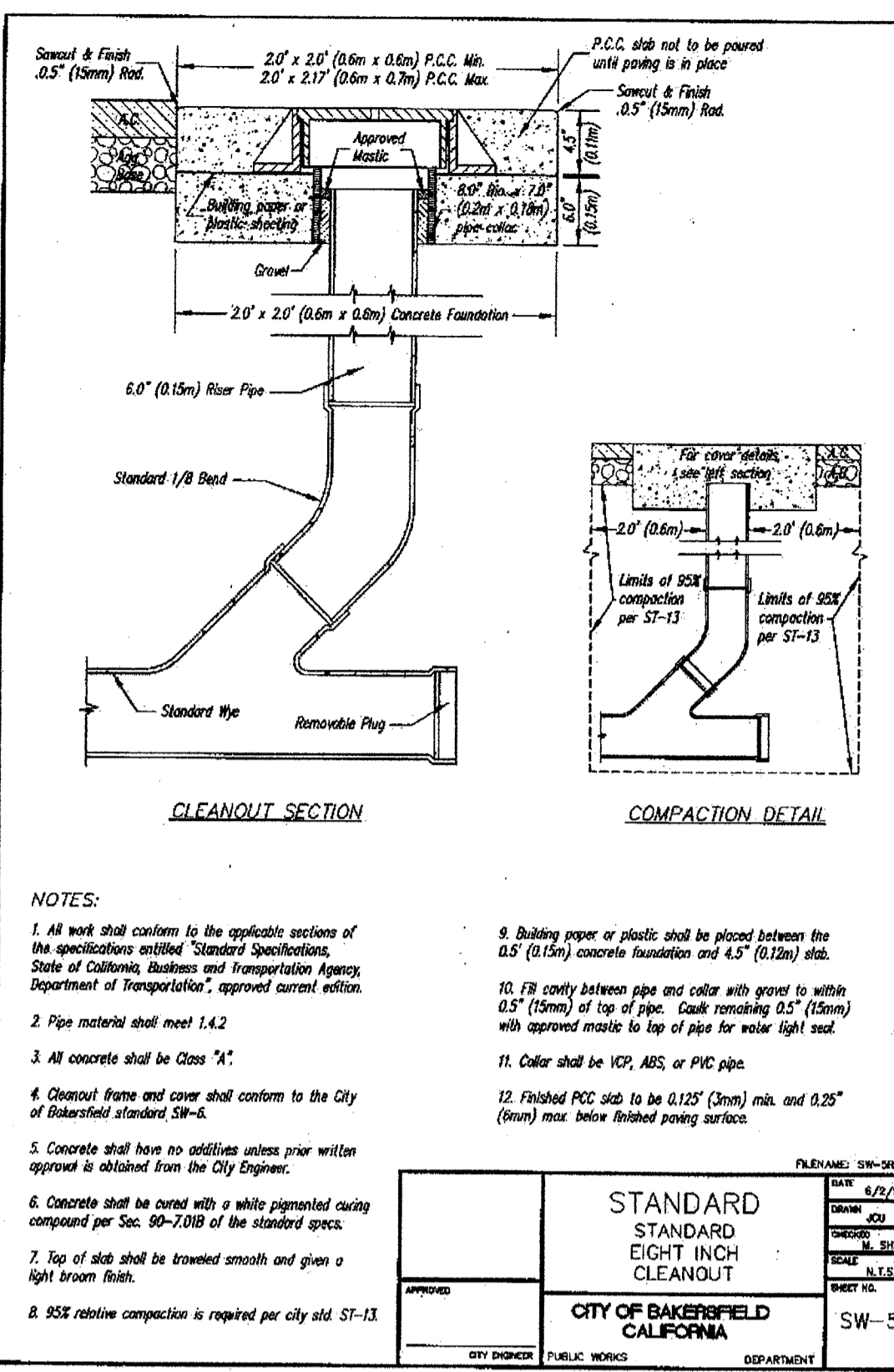
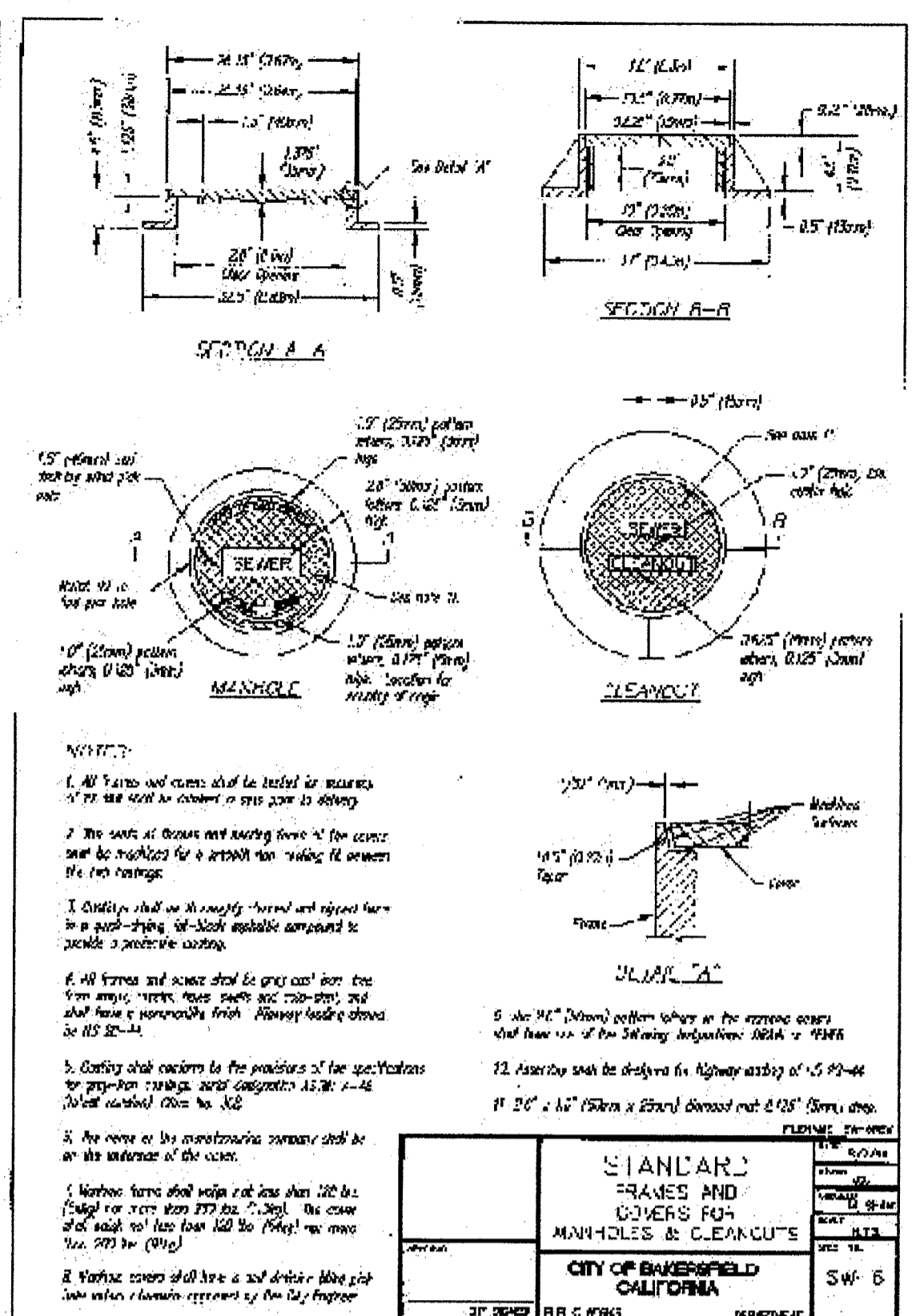


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FILE NAME: SW-5REV	DATE: 02/29/99	BY: JLS	CHECKED: JLS
ISSUED: 02/29/99	REVISED: 02/29/99	REVISED: 02/29/99	REVISED: 02/29/99
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FILE NAME: SW-6REV	DATE: 02/29/99	BY: JLS	CHECKED: JLS
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### Welded Steel Grates with Cross Bars 77% Open Flow Area

Light Duty

H-20 Traffic Loading

Welded steel grates for "U" series catch basins to meet job specifications.  
Individual city, county, district or state requirement information available on request.  
See catch basin page for frame details.  
ASK availability for all sizes.

Ordering Code	Item	Approx. Shipping Weight	Description
U21-NT	GRATE	35	28 1/2" x 28 1/2" (673 x 673 mm) welded, galvanized, non-traffic
U21-HT	GRATE	75	28 1/2" x 28 1/2" (673 x 673 mm) welded, galvanized, H/20 traffic
U32-HT	GRATE	112	28 1/2" x 38" (673 x 955 mm) welded, galvanized, H/20 traffic
U36-HT	GRATE	155	28 1/2" x 50" (673 x 1270 mm) welded, galvanized, H/20 traffic
U43-HT	GRATE	232	36 1/2" x 40" (902 x 1016 mm) welded, galvanized, H/20 traffic
U52-HI	GRATE	280	40" x 4 1/2" (1016 x 1200 mm) welded, galvanized, H/20 traffic

All grates are galvanized, bicycle proof, and bolt down.

**Oldcastle Precast®**  
Enclosure Solutions  
WATER RESOURCES DEPARTMENT  
MANAGER - WATER RESOURCES DEPARTMENT  
PHONE: (800) 468-7474 FROM (800) 468-8808  
WWW.OLDCASTLEPRECAST.COM

**STEEL GRATES**  
FILE NAME: OMLUNSTO\_50  
ISSUE DATE: January, 2008

**WELDED STEEL GRATES**  
Christy

### U23 CATCH BASIN

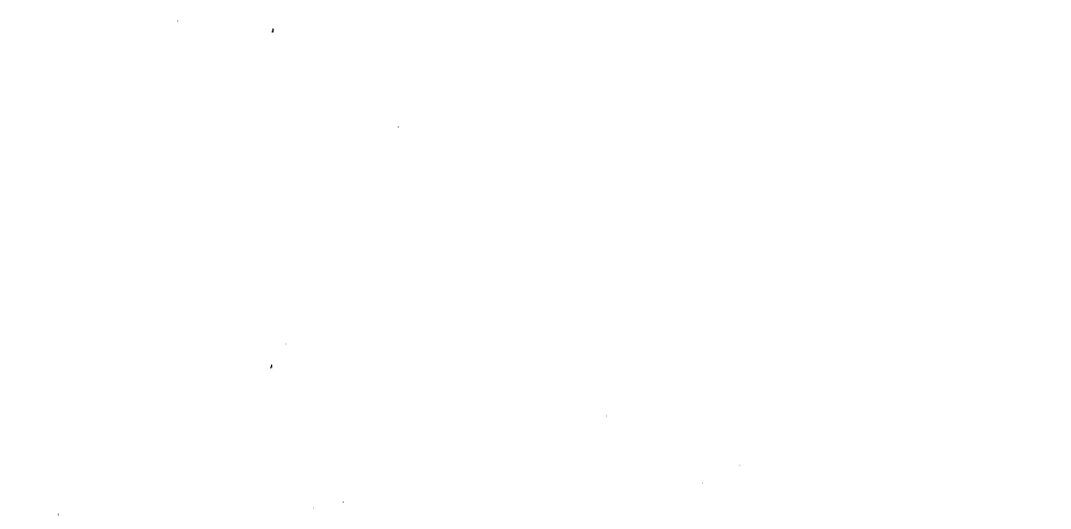
CATCH BASIN U23 BOX WITH OR WITHOUT 2" REEP HOLES

U23 CATCH BASIN 2' x 2' W/ 6" WALLS

Oldcastle Precast® Enclosure Solutions  
WATER RESOURCES DEPARTMENT  
MANAGER - WATER RESOURCES DEPARTMENT  
PHONE: (800) 468-7474 FROM (800) 468-8808  
WWW.OLDCASTLEPRECAST.COM

**U23 CATCH BASIN**  
FILE NAME: OMLUNSTO\_50  
ISSUE DATE: January, 2008

**U23 CATCH BASIN 2' x 2' W/ 6" WALLS**  
Christy



FILE NAME: ST-12REV	DATE: 02/29/99	BY: JLS	CHECKED: JLS
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PROJECT: ST-12	PROJECT: ST-12	PROJECT: ST-12	PROJECT: ST-12
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### THRUST BLOCK SCHEDULE

PIPE SIZE	BEARING AREA IN SQUARE FEET				VALVE
	TEE OR 90° ELL	45° ELL	22 1/2° ELL	CROSS	
6"	3	4	2	2	1.5 EA. 3.0
8"	5	7	4	2	3.0 EA. 5.5
10"	8	11	6	3	4.5 EA. 9.0
12"	11	16	8	4	6.5 EA. 13.0
16"	16	23	13	7	8.0 EA. 16.0

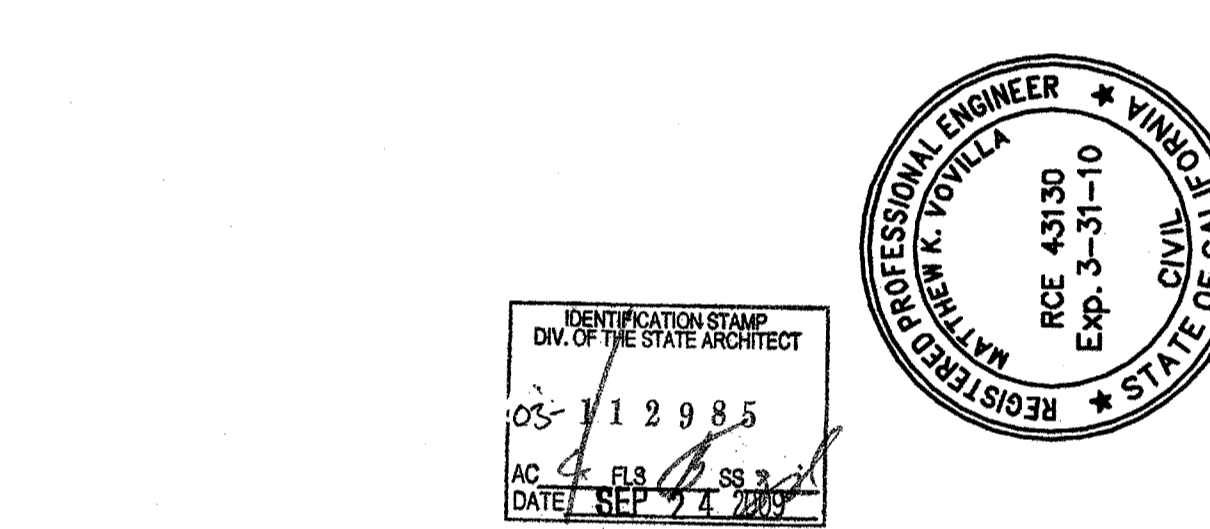
**NOTES:**  
1) ALL VALVES, FITTINGS, AND DIRECTIONAL CHANGES ARE TO BE HELD IN PLACE BY CONCRETE THRUST BLOCKS.  
2) BEARING AREAS INDICATED ARE BASED ON ALLOWABLE SOIL PRESSURE OF 1500 PSF.  
3) CONCRETE IS NOT TO BEAR AGAINST PIPE. THRUST BLOCK TO ONLY BE IN CONTACT WITH FITTING.  
4) THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.  
5) JOINTS SHALL BE KEPT CLEAR OF CONCRETE.

**WATER RESOURCES DEPARTMENT  
CITY OF BAKERSFIELD, CALIFORNIA**

**THRUST BLOCK DETAIL**

APPROVED: *John R. Case* DATE: April 27, 2009  
MANAGER - WATER RESOURCES DEPARTMENT

PLATE NO: W-2  
REV. 1-9-09



### STANDARD PLAN DETAILS MUNSEY ELEMENTARY 3801 BRAVE AVENUE BAKERSFIELD, CALIFORNIA

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# PINNACLE Civil Engineering, Inc.

2161 Saturn Court, Bakersfield, CA 93308  
Phone: (661) 869-0184 Fax: (661) 377-0076

REGISTERED PROFESSIONAL ENGINEER  
MATTHEW K. VOIVILLA  
RCE 43130  
EXP. 3-31-10  
STATE OF CALIFORNIA

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
OS-112985  
DATE: SEP 7 4 2009

JOB No.: 09-388  
DWG No.: 09-388-BM  
DATE: 09/23/2009  
DRAWN BY: ADK  
CHECKED BY: MKY  
SHEET 4 OF 8 SHEETS