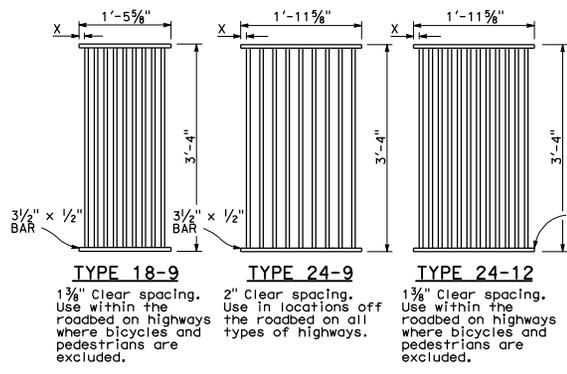


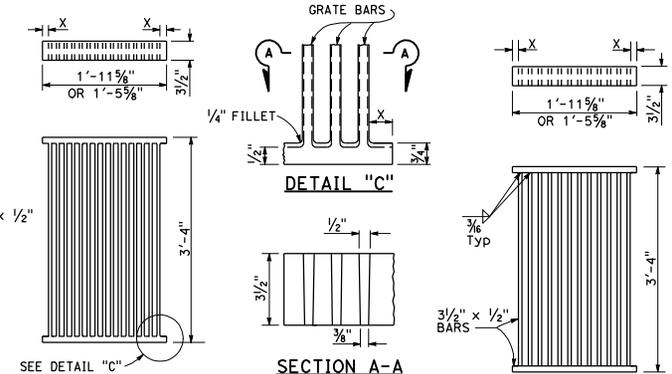
D16+	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS

Raymond Don Isztos  
 REGISTERED CIVIL ENGINEER  
 No. C37332  
 Exp. 6-30-12  
 CIVIL  
 STATE OF CALIFORNIA

May 20, 2011  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OF AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

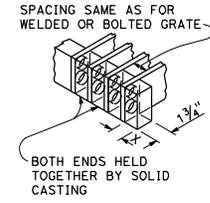
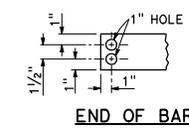
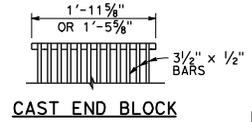


**RECTANGULAR GRATE DETAILS**  
(See table below)

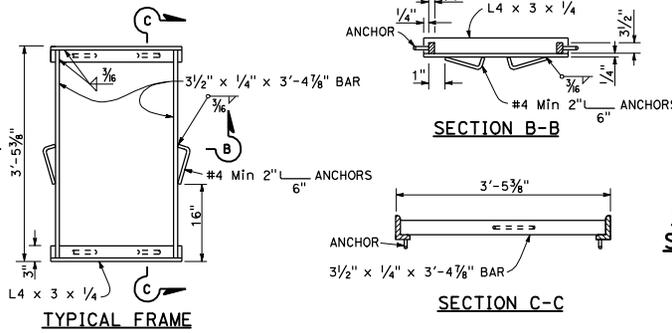
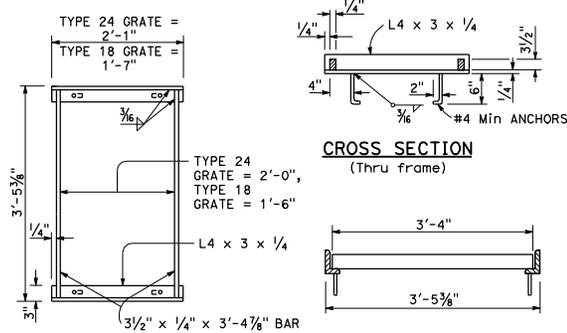


**ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE**

**ALTERNATIVE WELDED GRATE**



- NOTES:**
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
  2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
  3. Rounded top of bars optional on all grates.
  4. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
  5. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
  6. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
  7. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



**ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME**  
(For details not shown, See Rectangular Frame Details)

**ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE**

**TYPICAL FRAME**  
**LONGITUDINAL SECTION**  
(Thru frame and grate)

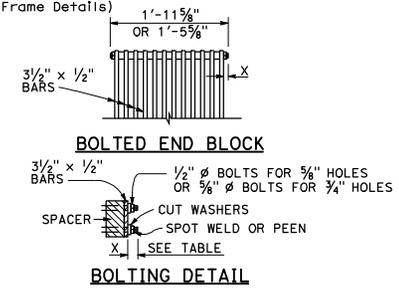
**RECTANGULAR FRAME DETAILS**  
(For all rectangular grates)

**GRATE BAR SPACING TABLE**

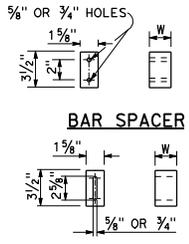
TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/8"
24-9	9	2"	1 3/8"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCF	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
	18-9	2	498
	18-9	2	498
	24-12	2	652
	24-12	2	652
TRASH RACK			22



**ALTERNATIVE BOLTED GRATE**



**ALTERNATIVE SPACER**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**GRATE DETAILS**

NO SCALE

**D77A**

**BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS**  
(See Note 7)