

- LEGEND**
- ⊕ GLO - BLM MONUMENT RECOVERED
  - ⊙ PRIMARY MONUMENT SET THIS SURVEY
  - ⊗ PRIMARY MONUMENT RECOVERED
  - ⊙ GEODETIC MONUMENT RECOVERED
  - ▭ ADL 418112 EASEMENT
  - UNSURVEYED
  - SURVEYED
  - MEAN HIGH WATER
  - - - 2010 SHORE PROTECTION AREA
  - (R&H) RECORD & HELD PER NAD83(CORS96) OPUS DERIVED
  - (R1) RECORD PER U.S. SURVEY 5582
  - (M) MEASURED

FROM USGS QUAD. NOATAK (C-5) 1952, MINOR REVISIONS 1982 SCALE 1"= 1 MILE

- NOTES**
- GEOGRAPHIC COORDINATES SHOWN ARE NAD83 (CORS 96) (EPOCH: 2003.0000) IN U.S. FEET.
  - ALL BEARINGS SHOWN ARE ORIENTED TO THE BASIS OF BEARING AND THE DISTANCES SHOWN ARE REDUCED TO HORIZONTAL FIELD DISTANCES.
  - THE BASIS OF COORDINATES IS NOAA STATION "TBM 1253 E 84", A STAINLESS STEEL DRIVE ROD HAVING A VALUE OF 67°43'29"N AND 164°31'58"W AS COMPUTED BY THE NGS OPUS UTILITY. OTHER POSITIONS ARE DERIVED FROM STATIC DIFFERENTIAL GPS OBSERVATIONS TAKEN AUGUST 2006.
  - THE COMBINED SCALE FACTOR IS 0.99994570. TO CONVERT GROUND DISTANCES TO ASP GRID DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 0.99994570. TO CONVERT ASP GRID DISTANCES TO GROUND DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 10000000/99994570.
  - LEICA MODELS SR530 AND GX1230GG GPS RECEIVERS WERE USED FOR POSITIONING.
  - LEICA VERSIONS 2.0 AND 7.0 SOFTWARE WERE USED FOR DATA REDUCTION.
  - ALL POSITION VALUES SHOWN WERE CONSTRAINED TO THE NGS NETWORK.
  - ELEVATIONS ARE ON MEAN LOWER LOW WATER (MLLW) IN U.S. FEET. THE BASIS OF ELEVATIONS IS NATIONAL OCEAN SERVICE TIDAL BENCH MARK TBM 1253 E 84, THE PRIMARY BENCH MARK AT TIDE STATION 949-1253 KIVALINA, ALASKA. BENCH MARK TBM 1253 E 84 IS THE TOP OF A STAINLESS STEEL DRIVE ROD LOCATED NEAR THE FUEL TANK FARM AT KIVALINA AND HAS A VALUE OF 12.59 FEET ABOVE MLLW. ELEVATIONS FOR OTHER CONTROL POINTS SHOWN HERE ON WERE DETERMINED BY DIFFERENTIAL LEVELING USING A LEICA DNA10 DIGITAL LEVEL.
  - ELEVATIONS OF TIDAL DATUMS REFERRED TO MEAN LOWER LOW WATER (MLLW), IN U.S. FEET:
    - MEAN HIGHER HIGH WATER (MHHW) = 0.90
    - MEAN HIGH WATER (MHW) = 0.77
    - MEAN SEA LEVEL (MSL) = 0.44
    - MEAN TIDE LEVEL (MTL) = 0.43
    - MEAN LOW WATER (MLW) = 0.09
    - MEAN LOWER LOW WATER (MLLW) = 0.00
  - THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:5000.
  - THIS AS-BUILT REPRESENTS A POST CONSTRUCTION SURVEY OF ADL 418112. IT IS INTENDED TO DEPICT THAT PORTION OF THE PERMIT AS IT PERTAINS TO STATE LAND AND IS NOT TO BE PRESUMED TO PLAT OR DEDICATE THOSE PORTIONS PERTAINING TO NON-STATE LANDS. THIS AS-BUILT IS NOT INTENDED TO BE USED TO RE-ESTABLISH PROPERTY BOUNDARIES AND EXCEPT AS INDICATED, NO ENCROACHMENTS EXIST WITHIN THE PERMITTED AREA.
  - THE EASEMENT IS OF VARYING WIDTH AND CONTAINS 0.21 ACRES WITHIN SUBMERGED LANDS.
  - THIS SURVEY DOES NOT CONSTITUTE A SUBDIVISION AS DEFINED BY A.S. 40.15.900(5)(A).
  - THE PURPOSE OF THIS RECORD OF SURVEY IS TO FACILITATE ISSUANCE OF EASEMENTS UNDER ADL 418112.

**LINE DATA TABLE**

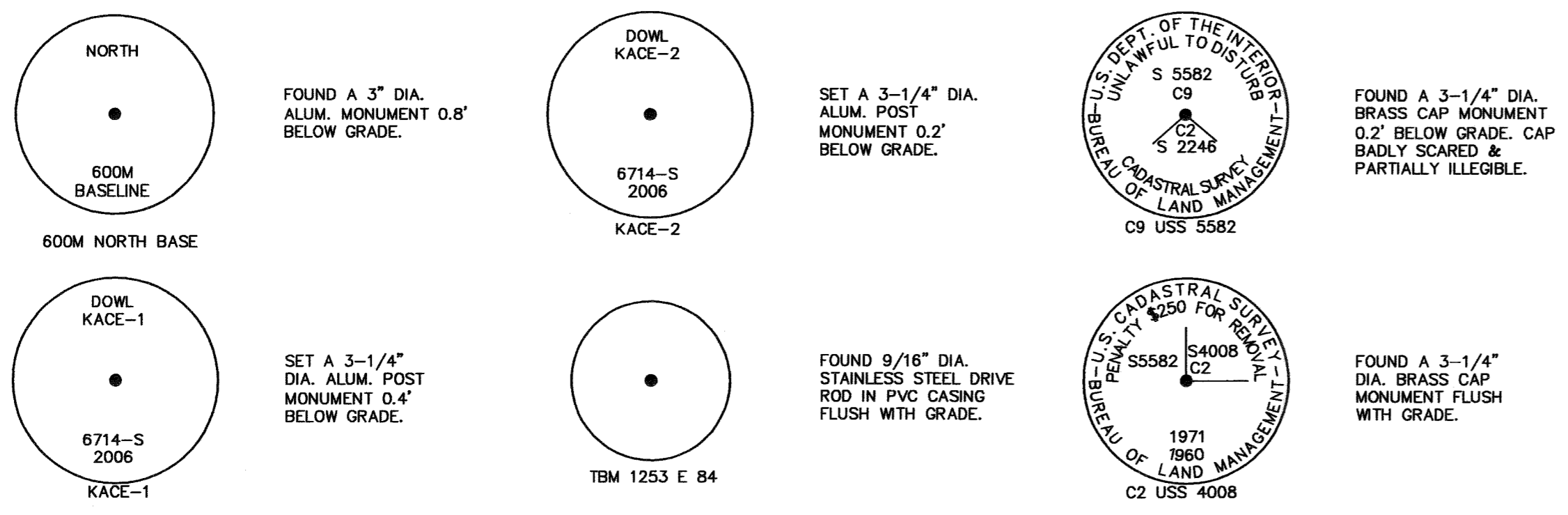
LINE	BEARING	LENGTH
L1	S68°09'02"E	29.62
L2	S62°15'44"E	47.12
L3	S56°57'59"E	42.95
L4	S56°08'40"E	48.91
L5	S50°46'01"E	32.06
L6	S49°21'11"E	52.85
L7	S48°26'02"E	45.64
L8	S45°17'22"E	34.69
L9	S47°42'59"E	44.66
L10	S44°08'03"E	36.62
L11	S52°37'39"E	30.68
L12	S48°57'23"E	51.15
L13	S36°41'23"E	68.29
L14	N49°34'32"W	366.28
L15	N52°10'40"W	193.71

DOWL HKM

**SURVEY CONTROL POINTS**

POINT	LATITUDE	LONGITUDE	ELEVATION	DESCRIPTION
C2 USS 4008	67°43'38.081"N	164°32'15.012"W		BRASS CAP
C9 USS 5582	67°43'34.635"N	164°32'08.595"W		BRASS CAP
KACE-1	67°44'59.804"N	164°33'20.814"W	11.42	ALUMINUM MON
KACE-2	67°43'45.861"N	164°32'43.864"W	12.42	ALUMINUM MON
600M NORTH BASE	67°43'44.372"N	164°32'45.027"W	8.75	ALUMINUM MON
TBM 1253 E 84	67°43'29.081"N	164°31'58.041"W	12.59	S. S. DRIVE ROD

**MONUMENT DESCRIPTION DETAILS**



**SURVEYOR'S CERTIFICATE**

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA, THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AS DESCRIBED, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT.

DATE: 7/25/12 REGISTRATION NUMBER: LS 6714

*Stanley E. Ponsness*  
STANLEY E. PONSNESSE  
REGISTERED LAND SURVEYOR



**RECORDED-FILED**

REC. DIST. \_\_\_\_\_

DATE: \_\_\_\_\_, 20\_\_\_\_

TIME: \_\_\_\_\_ M

Requested by: \_\_\_\_\_

Address: \_\_\_\_\_

2012-6  
Plat #  
Kotzebue  
Rec Dist  
8/17 2012  
Date  
Time 11:41 AM

1 METER = 3.2808333 U.S. SURVEY FEET, 1 U.S. ACRE = 0.4047 HECTARE

DATE OF SURVEY:  
BEGINNING: 8/2010  
ENDING: 9/2010

**DOWL HKM**  
401 B STREET ANCHORAGE, ALASKA 99503  
907-562-2000 www.dowlhkm.com

STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINING, LAND & WATER  
ANCHORAGE, ALASKA

RECORD OF SURVEY ADL 418112  
KIVALINA EROSION PROJECT  
LOCATED WITHIN  
UNSURVEYED SECTION 21, T27N, R26W,  
KATEEL RIVER MERIDIAN, ALASKA  
CONTAINING 0.21 ACRES  
KOTZEBUE RECORDING DISTRICT

DRAWN BY: EAM/VLB DNR APPROVAL:  
DATE 6/29/2012 *William S. Brown* FOR 8/2/12  
STATEWIDE PLATTING SUPERVISOR DATE

SCALE: 1"=100' CHECKED BY: FILE NO.  
SEP EPF 2010060

TBM 1253 E84

Plat 2012-6  
Kotzebue  
Recording  
District

FILE: 552\_2450.06o 000541796

NGS OPUS SOLUTION REPORT

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USER: ecousino@dowl.com  
RINEX FILE: 552\_245e.06o  
SOFTWARE: page5 0601.10 master24.pl  
EPHEMERIS: igr13906.eph [rapid]  
NAV FILE: brdc2450.06n  
ANT NAME: LEIAT502 NONE  
ARP HEIGHT: 1.203  
REF FRAME: NAD\_83 (CORS96) (EPOCH:2003.0000)  
X: -2336823.606 (m) 0.010 (m)  
Y: -646618.599 (m) 0.015 (m)  
Z: 5879528.769 (m) 0.045 (m)  
LAT: 67 43 29.08076 0.014 (m)  
E LON: 195 28 1.95866 0.013 (m)  
W LON: 164 31 58.04134 0.013 (m)  
EL HGT: 4.991 (m) 0.045 (m)  
ORTHO HGT: 5.155 (m) 0.052 (m)

DATE: September 04, 2006  
TIME: 07:53:46 UTC  
START: 2006/09/02 04:35:00  
STOP: 2006/09/02 16:37:00  
OBS USED: 24780 / 25565 : 97%  
# FIXED AMB: 104 / 132 : 79%  
OVERALL RMS: 0.018 (m)

ITRF00 (EPOCH:2006.6697)  
-2336824.516 (m) 0.010 (m)  
-646617.575 (m) 0.015 (m)  
5879529.233 (m) 0.045 (m)  
67 43 29.06840 0.014 (m)  
195 28 1.85406 0.013 (m)  
164 31 58.14594 0.013 (m)  
5.649 (m) 0.045 (m)

[Geoid06 Approximate MSL Heights]

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 03)	SPC (5008 AK 8)
Northing (Y) [meters]	7512250.861	1529848.987
Easting (X) [meters]	519763.289	562078.160
Convergence [degrees]	0.43234582	1.35776071
Point Scale	0.99960478	0.99994714
Combined Factor	0.99960400	0.99994636

US NATIONAL GRID DESIGNATOR: 3WWR1976312251 (NAD 83)

	BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE DISTANCE (m)
DE9132	DSL1 DRILL SITE L1 CORS ARP	N702000.377	W1482821.764 701515.4
DE9142	PUO1 OLD AIRPORT TOWER CORS ARP	N701513.942	W1482035.594 703703.5
AJ8056	PBOC PRUDHOE BAY 2 CORS ARP	N701523.051	W1482005.563 704082.5
	NEAREST NGS PUBLISHED CONTROL POINT		
UW4599	KIVALINA SE	N674333.910	W1643157.971 149.4