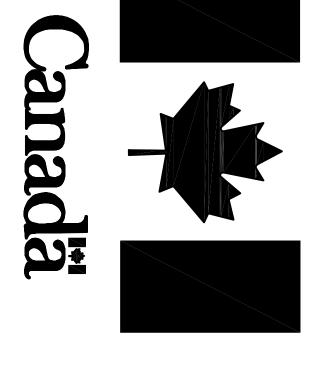
FISHERIES AND OCEANS



BUILDING DEMOLITION AND RECONSTRUCTION

BEAR COVE POINT LIGHTSTATION, RENEWS, NL

PROJECT NO.: F6879-184003 ISSUED FOR TENDER

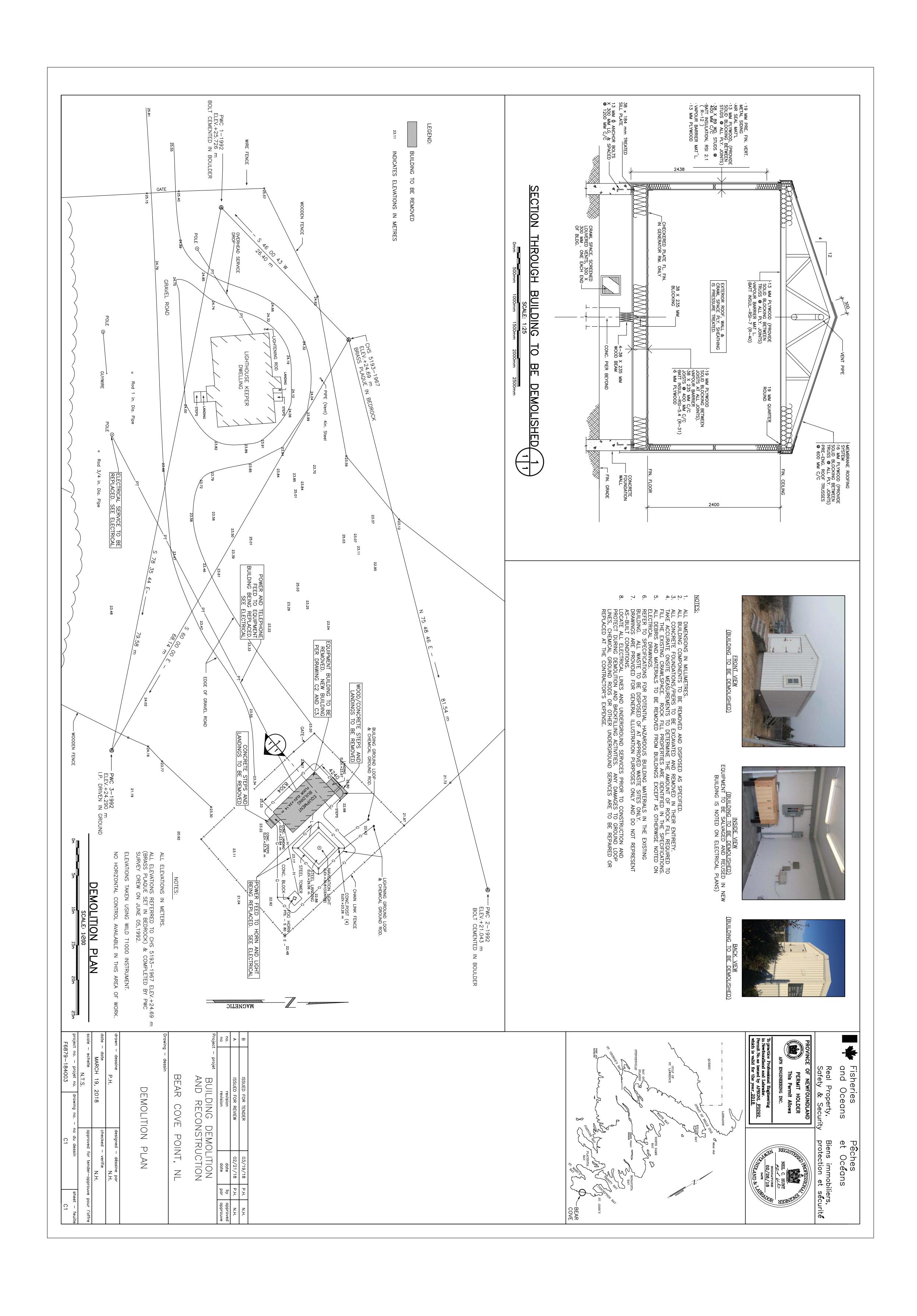
DATE: MARCH 19, 2018

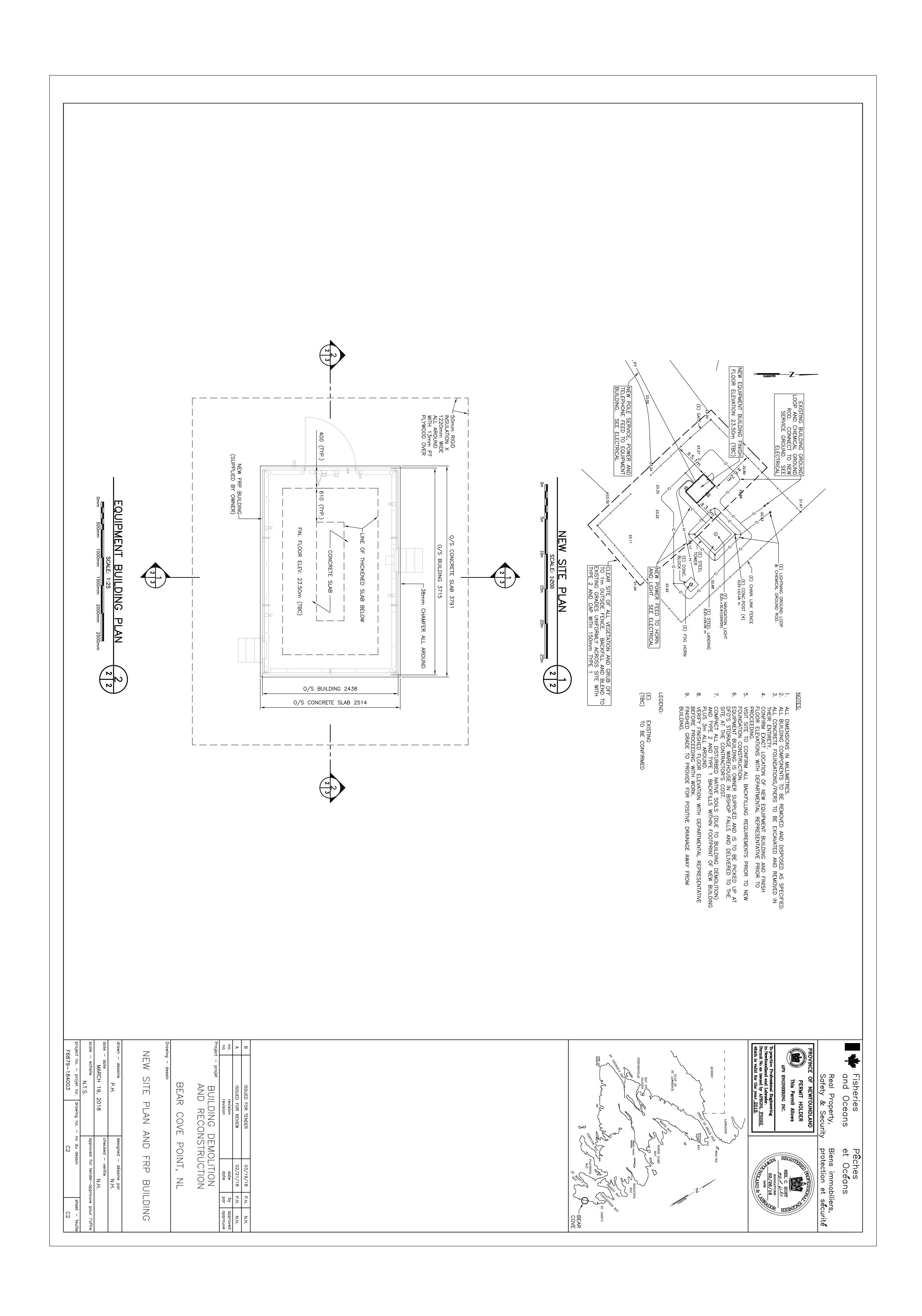
CLIENT/OWNER:
DEPARTMENT OF FISHERIES & OCEANS,
REAL PROPERTY, SAFETY & SECURITY

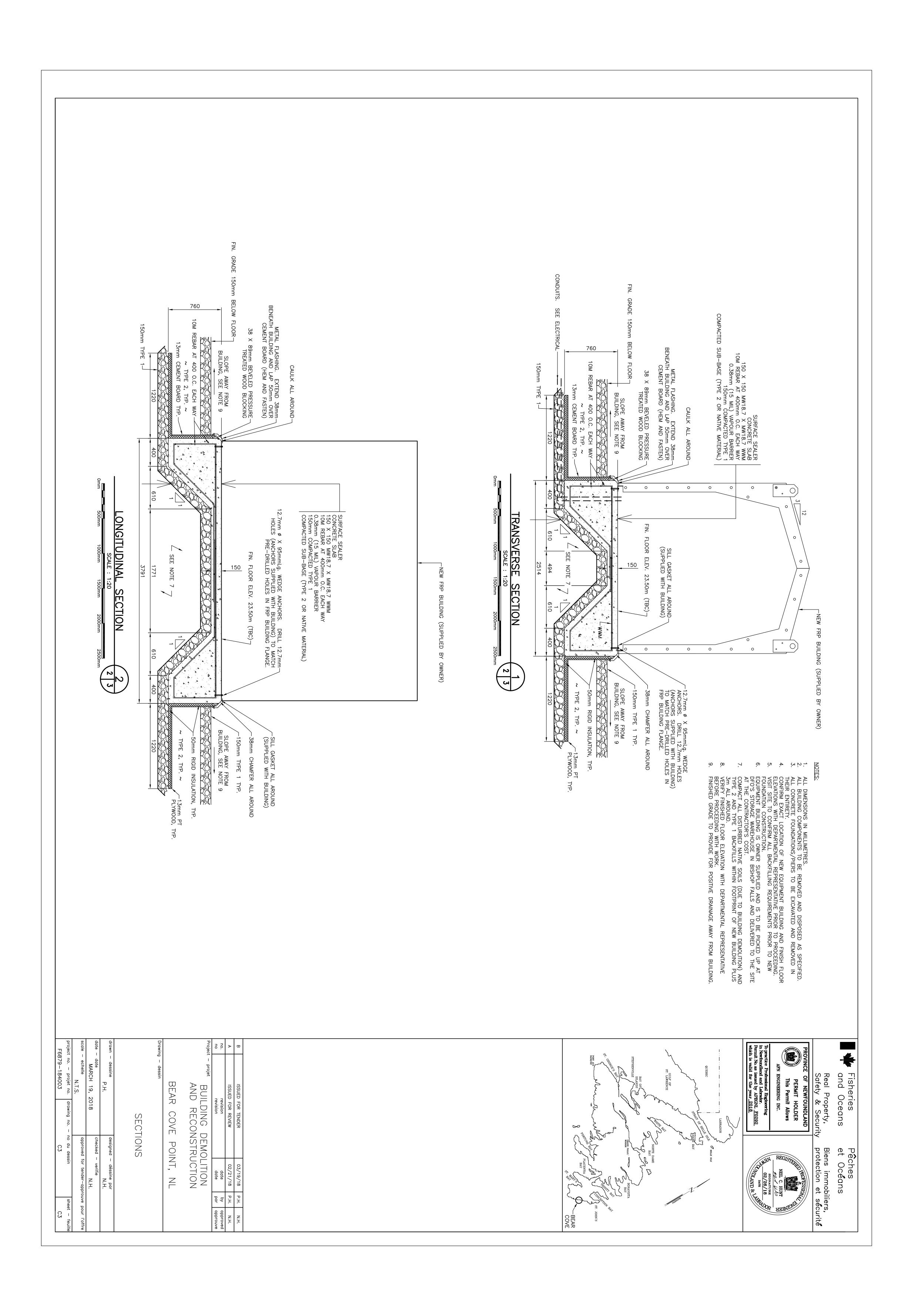
PRIME CONSULTANTS:

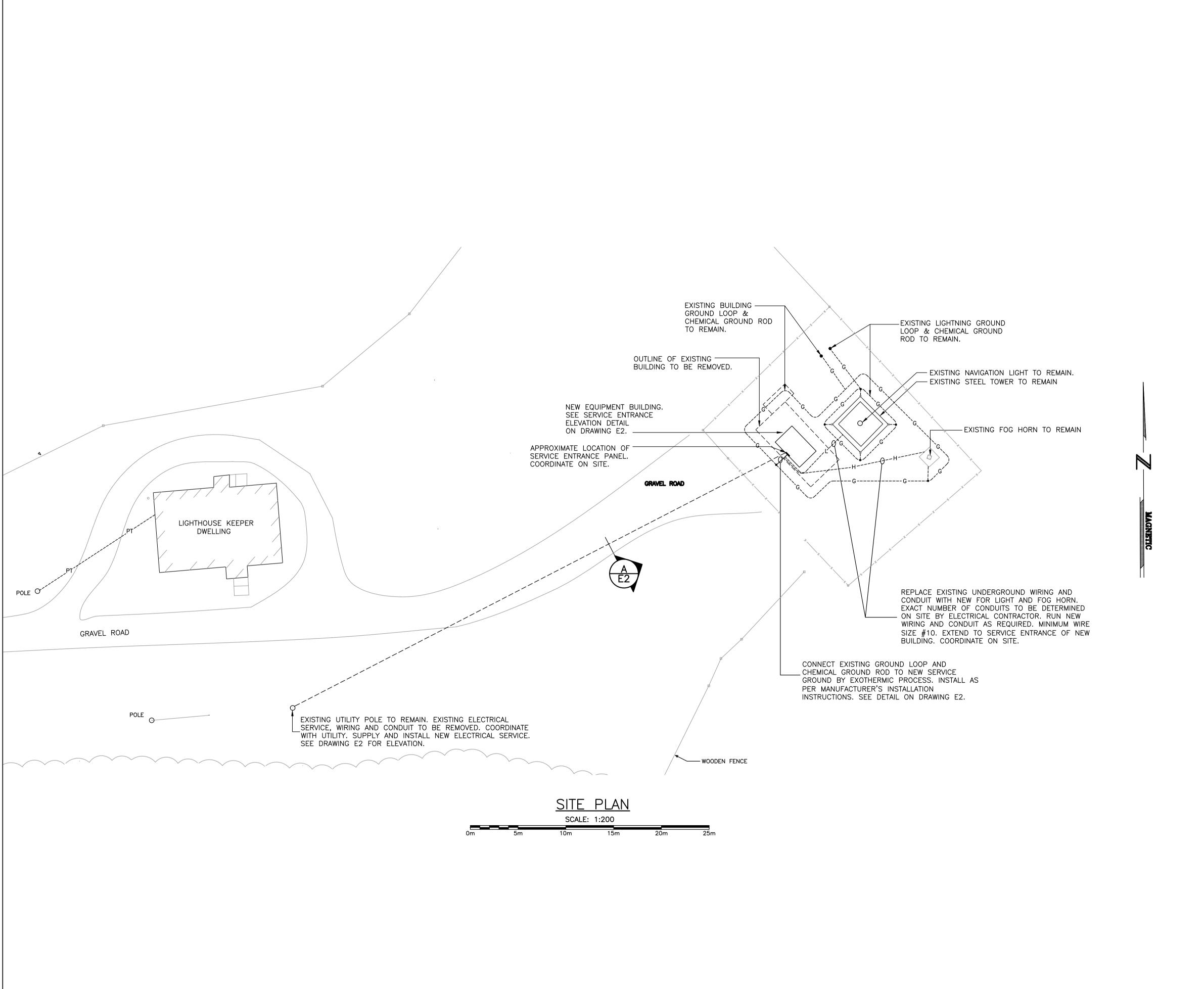
AFN ENGINEERING INC.

CROSBIE ENGINEERING LTD.







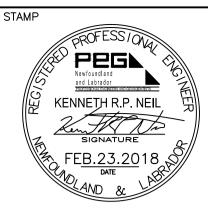




Fisheries and Oceans Pêches et Océans

Coast Guard

Garde côtière



PROVINCE OF NEWFOUNDLAND PERMIT HOLDER

Class "A" This Permit Allows CROSBIE ENGINEERING LIMITED

To practice Professional Engineering in Newfoundland and Labrador Permit No. as issued by PEG-NL D0123 which is valid for the year 2018.

NOTES:

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- 7. ALL WIRING TO BE INSTALLED IN CONDUIT AS INDICATED.
- 8. LABEL ALL EQUIPMENT WITH LAMACOID TAGS AS PER SPECIFICATION.

no. no	revision revision	date date	by par	approved approuve
0	ISSUED FOR TENDER	2018-01-19	K.N.	K.N.
1	ISSUED FOR TENDER	2018-02-23	K.N.	K.N.

Project - projet

BUILDING DEMOLITION AND RECONSTRUCTION BEAR COVE POINT, NL

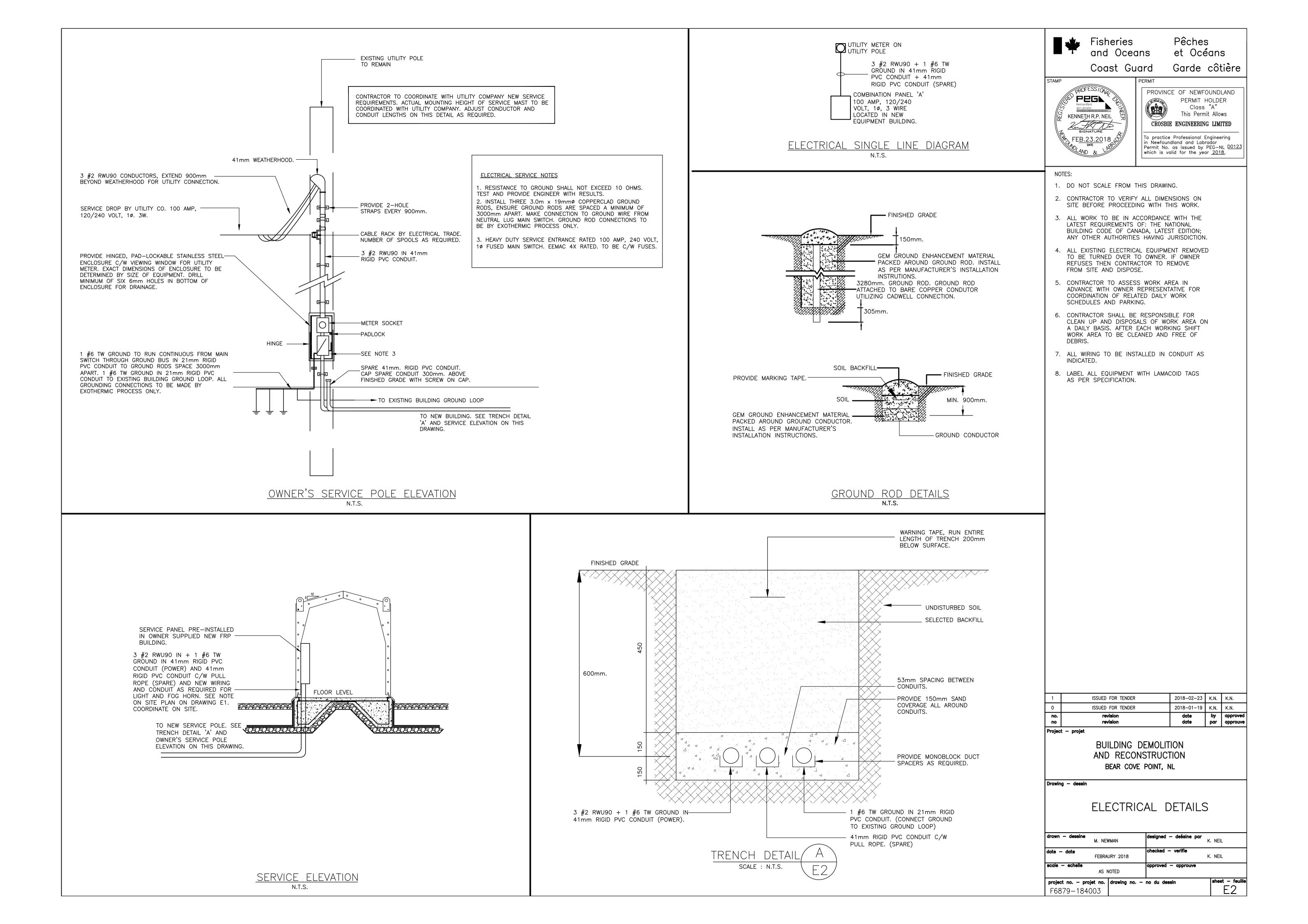
Drawing — dessin

SITE PLAN

drawn — dessine	M. NEWMAN	designed — deśsine par	K. NEIL
date — date	FEBRAURY 2018	checked - verifie	K. NEIL
scale — echelle	AS NOTED	approved — approuve	

project no. — projet no. drawing no. — no du dessin F6879-184003





ELECTRICAL SPECIFICATION

PROVIDE ALL MATERIALS, LABOUR, SCAFFOLDS, TOOLS & EQUIPMENT NECESSARY TO COMPLETE THE ELECTRICAL INSTALLATION & LEAVE ALL SYSTEMS READY FOR OPERATION.

2. DO THE COMPLETE INSTALLATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE C22.1-2015 & ALL LOCAL & PROVINCIAL CODES.

- 3. CLEAN ALL ELECTRICAL EQUIPMENT AFTER CONSTRUCTION.
- 4. ALL MATERIALS SHALL BE NEW & CSA APPROVED. ANY PRODUCTS NOT CSA APPROVED TO BE PASSED BY INSPECTION AUTHORITY PRIOR TO ACCEPTANCE.
- 5. ALL ELECTRICAL INSTALLATIONS AND MATERIALS SHALL CONFORM TO CEC CODE JURISDICTION.
- 6. PROVIDE DEDICATED GROUNDING CONDUCTOR TO ALL ELECTRICAL INSTALLATIONS.
- 7. N/A

8. THE CONTRACTOR SHALL GUARANTEE ALL NEW MATERIAL & WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER.

9. SUBMIT TO ELECTRICAL INSPECTION AUTHORITY, A COPY OF PLANS FOR EXAMINATION AND APPROVAL. MAKE CHANGES AND ALTERATIONS AS REQUIRED BY THE INSPECTION AUTHORITY.

10. OBTAIN & PAY FOR ALL FEES & PERMITS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION. SUBMIT DRAWINGS AND SPECIFICATION TO INSPECTION AUTHORITIES FOR EXAMINATION AND APPROVAL PRIOR TO COMMENCEMENT OF WORK.

11. N/A

12. QUALIFIED TRADES PEOPLE SHALL BE USED FOR ALL DISCIPLINES OF THE ELECTRICAL WORK REQUIRED FOR THIS PROJECT.

13. PROTECT EXPOSED LIVE EQUIPMENT DURING CONSTRUCTION FOR PERSONNEL SAFETY. SHIELD AND MARK ALL LIVE PARTS "LIVE 120 VOLTS", OR WITH APPROPRIATE VOLTAGE. PROVIDE FOR INSTALLATION OF TEMPORARY DOORS FOR ROOMS CONTAINING EXPOSED ELECTRICAL EQUIPMENT IF REQUIRED BY ENGINEER OR INSPECTION AUTHORITY.

14. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH TWO EXTRA SETS OF WHITE PRINTS ON WHICH HE SHALL CLEARLY MARK IN RED INK. AS THE JOB PROGRESSES, ALL CHANGES AND DEVIATIONS FROM THAT SHOWN ON CONTRACT DRAWINGS. ON COMPLETION FORWARD TO THE ENGINEER THE TWO SETS OF DRAWINGS INDICATING ALL SUCH CHANGES AND DEVIATIONS.

15. CONTRACTOR TO SUBMIT TO ENGINEER TWO COMPLETE SETS OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL MAJOR ELECTRICAL EQUIPMENT. SUBMIT IN HARD COVER BINDERS. INCLUDE COMPLETE SET OF SHOP DRAWINGS,

16. CLEAN AND TOUCH UP SURFACES OF SHOP EQUIPMENT SCRATCHED OR MARRED DURING SHIPMENT OR INSTALLATION, TO MATCH ORIGINAL PAINT.

17. LUGS, TERMINALS, SCREWS USED FOR TERMINATION OF WIRING TO BE SUITABLE FOR COPPER CONDUCTORS.

- 18. PROVIDE WARNING SIGNS TO MEET REQUIREMENTS OF INSPECTION DEPARTMENT AND ENGINEER.
- 19. DISCONNECT SWITCHES SHALL BE HEAVY DUTY INDUSTRIAL GRADE.

20. MOUNTING HEIGHTS OF DEVICES ARE AS INDICATED IN LEGEND. IF MOUNTING HEIGHTS ARE NOT GIVEN, CONTACT ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION.

21. SERVICE TO BUILDING SHALL BE UNDERGROUND 100 AMP, 120/240 VOLT, SINGLE PHASE, 3 WIRE, 60

- 1. SUBMIT SHOP DRAWINGS FOR: A) DISCONNECT SWITCHES
- 2. SUBSTITUTION OF PRODUCTS AS EQUALS WILL BE CONSIDERED ONCE 3 COPIES OF MANUFACTURER'S DATA AND WORKING DRAWINGS HAVE BEEN SUBMITTED TO ENGINEER A MINIMUM OF 10 DAYS PRIOR TO TENDER

IDENTIFICATION AND LABELS

I. INSTALL LAMICOID NAMEPLATES ON ALL PANELBOARDS, JUNCTION BOXES, DISCONNECTS SPLITTERS AND TERMINAL CABINETS. INDICATE EQUIPMENT DESIGNATION, VOLTAGE, AND PHASE CHARACTERISTICS.

2. IDENTIFY ELECTRICAL EQUIPMENT WITH LAMACOID NAMEPLATES.

NAMEPLAT	E SIZES		
SIZE 1	10 X 50 MM	1 LINE	3 MM HIGH LETTERS
SIZE 2	12 X 70 MM	1 LINE	5 MM HIGH LETTERS
SIZE 3	12 X 70 MM	2 LINES	3 MM HIGH LETTERS
SIZE 4	20 X 90 MM	1 LINE	8 MM HIGH LETTERS
SIZE 5	20 X 90 MM	2 LINES	5 MM HIGH LETTERS
SIZE 6	25 X 100 MM	1 LINE	12 MM HIGH LETTERS
SIZE 7	25 X 100 MM	2 LINES	6 MM HIGH LETTERS

3. LAMACOID TO BE 3MM THICK, BLACK WITH WHITE LETTERING AND A MATT FINISH, MECHANICALLY ATTACHED WITH MACHINE SCREWS OR RIVETS.

4. N/A

1. BEFORE SUBMITTING A TENDER, EXAMINE THE SITE AND THE LOCAL CONDITIONS AFFECTING THE WORK UNDER THIS DIVISION AND VERIFY THAT THE WORK CAN BE SATISFACTORILY CARRIED OUT AS SHOWN ON THE PLANS WITHOUT CHANGES 2. ADVISE THE ENGINEER AT LEAST SEVEN DAYS BEFORE TENDERS CLOSE OF ANY CONFLICT OR

INTERFERENCE FAILURE TO DO SO IMPLIES ACCEPTANCE OF EXISTING CONDITIONS AND THAT ALL ALLOWANCES AS MAY BE NECESSARY TO COMPLETE THE WORK ARE INCLUDED IN THE TENDER.

CUTTING, PATCHING, SLEEVES AND HOLES

1. PERFORM ALL CUTTING REQUIRED. PATCHING AND PAINTING IN AREAS TO BE FINISHED TO BE PERFORMED BY OTHER TRADES, PROVIDED CUTTING IS PERFORMED IN ADVANCE OF FINISHING. COSTS FOR CUTTING PERFORMED AFTER COMPLETION OF FINISHING WORK TO BE THE RESPONSIBILITY OF THIS TRADE. 2. PENETRATIONS OF FIRE WALLS OR SEPARATIONS ARE TO BE SEALED WITH AN APPROVED SYSTEM. ACCEPTABLE SYSTEMS ARE HILTI OR APPROVED ALTERNATIVE. 3. PRIOR TO CUTTING OR DRILLING INTO STRUCTURAL MEMBERS OBTAIN CONSULTANT APPROVAL.

CONDUIT, WIRE AND CABLE

1. ALL POWER WIRING TO BE COPPER RWU90 XLPE CONDUCTORS, MINIMUM 600V RATING #12 AWG MINIMUM, #14 AWG FOR CONTROL ONLY. NO ALUMINUM CONDUCTORS ARE TO BE USED. . ALL CONCEALED WIRING IS TO BE INSTALLED IN EMT CONDUIT ABOVE GRADE AND PVC OUTSIDE OR BELOW GRADE OR AREAS LIMITED BY THE ELECTRICAL CODE.

- 3. N/A 4. INSTALL NEW CONDUIT FOR ALL NEW INSTALLATIONS.
- 5. ALL CONDUITS ARE TO BE CONCEALED INSIDE WALLS OR IN THE CEILING SPACE.
- 6. INSTALL CONDUIT PARALLEL TO BUILDING LINES. SECURELY FASTEN TO WALLS, UNDERSIDE OF FLOOR ABOVE OR OTHER STRUCTURAL MEMBERS. DO NOT SUPPORT FROM OTHER EQUIPMENT OR CEILING SUPPORT SYSTEMS.
- 7. MINIMUM CONDUIT SIZE 21MM (3/4) TRADE SIZE).
- 8. INSTALL A 5MM POLYPROPYLENE PULL ROPE IN ALL EMPTY CONDUITS 9. PROVIDE PULL AND JUNCTION BOXES AT A MAXIMUM 30 METER SPACING.
- 10. WHERE CONDUITS ARE INSTALLED IN CONCRETE SLABS AND ACROSS STRUCTURAL EXPANSION JOINTS AN APPROVED EXPANSION FITTING COMPLETE WITH BONDING JUMPER AND CLAMPS SHALL BE INSTALLED. 11. SEAL ALL PIPING WHERE CONDENSATION MAY BUILD UP FROM TEMPERATURE CHANGE. SEAL SHALL BE COMPATIBLE WITH THE PIPING AND WIRING AND MAY BE REQUIRED TO MEET FIRE STANDARDS WHEN PASSING
- THROUGH FIRE SEPARATIONS OR WALLS. 12. CONDUITS, CABLES, RACEWAYS OR WIRES ARE NOT TO BE USED AS A SUPPORT FOR OTHER ELECTRICAL OR NON ELECTRICAL EQUIPMENT.
- 13. CONDUITS TO BE PROVIDED WITH INSULATED THROAT CONNECTORS
- 14. COLOUR CODING OF NON-PHASE WIRES SHALL BE AS FOLLOWS:

BONDING AND GROUND WIRES: GREEN SWITCH RETURNS ON LIGHTING CIRCUITS: ORANGE

. PROVIDE A GROUNDING BUSHING FOR METALLIC FEEDER CONDUITS AND CABLES SERVING PANEL BOARDS AND SERVICE EQUIPMENT. CONNECT THE GROUNDING BUSHING TO THE GROUND BUS WITH A COPPER CONDUCTOR SIZED ACCORDING TO THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE. 2. ALL METAL PARTS OF NON ELECTRICAL EQUIPMENT OR SYSTEMS ARE TO BE BONDED TO GROUND WITH A COPPER CONDUCTOR.

3. PROVIDE COPPER INSULATED GREEN BONDING CONDUCTORS, IN ALL POWER CONDUITS, SIZED TO TABLE 16 OF THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE, UNLESS INDICATED OTHERWISE, #12 AWG MINIMUM.

TESTING, ACCEPTANCE AND GUARANTEE

THE WORK OF THIS CONTRACTOR SHALL BE TESTED AND INSTALLED AND ANY DEVICES NOT OPERATIONAL SHALL BE REMEDIED IMMEDIATELY. TESTS REQUIRED BY LOCAL AUTHORITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. WHEN THE WORK IS COMPLETED, IT SHALL BE TESTED IN ITS ENTIRETY, AND SHALL BE IN GOOD WORKING ORDER BEFORE THE OWNER'S CERTIFICATE OF ACCEPTANCE SHALL BE ISSUED.

A WRITTEN GUARANTEE SHALL BE SUPPLIED TO THE OWNER BY THE CONTRACTOR COVERING THE PROMPT MAKING GOOD OF ANY AND ALL DEFECTS IN MATERIAL AND WORKMANSHIP FOR THE PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE AND THE MAKING GOOD OF ANY SUCH DEFECTS SHALL BE COMPLETELY THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SUPPLY OF SUFFICIENT POWER ON A TEMPORARY BASIS TO ALLOW TESTING OF ALL EQUIPMENT AND SYSTEMS. THESE WILL BE TESTED IN THE PRESENCE OF THE ENGINEER.

FURNISH MANUFACTURER'S CERTIFICATE OR LETTER CONFIRMING THAT ENTIRE INSTALLATION AS IT PERTAINS TO EACH SYSTEM HAS BEEN INSTALLED TO MANUFACTURER'S INSTRUCTIONS.

- 2. INSULATION RESISTANCE TESTING.
- MEGGER CIRCUITS. FEEDERS AND EQUIPMENT UP TO 350 V WITH A 500 V INSTRUMENT.
- MEGGER 350-600 V CIRCUITS, FEEDERS AND EQUIPMENT WITH A 1000 V INSTRUMENT.
- CHECK RESISTANCE TO GROUND BEFORE ENERGIZING. CARRY OUT TESTS IN PRESENCE OF ENGINEER.
- PROVIDE INSTRUMENTS, METERS, EQUIPMENT AND PERSONNEL REQUIRED TO CONDUCT TESTS DURING AND AT CONCLUSION OF PROJECT.
- SUBMIT TEST RESULTS FOR ENGINEER'S REVIEW.

MATERIAL SPECIFIED

1. MANUFACTURER'S NAME WITH CLAUSE "OR APPROVED EQUAL". THE TENDER PRICE SHALL BE BASED ON THE NAMED MATERIAL. WHERE SUBSTITUTIONS ARE TO BE PROPOSED FOR MATERIALS BEARING THE CLAUSE "OR APPROVED EQUAL", APPROVAL OF THE SUBSTITUTE ITEM MUST BE OBTAINED FROM THE ENGINEER AT LEAST SEVEN DAYS PRIOR TO THE CLOSING DATE OF THE TENDER. THE PROPOSED SUBSTITUTION SHALL SHOW PRODUCT NAME AND COMPLETE SPECIFICATION AND BE EQUAL TO, OR BETTER THAN THE NAMED ITEM. NO INCREASE IN THE TENDER PRICE SHALL BE MADE FOR SUCH A SUBSTITUTION SHOULD IT BE ACCEPTED. ACCEPTED EQUALS WILL BE LISTED IN AN ADDENDUM FIVE DAYS PRIOR TO THE TRADE CLOSING DATE.

WHERE ADDITIONAL MANUFACTURERS ARE NAMED UNDER ARTICLES ENTITLED""APPROVED MANUFACTURERS". THE CHOICE OF WHICH OF THE MANUFACTURERS NAMED IN REFERENCE TO A PARTICULAR ARTICLE IS TO BE USED, SHALL BE THE CONTRACTORS.

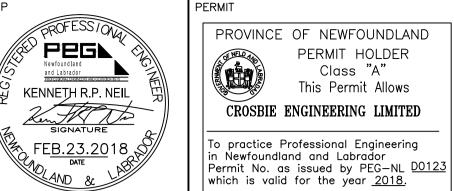
WHERE APPROVALS ARE GRANTED FOR THE USE OF OTHER EQUIPMENT ANY AND ALL CHANGES OR ADDITIONS REQUIRED FOR THE INSTALLATION OR OPERATION OF THE APPROVED EQUIPMENT WILL BE MADE BY THE CONTRACTOR AT HIS OWN EXPENSE AND NO CLAIMS WILL BE APPROVED FOR ANY SUCH CHANGES. NOTWITHSTANDING APPROVAL OF SHOP DRAWINGS. EQUIPMENT THAT IS ACCEPTED AND INSTALLED AND THEN DOES NOT PERFORM AS REPRESENTED BY ORIGINAL SUBMITTED DATA SHALL BE REPLACED BY THE CONTRACTOR WITH EQUIPMENT AS SPECIFIED, AT NO CHARGE TO THE OWNER.



and Oceans

Pêches et Océans

Garde côtière Coast Guard



PROVINCE OF NEWFOUNDLAND PERMIT HOLDER Class "A" This Permit Allows CROSBIE ENGINEERING LIMITED

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1	ISSUED FOR TENDER	2018-02-23	K.N.	K.N.

Project - projet

BUILDING DEMOLITION AND RECONSTRUCTION BEAR COVE POINT, NL

Drawing - dessin

ELECTRICAL SPECIFICATION

drawn — dessine	M. NEWMAN	designed — deśsine par	K. NEIL
date – date	FEBRAURY 2018	checked - verifie	K. NEIL
scale — echelle	AS NOTED	approved — approuve	

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