Rip-Rap Sizing

FIRST CROSSING

100-YEAR FLOW	230	CFS
CULVERT AREA	50.75	SF
V=Q/A	4.53	FPS

RIP RAP SIZING EQUATION
ISBASH EQUATION

$D= (V^2)/(2G(C^2)(S-1))$

D=MEDIAN DIAMETER OF SPHERICAL STONE OR ROCK
C=ISBASH CONSTANT, 0.86 FOR HIGHLY TURBULENT AND 1.2 FOR LOW TURBULENCE
G=ACCELERATION DUE TO GRAVITY, 32.17 FT/SEC^2
S=SPECIFIC GRAVITY OF STONE OR RACK, TYPICALLY 2.65
V=WATER VELOCITY APPROACHING RIPRAP

C=	0.86		
G=	32.17		
S=	2.65		
D=	0.26	FT	
	3.14	INCHES	minimum size rip-rap diameter