush complete with mulch.”
33 11 01 Waterworks	1.8 Measurement and Payment	Clause 1.8.12 delete: “tie-ins to existing mains” Replace with “tie-ins to existing mains, service box adjustments/relocations, and watermain lowering” delete: “tie-in work” Replace with “work, including traffic control,”

1.0 GENERAL

- .1 Section 01 10 00SS addresses additional measurement and payment clauses which do not apply to other specification sections

1.1 Quality Control Testing

- .1 Perform all necessary Quality Management testing as indicated on the Drawings and/or within the Contract Documents. Payment shall be based on the Lump Sum bid the Schedule of Quantities and Unit Prices as measured and accepted by the Contract Administrator. Payment shall be accepted as full compensation for everything furnished and done. Payment of the Lump Sum bid will be paid in equal amounts each month.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or review by the Contract Administrator's instructions.
- .3 All submissions shall be prompt to ensure that all necessary retesting and replacement of construction can proceed without delay.
- .4 Process and distribute all required copies of test reports and test information and related instructions to all of his Sub-Contractors and Suppliers to ensure that all necessary retesting and replacement of construction can proceed without delay.
- .5 Provide the Owner with copies of all test results.
- .6 Submit samples and/or materials required for testing, as specifically requested in specifications or by the Owner.
- .7 Submit test results specifying that material requirements are being met.
- .8 Provide labour and facilities to obtain and handle samples and materials on-site. Provide sufficient space to store and cure test samples.

**1.2 Layout survey, quantity
survey, volume
calculations and record
survey**

- .1 Payment shall be based on the Lump Sum bid in the Schedule of Quantities and Unit Prices as measured and accepted by the Contract Administrator. Payment shall be accepted as full compensation for everything furnished and done.
- .2 Payment of the lump sum bid will be paid in equal amounts each month.
- .3 The Contractor is responsible for all staking and survey layout and quantity calculations required for the completion of all Work, as shown on the Contract Drawings, and to affect incidental field adjustments.
- .4 The unit price bid shall include, but not be limited to; all survey layout, staking, cross sections, calculations of volumes required for tender items, coordination required for the completion of the work, record survey, and all other work and materials incidental and necessary to complete the Work to provide a functional system.
- .5 Any calculations necessary shall be performed by the Contractor and shall be provided to the Contract Administrator at any time upon request. Information shall include both text files and any CAD drawings.



Church Road – Throup Road Roundabout

CONTRACT DRAWINGS



McElhanney

File: 2241-20128-01
May 2023

McElhanney Corp. A1 - 2020-05-01

CLIENT

DISTRICT OF SOOKE

ADDRESS / CONTACT INFO.

2205 OTTER POINT ROAD, SOOKE, B.C.

PROJECT NAME

CHURCH ROAD ROUNDABOUT

DESCRIPTION

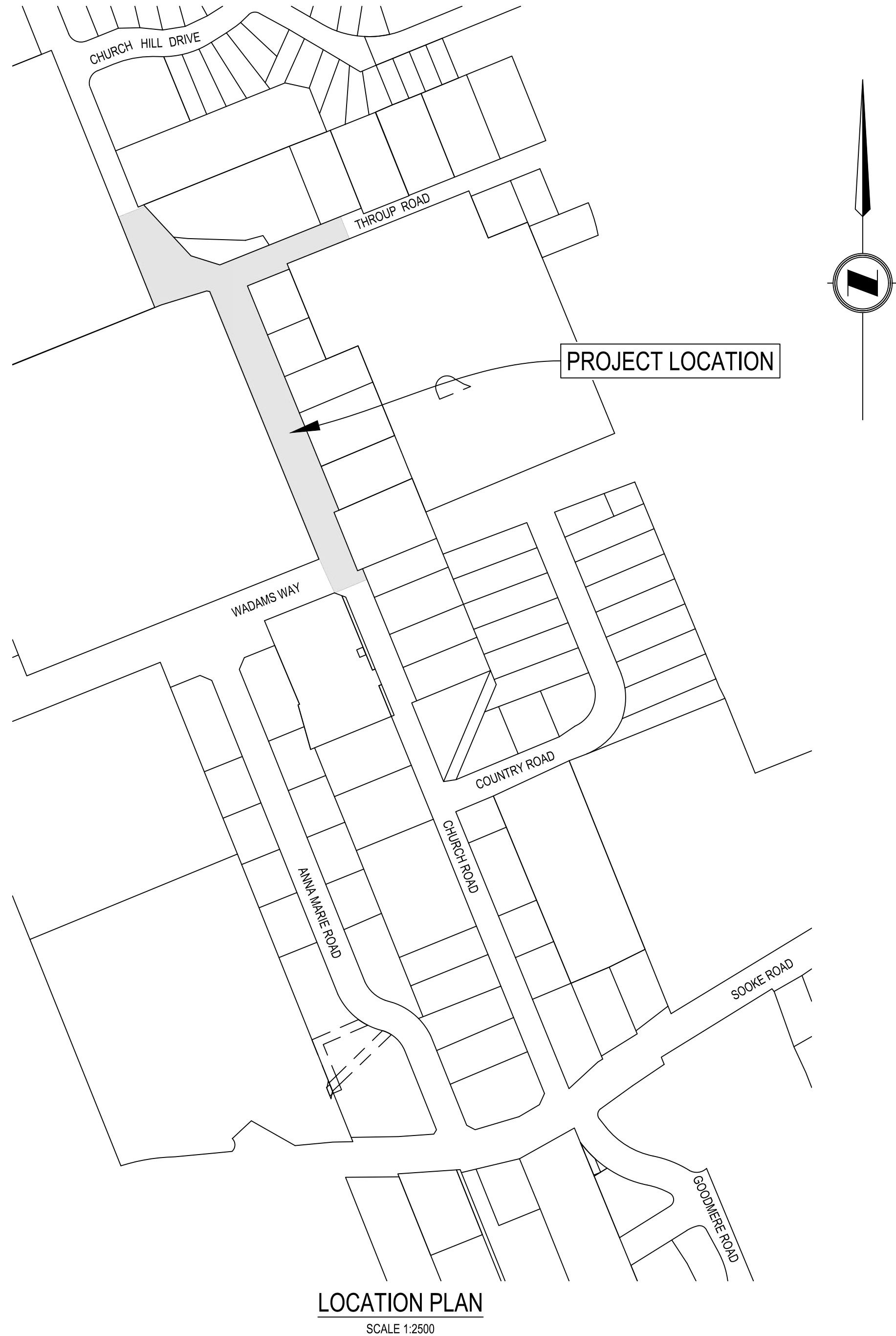
CIVIL ENGINEERING DESIGN

McELHANNEY PROJECT

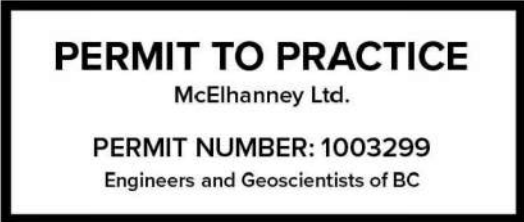
2241-20-128
MAY 05, 2023

STATUS

ISSUED FOR TENDER



DRAWING LIST									
SHEET No.	DRAWING TITLE	LOCATION	DESCRIPTION	REVISIONS					
C000	COVER			0	1	2	3	4	5
C001	GENERAL NOTES & LEGEND			X					
C201	CHURCH ROAD ROADWORKS	CHURCH ROAD	STA. 9+500 TO STA. 9+665	X					
C202	CHURCH ROAD ROADWORKS	CHURCH ROAD	STA. 9+665 TO STA. 9+830	X					
C203	THROUP ROAD ROADWORKS	THROUP ROAD	STA. 11+000 TO STA. 11+120	X					
C204	CHURCH ST. AND FRANCIS GDNS. ROADWORKS	CHURCH ROAD & FRANCIS GDNS	STA. 12+000 TO 12+030 & STA. 13+000 TO 13+025	X					
C205	CHURCH AND THROUP ROAD STORM PLAN AND PROFILES	CHURCH & THROUP ROAD		X					
C206	CHURCH ROAD WATER & STORM PLAN & PROFILES	CHURCH ROAD		X					
C207	DITCH & STORM CONNECTION	CHURCH ROAD		X					
C208	FRANCES GARDENS STORM MAIN REPLACEMENT	THROUP ROAD	STA 1+000 TO 1+170	X					
C209	FRANCES GARDENS STORM MAIN REPLACEMENT	THROUP ROAD	STA 1+170 TO 1+300	X					
C211	CURB PLAN AND PROFILES THROUP ROAD NORTHBOUND	CHURCH ROAD	STA. 1+000 TO STA. 1+065	X					
C212	CURB PLAN AND PROFILES CHURCH ROAD SOUTHBOUND	CHURCH ROAD	STA. 2+000 TO 2+030 & STA. 3+000 TO 3+090	X					
C213	CURB PLAN AND PROFILES THROUP ROAD EASTBOUND	CHURCH ROAD	STA. 4+000 TO 4+080 & STA. 5+000 TO 5+030	X					
C214	CURB PLAN AND PROFILES ROUNDABOUT BUTTON AND APRON	CHURCH ROAD	STA. 6+000 TO 6+065 & 7+000 TO 7+075	X					
C215	CURB PLAN AND PROFILES WADAMS AND 2182 ACCESS	CHURCH ROAD	STA 11+000 TO 11+037 & 12+000 TO 12+110	X					
C221	DRIVEWAY PROFILES	CHURCH ROAD		X					
C301	DETAILS AND TYPICAL SECTIONS	CHURCH ROAD		X					
C401	ROAD CROSS SECTIONS CHURCH ROAD STA. 9+500.5 TO 9+570	CHURCH ROAD		X					
C402	ROAD CROSS SECTIONS CHURCH ROAD STA. 9+580 TO 9+690	CHURCH ROAD		X					
C403	ROAD CROSS SECTIONS CHURCH ROAD STA. 9+700 TO 9+770	CHURCH ROAD		X					
C404	ROAD CROSS SECTIONS CHURCH ROAD STA. 9+780 TO 9+850	CHURCH ROAD		X					
C405	ROAD CROSS SECTIONS THROUP ROAD STA. 11+020 TO 11+100	THROUP ROAD		X					
C501	GRADING PLAN	CHURCH ROAD		X					
C601	GEOMETRICS AND SIGNAGE	CHURCH ROAD		X					



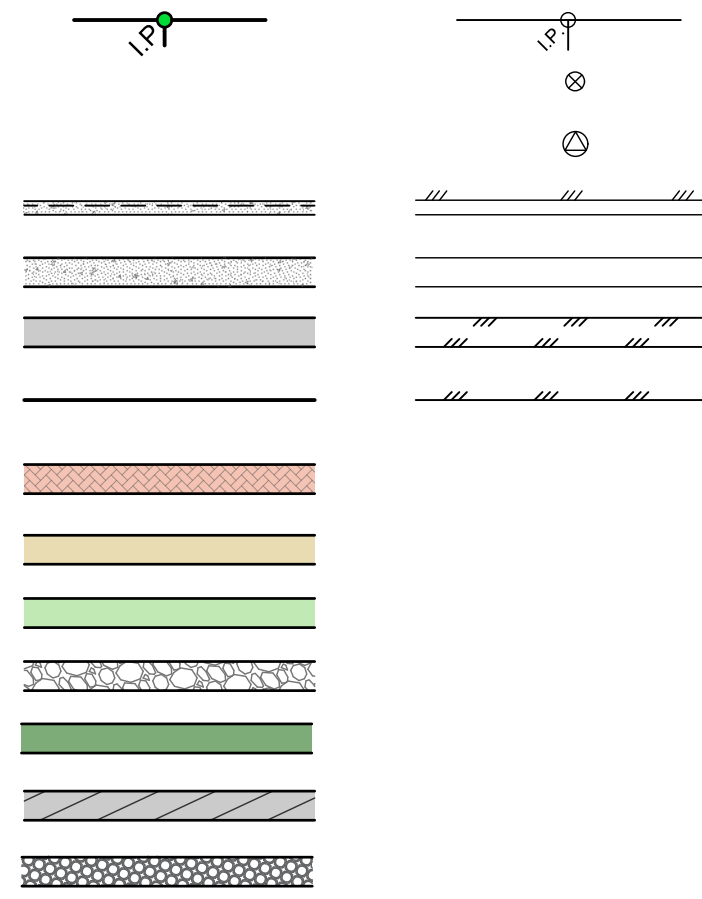
Suite 500
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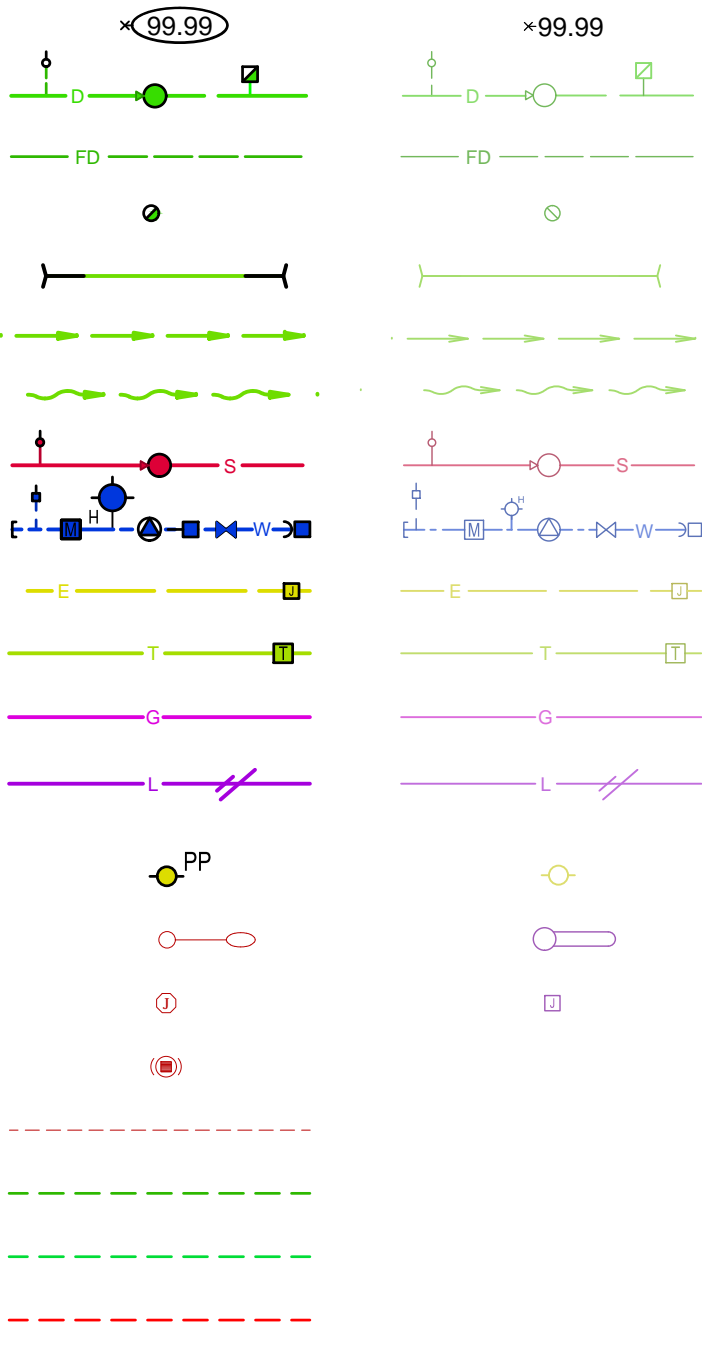
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ENGINEERING LEGEND

- IRON PROPERTY PIN
- BENCHMARK - GEODETIC DATUM
- SURVEY MONUMENT
- CURB & GUTTER
- SIDEWALK (CONCRETE)
- SIDEWALK (ASPHALT)
- PAVEMENT
- STAMPED ASPHALT (HERRINGBONE PATTERN)
- TOPSOIL AND HYDROSEED
- TOPSOIL AND SOD
- RIPRAP
- NATIVE RIPARIAN PLANTINGS
- ASPHALT MILL & OVERLAY
- COBBLE GRAVELS



- ELEVATION
- STORM SEWER
- FRENCH DRAIN
- LAWN BASIN
- CULVERT
- SWALE
- DITCH
- SANITARY SEWER
- WATERMAIN
- UNDERGROUND B.C. HYDRO
- UNDERGROUND B.C. TEL
- GAS MAIN
- TRAFFIC SIGNAL & STREET LIGHT
- UTILITY POLE LINE
- STREETLIGHT (DAVIT)
- JUNCTION BOX
- PEDESTRIAN FLASHER
- UNDERGROUND ELECT.
- IRRIGATION SLEEVE
- TOE OF FILL
- TOP OF CUT



GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DRAWINGS INCLUDED IN THE LATEST REVISION OF THE DISTRICT OF SOOKE SUBDIVISION AND DEVELOPMENT BYLAW, ENGINEERING SPECIFICATIONS AND STANDARD DRAWINGS, AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND AMENDMENTS TO THE MMCD FOR WORK ON MUNICIPAL ROW OR SROW.
- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE BC BUILDING CODE PART 7 FOR WORK ON THE BUILDING LOTS.
- IF A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE MOST STRINGENT SPECIFICATION SHALL APPLY.
- CONTRACTOR TO ENSURE MINIMAL DISRUPTION TO LOCAL TRAFFIC IN ACCORDANCE WITH DISTRICT OF SOOKE REQUIREMENTS. CONTRACTOR TO PROVIDE TRAFFIC MANAGEMENT PLAN (TMP). TMP REQUIRED TO BE SUBMITTED AND APPROVED BY DoS PRIOR TO WORKS.
- CONTRACTOR TO OBTAIN AND PAY FOR A PERMIT TO CONSTRUCT WORKS ON A MUNICIPAL RIGHT OF WAY FROM THE DISTRICT OF SOOKE (DoS) 2 WEEKS PRIOR TO THE START OF ANY CONSTRUCTION.
- CONTRACTOR TO MAINTAIN AN UP-TO-DATE SET OF REDLINE DRAWINGS FOR THE PREPARATION OF AS-CONSTRUCTED DRAWINGS. THE REDLINES ARE TO BE DELIVERED TO THE ENGINEER PRIOR TO SUBSTANTIAL PERFORMANCE. ALL DATA REQUIRED MUST BE ACCEPTABLE TO THE ENGINEER TO PREPARE THE AS-CONSTRUCTED DRAWINGS. MISSING OR INADEQUATE DATA TO BE PROVIDED BY THE CONTRACTOR OR BY AN INDEPENDENT SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR TO ENSURE EXISTING MONUMENTS AND IRON PINS ARE NOT DISTURBED DURING CONSTRUCTION. ANY MONUMENTS OR IRON PINS IN DANGER OF DISTURBANCE ARE TO BE REFERENCED AND, IF DISTURBED, BE REPLACED BY A BCLS AT THE CONTRACTORS EXPENSE.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION LAYOUT, MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR CO-ORDINATING THE VARIOUS PARTS OF THE WORK IN THESE DRAWINGS. McELHANNEY WILL PROVIDE DIGITAL FILES FOR LAYOUT PURPOSES UPON REQUEST.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION TO THE OWNER AND McELHANNEY LTD. THAT THEY WILL ASSUME THE RESPONSIBILITIES OF THE PRIME CONTRACTOR AS OUTLINED IN THE WORKERS COMPENSATION ACT FOR THE DURATION OF THE PROJECT.
- NO CONSTRUCTION TO TAKE PLACE UNLESS DRAWINGS ARE ISSUED FOR CONSTRUCTION AND ALL APPROVALS ARE IN PLACE. CONTRACTOR TO CONFIRM WITH ENGINEER.

TRENCHING, EXCAVATING AND BACKFILLING

- CONTRACTOR TO SUBMIT A DEWATERING PLAN & PROCEDURE FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.
- CONTRACTOR TO EXCAVATE TO CONFIRM LOCATION AND ELEVATION OF EXISTING UTILITIES AT ALL CROSSINGS AND CONNECTION POINTS AND CONFIRM ELEVATIONS WITH THE ENGINEER PRIOR TO CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND ARE REQUIRED TO BE CONFIRMED IN THE FIELD. ANY DAMAGE OR REPAIR TO EXISTING UTILITIES SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
- DO NOT START ANY BACKFILL OPERATION DURING CONSTRUCTION PRIOR TO THE ENGINEER'S INSPECTION.
- CONTRACTOR TO ENSURE THAT ALL THE EXISTING SERVICES REMAIN IN OPERATION DURING CONSTRUCTION.
- AFTER CONSTRUCTION, RESTORE WORK AREAS AND ALL EXISTING FEATURES TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE DISTRICT OF SOOKE AND/OR PRIVATE PROPERTY OWNER.
- ADJUST ALL PROPOSED AND EXISTING APPURTENANCES TO MEET THE FINAL GRADES.
- ALL UTILITY TRENCHING TO BE IN ACCORDANCE WITH DoS STD. DWG. MMCD SS G4 AND MMCD SECTION 31 23 01 - EXCAVATING, TRENCHING & BACKFILLING.
- WHERE A TRENCH IS UNDER OR WITHIN 1.0m FROM THE EDGE OF A ROAD OR DRIVEWAY, USE PIT RUN GRAVEL BACKFILL FROM THE TOP OF THE PIPE BEDDING TO THE TOP OF THE ROAD, PARKING OR DRIVEWAY SUBGRADE AS PER DoS STD. DWG. MMCD SS G4.
- ALL EXCAVATION TO BE AS PER WCB REQUIREMENTS UNLESS OTHERWISE APPROVED IN WRITING BY A GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A QUALIFIED INDEPENDENT GEOTECHNICAL TESTING ENGINEER TO PROVIDE QUALITY CONTROL SERVICES DURING CONSTRUCTION AND SHALL PROVIDE THE FOLLOWING AT A MINIMUM UNLESS APPROVED IN WRITING BY A GEOTECHNICAL ENGINEER:
 - SIEVE ANALYSIS OF SANDS AND AGGREGATES SUPPLIED TO THE WORK.
 - STANDARD PROCTOR DENSITY CURVES FOR BACKFILL MATERIALS.
 - STANDARD PROCTOR DENSITY CURVES FOR APPROVED BORROW MATERIALS.
 - TRENCH BEDDING DENSITY TEST (MAINLINE) - ONE FOR EVERY 75m OF TRENCH. MINIMUM ONE BETWEEN ANY TWO MANHOLES.
 - TRENCH BACKFILL DENSITY TEST (MAINLINE) - ONE FOR EVERY 75m OF TRENCH AT EACH 1.0m FILL DEPTH. MINIMUM ONE BETWEEN ANY TWO MANHOLES (INCLUDING ONE AT SURFACE LEVEL).
 - TRENCH BACKFILL DENSITY TEST (SERVICE) - ONE PER SERVICE AT EACH 1.0m FILL DEPTH (INCLUDING ONE AT SURFACE LEVEL).

ROADWORKS

- CONSTRUCT ALL ROADWAYS AS SHOWN ON THE TYPICAL SECTIONS AND DETAIL DRAWINGS.
- ALL PAVING TO BE IN ACCORDANCE WITH MMCD SECTION 32 12 16 - HOT-MIX ASPHALT CONCRETE PAVING. MIX DESIGN TO BE APPROVED BY GEOTECHNICAL ENGINEER.
- ALL GRANULAR BASE AND GRANULAR SUB-BASE TO BE IN ACCORDANCE WITH MMCD SECTION 31 05 17 - AGGREGATES & GRANULAR MATERIALS.
- CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A QUALIFIED INDEPENDENT GEOTECHNICAL TESTING ENGINEER TO PROVIDE QUALITY CONTROL SERVICES DURING CONSTRUCTION AND SHALL PROVIDE THE FOLLOWING AT A MINIMUM UNLESS APPROVED IN WRITING BY A GEOTECHNICAL ENGINEER:
 - SIEVE ANALYSIS OF SANDS AND AGGREGATES SUPPLIED TO THE WORK.
 - STANDARD PROCTOR DENSITY CURVES FOR BACKFILL MATERIALS.
 - STANDARD PROCTOR DENSITY CURVES FOR APPROVED BORROW MATERIALS.
 - COMPACTION CONTROL TESTS FOR BACKFILL AND EMBANKMENT MATERIAL INCLUDING:
 - GRANULAR BASE (CURBS) - ONCE PER 50 LINEAL METRES PLUS PROOF ROLL TEST, FULL LENGTH.
 - GRANULAR BASE (ROADS) - ONCE PER 50 LINEAL METRES PLUS PROOF ROLL TEST, FULL LENGTH.
 - GRANULAR BASE (WALKWAYS) - ONCE PER 50 LINEAL METRES PLUS PROOF ROLL TEST, FULL LENGTH.
 - CONCRETE MIX DESIGN AND TESTING
 - CONCRETE STRENGTH TESTS (MINIMUM THREE SPECIMEN CYLINDERS IN ACCORDANCE WITH CSA A23.1) FOR THE FOLLOWING:
 - CURB AND GUTTER - ONCE PER 150 LINEAL METRES (MINIMUM ONE PER DAY DURING CONCRETE PLACING)
 - CONCRETE SIDEWALKS AND DRIVEWAYS - ONCE PER 50 SQUARE METRES MINIMUM ONCE PER DAY DURING CONCRETE PLACING
 - ASPHALT MIX DESIGN AND TESTING
 - ASPHALT TESTS FOR THE FOLLOWING:
 - AGGREGATE GRADATION TESTS - ONE PER 300 TONNES OF PRODUCTION (MINIMUM ONE PER DAY DURING ASPHALT PLACEMENT).
 - MARSHALL TEST - THREE BRIQUETTES FOR EVERY 300 TONNES OF PRODUCTION (MINIMUM ONE PER DAY DURING ASPHALT PLACEMENT).
 - COMPACTION - ONE CORE FOR EVERY 500sq.m PLACED.
 - SUBGRADE TO BE APPROVED BY GEOTECHNICAL ENGINEER, ANY FAILURE OF THE SUBGRADE AFTER APPROVAL IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY MITIGATION PROCEDURES REQUIRED TO PROTECT THE SUBGRADE IS THE RESPONSIBILITY OF AND AT THE EXPENSE OF THE CONTRACTOR.

SIGNING AND PAVEMENT MARKINGS

- ALL SIGNS AND SIGN POSTS TO BE IN ACCORDANCE WITH MUTCD FOR CANADA AND BIKEWAY TRAFFIC CONTROL GUIDELINES FOR CANADA.
- PAVEMENT MARKING MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH MMCD SECTION 32 17 23 - PAINTED PAVEMENT MARKINGS AND MANUAL OF STANDARD TRAFFIC SIGNS AND PAVEMENT MARKINGS, LATEST EDITION. LONG-LINES TO BE PAINTED; STOP BARS, CROSSWALKS AND SYMBOLS TO BE "THERMOPLAST"; GREEN PAINT TO BE METHYL METHACRYLATE (MMA).

HYDRO, TELEPHONE, STREETLIGHTING, CABLE & GAS

- CONTACT "BO ONE CALL" AT 1-800-474-8886 A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR TO REVIEW INFORMATION PRIOR TO START OF ANY EXCAVATION.
- CONTACT "DIGSHAW" AT 1-866-DIGSHAW (344-7429) A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR TO REVIEW INFORMATION PRIOR TO START OF ANY EXCAVATION.
- CONTACT BC HYDRO, TELUS, SHAW CABLE AND FORTIS BC 48 HOURS PRIOR TO THE START OF ANY EXCAVATION.
- CONNECTION TO, OR ALTERATION OF, EXISTING BC HYDRO, TELUS, SHAW CABLE, FORTISBC, CRD OR OTHER UTILITIES WILL BE UNDERTAKEN BY THE APPROPRIATE UTILITY ONLY. CONTRACTOR TO PROVIDE SITE ACCESS TO ALL UTILITIES AS REQUIRED.
- ANY BC HYDRO, TELUS, SHAW CABLE OR FORTIS BC FACILITIES SHOWN ON THE ENGINEERING DRAWINGS ARE SCHEMATIC ONLY. CONSTRUCT UNDERGROUND HYDRO, TELEPHONE AND CABLE AS SPECIFIED AND IN ACCORDANCE WITH BC HYDRO, TELUS AND SHAW CABLE STANDARD SPECIFICATIONS AND DRAWINGS.

STORM SEWER

- ALL MANHOLES TO BE 10500 UNLESS OTHERWISE NOTED AND TO BE AS PER MMCD STD. DWG. S1. MANHOLE LIDS TO BE SET TO MATCH FINISHED GRADES.
- ALL CATCHBASINS TO BE AS PER MMCD SS S11.
- CATCH BASIN LEADS TO BE 150mm PVC DR28 UNLESS OTHERWISE INDICATED. IF COVER IS 600mm OR LESS THAN USE DUCTILE IRON PIPE.
- CONTRACTOR TO PROVIDE ENGINEER WITH CCTV VIDEO OF STORM SEWER SYSTEM AS PER DISTRICT OF SOOKE SPECIFICATIONS INCLUDING FLUSH & CCTV VIDEO AT SUBSTANTIAL COMPLETION.
- ALL HEADWALL STRUCTURES TO BE PRECAST CONCRETE AS PER MMCD S13 UNLESS OTHERWISE NOTED

ENVIRONMENTAL AND TREE PROTECTION

- CONTRACTOR TO PROVIDE AN ENVIRONMENTAL PROTECTION & MANAGEMENT PLAN (TO BE APPROVED BY DoS) PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT A MINIMUM OF 48 HOURS BEFORE COMMENCING CONSTRUCTION, WHICH WILL PROVIDE DETAILS AND PROCEDURES, AT A MINIMUM, OF THE FOLLOWING:
 - DISPOSAL OF WASTES.
 - DISCHARGING OF TRENCH WATER.
 - EROSION AND SEDIMENT CONTROL.
 - FUEL SPILL CONTROL, INCLUDING SIZE AND TYPE OF SPILL KITS.
 - DRAINAGE, TREATMENT AND DISPOSAL OF DEWATERING, IN ACCORDANCE WITH REGULATORY AGENCY REQUIREMENTS.
- CONTRACTOR TO OBTAIN PERMISSION FROM DoS PRIOR TO REMOVAL OF ANY TREES ON PRIVATE OR PUBLIC PROPERTY. TREES AND TREE ROOTS ARE TO BE PROTECTED DURING CONSTRUCTION. HAND DIG WHERE ROOTS OVER 50mm ARE ENCOUNTERED. CERTIFIED ARBORIST TO BE ENGAGED BY THE CONTRACTOR.
- ALL BOULEVARD TREES ARE TO BE PLANTED WITH A MIN. 3.5mx2.0mx0.8m TREE PIT, CONTAINING A MIN. 8 cu.> OF TOPSOIL. THE DoS MUST INSPECT THE EXCAVATED TREE WELLS PRIOR TO TOPSOIL INSTALLATION. ALL BOULEVARD TREES TO BE IRRIGATED.

PARKS AND LANDSCAPING

- SUBMIT AND OBTAIN APPROVAL OF IRRIGATION DRAWINGS FROM THE DISTRICT OF SOOKE PARKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO CONFIRM LOCATION OF AND COORDINATE WITH APPLICABLE UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE WORKS.
- LANDSCAPE START UP MEETING IS REQUIRED TO DISCUSS IRRIGATION INSPECTION SCHEDULE PRIOR TO INSTALLATION.
- IRRIGATION SHALL BE UNDERTAKEN IN ACCORDANCE WITH SPECIFICATIONS AND LOCATIONS SET FORTH IN SOOKE SUBDIVISION AND DEVELOPMENT BYLAW, AS APPLICABLE.

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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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2205 OTTER POINT ROAD, SOOKE, B.C.

CHURCH ROAD ROUNDABOUT
GENERAL NOTES & LEGEND

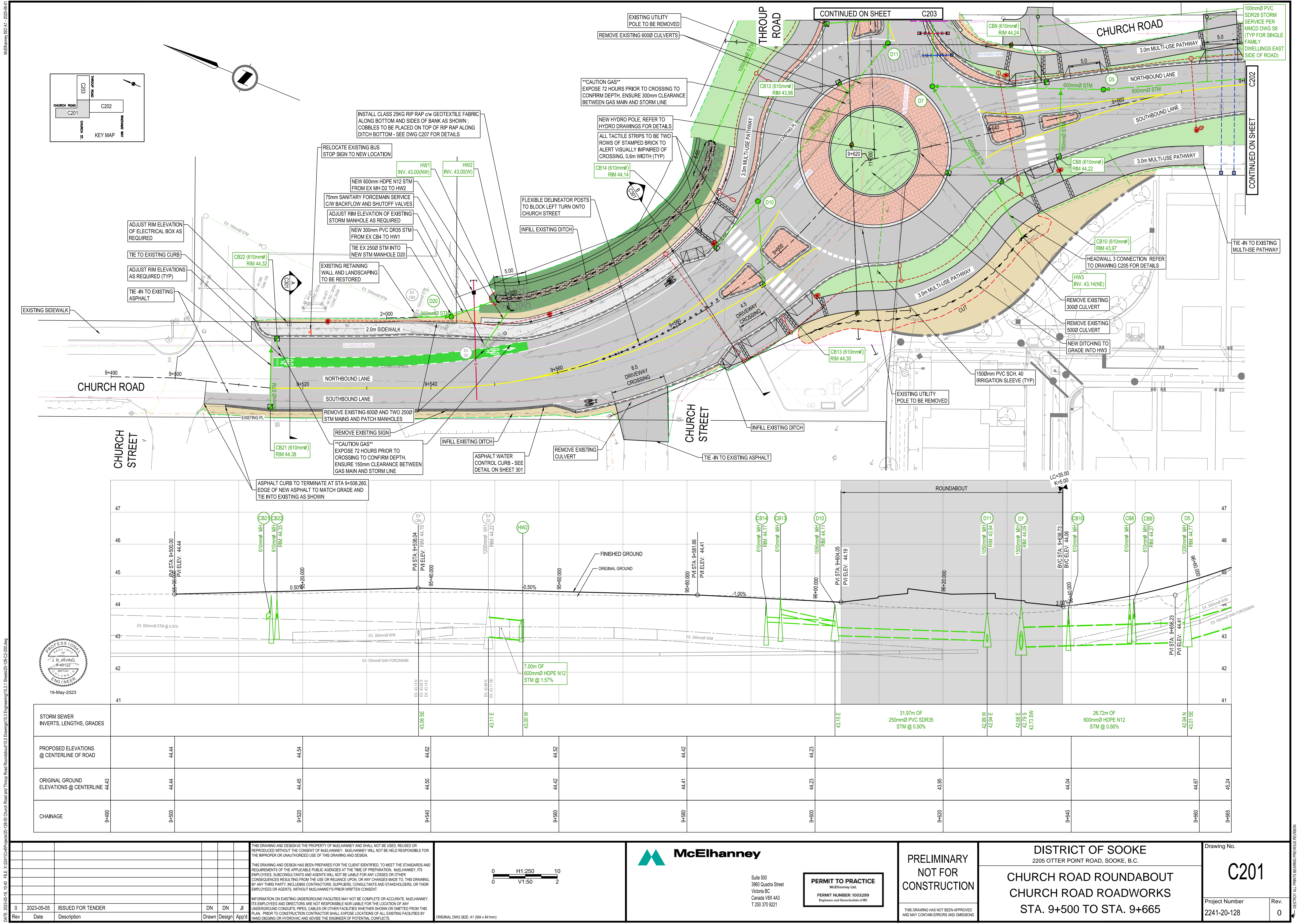
Drawing No.

C001

Project Number
2241-20-128

Rev.
0

DATE: 2023-05-19, 10:40, FILE: K:\2021\Church Road and Thruway Road Roundabout\100 Drawings\103.1 Engineering\103.1 Sheet\20-129-02-200.dwg, McElhanney (S.O. 1) - 2020-05-01




Rev	Date	Description	Drawn	Design	App'd
0	2023-05-05	ISSUED FOR TENDER	DN	DN	JL

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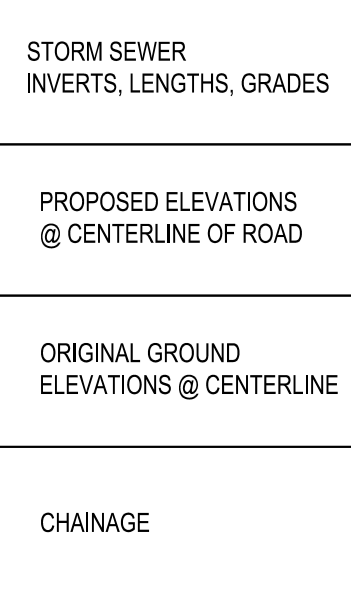
DISTRICT OF SOOKE
2205 OTTER POINT ROAD, SOOKE, B.C.

**CHURCH ROAD ROUNDABOUT
CHURCH ROAD ROADWORKS**
STA. 9+500 TO STA. 9+665

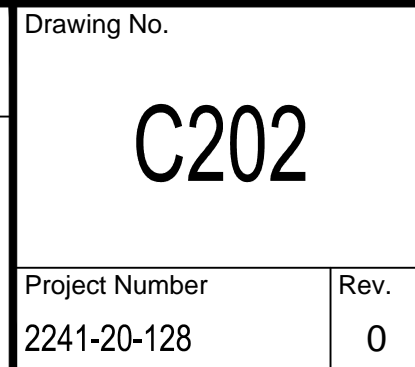
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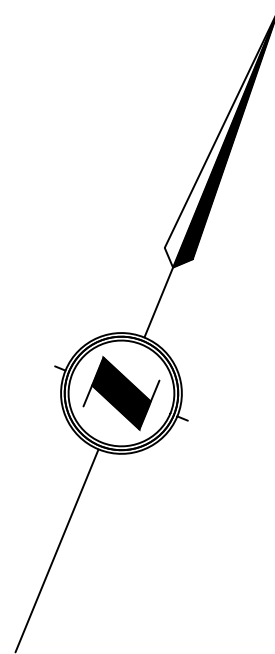
Project Number
2241-20-128

Rev.
0



0 H1:250 10
0 V1:50 2





ORIGINAL DWG SIZE: A1 (594 x 841mm)



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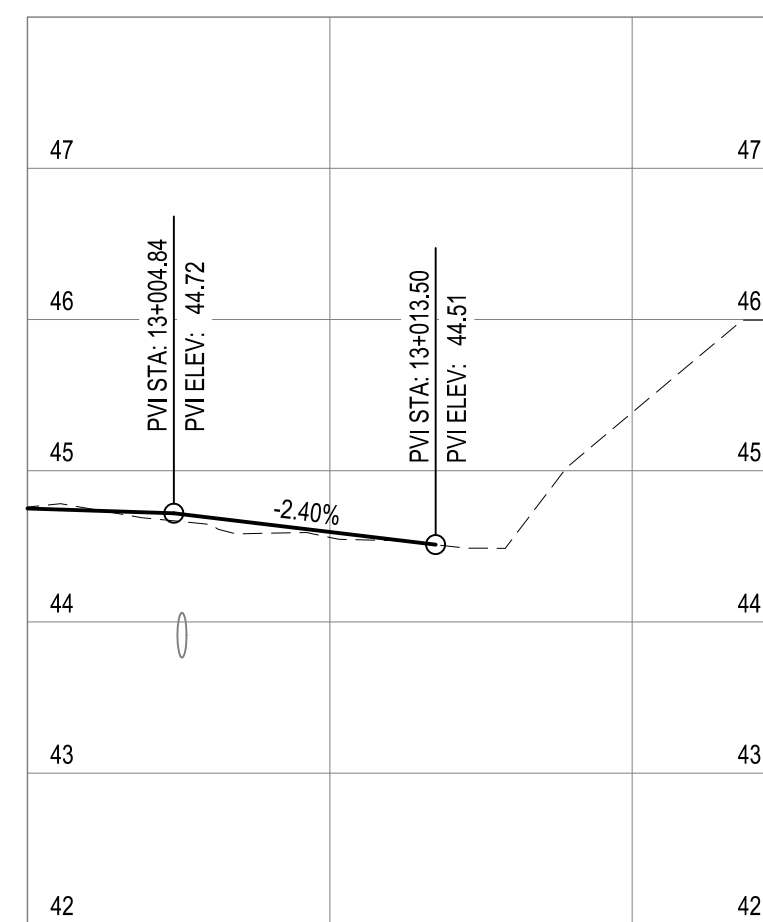
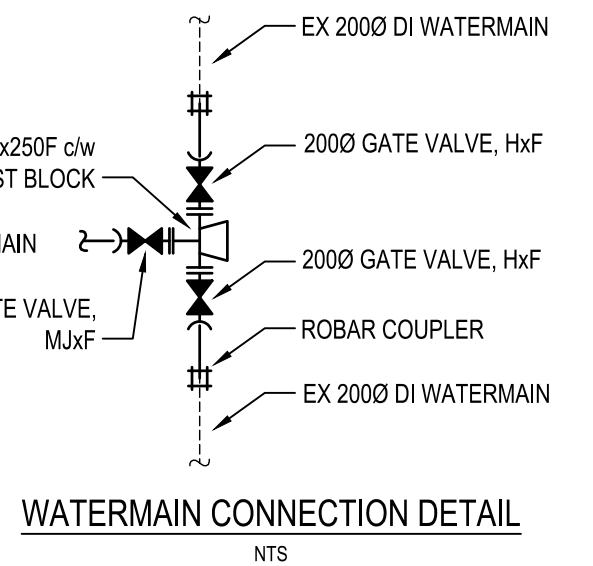
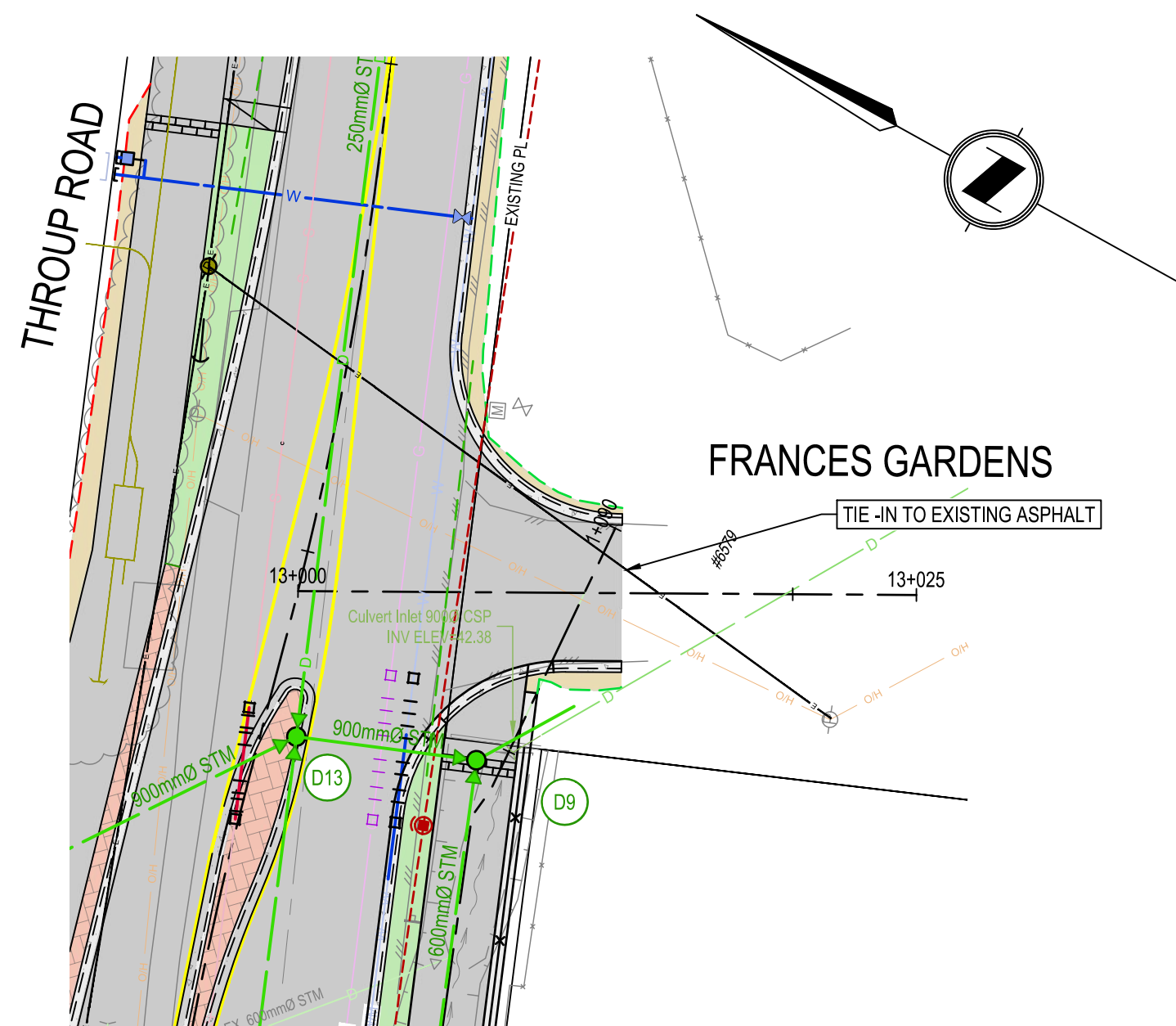
CHURCH ROAD ROUNDABOUT
THROUP ROAD ROADWORKS

STA. 12+000 TO 12+030 & STA. 13+000 TO 13+025

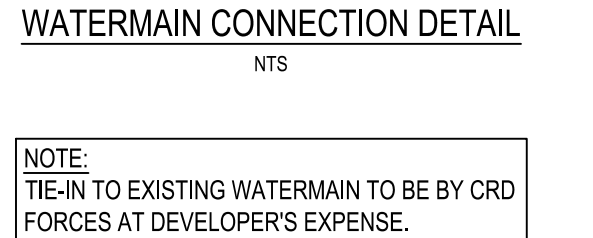
C203

Project Number
2241-20-128

Rev
C



PROPOSED ELEVATIONS @ CENTERLINE OF ROAD		
ORIGINAL GROUND ELEVATIONS @ CENTERLINE	44.76	46.39
CHAINAGE	13+000	13+020



19-May-2023

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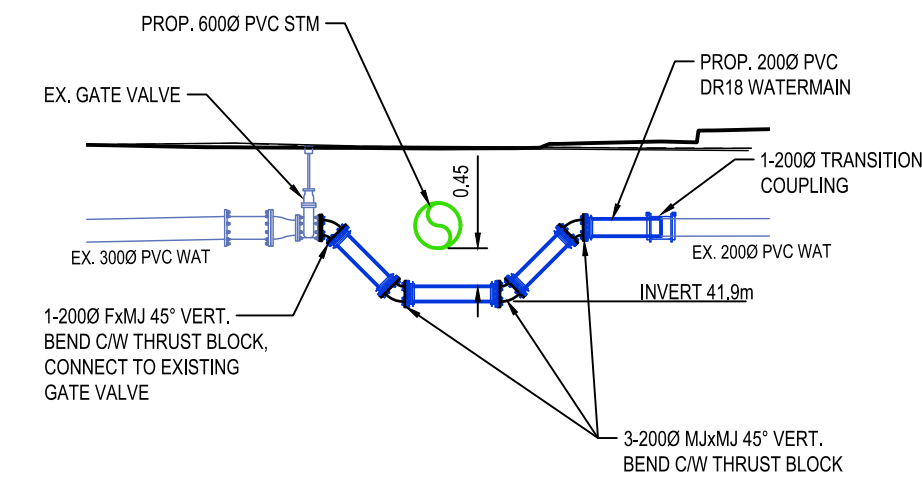
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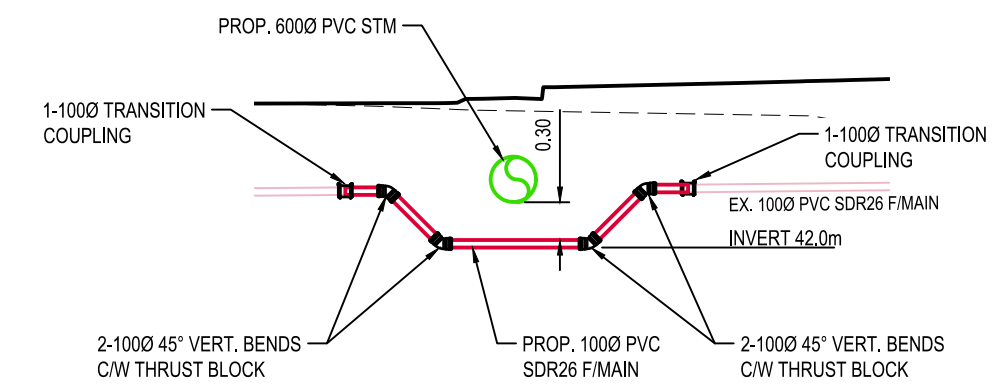
2205 OTTER POINT ROAD, SOOKE, B.C.

Drawing No.

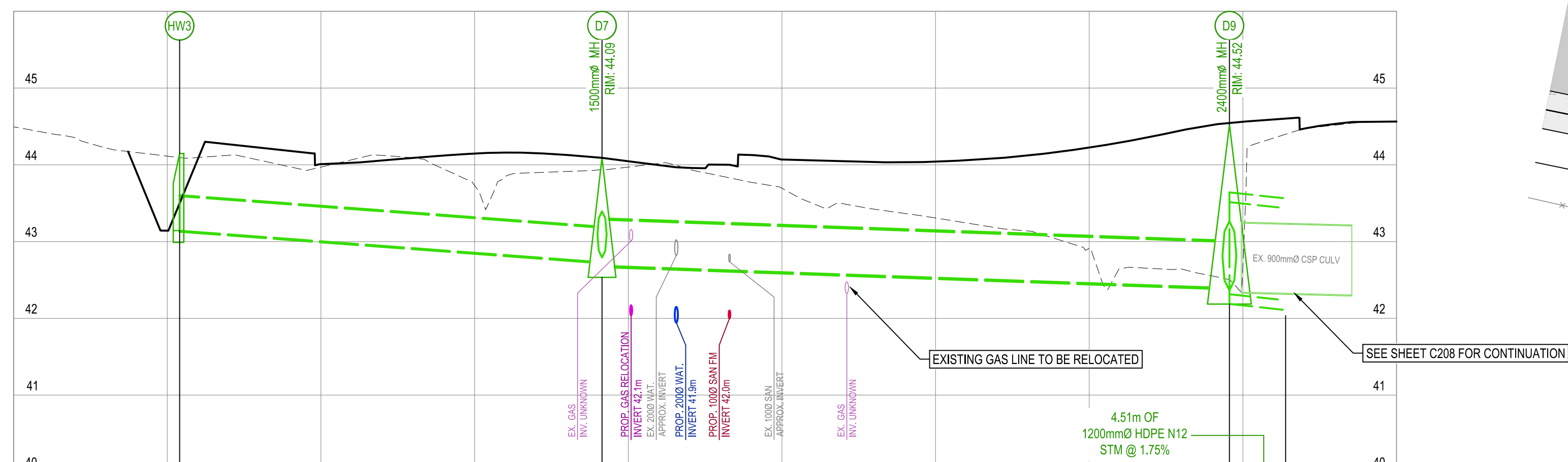
Project Number	Rev.
2241-20-128	PF



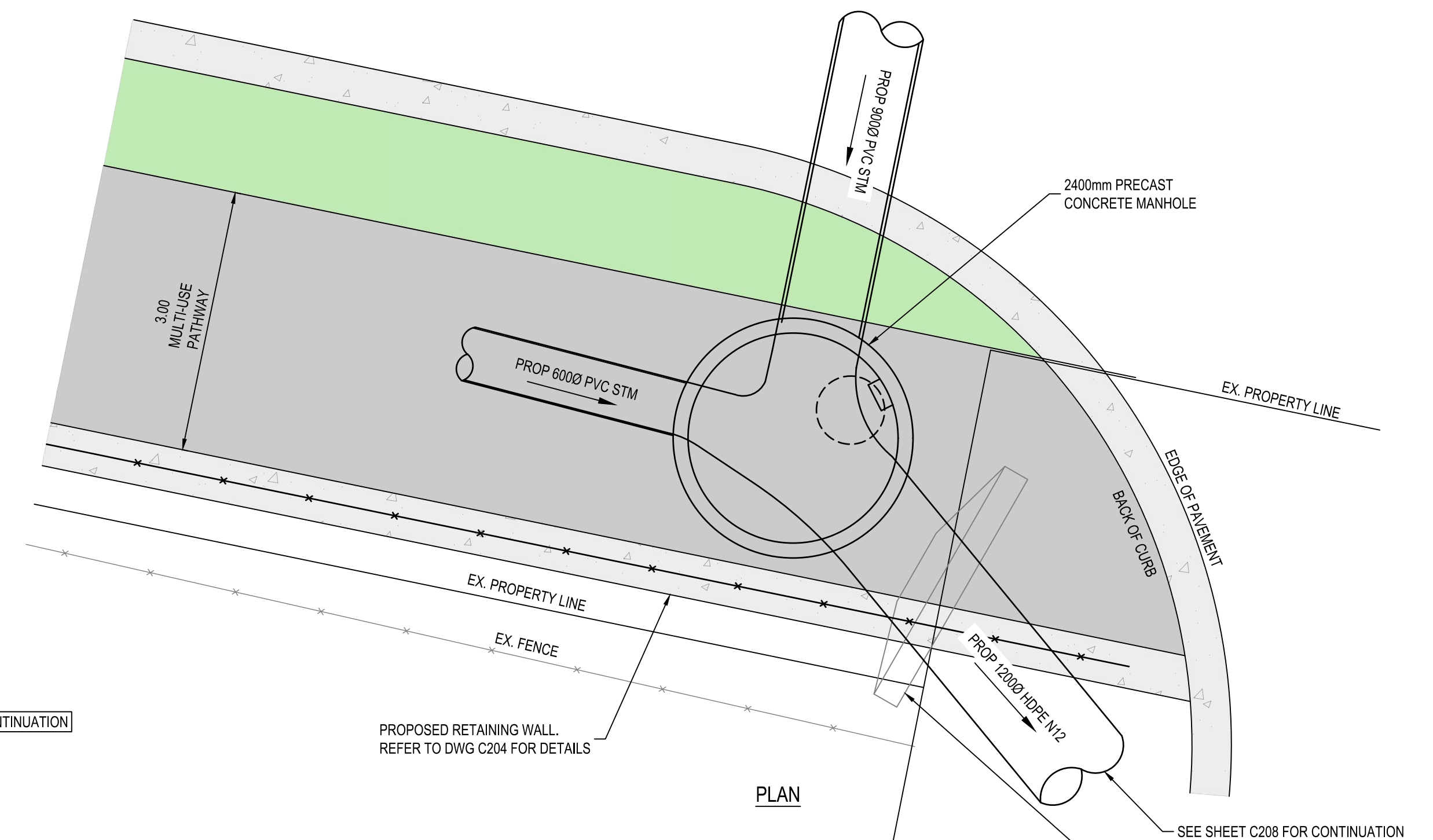
WATERMAIN RELOCATION DETAIL



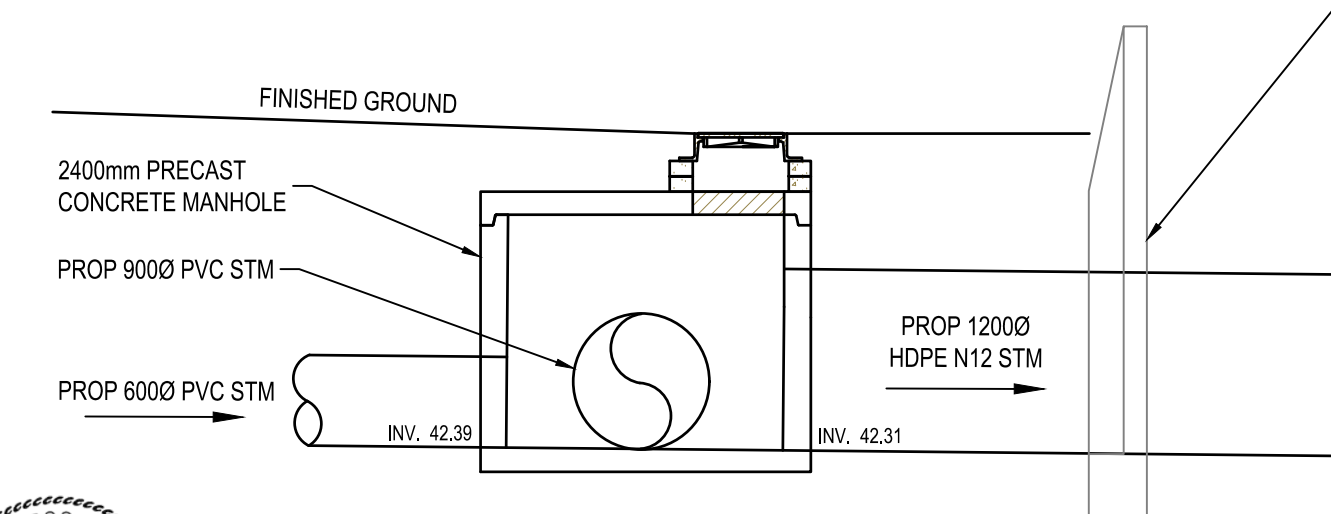
FORCEMAIN RELOCATION DETAIL



STORM SEWER INVERTS, LENGTHS, GRADES		43.14 IN	27.49m OF 450mmØ HDPE N12 STM @ 1.50%	42.79 S 42.73 SW 42.68 E	40.95m OF 600mmØ HDPE N12 STM @ 0.71%	42.38 W 42.38 N 42.31 E	●	EX. 022101	
PROPOSED ELEVATIONS @ CENTERLINE OF ROAD		44.03		44.05	44.04	44.56			44.55
ORIGINAL GROUND ELEVATIONS @ CENTERLINE	44.49	43.97		43.97	43.31	42.86			41.55
CHAINAGE	1+000	1+020		1+040	1+060	1+080			1+090



PLAN



SECTION
MANHOLE CONNECTION DETAIL



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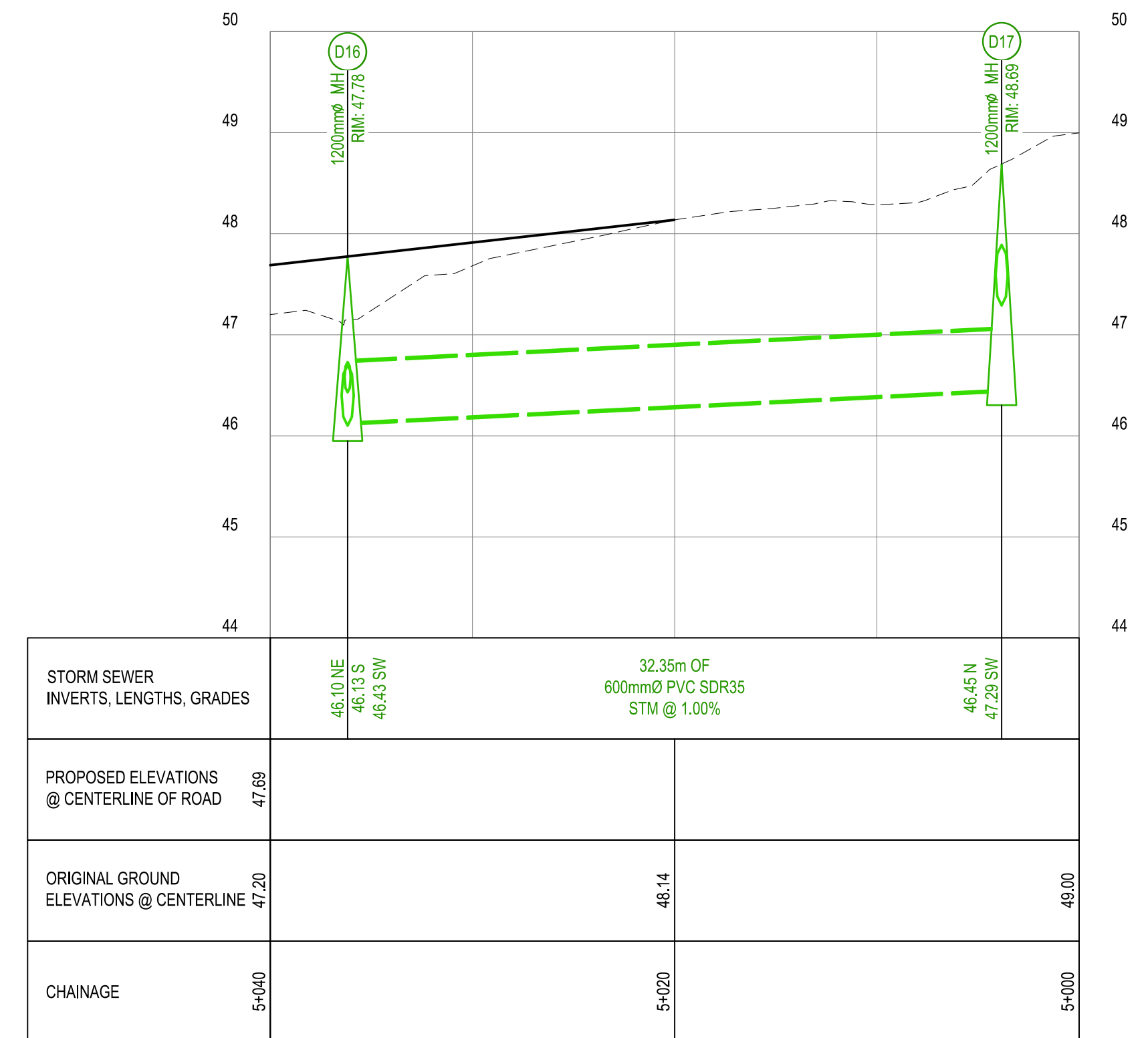
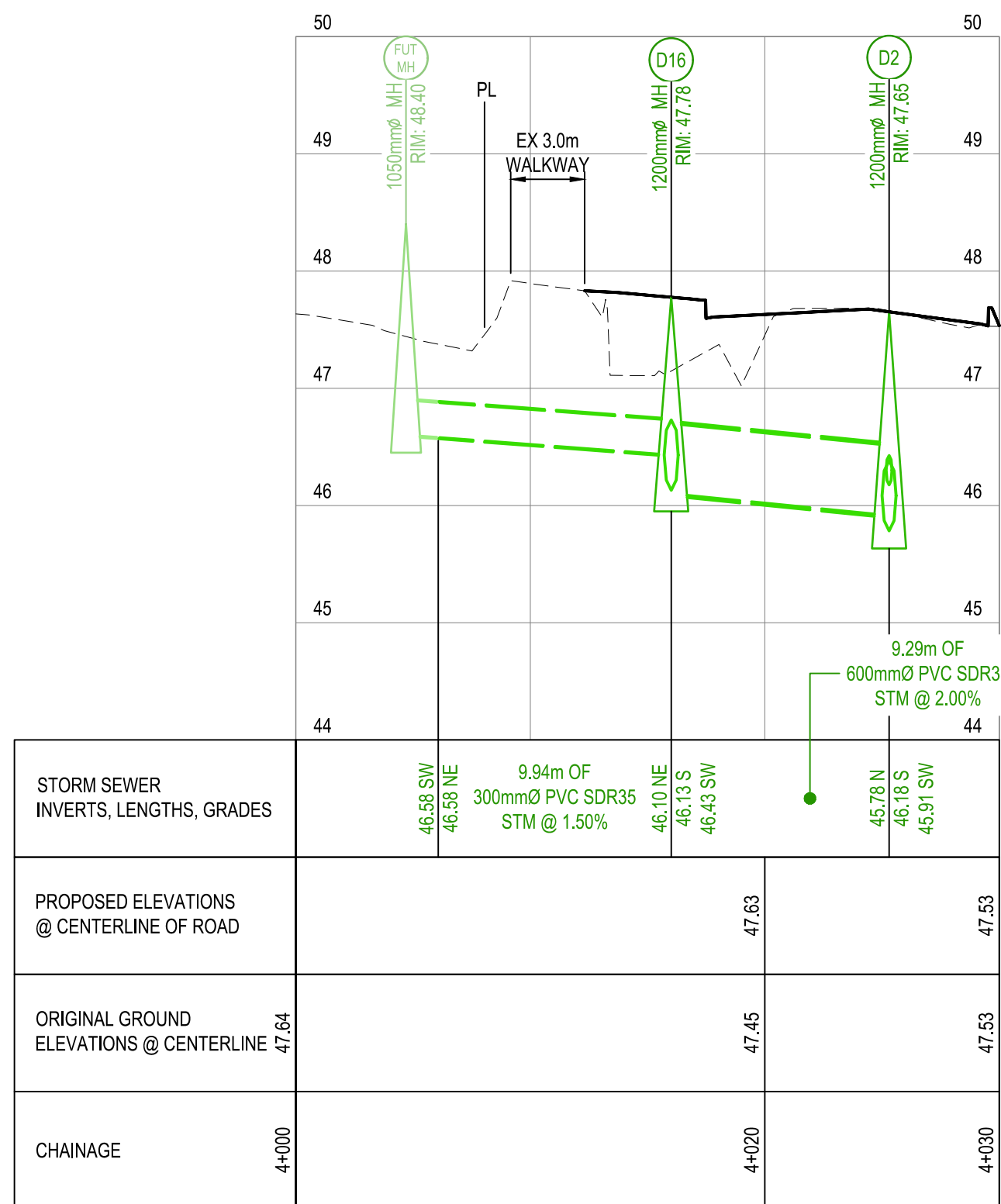
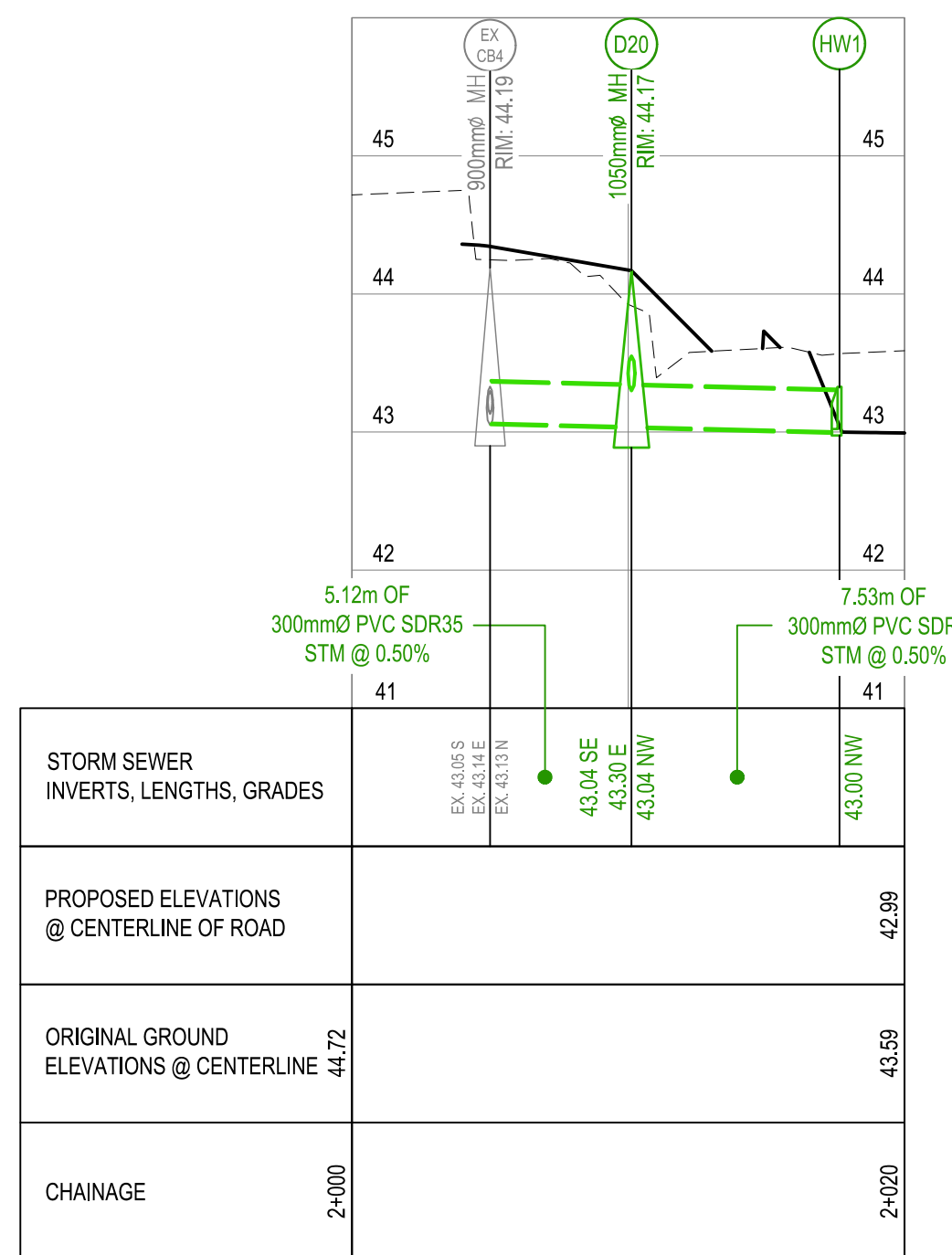
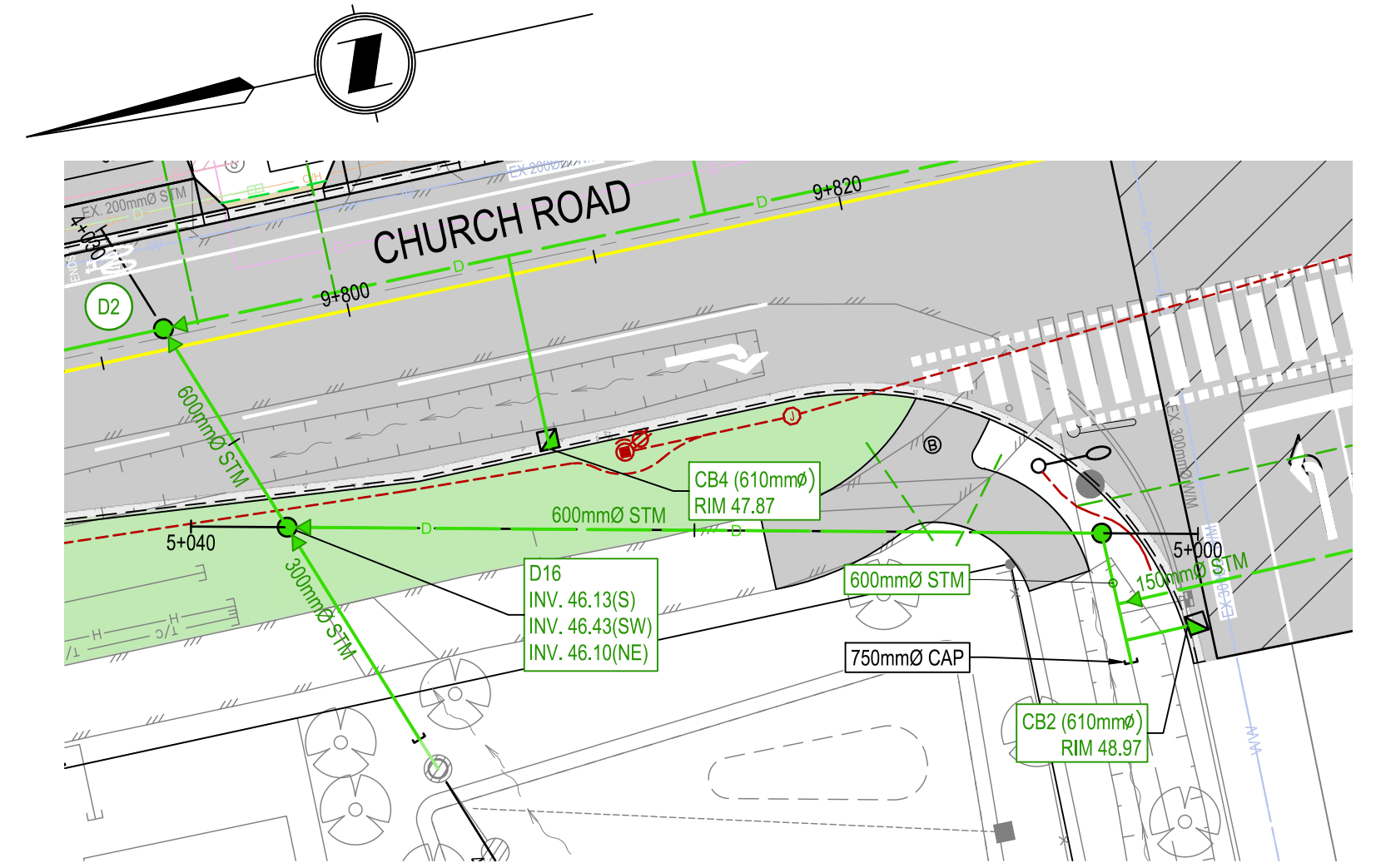
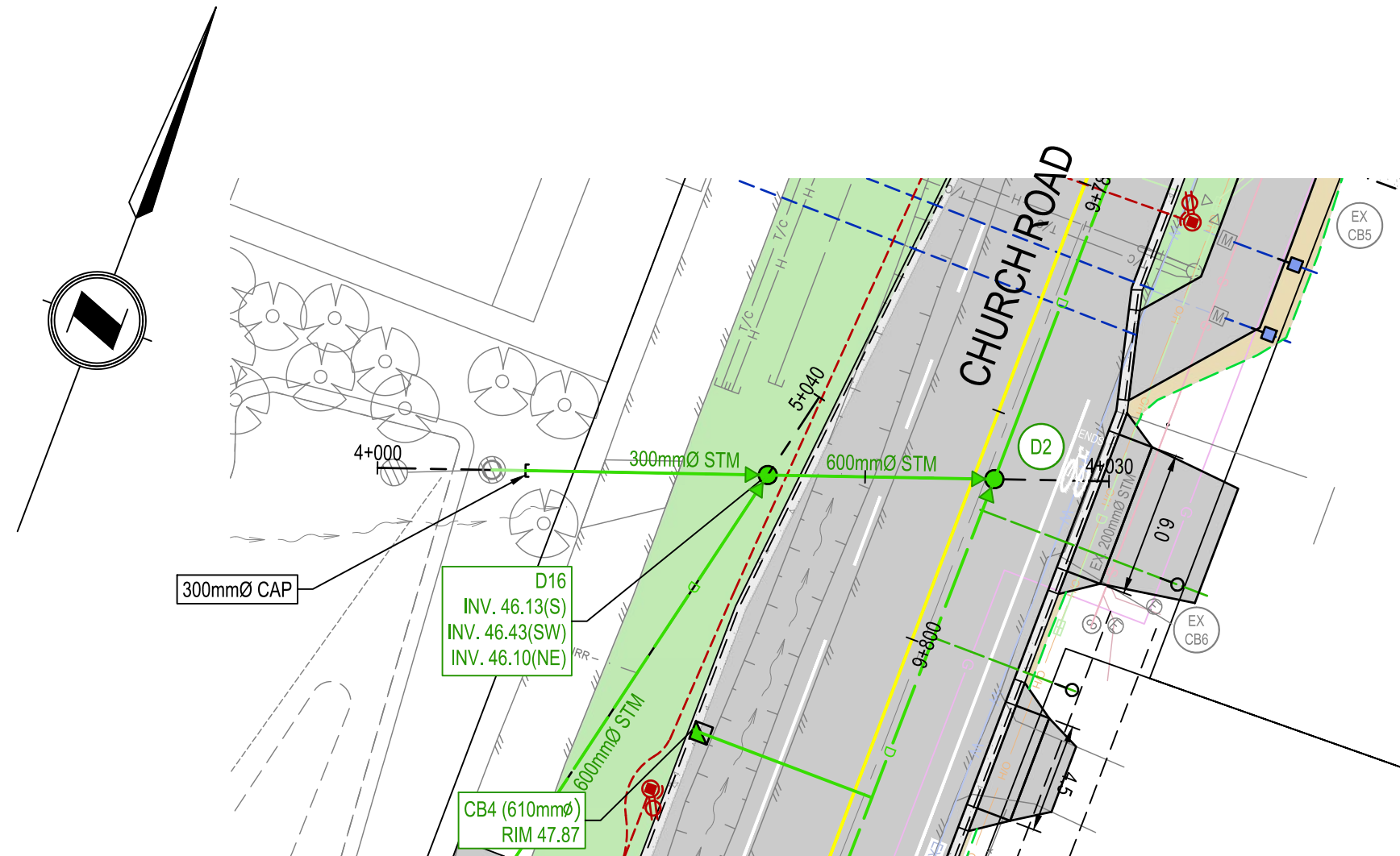
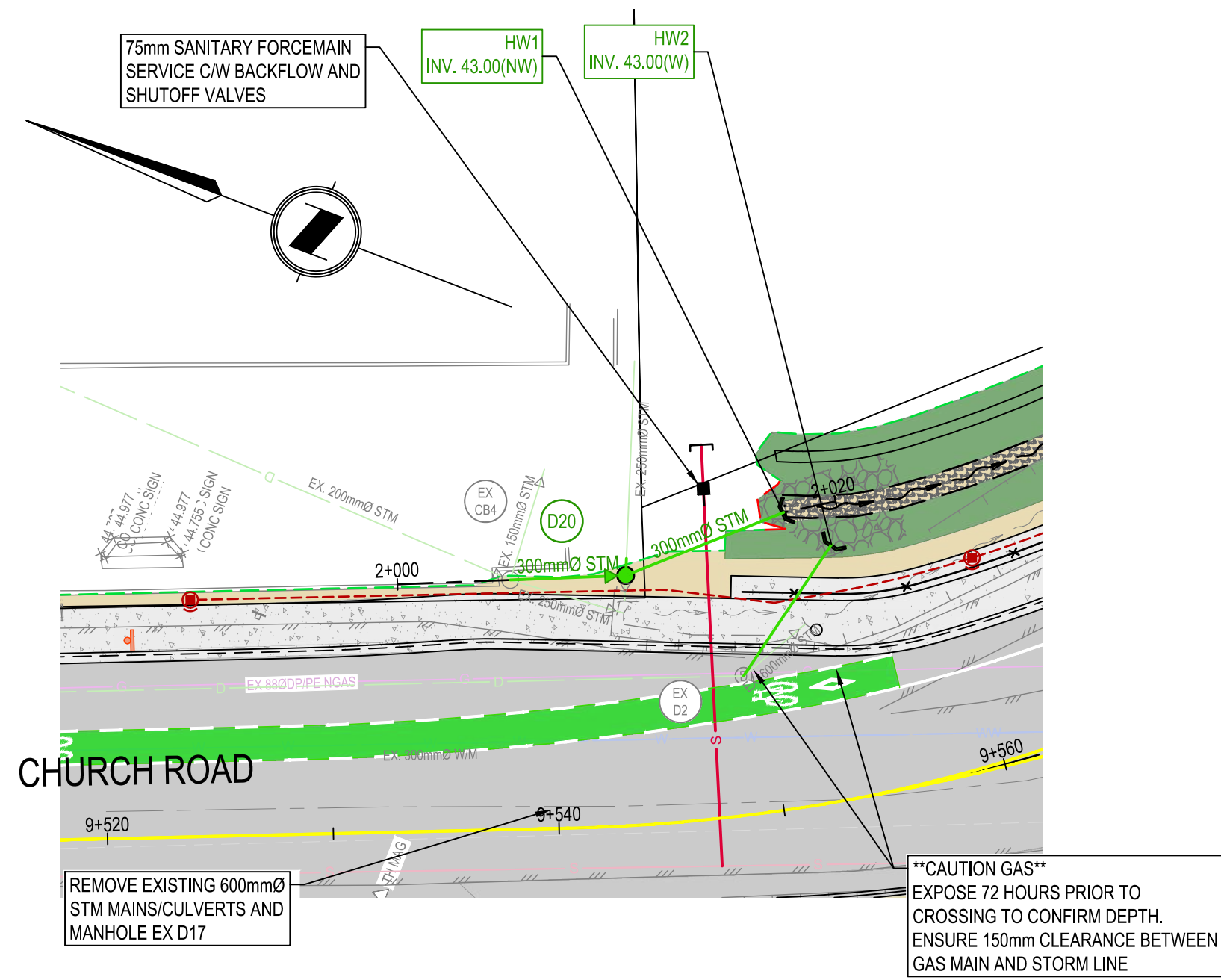
CHURCH ROAD ROUNDABOUT CHURCH AND THROUP ROAD STORM PLAN AND PROFILES

Drawing No.

C205

Project Number
2241-20-128

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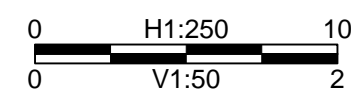
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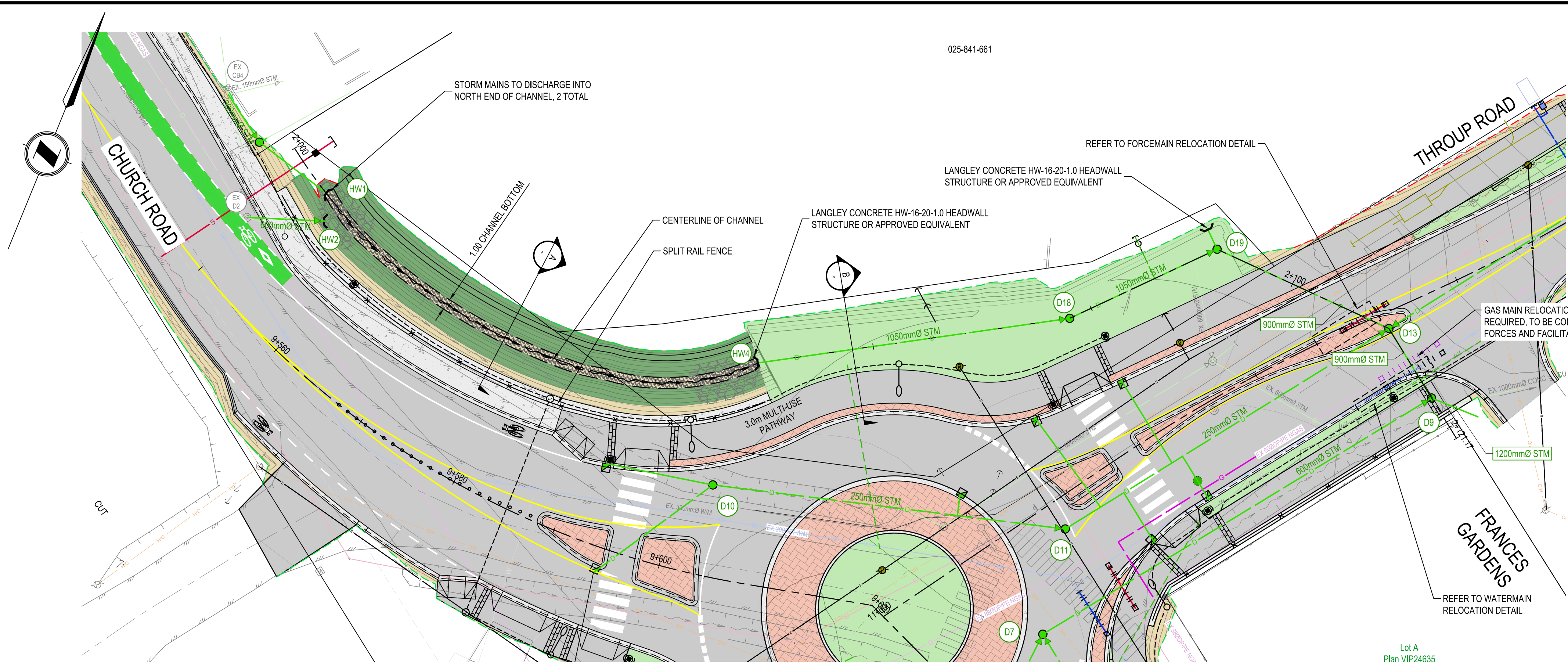
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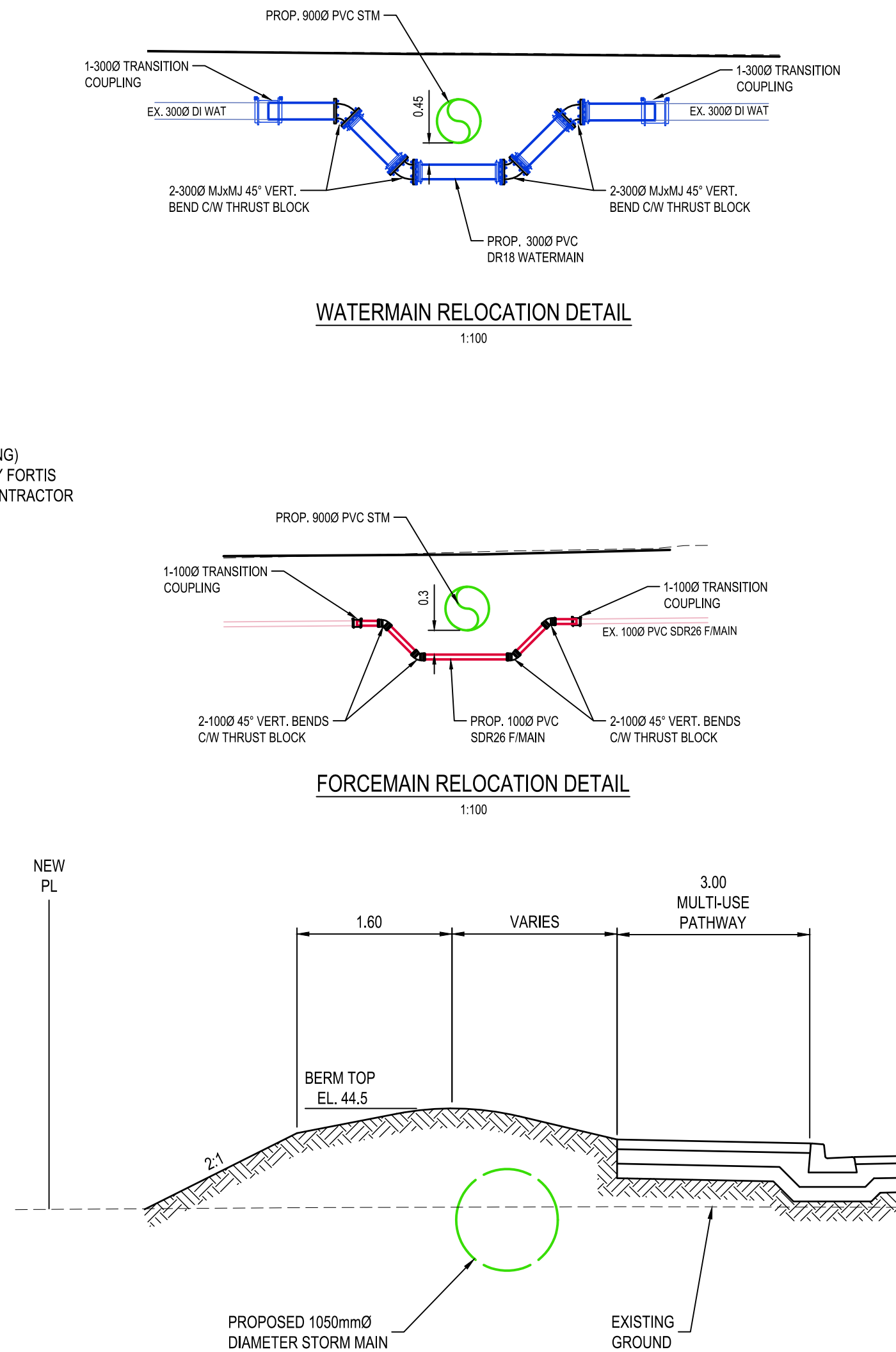
DISTRICT OF SOOKE
2205 OTTER POINT ROAD, SOOKE, B.C.
CHURCH ROAD ROUNDABOUT
CHURCH ROAD
WATER & STORM PLAN & PROFILES

Drawing No.
C206
Project Number
2241-20-128
Rev.
0

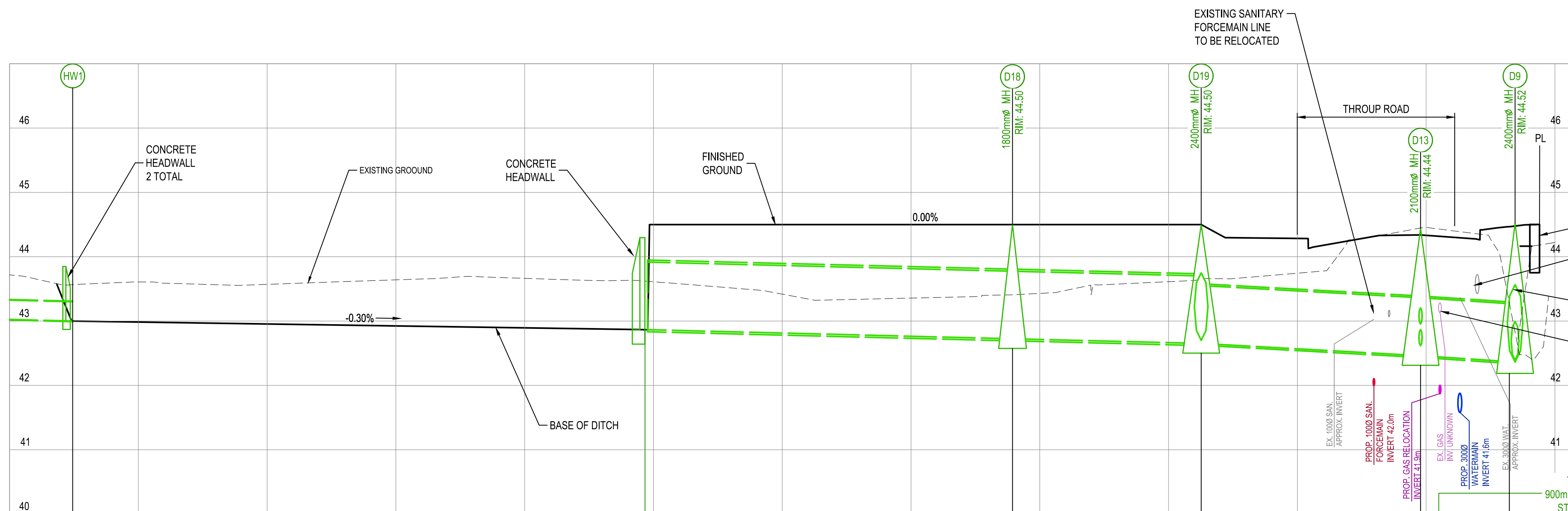
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McElhanney ISO 91:1 - 2020-05-01



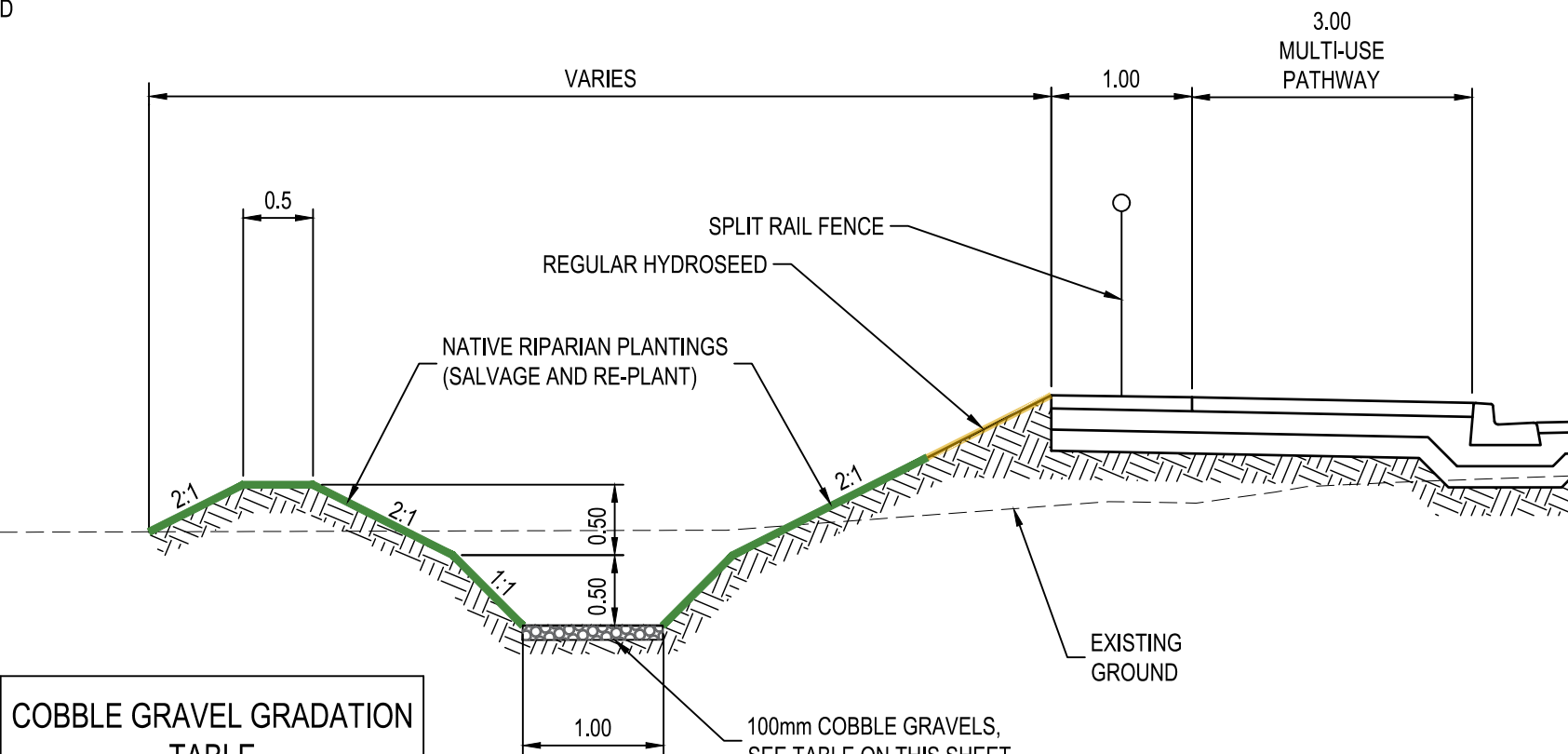
SITE PLAN
SCALE - 1:250



DITCH SECTION B
SCALE - 1:50



DITCH PROFILE
SCALE H - 1:250
V - 1:50



DITCH SECTION A
SCALE - 1:50

COBBLE GRAVEL GRADATION TABLE	
SIZE (in)	RATIO
3/4"	15%
1"	20%
2"	20%
3"	20%
4"	15%
6-12"	10%



STORM SEWER INVERTS, LENGTHS, GRADES		43.00 NW		42.27 E		28.34m OF 1050mmØ HDPE N12 STM @ 0.50%		42.72 W 42.72 E		14.65m OF 1050mmØ HDPE N12 STM @ 0.50%		42.85 W 42.70 N 42.65 SE		17.04m OF 900mmØ HDPE N12 STM @ 1.11%		42.82 W 42.95 E 42.45 NW 42.46 S		42.39 W 42.36 N 42.31 E	
PROPOSED ELEVATIONS @ CENTERLINE OF ROAD		42.95		42.89		44.50		44.50		44.28		44.28		44.28		44.28		44.28	
ORIGINAL GROUND ELEVATIONS @ CENTERLINE	43.72	43.57		43.66		43.42		43.43		43.74		43.74		43.74		43.74		43.74	
CHAINAGE	2+000	2+020		2+040		2+060		2+080		2+100		2+120		2+120		2+121.7			

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SCALE AS NOTED



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CHURCH ROAD ROUNDABOUT
DITCH & STORM CONNECTION
PLAN, PROFILE AND DETAILS

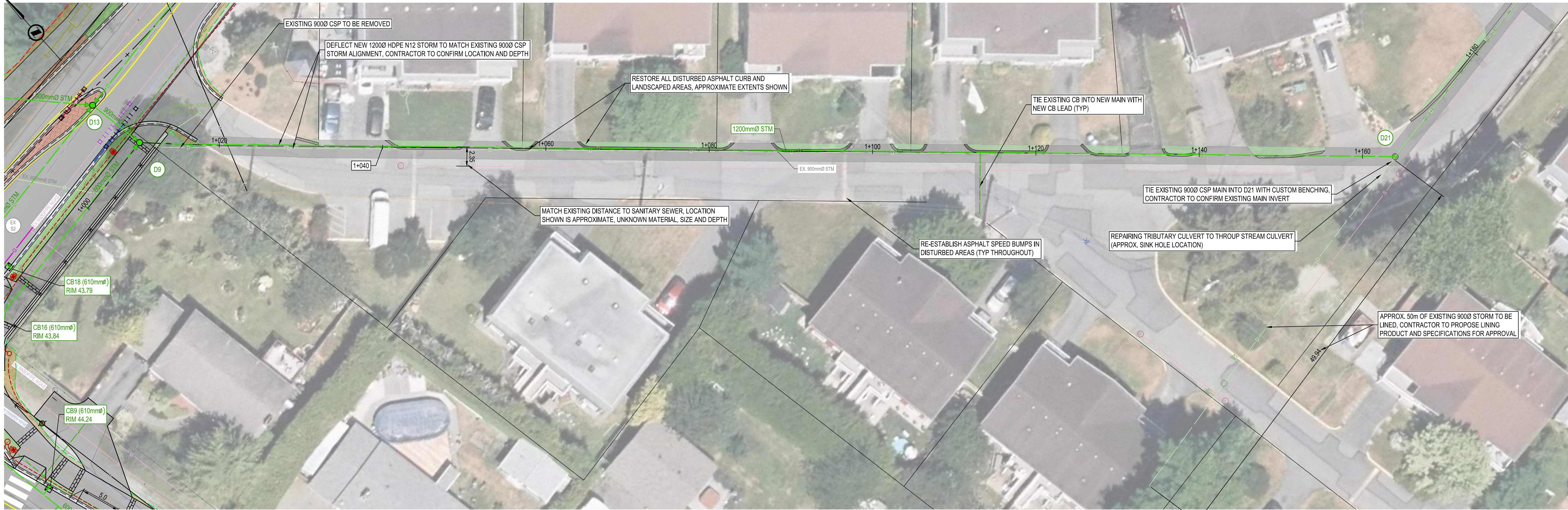
Drawing No.

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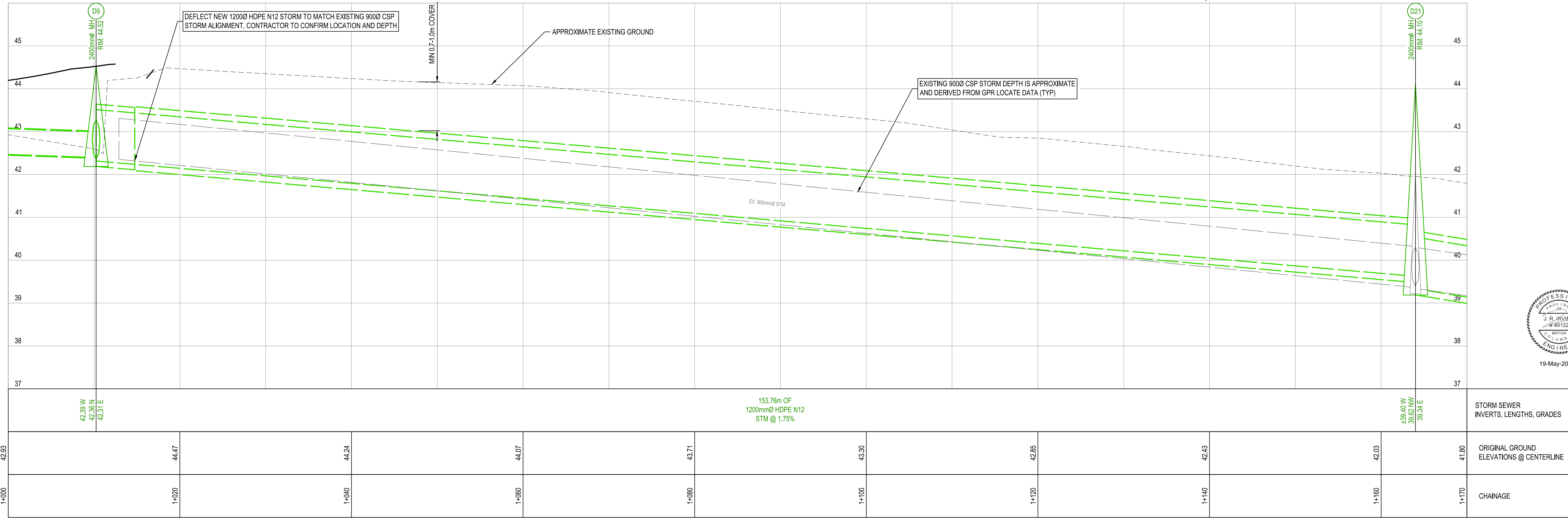
Project Number
2241-20-128

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LEGEND / ALL PRINTS BEARING PREVIOUS REVISION



CONTINUED ON SHEET C209



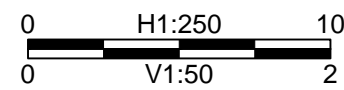
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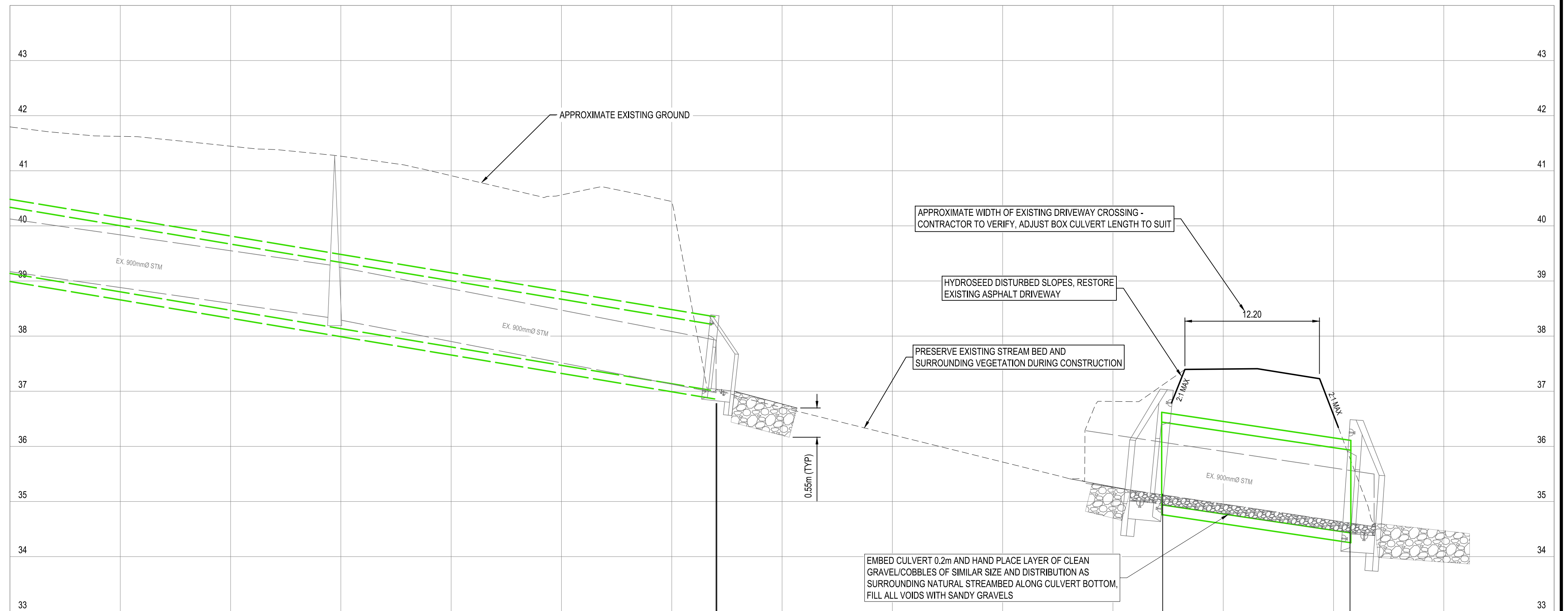
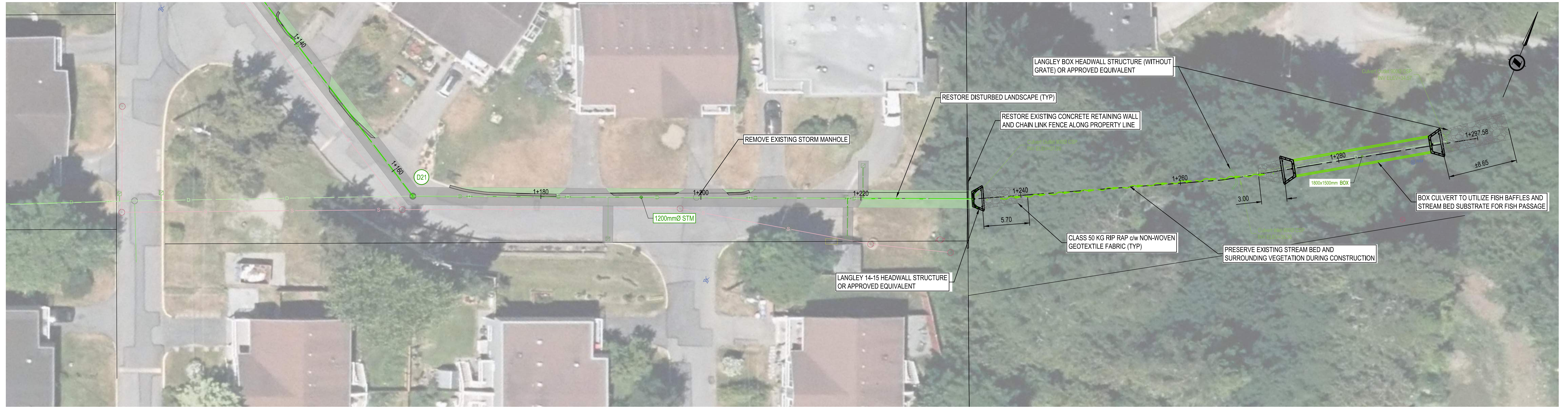
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CHURCH ROAD ROUNDABOUT
FRANCES GARDENS STORM MAIN REPLACEMENT

STA 1+000 TO 1+170

Drawing No.	C208
Project Number	2241-20-128
Rev.	0



STORM SEWER INVERTS, LENGTHS, GRADES	70.08m OF 1200mmØ HDPE N12 STM @ 3.33%										37.00 W	34.64 NE	17.15m OF 1800mm x 1500mm CONC. BOX CULVERT @ 2.97%	34.43 SW	
ORIGINAL GROUND ELEVATIONS @ CENTERLINE	41.80	41.62	41.26		40.56	36.70	35.72	37.40							
CHAINAGE	1+170	1+180	1+200		1+220	1+240	1+260	1+280	1+300	1+310					



19-May-2023

BOX CULVERT SUBSTRATE NOTES:

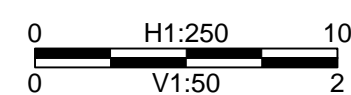
1. AN OBJECTIVE IS FOR THE BACKFILL IN THE CULVERT TO SIMULATE THE NATURAL STREAMBED.
2. ALL VOIDS IN SUBSTRATE TO BE FILLED WITH CLEAN SANDY GRAVELS.
3. SUBSTRATE MATERIAL TO BE FREE OF ORGANICS (ROOTS, LOGS, TWIGS ETC.).
4. IF PRACTICABLE, EXCAVATED STREAMBED MATERIAL SHALL BE SET ASIDE TO BE UTILIZED FOR PLACEMENT IN THE CULVERT.

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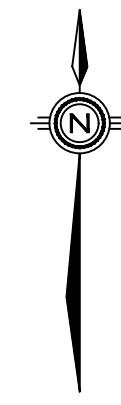
DISTRICT OF SOOKE		Q
2205 OTTER POINT ROAD, SOOKE, B.C.		
CHURCH ROAD ROUNDABOUT		
FRANCES GARDENS STORM MAIN REPLACEMENT		
STA 1+170 TO 1+300		P 2

Drawing No.

C209

Project Number
241-20-128

0
w.
PROVIDE ALL POINTS OF ENTRY FOR INTRUSION



CURB RETURN PROFILE

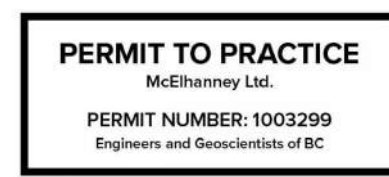
CURB RETURN PROFILE LOCATION

SCALE NTS



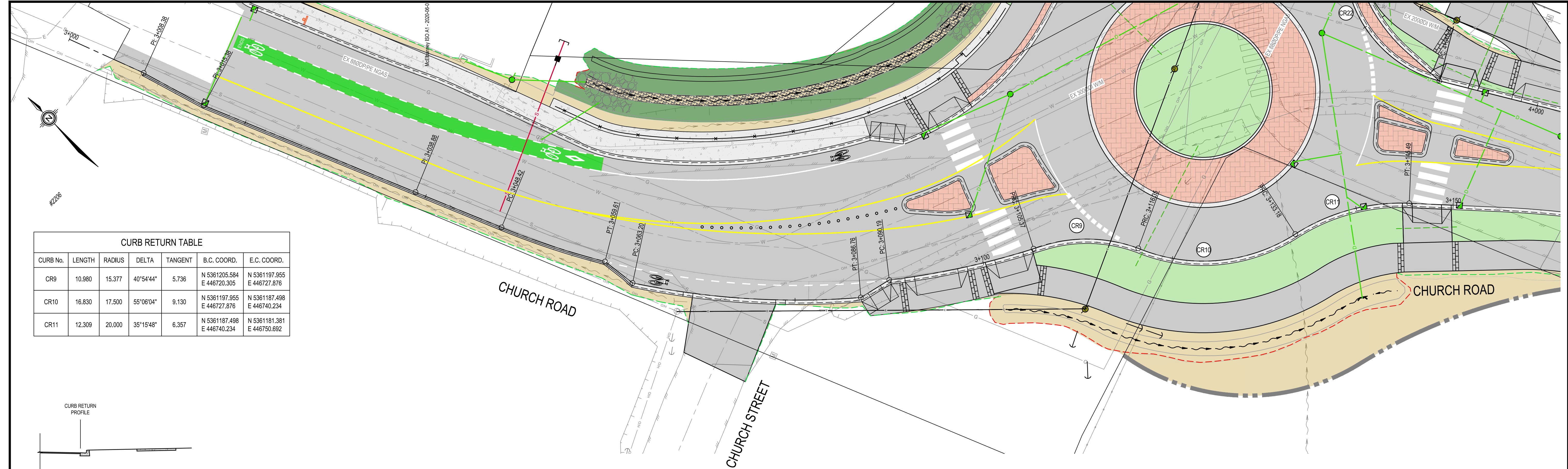
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ORIGINAL DWG SIZE: A1 (594 x 841mm)

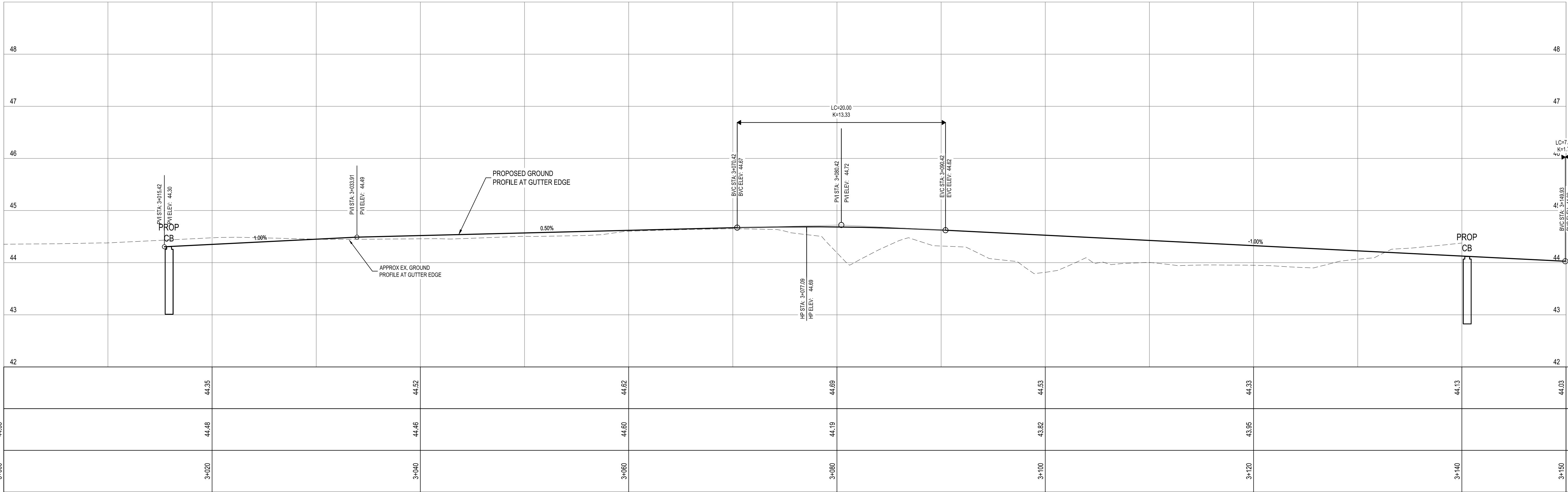
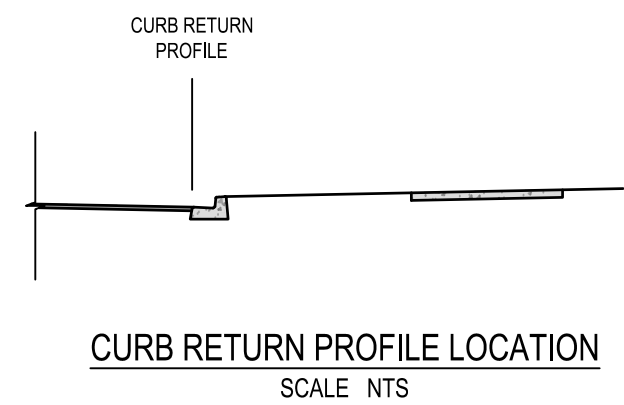


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Drawing No.	
C211	
Project Number	Rev.
2241-20-128	0



CURB RETURN TABLE						
CURB No.	LENGTH	RADIUS	DELTA	TANGENT	B.C. COORD.	E.C. COORD.
CR9	10.980	15.377	40°54'44"	5.736	N 5361205.584 E 446720.305	N 5361197.955 E 446727.876
CR10	16.830	17.500	55°06'04"	9.130	N 5361197.955 E 446727.876	N 5361187.498 E 446740.234
CR11	12.309	20.000	35°15'48"	6.357	N 5361187.498 E 446740.234	N 5361181.381 E 446750.692



DATE: 2023-05-19, 10:52 FILE: \\2221\CHP\Projects\22-20-01 Church Road and Thrup Road Roundabout\100 Drawings\101.2 Sheets\22-20-01-121.dwg



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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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**CHURCH ROAD ROUNDABOUT
CURB PLAN AND PROFILES
CHURCH ROAD SOUTHBOUND**

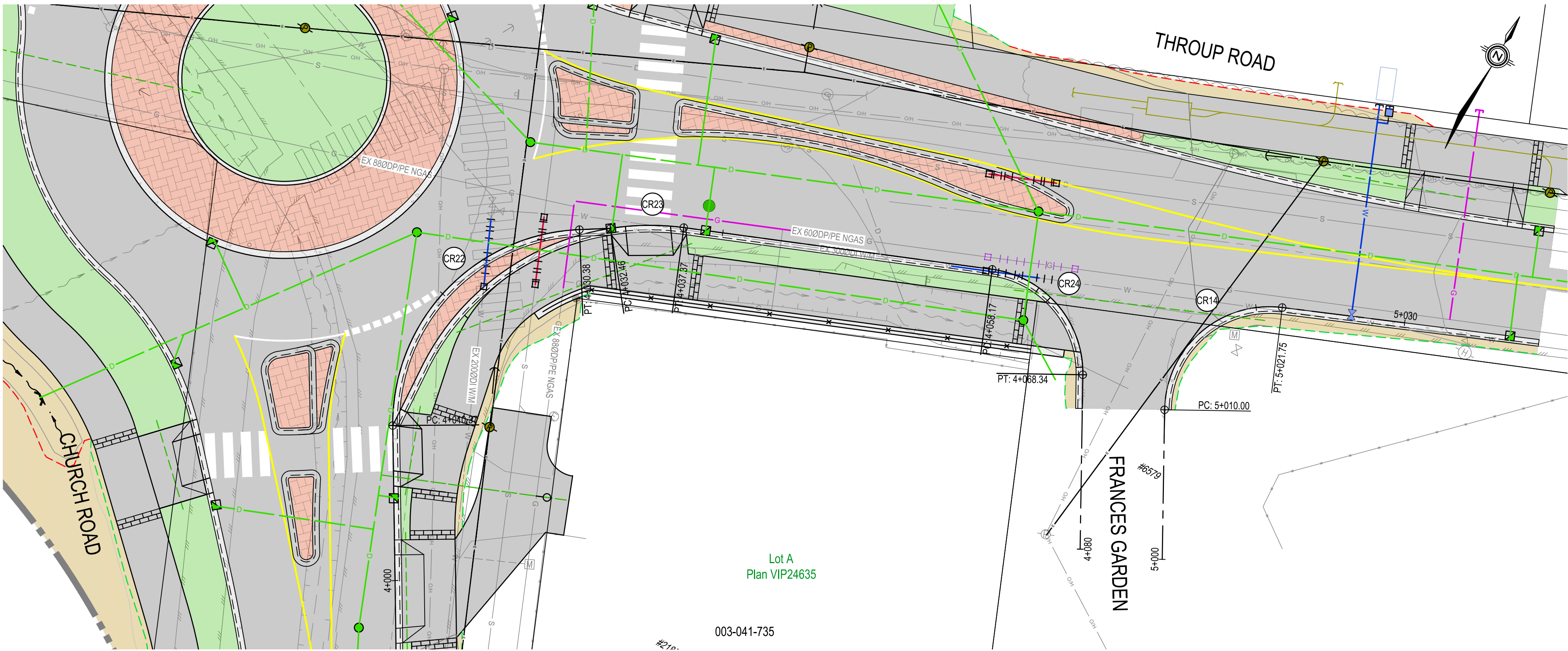
Drawing No.

C212

Project Number
2241-20-128

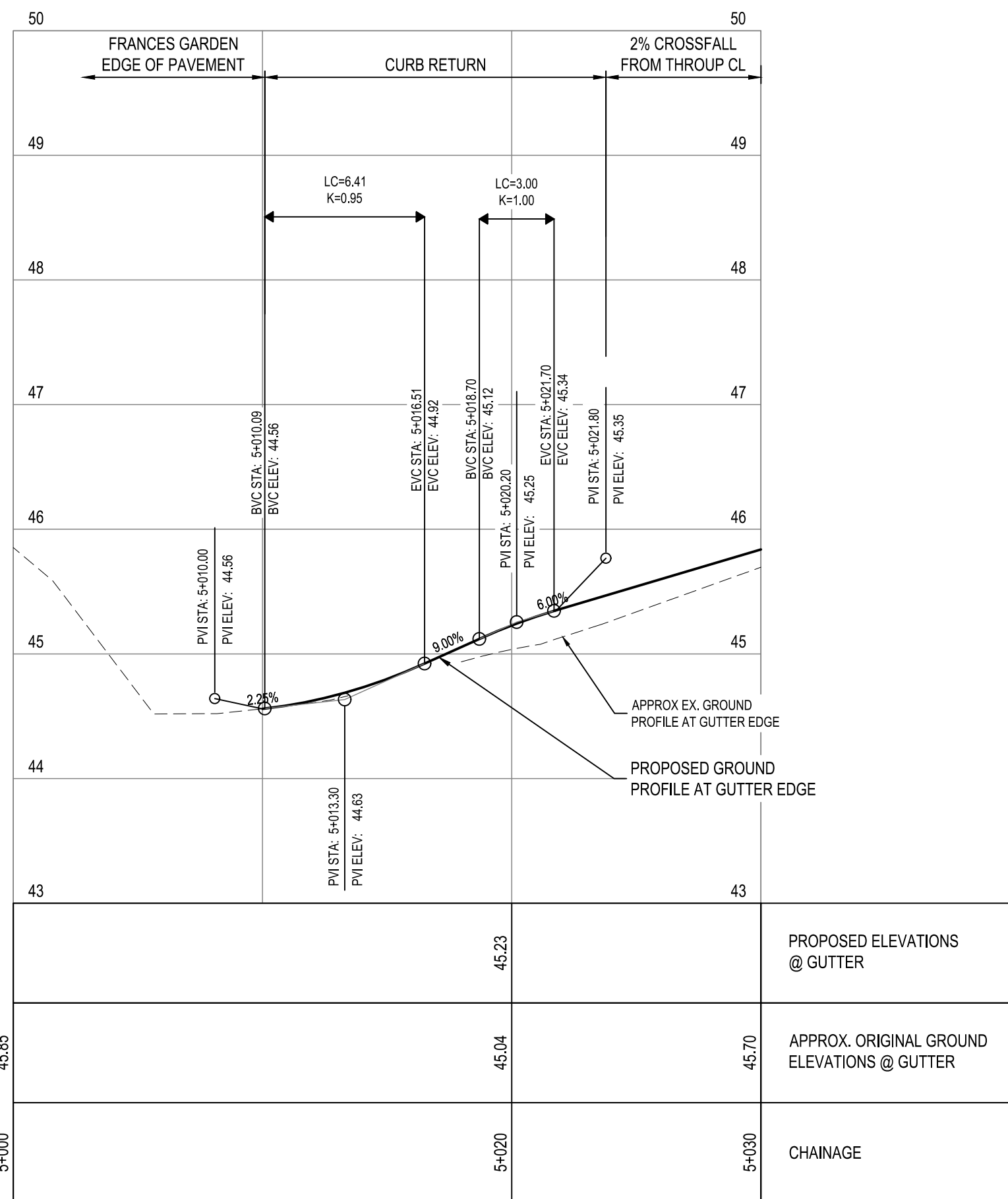
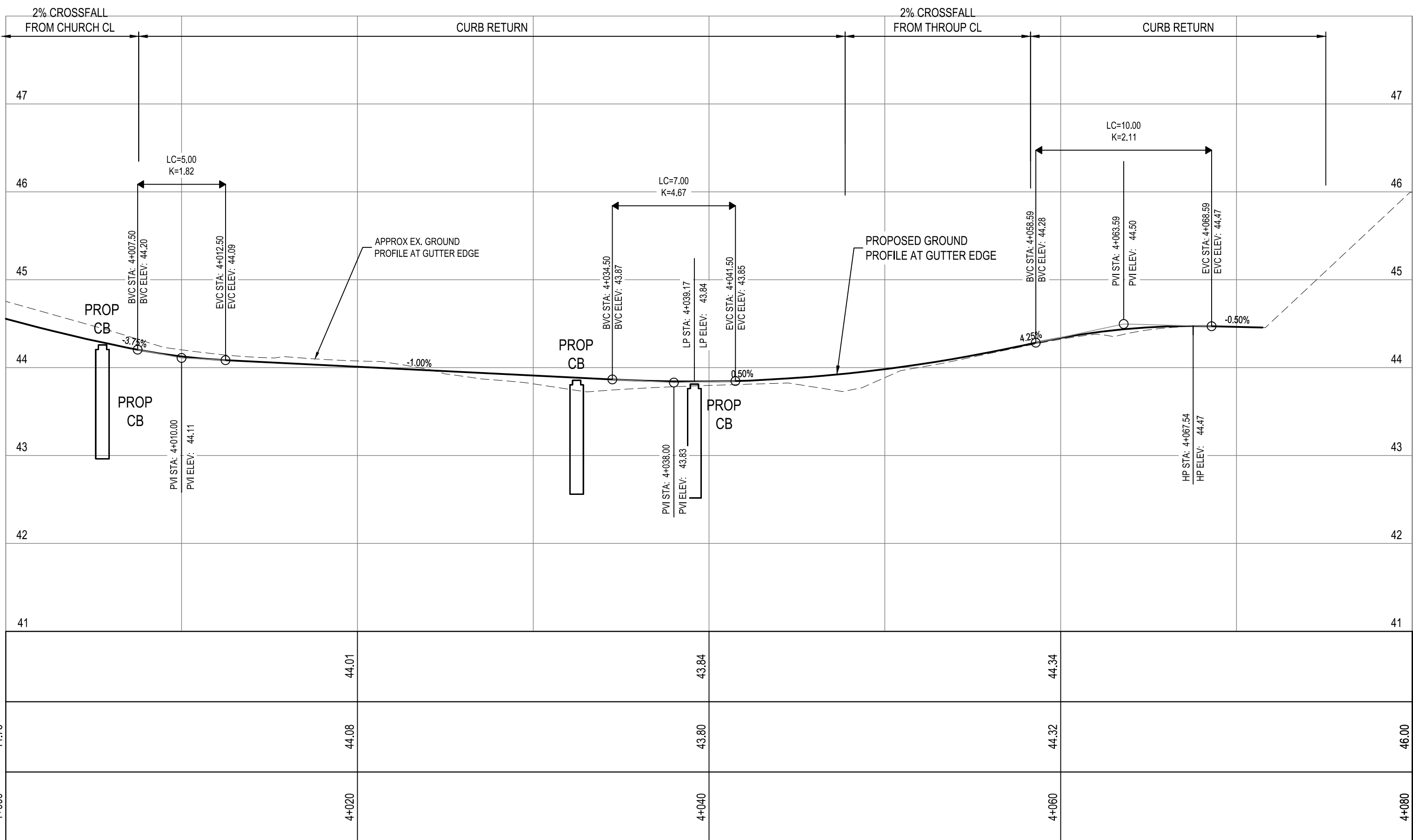
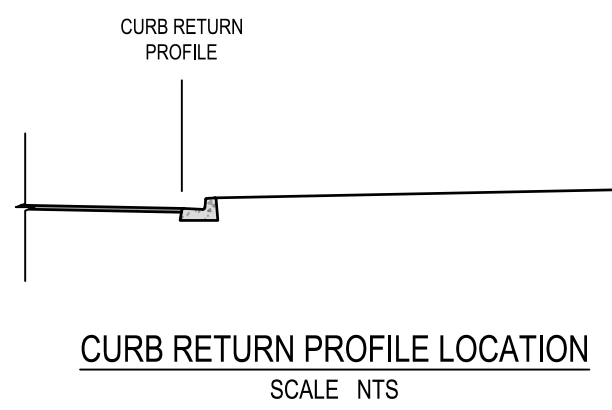
Rev.
0

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CURB RETURN TABLE						
CURB No.	LENGTH	RADIUS	DELTA	TANGENT	B.C. COORD.	E.C. COORD.
CR22	19.005	13.000	83°45'49"	11.667	N 5361188.875 E 446761.342	N 5361205.537 E 446766.207
CR23	4.913	17.000	16°33'25"	2.474	N 5361206.636 E 446767.976	N 5361209.092 E 446772.210
CR24	10.165	7.000	83°12'17"	6.215	N 5361216.832 E 446791.518	N 5361213.690 E 446800.266

CURB RETURN TABLE						
CURB No.	LENGTH	RADIUS	DELTA	TANGENT	B.C. COORD.	E.C. COORD.
CR14	11.754	7.000	96°12'34"	7.803	N 5361214.346 E 446806.175	N 5361224.172 E 446809.647



19-May-2023

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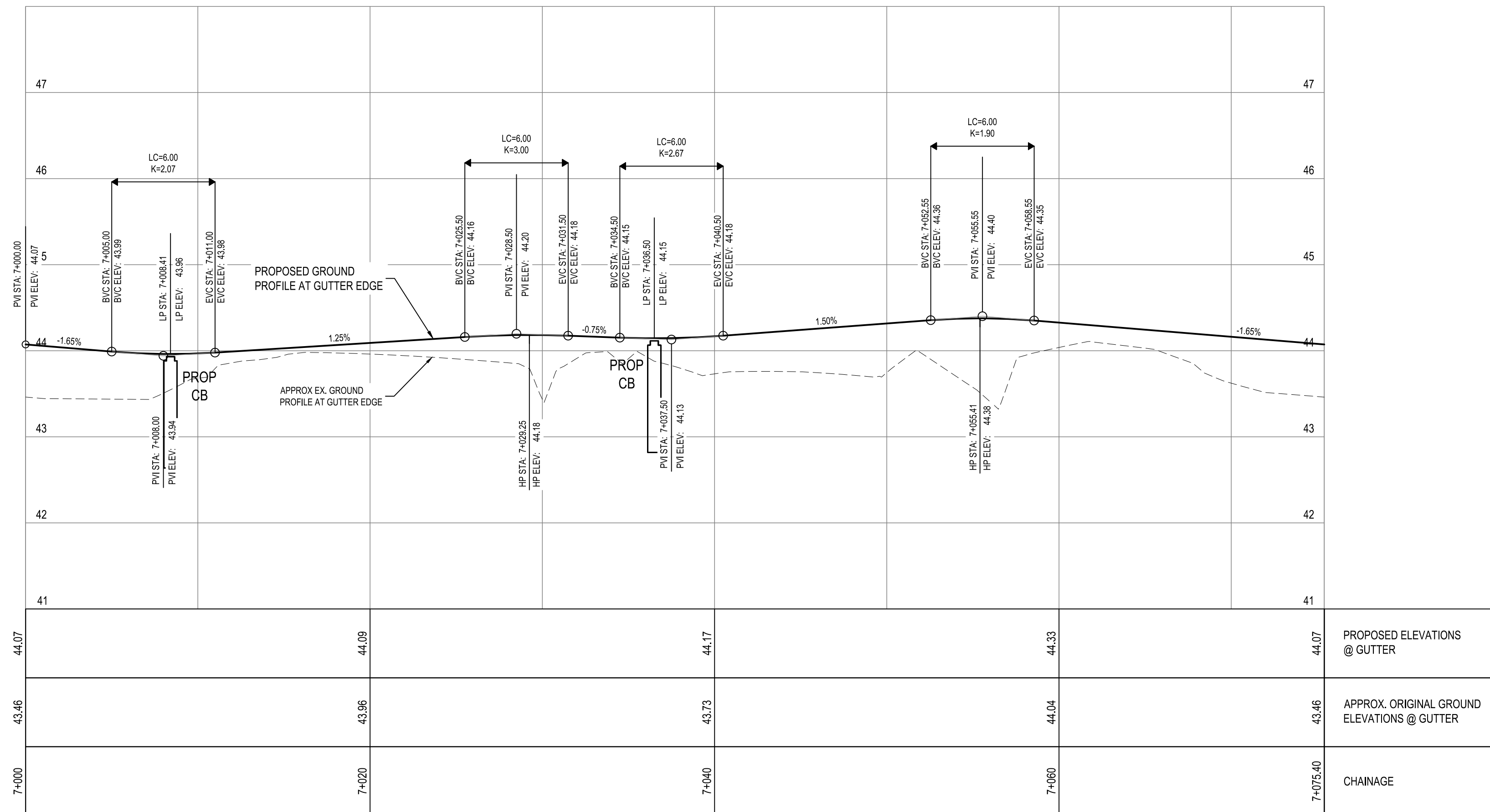
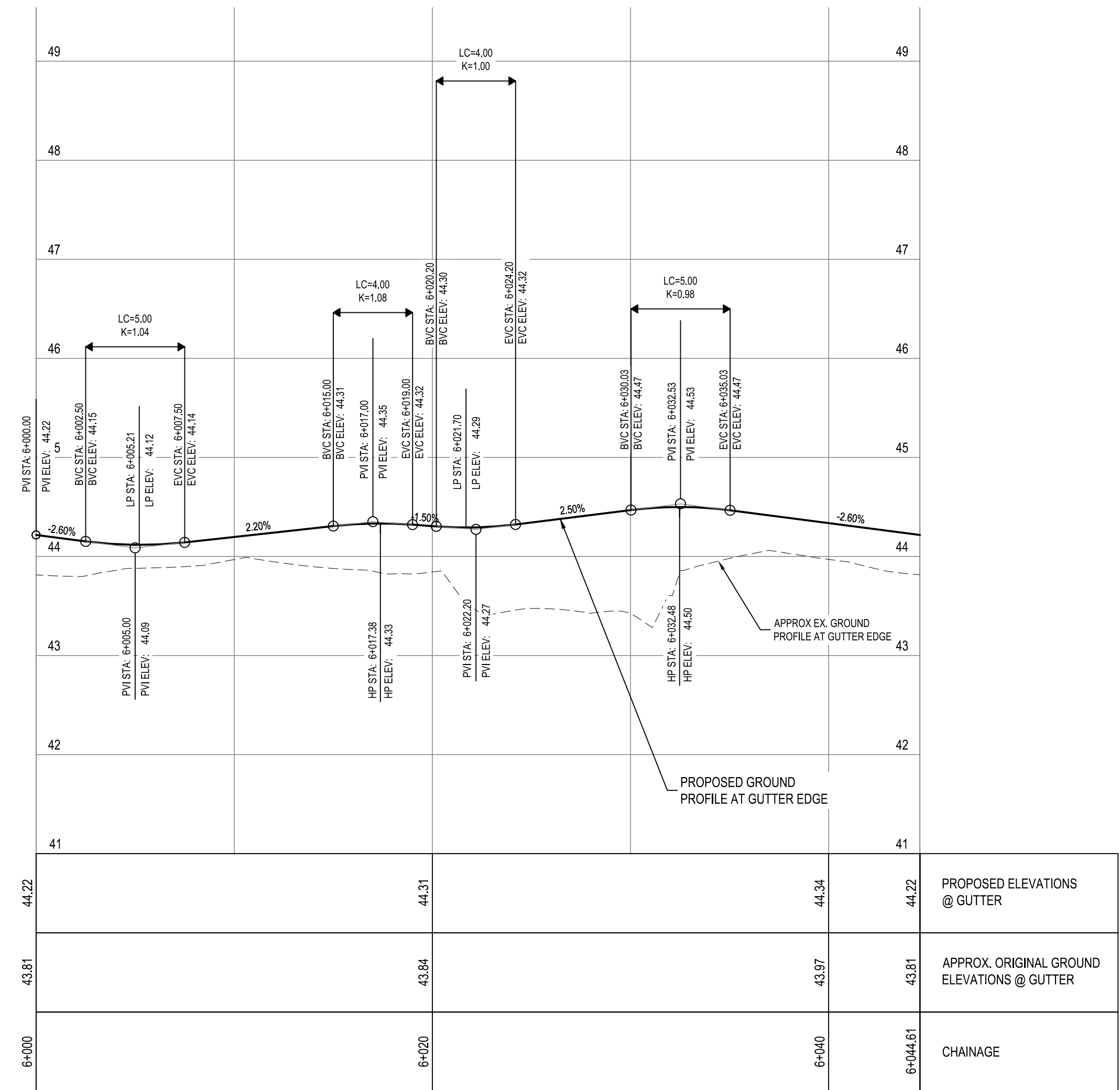
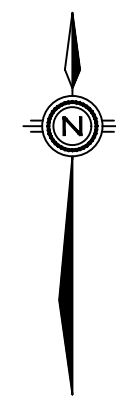
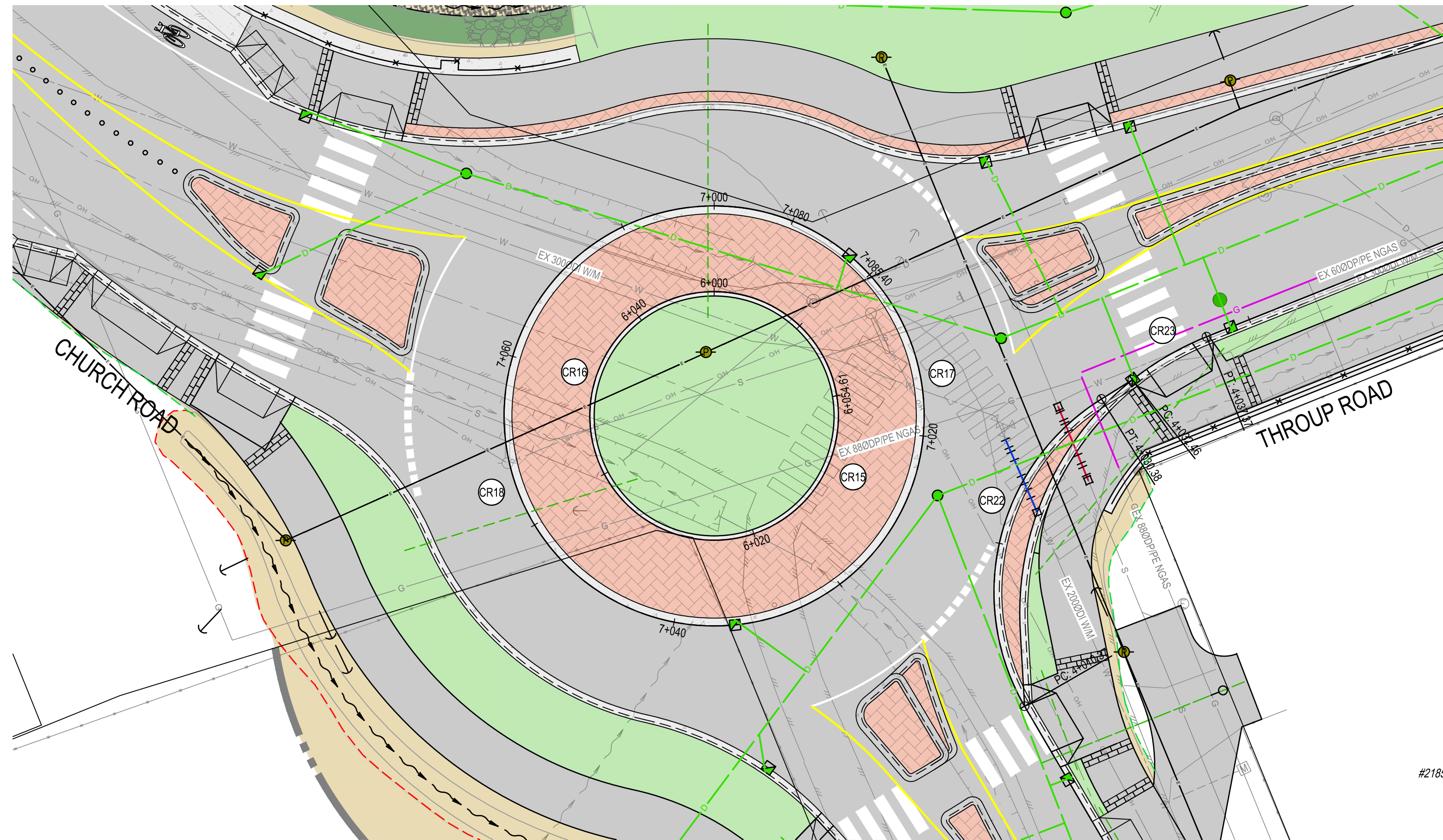
**CHURCH ROAD ROUNDABOUT
CURB PLAN AND PROFILES
THROUP ROAD EASTBOUND**

Drawing No.

C213

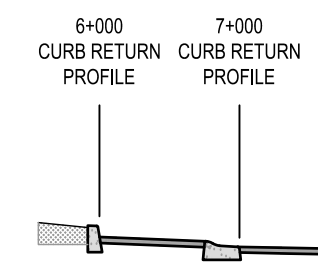
Project Number
2241-20-128

Rev.
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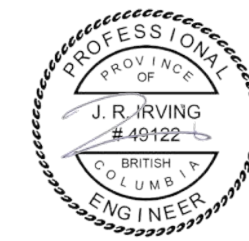


CURB RETURN TABLE						
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CR15	22.305	7.100	180°00'00"	INFINITY	N 536121.1670 E 446744.077	N 5361197.4078 E 446744.077
CR16	32.305	7.100	260°41'45"	8.358	N 5361197.4078 E 446744.077	N 5361205.7178 E 446751.084

CURB RETURN TABLE						
CURB No.	LENGTH	RADIUS	DELTA	TANGENT	B.C. COORD.	E.C. COORD.
CR17	37.699	12.000	180°00'00"	INFINITY	N 5361216.570 E 446744.077	N 5361192.570 E 446744.077
CR18	47.699	12.000	227°44'45"	27.114	N 5361192.570 E 446744.077	N 5361122.639 E 446752.960



CURB RETURN PROFILE LOCATION
SCALE NTS

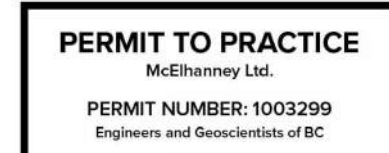
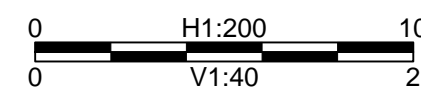


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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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CHURCH ROAD ROUNDABOUT
CURB PLAN AND PROFILES
ROUNDABOUT BUTTON AND APRON

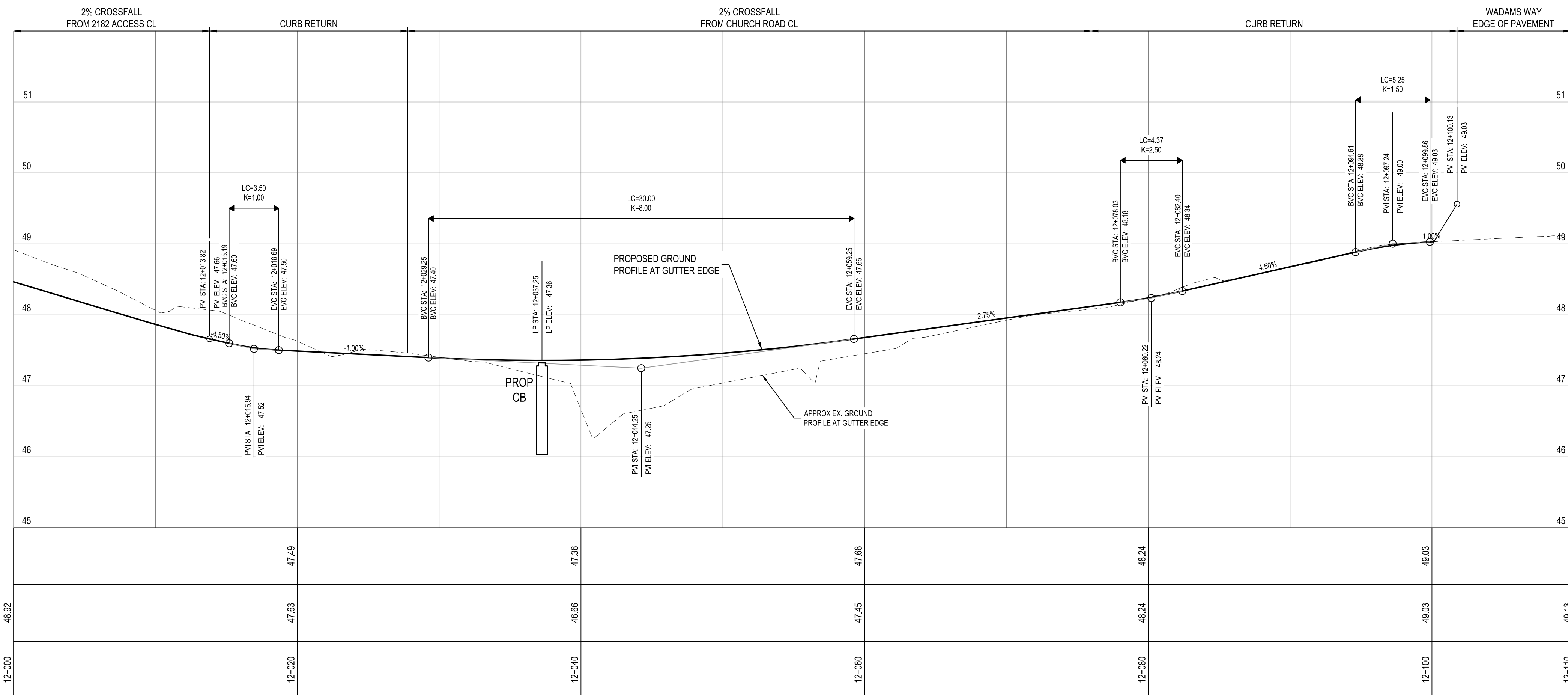
C214

Project Number
241-20-128

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CURB RETURN TABLE						
CURB No.	LENGTH	RADIUS	DELTA	TANGENT	B.C. COORD.	E.C. COORD.
CR26	13.969	9.000	88°55'54"	8.834	N 5361079.194 E 446794.470	N 5361074.328 E 446806.102
CR27	22.034	14.000	90°10'32"	14.043	N 5361026.637 E 446821.962	N 5361008.365 E 446814.259



ORIGINAL DWG SIZE: A1 (594 x 841mm)



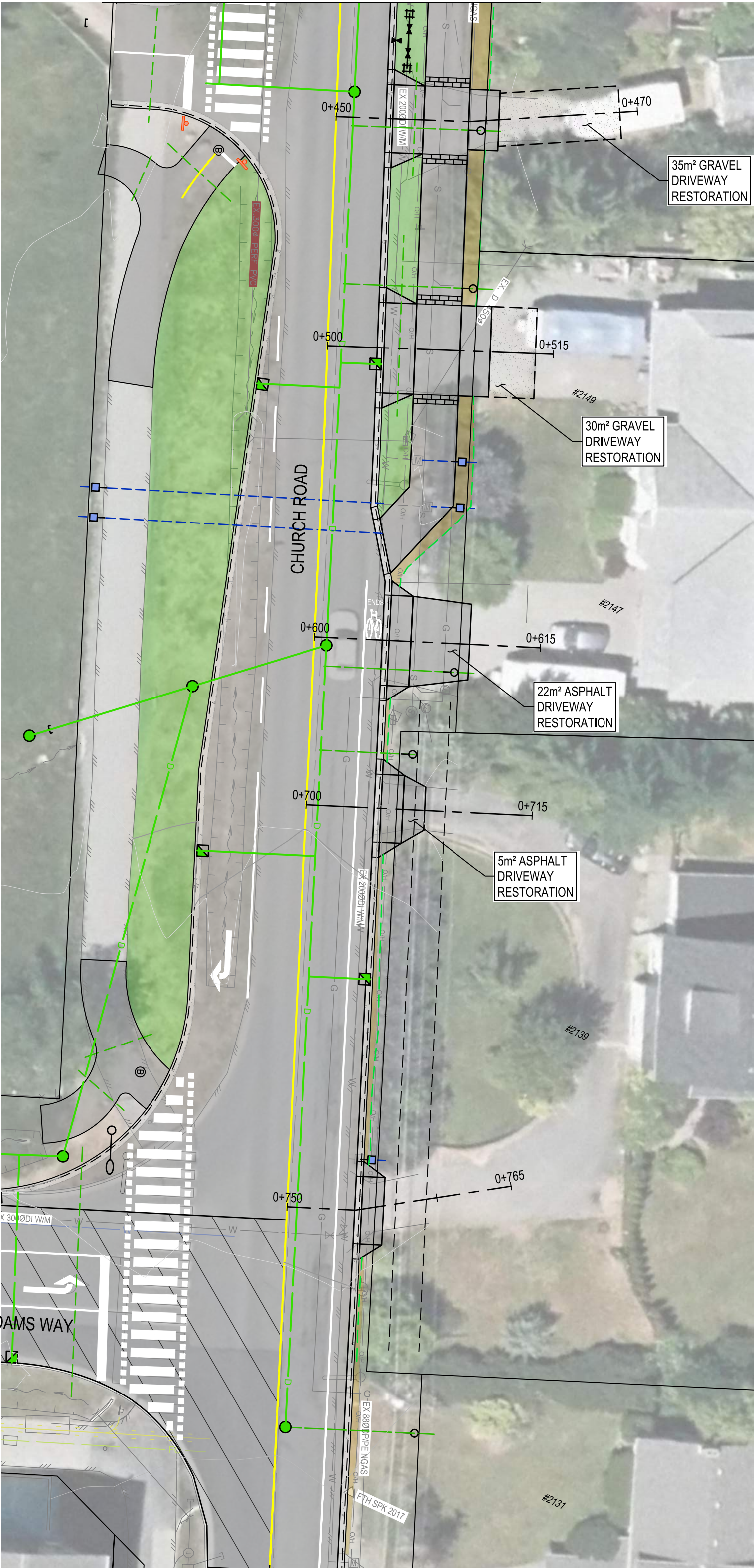
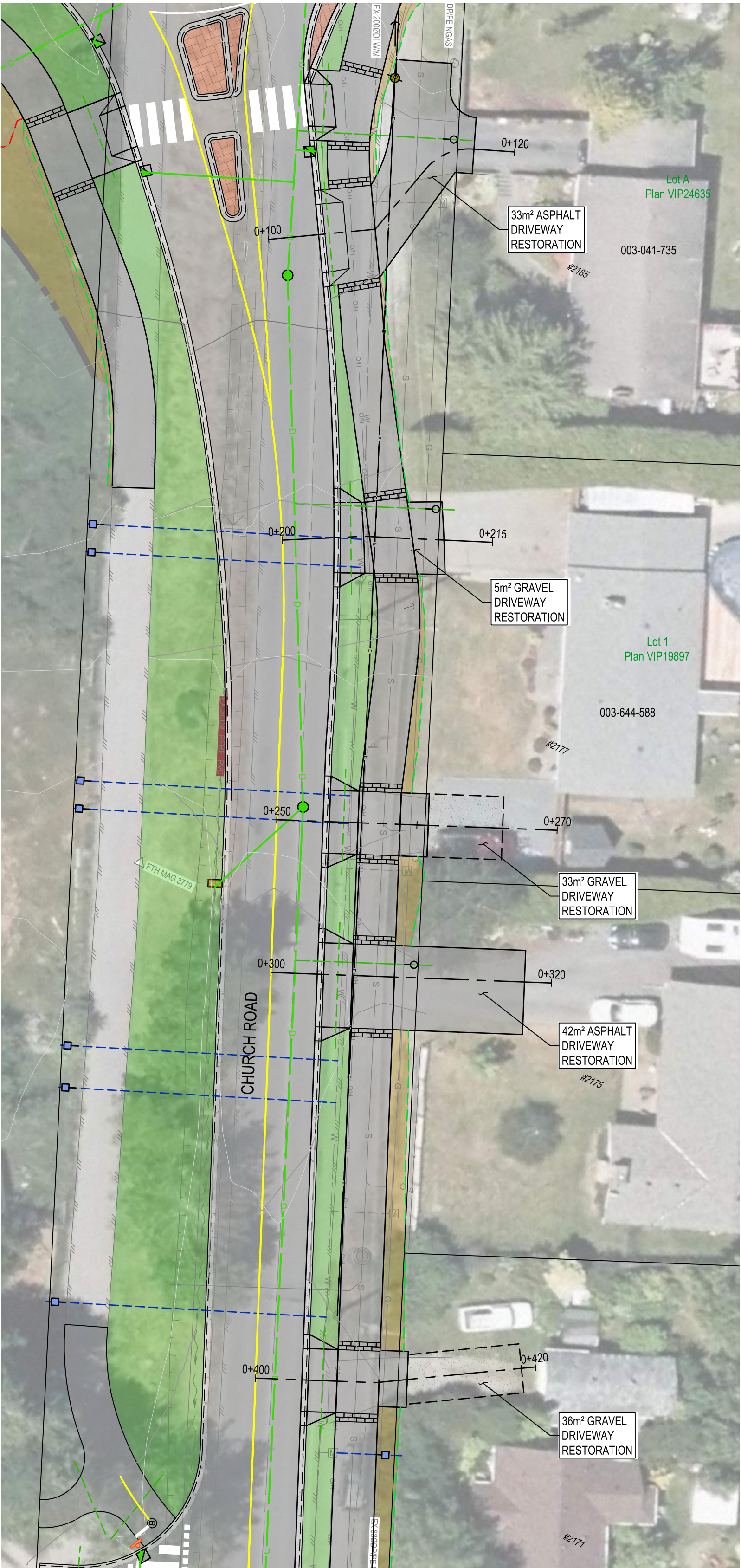
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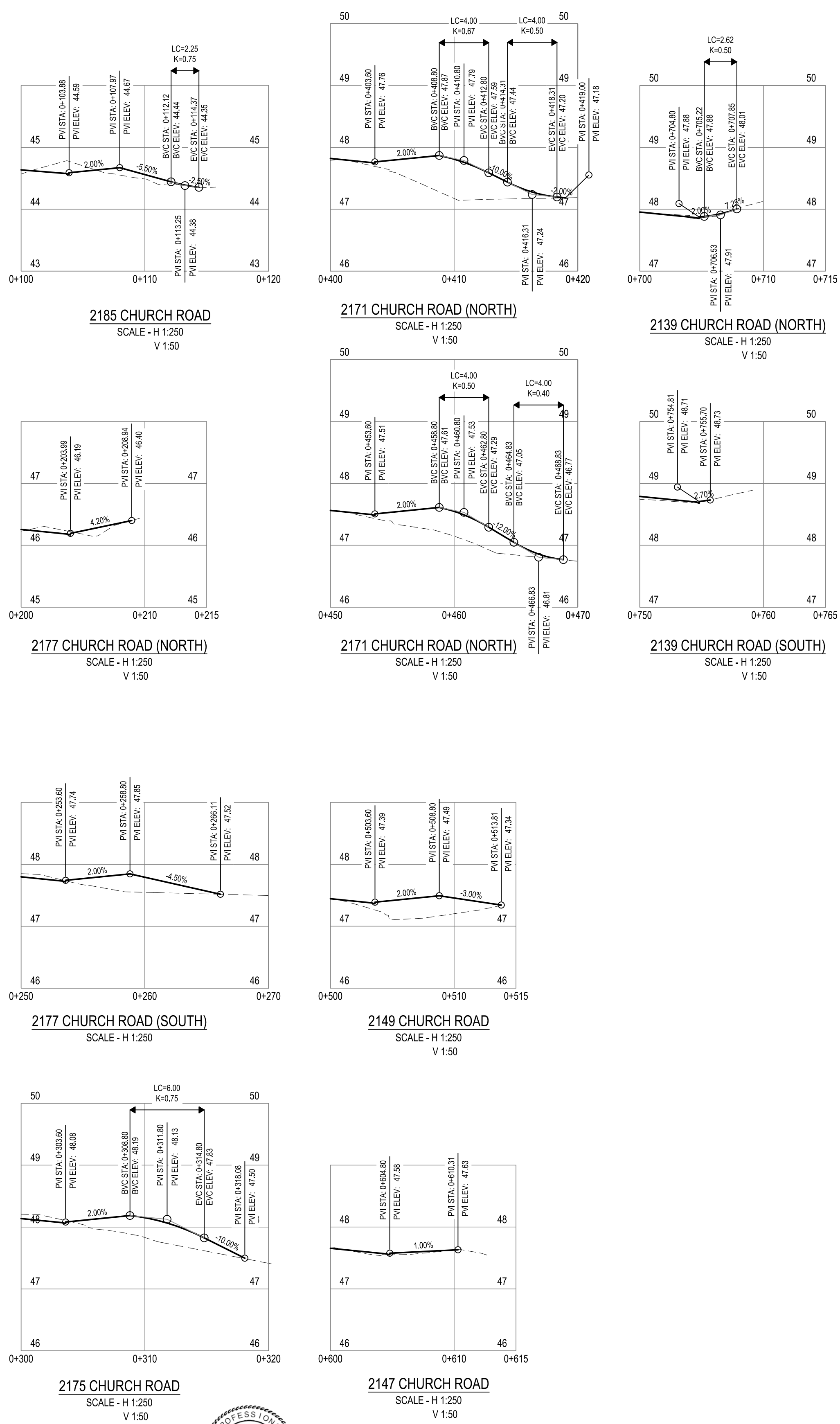
Drawing No.

Project Number
2241-20-128

Rev.
0



SITE PLAN
SCALE - 1:250



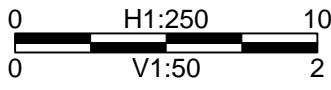
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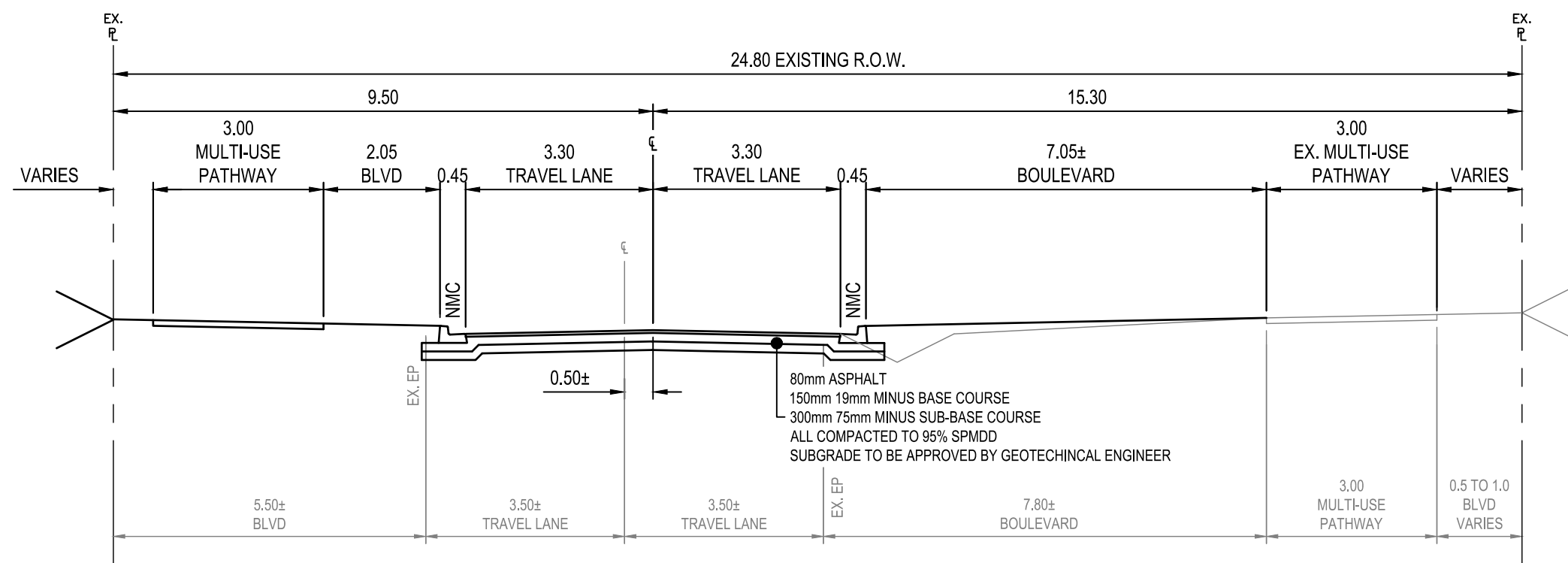
**CHURCH ROAD ROUNDABOUT
DRIVEWAY PROFILES**

Drawing No.

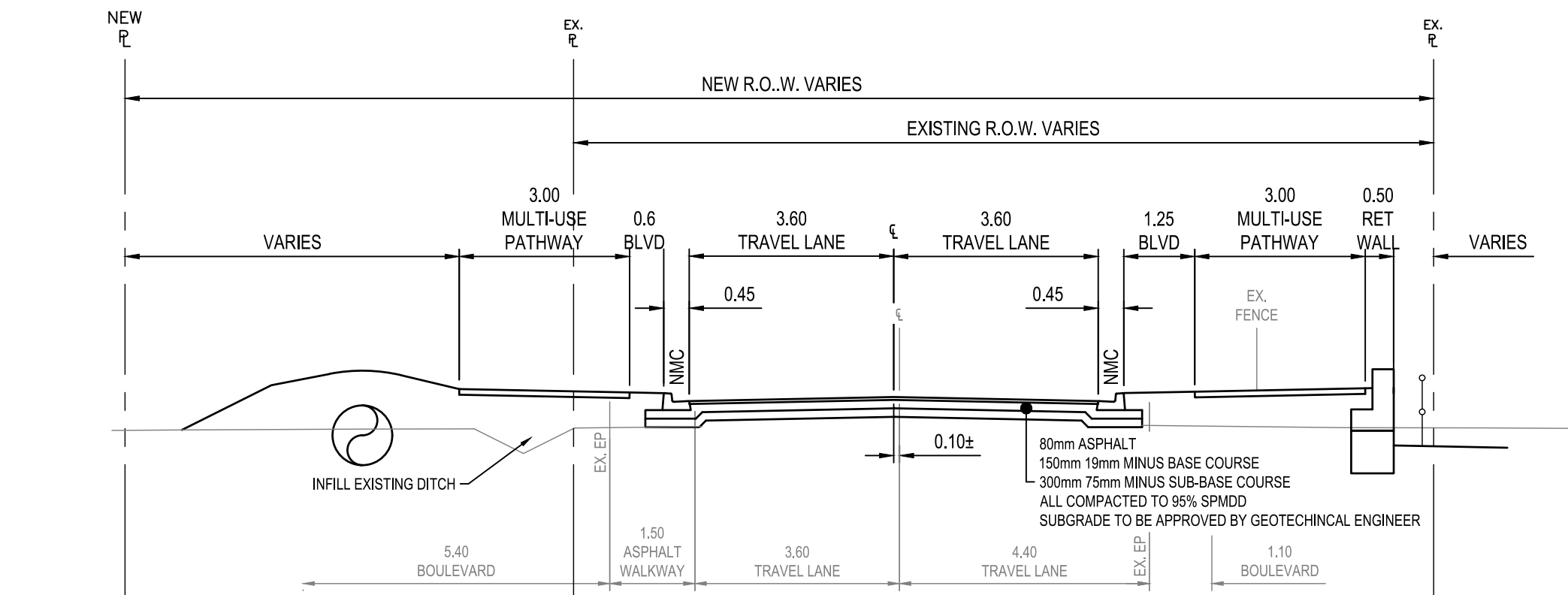
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Project Number
2241-20-128

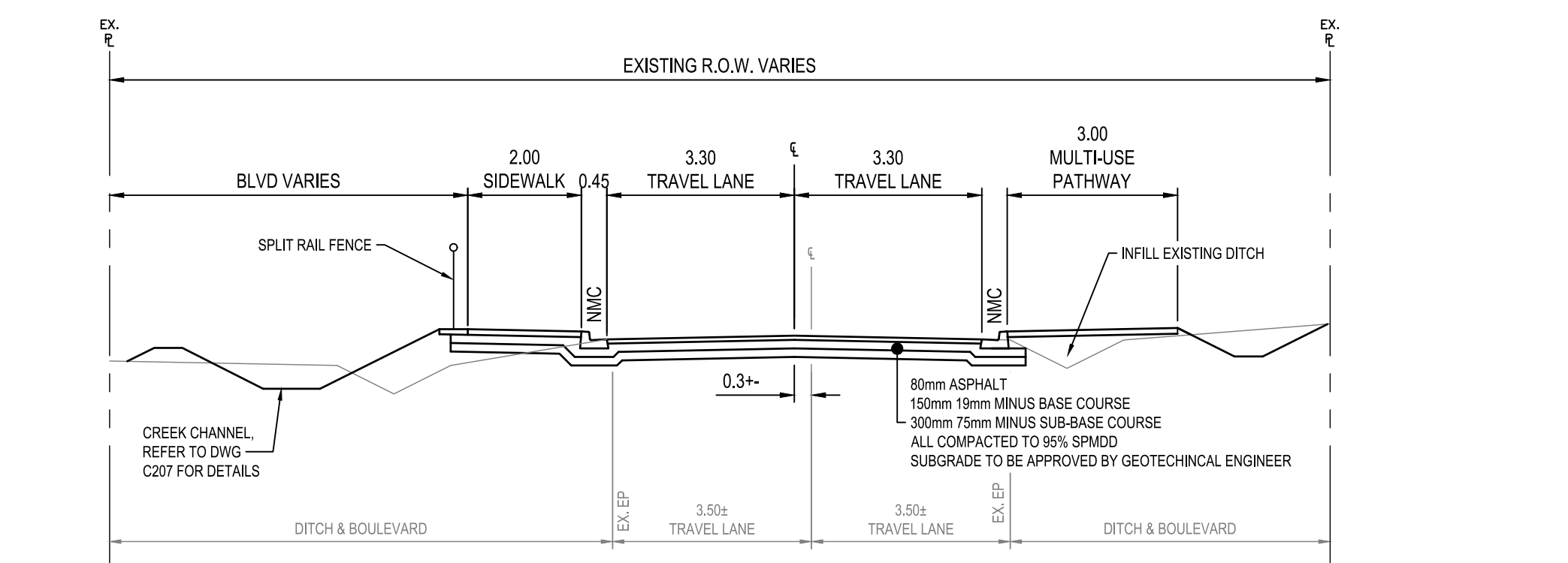
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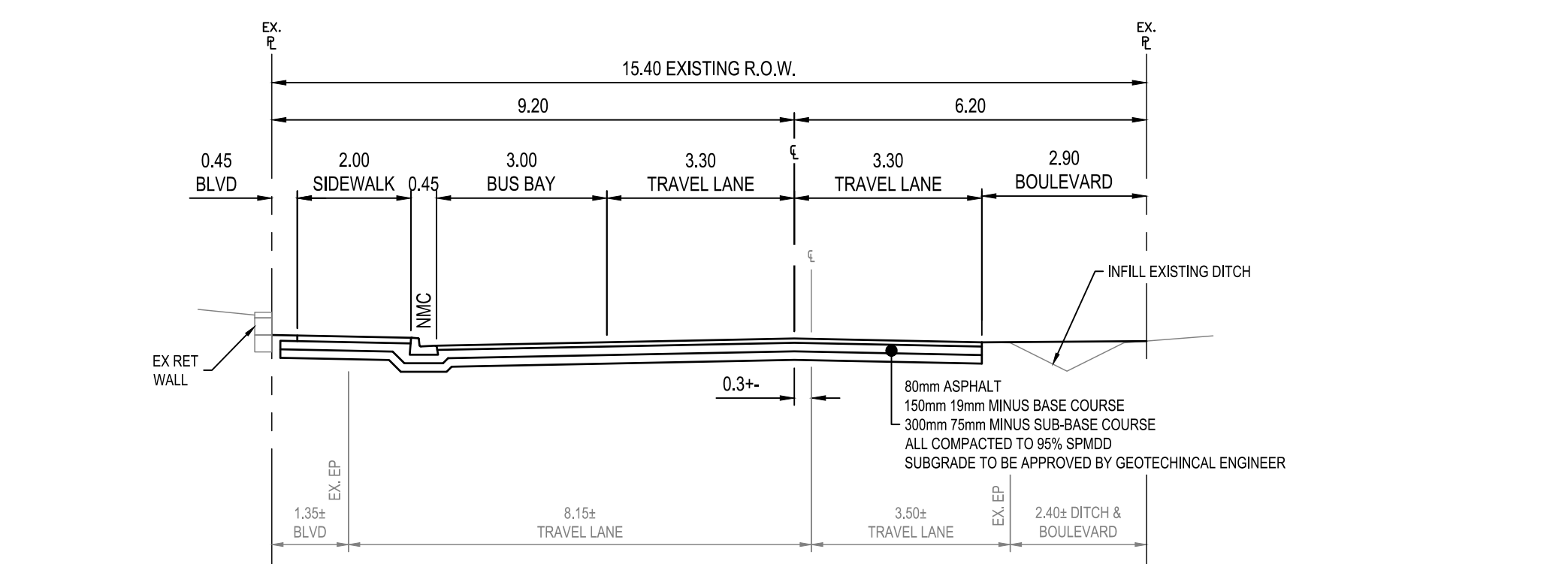
D C203
TYPICAL CHURCH ROAD SECTION
STA. 9+650 TO STA. 9+750
SCALE H 1:100
V 1:100



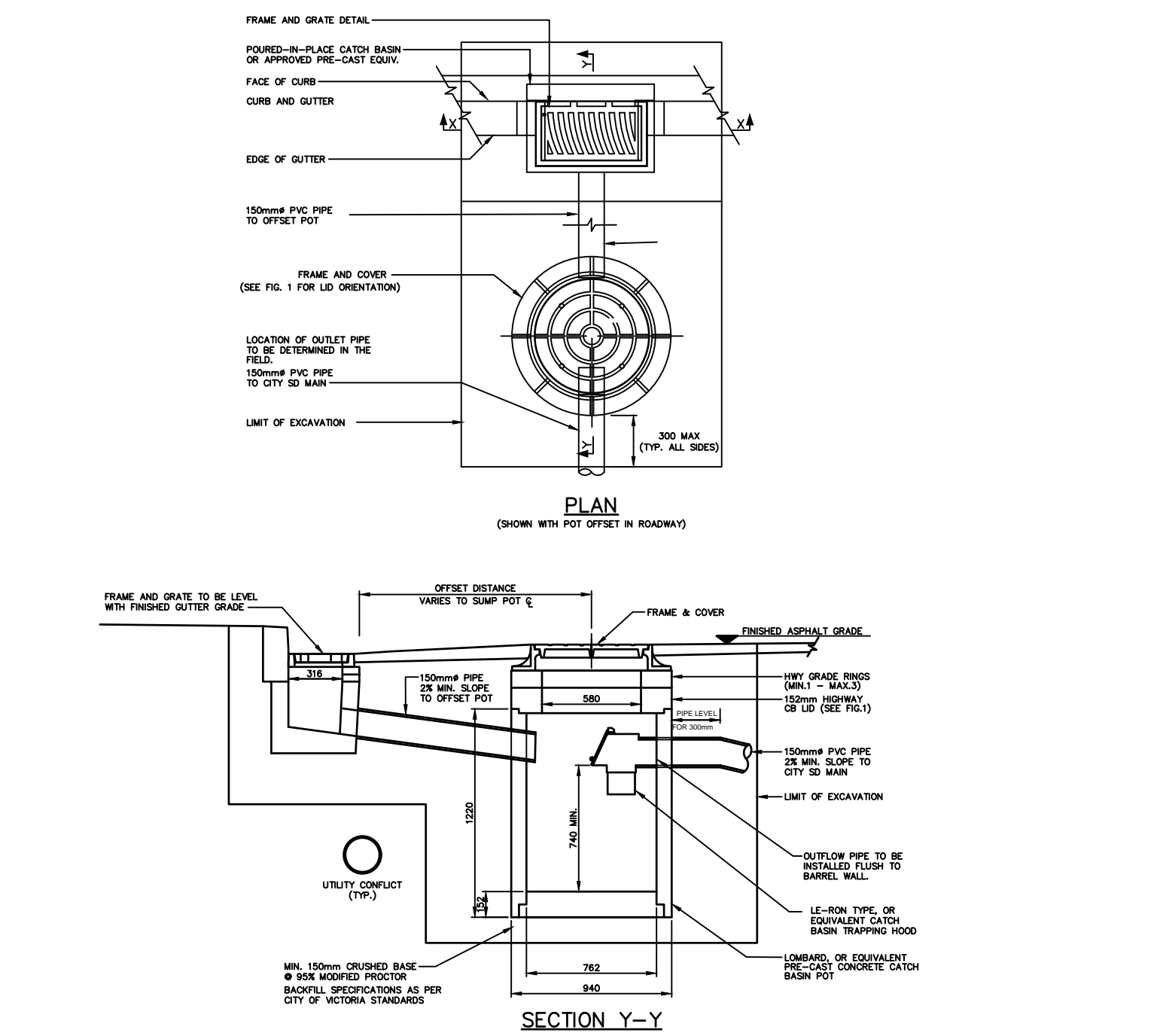
C C202
TYPICAL THRU ROAD SECTION
SCALE H 1:100
V 1:100



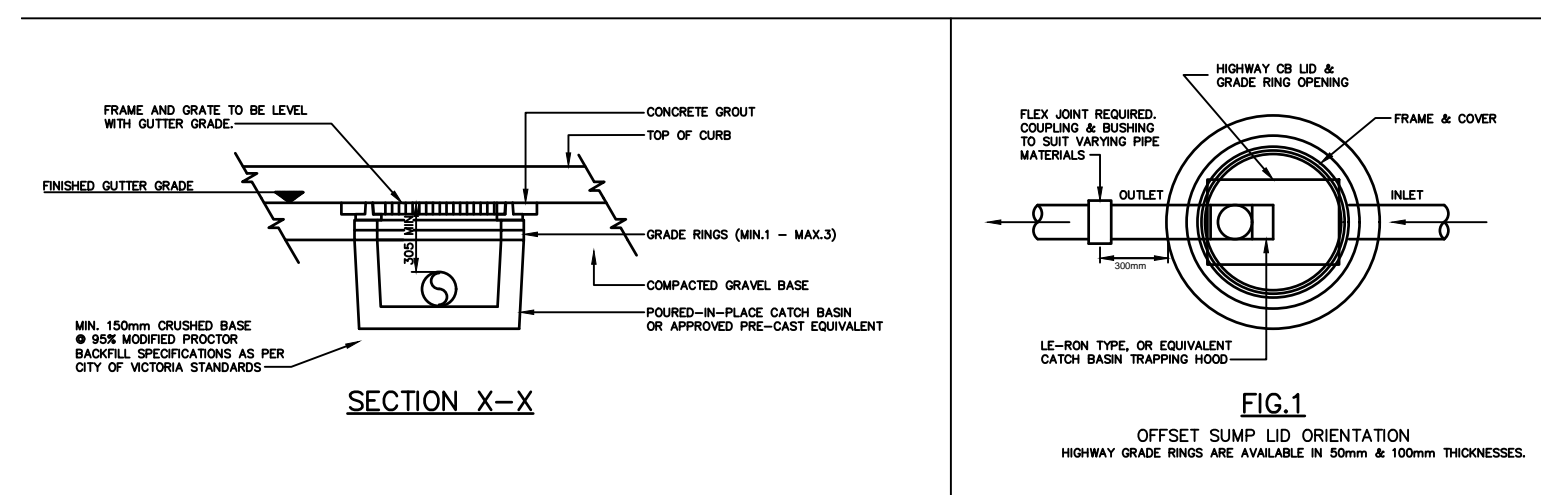
B C201
TYPICAL CHURCH ROAD SECTION
STA. 9+530 TO STA. 9+580
SCALE H 1:100
V 1:100



A C201
TYPICAL CHURCH ROAD SECTION
STA. 9+500 TO STA. 9+530
SCALE H 1:100
V 1:100

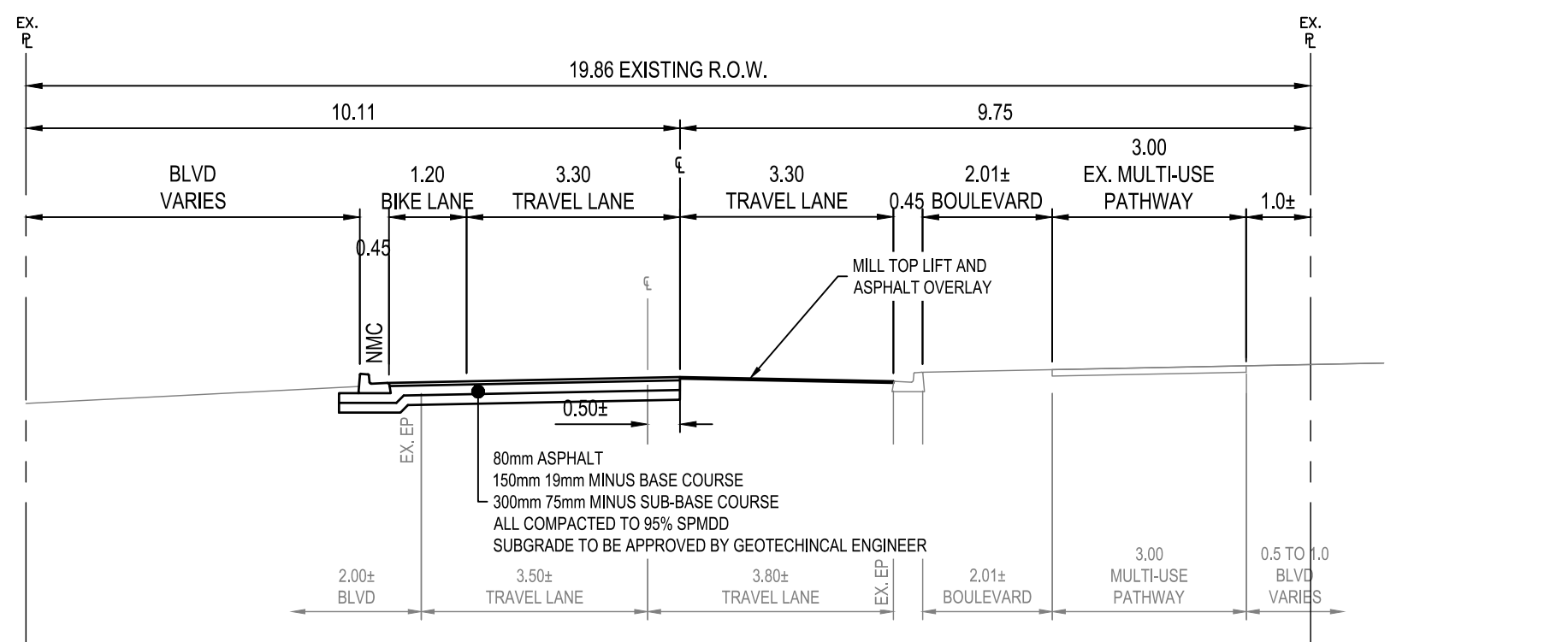


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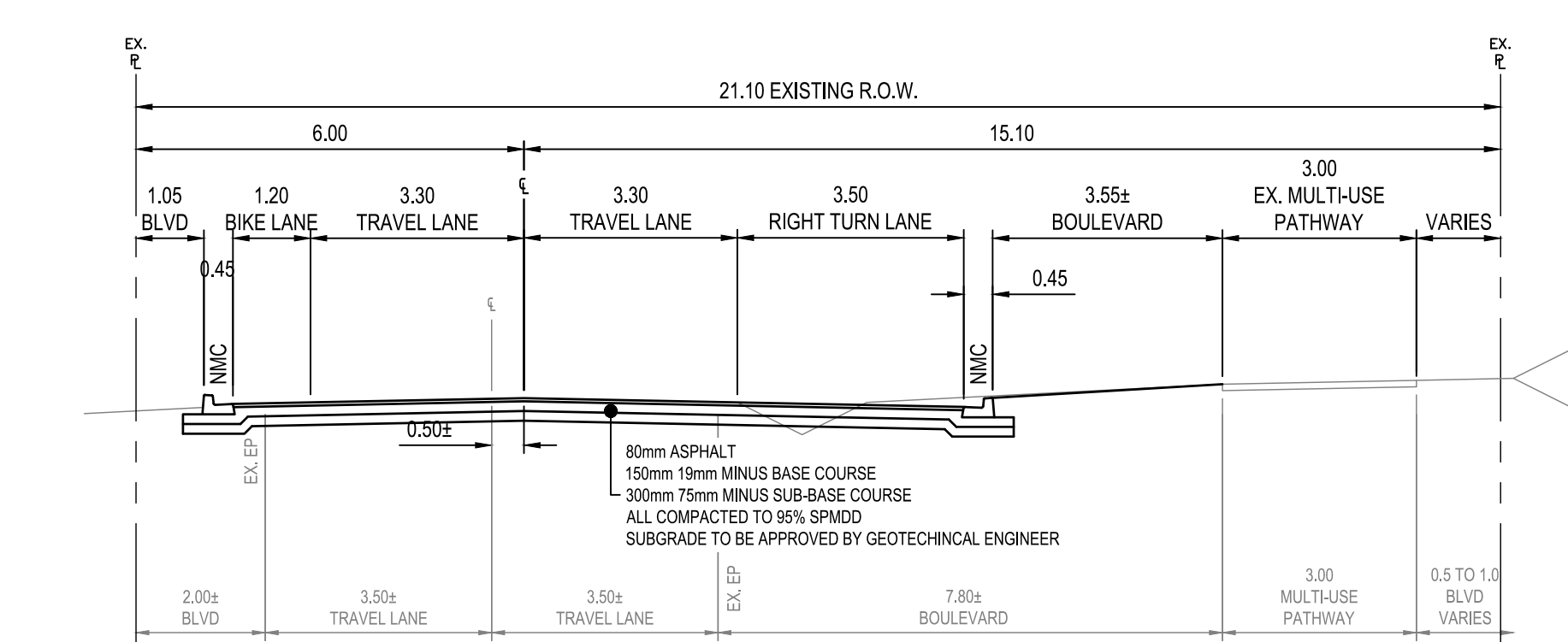


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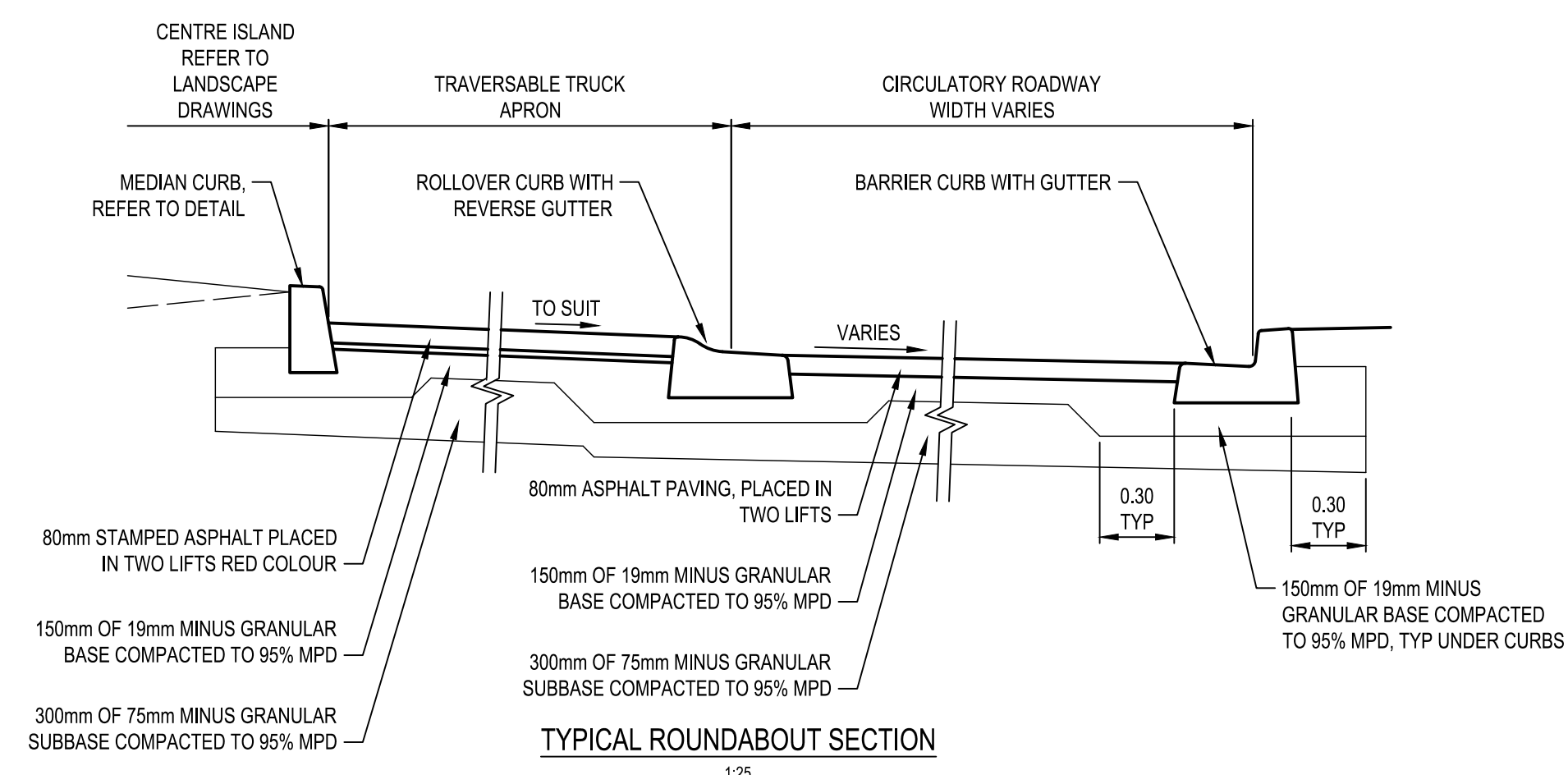
OFFSET CATCH BASIN DETAIL



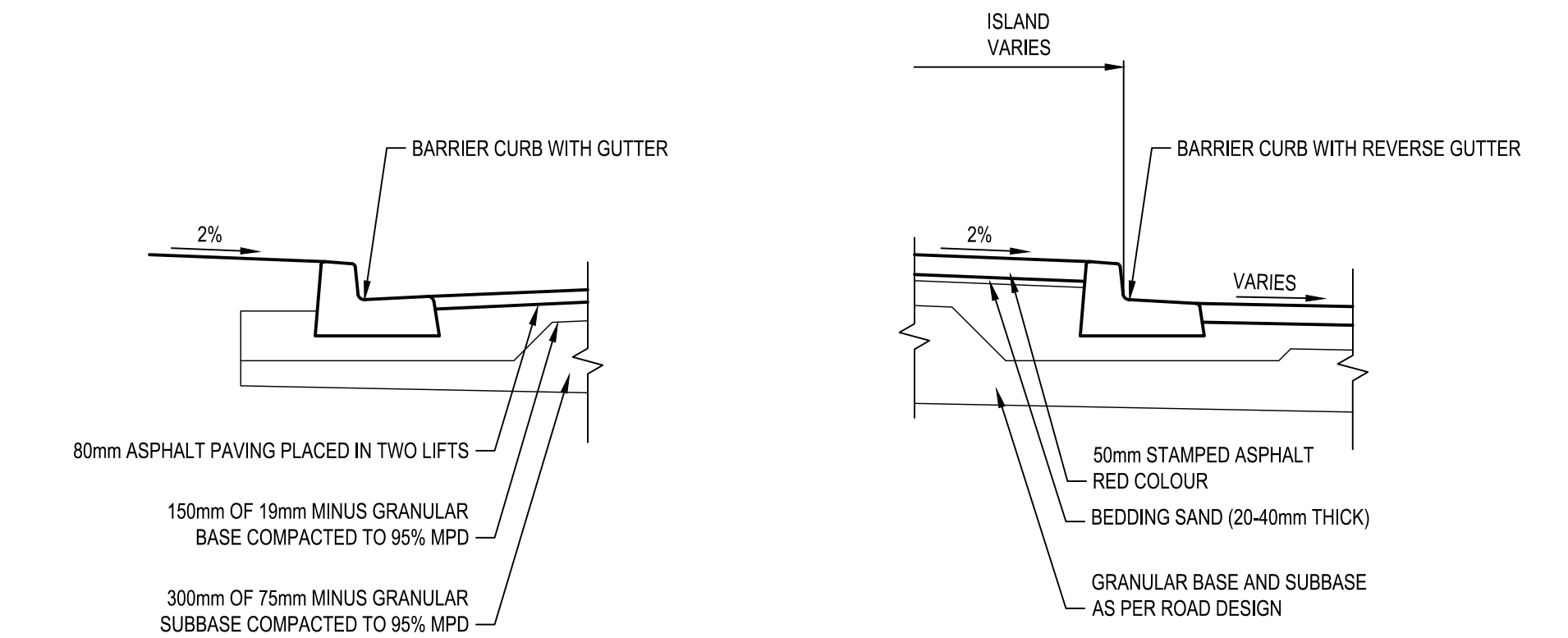
E C203
TYPICAL CHURCH ROAD SECTION
STA. 9+815 TO STA. 9+835
SCALE H 1:100
V 1:100



E C203
TYPICAL CHURCH ROAD SECTION
STA. 9+750 TO STA. 9+815
SCALE H 1:100
V 1:100

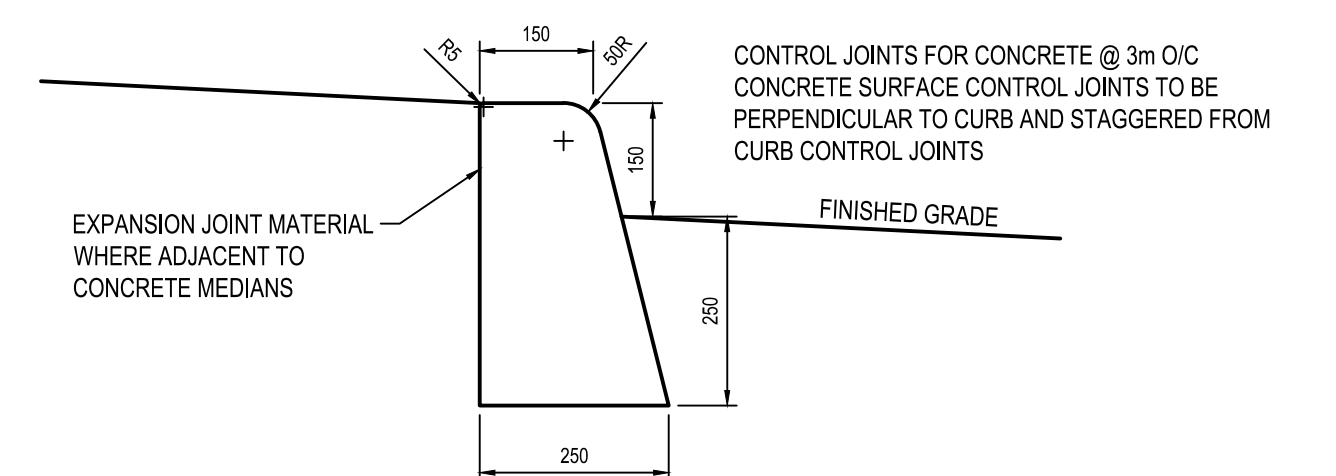


TYPICAL ROUNDABOUT SECTION

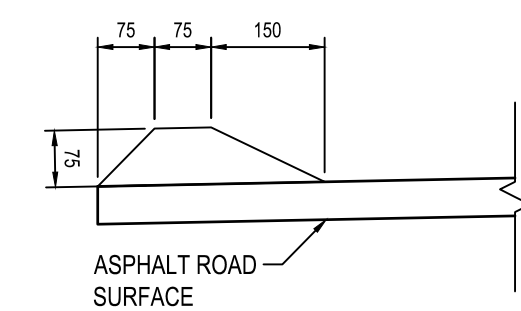


NON-MOUNTABLE CURB (NMC)

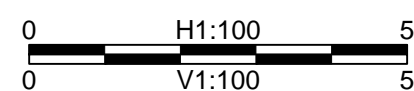
NON-MOUNTABLE SPLITTER ISLAND



MEDIAN CURB



ASPHALT WATER CONTROL CURB



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**CHURCH ROAD ROUNDABOUT
DETAILS AND TYPICAL SECTIONS**

Drawing No.

C301

Project Number
2241-20-128

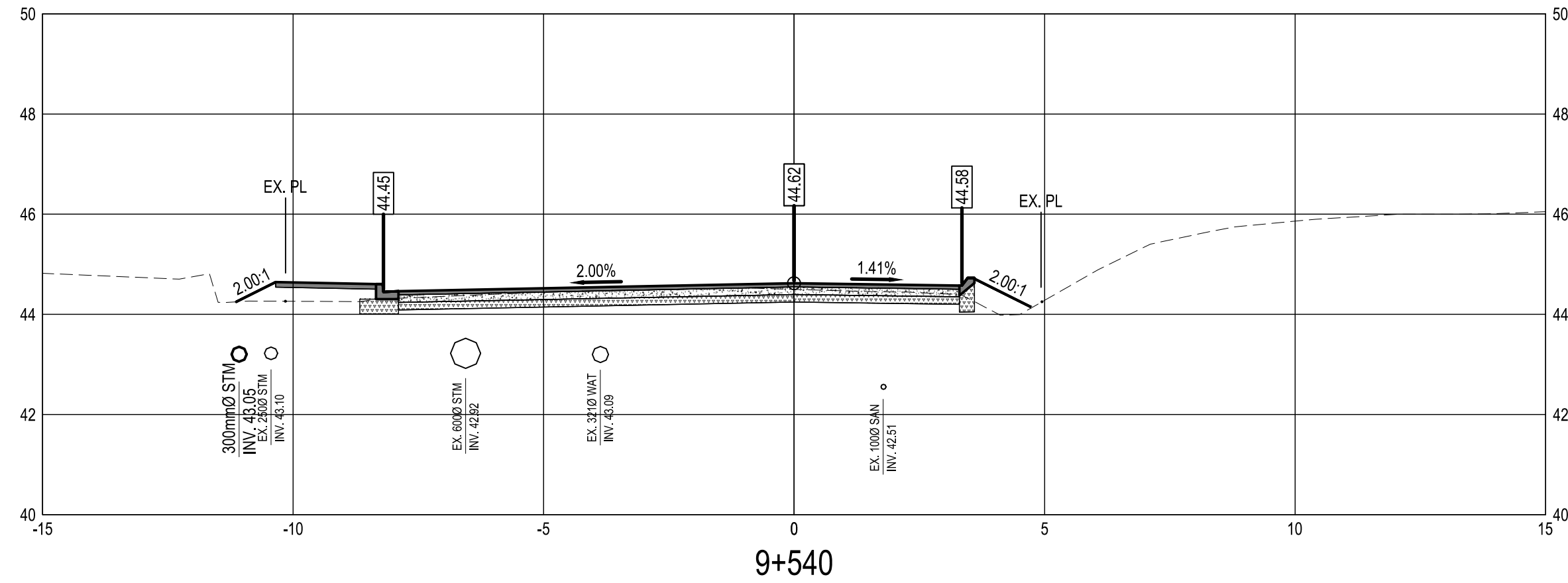
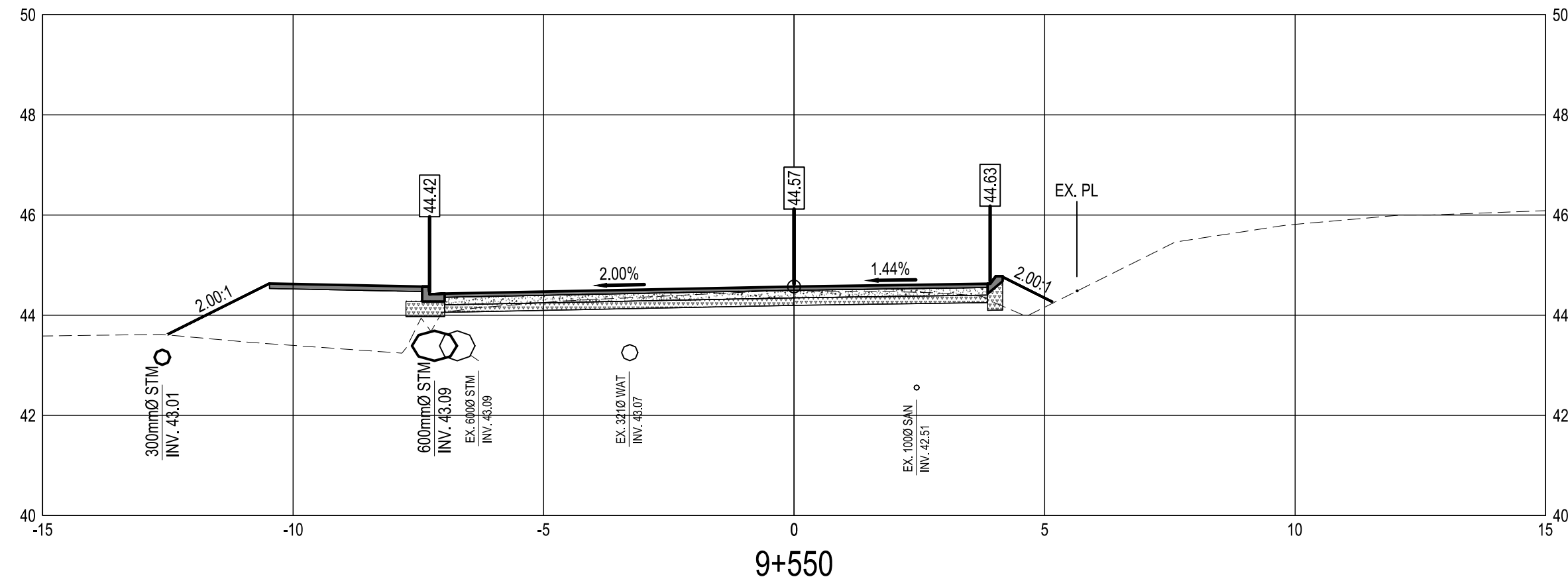
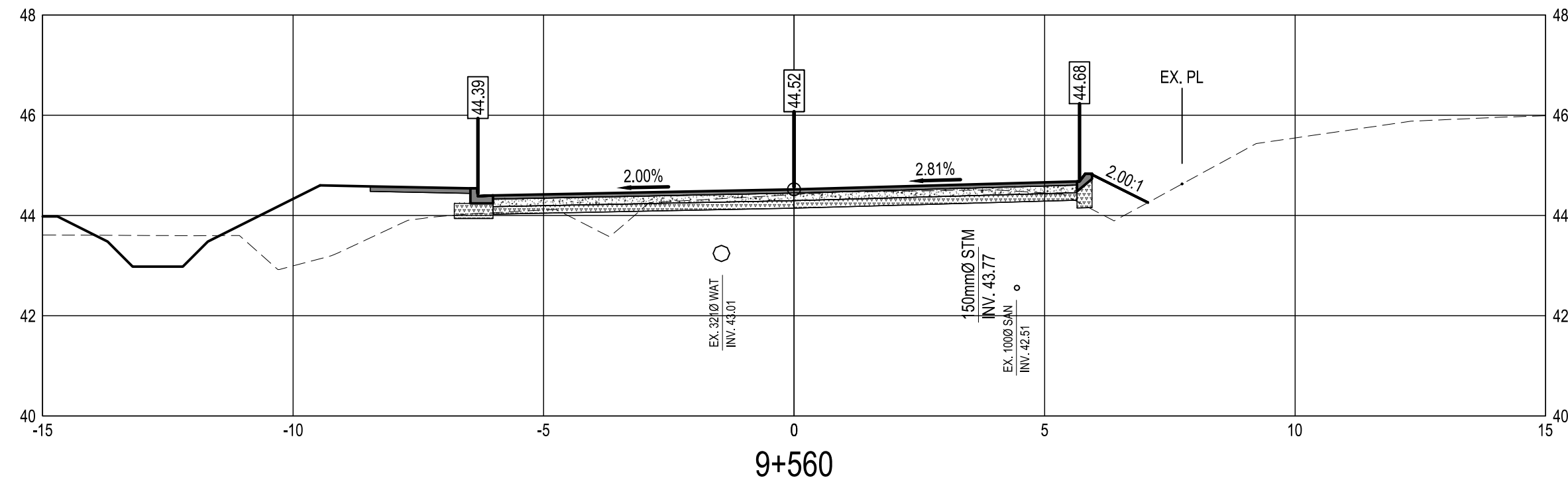
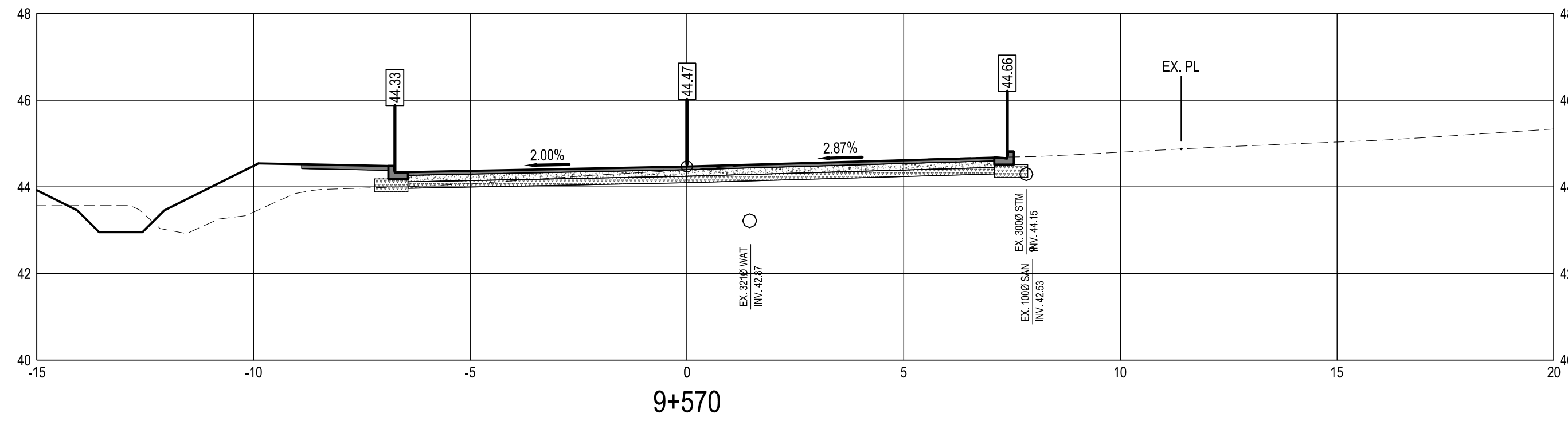
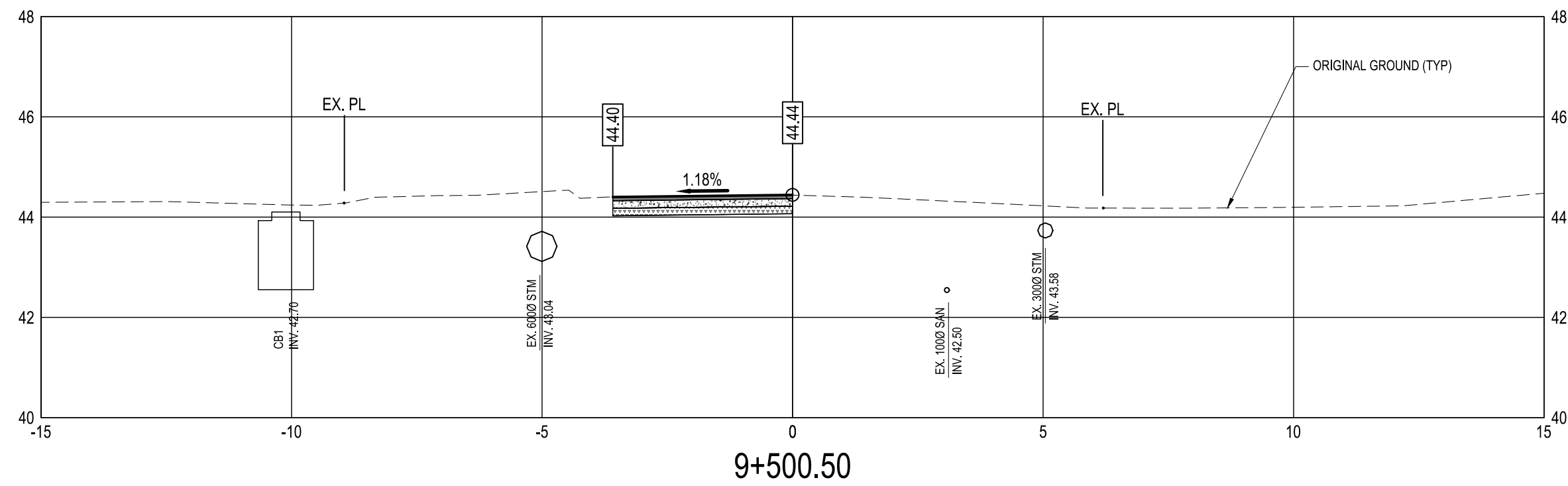
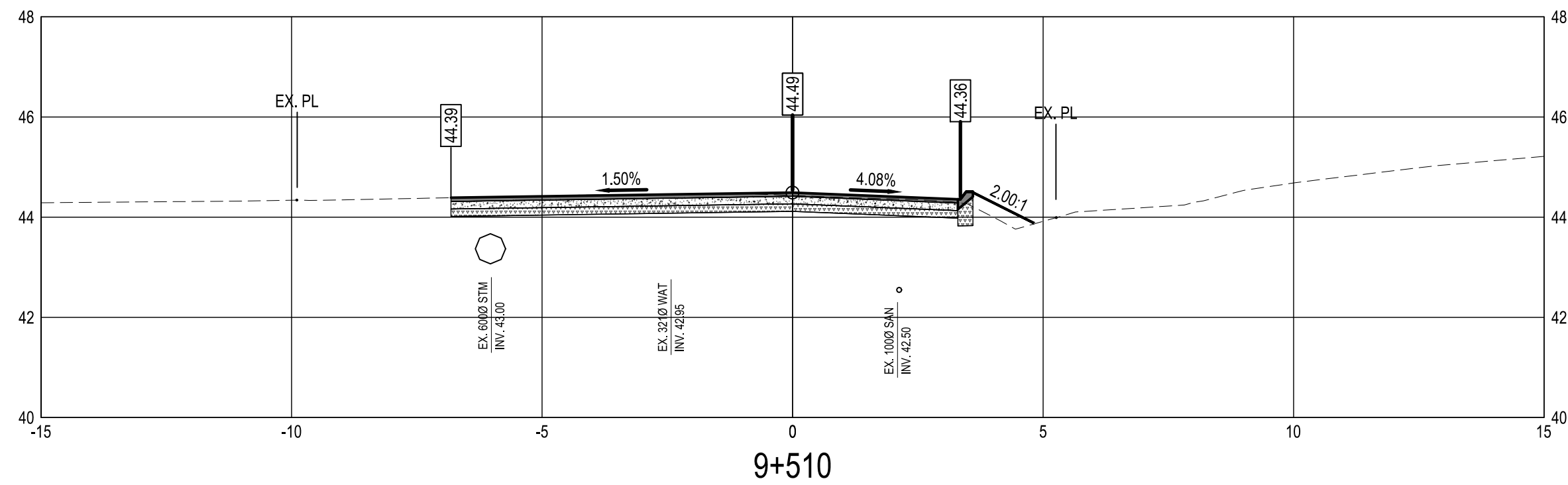
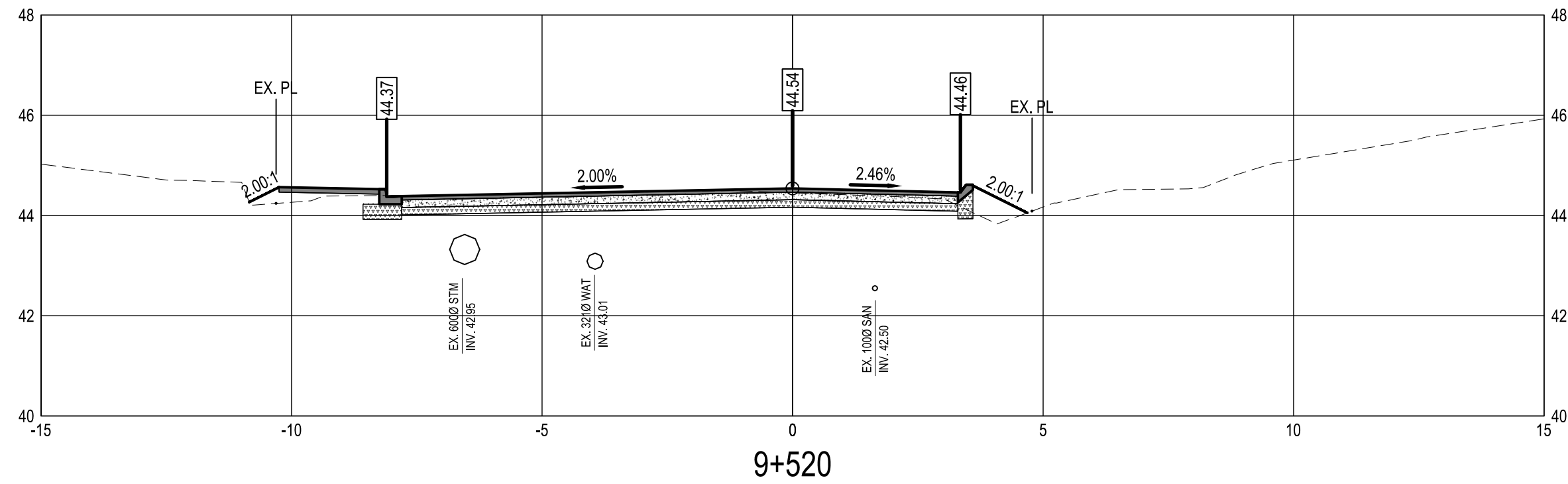
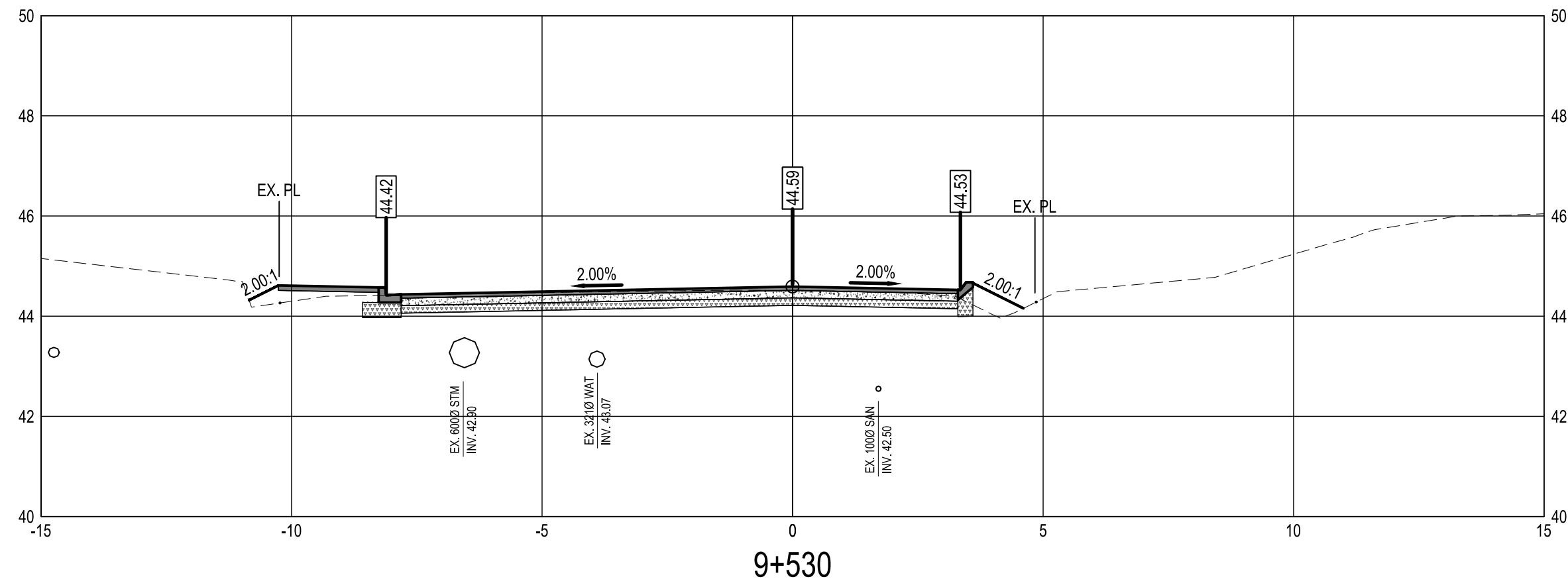
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ORIGINAL DWG SIZE: A1 (891 x 841mm)



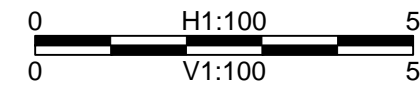
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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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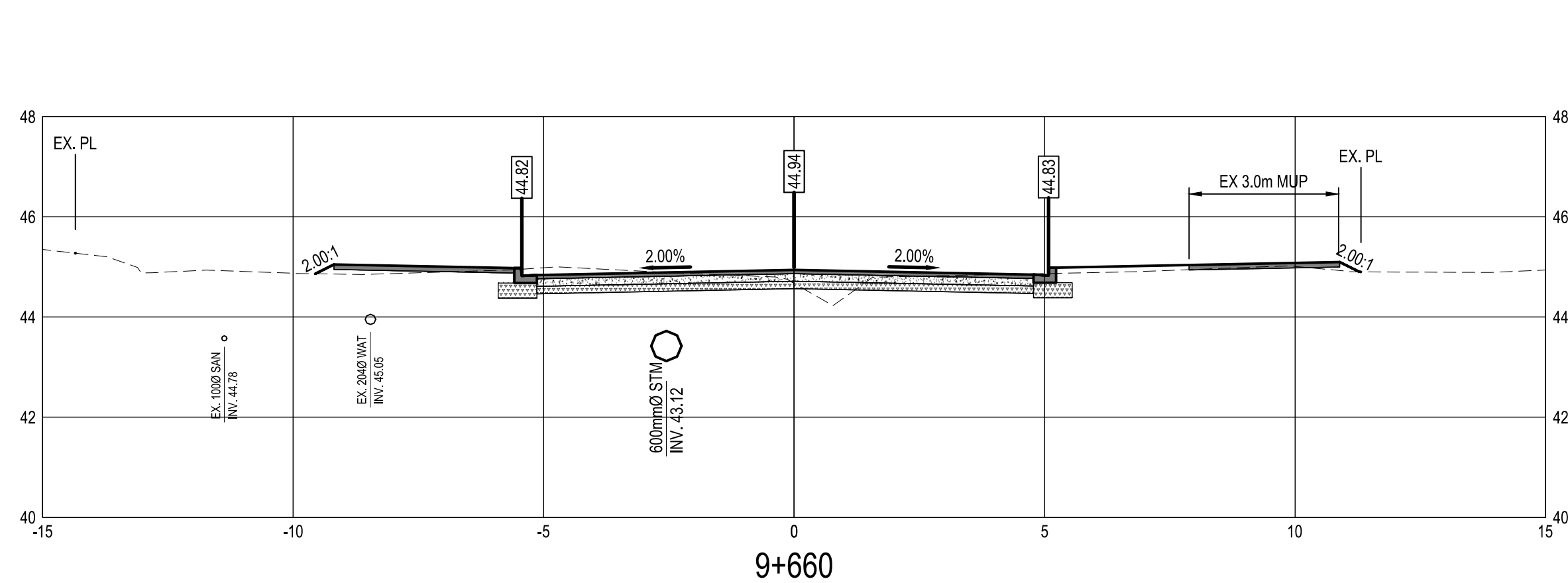
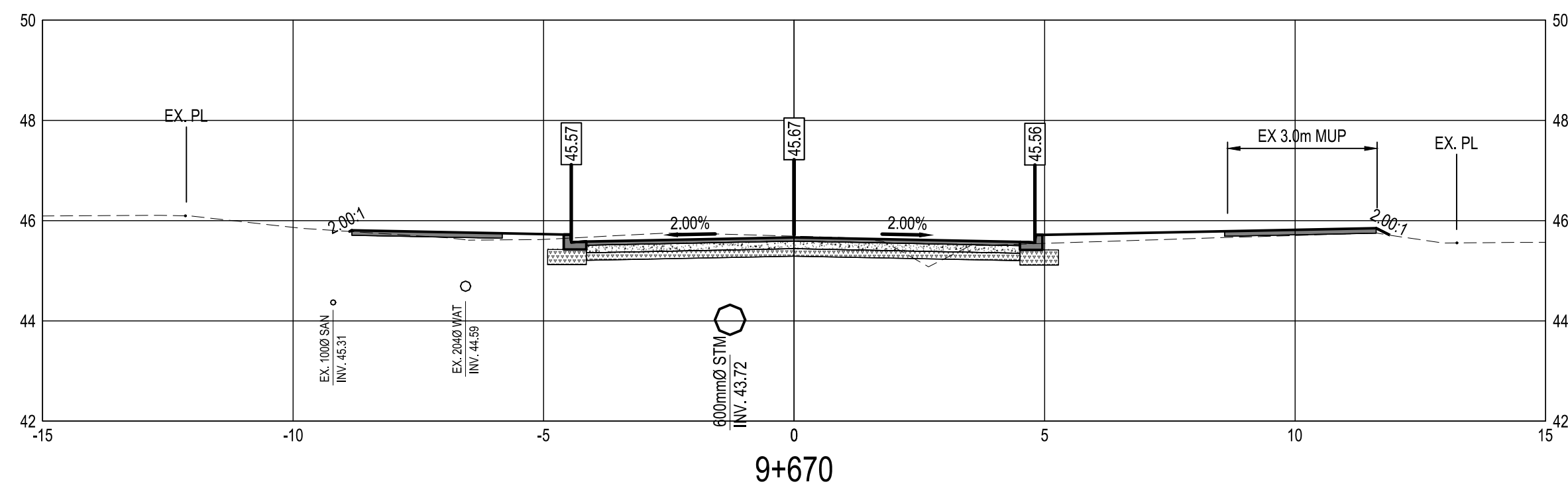
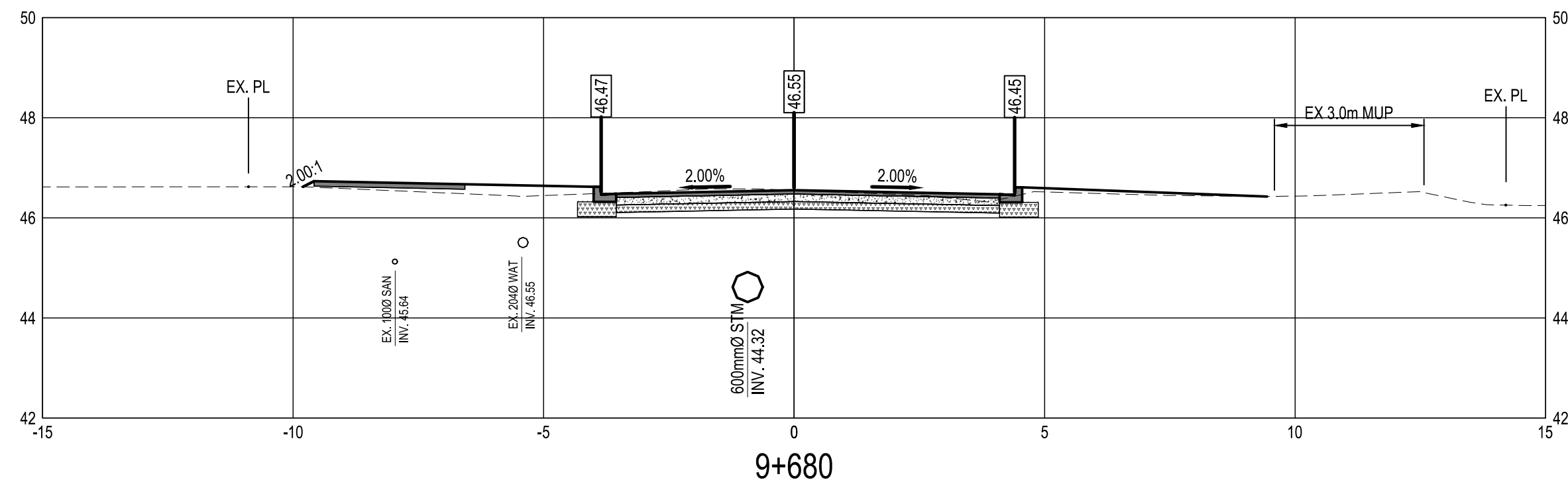
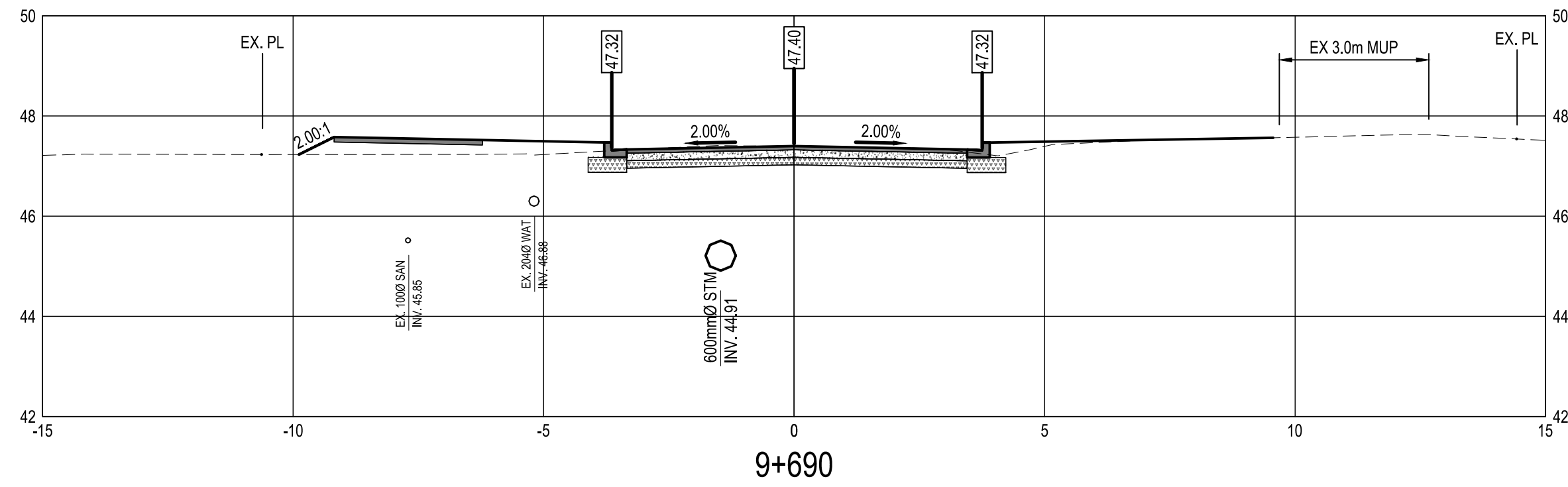
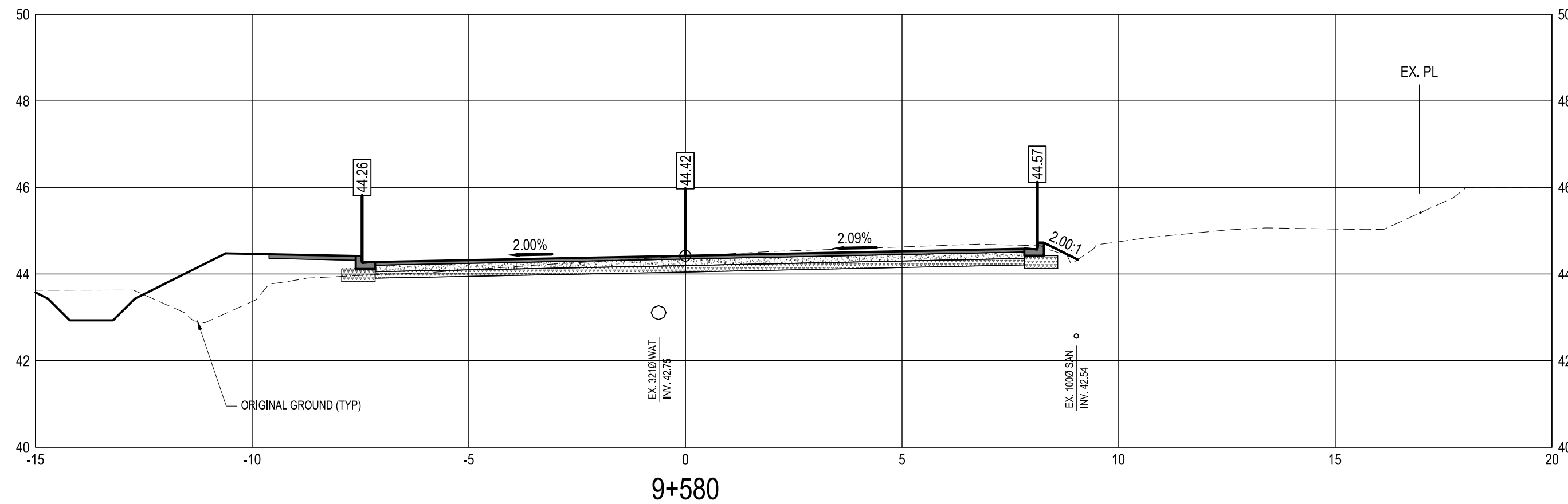
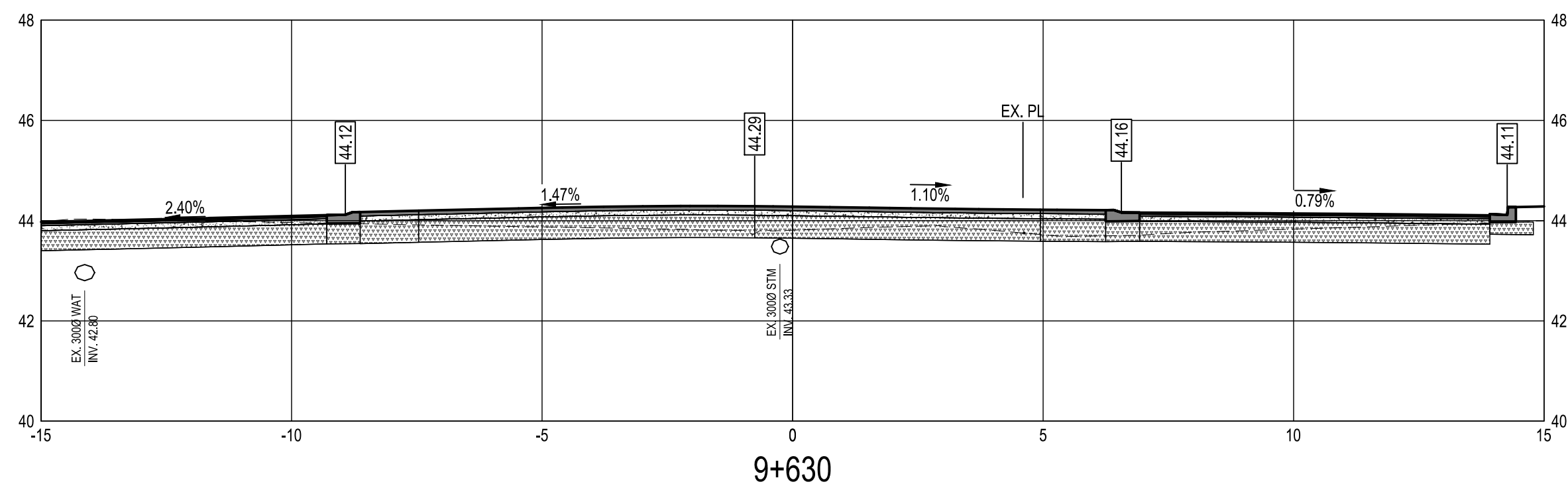
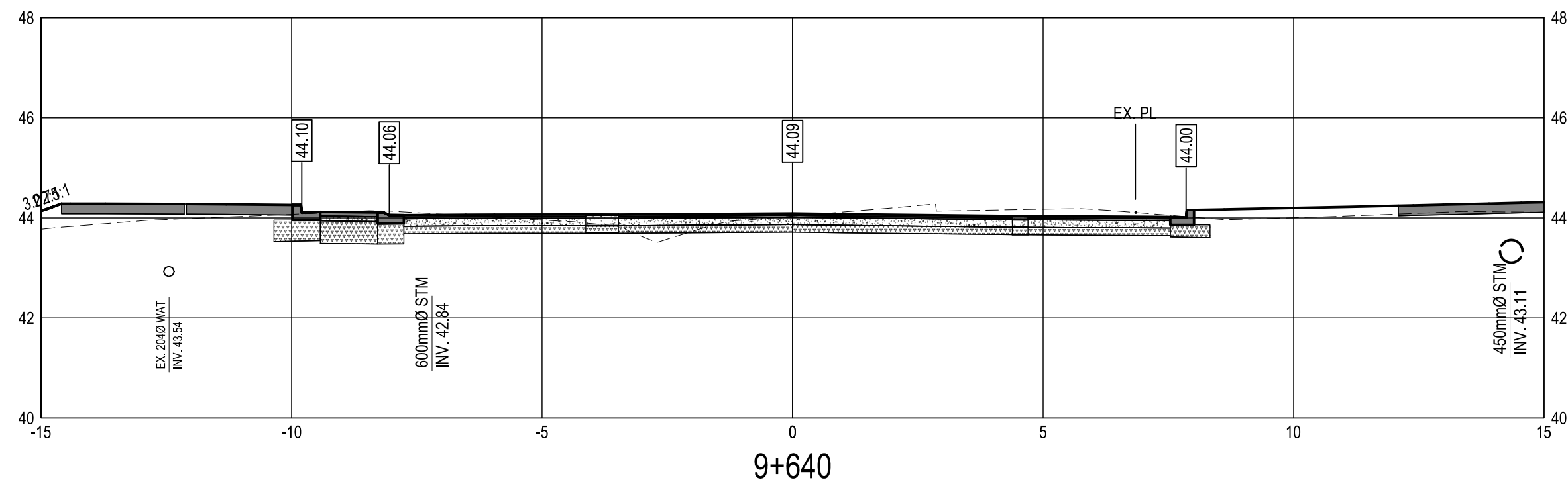
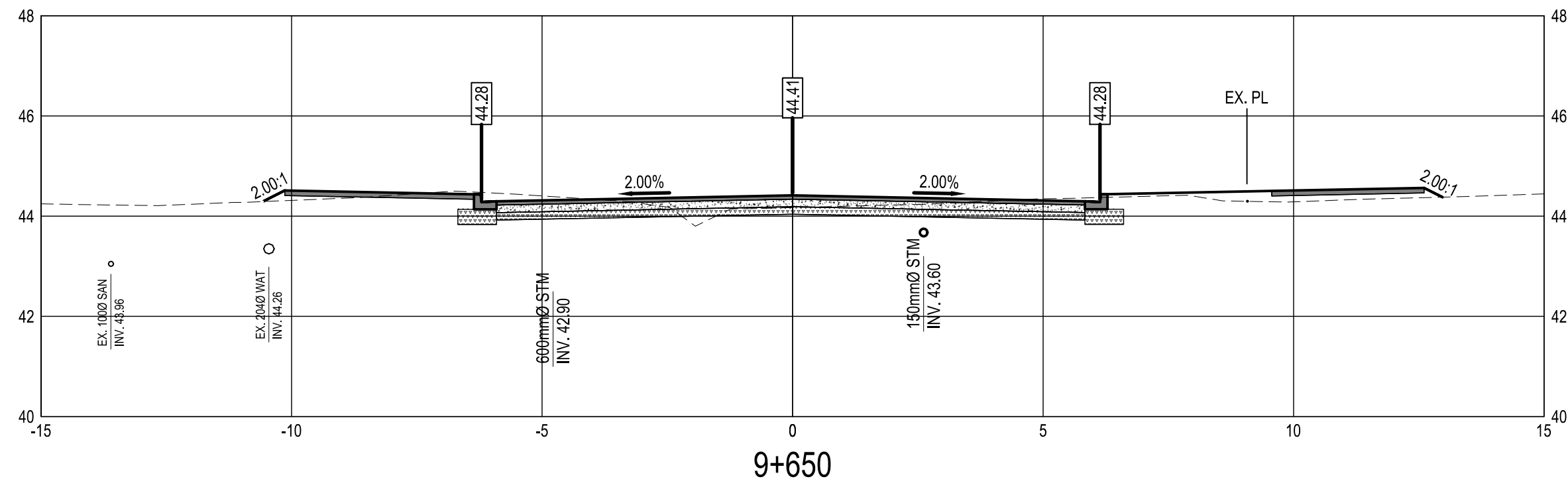
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**CHURCH ROAD ROUNDABOUT
ROAD CROSS SECTIONS**
CHURCH ROAD STA. 9+500.5 TO 9+570

Drawing No.	C401
Project Number	2241-20-128
Rev.	0

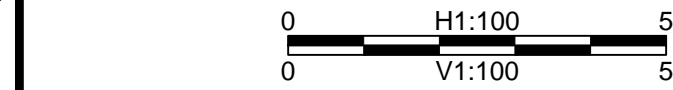


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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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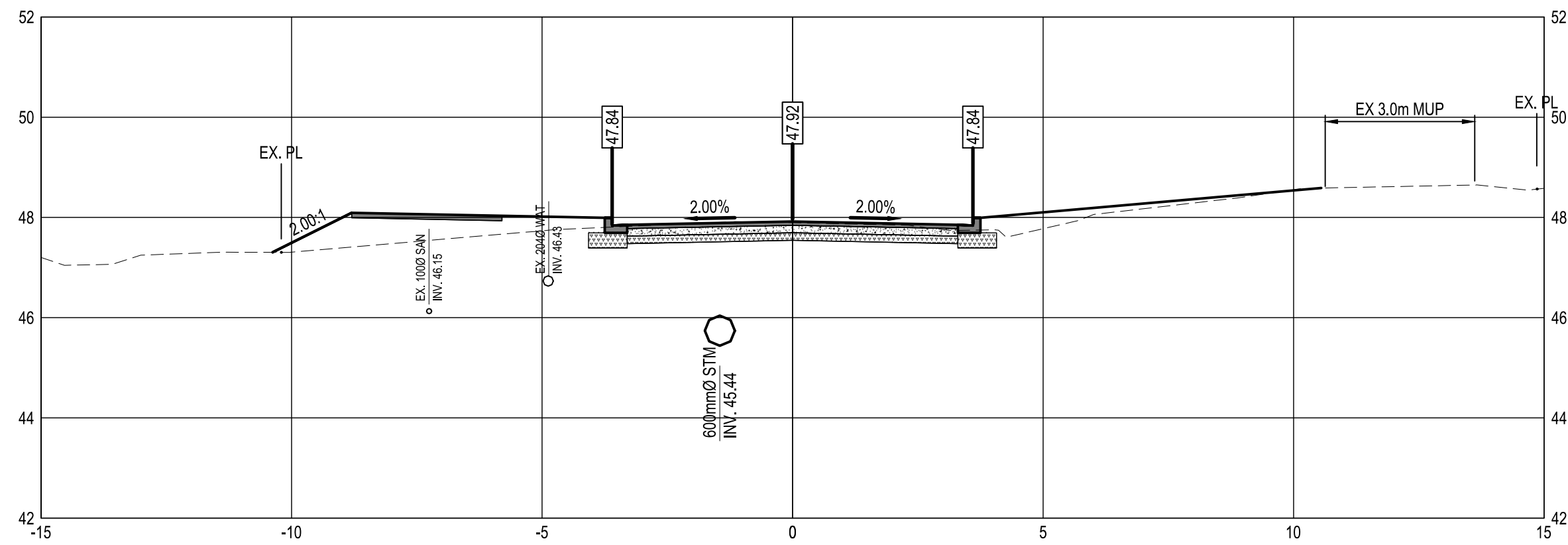
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2205 OTTER POINT ROAD, SOOKE, B.C.

**CHURCH ROAD ROUNDABOUT
ROAD CROSS SECTIONS
CHURCH ROAD STA. 9+580 TO 9+690**

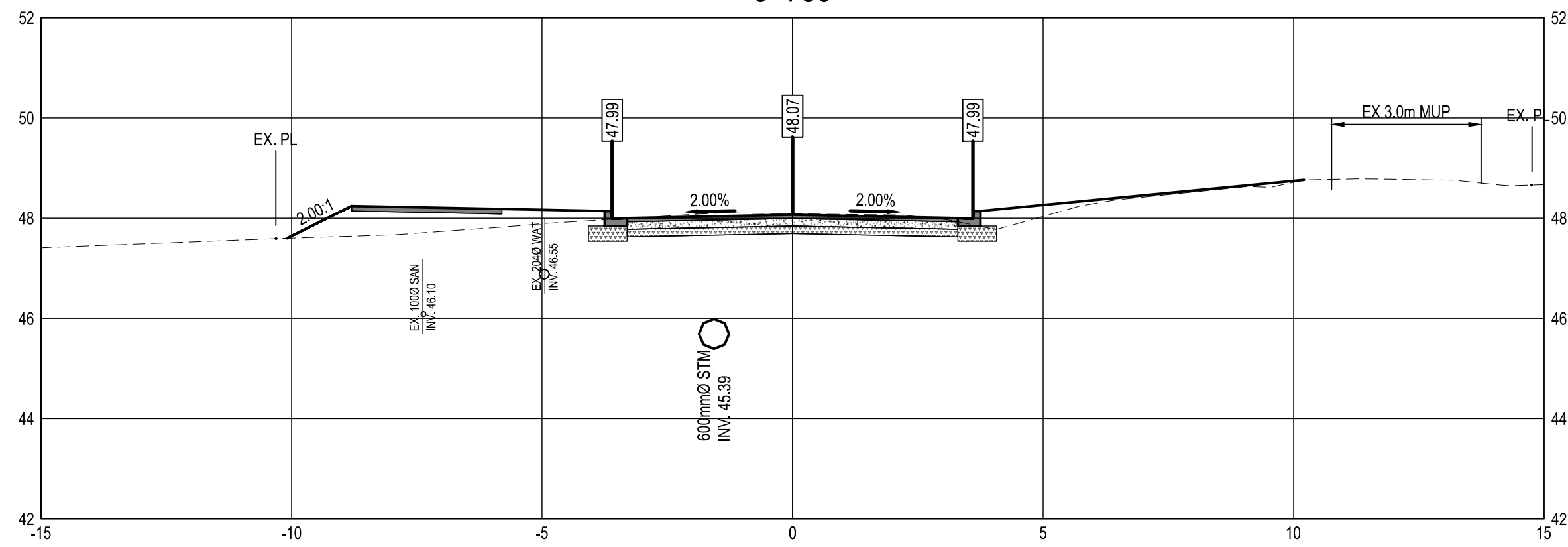
Drawing No.
C402

Project Number
2241-20-128

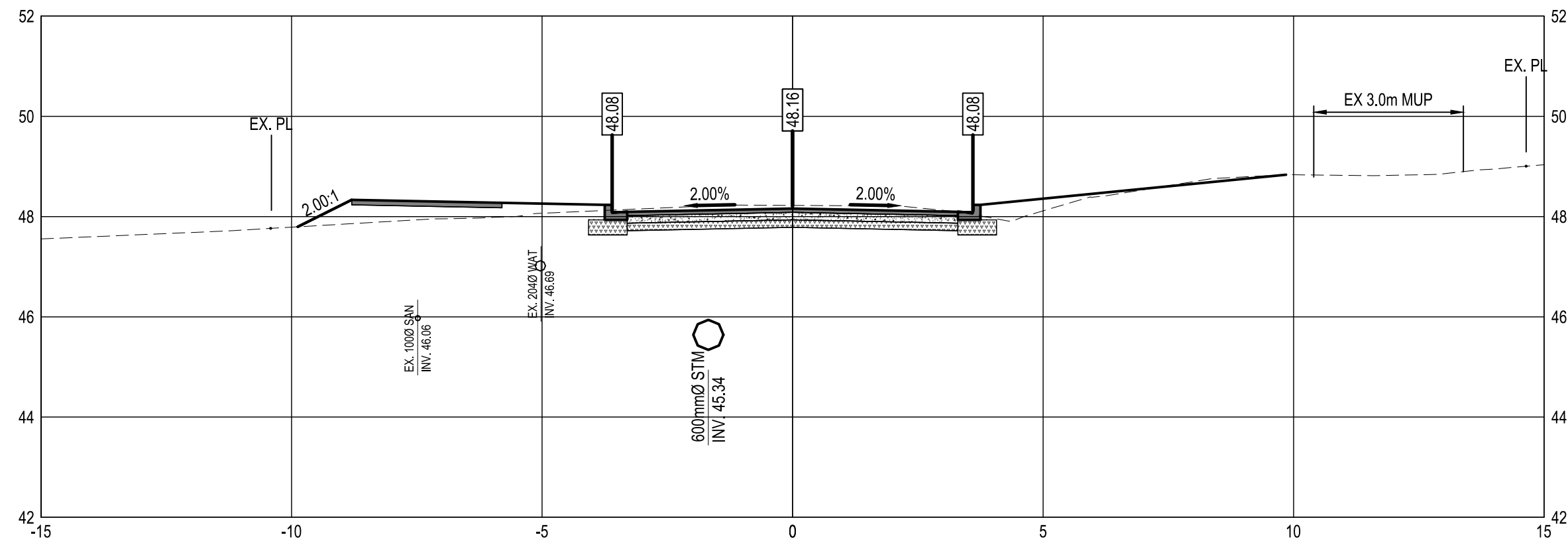
Rev.
0



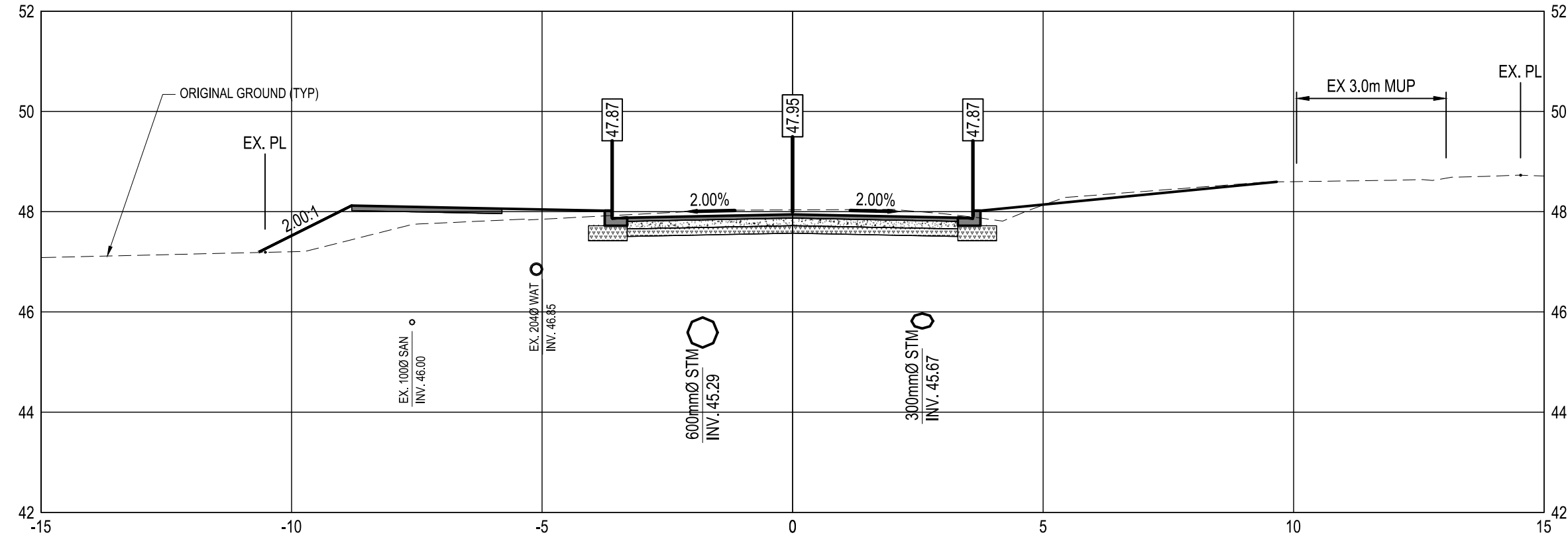
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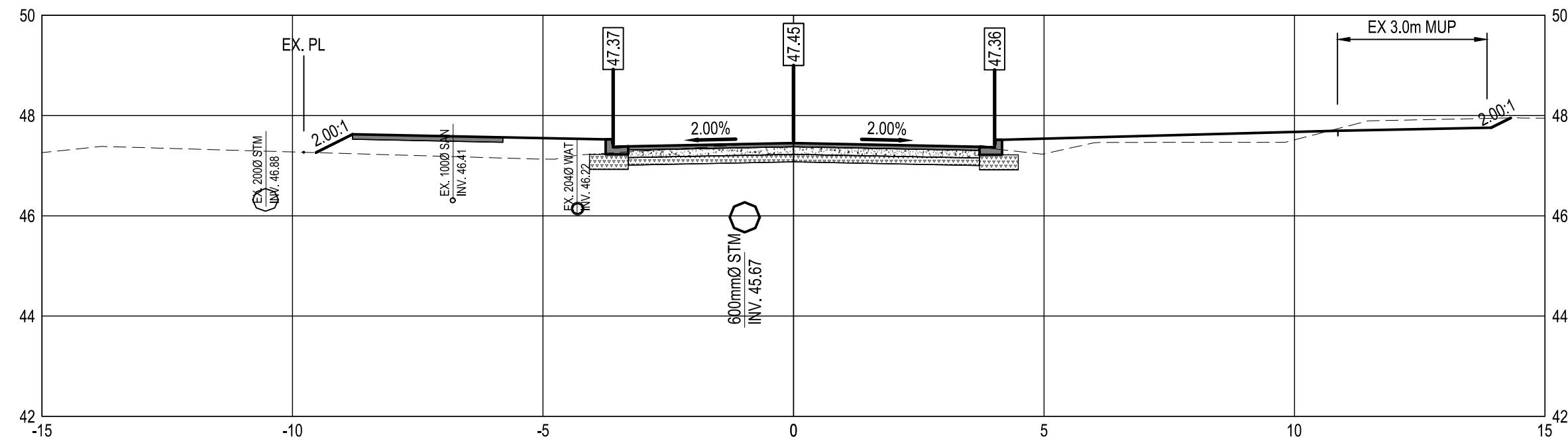
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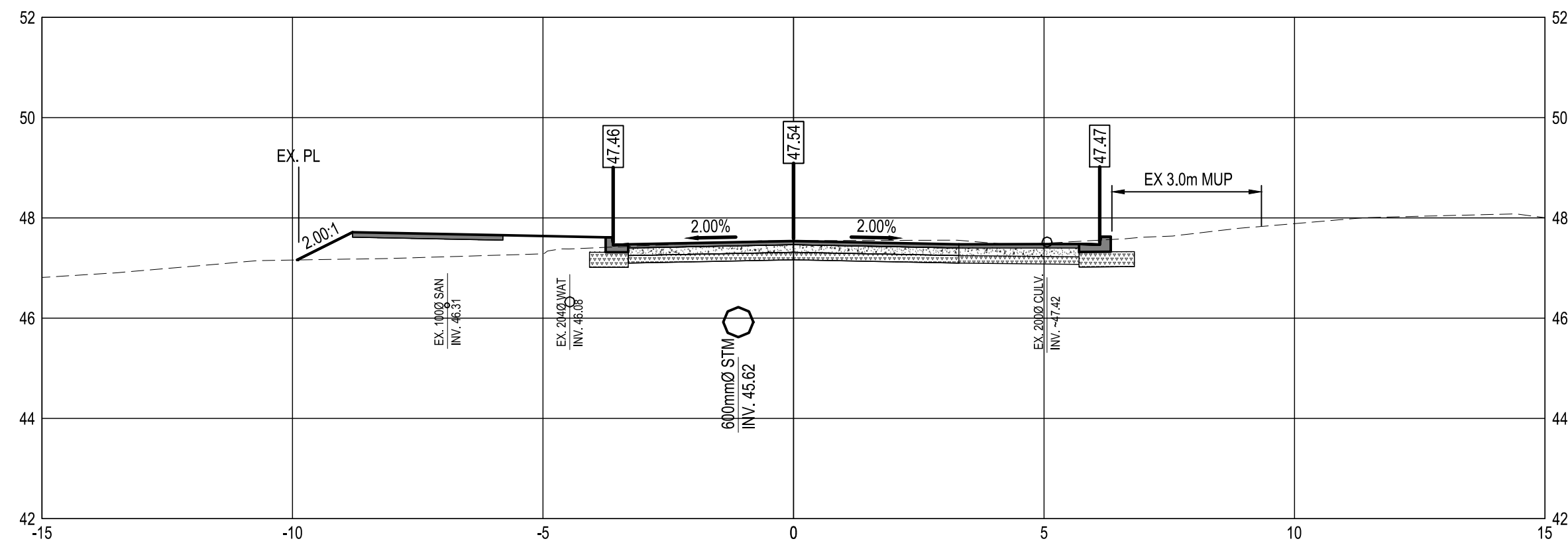
9+710



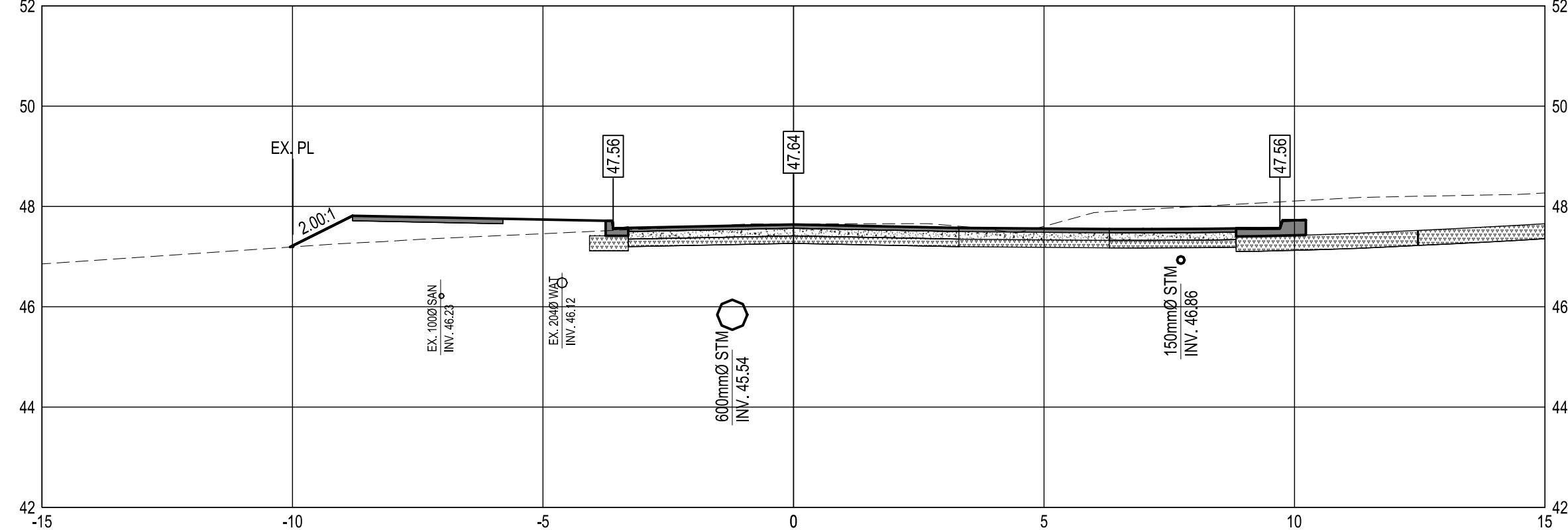
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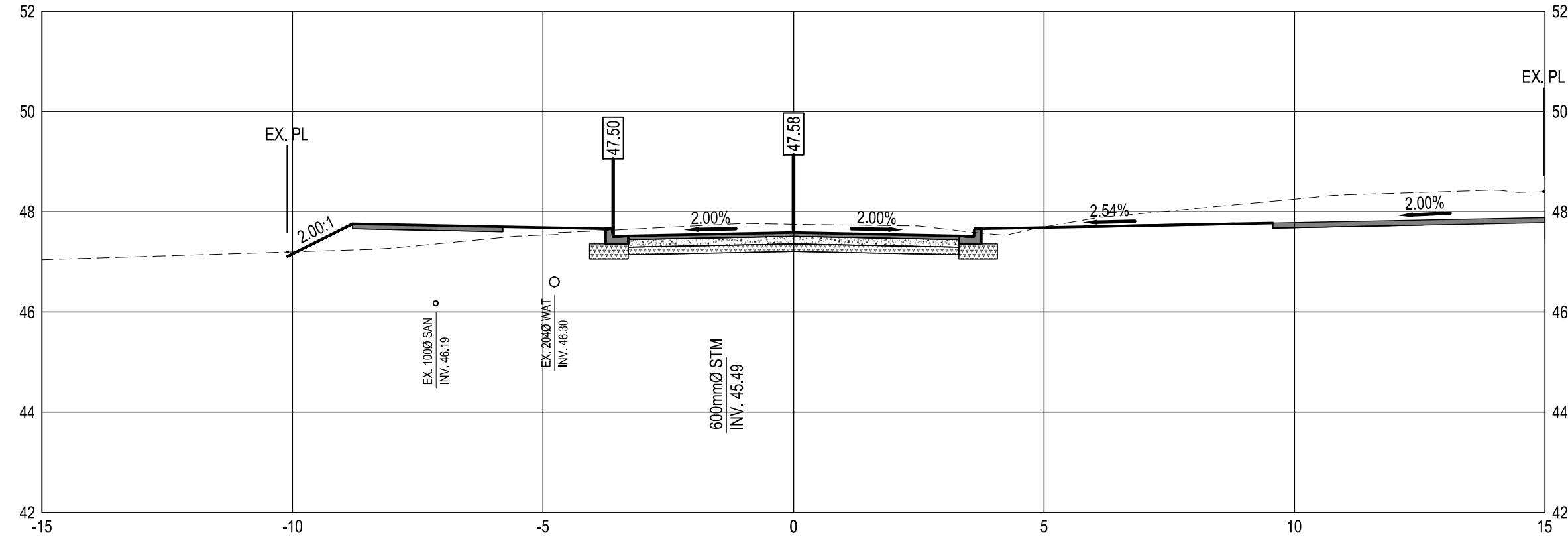
9+770



9+760



9+750



9+740

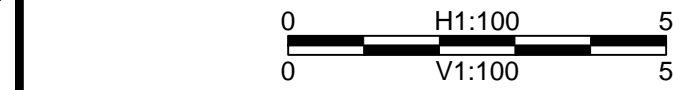


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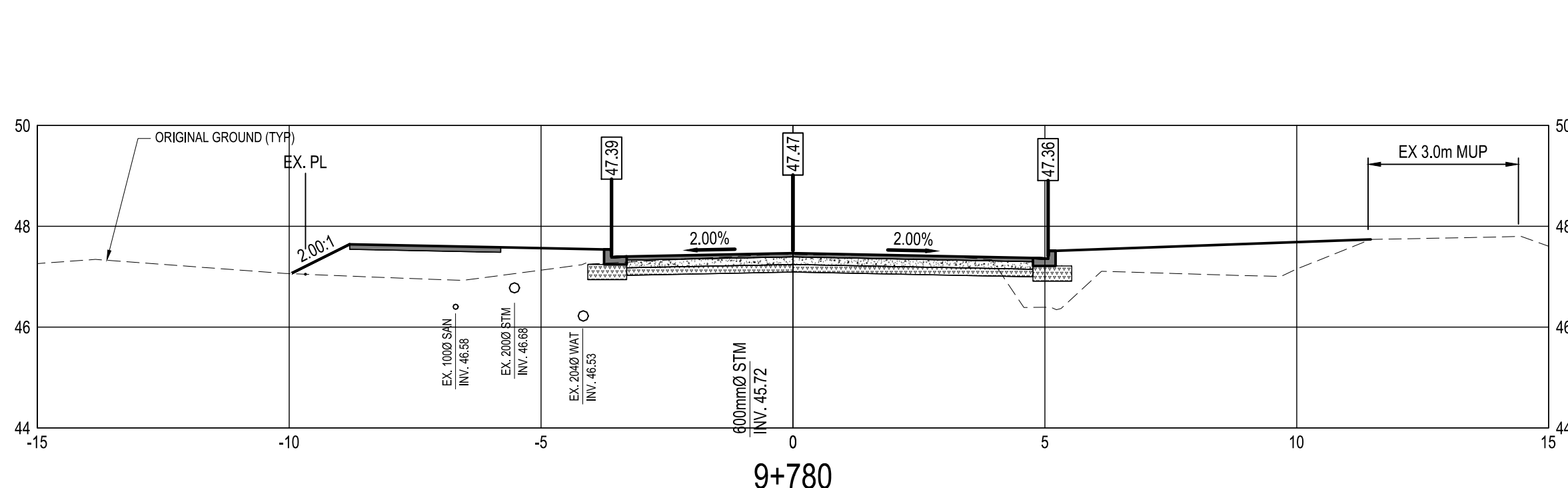
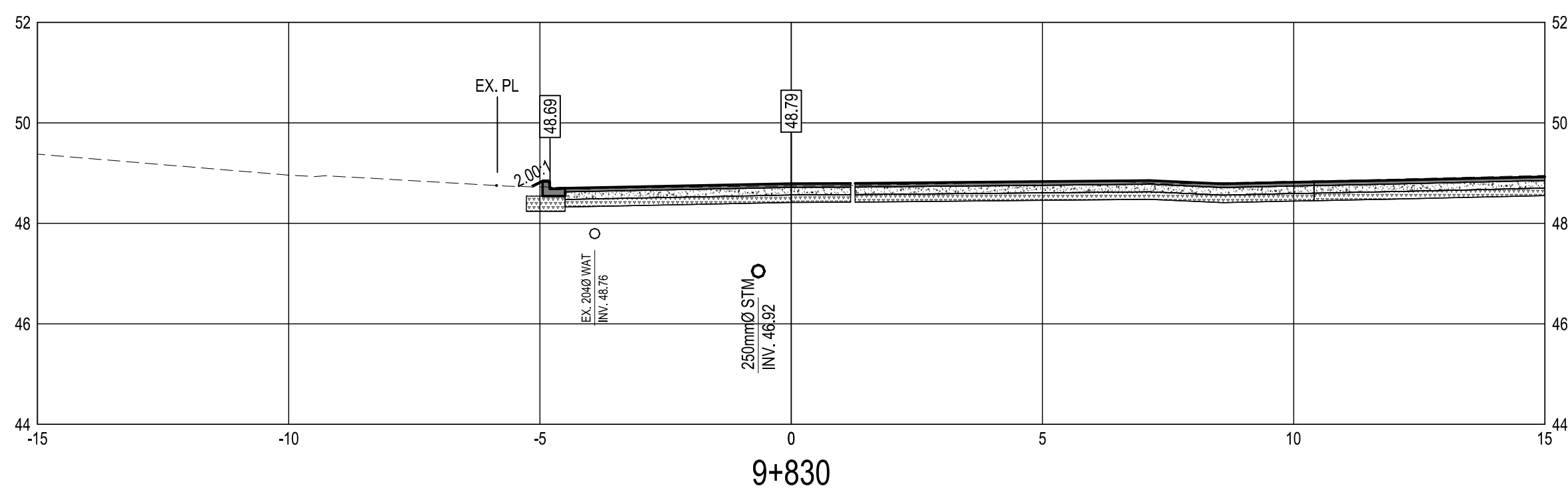
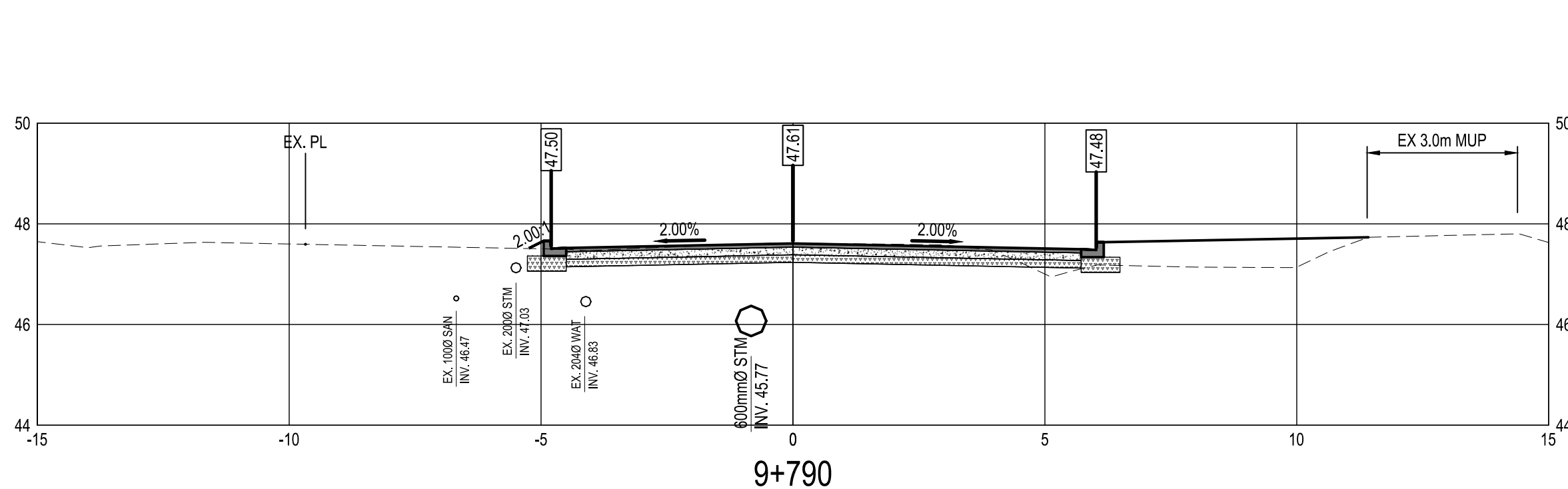
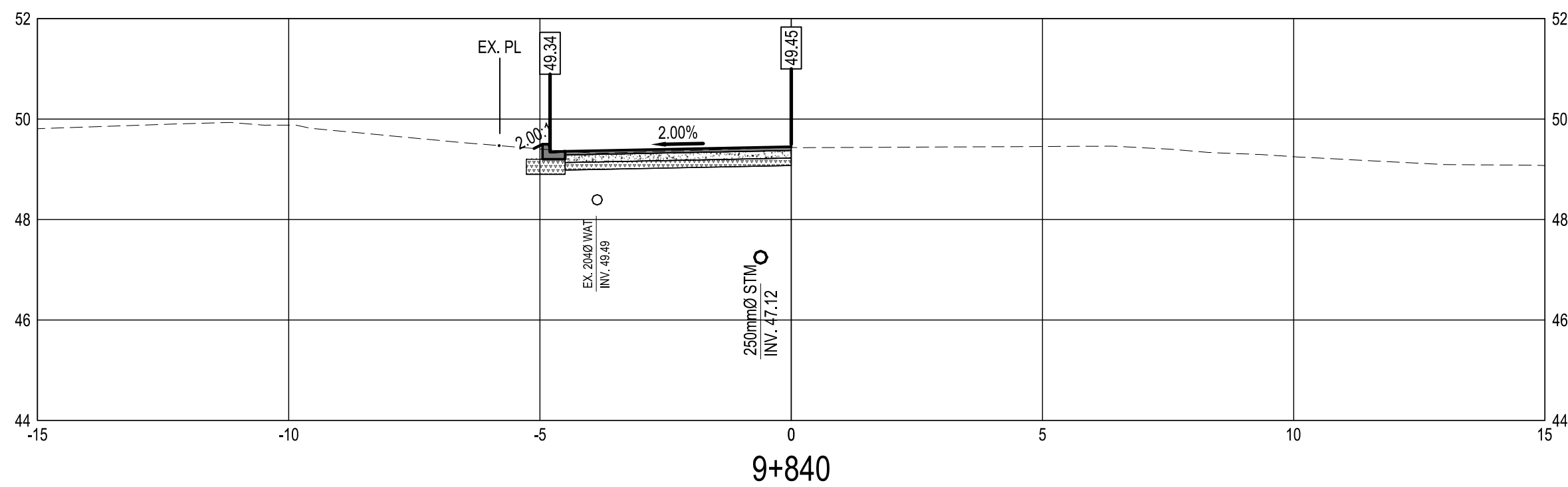
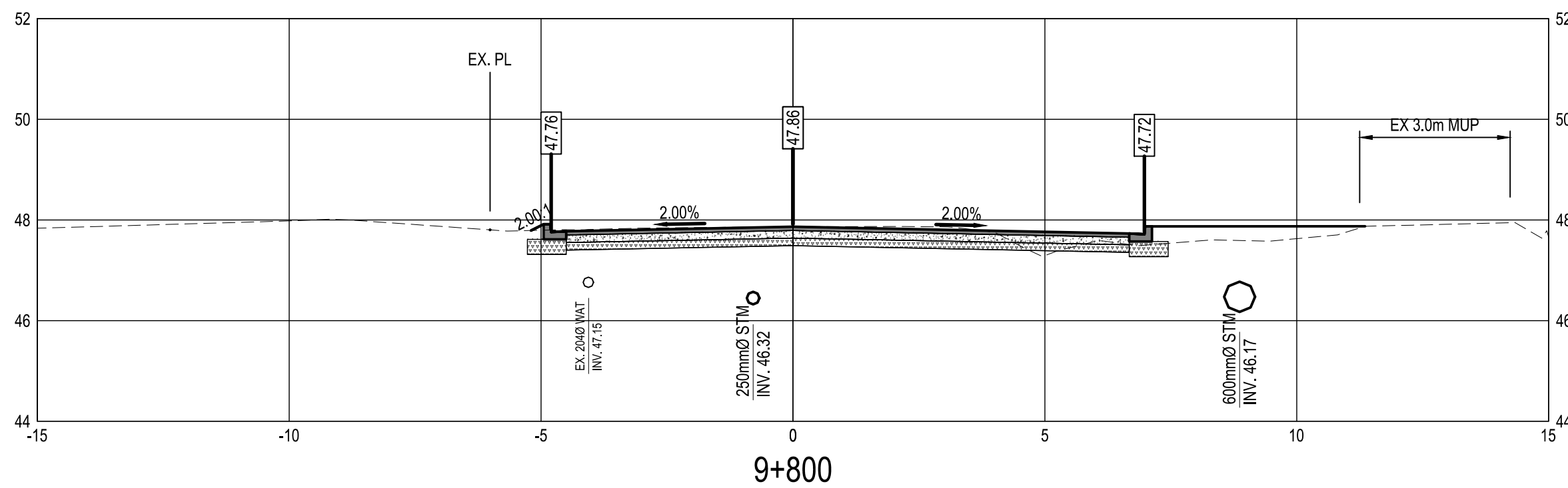
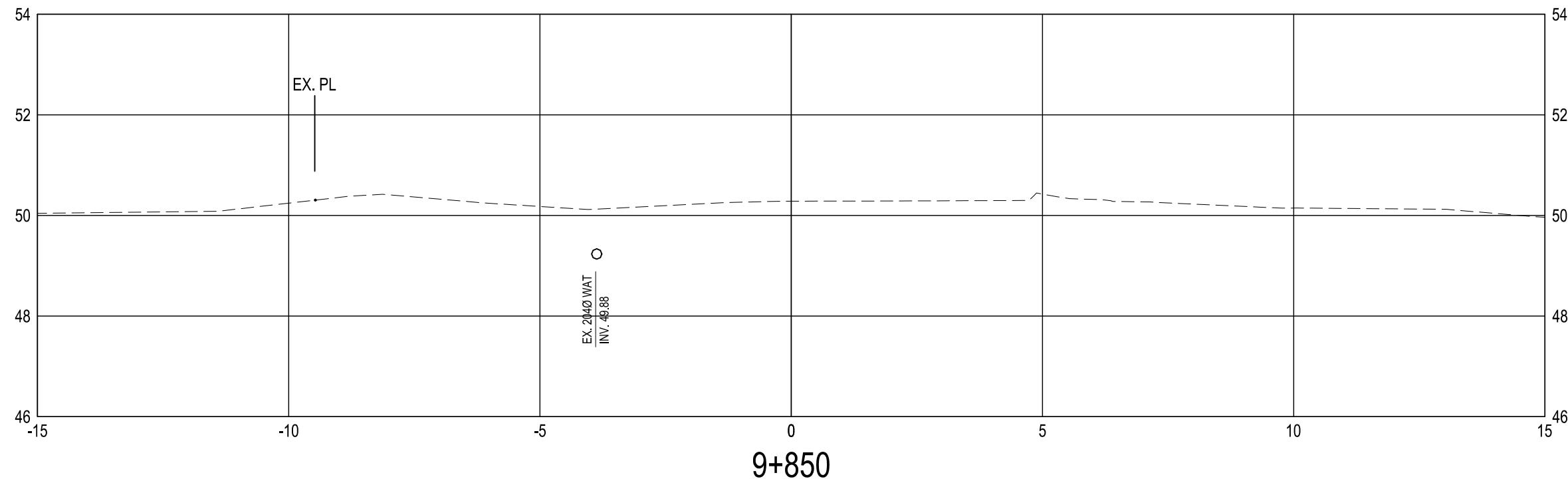
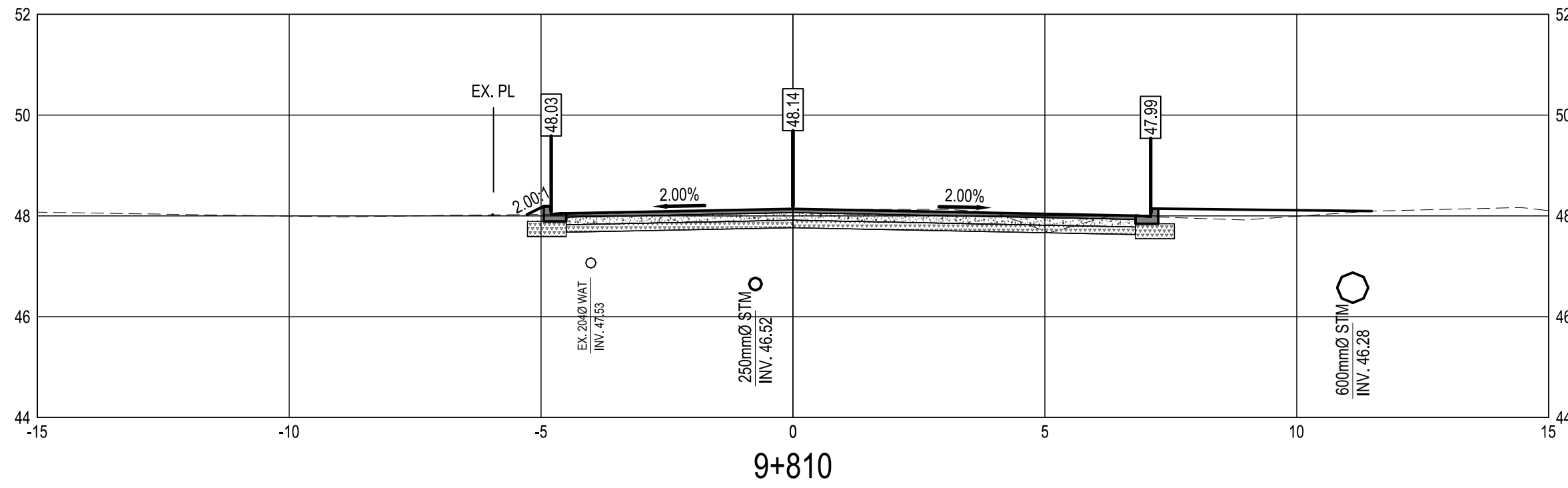
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**CHURCH ROAD ROUNDABOUT
ROAD CROSS SECTIONS
CHURCH ROAD STA. 9+700 TO 9+770**

Drawing No.	
C403	
Project Number	Rev.
2241-20-128	0

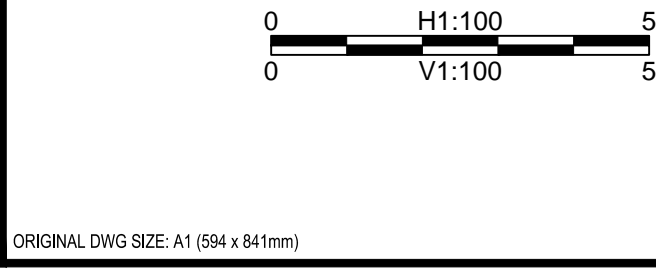


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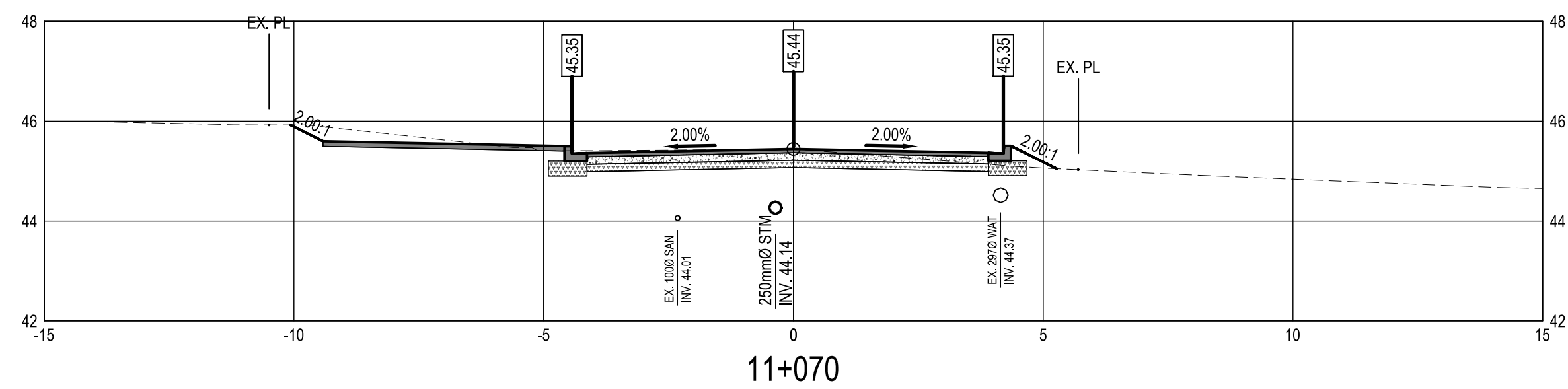
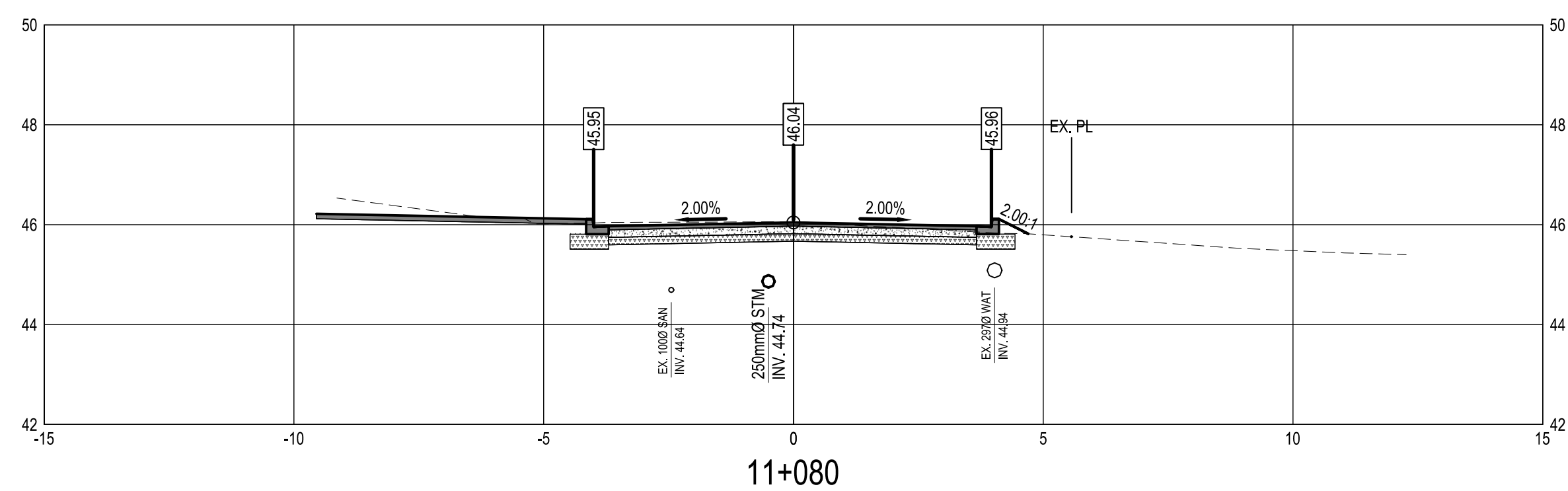
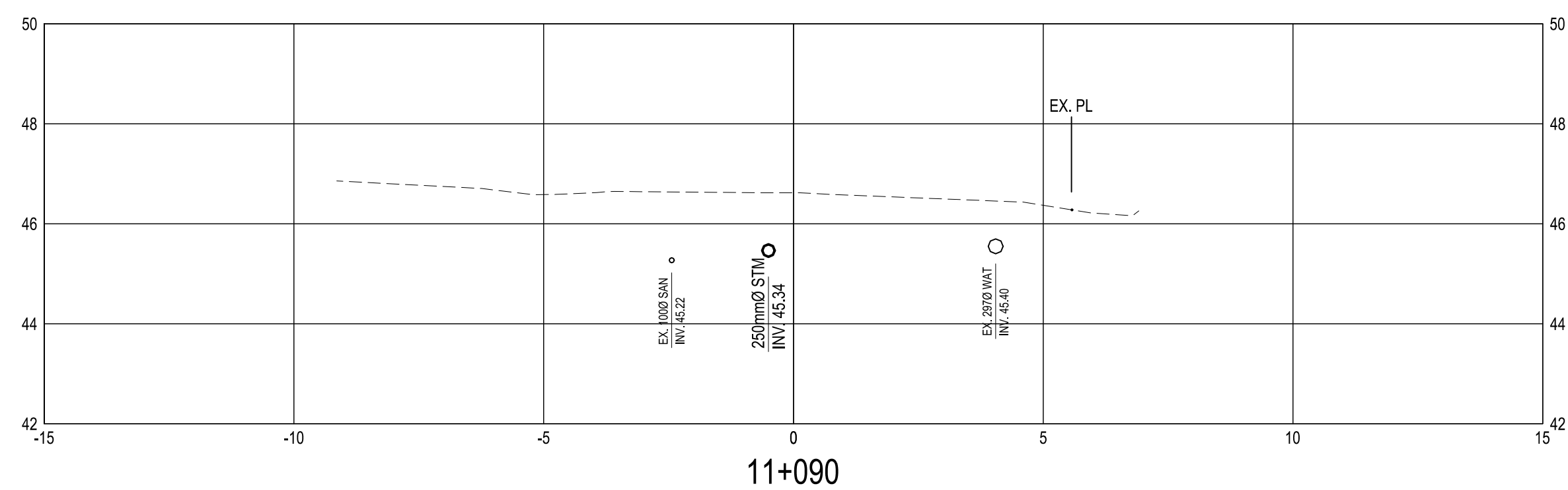
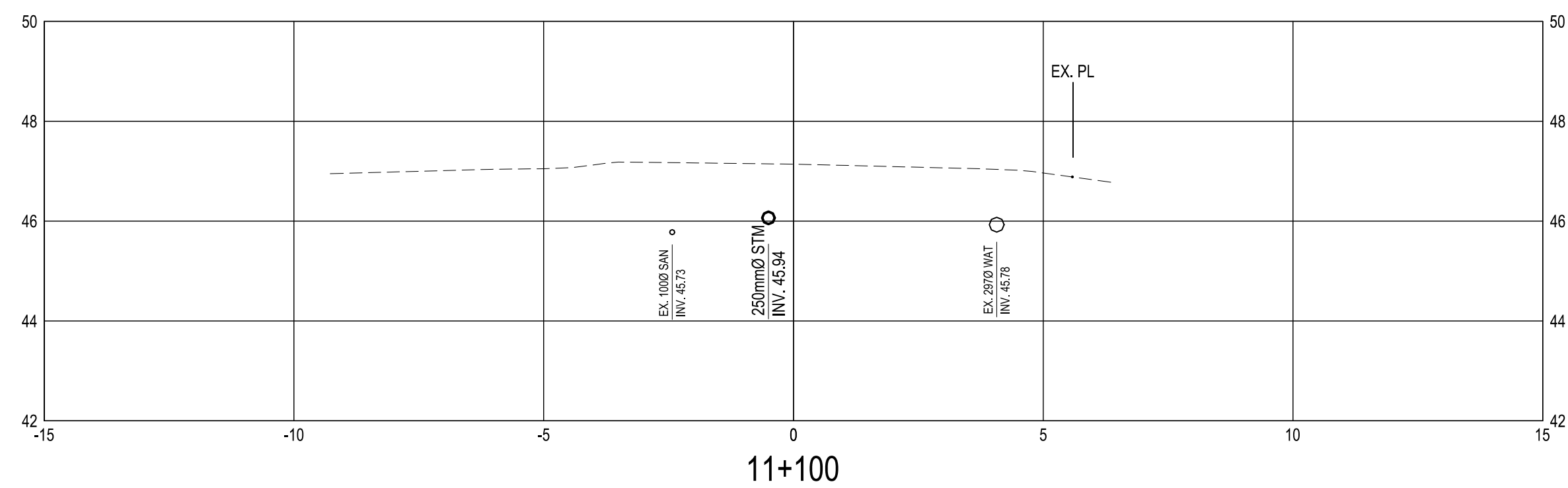
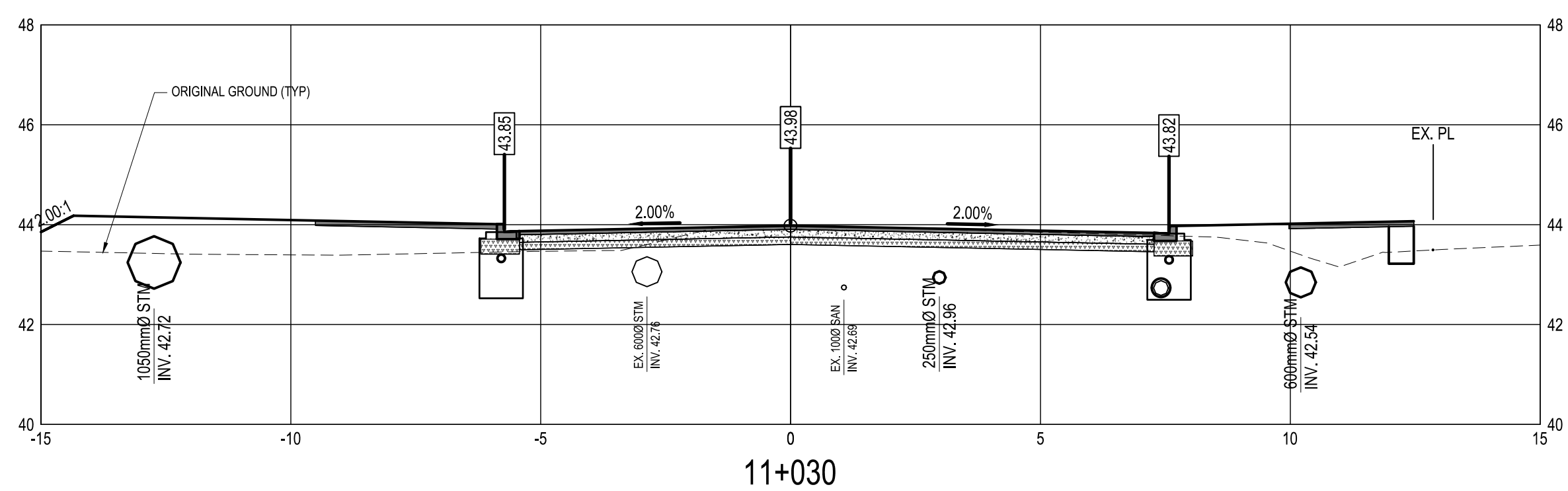
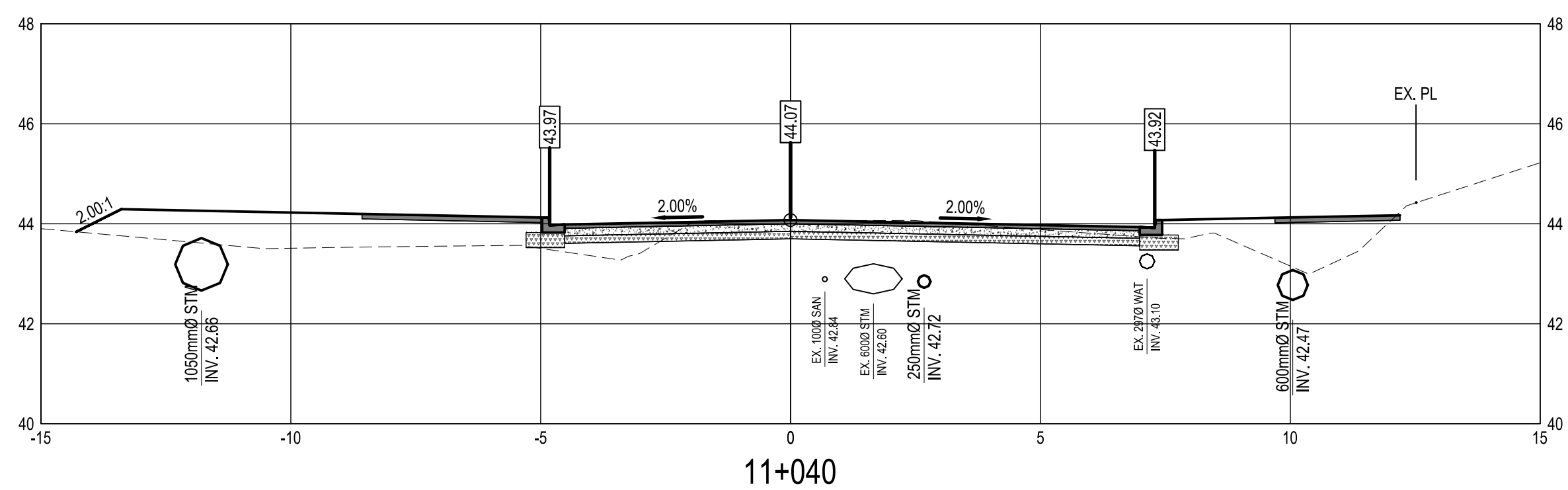
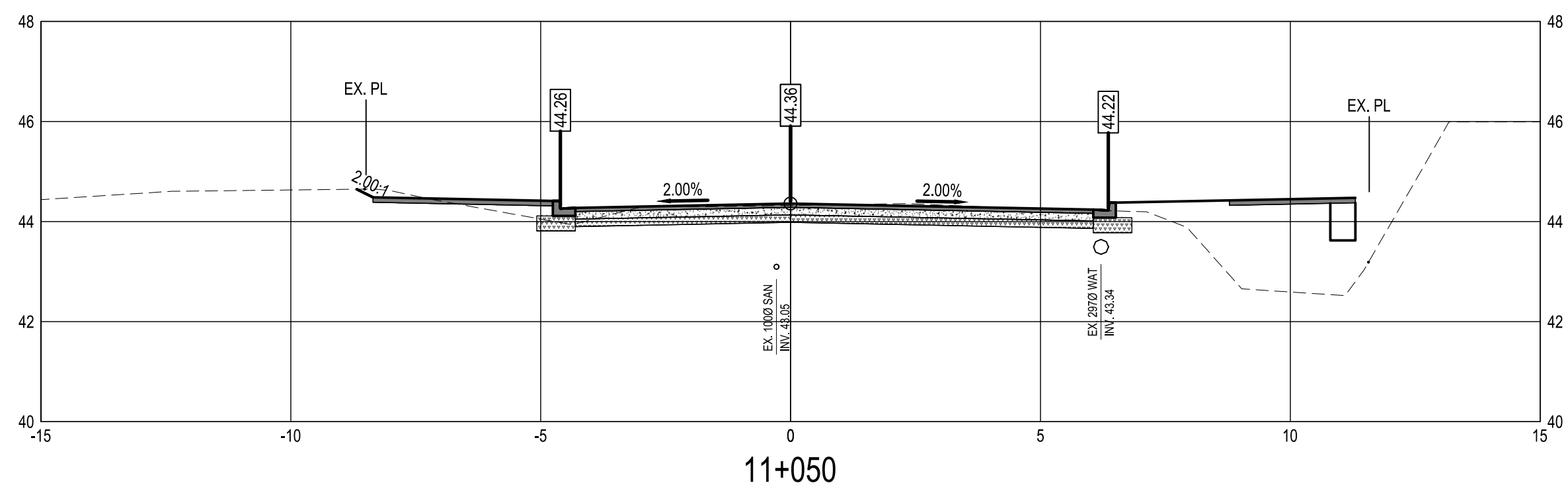
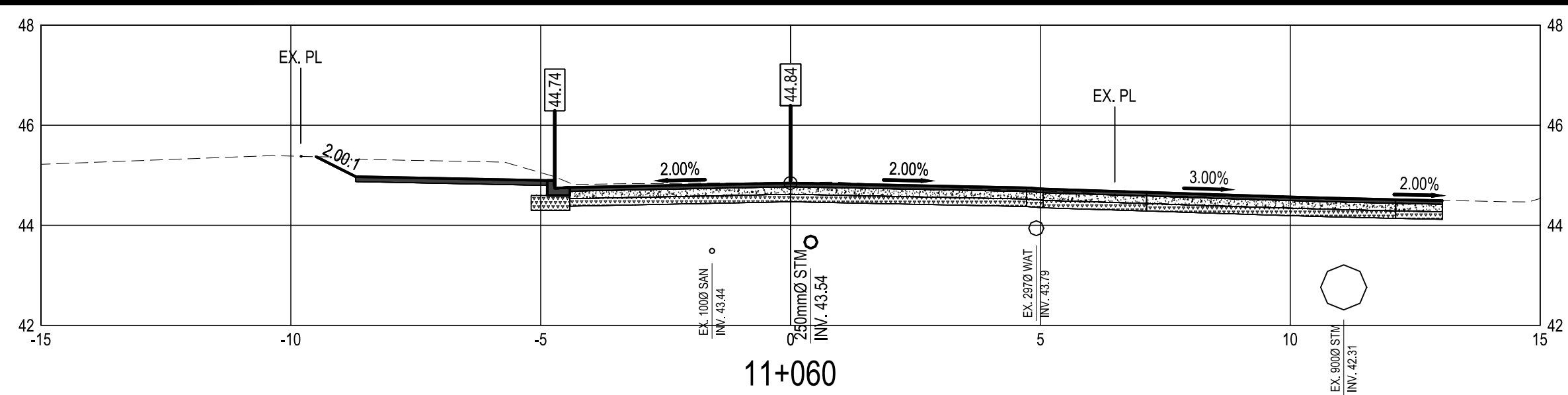
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**CHURCH ROAD ROUNDABOUT
ROAD CROSS SECTIONS
CHURCH ROAD STA. 9+780 TO 9+850**

Drawing No.	
C404	
Project Number	Rev.
2241-20-128	0

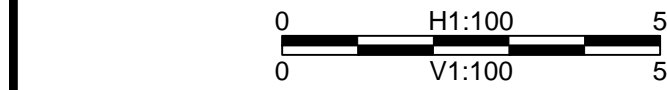


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2205 OTTER POINT ROAD, SOOKE, B.C.
CHURCH ROAD ROUNDABOUT
ROAD CROSS SECTIONS
THROUP ROAD STA. 11+020 TO 11+100

Drawing No.	C405
Project Number	2241-20-128
Rev.	0

LEGEND:

FINISHED GROUND SPOT ELEVATION

76.64 ✖

EXISTING GROUND SPOT ELEVATION

76.64 ✕

FINISHED GROUND SLOPE

2.00%

BARRIER CURB WITH GUTTER (NON-MOUNTABLE CURB)



BARRIER CURB WITH REVERSE GUTTER



ROLLOVER CURB WITH REVERSE GUTTER



ROLLOVER CURB



MEDIAN CURB



LETDOWN CURB



LETDOWN CURB WITH REVERSE GUTTER



ASPHALT CURB



REFER TO DWG 2241-20-128-C301 FOR CURB TYPICAL SECTIONS



FOR CONTINUATION SEE INSET ON THIS SHEET

FOR CONTINUATION SEE RIGHT AND BELOW

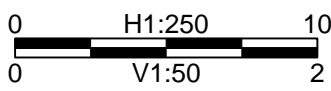
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**CHURCH ROAD ROUNDABOUT
GRADING PLAN**

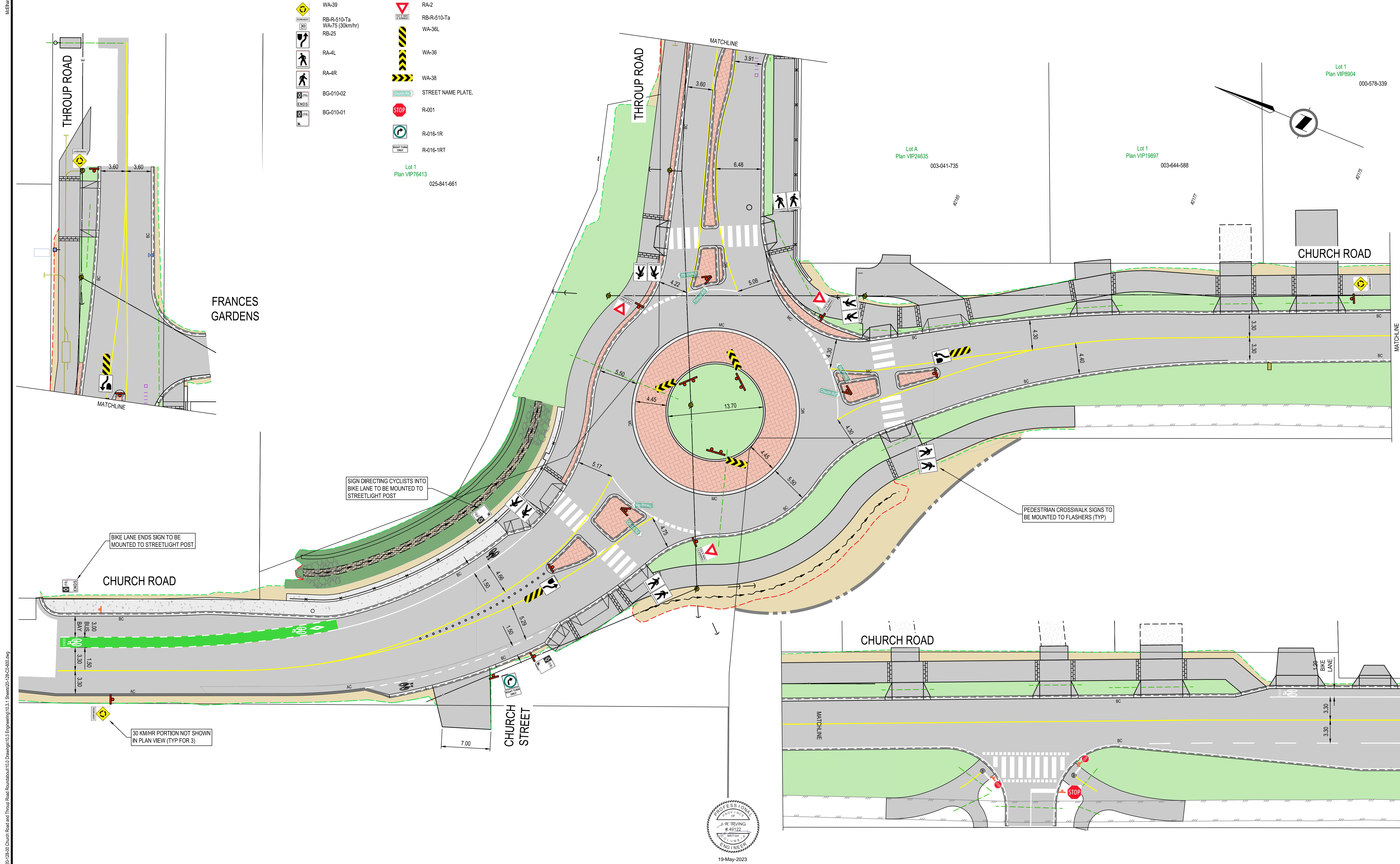
Drawing No.

C501

Project Number
2241-20-128

Rev.
0

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

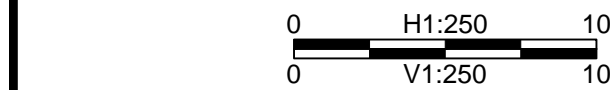


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ORIGINAL DWG SIZE: A1 (841 x 841mm)

19-May-2023



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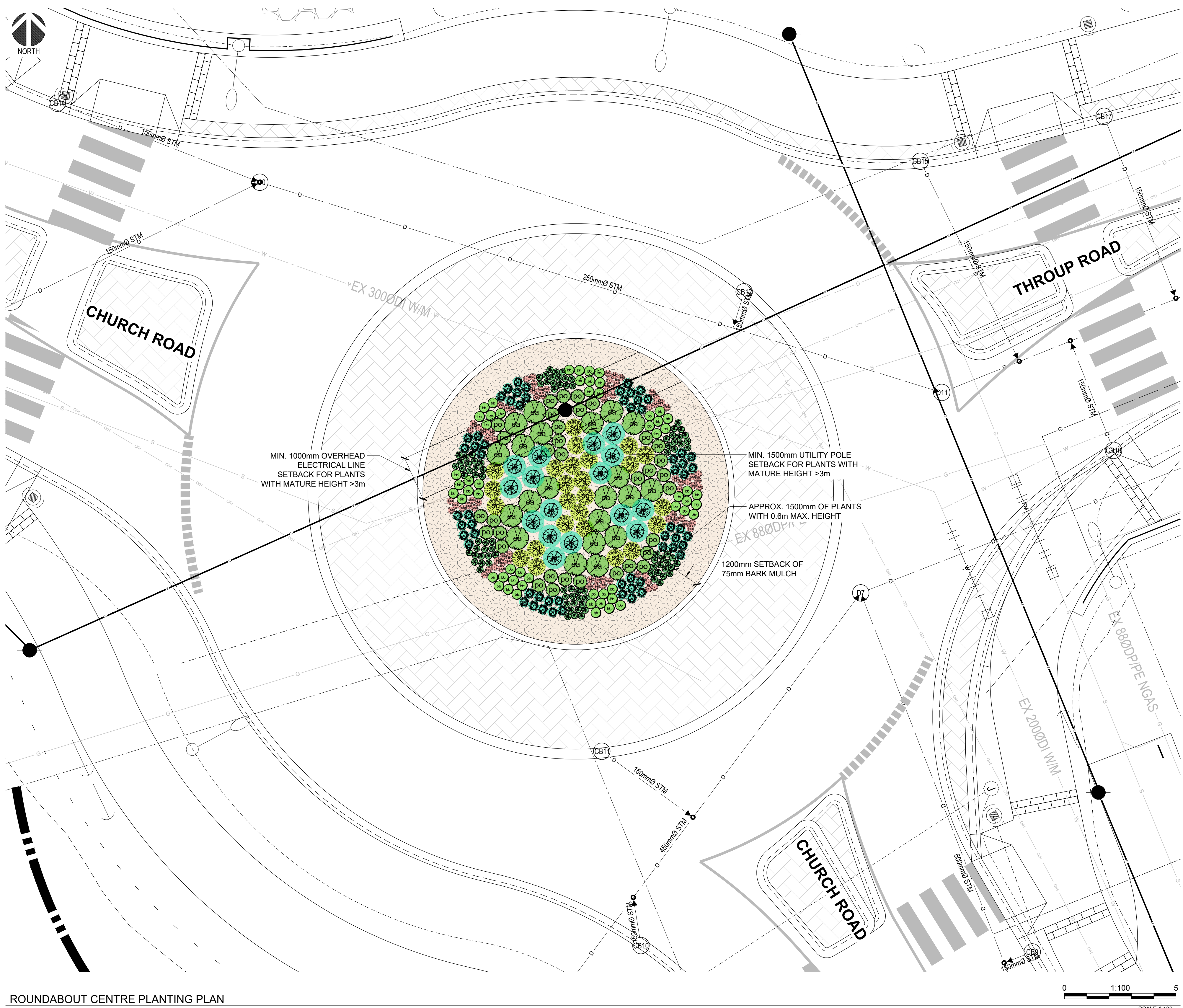
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DISTRICT OF SOOKE
2205 OTTER POINT ROAD, SOOKE, B.C.
**CHURCH ROAD ROUNDABOUT
GEOMETRICS AND SIGNAGE**

Drawing No.	C601
Project Number	2241-20-128
Rev.	0



ROUNABOUT CENTRE PLANTING PLAN

LEGEND

- PROPOSED CONIFEROUS SHRUBS
- PROPOSED DECIDUOUS SHRUBS
- PROPOSED ORNAMENTAL GRASSES
- PROPOSED PERENNIALS
- PLANTING SETBACK
- BARK MULCH

PLANT LIST - ROUNABOUT CENTRE

Total Qty.	Key	Botanical Name	Common Name	Size	Spacing O.C.	Mature ht.
Shrubs, Groundcovers & Perennials						
57	bb	<i>Berberis buxifolia</i> 'Nana'	Dwarf Boxleaf Barberry	#1 cont.	0.45m	0.6m
94	co	<i>Chaemaecyparis obtusa</i> 'Nana'	Dwarf Hinoki Cypress	#1 cont.	0.3m	0.6m
21	ea	<i>Euonymus alatus</i> 'Compactus'	Compact Burning Bush	#2 cont.	1m	3m
62	hs	<i>Helictotrichon sempervirens</i>	Blue Oat Grass	#1 cont.	0.45m	0.6m
16	js	<i>Juniperus scopulorum</i> 'Sky Rocket'	Sky Rocket Juniper	#5 cont.	1m	4.5m
35	po	<i>Physocarpus opulifolius</i> 'Donna May' Little Devil	Little Devil Ninebark	#1 cont.	0.6m	1.2m
79	ss	<i>Sedum spectabile</i> 'Autumn Fire'	Autumn Fire Sedum	#1 cont.	0.3m	0.6m
27	sg	<i>Stipa gigantea</i>	Giant Needle Grass	#2 cont.	0.8m	2.4m

NOTES

- FOR GENERAL, PLANTING AND IRRIGATION NOTES REFER TO DWG L101

NOT FOR
CONSTRUCTION

UTILITY LOCATES

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0	2023-05-19	ISSUED FOR TENDER	NC	AB	KP

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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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DISTRICT OF SOOKE
2205 OTTER POINT RAD, SOOKE, B.C.

CHURCH ROAD ROUNABOUT
LANDSCAPE PLAN

Drawing No.	L102
Project Number	2241-20-128
Rev.	0



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ORIGINAL DWG SIZE: A1 (594 x 841mm)



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DISTRICT OF SOOKE
2205 OTTER POINT RAD, SOOKE, B.C.

CHURCH ROAD ROUNDABOUT LANDSCAPE DETAILS

Drawing No.

L103






Project Number	2241-20-128
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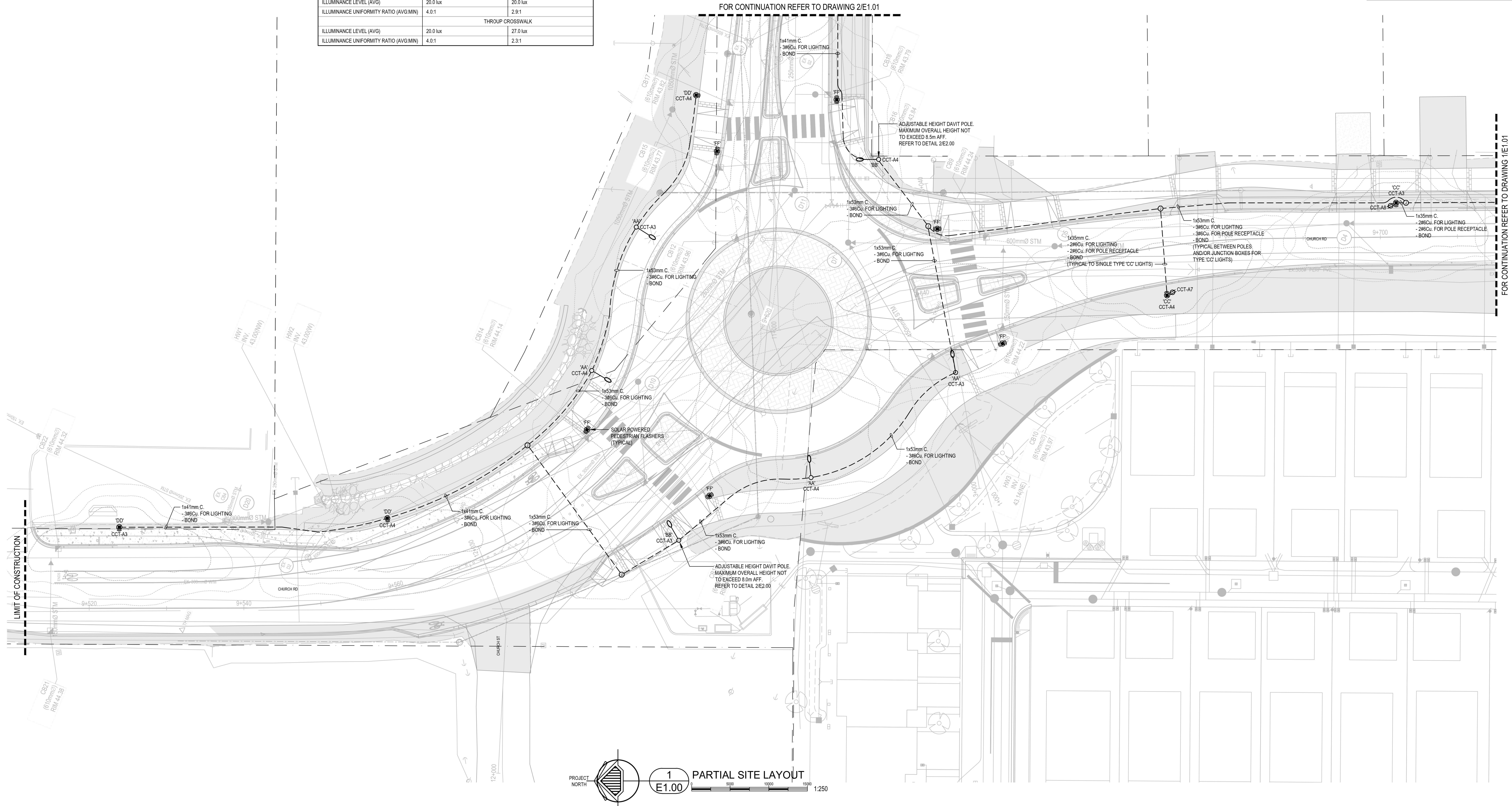
Rev	0
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ILLUMINATION DESIGN CRITERIA		
	DESIGN REQUIREMENTS	DESIGN ACHIEVED
ROUNDABOUT NAME	CHURCH RD / THROUP RD	
PEDESTRIAN CONFLICT	MEDIUM	
ROAD CLASSIFICATION	COLLECTOR / COLLECTOR	
	CHURCH RD NORTH CROSSWALK	
ILLUMINANCE LEVEL (AVG)	20.0 lux	30.0 lux
ILLUMINANCE UNIFORMITY RATIO (AVG:MIN)	4:0.1	1.6:1
	CHURCH RD SOUTH CROSSWALK	
ILLUMINANCE LEVEL (AVG)	20.0 lux	20.0 lux
ILLUMINANCE UNIFORMITY RATIO (AVG:MIN)	4:0.1	2.9:1
	THROUP CROSSWALK	
ILLUMINANCE LEVEL (AVG)	20.0 lux	27.0 lux
ILLUMINANCE UNIFORMITY RATIO (AVG:MIN)	4:0.1	2.3:1

ILLUMINATION DESIGN CRITERIA		
	DESIGN REQUIREMENTS	DESIGN ACHIEVED
ROUNDBOUT NAME	CHURCH RD / THROUP RD	
PEDESTRIAN CONFLICT	MEDIUM	
ROAD CLASSIFICATION	COLLECTOR / COLLECTOR	
ILLUMINANCE LEVEL (AVG)	18.0 lux	26.0 lux
ILLUMINANCE UNIFORMITY RATIO (AVG-MIN)	4.0:1	3.0:1

ILLUMINATION DESIGN CRITERIA		
	DESIGN REQUIREMENTS	DESIGN ACHIEVED
ROAD NAME	CHURCH RD	
PEDESTRIAN CONFLICT	MEDIUM	
ROAD CLASSIFICATION	COLLECTOR	
ILLUMINANCE LEVEL (AVG)	8.0 lux	12.0 lux
ILLUMINANCE UNIFORMITY RATIO (AVG:MIN)	4.0:1	3.0:1

ELECTRICAL SYMBOL LEGEND	
WP	DENOTES WEATHER PROOF DEVICE
CCT-#	DENOTES CIRCUIT
	COBRA ARM LUMINAIRE
	DECORATIVE POLE MOUNTED LUMINAIRE
	PEDESTRIAN CONTROLLED FLASHER
	POLE MOUNTED RECEPTACLE
	JUNCTION BOX



6	2023-05-12	ISSUED FOR TENDER	SS	JH	JH
5	2023-03-15	ISSUED FOR COORDINATION	SS	JH	JH
4	2023-03-06	ISSUED FOR COORDINATION	SS	JH	JH
3	2023-02-28	ISSUED FOR CONSTRUCTION	SS	JH	JH
2	2022-08-10	ISSUED FOR TENDER	SS	JH	JH
1	2022-01-14	ISSUED FOR APPROVAL	SS	JH	JH
Rev	Date	Description	Drawn	Design	App'd

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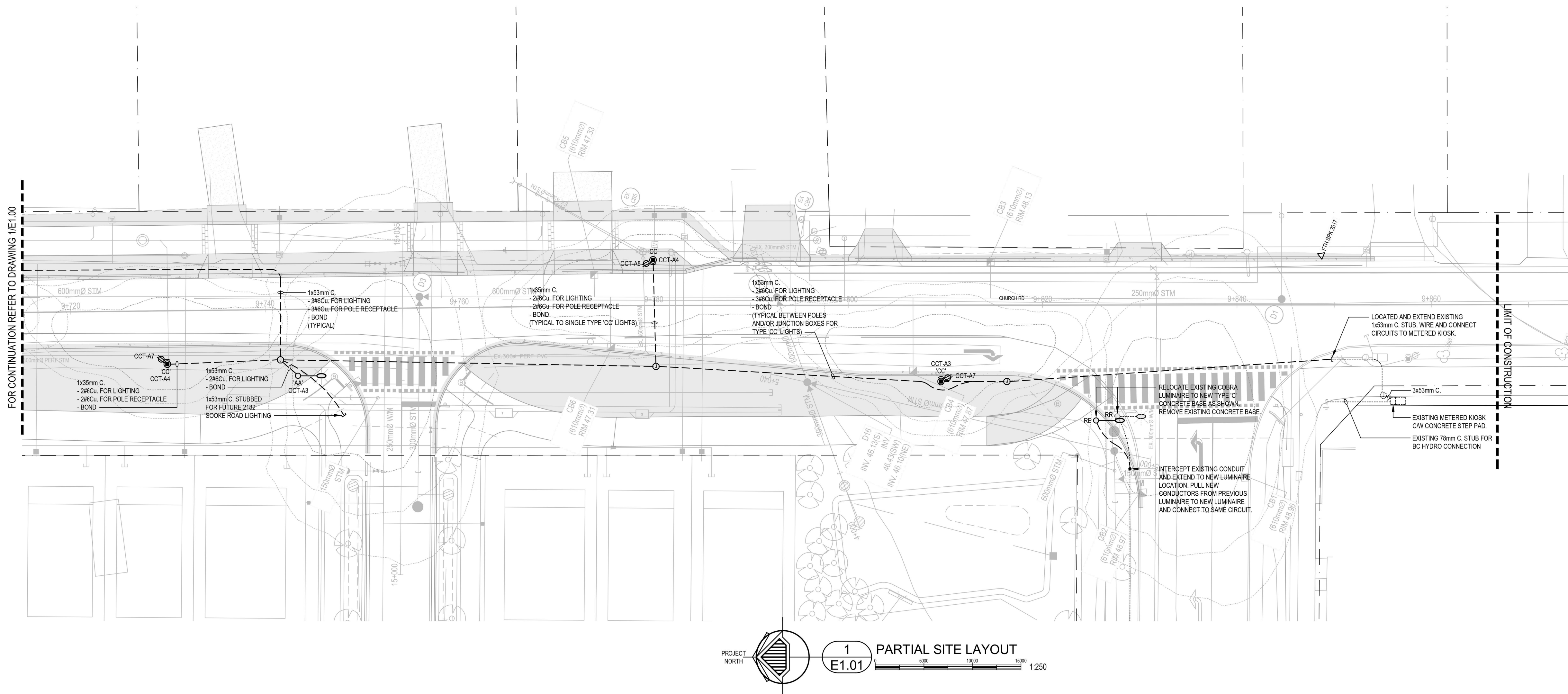
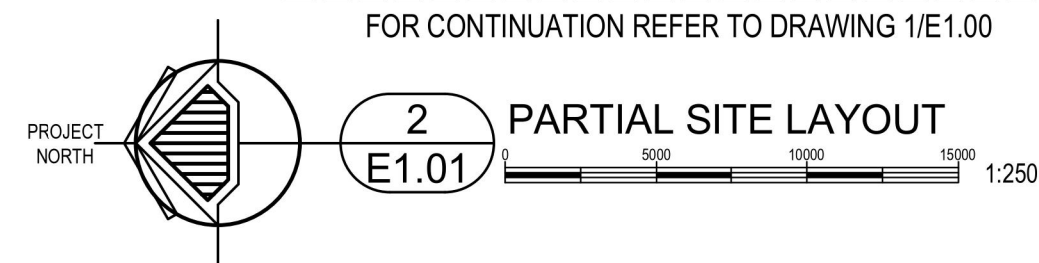
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CHURCH ROAD STREET LIGHTING,
ROUNDAABOUT & INTERSECTION DESIGN
CHURCH RD
LIGHTING LAYOUT

Drawing No.	
E1.00	
Project Number	Rev.
1-21-136	6

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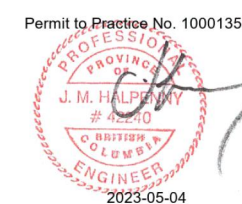


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ORIGINAL DWG SIZE: ANSI D (22" x 34")



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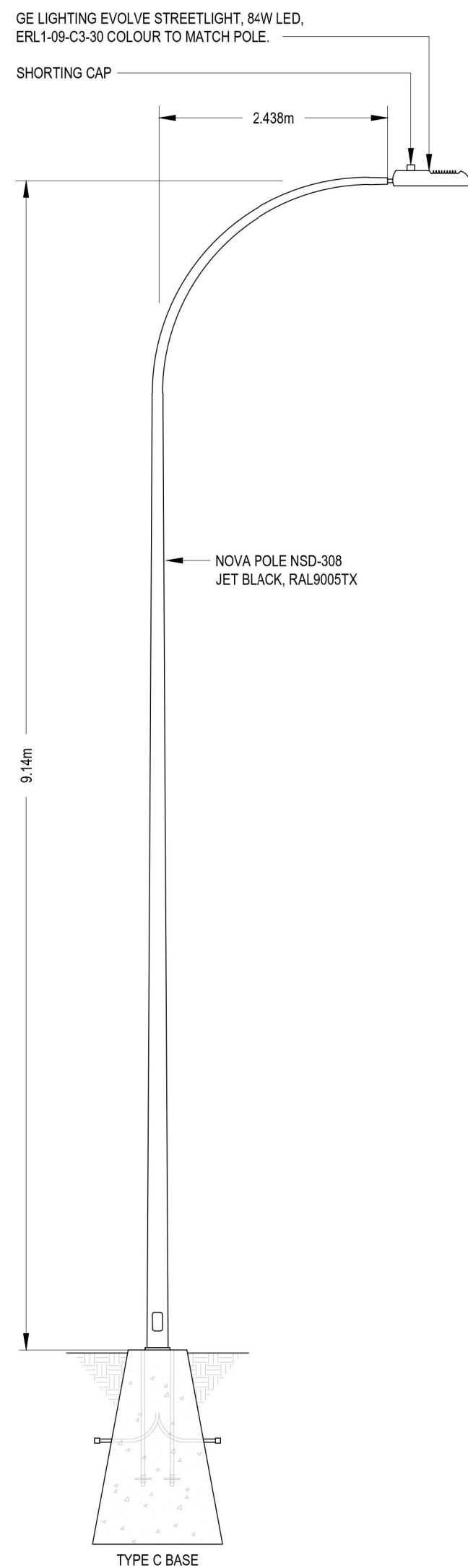
**CHURCH ROAD STREET LIGHTING,
ROUNDAABOUT & INTERSECTION DESIGN
CHURCH RD
LIGHTING LAYOUT**

Drawing No.

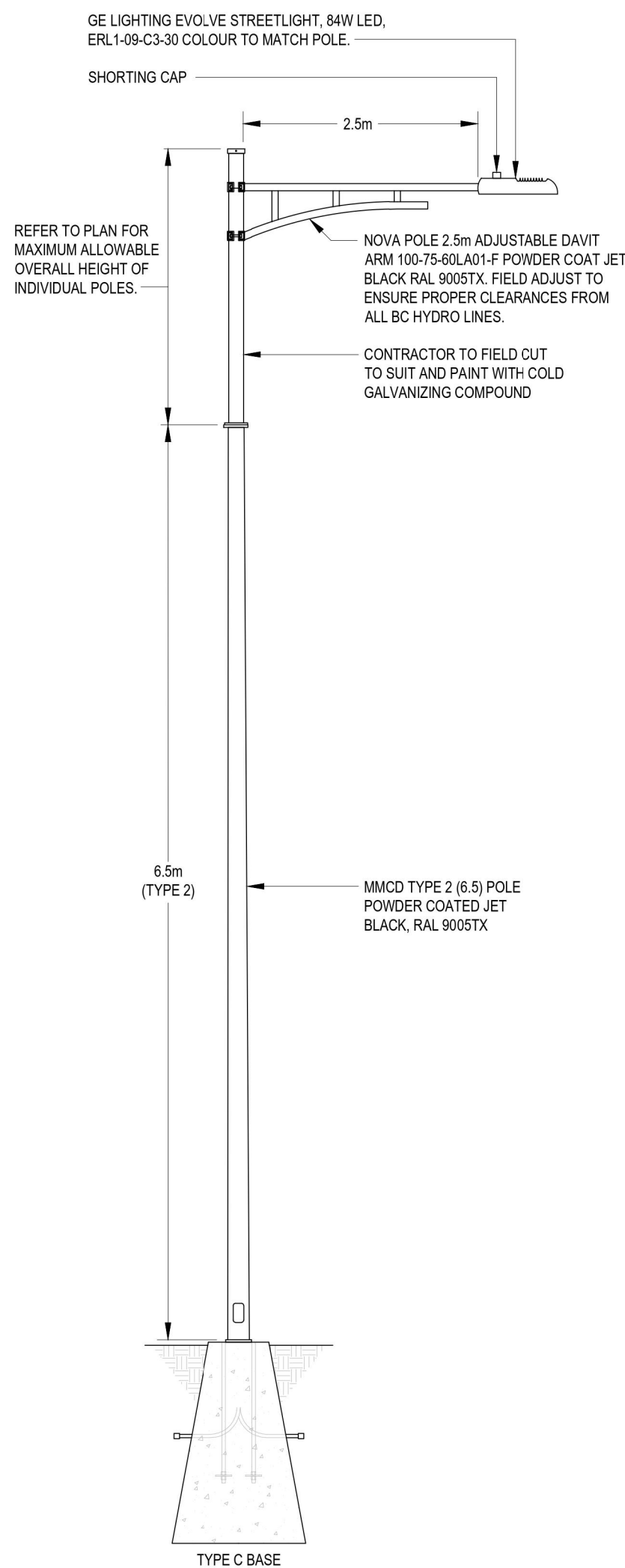
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Project Num	1-21-136
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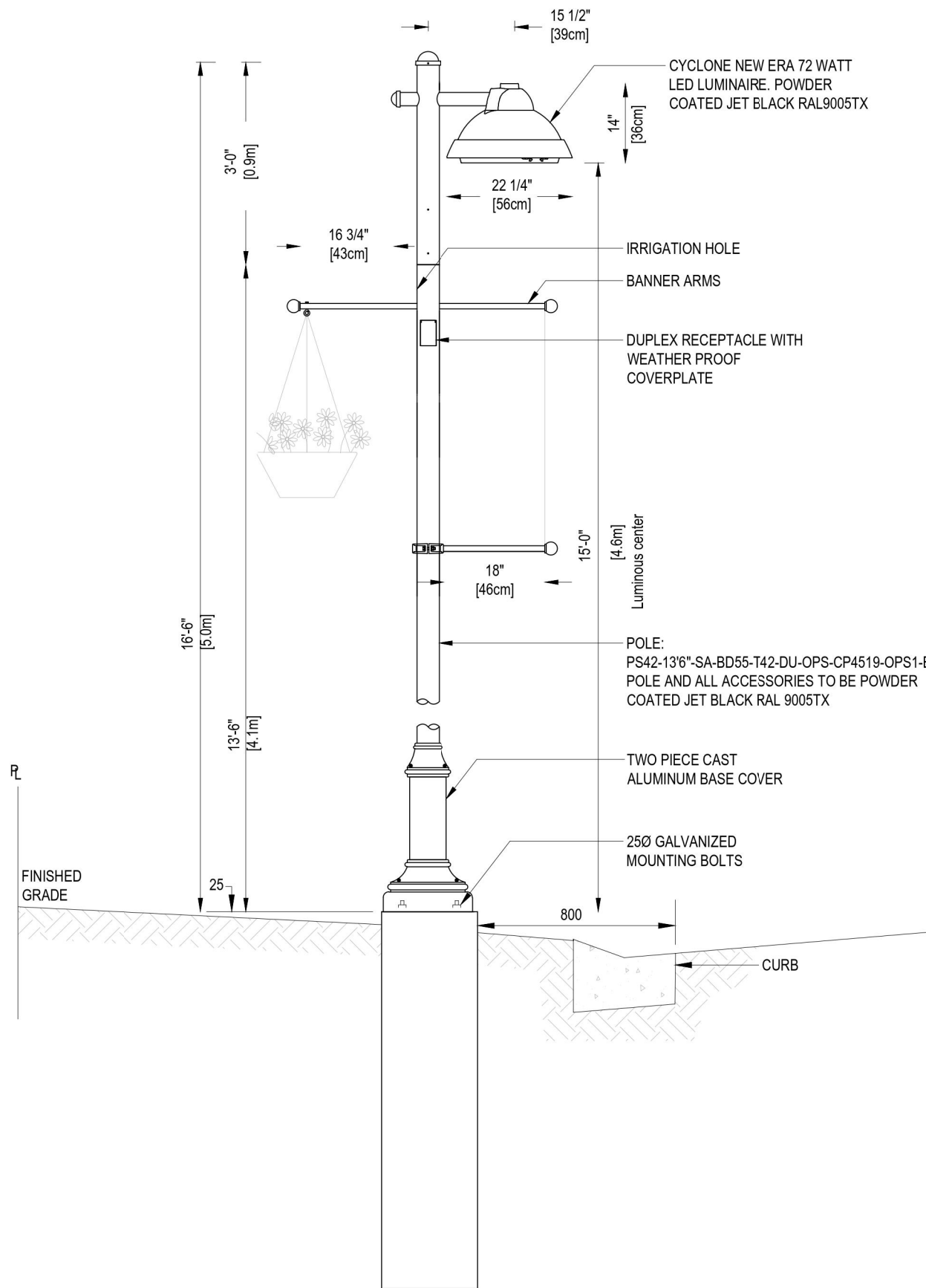
Rev.
6



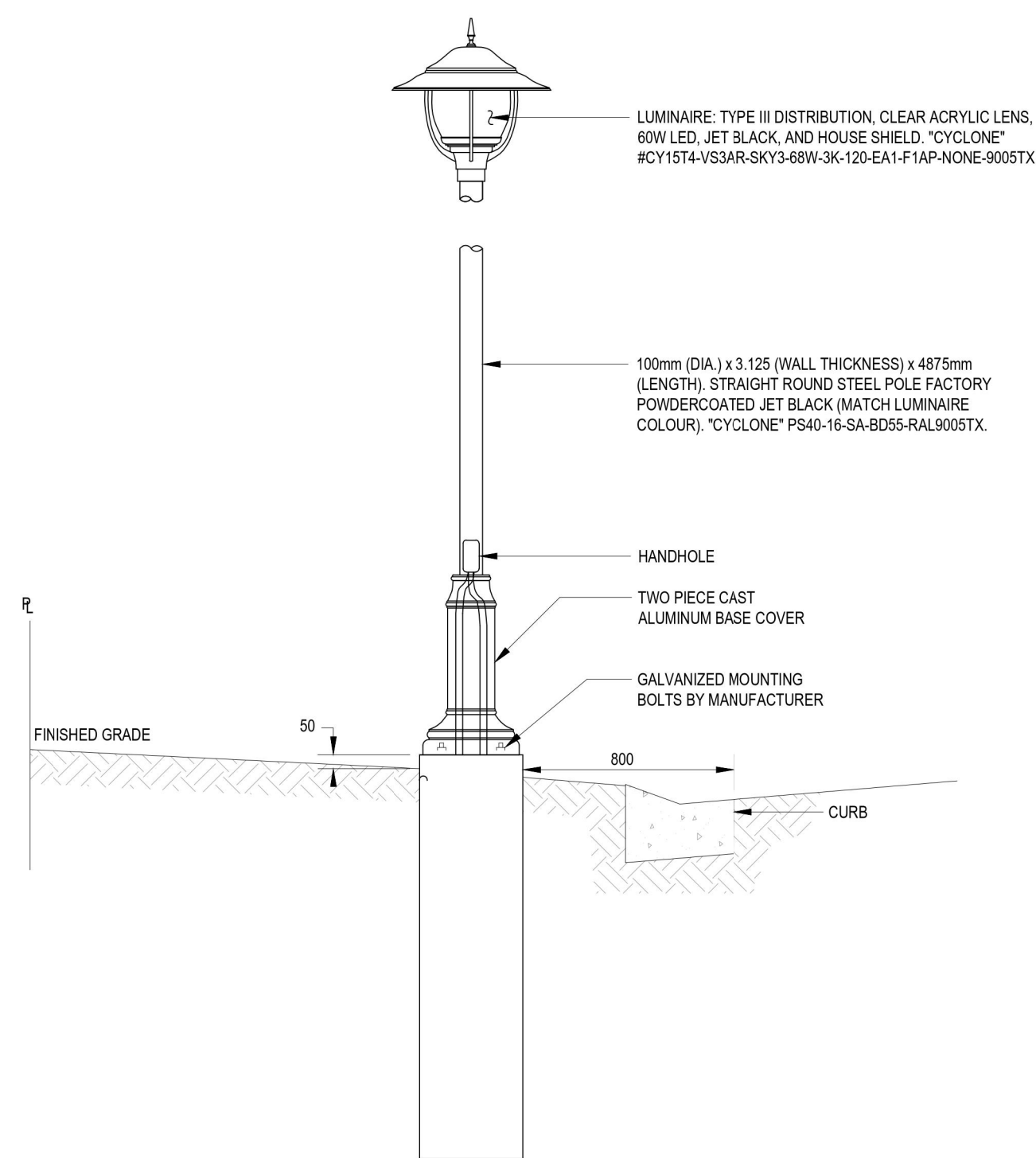
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E2.00 NOT TO SCALE



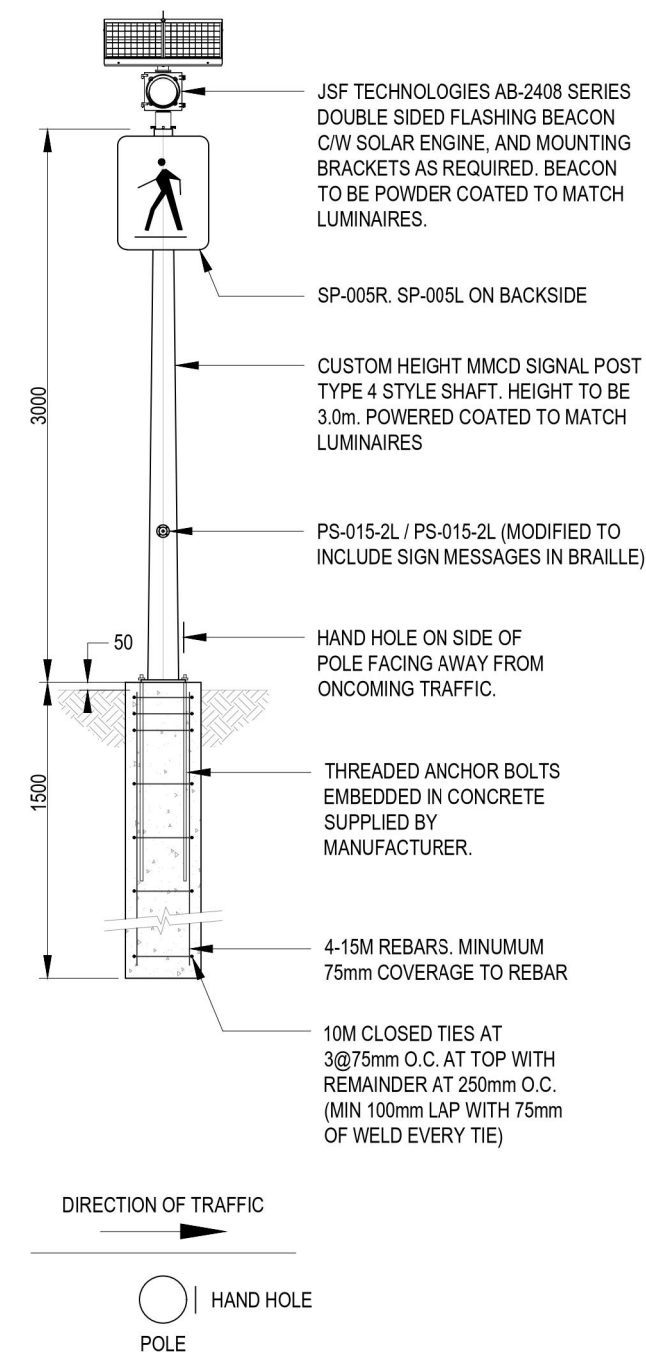
2 TYPE 'BB' LUMINAIRE DETAIL
E2.00 NOT TO SCALE



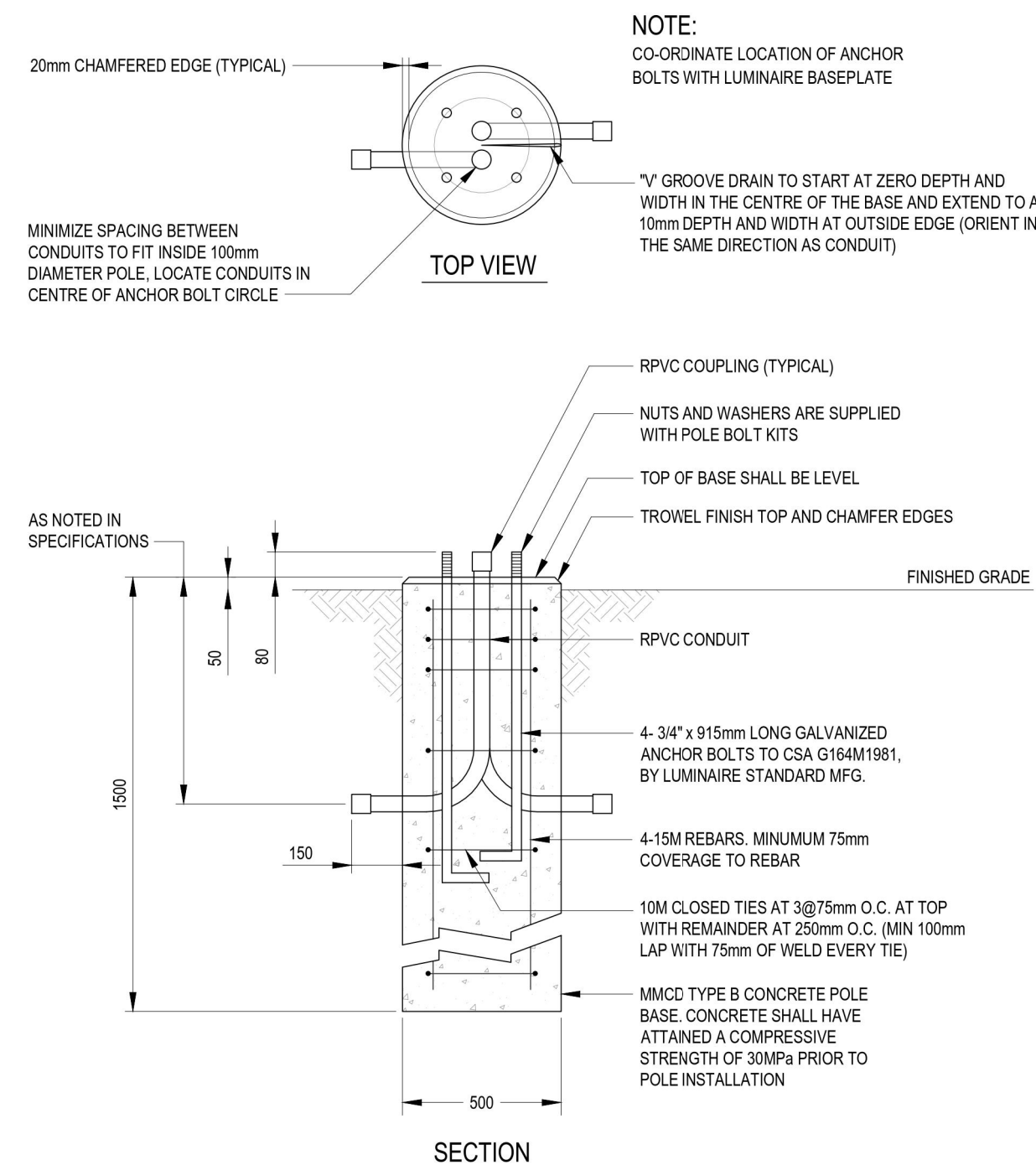
3 TYPE 'CC' LUMINAIRE DETAIL
E2.00 NOT TO SCALE



4 TYPE 'DD' LUMINAIRE DETAIL
E2.00 NOT TO SCALE



5 TYPE 'FF' PEDESTRIAN FLASHER DETAIL
E2.00 NOT TO SCALE



- NOTES:
- POLE BASE BACK-FILL TO CONFORM TO MMCD SPECIFICATIONS, LATEST EDITION.
 - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 - CONFIRM BOLT CIRCLE RADIUS PRIOR TO INSTALLATION OF CONCRETE BASES.
 - CONCRETE POLE BASE TO MEET MMCD STANDARDS. TYPE 'B' CONCRETE POLE BASE. FRASER PRECAST LTD OR APPROVED EQUAL.

6 TYPE 'CC', 'DD' AND 'FF' BASE DETAIL
E2.00 NOT TO SCALE

Rev	Date	Description	Drawn	Design	App'd
6	2023-05-12	ISSUED FOR TENDER	SS	JH	JH
5	2023-03-15	ISSUED FOR COORDINATION	SS	JH	JH
4	2023-03-06	ISSUED FOR COORDINATION	SS	JH	JH
3	2023-02-28	ISSUED FOR CONSTRUCTION	SS	JH	JH
2	2022-08-10	ISSUED FOR TENDER	SS	JH	JH
1	2022-01-14	ISSUED FOR APPROVAL	SS	JH	JH

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Permit to Practice No. 1000135
2023-05-04

DISTRICT OF SOOKE
2205 OTTER POINT ROAD SOOKE, BRITISH COLUMBIA, CANADA, V9Z 1J2
**CHURCH ROAD STREET LIGHTING,
ROUNDBOUT & INTERSECTION DESIGN
POLE DETAILS**

Drawing No.
E2.00
Project Number
1-21-136
Rev.
6

ELECTRICAL SPECIFICATIONS

- 16010 - SCOPE
1. Provide all items, material, equipment and labour required to complete the work or operations mentioned herein or indicated on the drawings.
 2. Pay for all associated fees such as electrical permits, and inspection services by the Provincial Inspection Branch
- 16011 - DISCREPANCY
1. Carefully examine all plans and specifications pertaining to this contract and visit site to determine all factors affecting costs and include in contract sum. Notify engineer of discrepancies or conflicting information before submitting price. Failing such notification, this contractor shall meet all such requirements without extra cost to the owner.
- 16012 - COORDINATION
1. Consult with all other trades to confirm locations of equipment, underground utilities and BC Hydro pad mount transformers. and cooperate with all trades to ensure progress of installation without conflict. In case of difference of opinion, refer the matter to the Engineer for final decision.
- 16013 - CODES AND PERMITS
1. All work shall be in accordance with the current edition of the Canadian Electrical Code as amended and adapted by the Province of British Columbia. Obtain all necessary permits and licenses and pay all fees in connection with the work.
- 16014 - WORKMANSHIP
1. Carry out all work in a neat and workmanlike manner to the engineer's satisfaction.
 2. Provide engineer with a minimum 5 business days notice prior to covering any portion of the electrical system. After engineer has reviewed the site, correct any deficiencies in the work to the satisfaction of the engineer.
 3. Provide engineer with a minimum 5 business days notice prior to project completion. After engineer has reviewed the site, correct any deficiencies in the work to the satisfaction of the engineer.

- 16015 - C.S.A.
1. All electrical material, equipment and fittings must bear evidence of C.S.A. approval or special certifications acceptable to the Chief Electrical Inspector. Unapproved items shall be immediately returned to the supplier in exchange for approved items.
- 16016 - EQUIPMENT/DEVICES
1. All equipment shall be installed as shown on plans and details.
 2. Street lighting system shall consist of a complete operating system, including but not necessarily limited to; luminaires, lamps, poles, concrete bases, anchor bolts, conduit, wire, in-line fuses, and all other equipment shown on plans.

- 16017 - INTERRUPTIONS
1. Ensure that existing services of any kind are not unduly disturbed and/or interrupted by this installation. Coordinate service interruptions with the Engineer.
- 16018 - EXTRAS
1. Obtain an official written work order before the start of extra work. No claim shall be raised without such written work order.
 2. No extra will be allowed on this contract due to lack of proper survey of existing conditions by this contractor.
- 16019 - AS-BUILT DRAWINGS
1. Keep a set of white prints and make all changes in red. Make this set of prints available to the engineer at any time. Submit the set of as-built drawings to the electrical engineer at the time of the final inspection.
 2. Should the contractor require the electrical consultant to prepare the as-built bond or cad disk, the cost would be \$275 per plan, unless excessive changes have been required costs associated with such excessive changes should be included with the change orders.

- 16020 - TESTING
1. Carry out tests of installation as it progresses. Repair any faulty installation at own expense.

- 16021 - CONDUIT AND BOXES
1. All conduit to be RPVC as indicated. All connectors and coupling shall be installed as per manufactures instructions.
 2. Whenever possible, street lighting duct shall be in common trench with B.C Hydro and Telus. Other wise ducts shall be routed parallel or perpendicular to the roadway and run directly between adjacent poles. Junctions shall be made at a pole base or in a junction box located adjacent to a pole base. Use of junction boxes must be approved by the Engineer. All bends to be large radius type. Minimum depth of bury below finished grade shall be: 0.6m - areas not subject to vehicular traffic; 0.9m - subject to vehicular traffic.
 3. Exposed conduit shall be hot-dip galvanized rigid steel. Conduit clamps and fittings shall be hot dip galvanized malleable iron. Buried conduit shall be rigid PVC. Couplings shall be threadless type, approved for cement welding. Minimum size shall be 32mmØ.
 4. BC Hydro service entrance conduit shall be 75mm. Conduit stub beyond project boundaries shall be 50mm

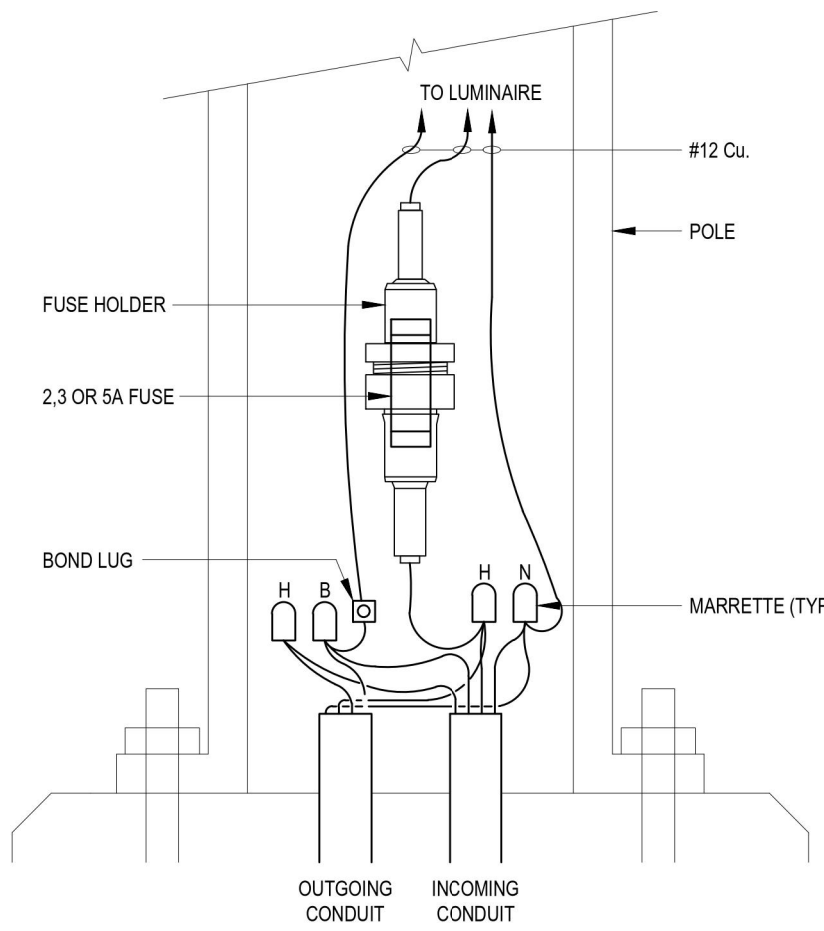
- 16022 - GROUNDING
1. Grounding connections, if exposed, shall be located in the service base. Grounding shall be achieved by the use of two (2) 19mm x 3000mm ground rods, plate electrode, or other method approved by the municipal engineer to achieve the required resistance.

- 16023 - CONDUCTORS
1. Shall be sized to not exceed a voltage drop of 5% over the length of the run.
 2. Shall be stranded copper, with RW-90 (x-link) insulation. Minimum sizes to be as follows:
#6 AWG - for incoming Hydro
#8 AWG - for feeder runs
#12 AWG - on pole
#14 AWG - for control
#10 AWG - Irrigation and tree receptacles
Conductors shall be sized in accordance with ballast start and running loads, voltage drop of line and anticipated future extension of circuit loads.

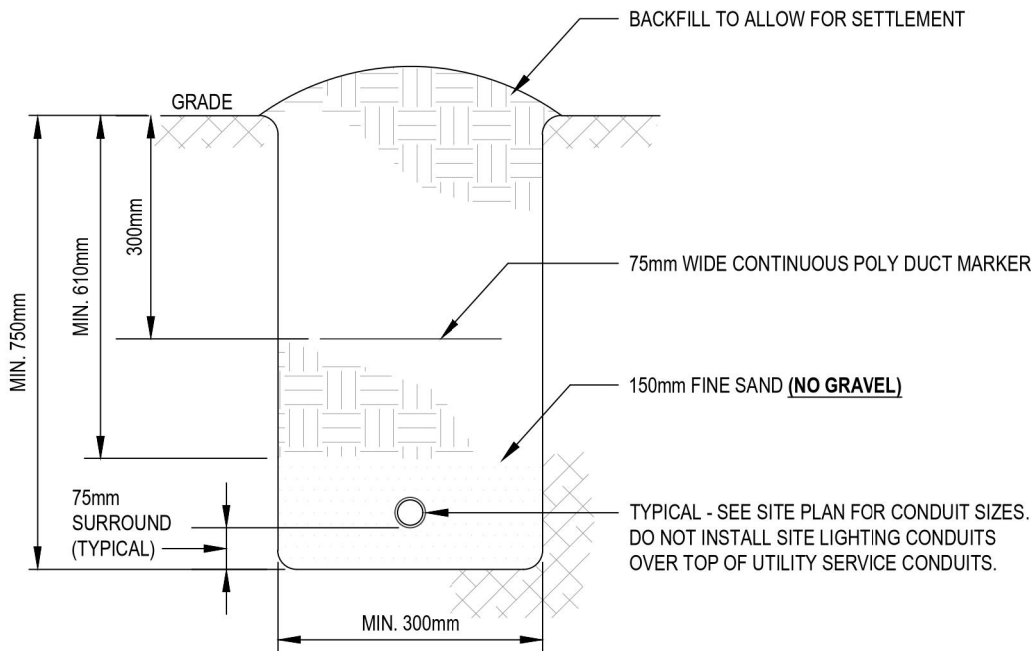
- 16024 - FUSES
1. Each luminaire shall be protected by a 5 amp HRC fuse with HEB waterproof fuse holders located inside the hand hold of each pole. Conductors shall allow for the fuse holder to be removed from the pole base for maintenance.

- 16025 - JUNCTION BOXES
1. Underground junction boxes shall only be used with special approval of the Municipal Engineer and where authorized by the Provincial Electrical Inspector. If approved, junction boxes shall be plastic or precast concrete with a bolt locking devise and marked "ELECTRICAL" with permanent lettering.

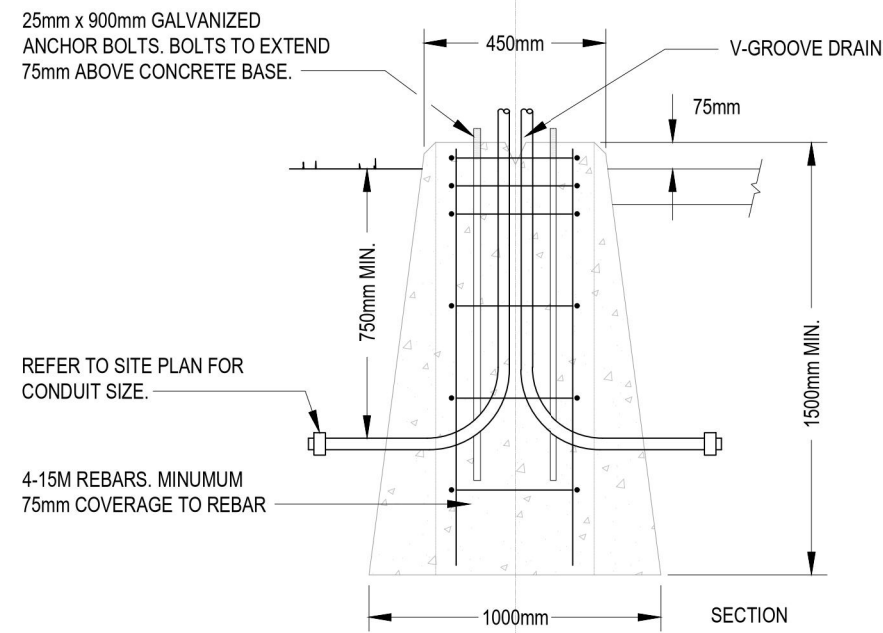
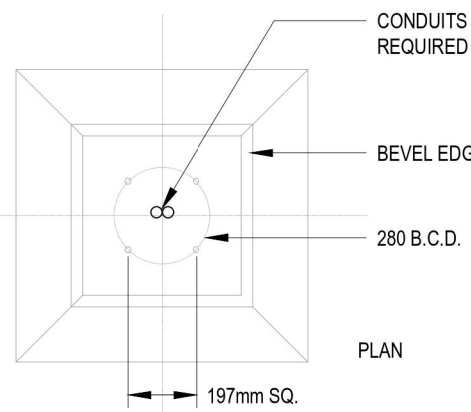
- 16026 SHOP DRAWINGS
1. The electrical contractor is to submit to the engineer, for review, shop drawings of major electrical equipment. Such equipment shall include, but not be limited to panelboards, kiosks, luminaires, controls, fixtures and fittings not provided by the owner.
 2. All drawings are to be submitted in true digital PDF format (no scans) and a reviewed copy will be returned to the coordinating professions for distribution to the electrical trade.
 3. The engineer's review of shop drawings is to be for general design only and will not relieve the electrical trade or suppliers from responsibility for errors, proper fitting, construction of work, and furnishing of materials. Review will not be construed as approving departures from contract document requirements if such departures are not specifically noted. The electrical trade is responsible for verifying all dimensions.
 4. Provide shop drawings for the following electrical products:
 - 4.1. Luminaires
 - 4.2. Lighting controls
 - 4.3. Wiring devices
 - 4.4. Junction boxes, manholes, and covers



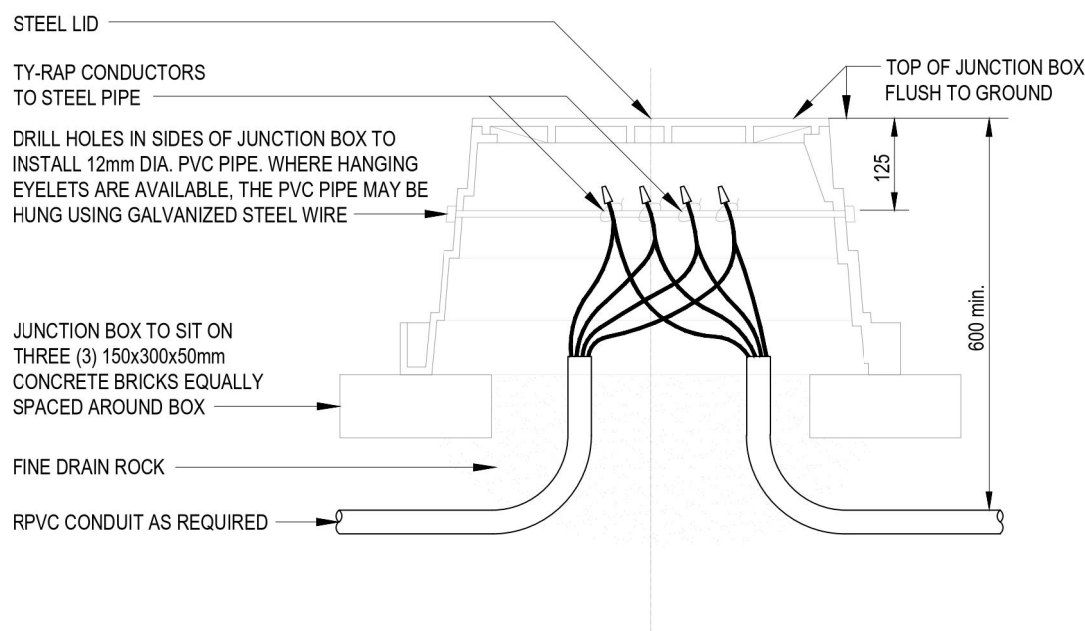
1
E2.01 POLE WIRING DIAGRAM
NOT TO SCALE



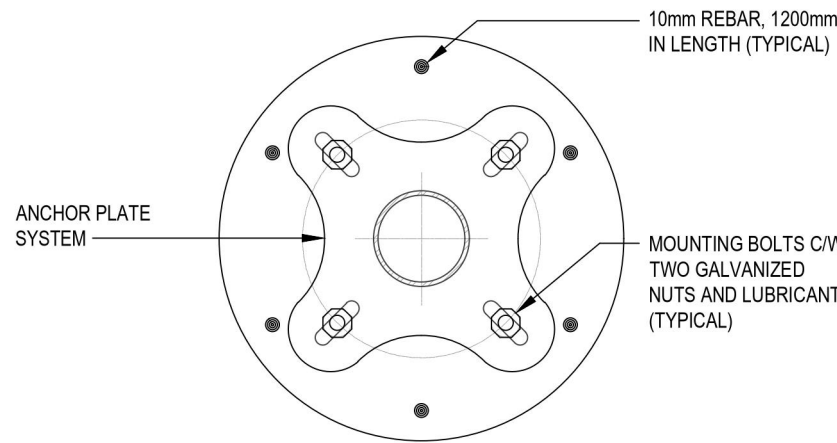
3
E2.01 TRENCH SECTION
NOT TO SCALE



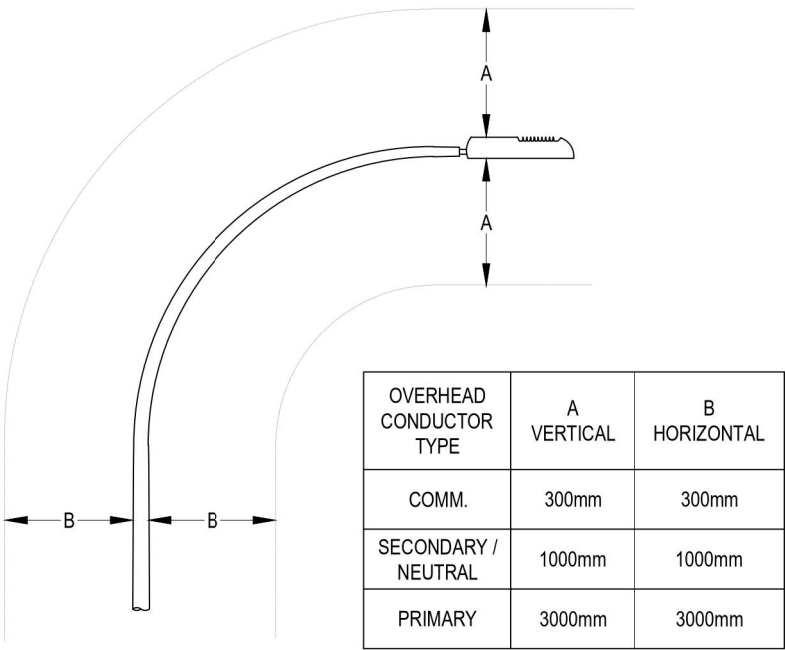
5
E2.01 TYPE 'C' POLE BASE DETAIL
NOT TO SCALE



2
E2.01 JUNCTION BOX DETAIL
NOT TO SCALE



4
E2.01 POLE BASE PLATE
NOT TO SCALE



6
E2.01 UTILITY CLEARANCE DETAIL
NOT TO SCALE

PANELBOARD SCHEDULE									
JOB NO./NAME	:	1-21-136 / CHURCH RD							
PANEL SYSTEM	:	EXISTING PANEL 'A'							
TYPE	:	120/240V, 1PH, 3W							
LOCATION	:	LOAD CENTRE							
MOUNTING	:	SERVICE KIOSK							
NO. CIRCUITS	:	SURFACE							
BUS SIZE	:	24							
SYM. FAULT RATING	:	100A							
	:	100kAIC							
DESCRIPTION	BRK	POLE	CCT	CCT	POLE	BRK	DESCRIPTION		
LIGHTING	15	1	01	02	1	15	LIGHTING		
LIGHTING	15	1	03	04	1	15	LIGHTING		
POLE RECEPTACLES	15	1	05	06	1	15	POLE RECEPTACLES		
POLE RECEPTACLES	15	1	07	08	1	15	POLE RECEPTACLES		
2182 SOOKE LIGHTING	15	1	09	10	1	15	KIOSK LTG/REC		
2182 SOOKE LIGHTING	15	1	11	12	1	15	IRRIGATION CONTROLLER		
SPARE	20	1	13	14	1	15	SPARE		
SPARE	20	1	15	16	1	15	SPARE		
			17	18	1	15	SPARE		
			19	20					
			21	22					
			23	24					
* GFCI Breaker							PANEL C/W 100A - 2P MAIN BREAKER		

NOTES:

1. PROVIDE AND INSTALL BREAKERS FOR 2182 CHURCH RD LIGHTING. FINAL CONNECTION AND WIRING TO BE COMPLETED AT FUTURE DATE BY DEVELOPER OF 2182 CHURCH RD.

6	2023-05-12	ISSUED FOR TENDER	SS	JH	JH
5	2023-03-15	ISSUED FOR COORDINATION	SS	JH	JH
4	2023-03-06	ISSUED FOR COORDINATION	SS	JH	JH
3	2023-02-28	ISSUED FOR CONSTRUCTION	SS	JH	JH
2	2022-08-10	ISSUED FOR TENDER	SS	JH	JH
1	2022-01-14	ISSUED FOR APPROVAL	SS	JH	JH
Rev	Date	Description	Drawn	Design	App'd

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AES
Designing A Better Tomorrow

500 - 3795 Carey Road, Victoria, BC V8Z 6T8
250.381.6121 | www.aesengr.com

CALGARY | VANCOUVER | VICTORIA

ORIGINAL DWG SIZE: AHS D (22" x 34")



McElhanney

3960 Quadra Street
Suite 500
Victoria BC
Canada V8X 4A3
Tel 250 370 9221

Permit to Practice No. 1000135



2023-05-04

DISTRICT OF SOOKE

2205 OTTER POINT ROAD SOOKE, BRITISH COLUMBIA, CANADA, V9Z 1J2

**CHURCH ROAD STREET LIGHTING,
ROUNDABOUT & INTERSECTION DESIGN
DETAILS AND
SPECIFICATIONS**

Drawing No.

E2.01

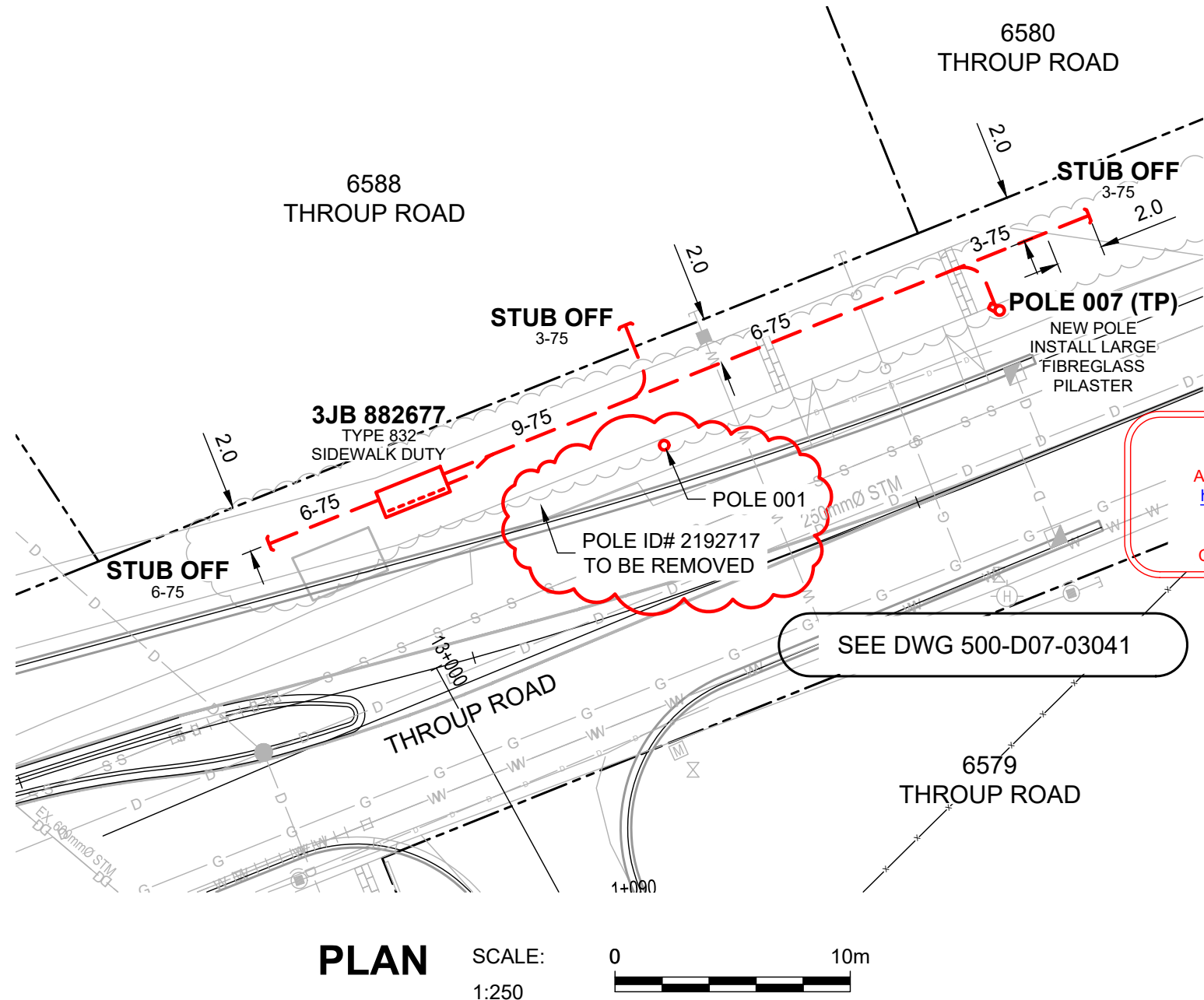
Project Number

1-21-136

Rev.

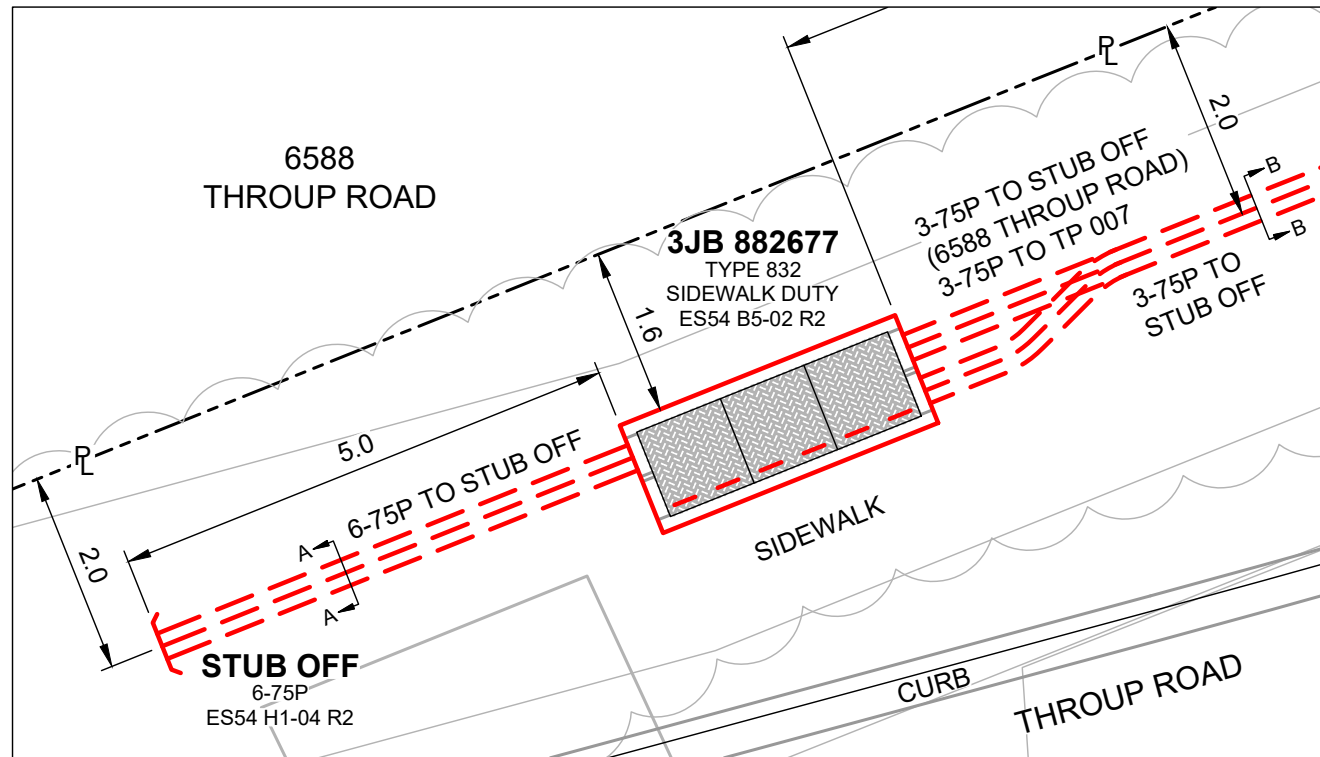
6

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Drawing Unit = Metric (6)
DA COSTA BRANDAO, LIVIA
4/17/2023 3:44 PM

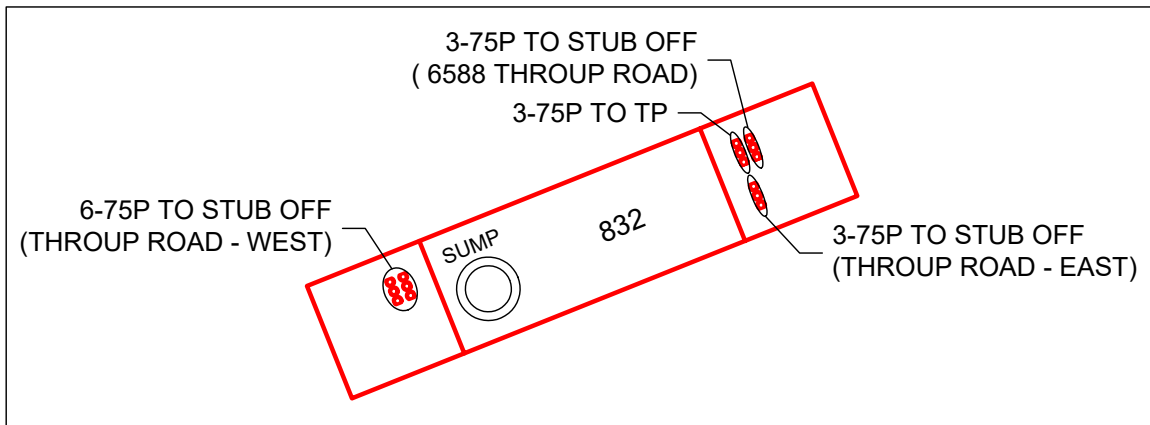


**** CAUTION ****
ADDITIONAL POLE STABILITY MAY BE REQUIRED
<https://www.bchydro.com/accounts-billing/electrical-connections/distribution-standards.html>
ESS5 E3-04 GUIDE FOR
CIVIL EXCAVATION NEAR DISTRIBUTION POLES

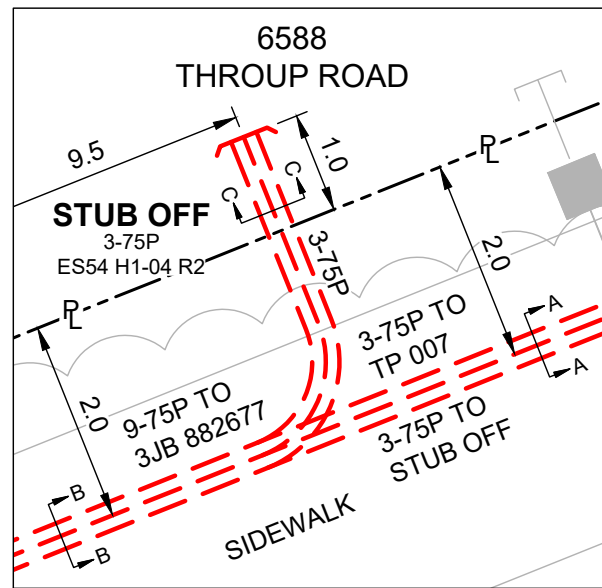
3JB 882677 / STUB OFF DETAILS



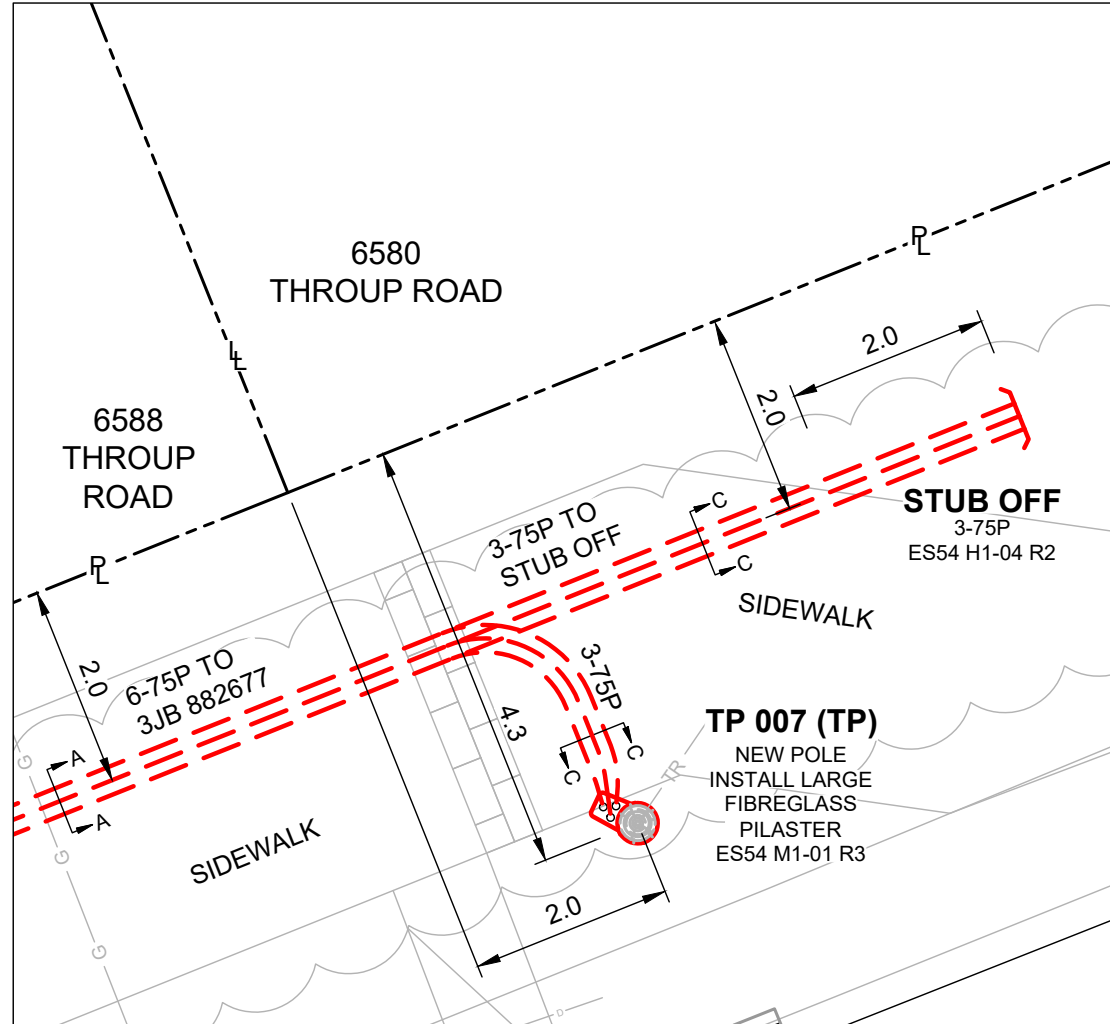
3JB 882677 DUCT WINDOW DETAIL



STUB OFF DETAIL



TP 007 / STUB OFF DETAILS

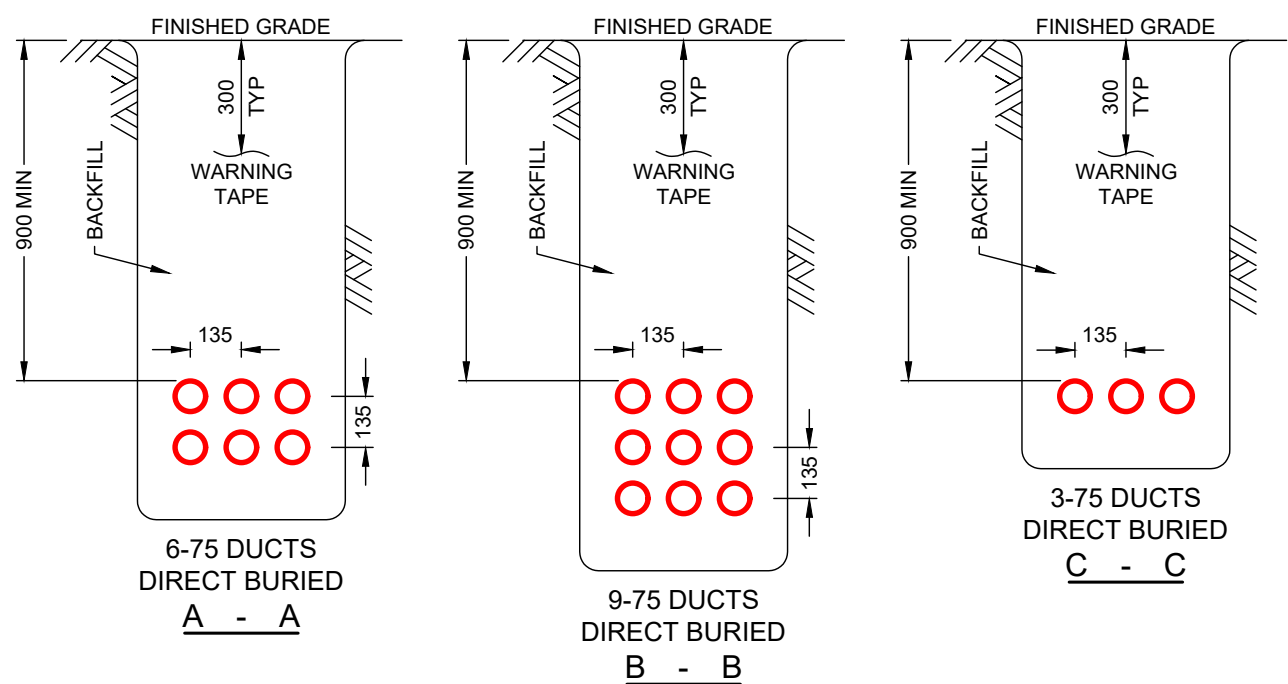


**** CAUTION ****
ADDITIONAL POLE STABILITY MAY BE REQUIRED
<https://www.bchydro.com/accounts-billing/electrical-connections/distribution-standards.html>
ESS5 E3-04 GUIDE FOR
CIVIL EXCAVATION NEAR DISTRIBUTION POLES

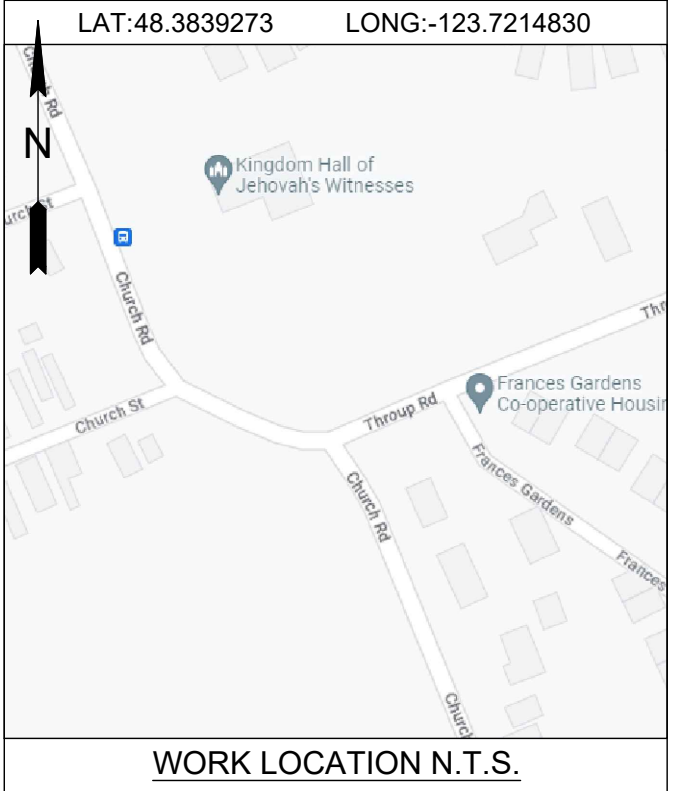
DETAILS
N.T.S.

NOT FOR
CONSTRUCTION
ISSUED FOR
REVIEW

TRENCH DETAILS
N.T.S.



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WORK LOCATION N.T.S.



- BC ONE CALL**
CALL BEFORE YOU DIG
1-800-474-6886
CALL AT LEAST 3 FULL WORKING DAYS BEFORE YOU PLAN TO DIG
- CIVIL SPEC. 1323 NOTES:**
- BC HYDRO UNDERGROUND CIVIL INSPECTOR MUST BE NOTIFIED **48 HOURS** PRIOR TO CONSTRUCTION.
 - ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CLASS OF WORK SPECIFICATION 1323 AND BC HYDRO UNDERGROUND DISTRIBUTION ENGINEERING STANDARDS SERIES ESS3 AND ESS4.
 - ANY CHANGES NEED TO HAVE PRIOR APPROVAL OF BC HYDRO CIVIL INSPECTOR.
 - UNLESS OTHERWISE NOTED ON TRENCH DETAILS OR REQUIRED PER ES 54 H0-02.02, ALL CONDUIT INSTALLATION FOR BC HYDRO ON PUBLIC OR PRIVATE PROPERTY SHOULD HAVE MIN. 0.9m COVER AND ANY FACTORY BEND MUST HAVE A MIN. RADIUS OF 0.9m.
 - ALL UTILITIES (EXCEPT TELUS) MUST MAINTAIN A 0.9m HORIZONTAL AND 0.3m VERTICAL SEPARATION FROM BC HYDRO DUCT UNLESS DIRECTED OTHERWISE BY BC HYDRO CIVIL INSPECTOR.
 - OTHER UTILITIES SHOWN ON THE CIVIL DRAWING ARE FOR REFERENCE ONLY. PROVE LOCATION OF ALL UTILITIES IN THE WORK AREA BEFORE CONSTRUCTION. FOR CURRENT INFORMATION CONTACT BC ONE CALL.
 - ALL OFFSETS INDICATE CENTERLINE OF BC HYDRO PLANT.
 - METRES EXPRESSED IN DECIMALS, MILLIMETRES IN WHOLE NUMBERS.
 - TRANSFORMER MUST BE A MIN. OF 1.5m BEHIND NON-MOUNTABLE CURB OR PROTECTED. FINAL NUMBER AND LOCATION OF PROTECTION POSTS TO BE DETERMINED IN THE FIELD BY BC HYDRO CIVIL INSPECTOR.
 - FOR TRANSFORMER PAD COUNTERPOISE CLEARANCES TO OTHER UTILITIES AND UNDERGROUND CONDUCTIVE SURFACES, SEE ESS4.
 - MIN. OFFSET FOR BC HYDRO DUCTS, IN JOINT TRENCH, FROM PROPERTY LINE IS 1.2m, UNLESS OTHERWISE NOTED.
 - STUB SERVICE DUCT 1.0m FROM PROPERTY CORNER AND 1.0m INTO THE LOT UNLESS OTHERWISE NOTED.
 - IT IS THE RESPONSIBILITY OF THE RESOURCE THAT IS PERFORMING THE INSTALLATION OF THE PROPOSED CIVIL WORKS TO PROVIDE BC HYDRO WITH A RECORD DRAWING(S) OF THE CONSTRUCTION. THE RECORD DRAWING(S) MUST BE RECEIVED AND ACCEPTED BEFORE ELECTRICAL WORK WILL COMMENCE.

CUSTOM NOTES HERE IF REQUIRED

ENGINEERING NOTES

UNLESS NOTED OTHERWISE, ENGINEERING CONTENT ON THIS DRAWING HAS BEEN PRODUCED FOLLOWING A DOCUMENTED BC HYDRO QUALITY MANAGEMENT PROCESS USING BC HYDRO ENGINEERING STANDARDS AUTHENTICATED BY PROFESSIONALS OF RECORD UNDER PERMIT TO PRACTICE NUMBER 1002449

CIVIL PLAN LEGEND:

BC HYDRO RESPONSIBILITY	CUSTOMER RESPONSIBILITY
NEW DUCT	EXISTING DUCT
FIELD COMPLETED DUCT	SERVICE BOX
TERMINAL POLE	LOW PROFILE TRANSFORMER (LPT-PYRAMID PAD)
LOW PROFILE TRANSFORMER (LPT)	PAD MOUNT TRANSFORMER (PMT)
30 & 10 JUNCTION & PULL BOXES (332, 632, 832 & 1232)	PRECAST MANHOLE
VISTA SWITCH SUBMERSIBLE (VSWB)	VISTA SWITCH ABOVE GROUND (VSWA)
REFER TO ESS3 AND ESS4 UNDERGROUND STANDARDS	

BC Hydro

SOUTH VANCOUVER ISLAND
VICTORIA POWER DISTRICT
UNDERGROUND DUCT AND STRUCTURES FOR
U/G SERVICING PROVISIONS (CIVIL WORKS ONLY)
6588 THROUP ROAD, SOOKE
SHEET 1 OF 1

DESIGN NUMBER	0004901715	DSGN	A.BYRNES
WORK ORDER NUMBER		INDEP CHK	
CSA S250 ACCURACY NAD 83 - 10UTM		DFTG	L.COSTA
BASE ACCURACY LEVEL: 4 +/- 1000 mm		DFTG CHK	T.BELLAVIE
ASB ACCURACY LEVEL: 4 +/- 1000 mm		INSP	
		REV	
		ACPT	

DATE	2023APR17	DIST		DRAWING NUMBER	500-U07-08875	REPORT NUMBER		FIG NO	SIZE	REV
									D	1

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Church Road – Throup Road Roundabout

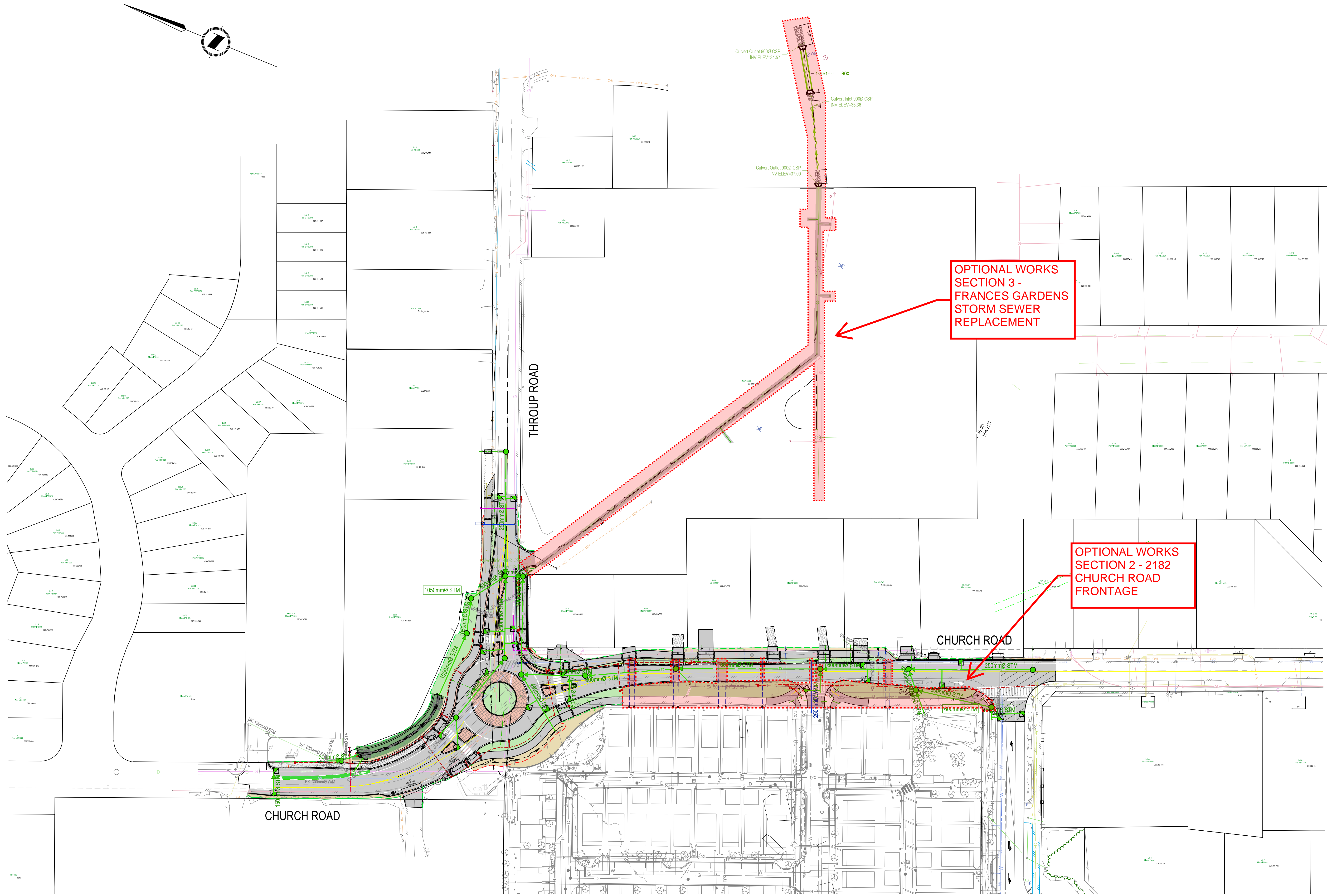
OPTIONAL WORKS EXPLANATORY PLAN



McElhanney

File: 2241-20128-01
May 2023

DATE: 2023-05-18, 13:18 FILE: X:\2241\Church Road and Thrup Road Roundabout\100 Drawings\103.1 Sheet 20 - 2241-20-128.dwg
McElhanney ISO 141 - 2020-05-01



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ORIGINAL DWG SIZE: A1 (594 x 841mm)

0 1:750 30



Suite 500
3960 Quadra Street
Victoria BC
Canada V8X 4A3
T 250 370 9221

PERMIT TO PRACTICE
McElhanney Ltd.
PERMIT NUMBER: 10032999
Engineers and Geoscientists of BC

PRELIMINARY
NOT FOR
CONSTRUCTION

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AND MAY CONTAIN ERRORS AND OMISSIONS

DISTRICT OF SOOKE
2205 OTTER POINT ROAD, SOOKE, B.C.

CHURCH ROAD ROUNDABOUT
OPTIONAL WORKS EXPLANATORY PLAN

Drawing No.

Project Number
2241-20-128

Rev.
0

DESTROY ALL PRINTS BEARING PREVIOUS VERSION



Church Road – Throup Road Roundabout

GEOTECHNICAL REPORT



McElhanney

File: 2241-20128-01
May 2023



RYZUK GEOTECHNICAL

Engineering & Materials Testing

6-40 Cadillac Ave, Victoria, BC, V8Z 1T2 Tel: 250-475-3131 E-mail: mail@ryzuk.com www.ryzuk.com

February 16, 2022

File No: 5313-59

McElhanney Ltd.
107 – 225 Canada Avenue
Duncan, BC
V9L 1T6

Attn: Jon Irving P.Eng., MMCD CCA, LEED Green Associate (jirving@mcelhanney.com)

Re: Proposed Church Road Phase 2
Church Road – Sooke, BC

As requested, we have completed a geotechnical investigation of the referenced site as such relates to the proposed road upgrades. The following letter summarizes the results of our investigation and associated recommendations for the proposed civil works. Our work has been carried out in accordance with, and is subject to, the attached Terms of Engagement.

PROPOSED WORKS

We understand that the proposed project will include road re-construction, utility upgrades and a roundabout. We understand that the proposed Church Road section extends from Wadams Way to Strata-Church Road and about a 35 m long section off Church Road along Throup Road.

INVESTIGATION PROCEDURE

Our investigation consisted of an office-based background review of available surficial geology mapping and past projects in the area including our involvement during phase 1, followed by a field investigation. Based on our background review, we anticipated a varying thickness of asphalt, base, and subbase materials, present generally upon very stiff to hard brown silty clay or dense to very dense brown sandy silt with trace gravel and cobbles. These conditions are likely to vary locally with thicker fills present in areas where underground utilities exist.

The field component consisted of a drilling investigation completed on January 28, 2022. A rubber truck-mounted auger rig supplied and operated by Drillwell Enterprises Ltd. of Duncan, BC, was used for the investigation; before drilling the investigation, we contacted BC OneCall for utility information in the area and had our test holes locations cleared by a local private utility locating company, ScanPlus Ltd.

A total of 11 holes were advanced to assess road structure and underlying soils conditions within the desired depth below the existing road surface.

SURFACE

Site topography is generally flat within the paved project areas. The existing asphalt was observed to be in generally fair condition, with localized distressed areas.

SUBSURFACE CONDITIONS

The results of our drilling investigation indicate that native subsurface soil conditions are generally consistent with the geology mapping. Test holes were generally 1.5 m deep and ended within native soils. Asphalt thickness was generally 100 mm. Variable fills beneath the pavement generally ranged between 200 mm and 1 m, and consisted of sand and gravel mixed with organic soil.

Native soils beneath the road structure fills generally consisted of stiff to/very stiff brown/grey silty clay or dense to very dense brown sandy silt with trace gravel and cobbles stiff, overlain in a few test holes by a dense native silty sand.

Groundwater seepage was not observed in any of the test holes. However, there is the potential to encounter seepage of trapped or perched surface water within existing fills and native sands that overly the clay.

GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

On the basis of our investigation, we do not anticipate any unique geotechnical issues relating to the proposed road and earthworks at this site and we consider the improvements to be feasible from a geotechnical perspective.

Excavation Considerations

We expect excavations required for the construction will be in the order of 1 m. Given the soil conditions encountered, we expect temporary excavation cutslopes will be stable at the following configurations:

- 1.0 H : 1.0 V (1 Horizontal : 1 Vertical) in fills materials, and disturbed native soil
- 0.75 H : 1.0 V for very stiff to hard silty clay or dense to very dense sandy silt with trace gravel and cobbles

Topsoil and fill soils should be pulled back from all excavations so as to eliminate any chance these materials might slough into the opening. Adjustments to the above may be required upon site inspection during construction if variations of the soil conditions are observed, and due to the

presence of existing utilities. According to WorkSafeBC guidelines, excavations deeper than 1.2 m must be inspected and approved by a qualified geotechnical professional, unless sloped in accordance with the guidelines. Trenches may be suitably sloped to allow for safe worker entry, if specific areas are unable to accommodate the slope geometry due to the presence of existing subsurface utilities, shoring cage installation may be used.

Subgrade Preparation

The native soil is considered suitable for support of proposed utilities and pavement structure. At a minimum, all existing unsuitable soils (existing fill, disturbed soil, and/or organic soils) should be removed from under the new paved areas (i.e. in areas of road widening). All areas of subgrade should be inspected by a geotechnical professional prior to placement of base/subbase fills. We recommend proof roll testing be conducted on the prepared base course and curb areas prior to paving to confirm the suitability of the subgrade and subbase materials.

Engineered Fill

Any material used to recover site grade above approved subgrade should be well graded, select granular material. Such material should be placed in lifts and compacted to at least 100% SPMDD (or equivalent 95% Modified Proctor Maximum Dry Density). Lift thickness of granular material, such as select granular sub base or road base (as described in the BC MOTI guidelines), should not exceed 300 mm, and each lift must be moisture treated and compacted with multiple passes of a heavy diesel plate compactor or ride-on vibratory drum roller. Increased lift thicknesses may be approved subject to review of the aggregate and compaction equipment.

In wet site conditions, such as expected with heavy or ongoing seasonal rain, compaction techniques may require adjustment to maintain the optimum moisture content necessary to reach the required SPMDD/MPMDD compaction. Placement and compaction of engineered fill should be monitored by a geotechnical professional to ensure proper compaction is achieved.

Pavement Considerations

We recommend a pavement structure consisting of 80 mm of asphalt over a minimum of 150 mm of 19 mm minus crushed rock base upon 300 mm of 75 mm minus crushed rock subbase upon approved subgrade.

Optimum water content of the subbase and base materials described above is critical to achieve good compaction. In addition to proof roll, we recommend performing representative in-situ density tests to ensure soils are compacting to 95% of SPMDD below paved areas.

Asphalt to be placed and compacted to at least 97% of Marshall value. Use of Master Municipal Construction Document (MMCD) UC#2 is considered appropriate. Additionally, we recommend in-situ density testing and pavement core sampling be completed for laboratory testing.

Groundwater Considerations

The long term groundwater table was not encountered during test holes up to 2 m depth and is not expected to influence construction. Trapped or perched surface water may be encountered within existing fills. In addition, perched water table conditions could be experienced during and after periods of heavy or prolonged precipitation. This could result in surface ponding and/or seepage from zones of more permeable surface soils, where collected surface water should be directed to available drain systems.

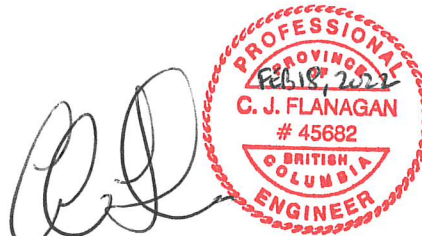
CLOSURE

In summary, we consider the proposed civil works to be feasible from a geotechnical perspective. We trust the preceding is suitable for your purposes at present. Should you have any questions, or require anything further, please do not hesitate to contact us.

Yours very truly,
Ryzuk Geotechnical
PN1002996



Patrick Ntwari, EIT
Junior Engineer



Christian J. Flanagan, P.Eng.
Lead Engineer

Attachment: Terms of Engagement
 Test Hole Logs (TH22-01 to TH22-11)
 Test Hole Location Plan (5313-59-1)

TERMS OF ENGAGEMENT

1. GENERAL

- 1.1. Ryzuk Geotechnical Ltd., its principals and employees (collectively the "Consultant") shall render the Services to the Client for the Project in accordance with the following terms of engagement (the "Engagement").
- 1.2. The Consultant will provide the Services, and any other associated documents, records or data, in accordance with the standard of care, skill and diligence required of a geotechnical consulting firm providing similar services at the same time in the same geographic location and circumstances in British Columbia. The Services will be provided in accordance with procedures customarily provided in similar circumstances by similar professionals. No other representations or warranties, expressed or implied, are made by the Consultant.
- 1.3. The Consultant may, at its discretion and at any stage, engage sub-consultants to perform all or any part of the Services.

2. COMPENSATION

- 2.1. All fees billed to the Client by the Consultant are payable in Canadian dollars. Invoices are due and payable by the Client on receipt of the invoice, without holdback. Interest on overdue accounts is 24% per annum.

3. REPRESENTATIVES

- 3.1. Each party must designate a representative who is authorized to act on behalf of that party and receive notices under this Engagement.

4. TERMINATION

- 4.1. Either party may terminate this Engagement without cause upon providing 30 days' written notice to the other party. On termination by either party under this section, the Client shall forthwith pay to the Consultant all fees invoiced by the Consultant for the Services performed to the date of termination, including all expenses and other charges incurred by the Consultant in respect of the Consultant's Engagement by the Client.
- 4.2. If either party is in breach of any term of this Engagement, the non-defaulting party may give written notice of the breach to the other party and thereafter terminate this Engagement forthwith if the defaulting party does not remedy said breach within 7 days' of being provided written notice of the breach. On termination by the Consultant under this section, the Client shall forthwith pay to the Consultant all fees invoiced for the Services performed to the date of termination, including all expenses and other charges incurred by the Consultant in respect of the Consultant's Engagement by the Client.

5. ENVIRONMENTAL

- 5.1. The Consultant's field investigation, laboratory testing and engineering recommendations will not address or evaluate contamination or pollution of soil or groundwater. The Consultant will cooperate with any environmental consultant retained by the Client during the field work phase of the investigation.

6. INSURANCE

- 6.1 Ryzuk Geotechnical maintains Professional Indemnity Insurance as follows:

- 6.1.1 \$3,000,000 each and every claim
- 6.1.2 \$5,000,000 in the aggregate
- 6.1.3 \$5,000,000 commercial/general liability coverage.

7. LIMITATION OF LIABILITY

7.1. The Consultant shall not be responsible for:

- 7.1.1. the negligence or failure of any contractor or other professional retained by the Client to perform work or provide services in respect of the Project in accordance with the applicable contract documents and/or advice provided by the Consultant;
- 7.1.2. the design of or defects in equipment or materials supplied or provided by the Client or its contractors for incorporation into the Project;
- 7.1.3. any cross-contamination resulting from subsurface investigations;
- 7.1.4. any Project decisions made by the Client if such decisions are made without the Client first seeking advice from the Consultant and/or decisions contrary to or inconsistent with advice provided by the Consultant;
- 7.1.5. any consequential loss, injury or damages suffered by the Client or its agents and contractors, including but not limited to loss of use, earnings and business interruption;
- 7.1.6. the unauthorized distribution of any confidential document or reports prepared by or on behalf of the Consultant for the exclusive use of the Client;

7.2. The Consultant will make all reasonable efforts prior to and during subsurface site investigations to minimize the risk of damaging any subsurface utilities/mains. If, in the unlikely event that damage is incurred where utilities are unmarked and/or undetected, the Consultant will not be held responsible for damages to the Project site or surrounding areas, utilities/mains or drilling equipment or the cost of any repairs thereto.

7.3. The Consultant's total liability to the Client for any errors, omissions, breaches of contract and/or negligence arising in connection with the Services is limited to the amount of the Consultant's fees for the Services and shall not exceed that amount under any circumstances. For greater clarity, this means that if the Client makes any claim, including any claim for contribution or indemnity, or brings any claims against the Consultant, then any damages for which the Consultant may be liable cannot exceed the total amount of fees paid to the Consultant by the Client.

7.4. The Client agrees to indemnify and to save and hold harmless the Consultant from any claim, demand, litigation, expense, legal fees, liability, damage, award or cost, of any form or type whatsoever, in respect of any claim for property damage, loss, or personal injury brought by any party including the Client's contractors, other professionals, or any third party, resulting from the Consultant's provision of the Services, except for such property damage, loss or personal injury that results directly from the gross negligence of the Consultant.

7.5. No claim may be brought against the Consultant in respect of the Consultant's provision of the Services, in contract, negligence or other civil wrong more than 2 years after any claim is discoverable.

8. DOCUMENTS AND REPORTING

- 8.1. All of the documents prepared by or on behalf of the Consultant in connection with the Project are instruments of service for execution of the Project and the Services. The Consultant retains the property and copyright in these documents, whether the Project is executed or not. These documents may not be used on any other project without the prior written agreement of the Consultant.
- 8.2. Documents that have been prepared specifically for the Project are applicable and may be relied upon only in the case where there has been no physical alteration to, or deviation from any of the information or plans provided to the Consultant by the Client or the Client's agents. If the Client makes any changes or deviations from original plans for the Project, the Client may request that the Consultant review and revise Project documents accordingly.
- 8.3. Identification and classification in respect of the extent, properties, or type of soils or other materials at the Project site will be based upon investigation and interpretation of results in a manner consistent with customarily accepted standard geotechnical consulting practices in the location where the Services were performed. Due to the nature of geotechnical consulting, there is an inherent risk that all potential conditions will not be detected at the Project site and that actual subsurface conditions may vary considerably from investigation points. The Client and any other party making use of any documents prepared by the Consultant in respect of the Project acknowledges and accepts this risk.
- 8.4. Any conclusions and recommendations provided within any document prepared by the Consultant for the Client will be based on the scope of investigation by the Consultant and any additional information provided to the Consultant by the Client or the Client's agents. The Consultant disclaims responsibility for any deficiency or inaccuracy resulting from the Consultant being provided with inaccurate or fraudulent information by the Client or the Client's agents.

9. JOBSITE SAFETY AND CONTROL

- 9.1. The Client acknowledges that control of the Project site remains solely with the Client, and/or the Client's agents and/or contractors. The presence of the Consultant's personnel on the Project site does not relieve the Client, the Client's agents and/or contractors from their responsibilities for Project site safety. The Client must inform the Consultant of all hazardous or otherwise dangerous conditions at the Project site of which the Client, its agents, and/or contractors are aware.
- 9.2. The Client acknowledges that during the course of a geotechnical investigation a previously unknown hazard or contaminant may be discovered. Discovery and/or identification of a hazard/contaminant may necessitate procedures to ensure the safety and protection of persons and/or the environment being undertaken. The Client shall be responsible for payment of any additional expenses incurred as a result of discovery of a hazard/contaminant. The Client acknowledges that certain circumstances require government and/or regulatory authorities to be notified of hazardous conditions and/or contaminants. The Client shall not make any claim or bring any action against the Consultant in the event the Consultant provides any required notification of a hazard and/or contaminant to a government and/or regulatory authority.

10. FIELD SERVICES

- 10.1. If the Consultant is requested or required to provide field reviews as part of the Services for the Project and the Client declines to authorize or otherwise limits the scope of same in a manner inconsistent with the Consultant's advice or recommendations, the Consultant may provide qualified certifications in respect of any work completed by the Client and/or its contractors that was not overseen by the Consultant.

11. DISPUTE RESOLUTION

- 11.1. If requested in writing by either the Client or the Consultant, the Client and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with this Engagement by entering into

structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with assistance of a mediator, the dispute shall be referred to and finally resolved by a British Columbia Court.

12. CONFIDENTIALITY

- 12.1. During the term of the Engagement, the Consultant shall not use or disclose any of the Client's confidential information to any third party other than the Consultants legal and/or financial advisors without authorization from the Client. The Consultant will use any confidential information for the sole purpose of carrying out the Services. The Consultant may share photos of the Project so long as such photos do not disclose any information not otherwise available or readily visible by the public. Unless already made public, the Consultant will not share Client or Project site address information on social media or with third parties.



ENGINEERING & MATERIALS TESTING

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TEST HOLE LOG

TH22-01

PROJECT: Church Road Phase 2
CLIENT: McElhanney
LOCATION: Refer to Test Hole Location Plan
COORDINATES (m):
COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59
METHOD: Solid Stem Auger
ELEVATION (m): 13.4
CONTRACTOR: Drillwell
LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silt, some sand, some roots, organic, dark brown, moist					
		CLAY - silty, some sand, stiff, brown, damp					13
1							
2		<ul style="list-style-type: none"> - End of test hole at 1.5 m - desired depth - No groundwater encountered during drilling - Test hole backfilled with topsoil and surface sealed with cold patch asphalt - Surface elevations estimated using Google Earth 					12
3							11
4							10
5							9

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☒ NO RECOVERY



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TEST HOLE LOG

TH22-02

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 13.4

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - sand and gravel, brown, damp					13
		FILL - clay, some sand, trace gravel, organic, dark brown, damp					
1		CLAY - silty, stiff, grey, damp					
		- becoming very stiff with depth					12
2		- End of test hole at 2.1 m - desired depth					
		- No groundwater encountered during drilling					11
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
		- Surface elevations estimated using Google Earth					10
3							
4							9
5							

SAMPLE TYPE ☒ SPLIT SPOON ☒ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-03

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 13.7

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silty, dark redish, trace gravel, organic, damp					
		SAND - silt, trace gravel, compact to dense, brown, damp					13-
-1		- some cobble observed					
		- End of test hole at 1.1 m - inferred glacial till					
		- No groundwater encountered during drilling					
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					12-
		- Surface elevations estimated using Google Earth					
-2							
							11-
-3							
							10-
-4							
							9-
-5							

SAMPLE TYPE ☒ SPLIT SPOON

GRAB

 SHELBY TUBE

II CORE

☐ NO RECOVERY



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TEST HOLE LOG

TH22-04

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silty, some sand, trace gravel, organic, dark brown, damp					
		SAND - silty, trace gravel, dense, brown, damp					14
-1		- become very dense					
		- End of test hole at 1.2 m					
		- Refusal on inferred glacial till					
		- No groundwater encountered during drilling					13
		- Test hole backfilled with soil cuts					
-2		- Test hole pathed with asphalt cold mix					
		- Surface elevations estimated using Google Earth					
							12
-3							
							11
-4							
							10
5							

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-04

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28




PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silty, some sand, trace gravel, organic, dark brown, damp					
		SAND - silty, trace gravel, dense, brown, damp					14
-1		- become very dense					
		- End of test hole at 1.2 m - refusal on inferred glacial till					
		- No groundwater encountered during drilling					
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					13
		- Surface elevations estimated using Google Earth					
-2							
							12
-3							
							11
-4							
							10
-5							

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☒ NO RECOVERY



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TEST HOLE LOG

TH22-03

PROJECT: Church Road Phase 2
CLIENT: McElhanney
LOCATION: Refer to Test Hole Location Plan
COORDINATES (m):
COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59
METHOD: Solid Stem Auger
ELEVATION (m): 13.7
CONTRACTOR: Drillwell
LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silty, dark redish, trace gravel, organic, damp					
		SAND - silt, trace gravel, compact to dense, brown, damp					13
-1		- some cobble observed					
		- End of test hole at 1.1 m - inferred glacial till					
		- No groundwater encountered during drilling					
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
		- Surface elevations estimated using Google Earth					12
-2							
							11
-3							
							10
-4							
							9
-5							

SAMPLE TYPE ☒ SPLIT SPOON ☒ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-05

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silt, some gravel, organic, dark brown, moist					
		SILT - sandy, firm, brown, damp					
		CLAY - silty, very stiff to hard, brown, damp					14
1							
		- End of test hole at 1.5 m - desired depth					13
		- No groundwater encountered during drilling					
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
2		- Surface elevations estimated using Google Earth					12
3							11
4							10
5							

SAMPLE TYPE ☒ SPLIT SPOON

GRAB

SHELBY TUBE

BULK

CORE

☐ NO RECOVERY



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TEST HOLE LOG

TH22-06

PROJECT: Church Road Phase 2
 CLIENT: McElhanney
 LOCATION: Refer to Test Hole Location Plan
 COORDINATES (m):
 COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59
 METHOD: Solid Stem Auger
 ELEVATION (m): 14.6
 CONTRACTOR: Drillwell
 LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - sand, some gravel, organic, dark brown, damp					
		SILT - Sandy, stiff, brown, moist					
1		- becoming very stiff with depth - some gravel					14
2		- End of test hole at 1.5 m - desired depth - No groundwater encountered during drilling - Test hole backfilled with topsoil and surface sealed with cold patch asphalt - Surface elevations estimated using Google Earth					13
3							12
4							11
5							10

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-07

PROJECT: Church Road Phase 2
 CLIENT: McElhanney
 LOCATION: Refer to Test Hole Location Plan
 COORDINATES (m):
 COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59
 METHOD: Solid Stem Auger
 ELEVATION (m): 14.6
 CONTRACTOR: Drillwell
 LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - clay, some cobble, organic, dark brown					
		CLAY - silt, stiff, grey, damp					14
1		- becoming very stiff with depth					
		- End of test hole at 1.5 m - desired depth					13
		- No groundwater encountered during drilling					
2		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
		- Surface elevations estimated using Google Earth					12
3							11
4							10
5							

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-08

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - silt, some gravel, organic, damp					
		SILT - sandy, stiff, brown, damp					14
1		CLAY - silty, very stiff, brown, damp					
		- End of test hole at 1.5 m - desired depth					13
		- No groundwater encountered during drilling					
2		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
		- Surface elevations estimated using Google Earth					12
3							11
4							10
5							

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☐ NO RECOVERY



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TEST HOLE LOG

TH22-09

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 13.4

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - sand and gravel, organic, dark brown, damp					13
		SILT - sandy, very stiff to hard, brown, damp					12
1							
2		<ul style="list-style-type: none"> - End of test hole at 2 m - desired depth - No groundwater encountered during drilling - Test hole backfilled with topsoil and surface sealed with cold patch asphalt - Surface elevations estimated using Google Earth 					11
3							10
4							9
5							

SAMPLE TYPE ☒ SPLIT SPOON

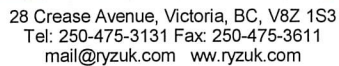
☐ GRAB

☐ SHELBY TUBE

☐ BULK

☐ CORE

☐ NO RECOVERY



TH22-10

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

Page 1 of 1



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TEST HOLE LOG

TH22-11

PROJECT: Church Road Phase 2

CLIENT: McElhanney

LOCATION: Refer to Test Hole Location Plan

COORDINATES (m):

COMPLETION DATE: 2022-1-28

PROJECT NO.: 5313-59

METHOD: Solid Stem Auger

ELEVATION (m): 14.6

CONTRACTOR: Drillwell

LOGGED/REVIEWED BY: PN/CJF

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Recovery (%)	COMMENTS	ELEVATION (m)
0		ASPHALT (100 mm)					
		FILL - sand and gravel, organic, dark brown					
		SILT - trace gravel, stiff, brown, damp					
		- becoming very stiff with depth					14
1							
		- End of test hole at 1.5 m - desired depth					13
		- No groundwater encountered during drilling					
		- Test hole backfilled with topsoil and surface sealed with cold patch asphalt					
2		- Surface elevations estimated using Google Earth					12
3							11
4							10
5							

SAMPLE TYPE ☒ SPLIT SPOON ☐ GRAB ☐ SHELBY TUBE ☐ BULK ☐ CORE ☒ NO RECOVERY

R:\Ryzuk Data\00-5000 to 8-2009\5313-59 Church Rd\ Ryzuk Drawings\5313-59_2022-02-7 Test Hole Location Plan.PN.dwg



NOTES			
1.	This drawing is for the intended use of the client for the specified project, and should not be used elsewhere without the express permission of the client and/or Ryzuk Geotechnical.		
2.	This drawing is scaled for 11x17 sheet and does not require further scaling to fit. Scales will differ if printed on different sheet size.		
3.	Background imagery taken from CRD Atlas Maps.		
4.	Test Hole location are accurate to within ± 4 m.		

1	ISSUED WITH THE REPORT.	22/02/09	CJF
REV.	DESCRIPTION	YY/MM/DD	BY



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SEAL

DRAWN BY	PN	CLIENT	McElhanney	
PROJECT MANAGER	CJF	PROJECT TITLE	CHURCH ROAD PHASE 2	
REVIEW	CJF	PROJECT ADDRESS	Church Road - Sooke, BC	
SCALE	1:750	DRAWING NAME	TEST HOLE LOCATION PLAN	
DATE	2022/02/09			
		PROJECT No.	5313-59	
		SHEET No.	01 of 01	REVISION 00



Church Road – Throup Road Roundabout

ENVIRONMENTAL MANAGEMENT PLAN



McElhanney

File: 2241-20128-01
May 2023



Jeff Carter, Director of Operations
District of Sooke
2205 Otter Point Rd.
Sooke BC V9Z1J2M

May 18, 2023

RE: Environmental Management Plan for Throup Road and Church Road Roundabout Construction, adjacent to Throup Stream

The District of Sooke is upgrading Throup Road and Church Road, including reconfiguring roadside ditches and drainage culverts, which connect into the adjacent Throup Stream. The culvert replacement work will be done as part of a larger road upgrade project for this section of Charters Road.

This EMP is for the following proposed works designed McElhanney

- Roadside channels realignment adjacent to Throup Stream along Throup Road and Church Road
- Culvert installation and replacement in Throup Stream along Throup Road and Throup Road (Strata) and Banford Place.

Fish Habitat

Throup Stream has fish habitat and the potential fish downstream of the site are Coho and Chum salmon, Threespine Sticklebacks (juvenile and adult) and Spiny Sculpins (juvenile and adult). The ditch and adjacent Throup Stream, and riparian corridor also provide habitat for non-fish species (e.g., small mammals, birds, amphibians, reptiles) for breeding, refuge, foraging and/or feeding.

The current downstream culverts in Throup Stream at Charters Road and Banford Place (Photo 27) present an impassable barrier to the site of the proposed works. No fish are expected at the site, however, environmental protection measures must be implemented to protect downstream fish and fish habitat, as well as potential on site ecological features such as nesting birds.

Flowing or standing water is expected in the large roadside channel (northeast side of the proposed roundabout) along Church Road that flows into the culvert that connects to Throup Stream, and there may be flow present in the culverts to be replaced.

An overview of the existing watercourses is shown on Figure 1.

Permits

The following environmental permits are required:

- Section 11 Water Sustainability Act (WSA) Notification application to the Provincial Ministry of Forests, Lands, Natural Resource Operations and Rural Development
- DFO Project Review

Proposed Work and Potential Impacts

An overview of the proposed work and watercourses is shown on Figure 2. The design drawings for the proposed work by McElhanney are in Appendix 1.

The proposed work process is:

- Isolate the work site with barriers (eg. sand bag/poly dams) if there is flow or pooled water the channels.
- Isolate the work site for a flow bypass if there is flow (flows to downstream Throup Stream must be maintained under Section 11 of the WSA)
- Aquatic organism salvage from the roadside channel and Throup Stream (crayfish, amphibians) at the worksite with dip nets as the water is drawn down.
- Relocation of roadside channel along Church Road (approx. 40m) (Photos 2, 3-7)
- Relocation/enclosure of roadside drainage ditches and installation of stormdrain infrastructure (Photos 1, 8-12, 16).
- Removal of existing culverts from Throup Stream:
 - 50m of 600mm culvert under Throup Road (Photo 15, 17)
 - 219m of 900mm culvert under Throup Road (Frances Gardens) (Photos 18, 19, 22, 23)
 - 26.6m of 900mm culvert under Banford Place (Photos 26 and 27)
- Installation of new; and replacement of Throup Stream culverts:
 - under Throup Road (43m 1050mm and 23.33m of 900mm)
 - Note the smaller culvert under Throup Road has been design due to constraints from other infrastructure and to maintain a slope for flow through the culvert.
 - along Throup Road, through Frances Gardens (219.3m of 1200mm)
 - under Banford Place (26.61m of 1800mm x 1500mm)
- Culvert and road sink hole repair in tributary culvert to Throup Stream culvert in Frances Gardens (Photos 20 and 21)
- Installation of the road infrastructure
- Planting exposed soils with native vegetation along the roadside channel on the northeast side of the roundabout
- Hydroseeding exposed soils

The potential environmental impacts from the proposed work are:

- Sedimentation into Throup Stream
- Spills of deleterious materials to Throup Stream
- Loss of riparian vegetation

Environmental Protection Measures

The contractor and the contractor's QEP must develop a site specific, detailed Environmental Protection Plan for the project prepared or reviewed/approved by a Qualified Environmental Professional (QEP), which should include, but is not limited to, the following:

DFO Interim Codes of Practice

- Temporary Cofferdams and Diversion Channels Code of Practice
 - <http://www.dfo-mpo.gc.ca/pnw-ppe/codes/cofferdams-batardeaux-eng.html>
- Relevant protection measures from Culvert Maintenance Code of Practice
 - <https://www.dfo-mpo.gc.ca/pnw-ppe/codes/culvert-maintenance-entretien-ponceaux-eng.html>

Provincial Guidance Documents for Instream Works and Site Isolation

- Requirements and Best Management Practices for Making Changes In and About a Stream in British Columbia. Version 2022.01. Government of British Columbia.
 - <https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/working-around-water/wsa-cias-requirements-bmps.pdf>
- Appendix: Scope-specific Best Management Practices for Changes In and About a Stream under the WSA - Section A12 - Best Management Practices for Instream Work Area Isolation
 - https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/working-around-water/wsa-cias-requirements-bmps_appendix.pdf

Timing and General Environmental Protection Measures

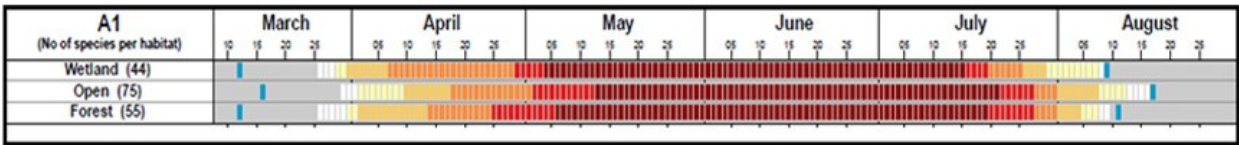
- Instream work within the Coho and Chum Reduced Risk Timing Window is June 15 to September 15.
- Adjust or stop work activities during periods of heavy rain to minimize sediments entering stream
- Once the work has begun it must be completed as quickly as possible
- Copy of Environmental Management Plan and Section 11 Approval on site.

Workplace Isolation and Fish/Wildlife Protection

- Aquatic organisms (e.g. crayfish and amphibians) may be present at the work site.
- Mark out the limits of clearing of vegetation on the site (avoid unnecessary clearing).
- Assess scope of vegetation clearing.
- Trim rather than excavate vegetation to allow for regrowth.
- If possible, salvage native plants from roadside ditch to replant in relocated ditch (Photo 5).
- Install temporary dams in the channel to isolate the work area from flows or standing water using sandbags and polysheeting. In order to distribute the contents of the sandbags in the stream upon project completion, clean pea gravel must be used. If other substrates are used, in-stream dispersal must be approved by the QEPs.
- Once the site is isolated, QEP will establish aquatic organism presence/absence within the work area. If present, salvage of aquatic organisms must precede in-stream works where surface water conditions allow. Organisms captured will be relocated to downstream to Throup Stream. Fish trapping will be a combination of gee traps and dip nets as the water is drawn down.
- Amphibians and reptiles will be salvaged and relocated by QEP if observed during the culvert removal.
- Flow must be pumped or diverted around the work site. Downstream flows must be maintained (e.g. electric submersible pump).
 - Back up pump and hose set up will be available in case of heavy rainfall or pump failure .
 - Fish screen bucket (with appropriately sized holes and screens) to be used for pump intake.
 - Splash pad for pumped or diverted flows may be needed to avoid sedimentation to downstream flow.

Pre-clearing nest surveys

- Nesting birds and their nests are protected by both the federal Migratory Bird Convention Act and Section 34 of the BC Wildlife Act, care must be taken to avoid destruction of nests when clearing and/or developing any property.
- Section 34 of the BC Wildlife Act protects birds and their eggs from possession, molestation or destruction. The nests of eagles, peregrine falcons, gyrfalcons, ospreys, herons, and burrowing owls are protected at all times of the year. The nests of all other species are protected when the birds or their eggs are in the nest.
 - A permanently protected nest survey will be conducted to identify the presence of nests from these species within or adjacent to the construction footprint.
 - If a permanently protected nest is within the construction footprint, a Wildlife Permit is required to remove or relocate the nest.
 - If a permanently protected nest is adjacent to the construction footprint, the bird biologist will provide recommendations for buffers and protection during construction, as described with the Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia (2013):
 - https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/raptor_conservation_guidelines_2013.pdf
- Pre-clearing nesting bird surveys should be conducted if tree or vegetation removal will occur during breeding season – February 1 to August 15. This includes the removal of fallen trees and previously cut vegetation (ie branch piles, etc) as these can contain nesting birds. The nesting bird survey should be conducted within 1-2 days of the initiation of clearing, depending on the timing during the nesting season. Some species, such as Anna’s Hummingbird, Red Crossbill, Great Horned Owl) that nest during the “off” season, therefore a nest survey is recommended for any clearing between February 1 and August 15.
- The following chart identifies the lowest/highest risk breeding periods for this location:



Legend for calendars: Number of species in percentage (Blue markers show extreme dates predicted for some atypical parts of the nesting zone where nesting could be earlier or later).



▼ Long description

The legend provides the colour scheme for nesting calendars in zone A broken down into the following six categories: 0 percent, less than 5 percent, 6 to 10 percent, 11 to 20 percent, 21 to 40 percent, 41 to 60 percent and 61 to 100 percent. In addition, markers show extreme dates predicted for some atypical parts of the nesting zone where nesting could occur earlier or later. The rest of the calendar dates are zero percent.

https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#_zoneA_calendar

- When work must be conducted within the breeding window, the following document provides information on steps that can be taken to reduce the risk of disturbing a bird nest.
<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>
- Ideally, vegetation removal should be done outside of the breeding season, but the property owners should be aware that there are some birds (Anna’s Hummingbird, Red Crossbill, Great Horned Owl) that nest during the “off” season, so care should be taken at all times.

Environmental Management Plan for Throup Road / Church Road Roundabout

- In addition to the actual detection of a nest during vegetation removal, the crew should also watch for signs of high agitation by birds, indicating a nest or young are in the immediate area. If during tree and vegetation removal a nest is discovered:
 - halt all disruptive activities in the nesting area
 - move away as quickly and quietly as possible
 - avoid disturbing the surrounding vegetation, and avoid making a trail to and from the nest
 - protect the nest with a buffer zone
 - avoid the immediate area until the young have naturally left the vicinity of the nest
- If a nest with young has been exposed to the elements or predation by removal of surrounding vegetation, the nest with young should immediately be taken to the nearest Wildlife Rehabilitation Centre. For this site, that would be the BC SPCA WildARC at 1020 Malloch Rd. in Metchosin.

Spill Prevention

- Equipment working within or over the roadside ditch and culverts connecting to Throup Stream must be power washed prior to arriving at site.
- Equipment must be checked for leaks or surface contamination from oils, or fuels, or grease, and from contamination of soil and plant material to avoid the spread of invasive species
- Spill response kits (capable of addressing the volume of fuel/oils/chemicals on site) are on site when any heavy machinery is working, and operators are trained in their use. This must include a boom capable of crossing the wetted stream channel.
- Equipment refueling is at a designated location and >30 m from aquatic ecosystems and isolated from storm drains.
- Fuel generators (such as for pumps, etc) operating within 30 m of the watercourse must be placed in a spill-proof container capable of addressing 1.5 times the capacity of fuel tank (e.g. plastic bin, rigid tray, kiddie pool or other impermeable containment area such as poly-lined bermed depression). Containment will be kept free of water (from pumping or rainfall).
- Store all fuel cans in spill-proof containers (e.g. as above) capable of addressing 1.5 times the capacity of the TOTAL volume of all containers placed in the container.
- Any deleterious substances used during the course of the work (oils, fuels, etc.) may not be stored near the worksite unless secured.
- Pump truck water may be required to compact base for the culvert: if this water is chlorinated, the environmental monitors will determine if application of Sodium Thiosulphate is required to dechlorinate the water.
- If concrete is to be cast in place on site, ensure wet concrete is not deposited into surrounding water, remove excess concrete, and do not allow water from equipment and tool cleaning to enter the aquatic ecosystem. Wet cement is highly alkaline and can have severely adverse effects on aquatic life, including fish. Any concrete pouring from the upper slope should be carefully monitored with no concrete to enter the stream environment. Freshly poured concrete needs to be covered when rain is forecasted, or runoff needs to be isolated from waterbodies during the curing process. Cast in place concrete will not come in contact with fish-bearing waters for at least 48 hrs.
- Prior to beginning work ensure a spill response plan is in place. In the event of a spill, the environmental monitor must be notified immediately. Works are to cease until Emergency Management BC has been notified and the problem has been remedied.
- In case of spills, the following general steps are recommended:
 - Stop source of spill/prevent further spillage (turn off valves, right overturned containers)
 - Block spill from reaching aquatic environment or pathways to waterbodies
 - Block spill from spreading
 - Call Environmental Monitors
 - Clean up spilled materials

Erosion and Sediment Control

- Minimize site clearing and soil disturbance by retaining as much vegetation as possible
 - only clear the construction footprint of the culvert and road works, not beyond (especially adjacent to the channel) (IE. for stockpiling materials, etc.)
 - Staging clearing activities so that there are not large areas of exposed soils left open with no active construction
- Instream work to be completed during the reduced-risk fisheries window (June 15-September 15), works to be conducted within a dry work site, using flow bypass, as described previously.
- Sediment and sediment-laden water must not be deposited in the channel during or after construction.
- Equipment must operate from the banks (rather than in the channel), wherever possible.
- Material stockpiles must be placed where sediment cannot migrate from the piles into the stream (cover piles if needed to prevent material migrating).
- Stop work on instream works during heavy rainfall
- Install sediment fencing between work site and waterbodies, if needed, to prevent sediment migration.
- Cover exposed soils during rainfall (e.g. poly, tarps, geotextile fabric, mulch, and/or seeding)
- Disturbed soils should be left 'rough and loose' (not smoothed/contoured), avoid compaction
- If water must be pumped from the isolated construction site, it cannot be discharged into the stream unless it meets the provincial water quality guidelines for aquatic life (ie. change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters).
https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/water-quality-guidelines/approved-wqgs/wqg_summary_aquaticlife_wildlife_agri.pdf
 - Water may be pumped into the forest floor or adjacent field, and must be monitored by the QEPs.
- If any problems are encountered or sedimentation release occurs, immediately cease work and contact the QEP and the Project Manager.
- Following completion of construction all exposed soils must be stabilized, using seeding, mulch, and/or compostable erosion mats, as appropriate.

Site Restoration

- Replant the roadside ditch along Church Road with native riparian plants (could be salvaged from the channel prior to excavation (Photo 5).
- Hydroseed other ditches and exposed soils.

Environmental Monitoring

The project is adjacent to and in Throup Stream and tributary channels, and Environmental Monitoring must occur throughout the project and the contractor must engage a Qualified Environmental Professional (QEP) to monitoring the project, who will:

- Ensure environment protection measures in the Environmental Protection Plan or permit requirements are implemented and maintained;
- Have the authority to stop work if the work is not in compliance with the Environmental Protection Plan or permit requirements, or if they observe the potential for harm to the environment;
- Provide advice to the Contractor to respond to incidence, repairs, or resolving non-conformance;
- Document and retain records of environmental protection measures and incident response;
- Report environmental incidents to the District of Sooke, site supervisor, and regulatory agencies, as required; and
- Prepare a post-construction completion report with a summary of the environmental protection measures, incidents, and responses/mitigation measures.

Environmental Management Plan for Throup Road / Church Road Roundabout

The Owner's QEP (Swell Environmental) will liaise with the Contractor's QEP / Environmental Monitor and the Owner's QEP will conduct site visits during:

- Pre-construction meeting with owner, engineer and contractors;
- Aquatic organism salvage;
- Vegetation salvage and clearing;
- Pre-clearing nesting survey (must have expertise in nest surveys);
- Installation of the flow bypass;
- Review erosion and sediment control measures after installation;
- Periodically during rainfall events;
- When the flow bypass is decommissioned; and
- During site restoration and planting.

The contractor will:

- Attend a pre-construction meeting with the Owner's and Contractor's QEPs to review environmental protection measures prior to work commencing;
- Communicate with the QEPs regarding schedule, schedule changes and discuss any changes to construction activities; and
- Inform the QEPs of any incidents that occur while they are not on-site.

Materials to have on site:

At a minimum, the following materials must be available onsite during the construction period for the environmental protection measures. (Other materials may be required, depending on the detailed Environmental Protection Plan developed by the contractor).

- Materials to dam upstream and downstream to isolate site (e.g. sand bags with clean pea gravel, poly)
- Sediment fence
- Poly/tarps to cover exposed soils
- Bypass pump and hoses, plus duplicate back up
- Splash pad material for pump discharge (e.g. poly)
- Fish screen buckets (they also exclude crayfish and other aquatic organisms) (with appropriately sized holes and screens) for pump intake
- Spill-proof containers
- Spill kit(s)

Due Diligence on Worksite

The contractor is responsible for informing and enforcing all personnel or sub-contractors of the environmental protection measures relevant to their role at the site for the duration of the project. Too often, the environmental protection measures agreed to at pre-construction meetings are not conveyed to the personnel conducting the "hands on" activities, with detrimental results for fish and wildlife.

Please do not hesitate to contact us with any questions you may have.

Sincerely,



Lehna Malmkvist, MSc, RPBio (#1613)



Sara Stallard, BSc, AScT (#22338)



Environmental Management Plan for Throup Road / Church Road Roundabout



Figure 1. Existing channels (streams, ditches) at a near the proposed work site.

Environmental Management Plan for Throup Road / Church Road Roundabout



Figure 2. Proposed channel relocation and culvert installations and replacements.



Photo 1. Ditch along west side of Church road.



Photo 2. Culvert outlet and channel on east side of Church road, to be partially relocated and partially culverted.



Photo 3. Culverts flowing into channel along east side of Church Road.



Photo 4. Channel along east side of Church Road, to be partially relocated and partially culverted.



Photo 5. Culverts crossing under the road into channel along east side of Church Road.



Photo 6. Channel on east side of Church road, to be partially relocated and partially culverted.



Photo 7. Channel on east side of Church road and north side of Throup Road, to be partially relocated and partially culverted.



Photo 8. Ditch on west side of Church Road to be relocated.



Photo 9. Ditch on west side of Church Road, to be enclosed.



Photo 10. Ditch on west side of Church Road, to be enclosed.



Photo 11. Ditch on west side of Church Road, to be enclosed.



Photo 12. Sign shows location of a ditch flowing from the east side of Church Road, east, through 2171 Church Road, into a long culvert and into the culvert containing Throup Stream, in Frances Gardens.



Photo 13. Ditch flowing from Church Road, through 2171 Church Road, into a culvert and into Throup Stream (to remain as is).



Photo 14. Culvert inlet of ditch flowing from Church Road, through 2171 Church Road, into a culvert and into Throup Stream.



Photo 15. Short section of ditch flowing east, along south side of Throup Road, flows into Throup Stream. Culvert crossing under Throup Road to be replaced.



Photo 16. Short section of ditch flowing along south side of Throup Road (to be culverted), flows into Throup Stream.



Photo 17. Short section of Throup Stream on south side of Throup Road, to be culverted and 600mm culvert under Throup Road to be replaced.



Photo 18. Upstream end of culverted section of Throup Stream, runs through Frances Gardens development (900mm to be replaced).



Photo 19. 900mm culvert flows under Throup Road, containing Throup Stream, through Frances Gardens, to be replaced.



Photo 20. 900mm culvert under Throup Road, in Frances Garden, location of sink hole and required repair to the culvert, culvert is tributary to the one carrying Throup Stream.



Photo 21. 900mm culvert under Throup Road, in Frances Garden, location of sink hole and required repair to the culvert.



Photo 22. 900mm culvert, containing Throup Stream, under Throup Road, in Frances Garden, to be replaced.



Photo 23. Downstream end 900mm culvert under Throup Road, containing Throup Stream, in Frances Garden, to be replaced, flowing into Throup Stream in Banford Park.



Photo 24. Throup Stream in Banford Park.



Photo 25. Throup Stream in Banford Park.



Photo 26. Throup Stream in Banford Park and upstream end of 900mm culvert under Banford Park, to be replaced.



Photo 27. Downstream end of 900mm culvert under Banford Park, to be replaced, currently perched and barrier to fish passage.



Photo 28. Throup Stream downstream of Banford Place culvert replacement location.

Appendix 1. Design Drawings by McElhanney



Church Road – Throup Road Roundabout

TRAFFIC MANAGEMENT STRATEGY



McElhanney

File: 2241-20128-01
May 2023



Charters Road and Church Road Constructions Traffic Management Strategy

District of Sooke

FINAL REPORT

May 2023







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1.0 Introduction

ISL Engineering (ISL) has been retained by the District of Sooke (the District) to provide traffic engineering services and develop the Traffic Management Strategy (TMS) for two upcoming construction projects in Sooke.

The first project involves the full streetscape and culvert replacement along Charters Road between Throup Road and Golledge Avenue, which will require a full road closure during the work. The other project taking place simultaneously in the vicinity is the construction of a roundabout at the intersection of Church Road and Throup Road, where a single lane alternating traffic (SLAT) pattern will be implemented to maintain vehicle flow during peak periods.

The purpose of this TMS is to outline the necessary procedures and requirements related to traffic for both construction projects. The awarded Contractor is responsible for hiring qualified traffic control companies to implement this TMS. Any significant on-site adjustments to the plans must be made by a licensed Professional Engineer in British Columbia.

This TMS also serves as a guide for the Contractor to develop their Traffic Management Plan (TMP) based on the guidelines provided in the BC *Traffic Management Manual for Work on Roadways*. The objectives of the TMS are to minimize site-specific risks identified for the projects and ensure safe and efficient traffic flow for all road users within and around both work zones at the same time.

This TMS considers the impacts of both construction projects simultaneously and highlights major concerns and recommendations that should be addressed during the work phase by the TMP. The recommendations from this report are expected to be used in the tender documents for both constructions.

2.0 Project Overview

This section serves as an informative overview of the upcoming projects, presenting essential details to facilitate a clear understanding for the public. It encompasses key aspects such as the project location, schedules, work activities, hours of operation, and traffic management approach, which can foster transparency and effective communication, ensure that stakeholders remain well-informed and engaged throughout the project's duration. Two construction projects are planned in the western part of Sooke.

2.1 Project Location

The first project, prepared by ISL, involves full streetscape and culvert replacement along Charters Road, specifically between Throup Road and Golledge Avenue. The work zone also includes the intersection of Charters Road at Throup Road to prepare for future east-west connection with Phillips Road.

The second project, prepared by McElhanney, entails the construction of a roundabout at the intersection of Church Road and Throup Road, with Church Road between Throup Road and Wadams Way included in the work zone. Project locations and other details are illustrated in **Figure 2.1**, which will be further discussed in the following sections.



Figure 2.1: Upcoming Construction Project Locations

2.2 Project Schedules

The proposed schedules for both construction projects are expected to begin in summer 2023 with a duration of 3 to 9 months each; thus, there will be overlapped time and both of them are to be completed by fall 2024. Details are shown in **Table 2.1** below.

Table 2.1: Project Schedules

Project	Start	Duration
ISL Streetscape	Summer 2023	3 - 6 Months
ISL Culvert Replacement	After Streetscape	3 Months
McElhanney Roundabout	Summer 2023	6 - 9 Months

2.3 Work Activity

As discussed with the District, the proposed traffic management approaches for each construction are as follows:

- ISL Streetscape – Full Road Closure
- ISL Culvert Replacement – Full Road Closure
- McElhanney Roundabout – SLAT at times

2.4 Hours of Work

The hours of work will be mainly subject to the District's *Noise Control Bylaw No. 485* (dated 2011 and amended 2022), which permits construction within the following hours:

- 7 AM to 9 PM, Monday to Saturday
- 9 AM to 9 PM, Sundays and Statutory Holidays

However, using construction equipment or creating noise by blasting or the operation of drills will be subject to stricter time restrictions:

- 7 AM to 5 PM, Monday to Saturday
- Prohibited any time on Sunday and Statutory Holidays

For these projects, SLAT at the intersection of Church Road and Throup Road, is proposed for specified times throughout the day to minimize the impact to school traffic during peak pick-up and drop-off times:

- 9 AM to 2 PM during school days
- 7 AM to 7 PM during non-school days

As for night-time work, the Contractor must obtain permission (appropriate permits) from the District on a case-by-case basis, including a plan outlining the proposed work and why it is required for their project.

2.5 Traffic Management Approach

Technical Reference

To facilitate the traffic management, the Contractor must comply with the traffic control regulations and construction guidelines outlined in the project scope. Additionally, they must adhere to the requirements specified in the following documents, but are not limited to:

- *Traffic Management Manual for Work on Roadways* (2020), BC Ministry of Transportation and Infrastructure (the Ministry or BC MoTI)
- *Occupational Health and Safety Regulation Part 18: Traffic Control* (2021, amended in 2023), WorkSafe BC
- *Manual of Standard Traffic Signs & Pavement Markings* (2000), BC MoTI
- *Traffic and Highways Regulation Bylaw No. 67* (2002, amended in 2023), District of Sooke
- *Noise Control Bylaw No. 485* (2011, amended in 2022), District of Sooke

Preliminary Category Determination

The *Traffic Management Manual for Work on Roadways* (TMM) provides a systematic approach to categorize the type of traffic management for constructions or activities, in order to identify the minimum TMP requirements. The category determination consists of initial project category assessment which considers roadway and traffic characteristics as well as some specifics of the work-related activities, and project risk analysis which considers site-specific characteristics and potential risks.

A copy of the preliminary category determination for each construction can be found in **Appendix A** and **Appendix B**. It should be noted that these documents are provided for reference purposes only, the Contractor is responsible for conducting their own assessments.

According to the preliminary category determinations, the streetcape and culvert replacement project is classified as a Category 2, while the roundabout project is classified as a Category 3. Therefore, it is recommended that, for consistency with both projects, the Contractor prepares and submits Category 3 level TMPs, which shall be authenticated (signed and sealed) by a Professional Traffic/Transportation Engineer licensed in BC, qualified, and experienced in traffic management planning and road safety.

3.0 Existing Conditions and Potential Impacts

This section provides an overview of the existing conditions and identifies potential negative impacts that could result from the construction activities. To mitigate these anticipated impacts, the Contractor shall follow the instructions outlined in the following, and implement effective mitigation measures.

3.1 Road Network

The subject construction works will occur on Charters Road, Church Road, and Throup Road, which are located on the west side of Sooke. **Table 3.1** summarizes these and other relevant roadway characteristics in the vicinity.

Table 3.1: Study Road Network

Street Name	Road Classification	Number of Lanes	Traffic Control	Posted Speed	Roadway Alignment
Charters Road	Collector	2 lanes	Signal Stop sign	30 km/h	Vertical curve (slight) [north-south]
Church Road	Arterial Collector	2 lanes	Signal Stop sign	50 km/h	Vertical curve (slight) [north-south]
Throup Road	Arterial	2 lanes	Stop sign	30 km/h	Vertical curve (slight) [east-west]
Golledge Avenue	Local	2 lanes	Stop sign	30 km/h	Vertical curve (slight) [east-west]
Wadams Way	Arterial	2 lanes	Stop sign	50 km/h	Vertical curve (slight) [east-west]
Sooke Road (Highway 14)	Highway	2 lanes	Signal Stop sign	60 km/h	Horizontal curve [east-west]
Rhodonite Drive	Collector	2 lanes	Stop sign	40 km/h	Horizontal and Vertical curve [east-west]
Otter Point Road	Collector	2 lanes	Signal Stop sign	50 km/h	Horizontal curve [north-south]

3.2 Mobility

Vehicular Traffic

TRAFFIC IMPACT

In order to assess the construction impacts on the surrounding road network, a traffic operation analysis was undertaken using Synchro software (Version 11), which is based on the standard methods of the *Highway Capacity Manual* (HCM). In the HCM, control delay (second per vehicle) and level of service (LOS) are developed as measures of effectiveness. LOS is defined as the average vehicle delay, and the thresholds for signalized and unsignalized intersections are shown in **Table 3.2** (next page).

For intersection capacity analyses in urban areas, LOS D or better is generally considered acceptable for signalized or stop-controlled intersections. Improvement measures should be considered when overall intersection and/or individual turning movements operate at LOS E or F (critical movement). The 95th percentile queue length (5% probability of surpassing) was used to determine whether the vehicle storage length is adequate.

Table 3.2: LOS Definition for Signalized and Unsignalized Intersections in HCM

Traffic Control	LOS	A	B	C	D	E	F
Signalized	Delay (second/vehicle)	0 - 10	10 - 20	20 - 35	35 - 55	55 - 80	> 80
Unsignalized		0 - 10	10 - 15	15 - 25	25 - 35	35 - 50	> 50

All traffic-related information in this analysis was obtained from WATT Consulting Group, which includes turning movement counts, Synchro models (PM only) with signal timings, as well as growth rate assumptions and various other parameters.

With the available data, Synchro models of three weekday PM scenarios were set to simulate base condition (Scenario 1) and two detour conditions. In the first detour condition (Scenario 2), the impacted traffic (mainly Charters Road) is diverted to Church Road where SLAT is implemented. While the other detour condition (Scenario 3) is when all traffic that typically uses both Charters Road and Church Road are rerouted to Otter Point Road. The traffic volumes are projected to 2024 to estimate the worst case as the construction is expected to be completed until Fall 2024. It should also be noted that all detour routes must be shown on the TMP by the Contractor and submitted in a Traffic Control Plan for the District's approval.

The traffic analysis results for base condition and detour conditions are summarized in **Table 3.3** (next page).

Accordingly, for the Scenario 1, base condition, all intersections in the vicinity will be operating at satisfactory level of service (LOS C or better) during the PM peak.

For the detour condition (Scenario 2), Sooke Road and Church Road would experience high delays (LOS E) due to increased traffic, and the stop-controlled intersections along Church Road (that is, Wadams Way and Throup Road) would perform at LOS D as there will be SLAT in place.

For the other detour condition (Scenario 3), all intersection would perform at an acceptable level (LOS D or better). Although there are critical movements and insufficient storage length identified at Sooke Road intersections at Church Road and Otter Point Road, it was found that they can be improved by optimizing the signal timings.

Table 3.3: Traffic Operations Scenario Comparison

Study Intersection	Peak Hour	2024 Base (Scenario 1)			
		Delay (s)	LOS	Critical Movement	Insufficient Storage Length
Sooke Road & Charters Road	PM	0.2	A	-	-
Golledge Avenue & Charters Road	PM	2.4	A	-	-
Throup Road & Charters Road	PM	8.4	A	-	-
Sooke Road & Church Road	PM	22.8	C	EBL	-
Wadams Way & Church Road	PM	5.0	A	-	-
Throup Road & Church Road	PM	6.7	A	-	-
Sooke Road & Otter Point Road	PM	26.9	C	-	WBT

Study Intersection	Peak Hour	2024 Detour to Church Road (SLAT) (Scenario 2)			
		Delay (s)	LOS	Critical Movement	Insufficient Storage Length
Sooke Road & Charters Road	PM	0.6	A	-	-
Golledge Avenue & Charters Road	PM	5.7	A	-	-
Throup Road & Charters Road	PM	2.1	A	-	-
Sooke Road & Church Road	PM	55.2	E	EBL, WBT	-
Wadams Way & Church Road	PM	43.4	D	-	-
Throup Road & Church Road	PM	51.2	D	-	-
Sooke Road & Otter Point Road	PM	27.1	C	-	WBT

Study Intersection	Peak Hour	2024 Detour to Otter Point Road (Scenario 3)			
		Delay (s)	LOS	Critical Movement	Insufficient Storage Length
Sooke Road & Charters Road	PM	0.6	A	-	-
Golledge Avenue & Charters Road	PM	5.7	A	-	-
Throup Road & Charters Road	PM	2.1	A	-	-
Sooke Road & Church Road	PM	50.3	D	WBT	WBT
Wadams Way & Church Road	PM	7.9	A	-	-
Throup Road & Church Road	PM	9.6	A	-	-
Sooke Road & Otter Point Road	PM	40.7	D	SBL	SBL

In summary, if detouring the impacted traffic to Church Road (Scenario 2), the Sooke Road & Church Road intersection would be overloaded, and locations under SLAT (that is, Church Road at Wadams Way and Throup Road) would experience higher delay.

Therefore, detouring to Otter Point Road and Rhodonite Drive (Scenario 3) is encouraged as all intersection will operate at an acceptable level of service. Additionally, signal timing optimization could be considered to reduce the delays. The proposed detour plan is illustrated in **Figure 3.1** (next page).

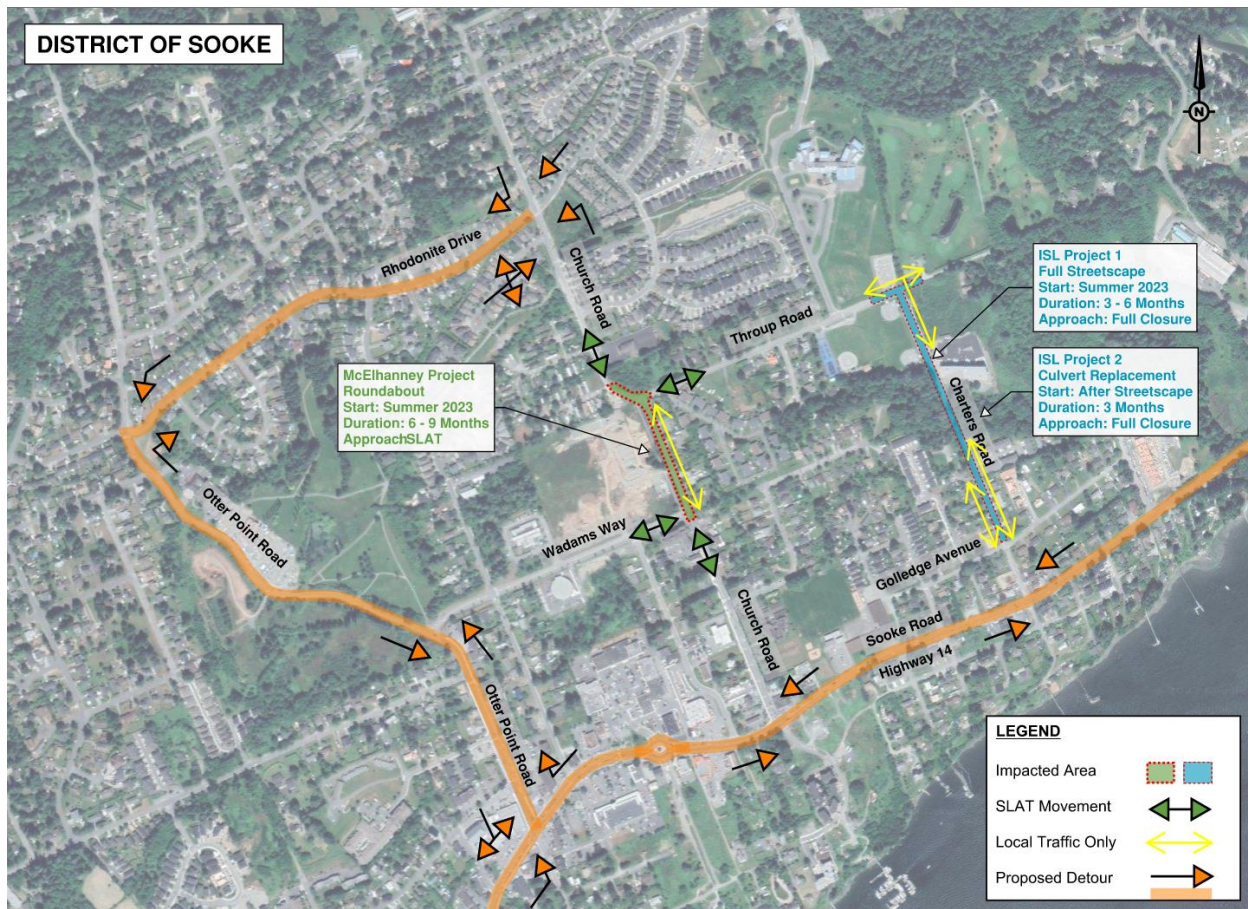


Figure 3.1: Proposed Detour Plan

PARKING IMPACT

According to ISL's site visit and Google Street View Map, it was found that a number of vehicles were parking on both sides of the roadway on gravel shoulder throughout Charters Road between Throup Road and Golledge Avenue. Similar conditions were seen along the study section of Church Road.

During construction, on-street parking on the above-mentioned sections should be restricted and temporary no-parking signs be installed, as full road closure will be required on Charters Road while SLAT will be implemented along Church Road.

As a result, the gravel shoulder parking space west to the softball fields and tennis/pickleball courts will be unavailable during the construction. For alternative parking options, attendees can either utilize the gravel shoulder on the south side of Throup Road or, if approved, park in the parking lot of Journey Middle School during non-school hours.

Pedestrians

To ensure pedestrian safety and accessibility, sidewalks (including multi-use pathways, MUP) and crosswalks are generally provided at corridors and intersections by the District.

Table 3.4 provides an overview of the pedestrian facilities within the study area, as well as the potential impact that may result from any construction activities.

Table 3.4: Pedestrian Facility and Potential Impact

Section	Construction Location	Pedestrian Facility	Potential Impact
Corridor	Charters Road (Throup Road - Golledge Avenue)	No sidewalk	No impact expected *
	Church Road (Throup Road - Wadams Way)	MUP (west side)	Minimal impact
Intersection	Charters Road & Throup Road	Path with raised curb (west leg, north side)	To be maintained during construction for accessing recreations
	Charters Road & Golledge Avenue	No sidewalk	Not applicable
		Crosswalk (south leg)	Minimal impact
	Church Road & Throup Road	Path with raised curb (east leg, north side)	To be maintained or assisted during construction
		Path with delineators (north leg, east side)	
		Crosswalk (east and north legs)	
	Church Road & Wadams Way	Crosswalk (west leg)	Minimal impact

* Note: The Contractor should still monitor and provide assistant and guidance to pedestrian if required.

Cyclists

Various types of cycling infrastructure are constructed to facilitate cyclists in of Sooke, including paved MUP and bike lanes. One of the construction activities is located along some of these bike routes. **Table 3.5** provides an overview of the cycling infrastructure in the study area, as well as the potential impact that may result from the construction.

Table 3.5: Cycling Infrastructure and Potential Impact

Section	Construction Location	Cycling Infrastructure	Potential Impact
Corridor	Charters Road	No bike lanes	Not applicable
	Church Road	MUP on the west side (north of Wadams Way)	Minimal impact
		MUP on the west side (south of Wadams Way)	To be accommodated during construction
		Bike lane on the east side (south of Wadams Way)	

Transit

BC Transit operates several bus routes in the area, connecting Sooke to neighbouring municipalities and to downtown Victoria. One of the bus routes currently travels along the study corridor. **Table 3.6** provides an overview of the transit routes and the potential impact due to the construction activities.

Table 3.6: Transit Provision and Potential Impact

Section	Construction Location	Transit Provision	Potential Impact
Corridor	Charters Road	No transit	Not applicable
	Church Road	Route 63: Otter Point (travelling northbound)	SLAT between Wadams Way and Throup Road
		Bus Stop ID: 102275 (located south of Wadams Way)	To be accommodated during construction (if impacted) *
		Bus Stop ID: 102278 (located between Church Street)	To be accommodated during construction (if impacted) *

* Note: The Contractor must coordinate with BC Transit and provide solutions to the bus stops if impacted.

Trucks and Construction Vehicles

In Sooke, most commercial developments are located on the south side by Highway 14; therefore, no commercial trucks are expected to travel by the work zones (that is, Charters Road and Church Road).

As for construction vehicles, in order to minimize disruption to the surrounding community, including residents, businesses, and schools, it is the Contractor's responsibility to ensure that all construction vehicles arrive at the work zone through the closest roadway on the designated truck routes approved by the District. Traffic control personnel (TCP) will assist in guiding the trucks or equipment to the staging area upon entry into the work zone and will also ensure their safe and efficient return to the general traffic lane as required.

To ensure visibility, all construction trucks must have flashing hazard lights activated when making any movements in to or out of traffic. While the construction trucks are within the staging area, measures must be taken to reduce their idling time to minimize the release of harmful exhaust gases and noise pollution within the local community. The Contractor is responsible for identifying suitable staging areas and developing plans to manage the movement of trucks in and out of these areas.

Emergency Vehicles

Throughout the construction process, it is crucial that TCP prioritize the movement of emergency vehicles with sirens on, wherever possible, by removing any lane closures and stopping other road users. In situations where sirens are not used, TCP must still take care to minimize disruptions to emergency vehicles. Although the expected impact on emergency services is moderate, it remains essential for TCP to prioritize their movement during construction activities on Church Road and Charters Road. These two areas have specific measures in place, including SLAT and road closures, respectively, which must be maintained throughout the construction process. By giving priority to emergency vehicles, TCP can help ensure that emergency services can respond to incidents quickly and efficiently, minimizing the impact on public safety.

3.3 Community

Noise, Dust, and Litter Control

The Contractor is responsible for effectively managing noise levels throughout their construction site. They must comply with the noise bylaw set forth by the District. Measures should be implemented to minimize and mitigate noise disturbances to the surrounding community and nearby properties.

Excavation activities during construction are anticipated to produce dust, which may affect the surrounding properties. As a result, the Contractor is responsible for implementing measures to minimize the amount of dust generated during construction. This includes, but not limited to, covering the construction vehicles that travel to and from the site to contain the dust produced and prevent debris from falling onto the District/Ministry roadways.

Additionally, the Contractor is responsible for litter control which means ensuring that the areas adjacent to the work zones are cleaned at the end of each workday. If necessary, street sweeping should be arranged to clean the roadways after the completion of each major stage. By taking these steps, the Contractor will help to mitigate the impact of construction activities on the surrounding environment and promote a cleaner work site.

Residential and Business Properties Accesses

The Contractor must maintain at least one access to the residential and business properties that are adjacent to the work zones, and make every effort to ensure that the impact on these accesses is minimized. Any accesses that are affected during construction hours shall be reinstated after construction working hours or as soon as they are no longer necessary. This measure aims to reduce the impact of the construction activities on the neighbouring properties and ensure the accessibility of these properties is not significantly disrupted.

The following are properties that their accesses could be impacted during construction:

- 2066, 2071, 2074, 2077, 2081, 2082, 2088, 2089, 2104, 2117 (multiple units), 2119, 2121, 2170 (multiple units) Charters Road
- 2139, 2147, 2149, 2171, 2175, 2177, 2185 Church Road

Institutions

Near the construction sites, there are several schools and churches that may be impacted by the construction activities. Their locations are as follows:

- Ecole Poirier Elementary School – 6526 Throup Road
- Journey Middle School – 6522 Throup Road
- Kingdom Hall of Jehovah's Witnesses – 2207 Church Road
- Knox Presbyterian Church – 2110 Church Road

In order to minimize the impact, the Contractor will:

- Notify these schools or churches in advance of construction activities and provide them the proposed detour plan such that the potential impacts to the pick-up and drop-off activities would be communicated to school staff/parents and church staff/members.
- Only implement SLAT at specified times throughout the day to minimize the impact to school traffic during peak pick-up and drop-off times.

Adjacent Projects and Private Developments

While two construction projects are taking place simultaneously, it has been observed that there are ongoing projects and upcoming developments in close proximity to the proposed construction sites. When these projects are underway, it is important to closely review their accesses, as they will have the potential to generate additional vehicle and pedestrian traffic volumes. The Contractor is responsible to liaise with the District and the Developers to minimize access and scheduling conflicts between the construction activities and their upcoming/ongoing construction projects.

Following are the projects/developments adjacent to the work zones:

- 2170 Charters Road – full built-out multi-family development (75 units)
- 6519 Throup Road – ongoing construction site
- Northwest quadrant of Church Road at Wadams Way (54 units) – ongoing construction site

It is understood that the residential development (2170 Charters Road) is not yet in operation, but residents may move in throughout the construction timeframe. Therefore, the Contractor is responsible to maintain the driveway access to the property and provide sufficient space for moving truck activities.

Solid Waste Collection

In Sooke, solid waste collection for single-family homes is typically conducted on roadways or in back alleys. Strata and commercial properties have their solid waste collection performed by a private company, Sooke Disposal. The Contractor will need to confirm schedules with Sooke Disposal prior to construction. The Contractor will also need to coordinate with the District, residents, and local businesses to ensure that solid waste collection is accommodated during construction activities, taking the schedules of Sooke Disposal into account.

Other Surrounding Facilities

The Contractor must take note of the location of power lines, lamp posts, street trees, catch basins, and fire hydrants near the work zones, and ensure that their construction activities do not cause any damage to them.

Special Events

The Contractor should also proactively consider and identify any recreational/institutional events or activities that will happen in the vicinity. The Contractor is responsible to communicate with the organizers of those activities or events and take necessary measures to minimize any potential impact on them.

■ 4.0 Proposed Strategy

This proposed TMS aims to assist the Contractor in implementing the Traffic Control Plan, Incident Management Plan, Public Information Plan, and Implementation Plan per the TMM (Category 3). However, it is important to note that these strategies serve as a minimum requirement. The Contractor should also ensure that all relevant aspects are addressed and effectively incorporated into the overall traffic management approach.

4.1 Traffic Control Plan

General

The followings are the recommended traffic-related general guidelines:

- Existing street or roadside infrastructures (utility poles, sign posts, trees, etc.) might be required to be temporarily removed to obtain safe travel lane width. The Contractor is responsible to restore the roadway back to the pre-construction condition, as upgraded design, or as specified by the District.
- Pedestrian and cycling accesses must be maintained (or a pedestrian/cycling detour route must be provided).
- All property driveway accesses must be maintained, or an alternative driveway access must be provided with approval from the District and Property Owner. It is recommended to:
 - stage construction to close only half of a driveway at one time while permitting safe access on the unobstructed side, if construction permits, or
 - coordinate and obtain permission from the property owner to close the entire driveway for a short duration and reinstate access.
- The Contractor should identify off-site construction vehicle staging locations and develop a plan to avoid staging of vehicles on the roadway. Staging on residential roads is not permitted.
- Construction vehicles should not be routed along residential streets to access the work zone except for direct access to a work site on a residential street. Construction vehicles must use designated truck routes.
- The Contractor must ensure there will not be significant traffic delays and queues when construction vehicles ingress/egress to/from the site.
- On-street parking will be eliminated during the construction. Temporary no-parking signs should be installed along the restricted area.
- Delineators or equivalent must be used to separate the pedestrian path and the work zone. Where possible, install barriers to protect pedestrians and cyclists from construction activities.
- The Contractor should notify schools or churches in advance of construction activities and provide them the detour plan.
- The Contractor must prioritize the movement of emergency vehicles with sirens on, wherever possible, by removing any lane closures and stopping other road users.
- The Contractor should minimize their work zone to reduce the impact on the community.
- The Contractor should manage noise levels throughout their construction site. They must comply with the noise bylaw set forth by the District.

- The Contractor must provide a waste collection plan for the impacted residential units, and coordinate with the residents in advance.
- The Contractor is responsible to communicate with the Organizers of special events in the proximity and take necessary measures to minimize any potential impact on them.
- The Contractor shall install temporary pavement markings where required.
- CMS must be placed in advanced for both projects holistically to warn the public.

Charters Road – Streetscape / Culvert Replacement

The construction along Charters Road between Throup Road and Golledge Avenue will begin in summer 2023 and is expected to be finished by fall of 2024. A component of the construction will be replacing a culvert and constructing a retaining wall. The road section will be fully closed during the work. In order to mitigate the potential impact to the traffic and the community, the following traffic-related guidelines for the construction are recommended:

- The Contractor must obtain permission from the District before a full road closure can be permitted.
- A detour plan must be provided for north-south traffic during closure of Charters Road. Recommended to detour traffic on to Otter Point Road during the Charters Road closure.
- Local residential driveway access on Charters Road must be always maintained.
- The driveway access to 2170 Charters Road must be maintained, which is a newly built multi-family development and expected to occupy soon and possibly during the construction.
- DeMamiel Creek Golf Course, Sooke Skateboard Park, and Stickleback Trail accesses on Throup Road must be always maintained.
- The Contractor should communicate with the Developer of driveway access to 6519 Throup Road which is currently an ongoing construction site, to minimize access or scheduling conflicts.

Church Road – Roundabout

The new roundabout construction at Church Road and Throup Road is set to begin in the summer of 2023 and is expected to be completed in spring 2024 (earlier than the Charters Road project). Traffic is to be maintained at all times during the construction, in order to mitigate the potential impacts of the construction on traffic, and to ensure the safety of all road users and construction workers.

The following traffic-related guidelines for the roundabout construction are recommended:

- A SLAT pattern will be provided along Church Road between Throup Road and Wadams Way to maintain traffic flow at times.
- TCPs must be employed to monitor traffic and to enforce SLAT at Church Road and Throup Road, as well as Church Road and Wadams Way.
- Travel lane width must be at least 3.5 metres to permit bus and truck access. If the travel lane width cannot be achieved, then the Contractor must immediately notify the Traffic Manager/Engineer, and provide an alternative solution for consideration.
- Local residential driveway access on Church Road must always be maintained.

- The Contractor must coordinate with BC Transit to relocate or close any bus stop(s) during construction. It is the responsibility of the Contractor to provide BC Transit with the advance notice lead time required for any changes to the existing bus services.
- The Contractor must obtain permission from the District before night-time work can be completed. Additional requirements must be followed for night operations, including but not limited to night-time apparel, night equipment, night lighting, night-time speed management, etc.
- MUP on Church Road must always be maintained.
- Sidewalks on Church Road and Throup Road must always be accommodated.
- TCPs should be in place to assist pedestrians (or cyclists) crossing and ensure their safety to walk on sidewalk or MUP.
- The northbound bicycle lane on Church Road ends at the south end of Wadams Way where no crossing facilities are provided to connect it to MUPs on the other side. TCPs should be aware and standby to assist or accommodate north-south road cyclists to cross safely and travel on (including to/from MUP).

4.2 Incident Management Plan

It is the Contractor's responsibility to ensure the safe and efficient movement of incident response vehicles and staff through or around any incidents occurring near the work zone. The Contractor must also help emergency response personnel as required. An incident includes, but not limited to, motor vehicle accidents, emergency road repairs, disabled vehicles, and debris on the road.

Incident Management Procedures

Where there is an incident within or in the vicinity of the work zone, the Traffic Control Supervisor will follow the procedures below:

- Immediately inform the Traffic Manager of the incident.
- Evaluate the severity of the incident.
- If the incident is deemed severe, contact emergency response agencies.
- Depending on the severity, adjust traffic flow and secure the area until the incident is resolved.
- Maintain two-way traffic whenever possible.
- Allow emergency responders to access the incident area and assist them in placing equipment.
- Modify the work zone if needed to accommodate traffic impacted by the incident.
- Clear the incident area of any construction equipment, material, or other obstructions that may interfere with incident management operations.
- After the incident is resolved, survey the incident area for any damage to infrastructure or traffic inventories.
- Resume normal traffic flow when the incident area is clear.
- Prepare an Incident Management Report documenting the time, location, severity, emergency response attendance, and any actions taken during the incident.

Emergency Responder Access

The Traffic Control Supervisor is responsible for ensuring that sufficient staging and parking space is made available for emergency responders upon their arrival at the scene. If feasible, the allocated area should be part of the traffic control layout and already cordoned off from regular traffic, minimizing disruption to through traffic. During the time when emergency responders are on-site, the Traffic Control Supervisor must ensure that only vehicles necessary for emergency response are granted access to the location of the incident.

Upon the conclusion of an incident, the Contractor will remove all vehicles and debris from the incident area before returning traffic flow to its normal state or the state outlined in Traffic Control Plan. A survey of the nearby infrastructure should be conducted to identify any damage, and the information should be made available to the District. If the incident caused substantial damage to the surrounding infrastructure or traffic inventory, the affected areas should be secured from general traffic and the public. Repairs should be carried out in collaboration with the District.

Incident Reporting

The Contractor will create an Incident Management Report that outlines the time and location of the incident. The report must specify if the incident was related to any construction activities and include information about the emergency services that attended the scene. Within 24 hours of clearing the incident, copies of the report should be forwarded to the District. The Traffic Manager must review all incidents with the Traffic Control Supervisor to investigate whether modifications to the work area and traffic control layout could have prevented the incident.

4.3 Public Information Plan

The Contractor will maintain effective communication with the District and the local community concerning the construction activities scheduled in the project area. The communication strategies outlined in this section for public engagement should be reviewed and executed in collaboration with the District and other stakeholders.

Advance Signage

To inform drivers about the construction in the study area, the Contractor will supply, install, and maintain Changeable Message Signs (CMS) throughout construction. The CMS will display details about the timing and location of the construction impact. The Contractor should deploy the CMS at least one week before the commencement of construction work to ensure that road users are notified in advance.

To redirect traffic around the road closure, detour signs will be strategically placed throughout the adjacent road network. The location of each detour sign will be illustrated in the corresponding Traffic Control Plan drawings.

Furthermore, static advisory signs will be positioned at strategic points in the surrounding road network, notifying drivers of the construction work occurring along Charters Road, Church Road, and Throup Road, so that drivers will use caution when navigating the construction zone.

Construction Notice

The Contractor will issue written notifications to the local community (such as school district and recreational facilities) ahead of the construction work, highlighting its potential impact on traffic. Local emergency services agencies, schools, and stakeholders in the vicinity of the construction area will also be notified in writing before the deployment of the Traffic Control Plan.

A project sign displaying the project name and relevant contact details will be erected on the construction site in a location easily visible to the general public. If possible, updates about the construction and traffic will be posted on the Contractor's or District's project website and/or at the site itself to provide current information to the public.

Contact List

The Contractor will develop a contact list together for the Traffic Control Plan. The Traffic Control Supervisor will need to keep copies available on-site and accessible at all times for the duration of the project.

4.4 Implementation Plan

The Contractor will create and deliver an Implementation Plan that adheres to the TMM. The Implementation Plan should guarantee that the Traffic Control Plan, Incident Management Plan, and Public Information Plan are implemented in an efficient and suitable manner.

Traffic Manager

The Contractor will appoint a Traffic Manager who will have the following responsibilities, including, but not limited to:

- Develop, implement, and ensure the TMP meets the requirements of the District and Ministry.
- Coordinate and communicate with the residents, businesses, and establishments, including schools.
- Ensure that the TMP is kept up to date and updated to reflect variations required due to unsatisfactory conditions noted during implementation.
- Coordinate traffic control with any adjacent construction activities.

Traffic Engineer

The Contractor will appoint a Professional Engineer as a Traffic Engineer, who will have the following responsibilities, including, but not limited to:

- Develop and implement the TMP.
- Authenticate (sign and seal) the individual localized Traffic Control Plans required to manage traffic at specific construction areas.
- Ensure that elements of the emergency response plan are incorporated into the stamped Traffic Control Plans.

Traffic Control Supervisor

The Contractor will appoint Traffic Control Supervisors, as required, to manage traffic control operations during construction. The Traffic Control Supervisors shall be responsible for, but not limited to:

- Be present on site and having full authority over the TCPs.
- Be present in each distinctive separate area where traffic control is implemented to direct the traffic control.
- Oversee all requirements of the TMP to ensure the safe and orderly movement of vehicles, pedestrians, and cyclists through the work zone.
- Control all traffic on the work area.
- Monitor lane closures, significant queue lengths, and other significant disruptions to the stated traffic management objectives and record these instances to be provided to the District.
- Have industry standard training and certification, be qualified in the deployment and operation of traffic control devices.

IMPLEMENTATION

The Traffic Control Supervisor working on-site will be responsible for inspecting and adjusting traffic control devices deployed in the field as follows:

Before Work

- Inspect and repair all construction signs and traffic control devices that require maintenance during off-hours.
- Implement all construction signage and traffic control devices in accordance with the approved Traffic Control Plan.
- Cover any signs that conflict with or are not required according to the Traffic Control Plan drawings.
- Verify the TMS for the day's activities.
- Perform an inspection to ensure the effectiveness of the signing and traffic control devices.

During Work

- Examine all construction signs and traffic control devices on a regular basis.
- Conduct instant repairs when necessary.
- Modify signs when necessary and document all modifications made.
- Ensure the cleanliness and absence of dust and debris on all roadways used by workers.
- Coordinate street sweeping operations when required.
- Ensure that the pedestrians and cyclists can safely navigate the site.

After Work

- Conduct a pre-close down inspection.
- Inspect the area to identify any unnecessary construction signs or traffic control devices that can be removed.
- Install delineation devices where necessary to ensure safety.
- Document the details of the inspection and any changes made to the layout.

SITE SAFETY

During the construction period, it will be the responsibility of the Traffic Control Supervisor to ensure the safety of the work site. At the end of each workday, the Traffic Control Supervisor should prepare the Traffic Control Daily Report and Incident Management Report (as required).

Traffic Control Personnel (TCP)

During construction, TCP will be deployed to manage traffic in high-risk locations (such as high pedestrian areas), ensuring that there are no conflicts between road users and construction activities. It is mandatory for all TCP to possess the required training certificates and relevant experience working on roadways, as per the standards specified by BC MoTI and WorkSafe BC. Safety must be the topmost priority for all TCP throughout their deployment.



APPENDIX
Full Streetscape and Culvert Replacement
Preliminary Project Category Determination

A

3.3 Project Category Determination

A structured process is used to determine the Project Category.

- | | |
|---------------------------------|--|
| 1. Initial Category Assessment | Assess the roadway and traffic features. |
| 2. Risk Analysis | Identify the project-specific risks. |
| 3. Final Category Determination | Combine the initial project assessment with the risk analysis to determine the final project category. |

Project Categories are defined as:

- **Category 1** - minimal impact on the travelling public, are typically located on simple terrain, and involve two-lane highways or roads, often with lower speeds and traffic volumes.
- **Category 2** - may be located on higher-speed or higher-volume corridors and involve some complexity. Impacts on the travelling public may be moderate because of the roadway characteristics or the type of work.
- **Category 3** - complex and have a significant impact on the travelling public because of factors such as higher volumes and speeds, project duration, active night work, mountainous terrain, and/or a requirement for lane closures and/or detours.

3.3.1 Initial Project Category Assessment

The initial project category assessment considers road and traffic characteristics, as well as specific work activities.

Table 3.1: Initial Project Category Assessment on the following pages is used to determine the initial project category.

The total point value calculated at the end of Table 3.1 indicates that the project is initially assessed as a Category 1, 2, or 3.

Section 3: Traffic Management Plans

Table 3.1: Initial Project Category Assessment

Traffic Consideration	Value	Point Value	Score
Posted or Statutory Speed Regular posted speed limit of the roadway	≤ 50 km/hr	1 point	1
	60 - 70 km/hr	3 points	
	≥ 80 km/hr	4 points	
Traffic Volume Traffic volume (both directions) in peak hours	< 1,000 vehicles/hr	1 point	1
	1,000 to 3,000 vehicles/hr	3 points	
	> 3,000 vehicles/hr	4 points	
Lanes Number of lanes in both directions (including auxiliary lanes)	2 lanes	0 point	1
	3 lanes	2 points	
	4 lanes or more	3 points	
Encroachment Location of work	Off roadway	0 point	4
	Shoulder work/partial lane closure	3 points	
	Full lane closure, ramp closure, or intersection closure	4 points	
Detours	No detour during construction	0 point	4
	Detour traffic on temporary roadway during construction next to work zone.	3 points	
	Detour route during construction takes traffic off regular route away from work zone; requires detour signing	4 points	
Duration of Work	Short-duration work (no more than one day-time shift).	1 point	4
	Long-duration work (less than 2 weeks)	2 points	
	Long-duration work (2 or more weeks)	4 points	
Allowable Delays Delay time plus time to travel through work zone in minutes	< 20 minutes	1 point	1
	≥ 20 minutes	3 points	
	No allowable delay	4 points	

Section 3: Traffic Management Plans

Traffic Consideration	Value	Point Value	Score
Time of Day Time of day that work will occur	Day-time only work	1 point	3
	Active day-time work, with traffic control devices in place at night	3 points	
	Active night-time work	4 points	
Vertical Alignment	Flat terrain	0 point	1
	Rolling terrain	1 point	
	Mountainous terrain	2 points	
Horizontal Alignment	Tangent	0 point	0
	Horizontal curves, no curve advisory speeds	1 point	
	Horizontal curves, with curve advisory speeds	2 points	
Intersections	No intersections or stop-controlled intersection(s)	0 point	0
	Signalized intersection(s) with no left or right turn phases, or single lane roundabout	2 points	
	Signalized intersection(s) with left or right turn phase(s), or multi-lane roundabout	4 points	
	Interchange(s)	5 points	
Runaway Lanes	No runaway lanes	0 point	0
	Runaway lanes in or near the work zone; they will not be blocked at any time during course of work	1 point	
	Runaway lanes in or near work zone; they may be blocked by work or queues during course of work	4 points	
Pedestrians and Cyclists	No pedestrians or cyclists	0 point	2
	Possible pedestrians and cyclists	2 points	
	Designated cycle route, sidewalk or multi-use pathway	3 points	

Section 3: Traffic Management Plans

Traffic Consideration	Value	Point Value	Score
HOV or Bus Lane	No HOV or bus lane	0 point	0
	HOV or bus lane	4 points	
Counter-Flow Lane	No counter-flow lane	0 point	0
	Counter-flow lane	4 points	
Total Score			22
Category 1			< 16
Category 2			16 to 25
Category 3			> 25
Initial Project Category			2

3.3.2 Project Risk Analysis

A project risk analysis is the process of reviewing site-specific characteristics and considering the likelihood and consequence of each item listed. It is able to highlight potential hazards that are not captured in the Initial Project Category Assessment.

Each project has a unique combination of site-specific characteristics, and the risk analysis considers potential hazards associated with the specific project and/or location.

[Table 3.2: Project Risk Analysis](#) on the following pages is used to determine whether each potential hazard creates a low, medium, or high risk for the project and location.

The total point value calculated at the end of Table 3.2 indicates that the project is assessed as a low-risk, medium-risk, or high-risk project.

Combining the results of the initial project category assessment and the risk analysis will determine the final project category (see [Section 3.3.3: Final Project Category Determination](#)).

Section 3: Traffic Management Plans

Table 3.2: Project Risk Analysis

The Project Risk Analysis is a general guideline, applicable to most projects. If significant project-specific hazards are not included in the risk analysis below, the Evaluator may consider increasing the final risk rating. This modification and the justification for it should be documented.

All high-risk, project-specific hazards should be addressed and mitigated in the Traffic Management Plan.

Item	Risk	Definition	Point Value	Score
Falling object	Low	Potential of falling object through course of work (i.e., overhead works, slung loads, or equipment boom/bucket work)	1 point	1
	Medium	Working within a known avalanche or rock fall area; no recent evidence of activity	2 points	
	High	Recent evidence of rock or material entering work site or overhead work that may impact travelling public or worker safety (i.e., overhead structures) Vehicle queues may back into a rock fall or avalanche area	3 points	
Nature of work activity	Low	Work activity is not expected to create a significant hazard	1 point	3
	Medium	Work activity will create excessive dirt, dust, or gravel on the road surface, and will thereby create a potential hazard	2 points	
	High	Work activity such as blasting, scaling, or excavation < 2 metres from active travelling lanes will create a potential hazard	3 points	
Removal of safety devices	Low	No removal of safety devices	1 point	1
	Medium	Removal of safety devices such as pavement markings, signage, traffic signal, or reflectors	2 points	
	High	Removal of containment devices, such as barrier, guard rail, crash attenuators, fencing, etc.	3 points	
Equipment movement through work zone	Low	Minimal conflict with traffic (e.g., work commencing off travelled roadway)	1 point	2
	Medium	Conflict with normal traffic flow; no queuing or traffic stoppages	2 points	
	High	Conflicts with normal traffic; may create queuing and require traffic stoppages. Difficult for equipment to enter and exit site	3 points	

Section 3: Traffic Management Plans

Item	Risk	Definition	Point Value	Score
Roadway surface condition during construction	Low	Roadway surface is maintained	1 point	3
	Medium	Roadway surface, such as milling and grinding (consistent surface), creates a hazard for road users	2 points	
	High	Roadway surface is inconsistent, with multiple changes or work tasks (manholes, culvert installation, etc.)	3 points	
Storage of equipment and material	Low	Stored outside the shoulder	1 point	2
	Medium	Stored on the shoulder but outside travelled roadway	2 points	
	High	Stored on shoulder but encroaching on travelled roadway	3 points	
Load restrictions as a result of construction	Low	No load restrictions	1 point	1
	Medium	Narrow lanes restrict wide loads	2 points	
	High	Overweight/overheight vehicles restricted (may result in structural damage)	3 points	
Lane widths	Low	Maintain existing lane widths	1 point	n/a
	Medium	n/a	n/a	
	High	Lane width not maintained throughout work zone, or Single-lane alternating traffic	3 points	
Work zone or queues block access (active or inactive site)	Low	None	1 point	2
	Medium	Side street or business access	2 points	
	High	Major public facility and/or major secondary roadway	3 points	
Transit access	Low	No transit or school bus stops	1 point	1
	Medium	Community shuttle or school bus stops	2 points	
	High	Express transit or major bus route	3 points	
Impacts of special events	Low	No known event	1 point	1
	Medium	Moderate public event with attendance under 5,000	2 points	
	High	Major public event with attendance over 5,000 or moderate public event (under 5,000) with no alternative access or route	3 points	

Section 3: Traffic Management Plans

Item	Risk	Definition	Point Value	Score
Overlapping work	Low	No overlapping work	1 point	3
	Medium	Another work site within 3 km; traffic control for the projects could impact one another	2 points	
	High	Work sites adjacent or overlapping	3 points	
Emergency facility (ie. hospital, police, ambulance, and fire stations)	Low	No emergency facility near work site	1 point	1
	Medium	24-hour manned emergency facility	2 points	
	High	Volunteer-staffed emergency facility; consider responder access through work zone to the facility, and emergency response from facility through the work zone	3 points	
Total Score				21
Low Risk				< 23
Medium Risk				23 to 28
High Risk				> 28
Project Risk				Low

Section 3: Traffic Management Plans

3.3.3 Final Project Category Determination

The matrix in [Table 3.3: Final Project Category Determination](#) should be used to make the final project category determination.

It combines the initial project category assessment with the results of the risk analysis to identify a final project category based on roadway and traffic characteristics and risks.

It may be appropriate to increase the final category level for high-risk projects to reflect the complexity or hazards associated with the work.

Table 3.3: Final Project Category Determination

		Initial Project Category Assessment		
		1	②	3
Project Risk	Low	Category 1	Category 2	Category 3
	Medium	Category 1	Category 2	Category 3
	High	Category 2	Category 3	Category 3

The final project category determination should be used to identify required and recommended sub-plans and special conditions addressed in the Traffic Management Plan.

This process is a guide and may not capture all components of the project which should be considered when determining the Project Category.



APPENDIX
Roundabout
Preliminary Project Category Determination

B

3.3 Project Category Determination

A structured process is used to determine the Project Category.

- | | |
|---------------------------------|--|
| 1. Initial Category Assessment | Assess the roadway and traffic features. |
| 2. Risk Analysis | Identify the project-specific risks. |
| 3. Final Category Determination | Combine the initial project assessment with the risk analysis to determine the final project category. |

Project Categories are defined as:

- **Category 1** - minimal impact on the travelling public, are typically located on simple terrain, and involve two-lane highways or roads, often with lower speeds and traffic volumes.
- **Category 2** - may be located on higher-speed or higher-volume corridors and involve some complexity. Impacts on the travelling public may be moderate because of the roadway characteristics or the type of work.
- **Category 3** - complex and have a significant impact on the travelling public because of factors such as higher volumes and speeds, project duration, active night work, mountainous terrain, and/or a requirement for lane closures and/or detours.

3.3.1 Initial Project Category Assessment

The initial project category assessment considers road and traffic characteristics, as well as specific work activities.

Table 3.1: Initial Project Category Assessment on the following pages is used to determine the initial project category.

The total point value calculated at the end of Table 3.1 indicates that the project is initially assessed as a Category 1, 2, or 3.

Section 3: Traffic Management Plans

Table 3.1: Initial Project Category Assessment

Traffic Consideration	Value	Point Value	Score
Posted or Statutory Speed Regular posted speed limit of the roadway	≤ 50 km/hr	1 point	1
	60 - 70 km/hr	3 points	
	≥ 80 km/hr	4 points	
Traffic Volume Traffic volume (both directions) in peak hours	< 1,000 vehicles/hr	1 point	1
	1,000 to 3,000 vehicles/hr	3 points	
	> 3,000 vehicles/hr	4 points	
Lanes Number of lanes in both directions (including auxiliary lanes)	2 lanes	0 point	1
	3 lanes	2 points	
	4 lanes or more	3 points	
Encroachment Location of work	Off roadway	0 point	3
	Shoulder work/partial lane closure	3 points	
	Full lane closure, ramp closure, or intersection closure	4 points	
Detours	No detour during construction	0 point	4
	Detour traffic on temporary roadway during construction next to work zone.	3 points	
	Detour route during construction takes traffic off regular route away from work zone; requires detour signing	4 points	
Duration of Work	Short-duration work (no more than one day-time shift).	1 point	4
	Long-duration work (less than 2 weeks)	2 points	
	Long-duration work (2 or more weeks)	4 points	
Allowable Delays Delay time plus time to travel through work zone in minutes	< 20 minutes	1 point	1
	≥ 20 minutes	3 points	
	No allowable delay	4 points	

Section 3: Traffic Management Plans

Traffic Consideration	Value	Point Value	Score
Time of Day Time of day that work will occur	Day-time only work	1 point	3
	Active day-time work, with traffic control devices in place at night	3 points	
	Active night-time work	4 points	
Vertical Alignment	Flat terrain	0 point	1
	Rolling terrain	1 point	
	Mountainous terrain	2 points	
Horizontal Alignment	Tangent	0 point	2
	Horizontal curves, no curve advisory speeds	1 point	
	Horizontal curves, with curve advisory speeds	2 points	
Intersections	No intersections or stop-controlled intersection(s)	0 point	0
	Signalized intersection(s) with no left or right turn phases, or single lane roundabout	2 points	
	Signalized intersection(s) with left or right turn phase(s), or multi-lane roundabout	4 points	
	Interchange(s)	5 points	
Runaway Lanes	No runaway lanes	0 point	0
	Runaway lanes in or near the work zone; they will not be blocked at any time during course of work	1 point	
	Runaway lanes in or near work zone; they may be blocked by work or queues during course of work	4 points	
Pedestrians and Cyclists	No pedestrians or cyclists	0 point	3
	Possible pedestrians and cyclists	2 points	
	Designated cycle route, sidewalk or multi-use pathway	3 points	

Section 3: Traffic Management Plans

Traffic Consideration	Value	Point Value	Score
HOV or Bus Lane	No HOV or bus lane	0 point	0
	HOV or bus lane	4 points	
Counter-Flow Lane	No counter-flow lane	0 point	0
	Counter-flow lane	4 points	
Total Score			24
Category 1			< 16
Category 2			16 to 25
Category 3			> 25
Initial Project Category			2

3.3.2 Project Risk Analysis

A project risk analysis is the process of reviewing site-specific characteristics and considering the likelihood and consequence of each item listed. It is able to highlight potential hazards that are not captured in the Initial Project Category Assessment.

Each project has a unique combination of site-specific characteristics, and the risk analysis considers potential hazards associated with the specific project and/or location.

[Table 3.2: Project Risk Analysis](#) on the following pages is used to determine whether each potential hazard creates a low, medium, or high risk for the project and location.

The total point value calculated at the end of Table 3.2 indicates that the project is assessed as a low-risk, medium-risk, or high-risk project.

Combining the results of the initial project category assessment and the risk analysis will determine the final project category (see [Section 3.3.3: Final Project Category Determination](#)).

Section 3: Traffic Management Plans

Table 3.2: Project Risk Analysis

The Project Risk Analysis is a general guideline, applicable to most projects. If significant project-specific hazards are not included in the risk analysis below, the Evaluator may consider increasing the final risk rating. This modification and the justification for it should be documented.

All high-risk, project-specific hazards should be addressed and mitigated in the Traffic Management Plan.

Item	Risk	Definition	Point Value	Score
Falling object	Low	Potential of falling object through course of work (i.e., overhead works, slung loads, or equipment boom/bucket work)	1 point	1
	Medium	Working within a known avalanche or rock fall area; no recent evidence of activity	2 points	
	High	Recent evidence of rock or material entering work site or overhead work that may impact travelling public or worker safety (i.e., overhead structures) Vehicle queues may back into a rock fall or avalanche area	3 points	
Nature of work activity	Low	Work activity is not expected to create a significant hazard	1 point	3
	Medium	Work activity will create excessive dirt, dust, or gravel on the road surface, and will thereby create a potential hazard	2 points	
	High	Work activity such as blasting, scaling, or excavation < 2 metres from active travelling lanes will create a potential hazard	3 points	
Removal of safety devices	Low	No removal of safety devices	1 point	3
	Medium	Removal of safety devices such as pavement markings, signage, traffic signal, or reflectors	2 points	
	High	Removal of containment devices, such as barrier, guard rail, crash attenuators, fencing, etc.	3 points	
Equipment movement through work zone	Low	Minimal conflict with traffic (e.g., work commencing off travelled roadway)	1 point	3
	Medium	Conflict with normal traffic flow; no queuing or traffic stoppages	2 points	
	High	Conflicts with normal traffic; may create queuing and require traffic stoppages. Difficult for equipment to enter and exit site	3 points	

Section 3: Traffic Management Plans

Item	Risk	Definition	Point Value	Score
Roadway surface condition during construction	Low	Roadway surface is maintained	1 point	3
	Medium	Roadway surface, such as milling and grinding (consistent surface), creates a hazard for road users	2 points	
	High	Roadway surface is inconsistent, with multiple changes or work tasks (manholes, culvert installation, etc.)	3 points	
Storage of equipment and material	Low	Stored outside the shoulder	1 point	1
	Medium	Stored on the shoulder but outside travelled roadway	2 points	
	High	Stored on shoulder but encroaching on travelled roadway	3 points	
Load restrictions as a result of construction	Low	No load restrictions	1 point	2
	Medium	Narrow lanes restrict wide loads	2 points	
	High	Overweight/overheight vehicles restricted (may result in structural damage)	3 points	
Lane widths	Low	Maintain existing lane widths	1 point	3
	Medium	n/a	n/a	
	High	Lane width not maintained throughout work zone, or Single-lane alternating traffic	3 points	
Work zone or queues block access (active or inactive site)	Low	None	1 point	2
	Medium	Side street or business access	2 points	
	High	Major public facility and/or major secondary roadway	3 points	
Transit access	Low	No transit or school bus stops	1 point	3
	Medium	Community shuttle or school bus stops	2 points	
	High	Express transit or major bus route	3 points	
Impacts of special events	Low	No known event	1 point	1
	Medium	Moderate public event with attendance under 5,000	2 points	
	High	Major public event with attendance over 5,000 or moderate public event (under 5,000) with no alternative access or route	3 points	

Section 3: Traffic Management Plans

Item	Risk	Definition	Point Value	Score
Overlapping work	Low	No overlapping work	1 point	3
	Medium	Another work site within 3 km; traffic control for the projects could impact one another	2 points	
	High	Work sites adjacent or overlapping	3 points	
Emergency facility (ie. hospital, police, ambulance, and fire stations)	Low	No emergency facility near work site	1 point	1
	Medium	24-hour manned emergency facility	2 points	
	High	Volunteer-staffed emergency facility; consider responder access through work zone to the facility, and emergency response from facility through the work zone	3 points	
Total Score				29
Low Risk				< 23
Medium Risk				23 to 28
High Risk				> 28
Project Risk				High

Section 3: Traffic Management Plans

3.3.3 Final Project Category Determination

The matrix in [Table 3.3: Final Project Category Determination](#) should be used to make the final project category determination.

It combines the initial project category assessment with the results of the risk analysis to identify a final project category based on roadway and traffic characteristics and risks.

It may be appropriate to increase the final category level for high-risk projects to reflect the complexity or hazards associated with the work.

Table 3.3: Final Project Category Determination

		Initial Project Category Assessment		
		1	②	3
Project Risk	Low	Category 1	Category 2	Category 3
	Medium	Category 1	Category 2	Category 3
	③ High	Category 2	Category 3	Category 3

The final project category determination should be used to identify required and recommended sub-plans and special conditions addressed in the Traffic Management Plan.

This process is a guide and may not capture all components of the project which should be considered when determining the Project Category.



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Church Road – Throup Road Roundabout

REFERENCE DRAWINGS

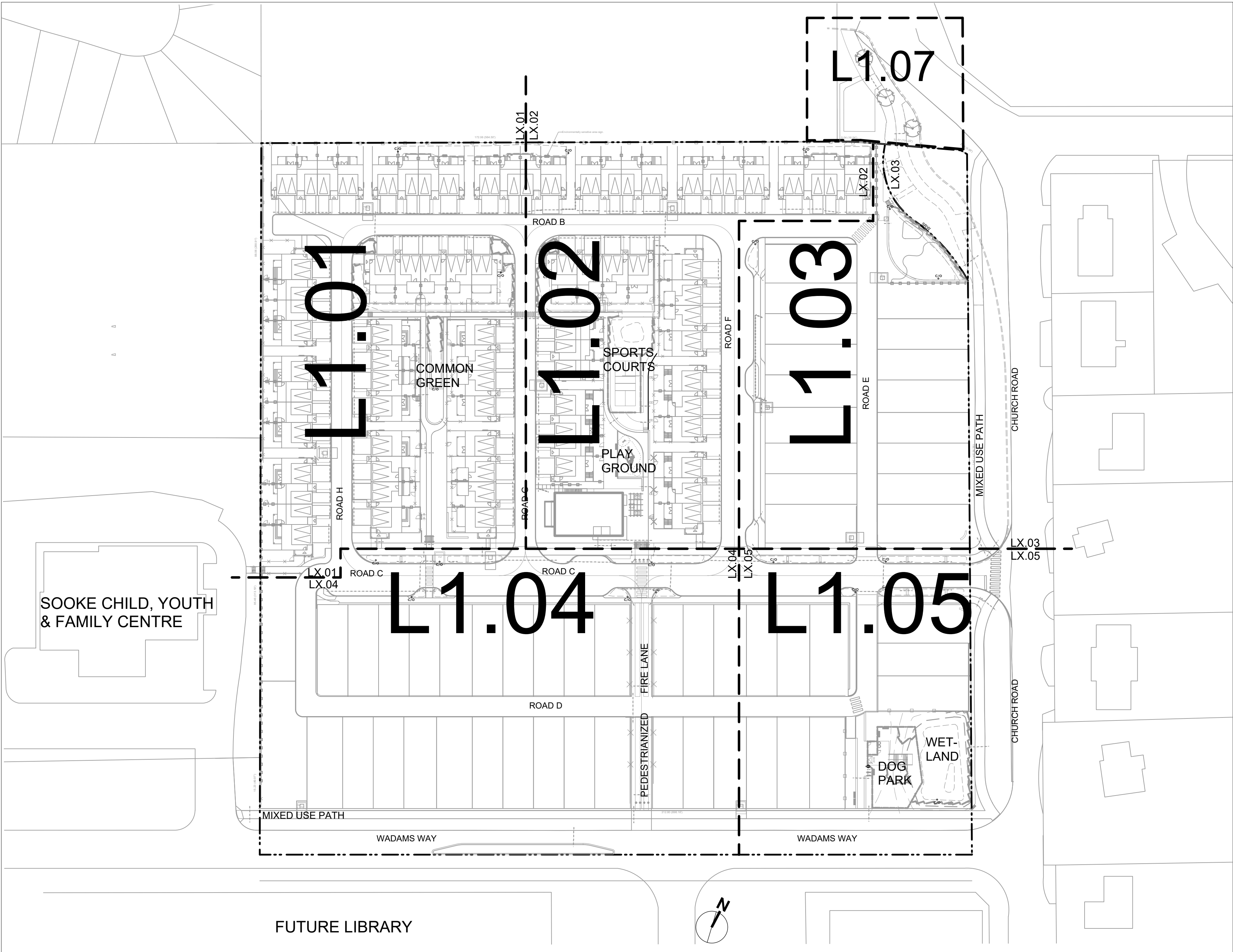


McElhanney

File: 2241-20128-01
May 2023

KEY PLAN

CHURCH ROAD - THROUP ROAD
ROUNDAABOUT TENDER SCOPE
HIGHLIGHTED IN RED



Landscape Sheets	
Sheet No.	Sheet Title
L0.00	Cover Sheet
L0.01	General Information Sheet
L0.02	Tree Replacement Plan
L0.03	Stormwater Schematic Plan
L1.01	Landscape Materials
L1.02	Landscape Materials
L1.03	Landscape Materials
L1.04	Landscape Materials
L1.05	Landscape Materials: Dog Park
L1.07	Pump Station Landscape
L2.01	Landscape Grading & Drainage
L2.02	Landscape Grading & Drainage
L2.03	Landscape Grading & Drainage
L2.04	Landscape Grading & Drainage
L2.05	Landscape Grading and Drainage
L2.06	Irrigation Schematic
L3.01	Planting Plan
L3.02	Planting Plan
L3.03	Planting Plan
L3.04	Planting Plan
L3.05	Planting Plan: Dog Park
L4.01	Landscape Details
L4.02	Landscape Details: Boulevard
L4.03	Landscape Details: Rain Garden
L4.04	Landscape Details: Planting
L5.01	Landscape Sections

12	For Approval Rev	22.02.04
11	Pump Stn Revised	22.01.19
10	Building Permit	21.11.22
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3	DP Rev	20.09.01
rev no	description	date



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2022-02-02

client Aragon Development 201-1628 W. 1st Ave. Vancouver, BC	
project 2182 CHURCH ROAD 2182 Church Rd., Sooke	
sheet title Cover Sheet	
project no. 118.23	
scale 1:200 @ 24"x36"	
drawn by TB/JK	
checked by SM	
revision no.	sheet no.
	L0.00

GENERAL NOTES

1. Work performed shall comply with the following: a) These General Notes, and Construction Documents and Specifications; b) Canadian Landscape Standards, Current Edition (CLS-CE); and c) All applicable local, provincial, and federal codes, ordinances, and regulations.
2. Contractor shall be responsible for verifying all existing site conditions including location of all property lines, existing structures, utilities, and buried infrastructure. Verify all field conditions prior to commencing work.
3. Contractor is responsible for determining means and methods for construction. These drawings may indicate a limit of proposed improvements or limit of work for the delineation of expected extents of disturbance. Should limits of disturbance exceed boundaries defined in drawings, contractor shall contact Landscape Architect for resolution.
4. Contractor is responsible for repairing all work disturbed by construction outside of limit lines defined on drawings or through their means and methods to a condition better than or equal to the existing conditions prior to commencement of construction at no additional cost to the owner.
5. Contractor is responsible for maintaining a complete up-to-date set of drawings and specifications at the construction site and ensuring the documents are readily available for review by the Landscape Architect and governing agency.
6. Contractor is responsible for coordination of all designs, drawings, specifications and other documents or publications upon which construction is based. Any discrepancies with the drawings and/or specifications and site conditions shall be brought to the attention of the Landscape Architect, prior to proceeding with construction.
7. The drawings and specifications are complementary to one another and implied to correspond with one another. Any discrepancies should be brought to the attention of the Landscape Architect for resolution immediately.
8. General Contractor and/or sub-contractors are responsible for all costs related to production and submission to consultant of all landscape as-built information including irrigation.

WARRANTY AND MAINTENANCE NOTES

1. Contractor is responsible for maintenance from installation to the end of the Landscape Maintenance Period, which extends to 30 days following Acceptance of the Work by the Landscape Architect.
2. Landscape Installation to carry a 1 year warranty from date of acceptance. This warranty is based on adequate maintenance by the Owner after Acceptance. The Contractor will not be responsible for plant loss due to extreme climatic conditions such as abnormal freezing temperatures or hail which occur after Acceptance. The Contractor shall be responsible for plant loss due to inadequate acclimatization of plants for their planted location.
3. Plant material, installation and maintenance to conform to the current edition of the Canadian Landscape Standard.

TREE RETENTION AND REMOVAL NOTES

1. Tree protection fencing, for existing trees, to be installed prior to commencement of all site work. Refer to Arborist's plans for location of tree protection fencing, and protection fencing detail.
2. Refer to arborist's report for detailed information for existing tree resources.

SITE GRADING AND DRAINAGE NOTES

1. All elevations are in meters.
2. Refer to Architectural plans, sections and elevations for Single Family lot grading.
3. All road, public walkway and vehicular drive aisles and parking area elevations indicated on the Landscape drawings are for reference only. Refer to Civil Engineering drawings. Report any discrepancies to consultant for review and response.
4. Confirm all existing grades prior to ctruction. Report any discrepancies to consultant for review and response.
5. Unless otherwise noted provide a minimum slope of 2% on all hard and soft Landscape areas to ensure positive drainage away from buildings, to rain gardens, or to drainage devices.
6. All landscape areas shall not exceed a maximum slope of 3:1 in all instances.
7. Upon discovery, contractor to refrain from blasting rock to meet landscape subgrades. Contractor to contact Landscape Architect on how to proceed in each instance.

SITE LAYOUT NOTES

1. Provide layout of all work for approval by Landscape Architect prior to proceeding with work. Requests for site review as required 48 hours in advance of performing any work, unless otherwise noted on this sheet.
2. Layout and verify dimensions prior to construction. Bring discrepancies to the attention of the Landscape Architect.
3. Written dimensions take precedence over scale. Do not scale drawings.
4. All plan dimensions in metres and all detail dimensions in millimetres, unless otherwise noted.
5. Where dimensions are called as 'equal' or 'eq', space referenced items equally, measured to centre line.

GENERAL PLANTING NOTES

1. Plant quantities on Plans shall take precedence over plant list quantities.
2. Provide layout of all work for approval by Landscape Architect prior to proceeding with work.
3. Plant material, installation and maintenance to conform to the current edition of the Canadian Landscape Standard.
4. Plant quantities and species may change between issuance of DP and Construction due to plant availability and design changes.

BOULEVARD PLANTING & IRRIGATION NOTES

1. Boulevard trees have been placed to avoid existing and proposed infrastructure. Trees planted within 1.5m of an existing underground municipal service will have a root barrier installed between the root ball and the existing infrastructure.
2. Boulevard trees will be place a minimum of 1.5m from an above ground municipal service such as fire hydrant, streetlight or driveway.
3. Final selection and placement of boulevard trees to be determined through consultation with municipal parks staff.
4. Irrigation to be installed as per Municipal Specifications, for all boulevard planting areas (unless otherwise indicated).
5. Design/build drawings for boulevard irrigation to be submitted to Landscape Architect in PDF and .dwg formats, at least two weeks prior to commencement of irrigation installation and will be reviewed by municipal staff.
6. Boulevard irrigation point of connection to be 19 mm service. Separate water meter and timer/controller, to be provided at point of connection. Timer/controller for boulevard areas must be readily accessible to municipal staff.
7. Boulevard irrigation to be inspected as per municipal specification by municipal staff. Boulevard tree irrigation system will be maintained and operated by municipality, after it is inspected and approved by municipal staff.

IRRIGATION NOTES

1. Contractor to provide irrigation system for all planters to current IIABC Standards and Contract Specifications.
2. All specified work to meet the project specifications, and all standards or specifications established in the latest edition of the Canadian Landscape Standard and IIABC standards.
3. Design/build drawings for detailed irrigation plan to be submitted to Landscape Architect in PDF and .dwg formats at least two weeks prior to commencement of irrigation installation
4. Utilities - Contractor to verify location of all on-site utilities, prior to construction. Restoration of damaged utilities shall be made at the contractor's expense, to the satisfaction of the owner's representatives.
5. Refer to electrical drawings for electrical service.
6. Controller and backflow prevention device to be located in Mechanical Room, unless otherwise noted. Refer to Mechanical drawings for size and location of irrigation service.
7. Contractor to verify pressure and flow prior to installation of Irrigation and notify owner's representative in writing if such data adversely affects the operation of the system.
8. Sleeves shall be installed at the necessary depths, prior to pavement construction. Sleeving shall extend 300 mm from edge of paving into planting area, and shall have ends marked above grade unless otherwise shown.
9. Contractor to field fit irrigation system around existing trees, to limit disturbance to root systems.
10. At various milestones during construction, inspection and testing of components will be required to ensure that the performance of irrigation system meets standards and specifications. Contractor to provide equipment and personnel necessary for performance of inspections and tests. Conduct all inspections and tests in the presence of the contract administrator. Keep work uncovered and accessible until successful completion of inspection or test.
11. Over spray onto hardscape areas to be minimized. Use drip irrigation within small planting areas to avoid overspray.
12. Trees within shrub or rain garden areas to be irrigated with spray heads.
13. Ensure irrigation systems will function once plantings achieved mature sizes. Hedging to be irrigated with drip.

GROWING MEDIUM NOTES


1. Refer to Landscape Specifications for growing medium properties by soil type.
2. Advise Landscape Architect of sources of growing medium to be utilized 14 days in advance of starting work.
3. Growing medium properties and handling shall meet CLS-CE (see Section 6 CLS-CE).
4. Contractor is responsible for soil analysis and amendment requirements to supply suitable growing medium, as specified by testing agency. Soil analysis and amendment costs shall be included in the price for the work.
5. Submit to the Landscape Architect a copy of the soil analysis report from Pacific Soil Analysis Inc. 5-11720 Voyageur Way, Richmond, BC, V6X 3G9. p. 604- 273-8226. The analysis shall be of tests done on the proposed growing medium from stratified samples taken from the supply source. Costs of the initial and all subsequent tests to ensure compliance with the specifications shall be borne by the Contractor.
6. Landscape Architect collect sample of growing medium in place and determine acceptance of material, depth of growing medium and finish grading. Approval of growing medium material subject to soil testing and analysis. Planting is not to occur until finished grades have been approved by Landscape Architect.

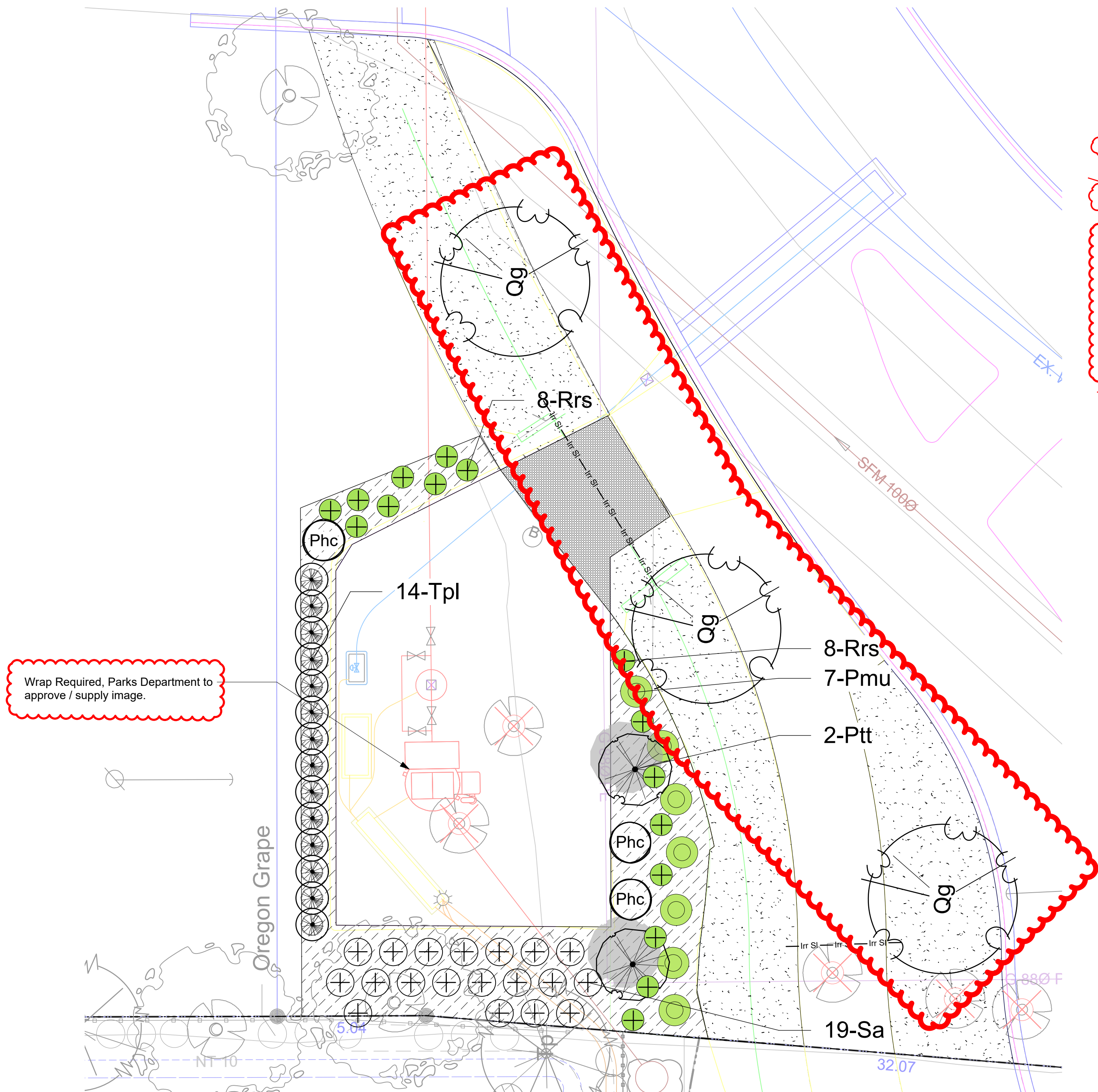
PAVING NOTES

1. Final concrete control joint layout to be confirmed by Landscape Architect prior to installation. Control joints to logically align with edges, corners, and intersections of Landscape and Architectural elements and/or as indicated on plan. Contractor to obtain layout approval by Landscape Architect prior to installation. Contractor to pour concrete pavement in alternating panels to achieve control joint design and to prevent cracking.
2. Cast in place concrete areas that are subject to vehicular loading shall be structurally constructed for applicable vehicular loading requirements.

LIST OF ABBREVIATIONS

APPROX	APPROXIMATE	MAX	MAXIMUM
ARCH	ARCHITECT	MH	MANHOLE
AVG	AVERAGE	MIN	MINIMUM
B&B	BALLED AND BURLAPPED	MISC	MISCELLANEOUS
BC	BOTTOM OF CURB	N	NORTH
BLDG	BUILDING	NIC	NOT IN CONTRACT
BM	BENCHMARK	NO	NUMBER
BOC	BACK OF CURB	NOM	NOMINAL
BR	BOTTOM OF RAMP	NTS	NOT TO SCALE
BS	BOTTOM OF STEP	OC	ON CENTER
BW	BOTTOM OF WALL	OD	OUTSIDE DIAMETER
CAL	CALIPER	PC	POINT OF CURVATURE
CB	CATCH BASIN	PE	POLYURETHANE
CF	CUBIC FEET	PI	POINT OF INTERSECTION
CIP	CAST IN PLACE	PL	PROPERTY LINE
CL	CENTER LINE	PT	POINT, POINT OF TANGENCY
CLR	CLEARANCE	PVC	POLUVINYL CHLORIDE
CM	CENTIMETER	QTY	QUANTITY
CO	CLEAN OUT	R	RADIUS
CONT	CONTINUOUS	REF	REFERENCE
CY	CUBIC YARD	REINF	REINFORCE(D)
DEG	DEGREE	REQ'D	REQUIRE(D)
DEMO	DEMOLISH, DEMOLITION	REV	REVISION
DIA	DIAMETER	ROW	RIGHT OF WAY
DIM	DIMENSION	S	SOUTH
DTL	DETAIL	SAN	SANITARY
DWG	DRAWING	SD	STORM DRAIN
E	EAST	SF	SQUARE FOOT (FEET)
EA	EACH	SHT	SHEET
EL	ELEVATION	SIM	SIMILAR
ENG	ENGINEER	SPECS	SPECIFICATIONS
EQ	EQUAL	ST	STORM SEWER
EST	ESTIMATE	SY	SQUARE YARD
E.W.	EACH WAY	STA	STATION
EX	EXISTING	STD	STANDARD
EXP	EXPANSION, EXPOSED	SYM	SYMMETRICAL
FFE	FINISHED FLOOR ELEVATION	T&B	TOP AND BOTTOM
FG	FINISHED GRADE	TBC	TOP OF BACK CURB
FL	FLOW LINE	TC	TOP OF CURB
FOC	FACE OF CURB	TF	TOP OF FOOTING
FT	FOOT (FEET)	TH	THICK
FTG	FOOTING	TOPO	TOPOGRAPHY
GA	GAUGE	TR	TOP OF RAMP
GEN	GENERAL	TS	TOP OF STEP
GR	GRADE ELEVATION	TW	TOP OF WALL
HORIZ	HORIZONTAL	TYP	TYPICAL
HP	HIGH POINT	VAR	VARIES
HT	HEIGHT	VOL	VOLUME
ID	INSIDE DIAMETER	W	WITH
INV	INVERT ELEVATION	W/O	WITHOUT
IN	INCH(ES)	WT	WEIGHT
INCL	INCLUDE(D)	WL	WATER LEVEL
JT	JOINT	WWF	WELDED WIRE FRAME
LF	LINEAR FEET	YD	YARD
LP	LOW POINT	@	AT

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<div><div><div>2022-02-02</div></div></div>		
client <div>Aragon Development 201-1628 W. 1st Ave. Vancouver, BC</div>		
project <div>2182 CHURCH ROAD 2182 Church Rd., Sooke</div>		
sheet title <div>General Information Sheet</div>		
project no. 118.23		
scale 1:200 @ 24"x36"		
drawn by TB/JK		
checked by SM		
revision no. <div></div>	sheet no. L0.01	



PLANT LIST - PUMP STATION

Sym	Qty	Botanical Name	Common Name	Schd. Size / Plant Spacing
SHRUBS/ TREES				
Phc	3	Physocarpus capitatus	Pacific Ninebark	#5 pot
Pmu	7	Pinus mugo mugo	Dwarf Mugo Pine	#2 pot
Ptt	2	Pinus thunbergii 'Thunderhead'	Compact Japanese Black Pine	1.5 m ht. b&b
Qg	3	Quercus garryana	Garry Oak	4.0cm cal. b&b
Rrs	16	Rosa rugosa 'Schneekoppe'	Snow Pavement Rose	#2 pot
Sa	19	Symphoricarpos alba	Snowberry	#1 pot
Tpl	14	Thuja plicata	Western Red Cedar	1.2 m ht

ALL PLANTING TO BE IN ACCORDANCE WITH CANADIAN LANDSCAPE STANDARDS, CURRENT EDITION AND LANDSCAPE SPECIFICATIONS.

PUMP STATION IRRIGATION, SEE L2.06 IRRIGATION SCHEMATIC

LEGEND

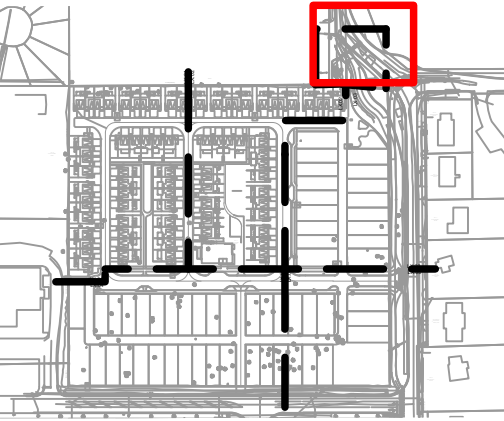
- Property line
- Existing Tree to be Removed
- Existing Tree for Retention if Possible

- Underground Utilities
- Storm drain
 - Sewer
 - Water
 - Electrical
 - Gas

LANDSCAPE MATERIALS

- Grass Pave 2 Driveway: See Civil.
- Shrub / Small Tree Planting Areas
Min. 450mm depth Amended Site Topsoil, see specifications.
- Proposed Lawn
Min. 150mm depth Amended Site Topsoil, 600mm depth at tree planting pits. Seed with RichLawn all purpose lawn seed mixture or approved equal. See specifications.

Key Plan



12	For Approval Rev	22.02.04
11	Pump Stn Revised	22.01.19
10	Building Permit	21.11.22
9	For Approval REV	21.08.06
8	For Pump Stn Approval	21.06.23
7	DP Rev	21.06.11
6	DP Supplement	21.05.14
5	For Approval	21.03.17
4	DP Rev	21.03.17
3	DP Rev	20.09.01
rev no	description	date



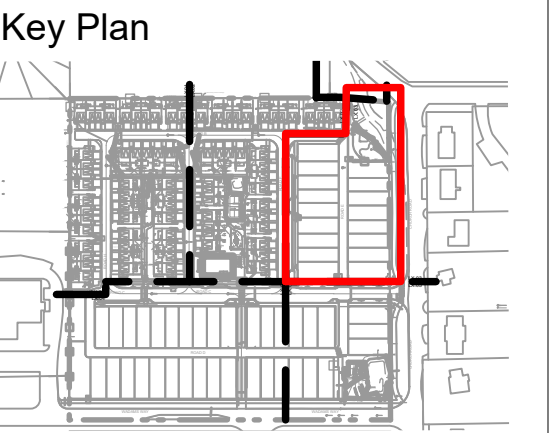
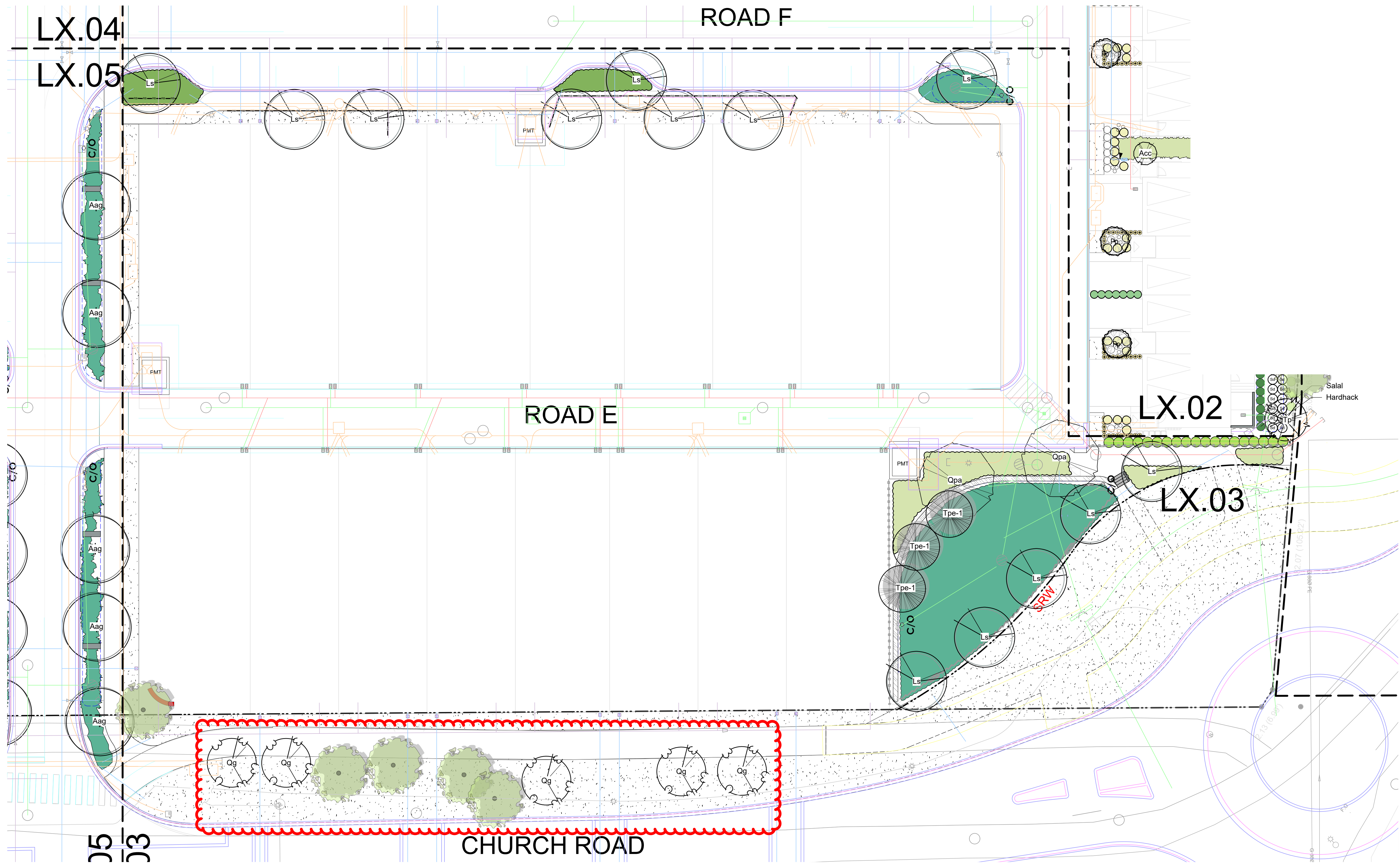
client
Aragon Development
201-1628 W. 1st Ave.
Vancouver, BC

project
2182 CHURCH ROAD
2182 Church Rd.,
Sooke

sheet title
**Pump Station
Landscape**

project no.	118.23
scale	1:200 @ 24"x36"
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revision no.	sheet no.

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L1.07



12	For Approval Rev	22.02.04
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REGISTERED MEMBER
Scott Murdoch
341
2022-02-02

client
Aragon Development
201-1628 W. 1st Ave.
Vancouver, BC

project
2182 CHURCH ROAD
2182 Church Rd.,
Sooke

sheet title
Planting Plan

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11	L3.03

PLANTING PALLETTE

Plant Spacing Estimated at 1 @ #5 pot, 2 @ #3 pot, or 3 @ #1 pots / square meter

Evergreen Screening Plantings: For privacy between residential & public spaces.

Evergreen huckleberry Oregon grape Red flowering currant Sword fern

Ornamental Perennials: To provide pollinator-friendly focal points.

New England aster Sage leaf rock rose Purple coneflower Spiked gayfeather

OTHER PROPOSED SPECIES:
Physocarpus capitatus
Mahonia aquifolium
Myrica californica
Arbutus unedo
Pittosporum spp.
Escallonia spp.
Rhododendron spp.
Hardy Azalea spp.
Thuja occidentalis 'smaragd'

Large Rain Garden Plantings: To provide riparian habitat & natural beauty.

Red osier dogwood Hardhack Pacific Ninebark Slough sedge

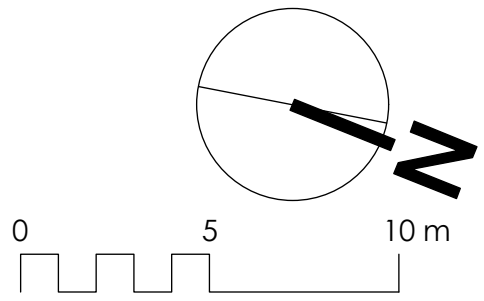
Boulevard & Small Rain Garden Plantings: Riparian habitat, beauty and sight lines.

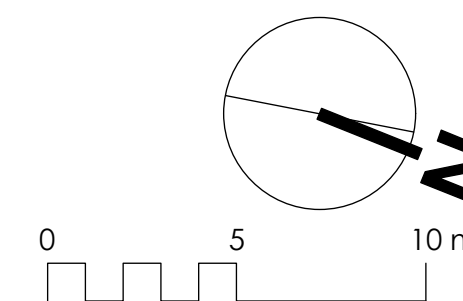
Rudbeckia fulgida Dwarf Fountain Grass Dwarf Azalea Purple coneflower Slough sedge

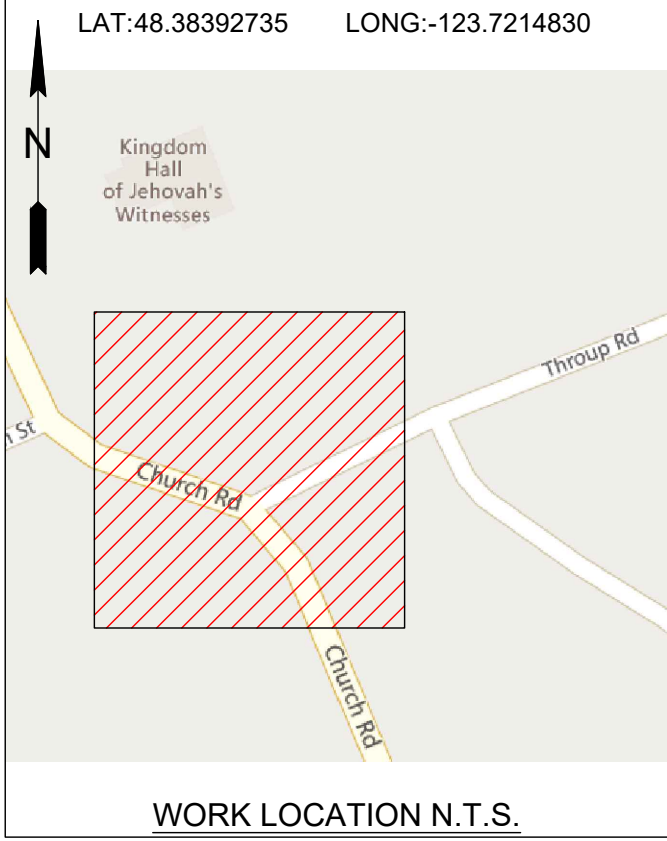
OTHER PROPOSED SPECIES:
Juncus 'Carmen's Grey'
Salal
Physocarpus capitatus
Indian Plum

OTHER PROPOSED SPECIES:
Hebe christinii
Monarda didyma
Pittosporum spp.
Cistus salvifolius
Carex morrowii
Iris sibirica

FULL PLANT LIST, SEE L3.05







DISCLAIMER

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NOT FOR
CONSTRUCTION

ISSUED FOR
REVIEW

UNDERGROUND UTILITY CHECKS	
	Within 1m of Plant Location (as per Design BC 1 Call) Y/N
Gas	Y
Water	Y
Sanitary Sewer	Y
Storm Sewer	Y
Telephone	Y
Cable	Y
Electrical	N
Other	N
Design BC 1 Call #	20230502518
Construction BC 1 Call #	
Construction BC 1 Call Renewal Date	
For Mechanical Excavation within 1 metre of plant, utilities must be exposed by hand digging, unless the utility / pipeline owner requested a different excavation method.	
Design BC 1 Call Ticket number valid for planning purposes only. Ticket refresh by a Construction BC 1 Call must be completed.	

ENGINEERING NOTES		
UNLESS NOTED OTHERWISE, ENGINEERING CONTENT ON THIS DRAWING HAS BEEN PRODUCED FOLLOWING A DOCUMENTED BC HYDRO QUALITY MANAGEMENT PROCESS USING BC HYDRO ENGINEERING STANDARDS AUTHENTICATED BY PROFESSIONALS OF RECORD UNDER PERMIT TO PRACTICE NUMBER 1002449		
OVERHEAD LEGEND:		
EXISTING		PROPOSED
---	3Ø PRIMARY WIRE	---
---	1Ø PRIMARY WIRE	---
---	3Ø SECONDARY WIRE	---
---	1Ø SECONDARY WIRE	---
---	NEUTRAL	---
T	TELUS	
TR	TRANSMISSION	
- - - - -	CUSTOMER WIRE	
X-H	REMOVE WIRE	
HYDRO POLE	●	VOLT REGULATOR
JOINT POLE	⊗	RECLOSER
TELUS POLE	○	SECTIONALIZER
TRANSMISSION POLE	⊗	SWITCH
CUSTOMER/MUNICIPALITY POLE	⊗	SINGLE ANCHOR
POLE TO BE REMOVED	⊗	DOUBLE ANCHOR
STREETLIGHT	⊗	PUSH BRACE



SOUTH VANCOUVER ISLAND
VICTORIA POWER DISTRICT
OVERHEAD LINES AND POLE STRUCTURES FOR
POLE RELOCATIONS FOR ROUNDABOUT
CHURCH ROAD AT THROUP RD, SOOKE
SHEET 2 OF 2

DATE	2023APR17	DIST		DRAWING NUMBER	500-D07-03041	REPORT NUMBER		FIG NO	SIZE	REV
									D	1

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

POLE CONSTRUCTION DETAILS										
POLE ID	HEIGHT & CLASS	FRAMING	GUYING & ANCHORING							COMMENTS
			BCH				TELUS			
			ANC ID	TYPE	LEAD	GUYING	ANC ID	TYPE	LEAD	
1	50ft CL1	ES43 G3-09	1A	0.25m PLATE ANCHOR	3.8m (3.0m L + 0.8m La)	#10 SEC GUY	N/A	N/A	N/A	3PH TANGENT, SKYPIN, 1PH TAP (NO CUTOUT), SLACK SPAN TAP
2	50ft CL2	ES43 G4-09-02	2A	0.25m PLATE ANCHOR	3.0m	#10 PRI GUY W/ SIDEWALK GUY ASSEMBLY	2A	0.25m PLATE ANCHOR	3.0m	3PH ANGLE, ALLEY ARMS
3	50ft CL2	ES43 G4-02-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3PH TANGENT, SKYPIN
4	50ft CL1	ES43 G4-13	4A2	0.25m PLATE ANCHOR	7.0m (6.0m L + 1.0m La)	2 x #10 PRI GUY 1 x #10 SEC GUY	4A1	0.25m PLATE ANCHOR	4.3m (3.5m L + 0.8m La)	3PH CORNER, FRP ARMS
			4A4	0.25m PLATE ANCHOR	7.5m (6.5m L + 1.0m La)	2 x #10 PRI GUY 1 x #10 SEC GUY	4A3	0.25m PLATE ANCHOR	6.3m (5.0m L + 1.3m La)	
5	45ft CL2	ES43 G4-07-01	5A2	0.25m PLATE ANCHOR	8.2m (7.0m L + 1.2m La)	2 x #10 PRI GUY 1 x #10 SEC GUY	5A1	0.25m PLATE ANCHOR	6.4m (5.0m L + 1.4m La)	3PH DEAD-END, FRP ARM
6	45ft CL3	ES43 G4-07-02	6A	0.25m PLATE ANCHOR	3.8m (3.0m L + 0.8m La)	#10 SEC GUY	N/A	N/A	N/A	3PH DEAD-END EXTENSION, FRP ARM
2531567	50ft CL2	See D08 Drawing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NON-STANDARD CONSTRUCTION, REFRAME EXISTING POLE, 3PH ANGLE, SKYPIN, 1PH TAP WITH CUTOUT, EXISTING GUYING & ANCHORING TO REMAIN
2609941	45ft CL3	ES43 G4-02-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	REFRAME EXISTING POLE, 3PH TANGENT, SKYPIN, REMOVE GUY & ANCHOR
7	50ft CL2	ES43 G4-02-01 Es43 M6-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3PH UD TERMINAL POLE, TANGENT, SKYPIN

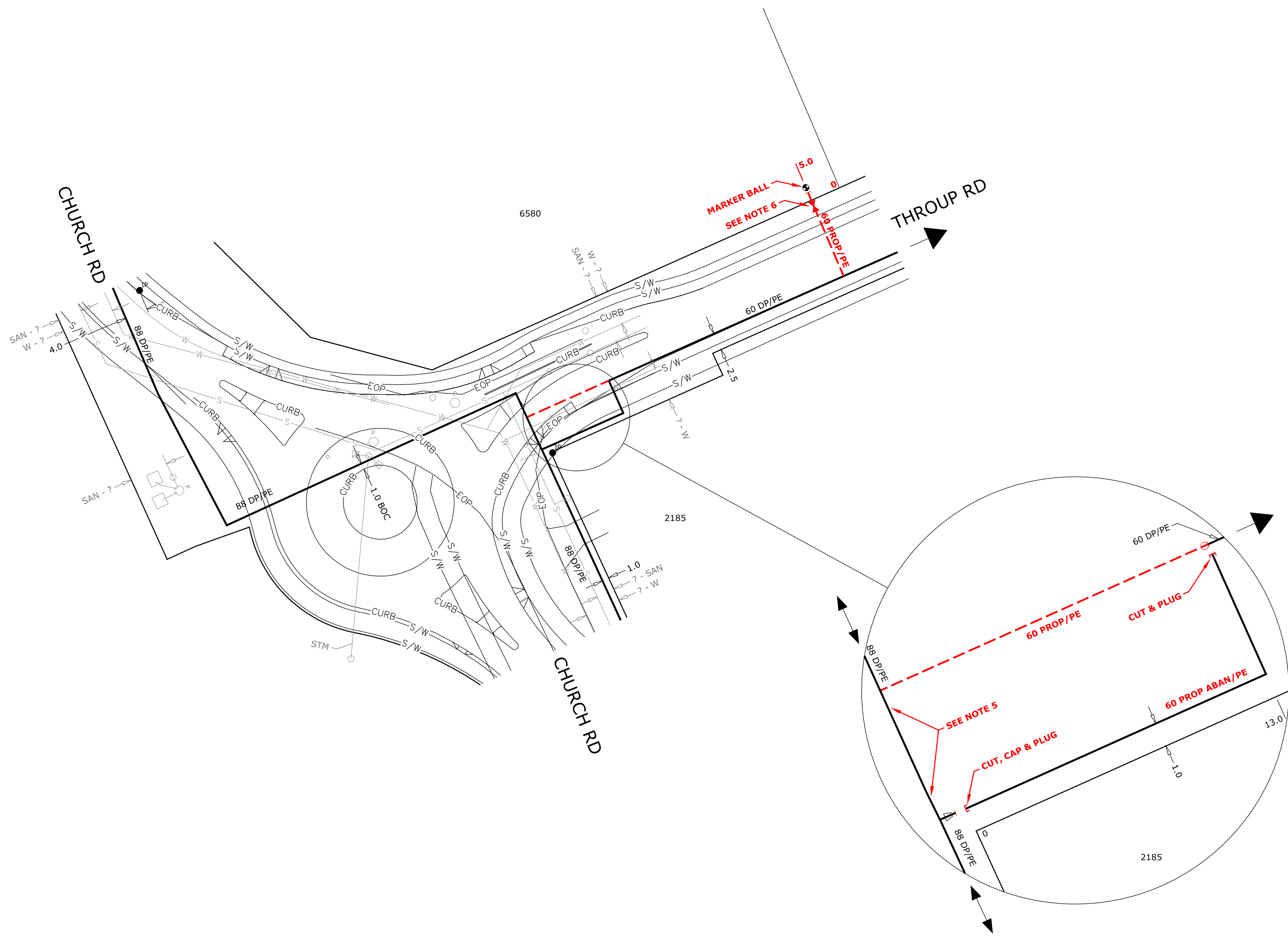
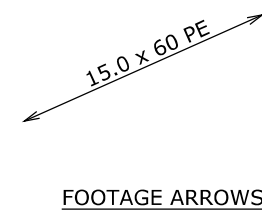
R 1
D #0004901715

G:\DDIS\MC\AREN_CHECKOUT\Da Costa Live\WORK IN PROGRESS\500-D07-03041_0209.1.dwg
Drawing Unit = Metric (6)
DA COSTA BRANDAO, LIVIA
4/17/2023 2:38 PM

1	500-U07-08875	U/G SERVICING PROVISIONS 6588 THROUP RD
NO	DRAWING NUMBER	DRAWING TITLE
REFERENCE DRAWINGS		

1	DESIGN# 0004901715 - ADDED POLE 007
0	DESIGN# 0004787995 - NEW DRAWING

FORTISBC ENERGY INC. DISTRIBUTION PIPING DESIGN (TITLE BLOCK) (REVISION 04/01/00)



NOTES:

1. THE STANDARD DEPTH OF COVER FOR GAS MAIN IN ROAD ALLOWANCES IS 0.6m MINIMUM.
2. THE MINIMUM HORIZONTAL CLEARANCE REQUIREMENTS OF THE MUNICIPALITY AND FORTISBC SHALL BE MAINTAINED FROM FOREIGN UTILITIES.
3. ABANDON 20.0 x 60 PE, 2002. CHARGE ALL ABANDONMENT COSTS TO NOT.#2800558076 , S.O. #31267540.
4. WORKSAFE BC NOTICE OF PROJECT MAY BE REQUIRED.
5. PROP LOWERING 4.0 x 88 PE, 2003.
6. INSTALL SERVICE VALVE 0.3m OUTSIDE PROPERTY LINE.
7. ANALYSIS IS BASED ON CRD-VICTORIA 2021-2022 DESIGN MODEL AT 18DD/ 0°C. PLEASE CONTACT SYSTEM CAPACITY PLANNING TO RE-RUN THE ANALYSIS IF TEMPERATURES FALL BELOW 0°C DURING WORK PROCEDURE.
8. COMPLETE INSTALLATION OF NEW 60 PE FROM CHURCH TO THROUP PRIOR TO ABANDONING.

LEGEND	
— PROP. DP GAS MAIN	● MARKER BALL
— EXIST. DP GAS MAIN	○ CAP
— PROP. IP GAS PIPELINE	□ PLUG
— EXIST. IP GAS PIPELINE	□ REDUCER
— EXIST. TP GAS PIPELINE	□ TRANSITION FITTING
— DP SERVICE HEADER	○ TEST POINT
— DEAD GAS PIPING	○ P.C.T.
— PROP. BONDING CABLE	○ BRANCH SADDLE
— EXIST. BONDING CABLE	
● WILLIAMSON TEE	● WILLIAMSON SHORT STOP FITTING (SSF)
● HALF SADDLE FITTING (HSP)	● WILLIAMSON STOPPLE FITTING (SFO)
□ FULL SADDLE FITTING (FSF)	
□ ANCHORED DRESSER	□ ELECTRO STOP
□ NON-INSULATED DRESSER	□ ANCHORED INSULATED DRESSER
□ STY. 39 & 90 INSULATED DRESSER	
□ MAINTAINED/ SERVICE VALVE	□ MAINTAINED INSULATED VALVE
□ ENCASED VALVE	□ WELDED END VALVE
□ RECTIFIER	□ MAGNESIUM ANODE
□ SURFACE ANODE	□ DEEP ANODE
□ TELEMETER	□ PRE-DUCT SLEEVE
□ PROTECTION BOARD	
★ CUSTOMER STATION	★ REGULATOR STATION
★ GATE STATION	★ FLOW CTRL. STATION
★ VALVE STATION	★ IP STATION

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BC 1 CALL

CALL BEFORE YOU DIG
1-800-474-6886 OR BY
CELLULAR *6886
VANCOUVER AREA 257-1940
www.bc1c.ca



**CALL AT LEAST TWO
FULL WORKING
DAYS BEFORE YOU
PLAN TO DIG**

**OTHER UTILITIES AND INFRASTRUCTURE NOT OWNED BY
FORTISBC ARE SHOWN FOR REFERENCE ONLY.
CONTACT BC 1 CALL PRIOR TO CONSTRUCTION. PROVE
LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.**

BC 1 CALL DESIGN TICKET NUMBER	TICKET NO.	DESIGN TICKET INITIATION DATE	TICKET DATE

REV	DESCRIPTION	DRAWN	CHKD	DESIGNER	DATE YYYY/MM/DD
1	REV'D DESIGN	JLIN	WC	K. HAYWOOD	2022/10/25
0		JLIN	WC	K. HAYWOOD	2022/07/26



ASSET TYPE	DESIGN CONTACT PH #	CONSTRUCTION SO #	DESIGN SJ #	ECONOMIC TEST #	PARENT SHO #
<input checked="" type="checkbox"/> DP MAIN <input type="checkbox"/> SERVICE HEADER <input type="checkbox"/> VERTICAL SUBDIVISION <input type="checkbox"/> IP GAS PIPELINE	1-250-380-5741	31267523			

DISTRIBUTION PIPING DESIGN			
16705 Fraser Highway Surrey, BC V4N 0E8 1-888-224-2710			
SIZE	DRAWING / SAP/ PROJECT NUMBER	SH. OF	REV.
A1	2800558074	1 OF 1	1