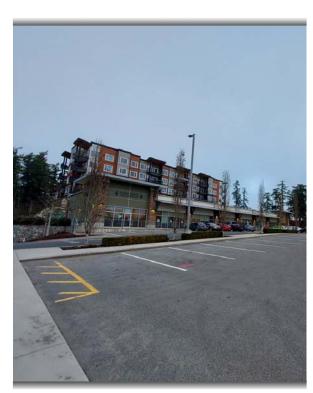
PROJECT NAME:	NEW CHARGING STATION
PROJECT TYPE:	INSTALLATION OF ELECTRIC VEHICLES CHARGING EQUIPMENT
PROJECT SITE No.:	800033 - EAGLE CREEK VILLAGE
STATION OWNER:	ELECTRIFY CANADA
ADDRESS:	29 HELMCKEN RD., VICTORIA, BC

	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
	<del>-</del>		
NO1	GENERAL NOTES	1	04 NOV 22
N02	GENERAL NOTES	1	04 NOV 22
N03	GENERAL NOTES	1	04 NOV 22

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



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

## 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 (4) BTC GEN 4 DISPENSERS
- RESTORE VEGETATION AS PER
  LANDSCAPE PLAN

## GEOGRAPHIC COORDINATES

KEY MAP (NTS)

Sleeping Dog Farm

SITE LOCATION

48.468217, -123.42871 0

STRAWBERRY VALE

Pupps Dog W

LATITUDE: N 48.468217

COURTESY BING OR GOOGLE MAPS

GRANVILLE

LONGITUDE: W 123.428710°

## UTILITY - CONTACT

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

## NOTES:

- ENSURE ALL ASPECTS OF WORK CONFORM TO ELECTRIFY CANADA SPECIFICATIONS.
- 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.

## ENGINEER OF RECORD

## STRUCTURAL:

RAFAL PUSZYNSKI ROEHAMPTON WEST P: 416 9930250

## ELECTRICAL:

ERIC GILL

ORION ENGINEERING INC. P: 778 8580511

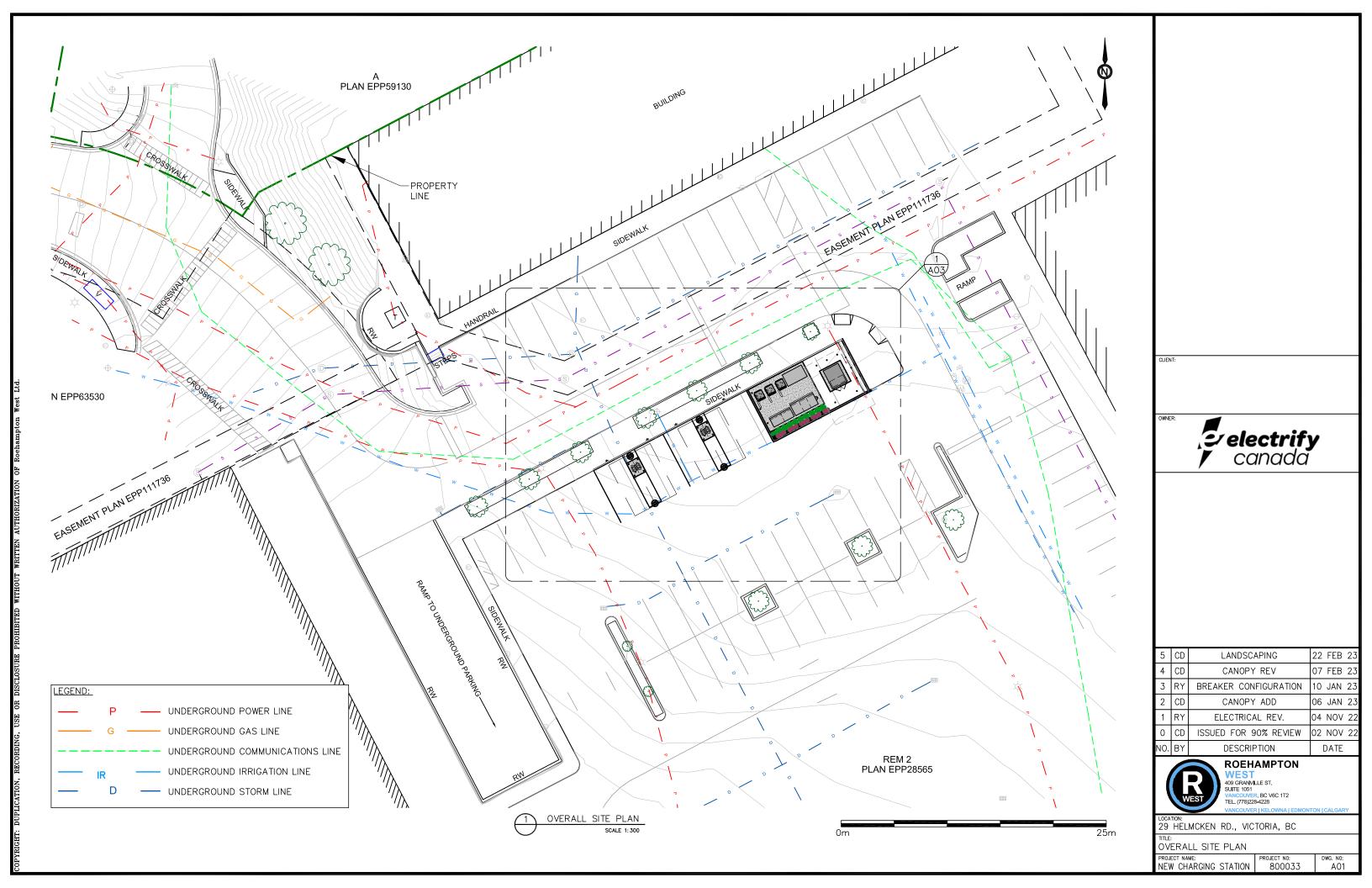


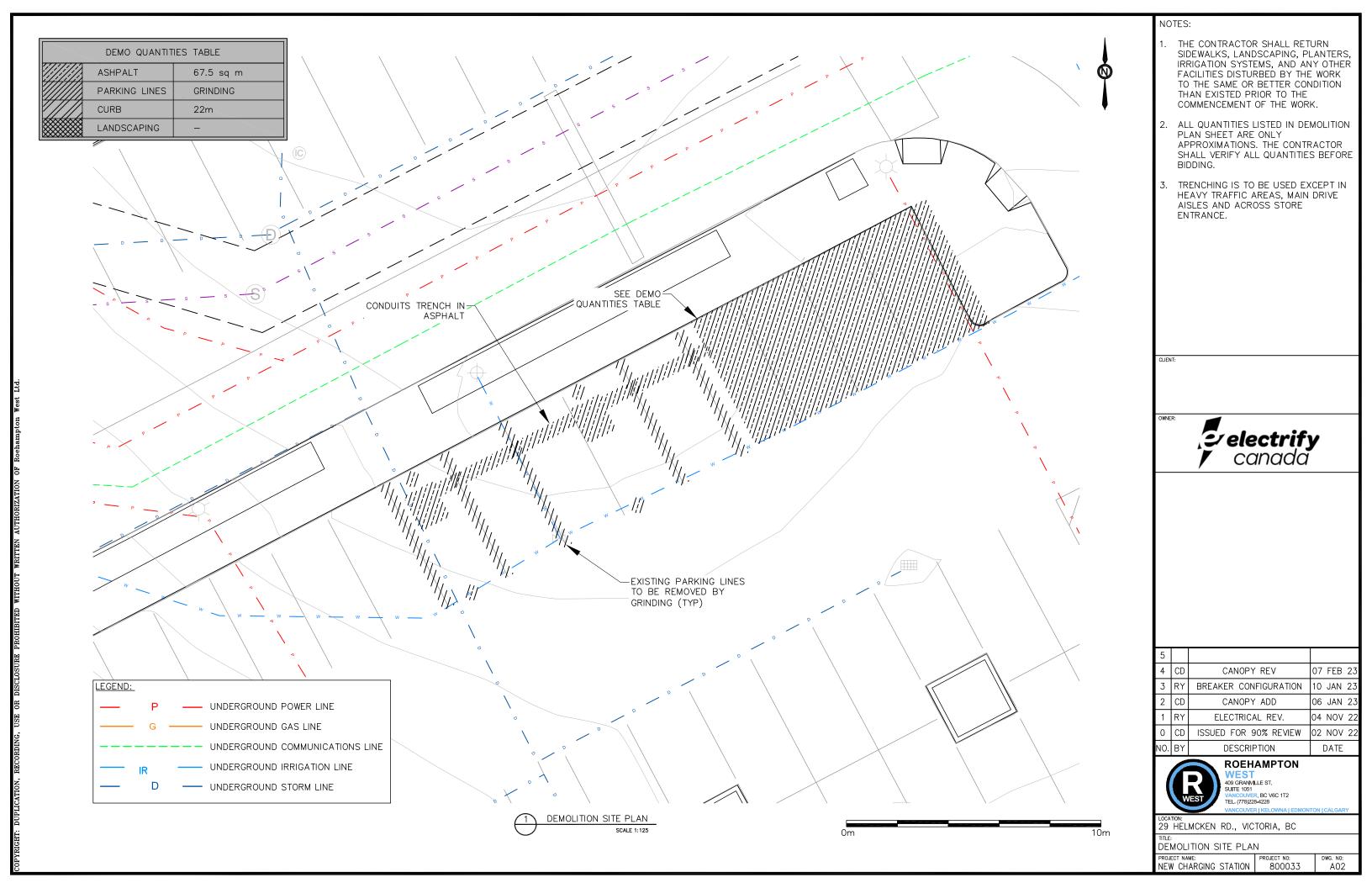
# **ROEHAMPTON**

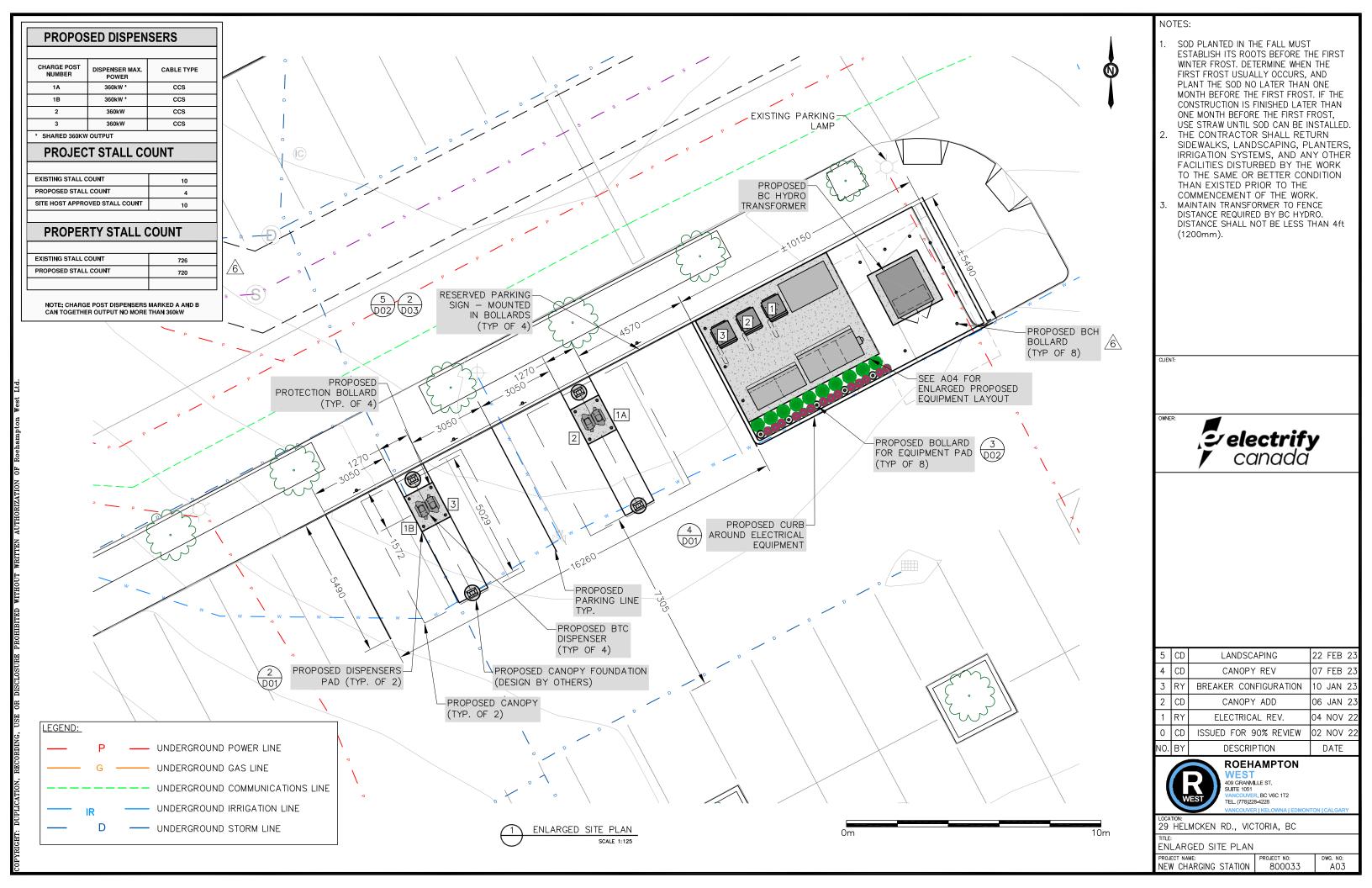
# WEST

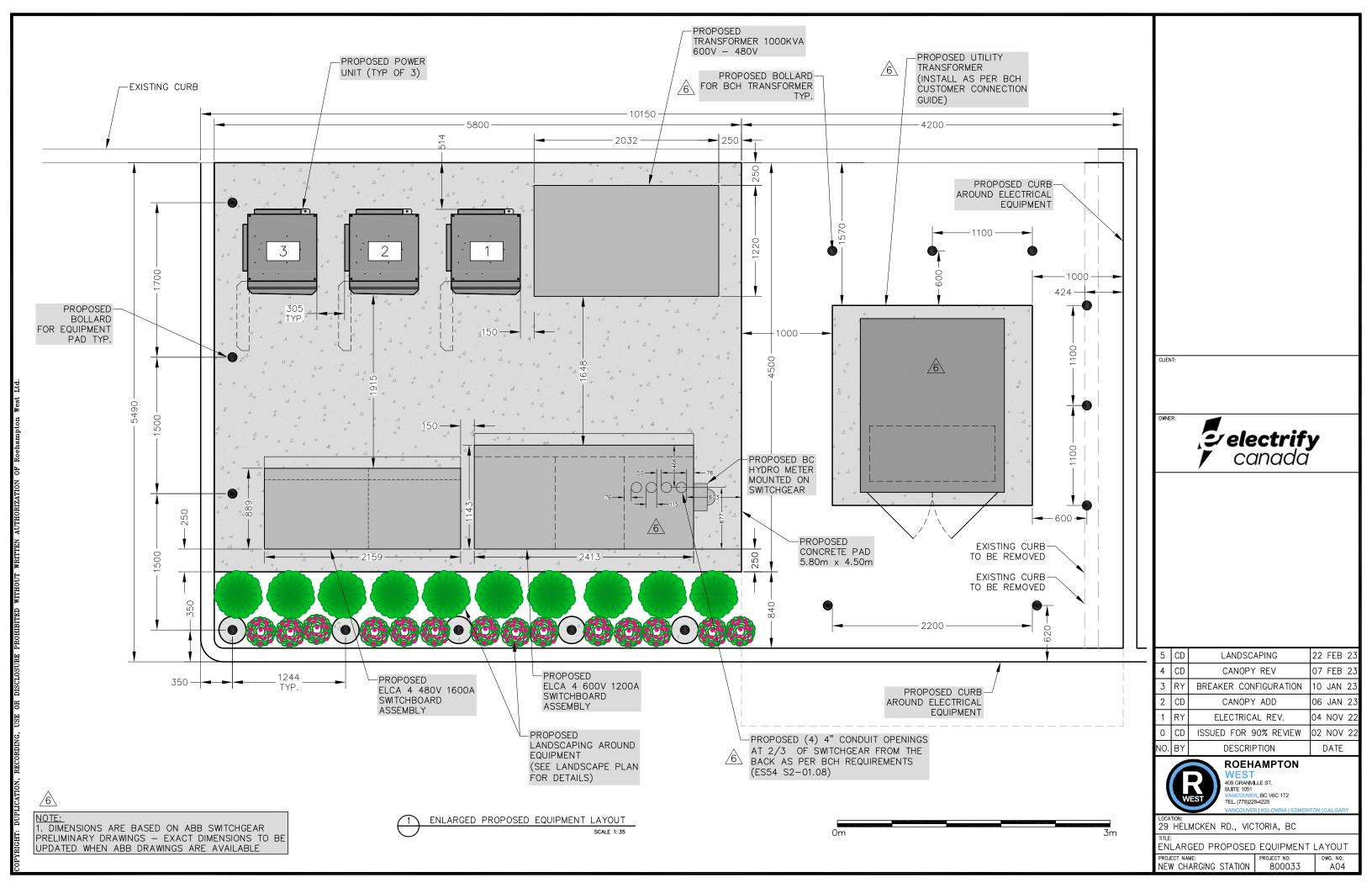
409 GRANVILLE ST, SUITE 1051 VANCOUVER, BC V6C 1T2 TEL. (778)228-4228

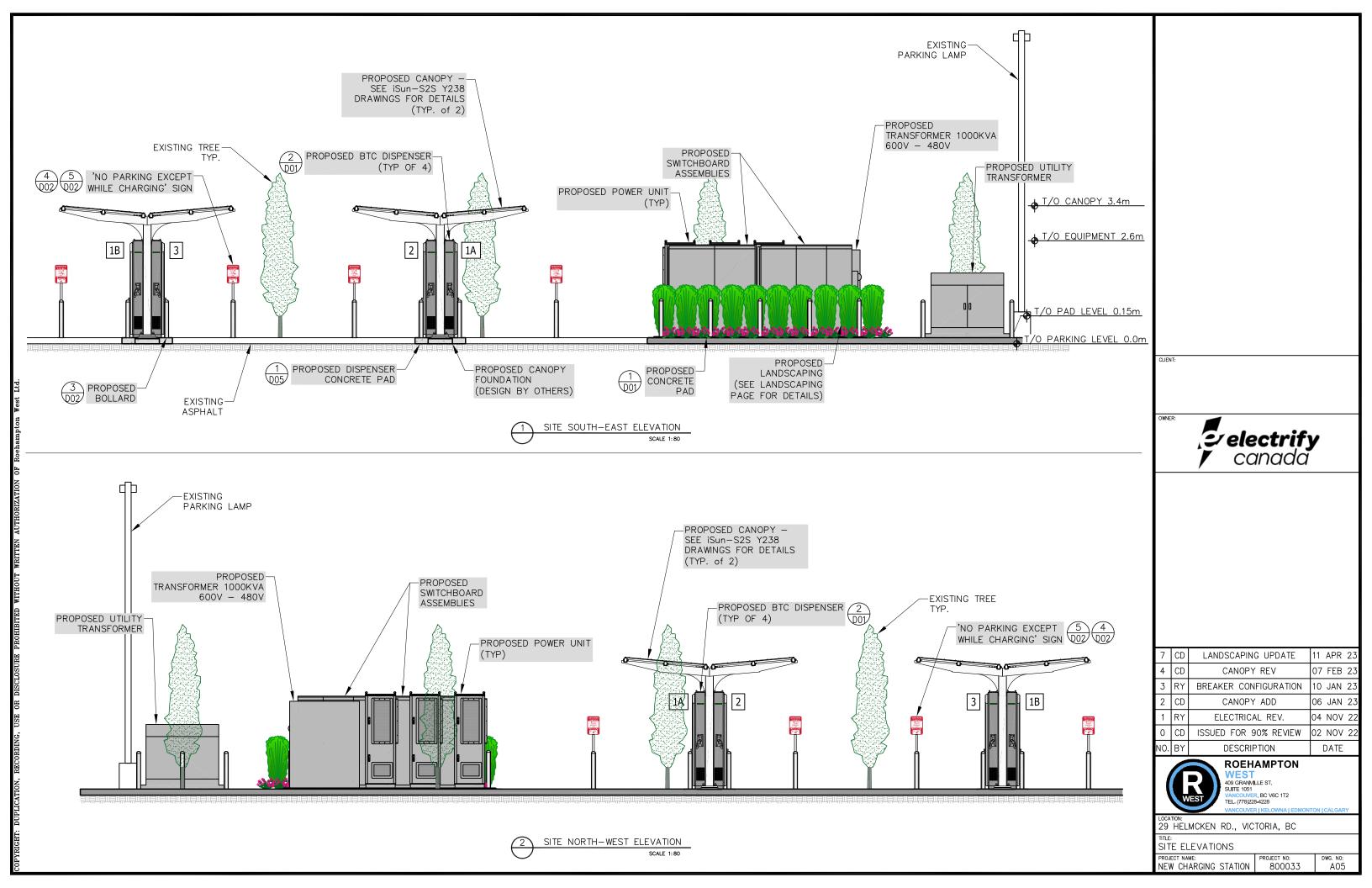
VANCOUVER | KELOWNA | EDMONTON | CALGARY

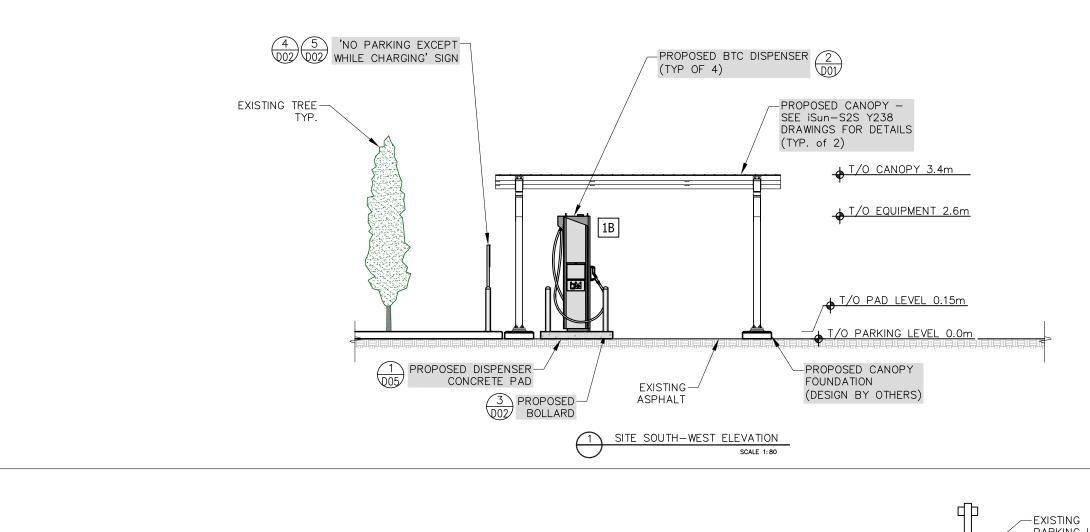


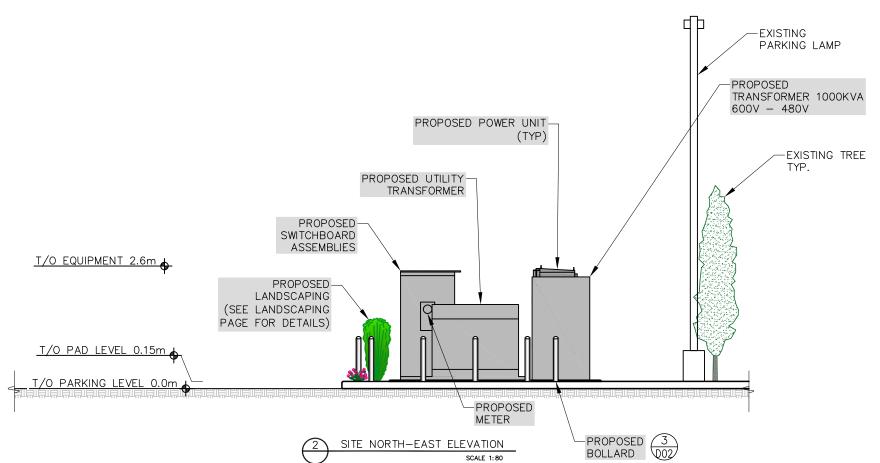












CLIENT:

**Selectrify** canada

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



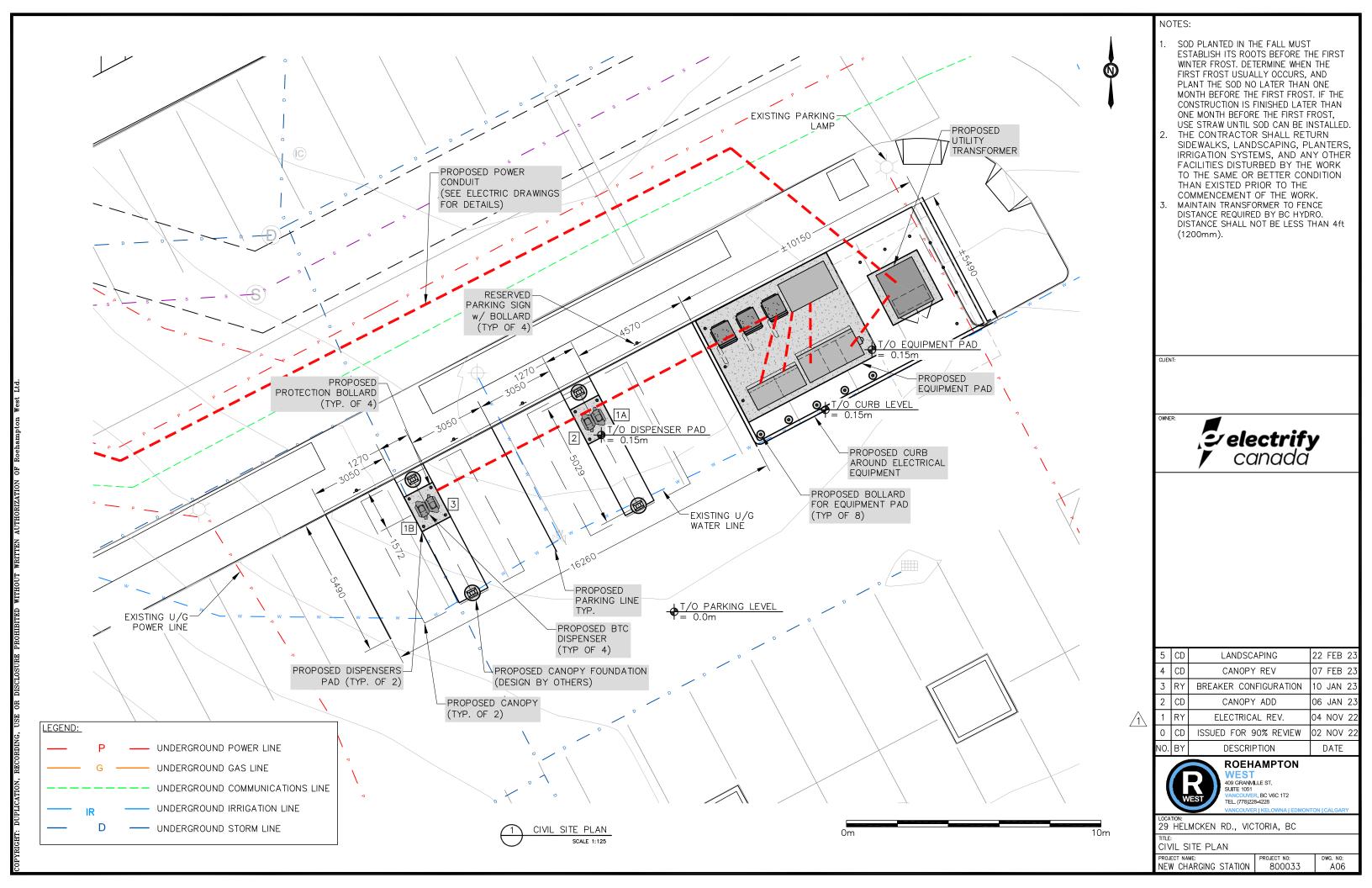
**ROEHAMPTON** 

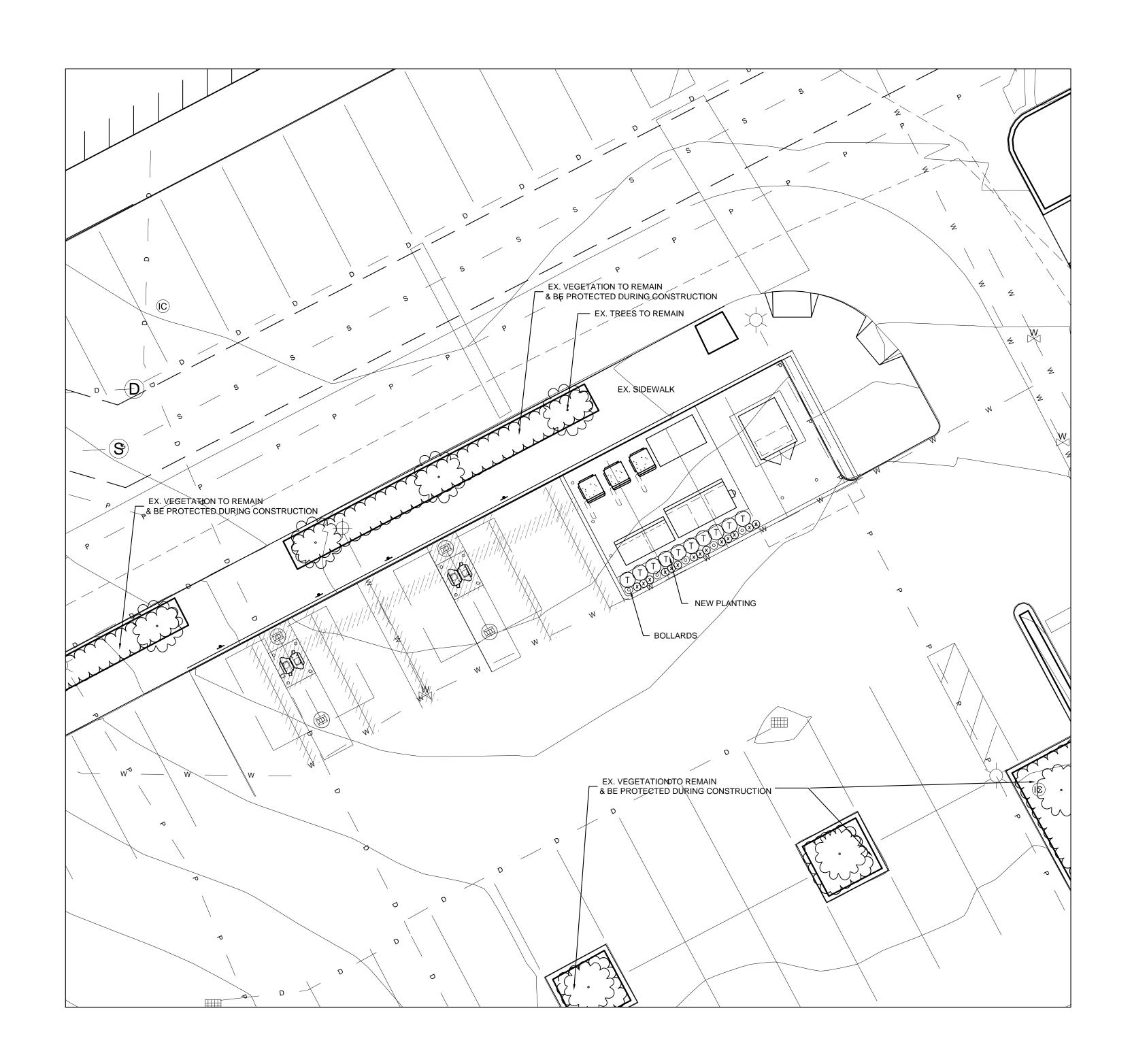
409 GRANVILLE ST, SUITE 1051 VANCOUVER, BC V6C 1T2 TEL. (778)228-4228

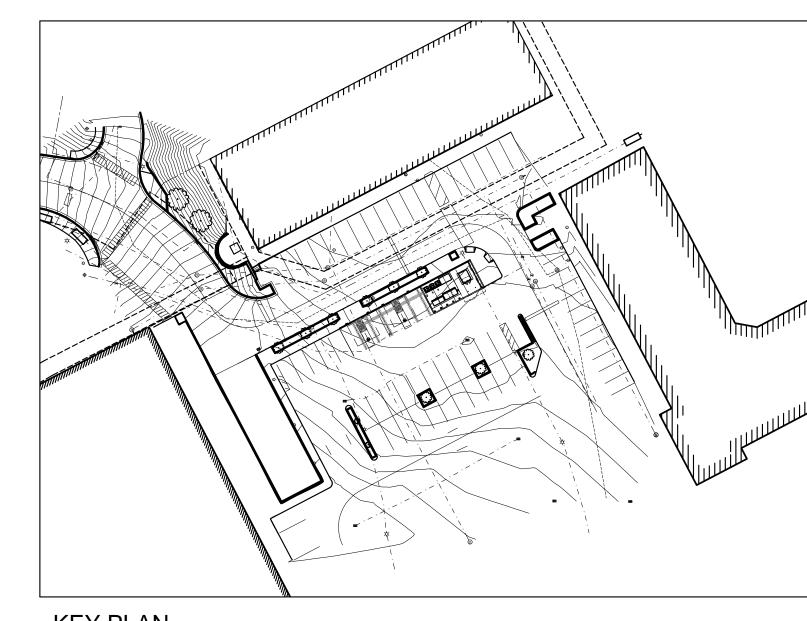
29 HELMCKEN RD., VICTORIA, BC

TITLE: SITE ELEVATIONS

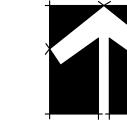
PROJECT NAME: NEW CHARGING STATION PROJECT NO: 800033 DWG. NO: AO5A







KEY PLAN



LANIS	CHEDULE		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

© Copyright reserved. This drawing and design is the property of PMG Landscape Architects and may not be reproduced or used for other projects without their parmission.



SEAL:

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

CLIENT:

PROJECT:

# **EV CHARGING STATION**

29 HELMCKEN ROAD, VICTORIA, B.C.

DRAWING TITLE:

23023-2.ZIP PMG PROJECT NUMBER:

# LANDSCAPE PLAN

DATE:	23.FEB.09	DRAWING NUMBE
SCALE:	1:100	1 4
DRAWN:	MM	LL
DESIGN:	MM	
CHK'D:	ВА	OF

23-023

0 10 20 30m

### PART ONE GENERAL REQUIREMENTS PART THREE SOFT LANDSCAPE DEVELOPMENT REFERENCES 1 Prior to any work on site – protect individual trees or plant groupings indicated as retained on landscape plans as vegetation retention area .1 CCDC Doc 2 2008 1 In some instances the Landscape Architect will tag trees or areas to remain. Discuss tree retention areas at a start-up meeting with the Landscape Architect. Comply with all articles in the General Conditions of Contract in conjunction with this section unless superseded by other Contract Documents. 🗆 A physical barrier must be installed to delineate clearing boundaries. Refer to physical barrier detail. If detail not provided, comply with local municipal requirements 2 Canadian Landscape Standard Latest edition, prepared by the Canadian Society of Landscape Architects and the Canadian Landscape & Nursery Association, jointly, All work and materials shall meet standards as set out in the Canadian Landscape Standard unless superseded by this specification or as directed by Landscape Architect with written 3 No machine travel through or within vegetation retention areas or under crowns of trees to be retained is allowed. .4 Do not stockpile soil, construction materials, or excavated materials within vegetation retention areas. 3 MASTER MUNICIPAL SPECIFICATIONS & STANDARD DETAILS, 2000 edition, prepared by the Consulting Engineers of British Columbia, Roadbuilders and Heavy Construction Association, and the Municipal Engineers Division .5 Do not park, fuel or service vehicles within vegetation retention areas. .4 STANDARD FOR LANDSCAPE IRRIGATION SYSTEM, 2008: Prepared by the Irrigation Industry Association of British Columbia. .6 No debris fires, clearing fires or trash burning shall be permitted within vegetation retention areas. .5 MUNICIPAL BYLAWS AND ENGINEERING SPECIFICATIONS WHERE NOTED. No excavations, drain or service trenches nor any other disruption shall be permitted within vegetation retention areas without a review of the proposed encroachment by 2 TESTING .8 Do not cut branches or roots of retained trees without the approval of the Landscape Architect. .1 A current (not more than one month) test for all growing medium to be used on this site is required. Provide and pay for testing by an independent testing facility pre-approved by the Landscape Architect. Deliver growing medium test results to Landscape Architect for review and approval prior to placement. Refer to Section 3.4 Growing 9 Any damage to existing vegetation intended for preservation will be subject to evaluation by an I.S.A. Certified Arborist using the "Guide for Plant Appraisal", Eighth Edition Medium Testing for procedure. .2 Owner reserves the right to test or re-test materials. Contractor responsible to pay for testing if materials do not meet specification. 9.1 Replacement planting of equivalent value to the disturbance will be required. The cost of the evaluation and of the replacement planting will be the responsibility of the General Contractor and or the person(s) responsible for the disturbance. .3 SUBMITTALS .10 In municipalities with specific tree retention/replacement bylaws ensure compliance to bylaws. .1 Any alternate products differing from that contained in the contract documents must be pre-approved by the Landscape Architect. .11 In situations where required construction may disturb existing vegetation intended for preservation, contact Landscape Architect for review prior to commencing .2 Submittals to consist of product sample or manufacturer's product description. construction. Under the terms of the Landscape Architect's Contract with the Owner and where the Landscape Architect is the designated reviewer, the Landscape Architect will observe 1 Ensure subgrade is prepared to conform to depths specified in Section 3.5, Growing Medium Supply, below. Where planting is indicated close to existing trees, prepare construction as is necessary in their opinion to confirm conformance to the plans and specifications. Contact Owners Representative to arrange for site observation at the suitable planting pockets for material indicated on the planting plan. Shape subgrade to eliminate free standing water and conform to the site grading and drainage plan appropriate times. Allow two days notice. Observation schedule may include but will not be limited to the following 1. Start Up Site Meeting, General Contract: Prior to any site disturbance, a meeting with the general contractor to review tree preservation issues, general landscape issues. On slopes in excess of 3:1 trench subgrade across slope to 150mm (6") minimum at 1.5m (5 ft.) intervals minimum and municipal requirement: .1.2 Start Up Site Meeting, Landscape Contract (if separate): At the start of work with Owner's Representative, Site Superintendent and Landscape Contractor; a meeting is to 3 Scarify the entire subgrade immediately prior to placing growing medium. Re-cultivate where vehicular traffic results in compaction during the construction procedures. be held to review expected work and to verify the acceptability of the subgrade and general site conditions to the Landscape Contractor. Provide growing medium test results Ensure that all planting areas are smoothly contoured after light compaction to finished grades. 1.3. Progress Site Visits: To observe materials and workmanship as necessary through the course of the work. Review of different aspects of the work may be dealt with on Eliminate standing water from all finished grades. Provide a smooth, firm and even surface and conform to grades shown on the Landscape Drawings. Do not exceed any single visit. Such elements may include: Site Layout, Rough Grading, Growing Medium – quality, depths, finish grading; Drainage and Drainage Materials; Lawns or Grass areas; maximum and minimum gradients defined by the Canadian Landscape Standard. Planting -plant material including negotiations with suppliers, nursery inspections, plant sizes, quality, quantity, planting practice and layout, tree support; Mulch; Irrigation Construct swales true to line and grade, smooth and free of sags or high points. Minimum slope 2%, maximum side slopes 10%. Assure positive drainage to collection points. systems; Play Equipment; Site Furniture; and other elements of the site development where the Landscape Architect is the designated reviewer such as: Pedestrian Paving, Fencing, Non-structural walls and slabs, Unit Paving. Substantial Performance: Review of all work, accounting of all substitutions, deletions; plant counts, preparations of deficiency list, and recommendations for completion. .6 Slope not to exceed the following maximums: Rough Grass 3:1, Lawn 4:1, Landscape plantings 2:1. 5 Certificate of Completion: Unon the declaration of Substantial Performance, a recommendation for the issuance of the Certificate of Completion will be made to the Payment Certifier as defined in the contract 7 Finished soil/mulch elevation at building to comply with municipal requirements. 5 Deficiency Review: Prior to the completion of the holdback period, check for completion of deficiencies. Once completed, a Schedule 'C' will be issed where required. 7 Warranty Review: Prior to the completion of the waranty period (+/- 11 months after issuance of the Certificate of Completion), review all waranty material and report .8 Inform Landscape Architect of completion of finish grade prior to placement of seed, sod, plants or mulch. eccmmendations for waranty replacement Related Work: Growing medium and Finish Grading, Grass areas, Trees Shrubs and Groundcovers, Planters, Crib Walls. 1 Unless otherwise instructed in the Contract Documents, the preparation of the subgrade shall be the responsibility of the General Contractor. Placement of growing medium Work Included: Site finish grading and surface drainage. Installation of any drainage systems detailed on landscape plans. Note: Catch basins shown on landscape plans for nstitutes acceptance of the subgrade by the Landscape Contractor. Any subsequent corrections to the subgrade required are the responsibility of the Landscape Contractor. coordination only, confirm scope of work prior to bid. Coordinate all landscape drainage work with rest of site drainage, Refer to engineering drawings and specifications for connections and other drainage work. All work and superintendence shall be performed by personnel skilled in landscape contracting. In addition, all personnel applying herbicides and/or pesticides shall hold a ? Determine exact location of all existing utilities and structures and underground utilities prior to commencing work, which may not be located on drawings and conduct work current license issued by the appropriate authorities. so as to prevent interruption of service or damage to them. Protect existing structures and utility services and be responsible for damage caused. 2.3 Planter drains on slab: Refer to Section 3.10, Installing Landscapes on Structures. .3 A site visit is required to become familiar with site conditions before bidding and before start of work. .4 Confirm location of all services before proceeding with any work 1 Do trenching and backfilling in accordance with engineering details and specifications. 3.2 Lay drains on prepared bed, true to line and grade with inverts smooth and free of sags or high points. Ensure barrel of each pipe is in contact with bed throughout full .5 Notify Landscape Architect of any discrepancies. Obtain approval from Landscape Architect prior to deviating from the plans. 3 Commence laying pipe at outlet and proceed in upstream direction. .6 Take appropriate measures to avoid environmental damage. Do not dump any waste materials into water bodies. Conform with all federal, provincial and local statutes and L4 Lay perforated pipes with perforations at 8pm and 4pm positions Make joints tight in accordance with manufacturer's directions 6 Do not allow water to flow through the pipes during construction except as approved by Engineer. 7 Collect and dispose of all debris and/or excess material from landscape operations. Keep paved surfaces clean and repair damage resulting from landscape work. Repairs Make watertight connections to existing drains, new or existing manholes or catchbasins where indicated or as directed by Landscape Architect. are to be completed prior to final acceptance. 8 Plug upstream ends of pipe with watertight clean out caps. Surround and cover pipe with drain rock in uniform 150mm layers to various depths as shown in details, minimum 100mm. .8 Where new work connects with existing, and where existing work is altered, make good to match existing undisturbed condition. .3.10 Cover drain rock with non-woven filter cloth lap all edges and seams minimum 150mm. .3.11 Assure positive drainage. .3.12 Back fill remainder of trench as indicated. .3.13 Protect subdrains from floatation during installation. .1 Guarantee all materials and workmanship for a minimum period of one full year from the date of Certificate of Completion. GROWING MEDIUM TESTING .2 Refer to individual sections for specific warranties. Submit representative sample of growing medium proposed for use on this project to an independent laboratory. Provide test results to Landscape Architect prior to placing. Test results to include PART TWO SCOPE OF WORK Physical properties, % content of gravel, sand, silt, clay and organics Acidity PH and quantities of lime or sulphur required to bring within specified range. Nutrient levels of principle and trace elements and recommendations for required soil amendments 1 SCOPE OF WORK .1 Other conditions of Contract may apply. Confirm Scope of Work at time of tender. GROWING MEDIUM SUPPLY AND PLACEMEN Supply all growing medium required for the performance of the Contract. Do not load, transport or spread growing medium when it is so wet that its structure is likely to be 2 Work includes supply of all related items and performing all operations necessary to complete the work in accordance with the drawings and specifications and generally consists of the following: .2 Supply all growing medium admixtures as required by the soil test. Amended growing medium must meet the specification for growing medium as defined in Table One for the .2.1 Retention of Existing Trees where shown on drawings. Thoroughly mix required amendments into the full depth of the growing medium. Supply and placement of growing medium. 2.2 Special mixes may be required for various situations. Refer to drawing notes for instructions. Testing of imported growing medium and/or site topsoil, Supply and incorporation of additives to meet requirements of soil test and Table One. 3 Place the amended growing medium in all grass and planting areas. Spread growing medium in uniform layers not exceeding 6" (150mm), over unfrozen subgrade free of 6 Preparation of planting beds, supply of plant material and planting. Preparation of rough grass areas, supply of materials and seeding. 2.8 Preparation of lawn areas, supply of materials and sodding. .4 Minimum depths of growing medium placed and compacted to 80%: 2.9 Supply and placement of bark mulch .2.10 Maintenance of planted and seeded/sodded areas until accepted by Owner .4.1.1 Seeded and sodded lawn.... .2.11 SEPARATE PRICE: Establishment Maintenance, Section 3.11. .4.1.2 Mass planted shrubs & groundcovers......18" (450mm) .2.12 Other work: Work other than this list, not specified by Landscape Architect. .4.1.3 Groundcover only areas, if defined on plan...............9" (225mm) .....depth to conform to depth of rootball – width shall be at least twice the width of the root ball with saucer shaped .4.1.4 Tree & large shrub pits...... .4.2 On-Slab: .1 Growing Medium: Conform to Canadian Landscape Standard for definitions of imported and on-site topsoil. Refer to Table One below. .4.2.1 Irrigated lawn.... ....9" (210mm) TABLE ONE: PROPERTIES OF GROWING MEDIUM FOR LEVEL 2 GROOMED AND LEVEL 3 MODERATE AREAS .4.2.2 Groundcover areas...... ...12" (300mm) Canadian System of Soil Classification Textural Class: "Loamy Sand" to "Sandy Loam" 4.2.3 Lawn without automatic irrigation......12" (300mm) .....18" (450mm) .4.2.4 Shrub & groundcover areas..... Low Traffic Areas. ......30" (760mm) over columns and/or edge of slab (verify column locations on-site for tree locations.) .4.2.5 Trees and specimen shrubs×....... 4.2.6 Depth noted includes 1" to 2" (25–50mm) sand over filter fabric Growing Medium Types .4.2.7 Maximum 18" depth growing medium except where mounded for trees over column points. Percent Of Dry Weight of Total Growing Medium 5 Manually spread growing medium/planting soil around existing trees, shrubs and obstacles. Coarse Gravel 0 - 1% 0 - 1% larger than 25mm .6 In perimeter seeded grass areas, feather growing medium out to nothing at edges and blend into existing grades. 0 - 5% 0 - 5% 0 - 5% larger than 2mm 7 Finished grades shall conform to the elevations shown on landscape and site plans Percent Of Dry Weight of Growing Medium Excluding Gravel Treat al: Rough grass areas are noted on the drawings as "Rough Grass". Treat all areas defined as rough grass between all property lines of the project including all larger than 0.05mm 50 - 80% 70 - 90% 40 - 80% poulevards to edge of roads and lanes. smaller than 2.0mm Preparation of Surfaces: To Canadian Landscape Standard Class 3 Areas (Rough grass) Section 7.1.1.3 10 - 25% 10 - 25% Clean existing soil by mechanical means of debris over 50mm in any dimension larger than 0.002mm Roughly grade surfaces to allow for maintenance specified and for positive drainage. smaller than 0.05mm Time of Seeding: Seed from early spring (generally April 1st) to late fall (September 15th) of each year. Further extensions may be obtained on concurrence of the Landscape 0 - 25% 0 - 15% 0 - 25% smaller than 0.002mm Clay and Silt Combined maximum 35% maximum 15% maximum 35% - Seed Supply & Testing: All seed must be obtained from a recognized seed supplier and shall be No. 1 grass mixture delivered in containers bearing the following information: Organic Content (coast): 3 - 10% 3 - 5% 10 - 20% 4.1 Analysis of the seed mixture 3 - 5% 3 - 5% 15 - 20% .2 Percentage of each seed type Organic Content (interior): 6.0 - 7.0 6.0 - 7.0Acidity (pH): Seed Mixture: All varieties shall be rated as strong performers in the Pacific Northwest and ace subject to client approval. 70% Creeping Red Fescue Percolation shall be such that no standing water is visible 60 minutes after at least 10 minutes of moderate to heavy rain or irrigation 20% Annual Rve 5% Saturn Perennial Rye .2 Fertilizer: An organic and/or inorganic compound containing Nitrogen (N), Phosphate (25), and Potash (soluble 2) in proportions required by soil test. 5% Kentucky Bluegrass For Wildflower Areas use a mixture of Wildflowers with Hard Fescues (Terralink Coastal Wildflowers) with Hard Fescue or pre-approved alternate. .3 Lime: Ground agricultural limestone. Meet requirements of the Canadian Landscape Standard. Fertilizer: Mechanical seeding: Apply a complete synthetic slow-release fertilizer with maximum 35% water soluble nitrogen and a formulation ratio of 18–18–18 – 50% 4 Organic Additive: Commercial compost product to the requirements of the Canadian Landscape Standard, latest edition and pre-approved by the Landscape Architect. sulphur urea coated , 112 kg/ha(100lbs/acre) using a mechanical spreader. Recommended suppliers: The Answer Garden Products, Fraser Richmond Soils & Fibre, Stream Organics Management Seeding: Apply seed at a rate of 112k/H (100lbs /acre) with a mechanical spreader. Incorporate seed into the top 1/4" (6mm) of soil and lightly compact .5 Sand: Clean, washed pump sand to meet requirements of the Canadian Landscape Standard. .8 Acceptance: Provide adequete protection of the seeded areas until conditions of acceptance have been met. Comply with Section 3.7 Hydroseeding.

1 May be used as an alternate to mechanical seeding in rough grass areas.

3.1 In areas of Rough Grass: Comply with Section 3.6 Rough Grass.

Preparation and Growing Medium:

? May not be used in areas of lawn unless pre-approved by the Landscape Architect prior to bidding.

ontamination occurs, remove seeding slurry to satisfaction of and by means approved by the Landscape Architect

.6 Water: Shall be free of any impurities that may have an injurious effect on the success of seeding or may be harmful to the environ

until it is applied. The discharge pumps and gun nozzles shall be capable of applying the materials uniformly over the designated area.

for wood fibre substitute use 135% (by weight). Conform to Canadian Landscape Standard for mulch requirements

Protection: Ensure that fertilizer in solution does not come in contact with the foliage of any trees, shrubs, or other susceptible vegetation. Do not spray seed or mulch on

objects not expected to grow grass. Protect existing site equipment, roadways, landscaping, reference points, monuments, markers and structures from damage. Where

.5 Mulch shall consist of virgin wood fibre or recycled paper fibre designed for hydraulic seeding and dyed for ease of monitoring application. If using recycled paper material

Equipment: Use industry standard hydraulic seeder/mulcher equipment with the tank volume certified by an identification plate or sticker affixed in plain view on the

equipment. The hydraulic seeder/mulcher shall be capable of sufficient agitation to mix the material into a homogenous slurry and to maintain the slurry in a homogenous state

? Where approved for use in areas of lawn, comply with Section 3.8 Lawn Areas: Sodding.

.6 Composted Bark Mulch: 10mm (3/8") minus Fir/Hemlock bark chips and fines, free of chunks and sticks, dark brown in colour and free of all soil, stones, roots or other

extraneous matter. Fresh orange in colour bark will be rejected. .7 Herbicides and Pesticides: If used, must conform to all federal, provincial and local statutes. Appliers must hold current licenses issued by the appropriate authorities in

.8 Filter Fabric: A non biodegradable blanket or other filtering membrane that will allow the passage of water but not fine soil particles. (Such as MIRAFI 140 NL, GEOLON N40

OR AMOCO 4545 or alternate product pre-approved by the Landscape Architect.)

.9 Drainage Piping if required: Schedule 40 PVC nominal sizes.

.10 Drain Rock: Clean, round, inert, durable, and have a maximum size of 19mm and containing no material smaller than 10mm.

11 Plant Material: To the requirements of the Canadian Landscape Standard. Refer to 3.9, Plants and Planting. All plant material must be provided from a certified disease

.12 Sod: Refer to individual sections in this specification.

.13 Supplier and installers of segmental block walls to provide engineered drawings for all walls: signed and sealed drawings for all walls, individually, in excess of 1.2m, or

.14 Miscellaneous: Any other material necessary to complete the project as shown on the drawings and described herein.

combinations of walls collectively in excess of 1.2m. Installations must be reviewed and signed off by Certified Professional Engineer; inloude cost of engineering services in

PART THREE SOFT LANDSCAPE DEVELOPMENT - CONT

71 Area of search includes the Lower Mainland and Fraser Valley. Refer to Plant Schedule for any extension of area.

Application Rate

Seed Mixture: 136 kg/ha (125 lbs/acre)

.8.3 Coastal WildTower Mix: Where specified, apply (31 lbs/acre) (1/4 lb: 1 lb. of grass seed)

.8.4.2.2 Lawn: Where hydroseeding is approved, comply with soil analysis recommendations.

start of growing season, provided that the above conditions for acceptance are fulfilled

Lawn, all areas noted on drawings as lawn in urban

Grass – public parks, industrial and institutional sites

lawn has been cut at least twice, areas meeting the conditions above will be taken over by the Owner.

levelopment sites including boulevard grass

.11 Clean up: Remove all materials and other debris resulting from seeding operations from the job sit

After charging, add no water or other material to the mixture. Do not leave slower in the tank for more than four (4) hours.

.8.4.2.1 Rough Grass: If a soil analysis is available, comply with results.

responsibility to supply water at no extra cost to the Contract.

.5 Specified Turfgrass by area: Refer to Table 2 below.

medium 48 hours prior to sodding. Apply separately from lime.

.1 Conform to planting layout as shown on Landscape Plans.

.3 Make edge of beds with smooth clean defined lines.

ensure successful adaptation of plants to their new location.

TABLE 2 SPECIFIED TURFGRASS BY AREA

Rough Grass

through the sod base medium is impaired.

Area Description

CLASS 3

Turfgrass Sod.

3.9 PLANTS AND PLANTING

.4 Time of Planting:

.8.4.1 At the time of Tender provide a complete chart of all components of the mix proposed including mulch, tackifier, water etc. Sloped sites require tackifier.

.9 Accurately measure the quantities of each of the materials to be charged into the tank either by mass or by a commonly accepted system of mass-calibrated volume measurements. The materials shall be added to the tank while it is being filled with water, in the following sequence; seed, fertilizer. Thoroughly mix into a homogenous slurry.

.10 Distribute slurry uniformly over the surface of the area to be hydroseeded. Blend application into previous applications and existing grass areas to form uniform surfaces.

Maintenance: Begin maintenance immediately after seeding and continue for 60 days after Substantial Completion and until accepted by the Owner. Re-seed at three week

Owner. Water in sufficient quantities to ensure deep penetration and at frequent intervals to maintain vigorous growth until grass is taken over by the Owner. It is the Owner's

intervals where germination has failed. Protect seeded areas from damage with temporary wire or twine fences complete with signage until grass area is taken over by the

.13 Acceptance of the Rough Grass Areas: Proper germination of all specified grass species is the responsibility of the Landscape Contractor. The grass shall be reasonably

well established, with no apparent dead or bare spots and shall be reasonably free of weeds (to Canadian Landscape Standard, Section 13 Maintenance Level 🔭 (Spen space)

General: Treat all areas defined as lawn areas on the landscape plan between all property lines of the project including all boulevards to edge of roads and lanes.

.3 Time of Sodding: Sod from April 1st to October 1st. Further extensions may be obtained on concurrence of the Landscape Architect.

.6 Lime: The lime shall be as defined in Section 2.2.3, Materials. Apply at rates recommended in required soil test. Refer to Section 3.4 for method.

.4 Sod Supply: Conform to all conditions of Canadian Landscape Standard, Section 8, B.C. Standard for Turfgrass Sod.

.2 Growing Medium: Comply with Section 2.2.1, Growing Medium. Prior to sodding, request an inspection of the finished grade, and depth and condition of growing medium by the

Quality Grade

No. 1 Premium

No. 2 Standard

7 Fertilizer: Refer to Section 2.2.2 Materials. Apply specified fertilizer at rates shown in the required soil test. Apply with a mechanical spreader. Cultivate into growing

.8 Sodding: Prepare a smooth, firm, even surface for laying sod. Lay sod staggered with sections closely butted, without overlapping or gaps, smooth and even with adjoining

9 Maintenance: Begin maintenance immediately after sodding and continue for 60 days after Substantial Completion and until accepted by the Owner. Protect sodded areas

from damage with temporary wire or twine fences complete with signage until lawn is taken over by the Owner. Water to obtain moisture penetration of 3" to 4" (7-10cm) at intervals necessary to maintain sufficient growth. Keep grass cut at height of between 1-1/2" (4cm) and 2" (5cm). Provide adequate protection of sodded areas against damage

until the turf has been taken over by Owner. Repair any damaged areas, re-grade as necessary. Aeration may be required if in the Landscape Architect's opinion, drainage

.10 Acceptance of Lawn Areas: The turf shall be reasonably well established, with no apparent dead spots or bare spots and shall be reasonably free of weeds (to Canadian

Landscape Standard, Section 13 Maintenance Level 2 (Appearance). Use herbicides if necessary for weed removal unless other conditions of contract forbid their use. After the

.4.1 Plant trees, shrubs and groundcovers only during periods that are normal for such work as determined by local weather conditions when seasonal conditions are likely to

.5.1 All plant material shall conform to the requirements of the Canadian Landscape Standard, latest edition, unless exceeded by drawing Plant Schedule or this specification.

.5.1.1 Refer to Canadian Landscape Standard, Section 9, Plants and Planting and in Section 12, BCLNA Standard for Container Grown Plants for minimum standards.

areas and roll lightly. Water to obtain moisture penetration of 3" to 4" (7 – 10cm). Comply with requirements of Canadian Landscape Standard Section 8, BC Standard for

see hydroseeding

Maior Species

entucky Blue for sun, Fescues for shade

Sixty days after substantial completion, areas meeting the conditions above will be taken over by the Owner. Areas seeded in Fall will be accepted in Spring one month after

.8.2 Fertilizer: 112 kg/ha (100 lbs/acre)

.7.2 Supply proof of the availability of the specified plant material within 30 days of the award of the Contract.

2 Obtain approval of Landscape Architect for layout and preparation of planting prior to commencement of planting operations.

.6.1 Review at the source of supply and/or collection point does not prevent subsequent rejection of any or all planting stock at the site.

.5.1.2 Refer to Plant Schedule for specific plant and container sizes and comply with requirements.

.8.1 Obtain written approval of the Landscape Architect prior ro making any substitutions to the specified material. Non-approved substitutions will be rejected. .8.2 Allow a minimum of 5 days prior to delivery for request to substitute .8.3 Substitutions are subject to Canadian Landscape Standard - definition of Conditions of Availability

.9 Plant Species & Location: .9.1 Plants shall be true to name and of the height, caliper and size of root ball as shown on the landscape/site plan plant schedule. Caliper of trees is to be taken 6" (15cm)

above grade. .9.2 Plant all specified species in the location as shown on the landscape drawings. Notify Landscape Architect if conflicting rock or underground/overhead services are .9.3 Deviation of given planting location will only be allowed after review of the proposed deviation by the Landscape Architect.

10.1 Trees and large shrubs: Excavate a saucer shaped tree pit to the depth of the rootball and to at least twice the width of the rootball. Assure that finished grade is at the original grade the tree was grown at.

.11.1 Provide drainage of planting pits where required. ie. on sloped conditions, break out the side of the planting pit to allow drainage down slope; and in flat conditions, mound to raise the rootball above impervious layer. Notify the Landscape Architect where the drainage of planting holes is limited.

.12.1 Plant all trees and shrubs with the roots placed in their natural growing position. If burlapped, loosen around the top of the ball and cut away or fold under. Do not pull burlap from under the ball. Carefully remove containers without injuring the rootballs. After settled in place, cut twine. For wire baskets, clip and remove top three rows of

.12.2 Fillthe planting holes by gently firming the growing medium around the root system in 6" (15cm) layers. Settle the soil with water. Add soil as required to meet finish grade. Leave no air voids. When 2/3 of the topsoil has been placed, apply fertilizer as recommended by the required soil test at the specified rates. .12.3 Where planting is indicated adjacent to existing trees, use special care to avoid disturbance of the root system or natural grades of such trees.

.13 Staking of Trees:

.13.1 Use two 2"x2"x5' stakes, unless superseded by municipal requirements. Set stakes minimum 2 ft. in soil. Do not drive stake through rootball. 3.2 Leave the tree carefully vertical.

.12.4 Where trees are in lawn areas, provide a clean cut mulched 900mm (3 ft.) diameter circle centered on the tree.

.13.3 Tie with pre-approved commercial, flat woven polypropylene fabric belt, minimum width 19mm (3/4"). Approved product: ArborTie - available from DeepRoot. .13.4 Coniferous Trees over 6 ft. height: Guy with three 2-strand wires (11 gauge). Drive three stakes equidistant around the tree completely below grade. .13.5 Trees 6 ft.+ on Wood or Concrete Decks: Guy as above using three deadmen (min. 2'x2"x4") buried to the maximum possible depth instead of stakes. .13.6 Mark all guy wires with visible flagging material.

.14.1 Limit pruning to the minimum necessary to remove dead or injured branches. Preserve the natural character of the plants, do not cut the leader. Use only clean, sharp tools. Make all cuts clean and cut to the branch collar leaving no stubs. Shape affected areas so as not to retain water. Remove damaged material.

.15.1 Mulch all planting areas with an even layer of mulch to 2-1/2 - 3" (65 - 75mm) depth. Confirm placement of mulch in areas labeled "Groundcover Area" on drawings. Mulch a 3 ft. (900mm) diameter circle around trees in lawn areas, leave a clean edge.

.16.1 The establishment of all plant material is the responsibility of the Landscape Contractor.

17.1 Maintain all plant material for 60 days after landscape work has received a Certificate of Completion .17.2 Watering: Conform to Canadian Landscape Standard, Section 13.3.2 - Watering and generally as follows:

17.2.1 Water to supplement natural rainfall such that the soil moisture content is kept to 50% to 100% of field capacity. Water to the full depth of the root zone each time. The Owner is responsible to supply water at no extra cost to the Contract. Confirm source of water prior to beginning work.

.17.3 Use appropriate measures to combat pests or diseases damaging plant material. Comply with all local governing statutes and guidelines for chemical control. ..17.4 Plant material which fails to survive shall be replaced in the next appropriate season as determined by the Landscape Architect. .17.5 Repair tree guards, stakes, and guy wires, when necessary.

.17.6 Maintain areas relatively weed free. (Appearance level 2, Canadian Landscape Standard, Chapter 13).

.17.7 Maintain mulch to specified depths.

.18.1 Replace all unsatisfactory plant material except those designated "Specimen" for a period of one (1) year after the Certificate of Completion. Replace all unsatisfactory plant material designated "Specimen" for a period of two (2) years after the Certificate of Completion. Replace all unsatisfactory trees and shrubs and continue to replace these until the specified number is complete and satisfactory to the Landscape Architect. Such replacement shall be subject to the notification, inspection and approval as specified for the original planting, and shall not constitute an extra to the Contract. .18.2 Those Plants, identified as hardy within one zone of the Canada Department of Agriculture tonal class for the area, specified by the Landscape Architect and installed by

the Landscape Contractor which are killed through below normal temperatures (below the average of the extreme minimum temperatures officially recorded in the area concerned, in the last 10 years), will not be replaced without cost of replacement borne by the Owner .18.3 A review may be requested during the latter part of the warranty growing season. All plant material showing well developed foliage, healthy growth and bud forming, will then be taken over.

PART THREE SOFT LANDSCAPE DEVELOPMENT - CONT

.18.4 For all plant material, the Landscape Architect reserves the right to extend the Contractor's responsibility for another growing season if, in his opinion, leaf development and growth is not sufficient to ensure future satisfactory growth.

18.5 Where the Owner is responsible for plant maintenance and has not provided adequate maintenance, the plant replacement section of the contract may be declared void. The Landscape Architect shall determine whether maintenance has been satisfactory using the Canadian Landscape Standard, Section 13, Maintenance as the quide. The required maintenance standard is a minimum of Level Three - Medium. Refer to Section 3.11, Establishment Maintenance.

.18.6 The Landscape Contractor is responsible to replace any plant material or repair any construction included in the Contract that is damaged or stolen until the issuance of the Certificate of Completion .18.7 Deviation from the specifications may require extension of the Warranty Period as determined by the Landscape Architect.

0 INSTALLING LANDSCAPE ON STRUCTURES

placing growing medium.

.1 Verify that drainage and protection material is completely installed and acceptable before beginning work. Contact Landscape Architect for instructions if not in place. Coordinate work with construction of planters and planter drainage

.3 Provide clean out at all through-slab drain locations . Use 300mm min. dia. PVC Pipe filled with drain rock unless specific drawing detail shown.

2.1 Verify that planter drains are in place and positive drainage to roof drains is present prior to placing any drain rock or soil.

.4 Install drain rock evenly to a minimum depth of 4" (100mm)or alternate sheet drain if specified. Install sheet drain as per manufacturer's recommendations. .5 Cover drain rock (or alternate sheet drain if specified on drawing details) with filter fabric lapping 6" (150mm) at all edges. Obtain approval of drainage system prior to

.6 Place an even layer of 25 – 50mm clean washed pump sand over filter fabric.

.7 Place growing medium to depths specified in Section 3.5 above for various surface treatments. Refer to Drawing details for any light weight filler required to alter grade. Use Styrofoam block over drain rock shaped to provide smooth surface transition at edges. Butt each piece tightly together and cover with filter fabric to pre migrating downward.

11 ESTABLISHMENT MAINTENANCE (Provide a separate price for this section)

.1 Intent: The intent of "establishment" maintenance is to provide sufficient care to newly installed plant material for a relatively short period of time to ensure or increase the long term success of the planting. The objective is the adaptation of plants to a new site in order to obtain the desired effect from the planting while reducing the rate of failure and unnecessary work associated with improper establishment. Establishment of maintenance procedures apply to all new and retained vegetation including cultivated

.2 Maintenance Period: Provide maintenance of installed landscaping for 12 months following substantial completion.

3 Related Standards and Legislation: Canadian Landscape Standard, latest edition; Fertilizer Code., B.C. Pesticide Control Act.

.4 Site Review: In addition to the inspections at substantial completion, at final progress draw application, and at the end of the guarantee period, there should be three other reviews during the 12 months attended by the Contractor and a designated representative of the Owner. Maintain a logbook and reporting procedures and submit to the designated representative.

5 Scheduling: Prepare a schedule of anticipated visits and submit to designated representative at start-up. Maintenance operations shall be carried out predominately during the growing season between March 1st and November 30th, however visits at other times of the year may be required.

.6 Maintenance Level: Comply with B. C. Landscape Standard, Section 14, Table 14.2, Maintenance Level 2 "Groomed"

Materials: Comply with Part Two of this specification. 7.1. Fertilizers: To the requirements of the Canadian Landscape Standard. Formulations and rates as required by soil testing.

.8 Plant Material Establishment:

.8.1 Watering: During the first growing season, water new plants at least every ten (10) days between April 1st and July 31st, and every twenty (20) days between August 1st and September 15th. Minimum 25 gallons per tree per application. During the second growing season, water new plants at least every twenty days between April 1 and July 31 and once between August 1st and September 31st. Apply water at a rate and duration such that the water content reaches field capacity to the full depth of the growing medium. Apply water again when the water content reaches 25% of field capacity. Provide and irrigate with water in the event that any automatic irrigation system malfunctions or has not been completely installed. Scheduled applications of water shall be missed only when rainfall has penetrated the soil fully as required. .8.2 Mulch: Maintain mulches in the original areas and to the original depths.

.8.3 Weed Control: Remove all weeds from all areas at least once per month during the growing season by hoeing or cultivation to a maximum depth of 80mm, hand-pulling, or, if necessary, by the use of herbicides. .8.4 Pest and Disease Control: Inspect all planted areas for pests and diseases periodically and at least every two months during the growing season by an experienced person. Carry out treatment for pests or diseases promptly and consistently for maximum effectiveness. Comply with all B.C. Pesticide Control Act and municipal requirements.

.8.5 Tree Support: Maintain stakes, guy wires and ties one full growing season. Check ties at least every two months to ensure that they are not causing a depression in the bark. Loosen, repair or replace ties as necessary. Remove all stakes guy wires and ties after the first growing season except where large trees require continuing support in the opinion of the Landscape Architect. All flagging of guy wires shall be visible and in good repair. .8.6 Pruning: Inspect all trees and shrubs at least every two months during the growing season; prune to remove all dead, weak or diseased wood. Maintain the natural shape of the plant. Carry out clipping or shaping only if required in the maintenance contract for specific varieties or conditions.

.8.7 Fertilizing: Once during the twelve month period of establishment maintenance fertilize shrubs, trees and groundcovers according to soil analysis requirements.

.9.1 Watering: Use hoses and sprinklers, irrigation systems or other methods to apply water to Class 1 and Class 2 grassed areas (Canadian Landscape Standard, Section 7, Lawns and Grasses) such that the grass is maintained in a turgid condition. Supply and irrigate with water in the event of any irrigation system malfunction, or incomplete installation at no expense to the owner. Apply water to prevent packing or erosion of the soil. Apply water at a rate and duration so that the water content in the growing medium reaches field capacity to the full depth of the growing medium. Apply water again when the water content reaches 25% of field capacity. .9.2 Weed, Insect and Disease Control: Inspect grass areas each time they are mowed for weeds, insect pests, and diseases and treat promptly when necessary by appropriate manual methods, or by the use of chemicals in compliance with the B.C.S.L.A./B.C.L.N.A. Landscape Standards latest edition. Kill broadleafed weeds in grassed areas by a general application of a suitable herbicide if the weed population exceeds 10 Broadleaf weeds or 50 annual weeds or weedy grasses per 40 square meters. This application shall reduce the weed population to zero.

93 Fertilizing: According to soil analysis .9.4 Liming According to soil analysis .9.5 Mowing and Trimming – All areas: The first four cuts shall be a sharp rotary type mower. Excess grass clipping shall be removed after each cut. Mow all grassed areas with a sharp reel or rotary mower when the grass reaches a height of 60mm. Mow to a height of 40mm. Edge with a mechanical vertical cutting edger once per year in March. Remove all grass clippings after each cut

.9.6 Aeration: Aeration not required in the first growing season. If necessary, in the second growing season, aerate in early May with a suitable mechanical corer. Core to a depth of 100mm. (4"), and remove cores. .9.7 Repairs: Re-grade, re-seed or re-sod when necessary to restore damaged or failing grass areas. Match the grass varieties in the surrounding area. Re-sod, if required,

hroughout the growing season. Re-seed between April 1st and April 15th or between September 1st and September 15th. Protect re-seeded areas and keep moist until the f

23.MAR.13 PLANT SPECIES CHANGE

NO. DATE REVISION DESCRIPTION

© Copyright reserved. This drawing and design is the property of PMG Landscape Architects and may not be reproduced or used for other projects without their

Burnaby, British Columbia, V5C 6G9

p: 604 294-0011 ; f: 604 294-0022

permission.

SEAL:

CLIENT:

PROJECT:

**EV CHARGING STATION** 

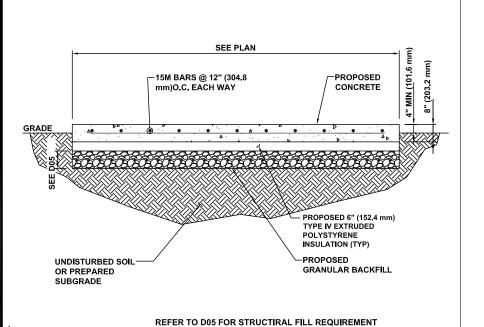
29 HELMCKEN ROAD, VICTORIA, B.C.

DRAWING TITLE:

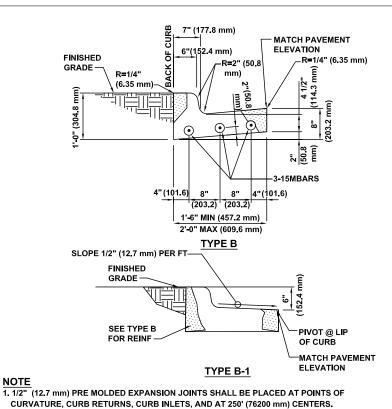
**LANDSCAPE** 

23.FEB.09 DATE: DRAWING NUMBER SCALE: DRAWN: DESIGN: CHK'D:

PMG PROJECT NUMBER



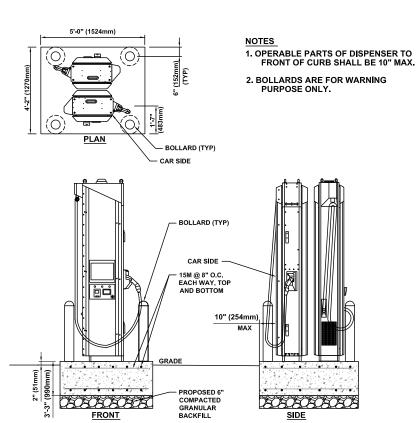




CONTRACTION JOINTS SHALL BE 2" (50.8 mm) DEEP, 3/16" (4.7625 mm) WIDE,

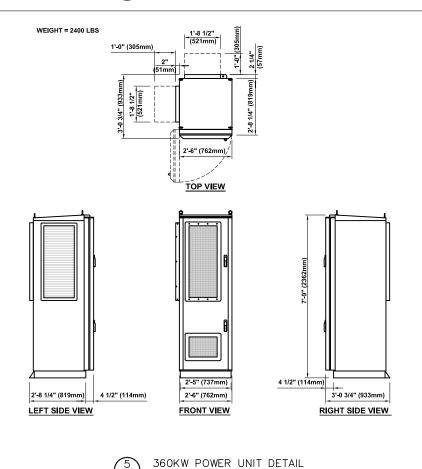
AND PLACED AT 15' (4572 mm) INTERVALS EQUALLY SPACED BETWEEN EXPANSION JOINTS.

CONCRETE CURB DETAIL



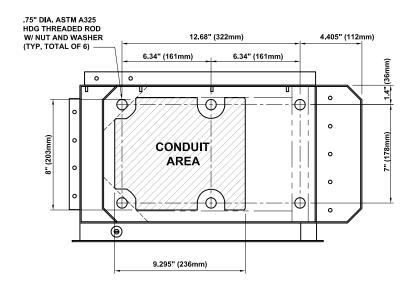
REFER TO D05 FOR PAD DETAILS





### NOTE

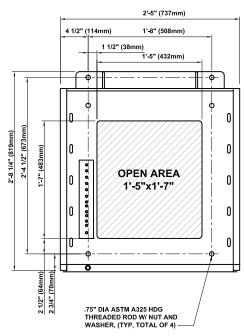
- MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6" (152.4 mm). CONTRACTOR TO FIELD VERIFY THE ANCHOR SPACING PER MANUFACTURER'S
- INSTALLATION MANUAL.



DISPENSER ANCHORAGE AND CONDUIT ENTRY DETAIL

## **NOTES**

- 1. MINIMUM CONCRETE EDGE DISTANCE FOR PROPOSED ANCHORS SHALL BE 6" (152,4 mm).
- 2. ALL DIMENSIONS ARE IN INCHES AND MILLIMETERS.



INSTALLATION FOOTER

360KW POWER UNIT ANCHORAGE AND CONDUIT ENTRY DETAIL

**Evelectrify** canada

CLIENT:

CANOPY ADD 06 JAN 23 ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



29 HELMCKEN RD., VICTORIA, BC

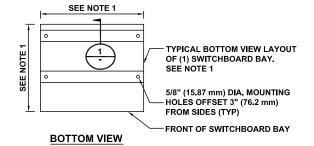
**EQUIPMENT DETAILS** 

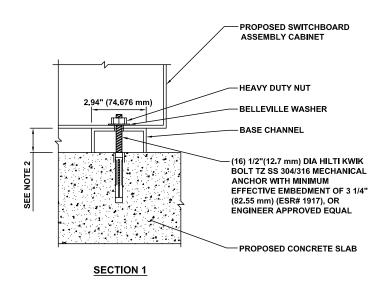
PROJECT NO: 800033 NEW CHARGING STATION

DWG. NO: DO1



- 1. SEE FLOOR PLAN IN
  REFERENCED SWITCHBOARD
  ASSEMBLY DRAWINGS FOR
  MOUNTING HOLE LOCATION AND
  SWITCHBOARD BAY
  DIMENSIONS.
- 2. SEE ELEVATION IN REFERENCED SWITCHBOARD ASSEMBLY DRAWINGS FOR BASE CHANNEL DIMENSION.
- 3. MINIMUM 10 1/2" (266,7 mm)CONCRETE EDGE DISTANCE REQUIRED FOR PROPOSED ANCHORAGE.
- 4. CONTRACTOR TO MOUNT THE KEYSAFE BOX ON THE SWITCHGEAR WHEN THERE IS NO FENCE

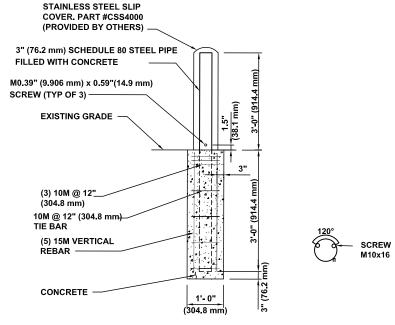




SWITCHBOARD MOUNTING DETAIL

### NOTES

- 1. BOLLARD IS FOR WARNING PURPOSES ONLY.
- 2. 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.



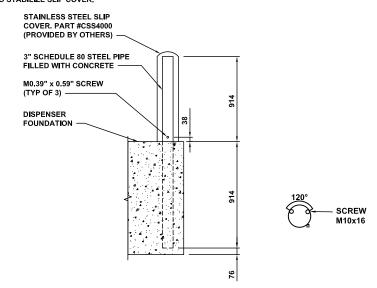


WARNING BOLLARD DETAIL

### NOTES

1, BOLLARD IS FOR WARNING PURPOSES ONLY.

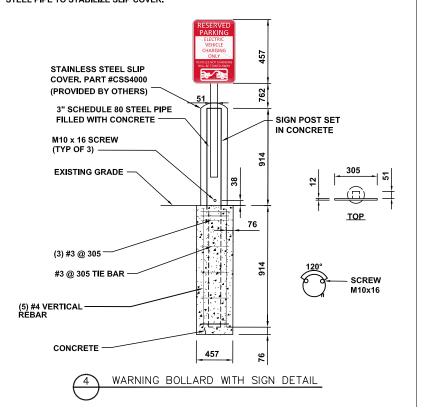
- 2. BOLLARD DETAIL FOR BOLLARDS AROUND ELECTRIFY CANADA EQUIPMENT.
- 3. CONTRACTOR TO PROVIDE (2) 6' LONG, 1/2" THICK FOAM STRIPS CROSSED OVER TOP OF STEEL PIPE TO STABILIZE SLIP COVER.



3 DISPENSER WARNING BOLLARD DETAIL

### OIES

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



## <u>NOTES</u>

- 1. CONTRACTOR TO SELECT APPROPRIATE SIGN PER PROPOSED SIGN LOCATION.
  2. BOTTOM OF LOWEST SIGN TO BE INSTALLED 54" ABOVE GRADE.
- 2. BOTTOM OF LOWEST SIGN TO BE INSTALLED 54" ABOVE GRADE.

  3. 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

EMAIL: MOLLY\_YARGER@SETON.COM \*REFERENCE QUOTE #25289757 (14 DAY LEAD TIME)



**Eelectrify** canada

CLIENT:



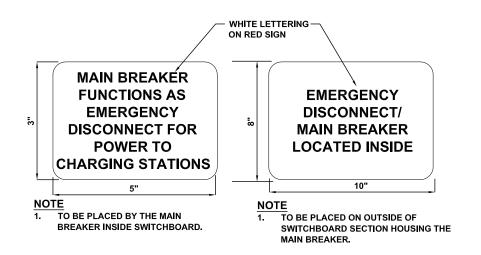
ROEHAMPTON WEST 409 GRANVILLE ST, SUITE 1051 VANCOUVER, BC V6C 1T2

OCATION: 29 HELMCKEN RD., VICTORIA, BC

TITLE: EQUIPMENT DETAILS

 PROJECT NAME:
 PROJECT NO:
 DWG. NO:

 NEW CHARGING STATION
 800033
 D02





EMERGENCY DISCONNECT SIGN DETAIL

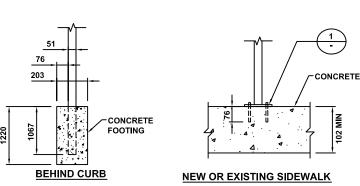
ELECTRICAL HAZARD WARNING SIGN

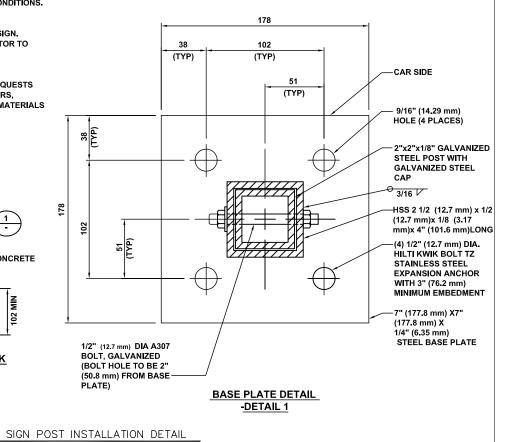
NOTE:

- 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
- 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





(SEE LANDSCAPING PAGE FOR ACTUAL TYPE) ARBORTIE AT BARK - GUY WIRES (3), WHITE FLAG ON EACH 2 STRANDS OF TWISTED GALVANIZED WIRE EACH TURNBUCKLE (3), GALVAN**I**ZED SET TREE AT ORIGINAL GRADE OR UP TO 1/8 DEPTH OF ROOT BALL 2" SHREDDED HARDWOOD MULCH SOIL SAUCER: USE PREPARED SOIL, 6" MIN. ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP 1/2 OF BURLAP. NON-BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED PLANTING SOIL MIX PER PLANTING SPECIFICATIONS 2X WIDTH C UNDISTURBED SOIL PEDESTAL

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

TREE PLANTING - STAKING

CLIENT:



LANDSCAPING UPDATE 11 APR 23 CANOPY REV 07 FEB 2 BREAKER CONFIGURATION 10 JAN 2 CANOPY ADD 06 JAN 2 ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



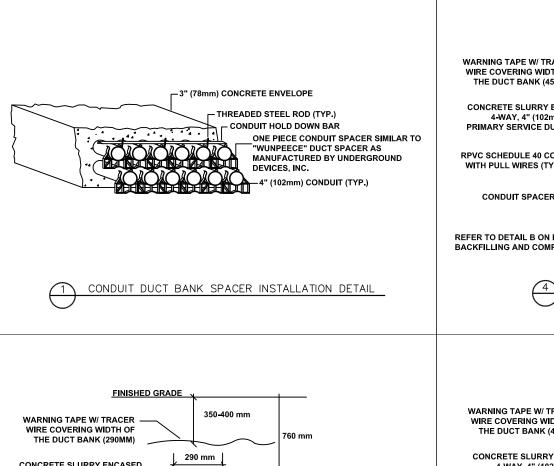
**ROEHAMPTON** 409 GRANVILLE ST. SUITE 1051

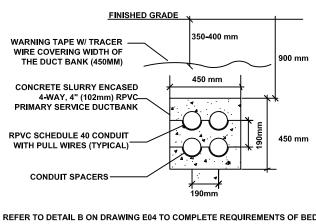
29 HELMCKEN RD., VICTORIA, BC

**GUARDRAIL DETAILS** 

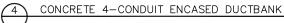
PROJECT NO: 800033 NEW CHARGING STATION

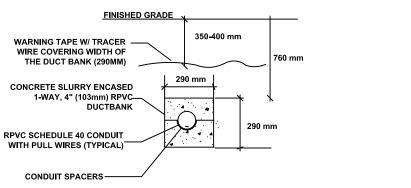
DWG. NO: DO3



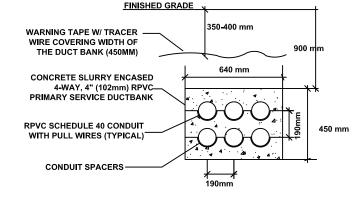


REFER TO DETAIL B ON DRAWING E04 TO COMPLETE REQUIREMENTS OF BEDDING SOIL, SIDE SOIL, BACKFILLING AND COMPACTION REQUIREMENTS. COORDINATE WITH UTILITY FOR ADDITIONAL INFO.

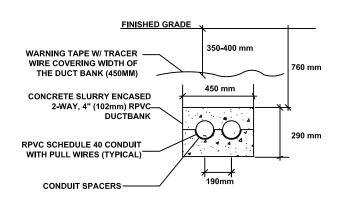




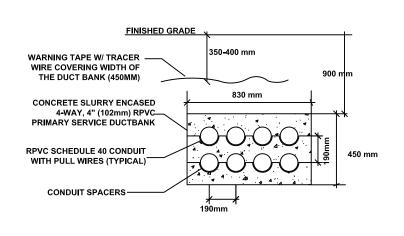
2 CONCRETE ENCASED 1-CONDUIT DUCTBANK



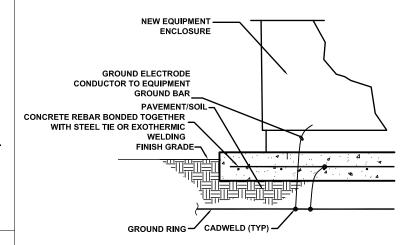
5 CONCRETE 6-CONDUIT ENCASED DUCTBANK



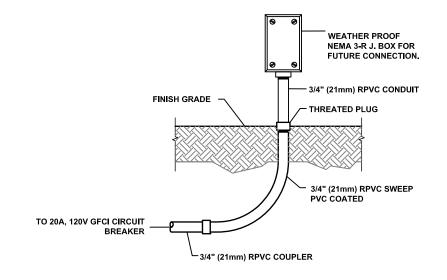
3 CONCRETE ENCASED 2- CONDUIT DUCTBANK



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.



owner: **Selectrify** canada

CLIENT:

5					
4					
3					
2					
1	RY	ELECTRICAL REV.	04	NOV	22
0	CD	ISSUED FOR 90% REVIEW	02	NOV	22
10.	BY	DESCRIPTION		DATE	
		- BOEHAMDTON			



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

YEN PO VICTORIA RC

29 HELMCKEN RD., VICTORIA, BC

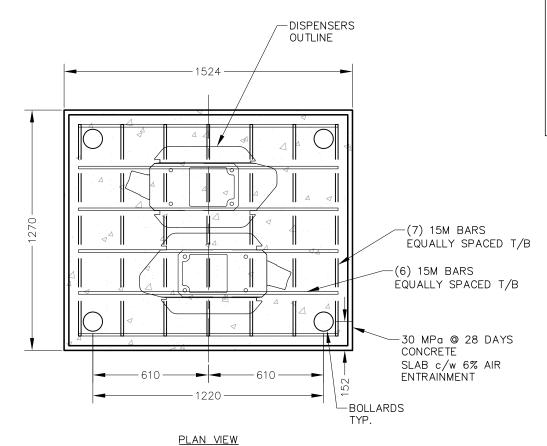
CONDUIT DETAILS
PROJECT NAME:

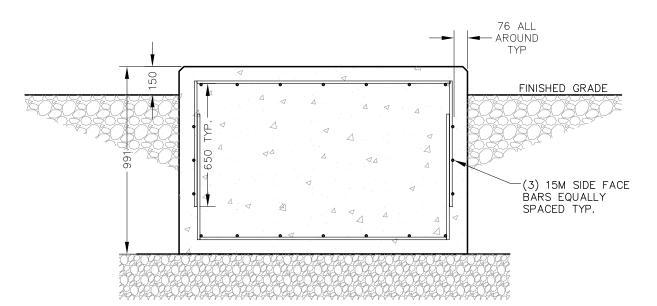
 PROJECT NAME:
 PROJECT NO:
 DWG. NO:

 NEW CHARGING STATION
 800033
 D04

## 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.
- FINAL FOUNDATION DESIGN IS TO BE REVIEWED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.





SECTION VIEW



## 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
- 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:

electrify canada

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
NO.	BY	DESCRIPTION		DATE	



ROEHAMPTON WEST 409 GRANVILLE ST, SUITE 1051 VANCOUVER, BC V6C 1T2

LOCATION: 29 HELMCKEN RD., VICTORIA, BC

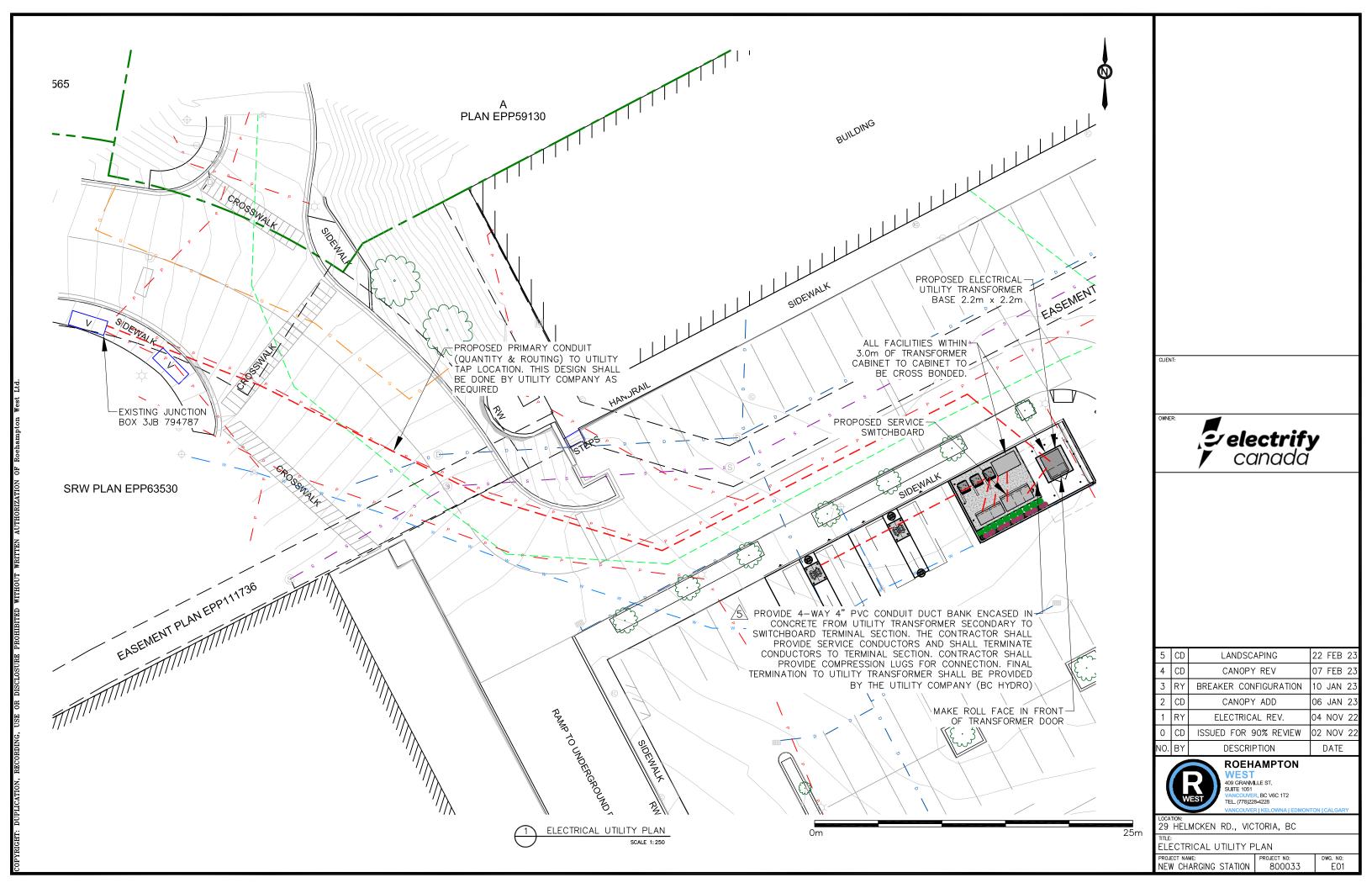
:

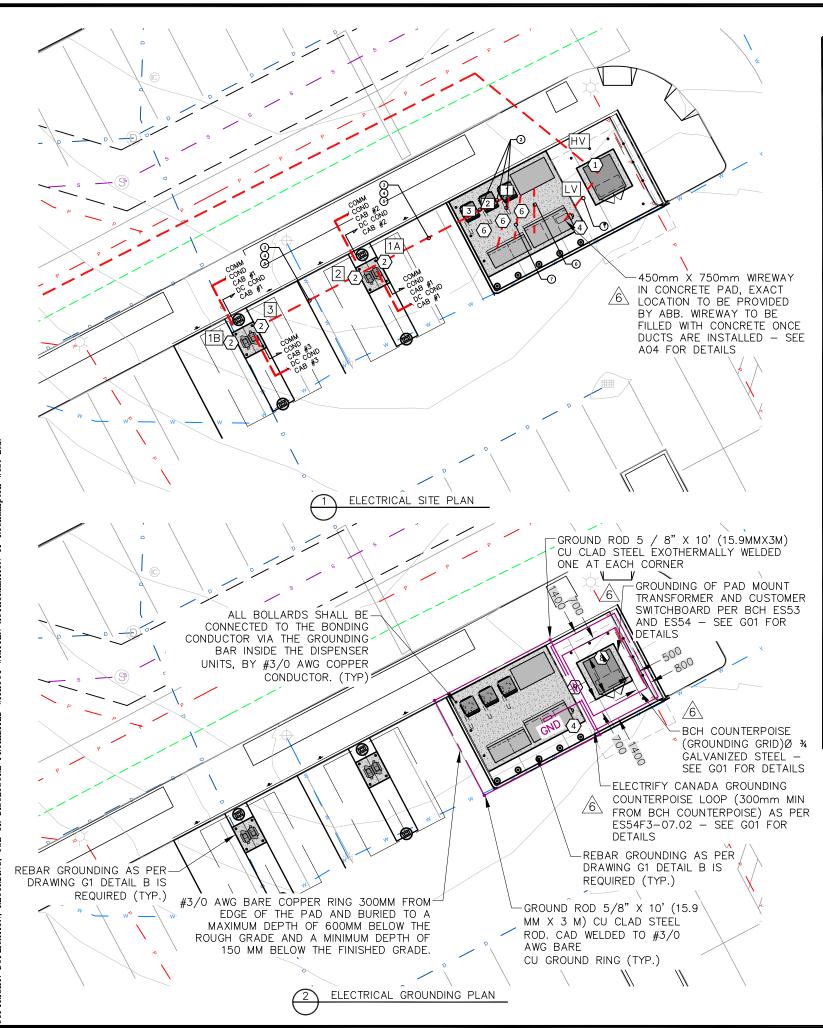
DISPENSERS PAD DETAILS

PROJECT NAME: PROJECT NO.

NEW CHARGING STATION 8000.

PROJECT NO: DWG. NO: 800033 D05





## **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 (ROSSING) 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 IS NEEDED.
- POWER UNITS ARRANGEMENT IF NEEDED.
  PROVIDE WITH COVER PLATES SUITABLE FOR WET LOCATIONS WHETHER OR
  NOT A PLUE IS INSERTED INTO THE RECEPTACLE, AND MARKED "EXTRA
  DUTY". RULE 26-708 2.

# PROPOSED DISPENSERS

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

## **UTILITY SCOPE OF WORK**

### ONTRACTOR'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 (OFCI) AS REQUIRED
- SWITCHOUARD (OPG) AS REQUIRED.
  SUPPLY AND INSTALL INSTRUMENT TRANSFORMER IN ACCORDING
  WITH UTILITY STANDARD.
  TECHNICAL SAFETY BC AUTHORITY APPROVALINSPECTION 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  $\Omega$ M. 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

# **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)
TOTAL ESTIMATED LENGTH		71 (21.64m)
T	OTAL LENGTH OF WIRE	213 (64 <sub>-</sub> 92m)

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) LENGTH FT	TED
	Γ(M)
1 1A 32 (9.75m) 54 (16.46	im)
1 1B 58 (17.68m) 80 (24.38	m)
2 2 27 (8.23m) 49 (14.94	m)
3 3 46 (14.02m) 68 (20.73	m)

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

## NOTES

SEE SHEET E-3 FOR WIRE CONFIGURATION)

- 1. 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 O
- 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 CAPPORT 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
- 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:



LANDSCAPING 22 FEB 23 CANOPY REV 07 FEB 2 BREAKER CONFIGURATION 10 JAN 2 CANOPY ADD 06 JAN 2 ELECTRICAL REV. 04 NOV 2: ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



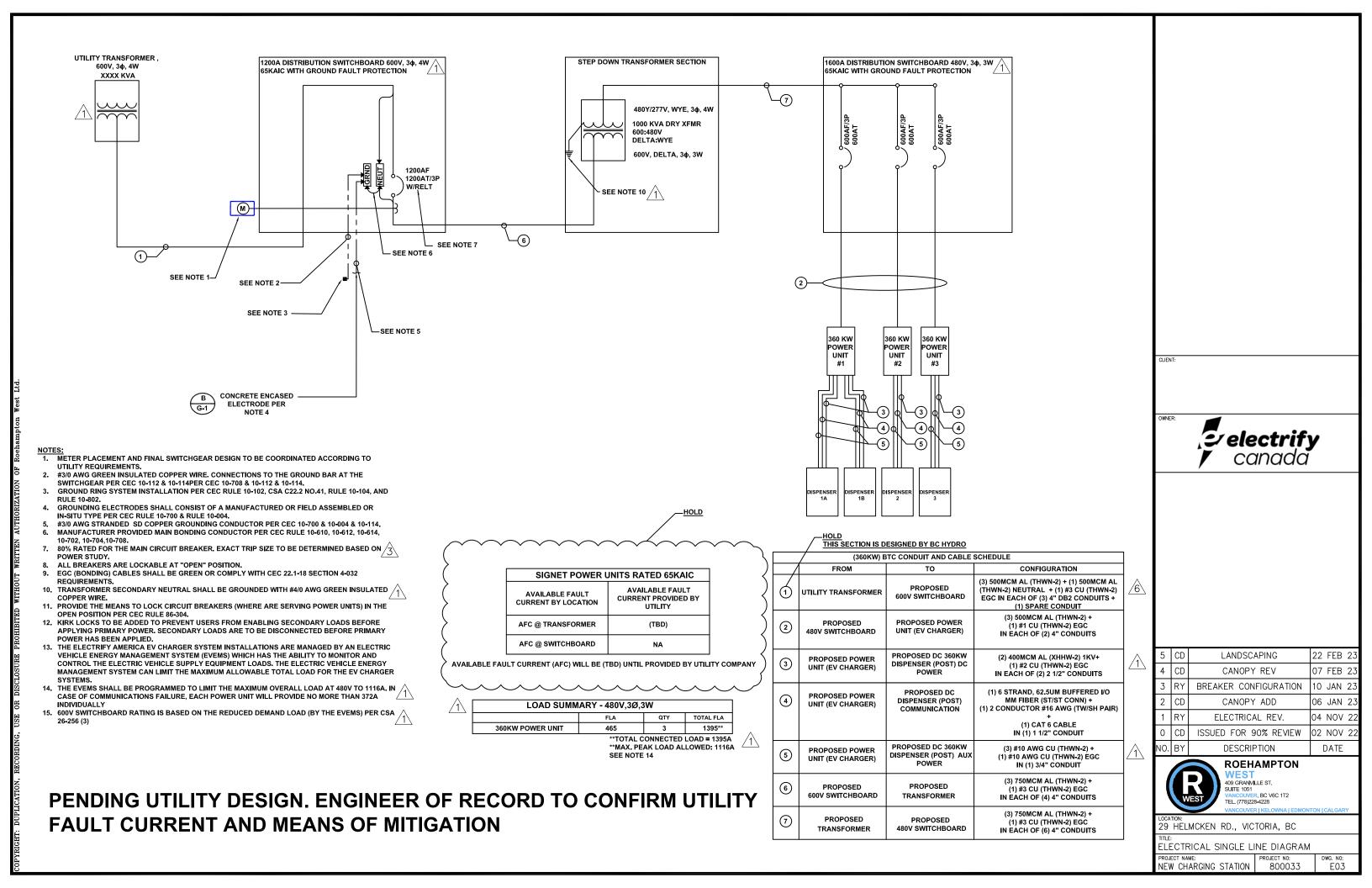
**ROEHAMPTON** 

409 GRANVILLE ST. SUITE 1051 FR BC V6C 1T2

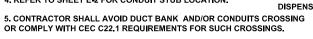
29 HELMCKEN RD., VICTORIA, BC

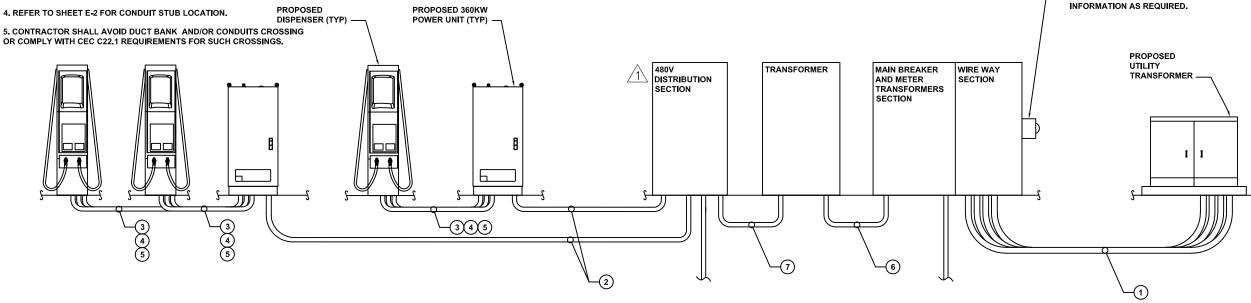
ELECTRICAL SITE PLAN NEW CHARGING STATION

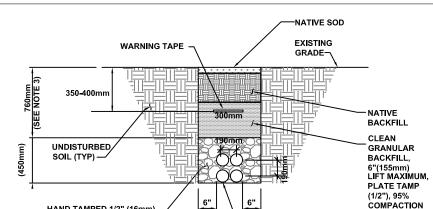
PROJECT NO: 800033



- 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
- 3. INSTALL DOTTIE DUCT SEAL COMPOUND PC 6130 (CAT NO. LHD1) (TYP FOR ALL CONDUITS FOR CHARGER CABINETS AND DISPENSERS).







HAND TAMPED 1/2" (16mn GRANULAR BACKFILL

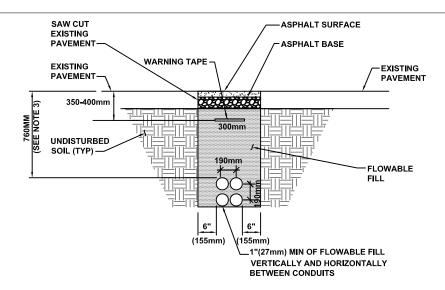
ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.

\_1" (27mm) MIN OF GRANULAR BACKFILL VERTICALLY AND HORIZONTALLY

BETWEEN CONDUITS

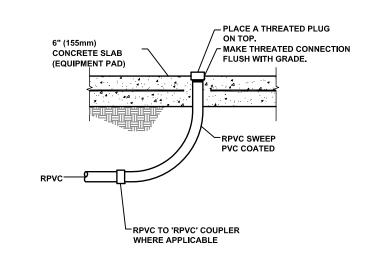
- ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
  TRENCH DEPTHS ARE REQUIRED TO BE 6" (155mm) BELOW FROST LINE PER LOCAL
- JURISDICTION REQUIREMENTS. FOR VEHICULAR AREAS, MIN. DEPTH SHALL BE INCREASED
- EXACT NUMBER OF 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.

TYPICAL NON-UTILITY CONDUIT UNDER SOIL TRENCH



- ASPHALT SHALL COMPLY WITH STANDARD DOT OR LOCAL JURISDICTION SPEC. FOR HMA
- ANY EXCAVATION LEFT OPEN NEEDS TO BE FENCED, BARRICADED, OR TRENCH PLATED TO INSURE THE SAFETY OF THE GENERAL PUBLIC.
- 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
- ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
- 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.

TYPICAL NON-UTILITY CONDUIT UNDER ASPHALT TRENCH



PENDING UTILITY DESIGN

1. INITIALLY INSTALL COUPLING AND CAP TO PREVENT DAMAGE UNTIL GEAR IS SET.

PROPOSED UTILITY METER.
CONTRACTOR TO INSTALL METER **CABINET PER UTILITY'S** 

- UTILITY FOR ADDITIONAL

REQUIREMENTS. COORDINATE WITH

INSTALL ROUNDED FITTING BEFORE PULLING CABLES TO AVOID DAMAGE TO CABLES.

EQUIPMENT PAD STUB-UP DETAIL

**Evelectrify** canada

CLIENT:

ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION **ROEHAMPTON** 



409 GRANVILLE ST. SUITE 1051

29 HELMCKEN RD., VICTORIA, BC

ELECTRICAL DETAILS

NEW CHARGING STATION

PROJECT NO: 800033 DWG. NO: EO4

### 260500 - GENERAL REQUIREMENTS

- A. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE CANDIAN 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
- 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
- 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
- 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:

- OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY.
- ARC FLASH HAZARD ANALYSIS STUDY.
- 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
- 5. "PROVIDE" "FURNISH" AND "INSTALL"
- 6. "RELOCATE" MOVE EXISTING EQUIPMENT/DEVICES/FIXTURE 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
  - 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

### 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.
- 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

### 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,
  - FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR
  - 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
- 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
- G. ALL WIRING WITHIN ELECTRICAL CLOSET AND IN BUILDINGS CORE CEILINGS SHALL BE
- 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 ADIUS 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.

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

CLIENT:



ELECTRICAL REV. 04 NOV 2: ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



**ROEHAMPTON** 409 GRANVILLE ST.

FR BC V6C 1T2 TEL. (778)228-4228

29 HELMCKEN RD., VICTORIA, BC

NEW CHARGING STATION

**ELECTRICAL SPECIFICATIONS** 

## **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.
- 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
  - 1. SWITCHGEAR AND SWITCHBOARD BUS.
  - 2. BRANCH CIRCUIT PANELBOARD.
- C. CALCULATIONS TO VERIFY INTERRUPTING RATINGS OF OVERCURRENT PROTECTIVE DEVICES SHALL COMPLY
- 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
- 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:
  - INBUSH CURRENT WHEN FIRST ENERGIZED.
  - SELF-COOLED, FULL-LOAD CURRENT OR FORCE-AIR-COOLED, FULL-LOAD CURRENT, WHICHEVER IS SPECIFIED FOR THAT TRANSFORMER.
  - 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
- 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.

## 260574 - ARC-FLASH HAZARD ANALYSIS STUDY

- A. THE CONTRACTOR SHALL FURNISH AN ARC FLASH HAZRD 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
- 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
- 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.

- 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.
- THE Z462-18 WORKPLACE ELECTRICAL SAFETY STANDARD SHALL BE FOLLOWED FOR THE ARC-FLASH CALCULATION, STUDIES AND ARC-FLASH LABELS AS THE MAIN STANDARD.

CLIENT:



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** 409 GRANVILLE ST. SUITE 1051

/FR BC V6C 1T2

29 HELMCKEN RD., VICTORIA, BC

ELECTRICAL SPEC (CONT.) SWB & PNL SCHEDULES

NEW CHARGING STATION 800033

## **ELECTRICAL GENERAL NOTES**

- 1. 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
  - 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
- 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.
- 8. 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.
- 10. CIRCUIT ASSIGNMENTS FOR, RECEPTACLES, WIRING DEVICES, AND ELECTRICAL EQUIPMENT ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO THESE DEVICES / EQUIPMENT. PROVIDE
- 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 ACTURAL PANEL DESIGNATION AND CIRCUIT NUMBER, AND PROVIDE AS-BUILT PANEL DIRECTORIES AND DRAWINGS PER SPECIFICATIONS.
- 12. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE, LOCAL BUILDING CODE AND BUILDING MANAGEMENT RULES AND REGULATIONS.
- 13. 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 CUTOUT 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
всн	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
С	CONDUIT	G, GRD	GROUND	SPCP	STAIR PRESSURIZATION SYSTEM
CAT	CATALOG	GC	GENERAL CONTRACTOR		CONTROL PANEL
СВ	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
со	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	МСВ	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	MINEMUM	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**

ONE LINE/RISER DIAGRAM LEGEND

SYMBOL	DESCRIPTION		
Ф <del>Ф</del>	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)		
<b>P</b> #	SHADING FOR DUPLEX OR DOUBLE DUPLEX PER ABOVE INDICATES DEDICATED CIRCUIT		
du	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.		
0	(2) INDICATES DOUBLE-GANG BOX. (F) INDICATES FLOOR RECESSED. (CE) INDICATES CEILING RECESSED. (AFC) INDICATES ABOVE FINISHED CEILING, SURFACE MTD.		
<b>550</b> C3	SURFACE MOUNTED PANELBOARD - SOLID INDICATES NEW, UNSHADED/DASHED INDICATES EXISTING		
Т	DRY TYPE TRANSFORMER - SIZE AS INDICATED ON THE DRAWINGS		
M	ELECTRICAL METER OR SUB-METER AS IDENTIFIED ON THE DRAWINGS		
1 CKT PNL-(#), (#) 2 CKT PNL-(#), (#) 3 CKT PNL-(#), (#)	ONE, TWO, OR THREE HOME RUNS TO ELECTRICAL PANEL 'PNL' - INDICATED PANEL NAME '#' - INDICATES CIRCUIT NUMBER, U.O.N. GROUND BAR		
= ==	GROUND BAR		

SYMBOL	DESCRIPTION			
I)##A/#P	CIRCUIT BREAKER "##A" - INDICATES AMPERAGE RATING "#P" - INDICATES NUMBER OF POLES			
##AS	FUSED DISCONNECT SWITCH "##AS" - INDICATES SWITCH SIZE "##AF" - INDICATES FUSE SIZE			
#A/#P	NON-FUSED DISCONNECT SWITCH "#A" - INDICATES SWITCH SIZE "#P" - INDICATES NUMBER OF POLES			
480A OR 600V 120Y/208V	TRANSFORMER, 480V INDICATES PRIMARY VOLTAGE, 120/208V INDICATES SECONDARY VOLTAGE			
Ţ	GROUNDING CONNECTION			
PANEL PP1	PANELBOARD - REFER TO PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION			

CLIENT:



ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE

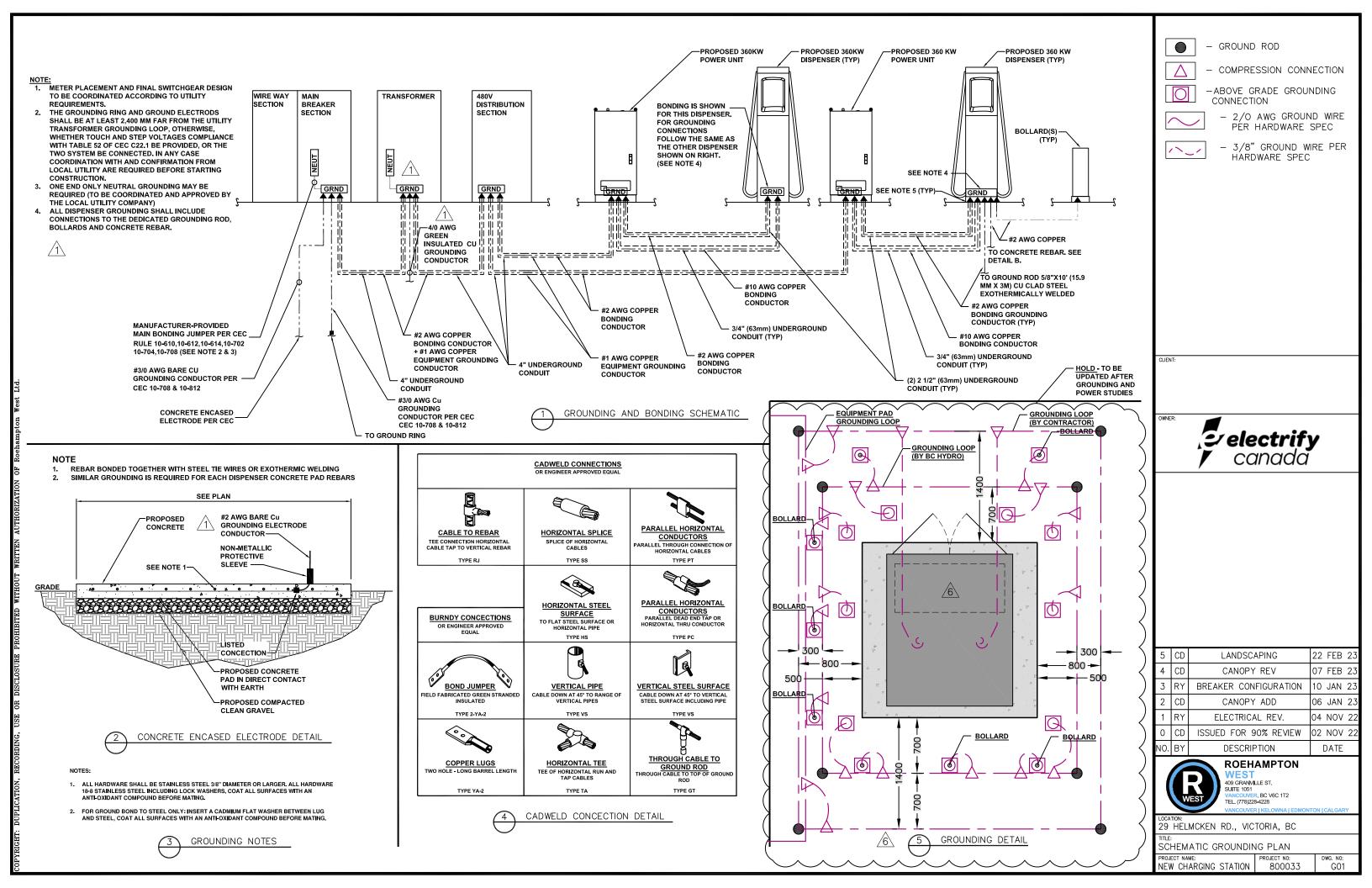


**ROEHAMPTON** 409 GRANVILLE ST. SUITE 1051

29 HELMCKEN RD., VICTORIA, BC

ELECTRICAL GENERAL NOTES

PROJECT NO: 800033 NEW CHARGING STATION



OWNER: ELECTRIFY CANADA

- 2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
- 3. 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
- 4. 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
- 7. 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.
- 8. 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.
- 10. 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.
- 11. THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER
- 12. CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE,
- 13. 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.
- 14. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- 15. 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,
- 16. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION
- 17. THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- 19. 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.
- 20. 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.
- 21. 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.**

- 22. 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.
- 23. 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
- 24. 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.
- 25, 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.
- 26. 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.
- 27. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- 28. 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.
- 29. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- 30. THE CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- 31. 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),
- 32. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
- 33. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION, IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL
- 34. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- 35. 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**

- 1. 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.
- 2. 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.
- 3. 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:
  - A. 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**
  - F. NECB - NATIONAL ENERGY CODE OF CANADA FOR BUILDING
  - G. 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.**

- 5. EXISTING SERVICES: THE CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN
- 6. 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.
- 7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
- 8. 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,
- 9. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER OR ALUMINUM WITH TYPE (RWU90) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
- 10. ALL WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- 11. 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.
- 12. 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 FLECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER, CONTRACTOR SHALL PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
- 13. 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,
- 14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- 15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
- 16. 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.
- 17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK,
- 18. PROVIDE AND INSTALL CONDUIT. CONDUCTORS. PULL WIRES. BOXES. COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
- 19. 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.
- 20. 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.
- 21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- 22. 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.
- 23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
- 24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- 25. 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.
- 26. ALL EXTERIOR AND INTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID UNLESS SPECIFIED OTHERWISE, ALL BURIED CONDUITS SHALL BE SCH 40 RPVC UNLESS SPECIFIED OTHERWISE.
- 27. 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
- 29. 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.

CLIENT:



04 NOV 22 FLECTRICAL REV. ISSUED FOR 90% REVIEW lo2 NOV 22 DESCRIPTION DATE



**ROEHAMPTON** 409 GRANVILLE ST.

ER. BC V6C 1T2 TEL. (778)228-4228

29 HELMCKEN RD., VICTORIA, BC

GENERAL NOTES

NEW CHARGING STATION 800033

DWG. NO: NO1

## **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 REFORE 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 SOLLS 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
- 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
- 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
- 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:

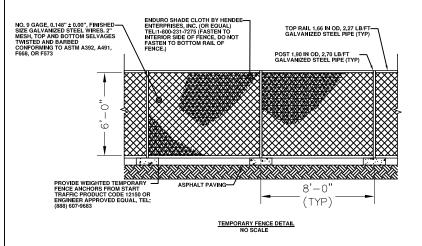
- A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY
- B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN 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.

### 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 TO PREVENT UNAUTHORIZED ENTRY.
- F. NO EQUIPMENT OR MATERIALS SHALL BE STORED OUTSIDE THE TEMPORARY FENCE FOR ANY AMOUNT OF TIME.



CLIENT:



ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



**ROEHAMPTON** 409 GRANVILLE ST. **SUITE 1051** FR BC V6C 1T2

29 HELMCKEN RD., VICTORIA, BC

GENERAL NOTES

NEW CHARGING STATION

PROJECT NO: 800033 DWG. NO: NO2

### **CONCRETE MASONRY NOTES** CONCRETE SIDEWALK CONSTRUCTION REQUIREMENTS **ELECTRICAL NOTES CONT.** 1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE 1. PLACING AND FINISHING CONCRETE 2. N-1, (F'M=1,500 PSI), MEDIUM WEIGHT, (115 PCF) THE CONTRACTOR SHALL PROVIDE ADEQUATE TOOLS AND EQUIPMENT TO PRODUCE QUALITY 3. MORTAR SHALL BE TYPE "S" ABOVE GRADE, TYPE "M" BELOW GRADE CONFORMING TO ASTM C270. WORKMANSHIP IN PLACING AND FINISHING CONCRETE, THE SIDEWALK AND RAMPS SHALL BE FINISHED (MINIMUM 1.800 PSI AT 28 DAYS) TO THE TOP OF THE FORMS AND THE SURFACE FINISHED WITH A WOOD OR STEEL FLOAT AND SURFACE 4. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS CONFORMING TO TEXTURE SHALL BE A COURSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE SIDEWALK OR RAMP. NO "PLASTERING" OF THE SURFACE SHALL BE PERMITTED. 5. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED. THE SIDEWALK SURFACE SHALL BE MARKED OFF INTO NOMINAL SQUARES OF DIMENSION 6. ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS. TO THE WIDTH OF THE SIDEWALK WITH A MAXIMUM DISTANCE BETWEEN JOINTS OF SEVEN FEET 7. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL SAWING JOINTS, THE CONTRACTOR SHALL BEGIN AS SOON AS THE CONCRETE HARDENS SUFFICIENTLY BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT. TO PREVENT EXCESSIVE RAVELING ALONG THE SAW CUT AND SHALL FINISH BEFORE CONDITIONS ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS. INDUCE UNCONTROLLED CRACKS, REGARDLESS OF THE TIME OR WEATHER. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXPANSION JOINTS EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS WHERE THE SIDEWALK ABUTS EXISTING EXCESS OF 4'-0" OF HEIGHT. 10. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR. CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES, AND EVERY TWO HUNDRED FIFTY FEET 11. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE. AND AS SHOWN ON APPROVED PLANS. EXPANSION JOINTS SHALL BE FORMED WITH ONE-HALF. 12. 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 13. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS. 14. LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET. **ANCHORAGE INSTALLATION NOTES** 15. HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104 OF IBC. 1. DRILLING THROUGH EXISTING SLAB REBAR DURING POST-INSTALLED ANCHOR BOLTS INSTALLATION 16. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE IS NOT PERMITTED. DRAWINGS OR SPECIFICATIONS. 2. POST-INSTALLED ANCHOR BOLT INSTALLATION SHALL BE PERFORMED BY PERSONNEL TRAINED TO 17. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CELLS INSTALL THE SYSTEM PER THE MANUFACTURER'S PRINTED INSTALL ATION INSTRUCTIONS (MPII) AS CONTAINING REINFORCING STEEL. INCLUDED IN THE ANCHOR PACKAGING. 18. REFER TO DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE. EXPANSION AND ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S 19. AND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, INSTRUCTIONS USING STANDARD EMBEDMENT AND EDGE DISTANCES UNLESS NOTED OTHERWISE SHALE, ALKALI OR ORGANIC MATERIAL. ON THE DRAWINGS. 20. ALL MORTAR FIN OBSTRUCTIONS AND DEBRIS SHALL BE CLEANED FROM INSIDE OF CELLS PRIOR TO GROUTING. STRUCTURAL STEEL NOTES **GROUNDING NOTES** STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS. UNLESS NOTED 1. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. OTHERWISE: WIDE FLANGE SHAPE: A992, 50KSI 2. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL. ANGLE AND CHANNEL SHAPE: ASTM A36, 36 KSI PLATE: ASTM A36, 36KSI COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. PIPE: ASTM A53 GRADE B, 35 KSI ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS). HSS: ASTM A500 GRADE B. 46KSI 4. ALL BELOW GRADE BONDS TO BE EXOTHERMIC WELDS OR IRREVERSIBLE COMPRESSION-TYPE HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325: ONE HIGH-STRENGTH BOLT ASSEMBLY SHALL CONNECTIONS LISTED FOR USE IN THE APPLICATION WHICH THEY ARE INSTALLED. CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY NUT, A HARDENED WASHER CONFORMING TO **DATA NETWORK NOTES** 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 USE CABLE WITH THE FOLLOWING MINIMUM PROPERTIES: WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE 1. HIGH TENSILE STRENGTH > 150 LB COMPATIBLE WITH THE WELDING PROCESS SELECTED, WELDERS SHALL BE QUALIFIED AS PRESCRIBED 2. TIGHT BUFFERED 3. INDOOR / OUTDOOR UV AND MOISTURE RESISTANT "RISER" CABLE UNLESS NOTED OTHERWISE ON THE DRAWING, ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 4. CONNECT TYPE : ST-ST WITH HEAVY HEXAGONAL NUT. 5. FIBER TYPE: MULTIMODE 6-FIBER (3 PAIR) 62.4UM. 6 CONNECTORS ON BOTH ENDS. FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION. JACKET : INDOOR / OUTDOOR RISER, BLACK ALL EXPOSED STRUCTURAL STEEL AND BOLTS SHALL BE HOT DIP GALVANIZED PER ASTM A123. BREAKOUT: SUBMIT FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL a. SIDE A: INNER END - 24 INCHES WITH 2MM FURCATION DESIGNATIONS, AND TOP STEEL ELEVATIONS FOR APPROVAL. THE SHOP DRAWINGS WILL BE REVIEWED b. SIDE B : OUTER END - 24 INCHES WITH 2MM FURCATION - STAGGERED EVERY 1" FOR GENERAL CONFORMANCE TO THE CONTRACT DRAWINGS. SUCH APPROVAL SHALL NOT RELIEVE 8. WITH PULLING EYE ON SIDE B (OUTER END) AND SPOOL REEL

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

PRIMER SHALL BE RED OXIDE-CHROMATE PRIME COMPLYING WITH STEEL STRUCTURES PAINTING

BE ASSEMBLED IN THE FIELD.

COUNCIL (SSPC) PAINT SPECIFICATION NUMBER 11

30. 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". 31. WHEN DIRECTIONAL BORING IS REQUIRED, CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
- 32. ALL BOLTS SHALL BE STAINLESS STEEL.
- 33. ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE CONTRACTOR SHOULD BE NEW AND UNUSED
- 34. 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.
- 35. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ANY SPECIFIC MANUFACTURER'S INSTRUCTIONS IN ADDITION TO THE MINIMUM CANADIAN ELECTRICAL CODE REQUIREMENTS, BUI E 2-034.
- 36. 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. BUILE 2-100(3).
- 37. 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,
- 38. 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#.
- 39. 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 INSTALLED IN SUCH A WAY THAT MOISTURE AND GAS WILL NOT ENTER THE BUILDING. RULE

- 40. 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.
- 41. 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:



ELECTRICAL REV. 04 NOV 22 ISSUED FOR 90% REVIEW 02 NOV 2 DESCRIPTION DATE



**ROEHAMPTON** 409 GRANVILLE ST. **SUITE 1051** FR BC V6C 1T2

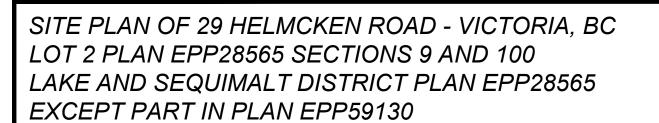
29 HELMCKEN RD., VICTORIA, BC

GENERAL NOTES

NEW CHARGING STATION

DWG. NO: NO3

PROJECT NO: 800033



PID: 029-246-539

CLIENT: ELECTRIFY AMERICA LLC

CIVIC ADDRESS: 29 HELMCKEN ROAD, VICTORIA, BC

ZONING: CD-20

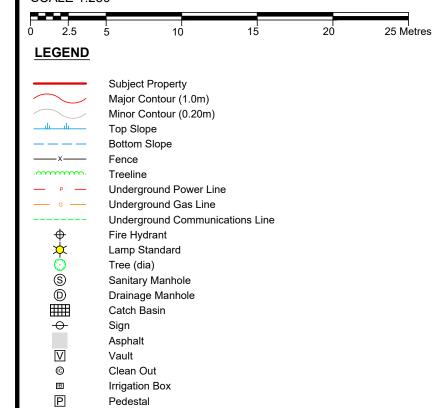
SITE IS OUTSIDE OF 100 YEAR FLOODPLAIN.

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.

# SCALE 1:250

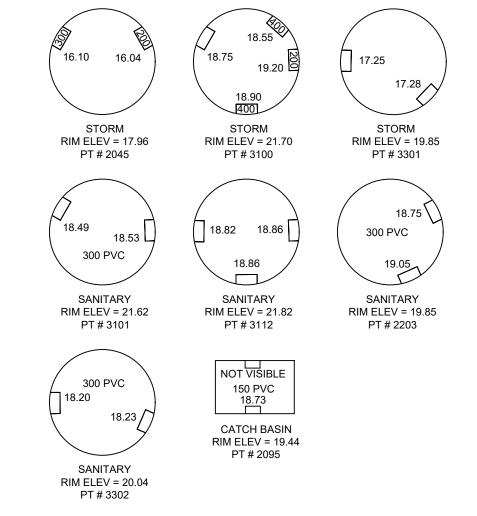


Control Point Table				
Point #	Northing	Easting	Elevation	Description
104	5368294.786	468356.080	19.32	SPIKE
105	5368435.963	468280.696	19.95	SPIKE
106	5368456.841	468346.260	21.79	SPIKE
107	5368321.601	468404.350	19.92	SPIKE

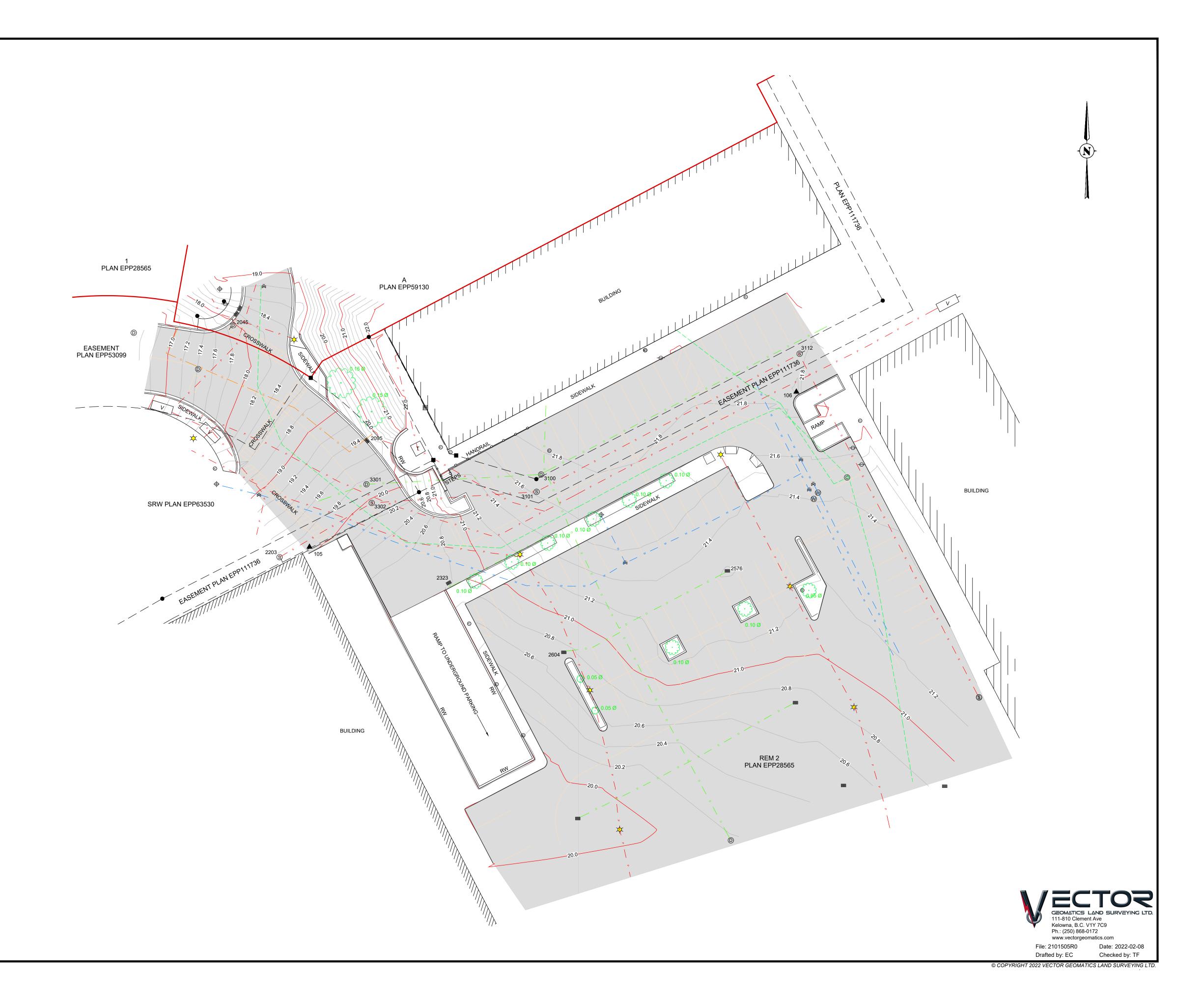
Transformer

Placed Spike Retaining Wall

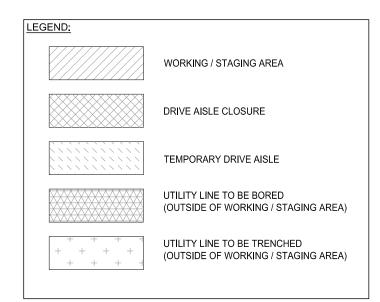
Found Standard Lead Plug Found Standard Iron Post

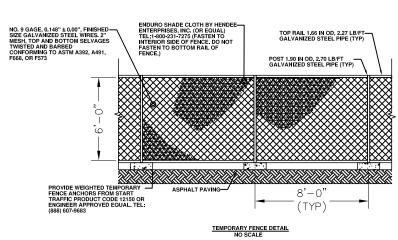


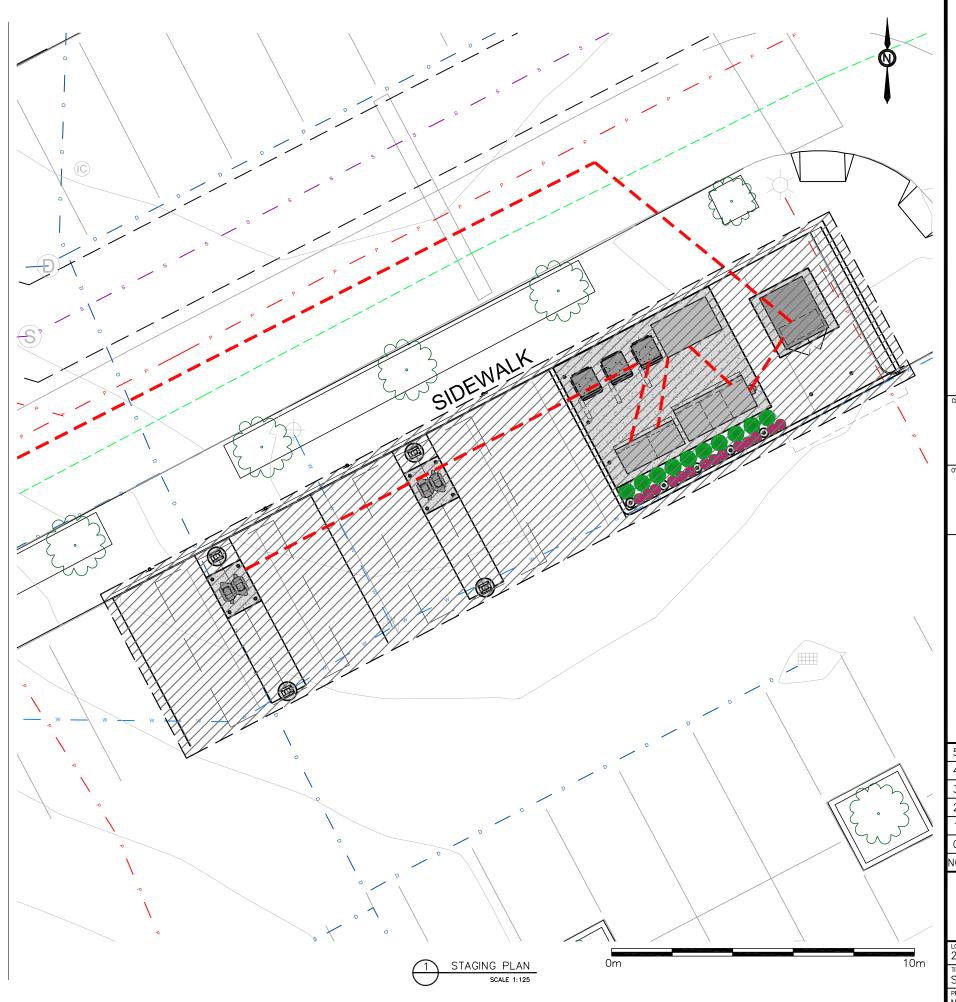
CALL BEFORE YOU DIG. THE LOCATION OF THE UNDERGROUND FACILITIES ARE APPROXIMATE ONLY.
THIS PLAN WAS PREPARED FOR DESIGN PURPOSES AND IS FOR THE EXCLUSIVE USE OF OUR CLIENT. BOUNDARIES SHOWN ARE SUBJECT TO CHANGE WITH LEGAL SURVEY. VECTOR GEOMATICS LAND SURVEYING LTD. ACCEPTS NO RESPONSIBILITY OR LIABILITY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



- 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 LINATTENDED.
- 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
- F. NO EQUIPMENT OR MATERIALS SHALL BE STORED OUTSIDE THE TEMPORARY FENCE FOR ANY AMOUNT OF TIME.







CLIENT:

electrify canada

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

409 GRANVILLE ST, SUITE 1051 VANCOUVER, BC V6C 1T2 TEL. (778)228-4228 VANCOUVER | KELOWNA | EDI

29 HELMCKEN RD., VICTORIA, BC

TITLE: STAGING PLAN

PROJECT NAME: PROJECT NEW CHARGING STATION 800

PROJECT NO: DWG. N -