ARAPAHOE NWR
DIVERSION RECONSTRUCTION
AS—BUILTS

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DIVERSION RECONSTRUCTION FOR:
HUBBARD #2
OKLAHOMA #1
HILL & CROWDER DRYER

PREPARED BY:

NOTES:
All work shall conform to Construction Specifications 32, Concrete.
In addition, the following is required:
1. The concrete shall a 28 day compressive strength of 4000 psi and
contain a minimum of 6 sacks of Type II (or equal) cement per cubic
yard with a 5%—8% air entraining and slump between 3"—5"
2. Reinforcing bar spacing is center to center of bars. Double mat
reinforcing bars shall have a bar cover clear distance between the
surface of the bars and the surface of the concrete of 2 inches for
formed and top surfaces and 3 inches for surfaces placed against earth.
3. Reinforcing bars shall be continuous from floors, walls, and footers
into adjacent walls, floors, and/or footers.
4. Snap cone ties (3/4") shall be used for forming. All forms shall be
removed prior to placing backfill.
5. All exposed edges shall be chamfered 3/4". All concrete shall be finished
straight, smooth, clean, and neat.
6. All concrete shall be consolidated with a concrete mechanical vibrator.
7. All backfill material shall be minus 3" sands and gravels obtained
from river excavations compacted in 12" lifts with a hand directed
vibrating plate compactor.
8. The rock for riprap and for the weir structure shall be sound and angular
with a minimum density of 2.5. The maximum dimension of the rock shall
be no more than 2.5 times its least dimension. The rock shall be well
graded and range in size from 6" min diameter to 24" max diameter. At
least 60% of the rock shall be larger than 15" diameter.
9. The concrete shall be housed or blanketed and at no time shall the
temperature of the concrete get below 40 degrees F.

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NOVEMBER-SEPTEMBER 2008
STAGING AREA FOR MATERIALS

EX SHEETPILE DIVERSION STRUCTURE TO BE REMOVED

EX TWIN 24" CMP's WITH SLIDE GATE TO BE REMOVED

TOP OF DIVERSION STRUCTURE TO BE 1.1 ABOVE WEIR INLET ELEV=101.0

2' WIDE SLUICE

PROPOSED ROCK DIVERSION USE 3' AVG DIA BOULDERS FOR CORE OF STRUCTURE WITH 45° ANGLE ON RIVER PLACE AT 3:1 SLOPE BOTH UPSTREAM AND DOWNSTREAM OF CORE ROCKS, SEE DETAIL

INV IN PROP WEIR ELEV=100.4 OPEN CONC WEIR STRUCTURE WITH SINGLE SCREW SLIDE GATE 10' LONG X 4' WIDE X 2' HIGH AND 2' LONG WINGWALLS

MOVE DIVERSION POINT 50' DOWNSTREAM AND EXTEND DITCH TO MEET EXISTING DITCH CONSTRUCTION TO BE PERFORMED BY REFUGE STAFF

ILLINOIS RIVER

DRYER DITCH
7.5 CY CONCRETE

PLAN VIEW

1"=3'

SECTION A-A

1"=3'

SECTION B-B

1"=3'

SINGLE SCREW SLIDE GATE
DRILLED AND BOLTED TO
SIDES AND BOTTOM OF THE
FRONT OF CONC. WEIR STRUCTURE

USE #5 REBAR
ON 12" CENTERS
IN BOTH DIRECTIONS

PLACE 12" OF CLASS 6
ROAD BASE ON 12" OF
COMPACTED NATIVE SOIL,
COMPACT IN 6" LIFTS

BLOCK-OUT FOR MESSAGE BOARDS

(SOUTH WIDE FOR OKLAHOMA #1)

(SOUTH WIDE FOR OKLAHOMA #1)
SECTION B-B

1" = 3'

5.8 CY CONCRETE

B

A

B

PLAN VIEW

1" = 3'

SECTION A-A

1" = 3'

SINGLE SCREW SLIDE GATE DRILLED AND BOLTED TO SIDES AND BOTTOM OF THE FRONT OF CONC WEIR STRUCTURE

USE #5 REBAR ON 12" CENTERS IN BOTH DIRECTIONS

2% SLOPE ON BOTTOM OF STRUCTURE

PLACE 12" OF CLASS A ROAD BASE ON 12" OF COMPACTED NATIVE SOIL
COMPACT IN 6" LIFTS

(3" WIDE FOR HILL & CROWDER)

(6'11"

12" THICK CONC FLOOR W/CUTOFF WALL

BLOCK-OUT FOR DROP BOARDS

SINGLE SCREW SLIDE GATE DRILLED AND BOLTED TO SIDES AND BOTTOM OF THE FRONT OF CONC WEIR STRUCTURE

(3" WIDE FOR HILL & CROWDER)

CUTOFF WALL
EXTEND ROCK STRUCTURE A MIN OF 5' INTO EX BANK

DIMENSION VARIES

EDGE OF BANK

ADD SECOND DROP STRUCTURE 3' VERTICAL DROP BETWEEN TOP OF STRUCTURE AND DOWNSTREAM NATURAL GRADE OF CHANNEL EXCEEDS 24'

PROPOSED ROCK DIVERSION. USE 3' AVG DIA BOULDER FOR CORE OF STRUCTURE WITH 18" AVG DIA RAP-RAP RIVER GRAVEL PLACE AT 3:1 SLOPE BOTH UPSTREAM AND DOWNSTREAM OF CORE ROCKS.

DIVERSION STRUCTURE DETAIL PLAN VIEW

DIVERSION STRUCTURE DETAIL CROSS SECTION