



- NOTES**
- HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, IN FEET, NORTH AMERICAN DATUM USACE 80. THE TIDE GAUGE IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'. HORIZONTAL CONTROL IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'. FROM NAD 83 TO NAD 80, THE TIDE GAUGE IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'. FROM NAD 83 TO NAD 80, THE TIDE GAUGE IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'.
 - VERTICAL CONTROL IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'. HORIZONTAL CONTROL IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'. FROM NAD 83 TO NAD 80, THE TIDE GAUGE IS IN FEET BASED ON USNA LOWER LOW WATER (LLW) = 0.0'.
 - THE HORIZONTAL, TRVERSE METHODS AND DIFFERENTIAL LEVELS TOPOGRAPHY WAS SURVEYED USING CONVENTIONAL TECHNIQUES ON THE SAME DATES.
 - SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - THE EXISTING PROJECT PROVIDES FOR AN 11.35 ACRE HARBOR, BREWERED TO A DEPTH OF -10' MLW AND PROTECTED BY A 940' CONCRETE CAPED, STONE BREAKWATER.
 - BATHYMETRY WAS COLLECTED APRIL 14, 2001. SOUNDINGS WERE COLLECTED USING A THESON 8124 SEABAT MULTIBEAM SOUNDER (100' SWATH, 80 BEAM FLAT AROUND MICROSISTEMS - SIP FLUT) PROFILES POSITIONING AND VESSEL ATTITUDE WERE MONITORED USING A SEATEK - SEAPATH 200 RTK SYSTEM COUPLED WITH A SEATEK - MRU-5" MOTION REFERENCE UNIT. RTK CORRECTIONS WERE PROVIDED FROM A LOCAL BASE STATION SET AT THE TIDE GAUGE. WATER LEVEL WAS MEASURED USING A YAMEN LP1 TELEMETRY TIDE GAUGE COUPLED WITH AN "ENGEDO TYPE 1028" WATER LEVEL RECORDER. FINAL DATA PROCESSING WAS PERFORMED USING "COAS HPS" HDOS SOFTWARE AND TERRA SURVEYS, LLC SOFTWARE.
 - SURVEY CONTROL - PROJECT LIMITS AND NAVIGATION AIDS COORDINATES WERE CONVERTED FROM NAD 27 IN US FEET TO NAD 83 IN US FEET USING CORPSSON VERSION 5.11.08.
 - THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
DP-1, 1976	1,286,057.25	3,107,289.01	21.30	USACE 58C
DP-2, 1976	1,287,204.51	3,107,288.50	20.98	USACE 58C
DP-3, 1976	1,286,139.78	3,107,686.68	22.26	USACE 58C
DP-4, 1976	1,286,078.25	3,107,064.50	21.88	FND 3 1/4" DOWEL BC
DP-5, 2001	1,286,145.82	3,107,850.43	22.70	SET 3 1/4" DOWEL BC
DP-6, 2001	1,287,136.38	3,107,481.90	21.75	SET 3 1/4" DOWEL BC
BM 30 1974			32.46	FND NOS BENCH MARK

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1,286,082	3,107,154	7	1,286,537	3,107,940
2	1,286,835	3,107,315	8	1,286,828	3,107,914
3	1,287,007	3,107,209	9	1,288,118	3,107,441
4	1,287,153	3,107,351	10	1,286,157	3,107,213
5	1,286,588	3,107,653	11	1,286,588	3,107,216
6	1,286,588	3,107,653	12	1,286,588	3,107,216

NAVIGATION AIDS

DESCRIPTION	USCG NO.	NORTHING	EASTING
THOMAS BASIN ENTRANCE LIGHT 2 FT. RED	22165	1,286,053	3,107,288
CITY DOCK LIGHT (NEW AID) GREEN	1,286,022	3,107,112	

VOLUME COMPUTATIONS

Project Length - 10' MLW	Volume (cubic yards)
Normal Rev. Line (10' MLW)	3,387
Revised Normal Rev. Line (10' MLW)	914
Revised Normal Rev. Line (10' MLW) (Cuts)	5,568
Substations (C1)	9,378
TOTAL	9,378

CONTRACTOR TERRA SURVEYS, LLC
CITY PALMER
STATE ALASKA

CONTRACT NO. DMOBMS-98-D-0004

SURVEYED: KETCHIKAN, ALASKA
PROJECT: THOMAS BASIN
CONDITION: PROJECT CONDITION SURVEY
DATE: APRIL 14, 2001

SCALE: 1" = 50'

SHEET: 1 OF 1