6TH AVE ROW

CONST. OUTLET STRUCTURE FOR DOUBLE 8'x6' R.C.B. AND 66" RCP SEE SHEETS IV-5, IV-10

REMOVE PORTION OF EXISTING WINGWALLS THAT INTERFERE WITH CONSTRUCTION.

FOR EXTENSION OF CULVERTS SEE DETAIL SHT. IV-10.

INV. 34.3 31.16 (P.44)

INV. 36.7 36.41

CONST. 54.5' L.F. 66" R.C.P.

EXIST. 15" RCP

EXIST. 15" RCP

PP RELOCATE (BY OTHERS)

EXIST. INLETS

6 TH. AVE.

EXIST. DOUBLE R.C.B.

CONSTRUCT 66" RCP & INLET AS PER DETAILS SHEETS III-8 & IV-9 PROTECT ALL IMPROVEMENTS ON 6TH AVE

N 0° 05' 37" W 244.43'

N 0° 05' 37" W

EXIST. INLET T.H.9

CONC. CUTOFF COLLAR

CONTROL LINE

S 34° 32' 02" E 344.33'

6TH AVE ROW LINE

CONST. 10' WIDE MAINTENANCE ROAD ON NEW EMBANKMENT

CONST. 10.8 L.F. OF 72" CHAIN LINK FENCE (P.38)

BOOK 7919 PAGE 211 ADDITIONAL PROPERTY AQUIRED BY STATE HIGHWAY DEPT.

NEW SHORELINE

REMOVE WINGWALLS AND CONSTRUCT TAPERED INLET PER SHEET IV-9 FOR DOUBLE 8x6 R.C.B.

S 11° 30' 56" W 306.30'

S 24° 38' 56" W 560.78'

6TH AVE. OFF-RAMP

EXISTING 18" CMP

CONSTRUCT NEW MH

EXISTING INLET, EXTEND OUTLET PIPE

EXIST. 15" R.C.P.

INV. = 48.7

T.H. 10 15" RCP

INV. = 45.2

EXISTING INLET INSTALL NEW 15" OUTLET PIPE PLUG EXIST. PIPE AT BOTH ENDS, PROTECT EXIST. POLE & APPURTENANCES. SEE SECTION AT RIGHT

REMOVE EXISTING HEADWALL AND PORTION OF PIPE

CONSTRUCT 10' WIDE PAVED MAINTENANCE ROAD WITH STANDARD DRIVEWAY

Abandoned + Plugged (P.38)

ROW LINE

685 @ CONSTRUCT 50 L.F. OF 15" INV. 47.15 CL III R.C.P. SEE SECTION AT RIGHT (P.39)

CONSTRUCT NEW CONTROLLED DRAIN STRUCTURE & 18" C.S.P. SEE DETAIL ON SHT. IV-7 (P.38)

T.O.W. 64.04

5 TH. AVE.

FEDERAL BLVD.

CONSTRUCT #13 VALLEY INLET & 15" R.C.P. PER SECTION AT RIGHT GRATE ELEV. 52.63.

T.O.W. 60.07

CONSTRUCT WALL PER SHEET IV-7

PP RELOCATE (BY OTHERS)

END WALL BEGIN BERM STA. 2+80

PP PROTECT

CONTROL LINE S 0° 01' 39" E 480'

ALLEY

ROW

TOP OF BERM 60.0

MH RIM = 59.7

EXIST. FENCE REMOVE TO END OF BERM

BL-2 ELEV. = 60.19

BARNUM LAKE

PERMANENT POOL ELEVATION 46.4

100 YEAR STORM:

INFLOW = 3542 cfs
OUTFLOW = 2685 cfs
STORAGE = 180 Ac. Ft.
WATER SURFACE = 58.5 ACRES
WATER SURFACE EL = 58.48

For AS-CONSTRUCTED outline of this sheet see Sheet IV-4A

SCALE 1"=50'

TOP OF BERM EL. 60.0

CONCRETE COLLAR AT JOINT

FLAP GATE SEE DETAIL BELOW

EXISTING 15" R.C.P.

1'-6" 68.5' @ 15" or 18" CL III R.C.P. @ 1.00 %

0.5' TYP

JOIN EXISTING PIPE

6" CLASS A BEDDING

ELEV. 45.4

CONCRETE CUT OFF WALL, SEE DETAILS, SHEET NO. 14

INV. 45.7

INV. 45.2

CONSTRUCT GROUTED RIP RAP SEE DETAIL BELOW

PROFILE OF PIPE EXTENSION

6TH AVE OFF-RAMP

SCALE 1"=20'

SECTION A-A

CONCRETE COLLAR AT JOINT @ 168'

17'-6"

10"

6"

EXIST. 15" R.C.P.

INV. 48.7

INV. 48.2

CONCRETE CUT OFF WALLS, SEE DETAILS, SHEET NO. 14

40' 40' 40'

FLAP GATE SEE DETAIL BELOW

ELEV. 45.4

170' OF 15" CL III R.C.P. @ 0.80 %

CONSTRUCT GROUTED RIP RAP SEE DETAIL BELOW

PROFILE OF NEW OUTLET PIPE

FEDERAL & 6TH AVE.

SCALE 1"=20'

SECTION B-B

TOP OF WALL = 60.0 (P.38) 60.09

CONSTRUCT #13 INLET

GRATE ELEV. 52.63 52.58

28.90'

38' OF 15" CL. III R.C.P. @ 10.33 %

CLASS A BEDDING ©

FLAP GATE (SEE DETAIL BELOW)

CONSTRUCT GROUTED RIPRAP (SEE DETAIL BELOW)

ELEV. 45.4

1' TYP.

INV. 51.16

INV. 47.52

PROFILE OF NEW INLET & OUTLET AT 5TH AVE

SCALE 1"=20'

SECTION C-C

15" R.C.P.

15" DIA. ARMCO MEDIUM DUTY FLAT BACK FLAP GATE OR APPROVED EQUAL

3'-0"

6"

#4@10" EA. WAY

5'-1"

12" THICK TYPE "D" GROUTED RIP RAP & 6" FILTER BLANKET

SECTION

ELEVATION

TYPICAL HEADWALL & GATE

SCALE 1"=2'

65

60

55

50

45

CREST OF PROPOSED EMBANKMENT EL. 60.0

CONCRETE WALL

EXISTING ALLEY GRADE

CREST OF EXISTING EMBANKMENT

EXISTING GROUND AT PROPOSED EMBANKMENT

5TH AVENUE

EXISTING DOUBLE 8'x6' BOX.

NORMAL POOL ELEV. 46.4

PROPOSED 66" Ø

PROFILE OF PROPOSED EMBANKMENT

SCALE 1"=50'

DESCRIPTION OF REVISIONS	NO.	DATE	NAME
As Constructed per F.B. 94G, Page as indicated	<1>	28 Sept 81	DJD/JAT
" " " Prod. Engr: © = Bob Chester	<2>	"	"

REVISED

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
WASTEWATER MANAGEMENT DIVISION
PROJECT NO. W75-048
WEIR GULCH DRAINAGE IMPROVEMENTS
EMBANKMENT AND CONDUIT PLAN
BARNUM LAKE EMBANKMENT IMPROVEMENTS

Gingery Associates, Inc. CONSULTING ENGINEERS 2960 SOUTH VALLEJO STREET ENGLEWOOD, COLORADO 80110 TELEPHONE 303 761 2660

DATE	SCALE	DESIGN RJM	SHEET NO. IV-4	DRAWING NO.
2-19-77	AS SHOWN	DRAWN SWB	OF 19 SHEETS	DI-03-75
		CHECKED		

11/1/79

REMOVE EXISTING WINGWALLS OF DOUB. 8'x6' R.C.B. AND CONSTRUCT NEW INLET STRUCT. AND WINGWALL SEE STRUCT. DETAIL SHT. IV-9

STA. 3+86.04 END 8'x6' R.C.B. INLET STRUCTURE

10' MAINT. ROAD

STA. 3+55.54 END EX. DOUB. 8'x6' R.C.B.

EXISTING FENCE TO BE REMOVED AND RE-ESTABLISHED WITHIN CONSTRUCTION LIMITS

EXIST. POWER POLE

EXIST. DOUBLE 8'x6' R.C.B.

REMOVE PORTION OF EXISTING WINGWALLS THAT INTERFERE WITH CONSTRUCTION AND JOIN TO NEW DOUBLE 8'x6' R.C.B. SEE STRUCTURE DETAIL SHEET IV-14 & 15

P.T. 0+42.54 BEGIN EX. DOUB. 8'x6' R.C.B.

R = 57.71'
Δ = 34°06'
T = 17.70'
L = 34.35'

STA. 0+17.95 END JUNCTION STRUCTURE BEGIN DOUB. 8'x6' R.C.B.

TRANSITION JUNCTION STRUCTURE
SEE SHEET NO IV-14

STA. 0+00 DOUB. 8'x6' R.C.B. (EQUATION STATION)
STA. 39+11.36 ℄ 66" RCP

P.54 103' CONSTRUCT 108 L.F. OF 48" CHAIN LINK FENCE

30.1'

T.H. #9

CONSTRUCT SQUARE CONCRETE CUTOFF COLLAR

25'

40'

289.63' P35 273 L.F. OF 96 INCH LINER PLATE TO BE TUNNELED AT CONTRACTOR OPTION

T.H. #8 P.C. 0+48.19

DOUBLE 8'x6' R.C. BOX

34°05'53"

17.75'

P.32 Def. 12°52'36"

18.9'

EXISTING CHAIN LINK FENCE (PROTECT)

34.80 P34 44.49' L.F. OF 66" CLASS III RCP

(℄ SHOWS 35.25')

STA. 39+26.86 END JUNC. STRUCT. BEGIN 66" RCP

9.60'

DOUBLE 12'x8' R.C. BOX SEE SHEET IV-10

CONSTRUCT CULVERT HEADWALL AND INLET STRUCTURE. SEE STRUCT. DETAIL SHT. IV-9

STA. 42+99.99 END INLET STRUCT.

STA. 42+80.99 END REDUCER BEGIN INLET STRUCT.

STA. 42+75.92 END 66" R.C.P. REDUCED 72"x66" REDUCED

36' ℄ 34 L.F. OF 66" CLASS III RCP

TOP OF BERM

STA. 42+43.55 END TUNNELED 66" ECP

6TH AVE. GRADE

289.63' ℄ P35 273 L.F. OF 66 INCH RCP TO BE INSTALLED IN A 96 INCH TUNNELED LINER PLATE OR TO BE JACKED INTO PLACE.

"℄ is 0.40' E. OF ℄ A.C." P.35

6TH AVE. EASTBOUND

MEDIAN

6TH AVE. WESTBOUND

6TH AVE. GRADE

STA. 39+26.86 TO 0+99.99 BEGIN TUNNELED 66" R.C.P.

NOTE: DRILL HOLES AT 12" CENTERS IN END FACES OF THE EXISTING CONCRETE BOX CULVERT AT STA. 0+84.54 AND STA. 3+55.54 TO FACILITATE THE GROUTING OF #4 DOWELS x 3'-0" LONG. DOWELS ARE TO PROJECT 18" INTO NEW CONSTRUCTION. DRILLING AND GROUTING SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE FOR REINFORCING STEEL.

SCALE 1"=20'

STA. 42+99.99 END INLET STRUCT.

STA. 42+80.99 END REDUCER BEGIN INLET STRUCT.

STA. 42+75.92 END 66" R.C.P. 72"x66" REDUCED

TOP OF BERM 20.00

MAINT. ROAD

EXISTING CHAIN LINK FENCE

℄ 6TH AVE.

TEST HOLE #9 SEE SHEET IV-6

P.36 54.29

46.97

46.4

46.12

18"

4 @ 12" E.W., E.F.

INV. ELEV. (STAKED) 38+00 38.14

INV. ELEV. 38.07

P.36

P.35

273 L.F. OF 96" LINER PLATE TO BE TUNNELED AT CONTRACTORS OPTION

EXISTING DOUBLE 8'x6' R.C.B.

PROPOSED 66" RCP

INV. ELEV. 34.37

P.35

TEST HOLE #8 SEE SHEET IV-6

EXISTING GROUND LINE

CONSTRUCT 64.60' of DOUBLE 8'x6' R.C. BOX SEE SHT. IV-10 & IV-14 FOR DETAILS

P.34

REMOVE PORTION OF EXISTING OUTLET STRUCTURE THAT INTERFERES WITH CONSTRUCTION.

DOUBLE 12'x8' R.C. BOX CULVERT @ 5.34%

INV. ELEV. 34.00 33.19

STAKED P.33 INV. ELEV. 34.46 33.97

18.15'

STA. 39+26.86 END JUNCTION BOX

STA. 39+11.36 BEGIN 66" RCP

367.60' of 12x8 RCB

34.8' P.34 48.25' PER ℄

44' L. CL. III RCP @ 1.00%

P.35

31 + 62.59

STA. 39+10.99 BEGIN 66" TUNNELED RCP

NOTE: CONTRACTOR TO INSTALL 273 L.F. OF 96 INCH TUNNEL LINER WITH 66 INCH CLASS III ECP OR SUBSTITUTE 273 L.F. OF 66 INCH CLASS IV RCP JACKED INTO PLACE.

℄ SHOWS 30.6' P.36

30.40'

3 L.F. CL. III ECP @ 1.00%

5 L.F. 72"x66" R.C.P. ECCENTRIC REDUCED

289.63' P35

~~273~~ L.F. OF 66 INCH CLASS III RCP @ 1.00 % (TUNNELED) OR
273 L.F. OF 66 INCH CLASS IV RCP @ 1.00 % (JACKED IN PLACE)

5255 5250 5245 5240 5235 5230

43+00 42+00 41+00 40+00 38+00 39+00

AS CONSTRUCTED

DESCRIPTION OF REVISIONS	NO.	DATE	NAME
As Constructed per F.B. 25C Page as indicated	1	28Sep81	SLD/JAT
" " " Coast Proj. Engr. (@ Box Culverts)	2	" "	" "
" " " M. Dilla, Field Check	3	9Oct81	Tracy

REVISED

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
WASTEWATER MANAGEMENT DIVISION
PROJECT NO. W 75-048
WEIR GULCH DRAINAGE IMPROVEMENTS
CONDUIT & OUTLET PLAN & PROFILE
BARNUM LAKE EMBANKMENT IMPROVEMENTS

Gingery Associates, Inc. CONSULTING ENGINEERS 2840 SOUTH VALLEJO STREET ENGLEWOOD, COLORADO 80110 TELEPHONE 303 761-4842

DATE 2-19-77 | SCALE 1"=20' HORIZ. 1"=5' VERT. | DESIGN RDS DRAWN PDL CHECKED DRS | SHEET NO. IV-5 OF 19 SHEETS | DRAWING NO. DI-03-75

11-1-79

3 (WHY THE 66" NEW TUNNEL IS 16' LONGER: PASAL USED ONE JOINT OF 66" JACK PIPE 8" LONG TO PUSH THE PIPE TO 0+00 (BEGIN TUNNEL). AS THE RIG AND RAILS WERE SET UP, THE EXTRA PIPE WAS NEEDED BECAUSE THE JACKING DEVICE COULDN'T REACH STA 0+00. THE OTHER 8' WAS AN APPARENT MISCALCULATION OR ERROR FROM THE PLANS.