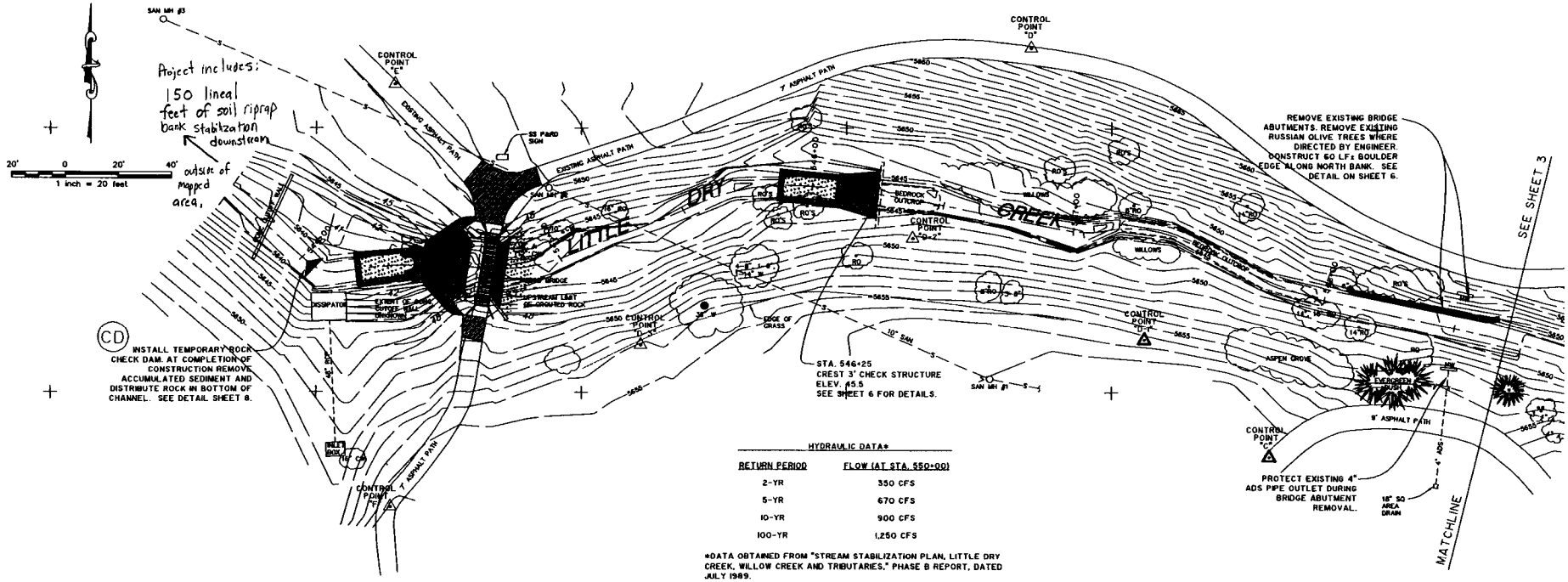
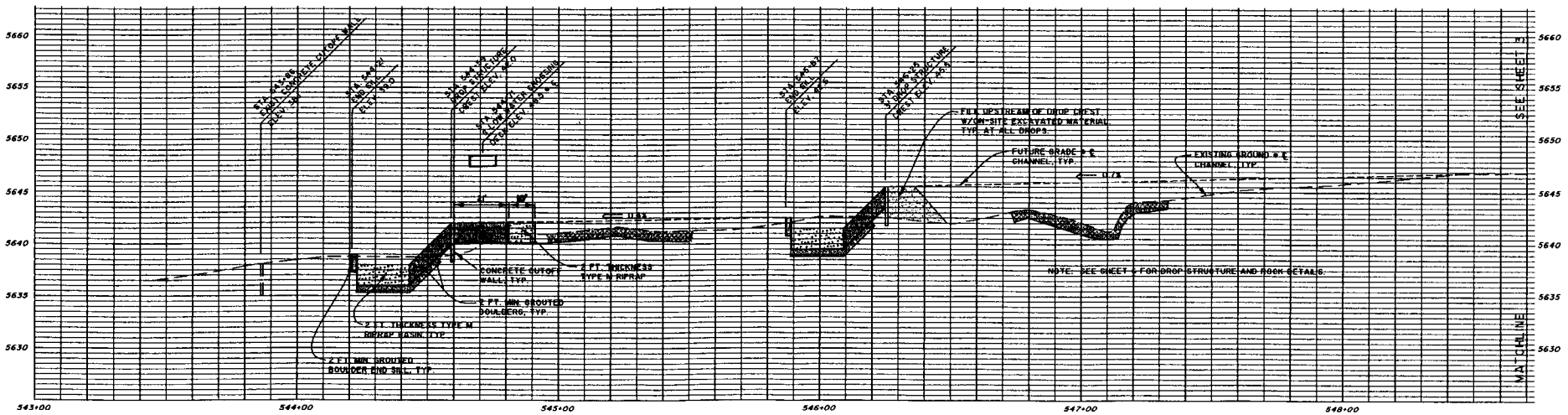


HYDRAULIC DATA*

RETURN PERIOD	FLOW (AT STA. 550+00)
2-YR	350 CFS
5-YR	670 CFS
10-YR	900 CFS
100-YR	1,250 CFS

*DATA OBTAINED FROM "STREAM STABILIZATION PLAN, LITTLE DRY CREEK, WILLOW CREEK AND TRIBUTARIES," PHASE B REPORT, DATED JULY 1989.
AVERAGE LOW FLOW CHANNEL CAPACITY = 300 CFS. @ 4 FT. DEPTH.

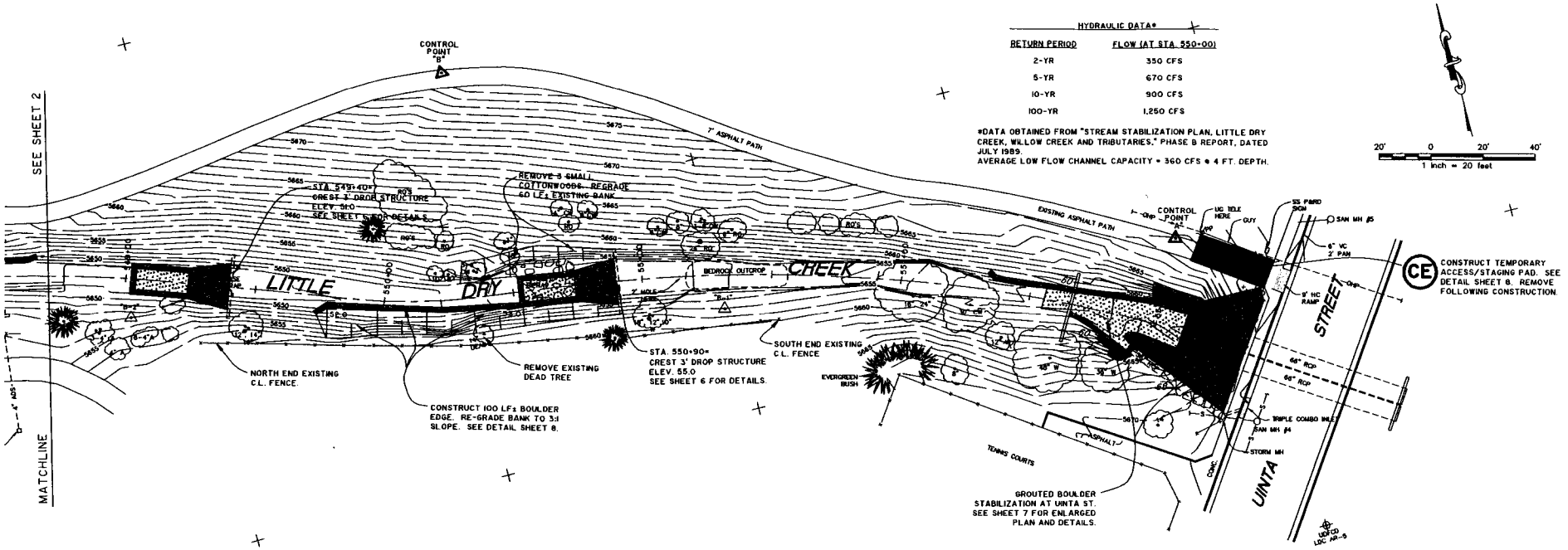


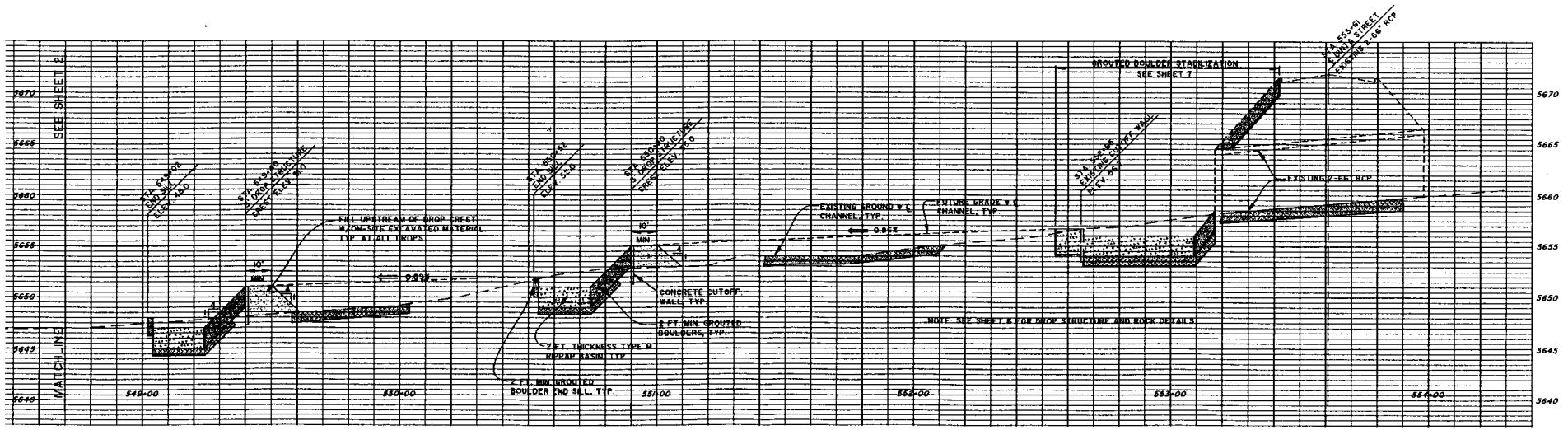
GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:		DESIGN: DATE: DRAWN: DATE: CHECKED: DATE: REVIEWED: DATE:		URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	PLAN AND PROFILE STA. 544+00 TO STA. 548+70	Sheet 2 of 8

FILE NAME: LDC-UINTA-PP.DWG
PLOT DATE: 11/21/2002 JOB NUMBER: 500467

HYDRAULIC DATA*	
RETURN PERIOD	FLOW (AT STA. 550+00)
2-YR	350 CFS
5-YR	670 CFS
10-YR	900 CFS
100-YR	1,250 CFS

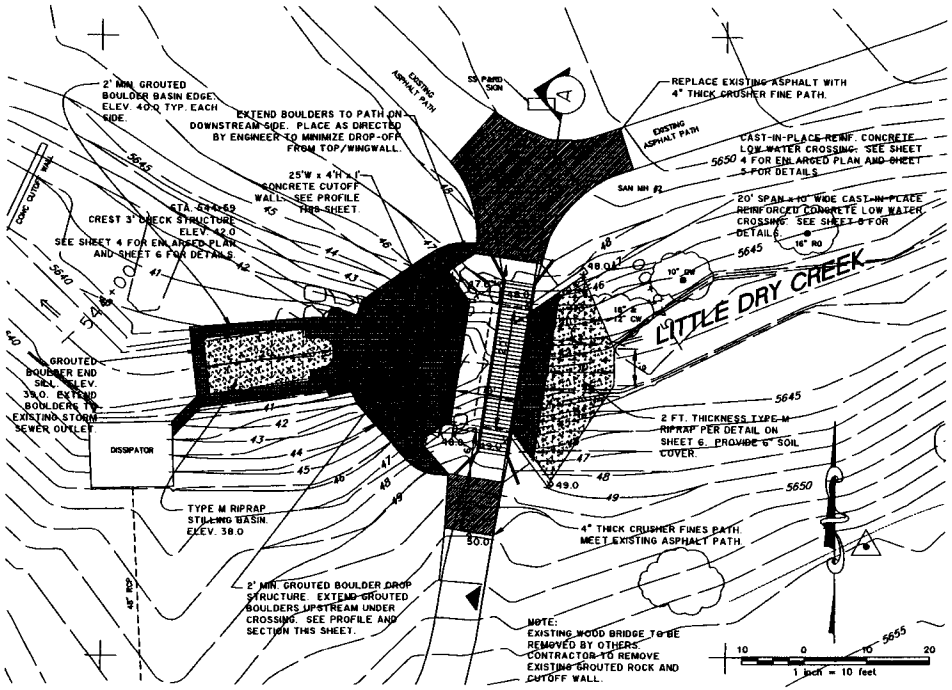
*DATA OBTAINED FROM "STREAM STABILIZATION PLAN, LITTLE DRY CREEK, WILLOW CREEK AND TRIBUTARIES," PHASE B REPORT, DATED JULY 1989.
AVERAGE LOW FLOW CHANNEL CAPACITY = 360 CFS @ 4 FT. DEPTH.



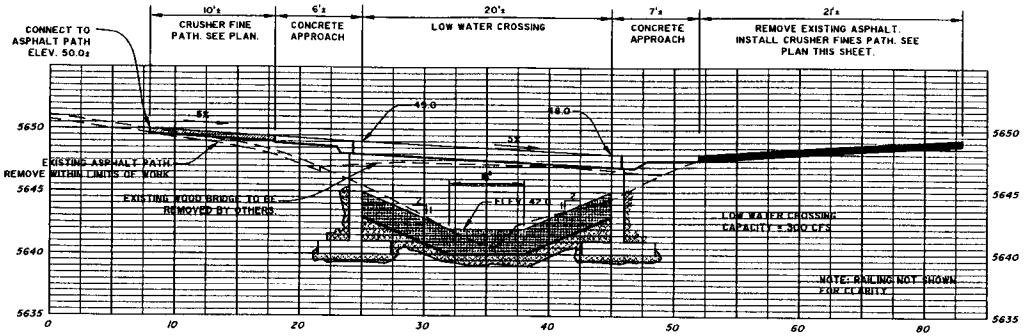


GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:		DESIGN: DATE: DRAWN: DATE: CHECKED: DATE: REVIEWED: DATE:	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	PLAN AND PROFILE STA. 548+70 TO STA. 554+00	Sheet 3 of 8

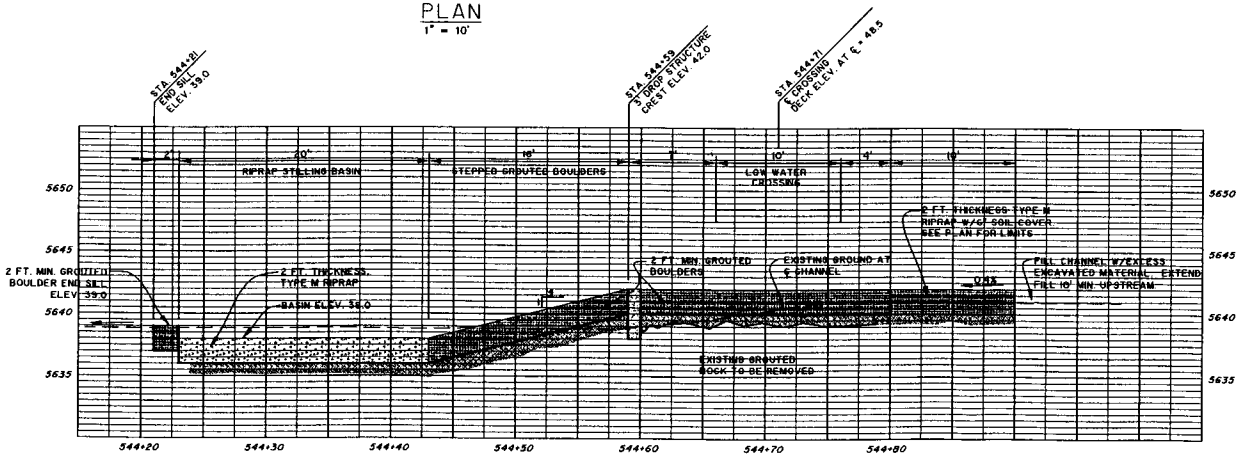
PLOT DATE: 11/21/2002 JOB NUMBER: 500467 FILE NAME: LDC-UINTA-PP.DWG



PLAN
1" = 10'



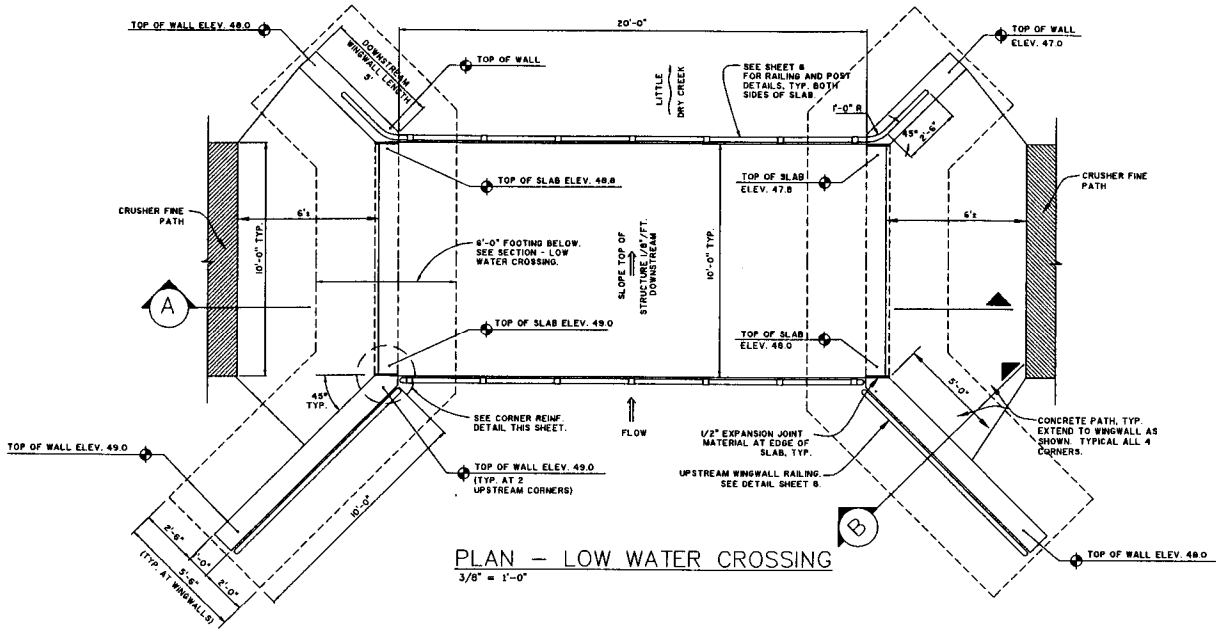
A SECTION AT UPSTREAM EDGE OF CROSSING
1" = 5'-0" HORIZONTAL & VERTICAL
VIEW LOOKING DOWNSTREAM



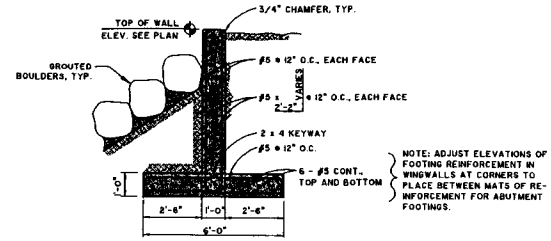
PROFILE ALONG ℄ CHANNEL
1" = 5'-0" HORIZONTAL & VERTICAL

GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:		DESIGN: DATE: DRAWN: DATE: CHECKED: DATE: REVIEWED: DATE:	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	LOW WATER CROSSING PLAN AND SECTIONS	Sheet 4 of 8

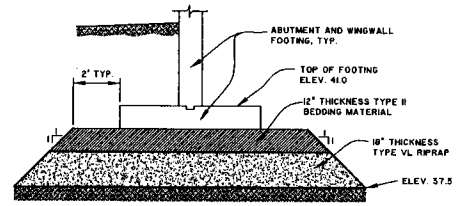
PLOT DATE: 11/19/2002 JOB NUMBER: 500467 FILE NAME: LDC-UINTA-PP.DWG



PLAN – LOW WATER CROSSING
3/8" = 1'-0"

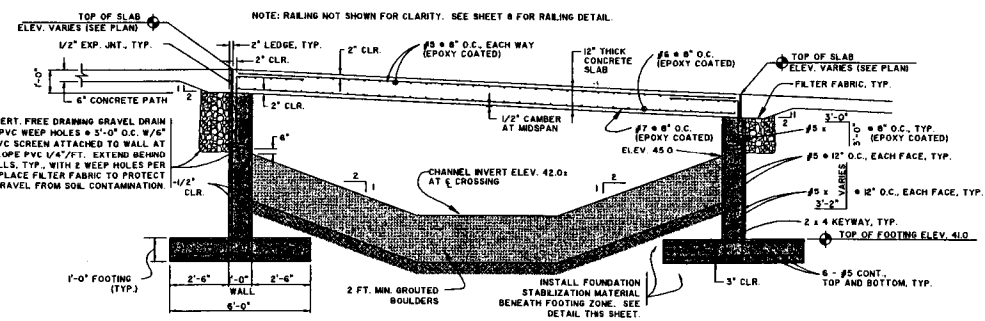


SECTION – WINGWALL (B)
3/8" = 1'-0"



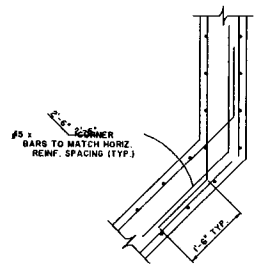
DETAIL–FOUNDATION STABILIZATION
3/8" = 1'-0"

NOTE:
INSTALL WATER CONTROL & DEWATERING MEASURES TO MAINTAIN WATER LEVEL AT OR BELOW ELEVATION 37.5 FOR INSTALLATION OF FOUNDATION STABILIZATION.

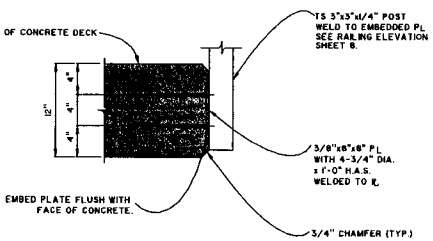


SECTION – LOW WATER CROSSING (A)
3/8" = 1'-0"

LOW WATER CROSSING CAPACITY = 300 CFS



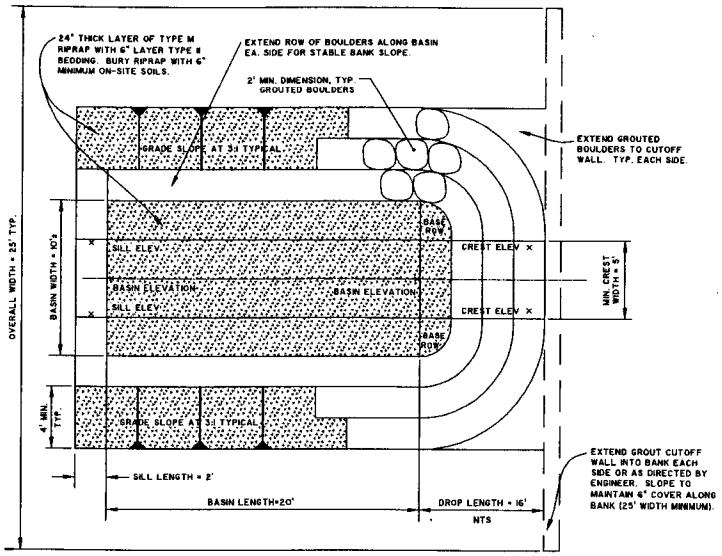
CORNER REINFORCEMENT DETAIL
NTS



POST ATTACHMENT DETAIL
1-1/2" = 1'-0"

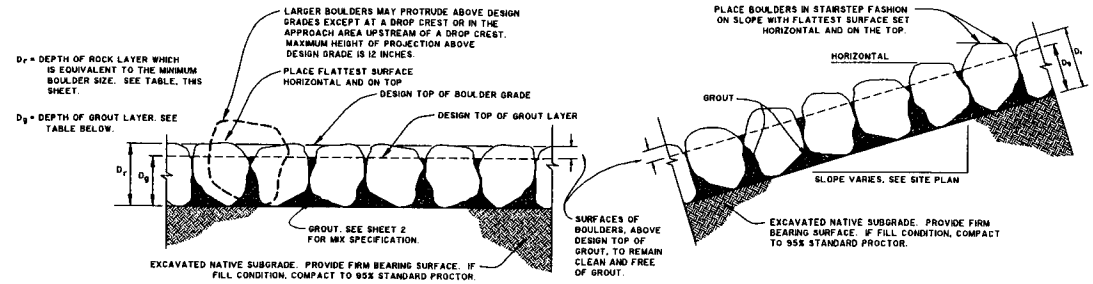
GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:	Mile High Water	DESIGN: DATE: DRAWN: ERH DATE: CHECKED: DATE: REVIEWED: DATE:	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	LOW WATER CROSSING DETAILS	Sheet 5 of 8

PLOT DATE: 01/27/2003 JOB NUMBER: 500487 FILE NAME: UINTA-LOWATER-CROSSING.DWG



TYPICAL DROP STRUCTURE PLAN

1"=4'

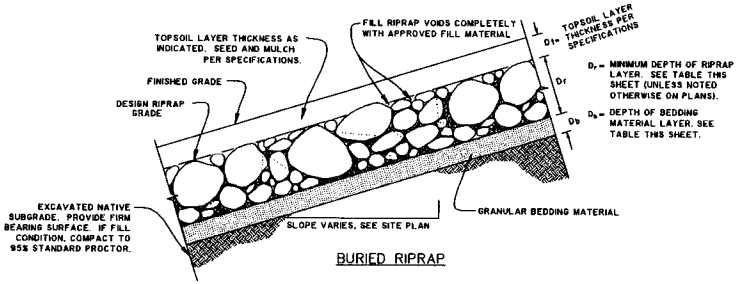


USED THIS PROJECT	D_r	D_g
	18	12
X	24	16
	30	24
	36	28
	42	32
ALL DIMENSIONS IN INCHES		

NOTES:
1. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIALS FROM ROCK THAT COULD PREVENT THE GROUT FROM BONDING TO ROCK. FINAL PLACEMENT OF BOULDERS TO BE APPROVED BY THE ENGINEER PRIOR TO GROUTING.
2. PLACE GROUT BY INJECTION METHODS TO FILL VOIDS TO THE SPECIFIED GROUT DEPTH. CLEAN EXCESS GROUT FROM ALL EXPOSED SURFACES.
3. THE CONTRACTOR SHALL CONTROL GROUT MIX AND PLACEMENT PROCEDURES TO ACHIEVE THE SPECIFIED THICKNESS AND GRADE OF THE GROUT LAYER.
4. UP TO 20% OF ROCK MAY PROTRUDE ABOVE DESIGN GRADE, EXCEPT AT THE DROP CREST AREA WHERE NO ROCK SHALL EXCEED D_r

TYPICAL GROUTED BOULDER PLACEMENT

NTS



BURIED RIPRAP

USED THIS PROJECT	RIPRAP TYPE	D_{50}	D_r
	VL	6	11
	L	9	16
X	M	12	24
	H	18	32
	VH	24	42
ALL DIMENSIONS IN INCHES			

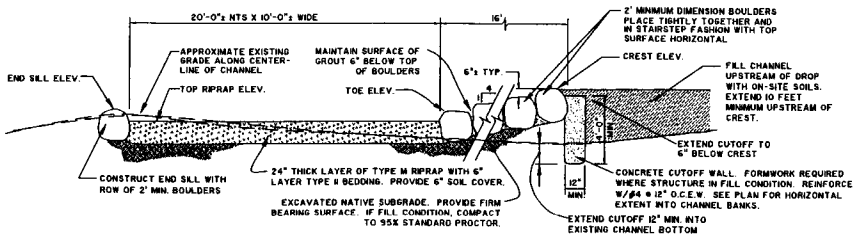
NOTES:
1. EXPOSED AND BURIED RIPRAP DETAILS ARE APPLICABLE TO FLAT OR SLOPED AREAS. REFER TO THE SITE PLAN FOR ACTUAL LOCATION AND LIMITS OF EACH TYPE.
2. REFER TO SPECIFICATIONS FOR MATERIALS AND PLACEMENT REQUIREMENTS FOR RIPRAP AND GRANULAR BEDDING MATERIAL.
3. GENERAL PLACEMENT TECHNIQUES SHOULD RESULT IN LARGER ROCK AT THE SURFACE WITH ROCK SECURELY INTERLOCKED AT THE DESIGN THICKNESS AND GRADE. COMPACTION AND LEVELING SHOULD RESULT IN MINIMAL VOIDS AND PROJECTIONS ABOVE GRADE. TYPICAL FOR BOTH BURIED AND EXPOSED RIPRAP.

TYPICAL RIPRAP PLACEMENT

NTS

RIPRAP TYPE	D_b - MINIMUM BEDDING THICKNESS (INCHES)	
	FINE GRAINED SOILS TYPE I + TYPE II = TOTAL	COARSE GRAINED SOILS* TYPE II
VL, L	4 + 4 = 8	6
M	4 + 4 = 8	6
H	4 + 6 = 10	8
VH	4 + 6 = 10	8

*50% OR MORE BY WEIGHT RETAINED ON THE #40 SIEVE.
AT THE CONTRACTOR'S OPTION, A 12-INCH LAYER OF TYPE II BEDDING MAY BE SUBSTITUTED FOR THE COMBINATION LAYER OF TYPE I AND TYPE II BEDDING OVER IN-SITU FINE GRAINED SOILS.



TYPICAL SECTION THROUGH DROP STRUCTURE

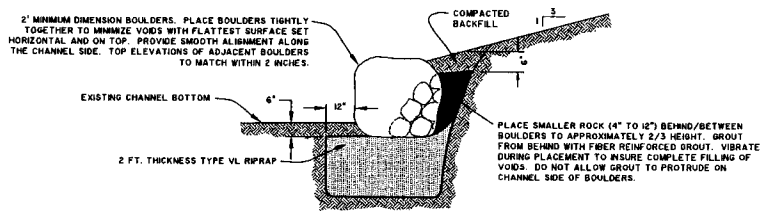
1" = 4'

DROP STRUCTURE ELEVATION TABLE

LOCATION	CREST STA. 544+59	CREST STA. 546+23	CREST STA. 549+40	CREST STA. 550+90
CREST ELEV.	42.0	45.5	51.0	55.0
TOE ELEV.	38.0	41.5	47.0	51.0
BASIN ELEV.	38.0	41.5	47.0	51.0
END SILL ELEV.	39.0	42.5	48.0	52.0

GROUTED BOULDER PLACEMENT FOR CHECK STRUCTURES:

1. INSTALL WATER CONTROL MEASURES
2. EXCAVATE TO SUBGRADE ELEVATION AND PLACE ON FIRM BEARING SURFACE.
3. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIALS FROM ROCK TO ENSURE A GOOD BOND WITH THE GROUT.
4. PLACE GROUT BY PUMPING METHOD MINIMIZING SPILLAGE ONTO ROCK. CLEAN GROUT SPILLAGE FROM ALL EXPOSED ROCK SURFACES. MAINTAIN LEVEL OF GROUT 6" BELOW TOP OF BOULDERS.

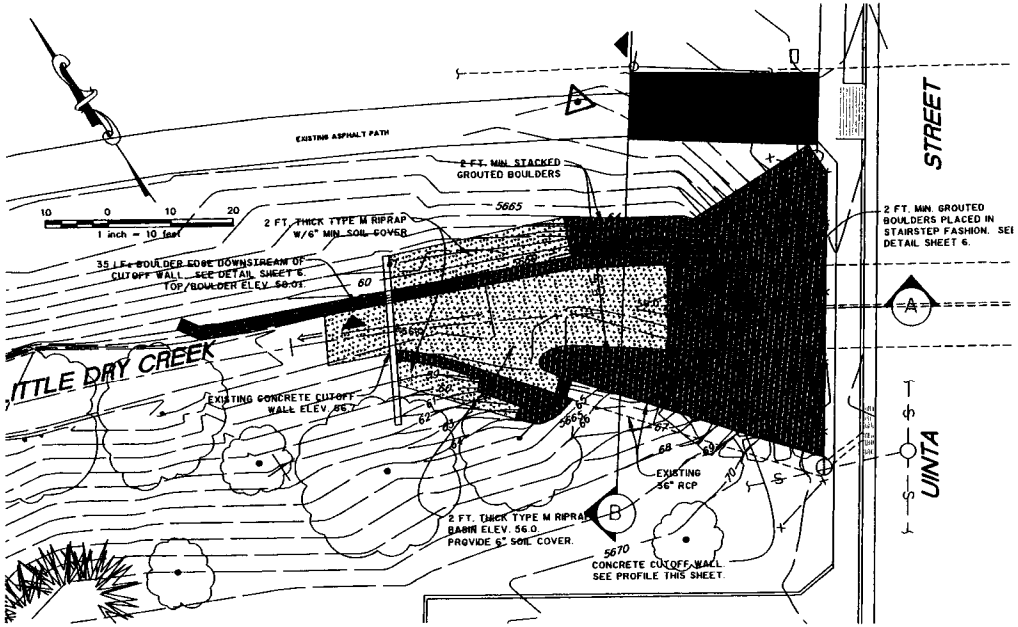


BOULDER EDGE DETAIL

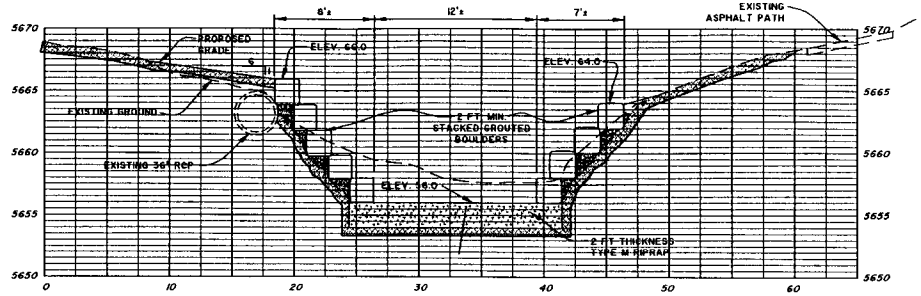
1"= 2'-0"

GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:	Mountain Water GIS	DESIGN: DATE: DRAWN: DATE: CHECKED: DATE: REVIEWED: DATE:	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	CHECK STRUCTURE AND ROCK DETAILS	Sheet 6 of 8

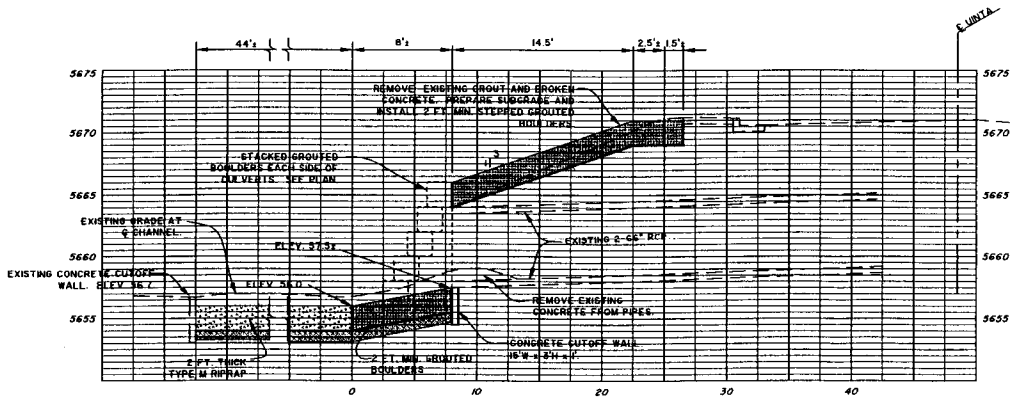
PLOT DATE: 01/22/2003 JOB NUMBER: 500467 FILE NAME: UINTA-CHECK-ROCK-DETAILS.DWG



PLAN
1" = 10'



B SECTION DOWNSTREAM OF CULVERTS
1" = 5'-0" HORIZONTAL & VERTICAL VIEW LOOKING DOWNSTREAM



A SECTION ALONG ℄ CHANNEL
1" = 5'-0" HORIZONTAL & VERTICAL

GROUND POINT SURVEY BY: AERIAL PHOTOGRAPHY BY: TOPOGRAPHIC MAPPING BY: CONTOUR INTERVAL: DATE:	McLaughlin Water	DESIGN: DATE: DRAWN: DATE: CHECKED: DATE: REVIEWED: DATE:	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT SOUTH SUBURBAN PARKS AND RECREATION	LITTLE DRY CREEK IMPROVEMENTS DOWNSTREAM OF UINTA STREET	UINTA STREET ENLARGED PLAN AND DETAILS	Sheet 7 of 8

PLOT DATE: 01/23/2003 JOB NUMBER: 500467 FILE NAME: LDC-UINTA-PP.DWG