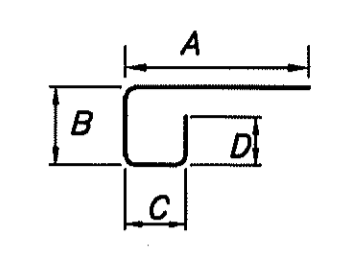
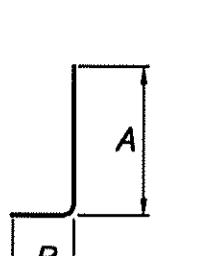


**ESTIMATED QUANTITIES** CALC. MEF DATE: 4/8/05 CHK'D KJO DATE: 4/8/05

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	GEN.	SEE SHEET
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION	LUMP	
509	10000	9932	LB.	EPOXY COATED REINFORCING STEEL	9932	
511	46000	5	CU YD	CLASS C CONCRETE, HEADWALL	5	
511	46000	32	CU YD	CLASS C CONCRETE, WINGWALL	32	
511	46500	65	CU YD	CLASS C CONCRETE, FOOTING	65	
512	33000	223	SQ YD	TYPE 2 WATERPROOFING	223	
518	21200	24	CU YD	POROUS BACKFILL WITH FILTER FABRIC	24	
603	70000	74.62	LIN FT	CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE FLAT TOPPED THREE SIDED CULVERT (9x9)	74.62	
864	10100	88	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	88	

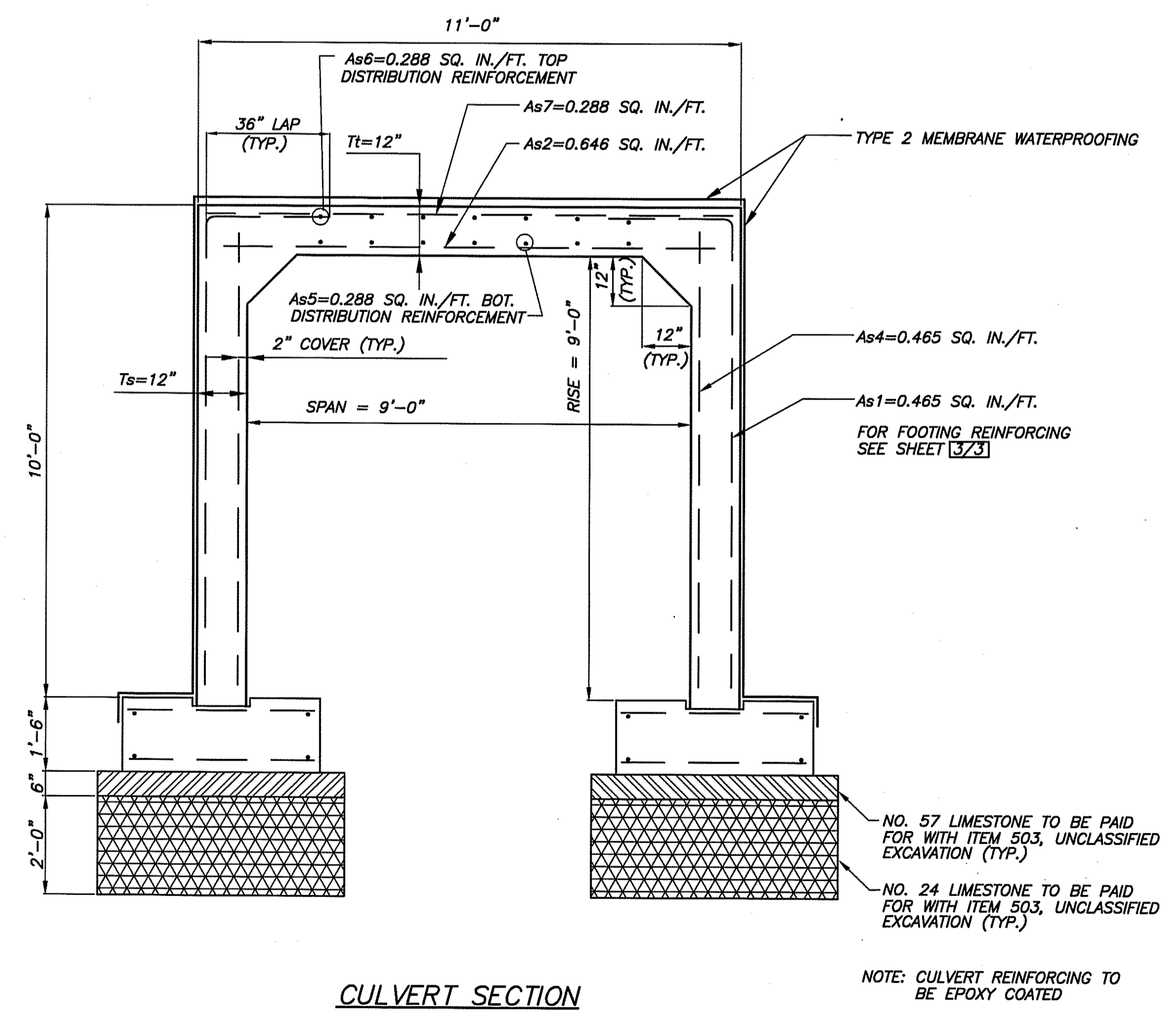
BENDING DIAGRAMS

TYPE 1      TYPE 2

MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	INCR.	A	B	C	D
FOOTINGS									
F501	24	18'-3"	457	ST					
F502	24	24'-6"	613	ST					
F503	4	14'-8"	61	ST					
F504	4	19'-6"	81	ST					
F505	68	9'-4"	662	1		5'-6"	2'-0"	1'-0"	1'-2"
F506	68	5'-6"	390	ST					
F507	148	9'-2"	1415	2		8'-3"	1'-0"		
F508	32	7'-8"	256	ST					
F509	276	3'-6"	1008	ST					
F510	60	27'-0"	1690	ST					
2									
W501	SER	6'-9" TO 14'-7"	356	ST	6 1/4"				
	OF 16								
W502	20	14'-6"	302	ST					
2									
W503	SER	0'-6" TO 13'-11"	121	ST	23"				
	OF 8								
2									
W504	SER	6'-9" TO 14'-3"	460	ST	4 1/2"				
	OF 21								
W505	20	19'-6"	407	ST					
2									
W506	SER	0'-9" TO 18'-6 1/2"	161	ST	30 1/2"				
	OF 8								
2									
W507	SER	6'-9" TO 12'-4 1/2"	320	ST	4 1/2"				
	OF 16								
2									
W508	SER	0'-9" TO 13'-3"	88	ST	30"				
	OF 6								
2									
W509	SER	6'-9" TO 12'-7"	423	ST	3 1/2"				
	OF 21								
2									
W510	SER	1'-1" TO 18'-2"	121	ST	41"				
	OF 6								
W511	8	10'-7"	88	ST					
W512	8	8'-7"	72	ST					
W513	20	10'-6"	219	ST					
W514	11	4'-6"	52	ST					
W515*	11	4'-6"	52	ST					
W516	11	2'-6"	29	ST					
W517*	11	2'-6"	29	ST					
TOTAL =			9932						

\* - PROVIDE THREADED END



DESIGN AGENCY: HAMMOND & ASSOCIATES, LTD.  
 ENGINEERS, PLANNERS, SURVEYORS  
 CANTON, PITTSBURGH, ARRON  
 DATE: 4-8-05  
 REVISION: CJP  
 DRAWN: MEF  
 DESIGNED: MEF  
 CHECKED: KJO  
 STRUCTURE FILE NUMBER  
 LIONS PARK DEVELOPMENT  
 LIONS PARK DRIVE CULVERT DETAILS  
 OVER UNNAMED STREAM  
 2 / 3  
 7b