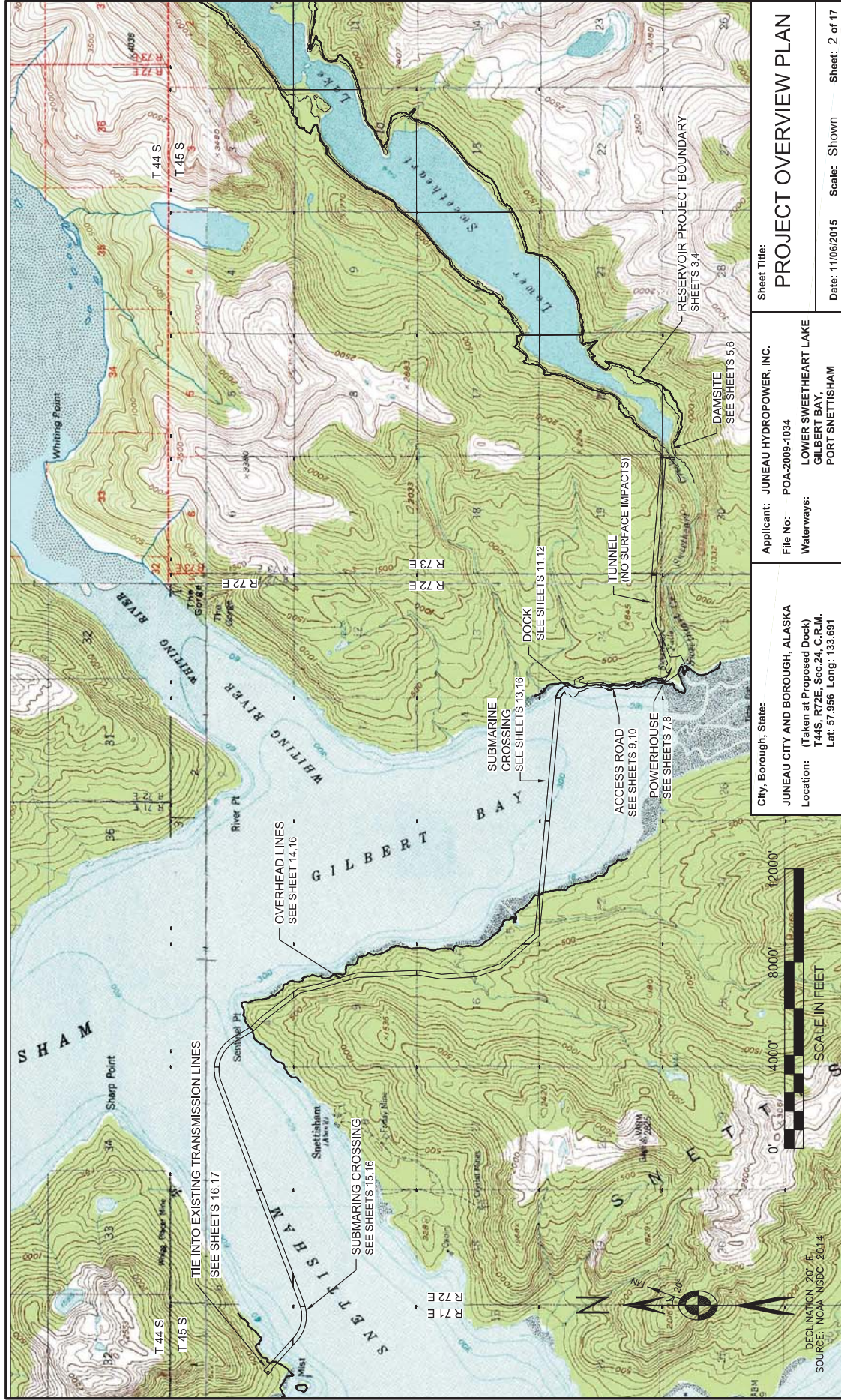


City, Borough, State:
JUNEAU CITY AND BOROUGH, ALASKA
 Location:
 (Taken at Proposed Dock)
 T44S, R72E, Sec.24, C.R.M.
 Lat: 57.956 Long: 133.691

Applicant: **JUNEAU HYDROPOWER, INC.**
 File No: POA-2009-1034
 Waterways: LOWER SWEETHEART LAKE
 GILBERT BAY,
 PORT SNETTISHAM

Sheet Title: **MAP OF ALASKA AND REGIONAL MAP**
 Date: 11/11/2015 Scale: Shown Sheet: 1 of 17

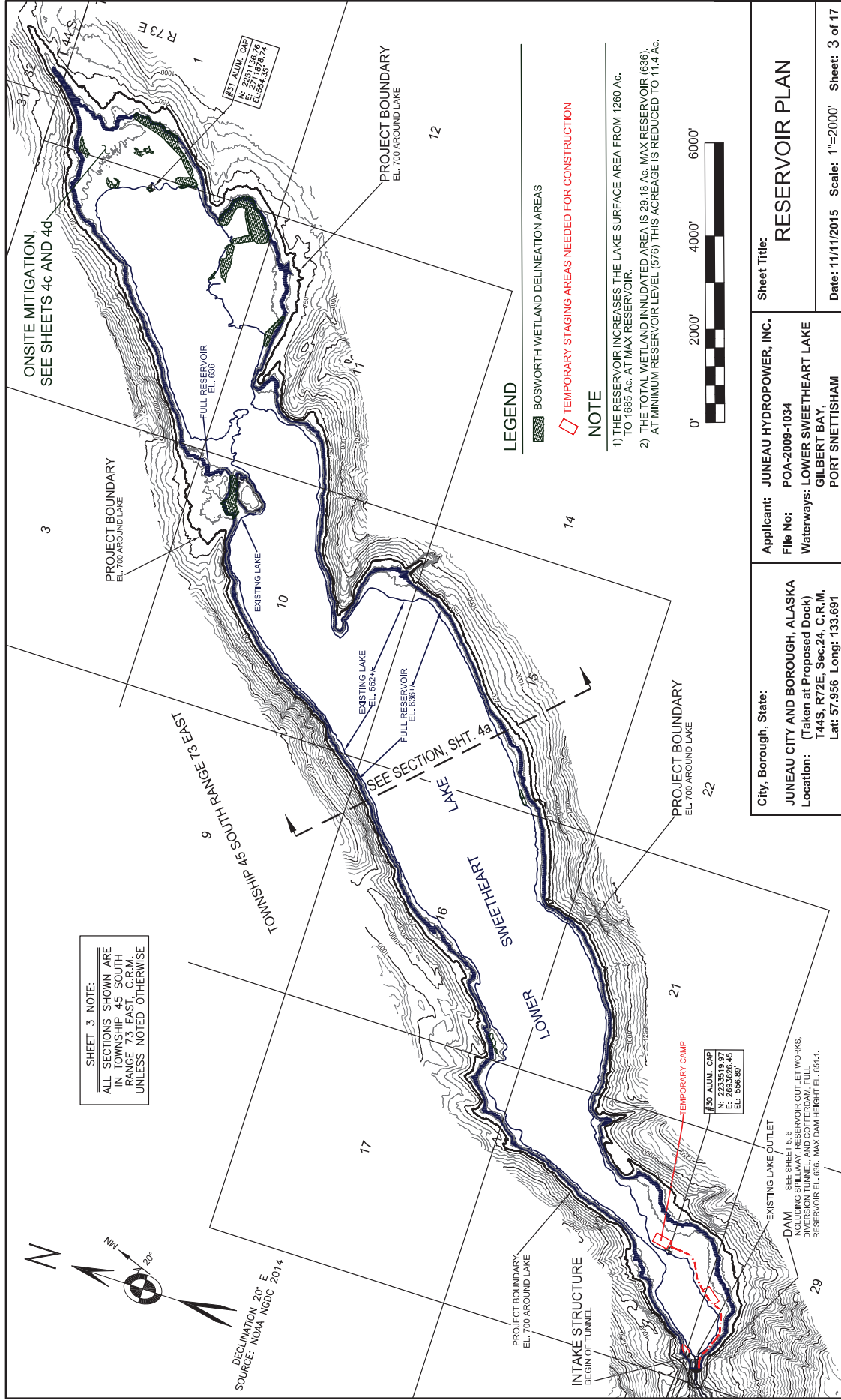
SHEET 2 OF 12/NOVEMBER 2015



Sheet Title:
PROJECT OVERVIEW PLAN
 Date: 11/06/2015 Scale: Shown Sheet: 2 of 17

Applicant: JUNEAU HYDROPOWER, INC.
 File No: POA-2009-1034
 Waterways: LOWER SWEETHEART LAKE, GILBERT BAY, PORT SNETTISHAM

City, Borough, State:
 JUNEAU CITY AND BOROUGH, ALASKA
 Location: (Taken at Proposed Dock)
 T44S, R72E, Sec.24, C.R.M
 Lat: 57.956 Long: 133.691



SHEET 3 NOTE:
ALL SECTIONS SHOWN ARE
IN TOWNSHIP 45 SOUTH
RANGE 73 EAST, C.R.M.
UNLESS NOTED OTHERWISE

DECLINATION 20° E
SOURCE: NOAA NGDC 2014

SET NUM. 048
N: 271136.74
E: 271136.74
E: 558.435

#30 ALUM. CAP
N: 2233519.97
E: 2693626.45
EL: 558.89

EXISTING LAKE OUTLET
SEE SHEET 6, 9
FOR RESERVOIR OUTLET WORKS,
INVERSION TUNNEL AND COFFERDAM. FULL
RESERVOIR EL. 636. MAX DAM HEIGHT EL. 851.1.

LEGEND

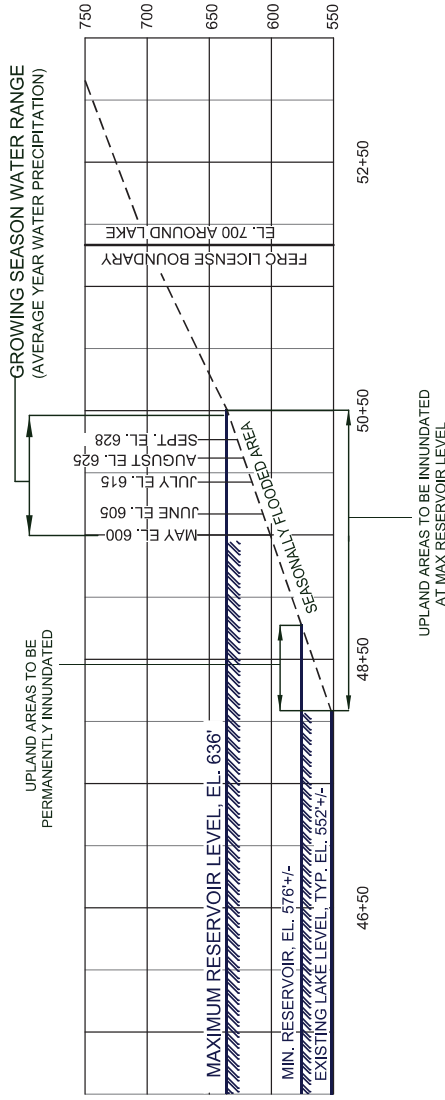
- BOSWORTH WETLAND DELINEATION AREAS
- TEMPORARY STAGING AREAS NEEDED FOR CONSTRUCTION

NOTE

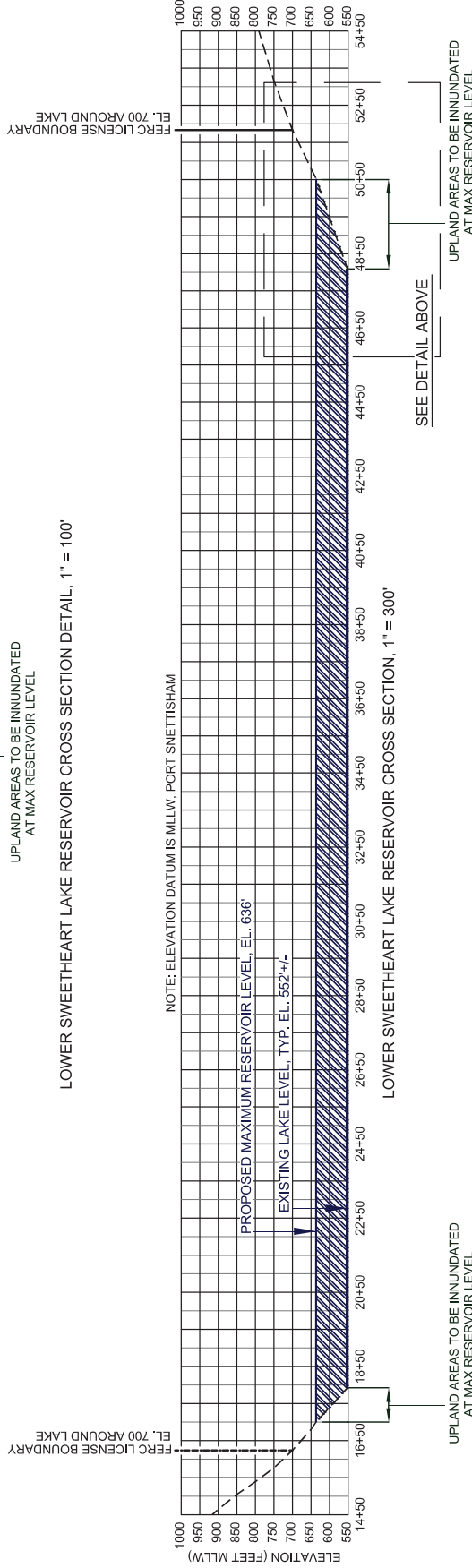
- 1) THE RESERVOIR INCREASES THE LAKE SURFACE AREA FROM 1280 AC. TO 1688 AC. AT MAX RESERVOIR.
- 2) THE TOTAL WETLAND INUNDATED AREA IS 29.18 AC. MAX RESERVOIR (636). AT MINIMUM RESERVOIR LEVEL (576) THIS ACREAGE IS REDUCED TO 11.4 AC.



<p>City, Borough, State: JUNEAU CITY AND BOROUGH, ALASKA Location: (Taken at Proposed Dock) T44S, R72E, Sec.24, C.R.M. Lat: 57.996 Long: 133.691</p>	<p>Applicant: JUNEAU HYDROPOWER, INC. File No: POA-2009-1034 Waterways: LOWER SWEETHEART LAKE GILBERT BAY, PORT SNETTISHAM</p>
<p>Sheet Title: RESERVOIR PLAN</p>	
<p>Date: 11/11/2015 Scale: 1"=2000' Sheet: 3 of 17</p>	



LOWER SWEETHEART LAKE RESERVOIR CROSS SECTION DETAIL, 1" = 100'



SUMMARY

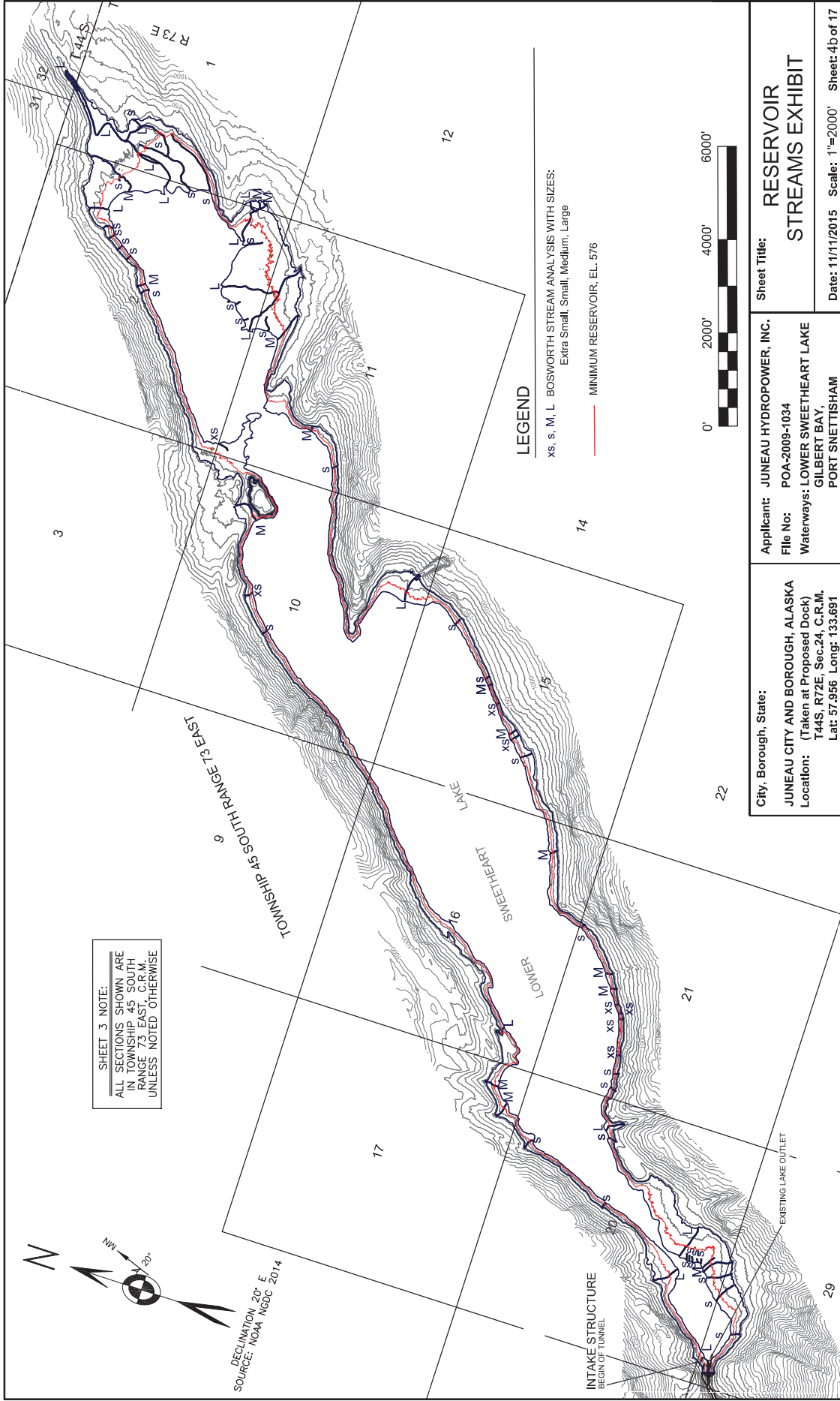
MAXIMUM RESERVOIR: 636
 AVERAGE RESERVOIR: 620+/-
 MINIMUM REQUIRED RESERVOIR: 576
 EXISTING LAKE : APPX. 552

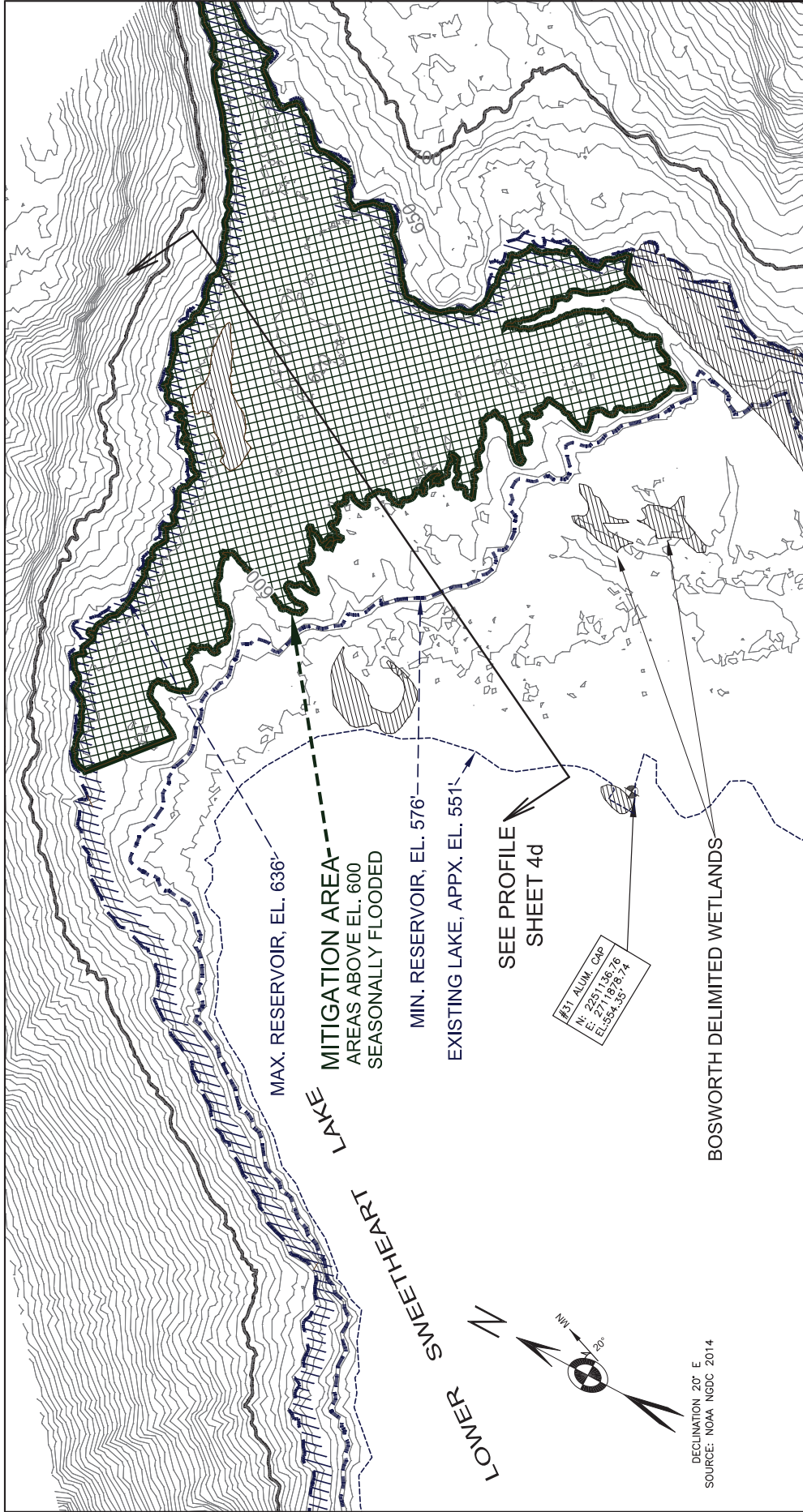
City, Borough, State:
 JUNEAU CITY AND BOROUGH, ALASKA
 Location:
 (Taken at Proposed Dock)
 T44S, R72E, Sec.24, C.R.M.
 Lat: 57.956 Long: 133.691

Applicant: JUNEAU HYDROPOWER, INC.
 File No: POA-2009-1034
 Waterways: LOWER SWEETHEART LAKE
 GILBERT BAY,
 PORT SNETTISHAM

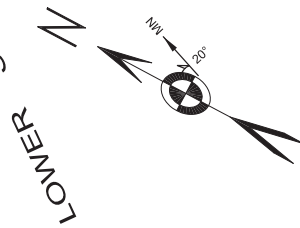
Sheet Title:
RESERVOIR CROSS SECTION

Date: 11/11/2015 Scale: Shown Sheet: 4 of 17

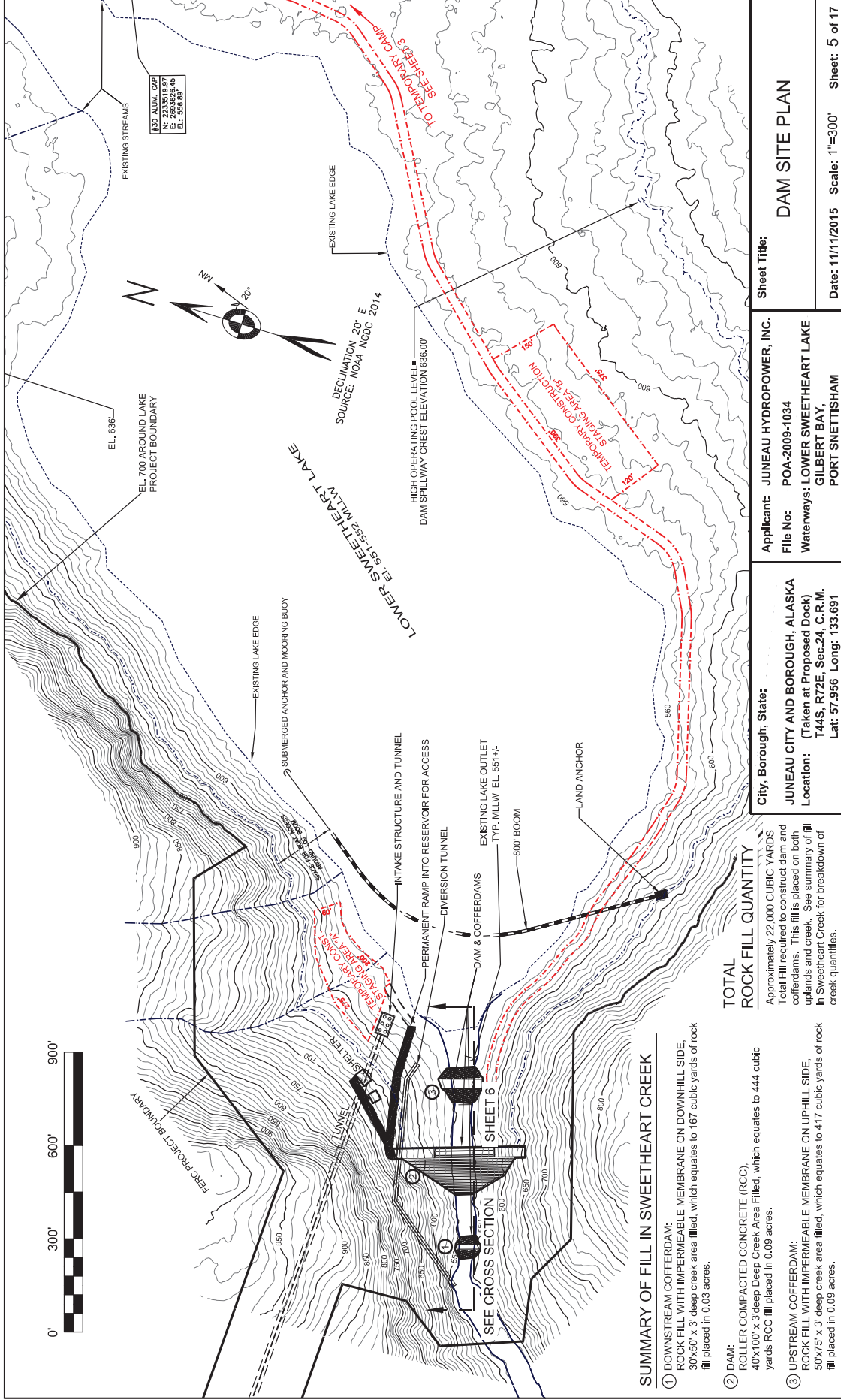




DECLINATION 20° E
SOURCE: NOAA NGDC 2014



<p>Sheet Title: EAST RESERVOIR PLAN Onsite Mitigation Area</p> <p>Date: 10/27/2014 Scale: 1"=300'</p>	<p>Applicant: JUNEAU HYDROPOWER, INC. File No: POA-2009-1034 Waterways: LOWER SWEETHEART LAKE, GILBERT BAY, PORT SNETTISHAM</p>	<p>City, Borough, State: JUNEAU CITY AND BOROUGH, ALASKA Location: (Taken at Proposed Dock) T44S, R72E, Sec.24, C.R.M. Lat: 57.956 Long: 133.691</p>
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SUMMARY OF FILL IN SWEETHEART CREEK

- ① DOWNSTREAM COFFERDAM:
ROCK FILL WITH IMPERMEABLE MEMBRANE ON DOWNHILL SIDE,
30'x50' x 3' deep creek area filled, which equates to 167 cubic yards of rock fill placed in 0.03 acres.
- ② DAM:
ROLLER COMPACTED CONCRETE (RCC),
40'x100' x 3' deep Deep Creek Area Filled, which equates to 444 cubic yards RCC fill placed in 0.09 acres.
- ③ UPSTREAM COFFERDAM:
ROCK FILL WITH IMPERMEABLE MEMBRANE ON UPHILL SIDE,
50'x75' x 3' deep creek area filled, which equates to 417 cubic yards of rock fill placed in 0.09 acres.

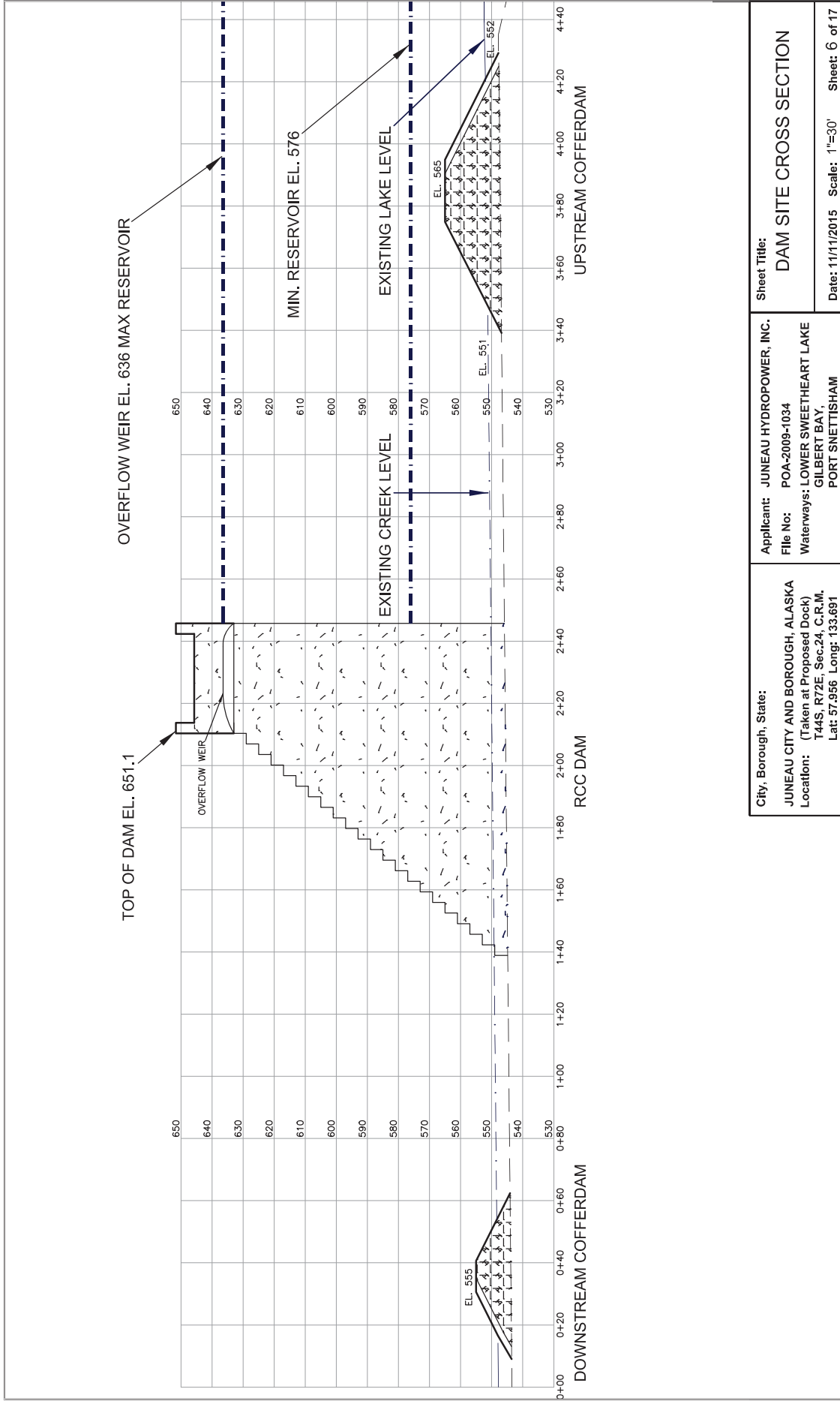
TOTAL ROCK FILL QUANTITY

Approximately 22,000 CUBIC YARDS
Total Fill required to construct dam and cofferdams. This fill is placed on both uplands and creek. See summary of fill in Sweetheart Creek for breakdown of creek quantities.

City, Borough, State:
JUNEAU CITY AND BOROUGH, ALASKA
Location: (Taken at Proposed Dock)
T44S, R72E, Sec.24, C.R.M.
Lat: 57.956 Long: 133.691

Applicant: **JUNEAU HYDROPOWER, INC.**
File No: **POA-2009-1034**
Waterways: **LOWER SWEETHEART LAKE GILBERT BAY, PORT SNETTISHAM**

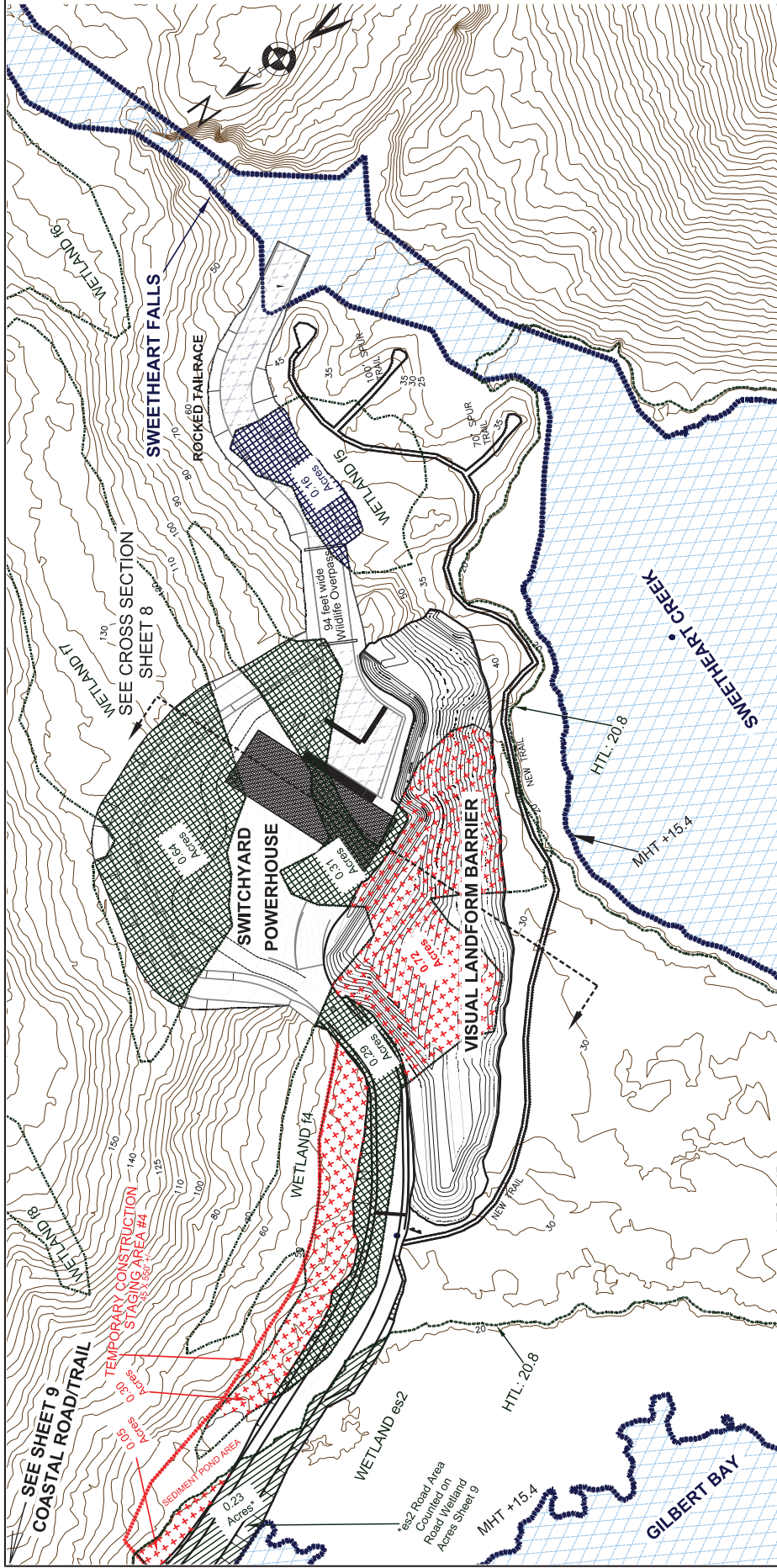
Sheet Title: **DAM SITE PLAN**
Date: **11/11/2015** Scale: **1"=300'** Sheet: **5 of 17**



City, Borough, State:
JUNEAU CITY AND BOROUGH, ALASKA
 Location: (Taken at Proposed Dock)
 T44S, R72E, Sec.24, C.R.M.
 Lat: 57.956 Long: 133.691

Applicant: **JUNEAU HYDROPOWER, INC.**
 File No: POA-2009-1034
 Waterways: **LOWER SWEETHEART LAKE**
GILBERT BAY,
PORT SNETTISHAM

Sheet Title:
DAM SITE CROSS SECTION
 Date: 11/11/2015 Scale: 1"=30' Sheet: 6 of 17



TOTAL CUT AND FILL QUANTITIES

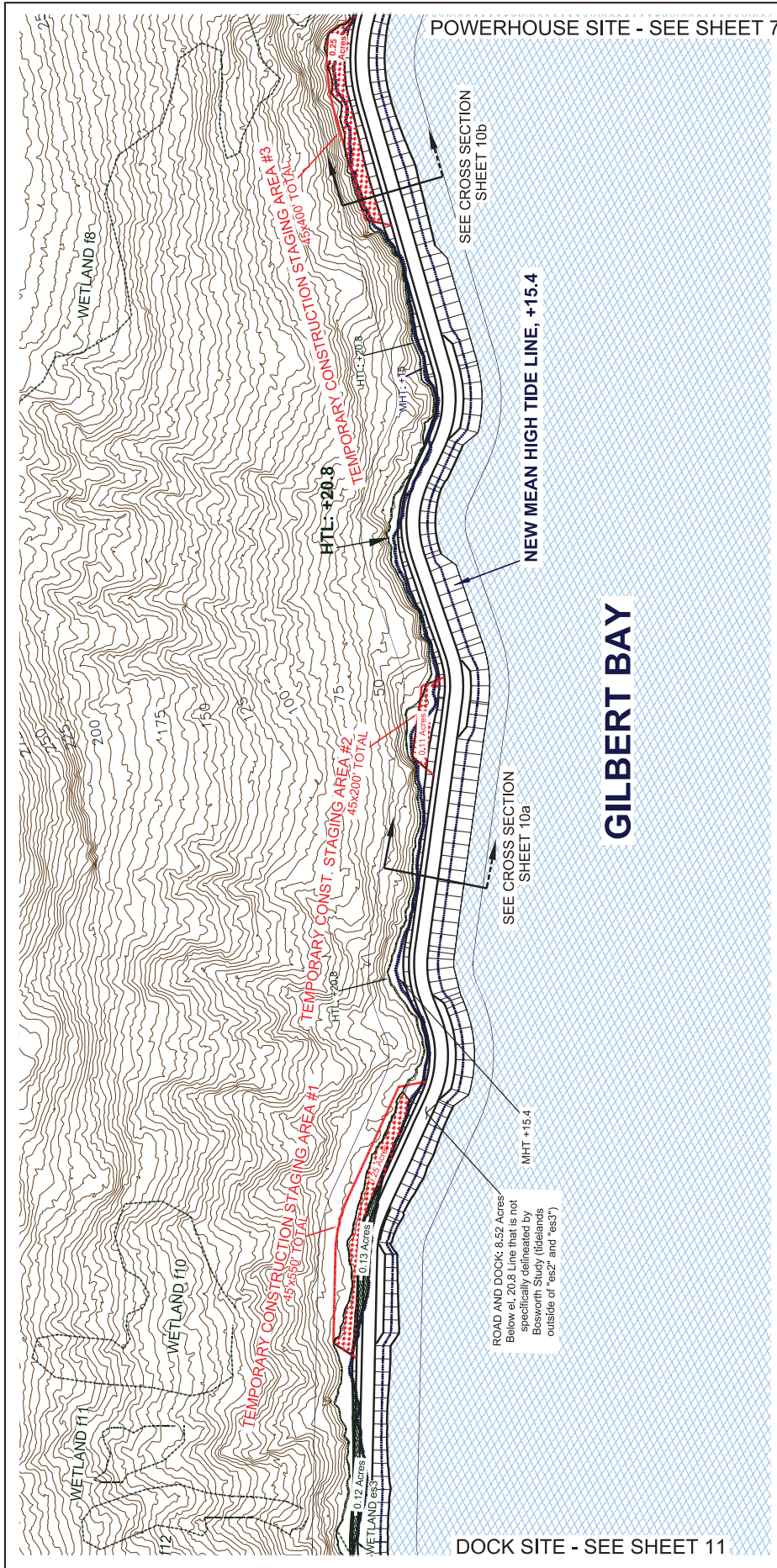
EXCAVATION QUANTITY:
 121,000 c.y. POWERHOUSE PAD TO EL. 50.
 34,000 c.y. POWERHOUSE FOUNDATION AND TAILRACE

FILL QUANTITY:
 28,000 VISUAL LANDFORM BARRIER (UNCLASSIFIED OVERBURDEN FILL)

LEGEND

- WETLAND ACRES PERMANENTLY FILLED
- WETLAND AREAS PERMANENTLY EXCAVATED AND FILLED.
- WETLAND AREAS CONVERTED TO WATER
- WETLAND OR TIDELAND AREAS TO BE CLEARED DURING CONSTRUCTION, TO BE REVEGETATED AFTER CONSTRUCTION.

<p>City, Borough, State: JUNEAU CITY AND BOROUGH, ALASKA Location: (Taken at Proposed Dock) T44S, R72E, Sec.24, C.R.M. Lat: 57.956 Long: 133.691</p>	<p>Applicant: JUNEAU HYDROPOWER, INC. File No: POA-2009-1034 Waterways: LOWER SWEETHEART LAKE GILBERT BAY, PORT SNETTISHAM</p>
<p>Sheet Title: POWERHOUSE SITE PLAN</p>	<p>Date: 11/11/2015 Scale: 1"=100' Sheet: 7 of 17</p>



TOTAL CUT AND FILL QUANTITIES

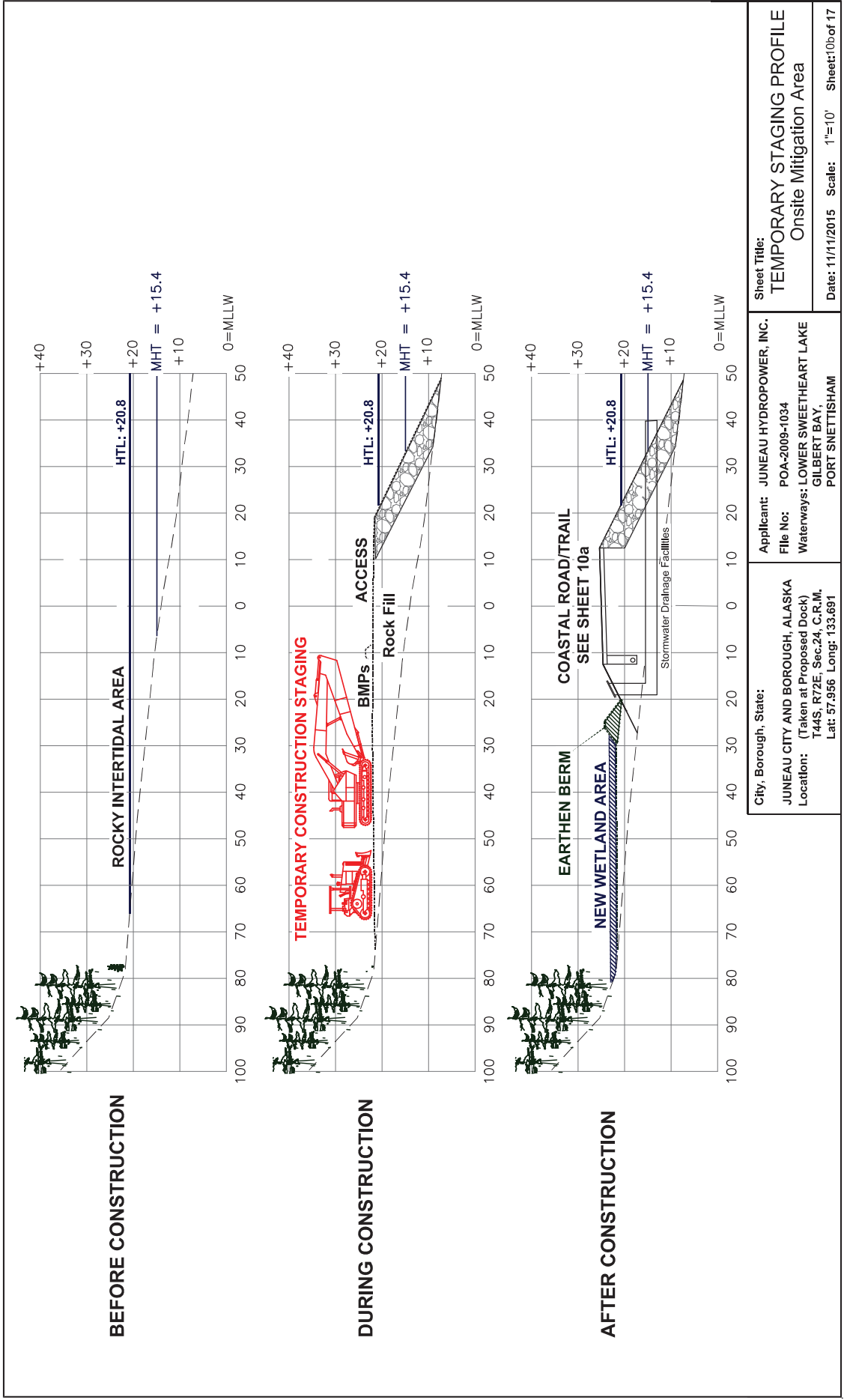
LEGEND
 TOTAL ROAD FILL QUANTITIES:
 158,000 c.y. - Rock Fill Required to construct the road.

- WETLAND ACRES PERMANENTLY FILLED
- WETLAND OR TIDELAND AREAS TO BE CLEARED DURING CONSTRUCTION, TO BE REVEGETATED AFTER CONSTRUCTION.

<p>City, Borough, State: JUNEAU CITY AND BOROUGH, ALASKA Location: (Taken at Proposed Dock) T44S, R72E, Sec.24, C.R.M. Lat: 57.956 Long: 133.691</p>	<p>Applicant: JUNEAU HYDROPOWER, INC. File No: POA-2009-1034 Waterways: LOWER SWEETHEART LAKE GILBERT BAY, PORT SNETTISHAM</p>
<p>Sheet Title: ACCESS ROAD PLAN</p>	<p>Date: 11/11/2015 Scale: 1"=200' Sheet: 9 of 17</p>

POWERHOUSE SITE - SEE SHEET 7

DOCK SITE - SEE SHEET 11

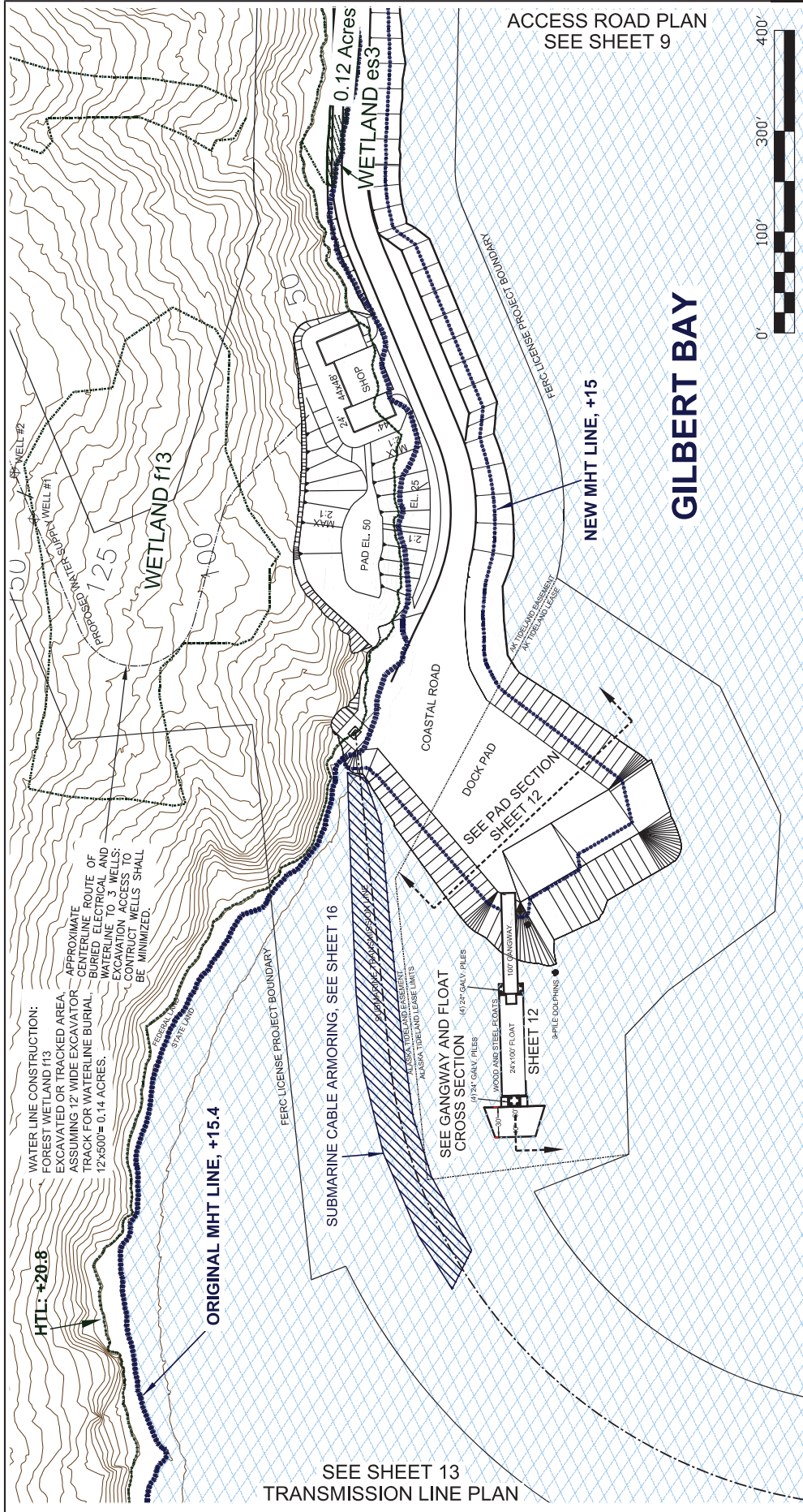


Sheet Title:
TEMPORARY STAGING PROFILE
 Onsite Mitigation Area

Date: 11/11/2015 Scale: 1"=10' Sheet: 10 of 17

Applicant: JUNEAU HYDROPOWER, INC.
 File No: POA-2009-1034
 Waterways: LOWER SWEETHEART LAKE
 GILBERT BAY,
 PORT SNETTISHAM

City, Borough, State:
 JUNEAU CITY AND BOROUGH, ALASKA
 Location:
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 T44S, R72E, Sec.24, C.R.M.
 Lat: 57.956 Long: 133.691



CUT AND FILL QUANTITIES
 TOTAL DOCK FILL QUANTITIES:
 35,000 c.y.

City, Borough, State:
 JUNEAU CITY AND BOROUGH, ALASKA
 Location:
 (Taken at Proposed Dock)
 T44S, R72E, Sec.24, C.R.M.
 Lat: 57.956 Long: 133.691

Applicant: JUNEAU HYDROPOWER, INC.
 File No: POA-2009-1034
 Waterways: LOWER SWEETHEART LAKE
 GILBERT BAY,
 PORT SNETTISHAM

Sheet Title: DOCK SITE PLAN
 Date: 11/11/2015 Scale: 1"=100' Sheet: 11 of 17