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LEGEND

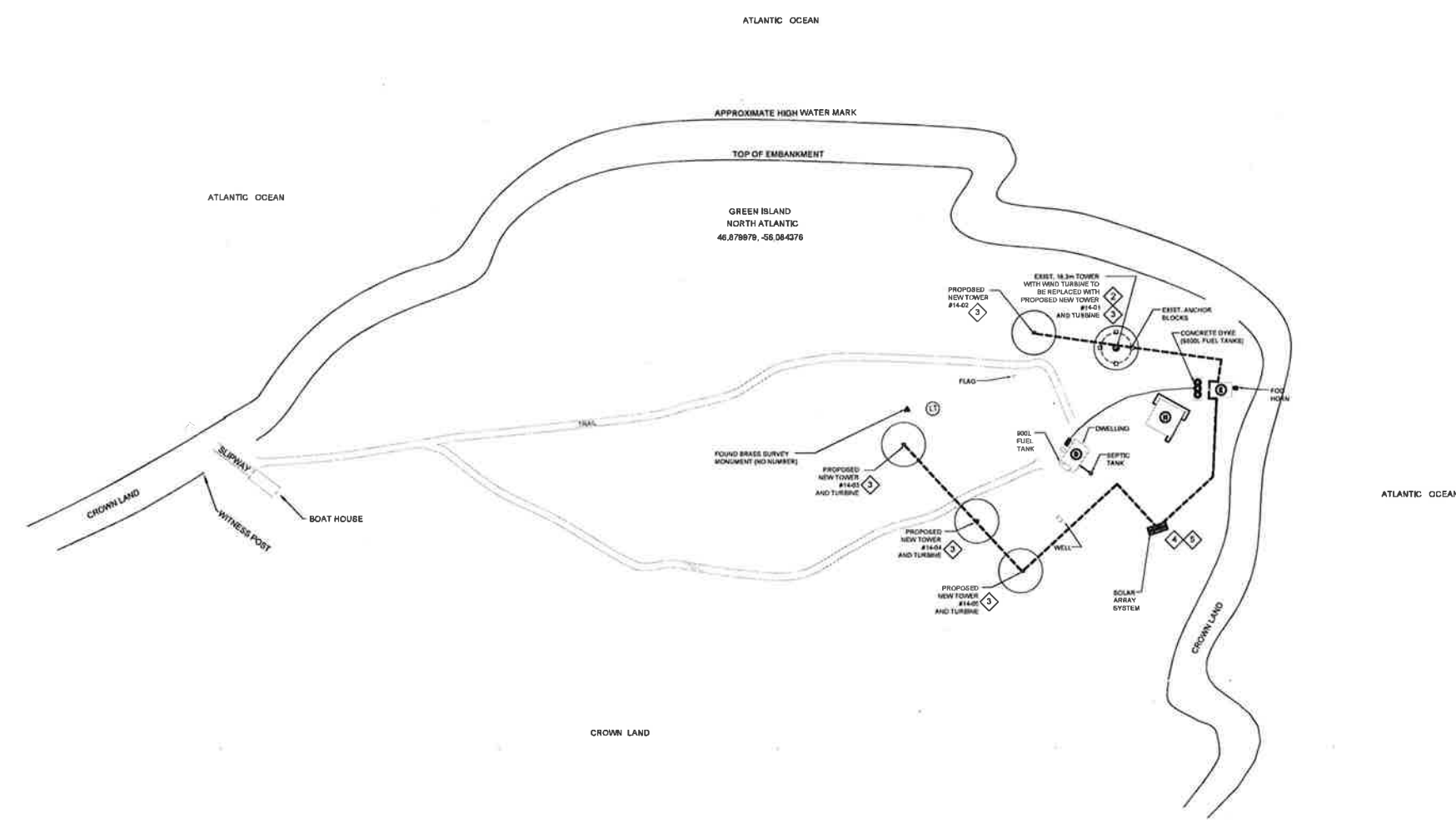
- NEW 152mm CABLE TRAY ROUTING
- (H) HELICOPTER PAD
- (D) DWELLING UNIT
- (E) EQUIPMENT BUILDING
- (T) LIGHT TOWER
- POWER PANEL

SINGLE LINE DIAGRAM

- FUSED DISCONNECT SWITCH
- DISCONNECT SWITCH
- BREAKER

ABBREVIATIONS

- E INDICATES EXISTING TO REMAIN
- X INDICATES EXISTING TO BE REMOVED
- N INDICATES NEW TO BE INSTALLED
- O INDICATES OWNER SUPPLIED EQUIPMENT TO BE INSTALLED



1 ELECTRICAL SITE PLAN
 E-G-01 SCALE: 1:1000
 SCALE: 1:1000
 0m 10m 20m 30m 40m 50m 60m 70m 80m 90m 100m

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PERMIT HOLDER
 This Permit Allows
STANTEC CONSULTING LTD.
 To provide Professional Engineering
 In Newfoundland and Labrador.
 Permit No. as issued by PEG 20211
 valid for the year 2014.

BRIAN G. GRAY
 2 Apr 2014
 REGISTRAR OF ENGINEERS & LAND SURVEYORS

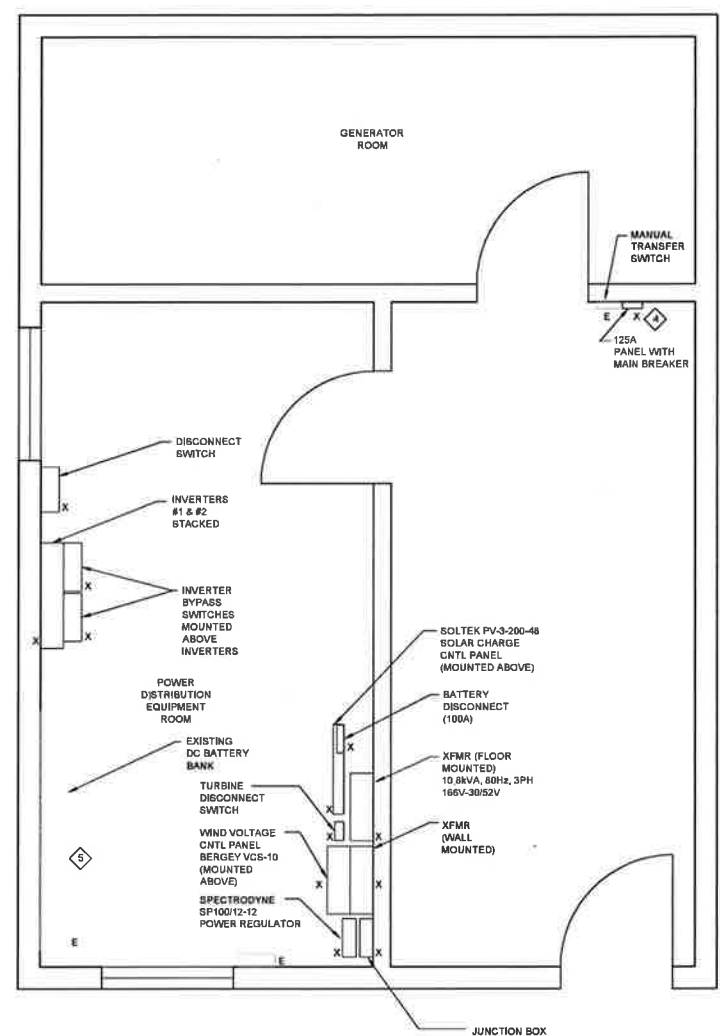
ISSUED FOR TENDER	03/31/2015
REVISED	DATE
PROJECT	WIND POWER REPLACEMENT GREEN ISLAND FORTUNE BAY, NL

GREEN ISLAND ELECTRICAL SITE PLAN

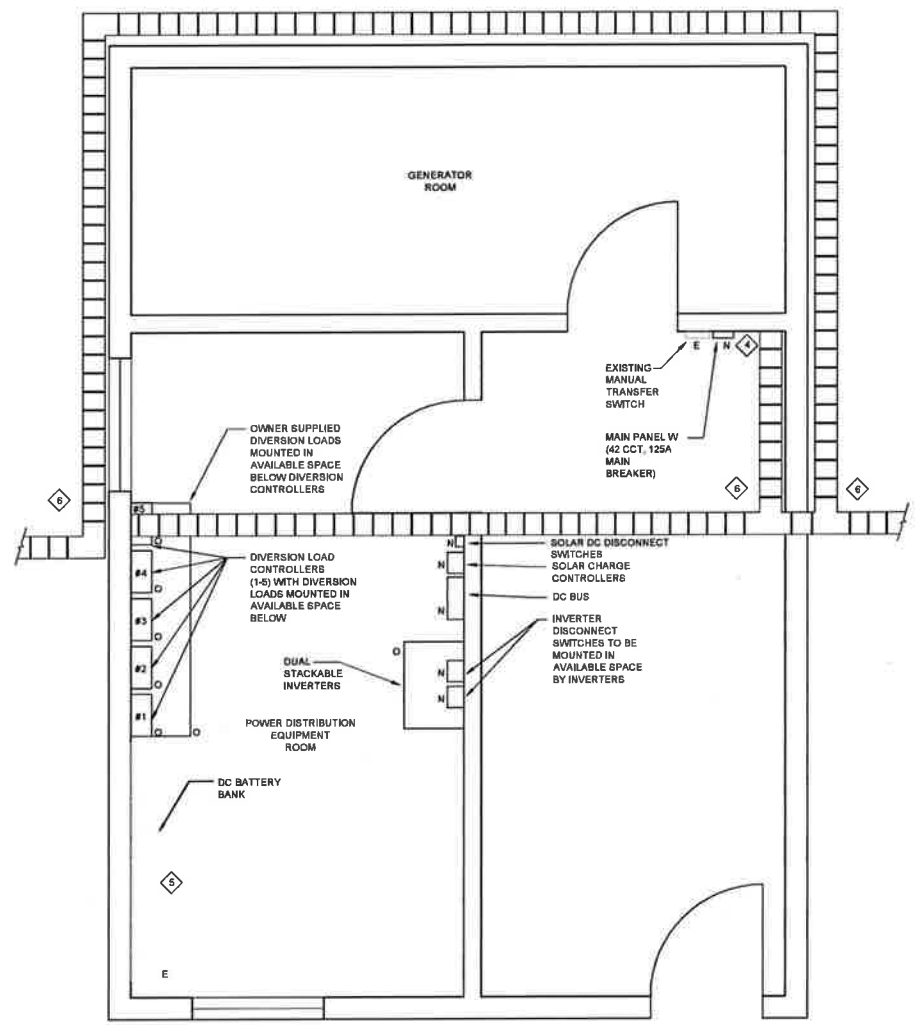
DESIGNED BY	R.S.D.	CHECKED BY	
DATE	APR. 2, 2014	DESIGNED BY	J.L.T.
DATE	APR. 2, 2014	APPROVED BY	R.M.D.
DATE	APR. 2, 2014	DATE	APR. 2, 2014
DESIGNED BY	ANDREW TEMPLE	DATE	APR. 2, 2014
PROJECT NUMBER	133430024	NO. DE DISEÑO	E-G-01

- ELECTRICAL GENERAL NOTES**
- ALL DRAWINGS IN THIS PACKAGE ARE TO BE READ IN CONJUNCTION WITH THE DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES.
 - ALL WORK UNDER THIS SCOPE SHALL COMPLY WITH THE NATIONAL BUILDING CODE, 2010 AND THE CANADIAN ELECTRICAL CODE, 2015 EDITION.
 - ELECTRICAL CONTRACTOR SHALL VERIFY NAME PLATE RATINGS OF ALL NEW EQUIPMENT PRIOR TO INSTALLATION AND REPORT ANY CONFLICTS OR DISCREPANCIES TO ENGINEER. VERIFY CONDUCTOR SIZES AS PER MANUFACTURER'S RECOMMENDATIONS.
 - ALL WIRING INDICATED ON DRAWINGS HAS BEEN SIZED FOR Cu.
 - ALL CONDUCTORS SHALL BE TECK90, UNLESS NOTED OTHERWISE.
 - COORDINATE FINAL INSTALLATION LOCATION OF ELECTRICAL EQUIPMENT AND DEVICES ON SITE WITH OWNER'S REPRESENTATIVE AND ALL OTHER ASSOCIATED TRADES.
 - ALL WIRING OR CONDUIT RUNS INDICATED ON DRAWINGS ARE DIAGRAMMATIC ONLY. COORDINATE EXACT RACEWAY LOCATIONS ON SITE. CONTRACTOR TO TRACE ALL SCOPE RELATED EXISTING CIRCUITS TO DETERMINE THE SOURCE PRIOR TO ANY DEMOLITION, RELOCATION OR INSTALLATION.
 - ELECTRICAL CONTRACTOR SHALL SEAL ALL PENETRATIONS CREATED BY NEW INSTALLATIONS OR REMAINING FROM REMOVALS OF EXISTING EQUIPMENT.
 - AVOID SCALING FROM DRAWINGS. WHENEVER POSSIBLE EXACT DIMENSIONS SHALL BE VERIFIED ON SITE.
 - DRAWINGS DO NOT SHOW ALL 'EXISTING TO REMAIN' SERVICES. TAKE PRECAUTIONS NOT TO DISRUPT ANY 'EXISTING TO REMAIN' SERVICES DURING CONSTRUCTION.

- ELECTRICAL KEY NOTES**
- ◇ COORDINATE ALL EQUIPMENT REMOVAL AND INSTALLATION WITH STRUCTURAL CONTRACTOR.
 - ◇ EXISTING WIND TOWER AND TURBINE TO BE REMOVED. COMPLETE WITH CABLING BACK TO SOURCE. RETURN TURBINE AND TOWER COMPLETE WITH ALL HARDWARE TO OWNER.
 - ◇ NEW WIND TURBINES AND TOWERS SHALL BE MOUNTED IN APPROXIMATE LOCATIONS SHOWN. COORDINATE WITH STRUCTURAL. NEW TOWERS TO BE PROVIDED BY OWNER.
 - ◇ PROVIDE CABLE TRAY AND SECURE TO ROCK EVERY 3 METERS. REFER TO DETAIL 3, ON DRAWING E-G-02. COORDINATE EXACT ROUTING ON SITE AND PROVIDE ONE PENETRATION TO THE BUILDING AS INDICATED.
 - ◇ PROVIDE CABLES FROM WIND TURBINES. INSTALL CABLES IN TRAY. REFER TO CABLE TRAY SPECIFICATIONS.



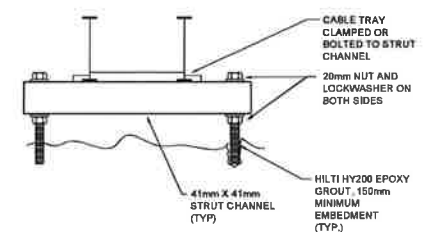
1 EQUIPMENT BUILDING DEMO PLAN
E-G-02 SCALE: N.T.S.



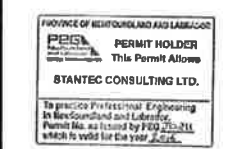
2 EQUIPMENT BUILDING PROPOSED PLAN
E-G-02 SCALE: N.T.S.

ELECTRICAL KEY NOTES

- 1 EXISTING EQUIPMENT FOR WIND POWER DISTRIBUTION SHALL BE REMOVED CW ALL ASSOCIATED CABLE AND CONDUIT. RETURN EQUIPMENT TO OWNER.
- 2 INSTALL AND CONNECT NEW / OWNER SUPPLIED WIND POWER DISTRIBUTION EQUIPMENT.
- 3 PROVIDE ALL CABLE AND EQUIPMENT REQUIRED TO ENSURE A COMPLETE INSTALLATION. REFER TO SINGLE LINE DIAGRAM ON DRAWING E-G-03 FOR CABLE SIZES.
- 4 EXISTING PANEL MOUNTED ADJACENT TO MANUAL TRANSFER SWITCH SHALL BE REPLACED BY NEW PANEL W IN SAME LOCATION. REFER TO SINGLE LINE DIAGRAM ON DRAWING E-G-03.
- 5 EXISTING BATTERIES SHALL REMAIN. CONNECT TO NEW WIND EQUIPMENT AS PER THE SINGLE LINE DIAGRAM ON DRAWING E-G-03.
- 6 PROVIDE EXTERIOR CABLE TRAY AS PER DRAWING E-G-01. CONTINUE ROUTING TRAY INSIDE EQUIPMENT BUILDING AS INDICATED ON DETAIL 2. SEAL WALL PENETRATIONS WITH FIRE STOPPING. PROVIDE WEATHERPROOFING FOR EXTERIOR WALL PENETRATION.



3 CABLE TRAY MOUNTING DETAIL
E-G-02 SCALE: N.T.S.



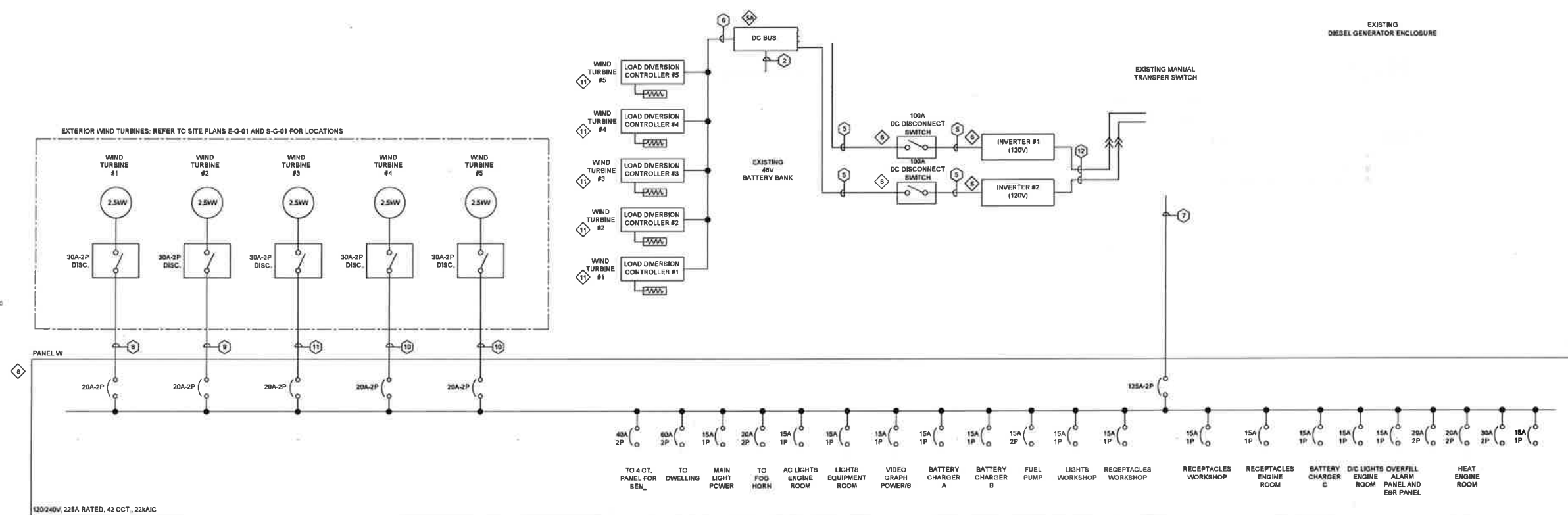
ISSUED FOR TENDER	03/31 2015
revision	date

PROJECT
WIND POWER REPLACEMENT GREEN ISLAND FORTUNE BAY, NL

DRAWING
GREEN ISLAND EQUIPMENT BUILDING ELECTRICAL PLANS AND DETAILS

designed	R.M.D.	checked	
date	APR. 2, 2014		
drawn	J.L.T.	approved	
date	APR. 2, 2014		
approved	R.M.D.	approved	
date	APR. 2, 2014		
title	ANDREW TEMPLE	date	APR. 2, 2014
PROJECT Manager	Administrateur de projet TRSBC		
project number	133430024		
drawing no.	E-G-02		

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120/240V, 225A RATED, 42 CCT., 228AIC

1 GREEN ISLAND SINGLE LINE DIAGRAM
E-G-03 N.T.S.

FEEDER NO.	FEEDER SIZE
2	2 x [2C #3/0 AWG TECK90]
5	2C#2/0 TECK90
6	2C#4 TECK90
7	3C#1 TECK90
8	3C#10 TECK90
9	3C#6 TECK90
10	3C#6 TECK90
11	3C#4 TECK90
12	2C #1 TECK90

- ELECTRICAL KEY NOTES**
- 5 PROVIDE SOLAR CHARGE CONTROLLER, MORNINGSTAR TS-MPPT-60 OR EQUIVALENT. MOUNT IN DISTRIBUTION EQUIPMENT ROOM. REFER TO DRAWING E-G-02.
 - 6 PROVIDE SINGLE PHASE, 400A RATED, 2 BUS SPLITTER BOX FOR DC BUS. CONNECT TO EXISTING BATTERY BANK AS INDICATED.
 - 7 PROVIDE DC DISCONNECT SWITCHES RATED FOR 100A. INSTALL INVERTERS, PROVIDED BY OTHERS, AND DISCONNECT SWITCHES IN EQUIPMENT ROOM AS INDICATED ON LAYOUT DRAWING E-G-02.
 - 8 NOT USED.
 - 9 PROVIDE DISTRIBUTION PANEL AS PER SPECIFICATIONS AND SINGLE LINE DIAGRAM, DETAIL 1.
 - 10 PROVIDE CABLES, SIZED AS INDICATED. FINAL CABLE SIZES SHALL BE VERIFIED UPON CONFIRMATION OF EQUIPMENT SELECTION BY OWNER.
 - 11 ENSURE PROPER COORDINATION AND CONNECTION OF WIND TURBINES, DIVERSION CONTROLLER, AND DIVERSION LOAD THERMAL SENSORS IN ORDER TO GUARANTEE THE TURBINES WILL COME TO A STOP AS REQUIRED. REFER TO MANUFACTURER'S INSTRUCTIONS AND CONSULT MANUFACTURER OR ENGINEER AS REQUIRED.
 - 12 INSTALL LOAD DIVERSION CONTROLLERS WITHIN 8m OF DC BUS.

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PERMIT HOLDER
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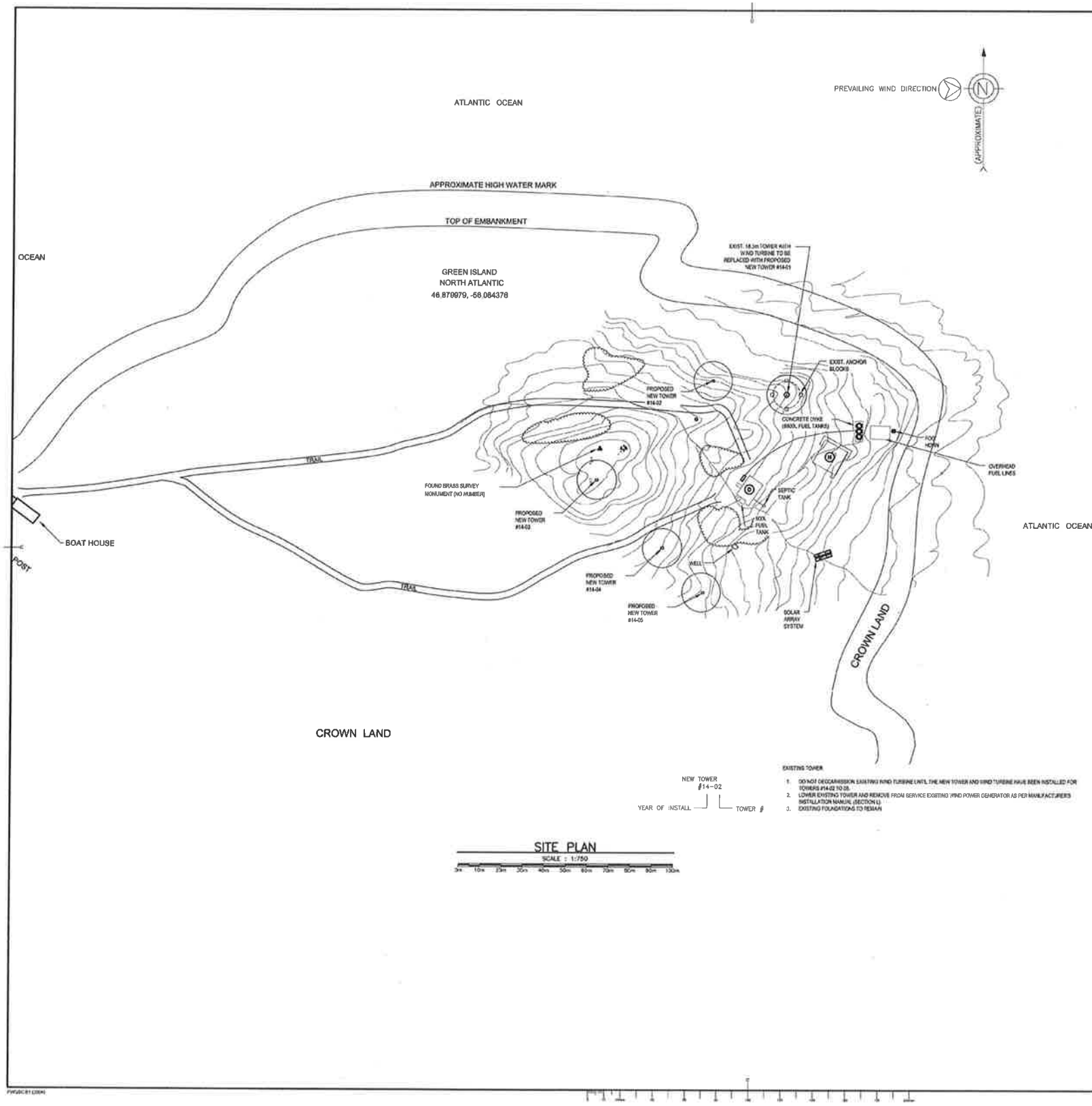


0	ISSUED FOR TENDER	04/03/2015
revisions		date

project
WIND POWER REPLACEMENT GREEN ISLAND FORTUNE BAY, NL

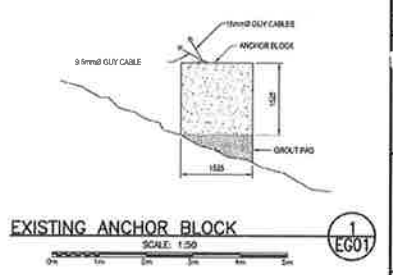
drawing
GREEN ISLAND SINGLE LINE DIAGRAM

designed	R.M.D.	checked	
date	APR. 2, 2014		
drawn	J.L.T.	described	
date	APR. 2, 2014		
approved	R.M.D.	approved	
date	APR. 2, 2014		
title	ANDREW TEMPLE	date	APR. 2, 2014
project number	133430024	no. of pages	
drawing no.	E-G-03	no. of sheets	



- GENERAL NOTES:**
- DO NOT SCALE THESE DRAWINGS FOR THE PURPOSE OF CONSTRUCTION. USE PROVIDED DIMENSIONS AS SHOWN.
 - ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL BUILDING CODE OF CANADA 2015 EDITION.
 - ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ELECTRICAL DRAWINGS AND SPECIFICATIONS.
 - CONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, ETC., IN FIELD AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION OR SHOP DRAWINGS.
 - THE DRAWINGS ARE INTENDED TO REQUIRE AND TO INCLUDE ALL LABOUR, MATERIAL AND EQUIPMENT NEEDED FOR THE WORK.
 - ALL WORK SHALL CONFORM WITH ALL LOCAL, PROVINCIAL AND NATIONAL CODES AND REQUIREMENTS.
 - THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND SAFETY PROCEDURES. THE OWNER SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR THEIR AGENTS OR EMPLOYEES OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
 - ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEWFOUNDLAND AND LABRADOR OCCUPATIONAL HEALTH AND SAFETY ACT (OHS) AND ALL APPLICABLE SAFETY REQUIREMENTS INCLUDING THE USE OF SAFETY GLASSES, HARD HATS, AND PROTECTION OF AREA WHEN WORKING OVERHEAD. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CONSTRUCTION SAFETY AT ALL TIMES.
 - COORDINATE WORK OF ALL DISCIPLINES (STRUCT., ELECT., ETC.) WITH EXISTING CONDITIONS, SPECIAL REQUIREMENTS, CONSTRUCTION SCHEDULE AND OTHER CONTRACTOR PERFORMANCE OBLIGATIONS AT THE SITE.
 - THE CONTRACTOR SHALL DESIGN AND PROVIDE ANY TEMPORARY BRACING, BRACING, ETC., AS NEEDED FOR THE WORK SO AS NOT TO ENDANGER THE STRUCTURAL INTEGRITY OF ANY EXISTING FEATURE.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE DONE TO EXISTING FEATURES AS A RESULT OF THE WORK. DAMAGED ITEMS SHALL BE REPLACED IN KIND AND AT NO ADDITIONAL COST TO THE OWNER.
 - SHOP DRAWINGS, REPRODUCTION OF DESIGN DRAWINGS SHALL NOT BE PERMITTED FOR SHOP DRAWING SUBMISSIONS. THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER SHALL REVIEW AND PROVIDE REVIEW STAMP ON SHOP DRAWING SUBMISSIONS PRIOR TO SUBMITTAL TO ENGINEER INDICATING UNDERSTANDING AND ACCEPTANCE OF SUBMITTAL AND CONFIRMING CONFORMANCE TO PROJECT PLANS/SPECIFICATIONS.

- CONCRETE NOTES:**
- CONCRETE SPECIFICATIONS
CONCRETE STRENGTH - 28 MPa AT 28 DAYS
AIR ENTRAINMENT - 1% ± 0.1%
MAX WATER TO CEMENT RATIO - 0.45
 - REFER TO WIND TURBINE PERFORMANCE SPECIFICATION FOR GREEN ISLAND FOR FULL FOUNDATION REQUIREMENTS
 - THE CANADIAN STANDARDS ASSOCIATION (CAN) CAN 311 LATEST EDITION CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION SHALL APPLY AND BE ADHERED TO.
 - CONCRETE REINFORCEMENT SHALL BE EXPRESSED DATE CONFORMING TO CURRENT CSA SPECIFICATIONS FOR 18M LATEST EDITION ALL REINFORCING STEEL TO BE SAME YIELD STRENGTH
 - ALL REINFORCING STEEL SHALL HAVE A PROTECTION OF CONCRETE NOT LESS THAN THE FOLLOWING:
AT GROUND CONTACT SURFACES WHEN CONCRETE IS EXPOSED AGAINST THE GROUND - 75mm
AT FORMED SURFACES EXPOSED TO GROUND OR WEATHER AFTER REMOVAL OF FORMS - 50mm
AT SURFACES NOT EXPOSED DIRECTLY TO GROUND OR WEATHER - 25mm
 - CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO BEGINNING WORK.
 - ALL EXISTING CONCRETE SURFACES IN CONTACT WITH NEW CONCRETE OR GROUT SHALL BE SUBMERGED AND HAVE SHOULD 21 HR 400 BONDING AGENT APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 - ALL EMBEDDED METALS SHALL BE FREE OF GREASE OR ANY AGENT THAT MAY INHIBIT ITS BOND WITH THE CONCRETE. ALL EMBEDDED METALS SHALL BE IN PLACE PRIOR TO POURING THE CONCRETE.
 - CONCRETE TEMPERATURE TO REMAIN AT 10°C OR HIGHER FOR A MINIMUM OF 7 DAYS. INSULATED TARPS OR PORTABLE HEATERS MAY BE USED TO MAINTAIN REQUIRED TEMPERATURE.



Public Works and Government Services Canada / Travaux Publics et Services Gouvernement du Canada

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LEGEND

- (H) PRESSURE TREATED HELICOPTER PAD
- (D) OVERLAND UNIT
- (L) LIGHT TOWER
- (S) SHELTER

ISSUED FOR CONSTRUCTION 03/10/2015

WIND POWER REPLACEMENT GREEN ISLAND FORTUNE BAY, NL

GREEN ISLAND SITE PLAN

Prepared: W.J.P.	Scale: APR. 23, 2014
Checked: N.B.Y.	Scale: APR. 23, 2014
Reviewed: W.J.P.	Scale: APR. 23, 2014
Author: ANDREW TEMPLE	Scale: APR. 23, 2014
Project Number: 133430024	Scale: APR. 23, 2014
Sheet Number: S-G-01	Scale: APR. 23, 2014