

SECTION 20: Blasting

Kingfish Maine proposes to construct an enclosed recirculating aquaculture system (RAS) facility with multiple buildings, together with adjunct facilities and equipment on a property at 9 Mason Bay Road in Jonesport. Geotechnical investigations have been performed to identify depth to ledge. Explorations included borings and probes, conducted in two phases. Refusal, presumed to be bedrock surfaces have been identified and georeferenced to the location of the explorations. These subsurface explorations have been used to identify the approximate ledge profile in the development area of the property. A digital terrain model of the ledge surface has been developed, and mapped for the included area. Appended to this section is a plan of the ledge surface determined by the explorations.

As practicable, excavations for planned subsurface improvements have been designed to minimize conflicts with ledge conditions. Based on the geotechnical explorations, building siting and grading, is designed to avoid blasting. The design establishes tank foundations, building foundations, and floor elevations above the observed ledge elevations. Owing to its function, Building 4 includes elements that require ledge removal for the intake pipe, as do the intake and discharge pipes.

To the extent ledge removal by blasting is required, a blasting plan and performance specification will be implemented as follows:

If required, blasting operations will be performed in general accordance with the applicable U.S. Department of the Interior Rules, 38 MRSA § 490Z (14), the recommendations provided below, and a normal standard of care.

Blast Design

The blasting contractor shall submit a blasting plan to the Owner for approval prior to blasting operations. The blasting plan shall include a schedule, sketches of the drill patterns (hole spacing and depth), type and amount of explosives, number and sequence of delays, methods for minimizing flyrock, and any other information pertinent to demonstrating compliance with the applicable U.S. Department of the Interior Rules and the recommendations provided below.

Notification

Oral notification to the abutters within one-half mile of the blast area shall be provided prior to blasting. Warning and all clear signals of different character or pattern that are audible within one-half mile from the point of the blast shall be given. The meaning of the signals shall be conveyed to the abutters at the time they are notified.

Pre-blast Surveys

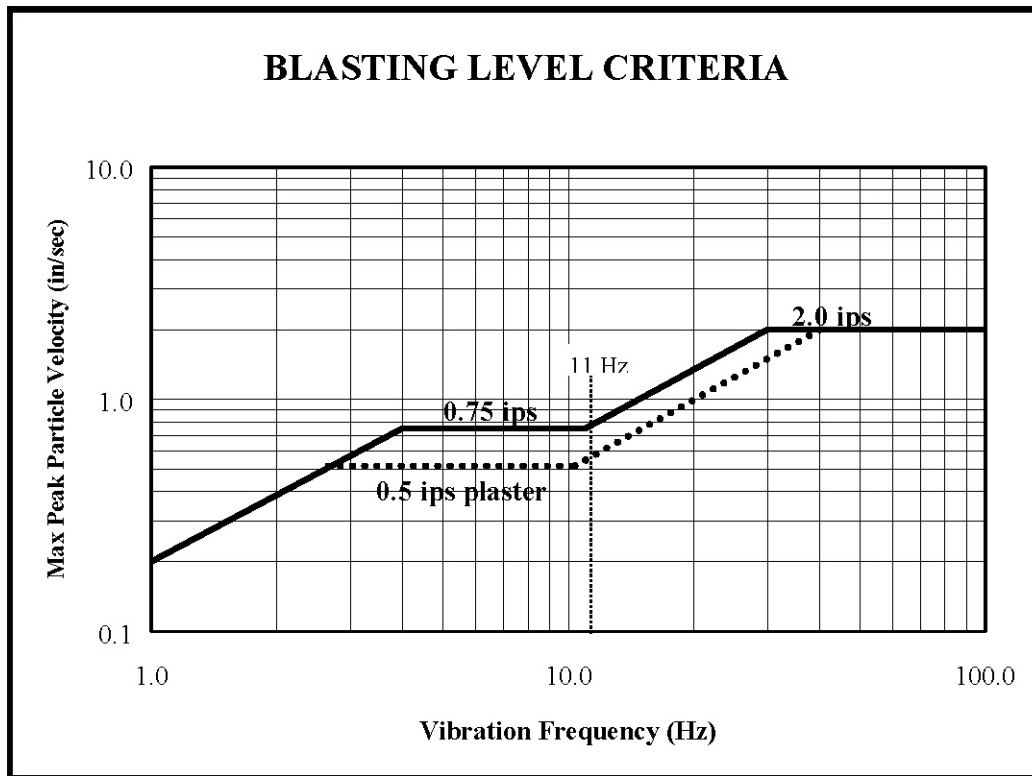
All blasting operations are the direct responsibility of the Blasting Contractor. Reports of damage to structures caused by blasting operations are the sole responsibility of the Blasting Contractor. Therefore, it is incumbent upon the Blasting Contractor to perform pre-blast surveys as they deem necessary.

Airblast Limits

Airblast overpressure shall not exceed 136 dB (0.018 psi) at the nearest structure.

Ground Vibration Limits

The maximum ground vibration at any structure shall not exceed the limits as follows:



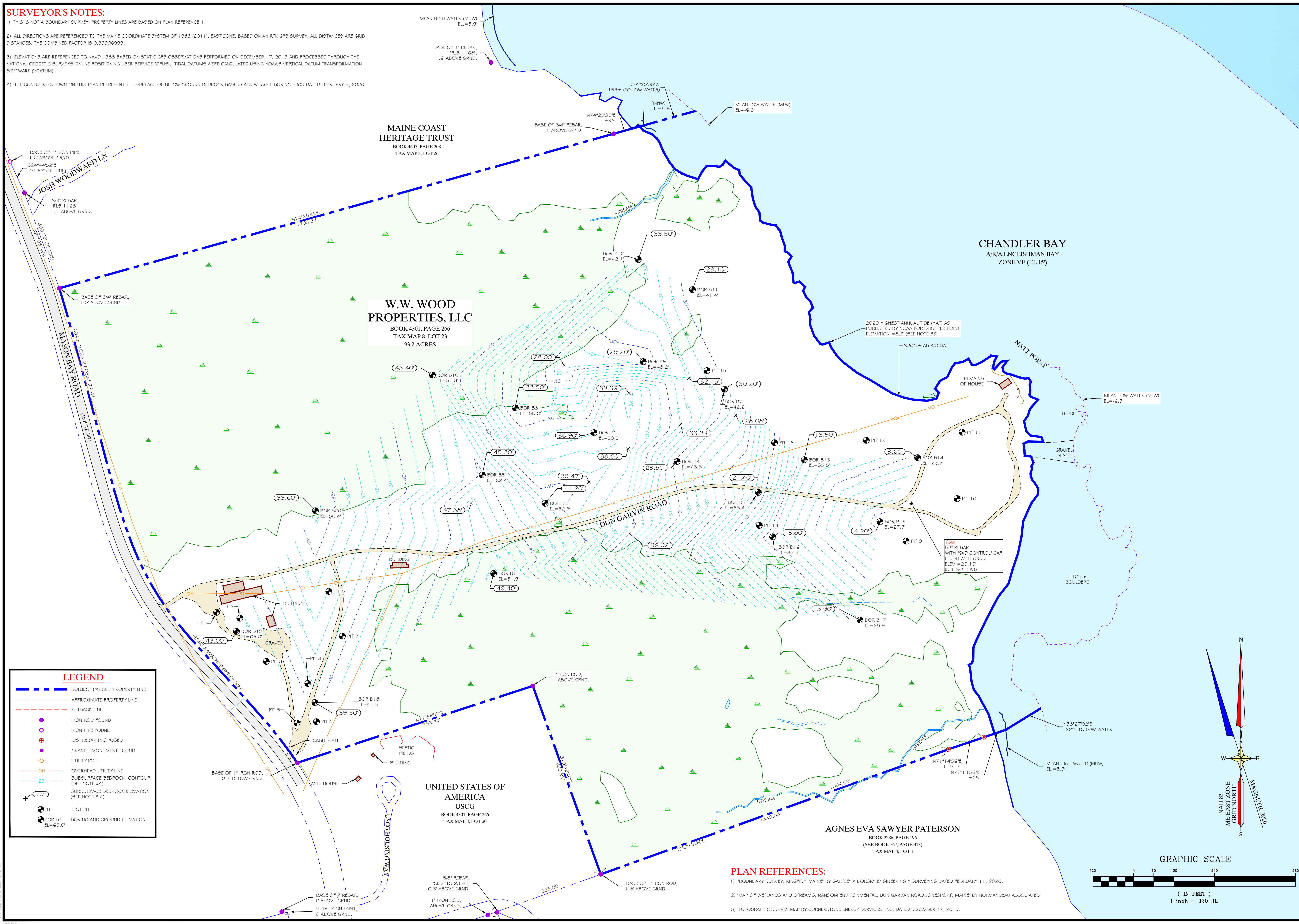
REFERENCE: OSM alternative blasting criteria (Modified from figure B-1, Bureau of Mines, RI 8507)

APPENDIX 20A

Ledge Surface Profile

SURVEYOR'S NOTES:

- THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE BASED ON PLAN REFERENCE 1.
- ALL DIRECTIONS ARE REFERENCED TO THE MAINE COORDINATE SYSTEM OF 1983 (2011), EAST ZONE, BASED ON AN RTK GPS SURVEY. ALL DISTANCES ARE GRID DISTANCES. THE COMBINED FACTOR IS 0.99996999.
- ELEVATIONS ARE REFERENCED TO NAVD 1988 BASED ON STATIC GPS OBSERVATIONS PERFORMED ON DECEMBER 17, 2019 AND PROCESSED THROUGH THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS). TIDAL DATUMS WERE CALCULATED USING NOAA'S VERTICAL DATUM TRANSFORMATION SOFTWARE (VDATUM).
- THE CONTOURS SHOWN ON THIS PLAN REPRESENT THE SURFACE OF BELOW GROUND BEDROCK BASED ON S.W. COLE BORING LOGS DATED FEBRUARY 5, 2020.



LEGEND

- SUBJECT PARCEL PROPERTY LINE
- APPROXIMATE PROPERTY LINE
- SETBACK LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- 5/8" REBAR PROPOSED
- GRANITE MONUMENT FOUND
- UTILITY POLE
- OVERHEAD UTILITY LINE
- SUBSURFACE BEDROCK CONTOUR (SEE NOTE #4)
- SUBSURFACE BEDROCK ELEVATION (SEE NOTE #4)
- TEST PIT
- BORING AND GROUND ELEVATION

GRAPHIC SCALE

(IN FEET)
1 inch = 120 ft.

PLAN REFERENCES:

- "BOUNDARY SURVEY, KINGFISH MAINE" BY GARTLEY & DORSKY ENGINEERING & SURVEYING DATED FEBRUARY 11, 2020.
- "MAP OF WETLANDS AND STREAMS, RANSOM ENVIRONMENTAL, DUN GARVIN ROAD JONESPORT, MAINE" BY NORMANDEAU ASSOCIATES
- TOPOGRAPHIC SURVEY MAP BY CORNERSTONE ENERGY SERVICES, INC. DATED DECEMBER 17, 2019.

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PROJECT: KINGFISH MAINE
LOCATION: ROUTE 187
TOWN: JONESPORT COUNTY: WASHINGTON STATE: MAINE

SHEET TITLE: SUBSURFACE BEDROCK MAP
SCALE: 1" = 120'
DRAWN BY: AW
CHECKED BY: JAD
DATE: FEBRUARY 21, 2020

PROJ. NO. 2019-412

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