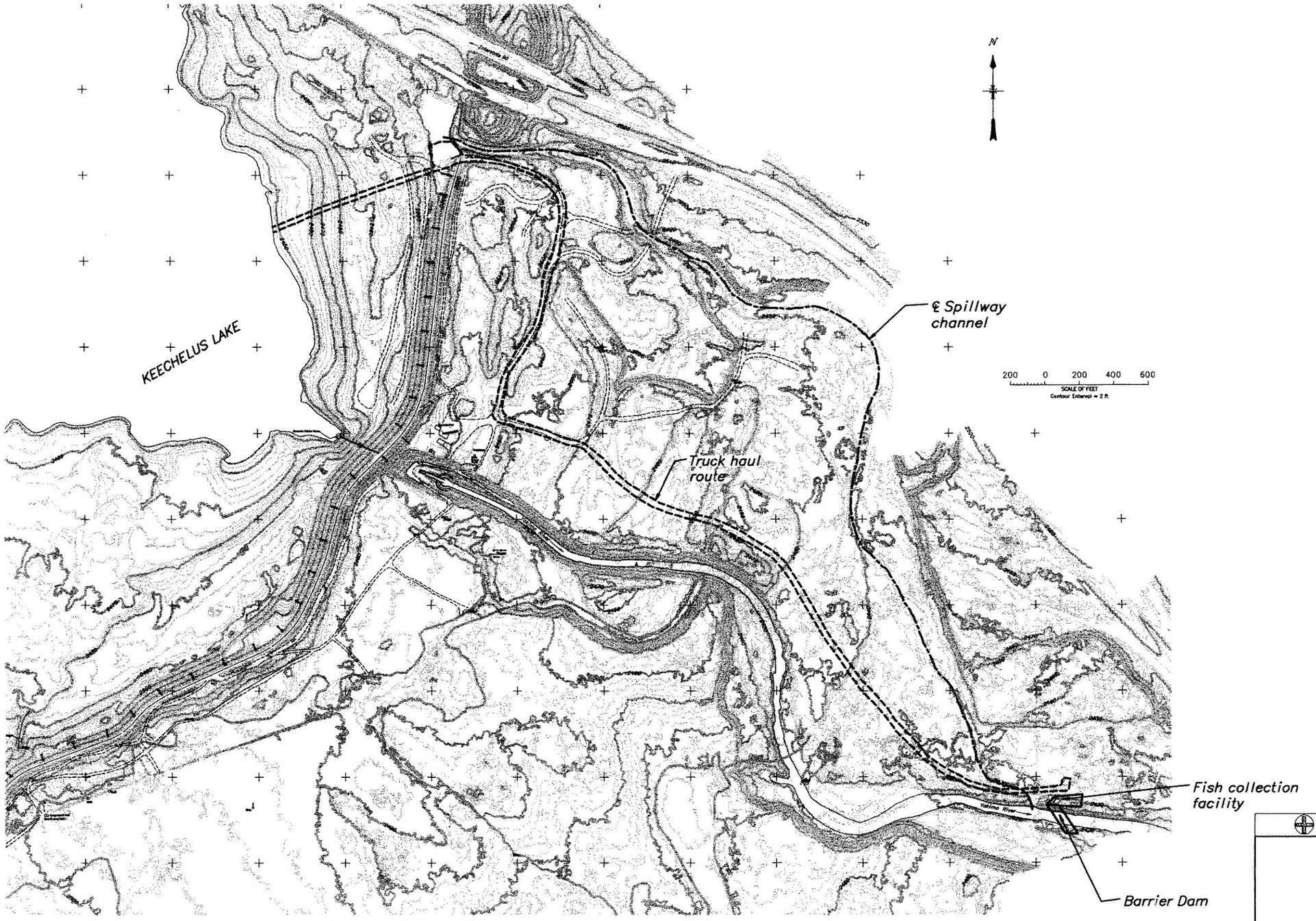
DRAWING 1

No.

Drawing 1



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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

YAKIMA PROJECT – WASHINGTON

KEECHELUS DAM

UPSTREAM PASSAGE

TRAP AND HAUL

CADD SYSTEM AutoCAD Rel. 15.06 BOISE, IDAHO	CADD FILENAME DWG-1.dwg NOVEMBER 2002

DRAWING 1

Specification #

FEBRUARY 19, 2003 09:28
PLOTTED BY

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YAKIMA PROJECT – WASHINGTON

KEECHELUS DAM

UPSTREAM PASSAGE

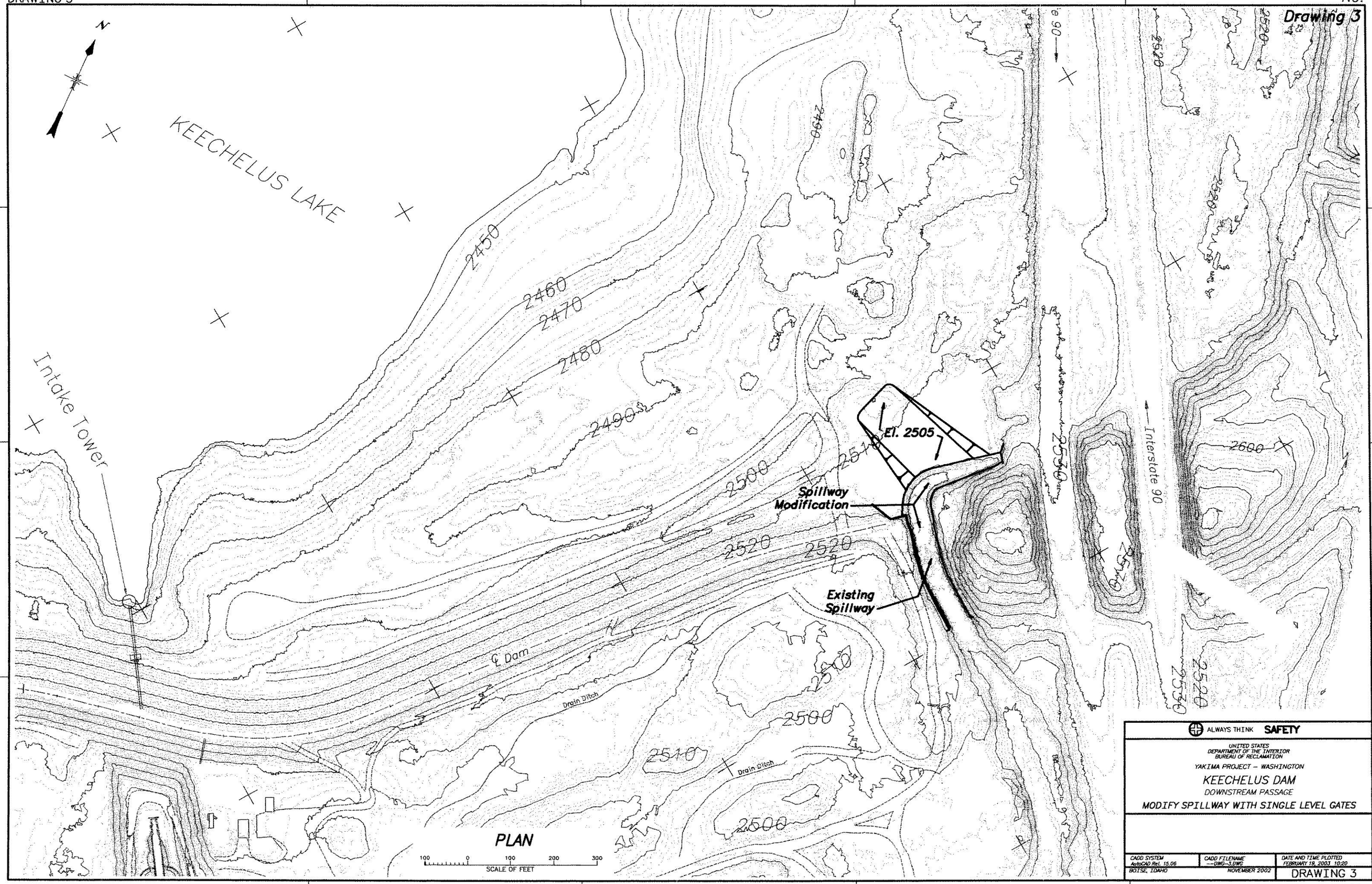
FISH LADDER WITH PUMPED FLOW

CADD SYSTEM AutoCAD Rel. 15.06	CADD FILENAME DRAWING2.DWG	DATE AND TIME PLOTTED FEBRUARY 21, 2003 11:23
BOISE, IDAHO	NOVEMBER 2002	DRAWING 2

DRAWING 3

No.

Drawing 3



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YAKIMA PROJECT – WASHINGTON

KEECHELUS DAM

DOWNSTREAM PASSAGE

MODIFY SPILLWAY WITH SINGLE LEVEL GATES

CADD SYSTEM	CADD FILENAME	DATE AND TIME PLOTTED
AutoCAD Rel. 15.06	--DWG--3.DWG	FEBRUARY 19, 2003 10:20
BOISE, IDAHO	NOVEMBER 2002	DRAWING 3

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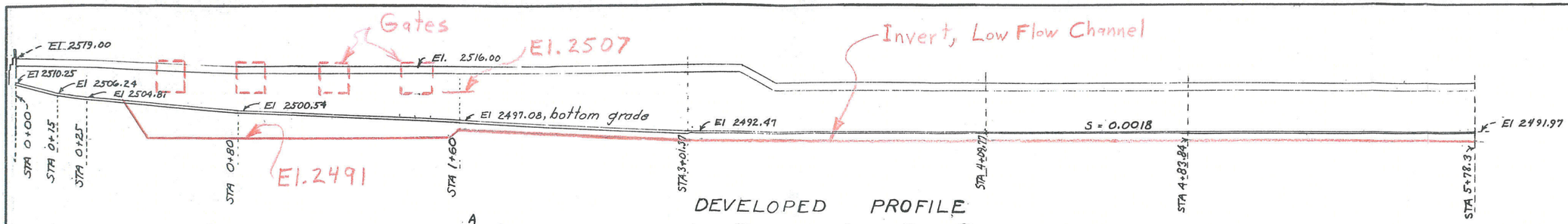
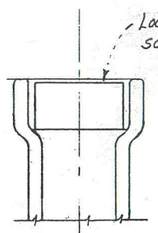
DRAWING 4



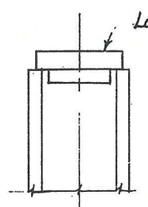
DEVELOPED PROFILE

SCALE OF FEET



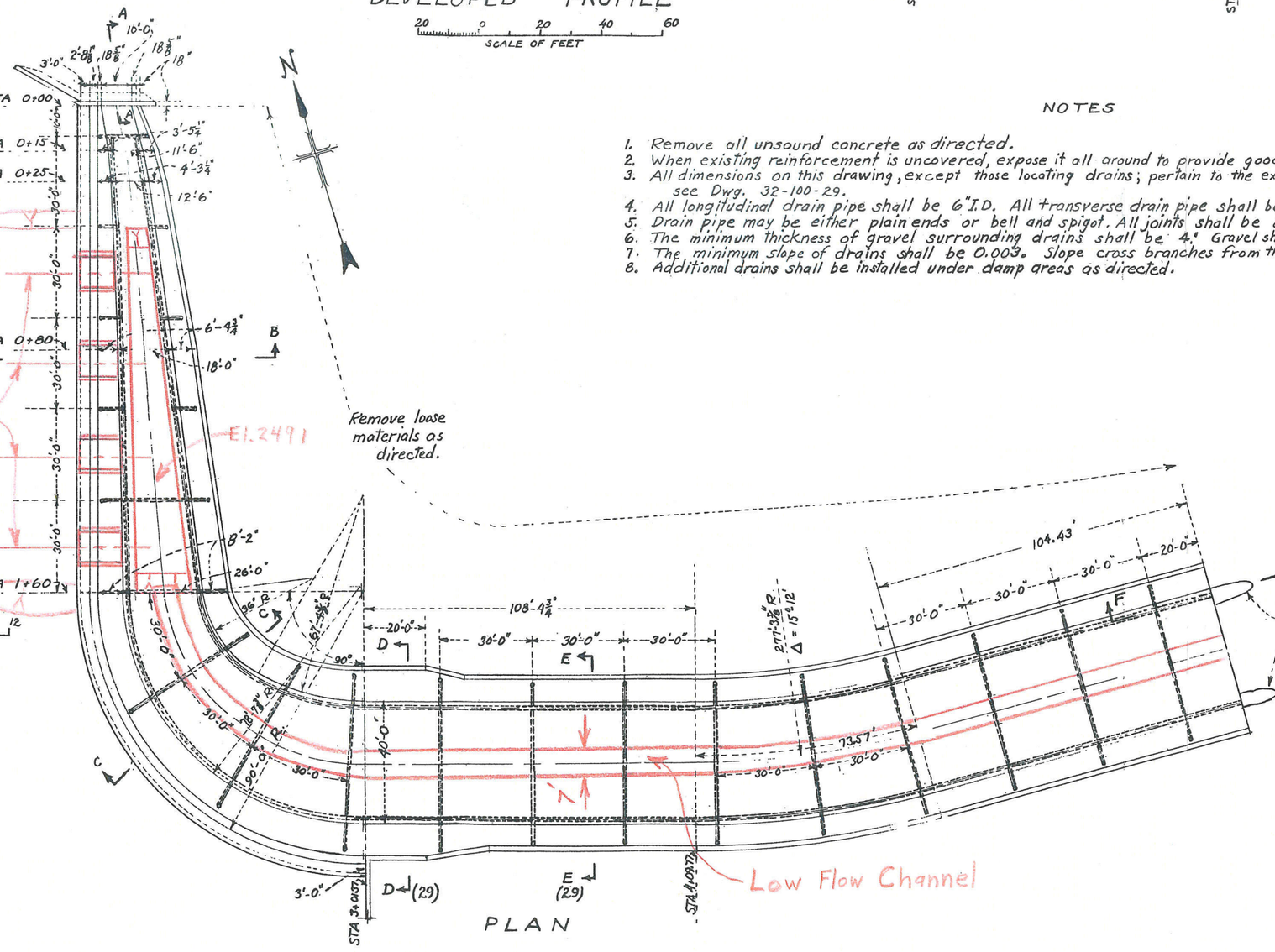
DETAIL OF PLUG
FOR BELL END PIPE

All ends of branch drains shall be plugged. Approx. 37 required.



DETAIL OF PLUG
FOR PLAIN END PIPE

SCALE OF INCHES



PLAN

NOTES

1. Remove all unsound concrete as directed.
2. When existing reinforcement is uncovered, expose it all around to provide good bond in new concrete.
3. All dimensions on this drawing, except those locating drains; pertain to the existing spillway. For neat lines of new concrete, see Dwg. 32-100-29.
4. All longitudinal drain pipe shall be 6" I.D. All transverse drain pipe shall be 4" I.D. Pipe may be clay tile or concrete.
5. Drain pipe may be either plain ends or bell and spigot. All joints shall be open.
6. The minimum thickness of gravel surrounding drains shall be 4". Gravel shall pass a 1½" screen and be retained on a ½" screen.
7. The minimum slope of drains shall be 0.003. Slope cross branches from the spillway center outward to the main drains.
8. Additional drains shall be installed under damp areas as directed.

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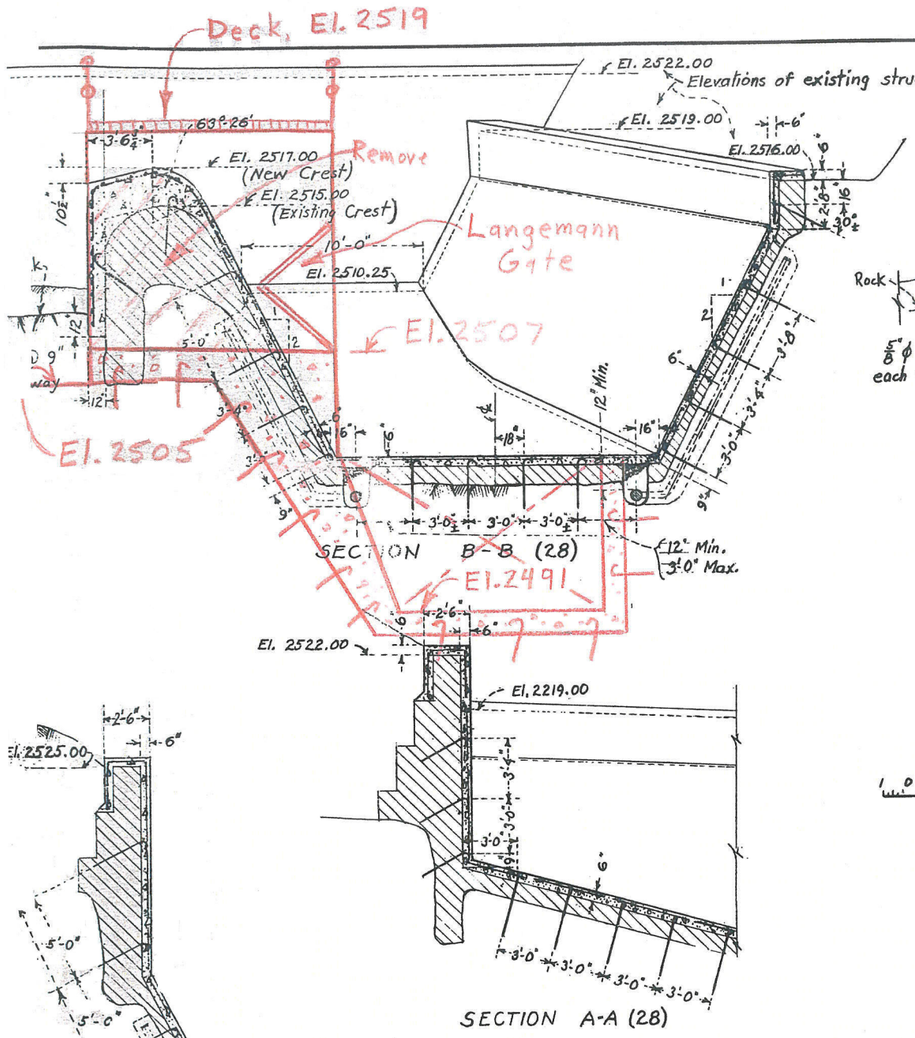
KEECHELUS DAM
DOWNSTREAM PASSAGE
MODIFY SPILLWAY WITH SINGLE LEVEL GATES
DETAIL

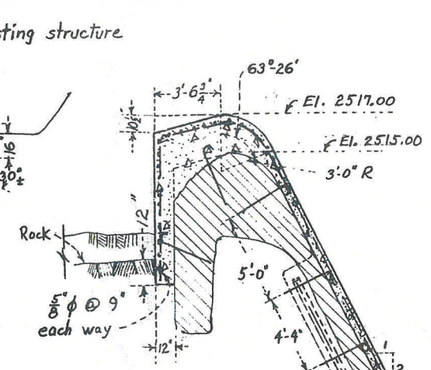
CADD SYSTEM	CADD FILENAME	
CADSTS BOISE, IDAHO	NOVEMBER 2002	DRAWING 4

DRAWING 5

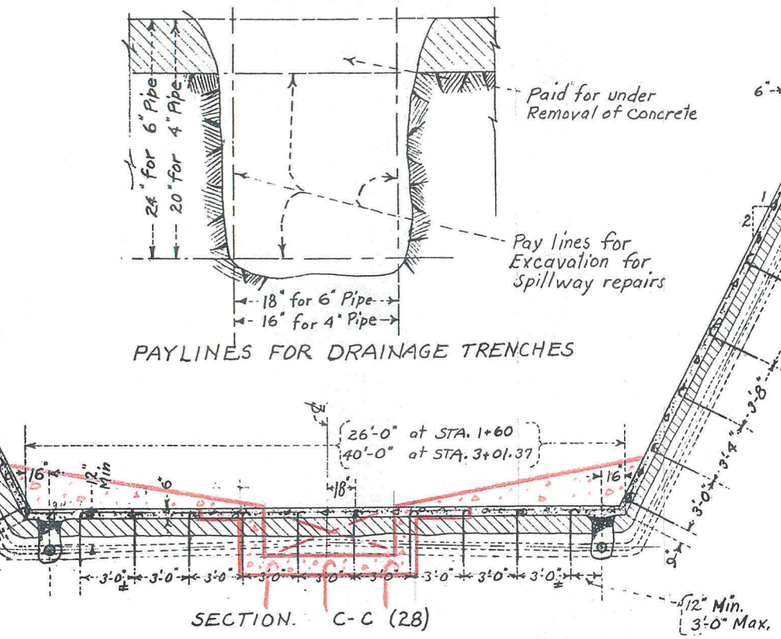


SECTION B-B (28)

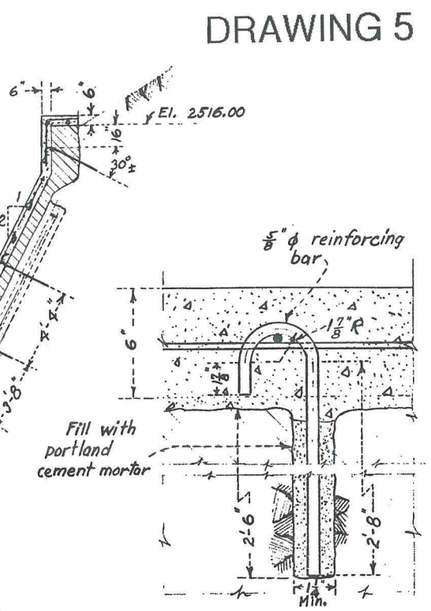
SECTION A-A (28)



PAYLINES FOR DRAINAGE TRENCHES



SECTION C-C (28)



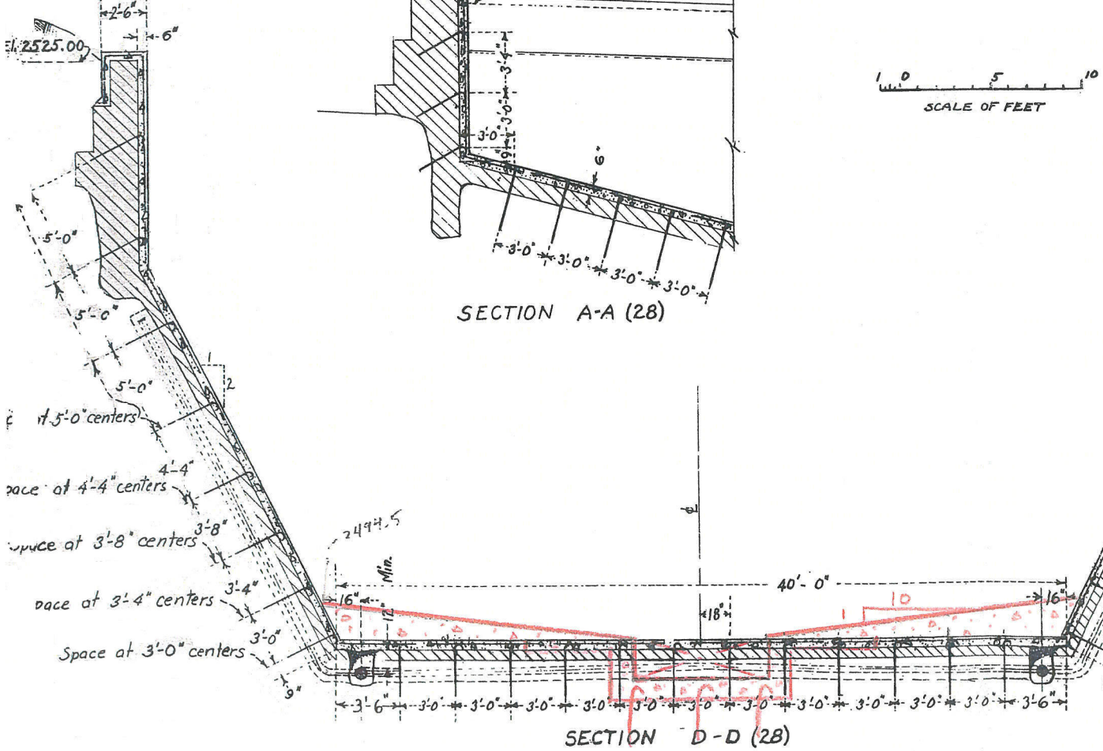
DETAIL OF ANCHOR BAR
APPROX. 3000 REQUIRED

SCALE OF INCHES

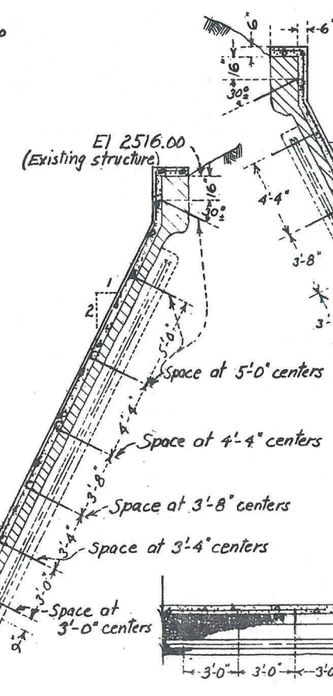
NOTES

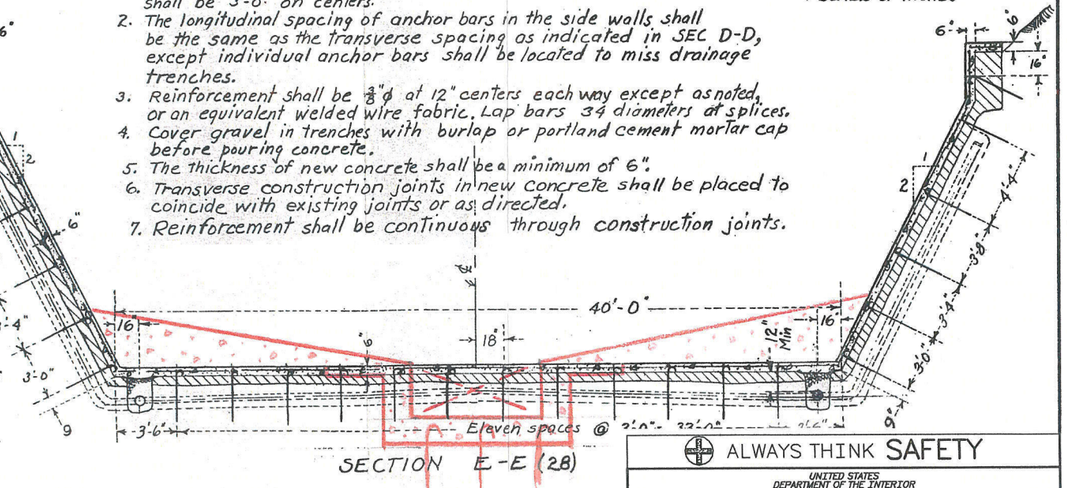
1. The longitudinal spacing of anchor bars in the bottom slab shall be 3'-0" on centers.
2. The longitudinal spacing of anchor bars in the side walls shall be the same as the transverse spacing as indicated in SEC D-D, except individual anchor bars shall be located to miss drainage trenches.
3. Reinforcement shall be 3/8" ϕ at 12" centers each way except as noted, or an equivalent welded wire fabric. Lap bars 34 diameters at splices.
4. Cover gravel in trenches with burlap or portland cement mortar cap before pouring concrete.
5. The thickness of new concrete shall be a minimum of 6".
6. Transverse construction joints in new concrete shall be placed to coincide with existing joints or as directed.
7. Reinforcement shall be continuous through construction joints.

SCALE OF FEET

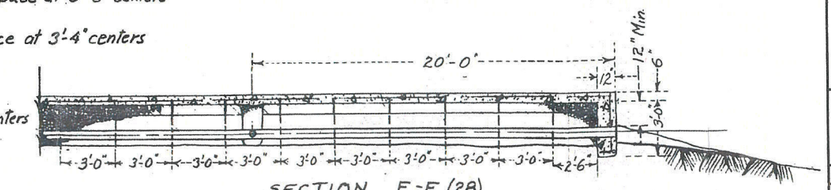


SECTION D-D (28)





SECTION E-E (28)



SECTION F-F (28)

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KEECHELUS DAM
DOWNSTREAM PASSAGE
MODIFY SPILLWAY WITH SINGLE LEVEL GATES
SECTIONS

CADD SYSTEM CADSYS BOISE, IDAHO	CADD FILENAME	
	NOVEMBER 2002	DRAWING 5