

## Notes to Users

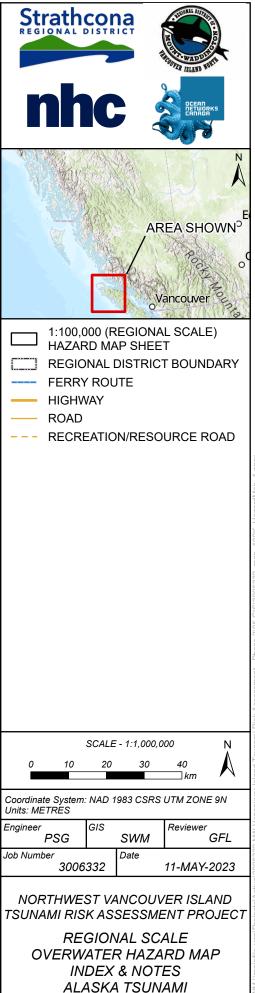
- Please refer to the **Disclaimer** below. Please review the associated project report before referring to the maps: Northwest Hydraulic Consultants Ltd. (NHC). 2023. 'Northwest Vancouver Island Tsunami Risk Assessment (Phase 2)'. Report prepared for Ocean Networks Canada. NHC project number 3006332. 3 Tsunami model results shown correspond to an earthquake with a
- magnitude of 9.2 from the Alaska-Aleutian Subduction Zone. Please refer to the project report for additional information on tsunami source. Initial water level for tsunami simulations consists of current-day Higher
- High Water Mean Tide (HHWMT) which at Winter Harbour and Gold River terminal correspond to an elevation of 1.5 m above the Canadian Geodetic Vertical Datum of 2013 (CGVD2013). HHWMT is defined as the average from all the higher high waters from 19 years of tidal predictions.
- Information shown on maximum tsunami amplitude maps corresponds to model results of maximum water surface elevation above a reference plane corresponding to HHWMT. Over the ocean this information corresponds to the maximum tsunami amplitude, which is defined as the vertical distance of the tsunami wave crest above the reference plane. Overland this information corresponds to the maximum tsunami runup, which is defined as the vertical distance of the leading edge (most upland reach) of the tsunami flow above the reference plane.
- Information shown on maximum tsunami-induced current velocity maps corresponds to model results of maximum current velocity encountered during the tsunami. Tsunami simulations were performed for a constant tide level and therefore do not include the influence of tidal currents, on which can be superimposed tsunami-induced currents.
- No safety factor, or freeboard was applied to the results shown on these maps. Any inundation visible on these maps corresponds to the inundation as estimated by the numerical model without any adjustment and should be considered as indicative only. For inundation extents, refer to maps of tsunami inundation level for emergency planning to which a safety factor is applied.
- These maps provide results for one possible tsunami scenario with 8. associated earthquake magnitude and subduction zone rupture mechanism. Inundation characteristics and associated effects can vary for different tsunami scenarios that may occur.
- The influence stream flow may have on the propagation and inundation of tsunamis in rivers and creeks was not included in the numerical model

## **Data Sources and References**

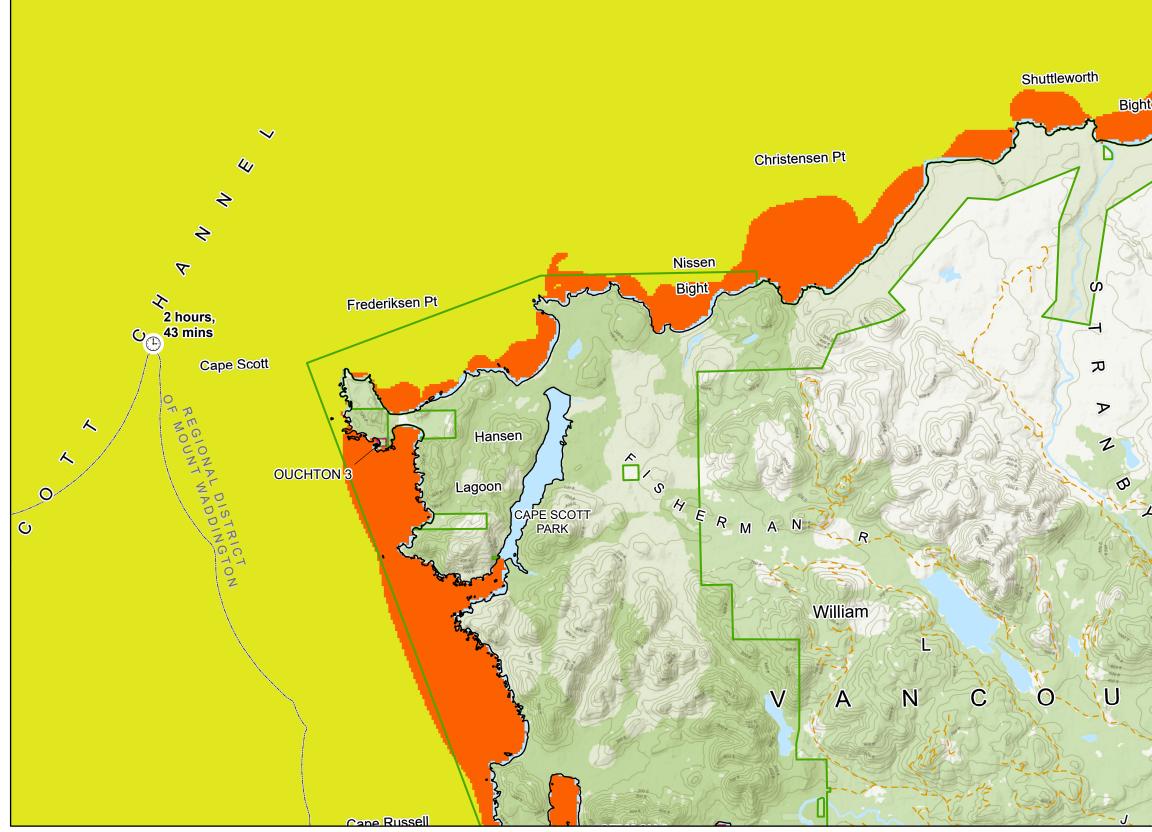
- 1. Topographic basemaps from Esri Canada, Natural Resources Canada, and Esri Canadian Community Maps contributors.
- 2. Imagery basemaps from Esri and Maxar. 3. Coastline and riverbanks from GeoBC 1:20.000 scale Freshwater Atlas data
- First Nation administrative boundaries based on GeoBC data with 4 adjustments by NHC and should be considered as approximate only.
- 5. Road locations and classification based on GeoBC Digital Roads Atlas data with adjustments by NHC and should be considered approximate only.
- 6. Ferry route, municipal boundary, and regional district boundary data from GeoBC.

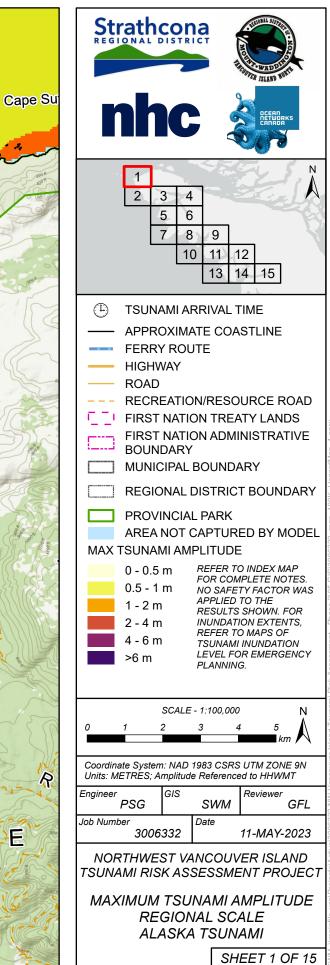
## Disclaimer

These maps have been prepared by Northwest Hydraulic Consultants Ltd. for the benefit of Ocean Networks Canada Society and The Lake Family's All One Fund for specific application to the Northwest Vancouver Island Tsunami Risk Assessment Phase II project undertaken to support emergency planning in Nootka Sound and Quatsino Sound, British Columbia. The information and data contained herein represent Northwest Hydraulic Consultants Ltd.'s best professional judgement in light of the knowledge and information available to Northwest Hydraulic Consultants Ltd. at the time of preparation and was prepared in accordance with generally accepted engineering and geoscience practices. Except as required by law, these maps and the information and data contained herein are for the information of Ocean Networks Canada Society and The Lake Family's All One Fund, their officers, and employees. Northwest Hydraulic Consultants Ltd. denies any liability whatsoever to other parties who may obtain access to these maps for any injury, loss, or damage suffered by such parties arising from their use of or reliance upon these maps or any of their contents.

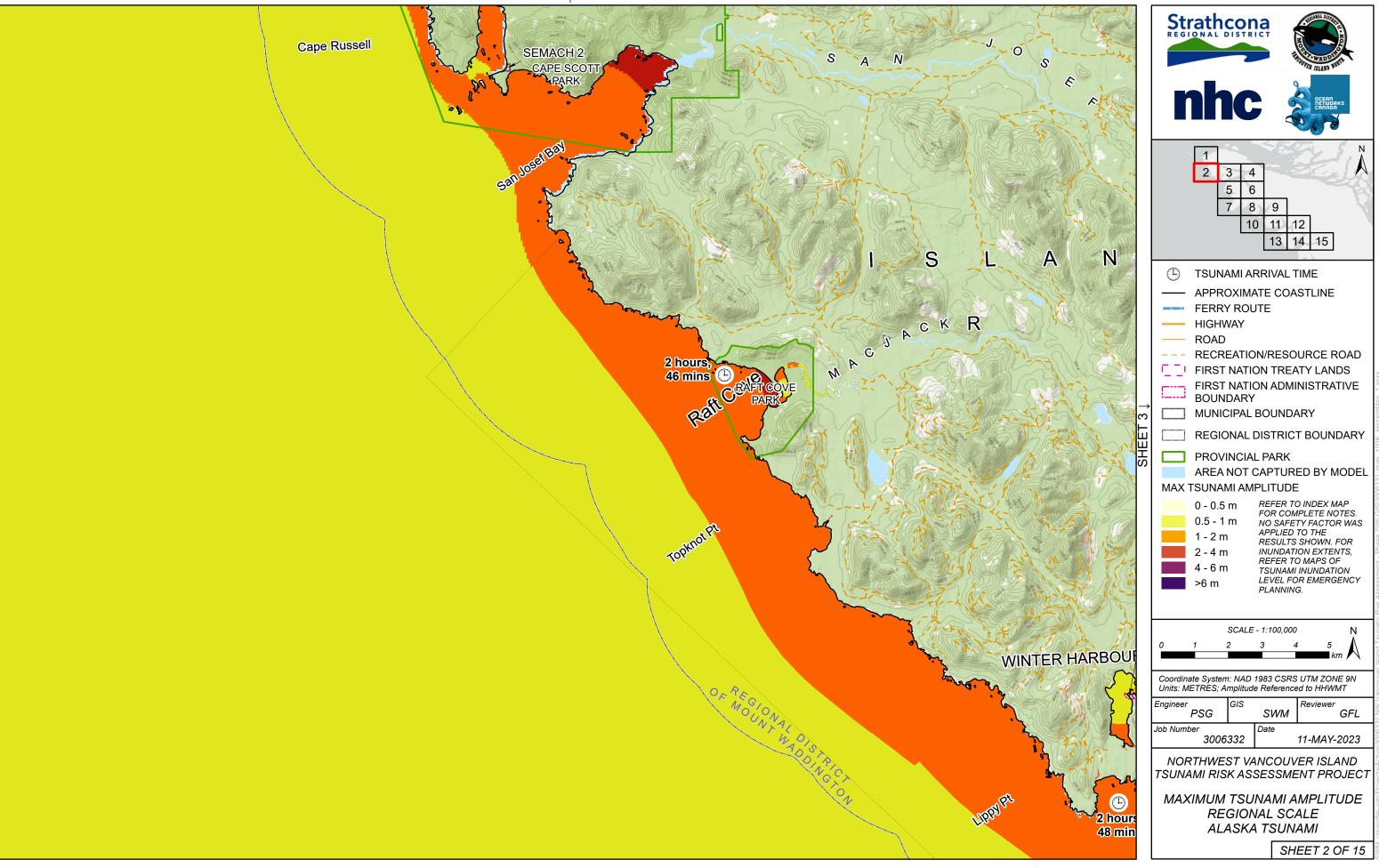


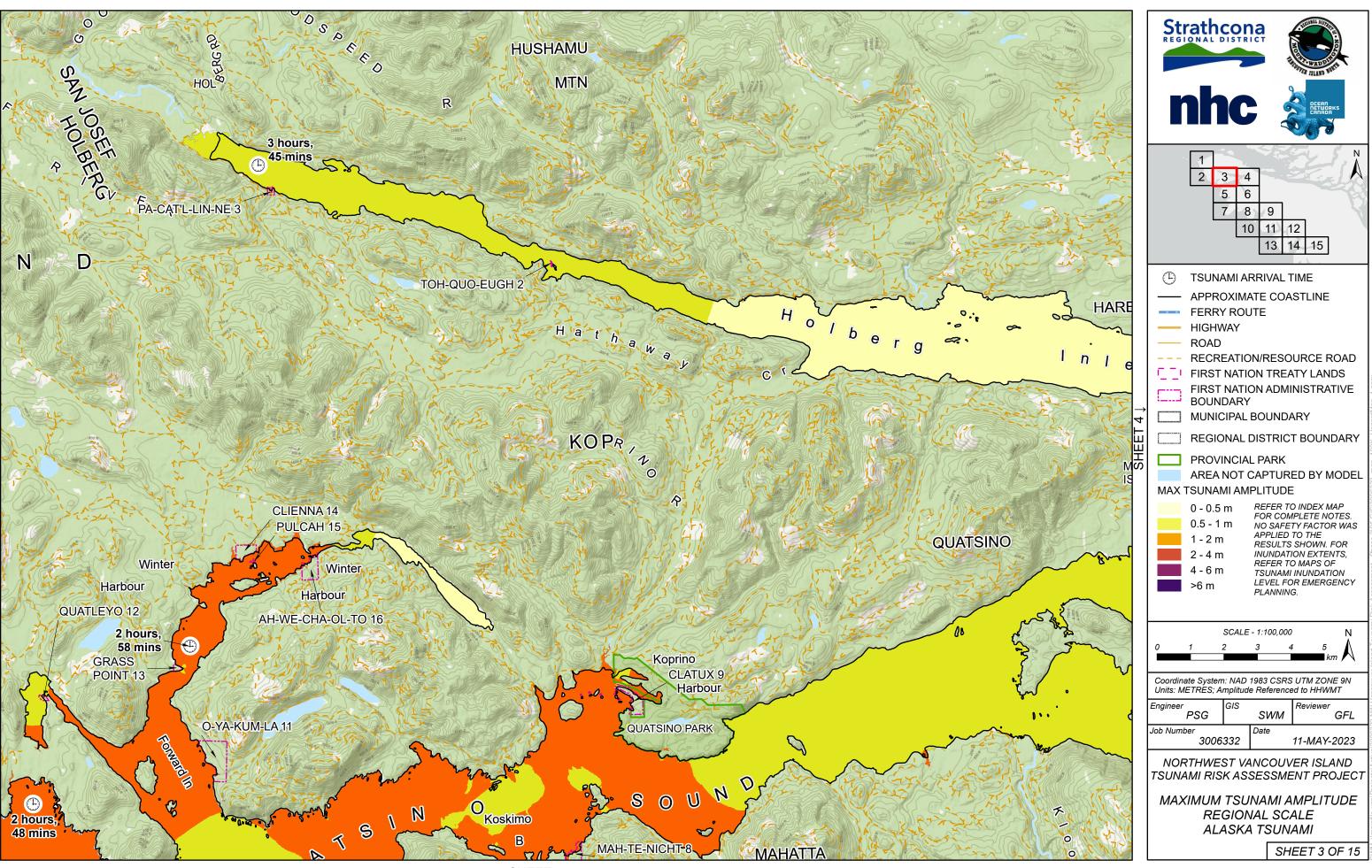
## U N S 0 D

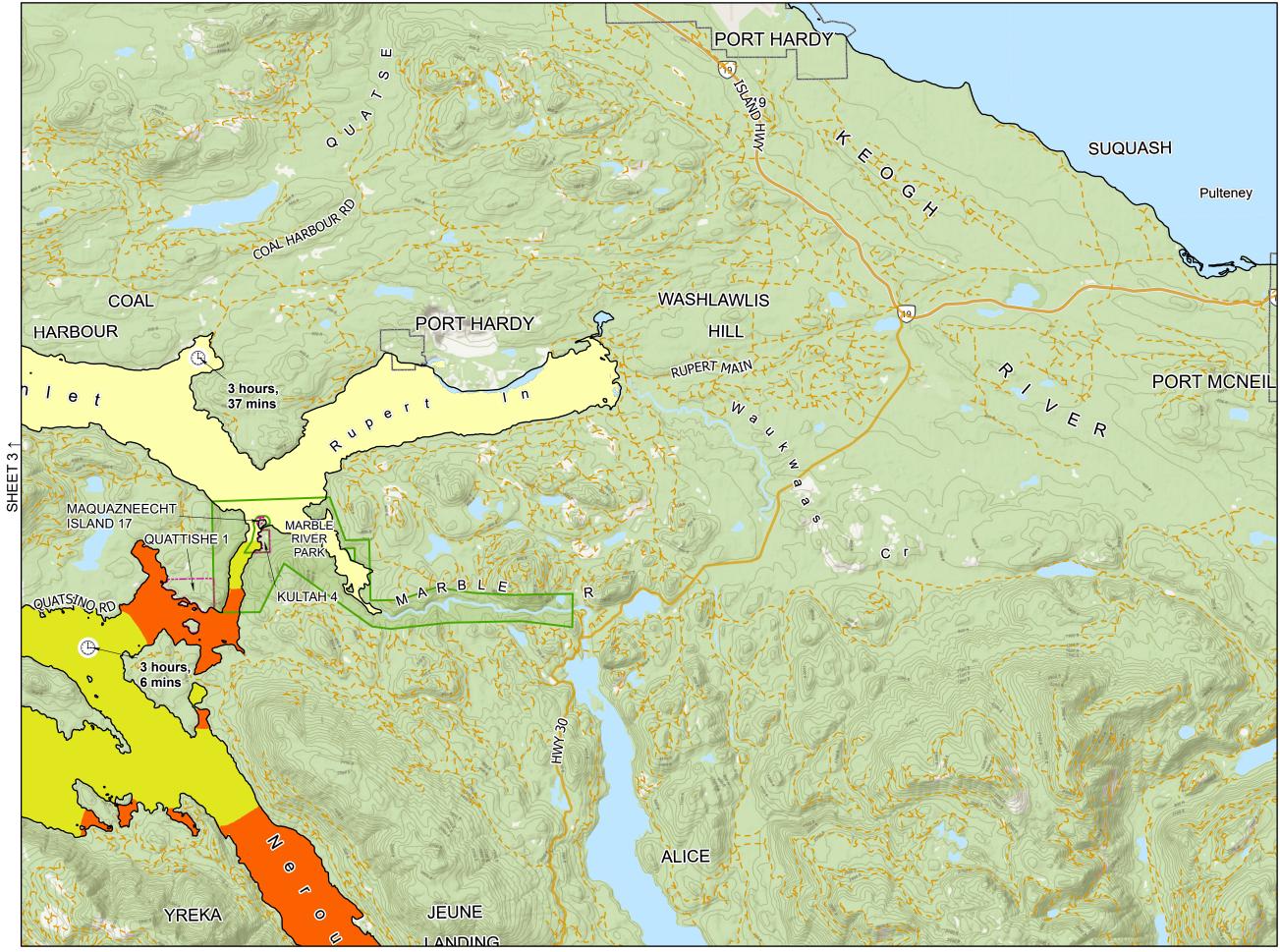




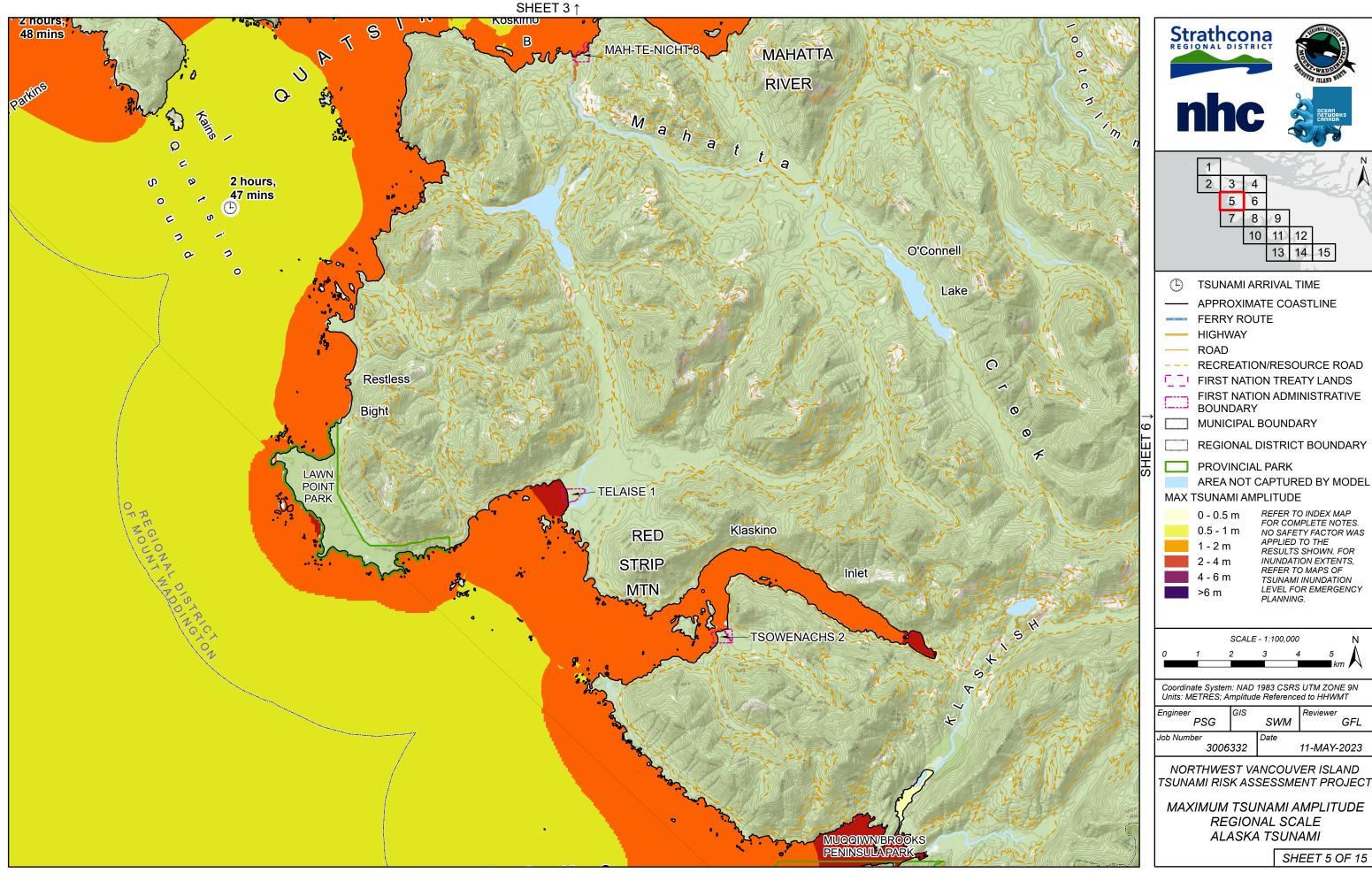
E



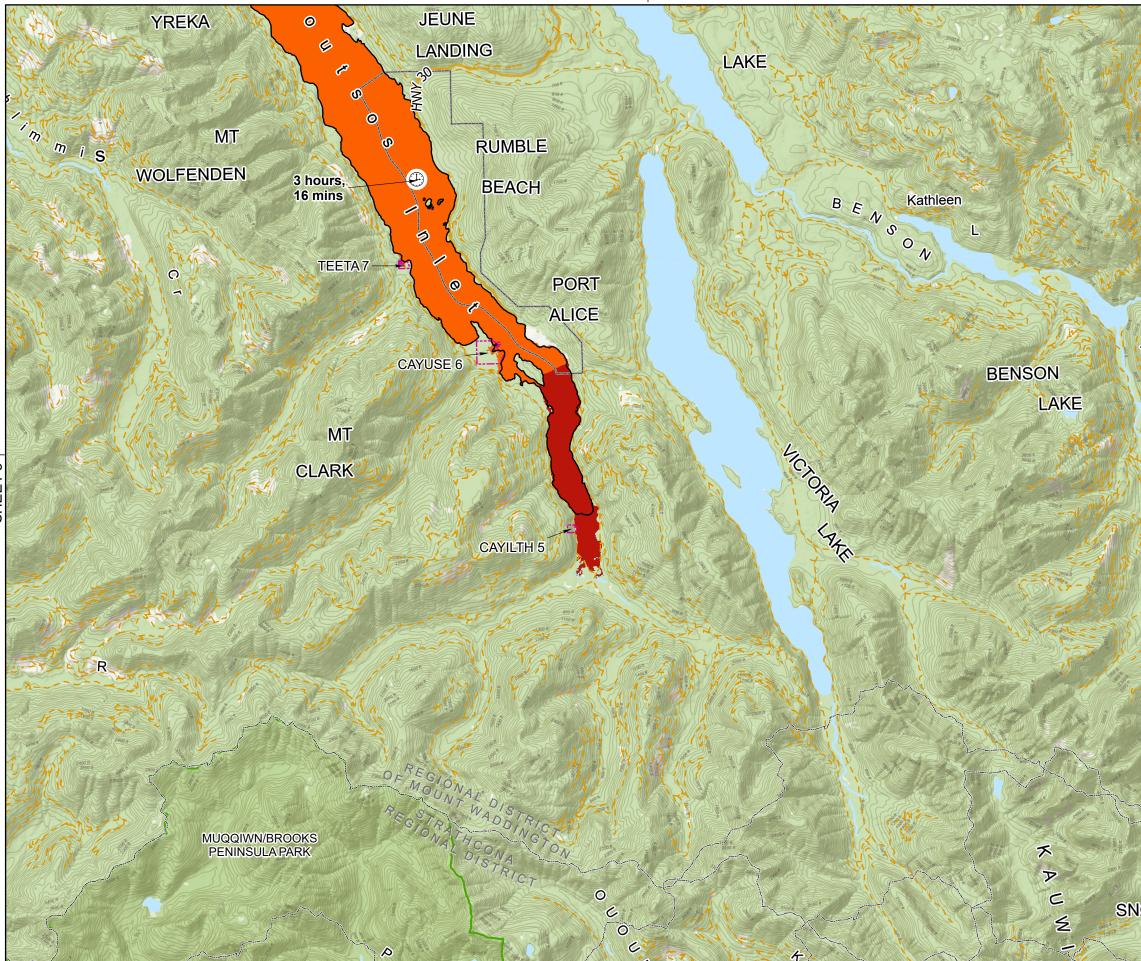


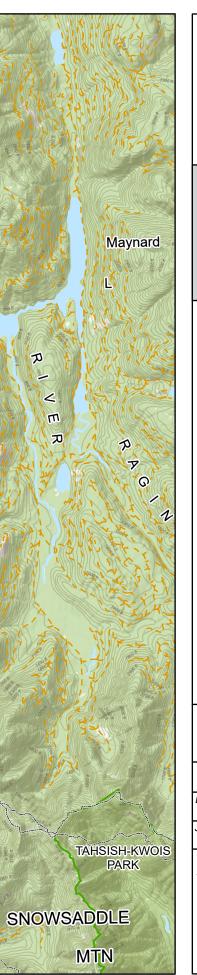


				HILING STATES	the state
ľ	h			REFERENCE	кs
	1	3 4 5 6 7 8 10	9	12 14 15	Z
	TSUN		RRIVAL	TIME	
$\subseteq$	-			ASTLINE	
		Y ROL			
—	HIGH	WAY			
	ROAD				045
 	-	-		OURCE R	-
·					
L		IDARY			
	MUNI	CIPAL	BOUN	DARY	
	REGI	ONALI	DISTRI	CT BOUNI	DARY
	-	-	L PARK		
		-	CAPTU PLITUI		IODEL
	0 - 0.5			TO INDEX M	AP
	0.5 - 1			MPLETE NC	
	1 - 2 r	n		D TO THE 'S SHOWN. F	=OR
	2 - 4 r			TION EXTEN TO MAPS OF	
	4 - 6 r >6 m	n		AI INUNDATI FOR EMERG	
	2011		PLANN	NG.	
0	1	SCALE 2	- 1:100,0 3	00 4 5	N ▲
		2	5	-, 5 kı	m 🖊 m
				S UTM ZON	
Units: M Engineer	EIRES;	GIS	e rtererei	ced to HHWN Reviewer	<i>n</i> 1
	PSG		SWM		GFL
Job Numb		6332	Date	11-MAY-	2023
				VER ISLA IENT PRO	
MAXIMUM TSUNAMI AMPLITUDE					
REGIONAL SCALE					
ALASKA TSUNAMI					
			S	HEET 4 C	DF 15

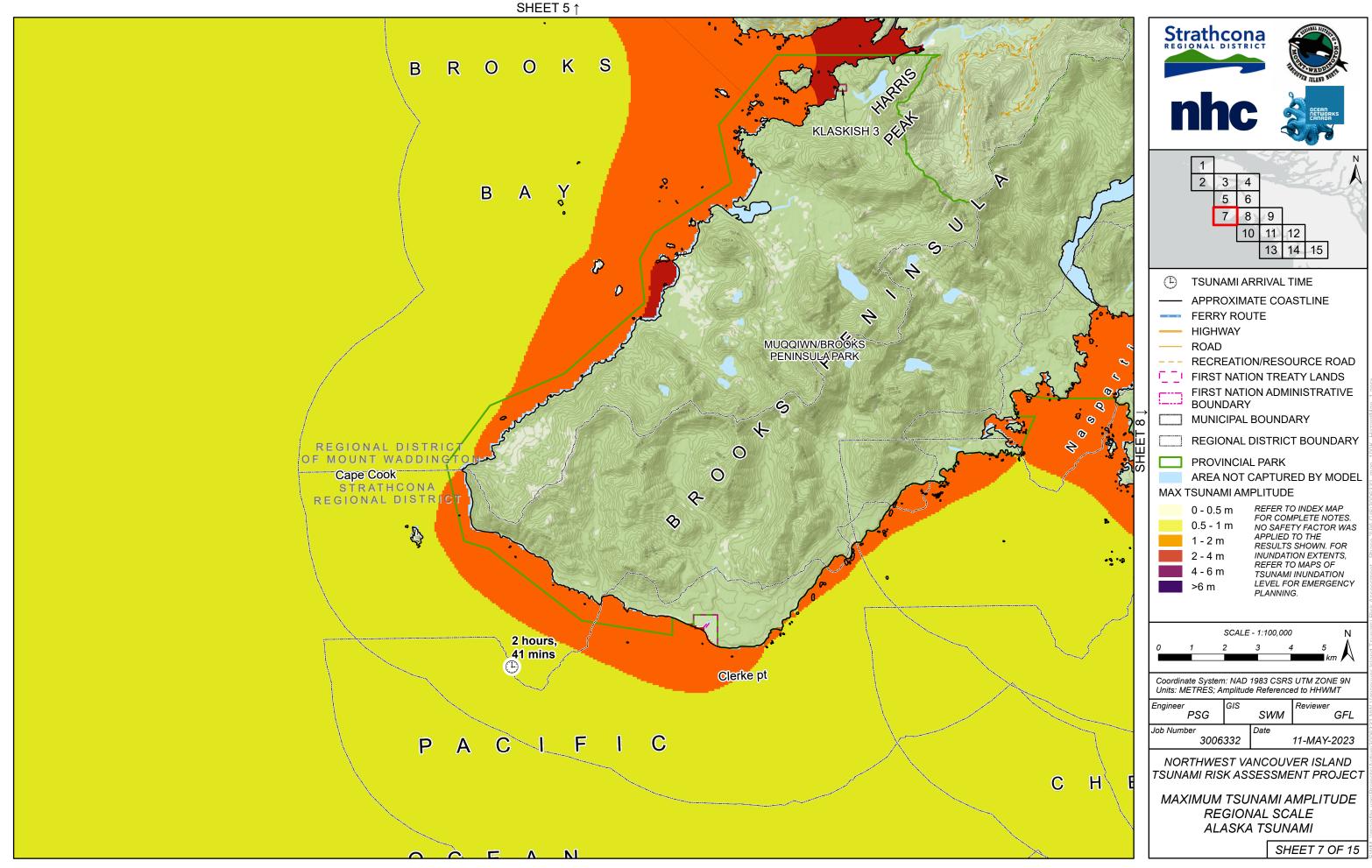


SHEET 4 ↑

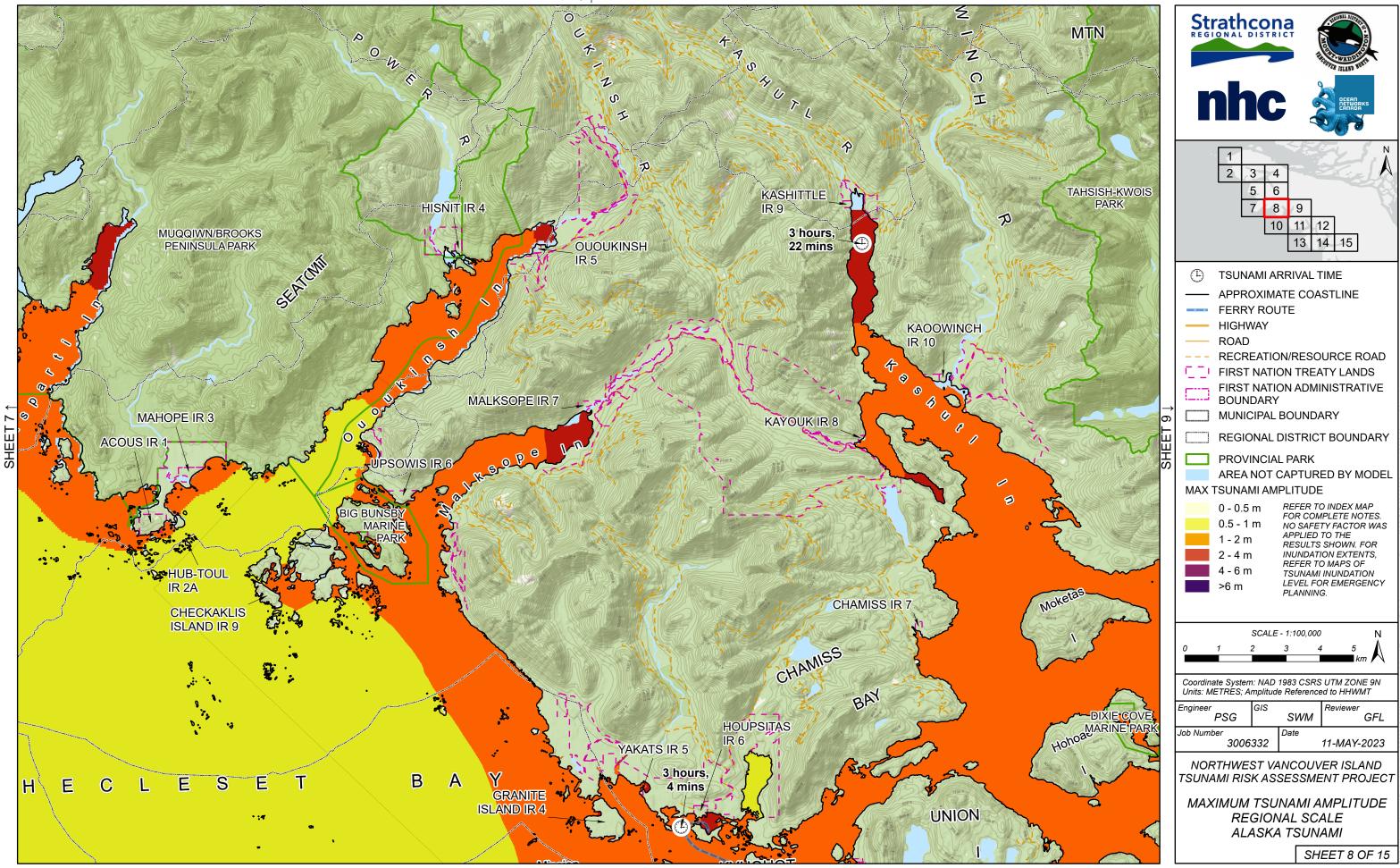




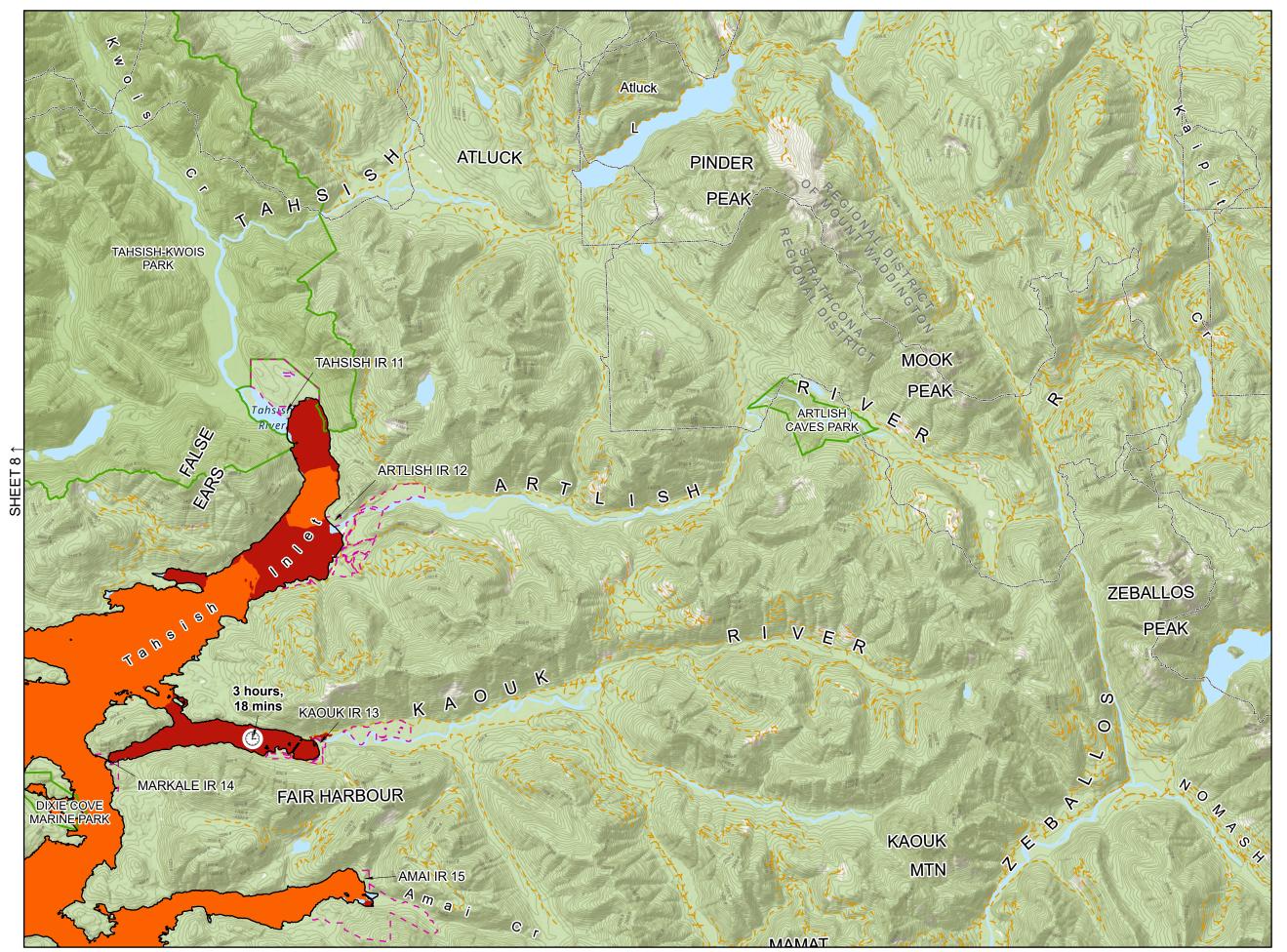
Str	ath			THE REAL PROPERTY AND	
ľ					
	1	3 4 5 6 7 8 10	9	12 14 15	
<ul> <li>TSUNAMI ARRIVAL TIME</li> <li>APPROXIMATE COASTLINE</li> <li>FERRY ROUTE</li> <li>HIGHWAY</li> <li>ROAD</li> </ul>					
	FIRST FIRST BOUN	NATIO NATIO IDARY	ON TR ON AD	SOURCE EATY LA MINISTR DARY	NDS
MAX 1	PROV	INCIA NOT (	L PARI CAPTU	RED BY	NDARY MODEL
	0 - 0.5 0.5 - 1 1 - 2 n 2 - 4 n 4 - 6 n >6 m	m n n	FOR C NO SA APPLIE RESUL INUND REFER TSUNA	TO INDEX DMPLETE ETY FACT D TO THE TS SHOWI ATION EXT TO MAPS MI INUND FOR EMEI ING.	NOTES. FOR WAS N. FOR FENTS, OF ATION
0	1	SCALE 2	- 1:100,0 3		5 N
Coordinate System: NAD 1983 CSRS UTM ZONE 9N Units: METRES; Amplitude Referenced to HHWMT					
Engineer	PSG	GIS	SWA	Review	
lob Numb	<sup>er</sup> 3006	5332	Date	11-MA	Y-2023
NORTHWEST VANCOUVER ISLAND TSUNAMI RISK ASSESSMENT PROJECT					
MAX	RE	GION	IAL S A TSU	AMPLI CALE NAMI HEET 6	



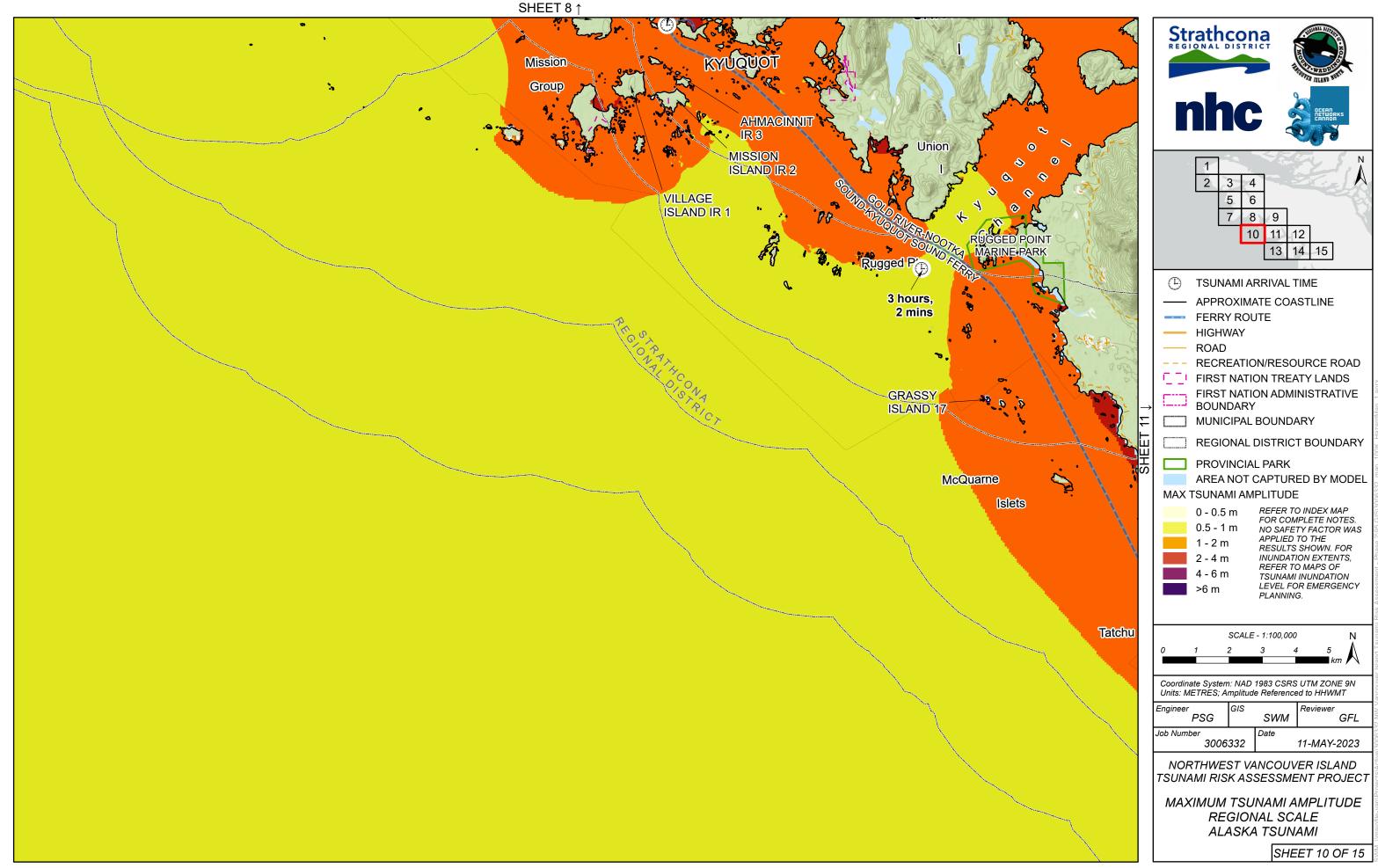
SHEET 6 ↑

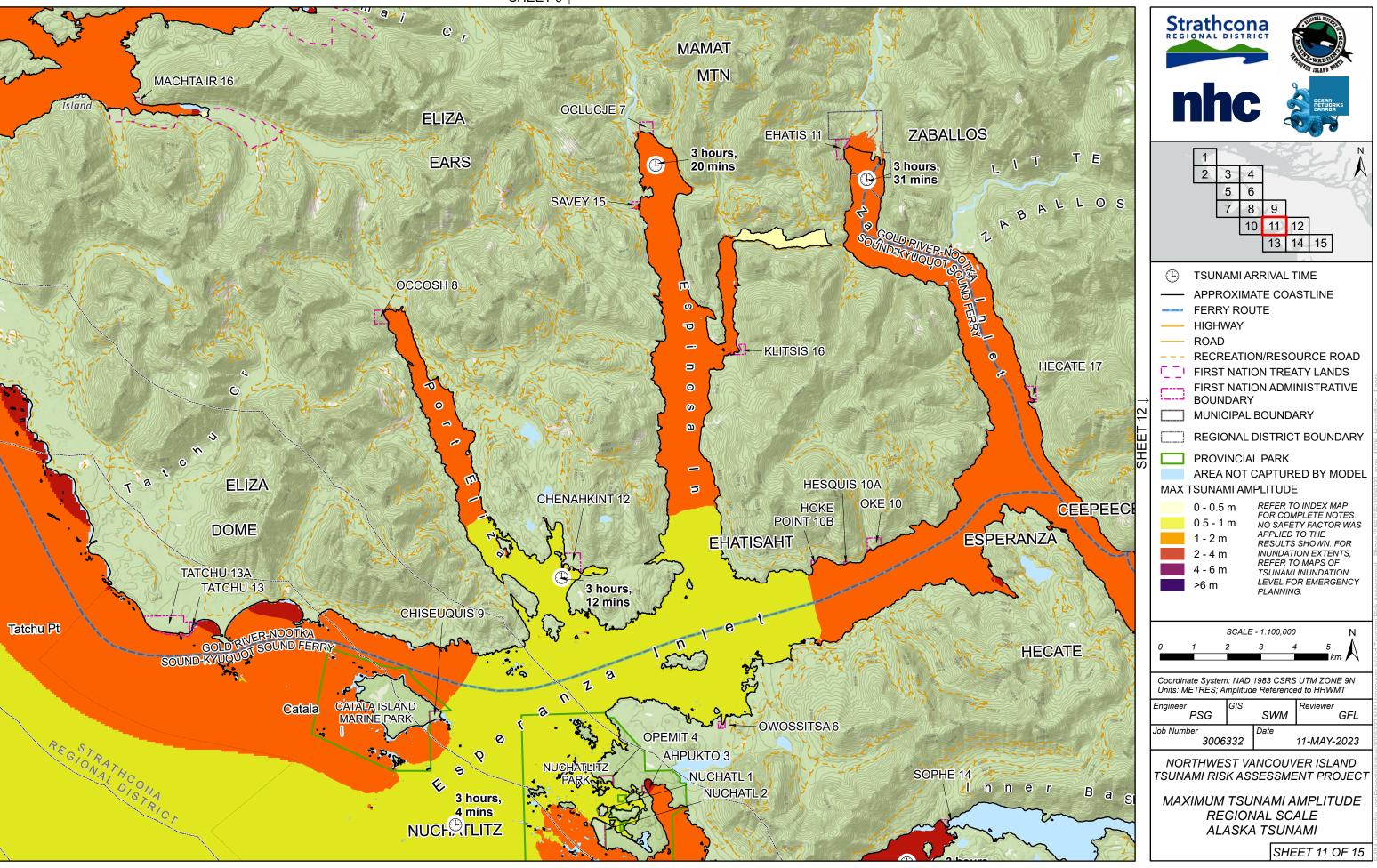


SHEET 10  $\downarrow$ 



	ONAL			
ľ	h			DCEAN CEANDRKS CRINEDA
	1 2	3 4 5 6 7 8 10	5 9 0 11	12 14 15
(1)			RRIVAI	
$\bigcirc$	13010		RRIVAL	
				ASTLINE
	FERR		JTE	
	HIGHV			
	ROAD			
22.				
''				
	BOUN			INISTRATIVE
			BOUND	ARY
[]				
L]	REGIC	DNAL	DISTRIC	T BOUNDARY
	PROV	INCIA	L PARK	
	AREA	NOT (	CAPTUF	RED BY MODEL
MAX -	TSUNA	MI AM	PLITUD	E
	0 - 0.5	m		O INDEX MAP MPLETE NOTES.
	0.5 - 1			TY FACTOR WAS
	1 - 2 m	ı	APPLIED RESULTS	) TO THE S SHOWN. FOR
	2 - 4 m	ו		TION EXTENTS, TO MAPS OF
	4 - 6 m	۱	TSUNAM	II INUNDATION
	>6 m		LEVEL F	OR EMERGENCY IG.
			4.400.00	
0	1	2	- 1:100,00 3	0 N 4 5 Å
			5	km 시
Coordinate System: NAD 1983 CSRS UTM ZONE 9N				
Units: M	ETRES; A	mplitud	e Referenc	ed to HHWMT
Engineer	PSG	GIS	SWM	Reviewer GFL
Job Numb	<sup>ber</sup> 3006	332	Date	11-MAY-2023
NORTHWEST VANCOUVER ISLAND TSUNAMI RISK ASSESSMENT PROJECT				
MAXIMUM TSUNAMI AMPLITUDE				
REGIONAL SCALE				
ALASKA TSUNAMI				
	,/			
			I SF	IEET 9 OF 15

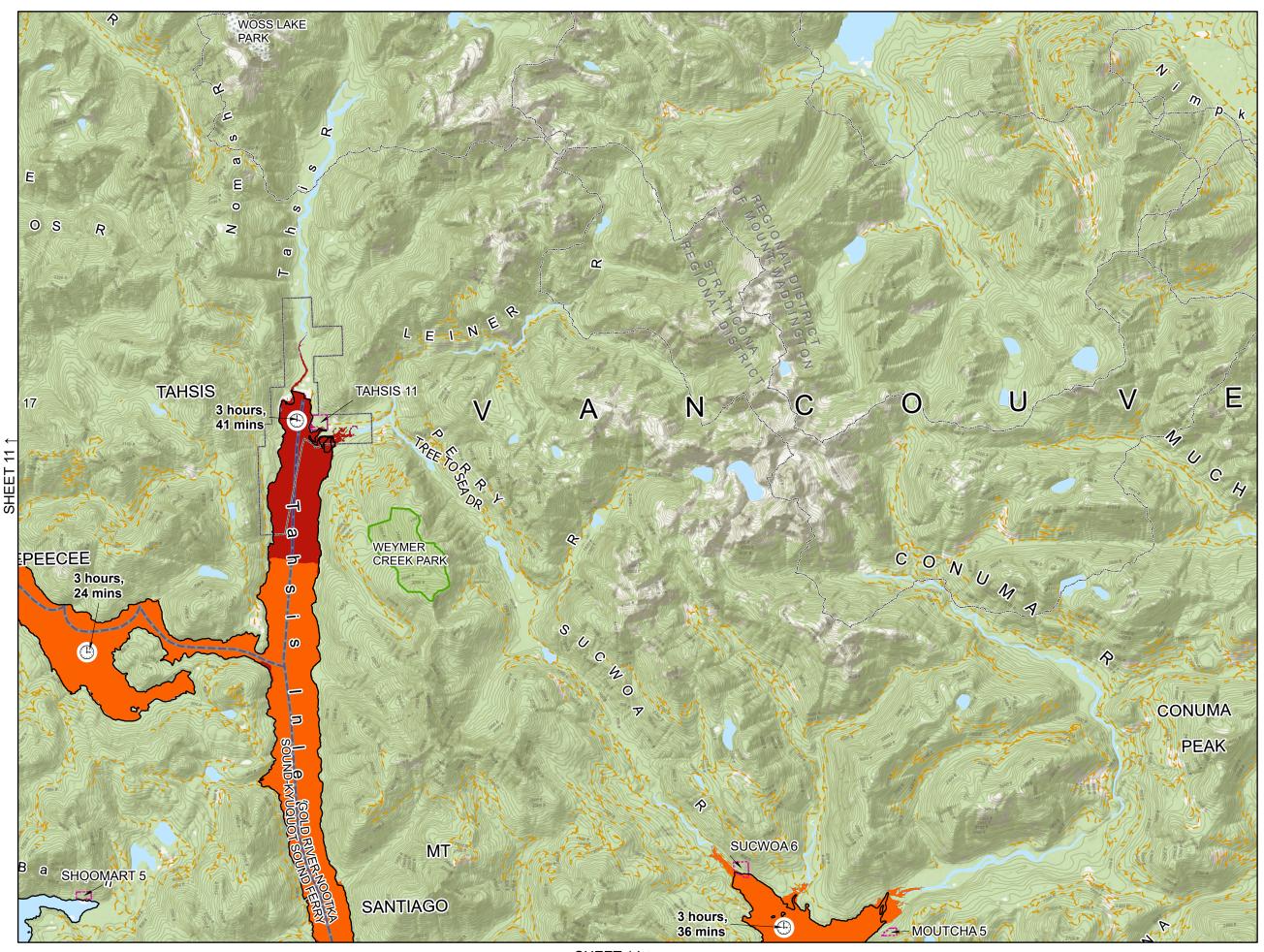


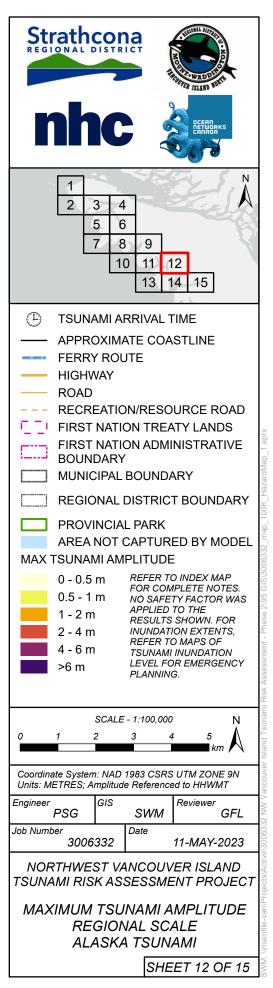


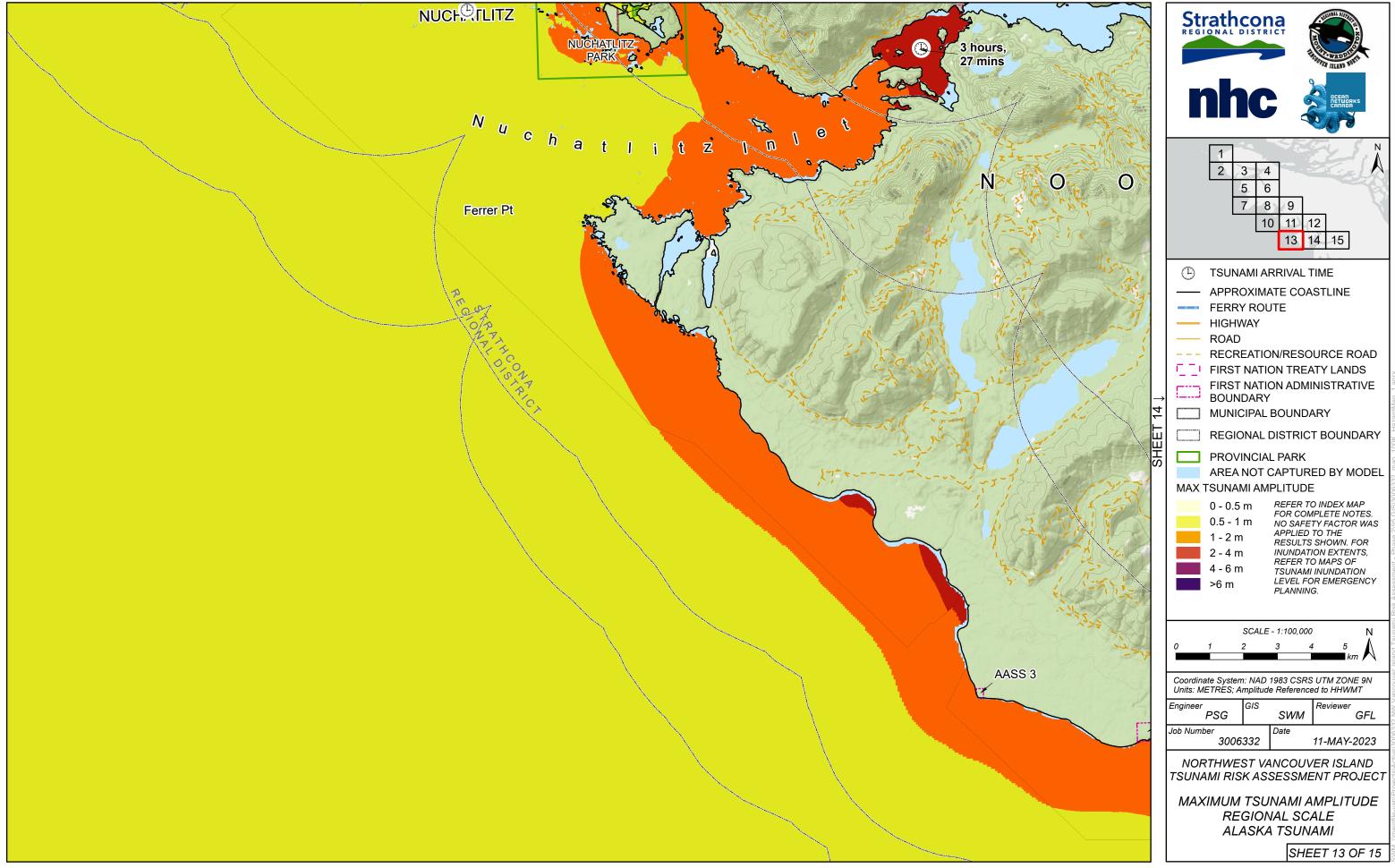
SHEET 13  $\downarrow$ 

SHEET 9 ↑

SHEET 10







SHEET 11 ↑

SANTIAGO 3 hours,  $\odot$ 36 mins -TSOWWIN 10

0 K Α

**TSARKSIS** 2

3 hours 29 mins

3 hours, 27 mins

YUQUOT 1

3 hours, 13 mins (1)

SANTA GERTRUDIS BOCA

HISNIT 7

BUGH ISLAND

SUND FERRY

HOISS 8

MT

COOPTE 9

ERNOOTKA

15200

GOLD

T

T.)

CHEESISH 15

3 hours,

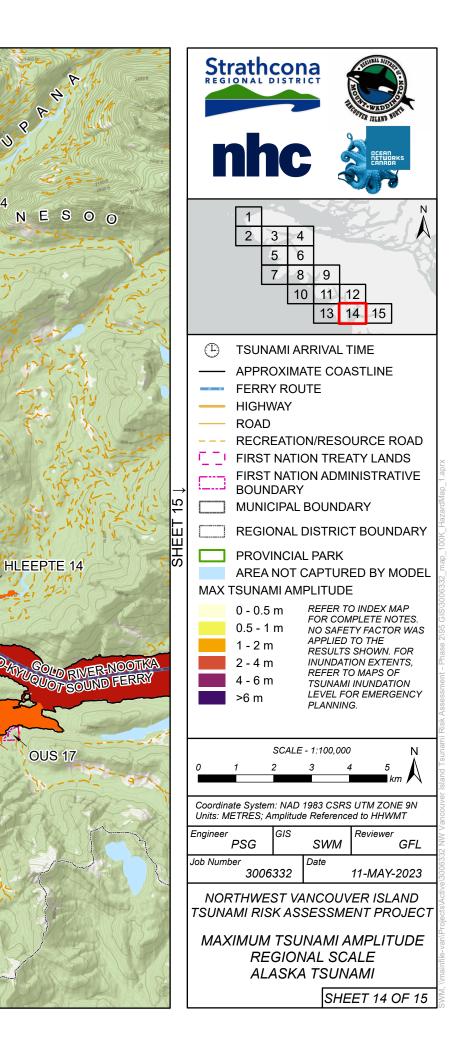
32 mins

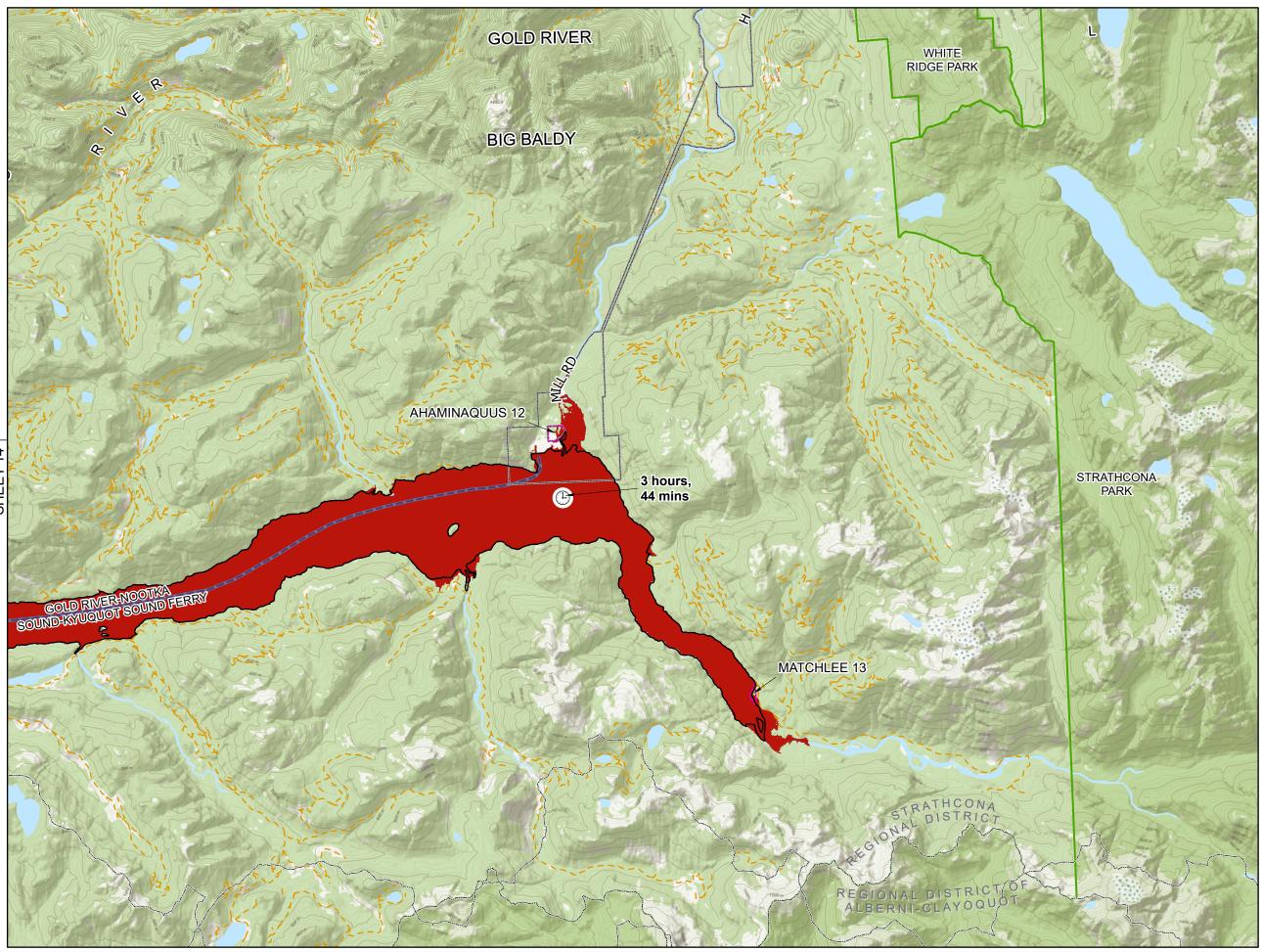
MOOYAH 16 Mooyah

-MOUTCHA5

NESUK 4

River 3 hours, 21 mins





	hc		рсеол Петиолика Сялада	
		5 5 9 0 11	12 14 15	
	TSUNAMI A			
	APPROXIM		ASTLINE	
—	HIGHWAY			
	ROAD RECREATIO	ON/RESC	OURCE ROAD	
520	FIRST NATI			
	BOUNDARY	/	INISTRATIVE	
	MUNICIPAL			
		-	T BOUNDARY	
PROVINCIAL PARK     AREA NOT CAPTURED BY MODEL     MAX TSUNAMI AMPLITUDE				
	0 - 0.5 m		O INDEX MAP MPLETE NOTES.	
	0.5 - 1 m 1 - 2 m	APPLIED	TY FACTOR WAS TO THE S SHOWN FOR	
	2 - 4 m 4 - 6 m	m INUNDATION EXTENTS, REFER TO MAPS OF		
	4 - 6 m >6 m	TSUNAMI INUNDATION LEVEL FOR EMERGENCY PLANNING.		
		/		
0		E - 1:100,000	0 N 4 5	
0	1 2	3	4 5 km	
Coordinate System: NAD 1983 CSRS UTM ZONE 9N Units: METRES; Amplitude Referenced to HHWMT				
Engineer I	PSG GIS	SWM	Reviewer GFL	
Job Numb	<sup>er</sup> 3006332	Date	11-MAY-2023	
NORTHWEST VANCOUVER ISLAND TSUNAMI RISK ASSESSMENT PROJECT				
MAXIMUM TSUNAMI AMPLITUDE REGIONAL SCALE ALASKA TSUNAMI				
		SHE	ET 15 OF 15	