

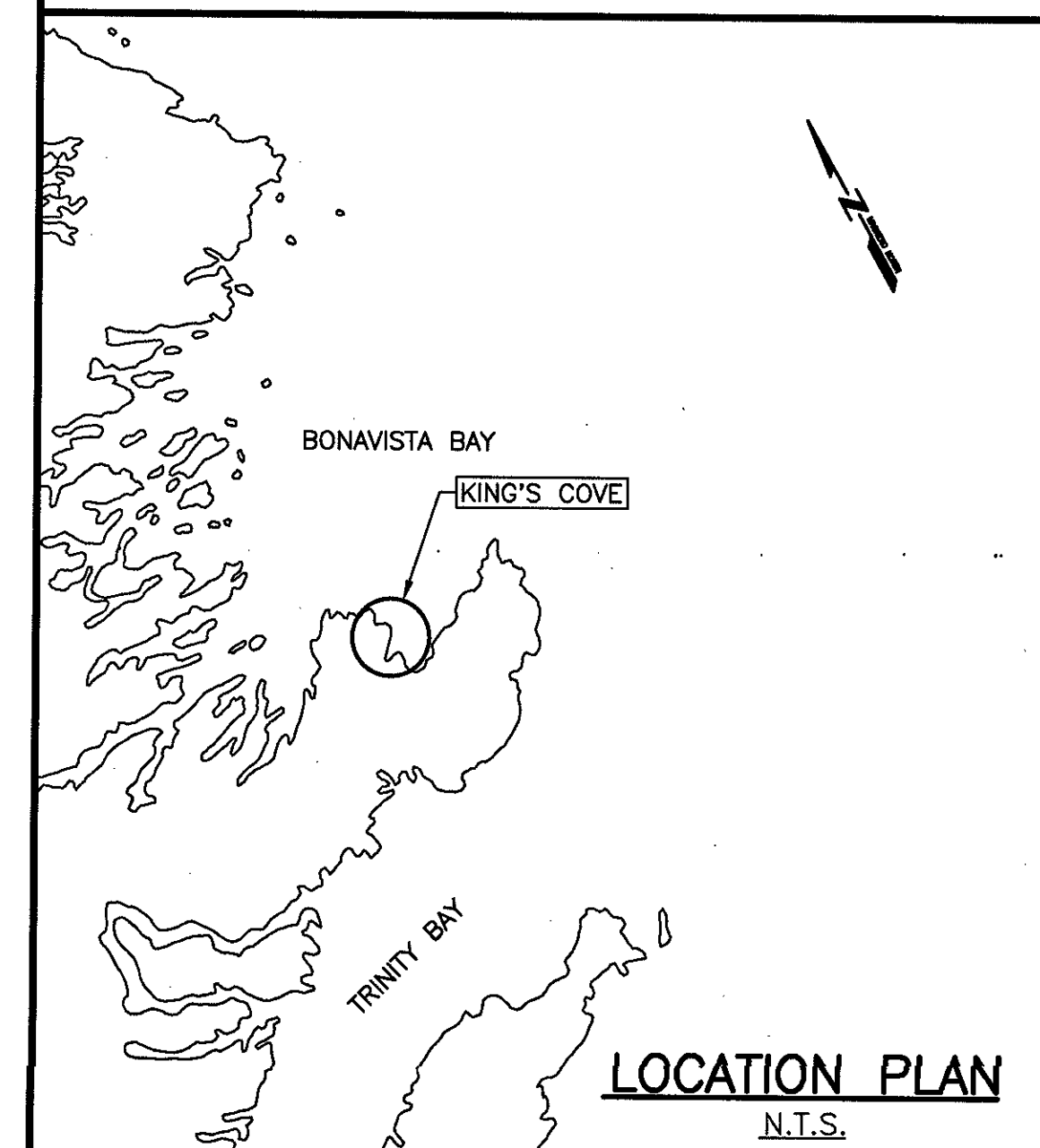
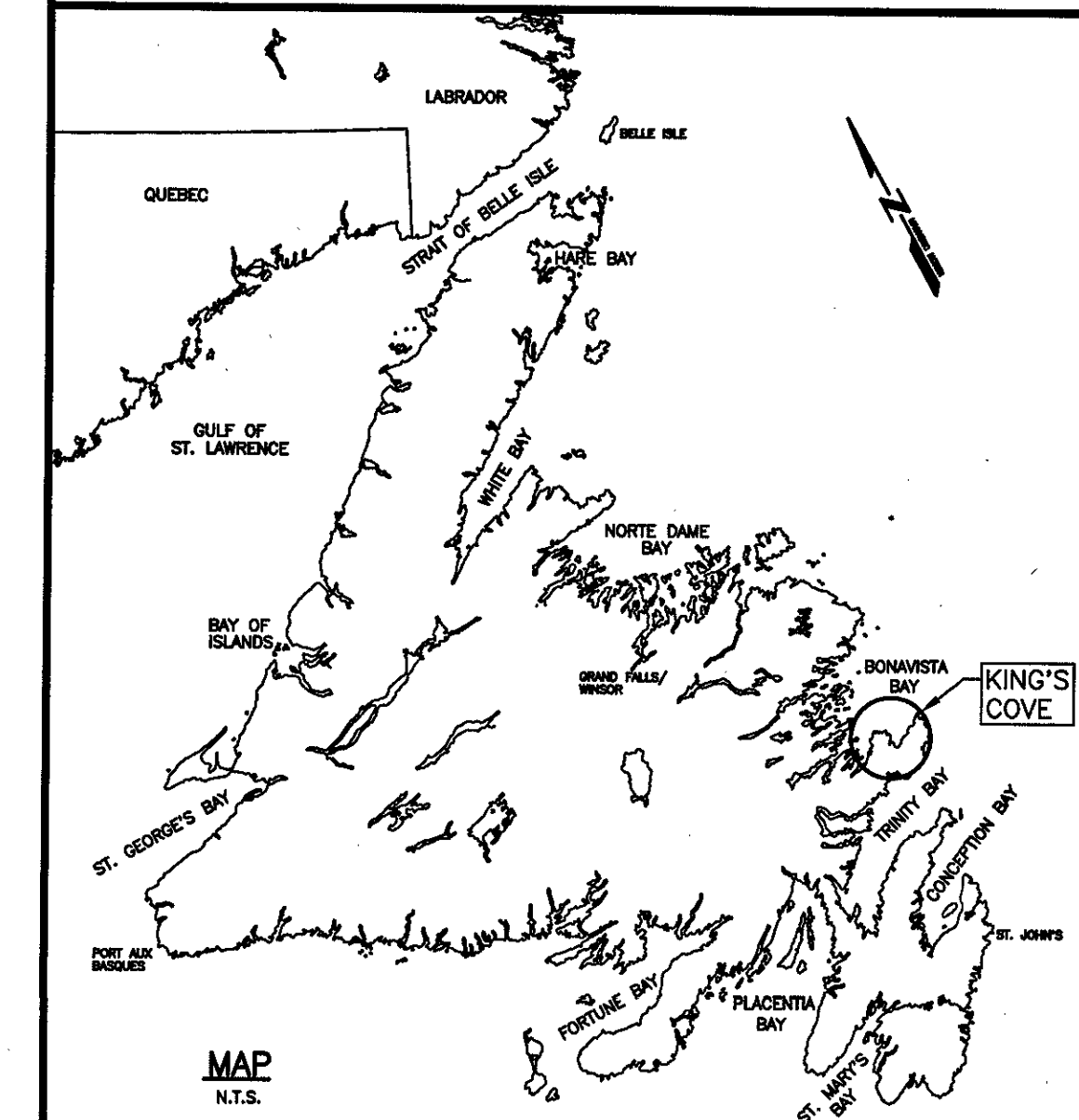


FISHERIES AND OCEANS  
CANADA

**SERVICE AREA IMPROVEMENTS  
KING'S COVE  
NEWFOUNDLAND AND LABRADOR**

**PROJECT No. 720710  
ISSUED FOR TENDER**

SMALL CRAFT HARBOURS



LIST OF DRAWINGS:

- C1 OF 4 SITE PLAN FOR UPLANDS WORK
- C2 OF 4 SITE PLAN FOR SHORELINE PROTECTION WORK
- C3 OF 4 SECTIONS
- C4 OF 4 SECTIONS

**SURVEY NOTES**

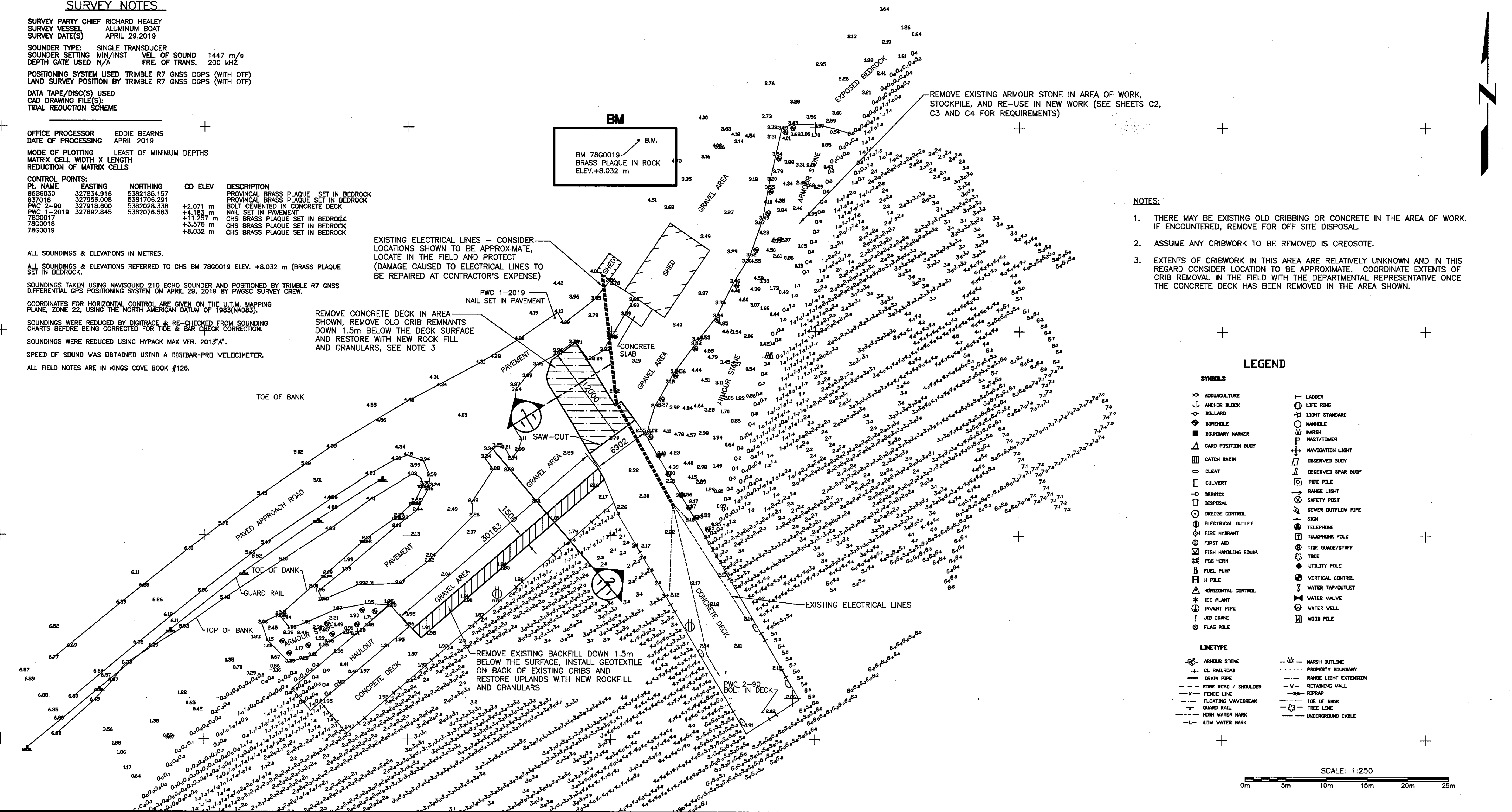
SURVEY PARTY CHIEF RICHARD HEALEY  
 SURVEY VESSEL ALUMINUM BOAT  
 SURVEY DATE(S) APRIL 29, 2019  
 SOUNDER TYPE: SINGLE TRANSDUCER  
 SOUNDER SETTING: M/N/INST VEL. OF SOUND 1447 m/s  
 DEPTH GATE USED: N/A FREQ. OF TRANS. 200 KHZ  
 POSITIONING SYSTEM USED: TRIMBLE R7 GNSS DGPS (WITH OTF)  
 LAND 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: APRIL 2019  
 MODE OF PLOTTING: LEAST OF MINIMUM DEPTHS  
 MATRIX CELL WIDTH X LENGTH: REDUCTION OF MATRIX CELLS

CONTROL POINTS:	PL NAME	EASTING	NORTHING	CD ELEV	DESCRIPTION
	869630	327834.918	5382185.157		PROVINCIAL BRASS PLAQUE SET IN BEDROCK
	837019	327858.008	5381706.291	+2.071 m	PROVINCIAL BRASS PLAQUE SET IN BEDROCK
	PWC 2-90	327918.600	5382028.538	+1.183 m	BOLT CEMENTED IN CONCRETE DECK
	PWC 1-2019	327892.845	5382076.983	+1.576 m	NAIL SET IN PAVEMENT
	7850017			+1.257 m	CHS BRASS PLAQUE SET IN BEDROCK
	7850018			+1.576 m	CHS BRASS PLAQUE SET IN BEDROCK
	7850019			+8.032 m	CHS BRASS PLAQUE SET IN BEDROCK

ALL SOUNDINGS & ELEVATIONS IN METRES.  
 ALL SOUNDINGS & ELEVATIONS REFERRED TO CHS BM 7800019 ELEV. +8.032 m (BRASS PLAQUE SET IN BEDROCK).  
 SOUNDINGS TAKEN USING NAVSOUND 210 ECHO SOUNDER AND POSITIONED BY TRIMBLE R7 GNSS DIFFERENTIAL GPS POSITIONING SYSTEM ON APRIL 29, 2019 BY PWC/SR 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 DIGITRACE & 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 VELOCITYMETER.  
 ALL FIELD NOTES ARE IN KING'S COVE BOOK #126.

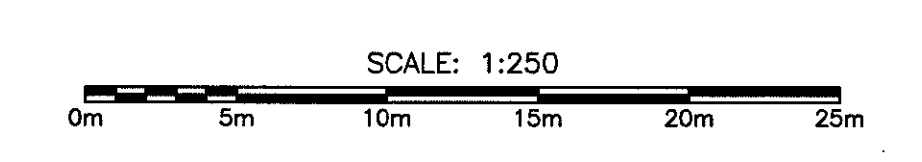
N 5 382 100 +  
 N 5 382 075 +  
 N 5 382 050 +  
 N 5 382 025 +



- NOTES:**
1. THERE MAY BE EXISTING OLD CRIBBING OR CONCRETE IN THE AREA OF WORK. IF ENCOUNTERED, REMOVE FOR OFF SITE DISPOSAL.
  2. ASSUME ANY CRIBWORK TO BE REMOVED IS CREOSOTE.
  3. EXTENTS OF CRIBWORK IN THIS AREA ARE RELATIVELY UNKNOWN AND IN THIS REGARD CONSIDER LOCATION TO BE APPROXIMATE. COORDINATE EXTENTS OF CRIB REMOVAL IN THE FIELD WITH THE DEPARTMENTAL REPRESENTATIVE ONCE THE CONCRETE DECK HAS BEEN REMOVED IN THE AREA SHOWN.

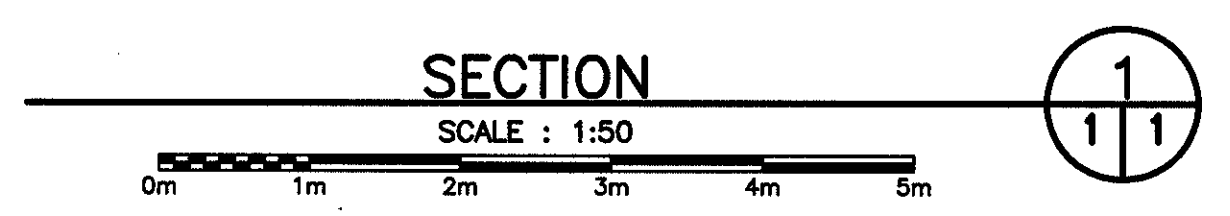
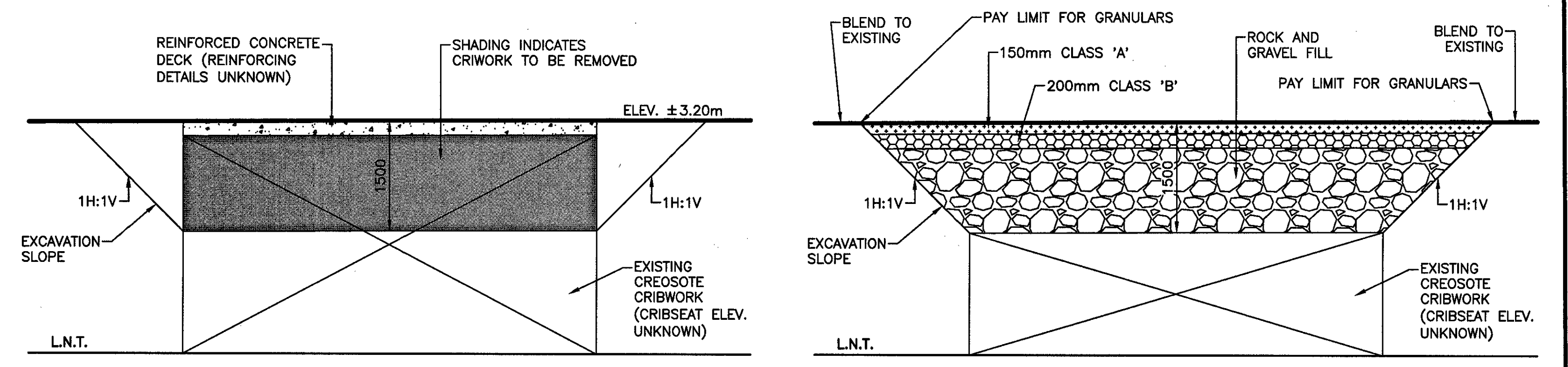
**LEGEND**

	ANCHORAGE		LASER
	ANCHOR BLOCK		LIFT RING
	BELLOWS		LIGHT STANCHION
	BERCHULE		MANHOLE
	BOUNDARY MARKER		MARSH
	CARD POSITION BURY		MAST/TOVER
	CATCH BASIN		NAVIGATION LIGHT
	CLEAT		OBSERVED BUOY
	CULVERT		OBSERVED SPAR BUOY
	DERICK		PIPE PILE
	DERICK CONTROL		RANGE LIGHT
	ELECTRICAL OUTLET		SAFETY POST
	FIRE HYDRANT		SEWER OUTFLOW PIPE
	FIRST AID		SIGN
	FISH HANDLING EQUIP.		TELEPHONE
	FISH HORN		TELEPHONE POLE
	FUEL PUMP		TIDE GAUGE/STAFF
	HORIZONTAL CONTROL		UTILITY POLE
	ICE PLANT		VERTICAL CONTROL
	INVERT PIPE		WATER TAP/OUTLET
	JOB CRANE		WATER VALVE
	FLAG POLE		WATER WELL
	MARSH STRIDE		WOOD PILE
	CL RAILROAD		MARSH OUTLINE
	DRAIN PIPE		PROPERTY BOUNDARY
	EDGE ROAD/SHOULDER		RANGE LIGHT EXTENSION
	FENCE LINE		RETAINING WALL
	FLOATING WAVERBREAK		RSPAP
	GUARD RAIL		TIDE OF BANK
	HIGH WATER MARK		TREE LINE
	LOW WATER MARK		UNDERGROUND CABLE



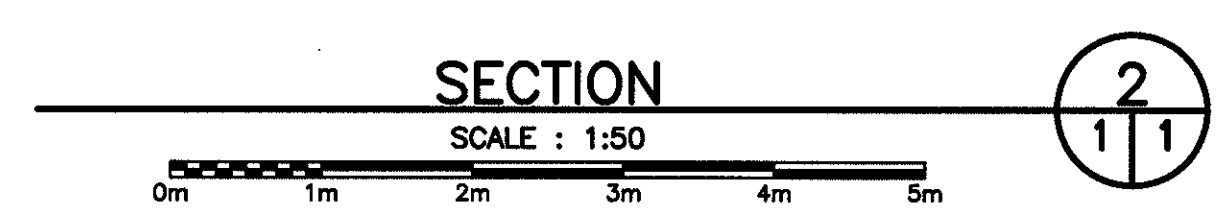
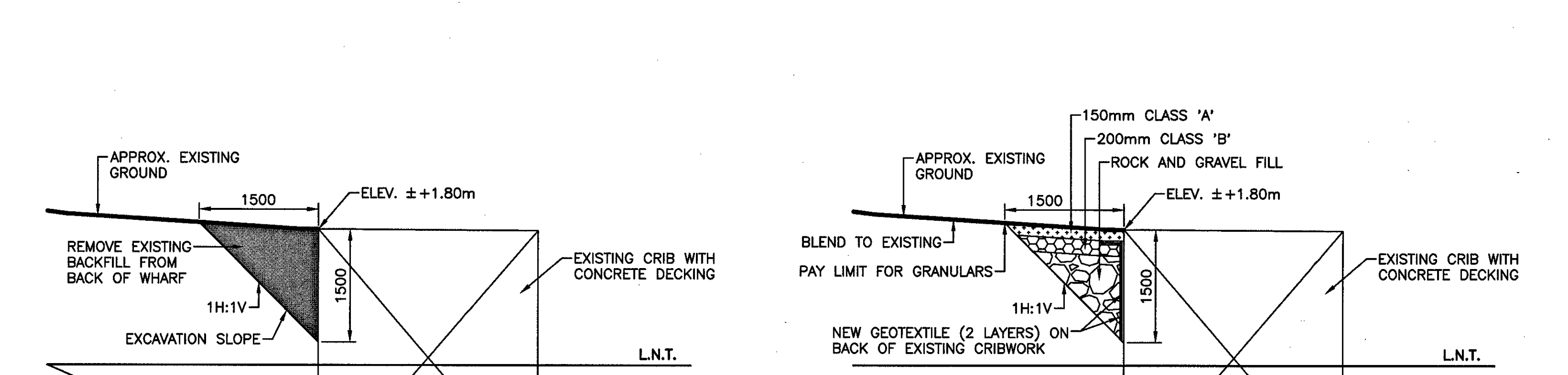
**LEGEND:**

	INDICATES 150mm CLASS 'A'
	INDICATES 200mm CLASS 'B'
	INDICATES ROCK AND GRAVEL FILL

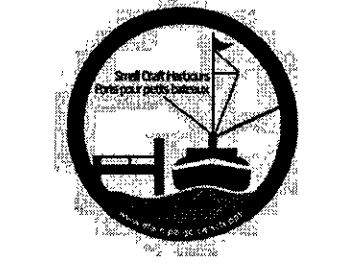


**LEGEND:**

	INDICATES 150mm CLASS 'A'
	INDICATES 200mm CLASS 'B'
	INDICATES ROCK AND GRAVEL FILL



**SMALL CRAFT HARBOURS**



- 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. as issued by APBNI, ED0292, which is valid for the year 2018.

STAMP  
 PROFESSIONAL ENGINEER  
 HEEL C. ROY  
 REGISTRATION NO. 11111  
 EXPIRES 6/8/19  
 NEWFOUNDLAND & LABRADOR

B	ISSUED FOR TENDER	6/8/19
A	ISSUED FOR REVIEW	4/17/19
revisions	date	
project	project	

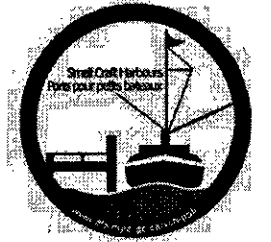
**SERVICE AREA IMPROVEMENTS  
 KING'S COVE, NL**

**SITE PLAN FOR UPLANDS WORK**

designed N.H.	constr
date JUNE 6, 2019	
drawn P.H.	designe
date JUNE 6, 2019	
approved	approve
Tender Paul Curran	Sourmission
DFO Project Manager	
project number 720710	no. du projet
drawing no. C1	no. du dessin

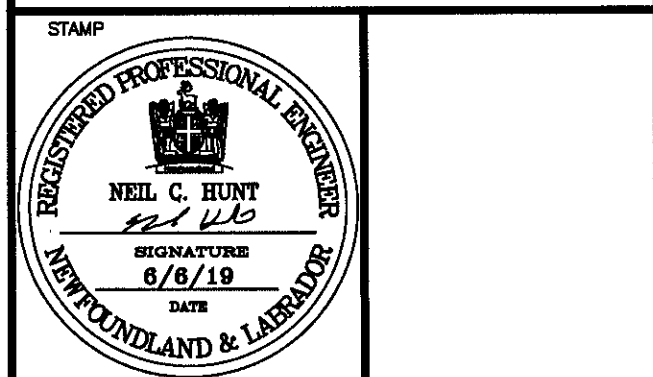
Plot Scale: PLOT\_SCALE

SMALL CRAFT HARBOURS



NOTES:  
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PROVINCE OF NEWFOUNDLAND  
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 APN ENGINEERING INC.  
 To practice Professional Engineering,  
 in Newfoundland and Labrador,  
 Permit No. as issued by APREG. 30288,  
 which is valid for the year 2019.



B	ISSUED FOR TENDER	6/6/19
A	ISSUED FOR REVIEW	4/17/19
revisions		date
project		project

SERVICE AREA IMPROVEMENTS  
 KING'S COVE, NL

SITE PLAN FOR SHORELINE PROTECTION WORK

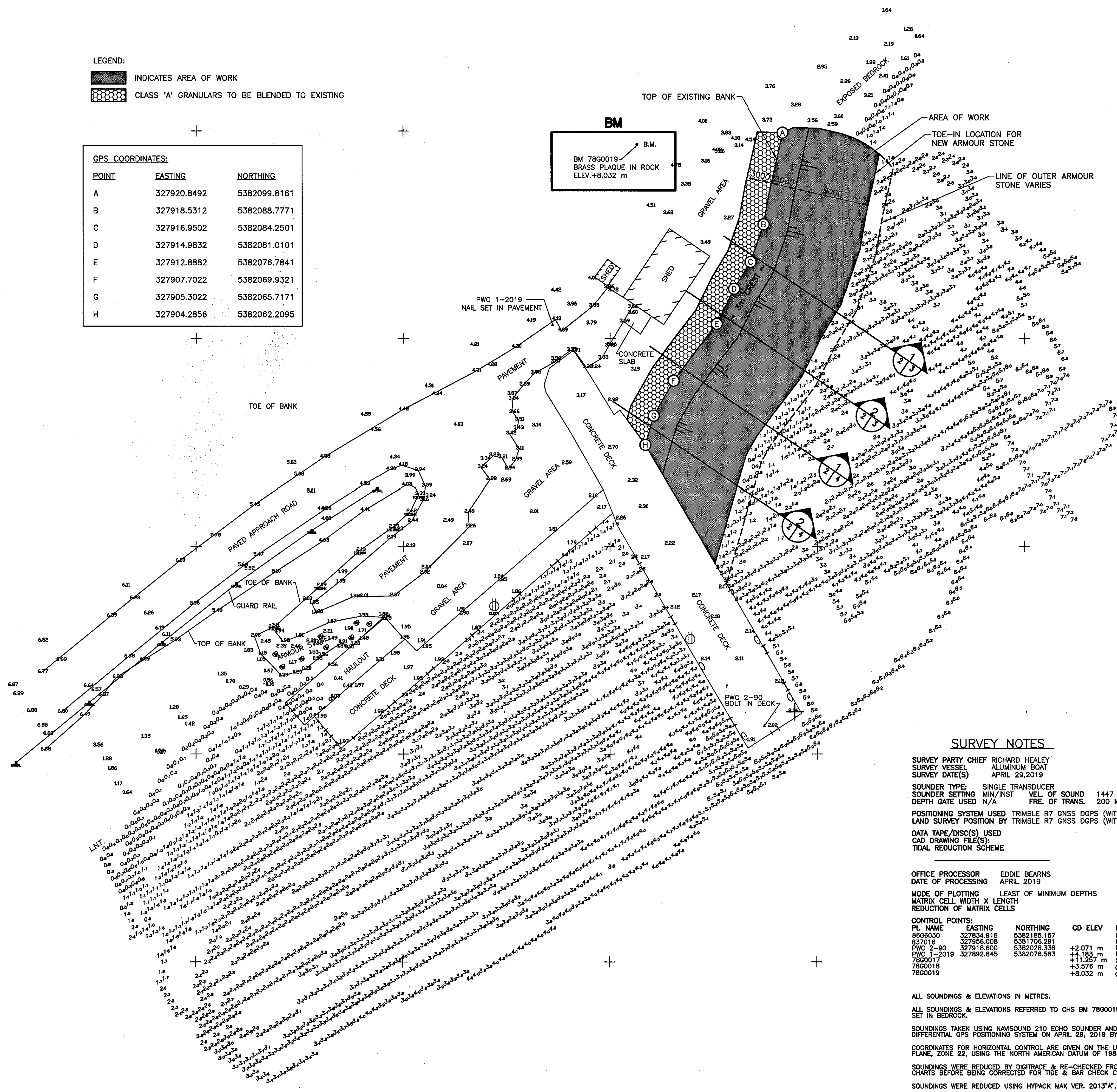
designed N.H.	concu
date JUNE 6, 2019	
drawn P.H.	desine
date JUNE 6, 2019	
approved	approve
Tender Paul Curran	Submission
DFO Project Manager	
project number 720710	no. du projet
drawing no. C2	no. du dessin

LEGEND:  
 INDICATES AREA OF WORK  
 CLASS 'A' GRANULARS TO BE BLENDED TO EXISTING

GPS COORDINATES:

POINT	EASTING	NORTHING
A	327920.8492	5382099.8161
B	327918.5312	5382088.7771
C	327916.9502	5382084.2501
D	327914.9832	5382081.0101
E	327912.8882	5382076.7841
F	327907.7022	5382069.9321
G	327905.3022	5382065.7171
H	327904.2856	5382062.2095

N 5 382 100 +  
 N 5 382 075 +  
 N 5 382 050 +  
 N 5 382 025 +  
 N 5 382 000 +  
 N 5 381 975 +



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 1. THERE MAY BE EXISTING OLD CRIBBING OR CONCRETE IN THE AREA OF WORK. IF ENCOUNTERED, REMOVE FOR OFF SITE DISPOSAL.

LEGEND

**SYMBOLS**

- ACQUANTURE
- ANCHOR BLOCK
- BELLARD
- BENCHM
- BOUNDARY MARKER
- CARD POSITION BURY
- CATCH BASIN
- CLEAT
- CULVERT
- DEBRICK
- DESIGN CONTROL
- ELECTRICAL OUTLET
- FIRE HYDRANT
- FIRST AID
- FISH HANDLING EQUIP.
- FDS HORN
- FUEL PUMP
- H PILE
- HORIZONTAL CONTROL
- ICE PLANT
- INVERT PIPE
- JIB CRANE
- FLAG POLE
- LADDER
- LIFE RING
- LIGHT STAIRWAY
- MANHOLE
- MARSH
- MAST/TOWER
- NAVIGATION LIGHT
- OBSERVED BUOY
- OBSERVED SPAR BUOY
- PIPE PILE
- RANGE LIGHT
- SAFETY POST
- SEWER OUTLET PIPE
- SSGH
- TELEPHONE
- TELEPHONE POLE
- TIDE GAUGE/STAFF
- TREE
- UTILITY POLE
- FUEL PUMP
- VERTICAL CONTROL
- WATER TAP/OUTLET
- WATER VALVE
- WATER WELL
- VOSS PILE

**LINE TYPE**

- ARMOUR STONE
- CL. RAILROAD
- SHAW PIPE
- EDGE ROAD / SHOULDER
- FENCE LINE
- FLOATING WAVEREAK
- GUARD RAIL
- HIGH WATER MARK
- LOW WATER MARK
- MARSH OUTLINE
- PROPERTY BOUNDARY
- RANGE LIGHT EXTENSION
- RETAINING WALL
- RRPAK
- TOE OF BANK
- TREE LINE
- UNDERGROUND CABLE

SURVEY NOTES

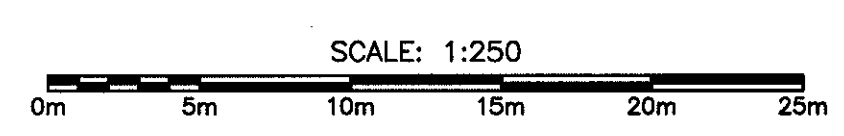
SURVEY PARTY CHIEF RICHARD HEALEY  
 SURVEY VESSEL ALUMINUM BOAT  
 SURVEY DATE(S) APRIL 29, 2019  
 SOUNDER TYPE: SINGLE TRANSDUCER  
 SOUNDER SETTING MIN/INST VEL OF SOUND 1447 m/s  
 DEPTH GATE USED N/A FREQ. OF TRANS. 200 KHZ  
 POSITIONING SYSTEM USED TRIMBLE R7 GNSS DGPS (WITH OTF)  
 LAND SURVEY 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 APRIL 2019  
 MODE OF PLOTTING LEAST OF MINIMUM DEPTHS  
 MATRIX CELL WIDTH X LENGTH  
 REDUCTION OF MATRIX CELLS

CONTROL POINTS:

PL. NAME	EASTING	NORTHING	CD ELEV	DESCRIPTION
860030	327834.918	5382185.157		PROVINCIAL BRASS PLAQUE SET IN BEDROCK
837018	327958.008	5381706.281		PROVINCIAL BRASS PLAQUE SET IN BEDROCK
FWC 2-80	327918.600	5382028.538	+2.071 m	BOLT CEMENTED IN CONCRETE DECK
FWC 1-2019	327892.845	5382076.983	+4.183 m	NAIL SET IN PAVEMENT
7800017			+11.257 m	CHS BRASS PLAQUE SET IN BEDROCK
7800018			+3.575 m	CHS BRASS PLAQUE SET IN BEDROCK
7800019			+8.032 m	CHS BRASS PLAQUE SET IN BEDROCK

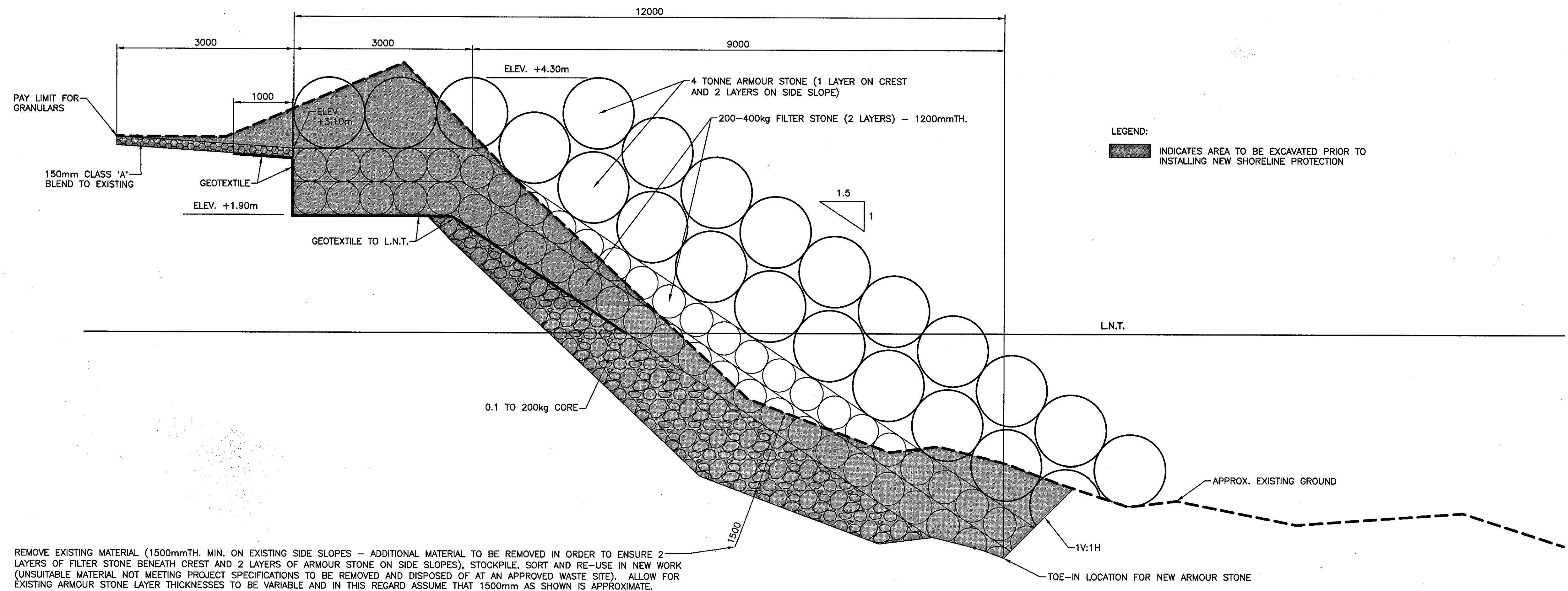
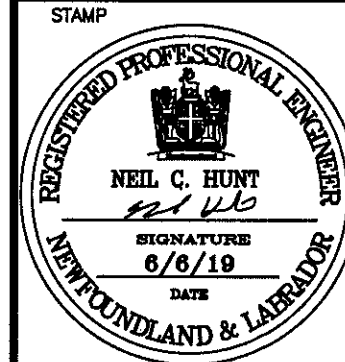
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 COORDINATES FOR HORIZONTAL CONTROL ARE GIVEN ON THE U.T.M. MAPPING PLANE, ZONE 22, USING THE NORTH AMERICAN DATUM OF 1983 (NAD83).  
 SOUNDINGS WERE REDUCED BY DIGITRACE & RE-CHECKED FROM SOUNDING CHARTS BEFORE BEING CORRECTED FOR TIDE & BAR CHECK 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 KING'S COVE BOOK #126.





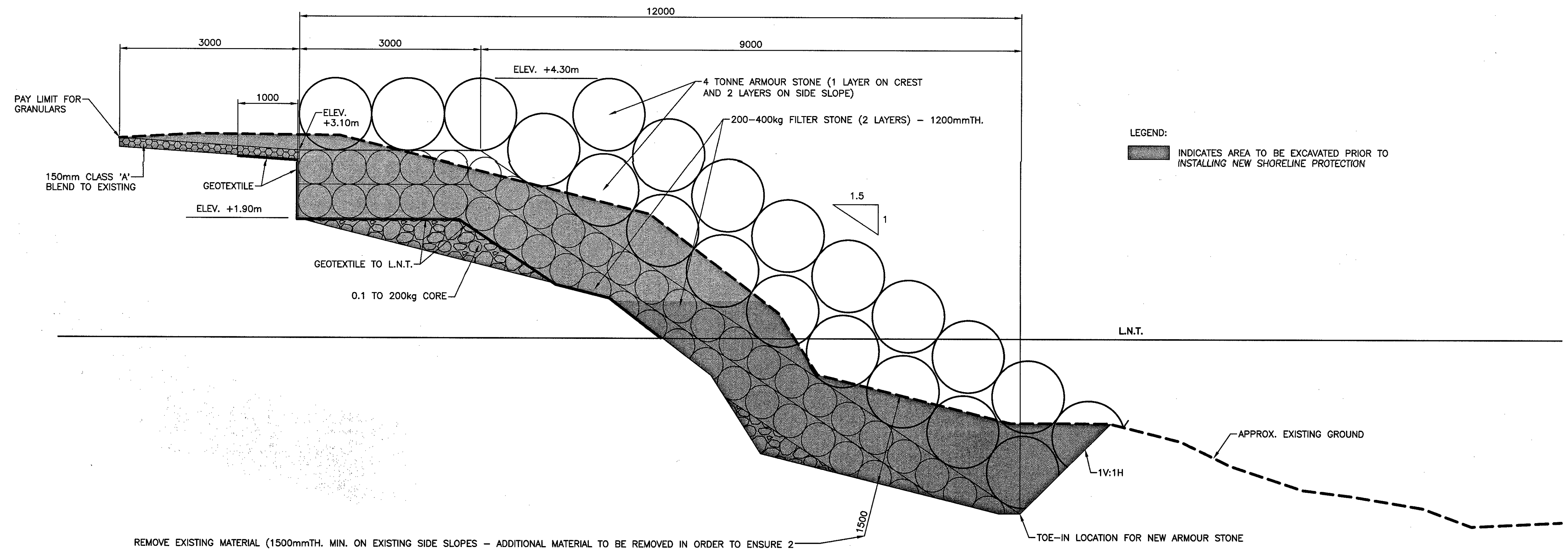
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PROVINCE OF NEWFOUNDLAND  
 PERMIT HOLDER  
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 APN ENGINEERING INC.  
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REMOVE EXISTING MATERIAL (1500mmTH. MIN. ON EXISTING SIDE SLOPES - ADDITIONAL MATERIAL TO BE REMOVED IN ORDER TO ENSURE 2 LAYERS OF FILTER STONE BENEATH CREST AND 2 LAYERS OF ARMOUR STONE ON SIDE SLOPES), STOCKPILE, SORT AND RE-USE IN NEW WORK (UNSUITABLE MATERIAL NOT MEETING PROJECT SPECIFICATIONS TO BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE SITE). ALLOW FOR EXISTING ARMOUR STONE LAYER THICKNESSES TO BE VARIABLE AND IN THIS REGARD ASSUME THAT 1500mm AS SHOWN IS APPROXIMATE.

SECTION 1  
 SCALE: 1:40



REMOVE EXISTING MATERIAL (1500mmTH. MIN. ON EXISTING SIDE SLOPES - ADDITIONAL MATERIAL TO BE REMOVED IN ORDER TO ENSURE 2 LAYERS OF FILTER STONE BENEATH CREST AND 2 LAYERS OF ARMOUR STONE ON SIDE SLOPES), STOCKPILE, SORT AND RE-USE IN NEW WORK (UNSUITABLE MATERIAL NOT MEETING PROJECT SPECIFICATIONS TO BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE SITE). ALLOW FOR EXISTING ARMOUR STONE LAYER THICKNESSES TO BE VARIABLE AND IN THIS REGARD ASSUME THAT 1500mm AS SHOWN IS APPROXIMATE.

SECTION 2  
 SCALE: 1:40

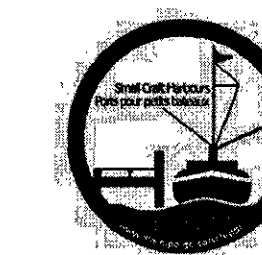
B	ISSUED FOR TENDER	6/6/19
A	ISSUED FOR REVIEW	4/17/19
revisions		date
project		project

SERVICE AREA IMPROVEMENTS  
 KING'S COVE, NL

SECTIONS

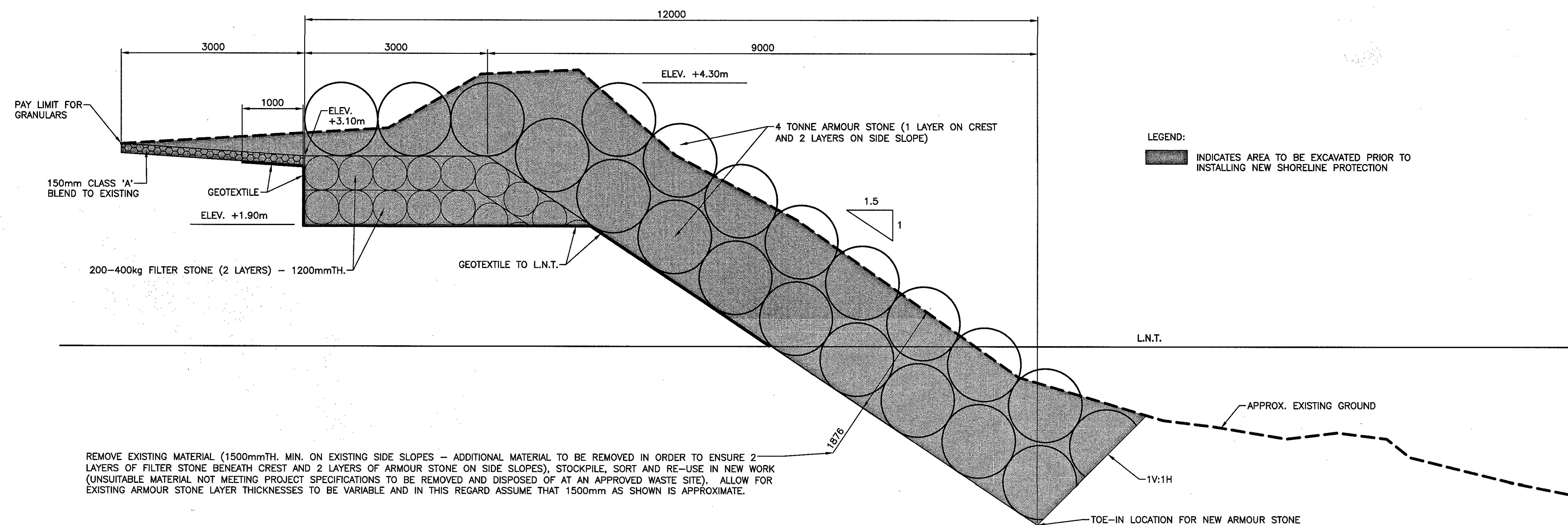
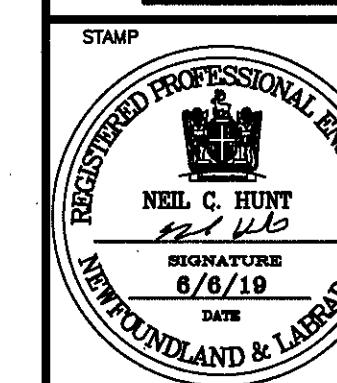
designed	N.H.	constr
date	JUNE 6, 2019	
drawn	P.H.	designe
date	JUNE 6, 2019	
approved		approve
Tender	<i>Paul Curran</i>	Sourmission
DFO Project Manager		
project number	720710	no. du projet
drawing no.	C3	no. du dessin

SMALL CRAFT HARBOURS



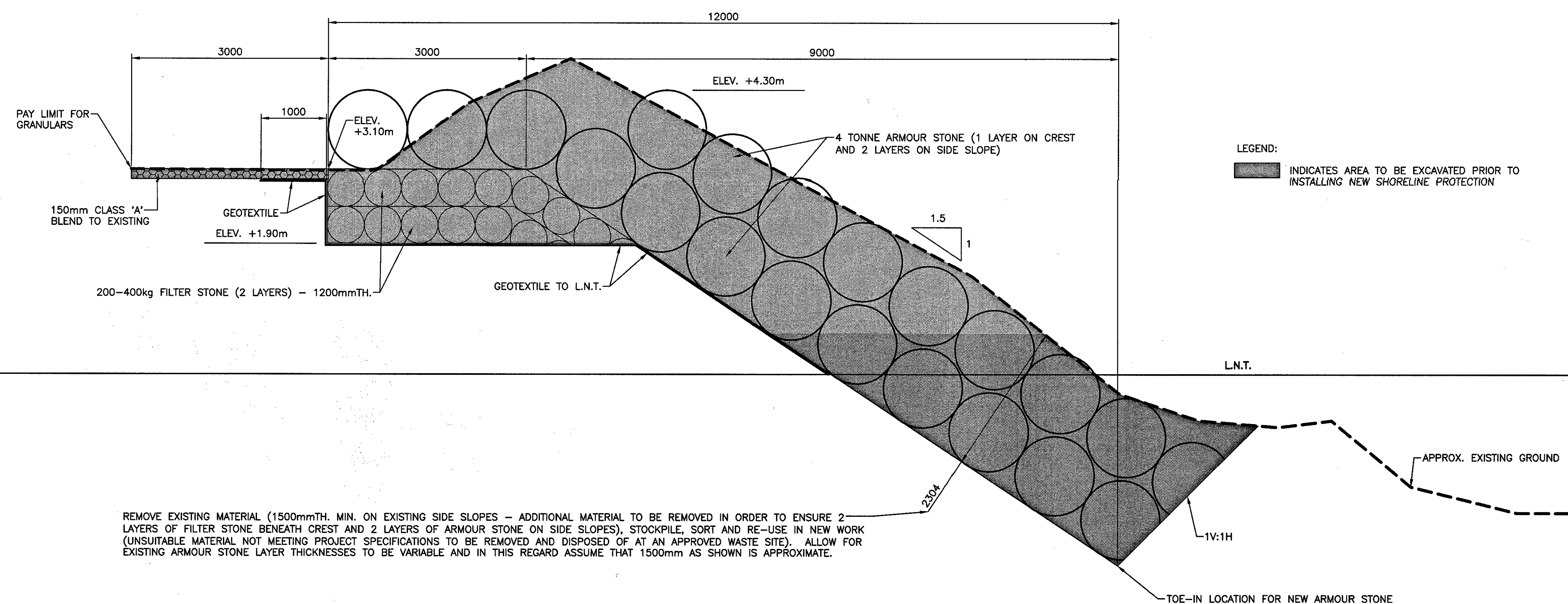
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REMOVE EXISTING MATERIAL (1500mmTH. MIN. ON EXISTING SIDE SLOPES - ADDITIONAL MATERIAL TO BE REMOVED IN ORDER TO ENSURE 2 LAYERS OF FILTER STONE BENEATH CREST AND 2 LAYERS OF ARMOUR STONE ON SIDE SLOPES), STOCKPILE, SORT AND RE-USE IN NEW WORK (UNUSABLE MATERIAL NOT MEETING PROJECT SPECIFICATIONS TO BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE SITE). ALLOW FOR EXISTING ARMOUR STONE LAYER THICKNESSES TO BE VARIABLE AND IN THIS REGARD ASSUME THAT 1500mm AS SHOWN IS APPROXIMATE.

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SECTION 2  
 SCALE: 1:40

B	ISSUED FOR TENDER	6/6/19
A	ISSUED FOR REVIEW	4/17/19
revisions	date	
project	project	

SERVICE AREA IMPROVEMENTS  
 KING'S COVE, NL

SECTIONS

designed	N.H.	conou
date	JUNE 6, 2019	
drawn	P.H.	designe
date	JUNE 6, 2019	
approved		approve
Tender	Paul Curran	Submission
DFO Project Manager		
project number	720710	no. du projet
drawing no.	C4	no. du dessin