

## **APPENDIX B**

### **Stream and Habitat Inventory**

(Station numbers in this report differ from EA by 23 + 00 as a result of a design shift in 2009)

# State of Alaska Department of Transportation and Public Facilities

## Haines Highway - MP 3.5 to MP 25.3 Stream and Habitat Inventory

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Note:  
The bank type areas delineated on these plan sheets represent the areas of the Chilkat River bank that will be impacted by the proposed alignment change and widening of the Haines Highway. These areas may change if the highway alignment is altered. The vegetation types of the various bank types were determined by field inspection.

Alignment provided by DOWL Engineers 06/14/06.

### LEGEND

- 205+00
- PROPOSED ALIGNMNET CENTERLINE
- PROPOSED ALIGNMENT SLOPE LIMITS

HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP DRAWN	DM,GK,MS DESIGNED	DM,GK,MS CHECKED
DM,GK,MS APPROVED	06/30/06 DATE	PROJECT

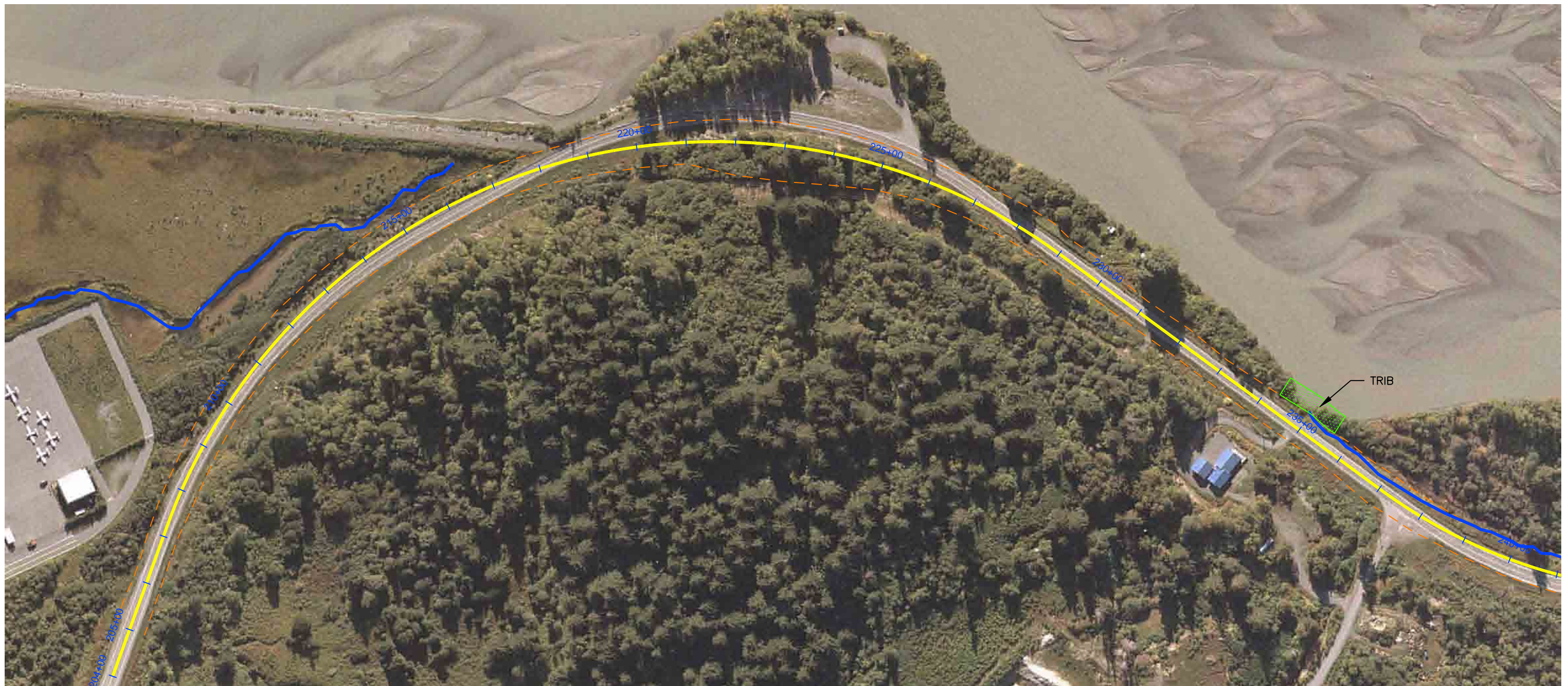
State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Vicinity Map and Sheet Index





**GENERAL NOTES:**

THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

**TRIB STATION 210+50 TO 216+50**

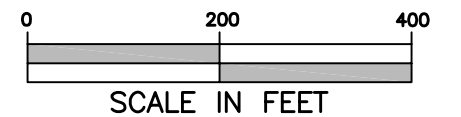
CATALOG NUMBER: 115-32-10250-2002-3017  
 FISH USE: REARING COHO  
 DESCRIPTION: THIS STREAM RUNS ADJACENT TO THE HIGHWAY AND WILL NOT BE IMPACTED BY THE PROPOSED REALIGNMENT AND WIDENING OF THE HAINES HIGHWAY. THE STREAM IS LOCATED FOR INFORMATION PURPOSES. IT WAS NOT SURVEYED.

**BANK STATION 234+25 TO 235+50:  
 EULACHON SPAWNING**

**TRIB STATION 245+50**  
 SEE SHEET 3

**LEGEND**

 MIDMATURITY-FORESTED



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

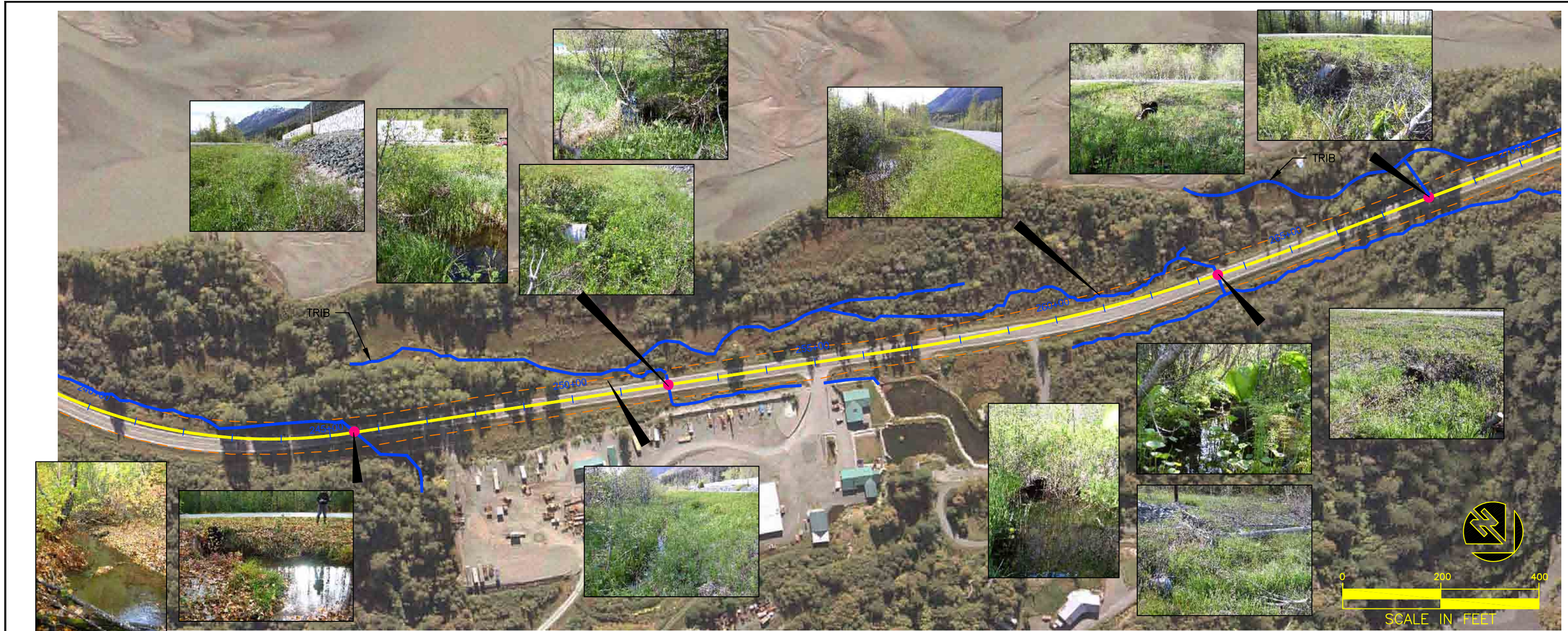
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
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Stream and Habitat Inventory  
 Plan View: 204+00 to 240+00





**TRIB STATION/CULVERT  
245+50**

CATALOG NUMBER: 115-32-10250-2004  
 FISH USE: REARING COHO AND DOLLY VARDEN. SPAWNING COHO  
 DESCRIPTION: UPSTREAM OF THE CULVERT THE STREAM IS A 3-6' WIDE, E TYPE CHANNEL WITH A SUBSTRATE OF MIXED SAND AND ORGANICS. THERE IS A SMALL POOL AT THE CULVERT INLET. DOWNSTREAM OF THE CULVERT THE STREAM WINDS ALONG THE TOE OF THE ROAD FILL SLOPE BACK TO STATION 235+00. THE UPSTREAM HALF OF THIS 1150' SECTION IS ALSO AN E TYPE CHANNEL 3-6' WIDE WITH A SANDY/ORGANIC SUBSTRATE. STREAM BANKS ARE GRASSY, WOODY DEBRIS IS PRESENT AND ALDER OFTEN OVERHANGS THE STREAM. THE LOWER HALF OF THIS SECTION IS INFLUENCED BY THE RIVER BACKWATER, WIDER (6-10'), MORE OPEN AND 6-18" DEEP. SUBSTRATE IS SILT, SAND, FINE GRAVELS AND ORGANIC MATTER. AQUATIC WEEDS SHAPE THE STREAM MEANDER AND BANKS ARE GRASSY OR VEGETATED WITH ALDER AND WILLOW.

**TRIB STATION  
245+00 TO 301+00**

NOTE: BETWEEN THESE STATIONS THERE IS A COMPLEX, INTERCONNECTED STREAM SYSTEM THAT RUNS ON BOTH SIDES OF THE HIGHWAY AND CROSSES THE ROAD THROUGH FOUR CULVERTS LOCATED AT STATIONS 252+00, 263+50, 268+00 AND 271+40. THE ADFG CATALOG LISTS TWO MAIN STREAMS IN THIS AREA, AND ONE TRIBUTARY TO EACH OF THOSE STREAMS. DETAILED DESCRIPTIONS AND KNOWN FISH USE ARE LISTED FOR EACH CATALOGUED STREAM, AND THE APPROXIMATE LOCATIONS OF THE INTERCONNECT REACHES ADJACENT TO THE HIGHWAY ARE ILLUSTRATED ON THESE PLAN SHEETS.

**TRIB/CULVERT STATION  
252+00**

CATALOG NUMBER: 115-32-10250-2006  
 STREAM NAME: SCHNABEL CREEK  
 FISH USE: REARING COHO, DOLLY VARDEN AND CUTTHROAT  
 DESCRIPTION: UPSTREAM OF THE CULVERT THE STREAM IS 1-2' WIDE AND 1' DEEP. THE STREAM BANKS ARE THICKLY VEGETATED WITH GRASSES THAT TEND TO GROW OVER MOST OF THE STREAM SURFACE. SUBSTRATE IS ORGANIC MATTER OVER GRAVEL. THE STREAM RUNS ALONG THE TOE OF THE SOUTHEAST ROADBUILDERS' FILL, CROSSING THE ACCESS DRIVEWAY AT STATION 255+00 AND THEN CONNECTING TO THE ARTIFICIAL PONDS NEAR 256+00. THE DOWNSTREAM END OF THE CULVERT IS SUBMERGED IN A SMALL POOL, WITH A 2-3' WIDE E TYPE CHANNEL FORMING ALMOST IMMEDIATELY AT THE OUTLET AND MEANDERING THROUGH THE WETLANDS TO CONNECT TO ANOTHER STREAM. THE OUTLET CHANNEL HAS A VERY LOW GRADIENT, A SILTY BOTTOM AND LOW, VERTICAL BANKS VEGETATED WITH MARIGOLDS, SEDGES AND WILLOWS.

**TRIB/CULVERT STATION  
263+50**

CATALOG NUMBER: 115-32-10250-2006-3003  
 STREAM NAME: NONE, LISTED AS TRIBUTARY TO SCHNABEL CREEK  
 FISH USE: REARING COHO, DOLLY VARDEN AND CUTTHROAT  
 DESCRIPTION: THIS STREAM IS A TRIBUTARY TO SCHNABEL CREEK AND IS FED BY A WETLAND AND SPRING COMPLEX CUT OFF FROM THE UPPER REACHES OF SCHNABEL CREEK BY THE DRIVEWAY AT STATION 259+25. UPSTREAM OF THE CULVERT THE INLET STREAM FLOWS FROM BOTH DIRECTIONS ALONG THE TOE OF THE ROAD EMBANKMENT. FLOW IS DISPERSED THROUGH A BROAD WETLAND AREA WITH LITTLE IN THE WAY OF A DEFINED CHANNEL. DEPTH IS USUALLY LESS THAN 0.5' OVER A SATURATED ORGANIC BASE. DOWNSTREAM OF THE CULVERT OUTLET IS A 10' BY 15' POOL, WITH A DEPTH OF 3'. THE POOL LEADS INTO A 2' WIDE, 1' DEEP SILT BOTTOMED CHANNEL THAT MEANDERS THROUGH WILLOW AND ALDER ROOT SYSTEMS. THIS CHANNEL WINDS ROUGHLY PARALLEL TO THE ROAD, SWINGING TIGHT TO THE EXISTING EMBANKMENT TOE BETWEEN 260+50 AND 261+00.

**TRIB/CULVERT STATION  
268+00**

CATALOG NUMBER: 115-32-10250-2008  
 STREAM NAME: WATERFALL CREEK  
 FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN. COHO SPAWNING  
 DESCRIPTION: THE ADFG CATALOG LISTS THIS PIPE AS THE PRIMARY CONDUIT OF WATERFALL CREEK. THIS IS NO LONGER THE CASE. THE CULVERT AT STATION 271+40 NOW PASSES THE MAJORITY OF THE FLOW THAT LEADS FROM THE WATERFALL THE CREEK IS NAMED FOR. UPSTREAM OF THE INLET THERE IS A SHORT, 2' WIDE, SHALLOW STREAM SEGMENT LEADING INTO AN EMERGENT MARSH. THE STREAM SUBSTRATE IS ORGANIC MATTER OVER GRAVEL. THE OUTLET STREAM IS A SHORT, 2' WIDE, 0.7' DEEP SECTION LEADING INTO THE MAIN STREAM THAT FLOWS FROM THE 271+40 CULVERT. THE STREAM BANKS ARE WELL VEGETATED WITH GRASSES.

**LEGEND**  
 ● S&HI CULVERT LOCATION

GENERAL NOTES:  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
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Stream and Habitat Inventory  
 Plan View: 240+00 to 270+00  
 SHEET  
 3 of 36





BANK STATION 284+50 TO 288+50:  
EULACHON SPAWNING

BANK STATION 296+00 TO 298+50:  
EULACHON SPAWNING

TRIB/CULVERT STATION 271+40

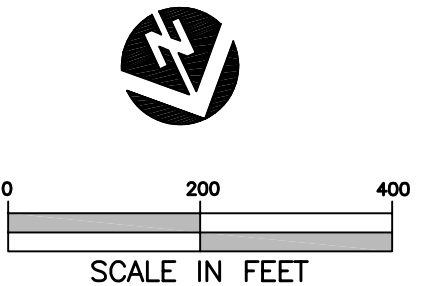
CATALOG NUMBER: 115-32-10250-2008-3005  
 STREAM NAME: NONE LISTED, TRIBUTARY TO WATERFALL CREEK  
 FISH USE: REARING COHO, DOLLY VARDEN, CHINOOK AND CUTTHROAT  
 DESCRIPTION: UPSTREAM OF THE CULVERT THE STREAM DISPERSES IMMEDIATELY INTO THICKLY VEGETATED MARSH IN A BROAD REMNANT CHANNEL. THERE ARE A NUMBER OF POOLS WITH DEPTH OF UP TO 3'. THE POOLS ARE FED IN PART BY A SMALL MOUNTAIN STREAM ABOUT 100' FROM THE ROAD. HOWEVER, THE MAJORITY OF THE FLOW COMES FROM THE STREAM AND WETLAND COMPLEX THAT STRETCHES AHEAD ON LINE UP TO THE WATERFALL NEAR STATION 301+00. DOWNSTREAM OF THE CULVERT THE STREAM MEANDERS ALONG THE ROAD TO STATION 269+00 BEFORE TURNING TOWARD THE RIVER. THE STREAM FLOWS THROUGH A MARSH IN A DEFINED CHANNEL, WITH THE BANKS COMPOSED OF THICK VEGETATION. SUBSTRATE IS ORGANIC; DEPTH IS 0.5 - 1'.

GENERAL NOTES:  
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ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

LEGEND

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

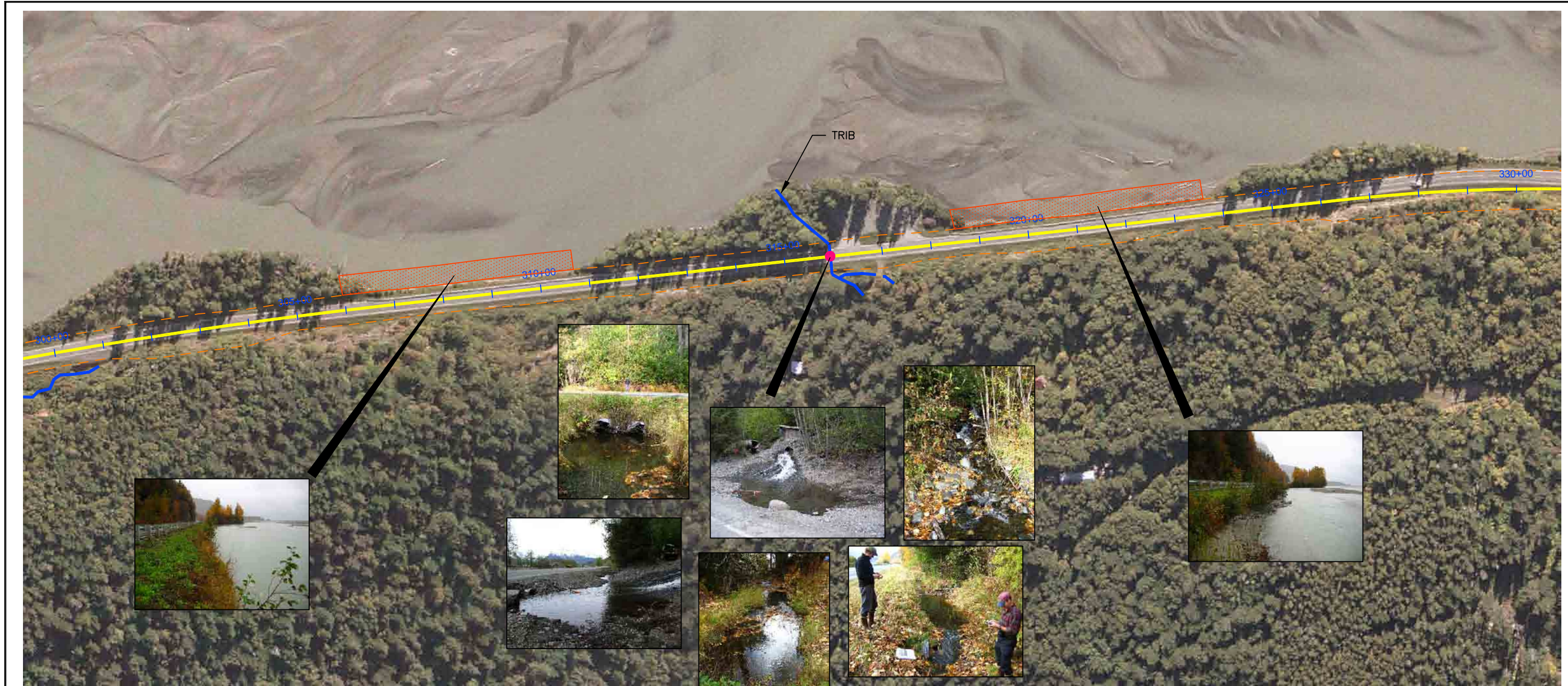
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 270+00 to 300+00





BANK STATION 306+00 TO 310+75:  
EULACHON SPAWNING

BANK STATION 318+50 TO 323+75:  
EULACHON SPAWNING

TRIB STATION 316+00



GENERAL NOTES:

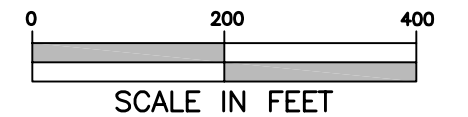
THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

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FISH USE: REARING COHO, CUTTHROAT, CHINOOK AND DOLLY VARDEN. SPAWNING REDDS PRESENT DESCRIPTION: UPSTREAM OF THE CULVERT THERE IS A LARGE, SHALLOW, GRAVEL BOTTOMED POOL EXCAVATED AFTER THE NOVEMBER 2005 FLOOD. THIS POOL IS FED PRIMARILY BY A 4' WIDE CASCADE THAT PASSES THROUGH A CULVERT IN THE ADJACENT DRIVEWAY. ANOTHER MOUNTAIN STREAM NEAR STATION 317+00 PROVIDES ANOTHER 10% OF THE FLOW. ALL FISH HABITAT ABOVE THE CULVERT HAS BEEN SCOURED TO GRAVEL. REDDS WERE PRESENT IN THIS SECTION IN OCTOBER 2005. THIS STREAM IS USED FOR A SMALL HYDROPOWER SYSTEM. DOWNSTREAM OF THE CULVERT IS A 10' WIDE GRAVEL BOTTOMED PLUNGE POOL WITH REDDS PRESENT (OCTOBER 2005) AT THE TAILOUT. THE STREAM THEN FLOWS DIRECTLY TO THE RIVER IN A 6-10' WIDE, ROCKY CASCADE CHANNEL, THE LOWER END OF WHICH IS INFLUENCED BY THE RIVER BACKWATER.

LEGEND

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

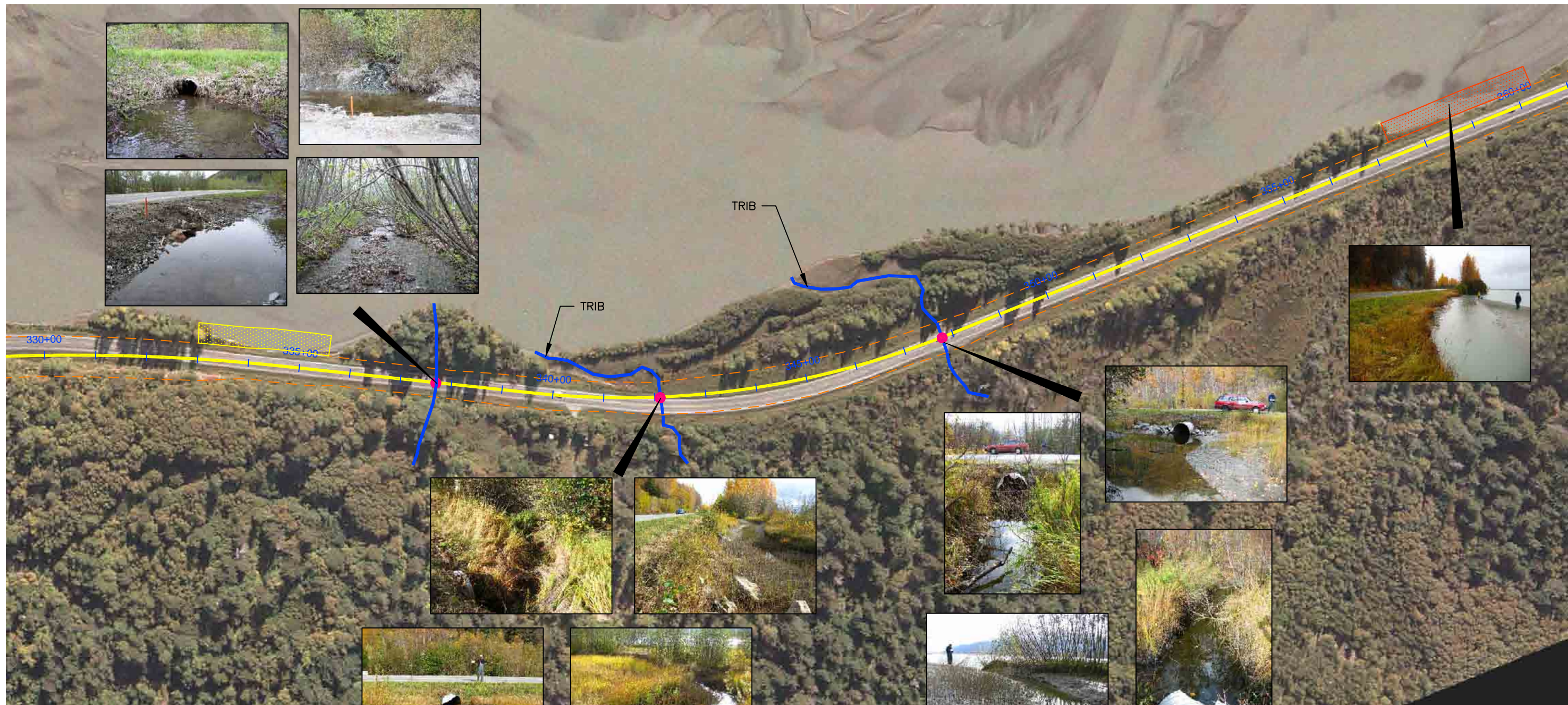
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Plan View: 300+00 to 330+00





**BANK STATION 333+00 TO 335+50:  
EULACHON SPAWNING**

**BANK STATION 357+25  
TO 360+25:  
EULACHON SPAWNING**

**TRIB STATION 337+70**

**TRIB STATION 342+00**

**TRIB STATION 347+50**

GENERAL NOTES:  
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ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

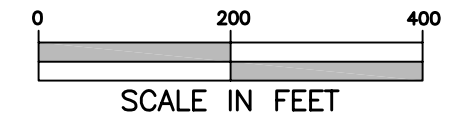
FISH USE: REARING COHO AND DOLLY VARDEN BELOW CULVERT OUTLET  
DESCRIPTION: UPSTREAM OF THE CULVERT THERE IS A 10' BY 30' POOL CREATED BY DITCH CLEANING ACTIVITY IN THE SPRING OF 2006. THIS SHALLOW POOL IS FED BY A STREAM CASCADING DOWN THE CUT SLOPE ADJACENT TO THE POOL. THE INLET STREAM AVERAGES 4' WIDE AND 0.1' DEEP AND IS WELL DEFINED FURTHER UPSTREAM. DOWNSTREAM OF THE CULVERT IS AN 8' DIAMETER PLUNGE POOL 1.5' DEEP. THE CULVERT WAS NOT PERCHED IN LATE MAY OF 2006. THE STREAM MEANDERS THE 140' TO THE CHILKAT RIVER THROUGH AN 8' WIDE, HIGH BANKED CHANNEL. THE CHANNEL BANKS ARE THICKLY VEGETATED WITH ALDER AND COTTONWOOD. THE STREAM MEANDERS WITHIN THIS CHANNEL, WITH WIDTH VARYING FROM 1-3', AND DEPTH 0.2' TO 0.8'. IT IS COMPOSED OF POOLS AND RIFFLES OVER GRAVEL.

FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN  
DESCRIPTION: UPSTREAM OF THE CULVERT THE COMPLEX CHANNEL OF THE STREAM MEANDERS AMONG ALDER ROOTS AND DOWNFALL. THE STREAM IS 1-3' WIDE WITH A SUBSTRATE OF GRAVEL AND ORGANICS. DEPTH IS 6-8" AND OVERHANGING COVER IS DENSE. THE DOWNSTREAM END OF THE CULVERT IS PERCHED 3-4" AND UNRAVELED. THE STREAM MEANDERS ALONG THE ROAD BACK TO STATION 339+75 BEFORE ENTERING THE CHILKAT RIVER. THE RIVER BACKWATERS THE STREAM AND DEPOSITS SILT OVER THE GRAVEL BED. THE STREAM IS 4-6' WIDE AND 3-4" DEEP. IT LIES IN AN OLD FLOOD CHANNEL OF THE RIVER. STREAM BANKS ARE GRASS COVERED.

CATALOG NUMBER: 115-32-10250-2014  
STREAM NAME: SEVEN MILE CREEK  
FISH USE: REARING COHO AND DOLLY VARDEN  
DESCRIPTION: THE CULVERT APPEARS TO BE FAIRLY RECENTLY REPLACED. UPSTREAM OF THE CULVERT THE STREAM IS A 1-2' WIDE E TYPE CHANNEL WITH A FINE SILT AND GRAVEL SUBSTRATE. THE STREAM DRAINS A SWAMP FED BY NUMEROUS SPRINGS ALONG THE TOE OF THE MOUNTAIN. THE CULVERT OUTLET EMPTIES INTO A SHORT SECTION OF GRAVEL BOTTOMED STREAM WITH A WIDTH OF 2-3' AND GRASSY BANKS. THE STREAM THEN TURNS INTO A 3-6' WIDE BACKWATERED SLOUGH WITH A SILT SUBSTRATE. SPRINGS FEED THIS SECTION OF THE STREAM.

**LEGEND**

-  VEGETATED RIPRAP
-  HERBACEOUS - VEGETATED
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities - Haines, Alaska  
Haines Highway - MP 3.5 to 25.3

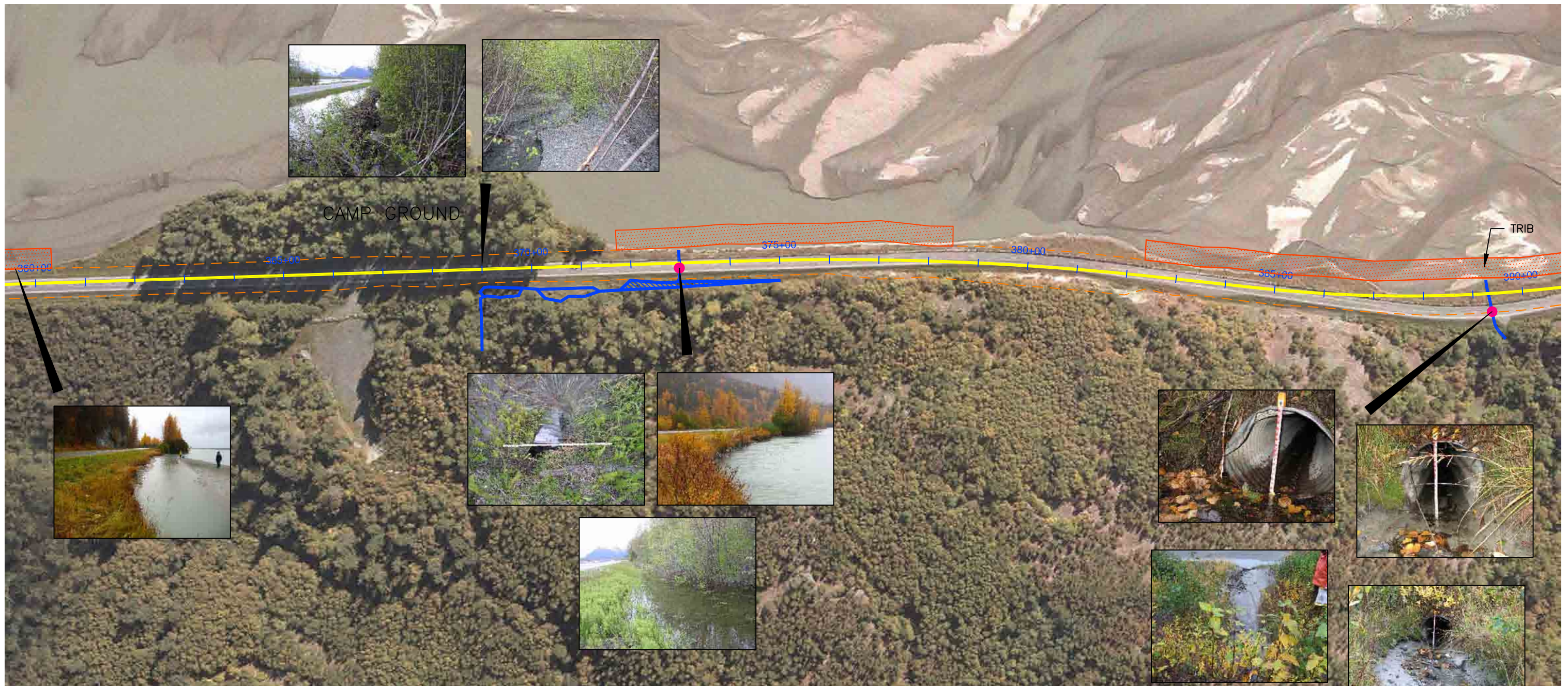
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Stream and Habitat Inventory  
Plan View: 330+00 to 360+00

SHEET  
6 of 36





BANK STATION 357+25 TO 360+25:  
EULACHON SPAWNING

BANK STATION 371+75 TO 378+50:  
POSSIBLE EULACHON SPAWNING

BANK STATION 382+25 TO 398+50

TRIB STATION 389+25  
FISH USE: REARING COHO, CUTTHROAT AND DOLLY VARDEN  
DESCRIPTION: UPSTREAM OF THE CULVERT THE 2-4' WIDE STREAM PROVIDES 40' OF EXCELLENT REARING HABITAT FOR JUVENILE FISH AFTER IT CASCADES DOWN THE HILLSIDE. SUBSTRATE IS GRAVEL AND THE COVER IS DENSE. DOWNSTREAM OF THE CULVERT THE STREAM RUNS THROUGH A CHANNEL INCISED IN A RIVER DEPOSITED SANDBAR AND DUMPS DIRECTLY INTO THE CHILKAT RIVER.

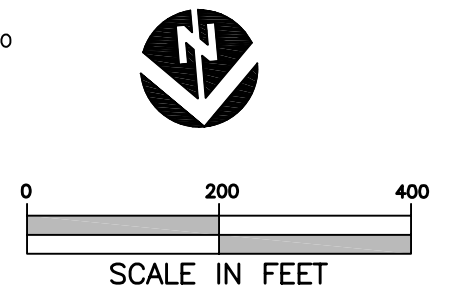
TRIB STATION 373+00  
FISH USE: REARING COHO AND DOLLY VARDEN, IF PASSAGE NOT BLOCKED. NOT TRAPPED BY OHMP DURING MAY 2006 FIELD INVESTIGATIONS.  
DESCRIPTION: THE LOCATION OF THIS STREAM IS NEW SINCE THE FLOOD EVENT OF 11/06. THE NEW STREAM CHANNEL NOW INTERSECTS THE ROAD AT STATION 369+00. ABOVE THE ROAD, THE STREAM FLOWS THROUGH A CHANNEL CARVED IN NEWLY DEPOSITED ALLUVIAL MATERIAL. AT THE ROAD THE STREAM RUNS THROUGH A NEW CHANNEL EXCAVATED BY ADOT&PF, FLOWING WEST ALONG THE ROAD. THERE IS ALSO A SLOWLY FLOWING POND IN THE DITCH-LINE. BOTH THESE FLOWS LEAD TO A +3' DEEP POOL THAT STARTS AT STATION 372+50 AND EXTENDS UP TO STATION 375+00. THE POOL DRAINS TO THE RIVER THROUGH A CULVERT AT STATION 373+00. THE INLET OF THIS CULVERT IS CLOGGED WITH ORGANIC MATTER AND THE STREAM ENTERS ONLY NEAR THE TOP OF THE PIPE.  
THE CULVERT EMPTIES DIRECTLY INTO THE CHILKAT RIVER.

GENERAL NOTES:  
THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

**LEGEND**

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

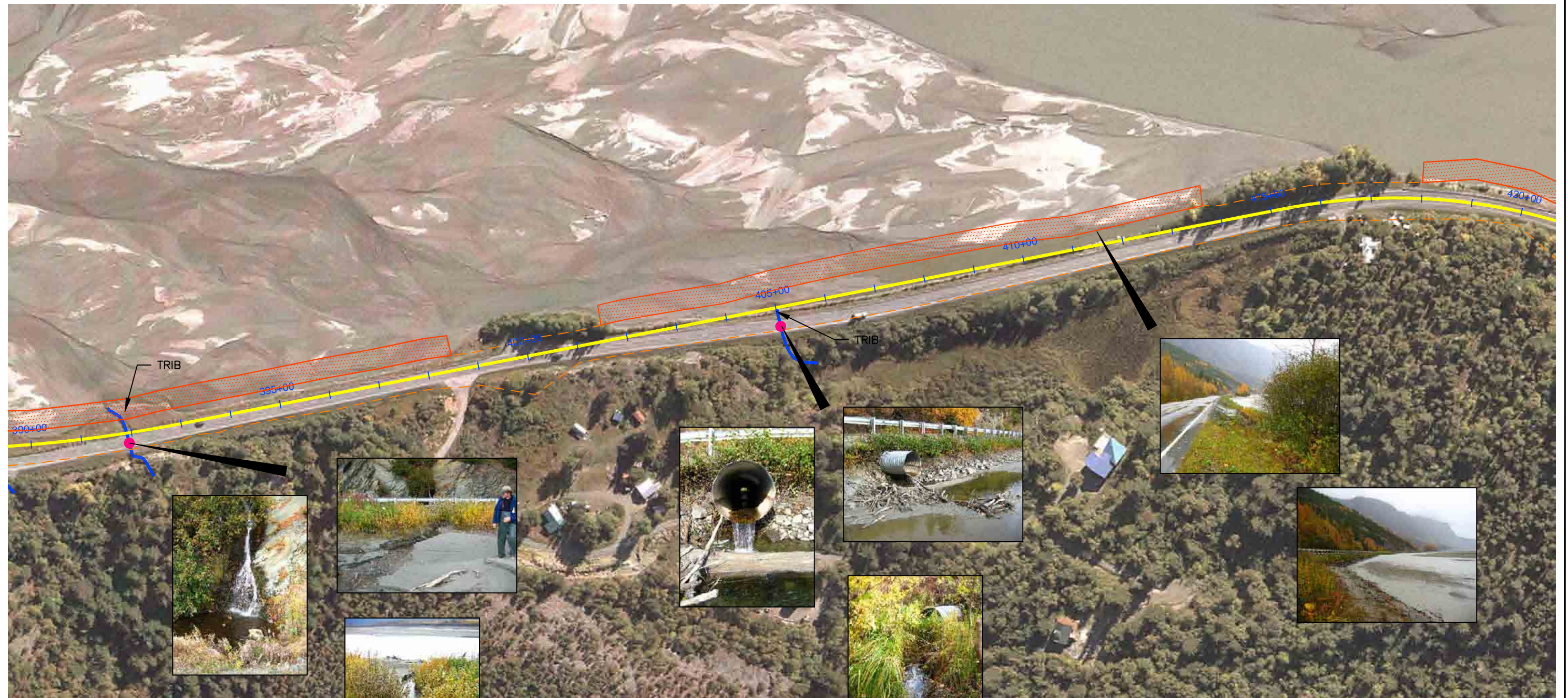
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DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

Prepared By:  
Inter-Fluve, Inc.  
1020 Wasco Street, Suite 1  
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www.interfluve.com

Stream and Habitat Inventory  
Plan View: 360+00 to 390+00





BANK STATION 382+25  
TO 398+50

BANK STATION 401+50  
TO 413+75

BANK STATION 418+00  
TO 428+25

GENERAL NOTES:  
THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

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TRIB STATION 391+90

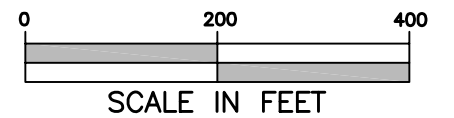
FISH USE: REARING COHO AND DOLLY VARDEN  
DESCRIPTION: UPSTREAM OF THE CULVERT THERE IS A 10' DIAMETER GRAVEL BOTTOMED POOL FED BY A WATERFALL. DOWNSTREAM OF THE CULVERT THE STREAM RUNS THROUGH A SHORT SECTION WITH VEGETATED BANKS AND THEN FEEDS OUT ONTO A SANDBAR OF THE CHILKAT RIVER. THE STREAM IS 2-3' WIDE AND 4" DEEP, WITH A GRAVEL AND BACKWATERED SILT BOTTOM.

TRIB STATION 405+00

CATALOG NUMBER: 115-32-10250-2016  
STREAM NAME: LILYPAD CREEK  
FISH USE: REARING COHO AND DOLLY VARDEN  
DESCRIPTION: UPSTREAM OF THE CULVERT THE FIRST 50' OF THE STREAM CONSISTS OF A 2' WIDE E TYPE CHANNEL. THE STREAM THEN DISPERSES INTO A SWAMP AND LOSES ANY DEFINED CHANNEL. AT THE DOWNSTREAM END OF THE CULVERT THE STREAM PLUNGES DIRECTLY ONTO A SANDBAR. THERE IS AN INTERMITTENT POOL AND SHALLOW EXIT STREAM OVER THE SANDBAR. REARING FISH ACCESS TO THE SWAMP IS CONTROLLED BY THE RIVER WATER LEVEL.

LEGEND

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

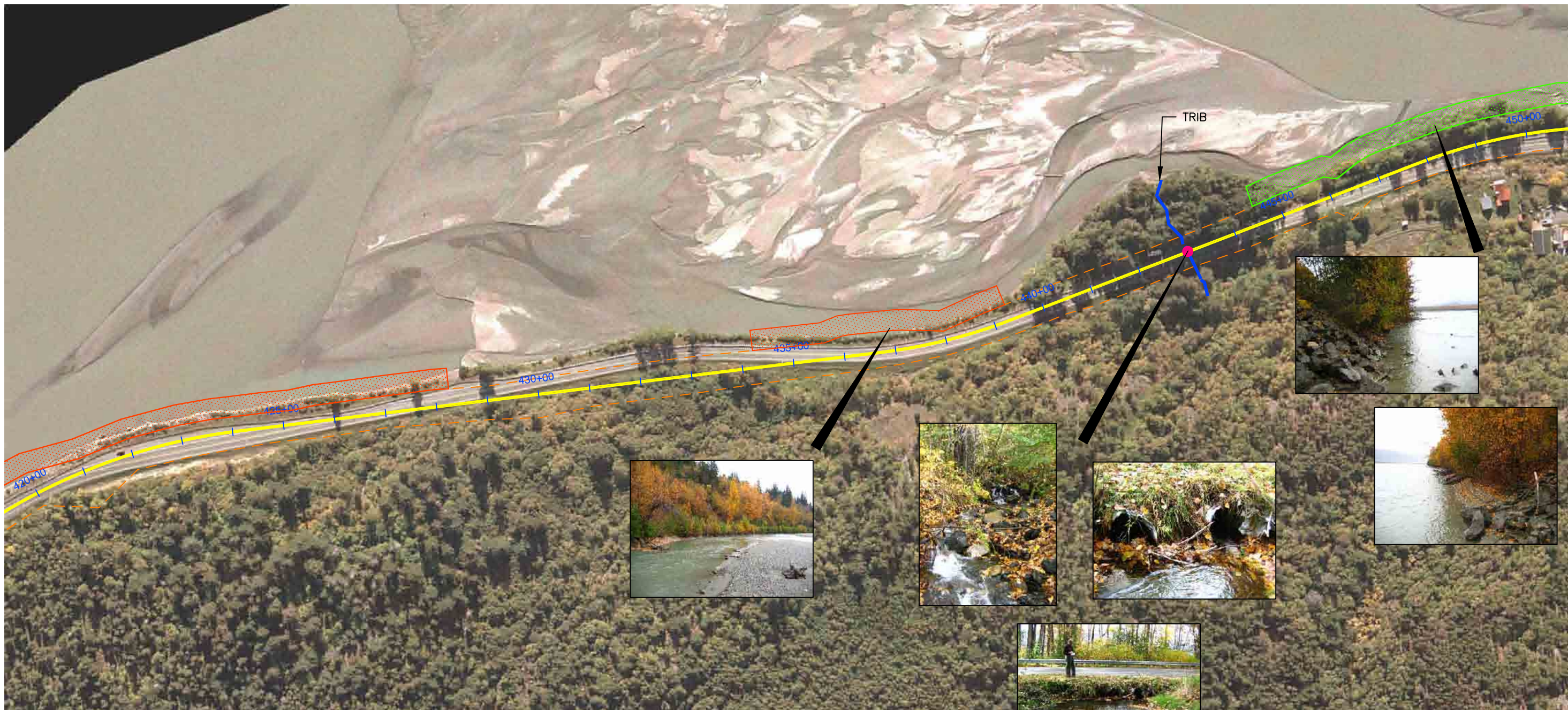
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

Prepared By:  
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Stream and Habitat Inventory  
Plan View: 390+00 to 420+00





BANK STATION 418+00  
TO 428+25

BANK STATION 434+25  
TO 439+25:  
SALMON SPAWNING

BANK STATION 444+50  
TO 459+00




TRIB STATION 443+00

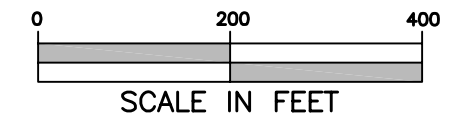
FISH USE: REARING COHO, CUTTHROAT, STEELHEAD AND DOLLY VARDEN. POSSIBLE SPAWNING DESCRIPTION: UPSTREAM OF THE CULVERTS THERE IS A 20' DIAMETER GRAVEL LINED POOL FED BY A QUICKLY STEEPENING, 3-5' WIDE, ROCKY CASCADE/STEP POOL SECTION OF STREAM. THE CULVERTS EMPTY INTO A 6-8' DIAMETER PLUNGE POOL. THE ACTIVE CULVERT IS PERCHED 4-6". THE STREAM BELOW THE OUTLET POOL IS COMPOSED OF RIFFLES INTERSPERSED WITH STEP POOLS AND IS 3-6' WIDE. SUBSTRATE IS SMALL ROCKS AND GRAVEL. MATURE VEGETATION OVERHANGS THE STREAM.

GENERAL NOTES:  
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**LEGEND**

-  VEGETATED RIPRAP
-  MIDMATURITY-FORESTED
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Plan View: 420+00 to 450+00

SHEET  
9 of 36





BANK STATION 444+50  
TO 457+50

BANK STATION 461+50  
TO 469+25

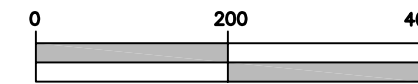
**GENERAL NOTES:**

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**LEGEND**

-  VEGETATED RIPRAP
-  MIDMATURITY-FORESTED



SCALE IN FEET

HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP DRAWN	DM,GK,MS DESIGNED	DM,GK,MS CHECKED
DM,GK,MS APPROVED	06/30/06 DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Plan View: 450+00 to 480+00

SHEET  
10 of 36





BANK STATION 481+50  
TO 492+75

TRIB STATION 506+25

CATALOG NUMBER: 115-32-10250-2024  
 STREAM NAME: 9 1/2 MILE CREEK  
 FISH USE: REARING COHO AND DOLLY VARDEN  
 DESCRIPTION: UPSTREAM OF THE CULVERT THE STREAM IS ABOUT 8' WIDE AND FLOWS OVER A SILT/ORGANIC SUBSTRATE. THE STREAM IS BACKWATERED BY THE CHILKAT RIVER AND HAD A DEPTH OF 6-8" AT THE TIME OF THE SURVEY. BANKS ARE MUDDY AND GRASSY, WITH WILLOW AND ALDER GROWING CLOSE TO THE WATER ON ONE SIDE. THE CULVERT EMPTIES INTO A 30' DIAMETER POOL WITH A DEPTH OF 3'. BANKS ARE SILTY UP TO THE LEVEL OF FREQUENT RIVER BACKWATER AND THEN FORMED OF GRASS AND YOUNG WILLOW/ALDER. SUBSTRATE IS SILT. DOWNSTREAM OF THE POOL THE CHANNEL IS 10' WIDE BUT TERMINATES ABRUPTLY AT A SANDBAR ABOUT 125' FROM THE ROAD. A SMALL TRICKLE FLOWS OVER THE SANDBAR AND INTO AN ISOLATED POOL. FISH ACCESS IS DEPENDENT ON THE RIVER WATER LEVEL.

GENERAL NOTES:  
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HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

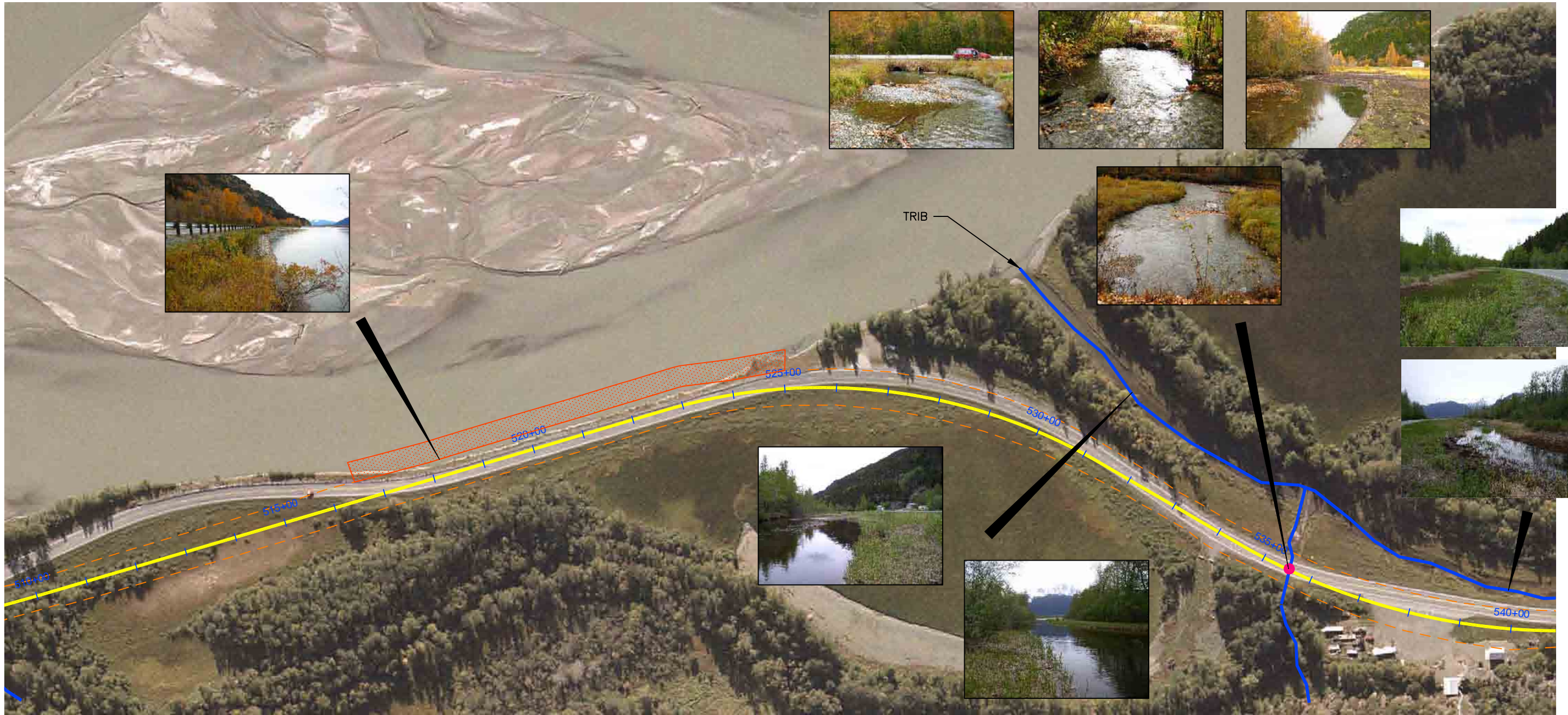
State of Alaska Department of Transportation  
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 Haines Highway - MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 480+00 to 510+00

SHEET  
 11 of 36





BANK STATION 516+50 TO 525+00

TRIB STATION 528+50 TO 594+75

STATION 535+50

GENERAL NOTES:  
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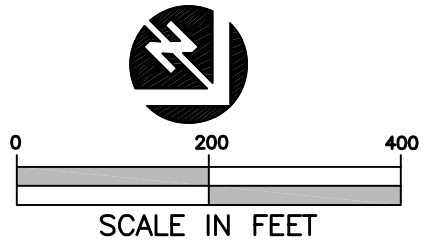
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CATALOG NUMBER: 115-32-10250-2028  
 STREAM NAME: TEN MILE SLOUGH  
 FISH USE: COHO, STEELHEAD AND DOLLY VARDEN REARING. PINK AND CHUM SALMON SPAWNING  
 DESCRIPTION: THIS LONG SLOUGH FOLLOWS THE PATH OF A REMNANT CHILKAT RIVER CHANNEL AND IS FED PRIMARILY BY GROUNDWATER. THE LOWER END OF THE SLOUGH PROVIDES THE OUTLET CHANNEL FOR TEN MILE CREEK AND IS OFTEN BACKWATERED BY THE CHILKAT RIVER. THE LEVEL OF THE CHILKAT AND THE GROUNDWATER CONTROL THE WATER LEVEL IN THE SLOUGH. THIS SLOUGH IS CATALOGUED UP TO STATION 594+75. IN MAY OF 2006, WATER FLOW WAS VISIBLE THROUGHOUT THE LENGTH OF THE SLOUGH.

CATALOG NUMBER: 115-32-10250-2028-3002  
 STREAM NAME: 10 MILE CREEK  
 FISH USE: REARING COHO AND DOLLY VARDEN. SPAWNING PINK AND CHUM  
 DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM IS ABOUT 15' WIDE AND FLOWS IN RIFFLES OVER IDEAL SPAWNING GRAVELS. THE BANKS ARE WELL VEGETATED AND OVERHANG THE STREAM. A HYDROELECTRIC PLANT IS UPSTREAM. DOWNSTREAM OF THE CULVERTS THE STREAM VARIES IN WIDTH FROM 15-20', THE BOTTOM IS GRAVEL AND THE STREAM IS HEAVILY UTILIZED BY SPAWNING SALMON. STREAM BANKS ARE FULLY VEGETATED WITH GRASSES. FURTHER DOWNSTREAM THE STREAM MEANDERS THROUGH A WIDE, OLD RIVER CHANNEL THAT IS FREQUENTLY BACKWATERED BY THE RIVER.

LEGEND

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

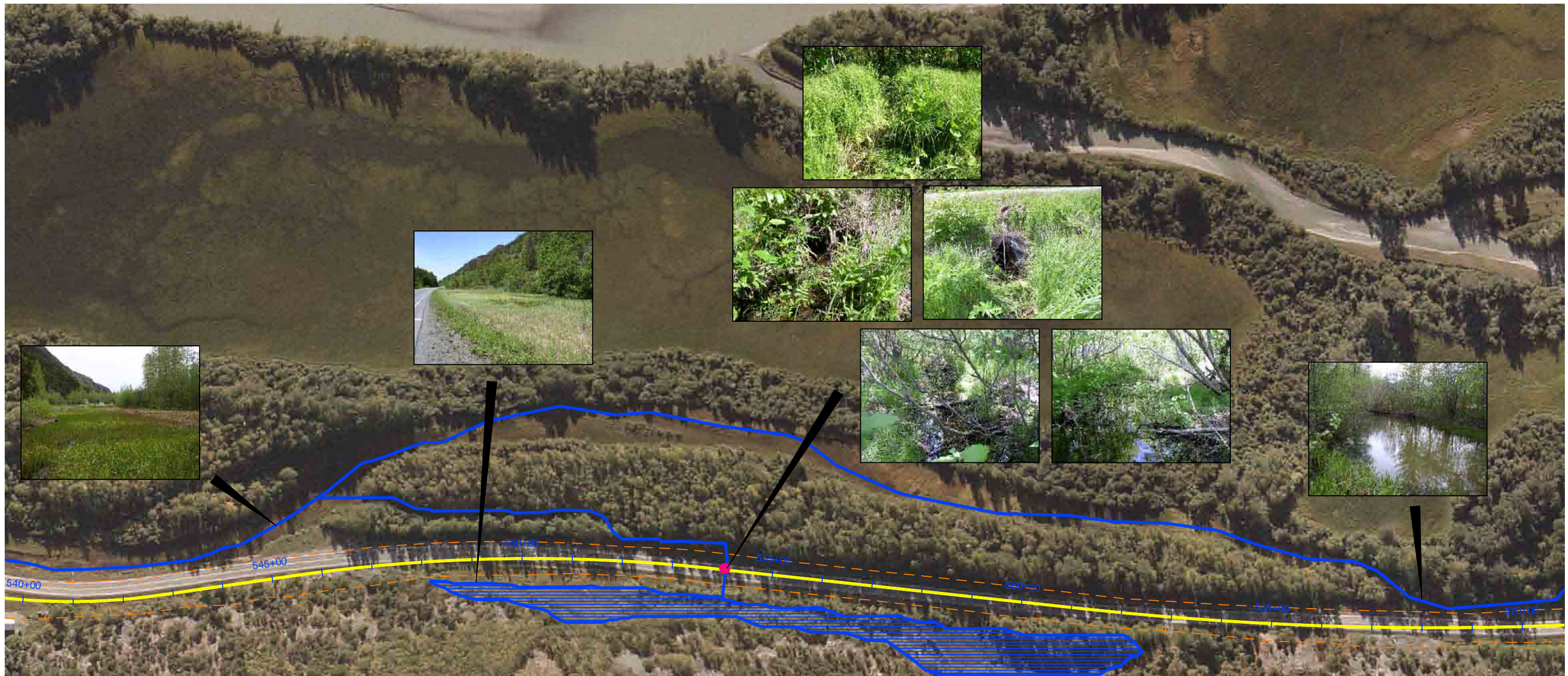
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities - Haines, Alaska  
 Haines Highway - MP 3.5 to 25.3

Prepared By:  
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 www.interfluve.com

Stream and Habitat Inventory  
 Plan View: 510+00 to 540+00  
 SHEET  
 12 OF 36





**GENERAL NOTES:**  
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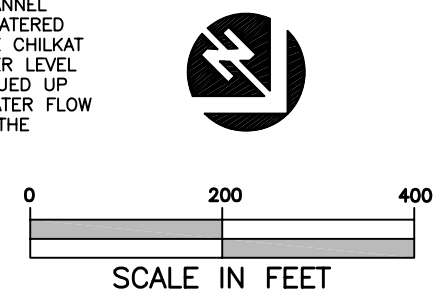
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**TRIB STATION 548+00 TO 562+50**  
 CATALOG NUMBER: 115-32-10250-2028-0010  
 STREAM NAME: 10 1/2 MILE POND  
 FISH USE: COHO AND STEELHEAD REARING.  
 DESCRIPTION: THIS IS AN ADF&G CATALOGUED POND ADJACENT TO THE ROAD ALONG THE BASE OF THE HILL SLOPE. THE WETLANDS DELINEATION REPORT CLASSIFIES THIS AREA AS "PALUSTRINE, SCRUB-SHRUB, BROAD LEAVED DECIDUOUS, PERMANENTLY FLOODED." THE CULVERT AT STATION 553+25 PROVIDES FISH ACCESS TO THIS POND. THE WATER LEVEL IN THIS POND IS PRIMARILY DETERMINED BY GROUNDWATER ELEVATION.

**TRIB STATION 554+00**  
 CATALOG NUMBER: 115-32-10250-2028-0010 (POND IS CATALOGUED, STREAM NOT IDENTIFIED)  
 STREAM NAME: 10 1/2 MILE POND, OUTLET STREAM  
 FISH USE: COHO AND STEELHEAD REARING  
 DESCRIPTION: ALTHOUGH THIS CREEK IS NOT SPECIFICALLY SHOWN ON THE ADF&G CATALOGUE MAPS, IT IS DIRECTLY CONNECTED TO THE 10 1/2 MILE POND. UPSTREAM OF THE CULVERT IS A 15' STREAM THAT THEN DISPERSES INTO THE POND. THE STREAM IS 2-3' WIDE AND 0.3' DEEP. STREAM SUBSTRATE IS ORGANIC, AND VEGETATION GROWS THROUGHOUT. BELOW THE CULVERT OUTLET THE STREAM RUNS FOR 6' IN A 2' WIDE, 0.2' DEEP CHANNEL, THEN DISPERSES INTO A 10-20' WIDE WETLAND FULL OF GRASSES AND WILLOWS. FLOW IN THIS WETLAND IS VISIBLE, DEPTH IS 0.8 TO 1.3'. THERE ARE SOME OPEN WATER AREAS. THIS WETLAND CONTINUES ALONG THE ROAD FOR ABOUT 175', THEN BECOMES MORE CHANNELIZED (3' WIDE, 0.3' DEEP) AND TURNS AWAY FROM THE ROAD. NEAR STATION 551+00 THE STREAM BROADENS TO 8-10' WIDE. MANY FISH WERE NOTED TO BE PRESENT (JUNE 2006).

**TRIB STATION 528+50 TO 594+75**  
 CATALOG NUMBER: 115-32-10250-2028  
 STREAM NAME: TEN MILE SLOUGH  
 FISH USE: COHO, STEELHEAD AND DOLLY VARDEN REARING. PINK AND CHUM SALMON SPAWNING  
 DESCRIPTION: THIS LONG SLOUGH FOLLOWS THE PATH OF A REMNANT CHILKAT RIVER CHANNEL AND IS FED PRIMARILY BY GROUNDWATER. THE LOWER END OF THE SLOUGH PROVIDES THE OUTLET CHANNEL FOR TEN MILE CREEK AND IS OFTEN BACKWATERED BY THE CHILKAT RIVER. THE LEVEL OF THE CHILKAT AND THE GROUNDWATER CONTROL THE WATER LEVEL IN THE SLOUGH. THIS SLOUGH IS CATALOGUED UP TO STATION 594+75. IN MAY OF 2006, WATER FLOW WAS VISIBLE THROUGHOUT THE LENGTH OF THE SLOUGH.

**LEGEND**  
 ● S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities - Haines, Alaska  
 Haines Highway - MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 540+00 to 570+00  
 SHEET  
 13 of 36





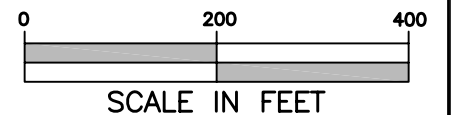
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**TRIB STATION 579+50 TO 588+00**

CATALOG NUMBER: 115-32-10250-2028-0020  
 STREAM NAME: 11 MILE POND  
 FISH USE: COHO AND STEELHEAD REARING.  
 DESCRIPTION: THIS IS AN ADF&G CATALOGUED POND ADJACENT TO THE ROAD. THE WETLANDS DELINEATION REPORT CLASSIFIES THIS AREA AS "PALUSTRINE, EMERGENT, PERSISTENT, PERMANENTLY FLOODED." IT IS ASSUMED THAT A CULVERT PASSING THROUGH THE ACCESS ROAD SURROUNDING THIS POND PROVIDES FISH ACCESS FROM THE TEN MILE SLOUGH. THE MAXIMUM WATER DEPTH IN THIS POND IS WELL OVER THREE FEET. THE POND STAYS FLOODED THROUGHOUT THE YEAR, WITH WARM WATER UPWELLINGS MAINTAINING OPEN WATER HOLES DURING MODERATE WINTER CONDITIONS.

**TRIB STATION 528+50 TO 594+75**

CATALOG NUMBER: 115-32-10250-2028  
 STREAM NAME: TEN MILE SLOUGH  
 FISH USE: COHO, STEELHEAD AND DOLLY VARDEN REARING. PINK AND CHUM SALMON SPAWNING  
 DESCRIPTION: THIS LONG SLOUGH FOLLOWS THE PATH OF A REMNANT CHILKAT RIVER CHANNEL AND IS FED PRIMARILY BY GROUNDWATER. THE LOWER END OF THE SLOUGH PROVIDES THE OUTLET CHANNEL FOR TEN MILE CREEK AND IS OFTEN BACKWATERED BY THE CHILKAT RIVER. THE LEVEL OF THE CHILKAT AND THE GROUNDWATER CONTROL THE WATER LEVEL IN THE SLOUGH. THIS SLOUGH IS CATALOGUED UP TO STATION 594+75. IN MAY OF 2006, WATER FLOW WAS VISIBLE THROUGHOUT THE LENGTH OF THE SLOUGH.



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

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DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

Prepared By:  
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Stream and Habitat Inventory  
 Plan View: 570+00 to 600+00

SHEET  
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GENERAL NOTES:  
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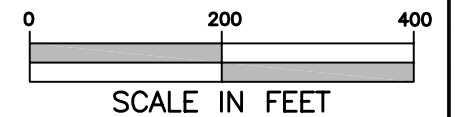
BANK STATION 607+00  
TO 610+00

TRIB STATION 612+40

CATALOG NUMBER: 115-32-10250-2032  
 STREAM NAME: 1 1/2 MILE CREEK  
 FISH USE: REARING COHO, DOLLY VARDEN AND CUTTHROAT  
 DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM IS A 2' WIDE E TYPE CHANNEL WITH A VERY LOW GRADIENT. IT IS INFREQUENTLY BACKWATERED BY THE CHILKAT RIVER. THE BANKS ARE THICKLY VEGETATED WITH GRASSES AND THE SUBSTRATE IS A BLEND OF ORGANICS AND SILT. THE STREAM LEADS INTO A BROAD SWAMP, MEANDERING ALONG THE BACK OF THE SWAMP AND ENDING IN A WATERFALL AT STATION 629+50. DOWNSTREAM OF THE CULVERT THE STREAM BANKS ARE BARE SAND AND THE STREAM IS HEAVILY BACKWATERED BY THE RIVER. THE SUBSTRATE IS SILT/GRAVEL AND THERE IS NO COVER.

LEGEND

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

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DM,GK,MS	06/30/06	
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 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 600+00 to 628+00

SHEET  
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**TRIB STATION 630+00**

FISH USE: REARING CUTTHROAT AND DOLLY VARDEN  
 DESCRIPTION: THE FLOOD OF NOVEMBER 2005 DIRECTED APPROXIMATELY TWO-THIRDS OF THE FLOW FROM THE WATERFALL AT STATION 629+50 TOWARDS THIS CULVERT. THE REST OF THE FLOW EXITS THROUGH THE CULVERT AT 612+40. ABOVE THE CULVERT INLET THE STREAM DIVIDES INTO A 6-8' WIDE, 1-2' DEEP RIFFLE, POOL, GLIDE COMPLEX RUNNING THROUGH AN ESTABLISHED ALDER AND BIRCH FOREST. THE STREAM SUBSTRATE IS SILT AND ORGANICS FOR THE FIRST 100', THEN CHANGES TO RECENTLY DEPOSITED ALLUVIAL MATERIAL. THE CULVERT EMPTIES DIRECTLY INTO THE CHILKAT RIVER AND IS PERCHED AT LOW WATER.

**BANK STATION 631+50 TO 635+50**

**GENERAL NOTES:**

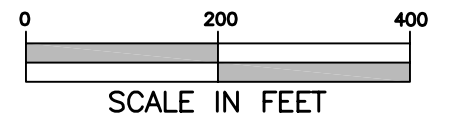
THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

PROPOSED ACTION ALIGNMENT

**LEGEND**

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

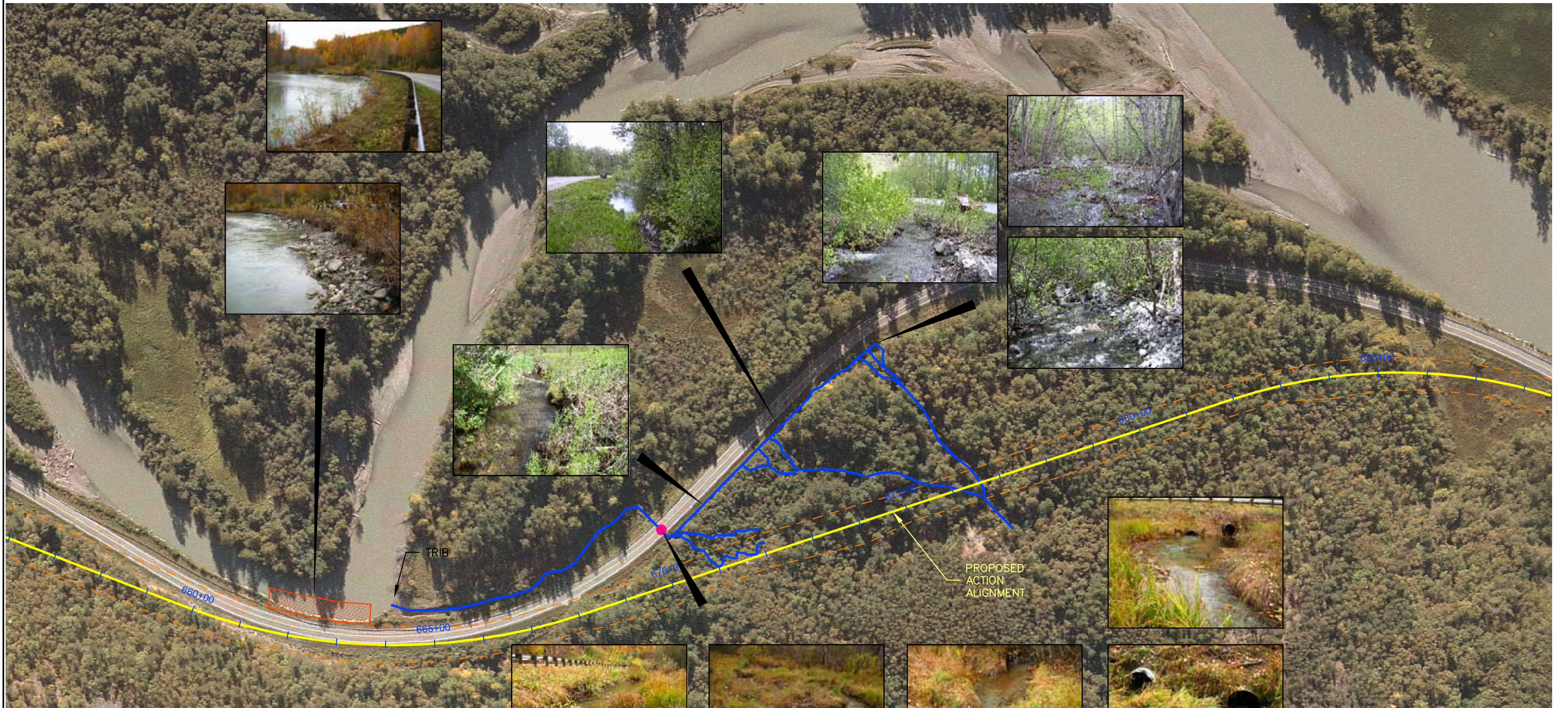
Prepared By  
 Inter-Fluve, Inc.

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Stream and Habitat Inventory  
 Plan View: 628+00 to 656+00

SHEET  
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GENERAL NOTES:  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

BANK STATION 661+50 TO 663+75:  
ADULT SALMON HOLDING

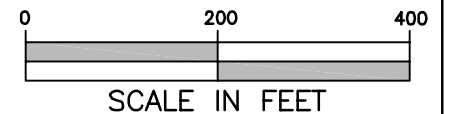
TRIB STATION 670+00

CATALOG NUMBER: 115-32-10250-2040  
 STREAM NAME: 13 MILE CREEK  
 FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN. SPAWNING CUTTHROAT AND PINK SALMON  
 DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM SPLITS ALMOST IMMEDIATELY. THE EAST BRANCH BROADENS AND WINDS THROUGH ESTABLISHED FOREST. THIS BRANCH IS LOW BANKED, GRAVEL BOTTOMED, 2-3' WIDE AND 0.5' DEEP. IT SPLITS INTO TWO SEPARATE SPRING FED CHANNELS. THE MAIN BRANCH OF THE STREAM NOW FLOWS ALONG THE DITCHLINE OF ROAD BEFORE CUTTING UP THE FAN NEAR STATION 676+00. THE LOWER HALF OF THIS REACH HAS DEVELOPED INTO A 3-5' WIDE GRAVEL BOTTOMED CHANNEL WITH STABLE GRASSY BANKS. THE UPPER HALF OF THE REACH IS A NEW LOCATION FOR THE STREAM, AND A CHANNEL HAS YET TO BE FORMED. CURRENTLY THE STREAM FLOWS WIDE AND SHALLOW OVER GRASSES. AT THIS STATION, THE MAIN CHANNEL TURNS UPHILL FROM THE EXISTING ROAD AND RUNS THROUGH A NEWLY FORMED CHANNEL CARVED OUT OF ALLUVIAL MATERIAL DEPOSITED IN A MATURE FOREST. THE STREAM STEEPENS TO A CASCADE AND WATERFALL NEAR THE NEW ALIGNMENT. THE OLD STREAM CHANNEL HAS BEEN MOSTLY OBLITERATED BY THE RECENT FLOOD WITH FLOW GOING SUBSURFACE (DOTTED LINES) FOR MUCH OF THE LENGTH. THE CULVERTS EMPTY INTO A BROAD 15' BY 20' POOL THAT LEADS INTO A 4-8' WIDE E-CHANNEL BACKWATERED AT TIMES BY A BEAVER DAM AND THE INFLUENCE OF A SIDE CHANNEL OF THE RIVER. THE STREAM INTERSECTS THE RIVER NEAR STATION 664+25. THE STREAM BANKS ARE PREDOMINANTLY GRASS, WITH SOME WILLOW. AT TIMES, THE STREAM FLOWS DIRECTLY ALONG THE TOE OF THE ROAD FILL. THE LOWER SECTION OF THE STREAM IS MUCH LESS WELL VEGETATED THAT THE UPPER PORTION.

ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

**LEGEND**

- VEGETATED RIPRAP
- S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 656+00 to 688+00

SHEET  
 17 of 36



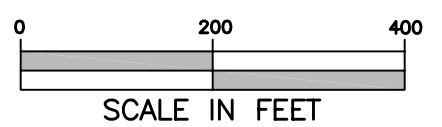


**LEGEND**

 VEGETATED RIPRAP

GENERAL NOTES:  
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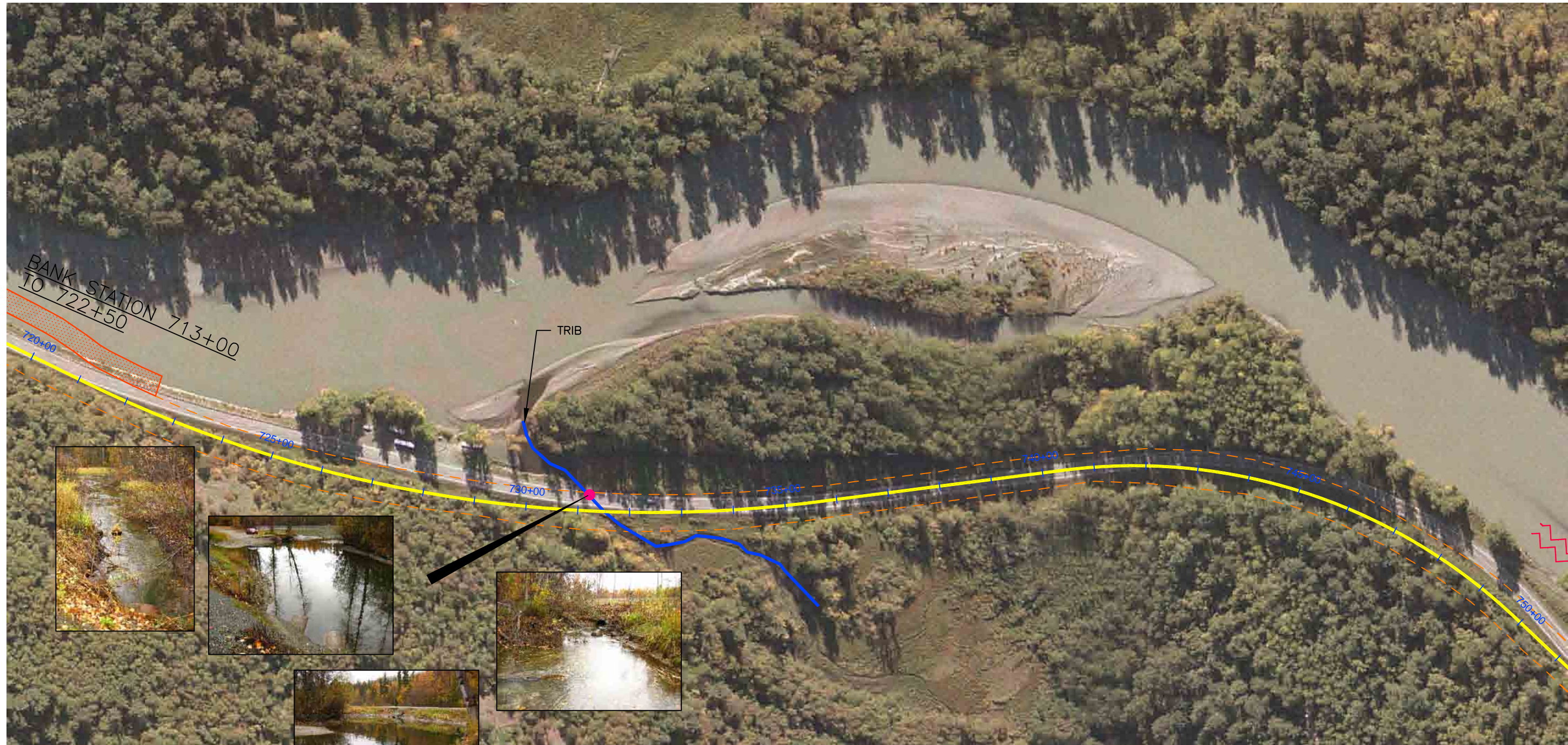
RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	PROJECT
APPROVED	DATE	

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 688+00 to 720+00





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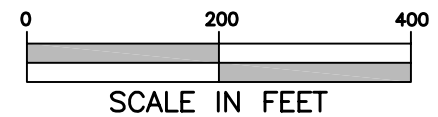
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**STATION 731+00**

CATALOG NUMBER: 115-32-10250-2044  
 STREAM NAME: 14 MILE CREEK  
 FISH USE: REARING AND SPAWNING COHO AND DOLLY VARDEN. REARING CHINOOK  
 DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM IS 8-10' WIDE AND LEADS INTO A VEGETATED MEADOW. STREAM BANKS ARE STABLE AND VEGETATED WITH GRASSES AND WILLOW. THE SUBSTRATE IS LOOSE SILT AND ORGANIC MATTER. THERE IS SOME BACKWATERING BY THE RIVER. THE OUTLETS OF THE CULVERTS ARE NEARLY SUBMERGED EVEN AT LOW RIVER LEVELS AND EMPTY INTO A LARGE, DEEP POOL THAT ACTS AS BOTH A REARING AREA FOR FISH AND A BOAT LAUNCH SITE. THE POOL EMPTIES INTO THE RIVER VIA A SHORT CHANNEL. THERE IS SOME OVERHANGING VEGETATION ON ONE SIDE OF THE POOL. SUBSTRATE IS SAND AND SILT.

**LEGEND**

-  VEGETATED RIPRAP
-  S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

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DM,GK,MS	06/30/06	
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State of Alaska Department of Transportation  
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 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 720+00 to 750+00

SHEET  
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STATION 749+00 TO  
764+00  
SALMON SPAWNING  
CHUM AND COHO SPAWN IN THIS AREA FROM  
SEPTEMBER THROUGH DECEMBER

BANK STATION 752+50  
TO 757+00

BANK STATION 770+00  
TO 773+50

BANK STATION 776+00  
TO 788+75





**TRIB STATION 757+50**

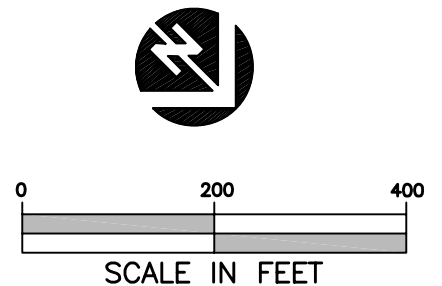
FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN  
DESCRIPTION: UPSTREAM OF THE CULVERT THERE IS A SMALL WATERFALL FED POOL THAT EXTENDS ABOUT 50' BACK ON LINE. THE STREAM BRANCH LEADING TO NORTH IS 5-8' WIDE AND 0.3' DEEP FOR THE FIRST 35', WHERE THE MAIN FLOW ENTERS AS A WATERFALL. THIS 35' RIFFLE SECTION IS SHALLOW, LITTERED WITH ORGANIC DEBRIS, AND HAS A GRAVEL SUBSTRATE. THE WATER EXTENDS IN A ROADSIDE DITCH UP TO STATION 759+00 WHERE THERE IS ANOTHER SMALL WATERFALL. THIS REACH IS AN 8' WIDE, 0.8' DEEP POOL. STANDING WATER WITH LITTLE FLOW EXTENDS ANOTHER 100' AHEAD ON LINE. FISH ARE PRESENT THROUGHOUT. DOWNSTREAM, THE PERCHED CULVERT EMPTIES INTO A SILTY CHANNEL BACKWATERED BY THE RIVER. GRASS GROWS ON THE BANKS ABOVE THE RIVER LEVEL, BUT BARE SILT IS EXPOSED LOWER DOWN. THERE IS NO COVER. THE RIVER GRAVEL BARS NEAR THE OUTLET ARE ACTIVELY USED FOR SPAWNING.

GENERAL NOTES:  
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**LEGEND**

-  VEGETATED RIPRAP
-  HERBACEOUS SCRUB/SHRUB
-  S&HI CULVERT LOCATION
-  SPAWNING AREA



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
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DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Plan View: 750+00 to 783+00

SHEET  
20 OF 36





BANK STATION 776+00 TO 788+75

GENERAL NOTES:  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.



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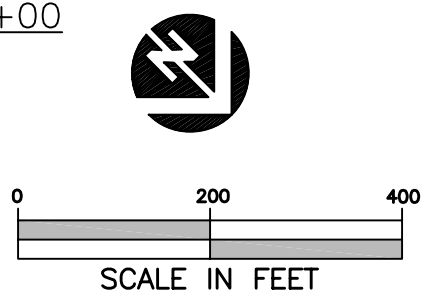
TRIB STATION 788+00

FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN.  
 POSSIBLE REDD OBSERVED (OCTOBER 2005)  
 DESCRIPTION: THE CULVERT IS FED BY TWO MOUNTAIN STREAMS THAT JOIN TOGETHER ABOUT 20' UPSTREAM OF THE INLET. ONE OF THE STREAMS RUNS 100' BACK ON LINE IN A SHALLOW, 2-3' WIDE, GRAVEL BOTTOMED ROADSIDE DITCH WHICH ENDS IN A WATERFALL. THE SECOND BRANCH RUNS FOR A DISTANCE OF 120' AWAY FROM THE ROAD AND ALONG THE TOE OF THE MOUNTAIN BEFORE TURNING UPSLOPE AS A WATERFALL. THIS 120' OF STREAM IS COMPOSED OF 2-3' WIDE POOL/RIFFLE HABITAT WITH ROCK AND GRAVEL SUBSTRATE. IT IS WELL VEGETATED. THE CULVERT OUTLET EMPTIES DIRECTLY INTO THE RIVER.

BANK STATION 807+00 TO 811+75

LEGEND

-  HERBACEOUS SCRUB/SHRUB
-  S&H CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
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DM,GK,MS	06/30/06	PROJECT
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State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 783+00 to 813+00

SHEET  
 21 of 36





GENERAL NOTES:  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

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BANK STATION 837+00  
TO 838+50:  
 SALMON HOLDING

LEGEND

 VEGETATED RIPRAP



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
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Stream and Habitat Inventory  
 Plan View: 813+00 to 843+00

SHEET  
 22 of 36





BANK STATION 850+00  
TO 851+75:  
 SALMON HOLDING

GENERAL NOTES:

THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

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LEGEND

 VEGETATED RIPRAP



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DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
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State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

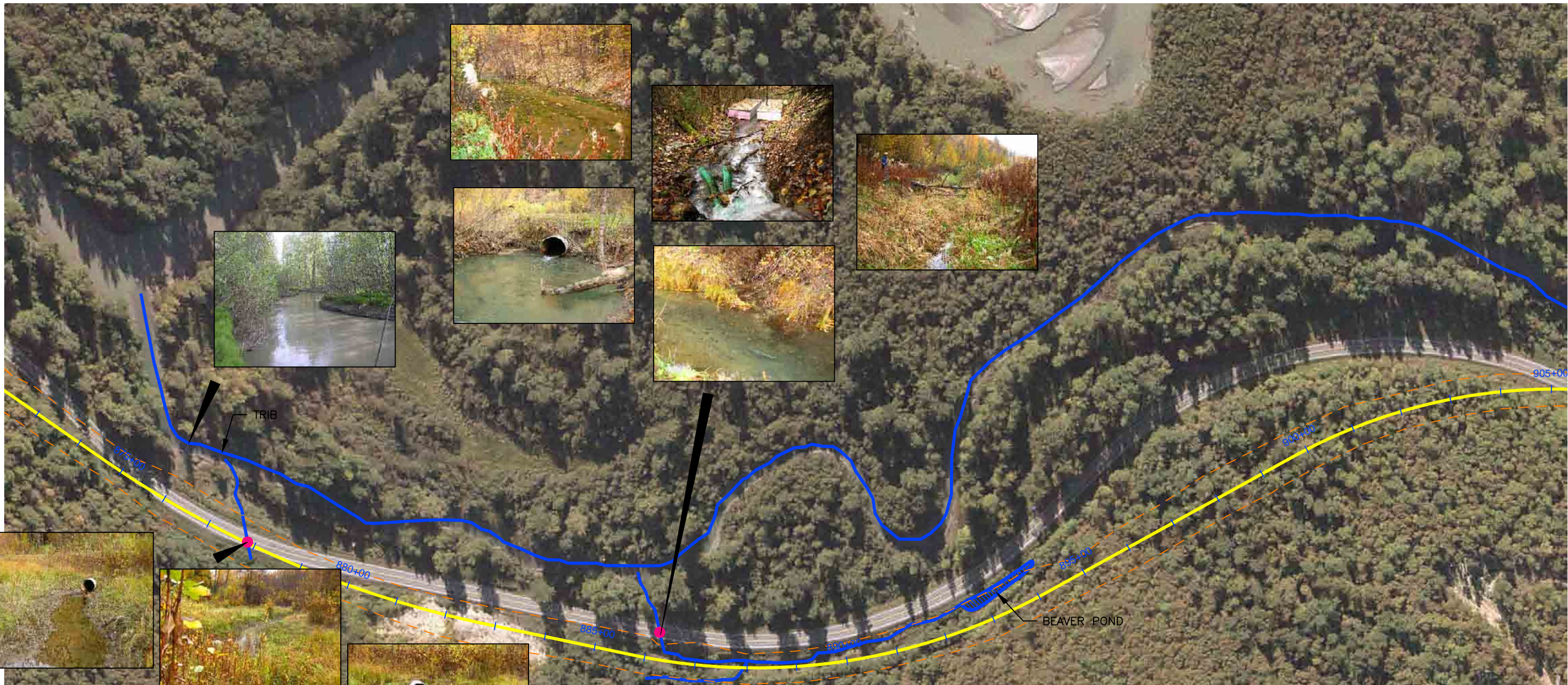
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Stream and Habitat Inventory  
 Plan View: 843+00 to 873+00

SHEET  
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GENERAL NOTES:  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

**TRIB STATION 877+90**

FISH USE: REARING COHO AND DOLLY VARDEN  
 DESCRIPTION: UPSTREAM OF THE CULVERT THERE IS NO VISIBLE STREAM CHANNEL, ONLY A COLLECTION POOL THAT DRAINS SMALL ADJACENT SEEPAGES. THE CULVERT EMPTIES INTO A SILTY BACKWATERED CHANNEL WITH LITTLE COVER. THIS 4' WIDE, 6" DEEP CHANNEL LEADS TO A SIDE BRANCH OF WATER.

**STATION 873+00 TO 910+00 AND AHEAD**

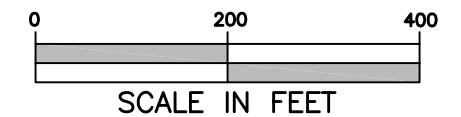
CATALOG NUMBER: 115-32-10250-2060  
 STREAM NAME: EIGHTEEN MILE SLOUGH  
 FISH USE: COHO AND CHUM REARING. COHO AND CHUM SALMON SPAWNING. PINK SALMON PRESENCE.  
 DESCRIPTION: THIS LONG SLOUGH IS FLOODED BY THE CHILKAT RIVER DURING PERIODS OF HIGH WATER, BUT IS SPRING FED AND RUNS CLEAR DURING LOW WATER. THE UPPER REACHES OF THE SLOUGH ARE HEAVILY UTILIZED BY SPAWNING CHUM AND COHO SALMON BUT, FOR ADULT SALMON, THE REACH BETWEEN 873+00 AND 910+00 SERVES PRIMARILY AS A PASSAGE. SLOUGH SUBSTRATE IN THIS REACH APPEARS TO BE PRIMARILY SILT. REARING FISH ARE LIKELY FOUND THROUGHOUT THE LENGTH OF THE SLOUGH. NEAR STATION 875+00 THE SLOUGH IS 40-50' WIDE, AND NARROWS TO APPROXIMATELY 30' WIDE NEAR STATION 910+00. THE SLOUGH BANKS ARE FORESTED.

**STATION 886+00**

CATALOG NUMBER: 115-32-10250-2060-3002  
 FISH USE: REARING COHO, CHINOOK AND DOLLY VARDEN. SPAWNING CHUM AND COHO  
 DESCRIPTION: THE STREAM UPSTREAM OF THE CULVERT IS A MAN-MADE COMPLEX CONSISTING OF TWO DISTINCT BRANCHES. THE MAIN BRANCH IS A SPRING FED CHANNEL THAT RUNS UP TO STATION 893+50 WHERE IT ENDS IN A BEAVER DAM OR MAN-MADE BERM. THE LOWER HALF OF THIS CHANNEL IS CONSISTENTLY 8-10' WIDE AND FORMS A SLOW MOVING POOL 1-2' DEEP. THE STEEP BANKS ARE VEGETATED WITH OVERHANGING GRASSES. SEVERAL SPRINGS FEED INTO THE CHANNEL FROM UNDER THE BANK ON THE MOUNTAIN SIDE. THE UPPER HALF OF THE CHANNEL IS A 2-3' WIDE RIFFLE WINDING THROUGH BOULDERS AND THICKLY VEGETATED WITH GRASSES. THE SECOND BRANCH OF THE COMPLEX FEEDS INTO THE MAIN BRANCH ABOUT 100' UPSTREAM OF THE CULVERT INLET. THIS BRANCH IS FED BY A SERIES OF SPRINGS, AS WELL AS A MOUNTAIN STREAM, AND RISES IN A SERIES OF POOLS AND RIFFLES UP TO A CHUM SALMON INCUBATION BOX FACILITY OPERATED BY THE NORTHERN SOUTHEAST REGIONAL AQUACULTURE ASSOCIATION. THE STREAM SUBSTRATE IS GRAVEL/COBBLE AND THE BANKS ARE WELL VEGETATED. DOWNSTREAM THE CULVERT OUTLET EMPTIES INTO A LARGE POOL USED AS A HOLDING AREA FOR ADULT CHUM SALMON. POOL SUBSTRATE IS SILT COVERED GRAVEL. A SHORT CHANNEL CONNECTS THE POOL TO THE CHILKAT RIVER.

**LEGEND**

● S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

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RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
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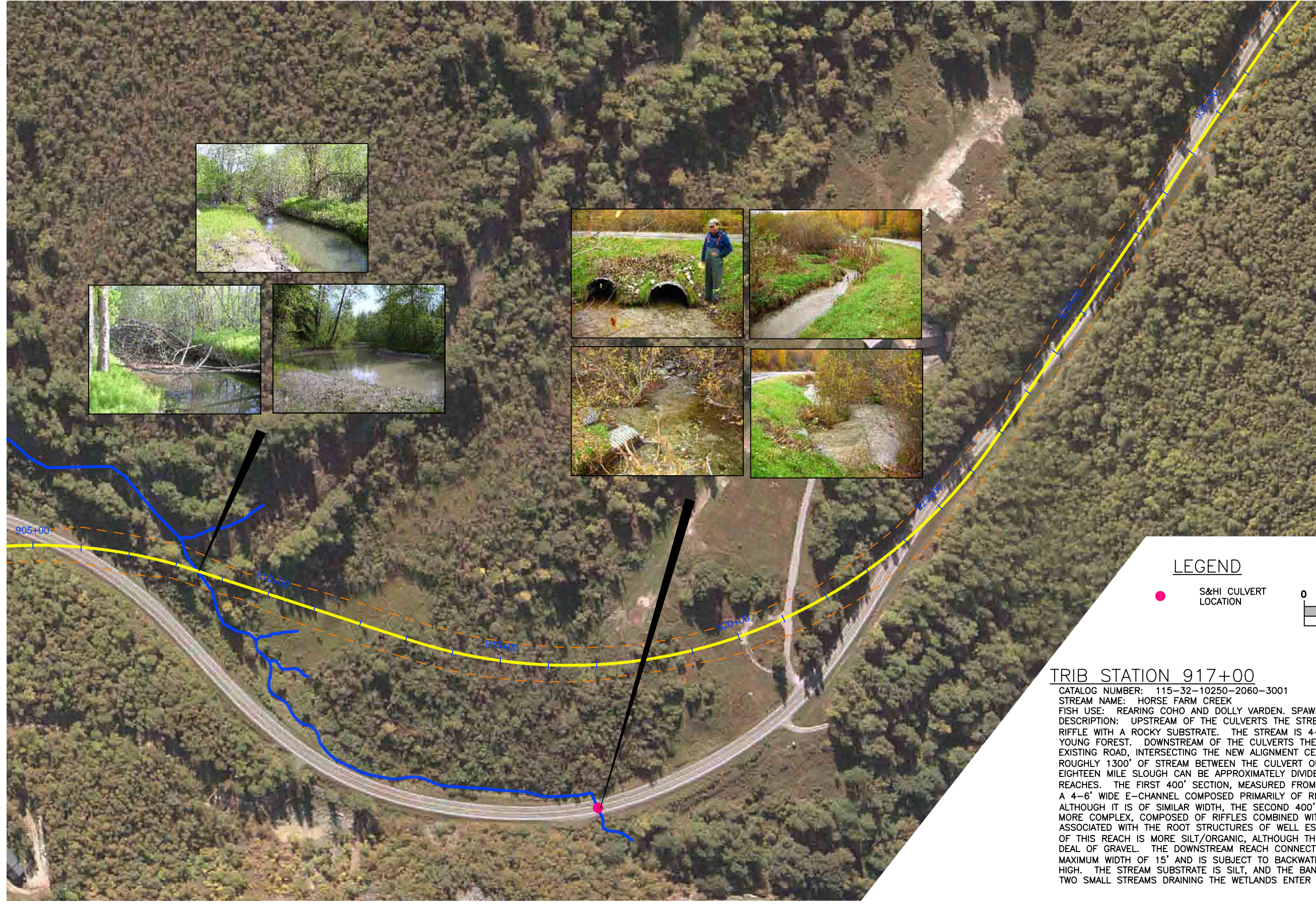
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Stream and Habitat Inventory  
 Plan View: 873+00 to 905+00

SHEET  
 24 of 36





GENERAL NOTES:  
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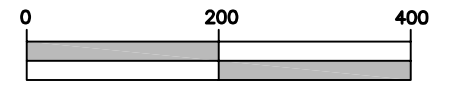
STATION 873+00  
 TO 910+00 AND  
 AHEAD

CATALOG NUMBER:  
 115-32-10250-2060  
 STREAM NAME: EIGHTEEN MILE  
 SLOUGH. SEE SHEET 24



LEGEND

● S&HI CULVERT LOCATION



SCALE IN FEET

TRIB STATION 917+00

CATALOG NUMBER: 115-32-10250-2060-3001  
 STREAM NAME: HORSE FARM CREEK  
 FISH USE: REARING COHO AND DOLLY VARDEN. SPAWNING PINK AND COHO  
 DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM IS A FAST 4-6% CONTINUOUS RIFFLE WITH A ROCKY SUBSTRATE. THE STREAM IS 4-6' WIDE AND MEANDERS THROUGH A YOUNG FOREST. DOWNSTREAM OF THE CULVERTS THE STREAM MEANDERS ALONG THE EXISTING ROAD, INTERSECTING THE NEW ALIGNMENT CENTERLINE AT STATION 908+50. THE ROUGHLY 1300' OF STREAM BETWEEN THE CULVERT OUTLET AND THE CONFLUENCE WITH EIGHTEEN MILE SLOUGH CAN BE APPROXIMATELY DIVIDED BY HABITAT TYPE INTO THREE REACHES. THE FIRST 400' SECTION, MEASURED FROM THE CULVERT OUTLET DOWNSTREAM, IS A 4-6' WIDE E-CHANNEL COMPOSED PRIMARILY OF RIFFLES, WITH A SUBSTRATE OF GRAVEL. ALTHOUGH IT IS OF SIMILAR WIDTH, THE SECOND 400' SECTION IS FLATTER IN GRADIENT AND MORE COMPLEX, COMPOSED OF RIFFLES COMBINED WITH NUMEROUS DEEP POOLS ASSOCIATED WITH THE ROOT STRUCTURES OF WELL ESTABLISHED VEGETATION. THE SUBSTRATE OF THIS REACH IS MORE SILT/ORGANIC, ALTHOUGH THE 11/06 FLOOD DID DEPOSIT A GOOD DEAL OF GRAVEL. THE DOWNSTREAM REACH CONNECTING TO THE SLOUGH WIDENS TO A MAXIMUM WIDTH OF 15' AND IS SUBJECT TO BACKWATERING WHEN THE CHILKAT RIVER IS HIGH. THE STREAM SUBSTRATE IS SILT, AND THE BANKS ARE STEEP AND WELL VEGETATED. TWO SMALL STREAMS DRAINING THE WETLANDS ENTER HORSE FARM CREEK FROM THE WEST.

HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities - Haines, Alaska  
 Haines Highway - MP 3.5 to 25.3

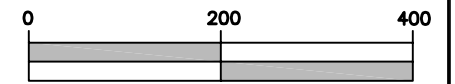
Prepared By:  
 Inter-Fluve, Inc.  
 1020 Wasco Street, Suite 1  
 Hood River, OR 97031  
 541.386.9003  
 www.interfluve.com

Stream and Habitat Inventory  
 Plan View: 905+00 to 937+00  
 SHEET  
 25 of 36





GENERAL NOTES:  
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SCALE IN FEET

HAINES\_BASE\_SET.dwg

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 Haines Highway – MP 3.5 to 25.3

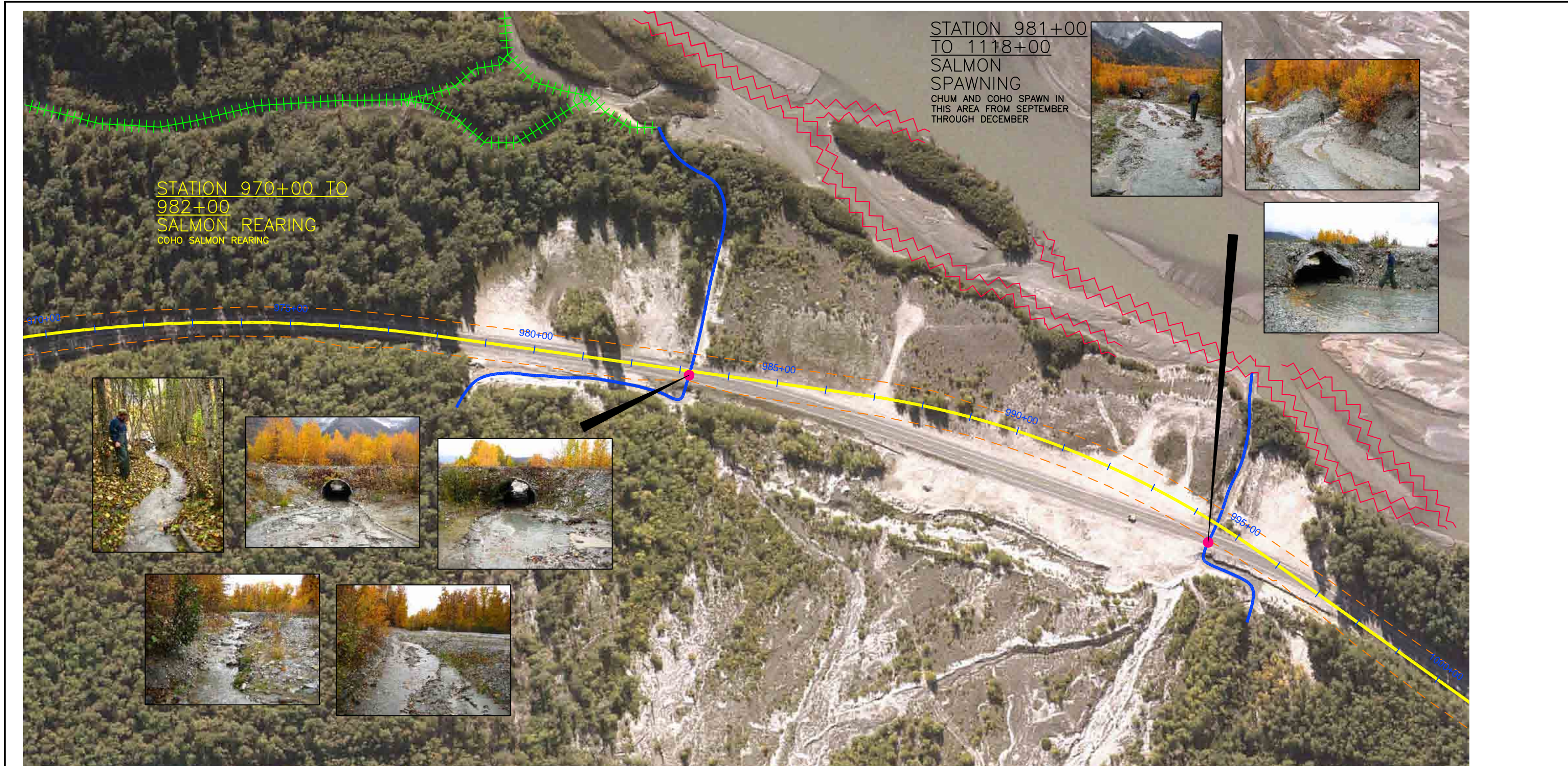
Prepared By:  
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Stream and Habitat Inventory  
 Plan View: 937+00 to 970+00

SHEET  
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STATION 981+00  
TO 1118+00  
SALMON  
SPAWNING  
CHUM AND COHO SPAWN IN  
THIS AREA FROM SEPTEMBER  
THROUGH DECEMBER

STATION 970+00 TO  
982+00  
SALMON REARING  
COHO SALMON REARING

**TRIB STATION 983+25**

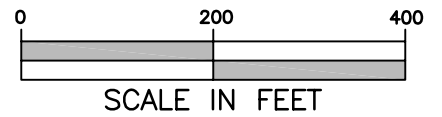
FISH USE: REARING COHO AND DOLLY VARDEN  
DESCRIPTION: THIS STREAM IS PART OF THE 19 MILE SLIDE AREA AND IS SUBJECT TO ALTERATION BY THE PERIODIC INFLUX AND MECHANICAL REMOVAL OF LARGE QUANTITIES OF SLIDE MATERIAL. THIS MATERIAL CONSISTS OF FINE DECOMPOSED ROCK AND GRAVELS MIXED WITH COBBLES. THE STREAM ABOVE THE CULVERT RUNS IN AN OPEN DITCH ALONG THE ROAD BACK TO STATION 979+00. NO VEGETATION IS PRESENT YET NUMEROUS JUVENILE FISH WERE SEEN IN THE STREAM (OCTOBER 2005). THE STREAM TURNS AWAY FROM THE ROAD AND RUNS TOWARD THE MOUNTAIN FOR ABOUT 75' BEFORE ANY UPSTREAM MOVEMENT OF FISH IS PREVENTED BY A BARRIER FALLS. DOWNSTREAM OF THE CULVERT THE STREAM IS BRAIDED AND OPEN UNTIL IT INTERSECTS THE WOODS SEVERAL HUNDRED FEET BELOW THE PIPE. THE SUBSTRATE IS SLIDE MATERIAL AND INITIALLY THERE IS LITTLE VEGETATION. ONCE THE STREAM ENTERS THE WOODS IT IS A 2-3' WIDE FAST RIFFLE UNTIL IT EMPTIES INTO A SERIES OF RIVERSIDE POOLS FED BY UPWELLING WATER.

**TRIB STATION 994+50**

FISH USE: UNKNOWN  
DESCRIPTION: THE STREAM ABOVE THE CULVERT OF THIS 19 MILE SLIDE AREA IS VERY UNSTABLE AND OFTEN EXCAVATED BY HEAVY EQUIPMENT. SUBSTRATE IS MOBILE SLIDE MATERIAL. SOME VEGETATION IS BEGINNING TO BE ESTABLISHED ON THE BANKS. FISH PASSAGE ABOVE THE CULVERT IS BLOCKED BY A HEADCUT UPSTREAM 200'. DOWNSTREAM OF THE CULVERT THE STREAM IS INITIALLY A BRAIDED RIFFLE WITH LITTLE SIGN OF VIABLE FISH HABITAT. TWO HUNDRED FEET DOWNSTREAM OF THE CULVERT OUTLET THE STREAM BECOMES A STEEP CASCADE THROUGH BOULDERS UNTIL IT ENTERS THE RIVER.

**LEGEND**

- S&HI CULVERT LOCATION
- ~ SPAWNING AREA
- - - - REARING



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HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

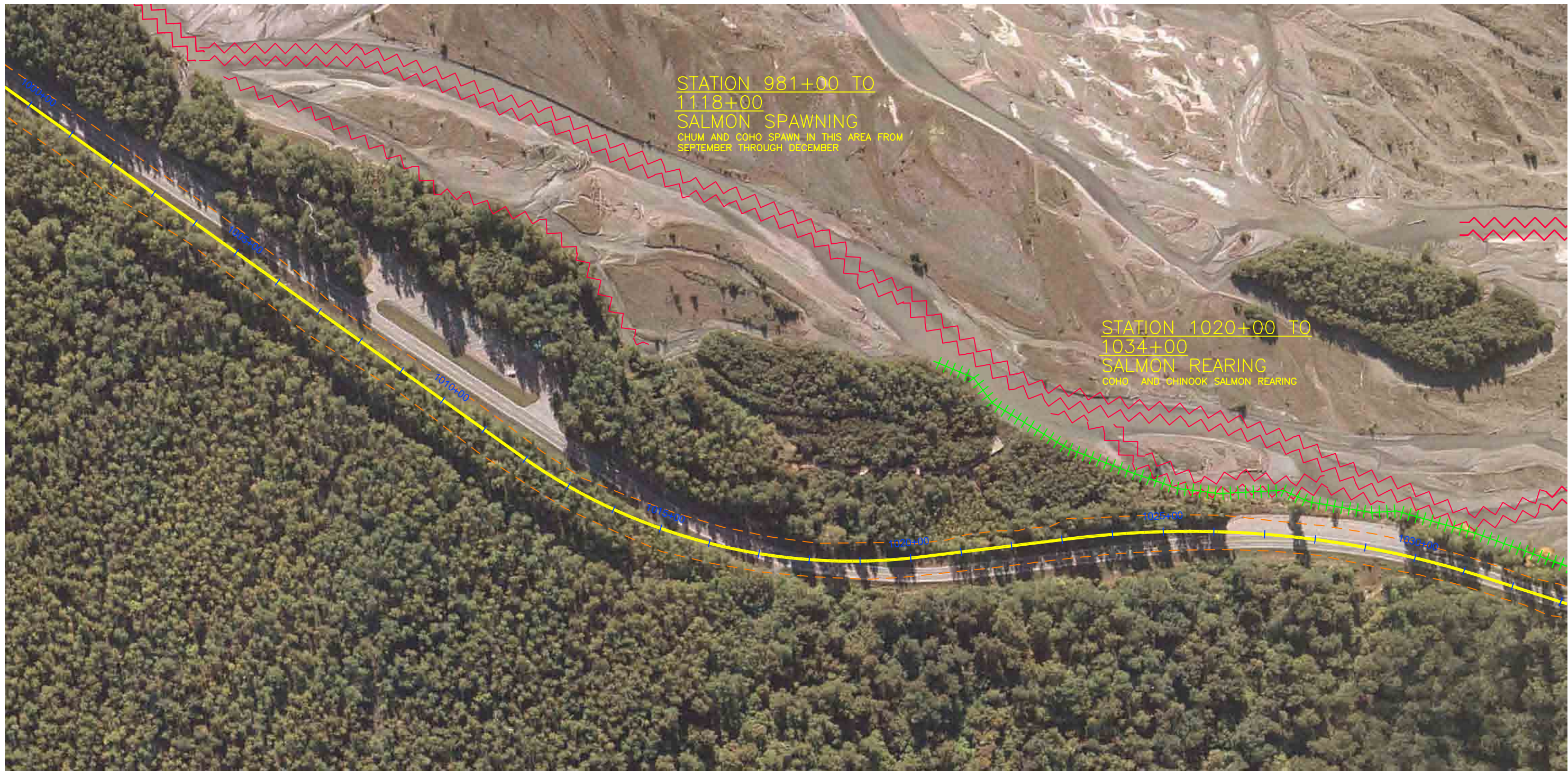
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DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	PROJECT
APPROVED	DATE	

State of Alaska Department of Transportation  
and Public Facilities – Haines, Alaska  
Haines Highway – MP 3.5 to 25.3

Prepared By:  
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Stream and Habitat Inventory  
Plan View: 970+00 to 1000+00  
SHEET  
27 of 36





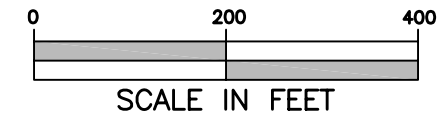
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LEGEND

- SPAWNING AREA
- REARING



HAINES\_BASE\_SET.dwg

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DM,GK,MS	06/30/06	
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State of Alaska Department of Transportation  
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 Haines Highway – MP 3.5 to 25.3

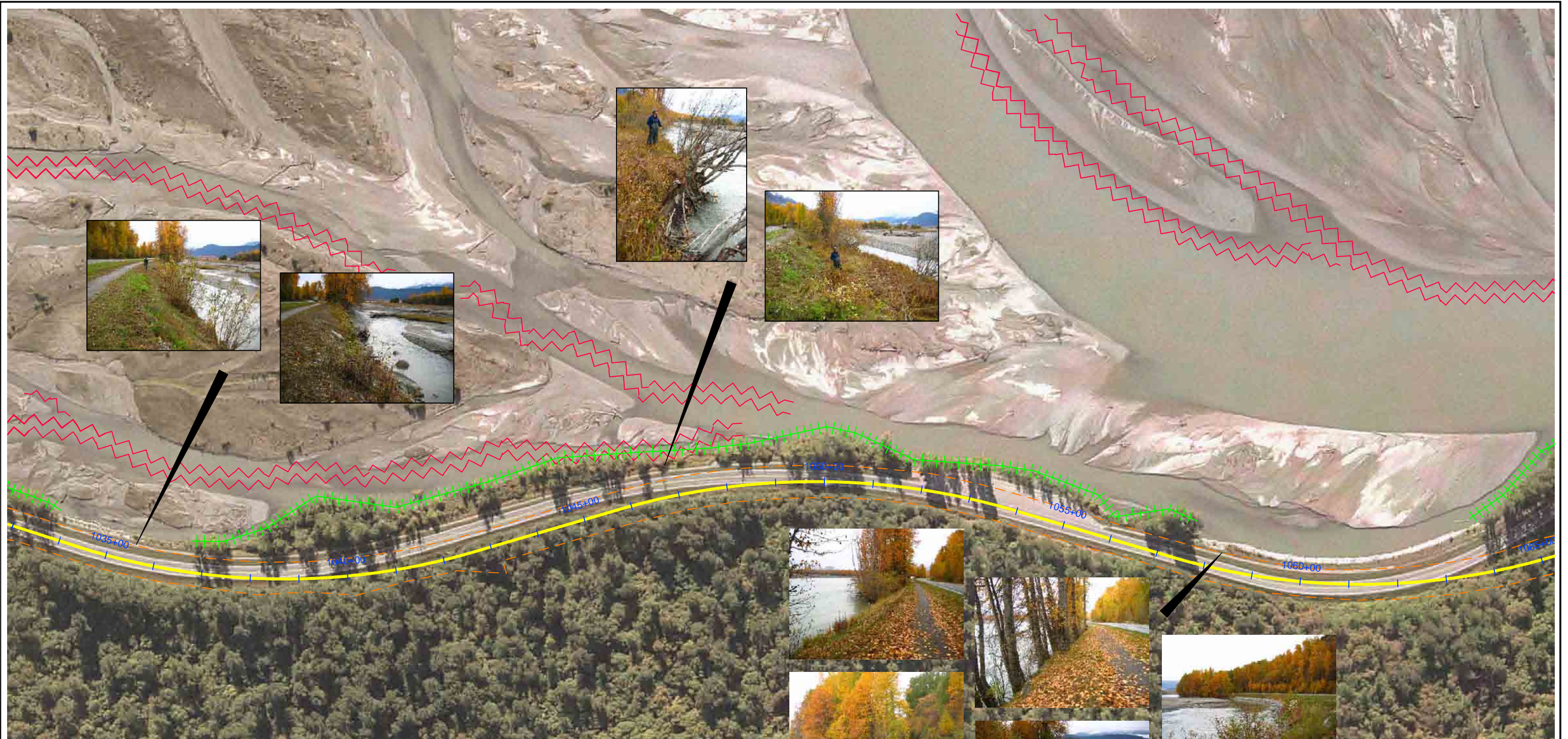
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Stream and Habitat Inventory  
 Plan View: 1000+00 to 1033+00

SHEET  
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STATION 1020+00 TO 1034+00  
SALMON REARING  
COHO AND CHINOOK SALMON REARING

STATION 981+00 TO 1118+00  
SALMON SPAWNING  
CHUM AND COHO SPAWN IN THIS AREA FROM SEPTEMBER THROUGH DECEMBER

STATION 1037+00 TO 1058+00  
SALMON REARING  
COHO AND CHINOOK SALMON REARING

STATION 1064+00 TO 1125+00  
SALMON REARING  
COHO AND CHINOOK SALMON REARING

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LEGEND

- SPAWNING AREA
- REARING



SCALE IN FEET



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

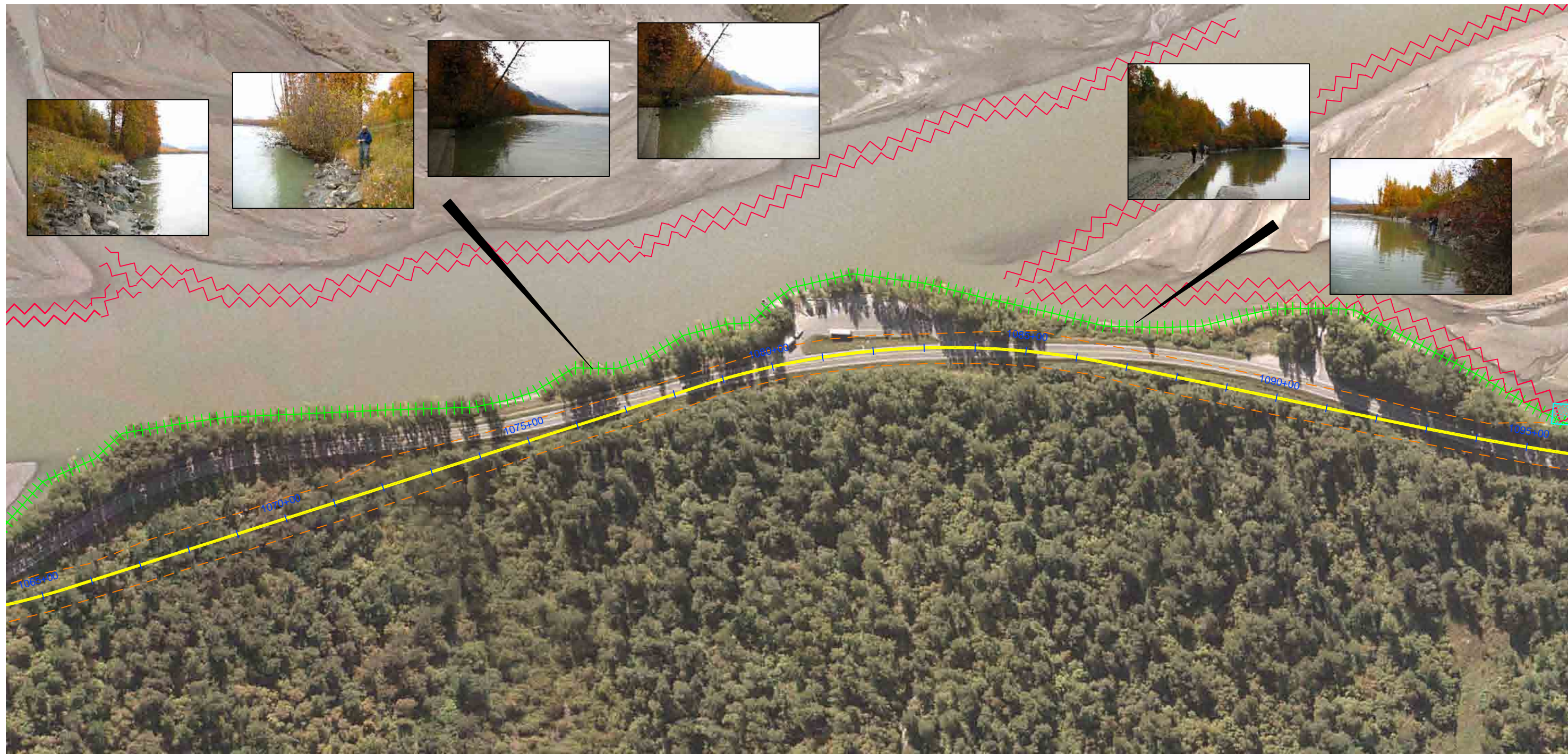
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DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
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Haines Highway – MP 3.5 to 25.3

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Stream and Habitat Inventory  
Plan View: 1033+00 to 1065+00  
SHEET 29 OF 36







GENERAL NOTES:  
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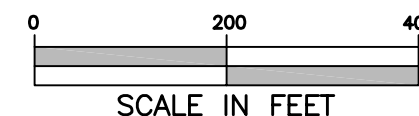
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STATION 981+00 TO 1118+00  
**SALMON SPAWNING**  
 CHUM AND COHO SPAWN IN THIS AREA FROM SEPTEMBER THROUGH DECEMBER

STATION 1064+00 TO 1125+00  
**SALMON REARING**  
 COHO AND CHINOOK SALMON REARING

**LEGEND**

-  SPAWNING AREA
-  REARING



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

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DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

State of Alaska Department of Transportation  
 and Public Facilities – Haines, Alaska  
 Haines Highway – MP 3.5 to 25.3

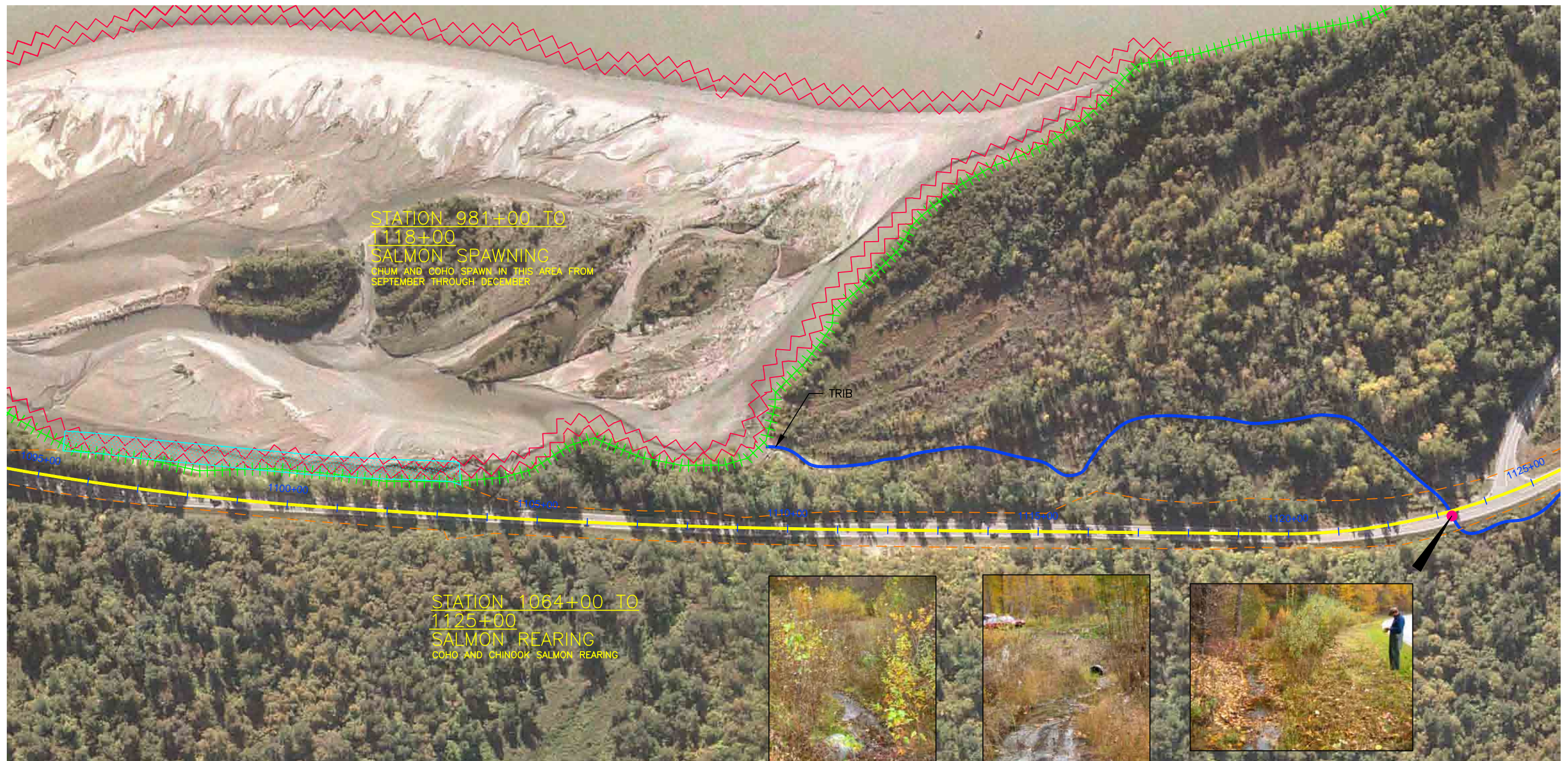
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Stream and Habitat Inventory  
 Plan View: 1065+00 to 1095+00

SHEET  
 30 of 36





STATION 981+00 TO  
1118+00  
SALMON SPAWNING  
CHUM AND COHO SPAWN IN THIS AREA FROM  
SEPTEMBER THROUGH DECEMBER

STATION 1064+00 TO  
1125+00  
SALMON REARING  
COHO AND CHINOOK SALMON REARING



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BANK STATION 1095+25  
TO 1103+50

TRIB STATION 1123+25

CATALOG NUMBER: 115-32-10250-2070  
STREAM NAME: 2 1/2 MILE CREEK  
FISH USE: REARING COHO AND DOLLY VARDEN. SPAWNING CHUM AND COHO  
DESCRIPTION: UPSTREAM OF THE CULVERTS THE STREAM IS 1-2' WIDE AND COMPOSED OF RIFFLE HABITAT. THE STREAM RUNS ALONGSIDE THE ROAD UP TO STATION 1128+25 BEFORE THE CHANNEL TURNS AWAY FROM THE ROAD. FOR THE FIRST 150' ABOVE THE CULVERT THE STREAM LIES AWAY FROM THE TOE OF THE ROAD FILL SLOPE AND COVER IS PROVIDED BY ADJACENT WILLOW AND ALDER. THE STREAM THEN RUNS TIGHT ALONG THE TOE AND THE BANKS ARE VEGETATED WITH GRASSES. DOWNSTREAM OF THE CULVERT THE STREAM FLOWS THROUGH A MANIPULATED HABITAT WITH PATCHES OF WILLOW AND GRASSES BEGINNING TO BE ESTABLISHED. FOR BOTH PORTIONS OF THE STREAM THE SUBSTRATE IS SMALL GRAVEL.

LEGEND

- S&HI CULVERT LOCATION
- MATURE - FORESTED
- ~ SPAWNING AREA
- - - - REARING

0 200 400  
SCALE IN FEET

HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
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State of Alaska Department of Transportation  
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Stream and Habitat Inventory  
Plan View: 1095+00 to 1125+00  
SHEET  
31 of 36

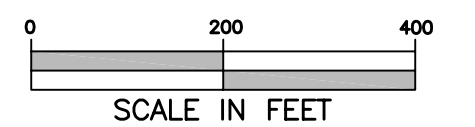




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TRIB STATION 1123+25  
 SEE SHEET 31



HAINES\_BASE\_SET.dwg

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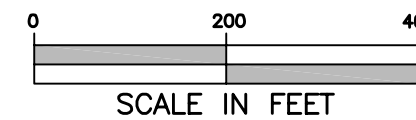
Stream and Habitat Inventory  
 Plan View: 1125+00 to 1155+00

SHEET  
 32 of 36





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HAINES\_BASE\_SET.dwg

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Stream and Habitat Inventory  
 Plan View: 1155+00 to 1185+00

SHEET  
 33 OF 36





PROPOSED ACTION ALIGNMENT

OPTION B ALIGNMENT

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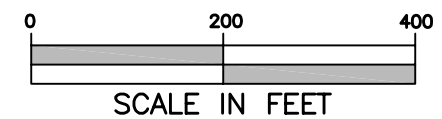
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**TRIB STATION 1200+60**

FISH USE: UNKNOWN  
 DESCRIPTION: DUE TO THE FREQUENT INFLUX OF SLIDE OR HEADCUT MATERIAL, ANY PRODUCTIVE HABITAT ABOVE THIS CULVERT WOULD BE EPHEMERAL IN NATURE. THERE IS NO ESTABLISHED VEGETATION AND THE 5-10' WIDE STREAM LACKS ANY STABILITY OF FORM. ADDITIONALLY, THE SHEET FLOW DOWN THE CONCRETE LINED CULVERT LIKELY PREVENTS ANY UPSTREAM PASSAGE OF FISH, SHOULD THEY EVER MAKE IT UP TO THE CULVERT OUTLET. DOWNSTREAM OF THE CULVERT THE STREAM IS A FAST RIFFLE FLOWING THROUGH BOULDERS. THERE IS LITTLE VEGETATION FOR SEVERAL HUNDRED FEET.

**LEGEND**

● S&HI CULVERT LOCATION



HAINES\_BASE\_SET.dwg

NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
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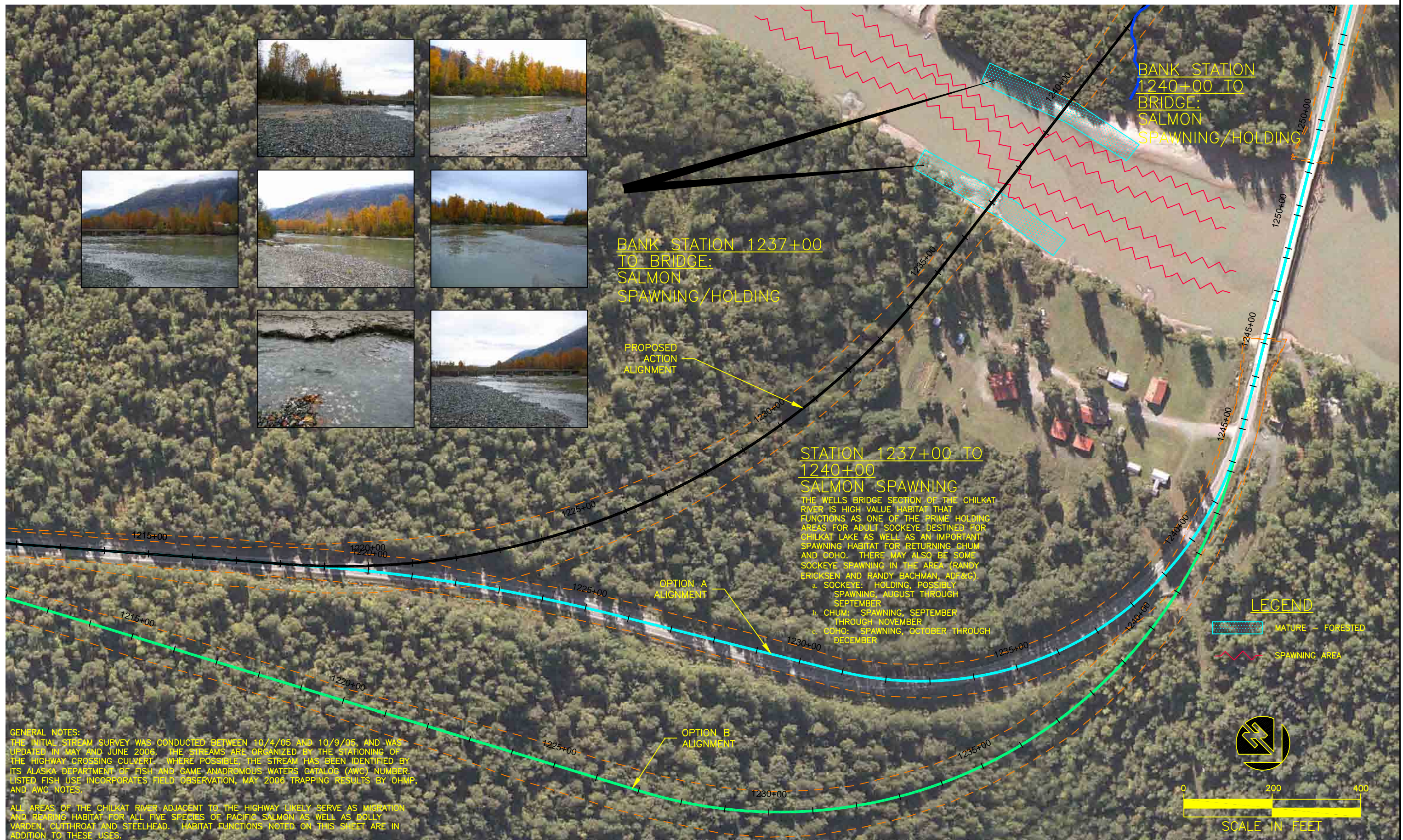
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Stream and Habitat Inventory  
 Plan View: 1185+00 to 1212+00

SHEET	34 OF 36
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HAINES\_BASE\_SET.dwg



**GENERAL NOTES:**  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

ALL AREAS OF THE CHILKAT RIVER ADJACENT TO THE HIGHWAY LIKELY SERVE AS MIGRATION AND REARING HABITAT FOR ALL FIVE SPECIES OF PACIFIC SALMON AS WELL AS DOLLY VARDEN, CUTTHROAT AND STEELHEAD. HABITAT FUNCTIONS NOTED ON THIS SHEET ARE IN ADDITION TO THESE USES.

**BANK STATION 1237+00 TO BRIDGE: SALMON SPAWNING/HOLDING**

**BANK STATION 1240+00 TO BRIDGE: SALMON SPAWNING/HOLDING**

**STATION 1237+00 TO 1240+00 SALMON SPAWNING**

THE WELLS BRIDGE SECTION OF THE CHILKAT RIVER IS HIGH VALUE HABITAT THAT FUNCTIONS AS ONE OF THE PRIME HOLDING AREAS FOR ADULT SOCKEYE DESTINED FOR CHILKAT LAKE AS WELL AS AN IMPORTANT SPAWNING HABITAT FOR RETURNING CHUM AND COHO. THERE MAY ALSO BE SOME SOCKEYE SPAWNING IN THE AREA (RANDY ERICKSEN AND RANDY BACHMAN, ADF&G).

- a. SOCKEYE: HOLDING, POSSIBLY SPAWNING, AUGUST THROUGH SEPTEMBER
- b. CHUM: SPAWNING, SEPTEMBER THROUGH NOVEMBER
- c. COHO: SPAWNING, OCTOBER THROUGH DECEMBER

**LEGEND**

- MATURE - FORESTED
- SPAWNING AREA



NO.	BY	DATE	REVISION	DESCRIPTION

RP	DM,GK,MS	DM,GK,MS
DRAWN	DESIGNED	CHECKED
DM,GK,MS	06/30/06	
APPROVED	DATE	PROJECT

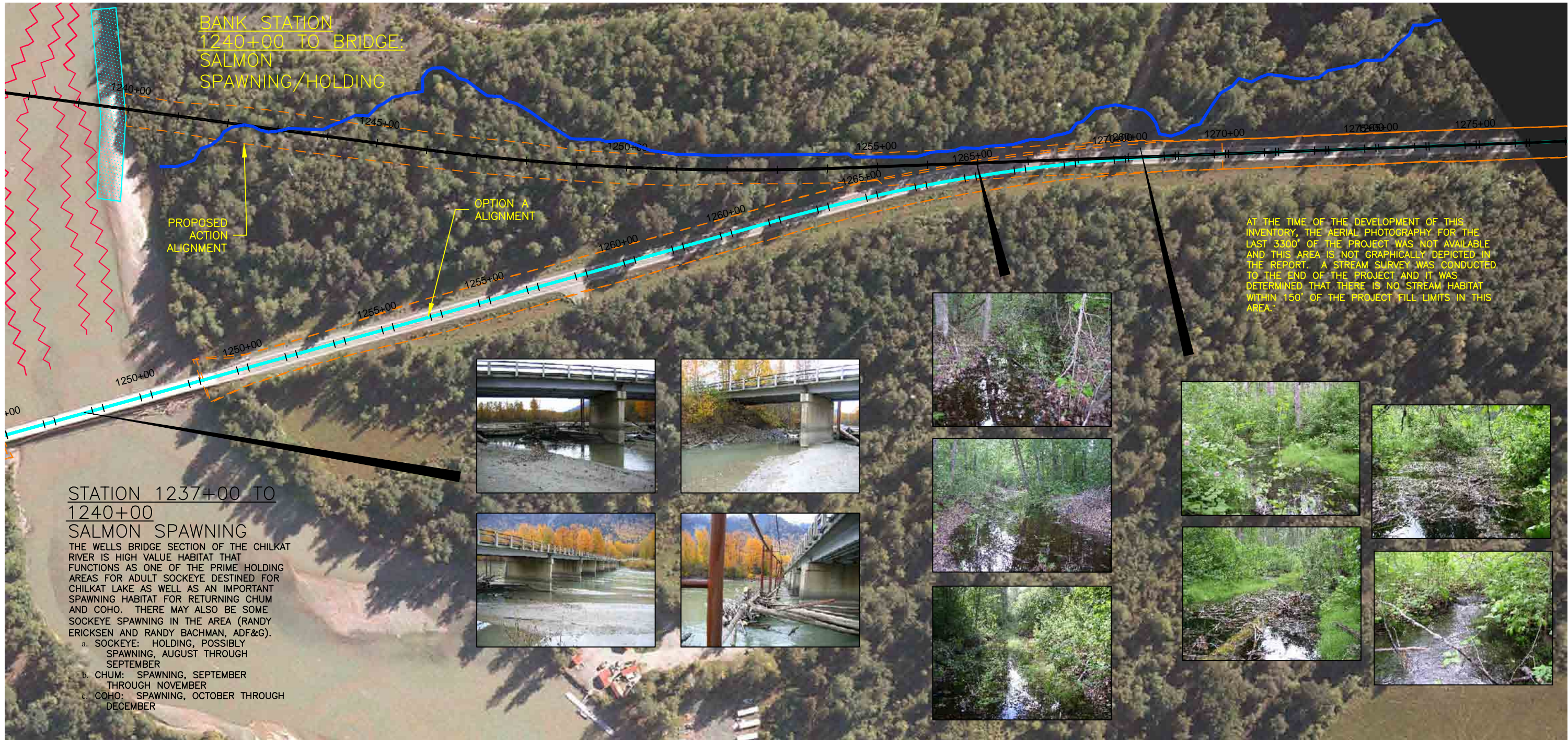
State of Alaska Department of Transportation  
 and Public Facilities - Haines, Alaska  
 Haines Highway - MP 3.5 to 25.3

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Stream and Habitat Inventory  
 Plan View: 1212+00 to 1242+00

SHEET  
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**STATION 1237+00 TO 1240+00 SALMON SPAWNING**  
 THE WELLS BRIDGE SECTION OF THE CHILKAT RIVER IS HIGH VALUE HABITAT THAT FUNCTIONS AS ONE OF THE PRIME HOLDING AREAS FOR ADULT SOCKEYE DESTINED FOR CHILKAT LAKE AS WELL AS AN IMPORTANT SPAWNING HABITAT FOR RETURNING CHUM AND COHO. THERE MAY ALSO BE SOME SOCKEYE SPAWNING IN THE AREA (RANDY ERICKSEN AND RANDY BACHMAN, ADF&G).

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AT THE TIME OF THE DEVELOPMENT OF THIS INVENTORY, THE AERIAL PHOTOGRAPHY FOR THE LAST 3300' OF THE PROJECT WAS NOT AVAILABLE AND THIS AREA IS NOT GRAPHICALLY DEPICTED IN THE REPORT. A STREAM SURVEY WAS CONDUCTED TO THE END OF THE PROJECT AND IT WAS DETERMINED THAT THERE IS NO STREAM HABITAT WITHIN 150' OF THE PROJECT FILL LIMITS IN THIS AREA.



**GENERAL NOTES:**  
 THE INITIAL STREAM SURVEY WAS CONDUCTED BETWEEN 10/4/05 AND 10/9/05, AND WAS UPDATED IN MAY AND JUNE 2006. THE STREAMS ARE ORGANIZED BY THE STATIONING OF THE HIGHWAY CROSSING CULVERT. WHERE POSSIBLE, THE STREAM HAS BEEN IDENTIFIED BY ITS ALASKA DEPARTMENT OF FISH AND GAME ANADROMOUS WATERS CATALOG (AWC) NUMBER. LISTED FISH USE INCORPORATES FIELD OBSERVATION, MAY 2006 TRAPPING RESULTS BY OHMP, AND AWC NOTES.

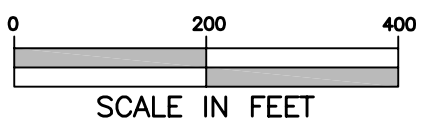
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**TRIB STATION 1240+75 TO 1271+00 (PROPOSED ACTION ALIGNMENT STATIONING)**

CATALOG NUMBER: 115-32-10250-2079  
 STREAM NAME: 25 MILE CREEK  
 FISH USE: REARING AND SPAWNING COHO AND DOLLY VARDEN  
 DESCRIPTION: THIS IS AN OLD FLOOD CHANNEL OF THE KLEHINI RIVER. DURING TIMES OF HIGH GROUNDWATER LEVELS THIS CHANNEL FILLS, FED PRIMARILY BY THE 25 MILE POND, BUT ALSO BY GROUNDWATER UPWELLING. AT LOW WATER LEVELS THE STREAM IS DRY. NEAR STATION 1271+00 THE STREAM IS ABOUT 500' FROM THE CURRENT HIGHWAY AND TURNS FURTHER TO THE SOUTH. ON JUNE 16, 2006, THE 10-15' WIDE CHANNEL BETWEEN STATIONS 1261+00 AND 1271+00 WAS FLOODED TO A DEPTH OF 2-3'. THE STREAM BANKS ARE HEAVILY VEGETATED AND THE STREAM SUBSTRATE IS LEAF LITTER OVER GRAVEL. NEAR STATION 1260+00 THE STREAM WAS FLOWING OVER AN ACCESS ROAD AND DISSIPATING INTO THE GROUND, APPEARING ONLY AS ISOLATED POOLS FOR THE NEXT 350'. NEAR STATION 1257+00 THERE IS ONCE MORE A DEFINED FLOOD CHANNEL, WIDENING FROM 4' TO 8' BY STATION 1253+00. THERE WAS NO FLOW VISIBLE IN THIS SECTION, AND THE WATER DEPTH WAS 0.5-1.5'. THE CHANNEL NARROWS TO 3-4' WIDE AT STATION 1245+00. AT THE TIME OF THIS FIELD VISIT, THE CHILKAT RIVER WAS FLOODING THROUGH THE TREES ALONG THE RIVER'S EDGE AND THE STREAM OUTLET (IF ANY) WAS FLOODED.

**LEGEND**

- MATURE - FORESTED
- SPAWNING AREA



HAINES\_BASE\_SET.dwg

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DRAWN	DESIGNED	CHECKED
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Stream and Habitat Inventory  
 Plan View: 1238+00 to 1276+00  
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