### DEPARTMENT OF THE ARMY PERMIT

Permittee: Alaska Department of Transportation & Public Facilities

Permit No.: POA-1992-515-M12 (Chilkat River)

Issuing Office: U.S. Army Engineer District, Alaska

**NOTE**: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

**Project Description**: Discharge 131,236 cubic yards of clean gravel, sand, and rock fill material into 22 acres of palustrine wetlands and discharge 28,995.9 cubic yards of clean gravel, sand, and rock fill material into 4 acres below the Ordinary High Water Mark (OHWM) of the Chilkat River to realign and widen the Haines Highway. Work includes the installation of 13 corrugated metal pipe culverts ranging in size from 48 inch to 3.5 feet diameter, and 13 arch pipes ranging in size from 81-inch by 59-inch to 12 feet 7 inch by 8 feet 4 inch into 1,857 linear feet of stream (0.3 acres) below the OHWM.

All work will be performed in accordance with the attached plan, sheets 1 - 41, dated January 2017.

**Project Location**: Section 30, T. 30 S., R. 59 E., Copper River Meridian; USGS Quad Map Skagway A-2; Section 29, 30, 32, 33, 34, T. 28 S., R. 56 E., Section 5, 6, 8, 9, 10, 14, 15, 16, 23, 25, 26, 36, T. 29 S., R. 57 E., Section 31, T. 29 S., R. 58 E., Section 6, 7, 8, 14, 15, 16, 17, 23, 24, T. 30 S., R. 58 E.; Section 19, 30, T. 30 S., R. 59 E., Copper River Meridian; USGS Quad Map Skagway B-2; Section 25, T. 28 S., R. 55 E., Section 29, 30, 32, 33, 34, T. 28 S., R. 56 E., Section 5, 9, 10, 14, 15, 16, 23, 26, T. 29 S., R. 57 E., Copper River Meridian; USGS Quad Map Skagway B-3; Project Begin Latitude 59.248172° N., Longitude 135.535327° W., Project End Latitude 59.409865° N., Longitude 135.963462° W.; Haines Highway Milepost 3.9 to 25.0, near Haines, Alaska.

#### **Permit Conditions:**

#### **General Conditions:**

1. The time limit for completing the work authorized ends on June 30, 2022.

If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

- 2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
- 3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
- 6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

#### **Special Conditions:**

- 1. Prior to commencing the work authorized by this permit, the Permittee shall purchase 4.6 acres PEM1H, 3.7 acres PSS1H, 0.5 acres PFO1C, 1.6 acres R3OW wetland credits from the SEALASKA Natzuhini Bay Mitigation Bank for the loss of 10.4 acres of palustrine and riverine wetlands. You must email the signed credit transaction form to <a href="mailto:mitigationmanager@usace.army.mil">mitigationmanager@usace.army.mil</a> and to Randal Vigil at <a href="mailto:Randal.P.Vigil@usace.army.mil">Randal.P.Vigil@usace.army.mil</a> upon completion of credit transaction (see form attached). If you are unable to complete this transaction, you are required to obtain a permit modification prior to commencing the work authorized by this permit for approval of an alternate mitigation method.
- 2. The permittee shall implement the "Approved Mitigation Plan dated June 2017.

#### **Further Information:**

- 1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
  - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
  - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
  - () Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413).
- 2. Limits of this authorization.
- a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
- 3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.

- 4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
- 5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a revaluation include, but are not limited to, the following:
  - a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that	t you accept and agree to comply with the terms and
conditions of this permit.	
111	6/21/2017
	6/-1/2011
John C. Barnett	(DATE)

Regional Environmental Manager Alaska Department of Transportation and Public Facilities

hen the Federal official, designated to act for the Secretary of the Army, This permit becomes has signed below

6/22/2017

FOR (DISTRICT COMMANDER) Colonel Michael S. Brooks Randal P. Vigil

South Branch, Regulatory Division

When the structures or work authorized by this permit are still in existence at the time the property is transferred the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions have the transferee sign and date below.

(TRANSFEREE)		(DATE)
ENG FORM 1721, Nov 86	EDITION OF SEP 82 IS OBSOLETE	(33 CFR 325 (Appendix A))



## Department of Environmental Conservation

**DIVISION OF WATER** 

Wastewater Discharge Authorization Program

555 Cordova Street Anchorage, Alaska 99501-2617 Main: 907.269.6285

Fax: 907.334.2415 www.dec.alaska.gov/water/wwdp

April 10, 2017

Alaska Department of Transportation and Public Facilities (ADOT&PF) Attention: John Barnett P.O. Box 112506 Juneau, Alaska 99811

Re: ADOT&PF, Haines Highway Expansion POA-1992-515-M12, Chilkat River

Dear Mr. Barnett:

In accordance with Section 401 of the Federal Clean Water Act of 1977 and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation (DEC) is issuing the enclosed Certificate of Reasonable Assurance for placement of dredged and/or fill material in waters of the U.S., including wetlands and streams, associated with the expansion of the Haines Highway, near Haines, Alaska.

DEC regulations provide that any person who disagrees with this decision may request an informal review by the Division Director in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. An informal review request must be delivered to the Director, Division of Water, 555 Cordova Street, Anchorage, AK 99501, within 15 days of the permit decision. Visit <a href="http://dec.alaska.gov/commish/ReviewGuidance.htm">http://dec.alaska.gov/commish/ReviewGuidance.htm</a> for information on Administrative Appeals of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, PO Box 111800, Juneau, AK 99811-1800, within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

By copy of this letter we are advising the U.S. Army Corps of Engineers of our actions and enclosing a copy of the certification for their use.

Sincerely,

James Rypkema

Program Manager, Storm Water and Wetlands

Enclosure: 401 Certificate of Reasonable Assurance

cc: (with encl.)

Randal Vigil, USACE, Juneau Jackie Timothy, ADF&G

USFWS Field Office Juneau Mark Douglas, EPA Operations, Anchorage

# STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION CERTIFICATE OF REASONABLE ASSURANCE

In accordance with Section 401 of the Federal Clean Water Act (CWA) and the Alaska Water Quality Standards (18 AAC 70), a Certificate of Reasonable Assurance, is issued to ADOT&PF, attention: John Barnett, at P.O. Box 112506, Juneau, Alaska 99811, for placement of dredged and/or fill material in waters of the U.S. including wetlands and streams in association with the development of expansion of the Haines Highway near Haines, Alaska.

ADOT&PF plans to address highway and bridge deficiencies between Milepost (MP) 3.5 and MP 25.3; highway instability and temporary closures due to debris and water flooding; and recreational access deficiencies. The ADOT&PF proposes to discharge 131,236 cubic yards of clean gravel, sand, and rock fill material into 22 acres of wetlands and to discharge 28,996 cubic yards of clean fill material into 4 acres below the ordinary high water mark (OHWM) of the Chilkat River to realign and widen the Haines Highway. Work would include the installation of 13 corrugated metal pipe culverts into 1,857 linear feet of stream (0.3) acres below the OHWM.

A state issued water quality certification is required under Section 401 because the proposed activity will be authorized by a U.S. Army Corps of Engineers permit (POA-1992-515-M12) and a discharge of pollutants to waters of the U.S. located in the State of Alaska may result from the proposed activity. Public notice of the application for this certification was given as required by 18 AAC 15.180 in the Corps Public Notice POA-1992-515-M12 posted from February 24, 2017 to March 27, 2017.

The proposed activity is located between Haines Highway MP 3.5 to 25.3; project begins at Latitude 59.248172° N., Longitude -135.535327° W., project end is Latitude 59.409865° N., and Longitude -135.963462; near Haines, Alaska.

The Department of Environmental Conservation (DEC) reviewed the application and certifies that there is reasonable assurance that the proposed activity, as well as any discharge which may result, will comply with applicable provisions of Section 401 of the CWA and the Alaska Water Quality Standards, 18 AAC 70, provided that the following additional measures are adhered to.

- 1. Reasonable precautions and controls must be used to prevent incidental and accidental discharge of petroleum products or other hazardous substances. Fuel storage and handling activities for equipment must be sited and conducted so there is no petroleum contamination of the ground, subsurface, or surface waterbodies.
- 2. During construction, spill response equipment and supplies such as sorbent pads shall be available and used immediately to contain and cleanup oil, fuel, hydraulic fluid, antifreeze, or other pollutant spills. Any spill amount must be reported in accordance with Discharge Notification and Reporting Requirements (AS 46.03.755 and 18 AAC 75 Article 3). The applicant must contact by telephone the DEC Area Response Team for Southeast Alaska (907) 465-5340 during work hours or 1-800-478-9300 after hours. Also, the applicant must contact by telephone the National Response Center at 1-800-424-8802.

POA - 1992 - 515 - M12 CERT. docx

- 3. There are several contaminated sites along the Haines Highway from historical spills associated with the Haines to Fairbanks Pipeline (approximate locations: MP 6.5, 17.5, and 25.3). Prior to construction within known contaminated areas the applicant should contact DEC's Contaminated Sites Project Manager for these sites, Anne Marie Palmieri, ph. 907-766-3184, email <a href="mailto:Annemarie.palmieri@alaska.gov">Annemarie.palmieri@alaska.gov</a>, for planning purposes to avoid disturbing these areas. If contaminated soils are encountered during construction, all work within the contaminated area shall cease and the DEC's Contaminated Sites Program, Anne Marie Palmieri, ph. 907-766-3184, shall be contacted for approval to resume work in that area.
- 4. Runoff discharged to surface water (including wetlands) from a construction site disturbing one or more acres must be covered under Alaska's General Permit for Storm Water Discharges from Large and Small Construction Activities in Alaska (AKR100000). This permit requires a Storm Water Pollution Prevention Plan (SWPPP). For projects that disturb more than five acres, this SWPPP must also be submitted to DEC (William Ashton, 907-269-6283) prior to construction.
- 5. During the work on the culverts and bridges, construction equipment shall not be operated below the ordinary high water mark if equipment is leaking fuel, oil, hydraulic fluid, or any other hazardous material. Equipment shall be inspected and recorded in a log on a daily basis for leaks. If leaks are found, the equipment shall not be used and pulled from service until the leak is repaired.
- 6. All work areas, material access routes, and surrounding wetlands involved in the construction project shall be clearly delineated and marked in such a way that equipment operators do not operate outside of the marked areas.
- 7. Natural drainage patterns shall be maintained, to the extent practicable, without introducing ponding or drying.
- 8. Excavated or fill material, including overburden, shall be placed so that it is stable, meaning after placement the material does not show signs of excessive erosion. Indicators of excess erosion include: gullying, head cutting, caving, block slippage, material sloughing, etc. The material must be contained with siltation best management practices (BMPs) to preclude reentry into any waters of the U.S., which includes wetlands.
- 9. Include the following BMPs to handle storm water and total storm water volume discharges as they apply to the site:
  - a. Divert storm water from off-site around the site so that it does not flow onto the project site and cause erosion of exposed soils;
  - b. Slow down or contain storm water that may collect and concentrate within a site and cause erosion of exposed soils;
  - c. Place velocity dissipation devices (e.g., check dams, sediment traps, or riprap) along the length of any conveyance channel to provide a non-erosive flow velocity. Also place velocity dissipation devices where discharges from the conveyance channel or structure join a water course to prevent erosion and to protect the channel embankment, outlet, adjacent stream bank slopes, and downstream waters.
- 10. Fill material (including dredge material) must be clean sand, gravel or rock, free from petroleum products and toxic contaminants in toxic amounts.

POA - 1992 - 515 - M12 CERT.docx Page 2 of 3

11. Any disturbed ground and exposed soil not covered with fill must be stabilized and re-vegetated with endemic species, grasses, or other suitable vegetation in an appropriate manner to minimize erosion and sedimentation, so that a durable vegetative cover is established in a timely manner.

This certification expires five (5) years after the date the certification is signed. If your project is not completed by then and work under U.S Army Corps of Engineers Permit will continue, you must submit an application for renewal of this certification no later than 30 days before the expiration date (18 AAC 15.100).

Date:	April 10, 2017	

James Rypkema, Program Manager Storm Water and Wetlands

POA - 1992 - 515 - M12 CERT. docx

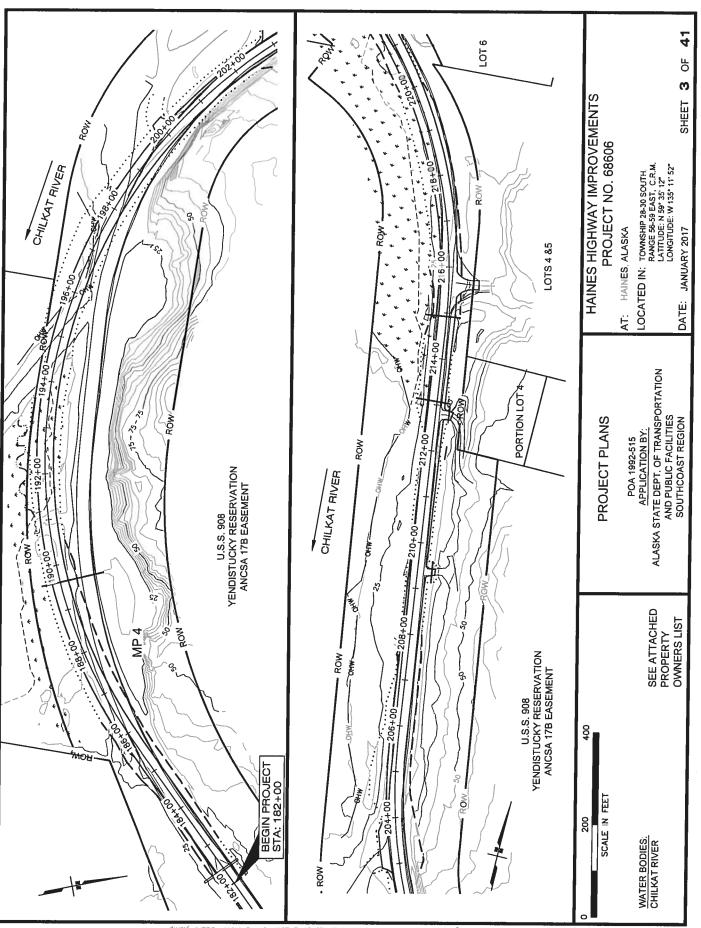
WATER BODIES: CHILKAT RIVER

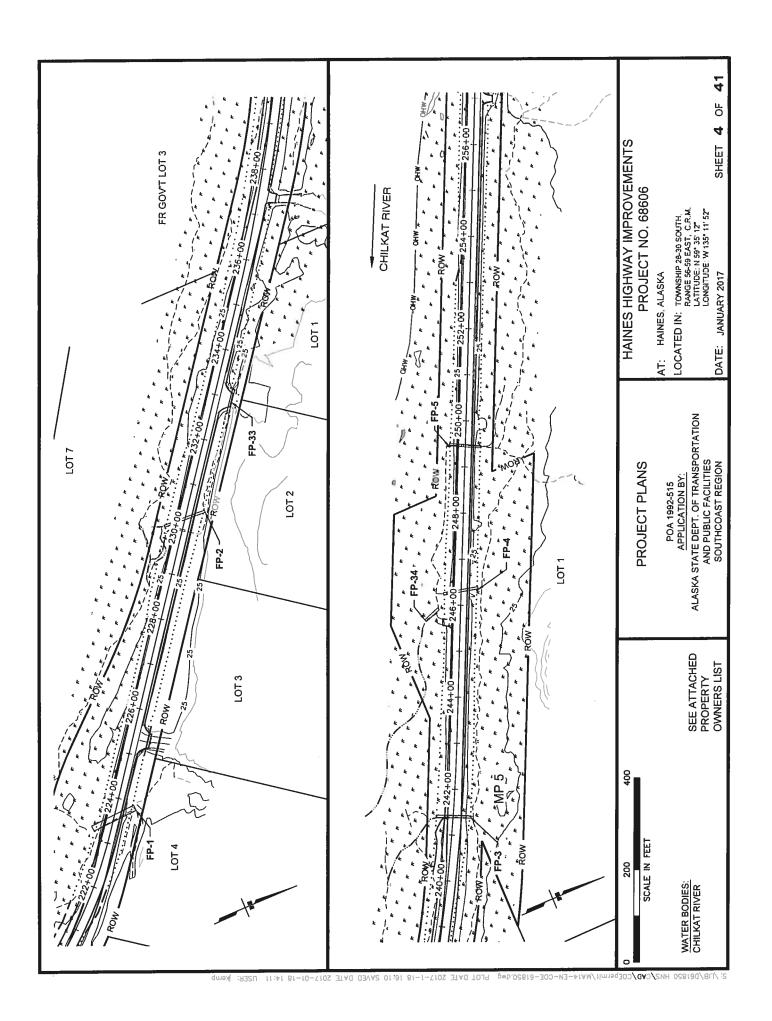
APPLICATION BY: ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES

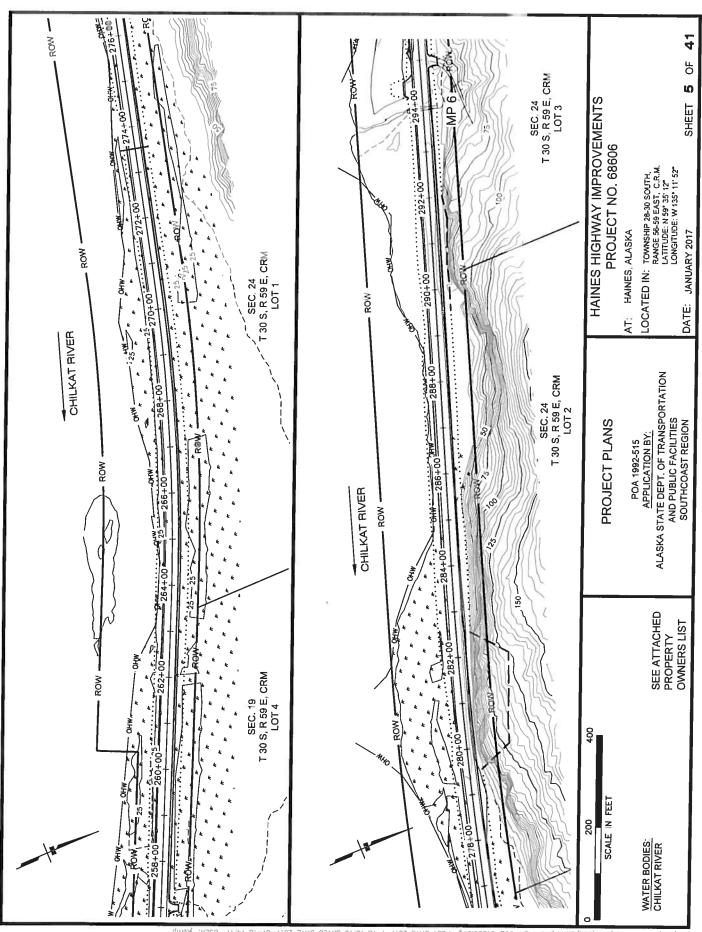
SOUTHCOAST REGION

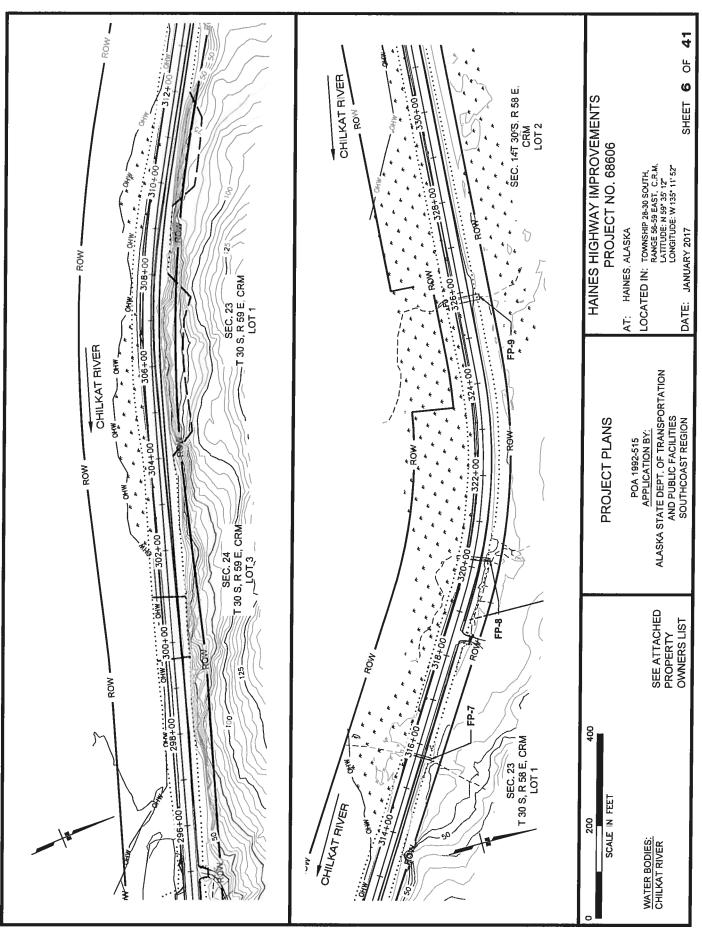
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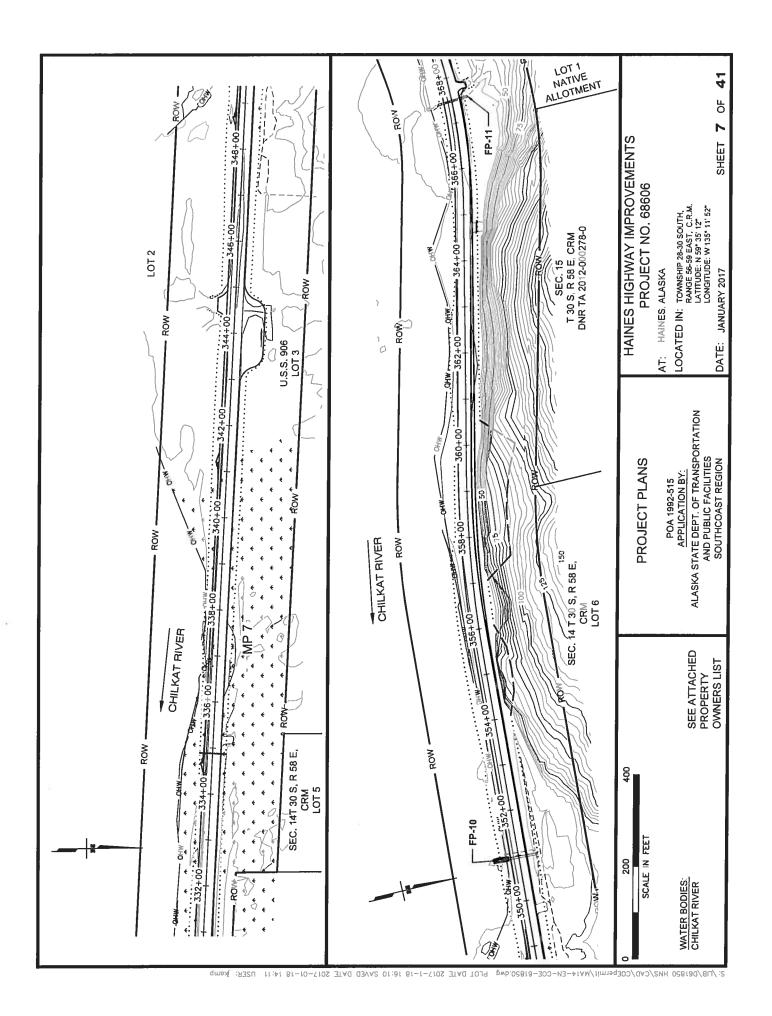
DATE: JANUARY 2017 SHEET 2 OF 41

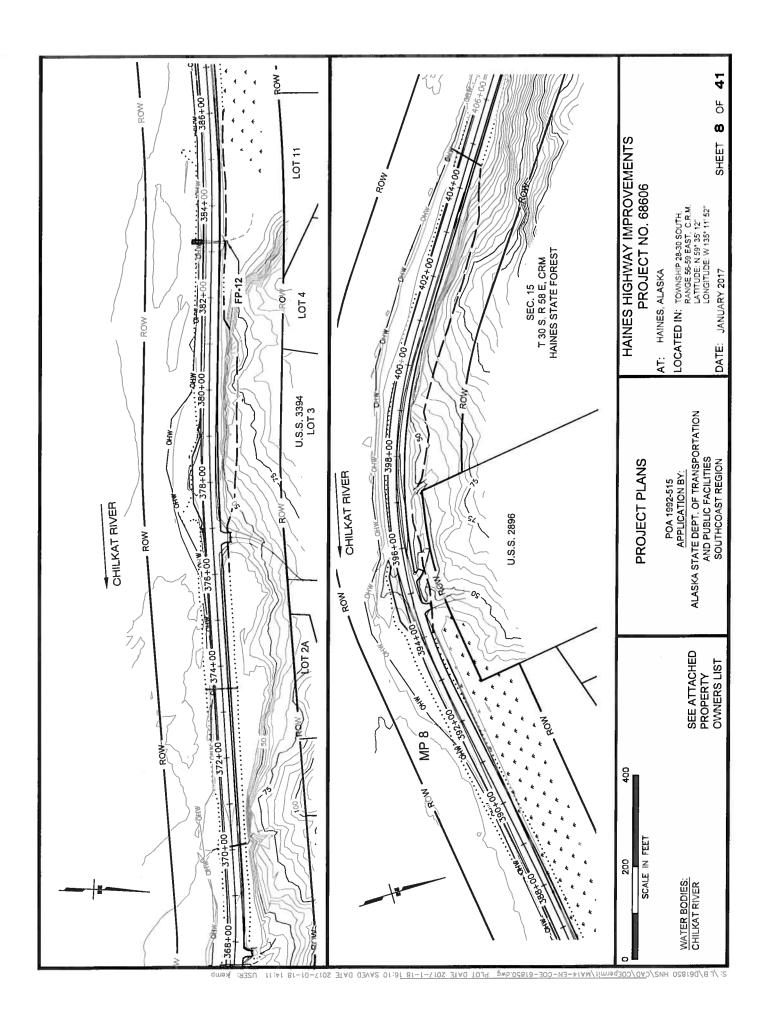


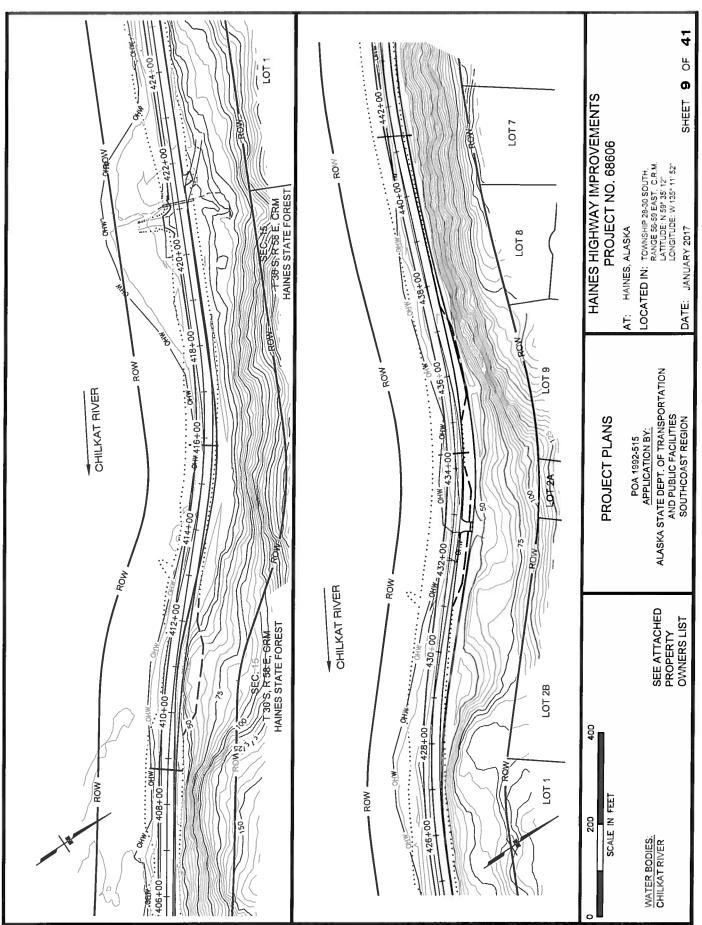


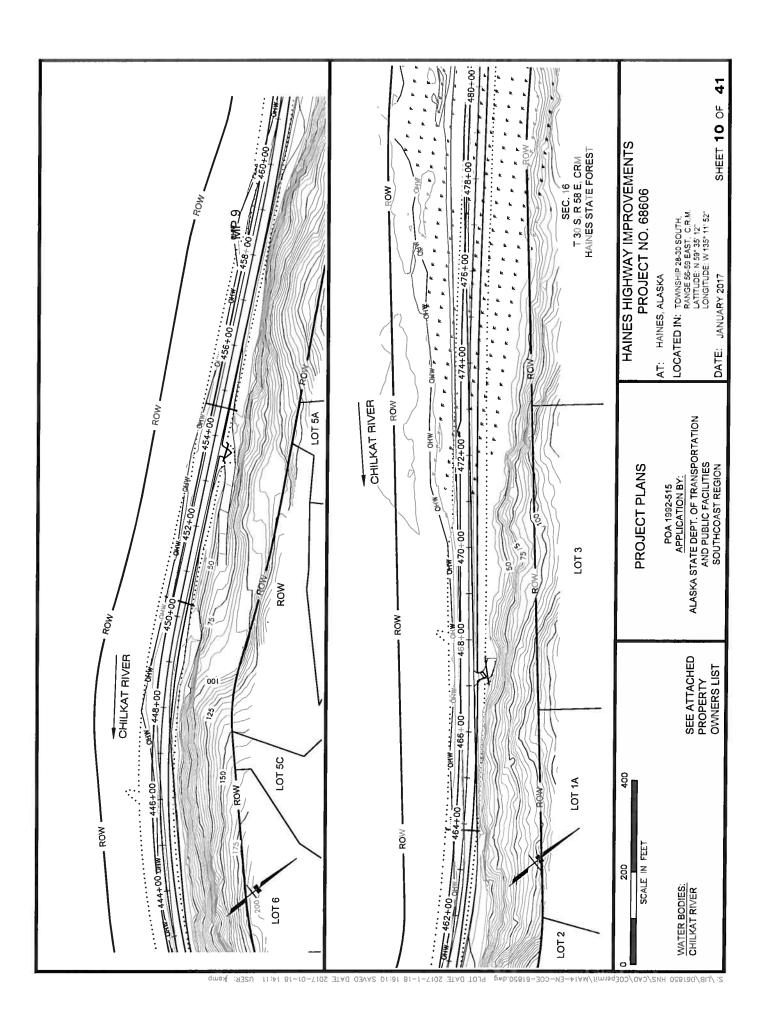


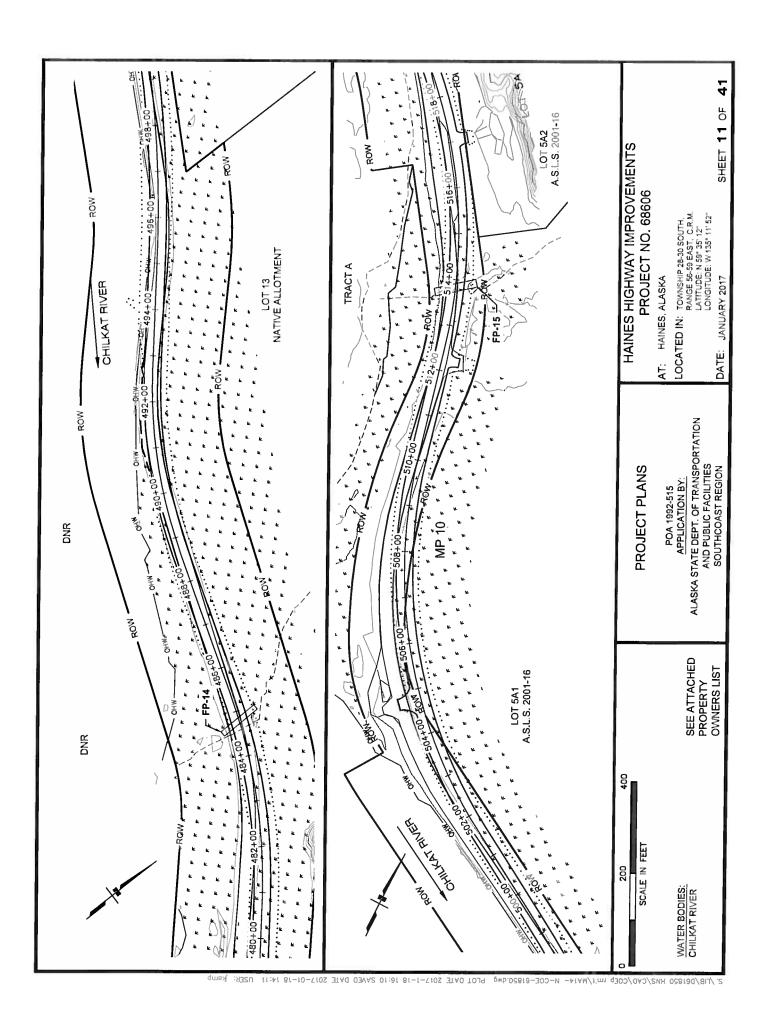


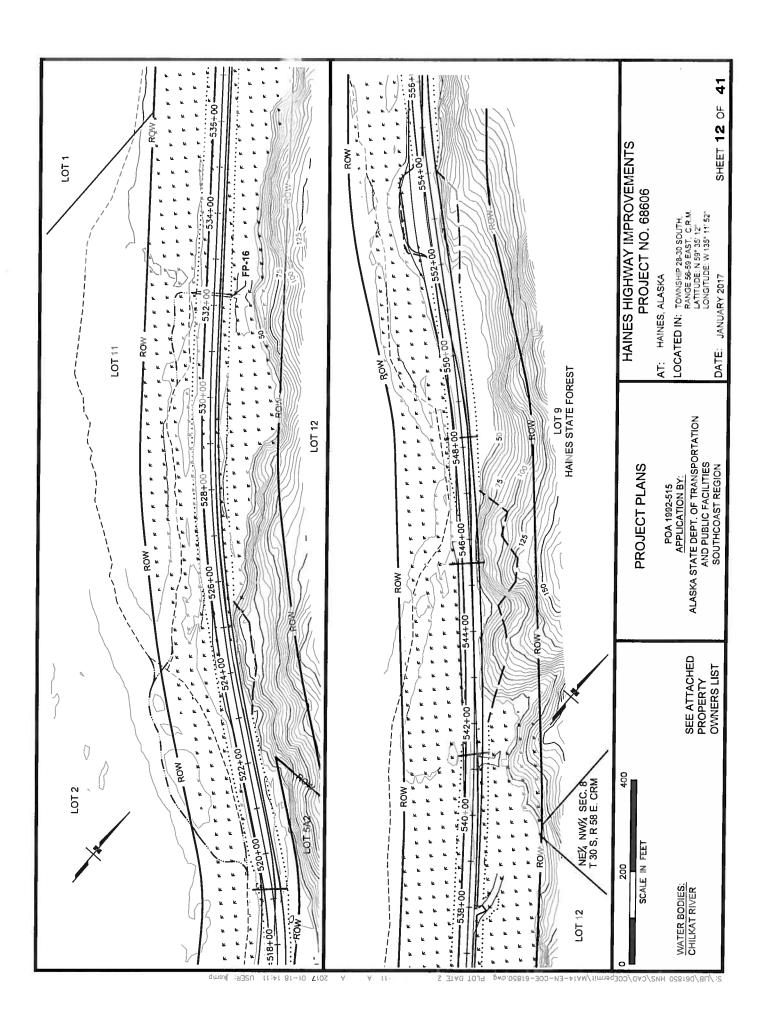


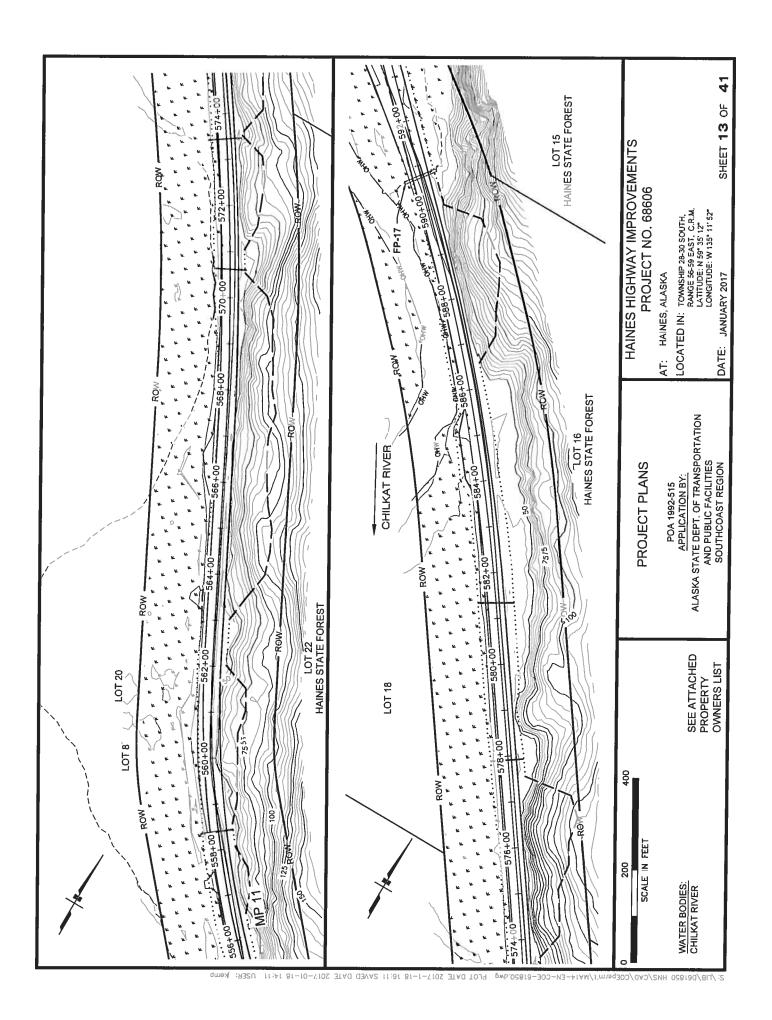


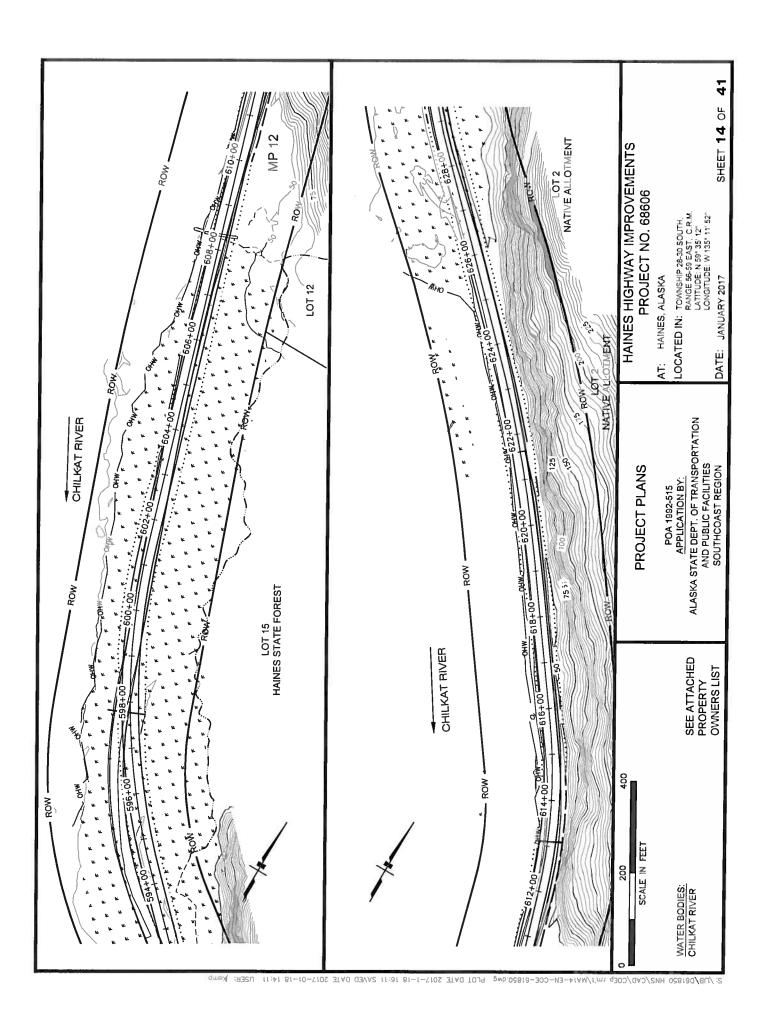


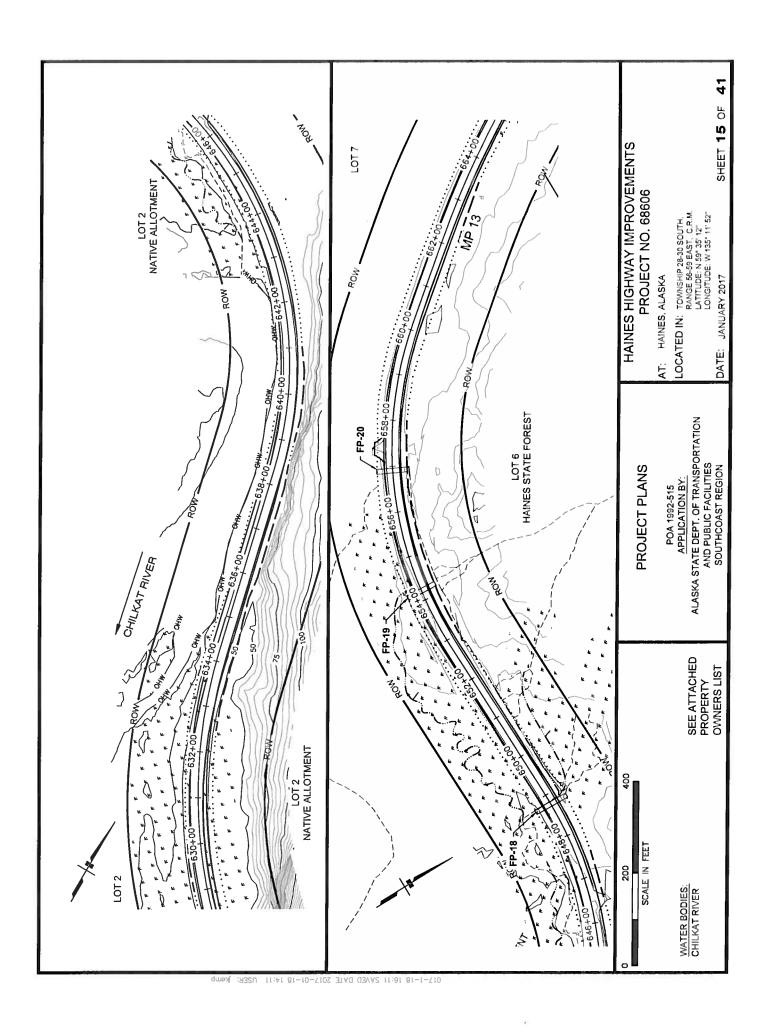


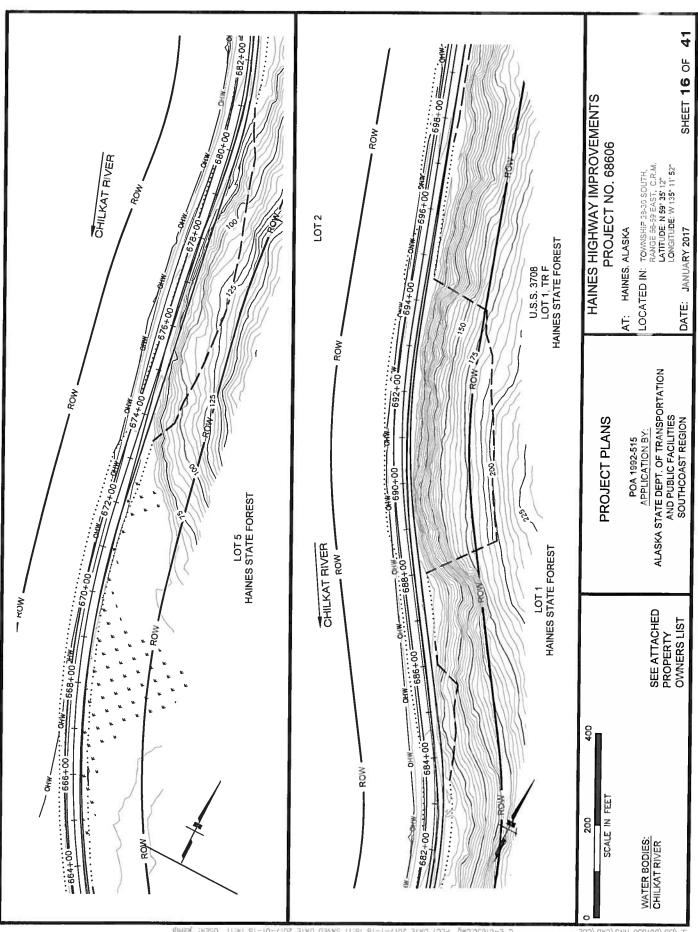


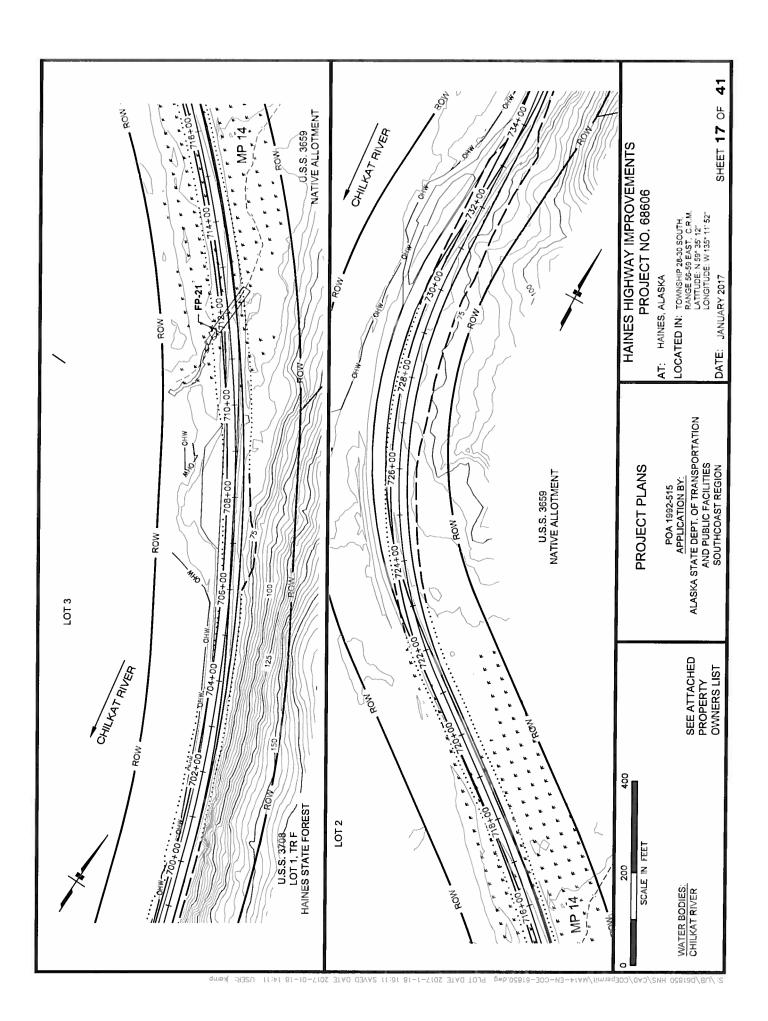


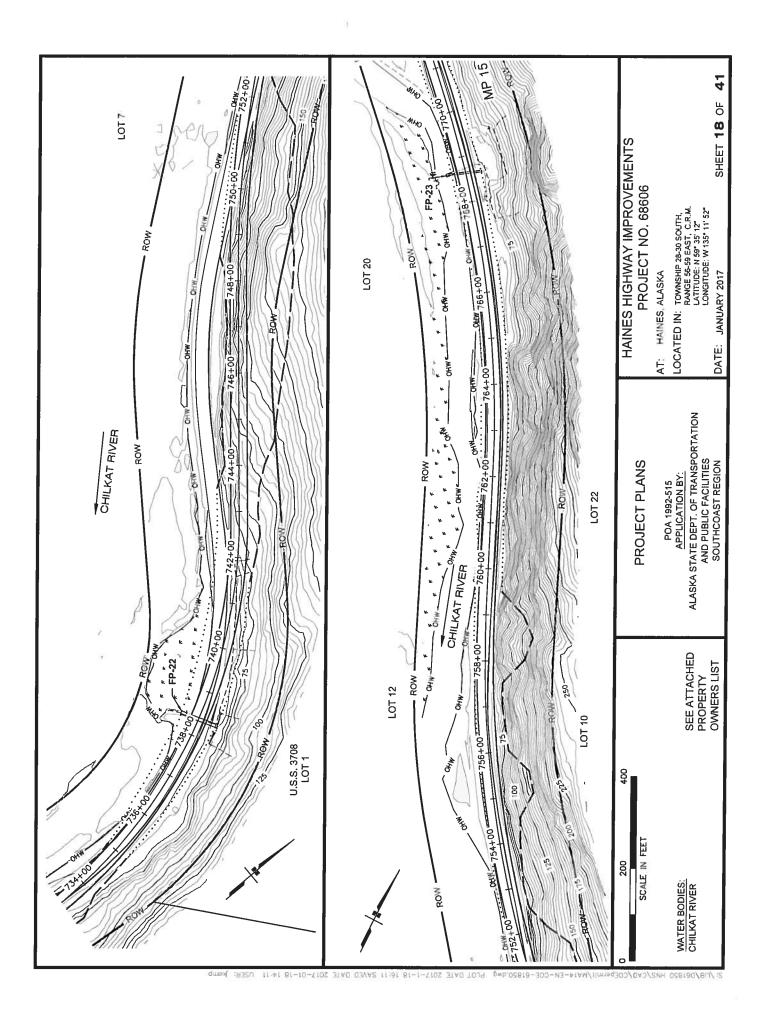


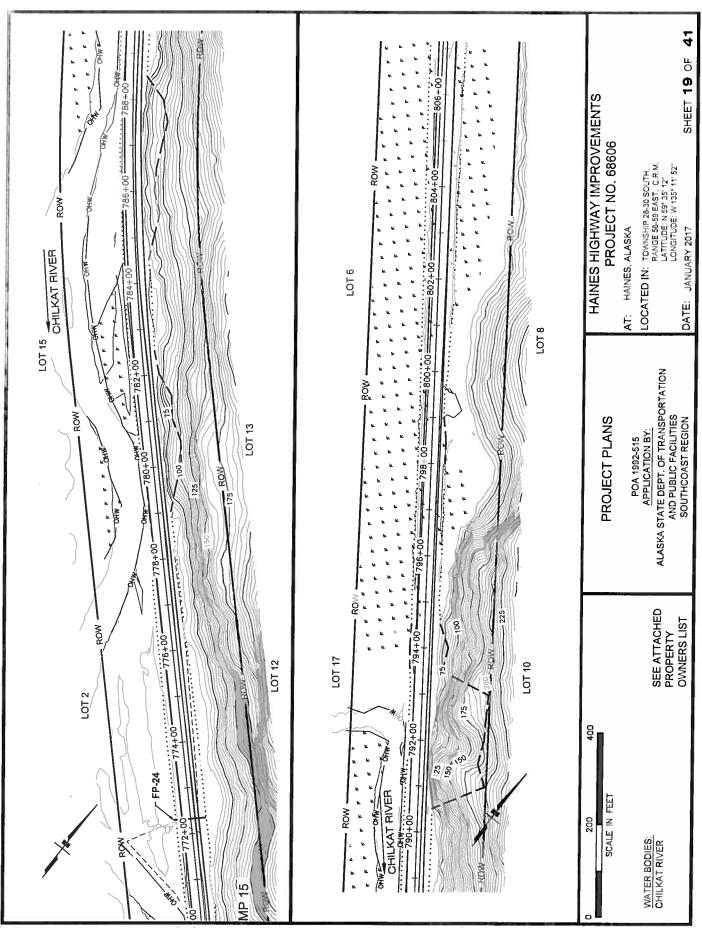


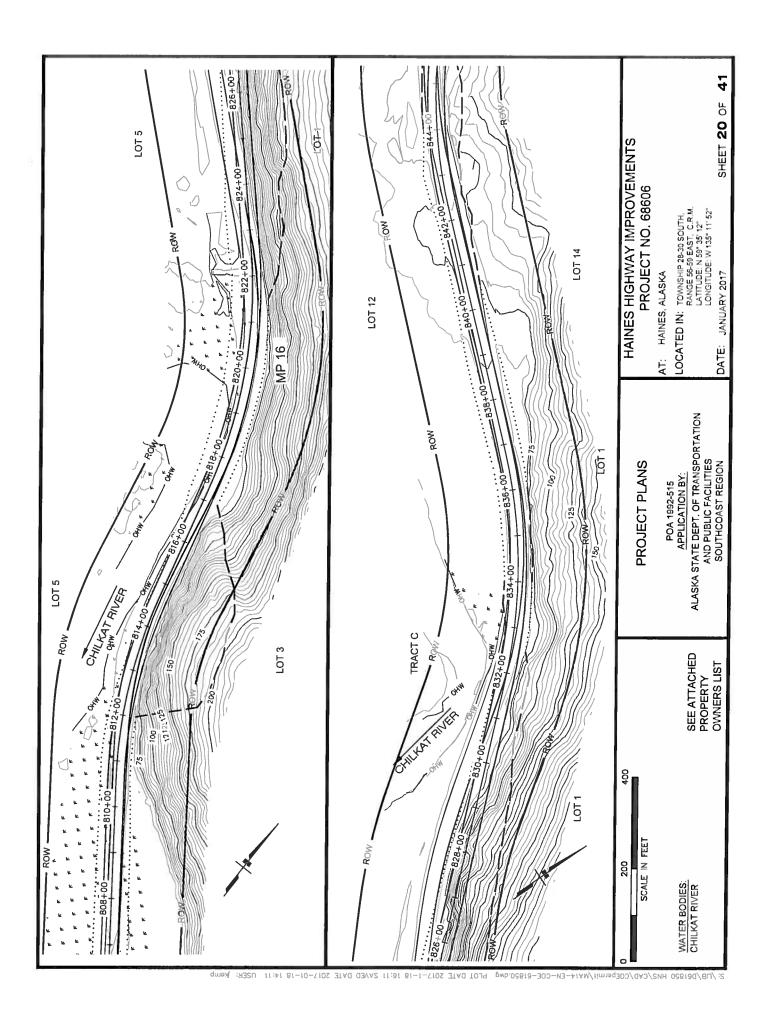


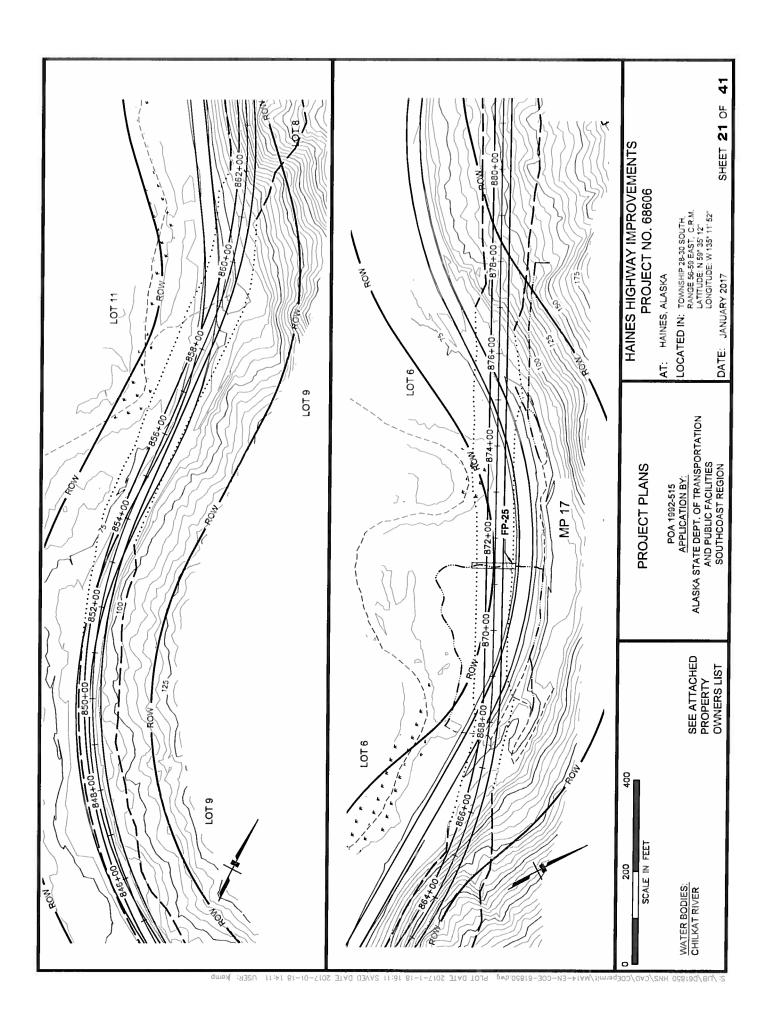


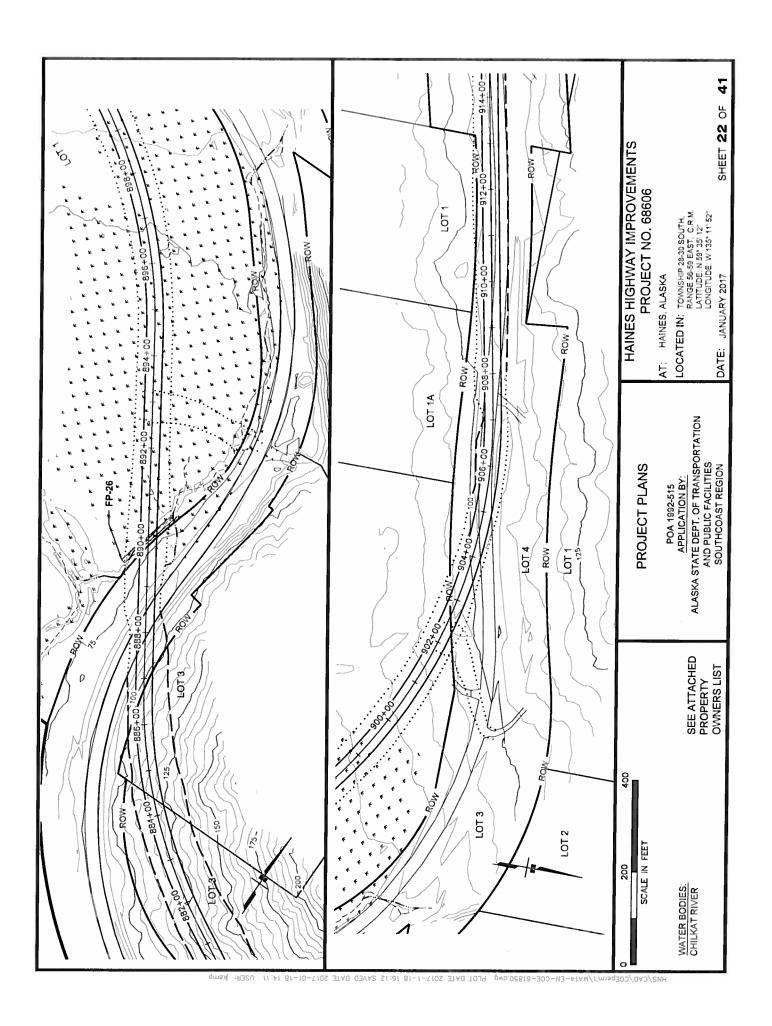


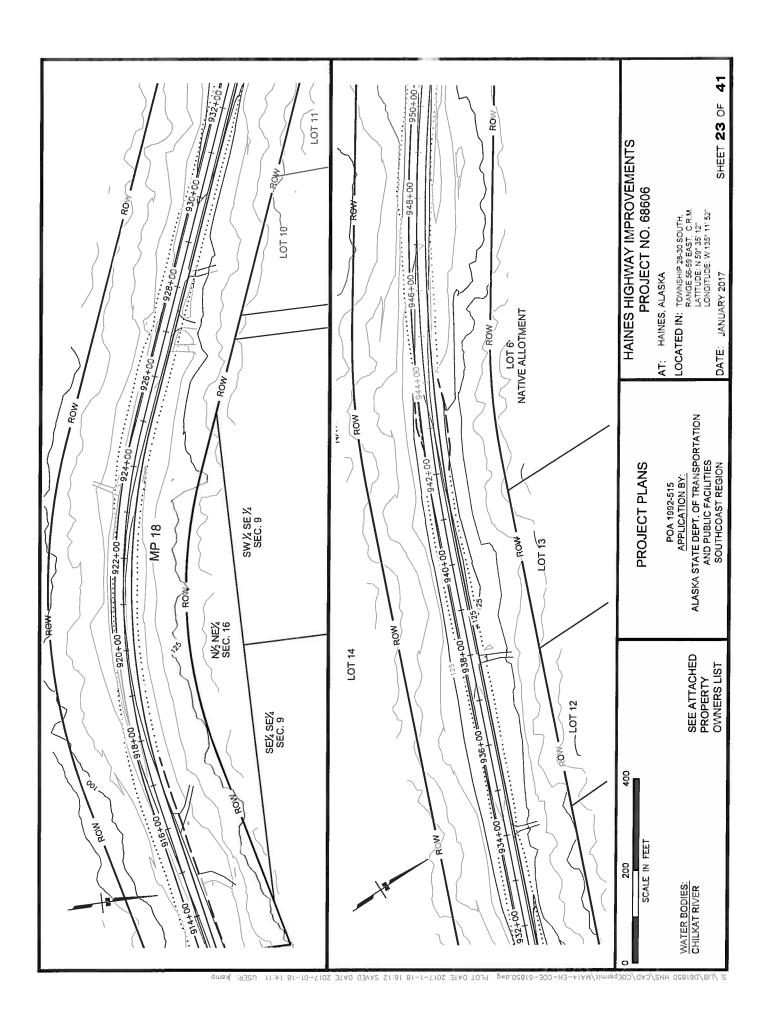


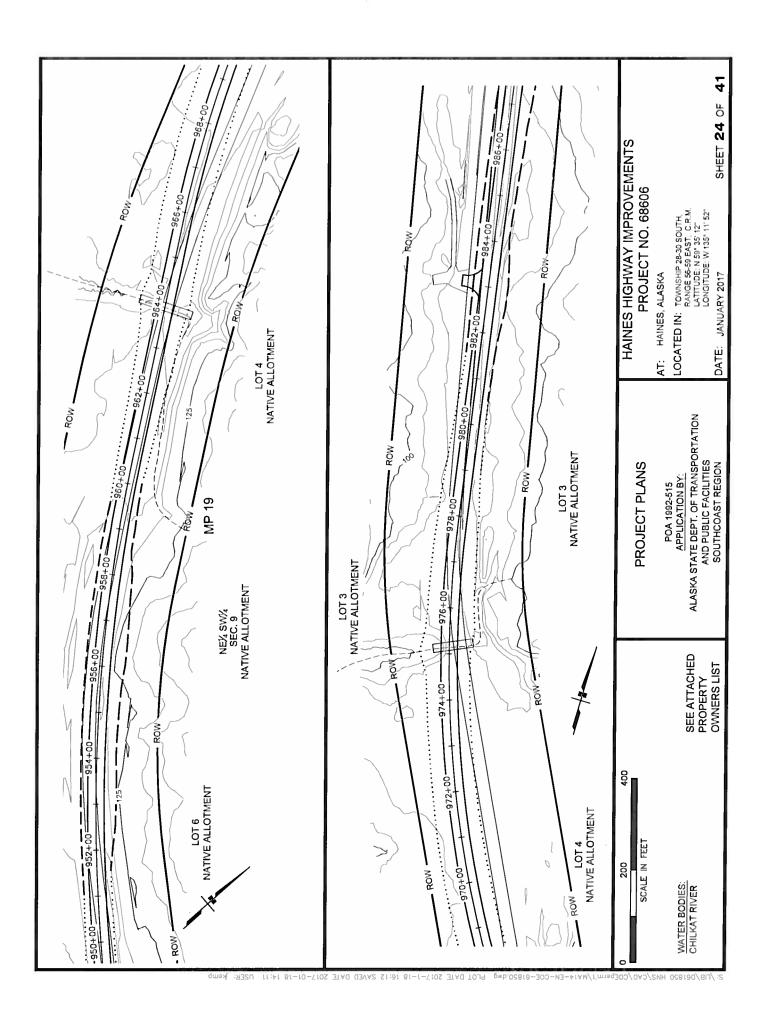


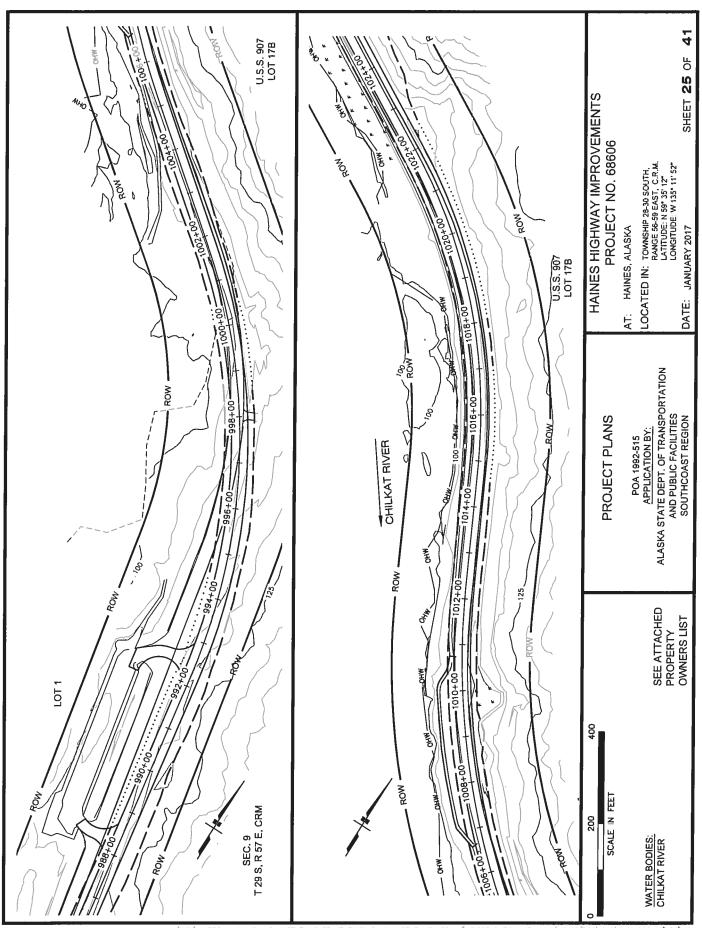


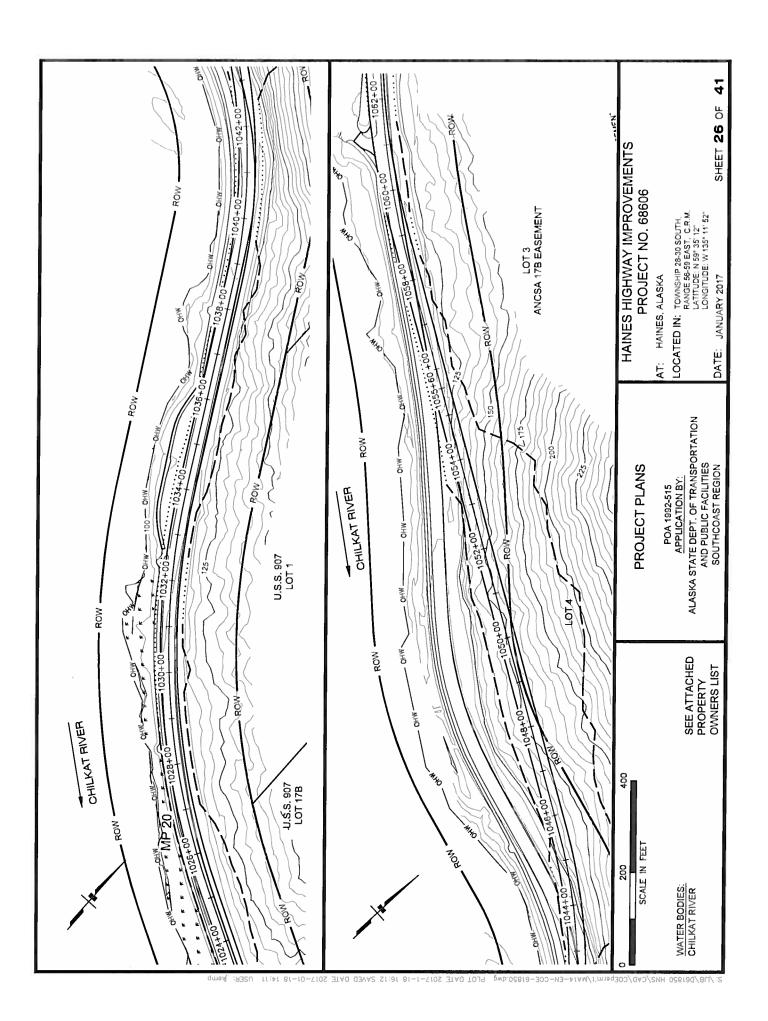


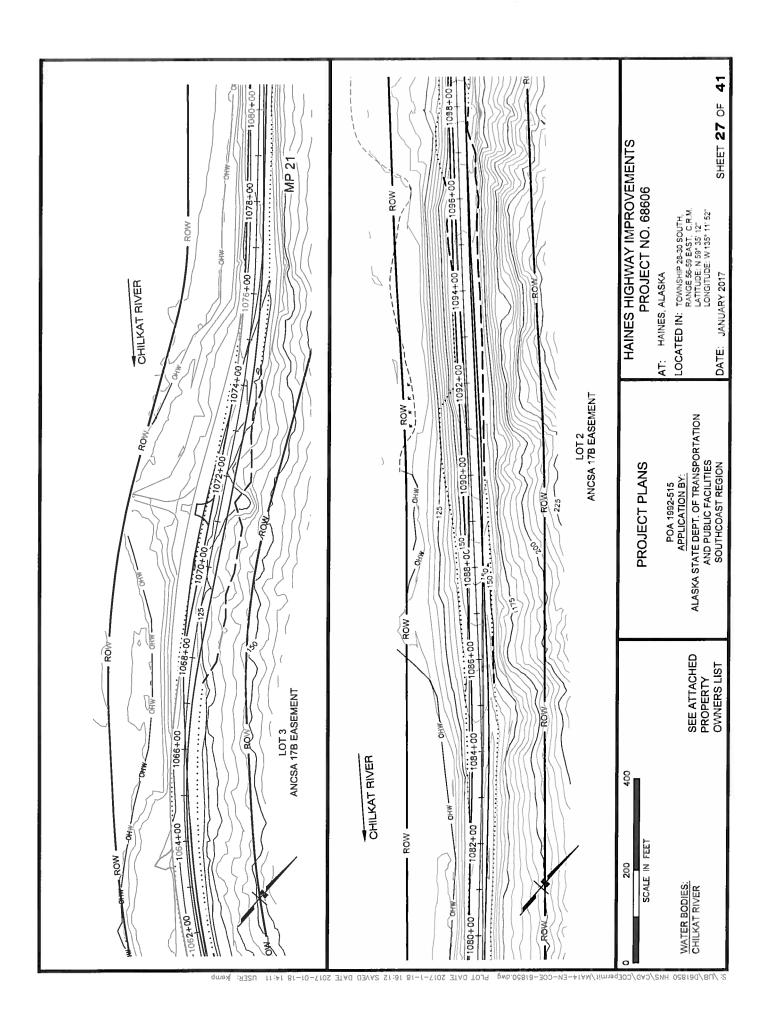


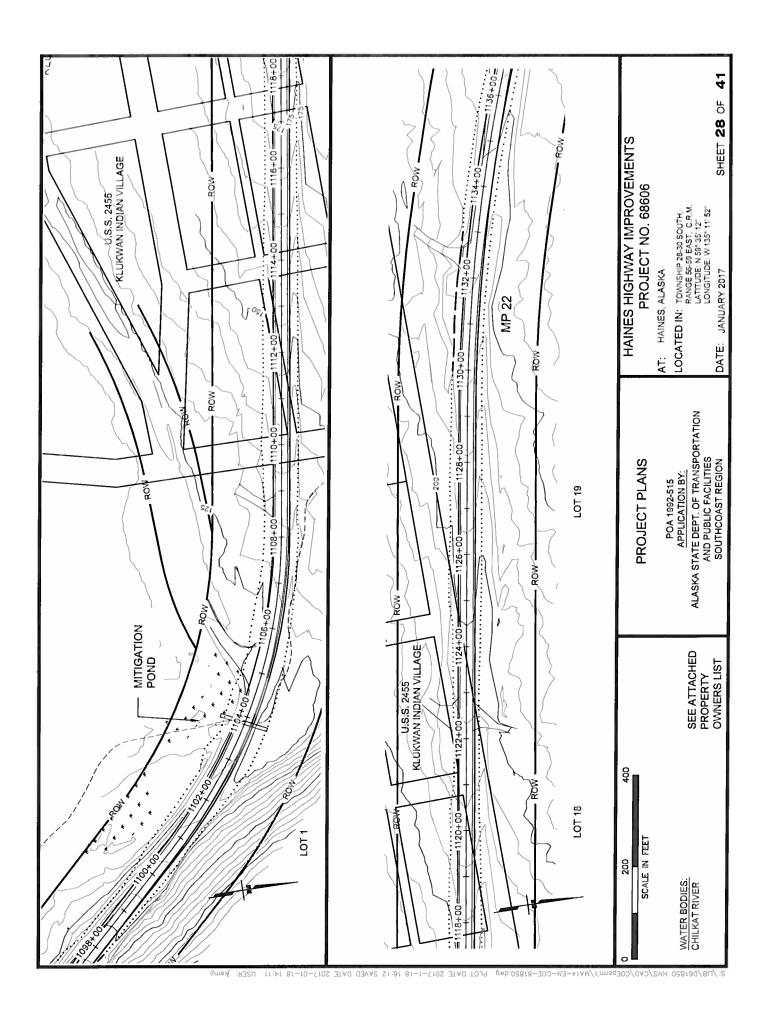


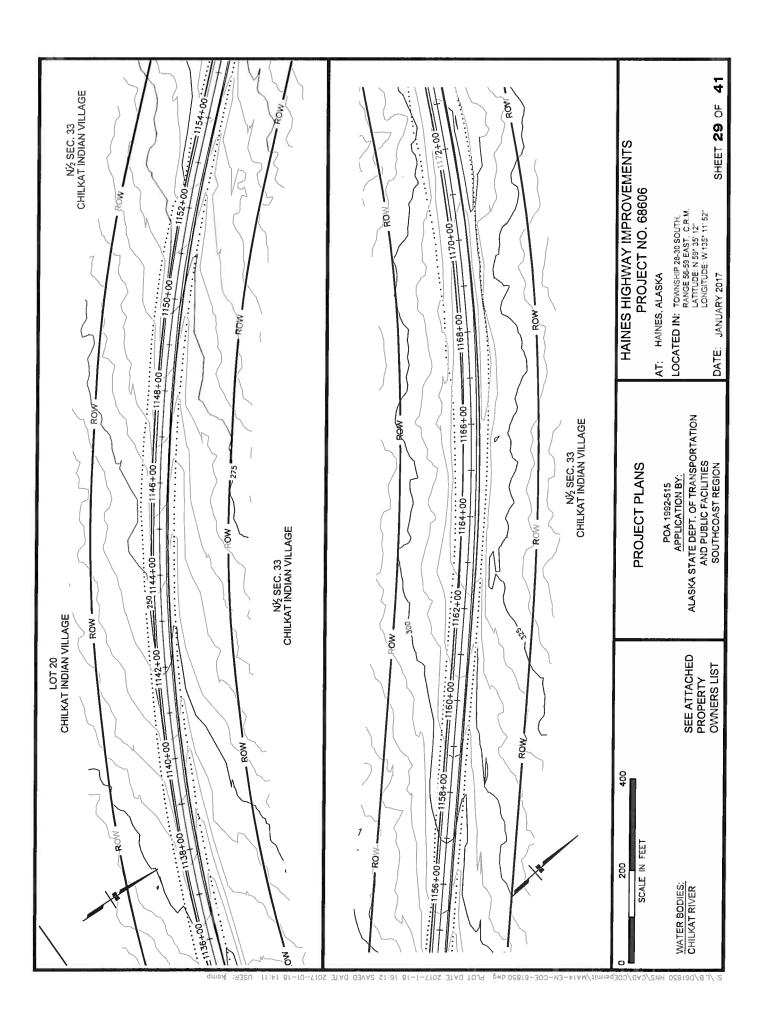


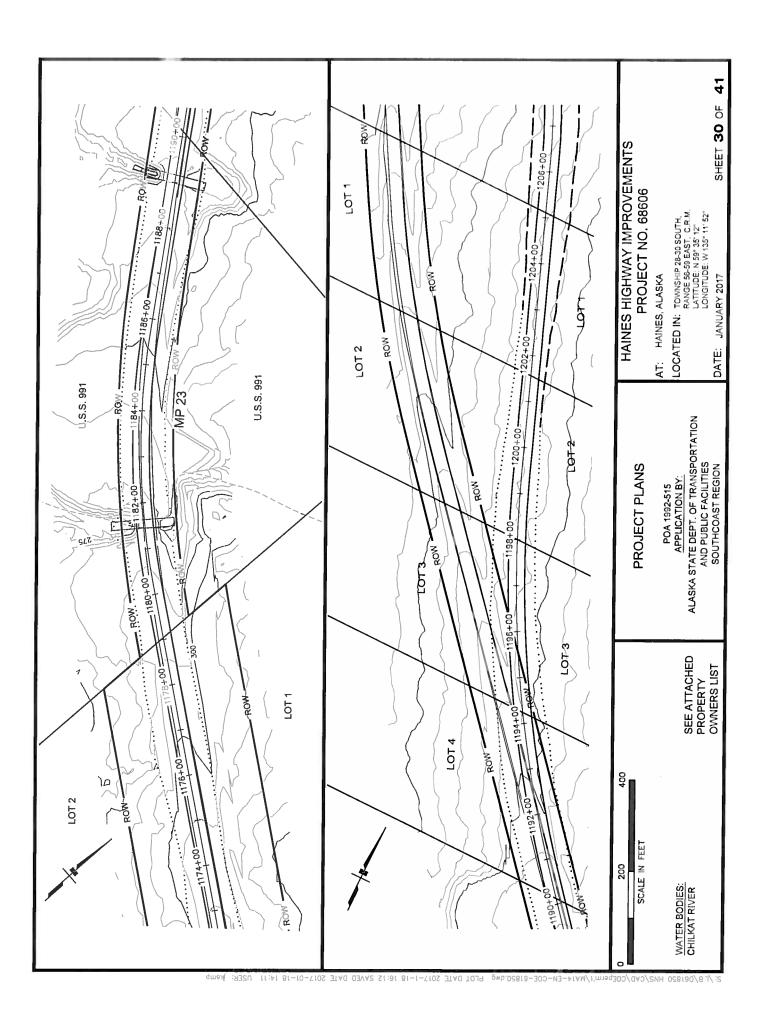


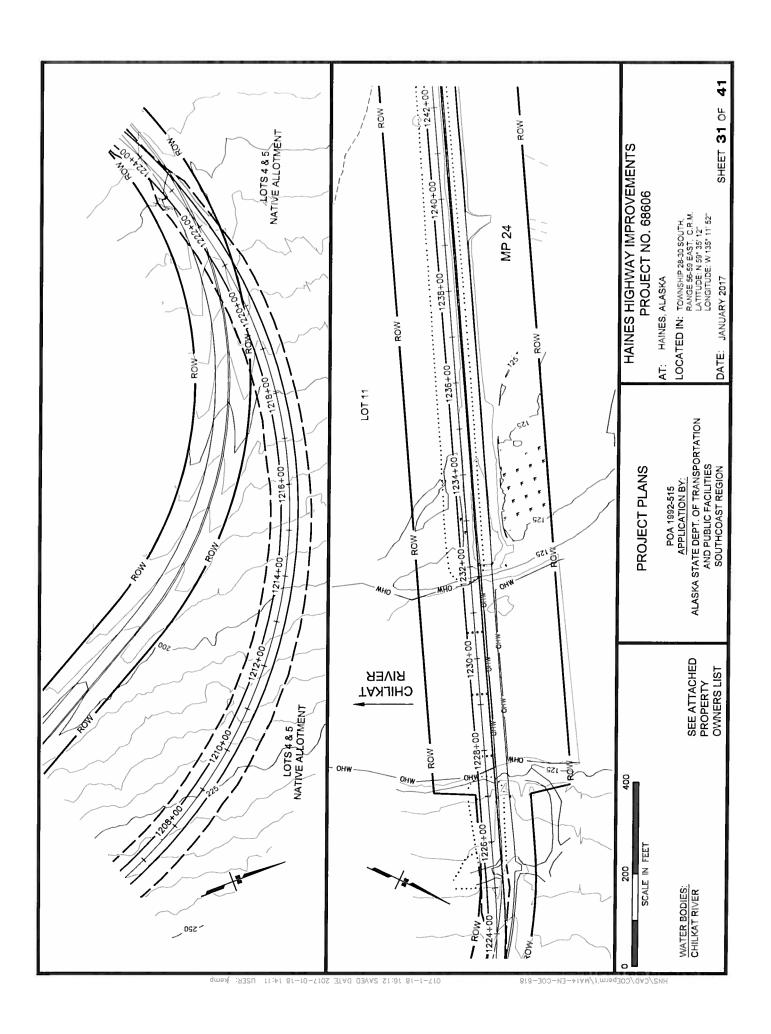


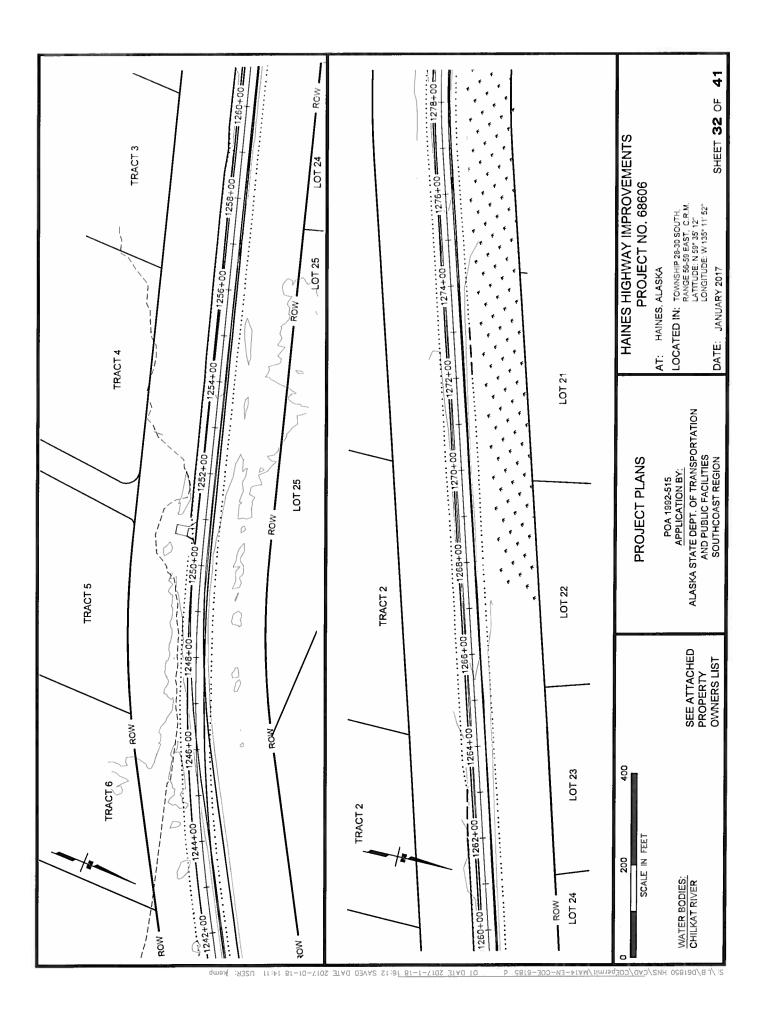


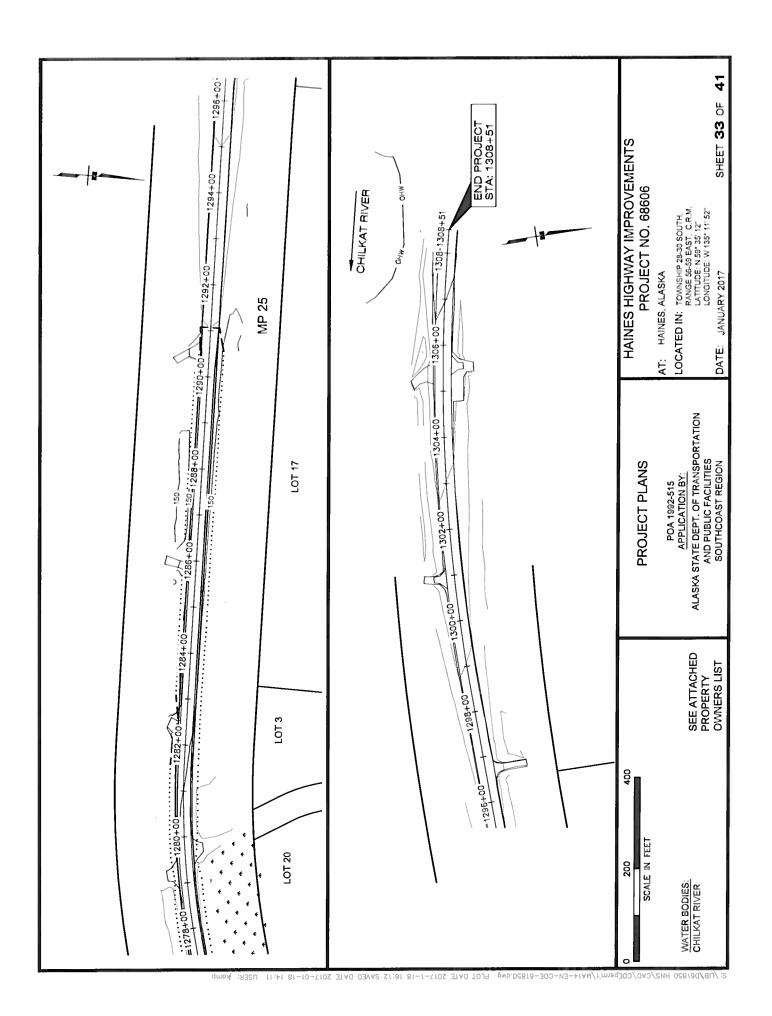












		TADIE	4. DRODOSED EIGH DI	DE CHIVEDT I			
			1: PROPOSED FISH PIF	·		· - · · · · · ·	
FISH	SHEET	PROPOSED	ADFG CATALOG No.	EXISTING	PLANNED	RIVER	RIVE
PIPE	NUMBER	CL STATION		CONDITION	IMPROVEMENT Tier 1; 95"x67" \( \text{Aluminium} \)	LENGTH	
FP-1	21	223+56	115-32-10250-2004	48" CMP	Pipe Arch	90	810
FP-2	21	230+23	115-32-10250-2006	24" CMP	Tier 1; 60" CMP	79	158
FP-3	21	241+41	115-32-10250-2006-3003	-	Tier 1; 60" CMP	62	136
FP-4	21	246+31	115-32-10250-2008-3004	-	Tier 1; 60" CMP	73	182.
FP-5	21	249+46	115-32-10250-2006	24" CMP	Tier 1; 60" CMP	66	297
FP-7	23	315+75	Un-cataloged Stream	24" CMP	Tier 1; 60" CMP	60	120
FP-8	23	320+19	115-32-10250-2016	36" CMP	Tier 1; 81"x59" Aluminium Pipe Arch	69	276
FP-9	23	325+84	115-32-10250-2020	48" CMP	Tier 1; 95"x67" Aluminium Pipe Arch	81	324
FP-10	24	350+96	Un-cataloged Stream	24" CMP	Tier 1; 48" CMP	66	165
FP-11	24	367+49	115-32-10250-2022	24" CMP	Tier 1; 48" CMP	65	260
FP-12	25	383+21	115-32-10250-2024	36" CMP	Tier 1; 48" CMP	72	288
FP-14	28	484+78	115-32-10250-2028	24" CMP	Tier 1; 95"x67" Aluminium Pipe Arch	77	519.
FP-15	28	513+82	115-32-10250-2030-3002	24" and 36" CMPs	Tier 1; 151"x89" Aluminium Pipe Arch	72	720
FP-16	29	532+24	115-32-10250-2030	24" CMP	Tier 1; 60" CMP	76	380
FP-17	30	590+76	115-32-10250-2032	Two 24" CMPs		63	378
FP-18	32	648+78	115-32-10250-2040	Two 36" CMPs	hibe	69	483
FP-19	32	654+22	115-32-10250-2040	None	Tier 1; 8'-10" by 6'-1" arch pipe	58	406
FP-20	32	656+91	115-32-10250-2042	24" CMP	Tier 1 or Tier 2; design to be completed	67	134
FP-21	34	712+00	115-32-10250-2044	Two 36" CMPs	Tier 1; 12'-7" by 8'-4" arch pipe	119	1249
FP-22	35	738+37	115-32-10250-2046	24" CMP	Tier 1; 7'-3" by 5'-3" arch pipe	56	336
FP-23	35	768+65	Un-cataloged Stream	36" CMP	Tier 1; 3.5' diameter CMP	56	168
FP-24	36	772+32	11-32-10250-2050	24" CMP	Tier 1 or Tier 2; design to be completed	66	13
FP-25	38	871+28	115-32-10250-2060-3012 -4001	6' 1" by 4' 7" Arch Pipe	Tier 1; 11'-7" by 7'-5" arch pipe	85	807
FP-26	39	889+47	115-32-10250-3011	Two 36" CMPs	Tier 1; 9'-4" by 6'-3" arch pipe	129	967
FP-33	21	232+95	115-32-10250-2006	24" CMP	Tier 1; 60" CMP	54	270
FP-34	21	245+78	115-32-10250-2006	24" CMP	Tier 1; 60" CMP	27	13
					TOTAL	1857	128

**SUMMARY TABLE** 

POA 1992-515 APPLICATION BY:

ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHCOAST REGION

HAINES HIGHWAY IMPROVEMENTS PROJECT NO. 68606

AT: HAINES, ALASKA

LOCATED IN: TOWNSHIP 28-30 SOUTH, RANGE 56-59 EAST, C.R.M. LATITUDE: N 59° 35' 12" LONGITUDE: W 135° 11' 52"

DATE: JANUARY 2017 SHEET **34** OF **41** 

n-	TABLE 2: WE PHASE 1	TLAND IMP (MP 3.5-12	
IMPACT TYPE	TOTAL AREA (Sq.Ft.)	ACRES (ac)	TOTAL FILL VOLUME (Cu. Yd.)
PEM1B	96,953.4	2.2	11,622.0
PEM1H	261,176.1	6.0	28,718.6
PFO1C	30,752.6	0.7	3,160.0
PSS1B	0.0	0.0	0.0
PSS1E	11,611.9	0.3	883.8
PSS1H	302,381.6	6.9	40,786.2
Total	702,875.6	16.2	85,170.6

TABL	E 3: WATERS PHASE 1	OF THE US (MP 3.5-12	G propries and exception as
IMPACT TYPE	TOTAL AREA (Sq.Ft.)	ACRES (ac)	TOTAL FILL VOLUME (Cu. Yd.)
STREAM (R3OW)	12,387.4	0.3	1,493.3
R3OW	120,767.7	2.8	20,622.8
Total	133,155.1	3.1	22,114.0

•	TABLE 4: WET PHASE 2 &		
IMPACT TYPE	TOTAL AREA (Sq. Ft.)	ACRES (ac)	TOTAL FILL VOLUME (Cu. Yd.)
PEM1B	36,212.2	0.8	8885.2
PEM1H	103,533.8	2.4	10545.1
PFO1C	27,287.0	0.6	2158.8
PSS1B	290.2	0.0	7.7
PSS1E	61,701.4	1.4	21688.7
PSS1H	23,755.1	0.5	2779.9
Total	252,779.7	5.8	46,065.4

TABLE	E 5: WATERS PHASE 2 &		
IMPACT TYPE	TOTAL AREA (Sq. Ft.)	ACRES (ac)	TOTAL FILL VOLUME (Cu. Yd.)
STREAM (R3OW)	8,742.0	0.2	2,178.1
R3OW	32,154.2	0.7	4,703.8
Total	40,896.2	0.9	6,881.9

**SUMMARY TABLE** 

POA 1992-515 APPLICATION BY:

ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHCOAST REGION

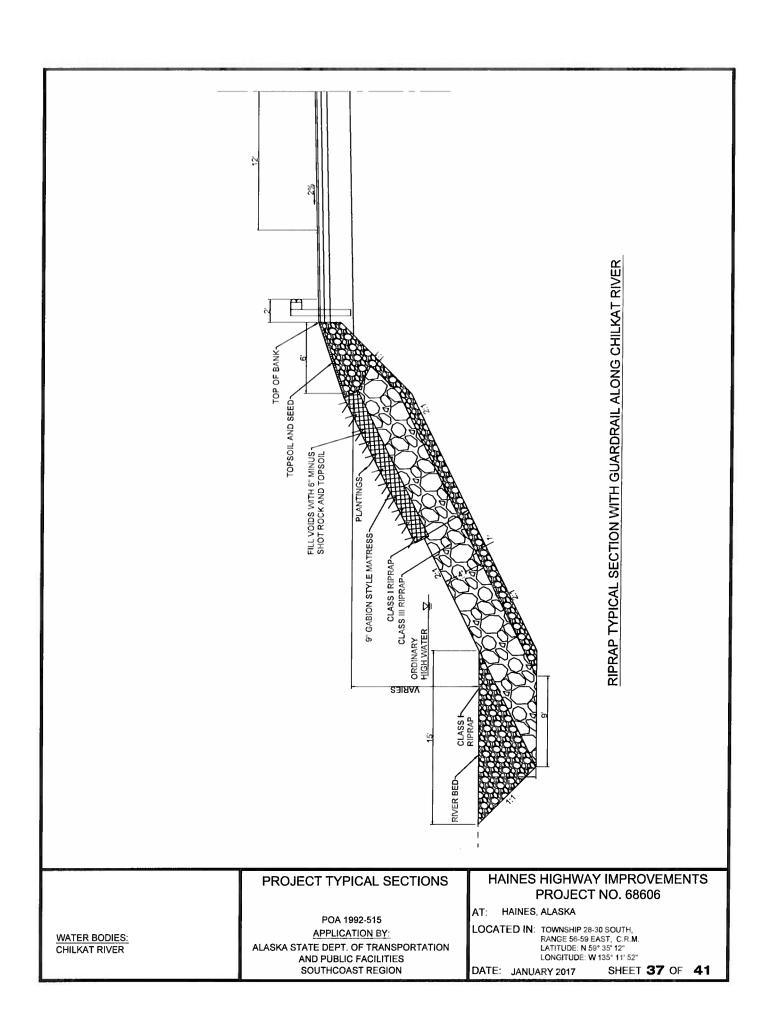
HAINES HIGHWAY IMPROVEMENTS PROJECT NO. 68606

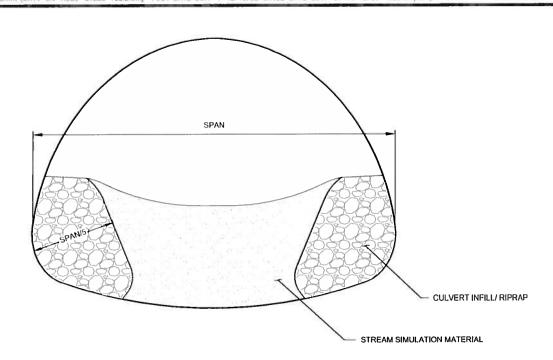
AT: HAINES, ALASKA

LOCATED IN: TOWNSHIP 28-30 SOUTH, RANGE 56-59 EAST, C.R.M. LATITUDE: N 59° 35' 12" LONGITUDE: W 135° 11' 52"

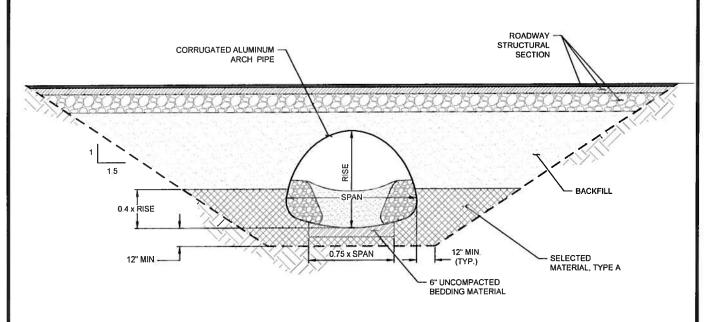
DATE: JANUARY 2017

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### TYPICAL ARCH PIPE CULVERT INFILL DETAIL



# TYPICAL ARCH PIPE CULVERT CROSS SECTION

### **PROJECT DETAILS**

POA 1992-515 APPLICATION BY:

ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHCOAST REGION

### HAINES HIGHWAY IMPROVEMENTS PROJECT NO. 68606

AT: HAINES, ALASKA

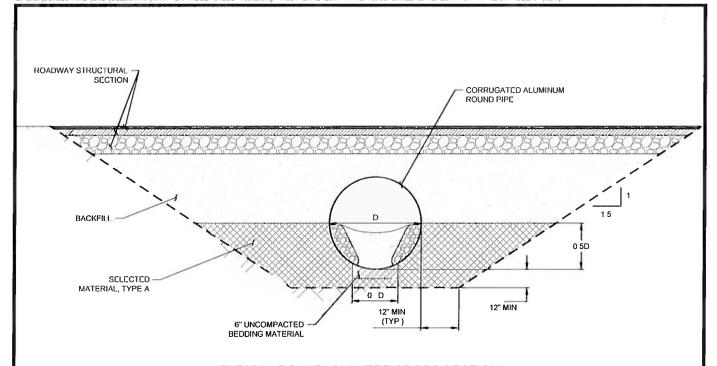
LOCATED IN: TOWNSHIP 28-30 SOUTH,

RANGE 56-59 EAST, C.R.M. LATHTUDE: N 59° 35' 12" LONGITUDE: W 135° 11' 52"

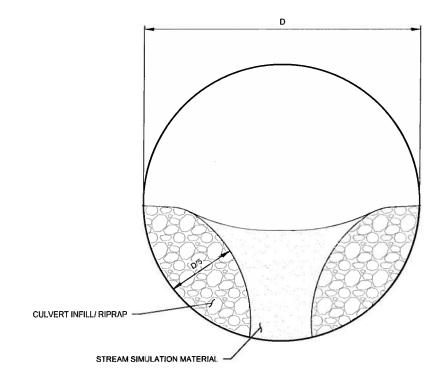
WATER BODIES: CHILKAT RIVER

DATE: JANUARY 2017

SHEET 39 OF 41



### TYPICAL ROUND CULVERT CROSS SECTION



### TYPICAL ROUND CULVERT INFILL DETAIL

PROJECT DETAILS

POA 1992-515 APPLICATION BY:

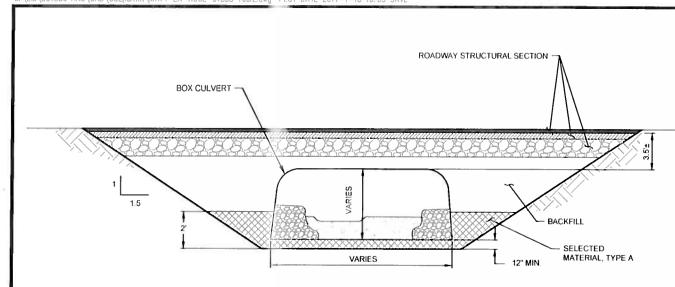
ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHCOAST REGION HAINES HIGHWAY IMPROVEMENTS PROJECT NO. 68606

AT: HAINES, ALASKA

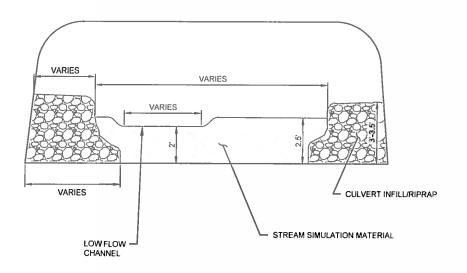
LOCATED IN: TOWNSHIP 28-30 SOUTH,

RANGE 56-59 EAST, C.R.M. LATITUDE: N 59° 35' 12" LONGITUDE: W 135° 11' 52"

DATE: JANUARY 2017 SHEET 40 OF 41



## TYPICAL BOX CULVERT CROSS SECTION



## TYPICAL BOX CULVERT INFILL DETAIL

#### **PROJECT DETAILS**

POA 1992-515 APPLICATION BY:

ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES SOUTHCOAST REGION

# HAINES HIGHWAY IMPROVEMENTS PROJECT NO. 68606

AT: HAINES, ALASKA

LOCATED IN: TOWNSHIP 28-30 SOUTH,

RANGE 56-59 EAST, C.R.M. LATITUDE: N 59° 35' 12" LONGITUDE: W 135° 11' 52"

DATE: JANUARY 2017

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