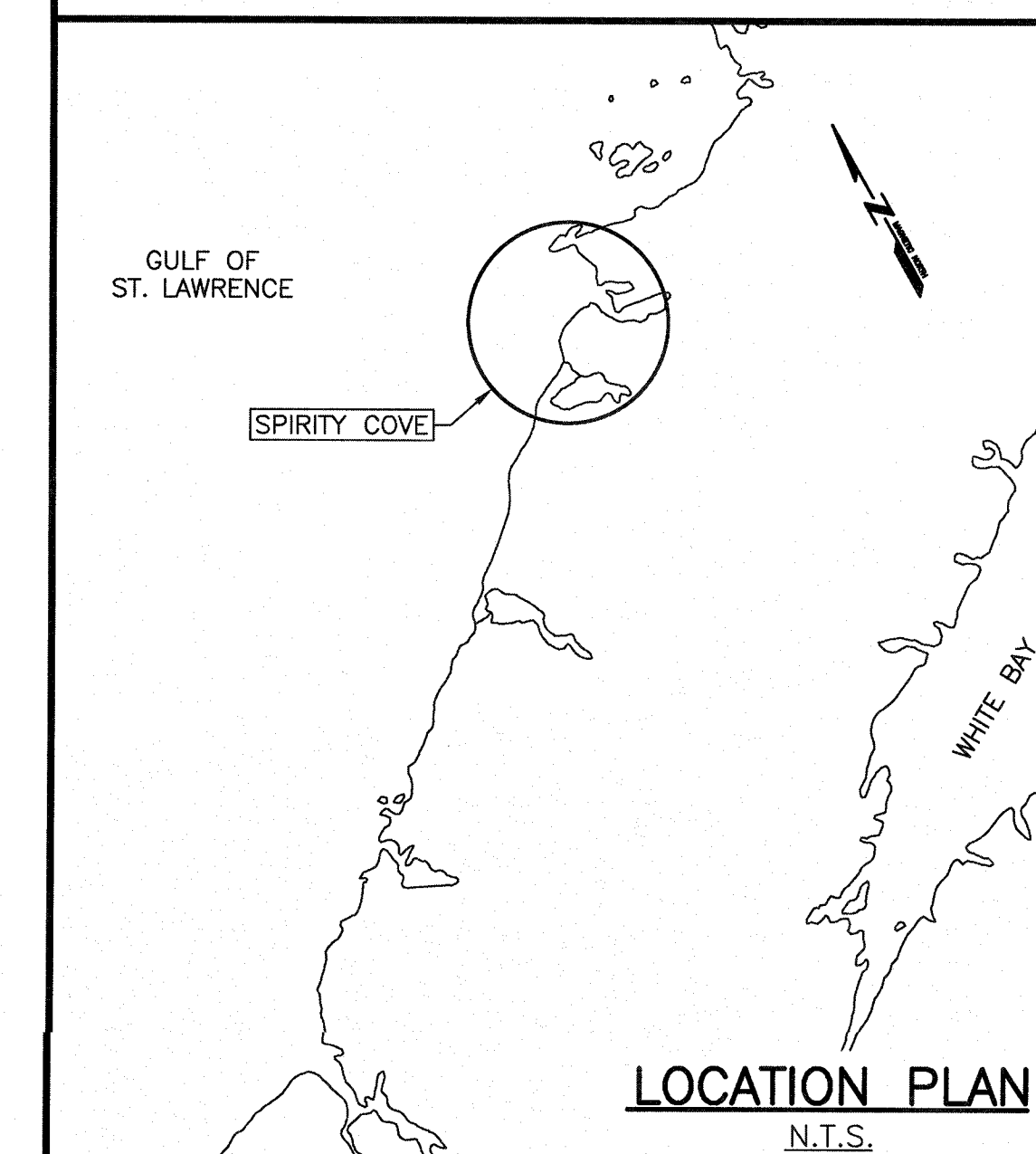
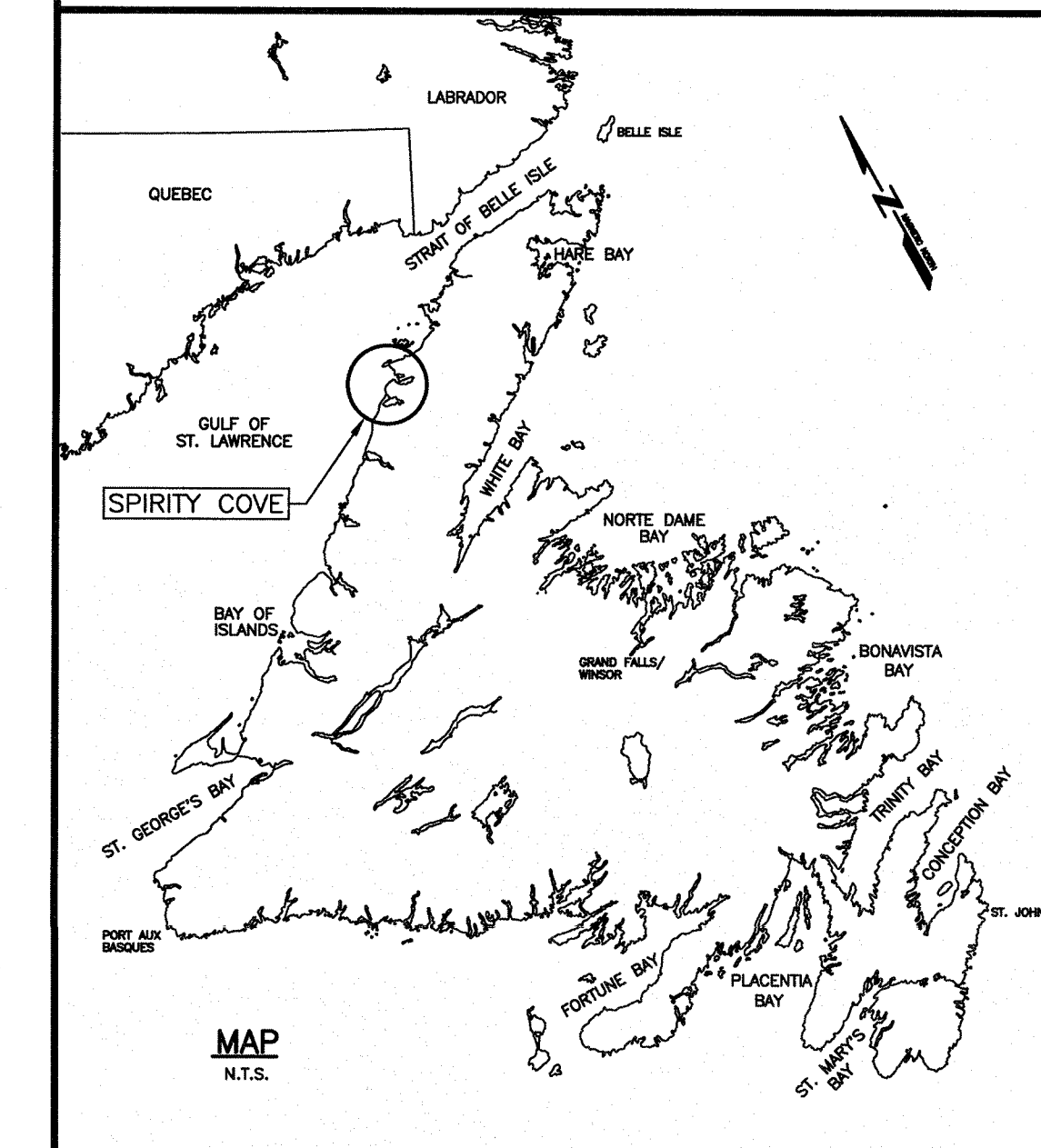


FISHERIES AND OCEANS
CANADA

**BREAKWATER CONSTRUCTION
SPIRITY COVE
NEWFOUNDLAND AND LABRADOR**

**PROJECT No. 722963
ISSUED FOR TENDER**

SMALL CRAFT HARBOURS



LIST OF DRAWINGS:

C1 OF 3	SOUNDING AND TOPOGRAPHIC SURVEY
C2 OF 3	NEW SITE PLAN
C3 OF 3	SECTIONS
C4 OF 4	SECTIONS



NOTES:

- 1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

PROVINCE OF NEWFOUNDLAND

PERMIT HOLDER
This Permit Allows
APN ENGINEERING INC.

To practice Professional Engineering in Newfoundland and Labrador, Permit No. 16 issued by APEQN on 2022, which is valid for the year 2018.

STAMP



B ISSUED FOR TENDER 10/29/18

A ISSUED FOR REVIEW 10/13/18

revisions issued for date

project project

BREAKWATER CONSTRUCTION

SPIRITY COVE, NL

SOUNDING AND TOPOGRAPHIC SURVEY

Designed N.H. convis

date OCTOBER 29, 2018

drawn P.H. dessins

date OCTOBER 29, 2018

approved approve

Tender Signature Soumission

DFO Project Manager

project number 722963 no. du projet

drawing no. C1 no. du dessin



LEGEND

- ADVERTISEUR
- ANCHOR BLOCK
- BEACON
- BUOY
- BUNKER
- BOUNDARY MARKER
- CARD POSITION BUOY
- OPEN BURN
- CLASH
- COLONY
- DOCKWAY
- DREDGED AREA
- DRY DOCK
- ELECTRIC CONTROL
- FIRE HYDRANT
- FREIGHT
- FISH RIGGING EQUIP.
- FISH HOON
- FUEL PUMP
- ICE PILE
- MOUNT PILE
- AIR CRANE
- FLAG POLE
- LADDER
- LIFE RING
- LIGHT STRAUBER
- MANDOLE
- METEORITE
- NAVIGATION LIGHT
- OBSERVED BUOY
- OBSERVED SHIP BUOY
- PILE PILE
- RAKE LIGHT
- SHARP POINT
- SHIP UNLOADING PILE
- SIGN
- TELEPHONE
- TELEPHONE POLE
- THE SHACK/DUMP
- THE TRAILER/SHIP
- UTILITY POLE
- VERTICAL CONTROL
- WATER IN/OUTLET
- WIND PILE
- WOOD PILE
- MARKER STONE
- SHIP OUTLINE
- PRIORITY BOUNDARY
- RANGE LIGHT EXTENSION
- ROADSIDE MARKER
- REMAINING WALL
- ROADWAY
- TIE OF BANK
- SHIP LINE
- HIGH WATER MARK
- LOW WATER MARK

SURVEY NOTES

SURVEY PARTY CHIEF RICHARD HEALEY
 SURVEY VESSEL ALUMINUM BOAT
 SURVEY DATE(S) SEPTEMBER 18-19, 2018

SOUNDER TYPE: SINGLE TRANSDUCER
 SOUNDER SETTING: MIN/INST. VEL. OF SOUND 1503 m/s
 DEPTH GATED USED: N/A FREQ. OF TRANS. 210 KHZ

POSITIONING SYSTEM USED TRIMBLE R7 GNSS DGPS (WITH OTF)
 LAND SURVEY POSITION BY TRIMBLE R7 GNSS DGPS (WITH OTF)

DATA TAPE/DISC(S) USED
 CAD DRAWING FILE(S)
 TIDAL REDUCTION SCHEME

OFFICE PROCESSOR EDDIE BEARNS
 DATE OF PROCESSING SEPTEMBER 2018

MODE OF PLOTTING LEAST OF MINIMUM DEPTHS
 MATRIX CELL WIDTH X LENGTH
 REDUCTION OF MATRIX CELLS

CONTROL POINTS	PL NAME	EASTING	NORTHING	OD ELEV	DESCRIPTION
	87C3084	471800.231	5597422.165	+2.190 m	PROVINCIAL BRASS PLAQUE IN ROCK
	85C3085	472223.839	5597458.105		PROVINCIAL BRASS PLAQUE IN ROCK
	85M 89F244	473267.174	5597820.617		GEODEIC CANADA BRASS PLAQUE IN BRIDGE
	PWC 9801	471812.601	5597387.580	+5.773 m	NAIL RAMSET IN CONCRETE (AT RIVER OF PONDS)
	PWC1-2004	471798.133	5597373.029	+12.215 m	NAIL CEMENTED IN BEDROCK (AT RIVER OF PONDS)
	PWC1-2018	473947.229	5605786.353		WOODEN PEG IN GRAVEL FILE
	PWC2-2018	473952.830	5605778.031	+4.250 m	NAIL SET IN CONCRETE WALL
	PWC3-2018	473983.800	5605762.087		NAIL SET IN CONCRETE DECK
	PWC4-2018	474000.713	5605747.818		NAIL SET IN CONCRETE DECK

ALL SOUNDINGS & ELEVATIONS IN METRES.
 ALL ELEVATIONS REFERRED TO PWC 2-2018 ELEV. 4.250m (NAIL IN CONCRETE WALL) AND WAS ESTABLISHED BY DGPS TRANSFER FROM PROVINCIAL MONUMENT 87C3084 ELEV. 2.190m ABOVE CHART DATUM.
 NOTE: PWC3 USED A DIFFERENCE OF 1.10m BETWEEN GEODEIC & CHART DATUMS FOR THIS SURVEY.

SOUNDINGS TAKEN USING NAVISOUND 210 ECHO SOUNDER AND POSITIONED BY TRIMBLE R7 GNSS DIFFERENTIAL GPS POSITIONING SYSTEM ON SEPTEMBER 18, 2018 BY PWC3 SURVEY CREW.

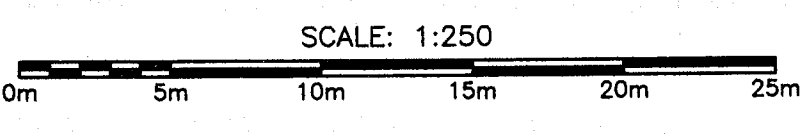
COORDINATES FOR HORIZONTAL CONTROL ARE GIVEN ON THE U.T.M. MAPPING PLANE, ZONE 22, USING THE NORTH AMERICAN DATUM OF 1983 (NAD83).

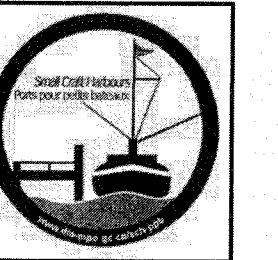
SOUNDINGS WERE REDUCED BY DISTANCE & RE-CHECKED FROM SOUNDING CHARTS BEFORE BEING CORRECTED FOR TIDE & BAR CHECK CORRECTION.

SOUNDINGS WERE REDUCED USING HYPACK MAX VER. 2013*A.

SPEED OF SOUND WAS OBTAINED USING A DIGIBAR-PRO VELOCIMETER.

ALL FIELD NOTES ARE IN SPIRITY COVE BOOK #2018.





NOTES:
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PROVINCE OF NEWFOUNDLAND PERMIT HOLDER
This Permit Allows
APN ENGINEERING INC.
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by APENGL #0282 which is valid for the year 2018.

REGISTERED PROFESSIONAL ENGINEER
NEIL C. HUNT
REGISTRATION NO. 10/29/18
NEWFOUNDLAND & LABRADOR

Revision table with columns for revision number, description, and date.

BREAKWATER CONSTRUCTION
SPIRITY COVE, NL

NEW SITE PLAN

Project details table including designer name (N.H.), date (OCTOBER 29, 2018), drawing number (722963), and drawing name (C2).

GPS COORDINATES table with columns for POINT, EASTING, and NORTHING.

LEGEND:
NEW BREAKWATER SLOPE
NEW BREAKWATER CREST

LEGEND

Legend table listing various symbols and their corresponding descriptions for the site plan.

SURVEY NOTES

SURVEY PARTY CHIEF RICHARD HEALEY
SURVEY VESSEL ALUMINUM BOAT
SURVEY DATE(S) SEPTEMBER 18-19, 2018
SOUNDER TYPE SINGLE TRANSDUCER
SOUNDER SETTING MIN/INST VEL. OF SOUND 1503 m/s
DEPTH GATE USED N/A FREQ. OF TRANS. 210 KHZ

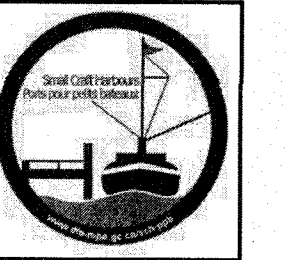
OFFICE PROCESSOR EDDIE BEARNS
DATE OF PROCESSING SEPTEMBER 2018

MODE OF PLOTTING LEAST OF MINIMUM DEPTHS
MATRIX CELL WIDTH X LENGTH REDUCTION OF MATRIX CELLS

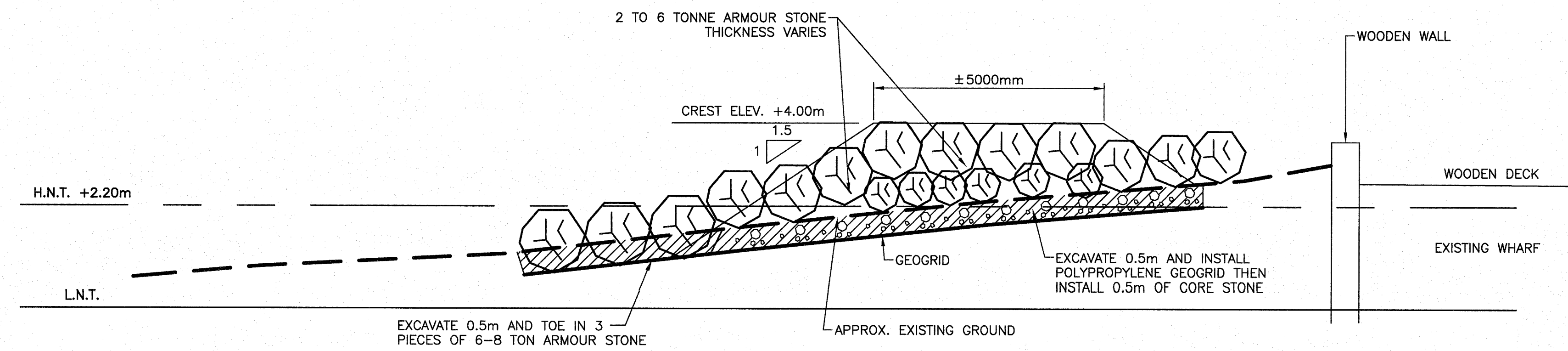
CONTROL POINTS table listing PL. NAME, EASTING, NORTHING, CD ELEV, and DESCRIPTION for various benchmarks and points.

ALL SOUNDINGS & ELEVATIONS IN METRES.
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NOTE: PWCS USED A DIFFERENCE OF 1.10m BETWEEN GEODETIC & CHART DATUMS FOR THIS SURVEY.
SOUNDINGS TAKEN USING NAVSOUND 210 ECHO SOUNDER AND POSITIONED BY TRIMBLE R7 GNSS DIFFERENTIAL GPS POSITIONS SYSTEM ON SEPTEMBER 18, 2018 BY PWSC SURVEY CREW.
COORDINATES FOR HORIZONTAL CONTROL ARE GIVEN ON THE UTM MAPPING PLANE, ZONE 22, USING THE NORTH AMERICAN DATUM OF 1883(NAD83).
SOUNDINGS WERE REDUCED BY DIGITRACE & RE-CHECKED FROM SOUNDING CHARTS BEFORE BEING CORRECTED FOR TIDE & BAR CHECK CORRECTION.
SOUNDINGS WERE REDUCED USING HYPACK MAX VER. 2013A.
SPEED OF SOUND WAS OBTAINED USING A DIGIBAR-PRO VELOCIMETER.
ALL FIELD NOTES ARE IN SPIRITY COVE BOOK #2018.

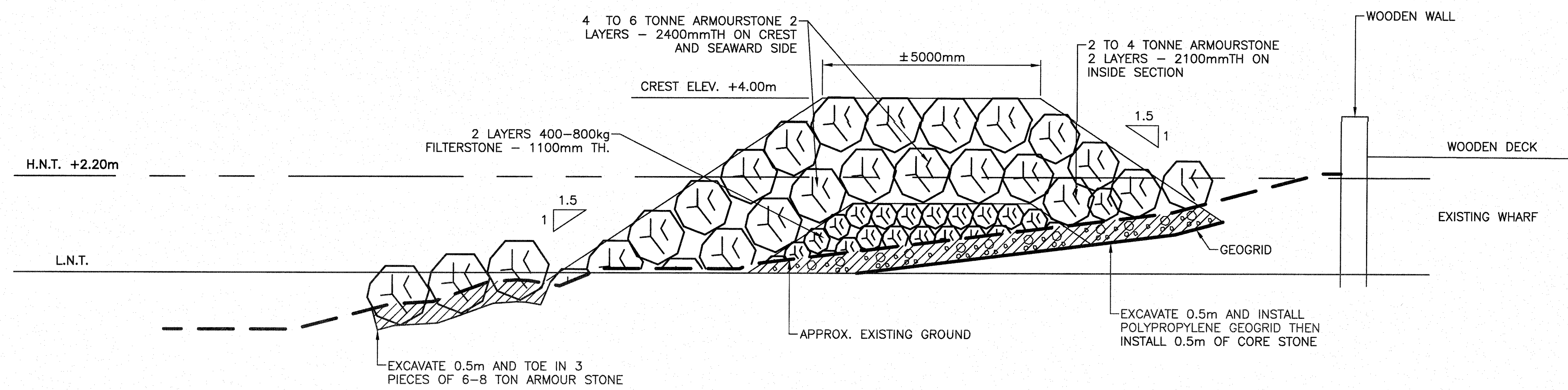
SCALE: 1:250
0m 5m 10m 15m 20m 25m



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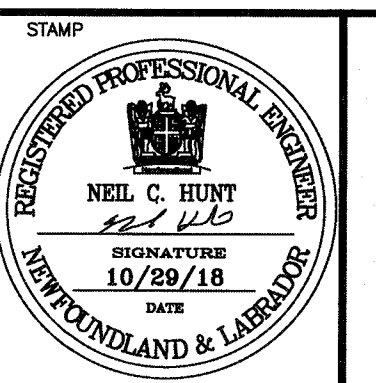


SECTION 1
SCALE : 1:75



SECTION 2
SCALE : 1:75

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which is valid for the year 2018.



B	ISSUED FOR TENDER	10/29/18
A	ISSUED FOR REVIEW	10/13/18
revisions		date

project
BREAKWATER CONSTRUCTION
SPIRITY COVE, NL

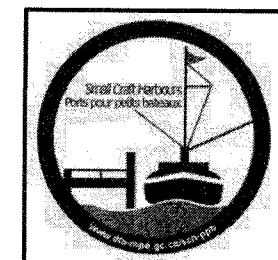
drawing design
SECTIONS

designed N.H.	conco
date	OCTOBER 29, 2018
drawn P.H.	desing
date	OCTOBER 29, 2018
approved	approve

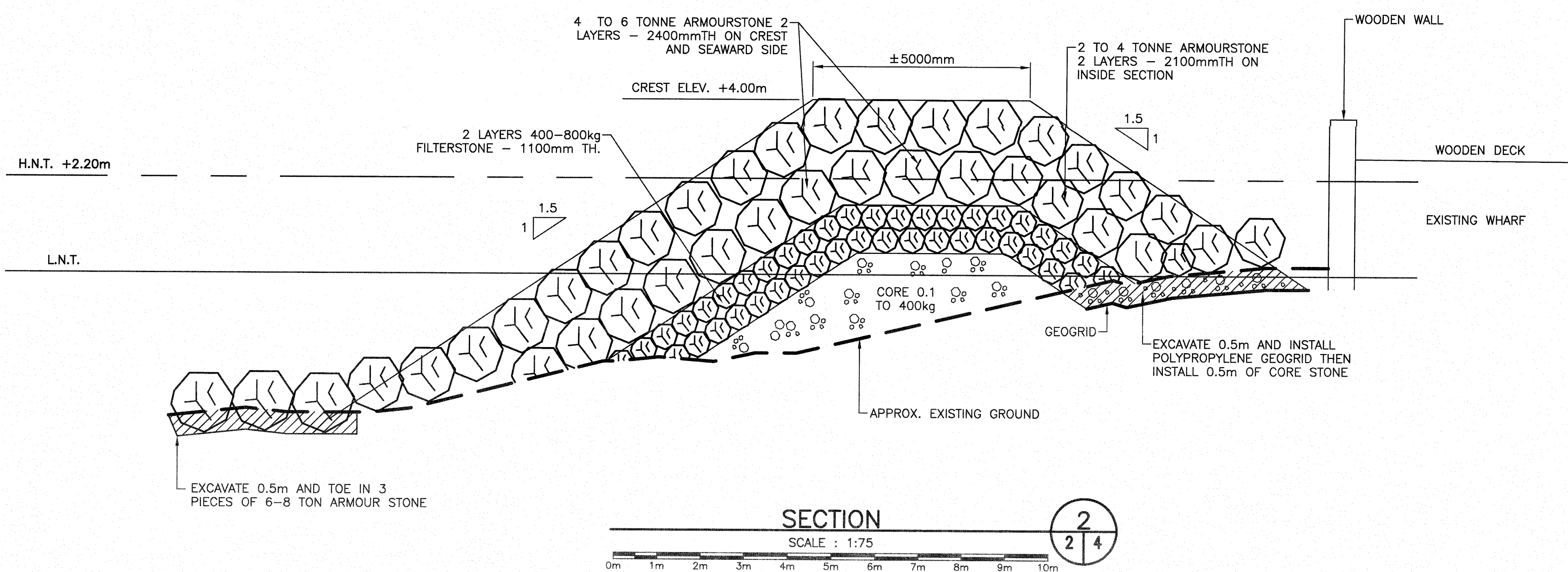
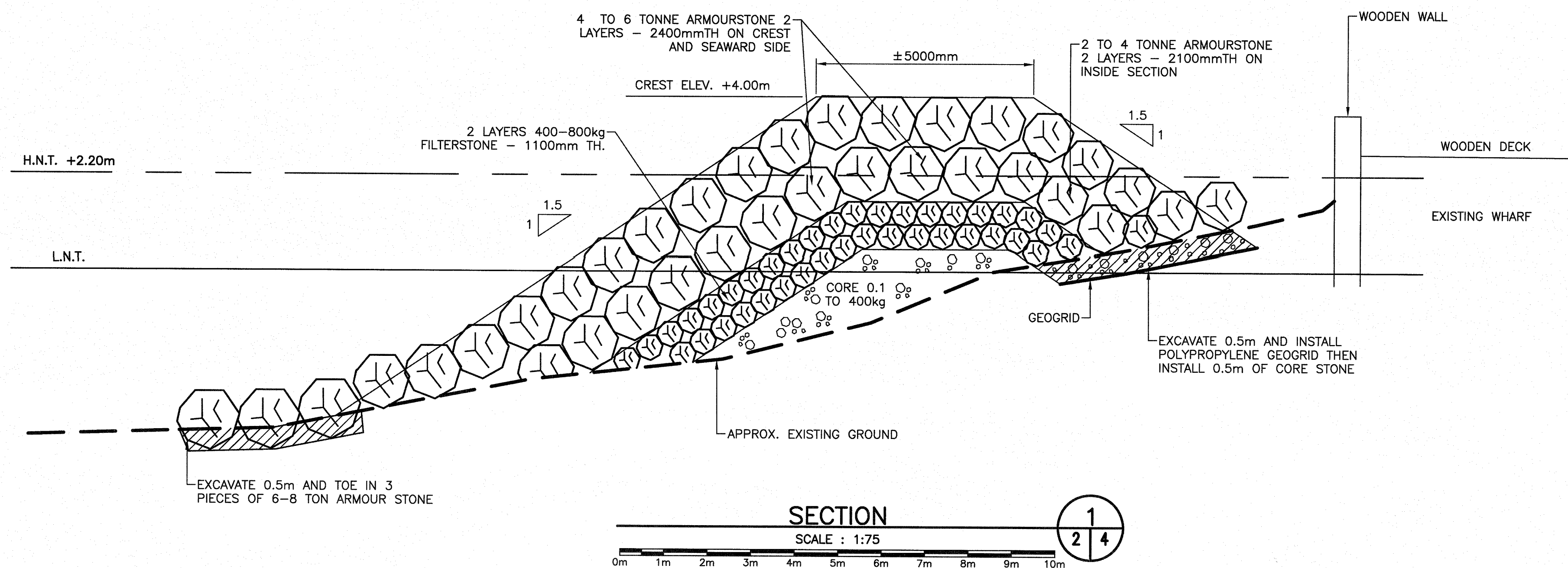
Tender
DFO Project Manager
project number
722963
no. du projet

drawing no.
C3
no. du dessin

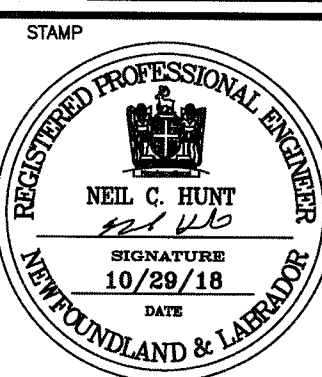
SMALL CRAFT HARBOURS



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B	ISSUED FOR TENDER	10/29/18
A	ISSUED FOR REVIEW	10/15/18
revisions		date
project		project

**BREAKWATER
CONSTRUCTION
SPIRITY COVE, NL**

drawing dessin

SECTIONS

designed	N.H.	conçu
date	OCTOBER 29, 2018	
drawn	P.H.	dessiné
date	OCTOBER 29, 2018	
approved		approuvé
Tender	<i>[Signature]</i>	Submission
DFO Project Manager		
project number	722963	no. du projet
drawing no.	C4	no. du dessin