



- NOTE:**
- Dimensions not labeled are in millimeters.
  - See Standard M619-1 for reinforcing steel size and grade.
  - See Standard M619-2 for cattle guard wing details. Fabricate end units to accommodate selected cattle guard wing.
  - Minimum soil bearing 19 500 kg/m<sup>2</sup>. Place units in fine aggregate bed 75 mm thick over hand leveled soil compacted to not less than 95 percent density.
  - Chamfer exposed concrete edges 20 mm unless otherwise shown. Give all concrete surfaces a Class 1 finish.
  - Approved alternate designs may be used.

PRECAST CATTLE GUARD REINFORCING STEEL AND CONCRETE					
UNIT	No. of BARS	BAR MARK	LENGTH	MASS kg	CONCRETE m <sup>3</sup>
1.6 m END	7	B3	2100	11.5	1.23
	10	B2	1850	14.5	
	8	B1	425	4.7	
	6	B4	650	3.1	
	18	B6	1750	14.1	
1.6 m INTERIOR	6	B5	900	4.2	1.00
	8	B3	2100	13.2	
	10	B2	1650	13.0	
	12	B4	650	6.1	
	18	B6	1750	24.7	
2.4 m INTERIOR	8	B5	900	5.7	1.32
	8	B3	2100	13.2	
	10	B2	2250	17.7	
	12	B4	650	6.1	
	20	B6	1750	27.5	
2.4 m END	8	B5	900	5.7	1.56
	7	B3	2100	11.5	
	10	B2	2450	19.2	
	8	B1	425	4.7	
	6	B4	650	3.1	
	20	B6	1750	27.5	
	6	B5	900	4.2	

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
FEDERAL LANDS HIGHWAY

**METRIC STANDARD**

**CATTLE GUARD PRECAST FOUNDATION**

STANDARD APPROVED FOR USE 3/1996  
REVISED: 11/1997

STANDARD  
**M619-3**

NO SCALE

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