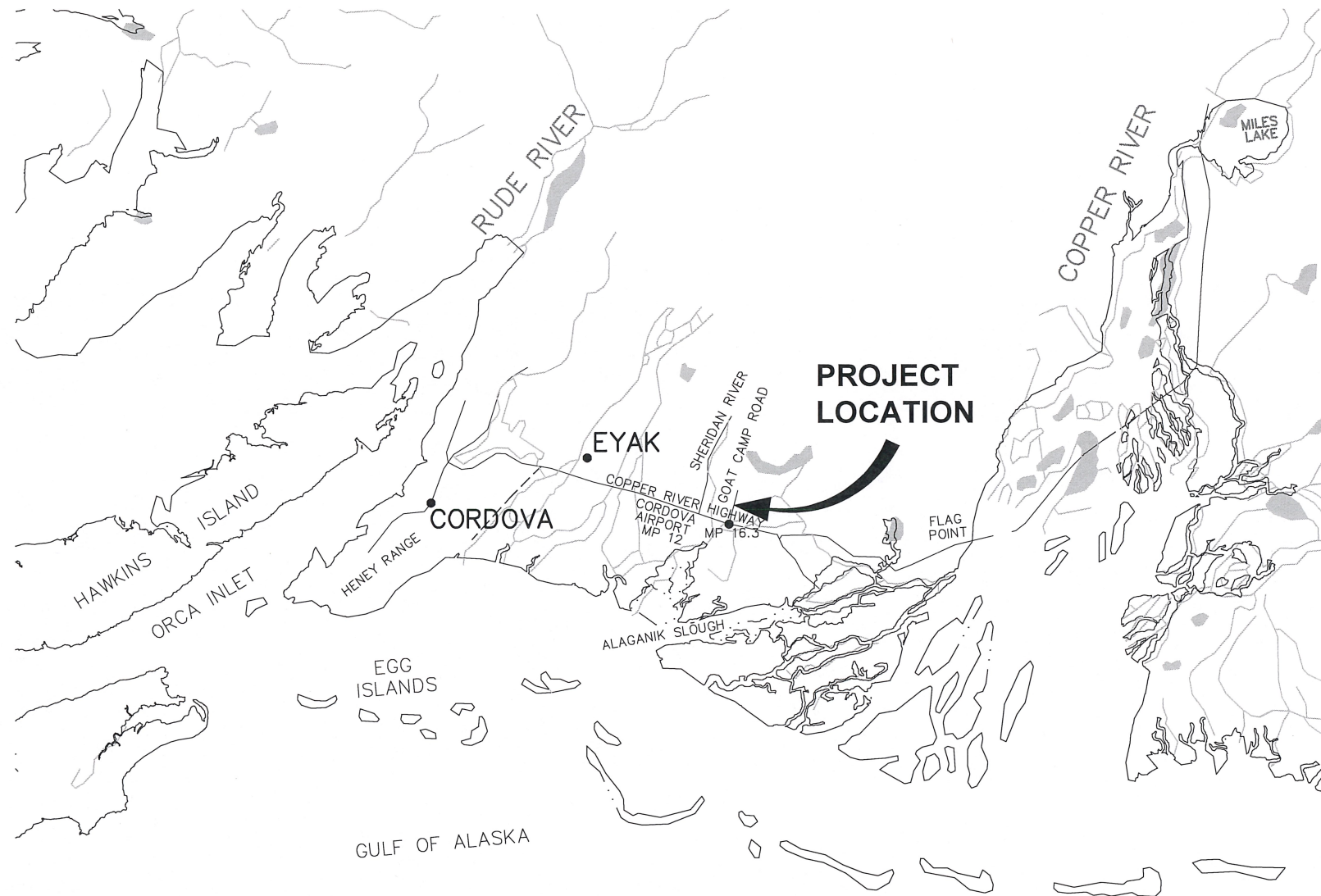
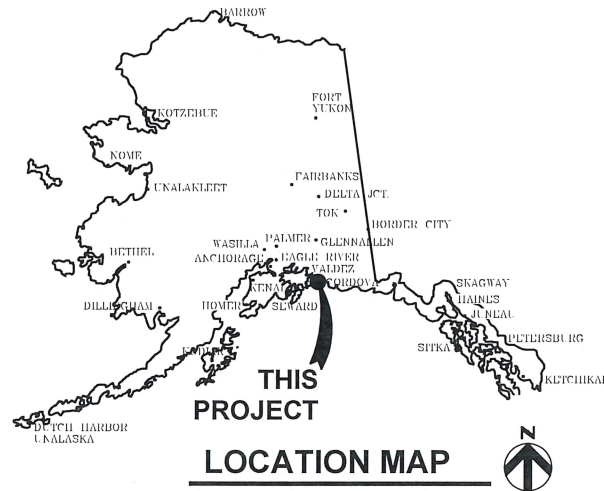


Contract Drawings For

CORDOVA FISH PASSAGE IMPROVEMENT PROJECTS GOAT CAMP ROAD SHERIDAN RIVER TRIBUTARY CROSSING - SHER 02 U.S. FISH AND WILDLIFE SERVICE

SECTION 15, TOWNSHIP 16 SOUTH, RANGE 1 WEST, COPPER RIVER MERIDIAN, ALASKA
DECEMBER 2020



DRAWING INDEX

- | | |
|----|-----------------------------------|
| C1 | COVER SHEET |
| C2 | GENERAL NOTES AND QUANTITIES |
| C3 | SURVEY CONTROL |
| C4 | STREAM PLAN, PROFILE AND DETAILS |
| C5 | ROADWAY PLAN, PROFILE AND DETAILS |
| C6 | EROSION AND SEDIMENT CONTROL PLAN |

VICINITY MAP
NTS



PREPARED BY:



C:\Civil_3D\Projects\2018\2018_36\63087-01\Hydrology\SC18-CH-DR-63087-SHER-02.dwg PLOT DATE 2020-12-4 10:32 SAVED DATE 2020-12-04 10:31 USER: hrabuck

ESTIMATE OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	PAY UNIT	QUANTITY
201(9)	CLEARING AND GRUBBING	LUMP SUM	ALL REQUIRED
202(17)	REMOVAL OF CULVERT PIPE	EACH	1
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	88
203(5A)	BORROW, SELECTED MATERIAL, TYPE A	CUBIC YARD	33
205(4)	POROUS BACKFILL	CUBIC YARD	11
611(1)	RIPRAP, CLASS I	CUBIC YARD	92
615(8)	STANDARD SIGN	EACH	2
618(2)	SEEDING	POUND	1
620(1)	TOPSOIL (4")	SQUARE YARD	313
631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	215
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641(3)	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642(14)	AS-BUILT PLANS	LUMP SUM	ALL REQUIRED
643(2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
672(1)	STREAM DIVERSION & DEWATERING	LUMP SUM	ALL REQUIRED

ABBREVIATIONS	
ALCAP	ALUMINUM CAP
AVASP	AS VERTICAL AS SAFELY POSSIBLE
BFW	BANKFULL WIDTH
BOF	BOTTOM OF FOOTING
CFS	CUBIC FEET PER SECOND
CMP	CORRUGATED METAL PIPE
CO	CONTRACTING OFFICER
ELEV	ELEVATION
HW/D	HEADWATER TO DEPTH RATIO
INV	INVERT ELEVATION
MIN	MINIMUM
NTS	NOT TO SCALE
OHW	ORDINARY HIGH WATER
Q	FLOW
ROW	RIGHT-OF-WAY
STA	STATION
TYP	TYPICAL
VAP	VERTICAL ADJUSTMENT POTENTIAL

TABLE 1		
COARSE MATERIAL: RIPRAP, CLASS I		
APPROX. SIZE	MASS (LBS)	% PASSING
10"	50	100
8"	25	50

TABLE 2	
FINE MATERIAL: POROUS BACKFILL	
SIZE/SIEVE	% PASSING
3"	100
1"	65
0.75"	50
#4	25
#10	15

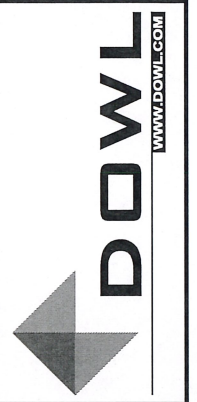
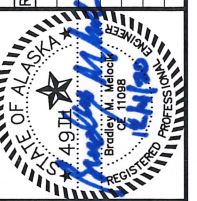
GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL SITE FEATURES. IF THE CONTRACTOR DISCOVERS CONDITIONS OTHER THAN THOSE SHOWN ON THE PLANS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CO IN WRITING.
2. COORDINATE CONSTRUCTION STAGING AND MOBILIZATION AREAS AND ACTIVITIES WITH CO.
3. STATIONING IS ALONG CENTERLINE OF STREAM OR ROADWAY.
4. VERIFY ELEVATIONS OF ALL PROPOSED STRUCTURES PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES FROM PLANS IMMEDIATELY TO CO.
5. EXCAVATION AND COMPACTION:
 - A. REMOVE AND DISPOSE OF ALL ORGANIC OR OVER SATURATED SOFT MATERIAL, WHICH CANNOT BE COMPACTED.
 - B. BACKFILL SHALL BE PLACED AND COMPACTED WITH CARE AND SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY. MATERIAL TO BE COMPACTED TO 95% MAXIMUM DENSITY.
6. ALL VEGETATION IN THE AREAS NOT AFFECTED BY WORK SHALL BE PRESERVED AND PROTECTED BY THE CONTRACTOR. RESEED ALL DISTURBED AREAS.

THE FOLLOWING DOT&PF STANDARD DRAWING APPLIES TO THIS PROJECT:
S-05.02 POST MOUNTED SIGN OFFSET & HEIGHT

LEGEND	
DESCRIPTION	
APPROXIMATE RIGHT-OF-WAY	— — — — —
CONTROL POINT	⊕
ORDINARY HIGH WATER	— — — — —
EXISTING CULVERT	— — — — —
EDGE OF PAVEMENT	— — — — —
EDGE OF GRAVEL/SHOULDER	— — — — —
EDGE OF VEGETATION	— — — — —
EXISTING THALWEG	— — — — —
TOP OF BANK	— — — — —
TOE OF SLOPE	— — — — —
PROPOSED CULVERT	— — — — —
SUBSTRATE DESIGN MIX	— — — — —
SELECTED MATERIAL, TYPE A	— — — — —
RIPRAP, CLASS I	— — — — —

REV	DATE	DESCRIPTION	BY




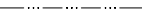



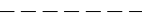


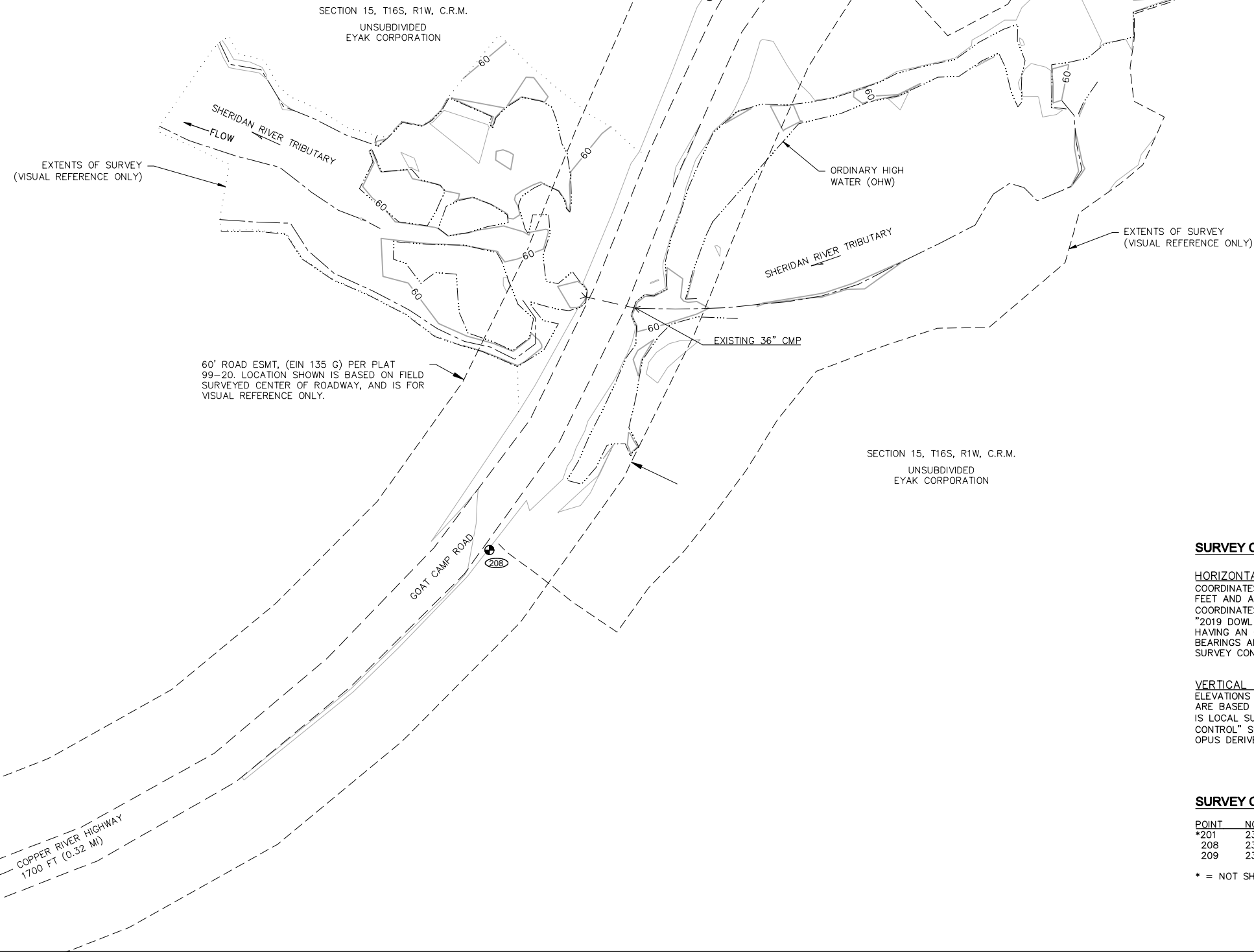
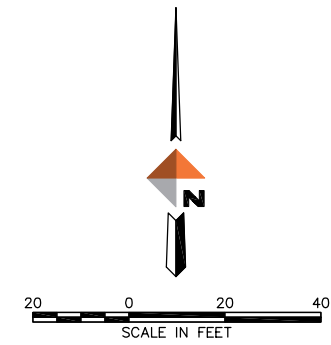
CORDOVA FISH PASSAGE IMPROVEMENTS
SHERIDAN RIVER TRIBUTARY CROSSING
GENERAL NOTES AND QUANTITIES
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020
DOWL 2020
SHEET
C2 OF C6

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LEGEND

-  SURVEY MONUMENT
-  CULVERT
-  EDGE OF GRAVEL
-  EDGE OF WATER
-  CENTERLINE CHANNEL
-  MAJOR CONTOUR (5 FEET)
-  MINOR CONTOUR (1 FOOT)
-  EASEMENT LINE



SURVEY CONTROL NOTES

HORIZONTAL CONTROL -- ASPC ZONE 3, NAD83(2011)
 COORDINATES ARE ALASKA STATE PLANE (ASPC) ZONE 3, NAD83(2011) IN U.S. SURVEY FEET AND ARE BASED ON AN OPUS SOLUTION ON MONUMENT 201. THE BASIS OF COORDINATES IS LOCAL SURVEY CONTROL POINT 201, A 2" ALUMINUM CAP STAMPED "2019 DOWL CONTROL" SET IN THE EASTERN SHOULDER OF ALAGANIC SLOUGH ROAD, HAVING AN OPUS DERIVED ASPC ZONE 3 VALUE OF N2,362,511.53 AND E1,758,160.67. BEARINGS ARE LOCAL PLANE BEARINGS BASED ON GPS OBSERVATIONS AT LOCAL SURVEY CONTROL POINT 201.

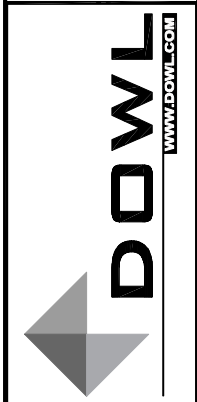
VERTICAL CONTROL -- NAVD88
 ELEVATIONS ARE NAVD-88 GEOID12B ORTHOMETRIC HEIGHTS IN U.S. SURVEY FEET AND ARE BASED ON AN OPUS SOLUTION ON CONTROL POINT 201. THE BASIS OF ELEVATIONS IS LOCAL SURVEY CONTROL POINT 201, A 2" ALUMINUM CAP STAMPED "2019 DOWL CONTROL" SET IN THE EASTERN SHOULDER OF ALAGANIC SLOUGH ROAD, HAVING AN OPUS DERIVED GEOID12B ELEVATION OF 62.78 FEET.

SURVEY CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
*201	2362511.53	1758160.67	62.78	ALCAP
208	2366885.72	1752085.77	60.92	SPIKE
209	2367063.80	1752156.52	61.64	SPIKE

* = NOT SHOWN HEREON

REV	DATE	DESCRIPTION	BY



CORDOVA FISH PASSAGE IMPROVEMENTS
 SHERIDAN RIVER TRIBUTARY CROSSING
 SURVEY CONTROL
 SECTION 15, T16S, R1W, C.R.M. ALASKA
 CORDOVA RECORDING DISTRICT, ALASKA

PROJECT 1136.63087.01
 DATE DECEMBER 2020

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 SHEET

C3 OF C6

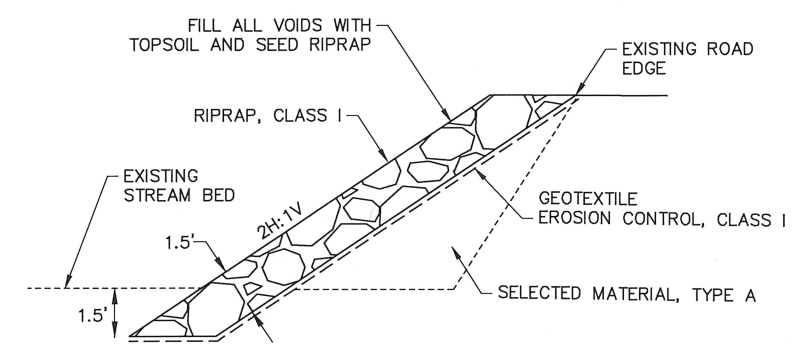
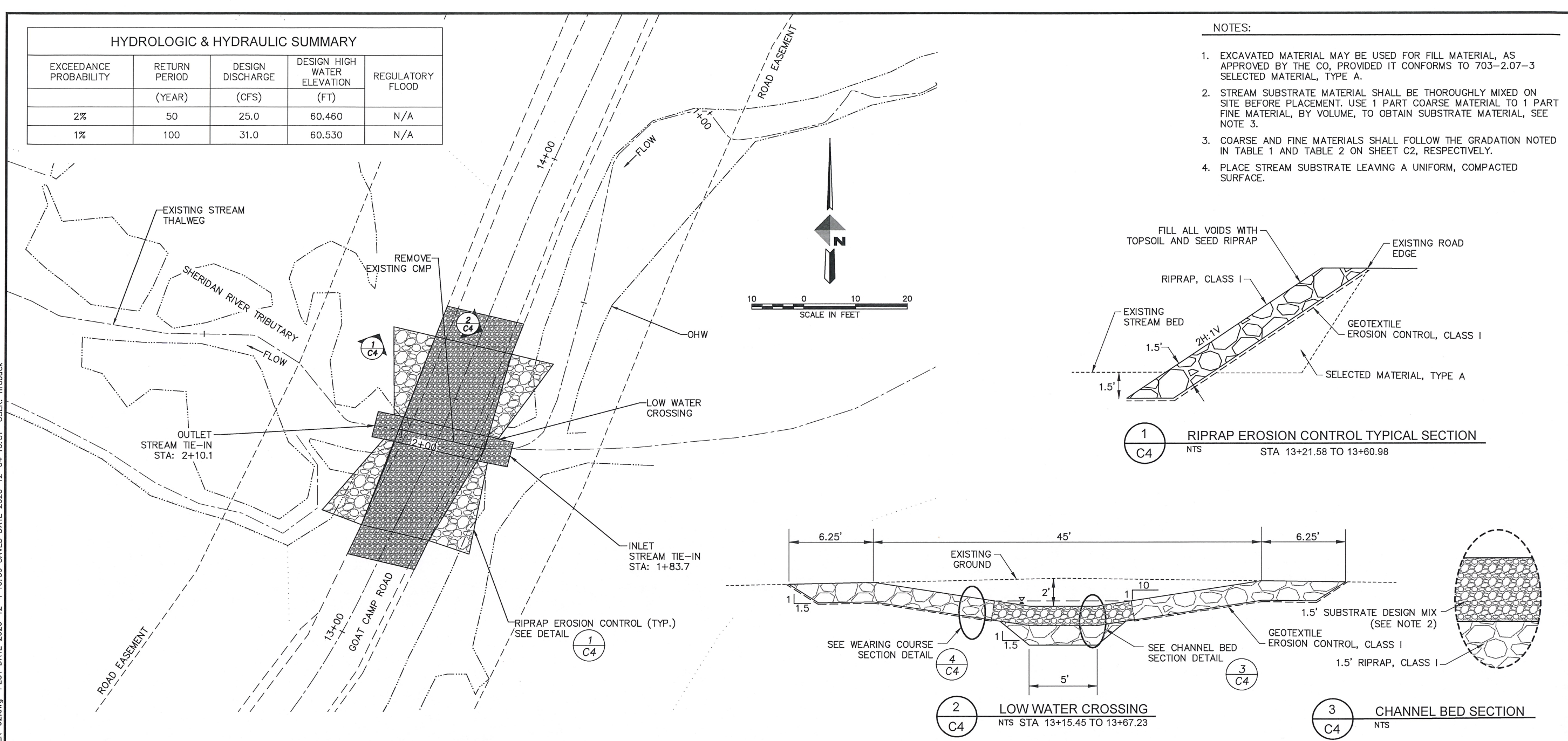
HYDROLOGIC & HYDRAULIC SUMMARY

EXCEEDANCE PROBABILITY	RETURN PERIOD (YEAR)	DESIGN DISCHARGE (CFS)	DESIGN HIGH WATER ELEVATION (FT)	REGULATORY FLOOD
2%	50	25.0	60.460	N/A
1%	100	31.0	60.530	N/A

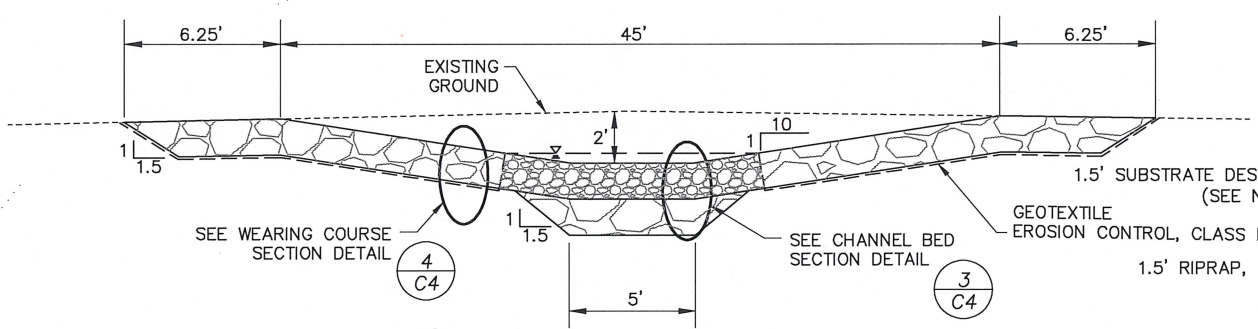
NOTES:

- EXCAVATED MATERIAL MAY BE USED FOR FILL MATERIAL, AS APPROVED BY THE CO, PROVIDED IT CONFORMS TO 703-2.07-3 SELECTED MATERIAL, TYPE A.
- STREAM SUBSTRATE MATERIAL SHALL BE THOROUGHLY MIXED ON SITE BEFORE PLACEMENT. USE 1 PART COARSE MATERIAL TO 1 PART FINE MATERIAL, BY VOLUME, TO OBTAIN SUBSTRATE MATERIAL, SEE NOTE 3.
- COARSE AND FINE MATERIALS SHALL FOLLOW THE GRADATION NOTED IN TABLE 1 AND TABLE 2 ON SHEET C2, RESPECTIVELY.
- PLACE STREAM SUBSTRATE LEAVING A UNIFORM, COMPACTED SURFACE.

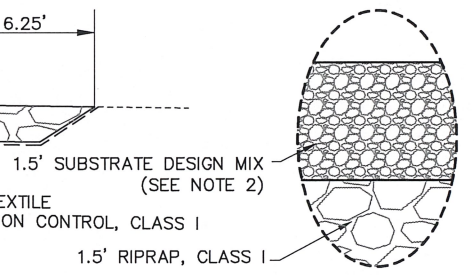
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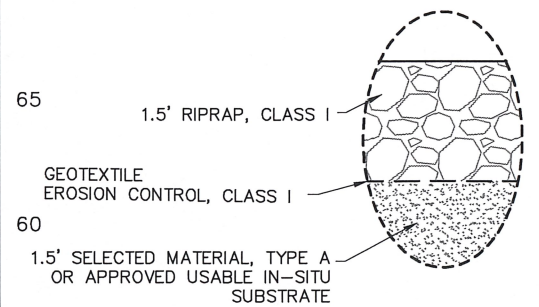
1
C4
RIPRAP EROSION CONTROL TYPICAL SECTION
NTS STA 13+21.58 TO 13+60.98



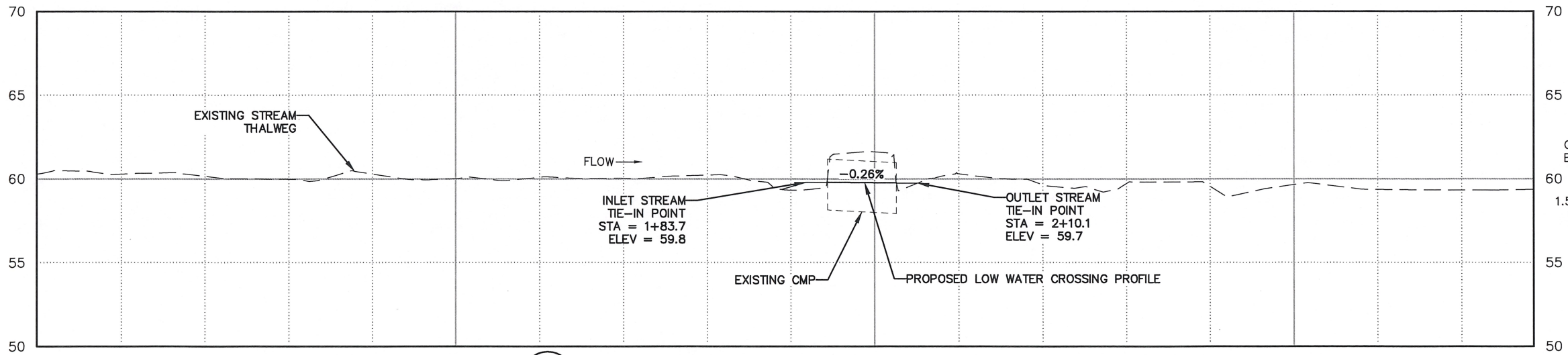
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C4
LOW WATER CROSSING
NTS STA 13+15.45 TO 13+67.23



3
C4
CHANNEL BED SECTION
NTS

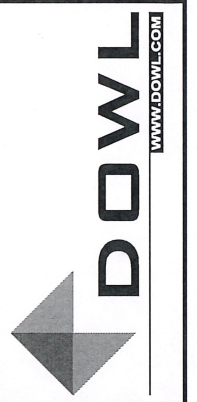


4
C4
WEARING COURSE SECTION
NTS



5
C4
STREAM PROFILE
NTS

REV	DATE	DESCRIPTION	BY



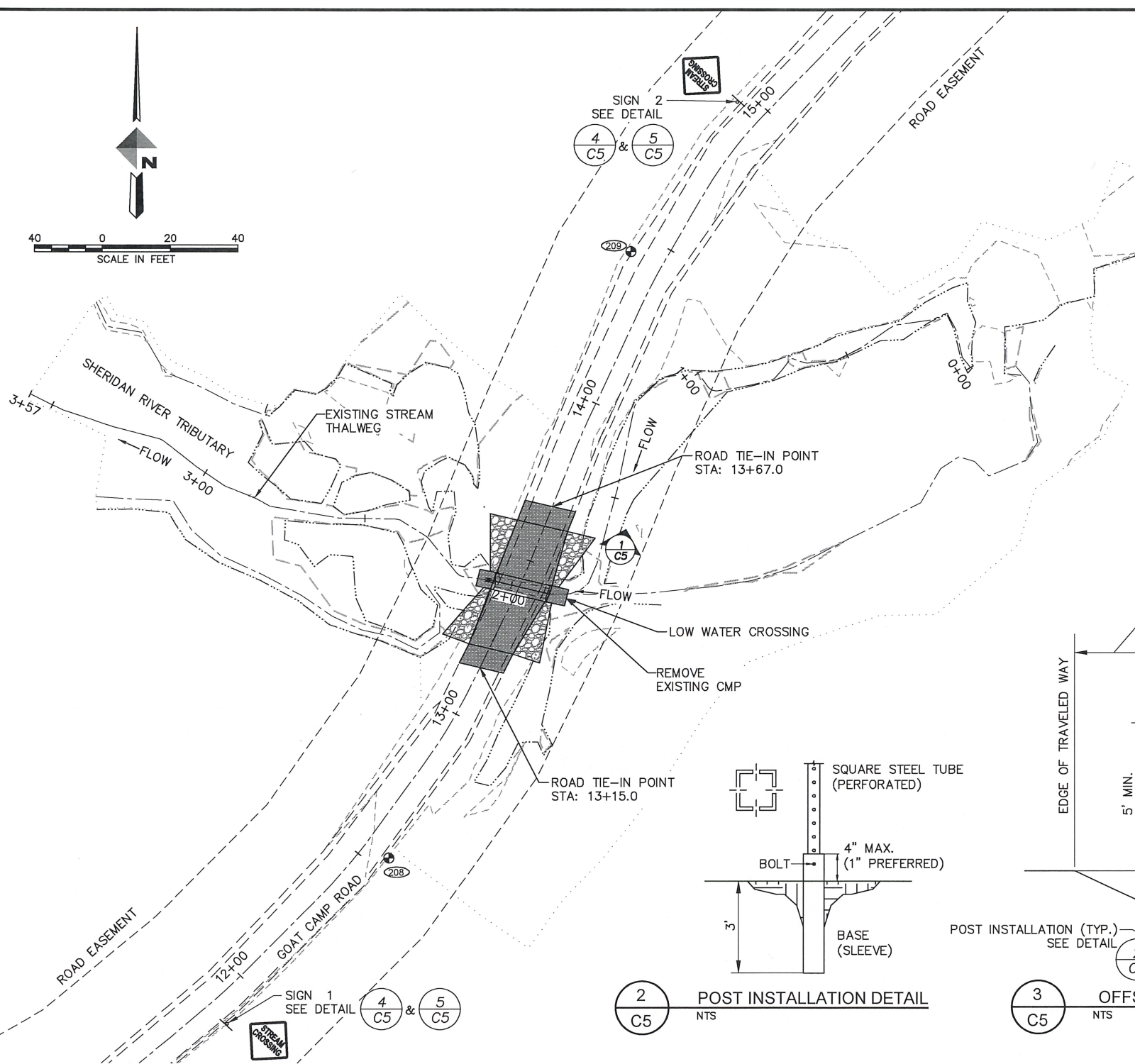
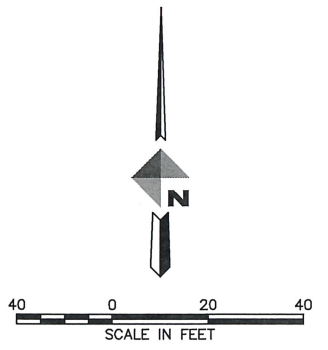
CORDOVA FISH PASSAGE IMPROVEMENTS
SHERIDAN RIVER TRIBUTARY CROSSING
STREAM PLAN, PROFILE AND DETAILS
 CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

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SHEET

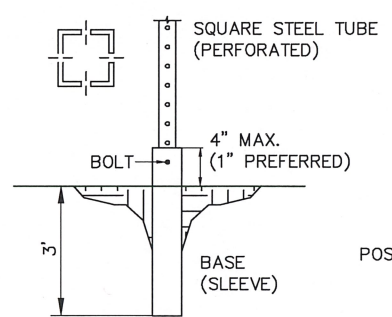
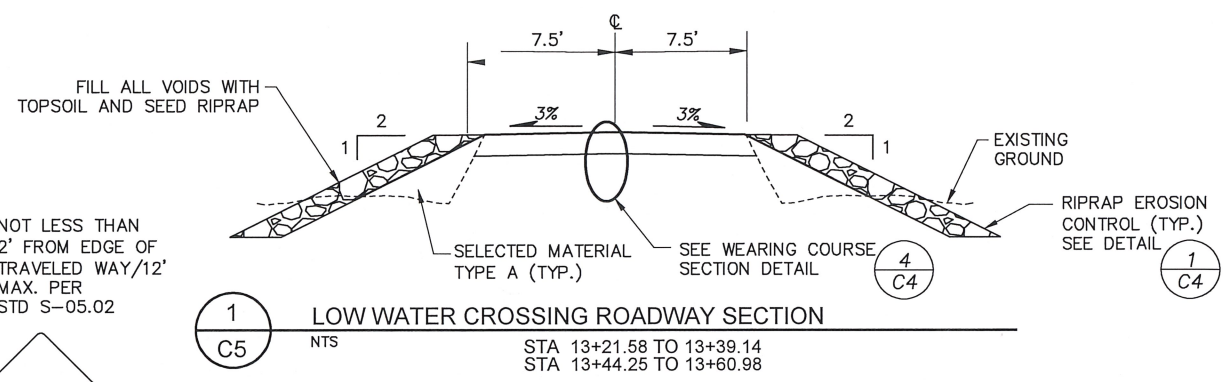
C4 OF C6

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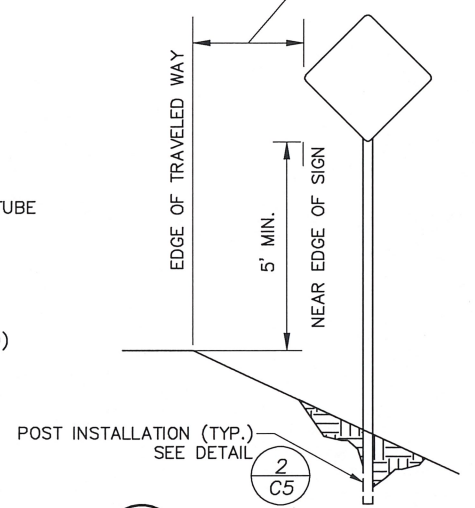


NOTES:

1. THIS WORK WILL NOT REQUIRE A DETOUR ROUTE. THE ROAD MAY BE CLOSED DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS.
2. ROAD GRADES AND ALIGNMENTS, AS SHOWN ON PLANS, MAY BE SUBJECT TO MINOR REVISIONS AS DIRECTED BY THE ENGINEER.
3. PROFILE ELEVATIONS ARE TO FINISHED GRADES.
4. UTILIZE EXISTING ROAD WIDTH OR MINIMUM ROAD WIDTH ESTABLISHED, WHICHEVER IS GREATER.
5. ANY DAMAGE TO THE EXISTING ROAD SYSTEM DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR EXPENSE PRIOR TO ACCEPTANCE BY ENGINEER.
6. CONTRACTOR SHALL COMPLY WITH ALL LEGAL LOAD RESTRICTIONS IN HAULING OF MATERIALS.
7. INSTALL SIGNS PER TABLE 1 ON SHEET C5 AND DETAILS 2/C5 & 3/C5
8. SIGN DESIGN DERIVED FROM "SIGN AND POSTER GUIDELINES FOR THE FOREST SERVICE" (EM7100-15)



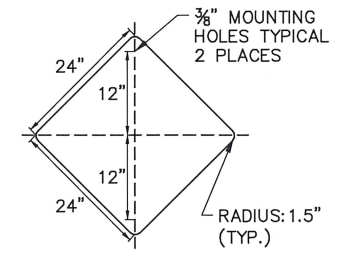
2 POST INSTALLATION DETAIL NTS



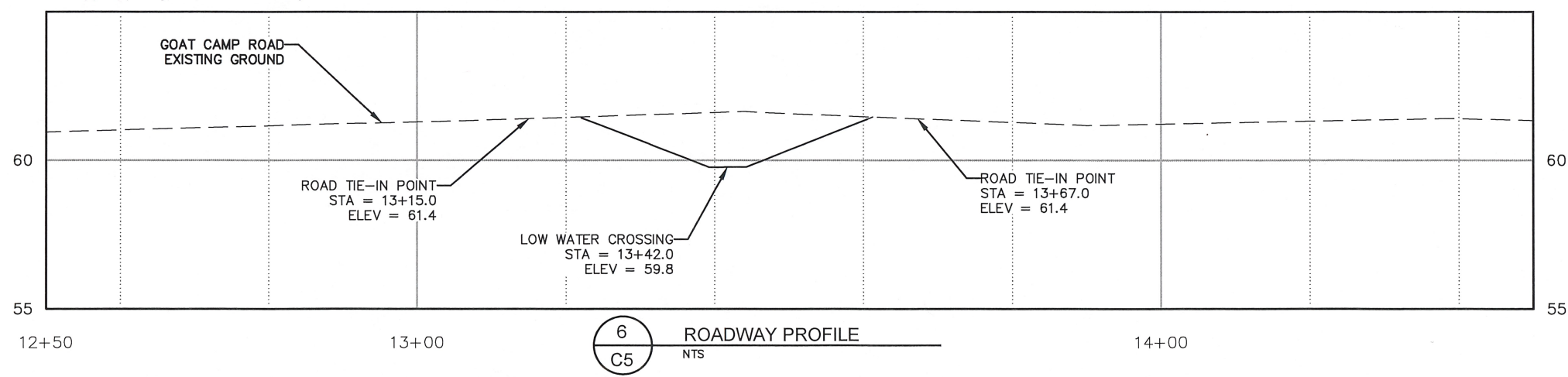
3 OFFSET AND MOUNTING HEIGHT DETAIL NTS



4 FW8-18c WARNING SIGN NTS



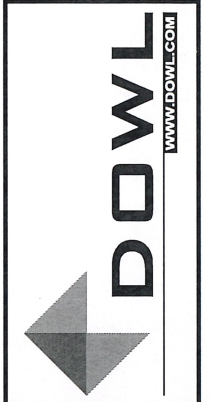
5 FW8-18c WARNING SIGN NTS



6 ROADWAY PROFILE NTS

TABLE 1				
SHER 02 SIGNING SUMMARY				
SIGN	SIGN TYPE	STATION	SIZE	AREA
1	FW8-18c	11+90.00	24" X 24"	4 SF
2	FW8-18c	14+95.00	24" X 24"	4 SF

REV	DATE	DESCRIPTION	BY



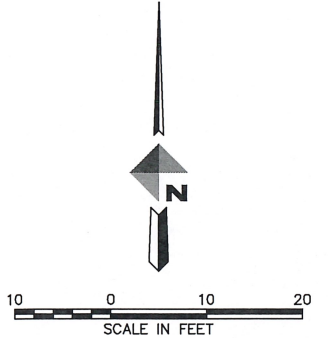
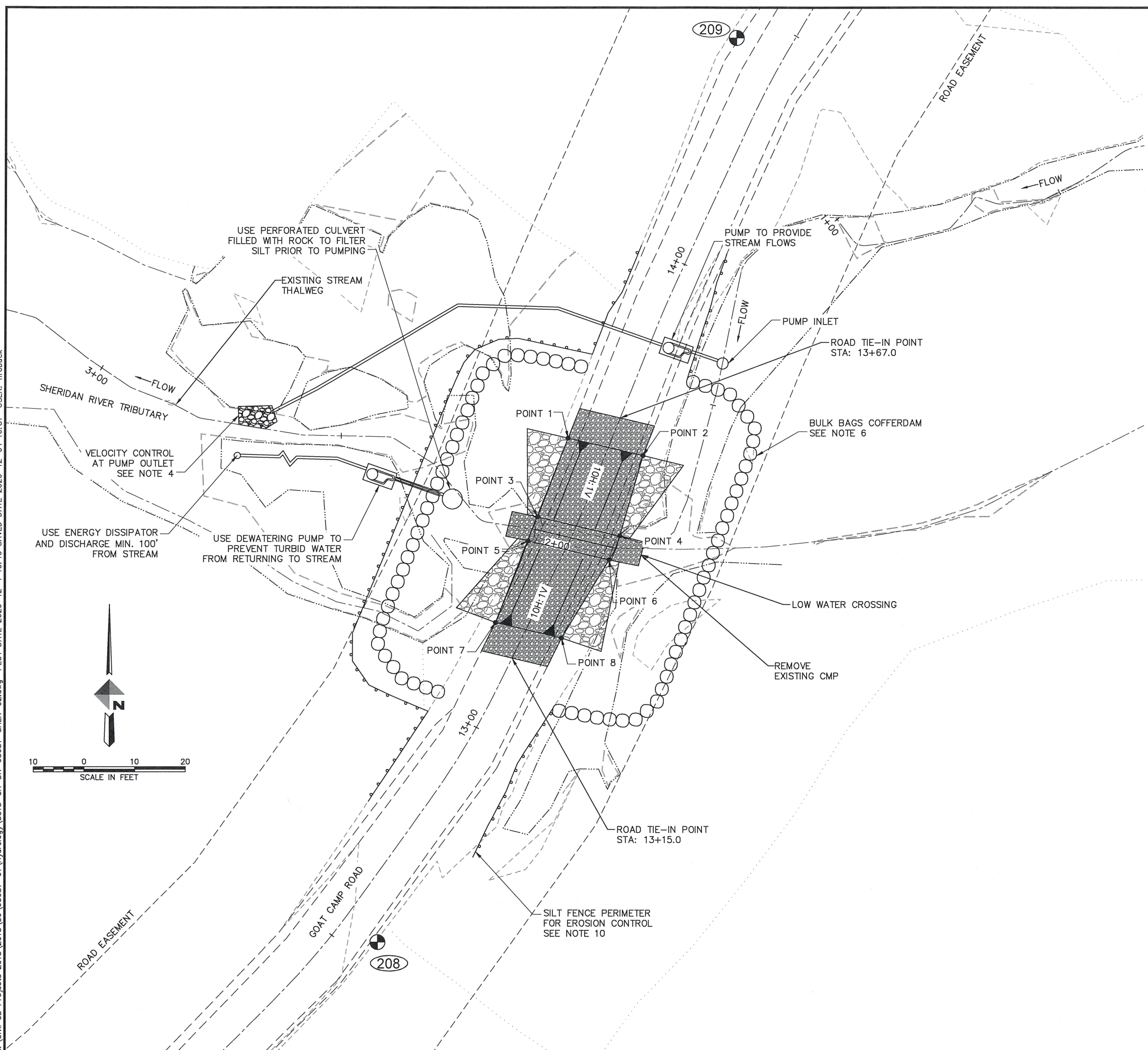
CORDOVA FISH PASSAGE IMPROVEMENTS
SHERIDAN RIVER TRIBUTARY CROSSING
ROADWAY PLAN, PROFILE AND DETAILS
CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

DOWL 2020
SHEET

C5 OF C6

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DIVERSION NOTES:

TEMPORARY DIKES OR BERMS MAY BE USED TO ISOLATE THE WORK AREA FROM WATERS OF THE SURROUNDING AREA. THIS WORK MAY REQUIRE A DIVERSION OF STREAM WATER. THE DESIGNERS RECOGNIZE THAT DIFFERENT CONTRACTORS WILL HAVE VARIOUS APPROACHES FOR CONTROLLING WATER AND CONSTRUCTION SEQUENCING. COFFERDAM IS SHOWN AS AN EXAMPLE OF DIVERSION AND DEWATERING PLAN. CONTRACTOR MUST SUBMIT DIVERSION PLANS TO CO FOR APPROVAL PRIOR TO IMPLEMENTATION.

NOTES:

1. REMOVE AND DISPOSE OF EXISTING CMP.
2. THIS WORK WILL NOT REQUIRE A DETOUR ROAD. THE ROAD MAY BE CLOSED DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS.
3. DEWATER TRENCH AND WORK AREA WITH PUMP HOSE IF REQUIRED.
4. ALL DISCHARGE POINTS REQUIRE PERMANENT OR TEMPORARY RIPRAP (CLASS I) VELOCITY CONTROLS.
5. PROVIDE SEDIMENT REMOVAL FOR ALL DEWATERING ACTIVITY PRIOR TO DISCHARGE FROM THE PROJECT INTO ANY WATER OF THE U.S.
6. USE BULK BAGS (SUPERSACKS OR SIMILAR) TO PREVENT STREAM FLOW THROUGH EXISTING CHANNEL
7. LOCATION OF DIVERSION PUMPS AND PUMP HOSES ARE APPROXIMATE AND SUBJECT TO SITE CONDITIONS
8. PROVIDE SPARE (EXTRA) PUMPS FOR BOTH THE STREAM BYPASS PUMP AND DETWATERING PUMP.
9. EXISTING RIPARIAN VEGETATION SHOULD BE PROTECTED TO MINIMIZE DISTURBANCE.
10. SILT FENCING TO BE USED TO PREVENT DISTURBED SEDIMENT FROM ENTERING THE WATERBODY. ADJUST LOCATION AS NECESSARY AND AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.
11. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS. MAINTENANCE SHALL INCLUDE REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT, CLEANING AND REPAIR OF DAMAGED SEDIMENT CONTROL DEVICES.
12. REVEGETATE ALL AREAS OUTSIDE THE ROADWAY WHICH ARE NOT INUNDATED.

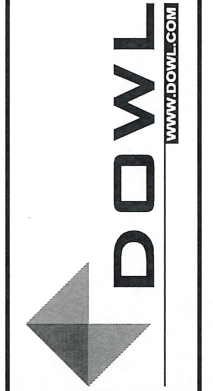
LEGEND

DESCRIPTION	SYMBOL
APPROXIMATE RIGHT-OF-WAY	--- --
CONTROL POINT	⊕
ORDINARY HIGH WATER
EXISTING CULVERT	-----
EDGE OF PAVEMENT	====
EDGE OF GRAVEL/SHOULDER	- - - -
EXISTING THALWEG	→
TOP OF BANK	———
TOE OF SLOPE	———
RIPRAP, CLASS I	▒▒▒▒
SUBSTRATE DESIGN MIX	▒▒▒▒
SILT FENCE	—●—●—●—●—
BULK BAG COFFERDAM	○ ○ ○ ○ ○ ○ ○ ○ ○ ○

SHER 02 EXCAVATION POINT SUMMARY

POINT	NORTHING	EASTING	ELEVATION
1	2366985.0472	1752123.3632	60.0'
2	2366981.6107	1752138.1145	60.0'
3	2366969.5434	1752117.2673	56.8'
4	2366965.7242	1752133.5145	56.8'
5	2366964.7906	1752115.4853	56.8'
6	2366961.0739	1752131.4386	56.8'
7	2366948.7138	1752109.1315	60.0'
8	2366945.6563	1752122.0943	60.0'

REV	DATE	DESCRIPTION	BY



CORDOVA FISH PASSAGE IMPROVEMENTS
 SHERIDAN RIVER TRIBUTARY CROSSING
 EROSION AND SEDIMENT CONTROL PLAN
 CORDOVA, ALASKA

PROJECT 1136.63087.01
DATE DECEMBER 2020

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SHEET

C6 OF C6