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PROJECT NAME:	NEW CHARGING STATION
PROJECT TYPE:	INSTALLATION OF ELECTRIC VEHICLES CHARGING EQUIPMENT
PROJECT SITE No.:	800033 – EAGLE CREEK VILLAGE
STATION OWNER:	ELECTRIFY CANADA
ADDRESS:	29 HELMCKEN RD., VICTORIA, BC

DRAWING INDEX			
SHEET	DRAWING DESCRIPTION	NO.	DATE
COV.	TITLE SHEET & SITE KEY PLAN	7	11 APR 23
A01	OVERALL SITE PLAN	6	06 MAR 23
A02	DEMOLITION SITE PLAN	4	07 FEB 23
A03	ENLARGED SITE PLAN	6	06 MAR 23
A04	ENLARGED PROPOSED EQUIPMENT LAYOUT	6	06 MAR 23
A05	SITE ELEVATIONS	7	11 APR 23
A05A	SITE ELEVATIONS	7	11 APR 23
A06	CIVIL SITE PLAN	6	06 MAR 23
L1&L2	LANDSCAPING PLAN – BY PMG	5	22 FEB 23
D01	EQUIPMENT DETAILS	2	06 JAN 23
D02	EQUIPMENT DETAILS	1	04 NOV 22
D03	EQUIPMENT DETAILS	7	11 APR 23
D04	CONDUIT DETAILS	1	04 NOV 22
D05	DISPENSERS PAD DETAILS	2	06 JAN 23
E01	ELECTRICAL UTILITY PLAN	6	06 MAR 23
E02	ELECTRICAL SITE PLAN	6	06 MAR 23
E03	ELECTRICAL SINGLE LINE DIAGRAM	6	06 MAR 23
E04	ELECTRICAL DETAILS	1	04 NOV 22
E05	ELECTRICAL SPECIFICATIONS	1	04 NOV 22
E06	ELECTRICAL SPEC (CONT.) SWB & PNL SCHEDULES	1	04 NOV 22
E07	ELECTRICAL GENERAL NOTES	1	04 NOV 22
G01	SCHEMATIC GROUNDING PLAN	6	06 MAR 23
N01	GENERAL NOTES	1	04 NOV 22
N02	GENERAL NOTES	1	04 NOV 22
N03	GENERAL NOTES	1	04 NOV 22



SITE PHOTO

ISSUE		
0	ISSUED FOR 90% REVIEW	02 NOV 22
1	ELECTRICAL REV.	04 NOV 22
2	CANOPY ADD	06 JAN 23
3	BREAKER CONFIGURATION	10 JAN 23
4	CANOPY REV	07 FEB 23
5	LANDSCAPING	22 FEB 23
6	BC HYDRO UPDATE	06 MAR 23
7	LANDSCAPING UPDATE	11 APR 23

DRAWINGS FOR REFERENCE ONLY		
SHEET	DRAWING DESCRIPTION	DATE
-	PROPERTY SURVAY	08 FEB 2022
-	STAGING PLAN	22 FEB 23

SITE INFORMATION

EV SITE ADDRESS:  
29 HELMCKEN RD., VICTORIA, BC

PROPERTY OWNER:  
- - -

EQUIPMENT SUPPLIER:  
ELECTRIFY CANADA

POWER COMPANY:  
BC HYDRO

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

2018 BC BUILDING CODE  
2018 BC PLUMBING CODE  
2021 CANADIAN ELECTRICAL CODE (CSA C22.1)

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

ZONING INFORMATION

LAND USE:  
MIXED COMMERCIAL

ZONING:  
CD-20

PARCEL AREA:  
0.9 HA

PROJECT DESCRIPTION

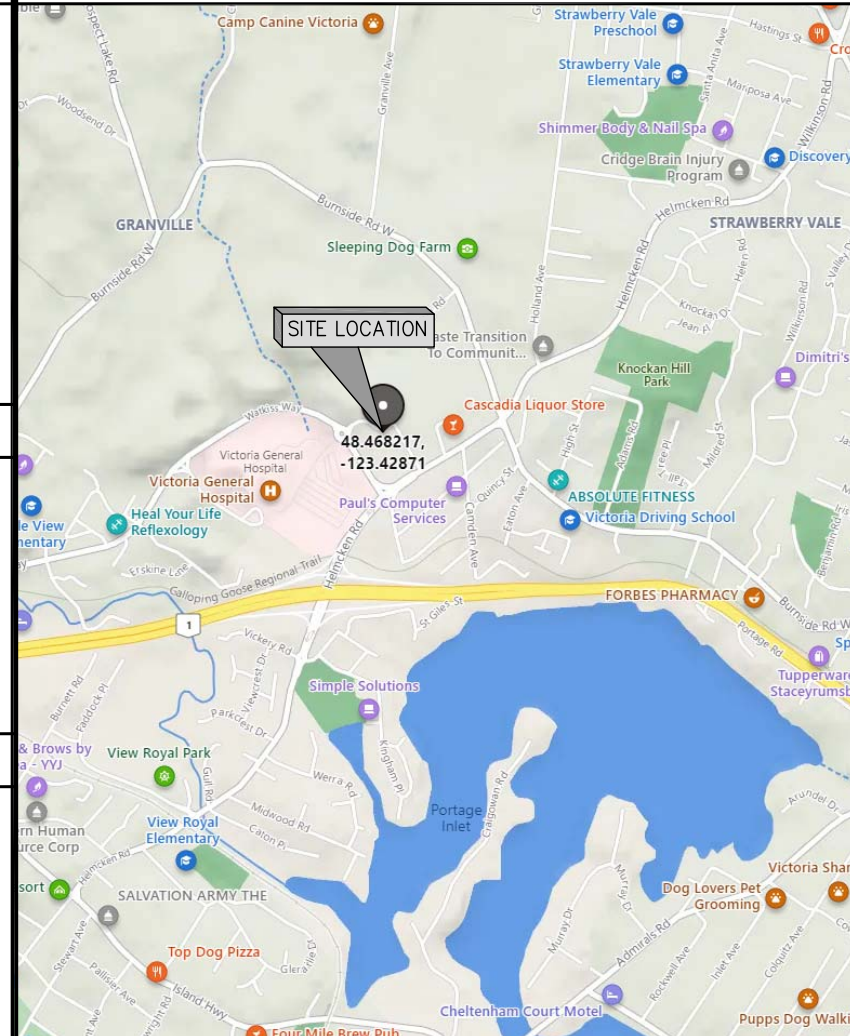
- INSTALL (1) EQUIPMENT PAD
- INSTALL (1) TRANSFORMER PAD
- INSTALL (2) DISPENSER PAD
- INSTALL (1) UTILITY TRANSFORMER
- INSTALL (1) 600V SWITCHBOARD ASSEMBLY
- INSTALL (1) 480V SWITCHBOARD ASSEMBLY
- INSTALL (3) 360KW BTC GEN 4 POWER UNITS
- INSTALL (4) BTC GEN 4 DISPENSERS
- RESTORE VEGETATION AS PER LANDSCAPE PLAN

ENGINEER OF RECORD

STRUCTURAL:  
RAFAL PUSZYNSKI  
ROEHAMPTON WEST P: 416 9930250

ELECTRICAL:  
ERIC GILL  
ORION ENGINEERING INC. P: 778 8580511

KEY MAP (NTS)



GEOGRAPHIC COORDINATES

LATITUDE: N 48.468217°  
LONGITUDE: W 123.428710°

UTILITY – CONTACT

BRITISH COLUMBIA ONE CALL: (BEFORE YOU DIG) 1-800-474-6886

NOTES:

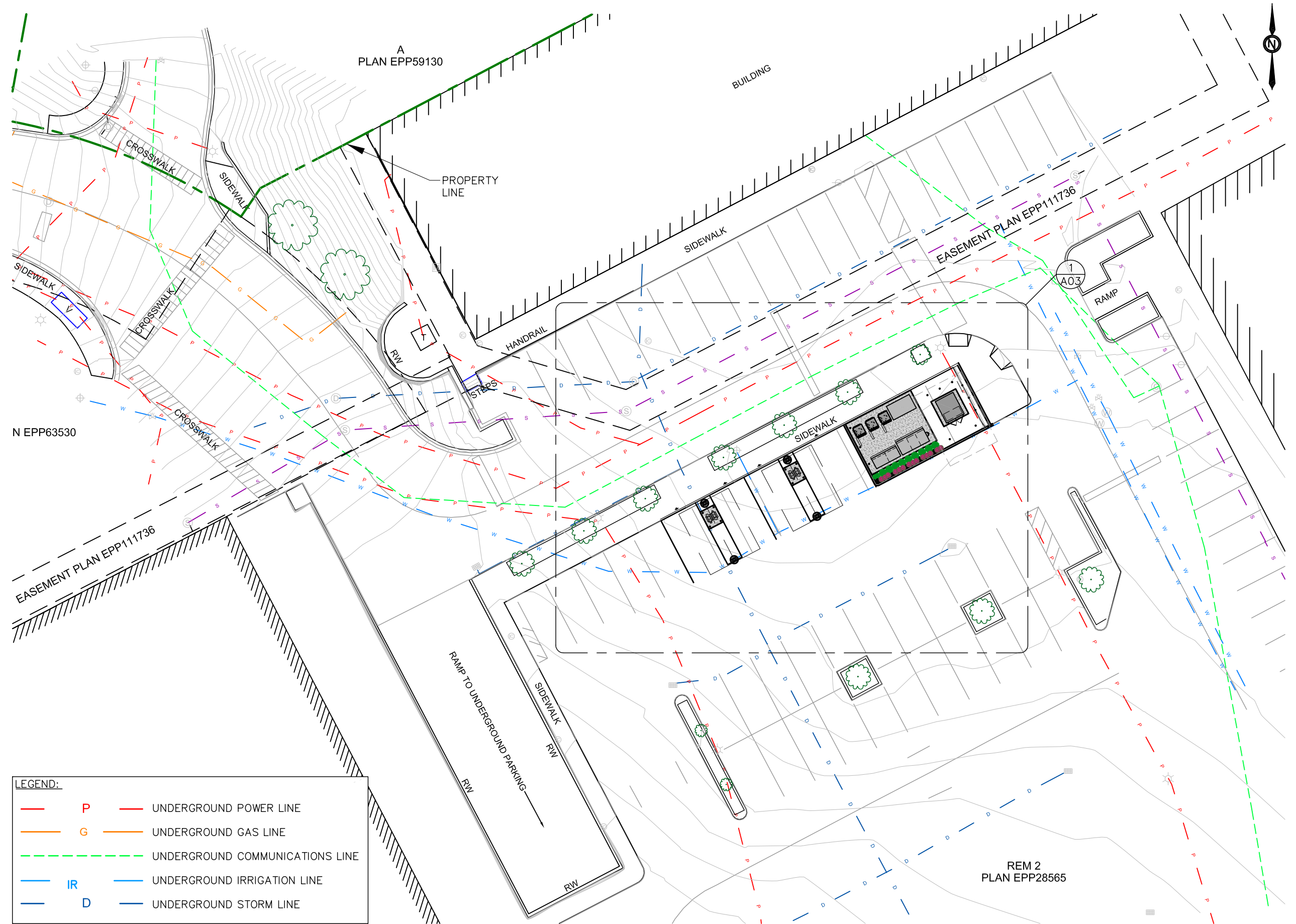
1. ENSURE ALL ASPECTS OF WORK CONFORM TO ELECTRIFY CANADA SPECIFICATIONS.
2. CONTRACTOR TO VERIFY NORTH DIRECTION AND REPORT ANY DISCREPANCIES.
3. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
4. READ THESE DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.
5. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON SITE PRIOR TO FABRICATION FOR EXACT FIT. NOTIFY CONSULTANT/ENGINEER REGARDING ANY DISCREPANCIES.
6. DO NOT SCALE DRAWINGS.



**ROEHAMPTON WEST**  
409 GRANVILLE ST,  
SUITE 1051  
VANCOUVER, BC V6C 1T2  
TEL. (778)228-4228  
VANCOUVER | KELOWNA | EDMONTON | CALGARY

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**LEGEND:**

<span style="color: red;">---</span> P	<span style="color: red;">---</span> UNDERGROUND POWER LINE
<span style="color: orange;">---</span> G	<span style="color: orange;">---</span> UNDERGROUND GAS LINE
<span style="color: green;">---</span>	<span style="color: green;">---</span> UNDERGROUND COMMUNICATIONS LINE
<span style="color: blue;">---</span> IR	<span style="color: blue;">---</span> UNDERGROUND IRRIGATION LINE
<span style="color: darkblue;">---</span> D	<span style="color: darkblue;">---</span> UNDERGROUND STORM LINE

1 OVERALL SITE PLAN  
SCALE 1:300



CLIENT:



5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

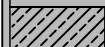



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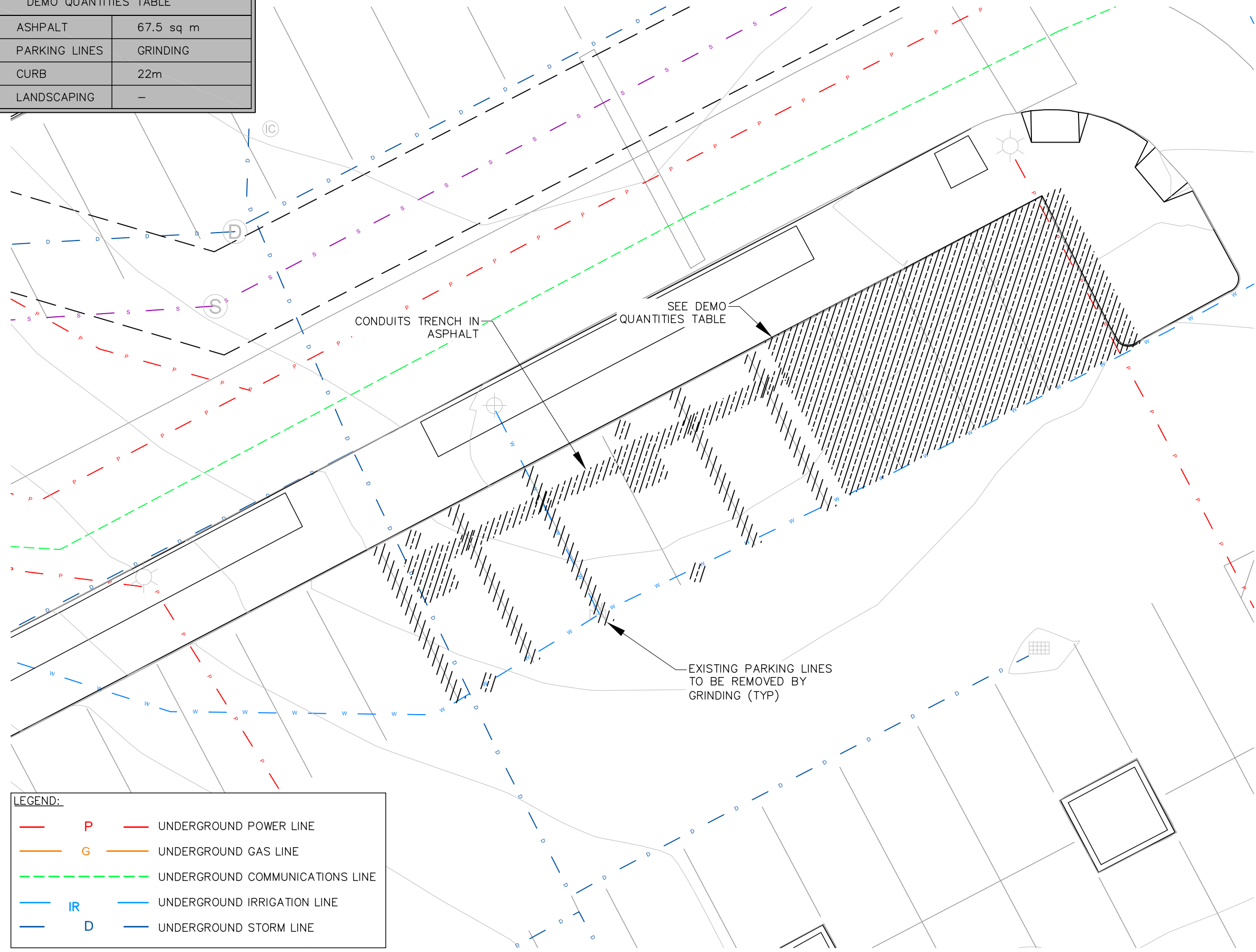
LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
OVERALL SITE PLAN









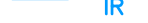

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A01
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DEMO QUANTITIES TABLE		
	ASHPALT	67.5 sq m
	PARKING LINES	GRINDING
	CURB	22m
	LANDSCAPING	-



**LEGEND:**

	<b>P</b>		UNDERGROUND POWER LINE
	<b>G</b>		UNDERGROUND GAS LINE
			UNDERGROUND COMMUNICATIONS LINE
	<b>IR</b>		UNDERGROUND IRRIGATION LINE
	<b>D</b>		UNDERGROUND STORM LINE

1 DEMOLITION SITE PLAN  
SCALE 1:125



**NOTES:**

1. THE CONTRACTOR SHALL RETURN SIDEWALKS, LANDSCAPING, PLANTERS, IRRIGATION SYSTEMS, AND ANY OTHER FACILITIES DISTURBED BY THE WORK TO THE SAME OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF THE WORK.
2. ALL QUANTITIES LISTED IN DEMOLITION PLAN SHEET ARE ONLY APPROXIMATIONS. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES BEFORE BIDDING.
3. TRENCHING IS TO BE USED EXCEPT IN HEAVY TRAFFIC AREAS, MAIN DRIVE AISLES AND ACROSS STORE ENTRANCE.

CLIENT:

OWNER:



5			
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

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 VANCOUVER | KELOWNA | EDMONTON | CALGARY

LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
DEMOLITION SITE PLAN

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A02
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**PROPOSED DISPENSERS**

CHARGE POST NUMBER	DISPENSER MAX. POWER	CABLE TYPE
1A	360kW *	CCS
1B	360kW *	CCS
2	360kW	CCS
3	360kW	CCS

\* SHARED 360KW OUTPUT

**PROJECT STALL COUNT**

EXISTING STALL COUNT	10
PROPOSED STALL COUNT	4
SITE HOST APPROVED STALL COUNT	10

**PROPERTY STALL COUNT**

EXISTING STALL COUNT	726
PROPOSED STALL COUNT	720

NOTE: CHARGE POST DISPENSERS MARKED A AND B CAN TOGETHER OUTPUT NO MORE THAN 360KW

NOTES:

- SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.
- THE CONTRACTOR SHALL RETURN SIDEWALKS, LANDSCAPING, PLANTERS, IRRIGATION SYSTEMS, AND ANY OTHER FACILITIES DISTURBED BY THE WORK TO THE SAME OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF THE WORK.
- MAINTAIN TRANSFORMER TO FENCE DISTANCE REQUIRED BY BC HYDRO. DISTANCE SHALL NOT BE LESS THAN 4ft (1200mm).

CLIENT:

OWNER:



5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ENLARGED SITE PLAN

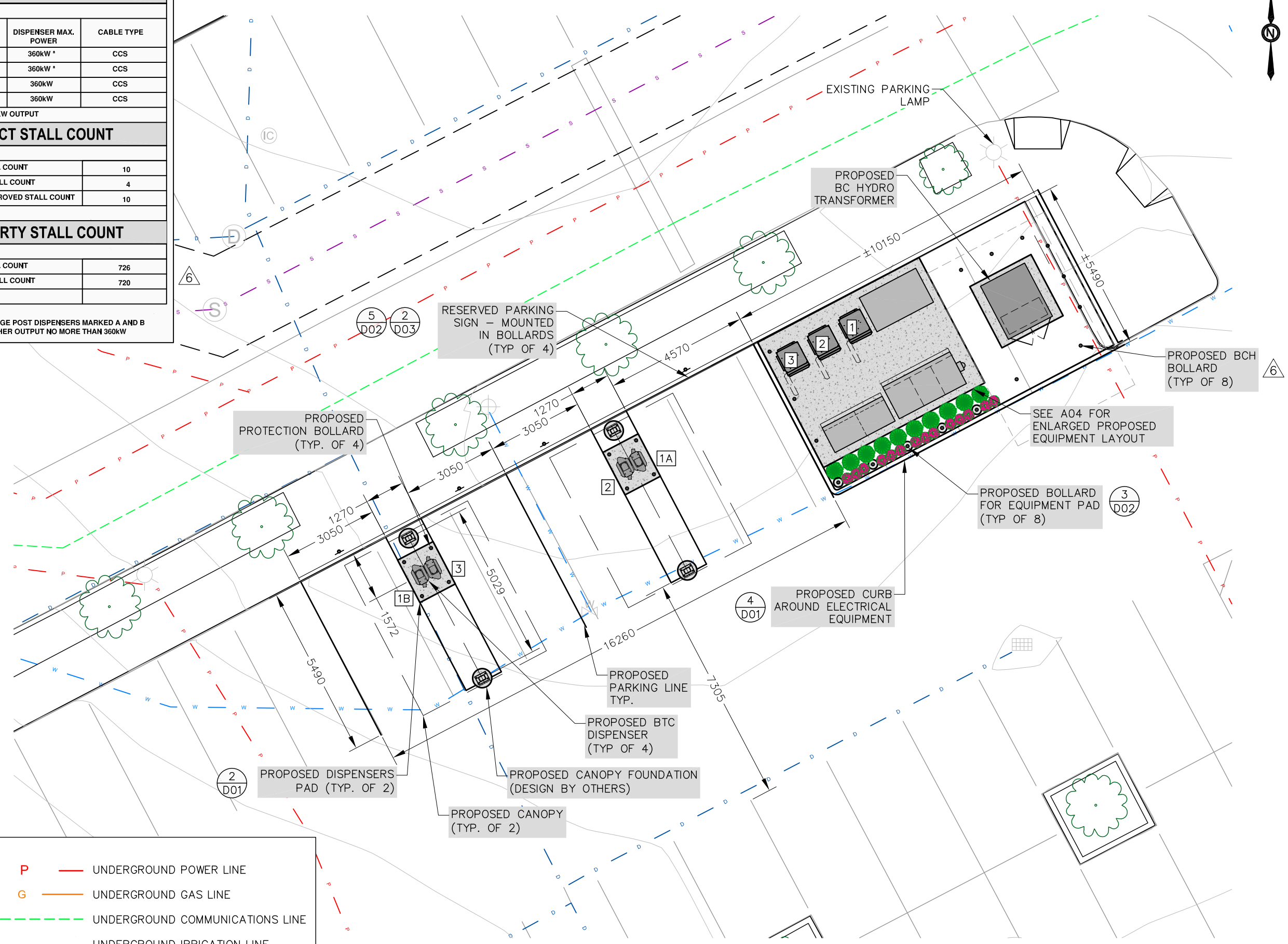
PROJECT NAME:	PROJECT NO:	DWG. NO:
NEW CHARGING STATION	800033	A03

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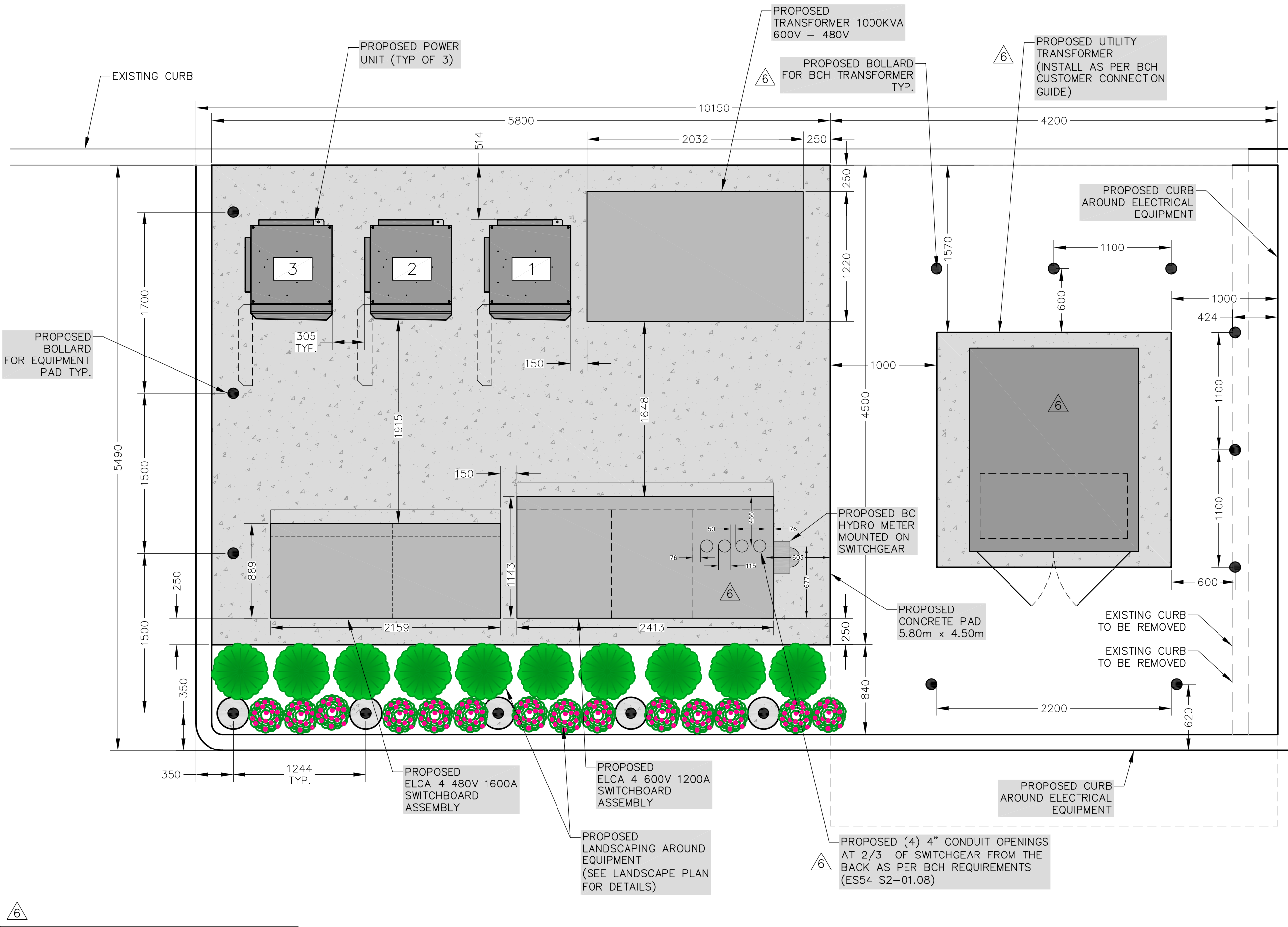
	<b>P</b>		UNDERGROUND POWER LINE
	<b>G</b>		UNDERGROUND GAS LINE
			UNDERGROUND COMMUNICATIONS LINE
	<b>IR</b>		UNDERGROUND IRRIGATION LINE
	<b>D</b>		UNDERGROUND STORM LINE

1 ENLARGED SITE PLAN  
SCALE 1:125





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**NOTE:**  
 1. DIMENSIONS ARE BASED ON ABB SWITCHGEAR PRELIMINARY DRAWINGS - EXACT DIMENSIONS TO BE UPDATED WHEN ABB DRAWINGS ARE AVAILABLE

1 ENLARGED PROPOSED EQUIPMENT LAYOUT  
 SCALE 1:35



CLIENT:

OWNER:

5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

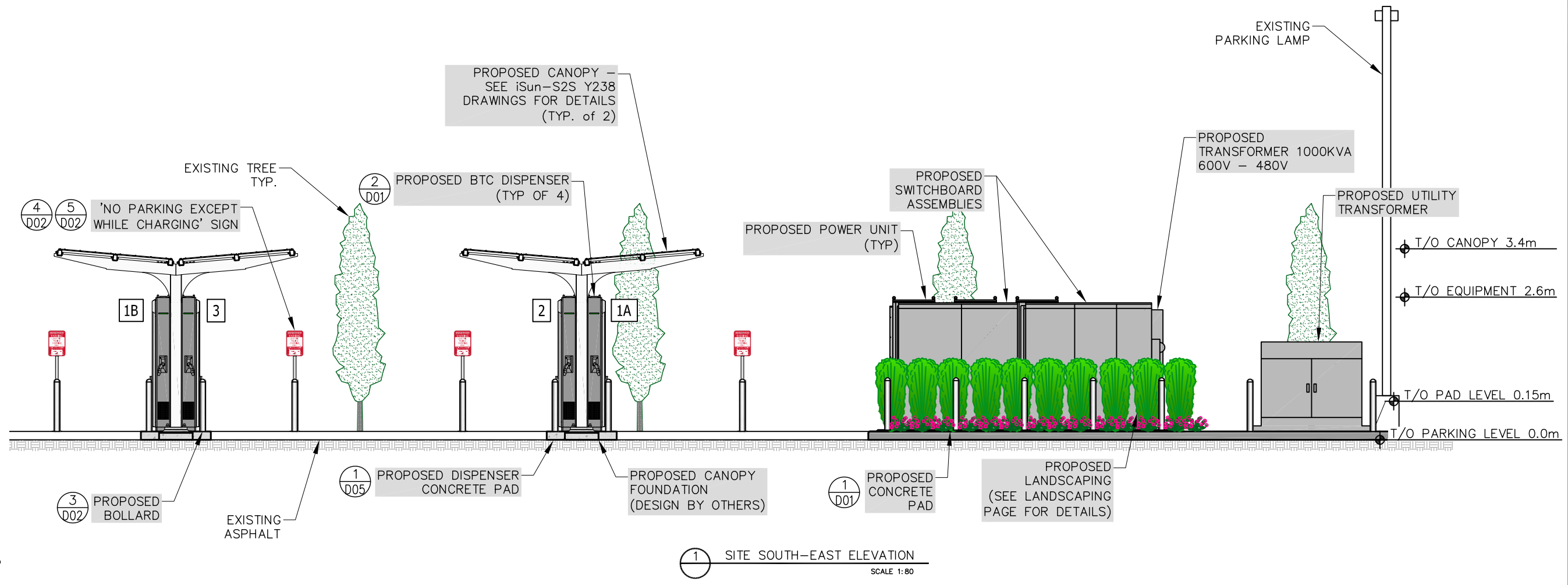
**ROEHAMPTON WEST**  
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LOCATION:  
 29 HELMCKEN RD., VICTORIA, BC

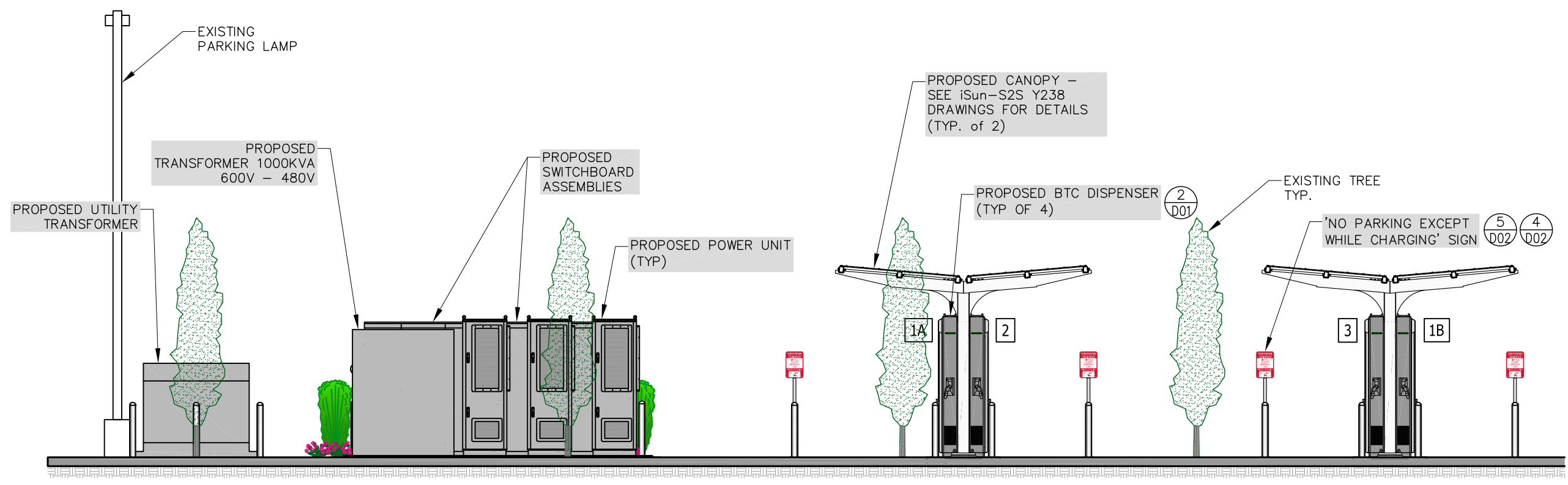
TITLE:  
 ENLARGED PROPOSED EQUIPMENT LAYOUT

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A04
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1 SITE SOUTH-EAST ELEVATION  
SCALE 1:80



2 SITE NORTH-WEST ELEVATION  
SCALE 1:80

CLIENT:

OWNER:



7	CD	LANDSCAPING UPDATE	11 APR 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

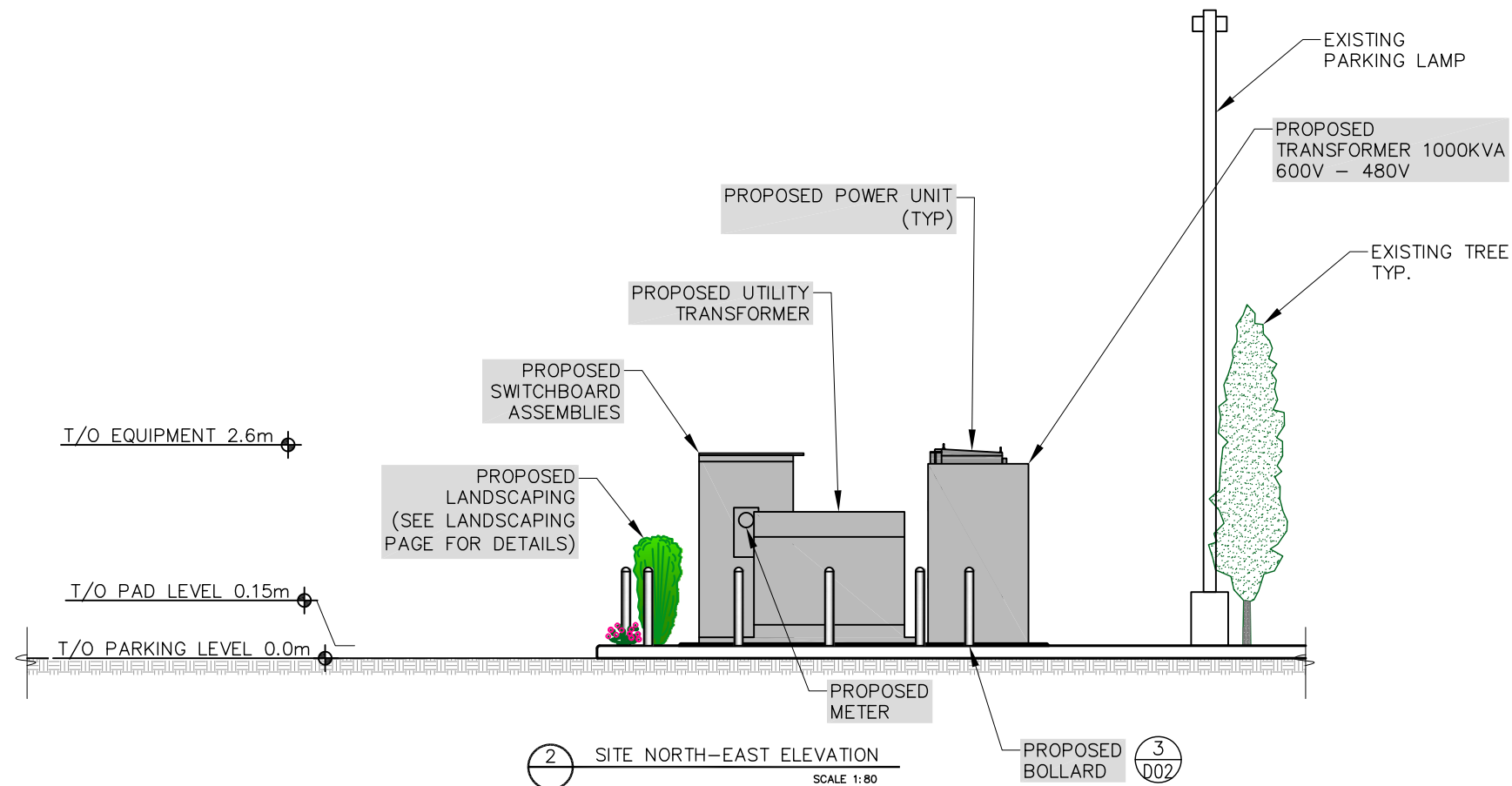
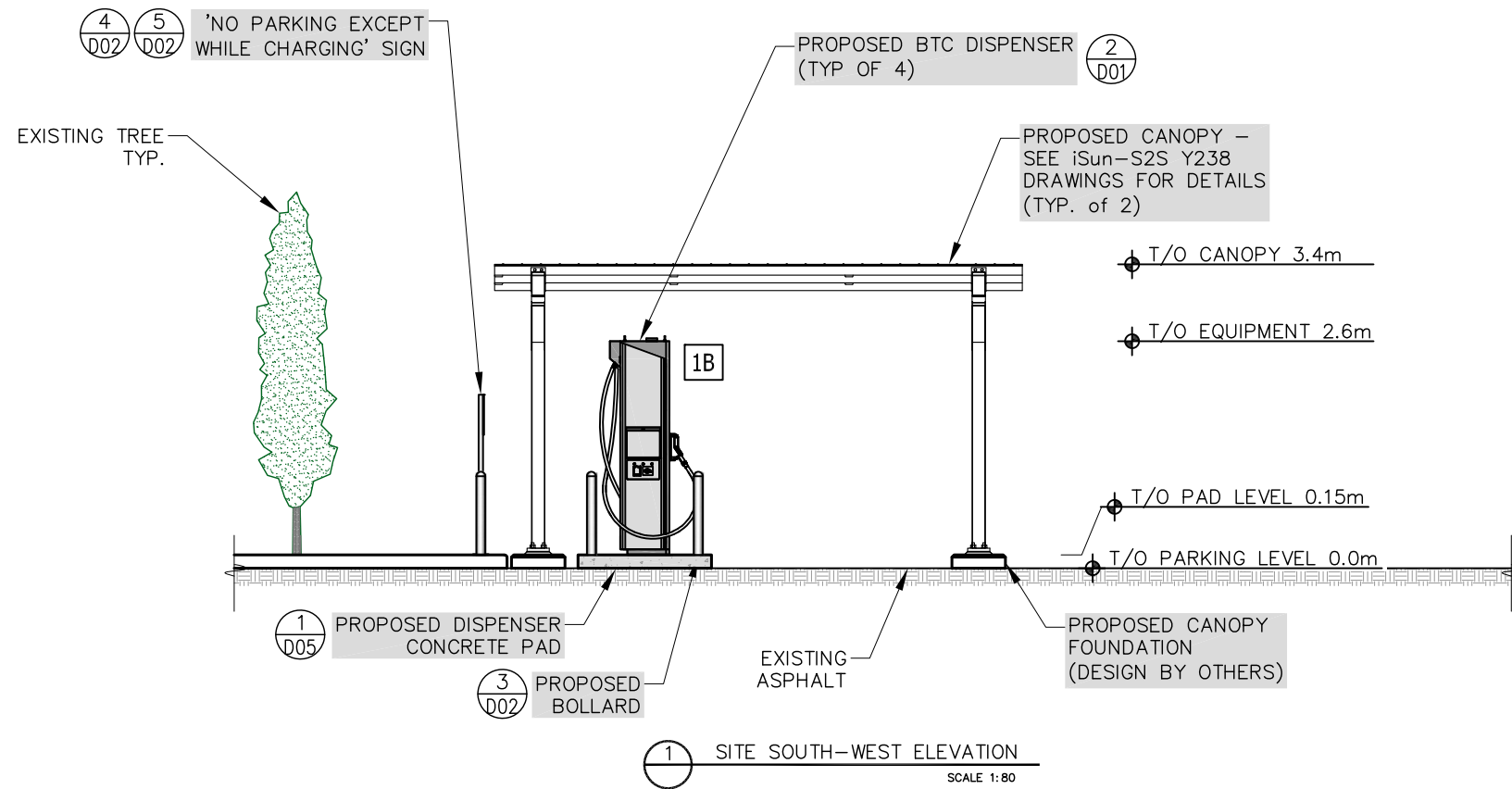
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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
SITE ELEVATIONS

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A05
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CLIENT:

OWNER:



NO.	BY	DESCRIPTION	DATE
7	CD	LANDSCAPING UPDATE	11 APR 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22

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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
SITE ELEVATIONS

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A05A
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NOTES:

1. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.
2. THE CONTRACTOR SHALL RETURN SIDEWALKS, LANDSCAPING, PLANTERS, IRRIGATION SYSTEMS, AND ANY OTHER FACILITIES DISTURBED BY THE WORK TO THE SAME OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF THE WORK.
3. MAINTAIN TRANSFORMER TO FENCE DISTANCE REQUIRED BY BC HYDRO. DISTANCE SHALL NOT BE LESS THAN 4ft (1200mm).

CLIENT:

OWNER:



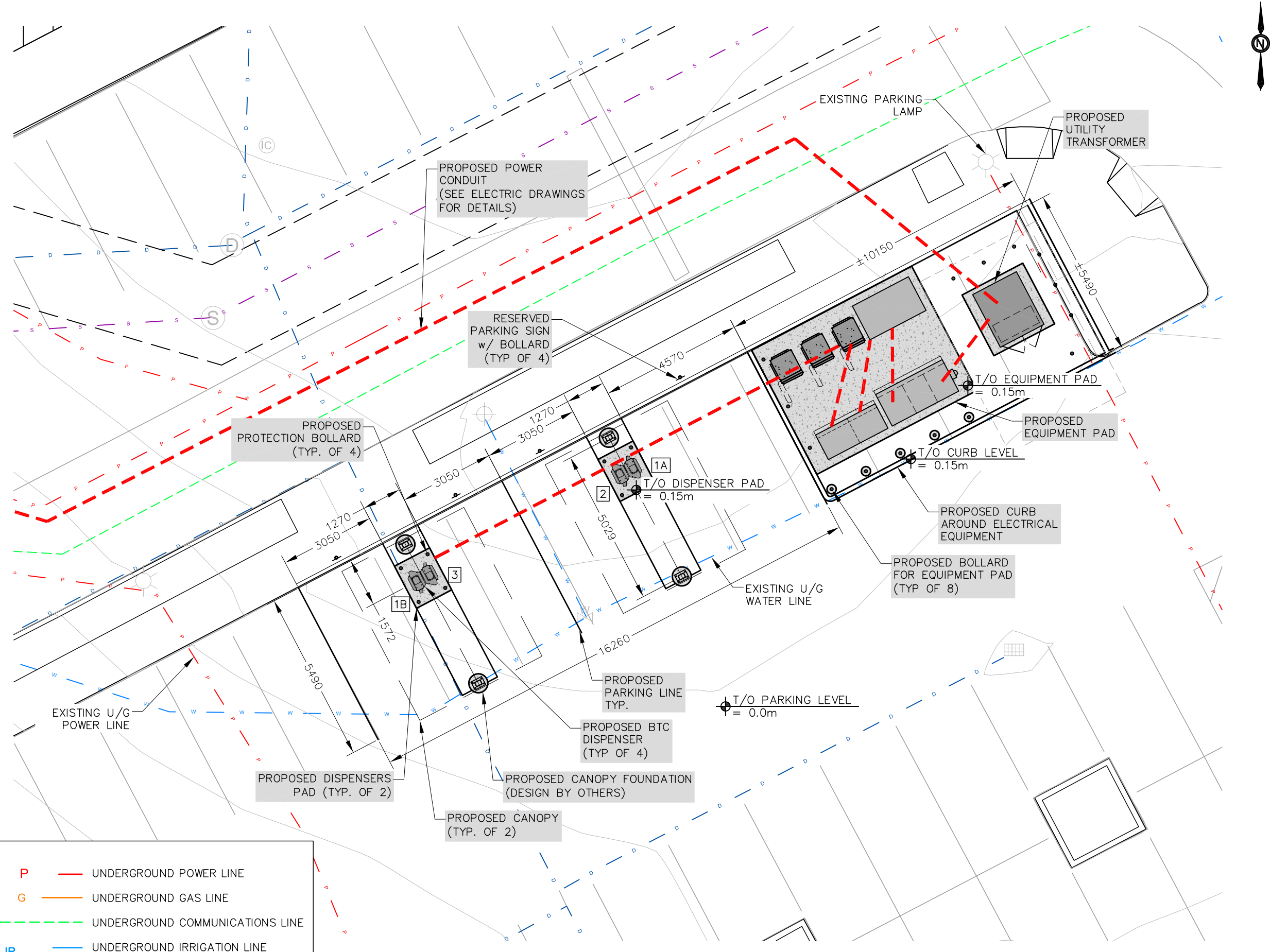
5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
CIVIL SITE PLAN

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: A06
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**LEGEND:**

<span style="color: red;">—</span> P	<span style="color: red;">—</span> UNDERGROUND POWER LINE
<span style="color: orange;">—</span> G	<span style="color: orange;">—</span> UNDERGROUND GAS LINE
<span style="color: green;">- - -</span>	UNDERGROUND COMMUNICATIONS LINE
<span style="color: blue;">—</span> IR	<span style="color: blue;">—</span> UNDERGROUND IRRIGATION LINE
<span style="color: blue;">—</span> D	<span style="color: blue;">—</span> UNDERGROUND STORM LINE

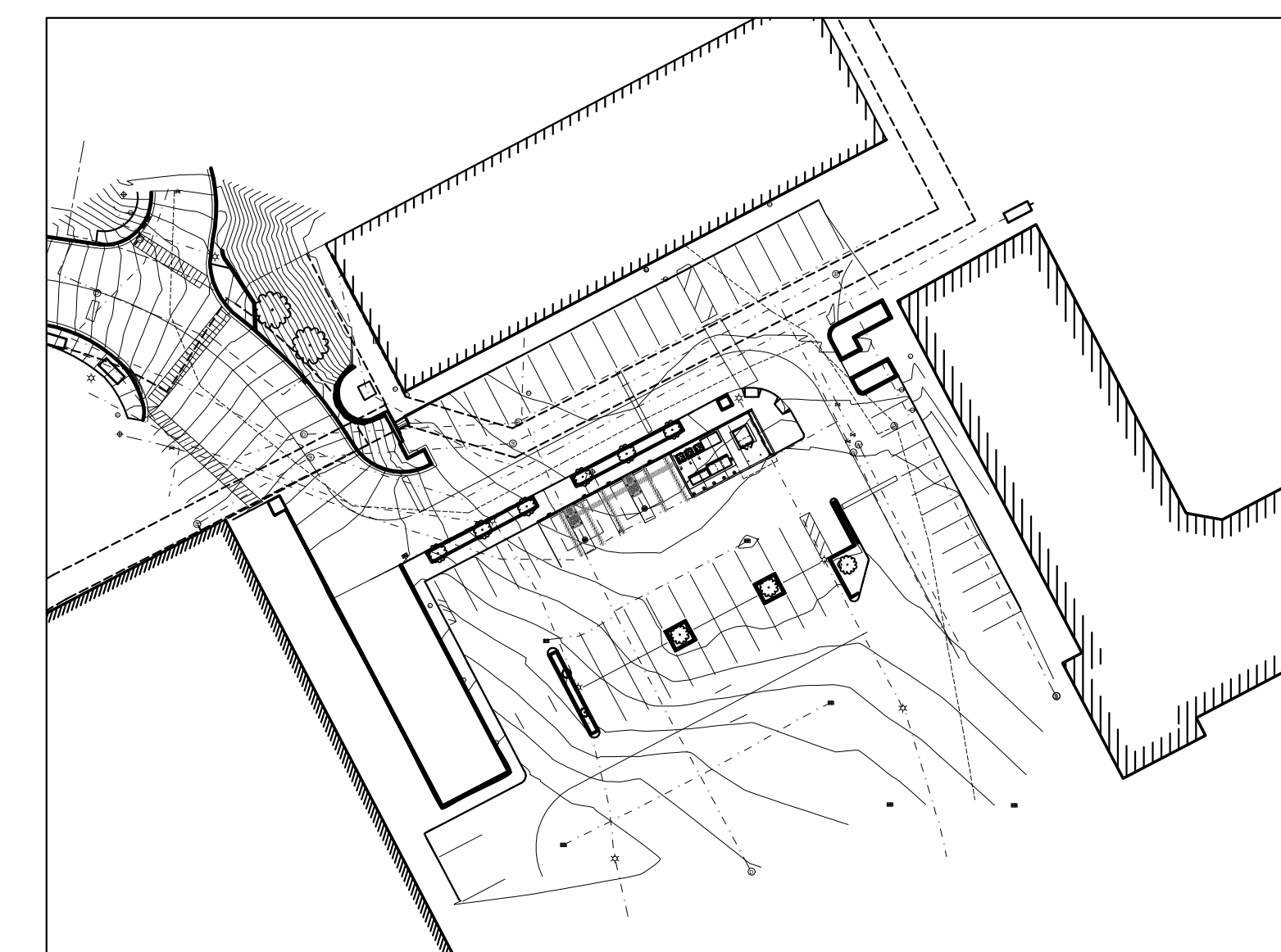
1 CIVIL SITE PLAN  
SCALE 1:125



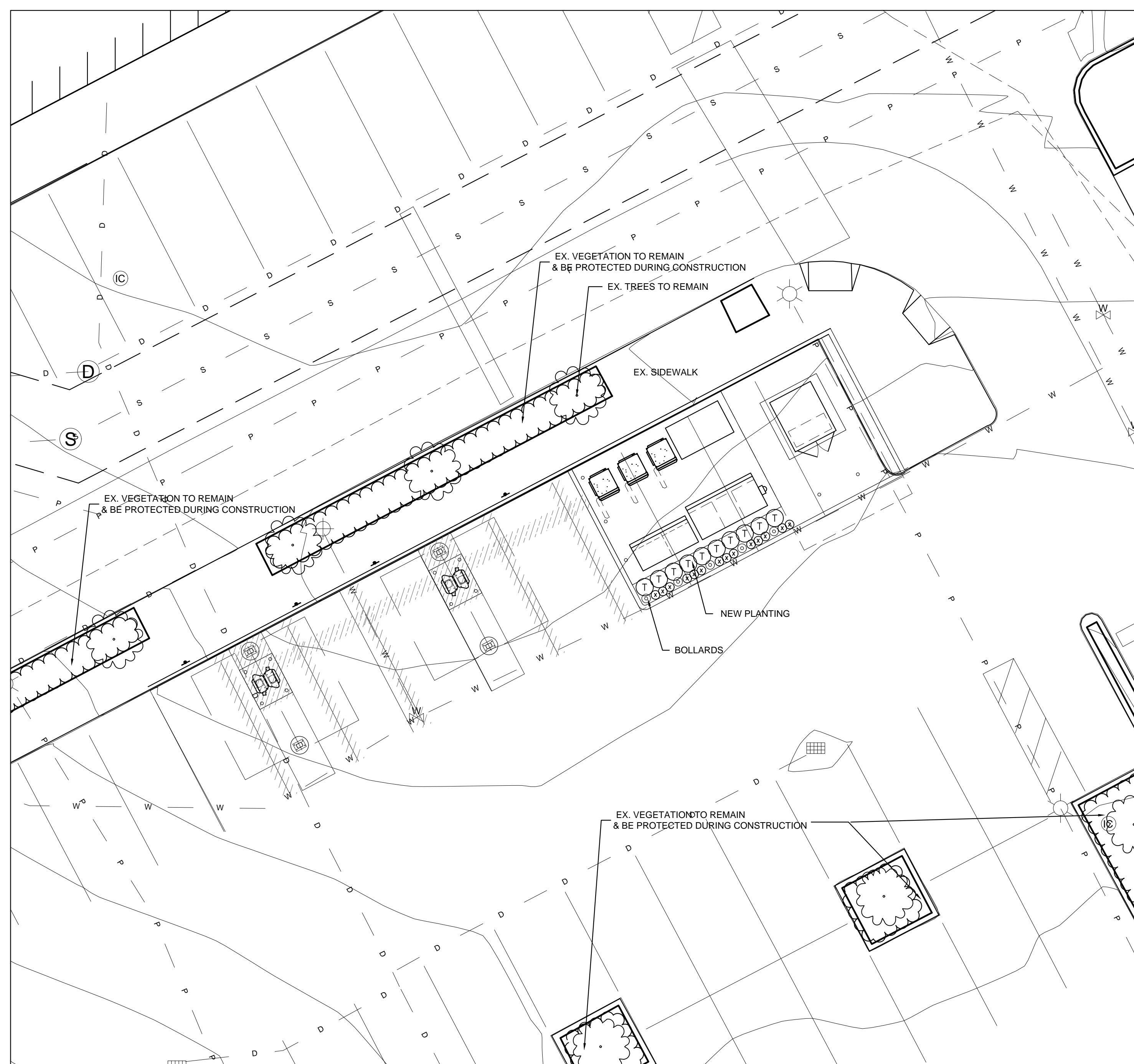
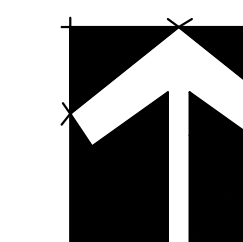
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SEAL:



KEY PLAN



PLANT SCHEDULE					PMG PROJECT NUMBER: 9x-xxx
KEY	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS	
SHRUB					
(T)	10	TAXUS X MEDIA 'HICKSII'	HICK'S YEW	1.5M B&B	
PERENNIAL					
(X)	14	DIANTHUS 'LITTLE JOCK'	EVERGREEN DIANTHUS; PINK	15CM POT	

NOTES: \* PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNLA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. \* REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. \* SEARCH AND REVIEW: MAKE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. \* SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD - DEFINITION OF CONDITIONS OF AVAILABILITY. ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY

NO.	DATE	REVISION DESCRIPTION	DR.
1	23.MAR.13	PLANT SPECIES CHANGE	MM

CLIENT:

PROJECT:

**EV CHARGING STATION**

**29 HELMCKEN ROAD,  
VICTORIA, B.C.**

DRAWING TITLE:

**LANDSCAPE PLAN**

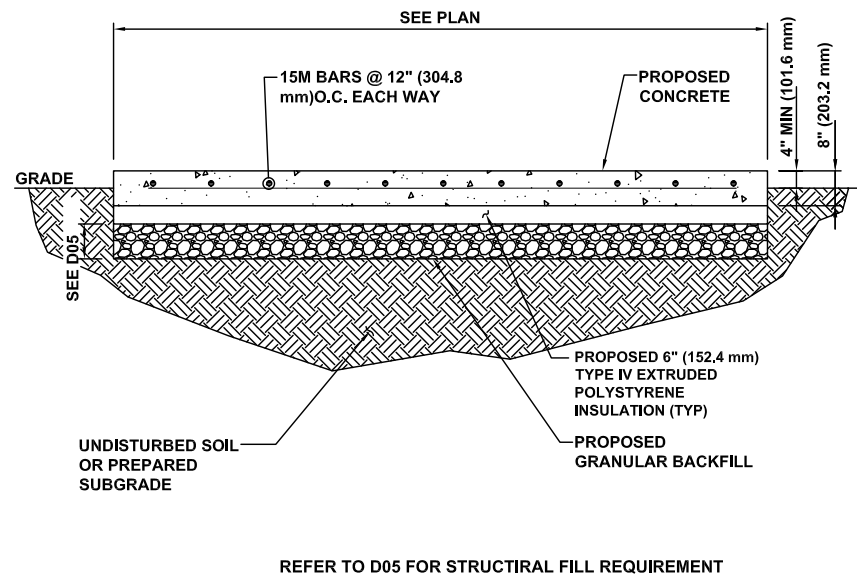
DATE: 23.FEB.09 DRAWING NUMBER:  
SCALE: 1:100 **L1**  
DRAWN: MM  
DESIGN: MM  
CHK'D: BA **OF 2**



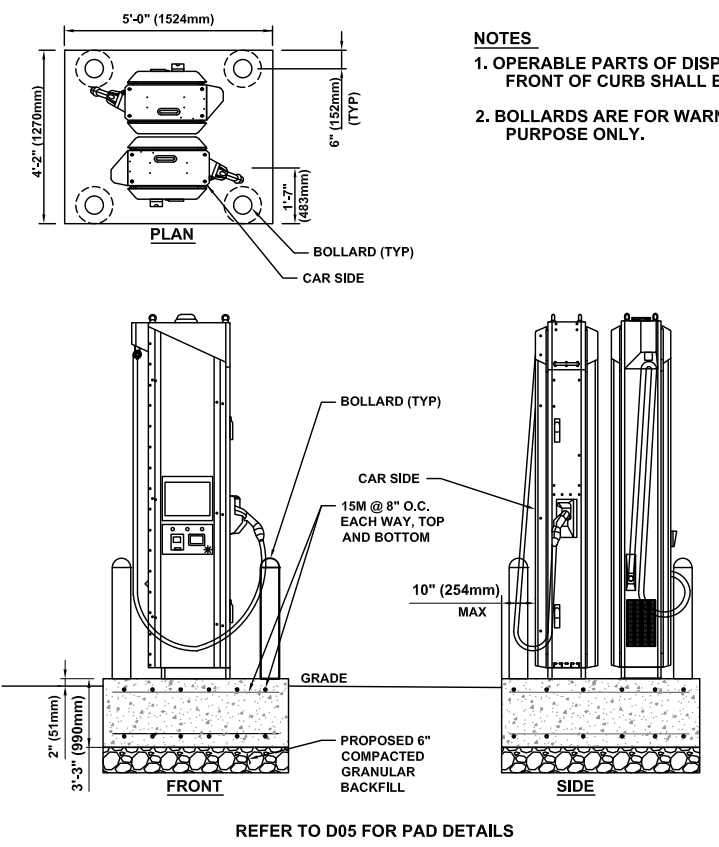




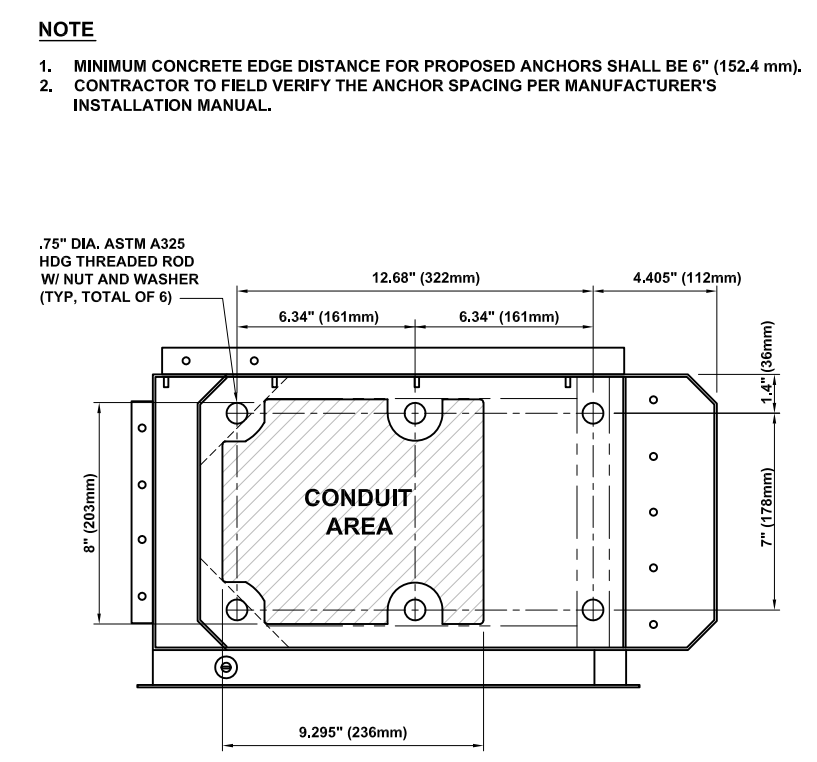
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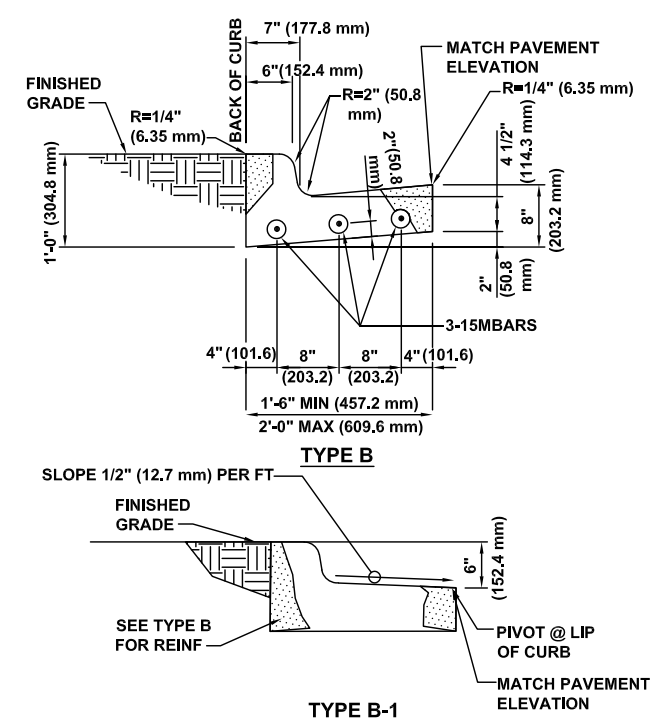
1 CONCRETE PAD DETAIL



2 DISPENSER FOOTING DETAIL

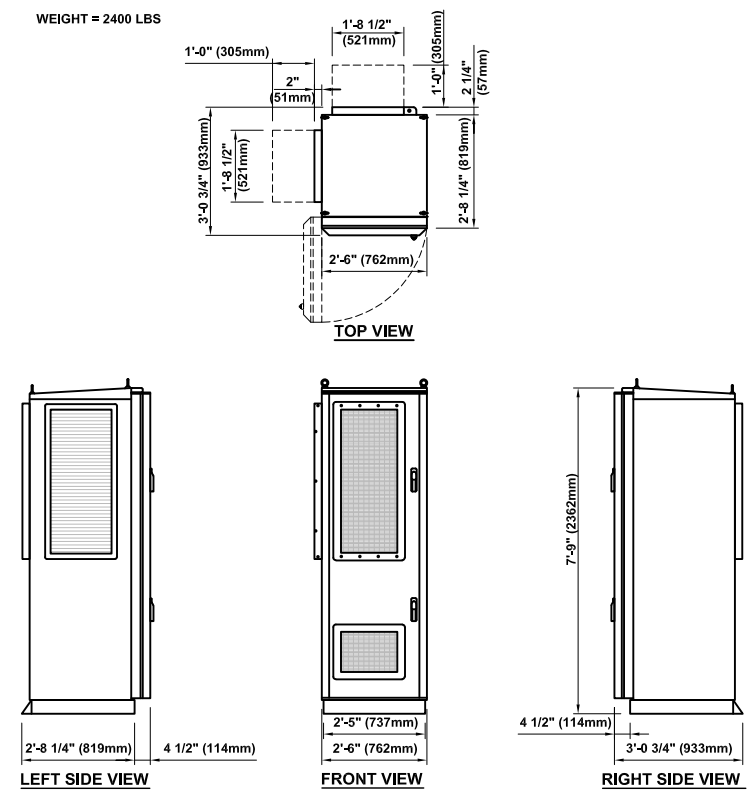


3 DISPENSER ANCHORAGE AND CONDUIT ENTRY DETAIL

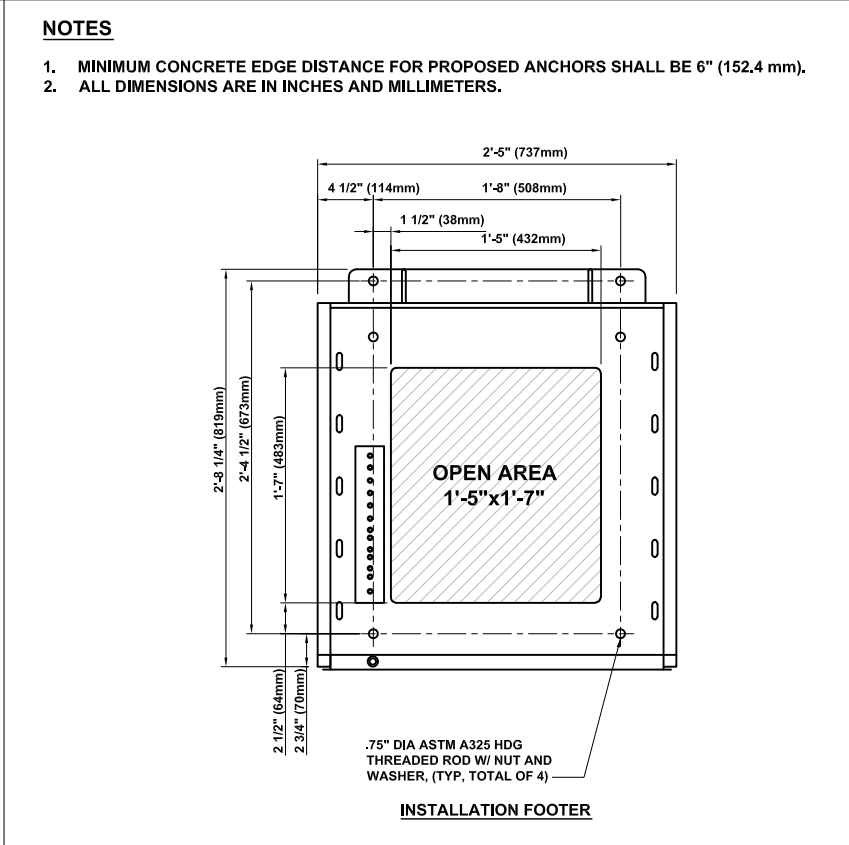


**NOTE**  
 1. 1/2" (12.7 mm) PRE MOLDED EXPANSION JOINTS SHALL BE PLACED AT POINTS OF CURVATURE, CURB RETURNS, CURB INLETS, AND AT 250' (76200 mm) CENTERS. CONTRACTION JOINTS SHALL BE 2" (50.8 mm) DEEP, 3/16" (4.7625 mm) WIDE, AND PLACED AT 15' (4572 mm) INTERVALS EQUALLY SPACED BETWEEN EXPANSION JOINTS.

4 CONCRETE CURB DETAIL



5 360KW POWER UNIT DETAIL



6 360KW POWER UNIT ANCHORAGE AND CONDUIT ENTRY DETAIL

**NOTE**

1. MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6" (152.4 mm).
2. CONTRACTOR TO FIELD VERIFY THE ANCHOR SPACING PER MANUFACTURER'S INSTALLATION MANUAL.

**NOTES**

1. MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6" (152.4 mm).
2. ALL DIMENSIONS ARE IN INCHES AND MILLIMETERS.

CLIENT:



NO.	BY	DESCRIPTION	DATE
5			
4			
3			
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22

**ROEHAMPTON WEST**  
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 VANCOUVER, BC V6C 1T2  
 TEL. (778)228-4228  
 VANCOUVER | KELLOWNA | EDMONTON | CALGARY

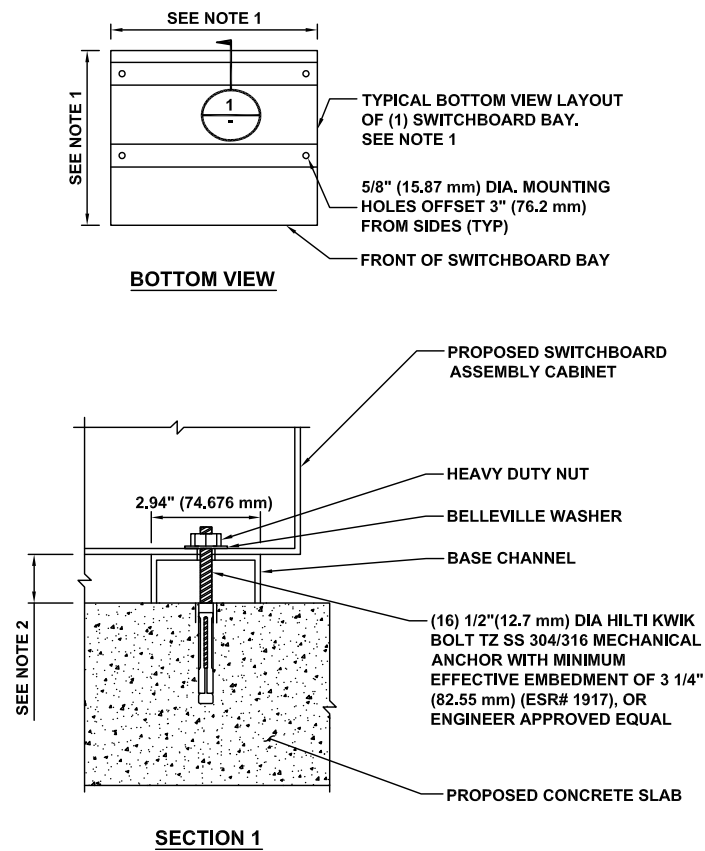
LOCATION:  
 29 HELMCKEN RD., VICTORIA, BC

TITLE:  
 EQUIPMENT DETAILS

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: D01
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**NOTES**

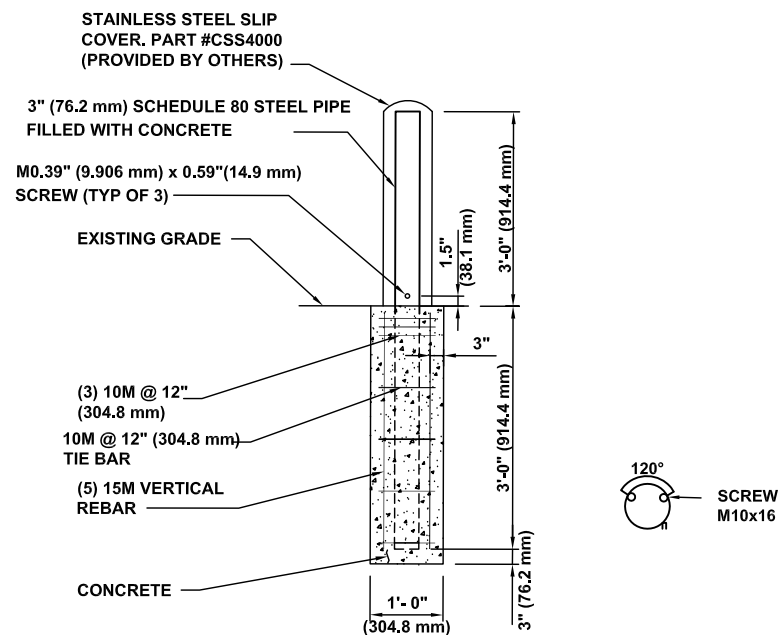
- SEE FLOOR PLAN IN REFERENCED SWITCHBOARD ASSEMBLY DRAWINGS FOR MOUNTING HOLE LOCATION AND SWITCHBOARD BAY DIMENSIONS.
- SEE ELEVATION IN REFERENCED SWITCHBOARD ASSEMBLY DRAWINGS FOR BASE CHANNEL DIMENSION.
- MINIMUM 10 1/2" (266.7 mm) CONCRETE EDGE DISTANCE REQUIRED FOR PROPOSED ANCHORAGE.
- CONTRACTOR TO MOUNT THE KEYSAFE BOX ON THE SWITCHGEAR WHEN THERE IS NO FENCE



1 SWITCHBOARD MOUNTING DETAIL

**NOTES**

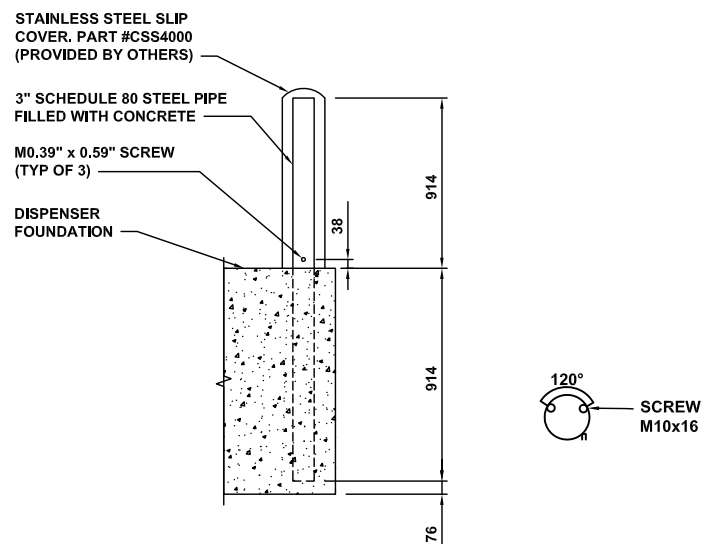
- BOLLARD IS FOR WARNING PURPOSES ONLY.
- BOLLARD DETAIL FOR BOLLARDS AROUND ELECTRIFY CANADA EQUIPMENT.
- CONTRACTOR TO PROVIDE (2) 6' (1828.8 mm) LONG, 1/2" (12.7 mm) THICK FOAM STRIPS CROSSED OVER TOP OF STEEL PIPE TO STABILIZE SLIP COVER.



2 WARNING BOLLARD DETAIL

**NOTES**

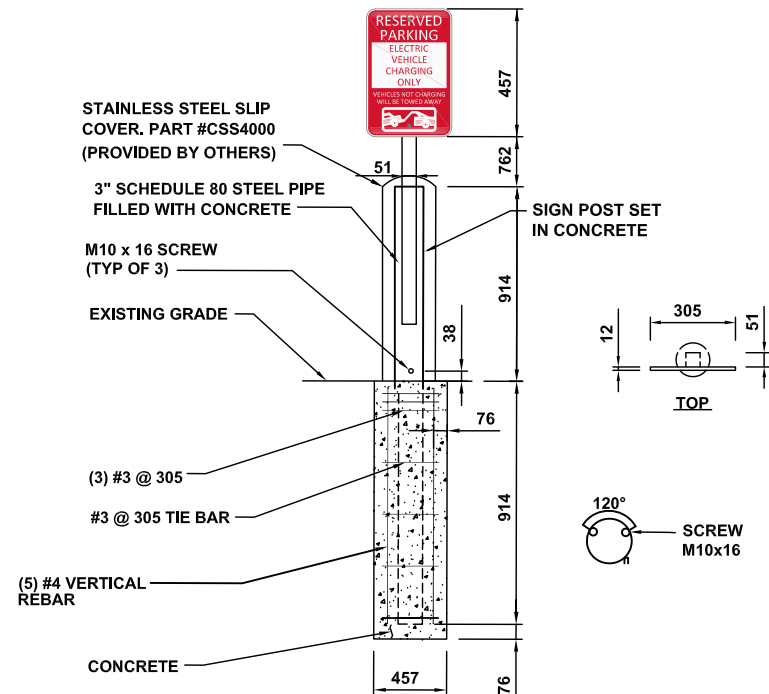
- BOLLARD IS FOR WARNING PURPOSES ONLY.
- BOLLARD DETAIL FOR BOLLARDS AROUND ELECTRIFY CANADA EQUIPMENT.
- CONTRACTOR TO PROVIDE (2) 6' LONG, 1/2" THICK FOAM STRIPS CROSSED OVER TOP OF STEEL PIPE TO STABILIZE SLIP COVER.



3 DISPENSER WARNING BOLLARD DETAIL

**NOTES**

- BOLLARD IS FOR WARNING PURPOSES ONLY.
- CONTRACTOR TO CUT HOLE IN TOP OF PROVIDED BOLLARD COVER AND SMOOTH EDGES TO PREVENT CUT HAZARD.
- CONTRACTOR TO PROVIDE (2) 6' LONG, 1/2" THICK FOAM STRIPS CROSSED OVER TOP OF STEEL PIPE TO STABILIZE SLIP COVER.



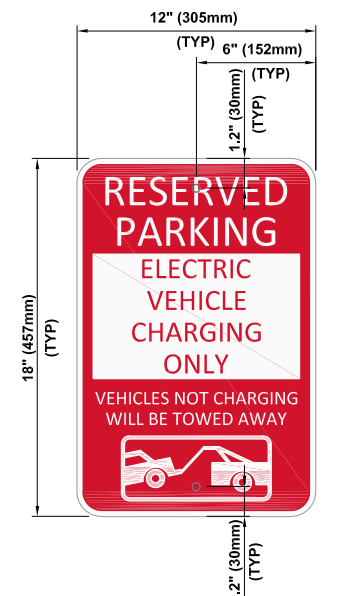
4 WARNING BOLLARD WITH SIGN DETAIL

**NOTES**

- CONTRACTOR TO SELECT APPROPRIATE SIGN PER PROPOSED SIGN LOCATION.
- BOTTOM OF LOWEST SIGN TO BE INSTALLED 54" ABOVE GRADE.
- SIGNS ARE TO HAVE A WHITE RETROREFLECTIVE BACKGROUND WITH RED RETROREFLECTIVE LETTERS AND BORDERS.

**SIGN PROCUREMENT**

COMPANY: SETON  
 CONTACT: MOLLY YARGER  
 PHONE: 844-580-3349  
 EMAIL: MOLLY\_YARGER@SETON.COM  
 \*REFERENCE QUOTE #25289757 (14 DAY LEAD TIME)



5 RESERVED PARKING SIGN

CLIENT:

OWNER:



5			
4			
3			
2			
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

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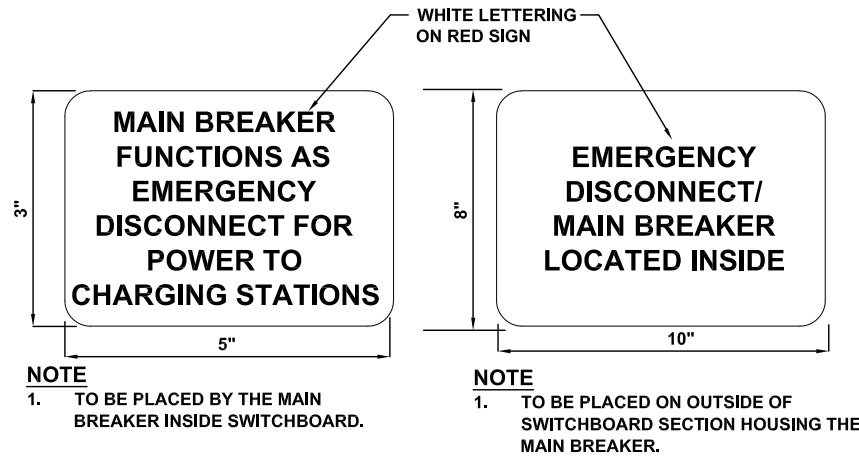
LOCATION:  
 29 HELMCKEN RD., VICTORIA, BC

TITLE:  
 EQUIPMENT DETAILS

PROJECT NAME:	PROJECT NO:	DWG. NO:
NEW CHARGING STATION	800033	D02



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1 EMERGENCY DISCONNECT SIGN DETAIL



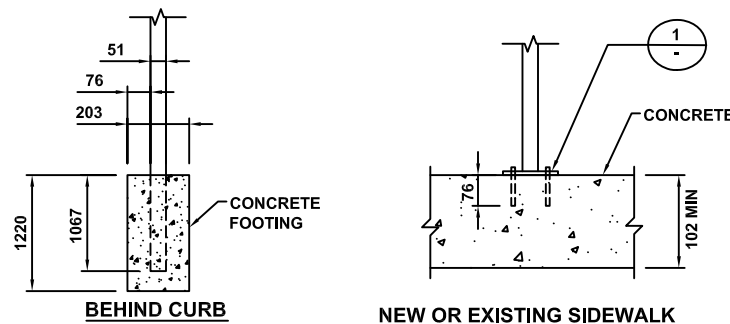
2 ELECTRICAL HAZARD WARNING SIGN

**NOTES**

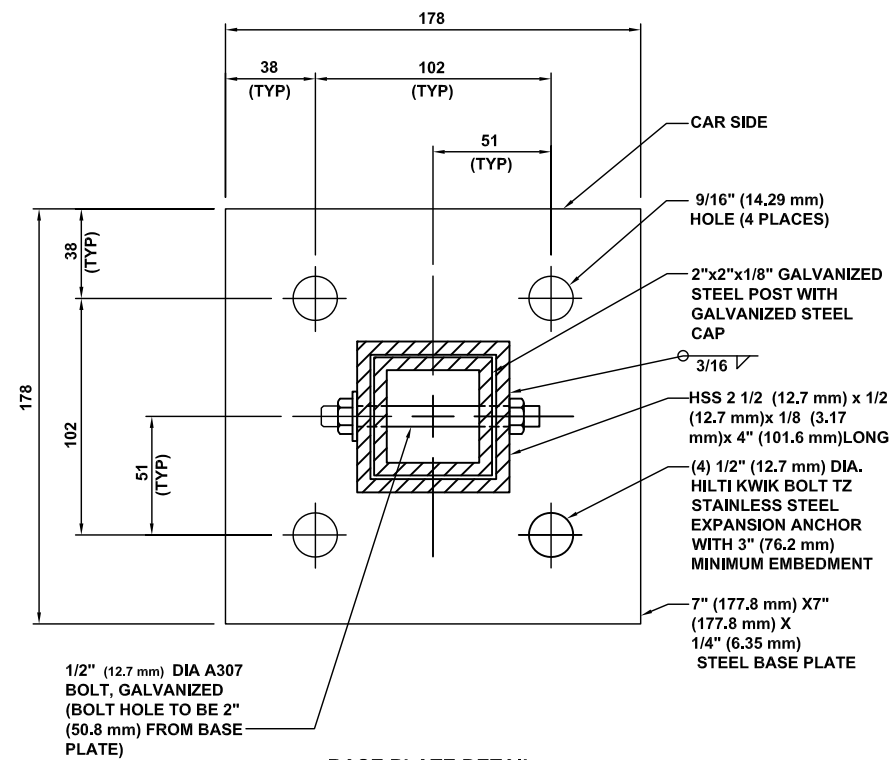
- CONTRACTOR TO SELECT CONCRETE FOOTING OR BOLT DOWN BASED ON EXISTING CONDITIONS.
- SEE SHEET C-3 FOR PLACEMENT.
- BOTTOM OF LOWEST SIGN TO BE INSTALLED 54" (1371.6 mm) ABOVE GRADE.
- ADDITIONAL PARKING SIGNS TO BE INSTALLED 2" (50.8 mm) ABOVE TOP OF PREVIOUS SIGN.
- SIGN, SIGN POST, AND SIGN FASTENERS TO BE PROVIDED BY CONTRACTOR. CONTRACTOR TO PROVIDE SIGN POST FASTENERS IF REQUIRED AND PAINTED TO MATCH.
- IF PAINT FINISH IS DAMAGED DURING INSTALLATION, CONTRACTOR SHALL REPAINT AS REQUIRED.
- CONTRACTOR SHALL COORDINATE WITH CITY WHEN SPECIAL JURISDICTIONAL/CITY REQUESTS ARE NECESSARY FOR ANY SIGN POST INSTALLATION, I.E. POST MATERIAL, PAINT COLORS, HARDWARE, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING CITY APPROVES ALL MATERIALS PRIOR TO INSTALLATION.

**BOLT DOWN BASE PLATE NOTES**

- CONTRACTOR TO PROVIDE AND INSTALL SIGN POST, BASE PLATE ASSEMBLY, EXPANSION ANCHORS, AND 1/2" (12.7 mm) DIA A307 BOLT.
- BASE PLATE ASSEMBLY TO BE HOT DIPPED GALVANIZED. PAINT TO MATCH SIGN POST.
- PROVIDE 1/4" (6.35 mm) DIA. DRAIN HOLE TO PREVENT WATER FROM COLLECTING IN HSS.

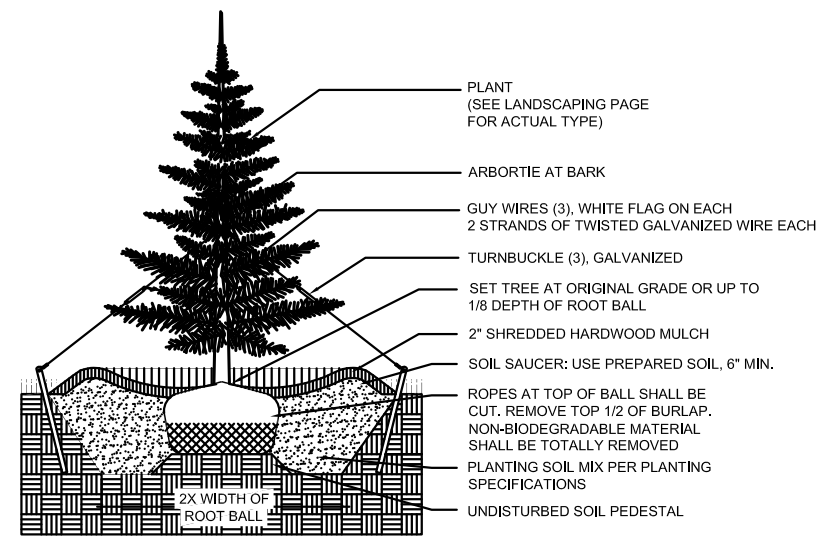


3 SIGN POST INSTALLATION DETAIL



BASE PLATE DETAIL -DETAIL 1

**NOTE:**  
FOR PLANT QUANTITY, BOTANICAL NAME, COMMON NAME, SIZE AND SPACING SEE LANDSCAPING PAGE L1



4 TREE PLANTING - STAKING

CLIENT:



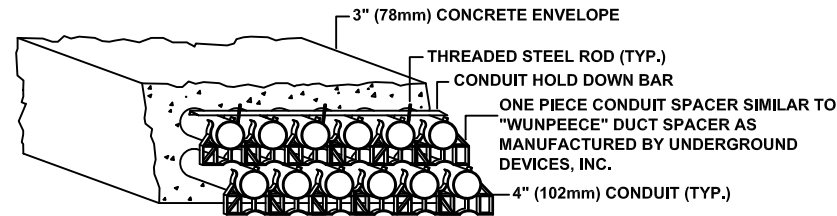
NO.	BY	DESCRIPTION	DATE
7	CD	LANDSCAPING UPDATE	11 APR 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22

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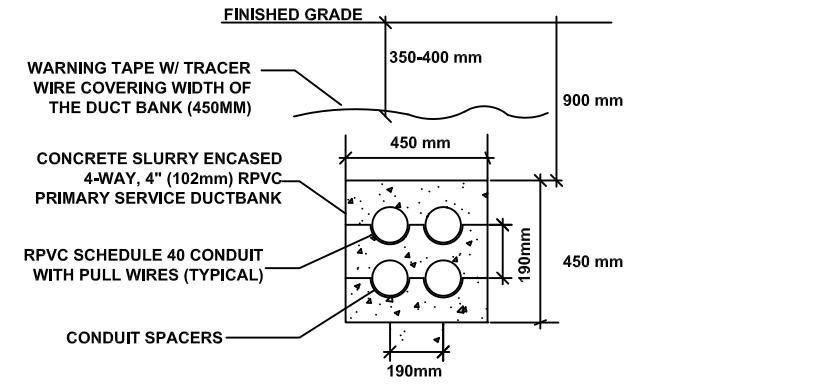
LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
GUARDRAIL DETAILS

PROJECT NAME: NEW CHARGING STATION	PROJECT NO.: 800033	DWG. NO.: D03
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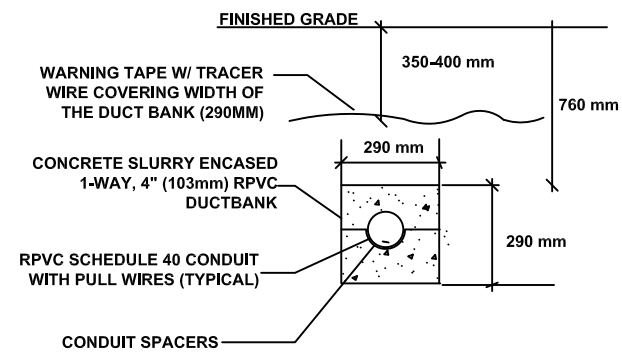


1 CONDUIT DUCT BANK SPACER INSTALLATION DETAIL

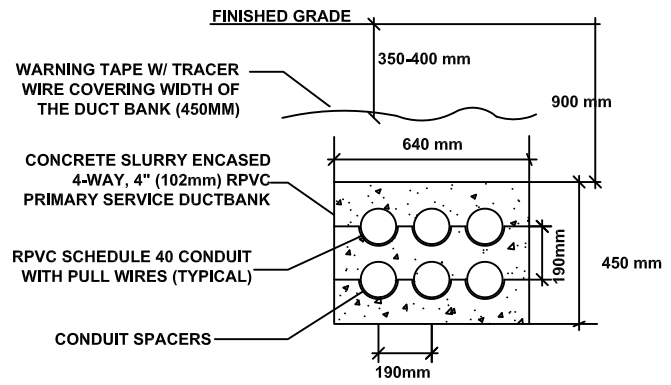


REFER TO DETAIL B ON DRAWING E04 TO COMPLETE REQUIREMENTS OF BEDDING SOIL, SIDE SOIL, BACKFILLING AND COMPACTION REQUIREMENTS. COORDINATE WITH UTILITY FOR ADDITIONAL INFO.

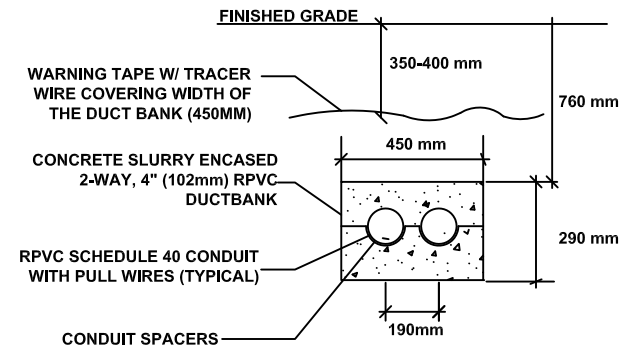
4 CONCRETE 4-CONDUIT ENCASED DUCTBANK



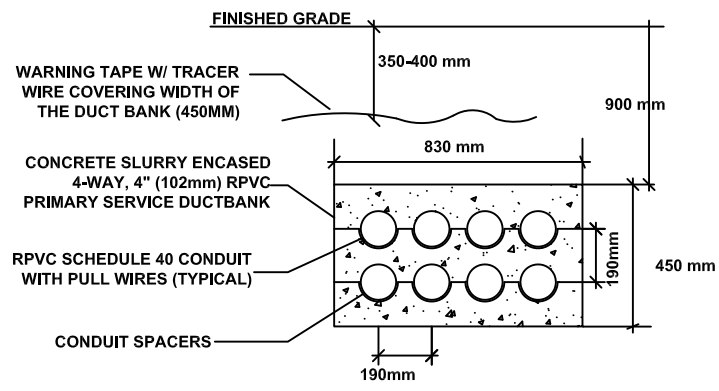
2 CONCRETE ENCASED 1-CONDUIT DUCTBANK



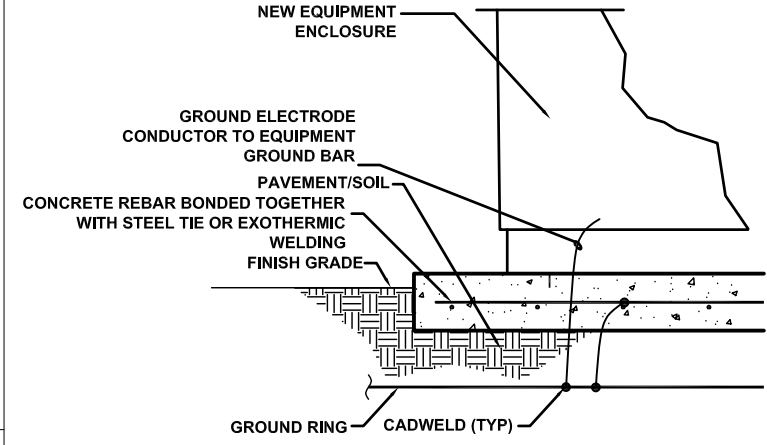
5 CONCRETE 6-CONDUIT ENCASED DUCTBANK



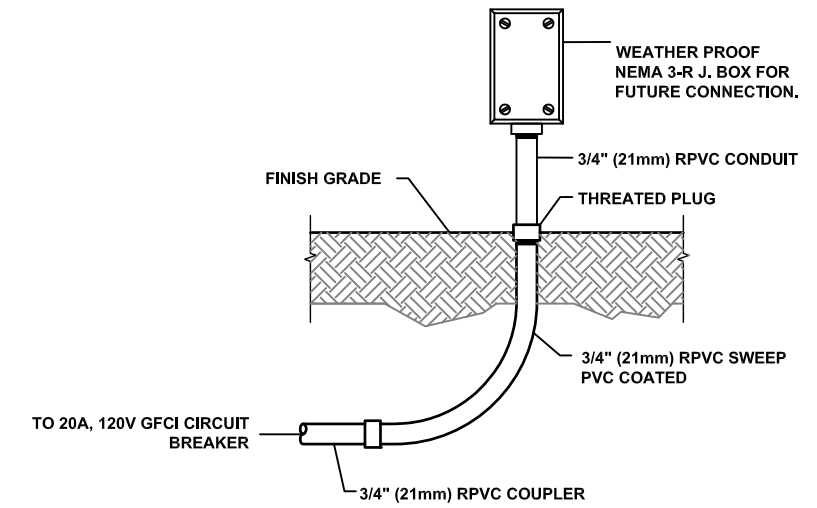
3 CONCRETE ENCASED 2- CONDUIT DUCTBANK



6 CONCRETE ENCASED 8-CONDUIT DUCTBANK



7 EQUIPMENT GROUND DETAIL



- NOTES:**
1. PROVIDE 20A, 120V, GFCI, CIRCUIT BREAKER.
  2. CONNECT FROM WEATHER PROOF J. BOX TO LIGHT SIGN WITH NON RIGID METALLIC CONDUIT & CABLES, PROVIDE CONNECTORS AT EACH END OF CONDUITS.

8 CONNECTION - DETAIL

CLIENT:

OWNER:

5			
4			
3			
2			
1	RY	ELECTRICAL REV.	04 NOV 22
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NO.	BY	DESCRIPTION	DATE

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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
CONDUIT DETAILS

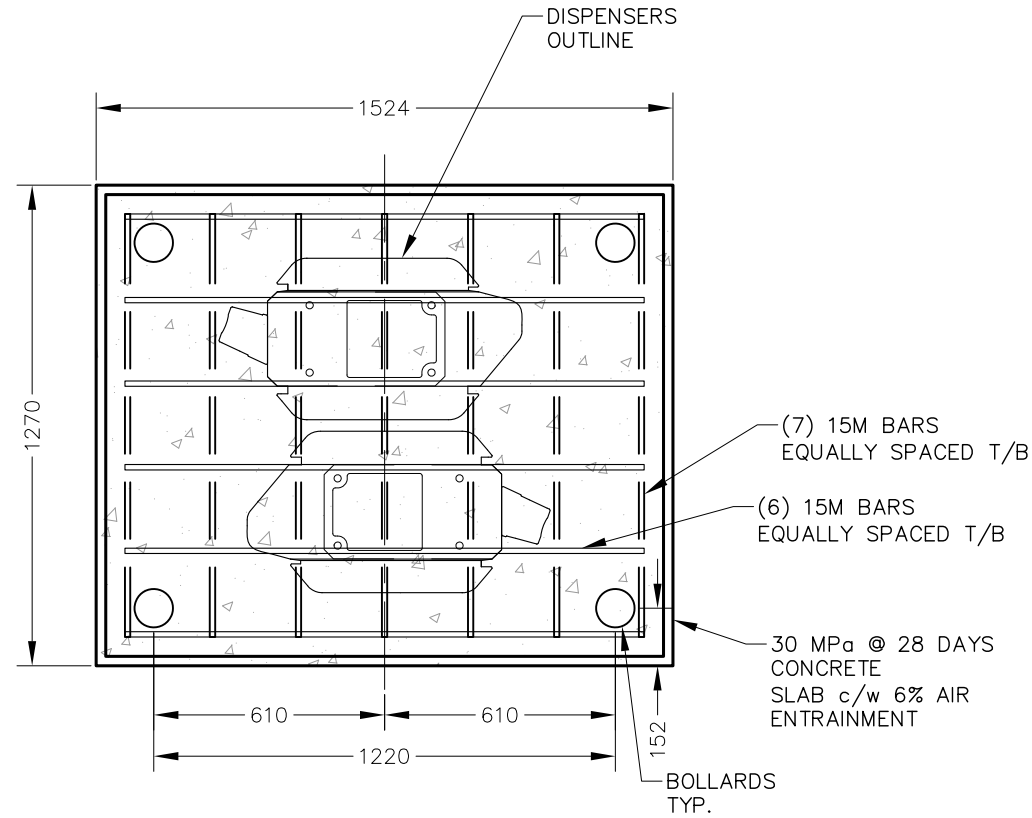
PROJECT NAME: NEW CHARGING STATION      PROJECT NO: 800033      DWG. NO: D04

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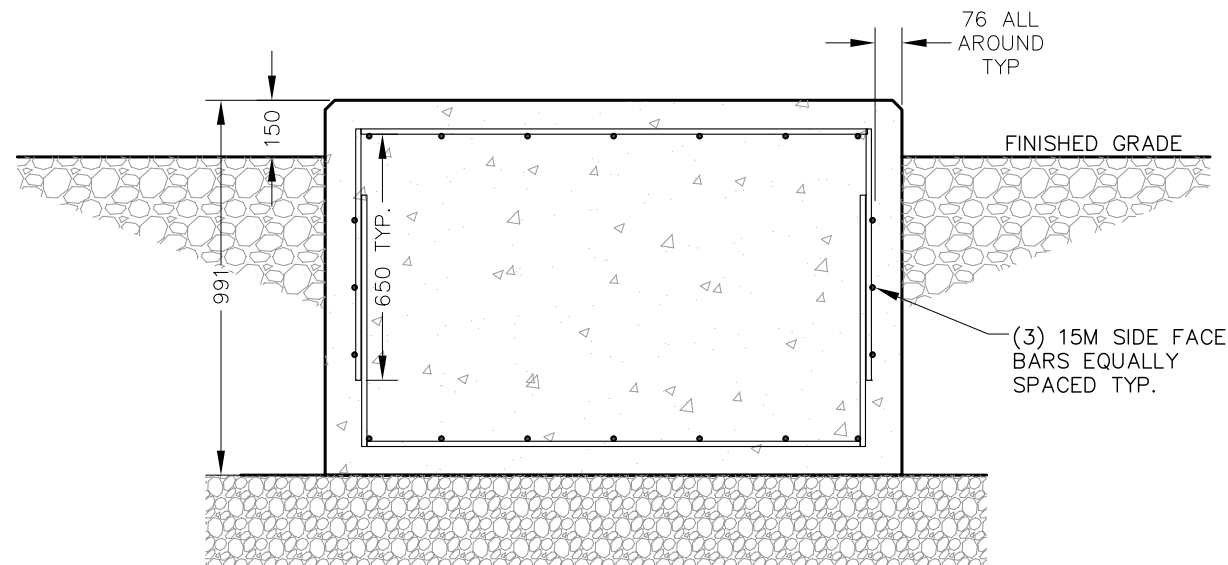
CONCRETE VOLUME: 1.92cu m

DESIGN NOTES:

1. FOUNDATION IS SUBJECT TO CHANGE PER SITE SOIL CONDITIONS AND FINAL CANOPY DESIGN BY CANOPY DESIGNER. THE DIMENSIONS SHOWN ARE THE MINIMUM REQUIREMENTS AND UNDER NORMAL SOIL CONDITIONS.
2. IT IS THE CONTRACTOR RESPONSIBILITY TO CONSULT WITH ROEHAMPTON BEFORE BIDDING, PROCURING AND COMMENCEMENT OF FOUNDATION CONSTRUCTION.
3. FINAL FOUNDATION DESIGN IS TO BE REVIEWED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.



PLAN VIEW



SECTION VIEW

1 DISPENSER PAD  
SCALE 1:20

CONTRACTOR NOTES:

1. CONTRACTOR TO PERFORM UTILITY LOCATES PRIOR TO EXCAVATION.
2. DOCUMENTATION OF THE UTILITY LOCATES MUST BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST.
3. ALL DIMENSIONS IN mm.
4. REMOVE TOP SOIL
5. IN CASE OF NO SUITABLE SUBGRADE PROVIDE 300mm GRANULAR A MATERIAL AND COMPACT TO 95% SPD

NOTES:

1. CONCRETE WORKS CONFORM TO LATEST EDITION OF CSA A23.1, CSA A23.2 AND CSA A23.3
2. REINFORCING STEELS CONFORM TO LATEST EDITION OF CSA G30-GR.400
3. CONCRETE STRENGTH 30MPa WITH 5-7% ENTRAINMENT
4. SLUMP AT POINT OF DISCHARGE TO BE 75mm±20mm UNLESS NOTED OTHERWISE

CLIENT:

OWNER:



5			
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3			
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

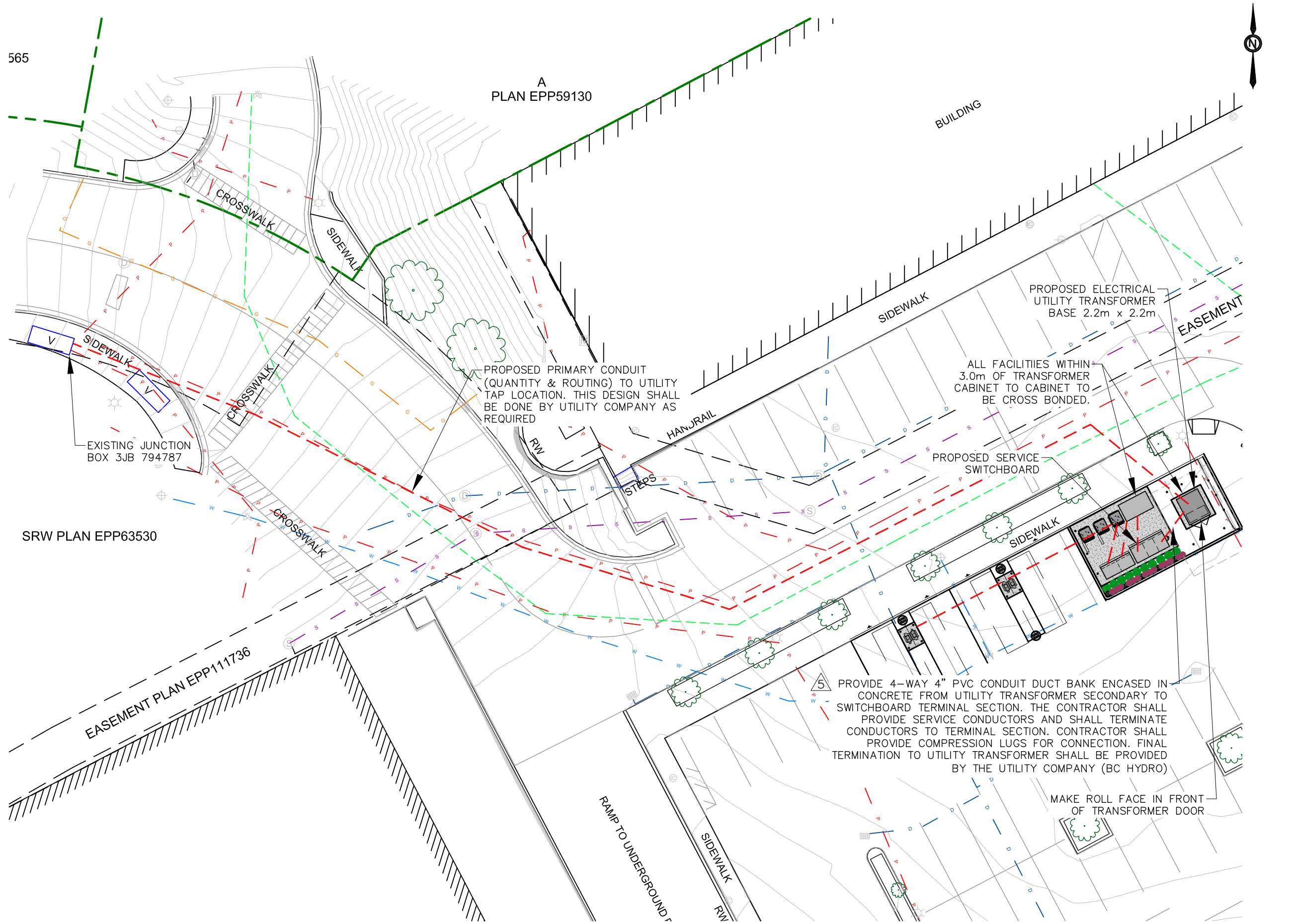
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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
DISPENSERS PAD DETAILS

PROJECT NAME: NEW CHARGING STATION  
 PROJECT NO: 800033  
 DWG. NO: D05





565

A  
PLAN EPP59130

BUILDING



CROSSWALK

SIDEWALK

PROPOSED ELECTRICAL  
UTILITY TRANSFORMER  
BASE 2.2m x 2.2m

EASEMENT

PROPOSED PRIMARY CONDUIT  
(QUANTITY & ROUTING) TO UTILITY  
TAP LOCATION. THIS DESIGN SHALL  
BE DONE BY UTILITY COMPANY AS  
REQUIRED

ALL FACILITIES WITHIN  
3.0m OF TRANSFORMER  
CABINET TO CABINET TO  
BE CROSS BONDED.

EXISTING JUNCTION  
BOX 3JB 794787

PROPOSED SERVICE  
SWITCHBOARD

SRW PLAN EPP63530

CROSSWALK

SIDEWALK

EASEMENT PLAN EPP11736

5 PROVIDE 4-WAY 4" PVC CONDUIT DUCT BANK ENCASED IN  
CONCRETE FROM UTILITY TRANSFORMER SECONDARY TO  
SWITCHBOARD TERMINAL SECTION. THE CONTRACTOR SHALL  
PROVIDE SERVICE CONDUCTORS AND SHALL TERMINATE  
CONDUCTORS TO TERMINAL SECTION. CONTRACTOR SHALL  
PROVIDE COMPRESSION LUGS FOR CONNECTION. FINAL  
TERMINATION TO UTILITY TRANSFORMER SHALL BE PROVIDED  
BY THE UTILITY COMPANY (BC HYDRO)

MAKE ROLL FACE IN FRONT  
OF TRANSFORMER DOOR

RAMP TO UNDERGROUND

SIDEWALK  
RW

1 ELECTRICAL UTILITY PLAN  
SCALE 1:250

0m 25m

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CLIENT:



OWNER:

5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

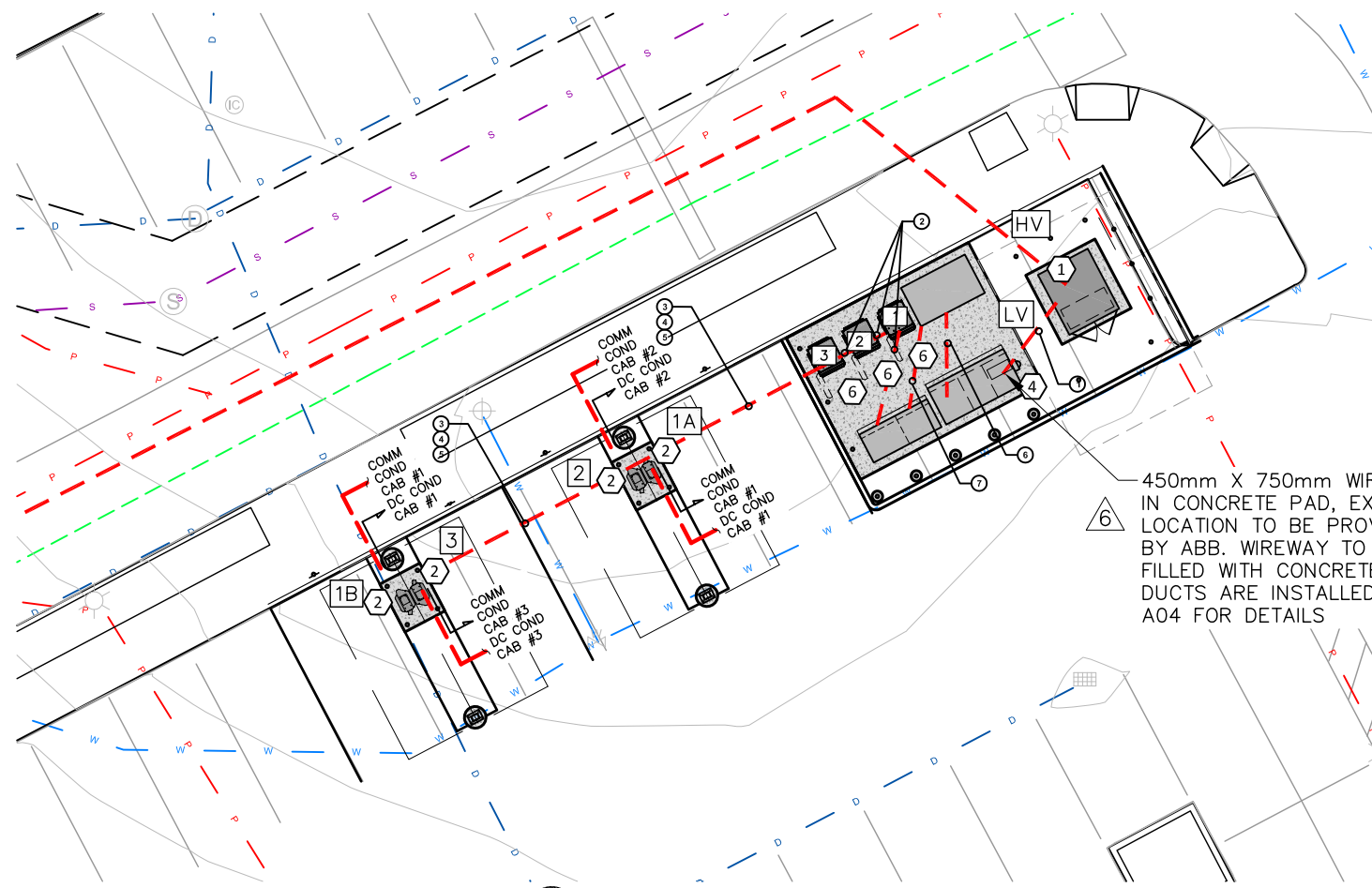
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 TEL. (778)228-4228  
 VANCOUVER | KELOWNA | EDMONTON | CALGARY

LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

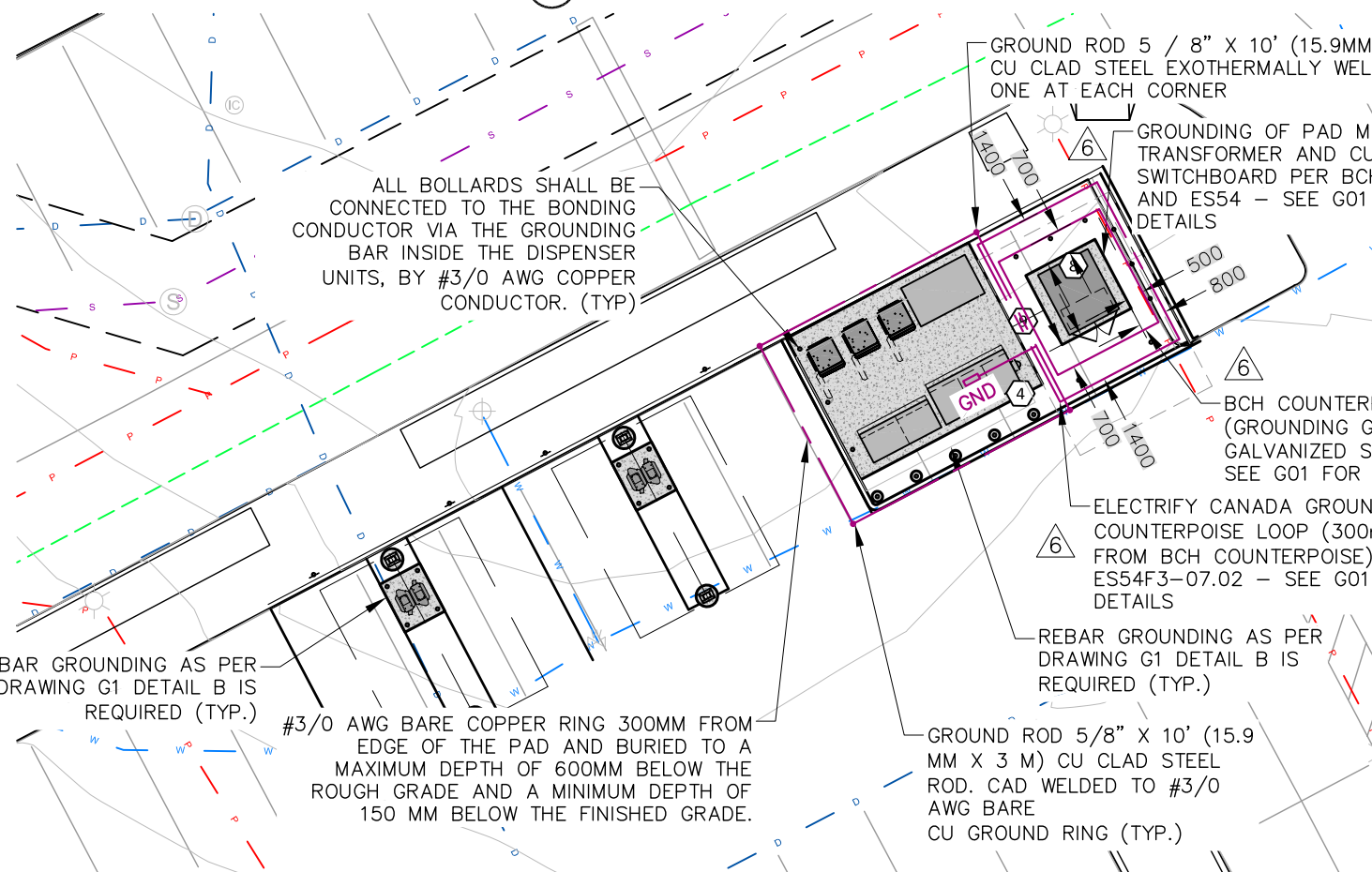
TITLE:  
ELECTRICAL UTILITY PLAN

PROJECT NAME: NEW CHARGING STATION  
 PROJECT NO: 800033  
 DWG. NO: E01

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1 ELECTRICAL SITE PLAN



2 ELECTRICAL GROUNDING PLAN

450mm X 750mm WIREWAY IN CONCRETE PAD, EXACT LOCATION TO BE PROVIDED BY ABB. WIREWAY TO BE FILLED WITH CONCRETE ONCE DUCTS ARE INSTALLED - SEE A04 FOR DETAILS

**GENERAL NOTES**

- CONTRACTOR TO ROUTE THE DUCTS IN A WAY THAT THERE WILL BE NO DUCT CROSSING OR NUMBER OF CROSSINGS BE MINIMIZED. IN CASE OF UNAVOIDABLE CROSSING, USING RELATED DETAILS AS PER DRAWING D-5 AND E-4 OF THIS DRAWING SET, THE OTHER DUCT BANK (CROSSING) SHALL PASS UNDERNEATH THE DUCT BANK SHOWN IN THE DETAIL WITH 300 MM DEPTH COMPACTED FLOWABLE BACKFILL (TWO SYSTEM MINIMUM SEPARATION OF 300 MM). THE MINIMUM 760 MM COVERAGE SHALL BE MAINTAINED FOR THE TOP DUCT OR DUCT BANK ANYHOW.
- COORDINATE WITH ELECTRIFY CANADA PRIOR INSTALLATION FOR ANY POWER UNITS ARRANGEMENT IF NEEDED.
- PROVIDE WITH COVER PLATES SUITABLE FOR WET LOCATIONS WHETHER OR NOT A PLUG IS INSERTED INTO THE RECEPTACLE, AND MARKED "EXTRA DUTY", RULE 26-708 2.

**UTILITY SCOPE OF WORK**

- CONTRACTOR'S SCOPE OF WORK:
- COORDINATE WITH UTILITY FOR THE LATEST UTILITY DISTRIBUTION METERING STANDARDS, UNDERGROUND ELECTRICAL STANDARDS, UNDERGROUND CIVIL STANDARDS FOR UNDERGROUND MAIN SERVICE CONDUIT, WIREWAY, AND PULL BOX REQUIREMENTS PRIOR TO BIDDING, ORDERING, INSTALLATION.
  - TRENCH PER CEC CODE AND UTILITY SPEC FROM PROPOSED TRANSFORMER LOCATION TO UTILITY PRIMARY POWER. COORDINATE WITH UTILITY FOR EXACT DISTANCE AND ADDITIONAL REQUIREMENTS.
  - SUPPLY AND INSTALL DUCT BANK (PRIMARY AND SECONDARY) PER UTILITY'S REQUIREMENTS.
  - SUPPLY AND INSTALL THE TRANSFORMER FOUNDATION AND GROUNDING GRID PER UTILITY'S REQUIREMENTS
  - SUPPLY AND INSTALL METERING CABINETS/SOCKETS AND SWITCHBOARD (OFC) AS REQUIRED.
  - SUPPLY AND INSTALL INSTRUMENT TRANSFORMER IN ACCORDING WITH UTILITY STANDARD.
  - TECHNICAL SAFETY BC AUTHORITY APPROVAL/INSPECTION FOR ALL THE ABOVE PRIOR TO AND DURING INSTALLATION.

UTILITY'S (BC HYDRO) SCOPE OF WORK:

- UTILITY TO SUPPLY AND INSTALL PRIMARY CABLE.
- UTILITY TO SUPPLY AND INSTALL TRANSFORMER.
- UTILITY TO CONNECT PRIMARY AND SECONDARY CONNECTION AT THE TRANSFORMER.
- UTILITY TO PROPOSE METERING EQUIPMENT LOCATION AND VOLTAGE SHALL BE APPROVED BY UTILITY PRIOR TO INSTALLATION.
- BC HYDRO: EXTERIOR METER, NOT MOUNTED INSIDE A METAL ENCLOSURE, NO CONDUIT ARRANGEMENT IS REQUIRED FOR THE PURPOSE OF METER COMMUNICATION. PROVIDE METER CONNECTION PER SECTION 6.17, ES54 S1-01.03 TO S2-01.18 AND TECHNICAL SAFETY BC AS REQUIRED.

**GROUNDING GENERAL NOTES**

- SOILS WITHIN 1 M OF THE CONCRETE INSTALLATION SHALL BE COVERED BY 150 MM THICK 19 MM (3/4") WASHED CRUSHED STONES UNLESS COVERED BY ASPHALT.
- APPROVED EPOXY COATING SHALL BE APPLIED TO ALL CONCRETE PADS TO ENSURE THE CONCRETE IS NOT MOIST AND WILL MAINTAIN A RESISTANCE OF AT LEAST 3,000 ΩM.
- WHERE THE UTILITY TRANSFORMER IS LOCATED LESS THAN 3,000 MM TO THE INSTALLATION, THE SOIL IN BETWEEN SHALL BE COVERED BY 150 MM THICK 19 MM (3/4") WASHED CRUSHED STONE OR ASPHALT. REQUIREMENTS AS PER NOTE 2 & 3 ON DRAWING G-1 SHALL BE MET ANYWAY.

**ELECTRICAL ROUTING LEGEND**

- # DENOTES KEY NOTES NUMBER
- # DENOTES POWER UNIT/DISPENSER NUMBER
- # DENOTES CABLE NUMBER

**PROPOSED DISPENSERS**

CHARGE POST NUMBER	150kW	360kW	CABLE TYPE
1A	-	1	CCS
1B	-	1	CCS
2	-	1	CCS
3	-	1	CCS

**POWER UNIT LENGTHS**

POWER UNIT	LINEAR LENGTH SWBD TO POWER UNIT (FT) / (m)	** ESTIMATED LENGTH (FT) / (m)
1	4 (1.22m)	20 (6.10m)
2	8 (2.44m)	24 (7.32m)
3	11 (3.35)	27 (8.23m)
<b>TOTAL ESTIMATED LENGTH</b>		<b>71 (21.64m)</b>
<b>TOTAL LENGTH OF WIRE</b>		<b>213 (64.92m)</b>

TOTAL LENGTH OF AC WIRE = SUM OF ESTIMATED LENGTH x 3 WIRES PER POWER UNIT  
 TOTAL LENGTH GND WIRE = SUM OF ESTIMATED LENGTHS  
 \*\* AC CONDUCTOR: 16FT (4.88m) IS ADDED TO HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH

**DC CHARGING POST LENGTHS**

POWER UNITS	DISPENSER	LINEAR LENGTH FT(M)	*** ESTIMATED LENGTH FT(M)
1	1A	32 (9.75m)	54 (16.46m)
1	1B	58 (17.68m)	80 (24.38m)
2	2	27 (8.23m)	49 (14.94m)
3	3	46 (14.02m)	68 (20.73m)

\*\*\* DC CONDUCTORS: 22 FEET (6.7m) IS ADDED TO HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH

**NOTES**

(SEE SHEET E-3 FOR WIRE CONFIGURATION)

- CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING PATHS SHALL BE FIELD VERIFIED AND INSTALLED PER JURISDICTIONAL REQUIREMENTS.
- ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ONSITE SHALL BE DONE IN ACCORDANCE WITH CANADIAN ELECTRICAL CODE STANDARDS BEING ENFORCED BY ALL APPLICABLE JURISDICTIONAL REQUIREMENTS AT TIME OF CONSTRUCTION.
- UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER TO ENSURE ACCURACY OF INSTALLATIONS.
- ALL QUANTITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO ISSUING CONSTRUCTION SET.

**KEY NOTES #**

- PROPOSED LOCATION OF NEW PAD MOUNTED TRANSFORMER. PROVIDE CONCRETE PAD AND GROUND ROD PER UTILITY.
- LEVEL III DISPENSER. PROVIDE DC POWER FEEDER PER SINGLE LINE DIAGRAM AND WIRING DETAIL ON SHEET E-3. REFER TO SHEET G-1. PROVIDE AND STUB UP RPVC CONDUIT ADJACENT TO EACH DISPENSER FOOTING AT GROUND LEVEL FOR FUTURE CARPORT LIGHTING; CONDUIT TO BE TERMINATED AND CAPPED AT GROUND LEVEL; VERIFY LOCATION IN FIELD.
- FUTURE LEVEL III DISPENSER. PROVIDE CONDUIT PER SINGLE LINE DIAGRAM AND WIRING DETAIL ON SHEET E-3. PROVIDE .75"(21mm), SCHEDULE 40 PVC CONDUIT FROM 120/208V PANEL TO FUTURE DISPENSER LOCATION. PROVIDE AND STUB UP 1" (25.4 MM) RPVC CONDUIT ADJACENT TO EACH DISPENSER FOOTING AT GROUND LEVEL FOR FUTURE CARPORT LIGHTING; CONDUIT TO BE TERMINATED AND CAPPED AT GROUND LEVEL; VERIFY LOCATION IN FIELD.
- PROPOSED LOCATION OF UTILITY METER. COORDINATE FINAL LOCATION, SPEC AND OTHER REQUIREMENTS WITH UTILITY COMPANY PRIOR INSTALLATION OF METER. MOUNT THE METER ON METAL SUPPORT CHANNELS AND THE HEIGHT REQUIREMENTS PER UTILITY STANDARD.
- LEVEL III POWER UNIT.
- FUTURE LEVEL III POWER UNIT.
- PROVIDE TRANSFORMER GROUNDING LOOP PER UTILITY SPECIFICATION.
- MAINTAIN THE CLEARANCE AROUND THE TRANSFORMER SIDE AND FRONT PER LOCAL UTILITY CODE & CEC REQUIREMENTS.

CLIENT:

OWNER:



5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

**ROEHAMPTON WEST**  
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 TEL. (778)228-4228  
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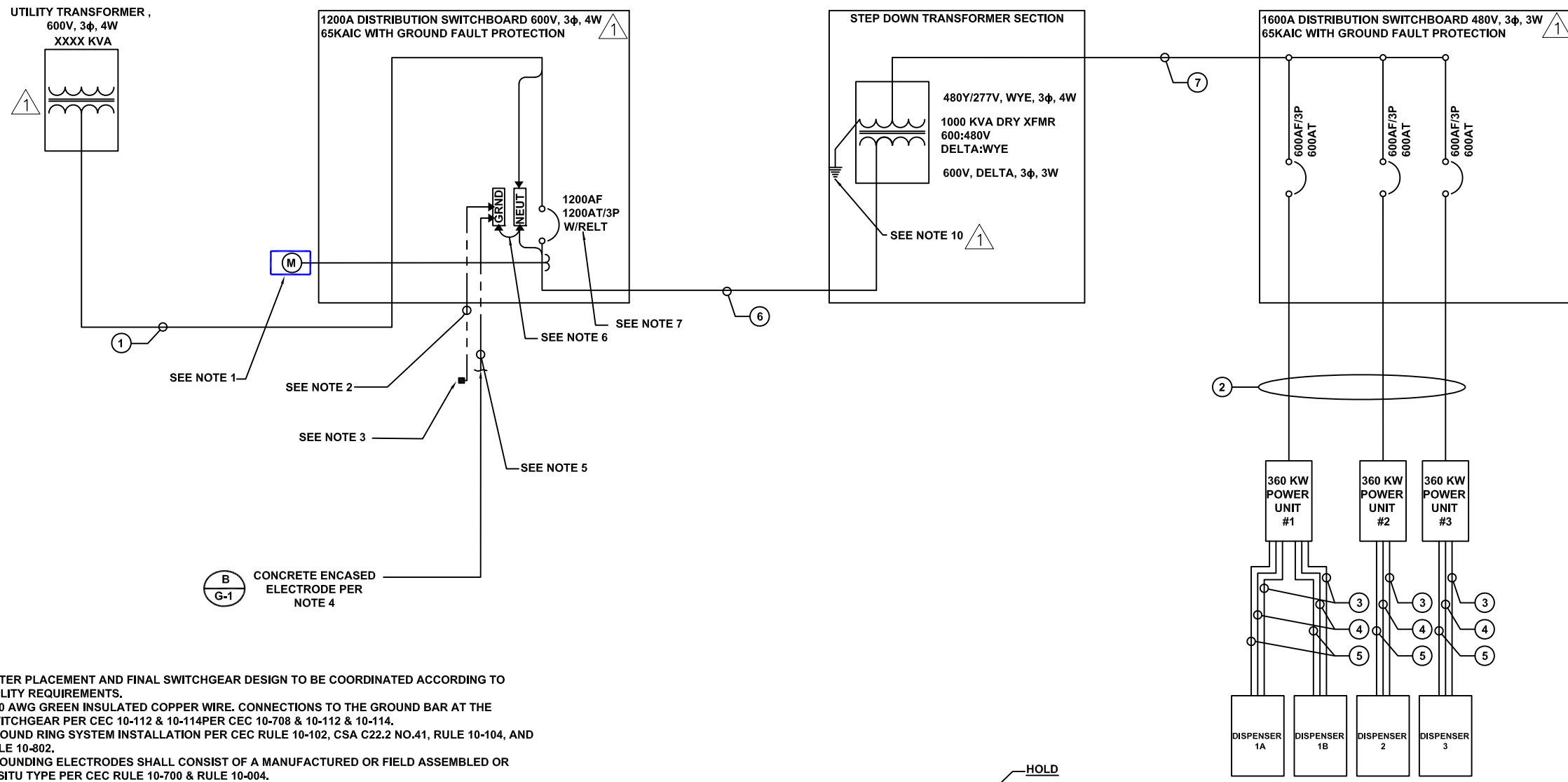
LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ELECTRICAL SITE PLAN

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: E02
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- NOTES:**
- METER PLACEMENT AND FINAL SWITCHGEAR DESIGN TO BE COORDINATED ACCORDING TO UTILITY REQUIREMENTS.
  - #3/0 AWG GREEN INSULATED COPPER WIRE. CONNECTIONS TO THE GROUND BAR AT THE SWITCHGEAR PER CEC 10-112 & 10-114 PER CEC 10-708 & 10-112 & 10-114.
  - GROUND RING SYSTEM INSTALLATION PER CEC RULE 10-102, CSA C22.2 NO.41, RULE 10-104, AND RULE 10-802.
  - GROUNDING ELECTRODES SHALL CONSIST OF A MANUFACTURED OR FIELD ASSEMBLED OR IN-SITU TYPE PER CEC RULE 10-700 & RULE 10-004.
  - #3/0 AWG STRANDED SD COPPER GROUNDING CONDUCTOR PER CEC 10-700 & 10-004 & 10-114.
  - MANUFACTURER PROVIDED MAIN BONDING CONDUCTOR PER CEC RULE 10-610, 10-612, 10-614, 10-702, 10-704, 10-708.
  - 80% RATED FOR THE MAIN CIRCUIT BREAKER. EXACT TRIP SIZE TO BE DETERMINED BASED ON POWER STUDY.
  - ALL BREAKERS ARE LOCKABLE AT "OPEN" POSITION.
  - EGC (BONDING) CABLES SHALL BE GREEN OR COMPLY WITH CEC 22.1-18 SECTION 4-032 REQUIREMENTS.
  - TRANSFORMER SECONDARY NEUTRAL SHALL BE GROUNDED WITH #4/0 AWG GREEN INSULATED COPPER WIRE.
  - PROVIDE THE MEANS TO LOCK CIRCUIT BREAKERS (WHERE ARE SERVING POWER UNITS) IN THE OPEN POSITION PER CEC RULE 86-304.
  - KIRK LOCKS TO BE ADDED TO PREVENT USERS FROM ENABLING SECONDARY LOADS BEFORE APPLYING PRIMARY POWER. SECONDARY LOADS ARE TO BE DISCONNECTED BEFORE PRIMARY POWER HAS BEEN APPLIED.
  - THE ELECTRIFY AMERICA EV CHARGER SYSTEM INSTALLATIONS ARE MANAGED BY AN ELECTRIC VEHICLE ENERGY MANAGEMENT SYSTEM (EVEMS) WHICH HAS THE ABILITY TO MONITOR AND CONTROL THE ELECTRIC VEHICLE SUPPLY EQUIPMENT LOADS. THE ELECTRIC VEHICLE ENERGY MANAGEMENT SYSTEM CAN LIMIT THE MAXIMUM ALLOWABLE TOTAL LOAD FOR THE EV CHARGER SYSTEMS.
  - THE EVEMS SHALL BE PROGRAMMED TO LIMIT THE MAXIMUM OVERALL LOAD AT 480V TO 1116A. IN CASE OF COMMUNICATIONS FAILURE, EACH POWER UNIT WILL PROVIDE NO MORE THAN 372A INDIVIDUALLY.
  - 600V SWITCHBOARD RATING IS BASED ON THE REDUCED DEMAND LOAD (BY THE EVEMS) PER CSA 26-256 (3).

**SIGNET POWER UNITS RATED 65KAIC**

AVAILABLE FAULT CURRENT BY LOCATION	AVAILABLE FAULT CURRENT PROVIDED BY UTILITY
AFC @ TRANSFORMER	(TBD)
AFC @ SWITCHBOARD	NA

AVAILABLE FAULT CURRENT (AFC) WILL BE (TBD) UNTIL PROVIDED BY UTILITY COMPANY

**LOAD SUMMARY - 480V, 3Ø, 3W**

	FLA	QTY	TOTAL FLA
360KW POWER UNIT	465	3	1395**

\*\*TOTAL CONNECTED LOAD = 1395A  
\*\*MAX. PEAK LOAD ALLOWED: 1116A  
SEE NOTE 14

**(360KW) BTC CONDUIT AND CABLE SCHEDULE**

	FROM	TO	CONFIGURATION
①	UTILITY TRANSFORMER	PROPOSED 600V SWITCHBOARD	(3) 500MCM AL (THWN-2) + (1) 500MCM AL (THWN-2) NEUTRAL + (1) #3 CU (THWN-2) EGC IN EACH OF (3) 4" DB2 CONDUITS + (1) SPARE CONDUIT
②	PROPOSED 480V SWITCHBOARD	PROPOSED POWER UNIT (EV CHARGER)	(3) 500MCM AL (THWN-2) + (1) #1 CU (THWN-2) EGC IN EACH OF (2) 4" CONDUITS
③	PROPOSED POWER UNIT (EV CHARGER)	PROPOSED DC 360KW DISPENSER (POST) DC POWER	(2) 400MCM AL (XHHW-2) 1KV+ (1) #2 CU (THWN-2) EGC IN EACH OF (2) 2 1/2" CONDUITS
④	PROPOSED POWER UNIT (EV CHARGER)	PROPOSED DC DISPENSER (POST) COMMUNICATION	(1) 6 STRAND, 62.5UM BUFFERED I/O MM FIBER (ST/ST CONN) + (1) 2 CONDUCTOR #16 AWG (TW/SH PAIR) + (1) CAT 6 CABLE IN (1) 1 1/2" CONDUIT
⑤	PROPOSED POWER UNIT (EV CHARGER)	PROPOSED DC 360KW DISPENSER (POST) AUX POWER	(3) #10 AWG CU (THWN-2) + (1) #10 AWG CU (THWN-2) EGC IN (1) 3/4" CONDUIT
⑥	PROPOSED 600V SWITCHBOARD	PROPOSED TRANSFORMER	(3) 750MCM AL (THWN-2) + (1) #3 CU (THWN-2) EGC IN EACH OF (4) 4" CONDUITS
⑦	PROPOSED TRANSFORMER	PROPOSED 480V SWITCHBOARD	(3) 750MCM AL (THWN-2) + (1) #3 CU (THWN-2) EGC IN EACH OF (6) 4" CONDUITS

**PENDING UTILITY DESIGN. ENGINEER OF RECORD TO CONFIRM UTILITY FAULT CURRENT AND MEANS OF MITIGATION**

CLIENT:

OWNER:

5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
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VANCOUVER | KELOWNA | EDMONTON | CALGARY

LOCATION: 29 HELMCKEN RD., VICTORIA, BC

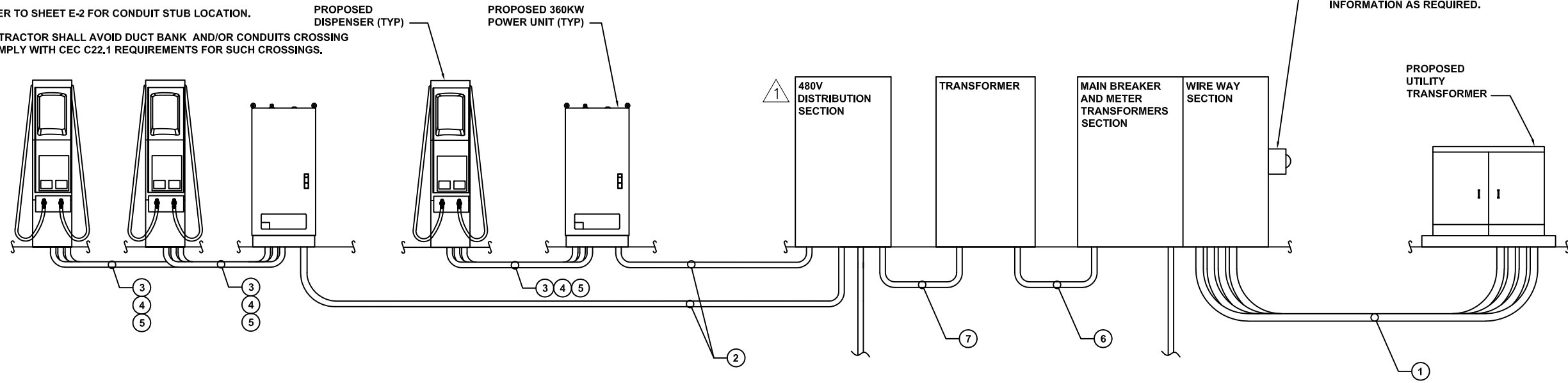
TITLE: ELECTRICAL SINGLE LINE DIAGRAM

PROJECT NAME: NEW CHARGING STATION PROJECT NO: 800033 DWG. NO: E03



**NOTES**

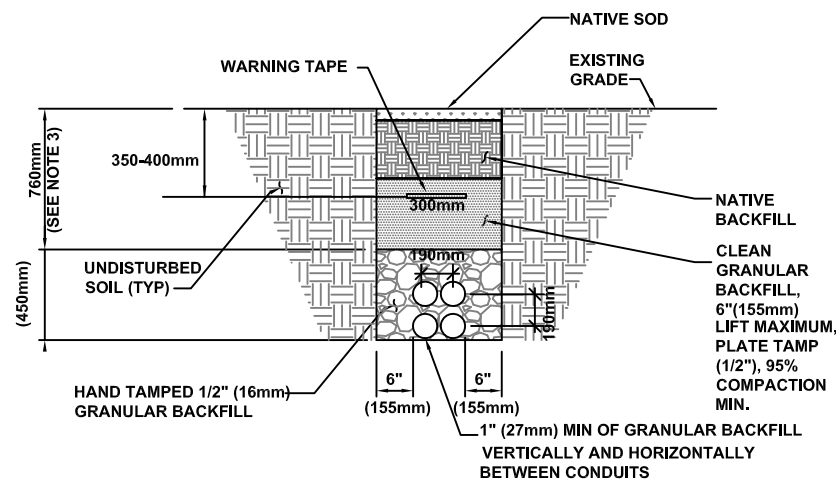
1. CONDUITS SHALL BE BURIED BELOW FROST LINE AND IN COMPLIANCE WITH LOCAL AND CANADIAN ELECTRICAL CODE REQUIREMENTS.
2. REFER TO CONDUIT AND WIRE SCHEDULE ON SHEET E-3 FOR CONDUIT AND WIRE REQUIREMENTS.
3. INSTALL DOTTIE DUCT SEAL COMPOUND PC 6130 (CAT NO. LHD1) (TYP FOR ALL CONDUITS FOR CHARGER CABINETS AND DISPENSERS).
4. REFER TO SHEET E-2 FOR CONDUIT STUB LOCATION.
5. CONTRACTOR SHALL AVOID DUCT BANK AND/OR CONDUITS CROSSING OR COMPLY WITH CEC C22.1 REQUIREMENTS FOR SUCH CROSSINGS.



PROPOSED UTILITY METER .  
CONTRACTOR TO INSTALL METER  
CABINET PER UTILITY'S  
REQUIREMENTS. COORDINATE WITH  
UTILITY FOR ADDITIONAL  
INFORMATION AS REQUIRED.

1 CONDUIT ELEVATION

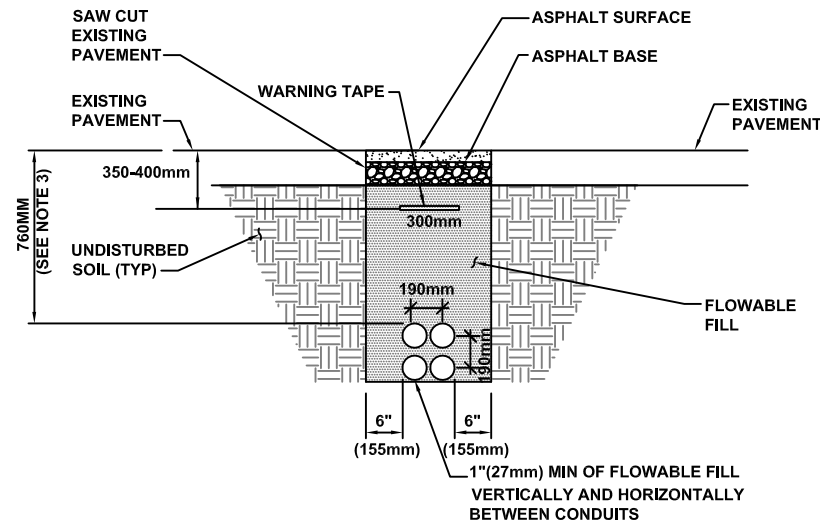
# PENDING UTILITY DESIGN



**NOTES**

1. ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
2. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
3. TRENCH DEPTHS ARE REQUIRED TO BE 6" (155mm) BELOW FROST LINE PER LOCAL JURISDICTION REQUIREMENTS. FOR VEHICULAR AREAS, MIN. DEPTH SHALL BE INCREASED FROM 760mm TO 900mm.
4. EXACT NUMBER OF CONDUITS SHALL BE DETERMINED BY SHEET E-1 & E-2, EXACT CONDUIT PLACEMENT IN TRENCH SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS AND JURISDICTIONAL REQUIREMENTS.

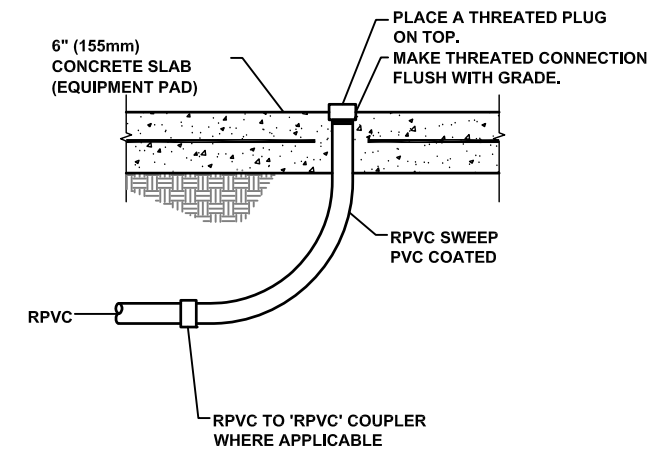
2 TYPICAL NON-UTILITY CONDUIT UNDER SOIL TRENCH



**NOTES**

1. ASPHALT SHALL COMPLY WITH STANDARD DOT OR LOCAL JURISDICTION SPEC. FOR HMA SURFACE COURSE.
2. ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
3. TRENCH DEPTHS ARE REQUIRED MIN. 6" (155mm) BELOW FROST LINE PER LOCAL JURISDICTION REQUIREMENTS. FOR VEHICULAR AREAS, MIN. DEPTH SHALL BE INCREASED FROM 760mm TO 900mm.
4. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
5. EXACT NUMBER OF CONDUITS SHALL BE DETERMINED BY SHEET E01 & E02, EXACT CONDUIT PLACEMENT IN TRENCH SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS AND JURISDICTIONAL REQUIREMENTS.

3 TYPICAL NON-UTILITY CONDUIT UNDER ASPHALT TRENCH



**NOTES:**

1. INITIALLY INSTALL COUPLING AND CAP TO PREVENT DAMAGE UNTIL GEAR IS SET.
2. INSTALL ROUNDED FITTING BEFORE PULLING CABLES TO AVOID DAMAGE TO CABLES.

4 EQUIPMENT PAD STUB-UP DETAIL

CLIENT:

OWNER:



5			
4			
3			
2			
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

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TEL. (778)228-4228  
VANCOUVER | KELLOWNA | EDMONTON | CALGARY

LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ELECTRICAL DETAILS

PROJECT NAME: NEW CHARGING STATION	PROJECT NO.: 800033	DWG. NO.: E04
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# ELECTRICAL SPECIFICATIONS

## 260500 - GENERAL REQUIREMENTS

- A. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS. CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS THAT VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.
- B. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE EXISTING BUILDING CONSTRUCTION STANDARDS.
- C. PRIOR TO SUBMISSION OF BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF HIS BID, AND IF NOT RESOLVED TO SATISFACTION SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE. REQUEST FOR ADDITIONAL COMPENSATION DUE TO CONTRACTOR'S FAILURE TO EXAMINE THE SITE PRIOR TO SUBMISSION OF BID SHALL NOT BE CONSIDERED.
- D. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.
- E. PRIOR TO SUBMISSION OF BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL MECHANICAL, ELECTRICAL, AND PLUMBING, AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID THAT IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.
- F. ANY EQUIPMENT, PARTS, MATERIALS, ACCESSORIES, OR LABOR THAT IS NECESSARY FOR PROPER PERFORMANCE OF THE ELECTRICAL WORK, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.
- G. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME THAT THE ELECTRICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION AND SERVICING OF THE EQUIPMENT.
- H. ALL MATERIALS SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITERS' LABORATORIES INC.. MATERIALS SHALL BE FABRICATED IN ACCORDANCE WITH THE SPECIFICATIONS AND APPROVED RULES AND REGULATIONS OF NEMA AND SHALL BEAR THE UL INSPECTION LABEL. MATERIAL AND APPARATUS FOR LIKE SHALL BE BY THE SAME MANUFACTURER.
- I. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL ELECTRICAL WORK. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
1. PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.
  2. PROVIDING OF NEW RACEWAY AND CONDUCTORS FOR LIGHTING AND POWER.
  3. CUTTING, CHANNELING AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.
  4. PROVIDING OF CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR THE AFOREMENTIONED EQUIPMENT.
  5. GROUNDING OF ALL EQUIPMENT AS REQUIRED BY CANADIAN ELECTRICAL CODE AND AS SHOWN ON THE DRAWINGS.
  6. PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.
  7. PROVIDING ENGRAVED LAMICOID NAMEPLATES FOR NEW PANELBOARDS, SWITCHES, CABINETS, MOTOR STARTERS, ETC.
- J. FOLLOW THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A201 LATEST EDITION, OR AS REQUIRED BY THE ARCHITECTS DOCUMENTS AND/OR ENGINEERS DOCUMENTS.
- K. SUBMIT SHOP DRAWINGS CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT ALL CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS. PROVIDE A MINIMUM OF SIX (6) COPIES OF 8-1/2"x11" SUBMISSIONS AND ONE (1) REPRODUCIBLE AND ONE (1) PRINT OF ALL DRAWINGS.
- SUBMIT SHOP DRAWINGS FOR ROEHAMPTON WEST PROJECT MANAGER:
1. SWITCHES AND FUSES.
  2. OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY.
  3. ARC FLASH HAZARD ANALYSIS STUDY.
- L. CONTRACTOR SHALL REVISE DRAWINGS TO CONFORM TO RECORD DRAWINGS AND SUBMIT AS-BUILT CONDITION (DEVICES, EQUIPMENT, CIRCUITRY, ETC.), DRAWINGS UPON COMPLETION OF THE PROJECT. FINAL SUBMISSION OF REPRODUCIBLE AND ACAD DISKETTE OF AS-BUILT DRAWINGS ARE TO BE SUBMITTED TO THE OWNER AND ROEHAMPTON WEST AND CONSULTANTS FOR REVIEW AND RECORDS.

- M. SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL NOT BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER THAT INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS, ANY CHANGES IN LAYOUT, ELECTRICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM SUBSTITUTION.
- N. DEFINITIONS:
1. "ELECTRICAL CONTRACTOR", "THIS CONTRACTOR" - THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.
  2. "ARCHITECT", "ENGINEER", "OWNER'S REPRESENTATIVE" - THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
  3. "FURNISH" - PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE ELECTRICAL WORK.
  4. "INSTALL" - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE ELECTRICAL WORK.
  5. "PROVIDE" - "FURNISH" AND "INSTALL"
  6. "RELOCATE" - MOVE EXISTING EQUIPMENT/DEVICES/FXTURE AND ALL ACCESSORIES AS REQUIRED, INCLUDING THE EXTENSION OF EXISTING OR PROVIDING NEW CIRCUIT/CONDUCTORS/WIRING AS REQUIRED.
  7. "REMOVE" - DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY EFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.
- S. ACCEPTABLE MANUFACTURERS:  
DISCONNECT SWITCHES: SIEMENS, GE OR SQUARE "D"  
FUSES: BUSSMAN, FERRAZ SHAWMUT  
RACEWAY: NATIONAL WIRE PRODUCTS, TRIANGLE OR REPUBLIC  
WIRE/CABLE: NEXANS, GENERAL CABLE, SOUTHWIRE  
PANELBOARDS: SIEMENS, GE OR SQUARE "D".  
JUNCTION/PULL BOXES: APPLETON (EMERSON), CROUSE HINDS OR O.Z./ GEDNEY CO.  
FIRE STOP MATERIAL: HILTI, 3M (NOTE: MATERIAL MUST BE ACCEPTABLE TO LOCAL AHJ)  
FITTINGS, COUPLINGS, BUSHINGS, CONNECTORS: OZ GEDNEY, BURNDY, NEPCO, THOMAS AND BETTS

## 260519 - WIRE AND CABLE

- A. ALL CONDUCTORS SHALL BE COPPER, TYPE RW90/RWU90 INSULATED. ALL CONDUCTORS SHALL HAVE MIN. 600 VOLT AC RATED 1,000 VOLT DC RATED INSULATION. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID WIRE, CONDUCTORS AND #8 AWG AND LARGER SHALL BE STRANDED WIRE.
- B. METAL CLAD CABLE (TYPE MC) IS NOT ALLOWED.
- C. BRANCH CIRCUIT WIRE SIZE: THE MINIMUM WIRE SIZE FOR BRANCH CIRCUIT SHALL BE #12 AWG EXCEPT 120 VOLT CIRCUITS OVER 80 FEET IN LENGTH SHALL BE 10# AWG. REFER TO DRAWINGS FOR FURTHER WIRE SIZING INFORMATION.
- D. PROVIDE ALL BRANCH CIRCUITS WITH DEDICATED GROUND WIRES.
- G. PROVIDE FLAMEPROOF IDENTIFICATION TAGS IN ALL JUNCTION BOXES, PULL BOXES AND PANELBOARDS FOR ALL FEEDERS, BRANCH CIRCUIT AND CONTROL WIRING. TAGS SHALL IDENTIFY CONDUCTOR SIZES, SOURCE AND TERMINATION POINTS.
- H. INSTALL NO MORE THAN 3 BRANCH CIRCUITS IN ONE CONDUIT OR HOMERUN UNLESS OTHERWISE NOTED.

## 260526 - GROUNDING AND BONDING OF ELECTRICAL SYSTEMS

- A. **SERVICE:** PROVIDE COMPLETE SYSTEM OF GROUND CONDUCTORS, ELECTRODES, AND ACCESSORIES TO EFFECTIVELY AND PERMANENTLY GROUND ELECTRIC SERVICE.
- B. **EQUIPMENT:** GROUND NON-CURRENT CARRYING METAL PARTS OF THE ELECTRICAL SYSTEM. PROVIDE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDERS AND BRANCH CIRCUITS, SIZED IN ACCORDANCE WITH THE OVER CURRENT PROTECTIVE DEVICE SERVING THAT FEEDER OR BRANCH CIRCUIT.

## 260533 - RACEWAY

- A. CONDUIT FOR BRANCH CIRCUIT SHALL BE, WITH COMPRESSION FITTINGS SIZED PER DRAWING, 3/4" MINIMUM. (MAXIMUM 3 CIRCUITS PER HOMERUN EXCEPT AS NOTED).
- B. FLEXIBLE STEEL CONDUIT MAY BE USED ONLY FOR:
1. SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICABLE.
  2. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT: WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH 18 IN (457.2mm). WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.
  3. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.
  4. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.

- C. EXPANSION FITTINGS: INSTALL AT RIGHT ANGLES WITH CLIP CENTERED IN EXPANSION JOINT. PROVIDE LENGTH OF RUNS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- D. RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT AS REQUIRED TO MAINTAIN THE EXISTING FIRE RATING.
- E. PROVIDE FISH OR PULL WIRE IN ALL EMPTY CONDUITS OVER 10 FEET (3048mm) LONG.
- F. MAINTAIN GROUND CONTINUITY OF ALL INTERRUPTED RACEWAYS WITH GROUND CONDUCTOR.
- G. ALL WIRING WITHIN ELECTRICAL CLOSET AND IN BUILDINGS CORE CEILINGS SHALL BE INSTALLED IN CONDUIT.
- H. INSTALL ACCESSIBLE JUNCTION AND PULLBOXES CLEAR OF OTHER TRADES AND SUPPORTED FROM BUILDING STRUCTURE INDEPENDENT OF CONDUIT.
- 260534 - PULL BOXES, JUNCTION BOXES AND OUTLET BOXES
- A. PULLBOXES, JUNCTION BOXES AND OUTLET BOXES SHALL BE MANUFACTURED FROM GALVANIZED INDUSTRY STANDARD GAUGE SHEET STEEL.
- B. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.
- C. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.
- D. ALL EQUIPMENT, DEVICE BOXES, JUNCTION BOXES, PULLBOXES AND OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO THE BOX. IF NECESSARY AND APPROVED BY ARCHITECT, PROVIDE ACCESS DOOR OR COVERPLATES IN AREAS WHERE UNOBSTRUCTED ACCESS IS NOT POSSIBLE.
- E. USE WEATHERPROOF BOXES, JUNCTION BOXES, RECEPTACLES, AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.

CLIENT:

OWNER:



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3			
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1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE



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VANCOUVER | KELLOWNA | EDMONTON | CALGARY

LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ELECTRICAL SPECIFICATIONS

PROJECT NAME: NEW CHARGING STATION PROJECT NO: 800033 DWG. NO: E05

IN CASE OF DISCREPANCY BETWEEN THE ELECTRICAL SPECIFICATIONS AND DRAWINGS, THE SPECIFIED RATING, MATERIAL AND SIZE AS PER DRAWINGS SHALL BE FOLLOWED. COORDINATE WITH ENGINEER FOR FURTHER ASSISTANCE.

# ELECTRICAL SPECIFICATIONS

## 260573 - OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

- A. COMPUTER SOFTWARE DEVELOPERS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. SKM SYSTEMS ANALYSIS, INC.
  2. ESA, INC.
  3. CGI CYME.
  4. EDSA MICRO CORPORATION.
  5. OPERATION TECHNOLOGY, INC.
- B. CALCULATE THE MAXIMUM AVAILABLE SHORT-CIRCUIT CURRENT IN AMPERES RMS SYMMETRICAL AT CIRCUIT BREAKER POSITIONS OF THE ELECTRICAL POWER DISTRIBUTION SYSTEM. THE CALCULATION SHALL BE FOR A CURRENT IMMEDIATELY AFTER INITIATION AND FOR A THREE-PHASE BOLTED SHORT CIRCUIT AT EACH OF THE FOLLOWING:
1. SWITCHGEAR AND SWITCHBOARD BUS.
  2. BRANCH CIRCUIT PANELBOARD.
- C. CALCULATIONS TO VERIFY INTERRUPTING RATINGS OF OVERCURRENT PROTECTIVE DEVICES SHALL COMPLY WITH IEEE 141.
- D. PERFORM COORDINATION STUDY USING APPROVED COMPUTER SOFTWARE PROGRAM. PROVIDE A WRITTEN REPORT USING RESULTS OF FAULT-CURRENT STUDY. COMPLY WITH IEEE 399.
1. CALCULATE THE MAXIMUM AND MINIMUM 1/2-CYCLE SHORT-CIRCUIT CURRENTS.
  2. CALCULATE THE MAXIMUM AND MINIMUM INTERRUPTING DUTY (5 CYCLES TO 2 SECONDS) SHORT-CIRCUIT CURRENTS.
  3. CALCULATE THE MAXIMUM AND MINIMUM GROUND-FAULT CURRENTS.
- E. COMPLY WITH IEEE 241 RECOMMENDATIONS FOR FAULT CURRENTS AND TIME INTERVALS.
- F. TRANSFORMER PRIMARY OVERCURRENT PROTECTIVE DEVICES:
1. DEVICE SHALL NOT OPERATE IN RESPONSE TO THE FOLLOWING:
    - 1.a. INRUSH CURRENT WHEN FIRST ENERGIZED.
    - 1.b. SELF-COOLED, FULL-LOAD CURRENT OR FORCE-AIR-COOLED, FULL-LOAD CURRENT, WHICHEVER IS SPECIFIED FOR THAT TRANSFORMER.
    - 1.c. PERMISSIBLE TRANSFORMER OVERLOADS ACCORDING TO IEEE C57.96 IF REQUIRED BY UNUSUAL LOADING OR EMERGENCY CONDITIONS.
  2. DEVICE SETTINGS SHALL PROTECT TRANSFORMERS ACCORDING TO IEEE C57.12.00, FOR FAULT CURRENTS.
- G. CONDUCTOR PROTECTION: PROTECT CABLES AGAINST DAMAGE FROM FAULT CURRENTS ACCORDING TO ICEA P-32-382, ICEA P-45-482, AND CONDUCTOR MELTING CURVES IN IEEE 242.

4. HAZARD RISK CATEGORY.
  5. INCIDENT ENERGY.
  6. WORKING DISTANCE.
  7. ENGINEERING REPORT NUMBER, REVISION NUMBER AND ISSUE DATE.
- H. LABELS SHALL BE MACHINE PRINTED, WITH NO FIELD MARKINGS.
1. FOR EACH SWITCHBOARD AND PANELBOARD, ONE ARC FLASH LABEL SHALL BE PROVIDED.
- I. THE Z462-18 WORKPLACE ELECTRICAL SAFETY STANDARD SHALL BE FOLLOWED FOR THE ARC-FLASH CALCULATION, STUDIES AND ARC-FLASH LABELS AS THE MAIN STANDARD.

## 260574 - ARC-FLASH HAZARD ANALYSIS STUDY

- A. THE CONTRACTOR SHALL FURNISH AN ARC FLASH HAZARD ANALYSIS STUDY PER THE REQUIREMENTS SET FORTH IN CSA Z462, WORKPLACE ELECTRICAL SAFETY STANDARD. THE ARC FLASH HAZARD ANALYSIS SHALL BE PERFORMED ACCORDING TO IEEE 1584 EQUATIONS THAT ARE PRESENTED IN CSA Z462-18, ANNEX.
- B. THE FLASH PROTECTION BOUNDARY AND THE INCIDENT ENERGY SHALL BE CALCULATED AT ALL SIGNIFICANT LOCATIONS IN THE ELECTRICAL DISTRIBUTION SYSTEM (SWITCHBOARDS, PANELBOARDS, BUSWAY AND SPLITTERS) WHERE WORK COULD BE PERFORMED ON ENERGIZED PARTS.
- C. SAFE WORKING DISTANCES SHALL BE BASED UPON THE CALCULATED ARC FLASH BOUNDARY CONSIDERING AN INCIDENT ENERGY OF 1.2 CAL/CM<sup>2</sup>.
- D. ARC FLASH CALCULATIONS SHALL BE BASED ON ACTUAL OVERCURRENT PROTECTIVE DEVICE CLEARING TIME. MAXIMUM CLEARING TIME WILL BE CAPPED AT 2 SECONDS BASED ON IEEE 1584-2002 SECTION B.1.2. WHERE IT IS NOT PHYSICALLY POSSIBLE TO MOVE OUTSIDE OF THE FLASH PROTECTION BOUNDARY IN LESS THAN 2 SECONDS DURING AN ARC FLASH EVENT A MAXIMUM CLEARING TIME BASED ON THE SPECIFIC LOCATION SHALL BE UTILIZED.
- E. CONTRACTOR SHALL PROVIDE A 3.5" (91mm) x 5" (129mm) THERMAL TRANSFER TYPE LABEL OF HIGH ADHESION POLYESTER FOR EACH WORK LOCATION ANALYZED.
- F. ALL LABELS WILL BE BASED ON RECOMMENDED OVERCURRENT SETTINGS AND WILL BE PROVIDED AFTER THE RESULTS OF THE ANALYSIS HAVE BEEN PRESENTED TO THE OWNER AND AFTER ANY SYSTEM CHANGES, UPGRADES, OR MODIFICATIONS HAVE BEEN INCORPORATED IN THE SYSTEM.
- G. THE LABEL SHALL INCLUDE THE FOLLOWING INFORMATION, AT A MINIMUM:
1. LOCATION DESIGNATION.
  2. NOMINAL VOLTAGE.
  3. FLASH PROTECTION BOUNDARY.

CLIENT:

OWNER:



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1	RY	ELECTRICAL REV.	04 NOV 22
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NO.	BY	DESCRIPTION	DATE



LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ELECTRICAL SPEC (CONT.) SWB & PNL SCHEDULES

PROJECT NAME: NEW CHARGING STATION PROJECT NO: 800033 DWG. NO: E06



**ELECTRICAL GENERAL NOTES**

- ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
- MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS. WHERE MOUNTING HEIGHTS ARE NOT GIVEN ON THE ARCHITECTURAL DRAWINGS, UTILIZE THE FOLLOWING MOUNTING HEIGHTS UNLESS OTHERWISE NOTED (ALL DIMENSIONS TO CENTERLINE OF BOX):
  - A. RECEPTACLES (WALL MOUNTED) - 18" A.F.F.
- ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE TO MAKE HIMSELF AWARE OF EXISTING CONDITIONS BEFORE SUBMITTING HIS PRICE.
- THE MINIMUM RATING OF DISCONNECT SWITCHES SHALL BE EQUAL TO OR GREATER THAN THE RATING OF THE PROTECTIVE DEVICE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH. ALL RATINGS OF DISCONNECT SWITCHES AND OR FUSES/ OVER-CURRENT DEVICES SHALL BE SIZED IN ACCORDANCE WITH CODE FOR THE LOADS SERVED PER DESIGN DRAWINGS.
- NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS LINE VOLTAGE POWER WIRING.
- ALL JUNCTION OR OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO COVER. PROVIDE APPROVED ACCESS DOORS OR PLATES AS REQUIRED IN AREAS WHERE UNOBSTRUCTED ACCESS TO BOX OR OUTLET IS NOT POSSIBLE.
- AT ALL EMPTY CONDUITS PROVIDE BUSHINGS AT ENDS AND DRAG WIRES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSPECTION APPROVAL CERTIFICATE TO OWNER UPON COMPLETION OF WORK.
- CIRCUIT ASSIGNMENTS FOR, RECEPTACLES, WIRING DEVICES, AND ELECTRICAL EQUIPMENT ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO THESE DEVICES / EQUIPMENT. PROVIDE CONDUITS, WIRES AND BOXES REQUIRED TO ENERGIZE THE EQUIPMENT AS SHOWN.
- CIRCUIT NUMBERS ARE FOR REFERENCE ONLY. CIRCUIT NUMBERS ARE INTENDED TO BE USED FOR QUANTITIES AND FOR DESIGNATING WHAT OUTLETS (FIXTURES, EQUIPMENT, ETC.) WILL BE ON THE SAME CIRCUIT. CONTRACTOR SHALL REARRANGE CIRCUITS PER FIELD CONDITIONS SO THAT LOAD VALUES FOR EACH PHASE DO NOT EXCEED CODE REQUIREMENTS AND TO BALANCE THE LOADS AT THE PANELS PER SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUITS WITH PROPER PHASE SEQUENCES FOR EVERY REQUIRED NEUTRAL WIRE THAT IS SHARED. ELECTRICAL CONTRACTOR SHALL DOCUMENT ALL AFFECTED CIRCUITS, LABEL EACH OUTLET COVER WITH ACTUAL PANEL DESIGNATION AND CIRCUIT NUMBER, AND PROVIDE AS-BUILT PANEL DIRECTORIES AND DRAWINGS PER SPECIFICATIONS.
- ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS.
- 3/4" (21mm) SHALL BE THE MINIMUM CONDUIT INSTALLED.

A, AMP	AMPERE	EMT	ELECTRICAL METAL TUBING	N	NEUTRAL
ADA	AMERICANS WITH DISABILITIES ACT	FACP	FIRE ALARM CONTROL PANEL	NC	NORMALLY CLOSED
AF	AMPERE FRAME	FBO	FURNISH BY OTHER DIVISION OF WORK	NO	NUMBER
AFF	ABOVE FINISH FLOOR	FCO	FUSE CUTOFF BOX	NTS	NOT TO SCALE
AHJ	AUTHORITY HAVING JURISDICTION	FCS	FIRE COMMAND STATION	OL	OVERLOAD DEVICE
AIC	AMPS INTERRUPTING CAPACITY	FSD	FIRE SMOKE DAMPER	OFCI	OWNER FURNISHED - CONTRACTOR INSTALLED
AT	AMPERE TRIP	FU	FUSE	P	POLE
ATS	AUTOMATIC TRANSFER SWITCH	FL	FLOOR	PNL	PANEL
AWG	AMERICAN WIRE GAUGE	FLA	FULL LOAD AMPS	Ø	PHASE
BCH	BC HYDRO	FLEX	FLEXIBLE	RA	RETURN AIR
BLDG	BUILDING	FT	FEET OR FOOT	RG, RAG	RETURN AIR GRILLE
BMS	BUILDING MANAGEMENT SYSTEM	GA	GAUGE	SN	SOLID NEUTRAL
C	CONDUIT	G, GRD	GROUND	SPCP	STAIR PRESSURIZATION SYSTEM
CAT	CATALOG	GC	GENERAL CONTRACTOR		CONTROL PANEL
CB	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER	STP	STAIR PRESSURIZATION
CD	CANDELA	HID	HIGH INTENSITY DISCHARGE	SW	SWITCH
CEC	CANADIAN ELECTRICAL CODE	HP	HORSEPOWER	SWBD	SWITCHBOARD
CFSD	COMBINATION FIRE/SMOKE DAMPER	HVAC	HEATING, VENTILATING & AIR	TEL	TELEPHONE
CKT	CIRCUIT		CONDITIONING DIVISION ON WORK	TYP	TYPICAL
CLG	CEILING	HZ	HERTZ	UON	UNLESS OTHERWISE NOTED
CSA	CANADIAN STANDARDS ASSOCIATION	IC	INTERRUPTING CAPACITY	UL	UNDERWRITERS LABORATORIES
CO	CONDUIT ONLY	JB	JUNCTION BOX	UV	ULTRAVIOLET
CU	COPPER	LEMCS	LOCAL EMERGENCY CONTROL SYSTEM	VESDA	VERY EARLY SMOKE DETECTION
DACS	DIGITAL ALARM COMMUNICATION SYSTEM	LTG	LIGHTING		APPARATUS
DACT	DIGITAL ALARM COMMUNICATION	MCB	MAIN CIRCUIT BREAKER	V	VOLTAGE
	TERMINAL	MECH	MECHANICAL	VDC	DIRECT CURRENT VOLTAGE
DGP	DATA GATHERING PANEL	MER	MECHANICAL EQUIPMENT ROOM	VFD	VARIABLE FREQUENCY DRIVE
DIFF	DIFFERENTIAL	MIN	MINIMUM	WP	WEATHER PROOF
DISC	DISCONNECT	MLO	MAIN LUGS ONLY		
DN	DOWN	MTD	MOUNTED		
DWG	DRAWING				
ELEC	ELECTRICAL				
EMR	ELEVATOR MACHINE ROOM				

**POWER AND SIGNAL DEVICE LEGEND**

SYMBOL	DESCRIPTION
	UON, 20A, 125V, 2P, 3W, GROUNDED WALL MOUNTED DUPLEX AND DOUBLE DUPLEX RECEPTACLES, NEMA 5-20R. (COLOR PER ARCHITECT). ALL OUTLETS SHALL BE LABELED WITH ITS SOURCE PANEL AND BREAKER # ID. "WP" - INDICATES WEATHERPROOF (TYP FOR WIRING DEVICES) "C" - INDICATES COUNTER HEIGHT (TYP FOR WIRING DEVICES)
	SHADING FOR DUPLEX OR DOUBLE DUPLEX PER ABOVE INDICATES DEDICATED CIRCUIT
	UON, 20A, 125V, 2P, 3W, GROUNDED WALL MOUNTED DUPLEX AND DOUBLE DUPLEX RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 5-20R. WEATHER PROOF (COLOR PER ARCHITECT). ALL OUTLETS SHALL BE LABELED WITH ITS SOURCE PANEL AND BREAKER # ID.
	ELECTRICAL JUNCTION BOX FOR HARDWIRED EQUIPMENT.
	(2) INDICATES DOUBLE-GANG BOX. (F) INDICATES FLOOR RECESSED. (CE) INDICATES CEILING RECESSED. (AFC) INDICATES ABOVE FINISHED CEILING, SURFACE MTD.
	SURFACE MOUNTED PANELBOARD - SOLID INDICATES NEW, UNSHADED/DASHED INDICATES EXISTING
	DRY TYPE TRANSFORMER - SIZE AS INDICATED ON THE DRAWINGS
	ELECTRICAL METER OR SUB-METER AS IDENTIFIED ON THE DRAWINGS
	ONE, TWO, OR THREE HOME RUNS TO ELECTRICAL PANEL 'PNL' - INDICATED PANEL NAME '#' - INDICATES CIRCUIT NUMBER, U.O.N.
	GROUND BAR

**ONE LINE/RISER DIAGRAM LEGEND**

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER "##A" - INDICATES AMPERAGE RATING "#P" - INDICATES NUMBER OF POLES
	FUSED DISCONNECT SWITCH "##AS" - INDICATES SWITCH SIZE "##AF" - INDICATES FUSE SIZE
	NON-FUSED DISCONNECT SWITCH "A" - INDICATES SWITCH SIZE "#P" - INDICATES NUMBER OF POLES
	TRANSFORMER, 480V INDICATES PRIMARY VOLTAGE, 120/208V INDICATES SECONDARY VOLTAGE
	GROUNDING CONNECTION
	PANELBOARD - REFER TO PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION

CLIENT:

OWNER:



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1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

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 VANCOUVER, BC V6C 1T2  
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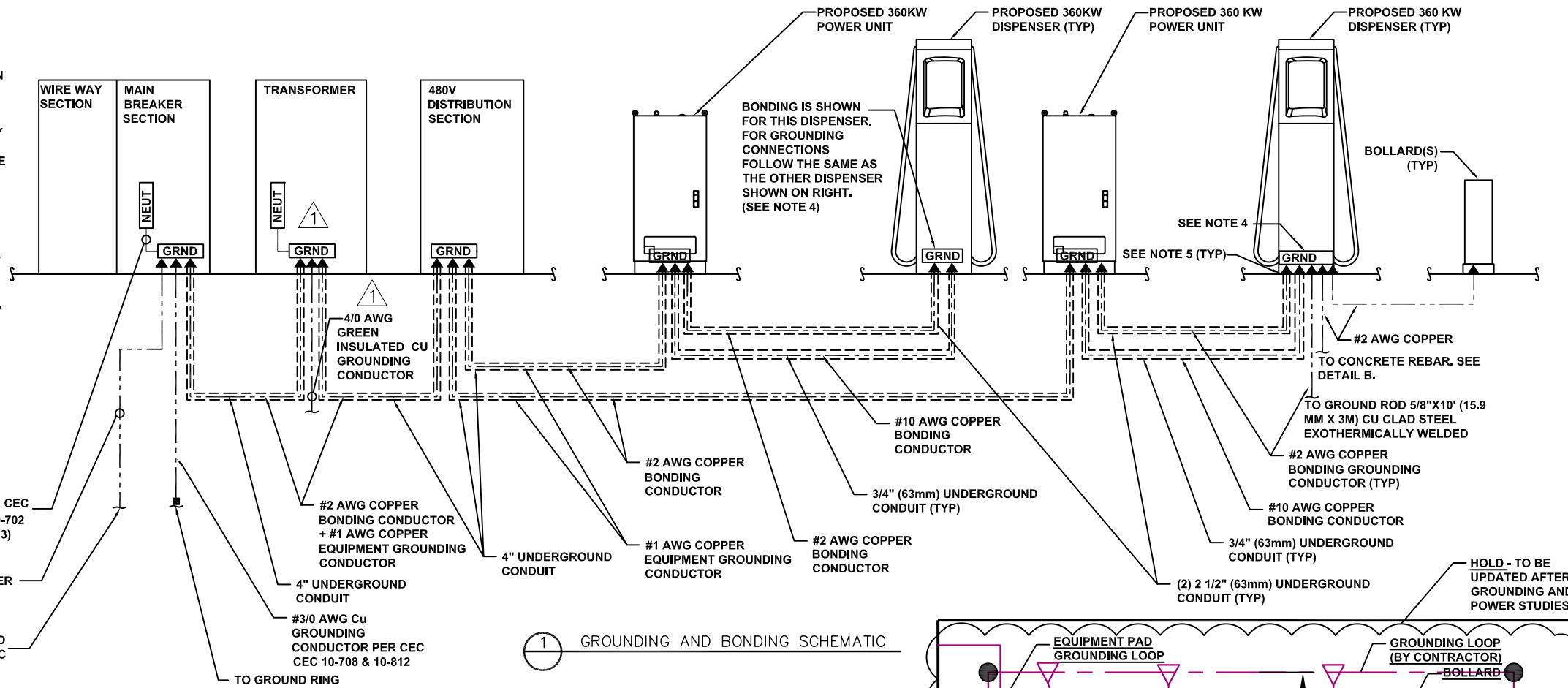
LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
ELECTRICAL GENERAL NOTES

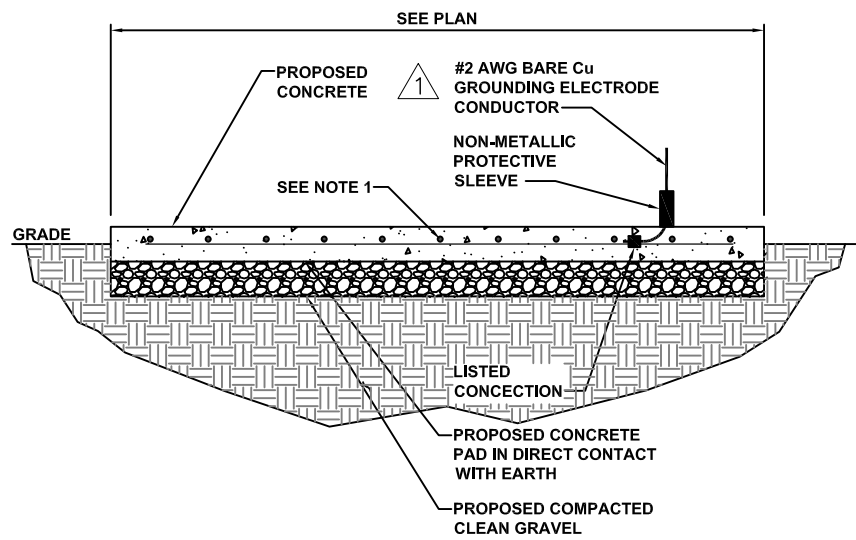
PROJECT NAME: NEW CHARGING STATION	PROJECT NO.: 800033	DWG. NO.: E07
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- NOTE:**
- METER PLACEMENT AND FINAL SWITCHGEAR DESIGN TO BE COORDINATED ACCORDING TO UTILITY REQUIREMENTS.
  - THE GROUNDING RING AND GROUND ELECTRODS SHALL BE AT LEAST 2,400 MM FAR FROM THE UTILITY TRANSFORMER GROUNDING LOOP, OTHERWISE, WHETHER TOUCH AND STEP VOLTAGES COMPLIANCE WITH TABLE 52 OF CEC C22.1 BE PROVIDED, OR THE TWO SYSTEM BE CONNECTED. IN ANY CASE COORDINATION WITH AND CONFIRMATION FROM LOCAL UTILITY ARE REQUIRED BEFORE STARTING CONSTRUCTION.
  - ONE END ONLY NEUTRAL GROUNDING MAY BE REQUIRED (TO BE COORDINATED AND APPROVED BY THE LOCAL UTILITY COMPANY)
  - ALL DISPENSER GROUNDING SHALL INCLUDE CONNECTIONS TO THE DEDICATED GROUNDING ROD, BOLLARDS AND CONCRETE REBAR.



- NOTE**
- REBAR BONDED TOGETHER WITH STEEL TIE WIRES OR EXOTHERMIC WELDING
  - SIMILAR GROUNDING IS REQUIRED FOR EACH DISPENSER CONCRETE PAD REBARS

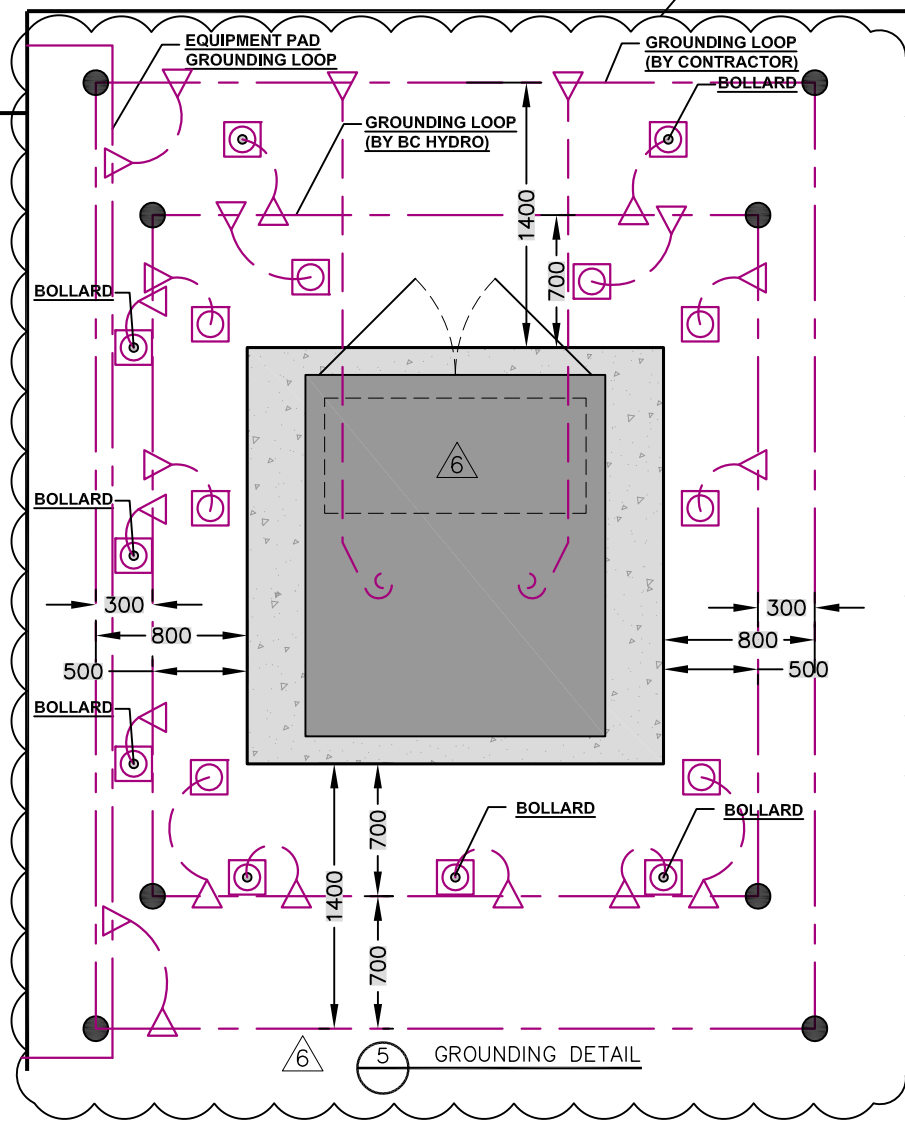


- NOTES:**
- ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
  - FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.

**3** GROUNDING NOTES

CADWELD CONNECTIONS OR ENGINEER APPROVED EQUAL		
<b>CABLE TO REBAR</b> TEE CONNECTION HORIZONTAL CABLE TAP TO VERTICAL REBAR TYPE RJ	<b>HORIZONTAL SPLICE</b> SPLICE OF HORIZONTAL CABLES TYPE SS	<b>PARALLEL HORIZONTAL CONDUCTORS</b> PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT
<b>BURNDY CONNECTIONS</b> OR ENGINEER APPROVED EQUAL	<b>HORIZONTAL STEEL SURFACE</b> TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	<b>PARALLEL HORIZONTAL CONDUCTORS</b> PARALLEL DEAD END TAP OR HORIZONTAL THRU CONDUCTOR TYPE PC
<b>BOND JUMPER</b> FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2	<b>VERTICAL PIPE</b> CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	<b>VERTICAL STEEL SURFACE</b> CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS
<b>COPPER LUGS</b> TWO HOLE - LONG BARREL LENGTH TYPE YA-2	<b>HORIZONTAL TEE</b> TEE OF HORIZONTAL RUN AND TAP CABLES TYPE TA	<b>THROUGH CABLE TO GROUND ROD</b> THROUGH CABLE TO TOP OF GROUND ROD TYPE GT

**4** CADWELD CONNECTION DETAIL



- GROUND ROD
- COMPRESSION CONNECTION
- ABOVE GRADE GROUNDING CONNECTION
- 2/0 AWG GROUND WIRE PER HARDWARE SPEC
- 3/8" GROUND WIRE PER HARDWARE SPEC

CLIENT:

OWNER:



NO.	BY	DESCRIPTION	DATE
5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22

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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
SCHEMATIC GROUNDING PLAN

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: G01
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**GENERAL CONSTRUCTION NOTES**

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY  
GENERAL CONTRACTOR: BID AWARDED PRIME CONTRACTOR  
OWNER: ELECTRIFY CANADA
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
- THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL CCOHS (CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY) REQUIREMENTS AND THE LOCAL JURISDICTION.
- THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
- WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

**GENERAL CONSTRUCTION NOTES CONT.**

- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
- ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- THE CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
- NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
- CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION, IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

**ELECTRICAL NOTES**

- THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER/ELECTRIFY CANADA' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER/ELECTRIFY CANADA' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
- THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. THE CONDITION OF EXISTING ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE CEC AND ALL CODES AND LOCAL ORDINANCES OF THE AUTHORITY HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
  - C-UL - UNDERWRITERS LABORATORIES
  - CEC - CANADIAN ELECTRICAL CODE
  - CSA - CANADIAN STANDARD ASSOCIATION
  - CCOHS - CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY
  - NBC - NATIONAL ELECTRICAL BUILDING CODE
  - NECB - NATIONAL ENERGY CODE OF CANADA FOR BUILDING
  - NFC - NATIONAL FIRE CODE
  - NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
  - BRITISH COLUMBIA ELECTRICAL SAFETY CODE
  - BC SAFETY AUTHORITY
  - BRITISH COLUMBIA BUILDING CODE
  - BRITISH COLUMBIA HYDRO DISTRIBUTION SPECIFICATIONS
- DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, BUT CONFIRM WITH 'CONSTRUCTION MANAGER/ELECTRIFY CANADA' ANY SIZES AND LOCATIONS WHEN NEEDED.

**ELECTRICAL NOTES CONT.**

- EXISTING SERVICES: THE CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
- THE CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. THE CONTRACTOR SHALL OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING THE EQUIPMENT.
- THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
- THE CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
- CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER OR ALUMINUM WITH TYPE (RWU90) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
- ALL WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION, CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIONAL AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
- THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
- ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
- PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
- TRENCHING AND BACKFILL: THE CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO GENERAL SITE WORK NOTES.
- MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF C-UL APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CEC, NEMA AND IEEE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER/ELECTRIFY CANADA' UPON FINAL ACCEPTANCE.
- THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
- DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- ALL CONNECTIONS EXCEPT THE EV CHARGE CABLE TERMINATION IN THE CHARGE POST SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NOALOX" BY IDEAL INDUSTRIAL INC., ALL WIRE SURFACES SHALL BE COATED BEFORE CONNECTING. EXPOSED ALUMINUM & COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
- ALL EXTERIOR AND INTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID UNLESS SPECIFIED OTHERWISE. ALL BURIED CONDUITS SHALL BE SCH 40 RPVC UNLESS SPECIFIED OTHERWISE.
- RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 RPVC, MEETING OR EXCEEDING CSA. THE CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 3 FT. RADIUS. RIGID CONDUITS WHEN SPECIFIED, SHALL MEET C-UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD GALV'.
- SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY CEC AND APPLICABLE LOCAL CODES
- CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.

\* SEE THE REST OF THE NOTES ON SHEET # GN-3.

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LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
GENERAL NOTES

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: N01
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**GENERAL SITE WORK NOTES**

**PART 1 - GENERAL**

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

**1. INSPECTION AND TESTING:**

- A. GENERAL CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. PERFORM INSPECTIONS BEFORE CONCEALING WORK WITH FOLLOW-ON ACTIVITIES (BACKFILL, CONCRETE POUR, ETC).

**2. SITE MAINTENANCE AND PROTECTION:**

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE CONTRACT.
- B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- C. KEEP SITE FREE OF ALL PONDING WATER.
- D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT, LOCAL PERMITTING AGENCY AND EPA REQUIREMENTS.
- E. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE CONSTRUCTION MANAGER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
- G. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE CONSTRUCTION MANAGER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.
- H. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.

**PART 2 - PRODUCTS**

- 1. **SUITABLE MATERIAL** – SUITABLE MATERIAL ARE USED FOR GRADING AND BACKFILL. SUITABLE MATERIALS ARE ON SITE SOILS REMOVED FROM EXCAVATIONS THAT EXCLUDE FROZEN SOIL, ROOTS OR ORGANIC MATERIAL, DEBRIS, TRASH, REFUSE, OR PARTICLES SIZE GREATER THAN 3-INCH. SUITABLE SOILS HAVE MOISTURE CONTENTS THAT ALLOW THEM TO BE COMPACTED TO THE SAME DENSITY AS THE NATIVE SOILS.
- 2. **UNSUITABLE MATERIAL** – SOILS THAT ARE FROZEN, CONTAIN ROOTS OR ORGANIC MATERIAL, DEBRIS, TRASH, REFUSE, OR PARTICLES SIZES GREATER THAN 3-INCH. SOILS THAT ARE TOO WET OR TOO DRY TO BE COMPACTED TO THE SAME DENSITY AS THE NATIVE SOILS ARE UNSUITABLE.
- 3. **GRANULAR BACKFILL** – SHALL MEET THE FOLLOWING GRADATION

SIEVE SIZE	TOTAL PERCENT PASSING
1 1/2 INCH (37.5 MM)	100
NO. 4 (4.75 MM)	30 TO 60
NO 200 (0.075 MM)	3 TO 15

- 4. **GRANULAR BEDDING** – WELL-GRADED SAND MEETING THE GRADATION REQUIREMENT OF ASTM C 33 FINE AGGREGATE.
- 5. **CONTROLLED LOW STRENGTH MATERIAL (CLSM)** – A SELF LEVELING AND SELF COMPACTING CEMENTITIOUS MATERIAL COMPOSED OF SAND, COARSE AGGREGATE, CEMENT, FLY ASH, WATER AND ADMIXTURES. CLSM SHALL BE EXCAVATABLE AND SHALL HAVE A DESIGNED UNCONFINED COMPRESSIVE STRENGTH OF BETWEEN 50 TO 100 PSI.
- 6. **BACKFILL** – PRODUCTS MEETING THE REQUIREMENTS OF SUITABLE MATERIAL, GRANULAR BEDDING, GRANULAR BACKFILL OR CLSM.
- 7. **TOPSOIL** – SOIL WITH AN ORGANIC CONTENT SUFFICIENT TO ALLOW VEGETATIVE GROWTH.

**GENERAL SITE WORK NOTES CONT.**

**PART 3 - EXECUTION**

**1. GENERAL:**

- A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ALL TIMES.
- B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK. CONDUCT UTILITY LOCATE IN ACCORDANCE WITH THE ONE-CALL NOTIFICATION
- C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
- D. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- E. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS. SUFFICIENT TOPSOIL MAY BE STOCKPILED ON SITE FOR USE DURING FINAL SITE GRADING.
- F. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE MATERIAL.
- G. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
- H. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- I. SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
- J. DURING EXCAVATION, THE CONTRACTOR SHALL PROVIDE SHORING, SHEETING, AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF EXCAVATION.

**2. BACKFILL:**

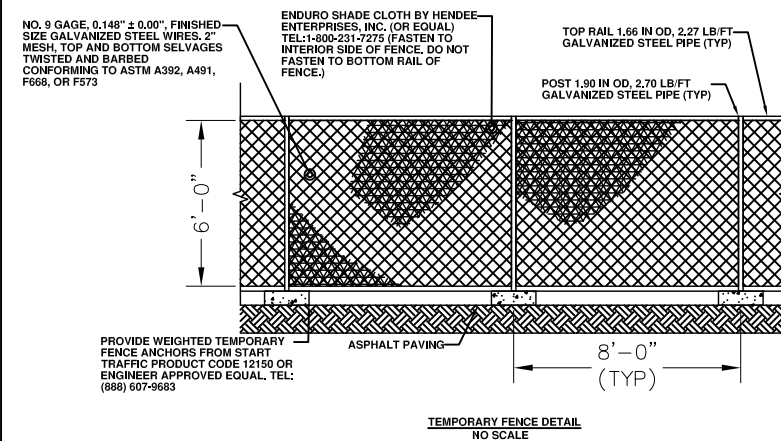
- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
- B. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
- C. DO NOT PLACE FROZEN MATERIAL IN AS BACKFILL.
- D. PLACE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACT TO THE SAME DENSITY AS NATIVE SOIL. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
- E. WHENEVER TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE COMPACTION REQUIREMENTS.

**3. TRENCH EXCAVATION:**

- A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.

**GENERAL SITE WORK NOTES CONT.**

- B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
- C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, EXCAVATE THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION, THEN BACKFILL WITH 12" OF GRANULAR BEDDING MATERIAL.
- 4. **TRENCH BACKFILL:**
  - A. PROVIDE GRANULAR BEDDING MATERIAL OR FLOWABLE FILL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
  - B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
  - C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
  - D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
  - E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
  - F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
  - G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH.
- 5. **FINISH GRADING:**
  - A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
  - B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
  - C. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.
- 6. **ASPHALT PAVING ROAD:**
  - A. CONTRACTOR RESPONSIBLE FOR RE-STRIPING AND APPLYING SEALCOATING, UNLESS OTHERWISE.
- 7. **STAGING:**
  - A. WORK / STAGING AREA TO BE CONFIRMED AT PRE-CONSTRUCTION SITE MEETING AND SURROUNDED BY TEMPORARY FENCE (SEE DETAIL BELOW) DURING CONSTRUCTION.
  - B. POSSIBLE LOCATION FOR TEMPORARY DRIVE AISLE CLOSURE DURING CONSTRUCTION.
  - C. CONTRACTOR TO PROVIDE TEMPORARY SIGNS TO DIRECT TRAFFIC FLOW.
  - D. SHORT TERM FENCING TO BE PROVIDED OUTSIDE OF TEMPORARY FENCE FOR ANY OPEN TRENCHES LEFT OVER NIGHT OR UNATTENDED.
  - E. TEMPORARY FENCE SHALL BE CLOSED AND LOCKED AT ALL TIMES. IF GATE MUST BE OPEN FOR MOVING EQUIPMENT OR MATERIALS, A SPOTTER SHALL BE PROVIDED TO PREVENT UNAUTHORIZED ENTRY.
  - F. NO EQUIPMENT OR MATERIALS SHALL BE STORED OUTSIDE THE TEMPORARY FENCE FOR ANY AMOUNT OF TIME.



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TITLE:  
 GENERAL NOTES

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: N02
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**CONCRETE MASONRY NOTES**

- CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (FM=1,500 PSI), MEDIUM WEIGHT, (115 PCF)
- MORTAR SHALL BE TYPE "S" ABOVE GRADE, TYPE "M" BELOW GRADE CONFORMING TO ASTM C270. (MINIMUM 1,800 PSI AT 28 DAYS)
- GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS CONFORMING TO ASTM C476.
- ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.
- ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.
- WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.
- ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
- PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
- ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
- CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
- REINFORCING BARS - SEE NOTES UNDER "REINFORCED CONCRETE NOTES" FOR REQUIREMENTS. REINFORCEMENT SHALL BE PLACED PRIOR TO GROUTING. LAP SPLICES SHALL BE 48 BAR DIAMETERS, MINIMUM.
- PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
- LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
- HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104 OF IBC.
- ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
- CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CELLS CONTAINING REINFORCING STEEL.
- REFER TO DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
- AND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKALI OR ORGANIC MATERIAL.
- ALL MORTAR FIN OBSTRUCTIONS AND DEBRIS SHALL BE CLEANED FROM INSIDE OF CELLS PRIOR TO GROUTING.

**STRUCTURAL STEEL NOTES**

- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNLESS NOTED OTHERWISE: WIDE FLANGE SHAPE: A992, 50KSI  
ANGLE AND CHANNEL SHAPE: ASTM A36, 36 KSI PLATE: ASTM A36, 36KSI  
PIPE: ASTM A53 GRADE B, 35 KSI  
HSS: ASTM A500 GRADE B, 46KSI
- HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325: ONE HIGH-STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY NUT, A HARDENED WASHER CONFORMING TO ASTM F436. THE HARDENED WASHER SHALL BE INSTALLED AGAINST ELEMENT TURNED IN TIGHTENING. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.
- WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE COMPATIBLE WITH THE WELDING PROCESS SELECTED. WELDERS SHALL BE QUALIFIED AS PRESCRIBED IN AWS D1.1.
- UNLESS NOTED OTHERWISE ON THE DRAWING, ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 WITH HEAVY HEXAGONAL NUT.
- FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION.
- ALL EXPOSED STRUCTURAL STEEL AND BOLTS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
- SUBMIT FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND TOP STEEL ELEVATIONS FOR APPROVAL. THE SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL CONFORMANCE TO THE CONTRACT DRAWINGS, SUCH APPROVAL SHALL NOT RELIEVE THE FABRICATOR/CONTRACTOR OF THE RESPONSIBILITY FOR EITHER THE ACCURACY OF THE DETAILED DIMENSIONS IN THE SHOP AND ERECTION DRAWINGS OR THE GENERAL FIT-UP OF PARTS THAT ARE TO BE ASSEMBLED IN THE FIELD.
- PRIMER SHALL BE RED OXIDE-CHROMATE PRIME COMPLYING WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) PAINT SPECIFICATION NUMBER 11

**CONCRETE SIDEWALK CONSTRUCTION REQUIREMENTS**

- PLACING AND FINISHING CONCRETE**  
THE CONTRACTOR SHALL PROVIDE ADEQUATE TOOLS AND EQUIPMENT TO PRODUCE QUALITY WORKMANSHIP IN PLACING AND FINISHING CONCRETE. THE SIDEWALK AND RAMPS SHALL BE FINISHED TO THE TOP OF THE FORMS AND THE SURFACE FINISHED WITH A WOOD OR STEEL FLOAT AND SURFACE TEXTURE SHALL BE A COURSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE SIDEWALK OR RAMP. NO "PLASTERING" OF THE SURFACE SHALL BE PERMITTED.
- CONTRACTION JOINTS**  
THE SIDEWALK SURFACE SHALL BE MARKED OFF INTO NOMINAL SQUARES OF DIMENSION TO THE WIDTH OF THE SIDEWALK WITH A MAXIMUM DISTANCE BETWEEN JOINTS OF SEVEN FEET SAWING JOINTS, THE CONTRACTOR SHALL BEGIN AS SOON AS THE CONCRETE HARDENS SUFFICIENTLY TO PREVENT EXCESSIVE RAVELING ALONG THE SAW CUT AND SHALL FINISH BEFORE CONDITIONS INDUCE UNCONTROLLED CRACKS, REGARDLESS OF THE TIME OR WEATHER.
- EXPANSION JOINTS**  
EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS WHERE THE SIDEWALK ABUTS EXISTING CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES, AND EVERY TWO HUNDRED FIFTY FEET AND AS SHOWN ON APPROVED PLANS. EXPANSION JOINTS SHALL BE FORMED WITH ONE-HALF.

**ANCHORAGE INSTALLATION NOTES**

- DRILLING THROUGH EXISTING SLAB REBAR DURING POST-INSTALLED ANCHOR BOLTS INSTALLATION IS NOT PERMITTED.
- POST-INSTALLED ANCHOR BOLT INSTALLATION SHALL BE PERFORMED BY PERSONNEL TRAINED TO INSTALL THE SYSTEM PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), AS INCLUDED IN THE ANCHOR PACKAGING.
- EXPANSION AND ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS USING STANDARD EMBEDMENT AND EDGE DISTANCES UNLESS NOTED OTHERWISE ON THE DRAWINGS.

**GROUNDING NOTES**

- COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).
- ALL BELOW GRADE BONDS TO BE EXOTHERMIC WELDS OR IRREVERSIBLE COMPRESSION-TYPE CONNECTIONS LISTED FOR USE IN THE APPLICATION WHICH THEY ARE INSTALLED.

**DATA NETWORK NOTES**

USE CABLE WITH THE FOLLOWING MINIMUM PROPERTIES:

- HIGH TENSILE STRENGTH > 150 LB
- TIGHT BUFFERED
- INDOOR / OUTDOOR UV AND MOISTURE RESISTANT "RISER" CABLE
- CONNECT TYPE : ST-ST
- FIBER TYPE : MULTIMODE 6-FIBER (3 PAIR) 62.4UM. 6 CONNECTORS ON BOTH ENDS.
- JACKET : INDOOR / OUTDOOR RISER, BLACK
- BREAKOUT :
  - SIDE A : INNER END - 24 INCHES WITH 2MM FURCATION
  - SIDE B : OUTER END - 24 INCHES WITH 2MM FURCATION - STAGGERED EVERY 1"
- WITH PULLING EYE ON SIDE B (OUTER END) AND SPOOL REEL

**ELECTRICAL NOTES CONT.**

- THE CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL SERVICE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRIC".
- WHEN DIRECTIONAL BORING IS REQUIRED, CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
- ALL BOLTS SHALL BE STAINLESS STEEL.
- ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE CONTRACTOR SHOULD BE NEW AND UNUSED.
- ALL EQUIPMENT MUST BE APPROVED BY AN ACCREDITED CERTIFICATION BODY, OR ACCEPTED THROUGH FIELD EVALUATION, OR ACCEPTED BY AN INSPECTOR UNDER THE PROVISIONS OF RULE 2-024 OF THE CURRENT CEC C22.1.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ANY SPECIFIC MANUFACTURER'S INSTRUCTIONS IN ADDITION TO THE MINIMUM CANADIAN ELECTRICAL CODE REQUIREMENTS. RULE 2-034.
- AT EACH DISTRIBUTION POINT, CIRCUIT BREAKERS, FUSES AND SWITCHES SHALL BE MARKED ADJACENT THERETO, IN A CONSPICUOUS AND LEGIBLE MANNER TO INDICATE CLEARLY WHICH INSTALLATION OR PORTION OF INSTALLATION THEY PROTECT OR CONTROL AND THE MAXIMUM RATING OF OVERCURRENT DEVICE THAT IS PERMITTED, RULE 2-100(3).
- ALL SECONDARY UNDERGROUND WIRING SHALL BE INSTALLED PER DIAGRAMS D8 TO D11 AND CABLE AMPACITIES AS DETERMINED FROM THE APPLICABLE #D# TABLE. CONFIGURATION SHALL CONFORM TO THE #D# DIAGRAMS, OR CALCULATIONS AS PER IEEE 835 STATING THE REVISED CABLE AMPACITY SPECIFIC TO THIS INSTALLATION SHALL BE PROVIDED. RULE 4-004, RULE 12-012.
- WHERE EXPOSED TO THE WEATHER, RECEPTACLES OF CONFIGURATIONS 5-15R, 5-20R, 5-20RA, 6-15R, 6-20R AND 6-20RA SHALL BE PROVIDED WITH COVER PLATES SUITABLE FOR WET LOCATIONS WHETHER OR NOT A PLUG INSERTED INTO THE RECEPTACLE, AND MARKED #EXTRA DUTY#.
- UNDERGROUND RACEWAYS ENTERING A BUILDING AND FORMING PART OF AN UNDERGROUND SERVICE SHALL BE SEALED AND SHALL:
  - ENTER THE BUILDING ABOVE GROUND WHERE PRACTICABLE
  - BE SUITABLY DRAINED; OR
  - BE INSTALLED IN SUCH A WAY THAT MOISTURE AND GAS WILL NOT ENTER THE BUILDING. RULE 6-300(3)
- THE LOCATION FOR SERVICE AND METERING EQUIPMENT MUST BE ACCEPTABLE TO THE LOCAL DISTRIBUTION COMPANY AND TO THE ELECTRICAL INSPECTION DEPARTMENT. RULE 6-206, AND 6-408.
- UNDERGROUND WARNING TAPE SHALL COMPLY WITH RULE 12-012(1). THE TAPE MUST BE BURIED APPROXIMATELY HALFWAY BETWEEN THE INSTALLATION AND GRADE LEVEL, COVERING THE WIDTH OF THE RACEWAYS OR CABLES INSTALLED.

CLIENT:

OWNER:



5			
4			
3			
2			
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22
NO.	BY	DESCRIPTION	DATE

**ROEHAMPTON WEST**  
409 GRANVILLE ST., SUITE 1051  
VANCOUVER, BC V6C 1T2  
TEL. (778)228-4228  
VANCOUVER | KELOWNA | EDMONTON | CALGARY

LOCATION:  
29 HELMCKEN RD., VICTORIA, BC

TITLE:  
GENERAL NOTES

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: N03
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**SITE PLAN OF 29 HELMCKEN ROAD - VICTORIA, BC  
 LOT 2 PLAN EPP28565 SECTIONS 9 AND 100  
 LAKE AND SEQUIMALT DISTRICT PLAN EPP28565  
 EXCEPT PART IN PLAN EPP59130**

PID: 029-246-539  
 CLIENT: ELECTRIFY AMERICA LLC

CIVIC ADDRESS: 29 HELMCKEN ROAD, VICTORIA, BC

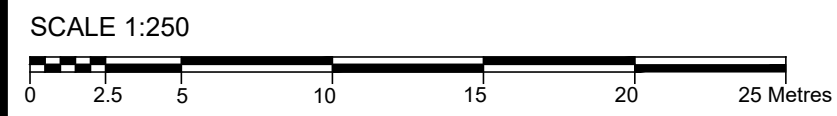
ZONING: CD-20

SITE IS OUTSIDE OF 100 YEAR FLOODPLAIN.

HORIZONTAL COORDINATE SYSTEM: UTM 10 NAD83(CSRS)  
 VERTICAL DATUM: CGV28 (DERIVED FROM CANNET STATION BC\_VICTORIA)

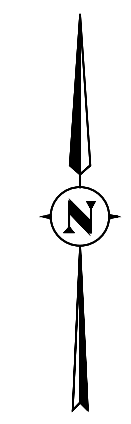
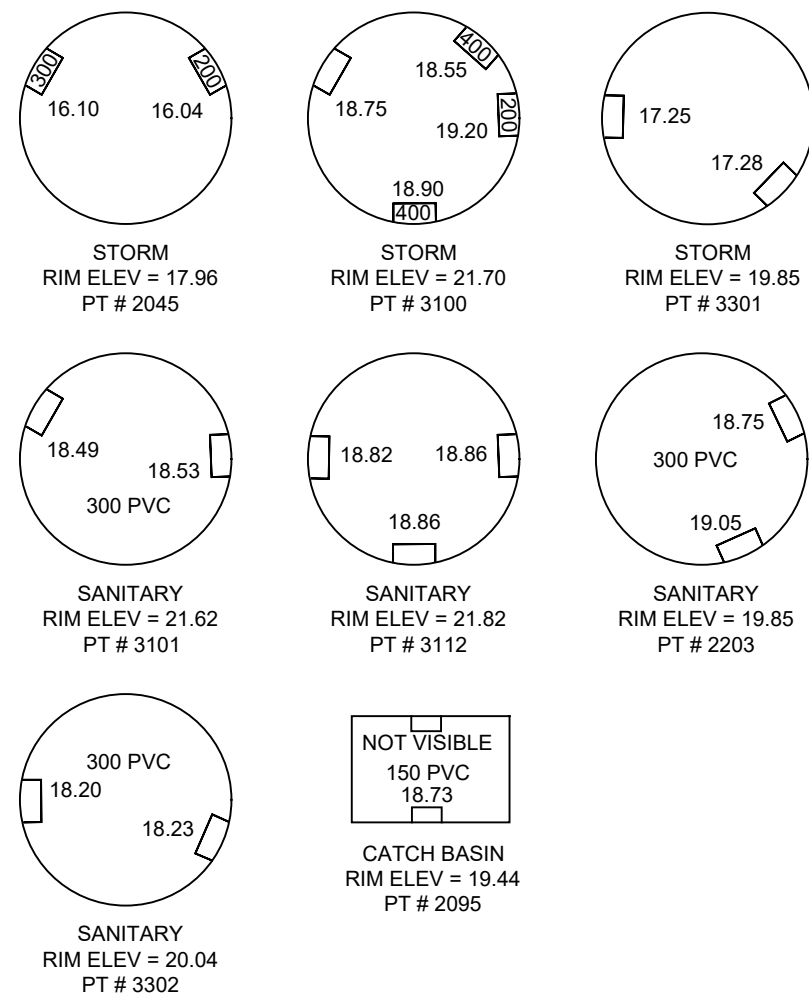
DATE OF FIELD SURVEY: JANUARY 27, 2022

REFER TO THE CURRENT STATE OF TITLE FOR CHARGES, LIENS, AND INTERESTS AFFECTING THIS LAND.



- LEGEND**
- Subject Property
  - Major Contour (1.0m)
  - Minor Contour (0.20m)
  - Top Slope
  - Bottom Slope
  - Fence
  - Treeline
  - Underground Power Line
  - Underground Gas Line
  - Underground Communications Line
  - Fire Hydrant
  - Lamp Standard
  - Tree (dia)
  - Sanitary Manhole
  - Drainage Manhole
  - Catch Basin
  - Sign
  - Asphalt
  - Vault
  - Clean Out
  - Irrigation Box
  - Pedestal
  - Transformer
  - Found Standard Lead Plug
  - Found Standard Iron Post
  - Placed Spike
  - RW Retaining Wall

Point #	Northing	Easting	Elevation	Description
104	5368294.786	468356.080	19.32	SPIKE
105	5368435.963	468280.696	19.95	SPIKE
106	5368456.841	468346.260	21.79	SPIKE
107	5368321.601	468404.350	19.92	SPIKE



CALL BEFORE YOU DIG. THE LOCATION OF THE UNDERGROUND FACILITIES ARE APPROXIMATE ONLY.  
 THIS PLAN WAS PREPARED FOR DESIGN PURPOSES AND IS FOR THE EXCLUSIVE USE OF OUR CLIENT. BOUNDARIES SHOWN ARE SUBJECT TO CHANGE WITH LEGAL SURVEY.  
 VECTOR GEOMATICS LAND SURVEYING LTD. ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES THAT MAY BE SUFFERED BY A THIRD PARTY AS A RESULT OF REPRODUCTION, TRANSMISSION, OR ALTERATION TO THIS DOCUMENT WITHOUT THE CONSENT OF VECTOR GEOMATICS LAND SURVEYING LTD.

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 File: 2101505R0 Date: 2022-02-08  
 Drafted by: EC Checked by: TF

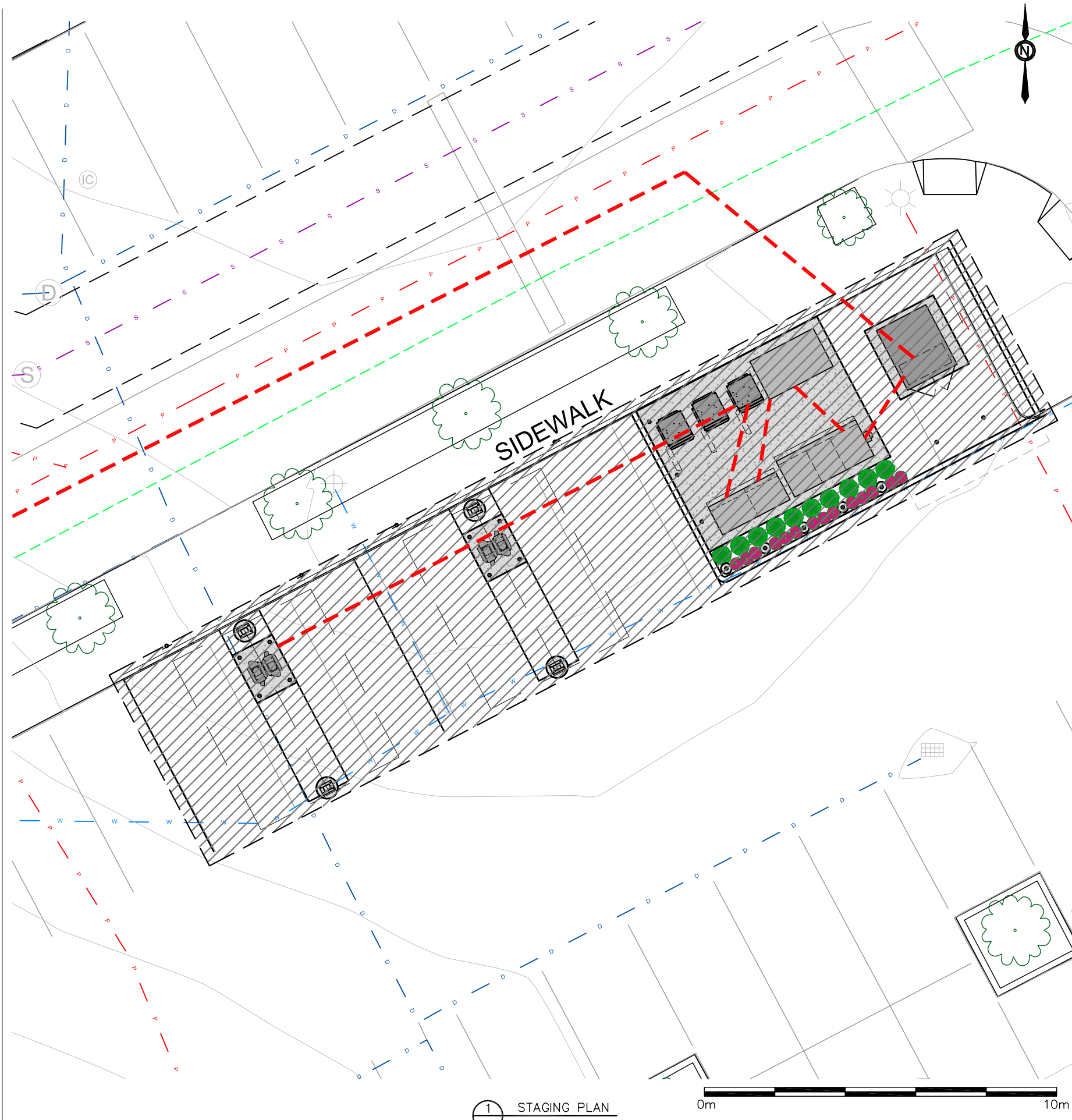
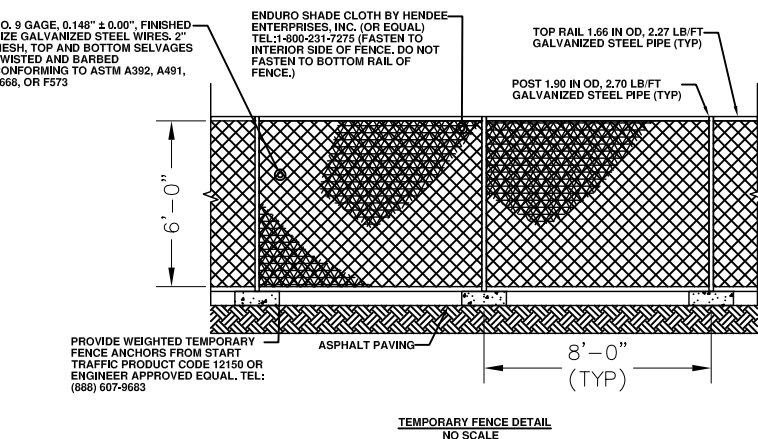


**STAGING NOTES:**

- A. WORK / STAGING AREA TO BE CONFIRMED AT PRE-CONSTRUCTION SITE MEETING AND SURROUNDED BY TEMPORARY FENCE (SEE DETAIL BELOW) DURING CONSTRUCTION.
- B. POSSIBLE LOCATION FOR TEMPORARY DRIVE AISLE CLOSURE DURING CONSTRUCTION.
- C. CONTRACTOR TO PROVIDE TEMPORARY SIGNS TO DIRECT TRAFFIC FLOW.
- D. SHORT TERM FENCING TO BE PROVIDED OUTSIDE OF TEMPORARY FENCE FOR ANY OPEN TRENCHES LEFT OVER NIGHT OR UNATTENDED.
- E. TEMPORARY FENCE SHALL BE CLOSED AND LOCKED AT ALL TIMES. IF GATE MUST BE OPEN FOR MOVING EQUIPMENT OR MATERIALS, A SPOTTER SHALL BE PROVIDED TO TO PREVENT UNAUTHORIZED ENTRY.
- F. NO EQUIPMENT OR MATERIALS SHALL BE STORED OUTSIDE THE TEMPORARY FENCE FOR ANY AMOUNT OF TIME.

**LEGEND:**

	WORKING / STAGING AREA
	DRIVE AISLE CLOSURE
	TEMPORARY DRIVE AISLE
	UTILITY LINE TO BE BORED (OUTSIDE OF WORKING / STAGING AREA)
	UTILITY LINE TO BE TRENCHED (OUTSIDE OF WORKING / STAGING AREA)



1 STAGING PLAN  
SCALE 1:125



CLIENT:



NO.	BY	DESCRIPTION	DATE
5	CD	LANDSCAPING	22 FEB 23
4	CD	CANOPY REV	07 FEB 23
3	RY	BREAKER CONFIGURATION	10 JAN 23
2	CD	CANOPY ADD	06 JAN 23
1	RY	ELECTRICAL REV.	04 NOV 22
0	CD	ISSUED FOR 90% REVIEW	02 NOV 22

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STAGING PLAN

PROJECT NAME: NEW CHARGING STATION	PROJECT NO: 800033	DWG. NO: -
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