

**CITY OF BEVERLY HILLS
CALIFORNIA**



STANDARD DETAIL DRAWINGS

**DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
CIVIL ENGINEERING DIVISION**

**345 Foothill Road
Beverly Hills, CA 90210
Tel: 310-285-2452
Fax: 310-278-1838**

<http://www.beverlyhills.org/government/pwtrans/default.asp>

TABLE OF CONTENTS

Section I **Street Improvements**

- BH 101 Residential Driveway Approach
- BH 102 Non-Residential Driveway Approach
- BH 103 Curb Ramps
- BH 104 Curb and Sidewalk Joints
- BH 105 Standard Sidewalk Section
- BH 106 Residential Integral Curb and Gutter Detail
- BH 107 Non-Residential Integral Curb and Gutter Detail
- BH 108 Alley Approach Detail
- BH 109 4" Curb Drain in 6" Curb
- BH 110 Parkway Drain
- BH 111 Longitudinal Alley Gutter Detail
- BH 112 Longitudinal Alley Gutter Maintenance Hole Diversion
- BH 113 Steel Plate for Open Trench Detail
- BH 114 Pavement Replacement Section

Section II **Sewer and Sanitation**

- BH 201 Drop Manhole "S"
- BH 202 Large Manhole "B"
- BH 203 Junction Chamber "F"
- BH 204 Junction Chamber "G"
- BH 205 Junction Chamber "H"
- BH 206 Terminal Manhole "Q"
- BH 207 Modified Junction Chamber "F"
- BH 208 Non-Rocking Manhole Frame and Cover
- BH 209 Large Manhole Frame and Cover
- BH 210 Pipe Supports Across Trenches

- BH 211 Pipe Bedding in Trenches
- BH 212 Sewer and Water Main Separation (Parallel and Perpendicular) < 10'
- BH 213 Cradling and Encasement
- BH 214 Lateral Connect To Lined Sewer Main

Section III **Flood Control and Storm Drain Facilities**

- BH 301 Not Used

Section IV **Street Lighting and Traffic Signals**

- BH 401 Round Inductive Loop Detector Installation
- BH 402 Bike Loop Detector Installation
- BH 403 Traffic Signal Detector Handhole
- BH 404 Traffic Signal Pull Box and Lid

Section V **Landscaping and Irrigation**

- BH 501 Not Used

Section VI **General Facilities**

- BH 601 Parking Space Markings
- BH 602 Crosswalks
- BH 603 Speed Hump Detail
- BH 604 Temporary Curb Ramp
- BH 605 Survey Monument Cover
- BH 606 Parking Meter Post Installation - Concrete Setting

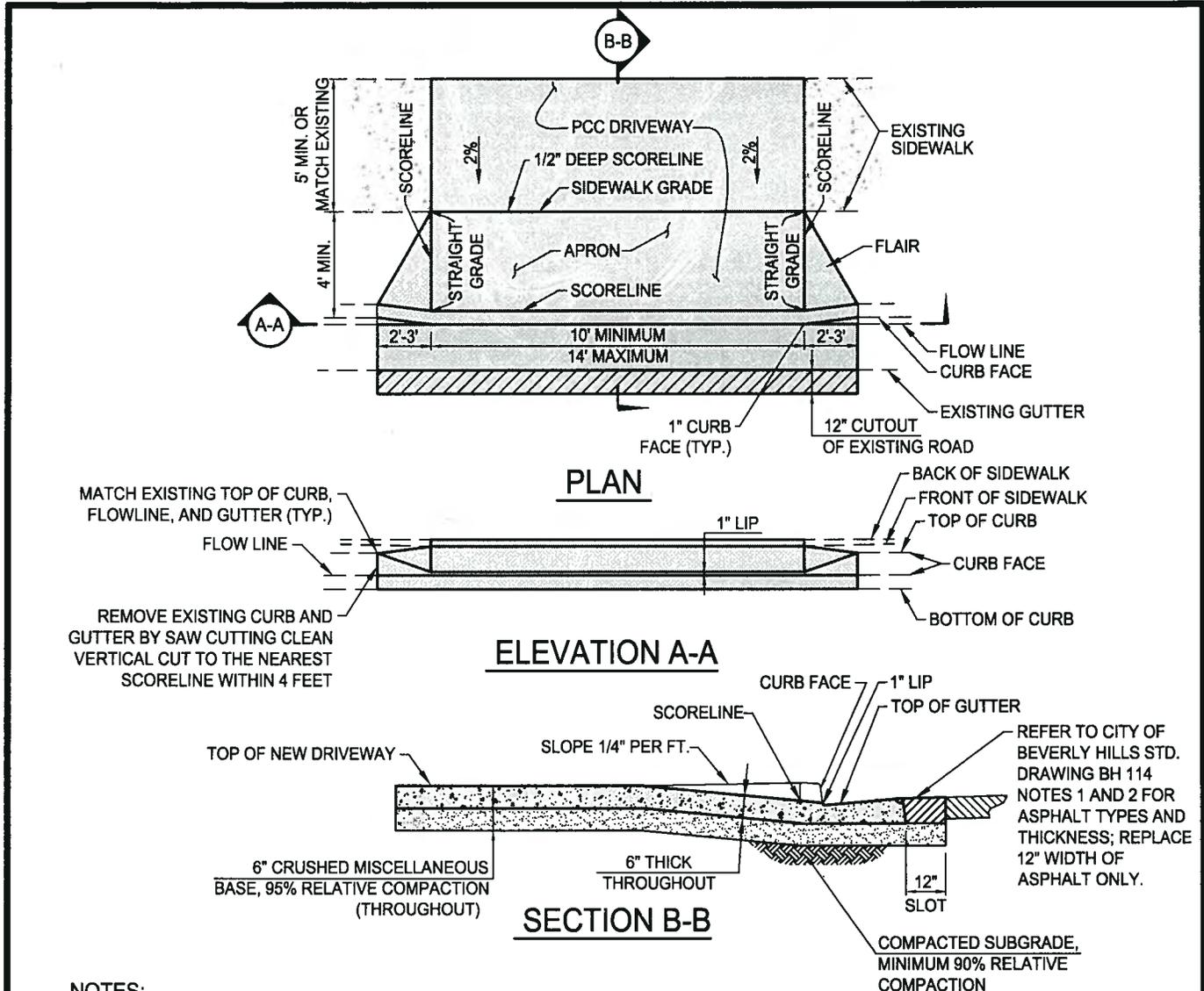
TABLE OF CONTENTS

Section VII **Water Pipe Line Installations**

BH 701	Legend
BH 702	Abbreviations
BH 703	Fire Hydrant Assembly (Typical)
BH 704	Fire Hydrant Installation With Water Main Behind Curb
BH 705	Lateral Installation (Fire Hydrant)
BH 706	Connection for Upgraded Fire Hydrant Installation
BH 707	Valve Box Detail
BH 708	Typical Caps and Plugs
BH 709	Concrete Thrust Blocks
BH 710	Trench for Water Line
BH 711	Jacked Casing with Water Main Detail
BH 712	13"x24" Water Meter Box and Lid - Non Traffic Rated
BH 713	17"x30" Water Meter Box and Lid - Non Traffic Rated
BH 714	10"x17" Water Meter Box and Lid - H/20 Loading
BH 715	13"x24" Water Meter Box and Lid - H/20 Loading
BH 716	17"x30" Water Meter Box and Lid - H/20 Loading
BH 717	2' x 3' Water Vault Box and Lid
BH 718	2'-6" x 4' Water Vault Box and Lid
BH 719	Sewer and Water Main Separation (Parallel and Perpendicular)

Section I

Street Improvements



- NOTES:
- 1. DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.**
 2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
 3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
 4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
 5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE. NOT TO SCALE

RESIDENTIAL DRIVEWAY APPROACH

REVISIONS		
MARK	DATE	DESCRIPTION
△	11/4/2010	NO JOINT BETWEEN CURB AND GUTTER



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED	 <small>CITY ENGINEER</small>	DATE	11-18-10
APPROVED	 <small>PUBLIC WORKS DIRECTOR</small>	DATE	11-18-10

STANDARD DRAWING

BH 101

SHEET 1 OF 2

**CITY OF BEVERLY HILLS
RESIDENTIAL DRIVEWAY APPROACH SPECIFICATIONS AND GENERAL REQUIREMENTS
IN REFERENCE TO BEVERLY HILLS MUNICIPAL CODE SEC. 8-4-4**

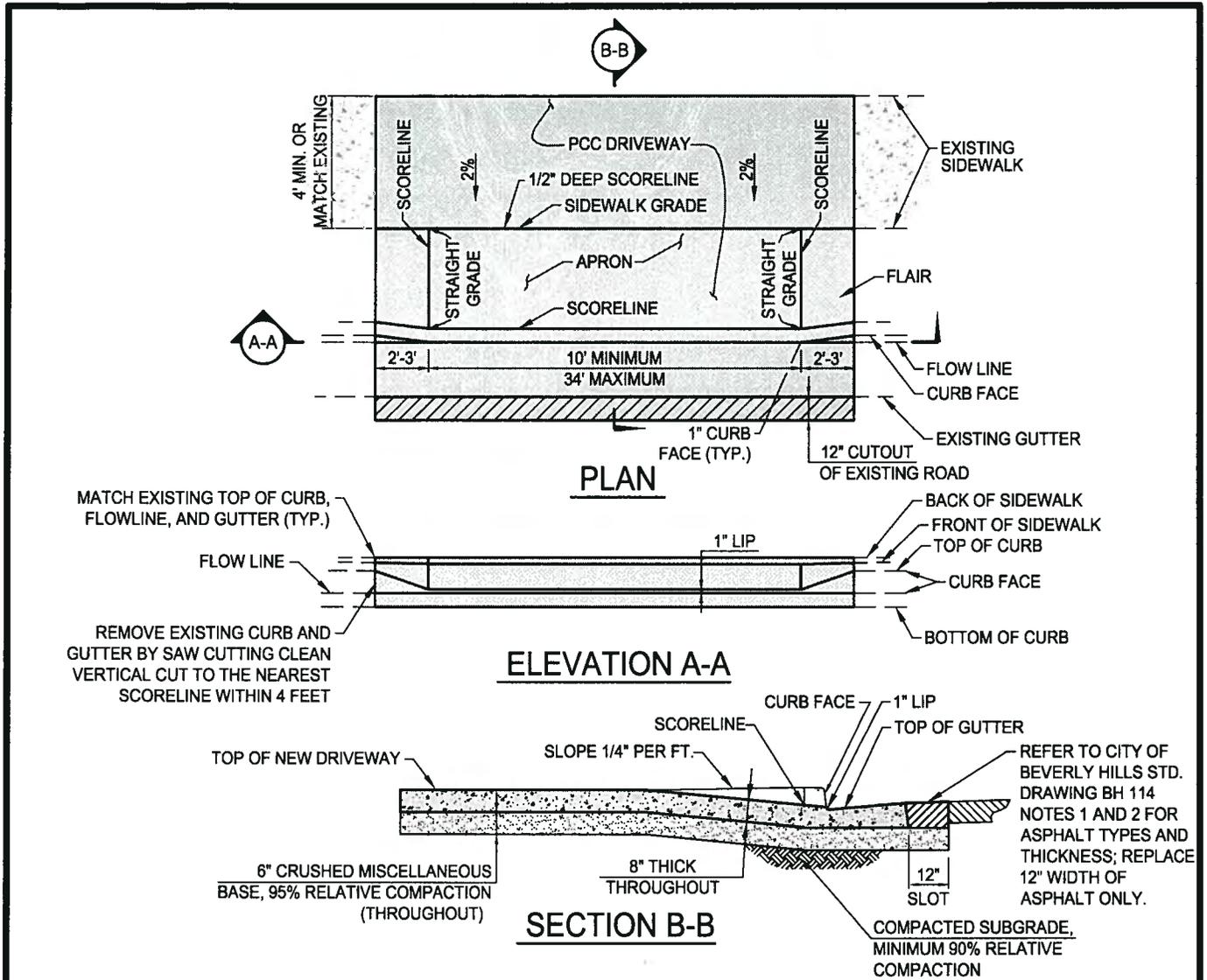
Definition: An approach is located between the edge of the gutter and property line. It is composed of an apron and flairs (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or his designee. Permits are required for all activities on public right-of-way.
2. **Proposal Plan:** A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the parkway (landscaped area) and any other useful information.
 Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Engineering Driveway Approach permit.
3. **Location:** No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway where necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10) feet from the center of any city tree without written approval of the City Arborist.
4. **Concrete Finish:** Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works inspectors.
5. **Adjacent Approach:** No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach.
6. **Width:** The maximum overall width of any residential driveway approach shall not exceed twenty feet (20'), and the maximum width of two (2) adjacent residential driveway approaches which are combined shall not exceed twenty six feet (26'). The minimum overall width of any driveway approach shall be sixteen feet (16'). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to on the opposite side.

Number: Only one driveway approach shall be permitted in any residential zone on any lot or parcel with less than seventy five feet (75') of frontage, or with a front setback of less than twenty five feet (25'); with the exception that a circular driveway requiring two (2) driveway approaches shall be permitted where the parcel frontage is within four percent (4%) of the seventy five feet (75') minimum required for two (2) driveway approaches, and further, that no other deviation from the provisions of this code or discretionary action is required for such circular driveway.
7. **Materials and Workmanship:** Shall fully comply with the requirements of the "Standard Specifications for Public Works Construction", ("Greenbook"), latest edition, sections 201-1 and 303-5 respectively.

RESIDENTIAL DRIVEWAY APPROACH

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
				RECOMMENDED  DATE 11-18-10 <small>CITY ENGINEER</small>	STANDARD DRAWING
				APPROVED  DATE 11-18-10 <small>PUBLIC WORKS DIRECTOR</small>	BH 101 SHEET 2 OF 2



- NOTES:
- 1. DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.**
 2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
 3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
 4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. ("GREENBOOK")
 5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE. NOT TO SCALE

NON-RESIDENTIAL DRIVEWAY APPROACH

REVISIONS		
MARK	DATE	DESCRIPTION
△	11/4/2010	NO JOINT BETWEEN CURB AND GUTTER



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE *11-18-10*
CITY ENGINEER

APPROVED *[Signature]* DATE *11-18-10*
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 102

SHEET 1 OF 2

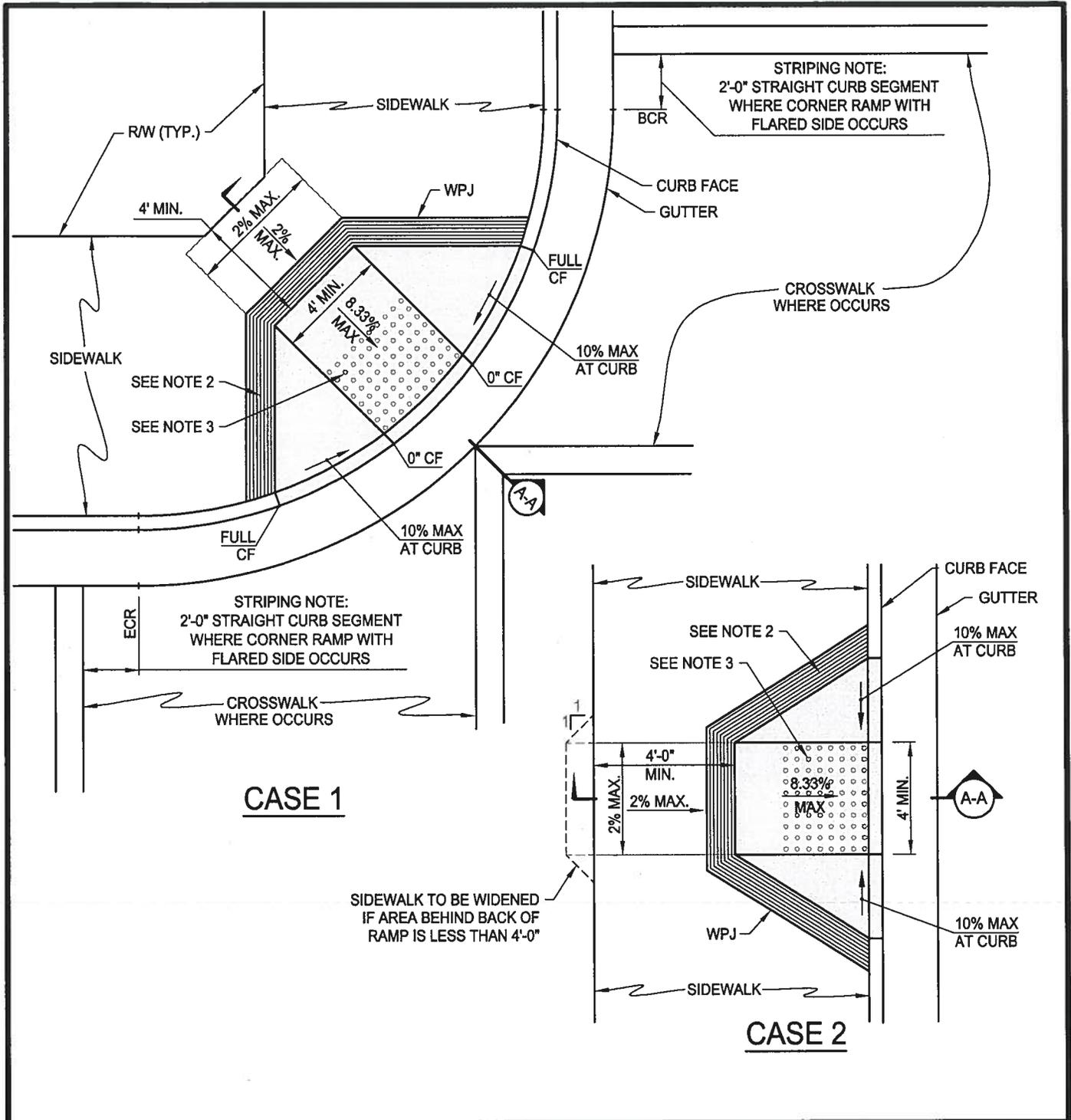
**CITY OF BEVERLY HILLS
NON-RESIDENTIAL DRIVEWAY APPROACH SPECIFICATIONS AND GENERAL REQUIREMENTS
IN REFERENCE TO BEVERLY HILLS MUNICIPAL CODE SEC. 8-4-4**

Definition: An approach is located between the edge of the gutter and property line. It is composed of an apron and flairs (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or his designee. Permits are required for all activities on public right-of-way.
2. **Proposal Plan:** A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the parkway (landscaped area) and any other useful information.
Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Driveway Approach permit.
3. **Location:** No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway where necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10) feet from the center of any city tree without written approval of the City Arborist.
4. **Concrete Finish:** Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works Inspectors.
5. **Adjacent Approach:** No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach..
6. **Width:** The maximum overall width of any non-residential driveway approach shall not exceed forty feet (40'). The minimum overall width of any driveway approach shall be sixteen feet (16'). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to on the opposite side.
7. **Materials and Workmanship:** Shall fully comply with the requirements of the "Standard Specifications for Public Works Construction", ("Greenbook"), latest edition, sections 201-1 and 303-5 respectively.

NON-RESIDENTIAL DRIVEWAY APPROACH

REVISIONS			 CITY OF BEVERLY HILLS, CALIFORNIA DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION		
MARK	DATE	DESCRIPTION			
			RECOMMENDED 	DATE 11-18-10	STANDARD DRAWING BH 102 SHEET 2 OF 2
			APPROVED 	DATE 11-18-10	



CURB RAMPS

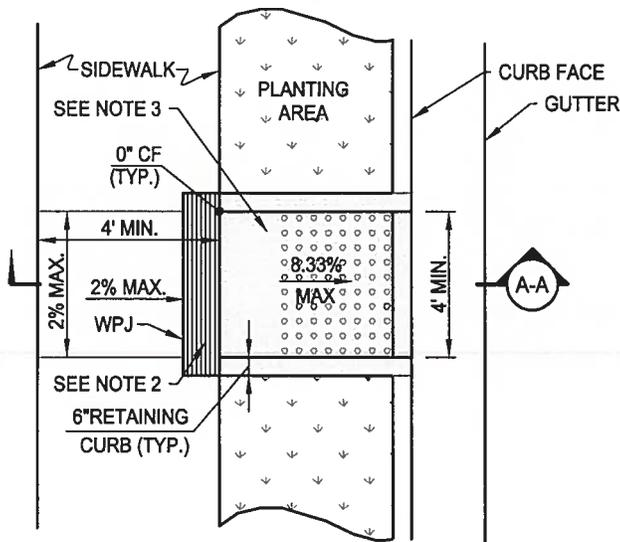
REVISIONS		
MARK	DATE	DESCRIPTION



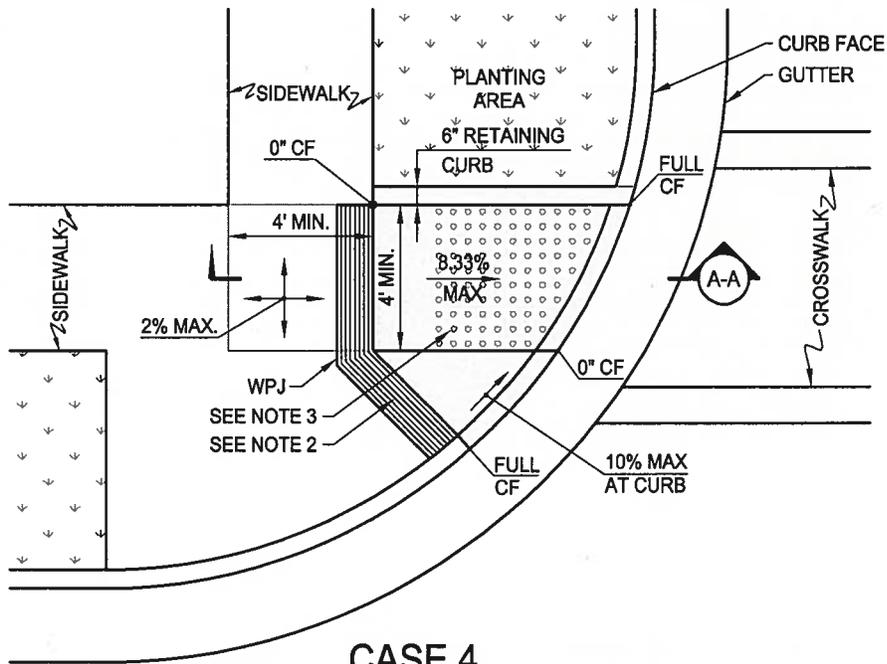
CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11/13/2011
CITY ENGINEER
APPROVED *[Signature]* DATE 11-18-11
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 103
SHEET 1 OF 4



CASE 3



CASE 4

CURB RAMPS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]*
CITY ENGINEER

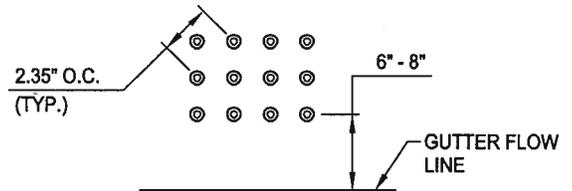
APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

DATE 11/18/2011
DATE 11-18-11

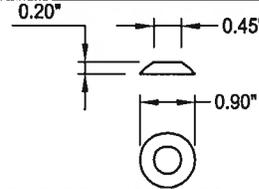
STANDARD DRAWING
BH 103
SHEET 2 OF 4

NOTES:

1. CONCRETE SHALL BE CLASS 520-C-2500 AND SHALL BE 4" THICK OVER 4" CRUSHED MISCELLANEOUS BASE AT 90% RELATIVE COMPACTION.
2. THE CURB RAMP SHALL BE OUTLINED, AS SHOWN WITH A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.
3. CURB RAMPS SHALL HAVE A RECESSED YELLOW DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3' DEPTH OF THE RAMP. EDGES SHALL BE FLUSH WITH THE SURFACE OF THE RAMP. SEE DETECTABLE WARNING DETAIL FOR SIZE AND PATTERN. THE EDGE OF THE DETECTABLE WARNING NEAREST TO THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FL.
4. UTILITY PULL BOXES, MANHOLES, VAULTS AND OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP WILL BE RELOCATED BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, THE CONSTRUCTION OF THE RAMP.
5. TRANSITIONS FROM RAMPS AND LANDING TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
6. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5 PERCENT WITHIN 48" OF THE TOP AND BOTTOM OF CURB RAMP.
7. THE BOTTOM OF THE RAMP SHALL HAVE A 0 INCH LIP AT CURB FACE.
8. IF DISTANCE FROM CURB TO BACK OF SIDEWALK IS TOO SHORT TO ACCOMMODATE RAMP AND 4' - 0" LANDING AS SHOWN IN CASE 1 AND CASE 2, THE SIDEWALK MAY BE DEPRESSED LONGITUDINALLY AS IN CASE 5 OR 6, OR SIDEWALK MAY BE WIDENED AS SHOWN IN CASE 2.
9. AS SITE CONDITIONS DICTATE, THE RETAINING CURB SIDE AND THE FLARED SIDE OF CASE 4 RAMP SHALL BE CONSTRUCTED IN REVERSE POSITION.
10. IF LOCATED ON A CURVE, THE SIDES OF THE RAMP NEED NOT BE PARALLEL, BUT THE MINIMUM WIDTH OF THE RAMP SHALL BE 4' - 0".
11. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
12. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

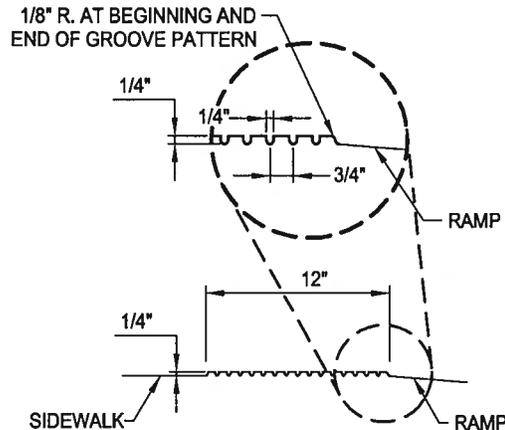


TRUNCATED DOME PATTERN

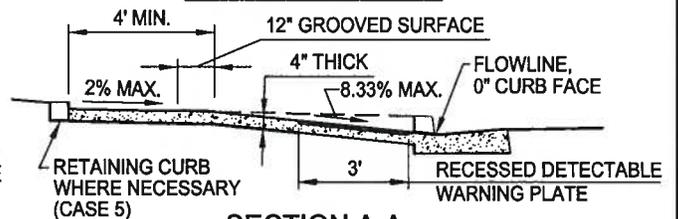


SINGLE TRUNCATED DOME

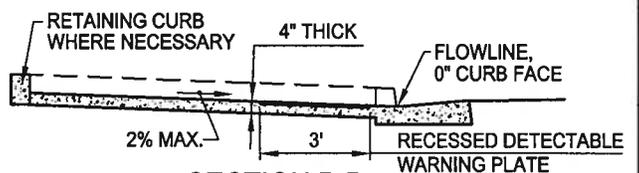
DETECTABLE WARNING DETAIL



GROOVING DETAIL



SECTION A-A



SECTION B-B

CURB RAMPS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

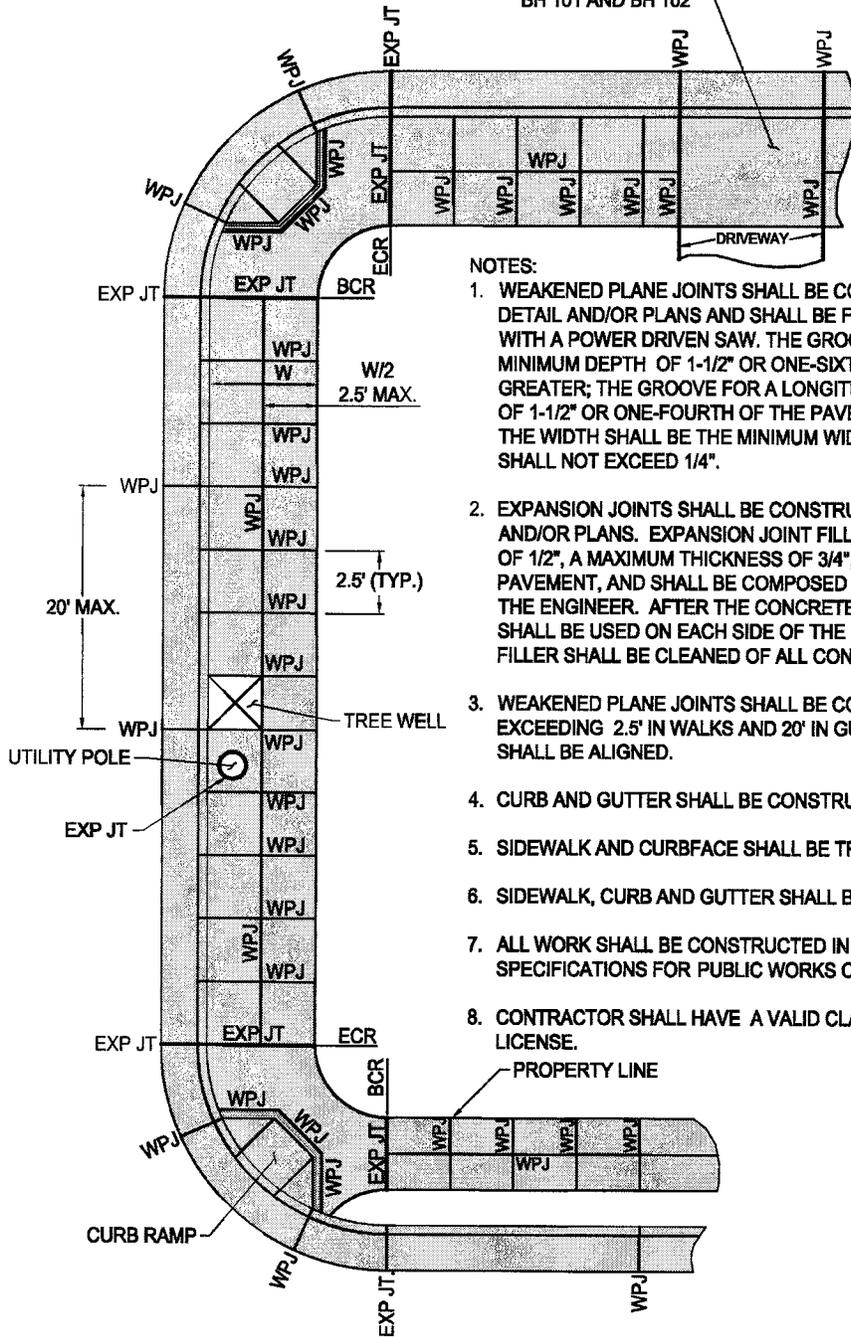
RECOMMENDED *[Signature]* DATE 11/18/2011
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-11
PUBLIC WORKS DIRECTOR

DATE 11/18/2011
DATE 11-18-11

STANDARD DRAWING
BH 103
SHEET 4 OF 4

JOINTS PER STANDARD DRAWINGS
BH 101 AND BH 102



ABBREVIATIONS:

- WPJ - WEAKENED PLANE JOINT
- EXP JT - EXPANSION JOINT
- BCR - BEGINNING OF CURB RETURN
- ECR - END OF CURB RETURN

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE DETAIL AND/OR PLANS AND SHALL BE FORMED BY CUTTING A GROOVE IN THE PAVEMENT WITH A POWER DRIVEN SAW. THE GROOVE FOR A TRANSVERSE JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-SIXTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER; THE GROOVE FOR A LONGITUDINAL JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-FOURTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER; AND THE WIDTH SHALL BE THE MINIMUM WIDTH POSSIBLE WITH THE SAW BEING USED, BUT SHALL NOT EXCEED 1/4".
2. EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE DETAIL AND/OR PLANS. EXPANSION JOINT FILLER MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 1/2", A MAXIMUM THICKNESS OF 3/4", A DEPTH EQUAL TO THE THICKNESS OF THE PAVEMENT, AND SHALL BE COMPOSED OF MATERIALS AS SPECIFIED OR APPROVED BY THE ENGINEER. AFTER THE CONCRETE HAS BEEN FINISHED, AN EDGER OF 1/4" RADIUS SHALL BE USED ON EACH SIDE OF THE EXPANSION JOINT FILLER. THE EXPANSION JOINT FILLER SHALL BE CLEANED OF ALL CONCRETE MORTAR.
3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 2.5' IN WALKS AND 20' IN GUTTERS. JOINTS IN CURB, GUTTER, AND WALK SHALL BE ALIGNED.
4. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY FROM SIDEWALK.
5. SIDEWALK AND CURBFACE SHALL BE TROWELED AND LIGHT BROOM FINISHED.
6. SIDEWALK, CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
7. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
8. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

CURB AND SIDEWALK JOINTS

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]*
CITY ENGINEER

APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

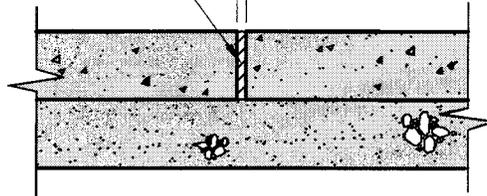
DATE 7-30-09

DATE 7-31-09

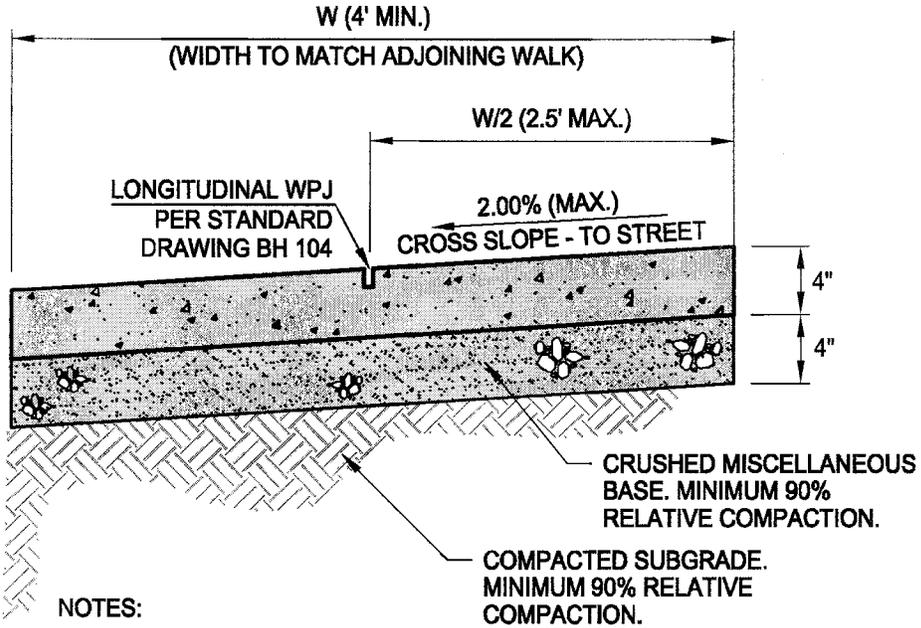
STANDARD DRAWING
BH 104
SHEET 1 OF 1

TRANSVERSE EXPANSION
JOINT PER STANDARD
DRAWING BH 104

1/2" MIN.
3/4" MAX.



EXPANSION JOINT SECTION



NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
2. SEE BH 104 FOR JOINT LOCATION PLACEMENT.
3. CRUSHED MISCELLANEOUS BASE TO BE APPROVED BY THE CITY ENGINEER.
4. SIDEWALK SHALL BE TROWLED AND LIGHT BROOM FINISHED.
5. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
6. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

STANDARD SIDEWALK SECTION

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

Clint Torin
CITY ENGINEER

DATE 7-30-09

APPROVED

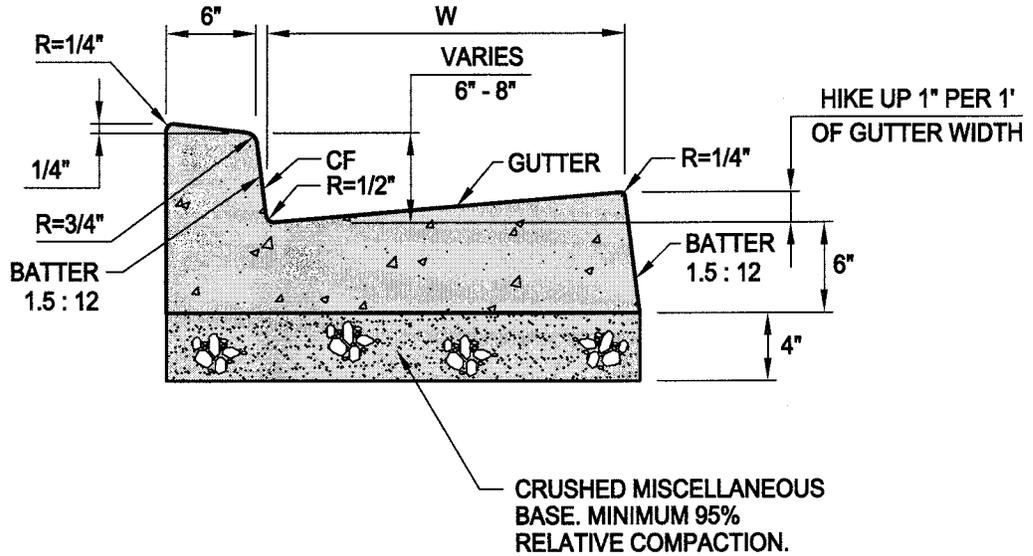
[Signature]
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

BH 105

SHEET 1 OF 1



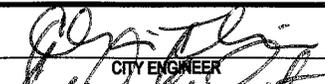
**RESIDENTIAL
INTEGRAL CURB AND GUTTER SECTION**

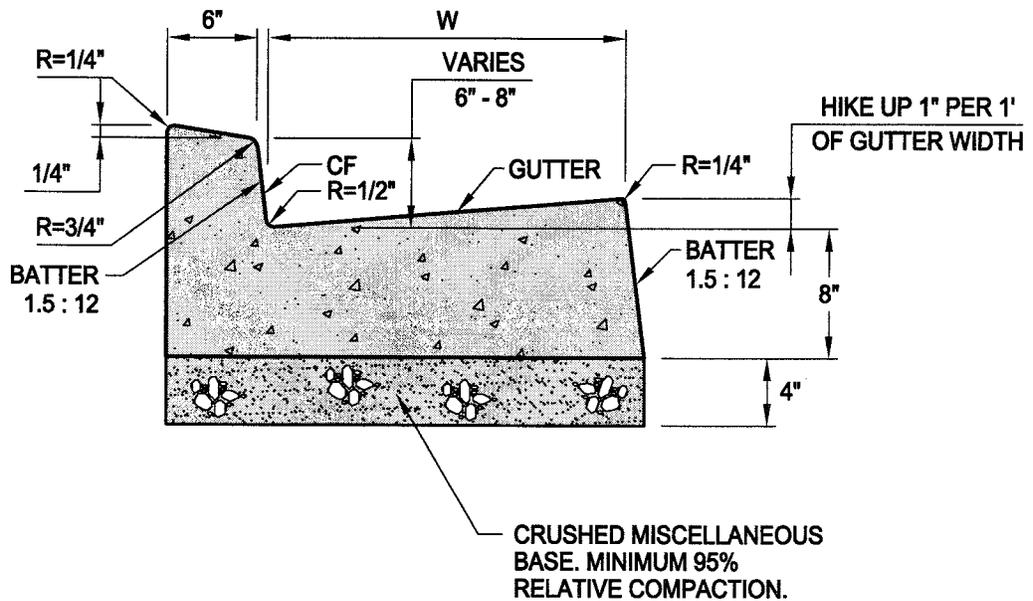
NOT TO SCALE

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
2. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.
3. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPED TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES FOR INTEGRAL CURB AND GUTTER. SIDE FORMS SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER COMPLETION OF THE GUTTER, BUT MUST BE REMOVED BEFORE THE WORK WILL BE ACCEPTED.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
			RECOMMENDED	 <small>CITY ENGINEER</small>	DATE 7-30-09
			APPROVED	 <small>PUBLIC WORKS DIRECTOR</small>	DATE 7-31-09
STANDARD DRAWING					BH 106
SHEET 1 OF 1					



**NON-RESIDENTIAL
INTEGRAL CURB AND GUTTER SECTION**

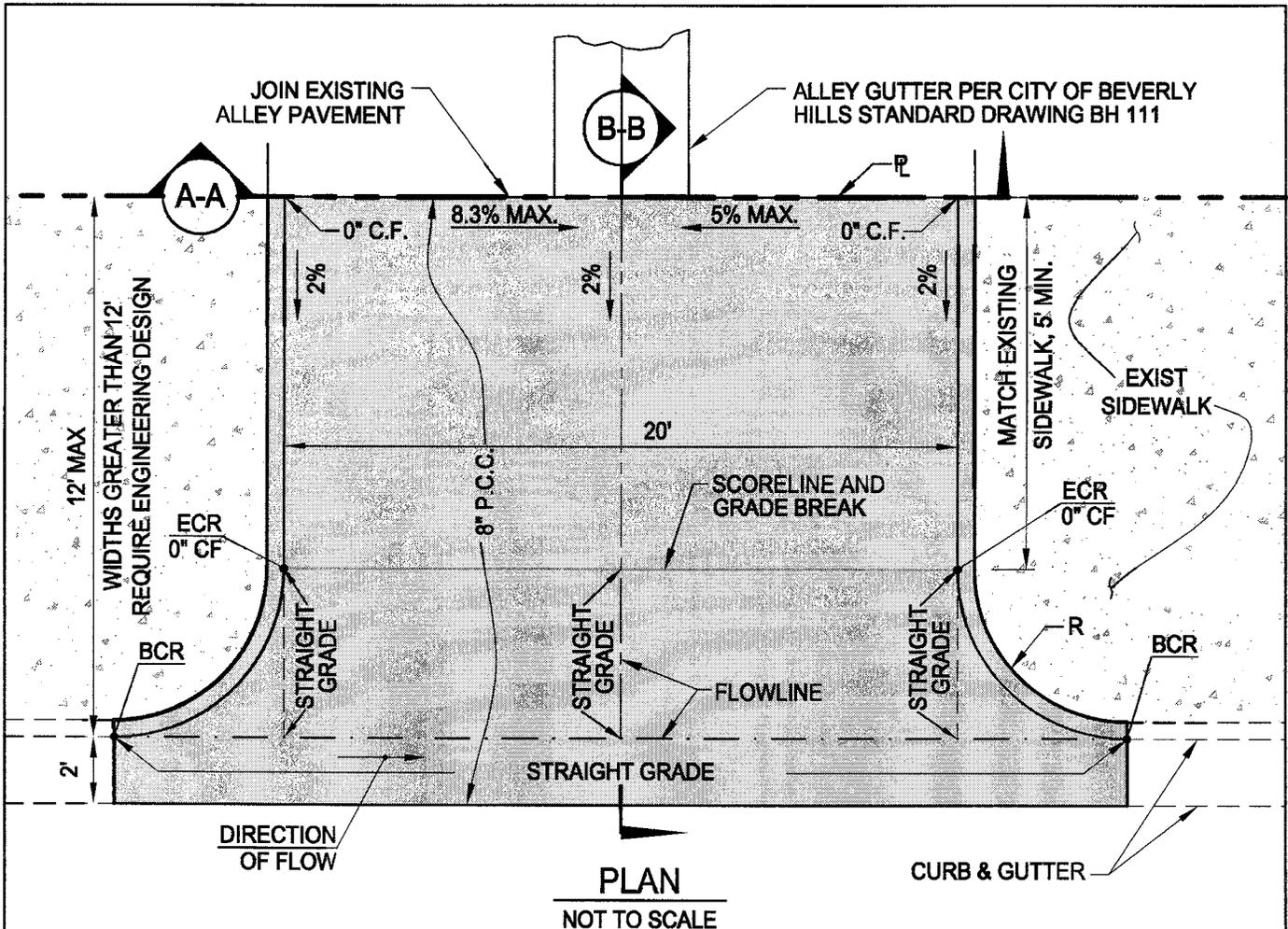
NOT TO SCALE

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 520-C-2500 PCC.
2. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.
3. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPED TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES FOR INTEGRAL CURB AND GUTTER. SIDE FORMS SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER COMPLETION OF THE GUTTER, BUT MUST BE REMOVED BEFORE THE WORK WILL BE ACCEPTED.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

NON-RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
			RECOMMENDED	 CITY ENGINEER	DATE 7-30-09
			APPROVED	 PUBLIC WORKS DIRECTOR	DATE 7-31-09
STANDARD DRAWING					BH 107
SHEET 1 OF 1					



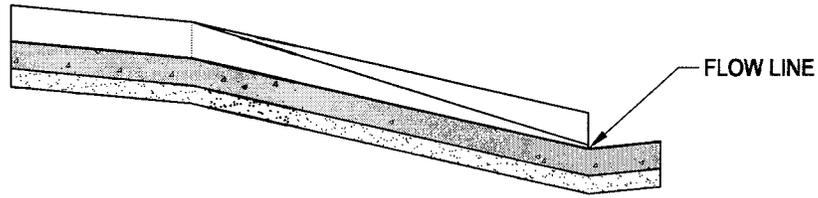
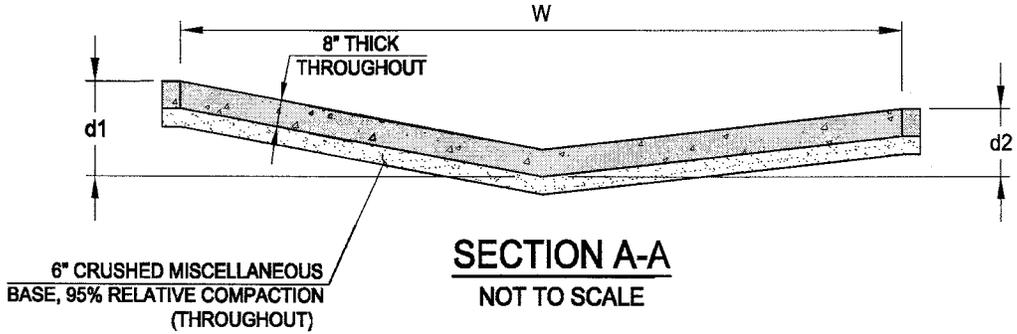
NOTES:

1. CURB RETURN RADIUS, R, SHALL BE 5' TYPICAL, UNLESS OTHERWISE SPECIFIED.
2. TOP OF CURB ELEVATIONS SHALL MATCH EXISTING SIDEWALK ELEVATIONS.
3. ALLEY APPROACH WITH A SLOPE EXCEEDING 16.66% SLOPE SHALL REQUIRE A SPECIAL PERMIT FROM THE TRANSPORTATION/ ENGINEERING OFFICIAL.
4. ACTUAL SHAPE AND LOCATION OF ALLEY APPROACH SHALL BE DETERMINED IN THE FIELD BY THE CITY ENGINEER.
5. ALLEY APPROACH AND NEW SIDEWALK WITHIN ALLEY APPROACH SHALL BE A CLASS 520-C-2500 8" THICK MONOLITHIC POUR OVER 6" CRUSHED MISCELLANEOUS BASE AT 95% RELATIVE COMPACTION.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

ALLEY APPROACH DETAIL

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
				RECOMMENDED <i>Chris T. [Signature]</i> DATE <i>7-30-09</i> <small>CITY ENGINEER</small>	STANDARD DRAWING BH 108 SHEET 1 OF 2
				APPROVED <i>[Signature]</i> DATE <i>7-31-09</i> <small>PUBLIC WORKS DIRECTOR</small>	

W	8'	10'	15'	20'	25'	30'
d1, MAX	4"	5"	7.5"	10"	12.5"	15"
d2, MIN	2"	3"	3"	3"	3"	3"

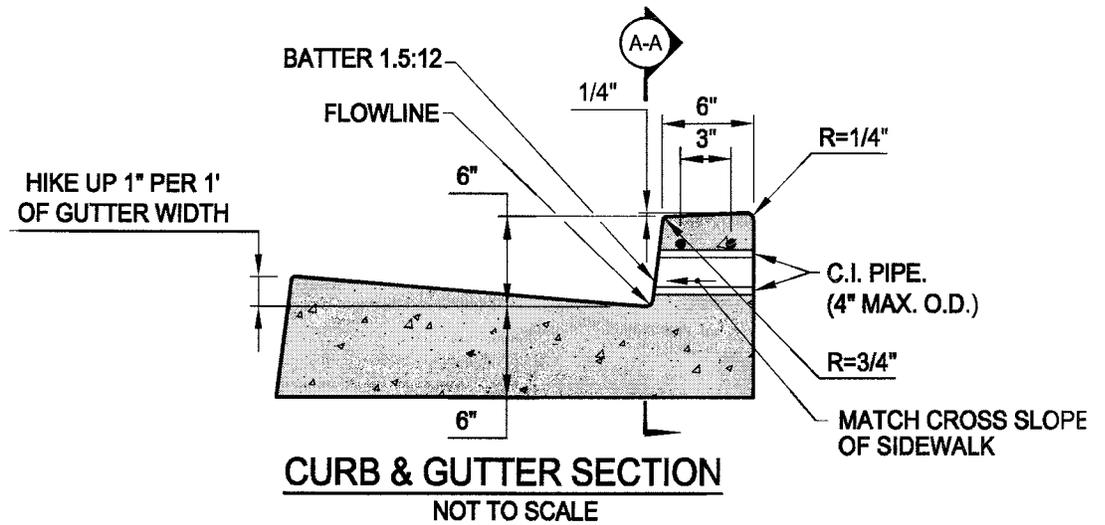


ALLEY APPROACH DETAIL

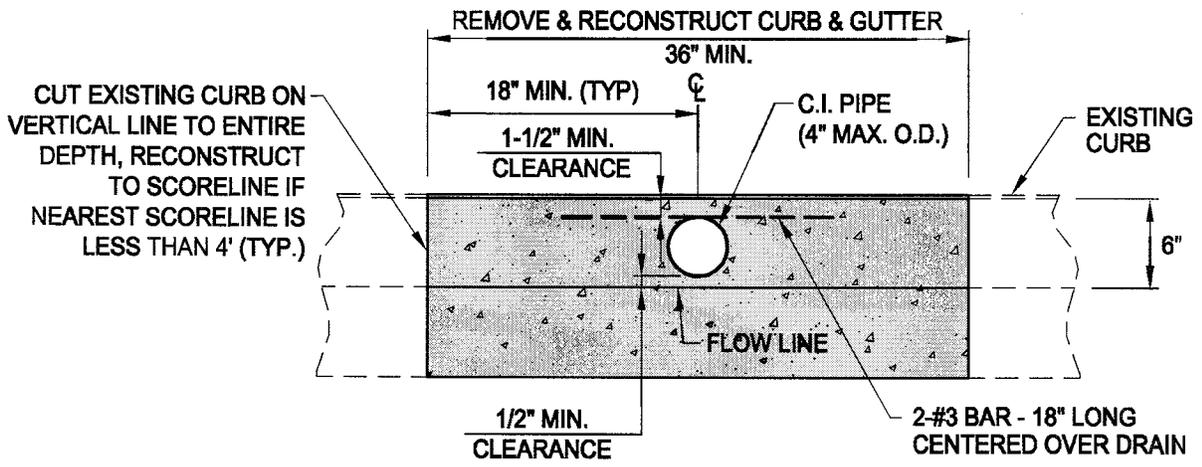
REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	

RECOMMENDED		DATE	7-30-09
APPROVED		DATE	7-31-09
	CITY ENGINEER		
	PUBLIC WORKS DIRECTOR		

STANDARD DRAWING
BH 108
SHEET 2 OF 2



CURB & GUTTER SECTION
NOT TO SCALE



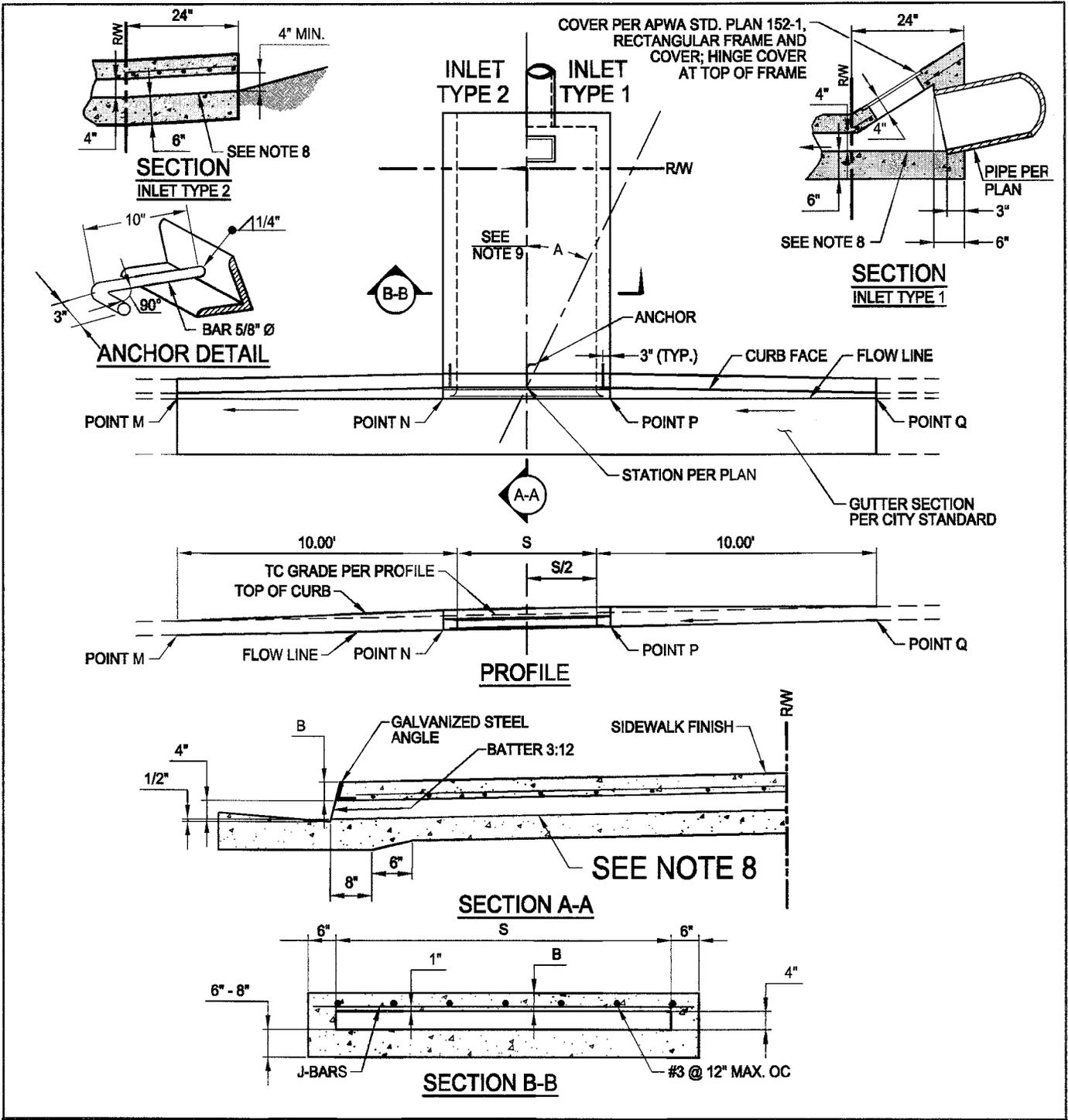
ELEVATION "A-A"
NOT TO SCALE

NOTES:

1. MINIMUM CURB BREAK AND RECONSTRUCTION IS 3'-0" IN LENGTH.
2. CURB & GUTTER SHALL BE CLASS 520-C-2500 PCC MONOLITHIC POUR.
3. FOR MULTIPLE CURB DRAINS, SPACING BETWEEN C.I. PIPES SHALL BE A MINIMUM OF 6" O.C.
4. 3" PIPE IN 6" CURB IS ALLOWED BY CORING.
5. FOR OTHER CONDITIONS SEE APWA STANDARD PLAN 150-2.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

4" CURB DRAIN IN 6" CURB

REVISIONS			 CITY OF BEVERLY HILLS, CALIFORNIA DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	STANDARD DRAWING BH 109 SHEET 1 OF 1
MARK	DATE	DESCRIPTION		
			RECOMMENDED <i>[Signature]</i> DATE 7-30-09 <small>CITY ENGINEER</small>	
			APPROVED <i>[Signature]</i> DATE 7-31-09 <small>PUBLIC WORKS DIRECTOR</small>	



PARKWAY DRAIN

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
 CITY ENGINEER

APPROVED *[Signature]* DATE 7-31-09
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 110
 SHEET 1 OF 2

S	J BAR SPACING
12"	7"
18"	7"
24"	7"
30"	7"
36"	7"
42"	6"
48"	5"
54"	6-12"
60"	5"
66"	4"
72"	3-1/2"

FOR S = 30" AND LESS, USE 2 ANCHORS. OTHERWISE, USE 3 ANCHORS

FOR S = 48" AND LESS, B=3" USE 2-1/2"x2"x1/2" GALVANIZED STEEL ANGLE. OTHERWISE, B = 4".

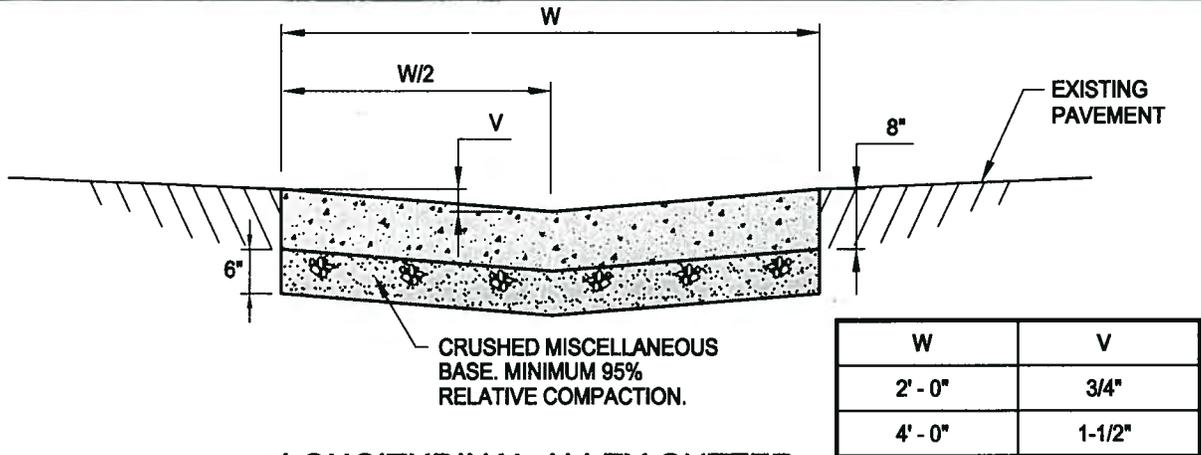
USE 3-1/2"x3"x1/2" GALVANIZED STEEL ANGLE

NOTES:

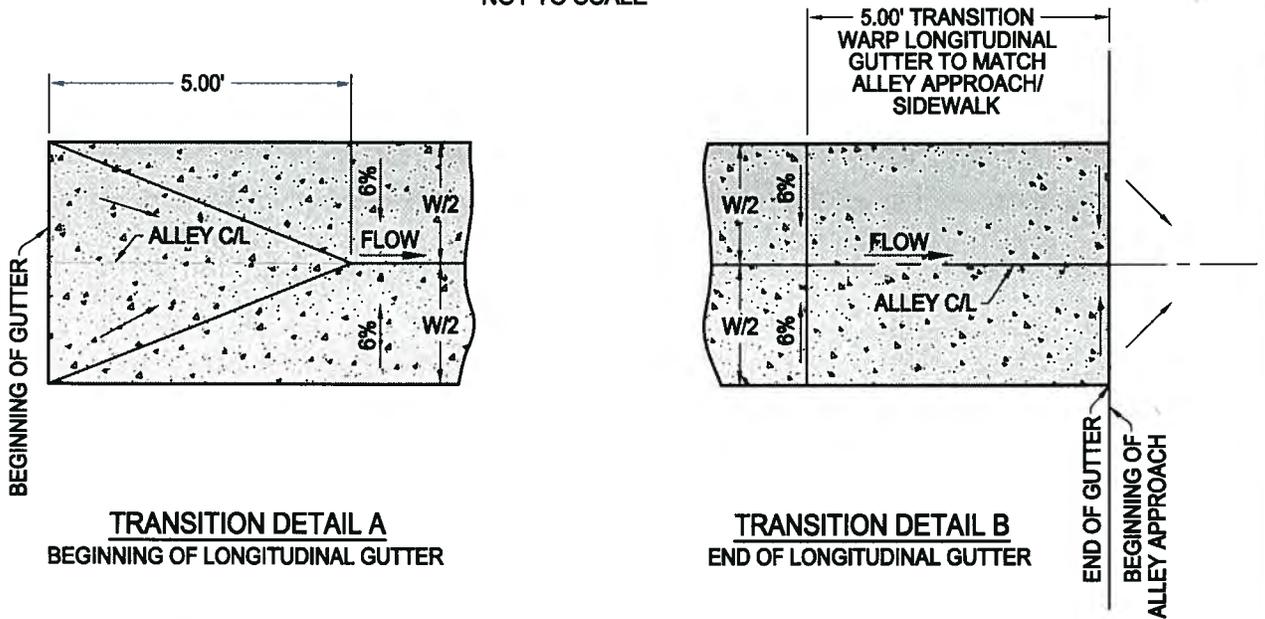
1. FLOOR OF BOX SHALL BE TROWELED SMOOTH.
2. IF TOE OF SLOPE IS ALLOWED WITHIN THE R/W, INLET TYPE 1 BEGINS AT THE TOE RATHER THAN AT THE R/W LINE.
3. FOR OPEN DITCH (TYPE 2), THE 24" EXTENSION BEYOND THE R/W LINE IS NOT REQUIRED WHEN BACK OF WALK IS 24" OR MORE FROM THE R/W LINE; HOWEVER, THE PIPE SHALL EXTEND TO THE R/W LINE IN ANY EVENT.
4. TOP OF INLET STRUCTURE (TYPE 1 & 2) SHALL BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICAL.
5. A HEADED STEEL STUD, 5/8" x 6-3/8" WITH A 1" HEAD ATTACHED BY A FULL PENETRATION BUTT WELD MAY BE USED AS AN ALTERNATE ANCHOR.
6. NORMAL CURB FACE AT POINT M AND Q. CURB FACE IS B + 5" AT POINT N AND P.
7. THE 3" LEG OF THE 5/8" DIA. ANCHORS SHALL BE PARALLEL TO THE TOP OF SIDEWALK.
8. SLOPE = 2.0%
9. ANGLE 'A' SHALL BE 30° MINIMUM WHEN ROADWAY SLOPE IS GREATER THAT 5.0%.
10. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
11. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

PARKWAY DRAIN

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA		
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION		
			RECOMMENDED	 CITY ENGINEER	DATE 7-30-09	STANDARD DRAWING
			APPROVED	 PUBLIC WORKS DIRECTOR	DATE 7-31-09	BH 110
						SHEET 2 OF 2



LONGITUDINAL ALLEY GUTTER
NOT TO SCALE



TRANSITION DETAIL A
BEGINNING OF LONGITUDINAL GUTTER

TRANSITION DETAIL B
END OF LONGITUDINAL GUTTER

NOTES:

1. LONGITUDINAL ALLEY GUTTER SHALL BE CLASS 520-C-2500 PCC.
2. CONTROL JOINTS SHALL BE PLACED AT 10' INTERVALS FOR FULL LENGTH OF LONGITUDINAL GUTTER.
3. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
4. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL ALLEY GUTTER DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION

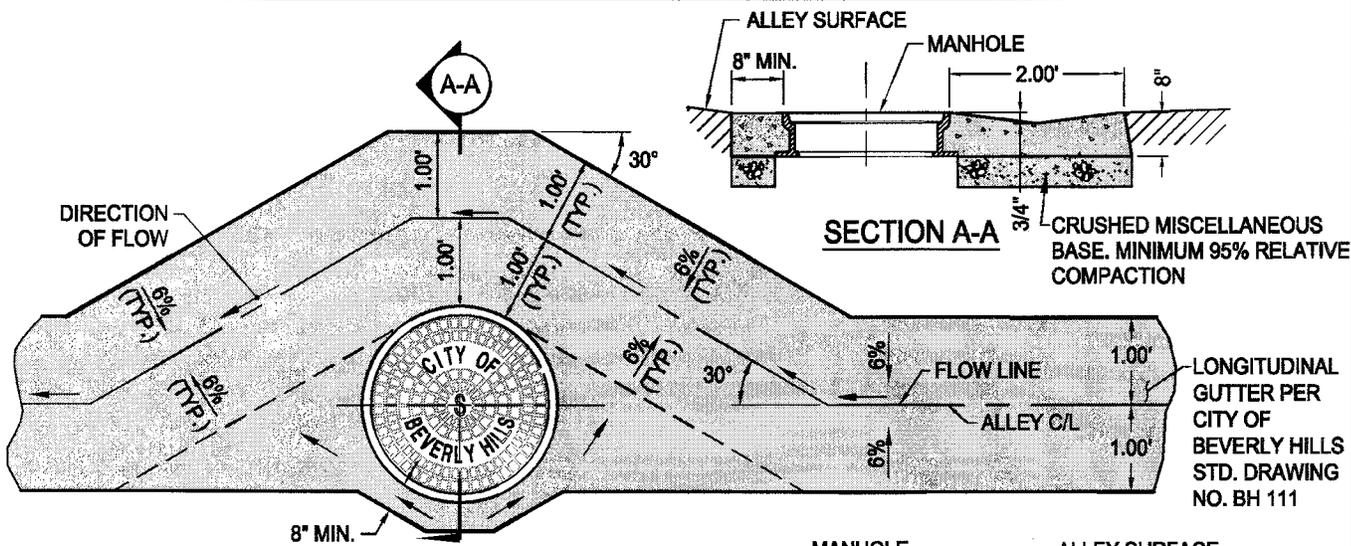


CITY OF BEVERLY HILLS, CALIFORNIA

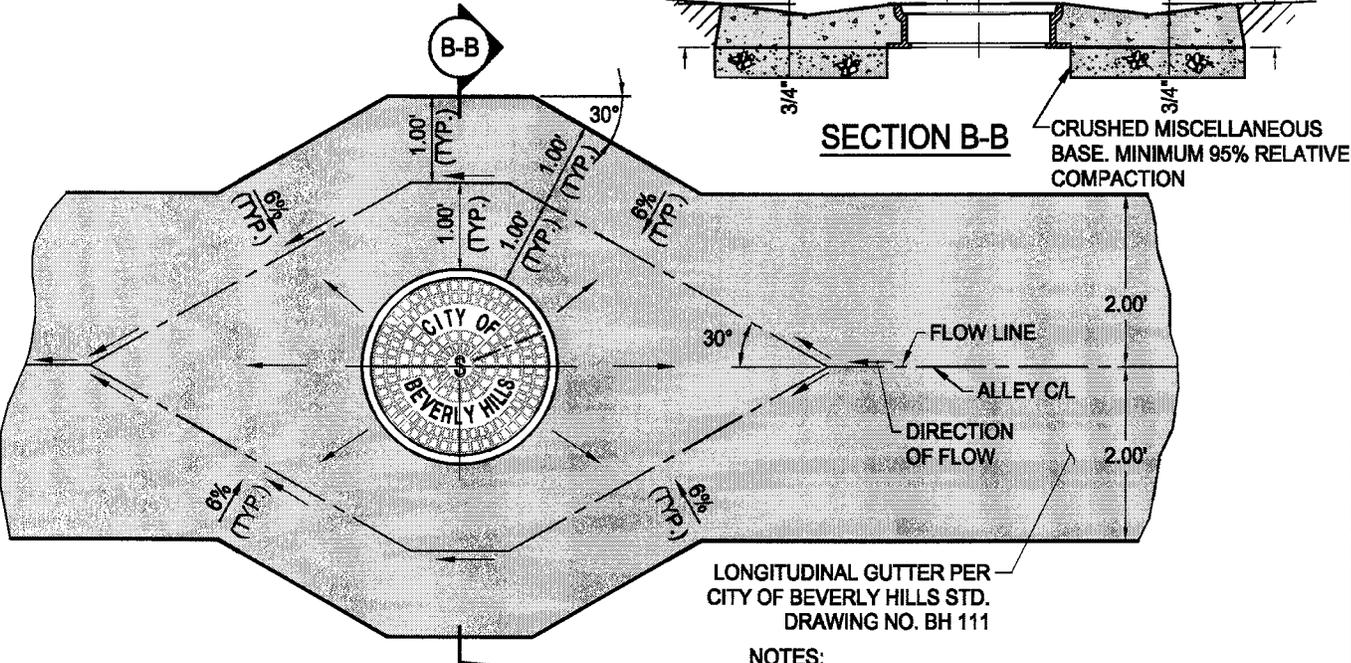
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER
APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 111
SHEET 1 OF 1



CASE 1 (2'-0" LONGITUDINAL GUTTER)



CASE 2 (4'-0" LONGITUDINAL GUTTER)

- NOTES:**
1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
 2. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL ALLEY GUTTER AT MANHOLE

REVISIONS		
MARK	DATE	DESCRIPTION

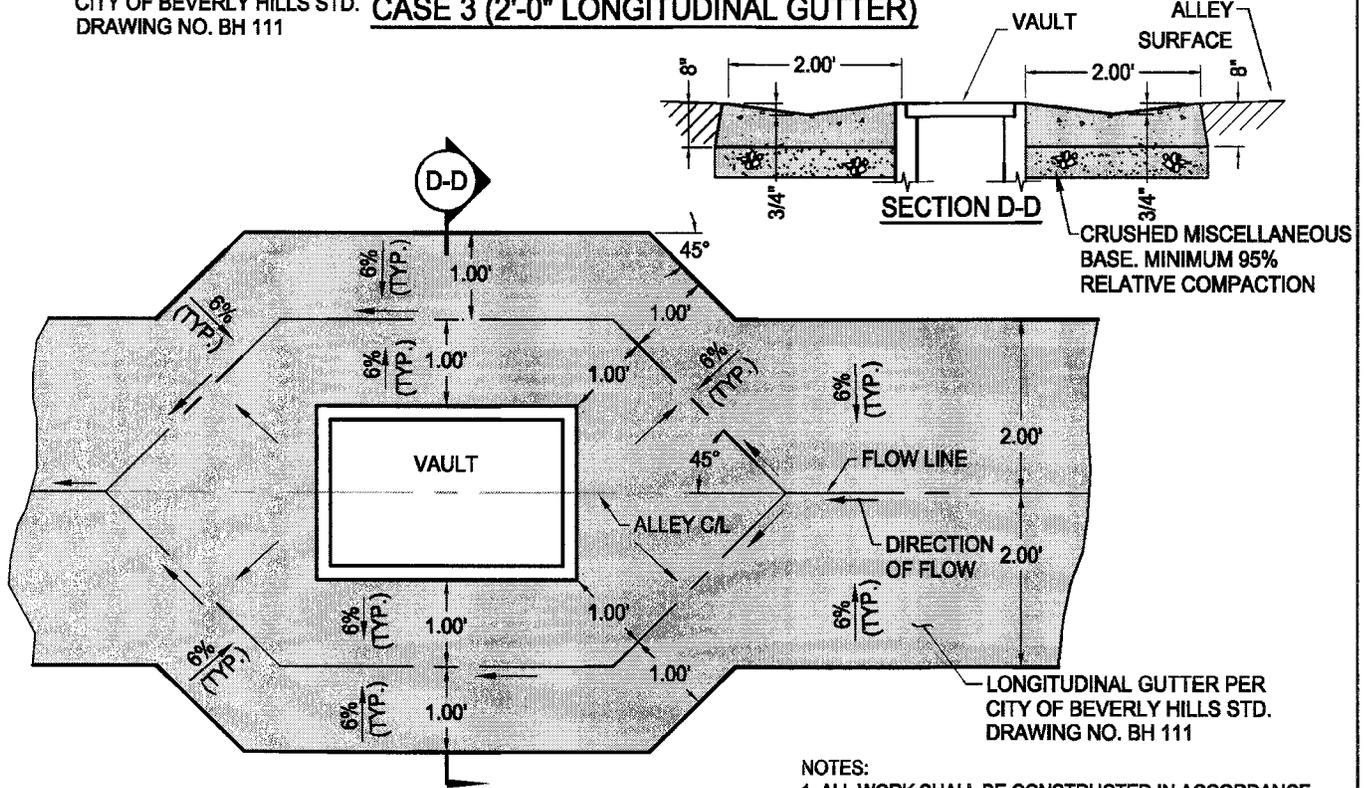
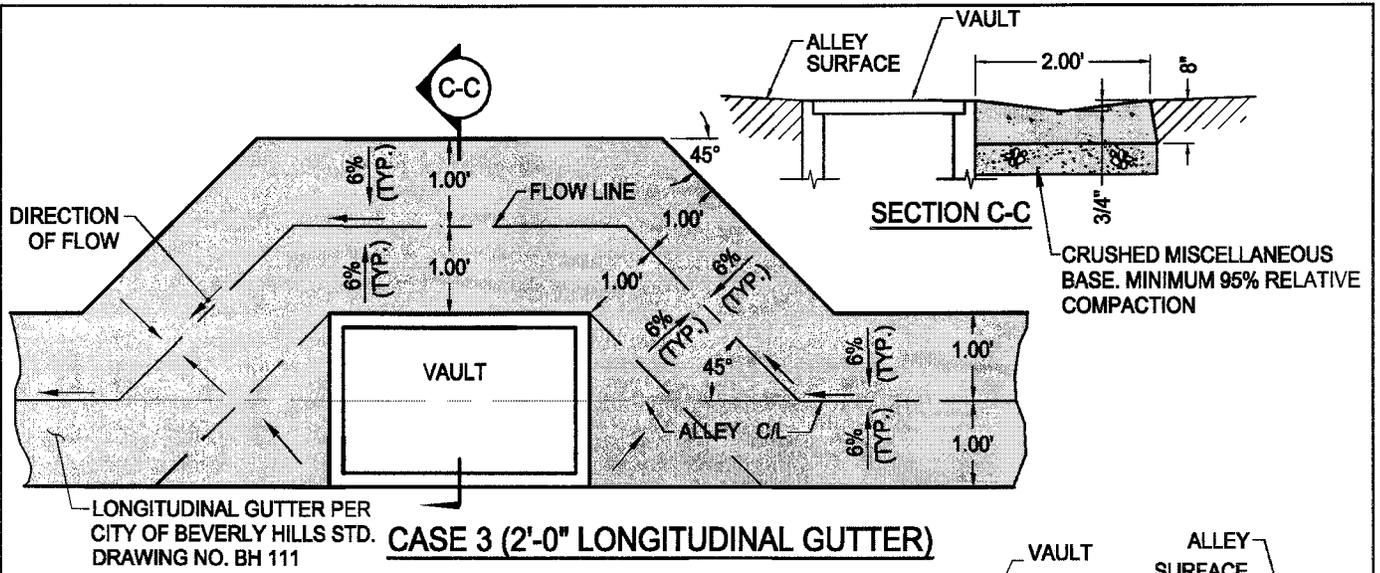


CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
CITY ENGINEER

APPROVED *[Signature]* DATE 7-27-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 112
SHEET 1 OF 2



- NOTES:
1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
 2. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

LONGITUDINAL ALLEY GUTTER AT VAULT

REVISIONS		
MARK	DATE	DESCRIPTION



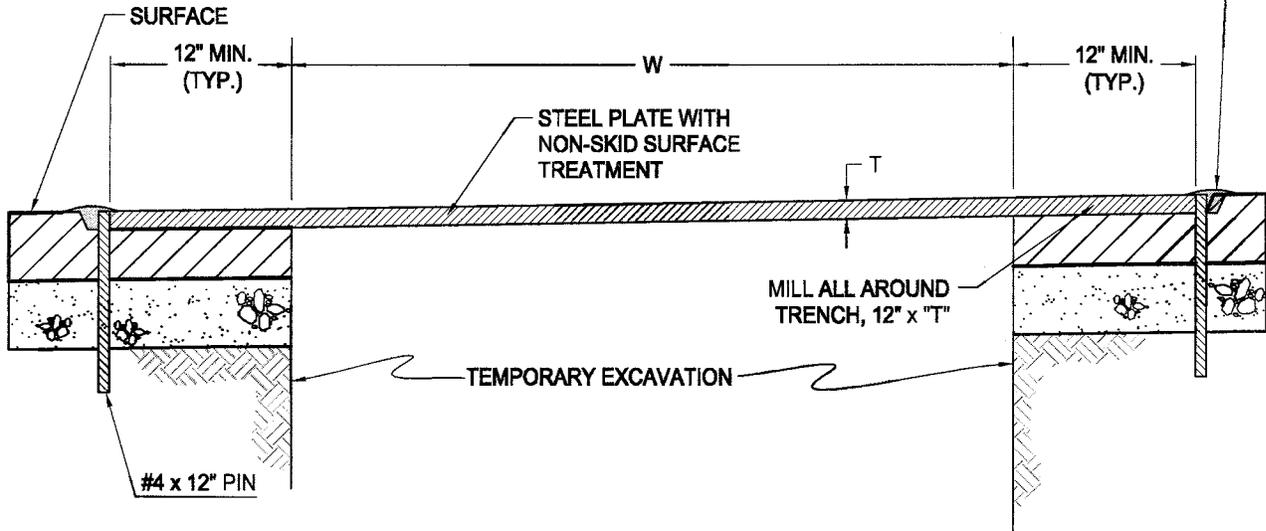
CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE *7-30-09*
 CITY ENGINEER

APPROVED *[Signature]* DATE *7-31-09*
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 112
 SHEET 2 OF 2

TEMPORARY PAVING OR COLD-MIX ASPHALT CONCRETE (CUTBACK) PLACED AROUND ALL EDGES OF PLATE AND ROAD SURFACE. USE WEDGES TO PREVENT RATTLING.



"W" TRENCH WIDTH	"T" MINIMUM STEEL PLATE THICKNESS
≤ 3' - 0"	1 INCH
> 3' - 0", UP TO 4' - 0"	1-1/4 INCH

NOTES:

1. ALL STEEL TRENCH PLATES SHALL BE FULLY SUPPORTED AROUND THE PERIMETER TO PREVENT TIPPING.
2. TRENCHES AND EXCAVATIONS SHALL BE ADEQUATELY SHORED OR BRACED TO WITHSTAND HIGHWAY TRAFFIC LOADS.
3. WHEN TWO OR MORE PLATES ARE USED, THE PLATES SHALL BE TACK WELDED AT EACH CORNER OR AS REQUIRED BY THE CITY ENGINEER.
4. ALL TRENCH PLATES SHALL BE PINNED IN EACH CORNER WITH PINS MADE OF #4 REBAR, OR EQUIVALENT DIAMETER STEEL ROD, WITH A MINIMUM LENGTH OF 12"
5. ALL TRENCH PLATING SHALL BE DESIGNED FOR HS20-44 TRUCK LOADING.
6. FOR TRENCHES AND EXCAVATIONS WITH SPANS GREATER THAN FOUR FEET (4'), A STRUCTURAL DESIGN SHALL BE PREPARED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AND REVIEWED BY THE CITY.
7. TRENCH PLATES SHALL BE USED WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY TO MAINTAIN ALL VEHICULAR, BICYCLE AND PEDESTRIAN TRAFFIC FLOW.
8. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

STEEL PLATE FOR OPEN TRENCH DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

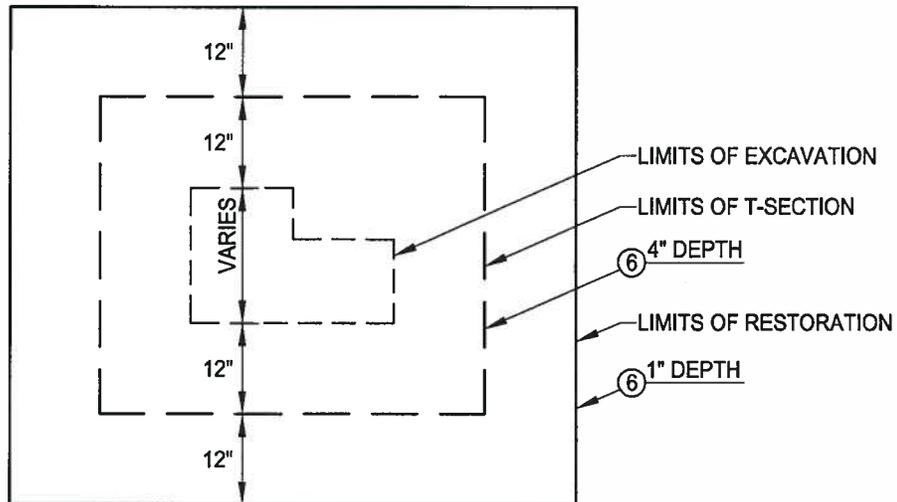
RECOMMENDED *[Signature]*
CITY ENGINEER

APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

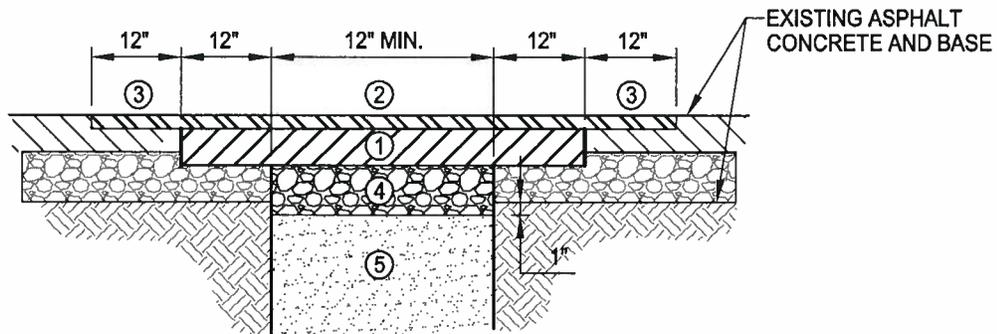
DATE 7-30-09

DATE 7-31-09

STANDARD DRAWING
BH 113
 SHEET 1 OF 1



CASE I - PLAN



CASE I - EXISTING SECTION: ASPHALT CONCRETE

- ① CONSTRUCT NEW ASPHALT CONCRETE BASE COURSE, TYPE B, PG 64-10, 1" THICKER THAN THE EXISTING SECTION.
- ② CONSTRUCT NEW ASPHALT CONCRETE WEARING COURSE:

TYPES OF STREETS	DEPTH	ASPHALT CONCRETE
LOCAL RESIDENTIAL STREETS	1"	TYPE D2, PG-64-10
STREETS WITH RUBBERIZED ASPHALT	2" MIN	ARHM-GG PG-64-16
COLLECTOR/MAJOR STREETS	1-1/2"	TYPE C2, PG-64-10

① AND ②: THE TOTAL THICKNESS OF ① + ② SHALL BE 4" MINIMUM FOR LOCAL OR COLLECTOR STREETS AND 6" MINIMUM FOR MAJOR STREETS. ASPHALT CONCRETE LAYERS SHALL BE COMPACTED TO 95% OF MAXIMUM THEORETICAL SPECIFIC GRAVITY.

PAVEMENT REPLACEMENT SECTION - CASE I

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED  DATE 11/18/2011
APPROVED  DATE 11-18-11
CITY ENGINEER
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 114

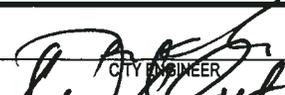
SHEET 1 OF 4

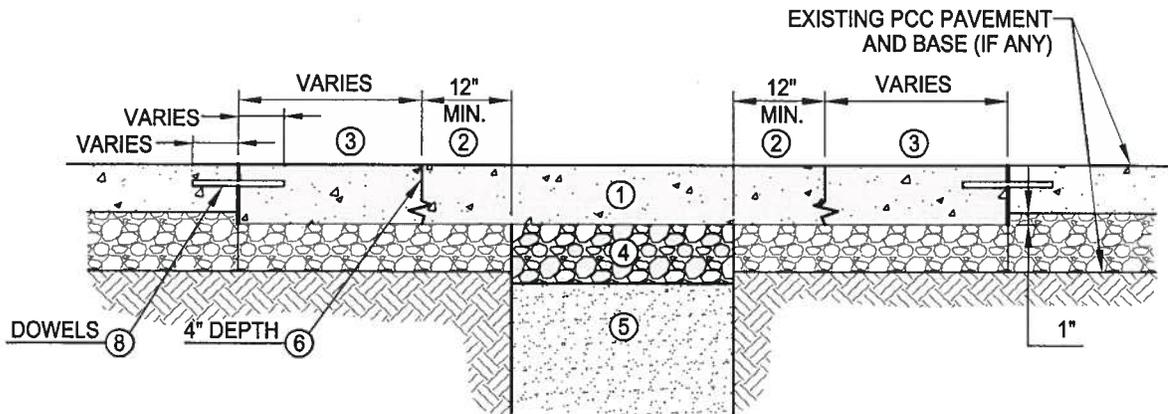
- ③ A. THE LIMITS OF THE RESTORATION SHALL BE A RECTANGULAR AREA EXTENDING A MINIMUM OF 12" BEYOND THE OUTER EDGE OF THE WIDEST PORTION OF THE T-SECTION. THE LIMITS SHALL BE SAWCUT AFTER BACKFILL OF TRENCH IS COMPLETED. THE EXISTING A.C. SHALL BE REMOVED TO A DEPTH EQUAL TO THE THICKNESS OF THE WEARING COURSE. REMOVAL BY COLD MILLING OR PNEUMATIC HAMMER IS ACCEPTABLE. IF THE REMOVALS ARE LESS THAN 5' APART OR LESS THAN 2' FROM A CONCRETE CURB, GUTTER OR CROSS GUTTER, THE RESTORATION SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF THE CONCRETE.
- ④ CONSTRUCT NEW CRUSHED AGGREGATE BASE TO MATCH EXISTING THICKNESS OR 4" THICKNESS, WHICHEVER IS GREATER. COMPACT TO 95% OF RELATIVE DENSITY.
- ⑤ TRENCH BACKFILL SHALL BE EITHER:
 - A. NATIVE MATERIAL OR IMPORTED SOIL (IF NATIVE IS UNSUITABLE)
 - B. CRUSHED AGGREGATE BASE
 - C. TWO SACK CEMENT SAND SLURRY

COMPACTION TEST (USING CITY APPROVED METHOD) ARE REQUIRED UNLESS SLURRY IS USED.
- ⑥ SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE FINAL EDGE OF ALL EXCAVATIONS TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.
- 7. T-SECTIONS ARE 12" WIDE AS MEASURED FROM THE FINAL EDGE OF TRENCH (AFTER SLUFFING).
- 8. ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY RESTORATION WORK SHALL BE REPLACED.
- 9. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").
- 10. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

PAVEMENT REPLACEMENT SECTION - CASE I

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	

RECOMMENDED	 <small>CITY ENGINEER</small>	DATE <u>11/18/2011</u>	STANDARD DRAWING
APPROVED	 <small>PUBLIC WORKS DIRECTOR</small>	DATE <u>11-18-11</u>	BH 114
			SHEET 2 OF 4



CASE II - EXISTING SECTION: PORTLAND CONCRETE CEMENT

- ① CONSTRUCT NEW PCC PAVEMENT 1" THICKER THAN THE EXISTING CONCRETE, 6" MINIMUM.
- ② THE EXACT LIMITS FOR REMOVAL SHALL BE DETERMINED BY THE CITY ENGINEER SUCH THAT JOIN LINES ARE NOT WITHIN 2'-6" OF EXISTING PAVEMENT JOINTS OR SIGNIFICANT CRACKS. IF THE EXCAVATIONS ARE LESS THAN 5' APART OR LESS THAN 2'-6" FROM A CONCRETE CURB, GUTTER OR EXPANSION JOINT, THE RESTORATION SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF CONCRETE.
- ③ FOR PCC STREETS OR INTERSECTIONS THE LIMITS OF THE RESTORATION SHALL BE A RECTANGULAR AREA EXTENDING TO THE NEAREST CONSTRUCTION JOINT. THE STRUCTURAL SECTION OUTSIDE THE UTILITY TRENCH AREA SHALL BE EQUAL TO ① + ④.
- ④ CONSTRUCT NEW CRUSHED AGGREGATE BASE TO MATCH EXISTING THICKNESS OR 4" THICKNESS, WHICHEVER IS GREATER. COMPACT TO 95% OF RELATIVE DENSITY.
- ⑤ TRENCH BACKFILL SHALL BE EITHER:
 - A. NATIVE MATERIAL OR IMPORTED SOIL (IF NATIVE IS UNSUITABLE)
 - B. CRUSHED AGGREGATE BASE
 - C. TWO SACK CEMENT SAND SLURRY
 COMPACTION TEST (USING CITY APPROVED METHOD) ARE REQUIRED UNLESS SLURRY IS USED.
- ⑥ SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE FINAL EDGE OF ALL EXCAVATIONS TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.
- ⑦ DOWEL SIZE, SPACING, AND EMBEDMENT SHOULD BE AS FOLLOWS:

CONCRETE THICKNESS	SIZE AND SPACING	EMBEDMENT
6"	#4 @ 16" O.C.	4"
8"	#5 @ 16" O.C.	6"
10"	#6 @ 16" O.C.	8"

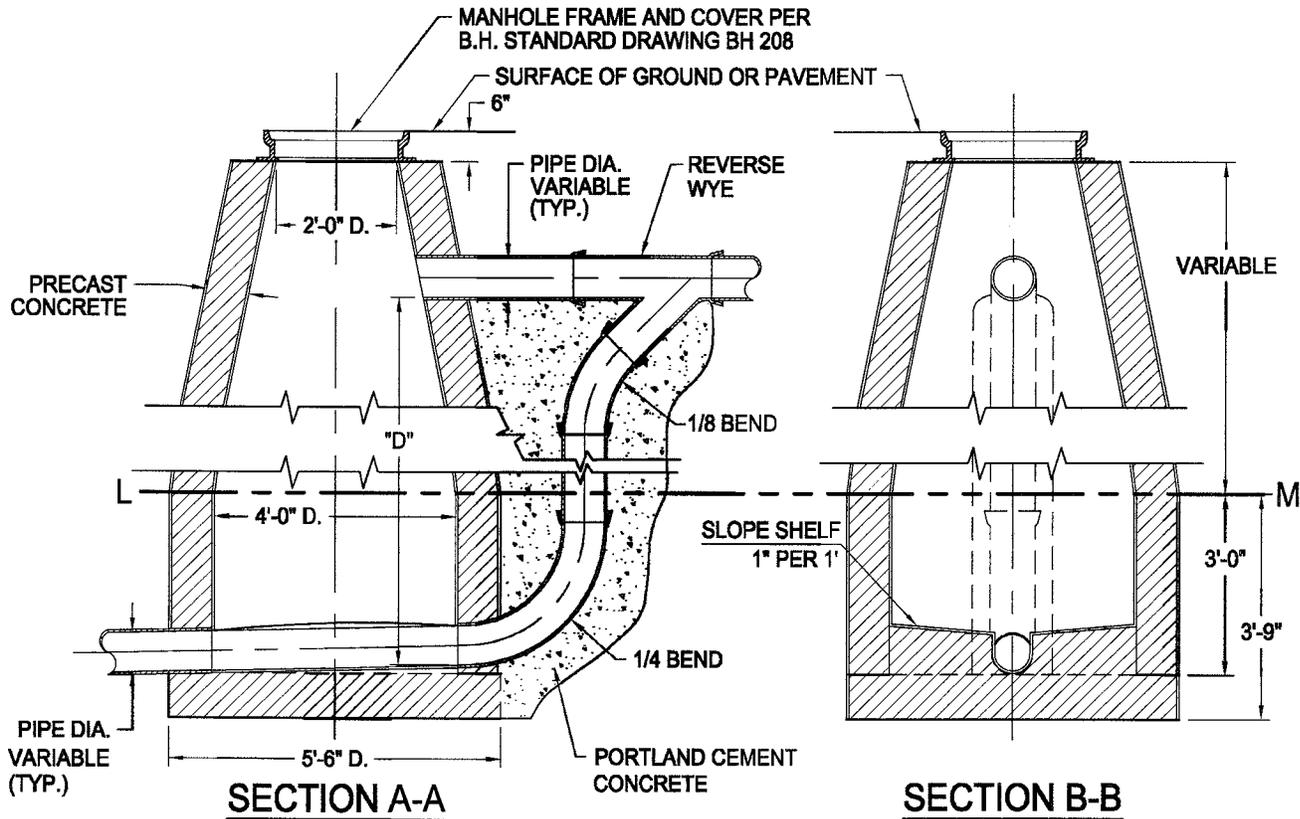
- 8. ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY RESTORATION WORK SHALL BE REPLACED.
- 9. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").
- 10. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

PAVEMENT REPLACEMENT SECTION - CASE II

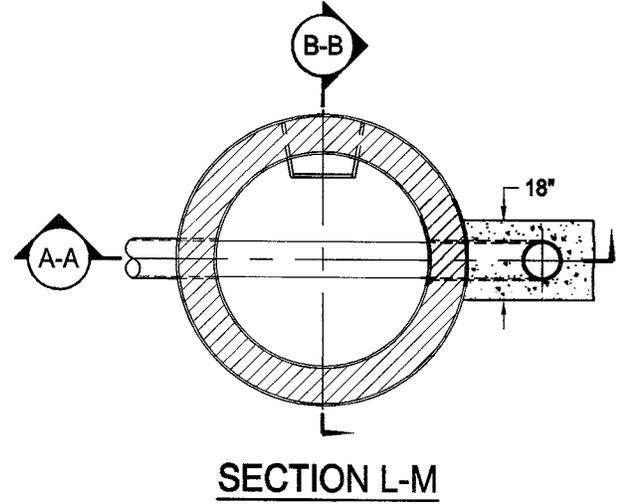
REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION
MARK	DATE	DESCRIPTION				
			RECOMMENDED  CITY ENGINEER	DATE	11/18/2011	STANDARD DRAWING
			APPROVED  PUBLIC WORKS DIRECTOR	DATE	11-18-11	BH 114 SHEET 3 OF 4

Section II

Sewer and Sanitation



CASE I



NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

DROP MANHOLE "S"

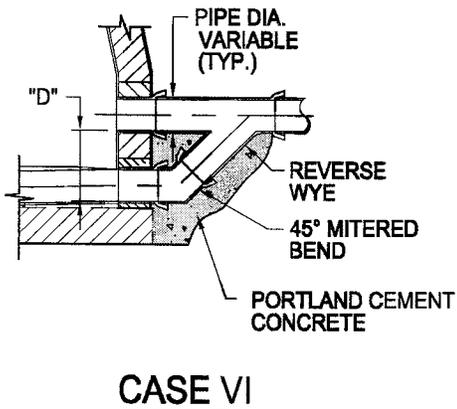
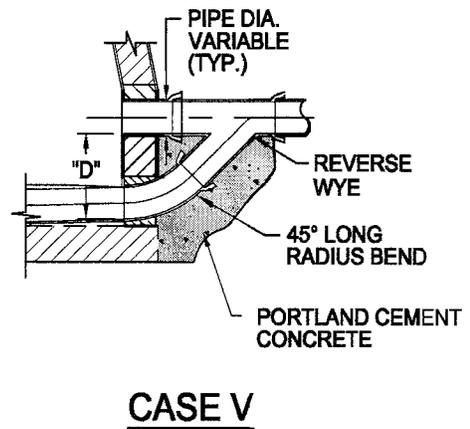
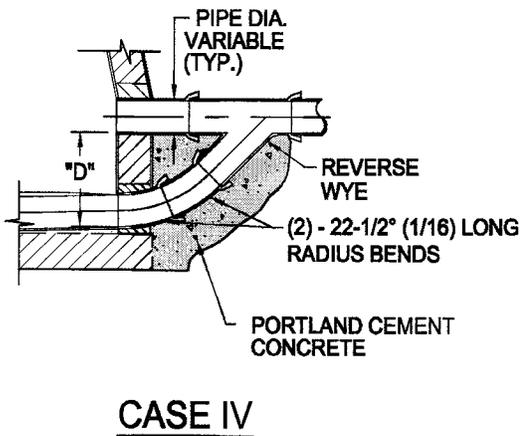
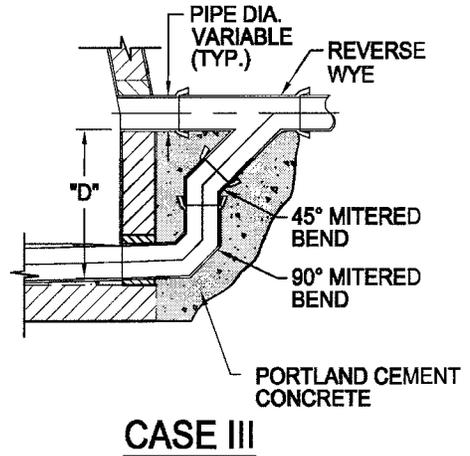
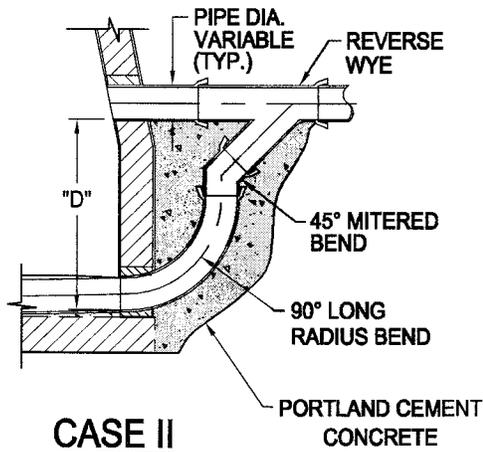
REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE *7-30-09*
 CITY ENGINEER
 APPROVED *[Signature]* DATE *7-31-09*
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 201
 SHEET 1 OF 2



	DROP HEIGHT "D"	
	6" PIPE	8" PIPE
CASE I	3' - 3"	4' - 0"
CASE II	N.A.	3' - 6"
CASE III	N.A.	2' - 7"
CASE IV	1' - 3"	2' - 1"
CASE V	1' - 2"	1' - 7"
CASE VI	N.A.	1' - 4"

NOTE:
FOR LARGER SIZE PIPES, "D" PER PROJECT PLAN

DROP MANHOLE "S"

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

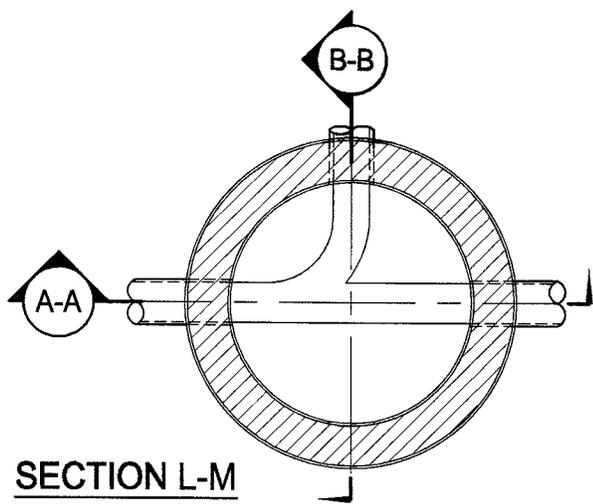
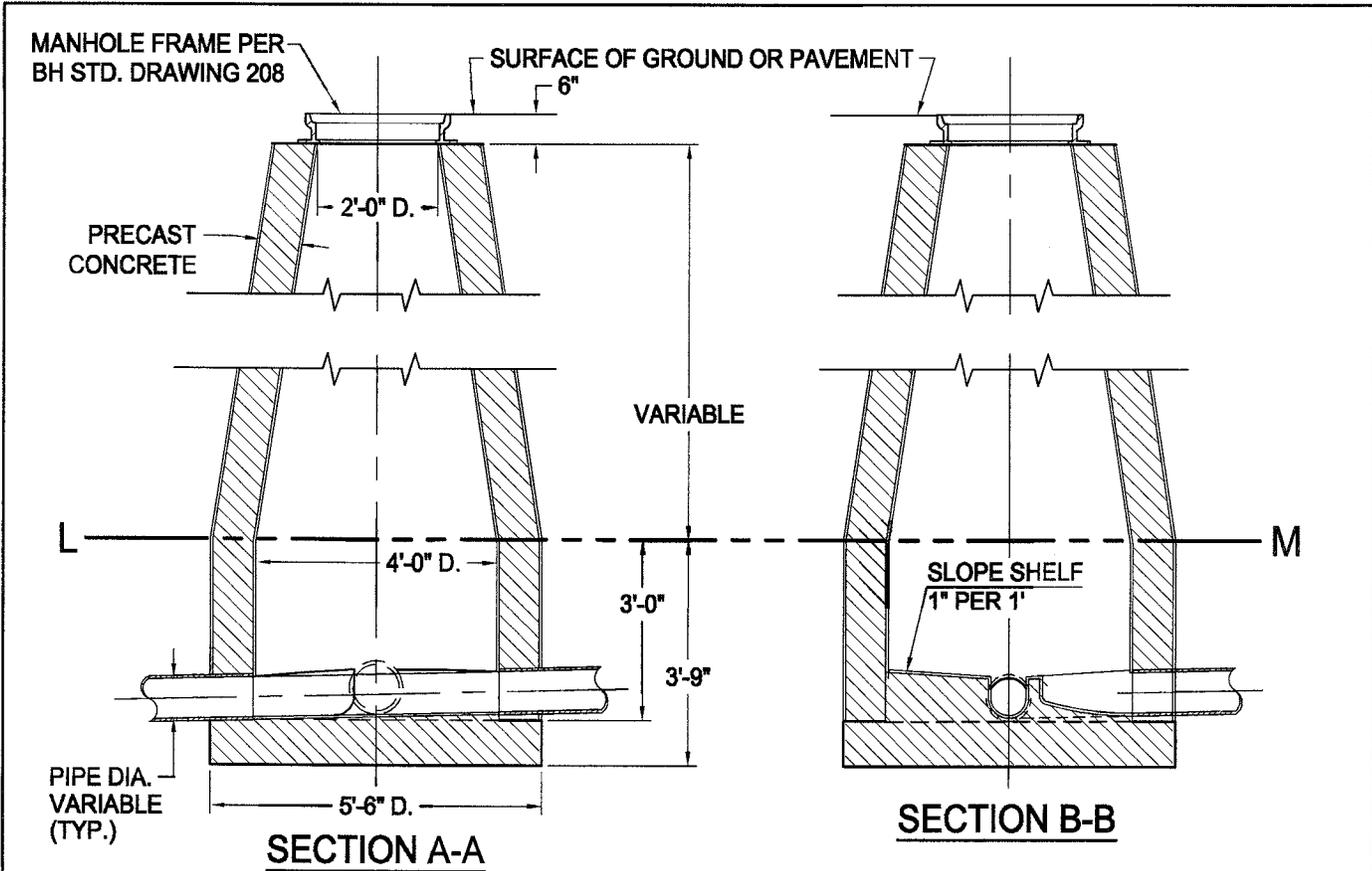
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
CITY ENGINEER
APPROVED *[Signature]* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 201

SHEET 2 OF 2



NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

JUNCTION CHAMBER "F"

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *Alan T. ...* DATE 7-30-09
CITY ENGINEER

APPROVED *... ..* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 203
 SHEET 1 OF 1

MANHOLE FRAME PER
BH STD. DRAWING 208

SURFACE OF GROUND OR PAVEMENT

PRECAST
CONCRETE (TYP.)

2'-0" D.

6"

VARIABLE

4'-0" D.

3'-0"

3'-9"

PIPE DIA.
VARIABLE
(TYP.)

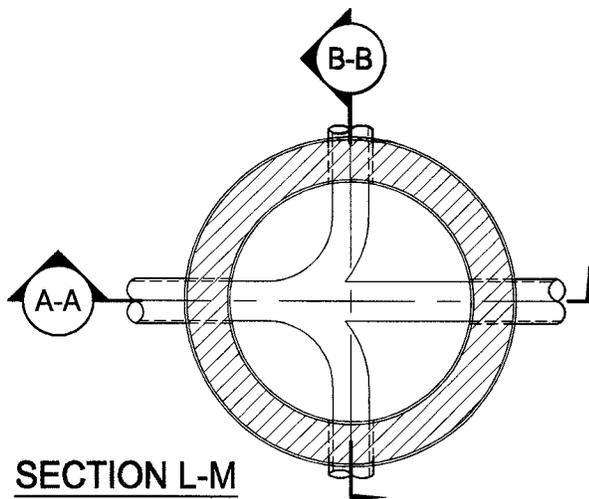
5'-6" D.

SLOPE SHELF

1" PER 1'

SECTION A-A

SECTION B-B



SECTION L-M

NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

JUNCTION CHAMBER "G"

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

Clint...
CITY ENGINEER

DATE 7-30-09

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

BH 204

SHEET 1 OF 1

MANHOLE FRAME PER
BH STD. DRAWING 208

SURFACE OF GROUND OR PAVEMENT

6"

PRECAST
CONCRETE (TYP.)

2'-0" D.

VARIABLE

L

4'-0" D.

3'-0"

3'-9"

PIPE DIA.
VARIABLE
(TYP.)

5'-6" D.

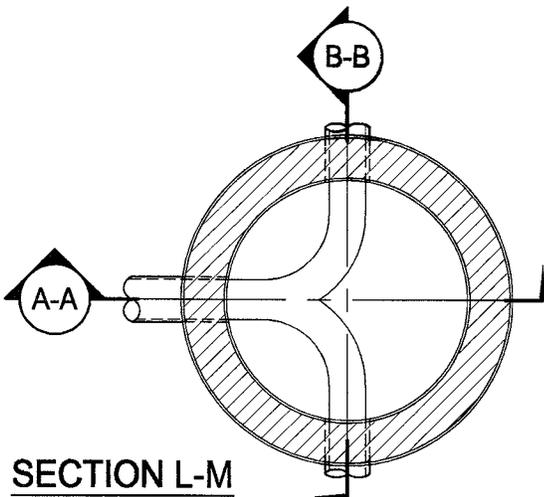
SLOPE SHELF

1" PER 1'

M

SECTION A-A

SECTION B-B



SECTION L-M

NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

JUNCTION CHAMBER "H"

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE 7-30-09

APPROVED

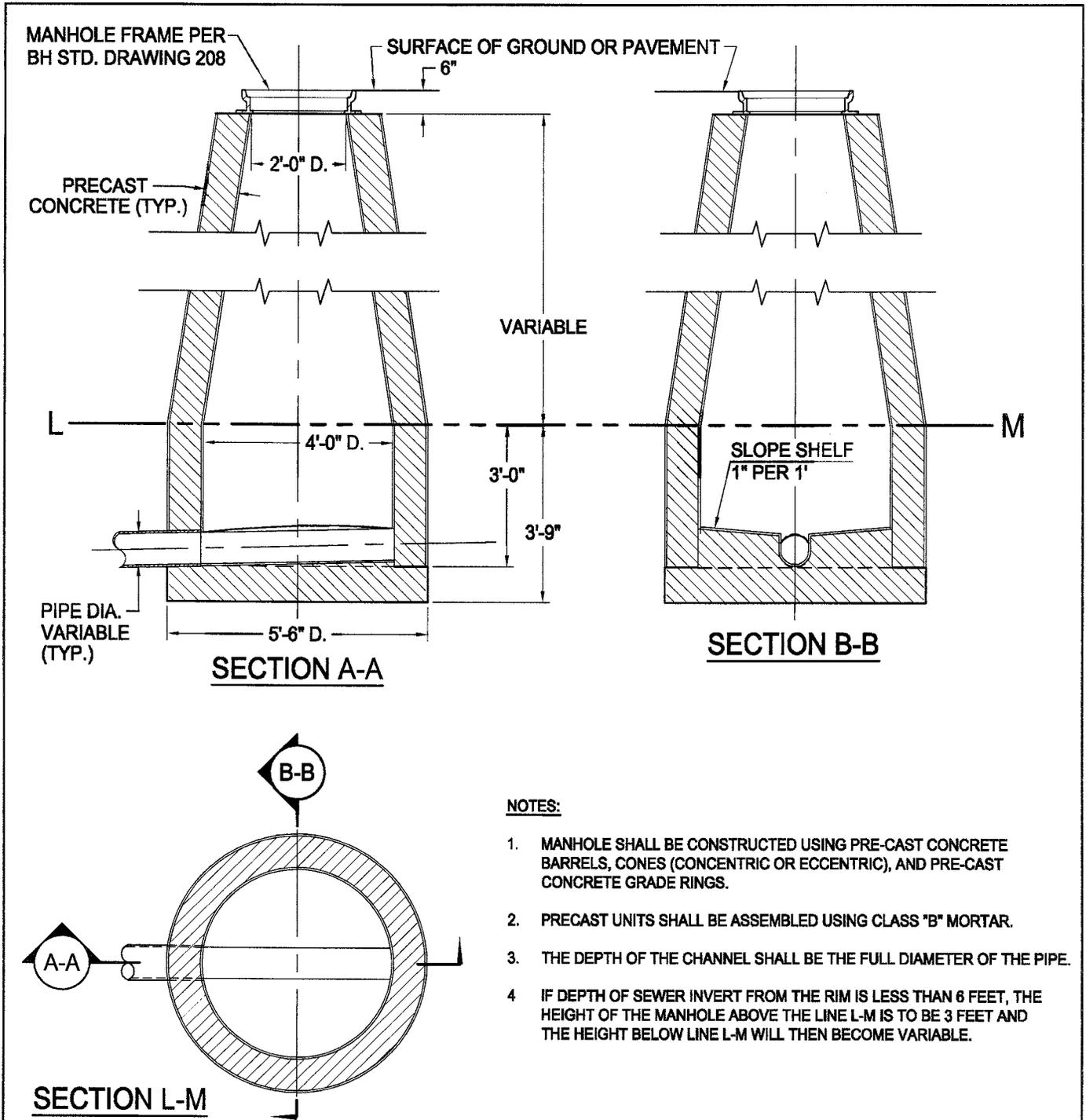
[Signature]
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

BH 205

SHEET 1 OF 1



TERMINAL MANHOLE "Q"

REVISIONS		
MARK	DATE	DESCRIPTION

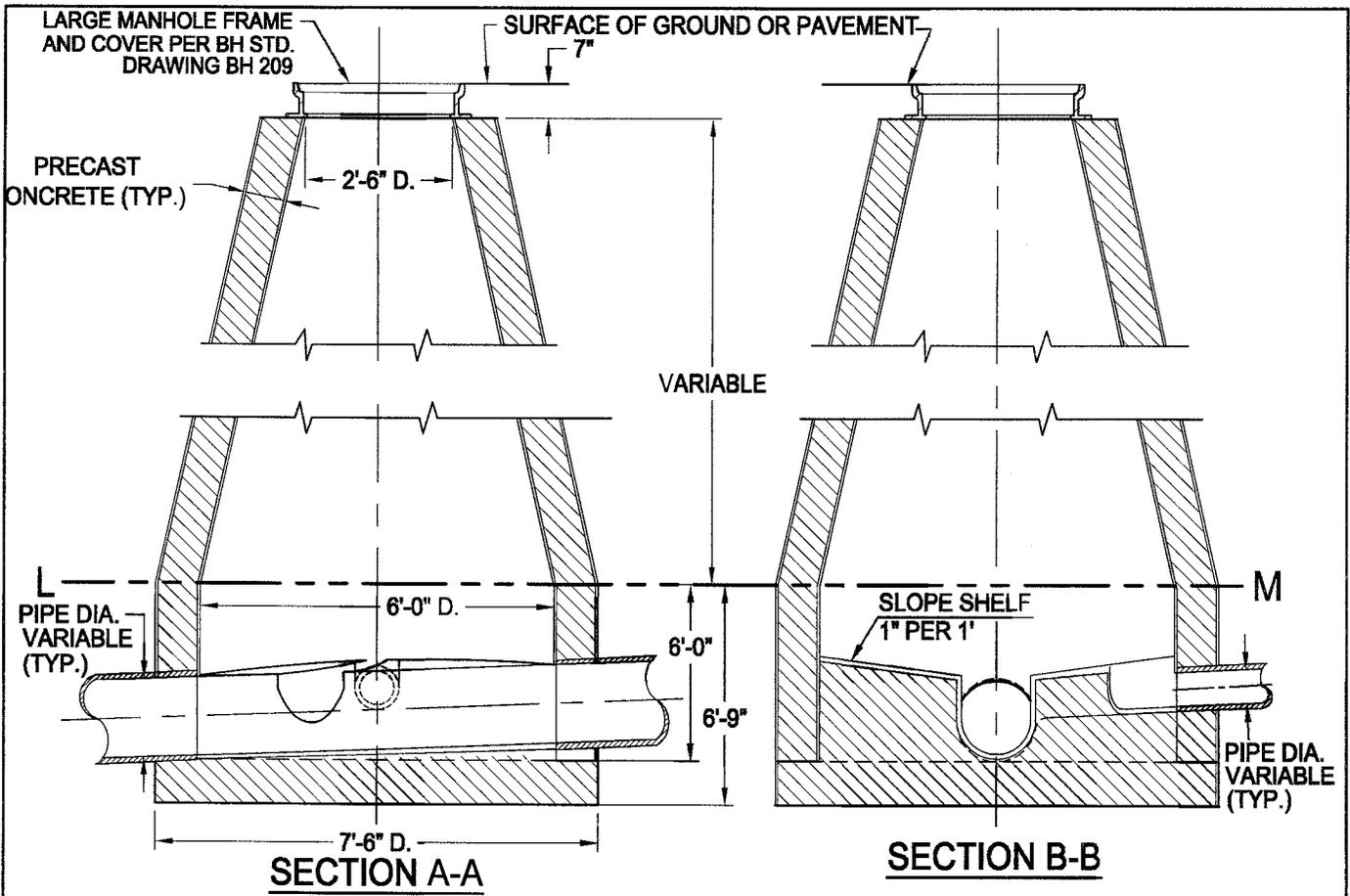


CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *Christina* DATE 7-30-09
CITY ENGINEER

APPROVED *Public Works Director* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 206
 SHEET 1 OF 1



NOTES:

1. MANHOLE SHALL BE CONSTRUCTED USING PRE-CAST CONCRETE BARRELS, CONES (CONCENTRIC OR ECCENTRIC), AND PRE-CAST CONCRETE GRADE RINGS.
2. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
3. THE DEPTH OF THE CHANNEL SHALL BE THE FULL DIAMETER OF THE PIPE.
4. IF DEPTH OF SEWER INVERT FROM THE RIM IS LESS THAN 6 FEET, THE HEIGHT OF THE MANHOLE ABOVE THE LINE L-M IS TO BE 3 FEET AND THE HEIGHT BELOW LINE L-M WILL THEN BECOME VARIABLE.

MODIFIED JUNCTION CHAMBER "F"

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

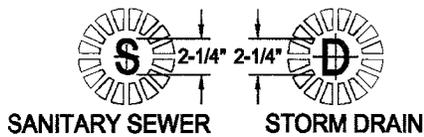
RECOMMENDED *[Signature]*
CITY ENGINEER

APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

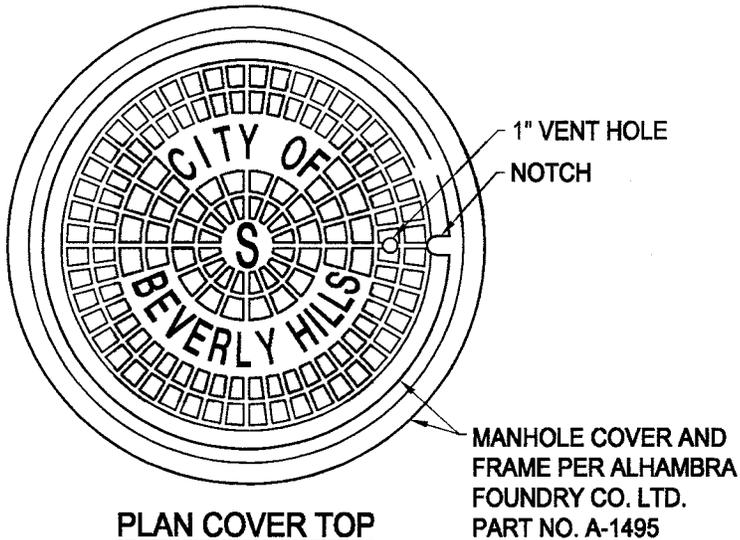
DATE *7-30-09*

DATE *7-31-09*

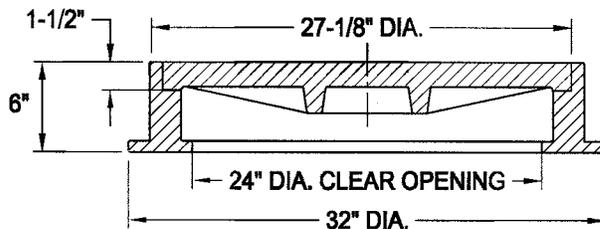
STANDARD DRAWING
BH 207
 SHEET 1 OF 1



DETAIL OF LETTERS



PLAN COVER TOP



INSTALLATION NOTES:

1. THE MANHOLE FRAME AND COVER SHALL BE MADE OF GRAY CAST IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-48, CLASS 30.
2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADII 1/8" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2° UNLESS OTHERWISE SPECIFIED.

NON-ROCKING MANHOLE FRAME AND COVER

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION
MARK	DATE	DESCRIPTION				

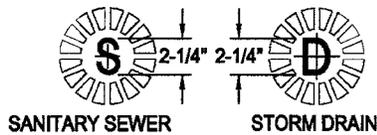
RECOMMENDED  DATE 7-30-09
CITY ENGINEER

APPROVED  DATE 7-31-09
PUBLIC WORKS DIRECTOR

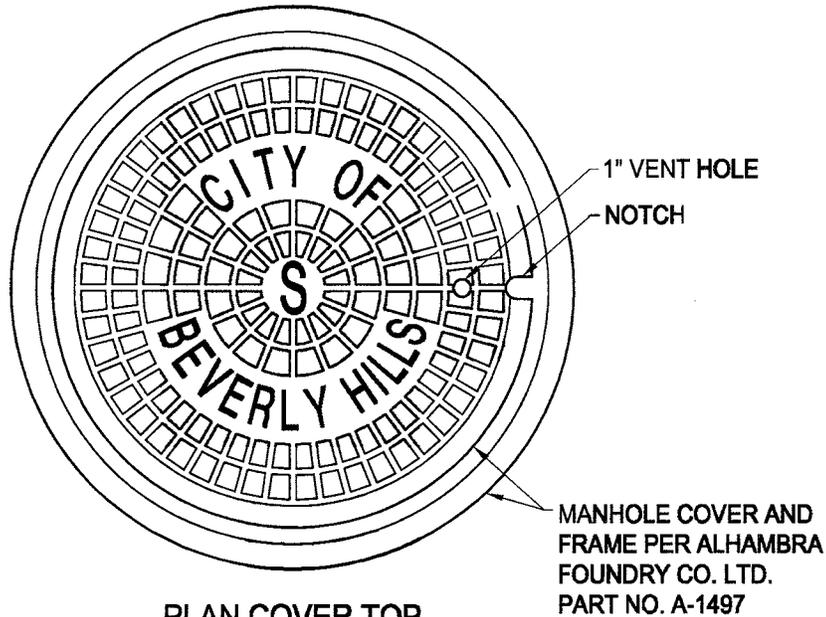
STANDARD DRAWING

BH 208

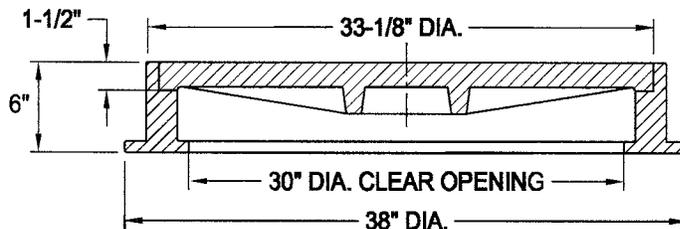
SHEET 1 OF 1



DETAIL OF LETTERS



PLAN COVER TOP



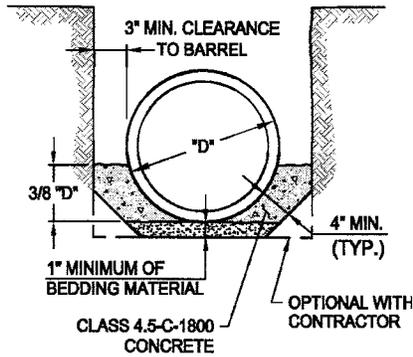
INSTALLATION NOTES:

1. THE MANHOLE FRAME AND COVER SHALL BE MADE OF GRAY CAST IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-48, CLASS 30.
2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADII 1/8" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2" UNLESS OTHERWISE SPECIFIED.

LARGE MANHOLE FRAME AND COVER

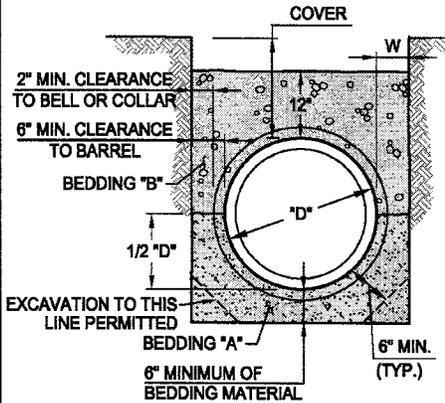
REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
MARK	DATE	DESCRIPTION			
			RECOMMENDED <i>[Signature]</i> <small>CITY ENGINEER</small>	DATE 7-30-09	STANDARD DRAWING BH 209 SHEET 1 OF 1
			APPROVED <i>[Signature]</i> <small>PUBLIC WORKS DIRECTOR</small>	DATE 7-31-09	

CASE I



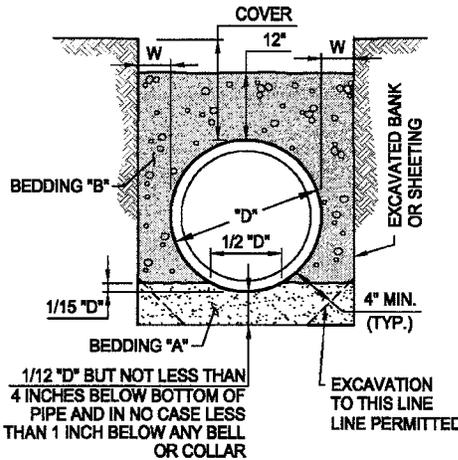
- CASE I BEDDING (LOAD FACTOR 2.1)** SHALL BE USED WHERE SPECIFIED ON THE PLANS OR WHERE REQUIRED AS AN ALTERNATIVE TO CASE II OR CASE III BEDDING AS PROVIDED HEREON. CASE IV BEDDING SHALL BE USED INSTEAD OF CASE I AGAINST SHEETING OR UNSTABLE TRENCH SIDES IF SO REQUIRED BY THE ENGINEER.

CASE II CLAY AND CONCRETE PIPE



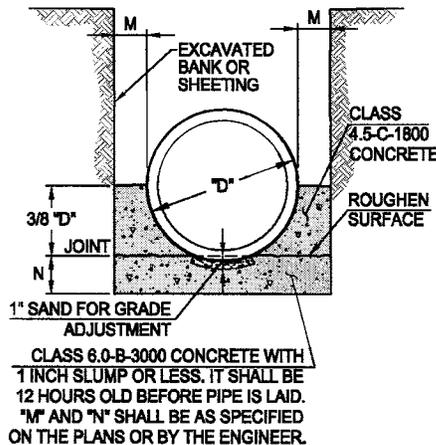
- CASE II BEDDING (LOAD FACTOR 1.8)**
 - "W" AT THE SPRING LINE SHALL NOT BE LESS THAN 8 INCHES FOR ANY DEPTH OF TRENCH.
 - WHERE THE COVER IS LESS THAN 8 FEET, "W" MEASURED AT THE TOP OF THE PIPE MAY BE ANY DIMENSION GREATER THAN 6 INCHES.
 - WHERE THE COVER IS GREATER THAN 8 FEET, "W" MEASURED AT THE TOP OF PIPE SHALL NOT BE GREATER THAN 8 INCHES UNLESS THE CONTRACTOR AT HIS OWN EXPENSE PROVIDES CASE I BEDDING. THE STATED 8 INCHES INCLUDES THE THICKNESS OF ANY SHEETING

CASE III REINFORCED CONCRETE PIPE



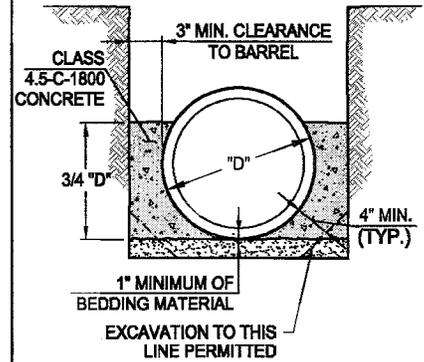
- CASE III BEDDING (LOAD FACTOR 1.8)**
 - "W" AT THE SPRING LINE SHALL NOT BE LESS THAN 3 INCHES FOR ANY DEPTH OF TRENCH.
 - WHERE THE COVER IS LESS THAN 8 FEET, "W" MEASURED AT THE TOP OF THE PIPE MAY BE ANY DIMENSION GREATER THAN 3 INCHES.
 - WHERE THE COVER IS GREATER THAN 8 FEET, "W" MEASURED AT THE TOP OF PIPE SHALL NOT BE GREATER THAN 10 INCHES UNLESS THE CONTRACTOR AT HIS OWN EXPENSE PROVIDES CASE I BEDDING. THE STATED 10 INCHES INCLUDES THE THICKNESS OF ANY SHEETING.

CASE IV



- CASE IV BEDDING (LOAD FACTOR 3.0)** WHERE REQUIRED BY THE ENGINEER AS AN ALTERNATIVE TO CASE I OR CASE V TO MEET CONDITIONS ARISING DURING CONSTRUCTION.

CASE V



- CASE V BEDDING (LOAD FACTOR 2.7)** SHALL BE USED WHERE SPECIFIED ON THE PLANS. CASE IV BEDDING SHALL BE USED INSTEAD OF CASE V AGAINST SHEETING OR UNSTABLE TRENCH WALLS IF SO REQUIRED BY THE ENGINEER.

GENERAL NOTES

- USE CASE III FOR RCP AND CASE II FOR VITRIFIED CLAY AND PLAIN CONCRETE PIPE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PROJECT DRAWINGS.
- BEDDING "A" SHALL BE COMPOSED OF SAND, NO. 3 OR NO. 4 CRUSHED ROCK OR GRAVEL, OR OTHER GRANULAR MATERIAL AS MAY BE SPECIFIED OR OTHERWISE APPROVED BY THE ENGINEER. THE MAXIMUM SIZE ROCK OR GRAVEL SHALL BE NO. 3 FOR PIPES 27 INCHES IN DIAMETER AND LARGER, AND NO. 4 FOR PIPES SMALLER THAN 27 INCHES IN DIAMETER. BEDDING "B" SHALL BE COMPOSED OF SAND OR OTHER GRANULAR MATERIAL AS MAY BE SPECIFIED OR OTHERWISE APPROVED BY THE ENGINEER AND SHALL BE COMPLETED PRIOR TO PLACING BALANCE OF BACKFILL.
- CONCRETE ENCASEMENT, WHERE CALLED FOR ON THE PROJECT DRAWINGS, SHALL BE CLASS 5.5-C-2500 CONCRETE POURED FROM A MINIMUM OF 4" BELOW BOTTOM OF PIPE TO A MINIMUM OF 6" ABOVE TOP OF PIPE.

PIPE BEDDING IN TRENCHES

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09

APPROVED *[Signature]* DATE 7-31-09

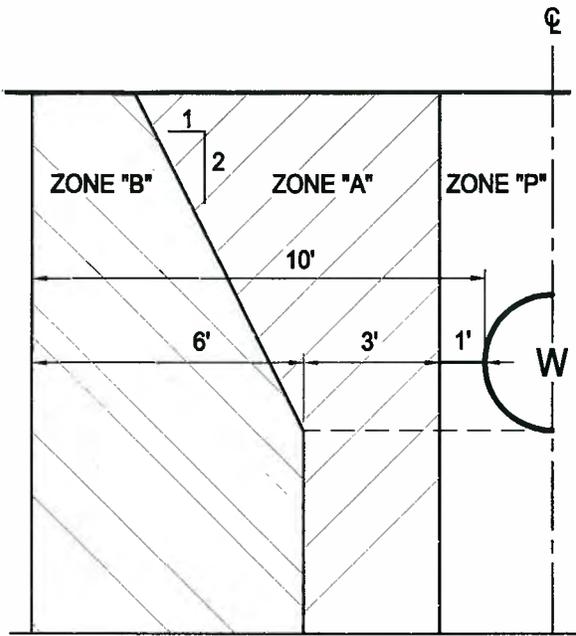
CITY ENGINEER

PUBLIC WORKS DIRECTOR

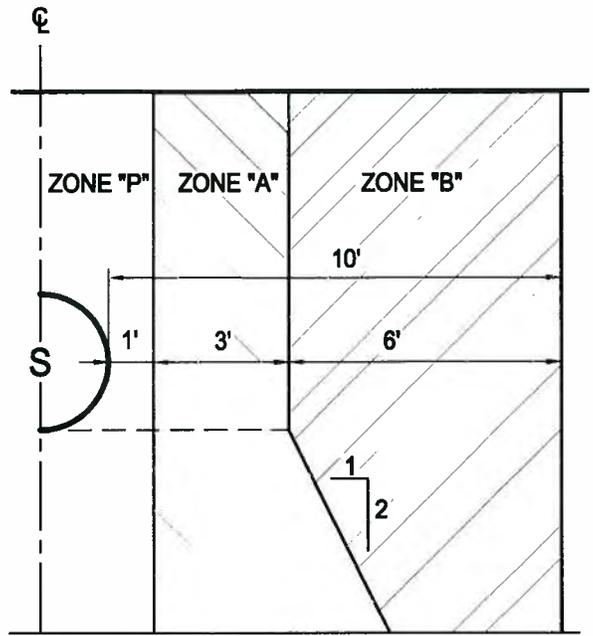
STANDARD DRAWING

BH 211

SHEET 1 OF 1



CASE 1
NEW SEWER



CASE 2
NEW WATER MAIN

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF:
 - 1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS.
 - 2. PLASTIC SEWER PIPE WITH RUBBER RING JOINTS (PER ASTM D 3034) OR EQUIVALENT.
 - 3. CAST OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
 - 4. REINFORCED CONCRETE PRESSURE PIPE WITH COMPRESSION JOINTS (PER AWWA C302-74).
- P. PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A WATER LINE PLACED PARALLEL TO A SEWER LINE SHALL BE CONSTRUCTED OF STEEL PIPE, CML, AND CMC WITH WELDED JOINTS.
- P. PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

- 1. ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES,
- 2. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
- 3. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
- 4. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN PARALLEL SEPARATION < 10'

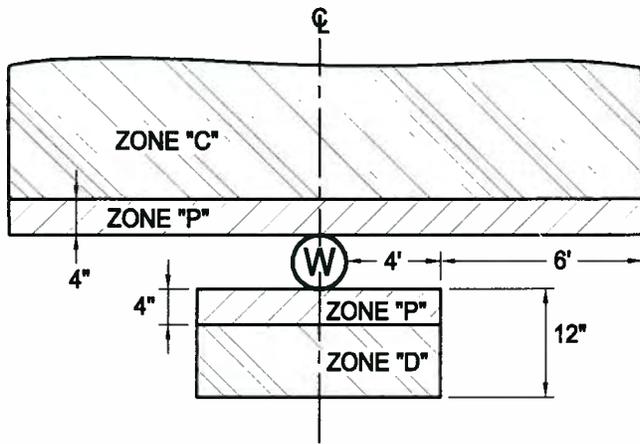
REVISIONS		
MARK	DATE	DESCRIPTION



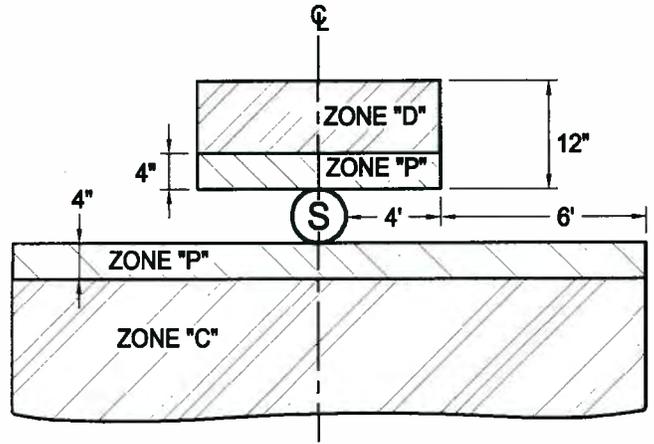
CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER
APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 212
SHEET 1 OF 2



CASE 1
NEW SEWER



CASE 2
NEW WATER MAIN

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- C. A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:
1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS.
 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA 0990) PLASTIC PIPE OR EQUIVALENT. CENTERED OVER THE PIPE BEING CROSSED.
 3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302-74) CENTERED OVER THE PIPE BEING CROSSED.
 4. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE.
- D. A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:
1. A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING.
 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA 0990) PLASTIC PIPE OR EQUIVALENT. CENTERED OVER THE PIPE BEING CROSSED.
 3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302-74) CENTERED OVER THE PIPE BEING CROSSED.
 4. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE
 5. ANY SEWER PIPE SEPARATED BY A 10"x10"x4" THICK REINFORCED CONCRETE SLAB.
- P. PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- C. NO JOINTS WITHIN 10 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.
- D. NO JOINTS WITHIN 4 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.
- P. PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

1. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
2. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
3. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN PERPENDICULAR SEPARATION < 10'

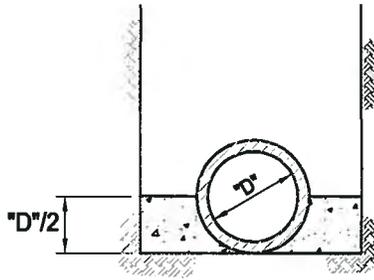
REVISIONS		
MARK	DATE	DESCRIPTION



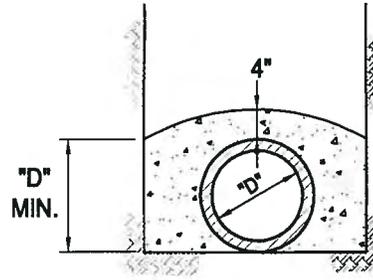
CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER
APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

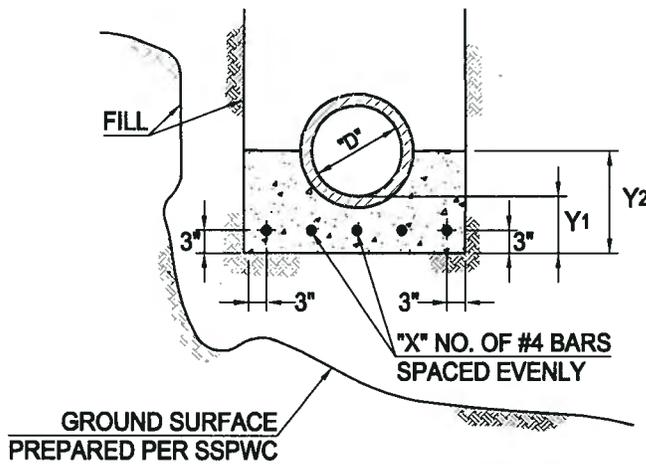
STANDARD DRAWING
BH 212
SHEET 2 OF 2



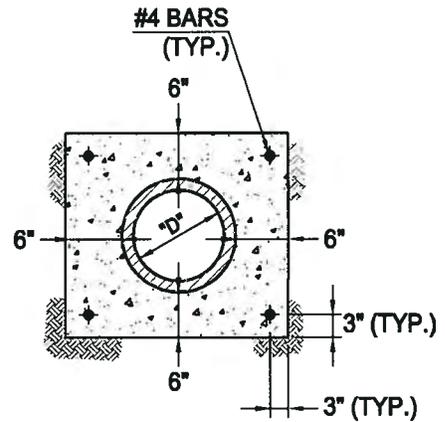
**CASE I
CONCRETE CRADLE**



**CASE II
CONCRETE ENCASEMENT**



**CASE III
SPECIAL CRADLE**



**CASE IV
SPECIAL ENCASEMENT**

SCHEDULE OF DIMENSIONS AND REINFORCING BARS FOR SPECIAL CRADLE - CASE III			
"D" DIAMETER	"X" NO. OF #4 BARS	THICKNESS	
		Y ₁	Y ₂
6"	2	4"	8"
8"	4	5"	10"
10"	4	6"	12"
12"	4	7"	15"
15"	5	9"	19"
18"	5	10"	22"
21"	6	12"	26"
24"	6	13"	28"

CRADLING AND ENCASEMENT FOR SEWER LINE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE

11-18-10

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE

11-18-10

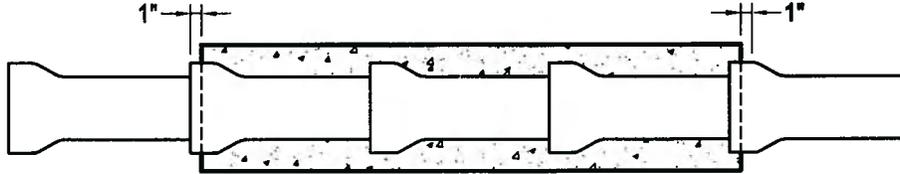
STANDARD DRAWING

BH 213

SHEET 1 OF 2

NOTES:

1. EXTEND BOTH ENDS OF CRADLE OR ENCASEMENT TO A POINT 1" SHORT OF FIRST PIPE JOINT BEYOND LOCATIONS SPECIFIED ON PLANS.



PLAN VIEW

2. APPLY FORM OIL. THIN PLASTIC SHEET, OR OTHER ACCEPTABLE MATERIAL TO PIPE, TO PREVENT BOND BETWEEN PIPE AND CONCRETE.
3. USE CLASS 420-C-2000 CONCRETE FOR ALL CASES.
4. CONDITIONS OF REQUIRED USE:
 - a. CASE I - CONCRETE CRADLE
 1. WHEN OVERBURDEN DEPTH IS GREATER THAN 20'.
 2. AS A SUPPORT WHEN CROSSING OVER A STRUCTURE WITH A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
 3. WHEN WITHIN A 45° ANGLE DOWNWARD FROM THE BOTTOM OF A FOOTING.
 - b. CASE II - CONCRETE ENCASEMENT
 1. WHEN CROSSING UNDER A STRUCTURE WITH A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
 2. WHEN COVER DIRT IS LESS THAN 4'.
 3. WHEN LESS THAN 3' FROM A POWER POLE.
 - c. CASE III - SPECIAL CRADLE
 1. AS A SUPPORT WHEN CROSSING OVER A TRENCH GREATER THAN 4' IN WIDTH, SEE APWA STANDARD PLAN 224.
 - d. CASE IV - SPECIAL ENCASEMENT
 1. WHEN CROSSING UNDER A STRUCTURE WITH A WIDTH GREATER THAN 5' AND A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
 2. WHEN WITHIN 10' OF A PRESSURIZED WATER MAIN, OR WITHIN 25' OF A GRAVITY FLOW WATER MAIN.

CRADLING AND ENCASEMENT

REVISIONS		
MARK	DATE	DESCRIPTION



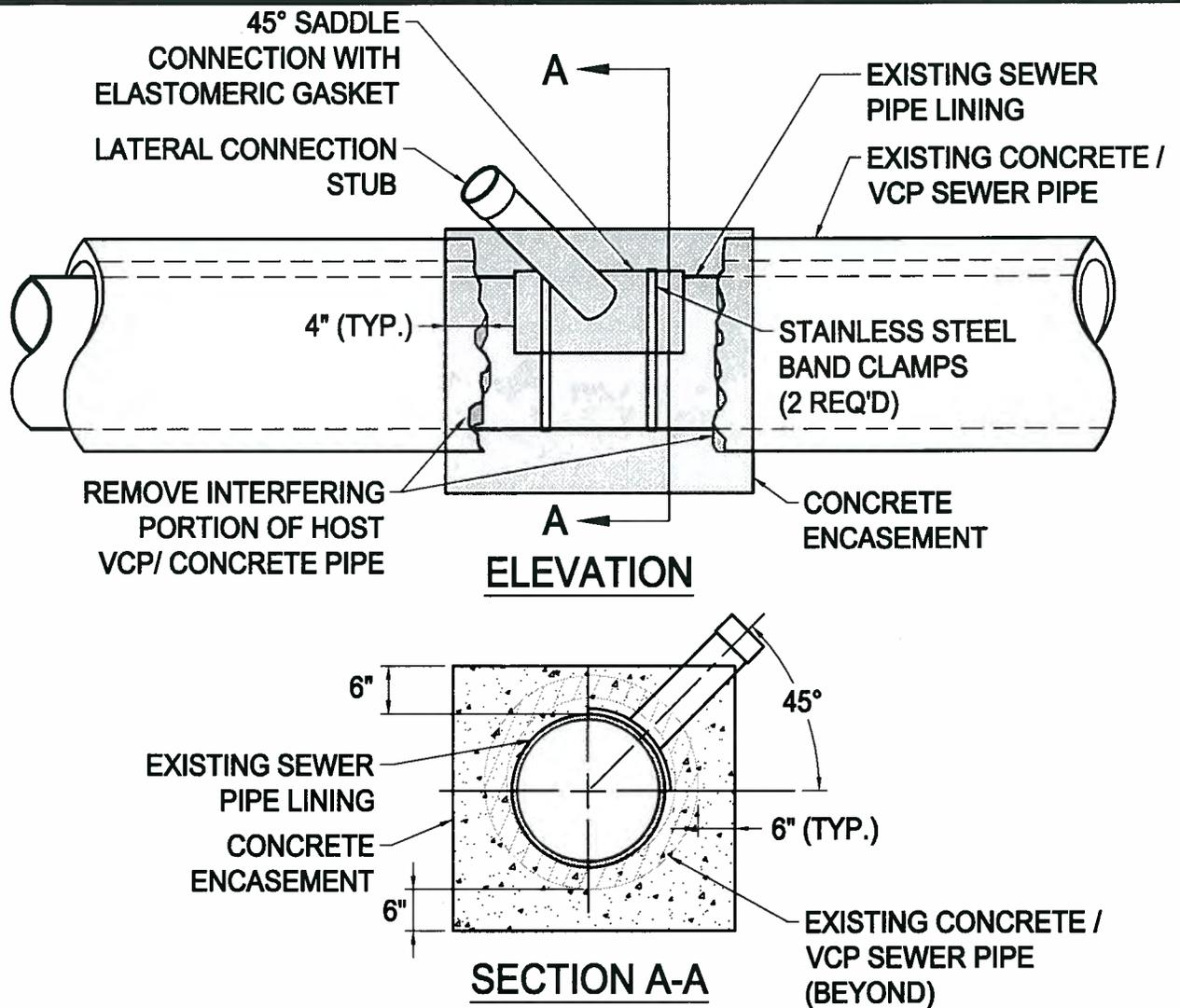
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 213
SHEET 2 OF 2



ADDITIONAL NOTES:

1. MATERIALS SHALL BE SELECTED FROM THE CITY OF BEVERLY HILLS APPROVED MATERIALS LIST.
2. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.
3. NO MORE THAN ONE CUT-IN LATERAL CONNECTION WILL BE ALLOWED FOR EACH LENGTH OF VCP SEWER MAIN.
4. LINING SHALL BE CORED THE EXACT DIAMETER OF THE LATERAL.
5. LATERAL SHALL BE FLUSH WITH THE LINING MATERIAL AND SHALL NOT PROTRUDE WITHIN THE LINING.

LATERAL CONNECT TO LINED SEWER MAIN

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE

11-18-10

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE

11-18-10

STANDARD DRAWING

BH 214

SHEET 1 OF 1

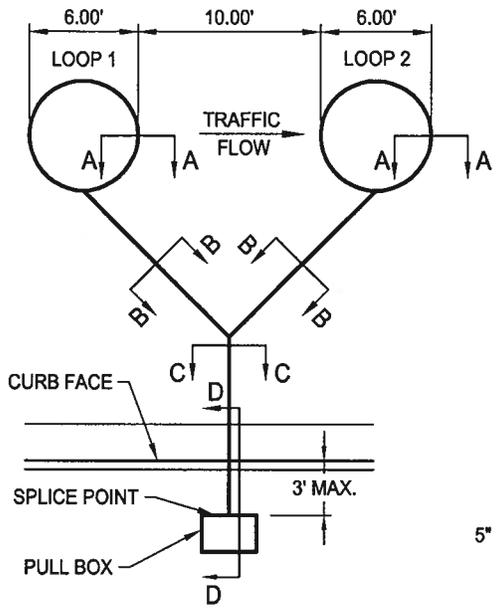
Section III

Flood Control and Storm Drain Facilities

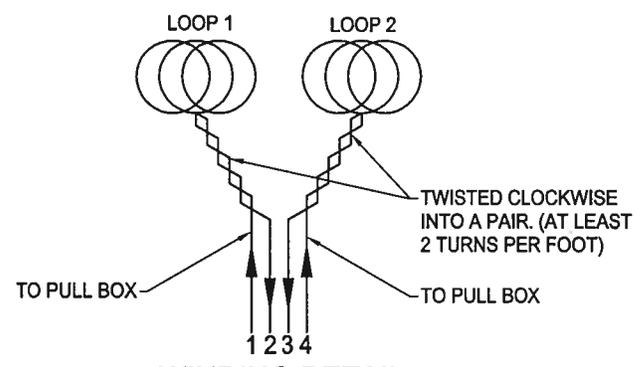
(RESERVED)

Section IV

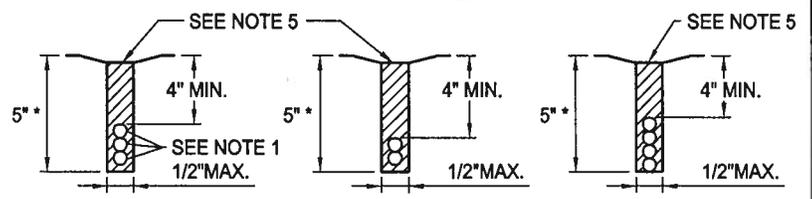
Street Lighting and Traffic Signals



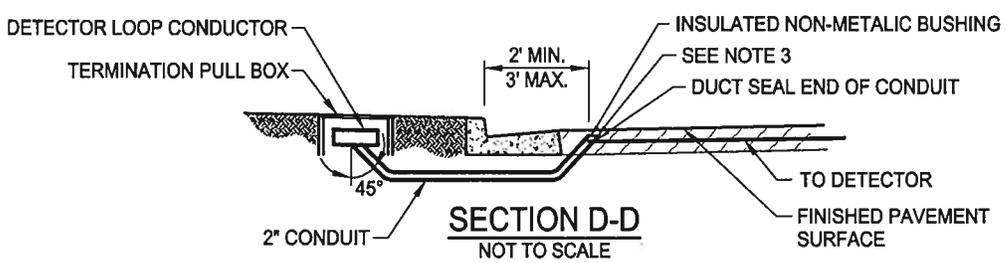
PLAN
NOT TO SCALE



WINDING DETAIL
NOT TO SCALE



SECTION A-A NOT TO SCALE **SECTION B-B** NOT TO SCALE **SECTION C-C** NOT TO SCALE



SECTION D-D
NOT TO SCALE

- NOTES:**
1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
 2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #1B AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
 3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
 4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
 5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
 6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

ROUND INDUCTIVE LOOP DETECTOR INSTALLATION

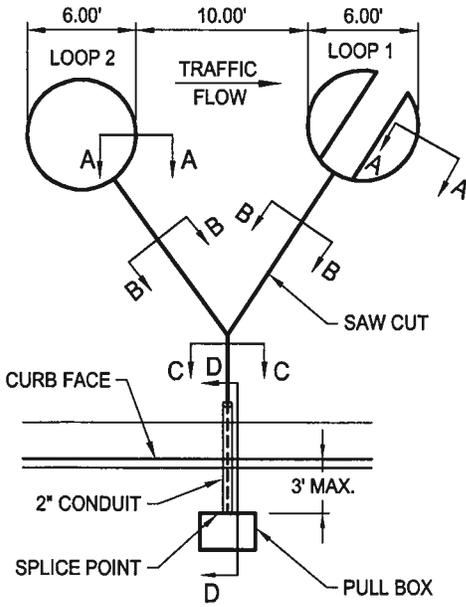
REVISIONS		
MARK	DATE	DESCRIPTION



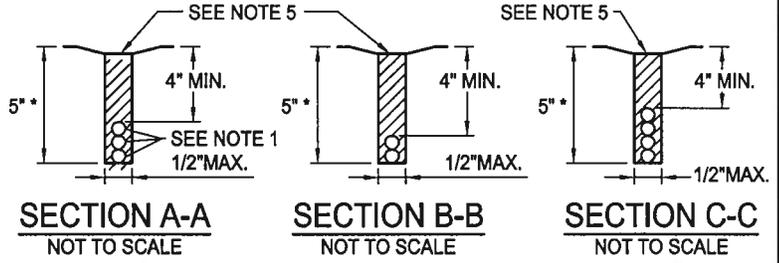
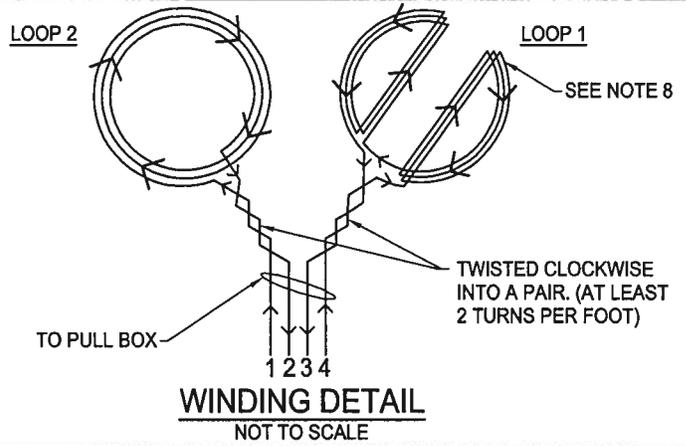
CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11/18/11
CITY ENGINEER
APPROVED *[Signature]* DATE 11-18-11
PUBLIC WORKS DIRECTOR

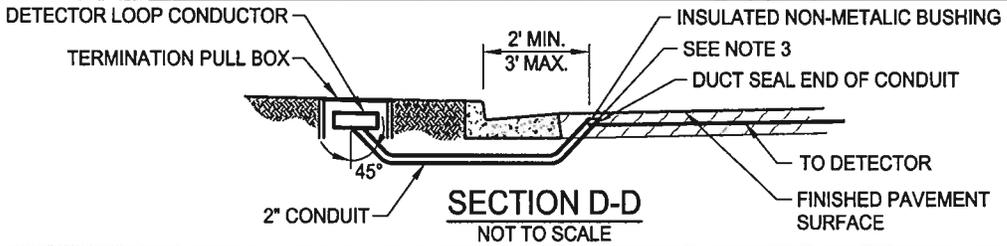
STANDARD DRAWING
BH 401
SHEET 1 OF 1



PLAN
NOT TO SCALE



* DEPTH OF SLOT NOT TO EXCEED DEPTH OF PAVEMENT



SECTION D-D
NOT TO SCALE

NOTES:

1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #1B AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
7. FRONT LOOP (LOOP 1) SHALL EXTEND INTO CROSSWALK 12" WHERE APPLICABLE.
8. ROUND CORNERS OF ACUTE ANGLE SAWCUTS TO PREVENT DAMAGE TO CONDUCTORS.

BIKE LOOP DETECTOR INSTALLATION

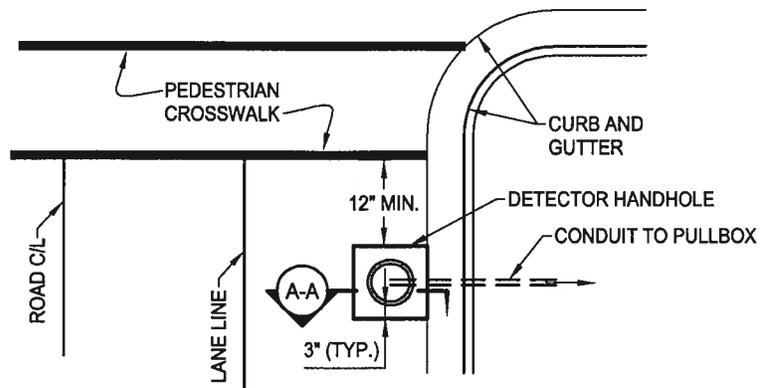
REVISIONS		
MARK	DATE	DESCRIPTION



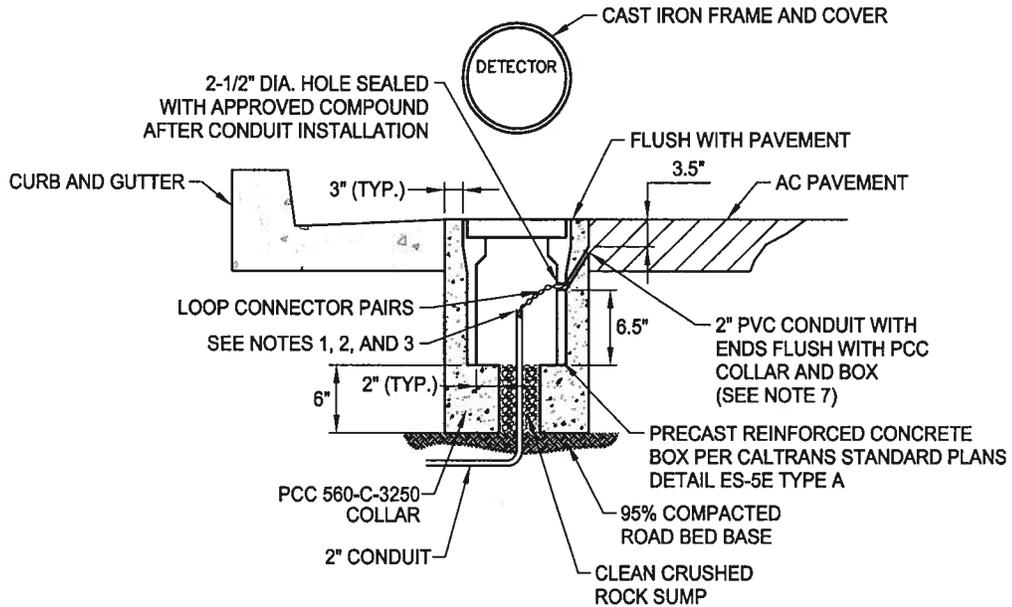
CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE 11/15/2011
CITY ENGINEER
APPROVED _____ DATE 11-18-11
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 402
SHEET 1 OF 1



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

NOTES:

1. NON-METALLIC BUSHING SHALL BE USED AT ROADWAY END OF CONDUIT.
2. TAPE WIRE 3" EACH SIDE OF ROADWAY BUSHING.
3. INSTALL DUCT SEAL COMPOUND TO EACH END OF ROADWAY CONDUIT BEFORE INSTALLING EPOXY OR OTHER APPROVED MATERIALS.
4. ROUND ALL SHARP EDGES WHERE WIRE HAS TO PASS.
5. SPLICE DETECTOR CONDUCTORS OR CABLE TO LEAD-IN CABLE FOR RUN TO CONTROLLER CABINET.
6. 2" PVC CONDUIT ENDS SEALED WITH APPROVED COMPOUND AFTER CONDUCTOR INSTALLATION.
7. EXACT LOCATION OF THE DETECTOR HANDHOLE WILL BE DETERMINED BY THE CITY ENGINEER IN THE FIELD.
8. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

TRAFFIC SIGNAL DETECTOR HANDHOLE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE 11/18/11

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE 11-18-11

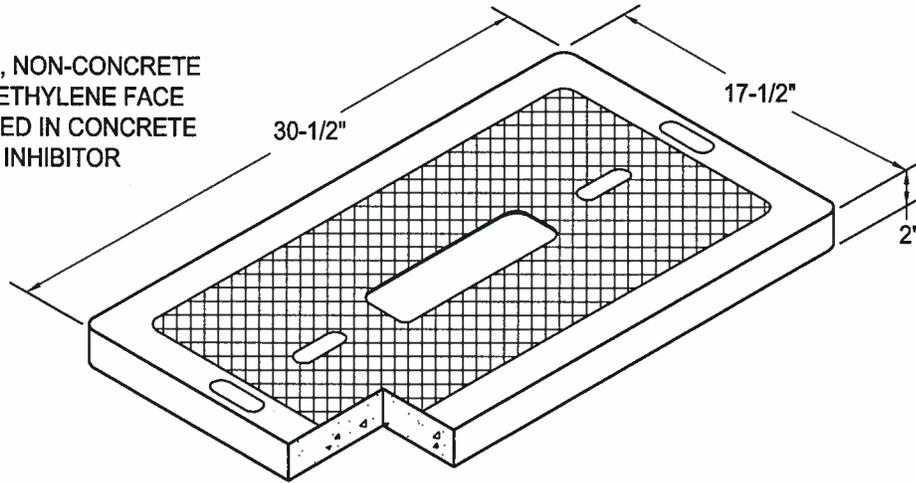
STANDARD DRAWING

BH 403

SHEET 1 OF 1

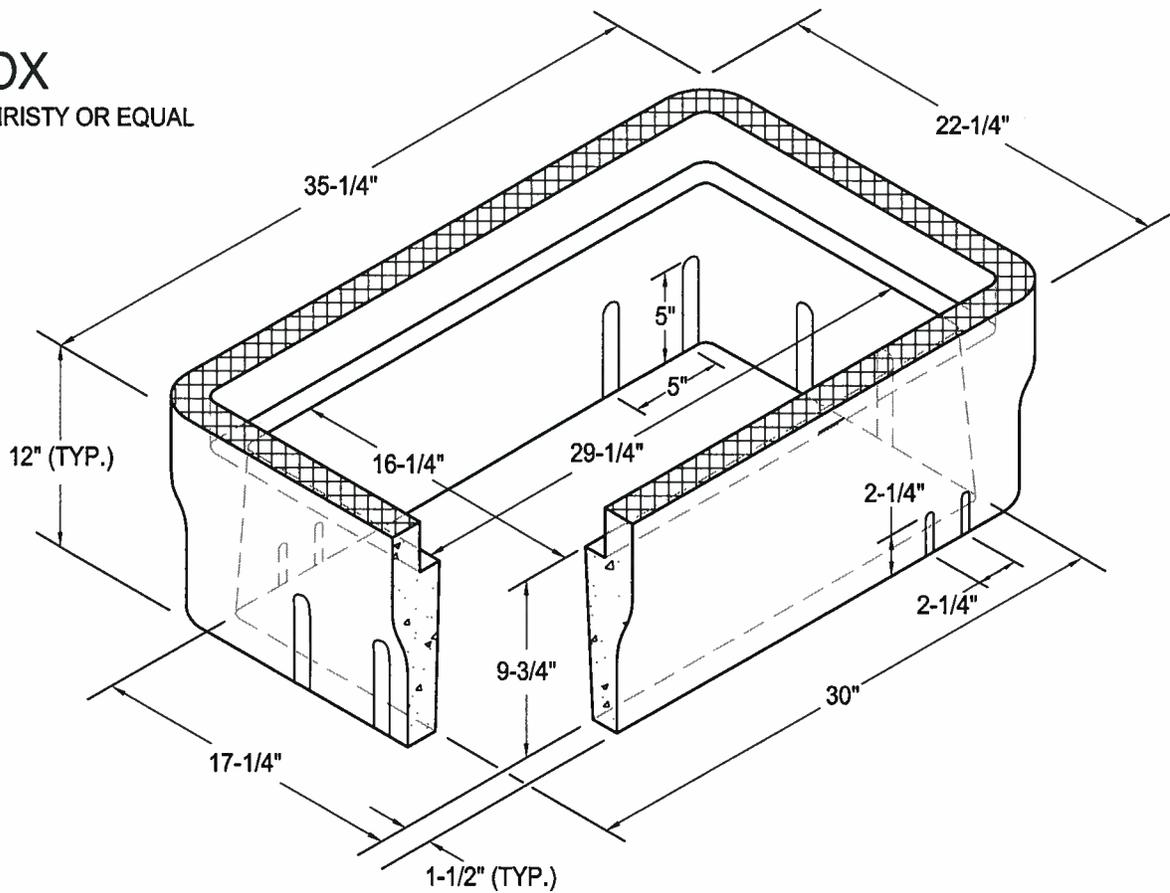
LID

- FIBRELYTE LID, NON-CONCRETE
- ETCHED POLYETHYLENE FACE
- FACE ANCHORED IN CONCRETE
- ULTRA-VIOLET INHIBITOR



BOX

- CHRISTY OR EQUAL



TRAFFIC SIGNAL PULL BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE 11/18/11

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE 11-18-11

STANDARD DRAWING

BH 404

SHEET 1 OF 1

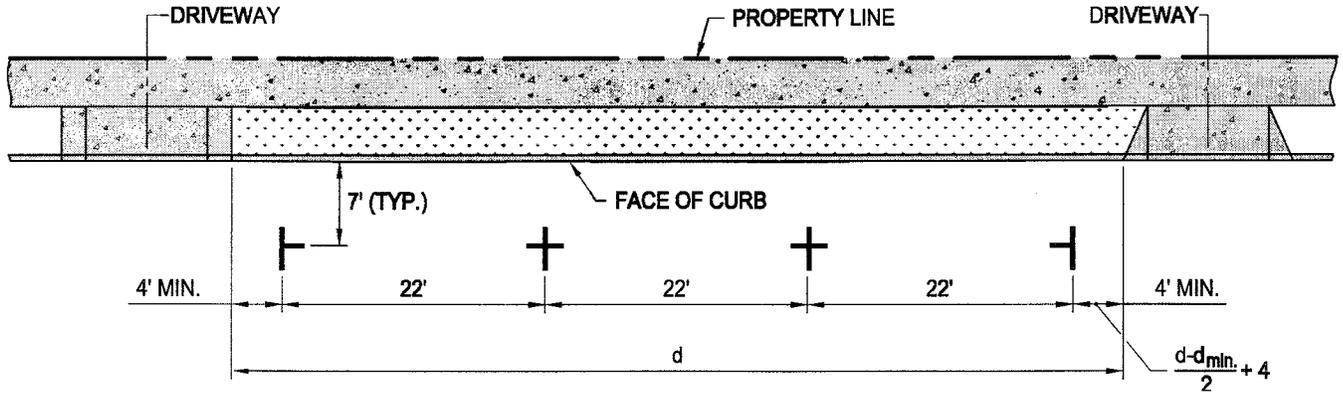
Section V

Landscaping and Irrigation

(RESERVED)

Section VI

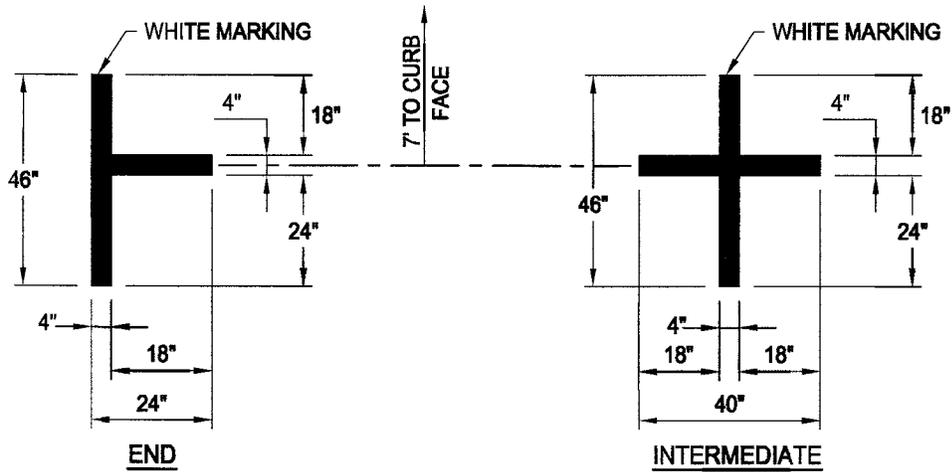
General Facilities



d (IN FEET)	NUMBER OF SPACES	d (IN FEET)	NUMBER OF SPACES
0-30	1	140-162	7
30-52	2	162-184	8
52-74	3	184-206	9
74-96	4	206-228	10
96-118	5	228-250	11
118-140	6	250-272	12

SYMMETRICAL

RESIDENTIAL AND COMMERCIAL FRONTAGE



PAINTING DETAILS

PARKING SPACE MARKINGS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

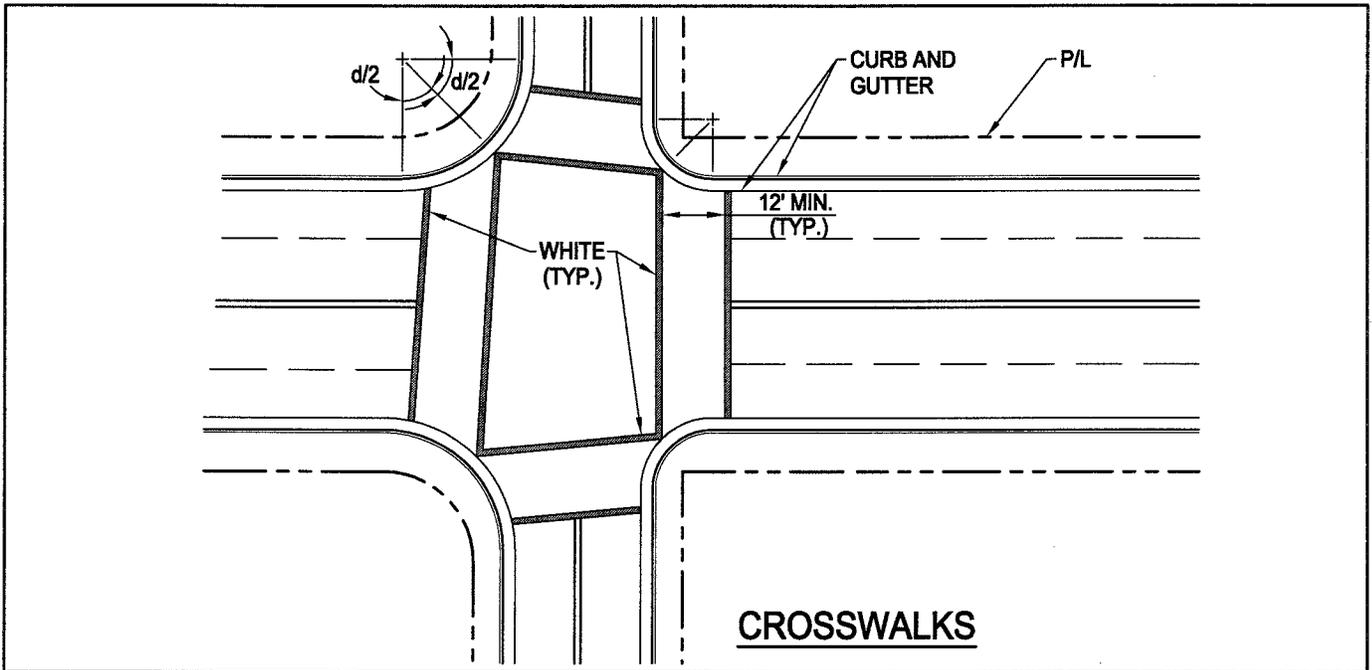
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
CITY ENGINEER
APPROVED *[Signature]* DATE 7-31-09
PUBLIC WORKS DIRECTOR

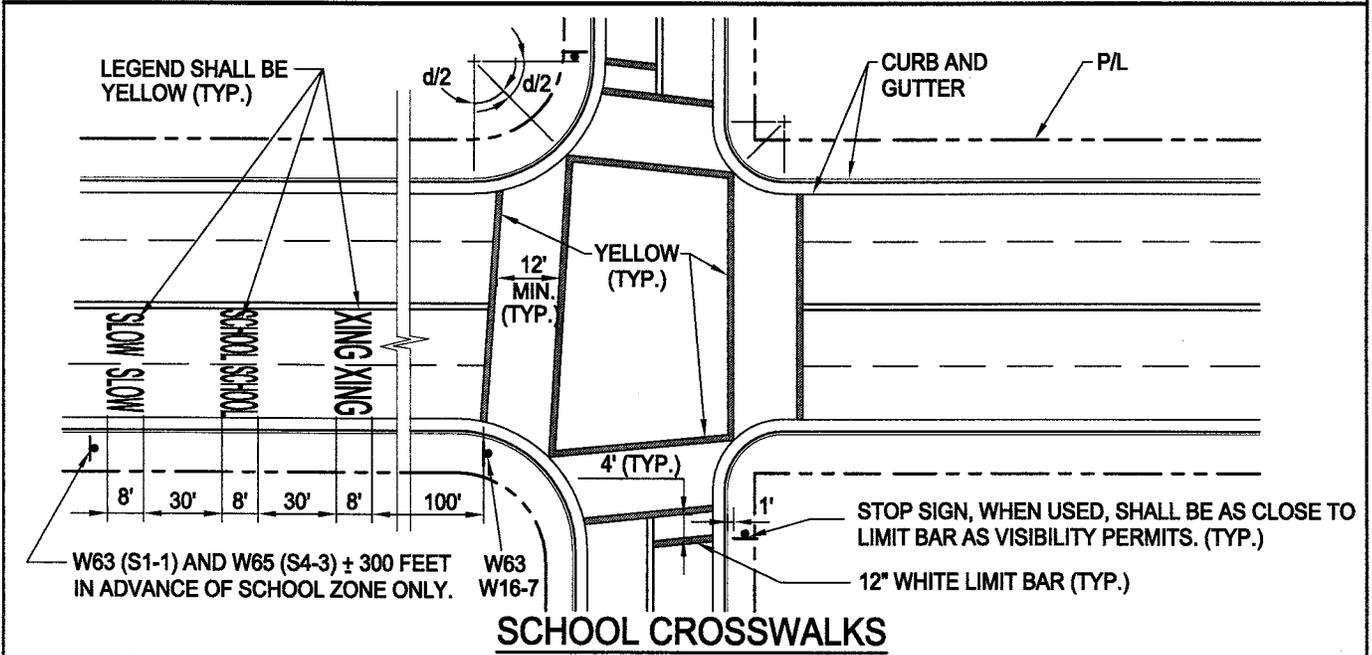
STANDARD DRAWING

BH 601

SHEET 1 OF 1



CROSSWALKS



SCHOOL CROSSWALKS

NOTES:

1. ALL CROSSWALK LINES SHALL BE 12" STROKE.
2. CROSSWALK WIDTH SHALL BE EQUAL TO ADJACENT MAXIMUM SIDEWALK WIDTH, BUT NO LESS THAN 12 FEET.
3. OMIT LEGEND ON INTERSECTION APPROACHES WHEN SIGNALS, STOP OR YIELD SIGNS ARE IN PLACE.
4. REFER TO M.U.T.C.D CA SUPPLEMENT (LATEST EDITION).

CROSSWALKS STRIPING

REVISIONS		
MARK	DATE	DESCRIPTION

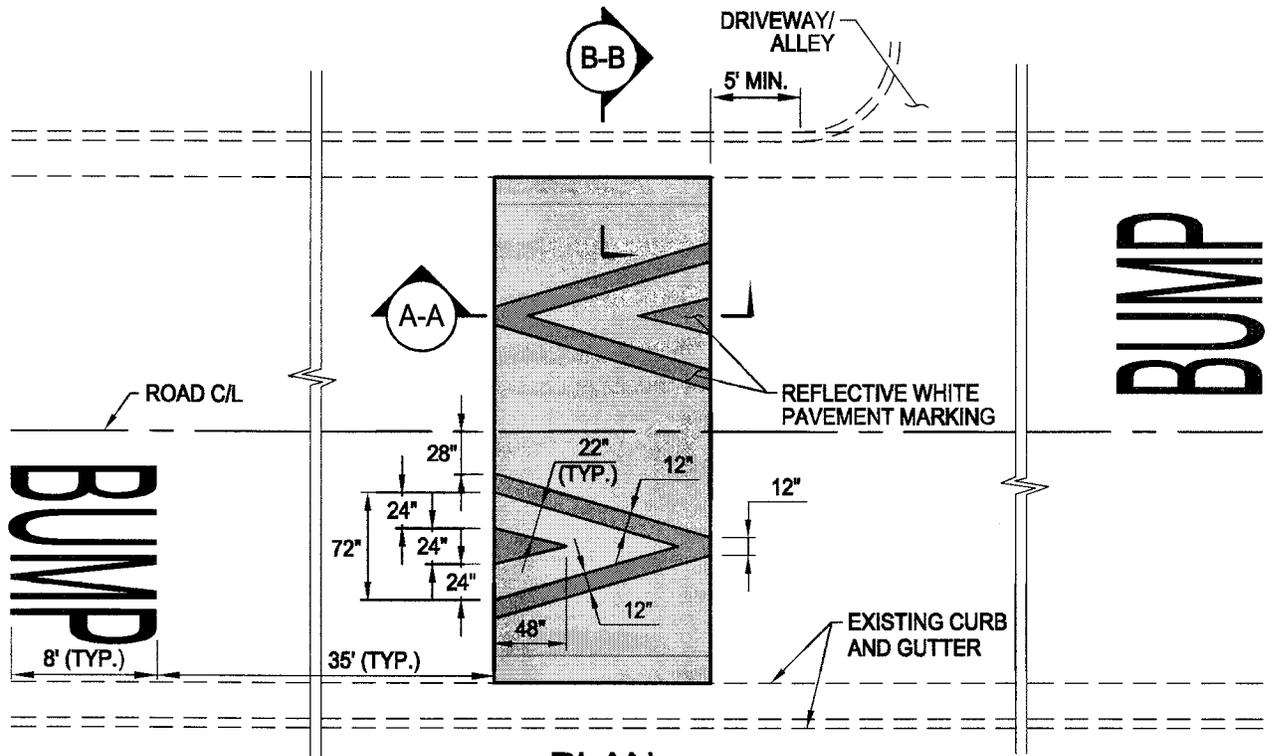


CITY OF BEVERLY HILLS, CALIFORNIA

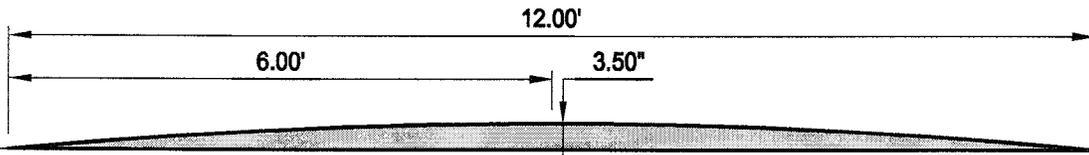
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE *7-30-09*
CITY ENGINEER
APPROVED *[Signature]* DATE *7-31-09*
PUBLIC WORKS DIRECTOR

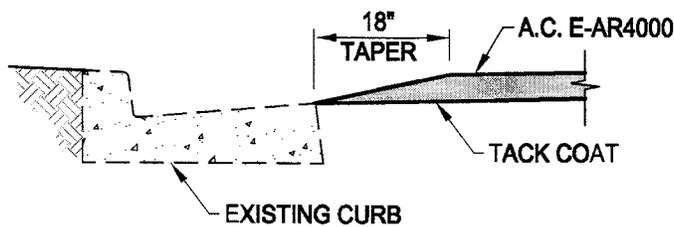
STANDARD DRAWING
BH 602
SHEET 1 OF 1



PLAN



SECTION A-A



SECTION B-B

INSTALLATION NOTES:

1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATERGATES, JUNCTION CHAMBERS, ETC.
2. EDGE OF SPEED HUMP SHALL BE 5 FEET MINIMUM FROM EDGE OF DRIVEWAY.
3. WHENEVER POSSIBLE SPEED HUMPS SHALL BE PLACED AT PROPERTY LINES INSTEAD OF MID-LOT.
4. WHENEVER POSSIBLE SPEED HUMPS SHALL BE PLACED ADJACENT TO STREET LIGHTS.

SPEED HUMP DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE 7-30-09

APPROVED

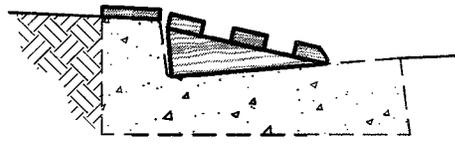
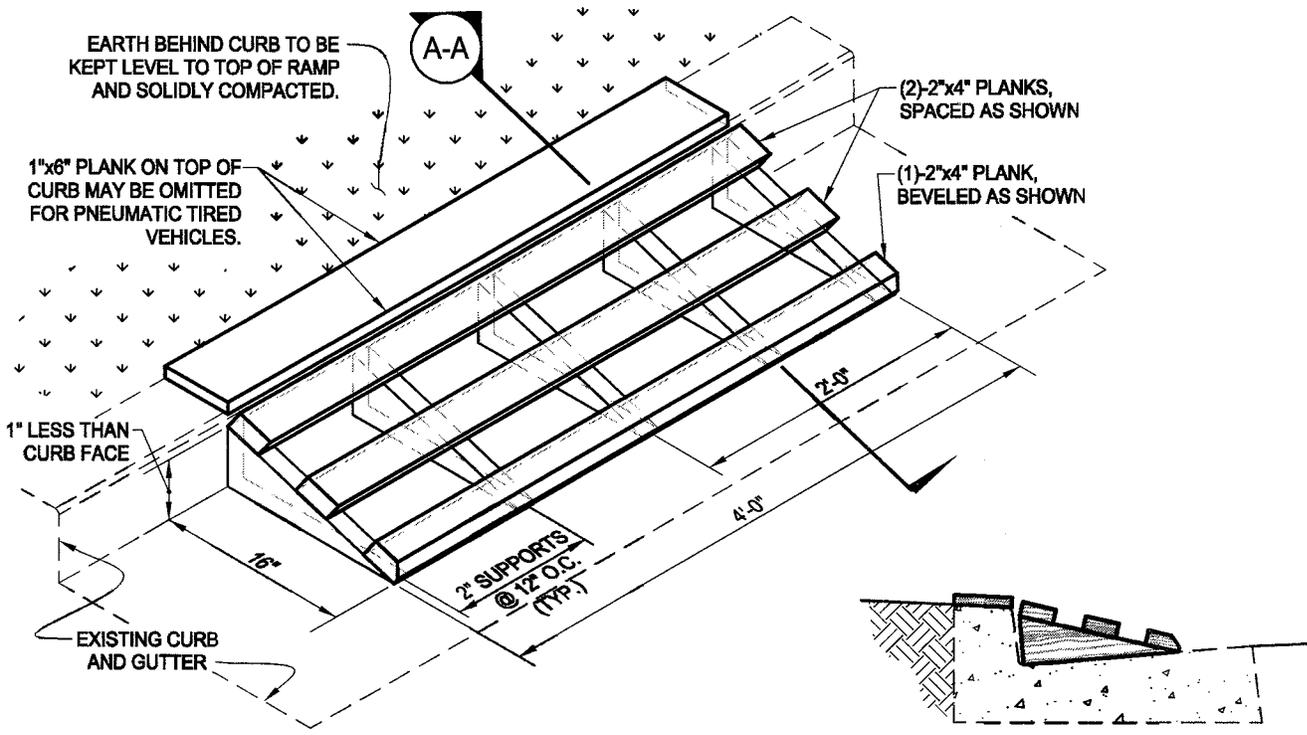
[Signature]
PUBLIC WORKS DIRECTOR

DATE 7-31-09

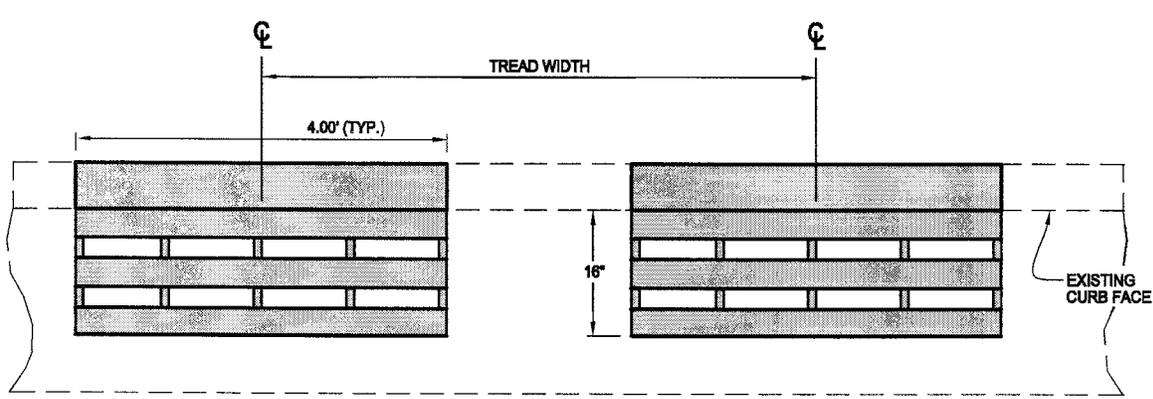
STANDARD DRAWING

BH 603

SHEET 1 OF 1



TEMPORARY CURB RAMP DETAIL



TWO RAMPS SPACED FOR VEHICLES

TEMPORARY CURB RAMP PLAN

NOT TO SCALE

TEMPORARY CURB RAMP

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

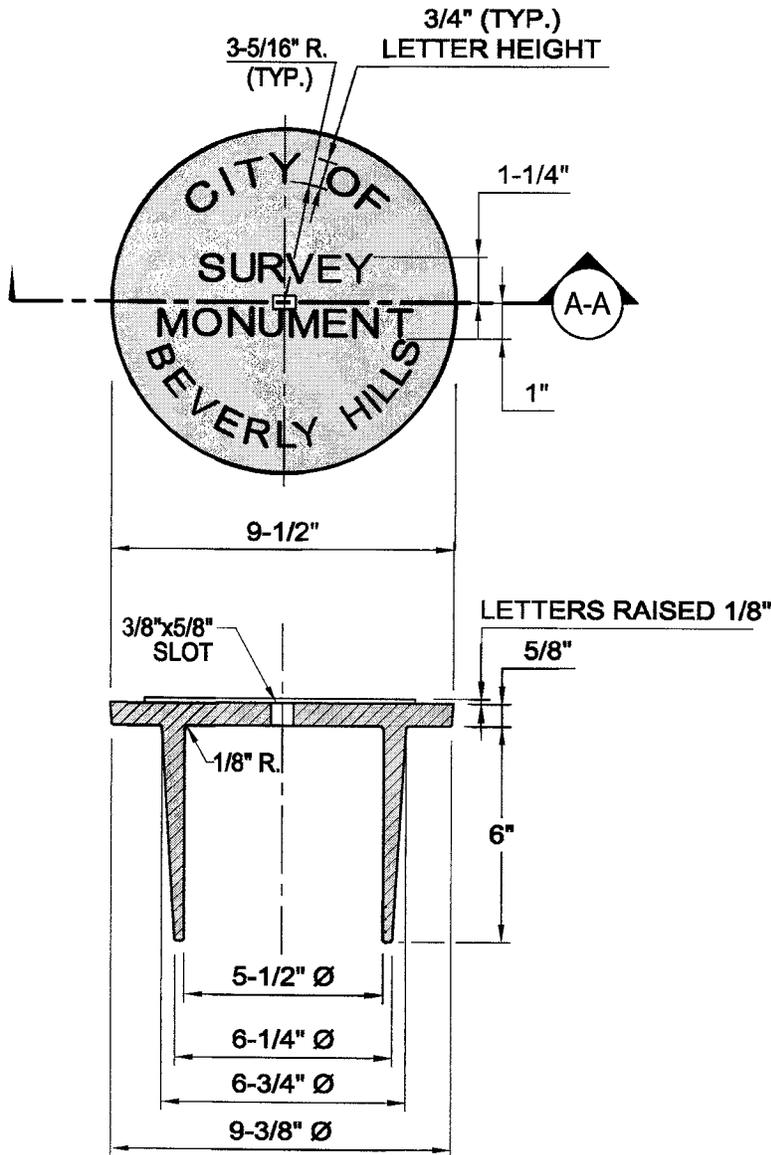
RECOMMENDED *Chris T...*
CITY ENGINEER

APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

DATE 7-30-09

DATE 7-31-09

STANDARD DRAWING
BH 604
SHEET 1 OF 1



SPECIFICATIONS:

ALL MONUMENT COVERS SHALL BE MADE OF CAST IRON IN ACCORDANCE WITH A.S.T.M STANDARD SPECIFICATIONS A48M-03, CLASS 30, EXCEPT THAT NO TRANSVERSE TEST WILL BE REQUIRED.

ALL MONUMENT COVERS SHALL BE MADE TO THE DIMENSIONS AS SHOWN HEREON, SHALL BE OF UNIFORM THICKNESS AND FREE FROM FLAWS OR DEFECTS. ALL LETTERING SHALL BE RADIALLY PLACED, UNIFORM IN SIZE AND SHALL CONFORM TO THE DIMENSIONS AS SHOWN HEREON WITHOUT FLAWS OR IRREGULAR LETTERING.

SECTION A-A

NOTES:

1. ALL RADII TO BE 1/16" UNLESS OTHERWISE SPECIFIED.
2. ALL DRAFT TO BE 1-1/2° UNLESS OTHERWISE SPECIFIED.

SURVEY MONUMENT COVER

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

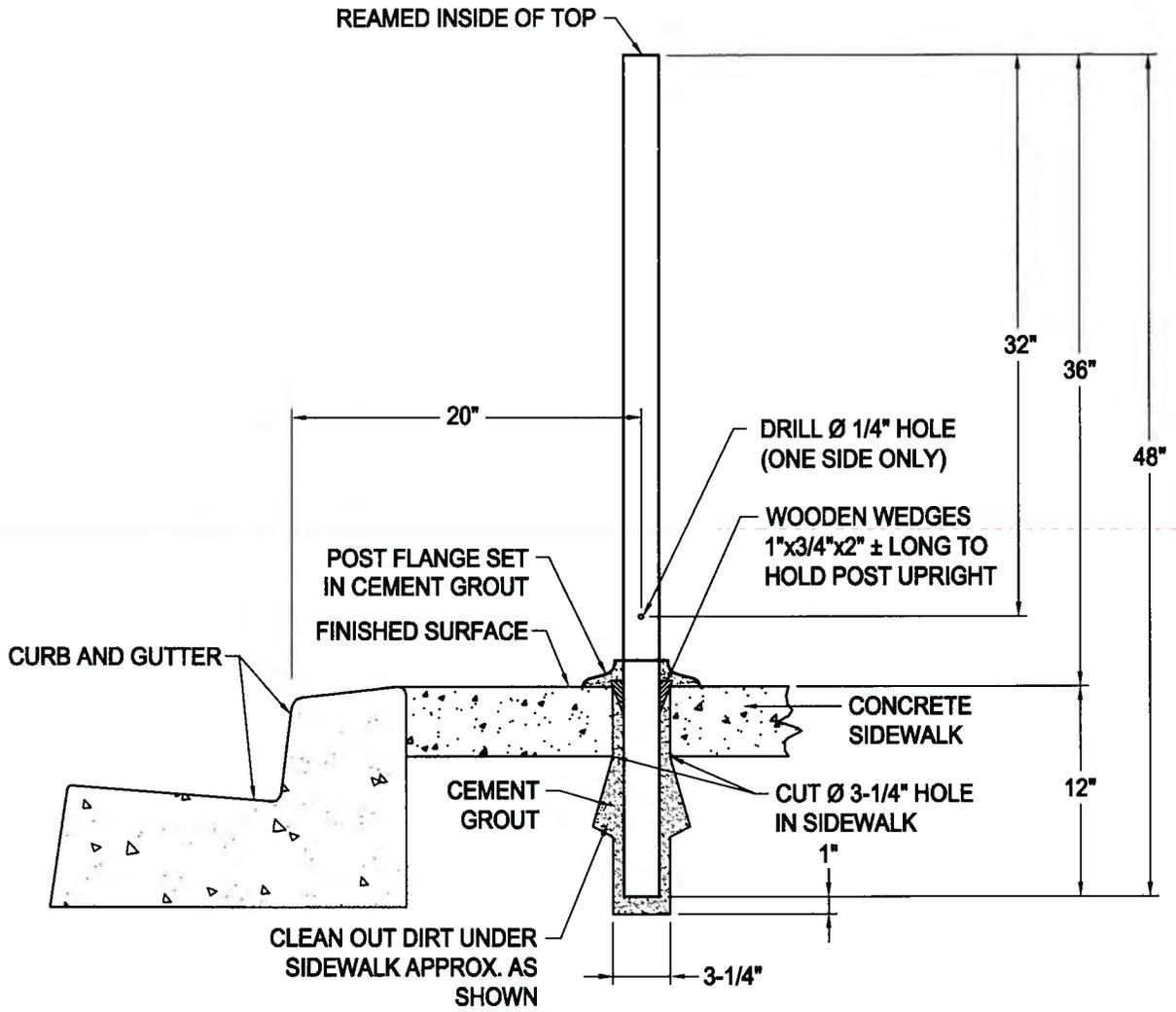
RECOMMENDED *Clinton* DATE 7-30-09
CITY ENGINEER

APPROVED *Rogers* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 605

SHEET 1 OF 1



SPECIFICATIONS FOR POST:

STEEL PIPE, STANDARD WEIGHT, 2" X 48" LONG, ASTM-A120-63T, NEW AND UNUSED, HOT DIPPED GALVANIZED, TOP REAMED

ADDITIONAL NOTES:

1. POST TO BE LEVEL AND STRAIGHT
2. AREA TO BE LEFT CLEAN
3. CEMENT GROUT - 1 CEMENT : 2-1/2 SAND
4. TOP OF INSTALLED METER COIN/CARD SLOT SHALL NOT EXCEED 48" ABOVE FINISHED GRADE.

PARKING METER POST INSTALLATION - CONCRETE SETTING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE

11-18-10

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE

11-18-10

STANDARD DRAWING

BH 606

SHEET OF

Section VII

Water Pipe Line Installations

LEGEND

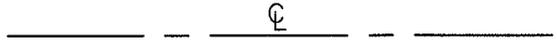
PROPOSED WATER MAIN



EXISTING WATER MAIN



ROAD CENTER LINE



DEPT. OF WATER & POWER SERVICE



P.T. & T.



SOUTHERN CALIFORNIA EDISON



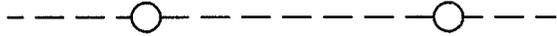
SOUTHERN CALIFORNIA GAS



STORM DRAIN AND MANHOLE



SANITARY SEWER AND MANHOLE



CURB LINE



O.L.C.



LEGEND

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
CITY ENGINEER

APPROVED *[Signature]* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 701
 SHEET 1 OF 1

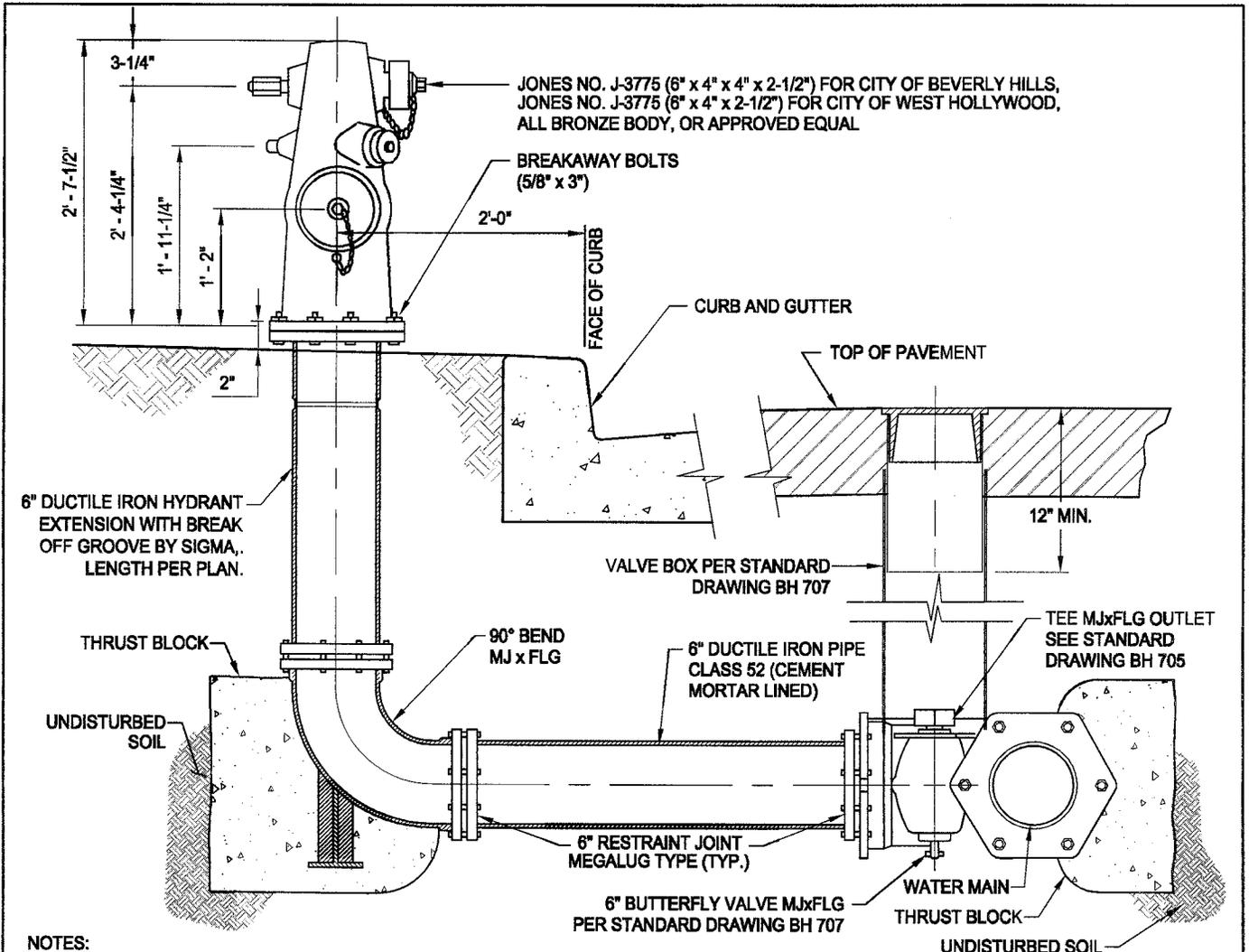
ABBREVIATIONS

B.H.W.	BEVERLY HILLS WATER
D.W. & P.-W.S.	DEPARTMENT OF WATER & POWER, WATER SERVICE
P.T. & T	PACIFIC TELEPHONE & TELEGRAPH COMPANY
S.C.E.	SOUTHERN CALIFORNIA EDISON
S.C.G.	SOUTHERN CALIFORNIA GAS
S.D.M.H.	STORM DRAIN MAINTENANCE HOLE
S.S.M.H.	SANITARY SEWER MAINTENANCE HOLE
M.W.D.	METROPOLITAN WATER DISTRICT
O.L.C.	ORNAMENTAL LIGHTING CONDUIT
F.A.C.	FIRE ALARM CONDUIT
C.I.	CAST IRON
F.H.	FIRE HYDRANT
P/L	PROPERTY LINE

ABBREVIATIONS

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
MARK	DATE	DESCRIPTION			

RECOMMENDED  <small>CITY ENGINEER</small>	DATE <u>7-30-09</u>	STANDARD DRAWING BH 702 SHEET 1 OF 1
APPROVED  <small>PUBLIC WORKS DIRECTOR</small>	DATE <u>7-31-09</u>	



NOTES:

1. HYDRANT OUTLETS SHALL FACE THE STREET AT 45° OR AS DIRECTED BY THE CITY ENGINEER.
2. FINAL HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
3. CONNECTION OF THE FIRE HYDRANT TO THE WATER MAIN MAY REQUIRE FITTING AND COUPLINGS NOT SHOWN HEREON. THE CONTRACTOR SHALL PROVIDE AND INSTALL AT NO EXTRA COST.
4. BREAKAWAY BOLTS SHALL BE USED TO INSTALL THE HYDRANT HEAD ON THE BURY.
5. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
6. FIRE HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
7. ALL HYDRANTS WATER OUTLET CAP MATERIAL SHALL BE BRONZE.
8. ALL FITTINGS USED TO CONNECT THE FIRE HYDRANT TO THE WATER MAIN SHALL BE PROPERLY RESTRAINED WITH APPROVED STANDARD METHODS OR AS DIRECTED BY THE CITY ENGINEER.
9. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
10. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
11. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT ASSEMBLY (TYPICAL)

REVISIONS		
MARK	DATE	DESCRIPTION

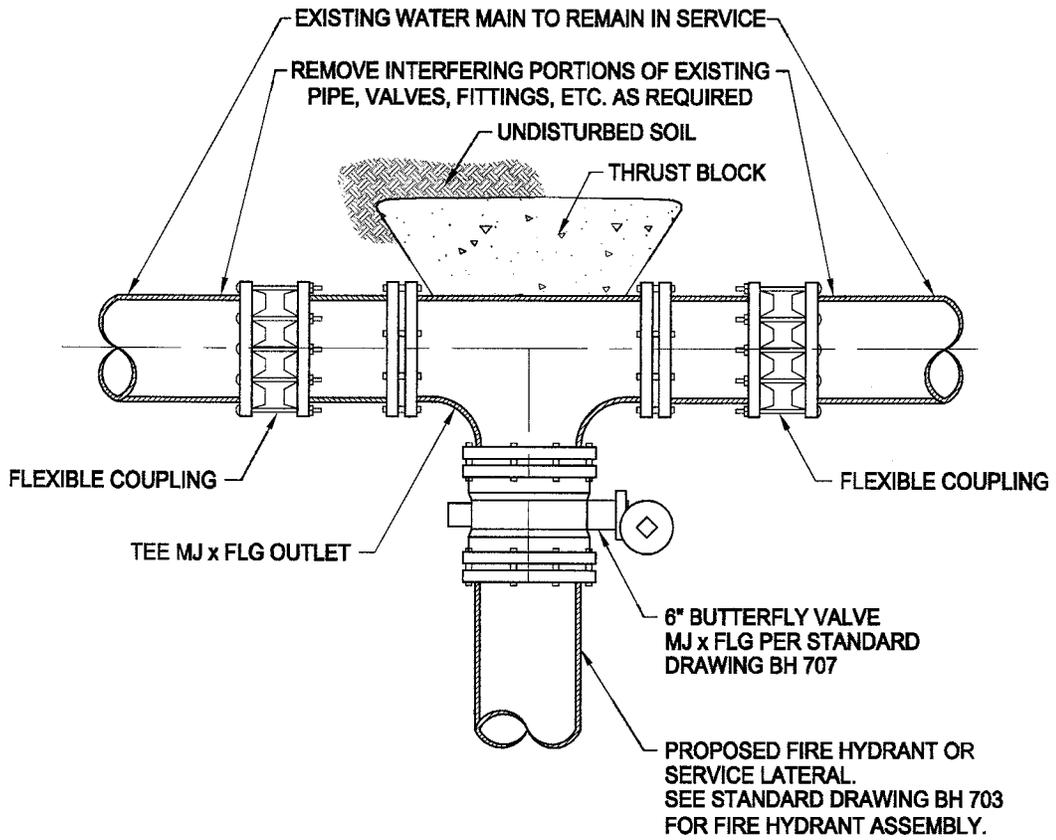


CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *Christina* DATE *7-30-09*
CITY ENGINEER

APPROVED *[Signature]* DATE *7-31-09*
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 703
 SHEET 1 OF 1



NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
4. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

LATERAL INSTALLATION (FIRE HYDRANT)

REVISIONS		
MARK	DATE	DESCRIPTION

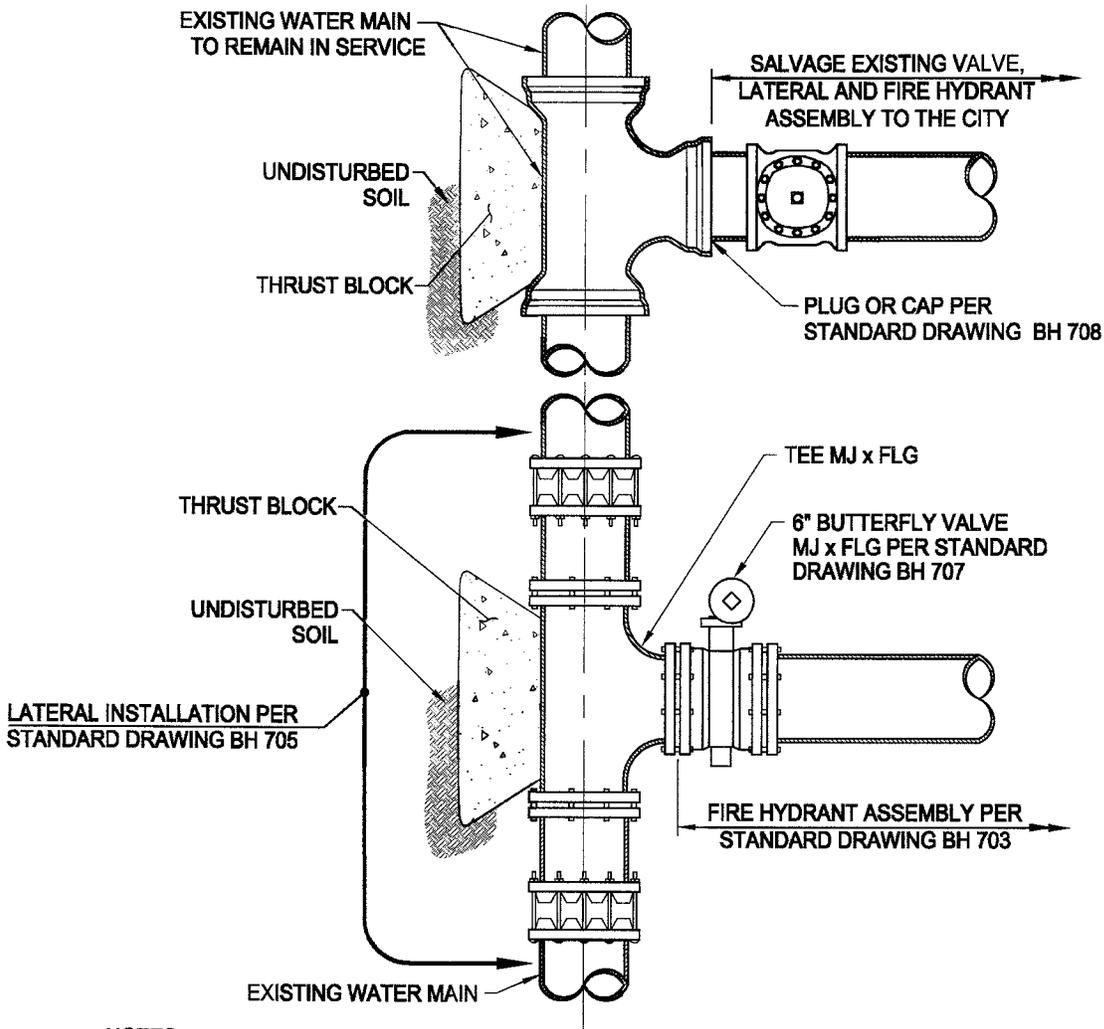


CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *C. J. ...* DATE *7-30-09*
CITY ENGINEER

APPROVED *[Signature]* DATE *7-31-09*
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 705
 SHEET 1 OF 1



- NOTES:
1. THRUST BLOCKS PER STANDARD DRAWING NUMBER BH 709, ARE REQUIRED AT ALL PLUGS, TEES AND ENDS, OR AS DIRECTED BY THE CITY ENGINEER.
 2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
 3. ALL PERMANENT PLUGS OR CAPS, PER STANDARD DRAWING NO. BH 708, SHALL BE CAPABLE OF WITHSTANDING A 200 PSI TEST PRESSURE.
 4. FINAL FIRE HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
 5. REMOVE EXISTING TEE, VALVE, LATERAL AND FIRE HYDRANT ASSEMBLY IF LOCATION REMAINS THE SAME.
 6. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
 7. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

CONNECTION FOR UPGRADED FIRE HYDRANT INSTALLATION

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

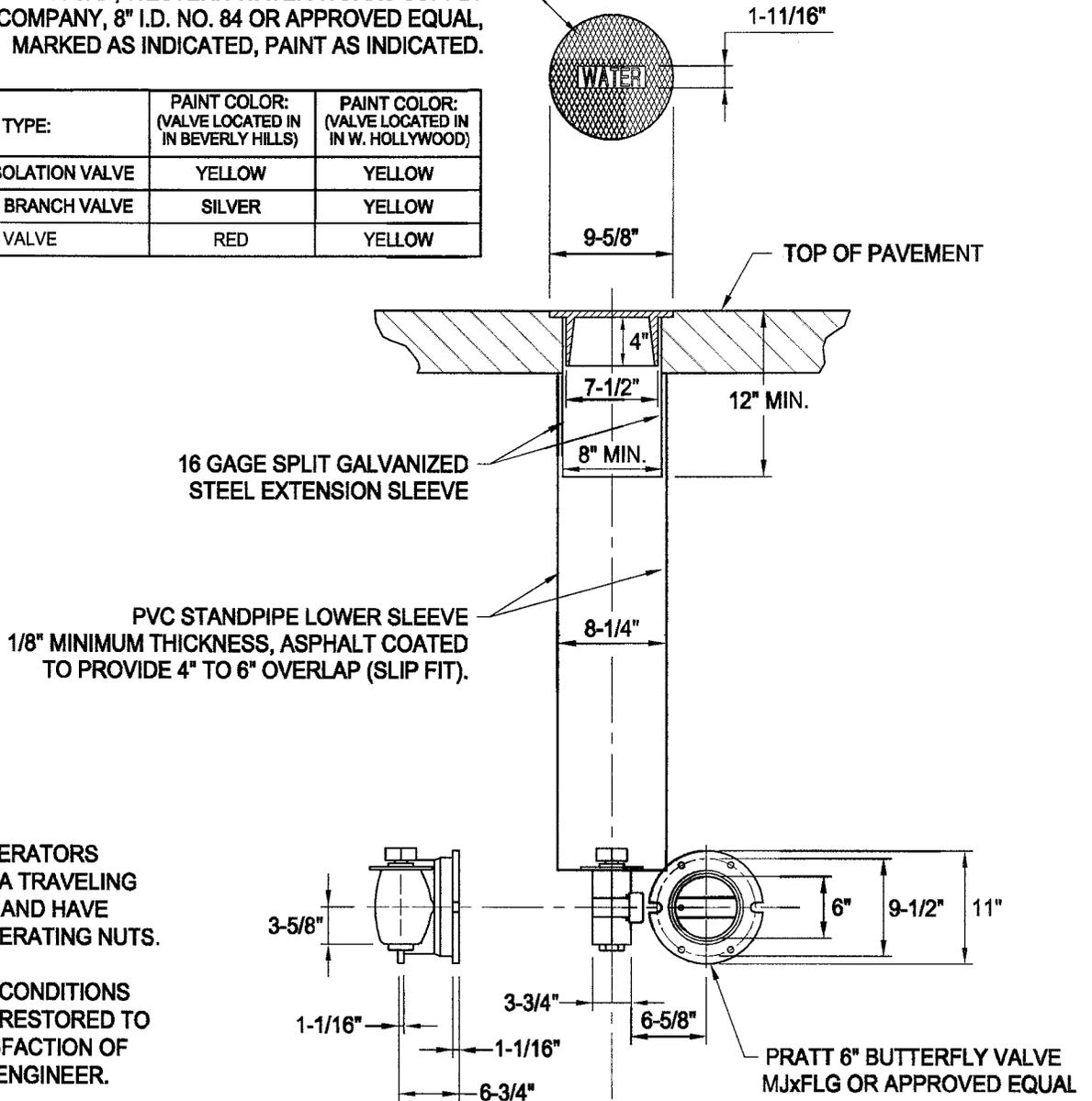
RECOMMENDED *[Signature]* DATE 7-30-09
CITY ENGINEER

APPROVED *[Signature]* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 706
 SHEET 1 OF 1

PROVIDE HEAVY DUTY CAST IRON VALVE BOX CAP, WESTERN WATER WORKS SUPPLY COMPANY, 8" I.D. NO. 84 OR APPROVED EQUAL, MARKED AS INDICATED, PAINT AS INDICATED.

VALVE TYPE:	PAINT COLOR: (VALVE LOCATED IN IN BEVERLY HILLS)	PAINT COLOR: (VALVE LOCATED IN IN W. HOLLYWOOD)
WATER MAIN ISOLATION VALVE	YELLOW	YELLOW
FIRE HYDRANT BRANCH VALVE	SILVER	YELLOW
ZONE VALVE	RED	YELLOW



NOTES:

1. VALVE OPERATORS SHALL BE A TRAVELING NUT TYPE AND HAVE 2-INCH OPERATING NUTS.
2. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

VALVE BOX DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

Chris Toia
CITY ENGINEER

DATE 7-30-09

APPROVED

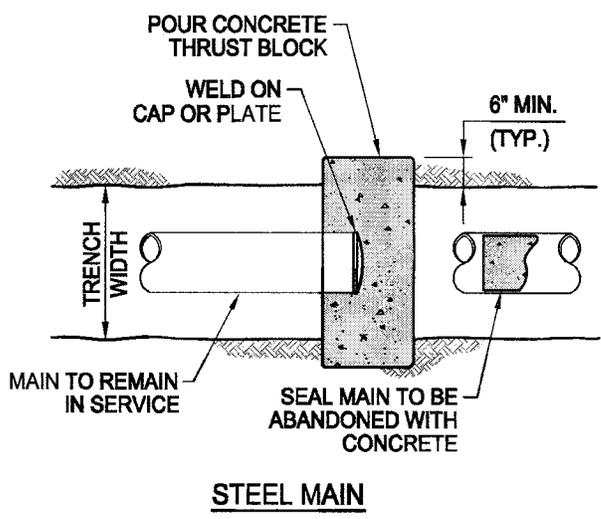
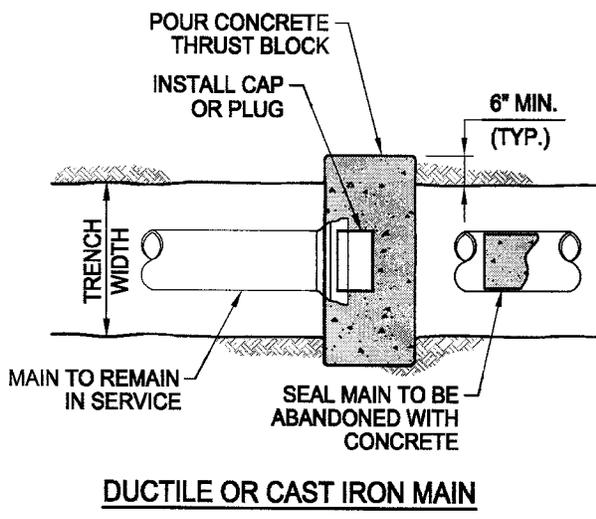
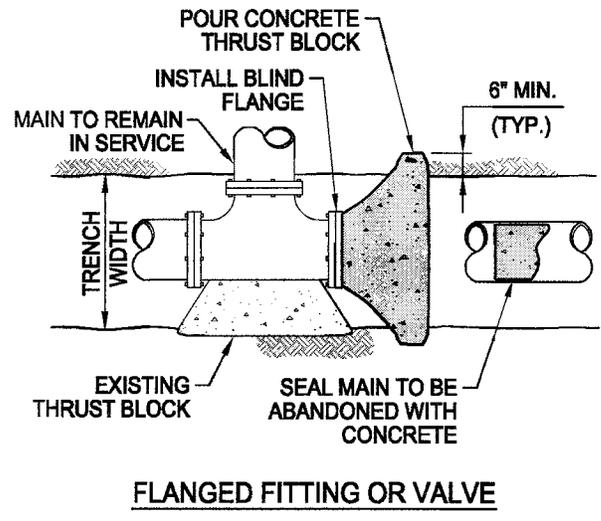
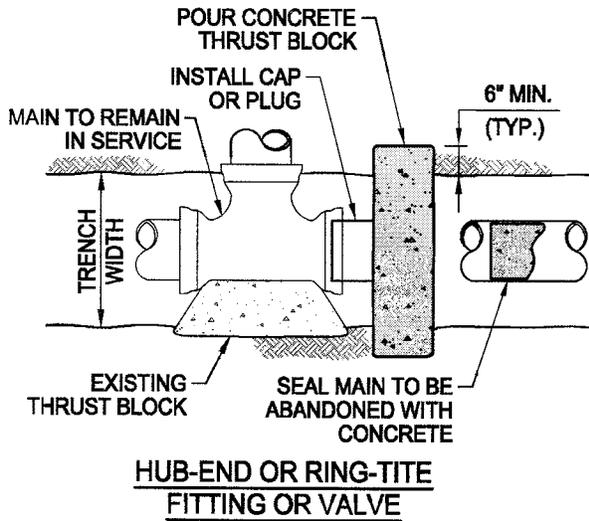
Robert J. ...
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

BH 707

SHEET 1 OF 1



NOTES:

1. CONCRETE SHALL BE 2000 P.S.I.
2. POUR CONCRETE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
3. REMOVE INTERFERING PORTIONS OF MAIN TO BE ABANDONED.
4. USE STEEL ANCHOR RODS OR STRAPS ONLY WHERE PERMITTED BY THE ENGINEER.

TYPICAL CAPS AND PLUGS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *Clint...* DATE 7-30-09
CITY ENGINEER

APPROVED *...* DATE 7-31-09
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 708
SHEET 1 OF 1

HORIZONTAL BENDS

NOMINAL PIPE SIZE (INCHES)	TEST PRESSURE (P.S.I.)	DEAD ENDS AND TEES			BENDS LESS THAN OR EQUAL TO ANGLE:								ALL BENDS
					11 - 1/4°		22 - 1/2°		45°		90°		
		A	B	C	A	B	A	B	A	B	A	B	
6	200	2'-6"	1'-6"	6"	1'-0"	1'-0"	2'-0"	1'-0"	3'-0"	1'-0"	3'-6"	1'-6"	8"
8	200	4'-6"	1'-6"	8"	1'-6"	1'-0"	3'-0"	1'-0"	3'-6"	1'-6"	5'-0"	2'-0"	10"
10	200	5'-6"	2'-0"	10"	2'-0"	1'-0"	3'-0"	1'-6"	4'-0"	2'-0"	6'-0"	2'-6"	1'-0"
12	200	7'-6"	2'-0"	1'-0"	2'-0"	1'-6"	3'-0"	2'-0"	4'-6"	2'-6"	7'-0"	3'-0"	1'-0"

VERTICAL BENDS

NOMINAL PIPE SIZE (INCHES)	TEST PRESSURE (P.S.I.)	BENDS LESS THAN OR EQUAL TO ANGLE:											ALL BENDS	
		11 - 1/4°			22 - 1/2°			45°			90°			
		D	E	F	D	E	F	D	E	F	D	E		F
6	200	1'-6"	3'-0"	1'-0"	2'-0"	4'-0"	1'-0"	3'-0"	5'-6"	1'-0"	4'-0"	7'-0"	2'-0"	8"
8	200	2'-0"	4'-0"	1'-0"	2'-6"	5'-0"	1'-0"	3'-6"	7'-0"	2'-0"	5'-0"	10'-0"	3'-6"	10"
10	200	2'-0"	4'-6"	1'-0"	3'-0"	6'-0"	1'-6"	4'-0"	9'-0"	3'-0"	6'-0"	12'-0"	5'-0"	1'-0"
12	200	2'-6"	5'-0"	1'-0"	3'-6"	7'-0"	2'-0"	5'-0"	10'-0"	4'-0"	7'-0"	14'-0"	7'-0"	1'-0"

CONCRETE THRUST BLOCK SCHEDULE

NOTE:

1. THRUST BLOCK SIZES ARE BASED ON A BEARING CAPACITY OF 1500 P.S.F., WITH A MINIMUM SOIL COVER OF 3'-0". IF SOIL COVER IS LESS THAN 3'-0", MULTIPLY BEARING AREA BY A FACTOR OF 1.5 FOR SOIL COVER OF 2'-0" TO 3'-0", OR BY A FACTOR OF THREE (3) FOR SOIL COVER OF 1'-0" TO 2'-0".
2. DIMENSIONS SHOWN REFER TO THRUST BLOCK TYPES SHOWN IN DETAIL, AND ARE MINIMUM VALUES ONLY.
3. CONCRETE MIX SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR 3000 LBS. STRENGTH AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM 039.
4. ALL THRUST BLOCKS SHALL BE POURED SOLIDLY AGAINST FIRM, UNDISTURBED SOIL.
5. IF SOILS HAVE BEEN PREVIOUSLY EXCAVATED AND BACKFILLED, CONTRACTOR SHALL NOTIFY CITY ENGINEER, WHO MAY DIRECT THAT THE DIMENSIONS SHOWN SHALL BE INCREASED BY A FACTOR OF 1.5.
6. CONCRETE POURED AGAINST PIPE FITTINGS SHALL NOT EXTEND BEYOND THE FITTING JOINTS WITHOUT THE APPROVAL OF THE CITY ENGINEER.
7. THRUST REACTION BACKING TYPE (SEE DRAWING) SHALL BE AS DIRECTED BY THE CITY ENGINEER.
8. THE ANGLE (θ) SHOWN IN THE DETAILS SHALL BE GREATER THAN 45° IN ALL CASES.

CONCRETE THRUST BLOCKS

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	

RECOMMENDED  DATE 7-30-09

APPROVED  DATE 7-31-09

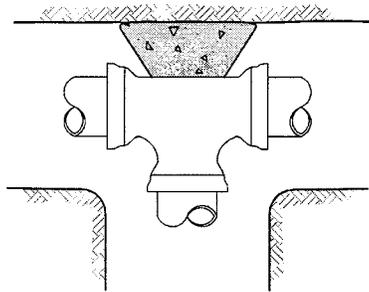
CITY ENGINEER

PUBLIC WORKS DIRECTOR

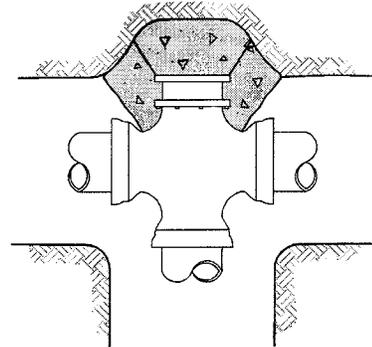
STANDARD DRAWING

BH 709

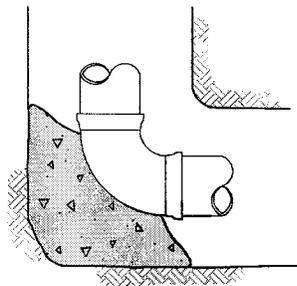
SHEET 1 OF 4



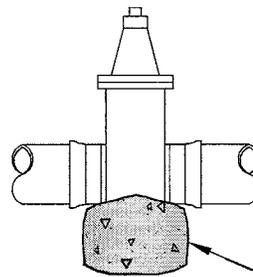
TEE



CROSS



90 DEGREE ELBOW



GATE VALVE

FOR AREA ON SIDE
FACES USE VALVES
REQUIRED FOR TEES

NOTE:

1. CONCRETE FOR THRUST BLOCK TO BE 2000 P.S.I.

CONCRETE THRUST BLOCKS

REVISIONS		
MARK	DATE	DESCRIPTION

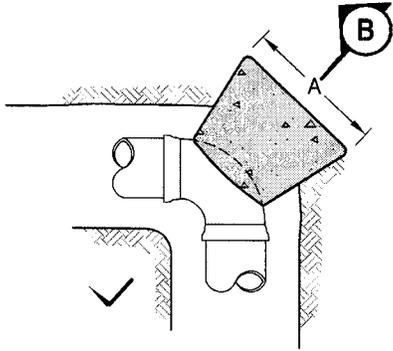


CITY OF BEVERLY HILLS, CALIFORNIA

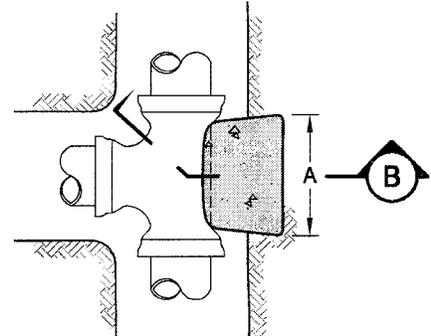
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *Christina* DATE 7-30-09
CITY ENGINEER
APPROVED *[Signature]* DATE 7-31-09
PUBLIC WORKS DIRECTOR

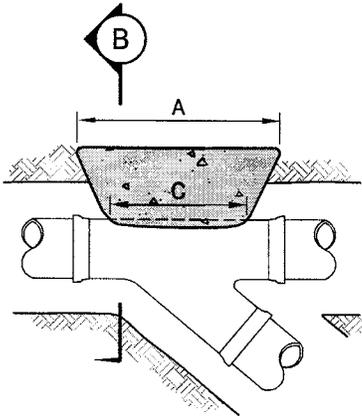
STANDARD DRAWING
BH 709
SHEET 2 OF 4



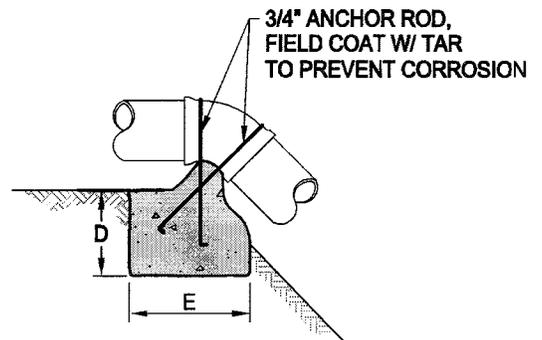
TYPE I



TYPE II

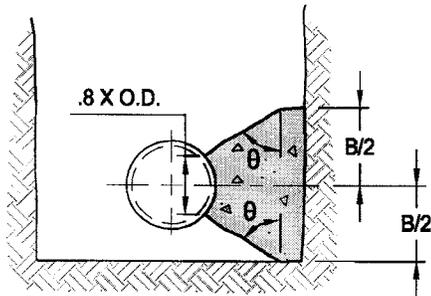


TYPE III



MAKE BLOCK WIDTH OF TRENCH

TYPE IV



SECTION B

NOTE:

1. SEE STANDARD DRAWING NO. BH 711, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.

CONCRETE THRUST BLOCKS

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

Clint...
CITY ENGINEER

DATE 7-20-09

APPROVED

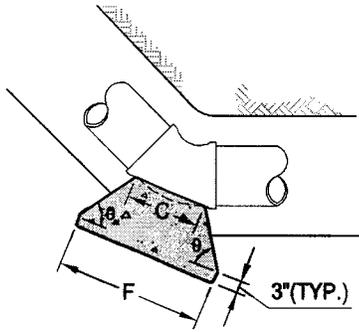
...
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

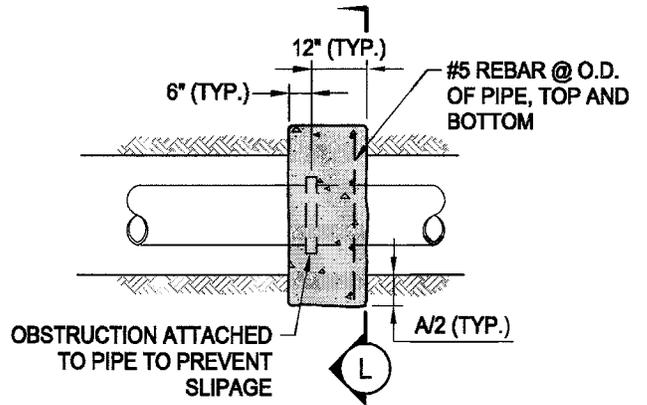
BH 709

SHEET 3 OF 4

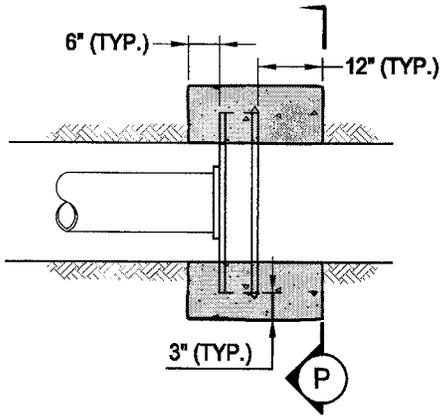


MAKE BLOCK FULL WIDTH OF TRENCH

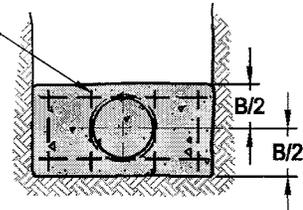
TYPE V



OBSTRUCTION ATTACHED TO PIPE TO PREVENT SLIPPAGE



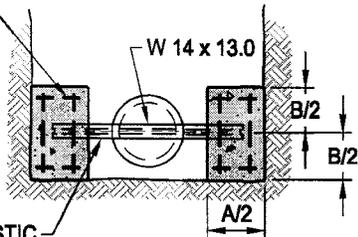
#5 @ 12" O.C. MAX. MIN. 2 REQUIRED EACH SIDE



SECTION L

TYPE VI

#5 @ 12" O.C. MAX. MIN. 2 REQUIRED, TOP AND BOTTOM EACH SIDE



WRAP WITH PLASTIC LINER TO PREVENT CORROSION

SECTION P

TYPE VII

NOTE:

1. SEE STANDARD DRAWING NO. BH 711, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.

CONCRETE THRUST BLOCKS

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

Oliver J. ...
CITY ENGINEER

DATE 7-30-09

APPROVED

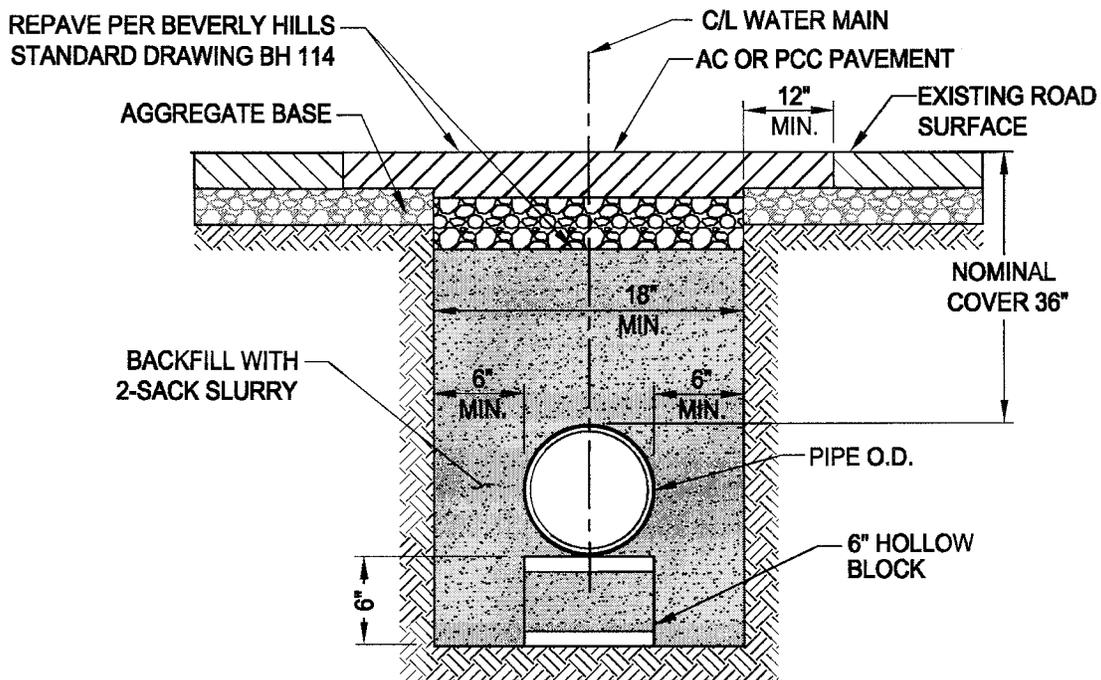
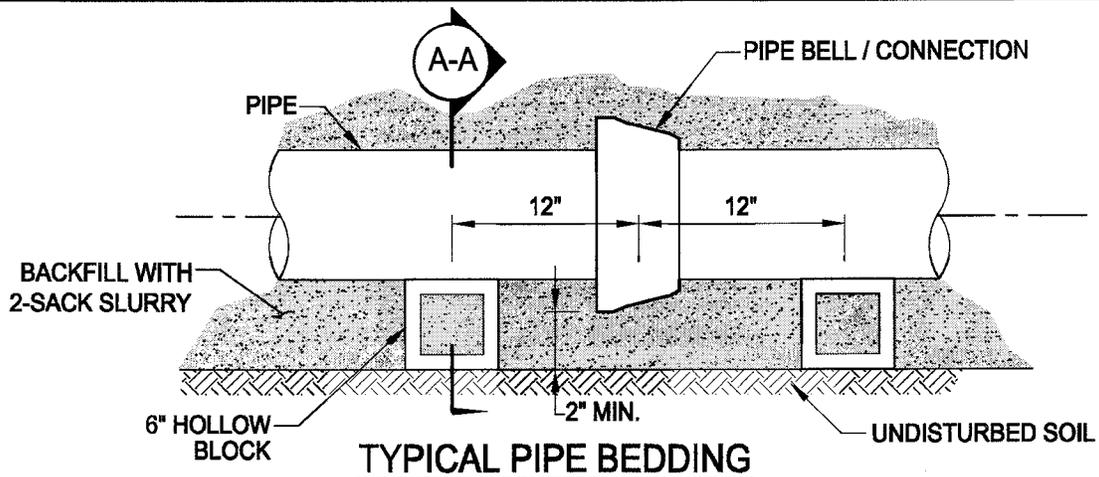
Roger ...
PUBLIC WORKS DIRECTOR

DATE 7-31-09

STANDARD DRAWING

BH 709

SHEET 4 OF 4



NOTES:

1. WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY SEE BEVERLY HILLS STANDARD DRAWING BH 113 FOR STEEL PLATE PLACEMENT.
2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

TRENCH FOR WATER LINE

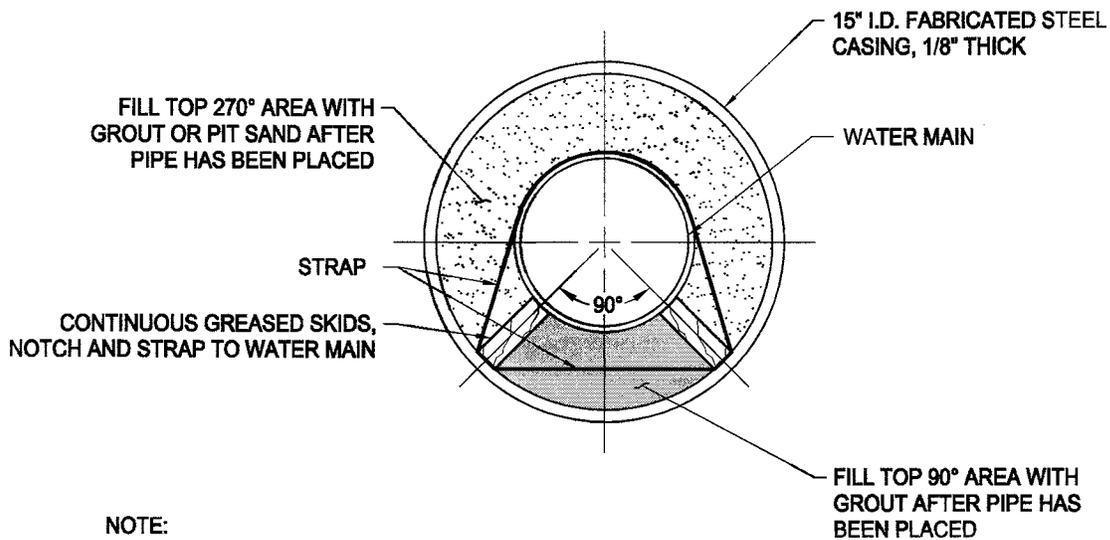
REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 7-30-09
 CITY ENGINEER
 APPROVED *[Signature]* DATE 7-31-09
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 710
 SHEET 1 OF 1

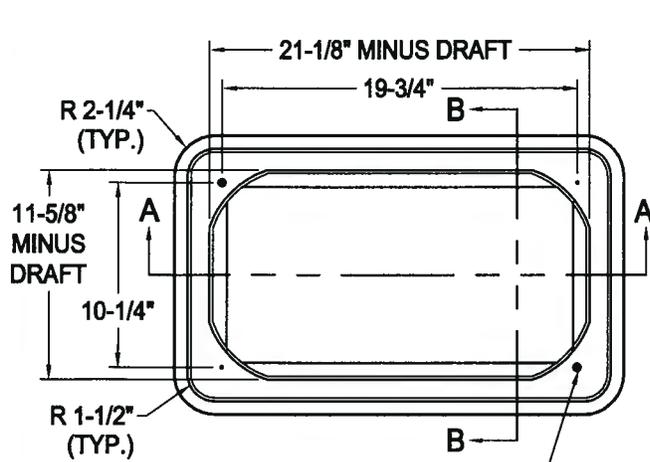


NOTE:
GROUT HOLES SHALL BE PROVIDED AT LOCATIONS ACCEPTABLE TO THE ENGINEER. FILL VOIDS OUTSIDE CASING PIPE WITH GROUT.

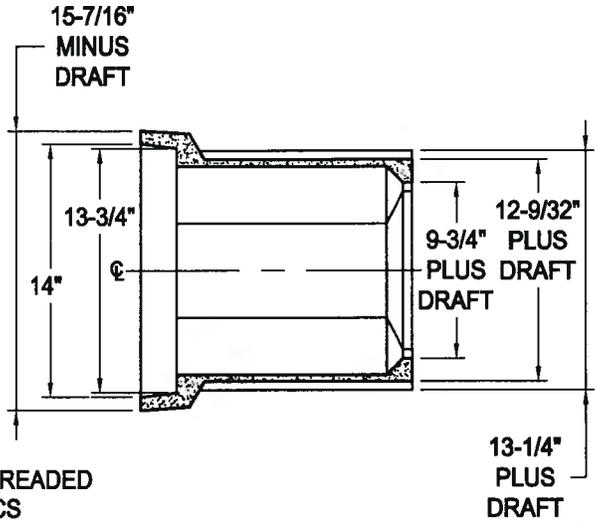
JACKED CASING WITH WATER MAIN
NOT TO SCALE

JACKED CASING WITH WATER MAIN DETAIL

REVISIONS				CITY OF BEVERLY HILLS, CALIFORNIA	
MARK	DATE	DESCRIPTION		DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION CIVIL ENGINEERING DIVISION	
			RECOMMENDED <i>[Signature]</i> CITY ENGINEER	DATE 7-30-09	STANDARD DRAWING BH 711
			APPROVED <i>[Signature]</i> PUBLIC WORKS DIRECTOR	DATE 7-31-09	SHEET 1 OF 1

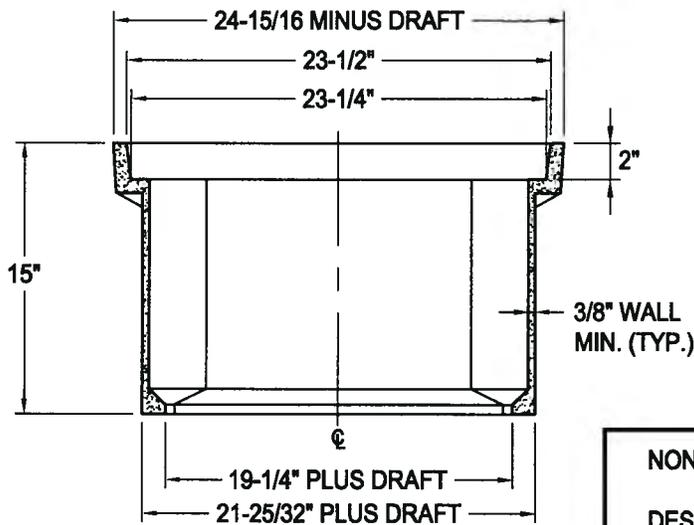


PLAN VIEW

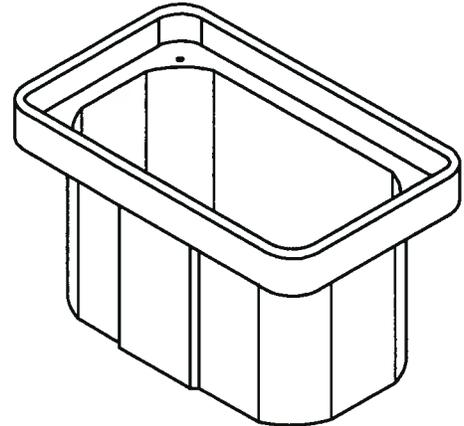


SECTION B-B

3/8-16 SST THREADED INSERT, 2 PLCS
(4 PLCS OR FLOATING NUT ALSO AVAILABLE)



SECTION A-A



NON-TRAFFIC RATED	
DESCRIPTION OF MATERIAL:	POLYMER CONCRETE (GRAY)
TOLERANCE:	±1/8"
ESTIMATED PART WEIGHT:	65.0 LBS.

WATER METER BOX & LID - 13" x 24"

REVISIONS		
MARK	DATE	DESCRIPTION

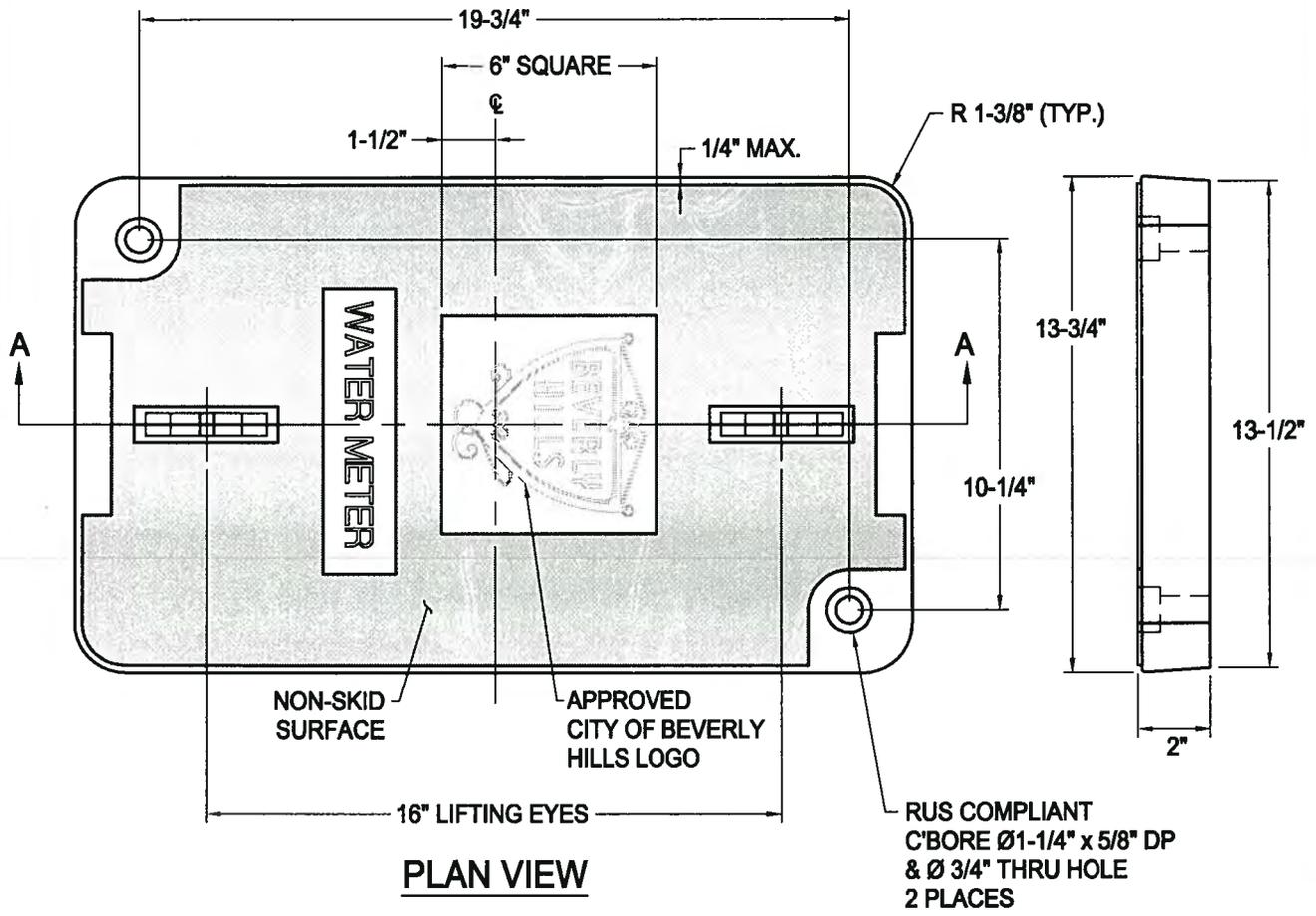


CITY OF BEVERLY HILLS, CALIFORNIA

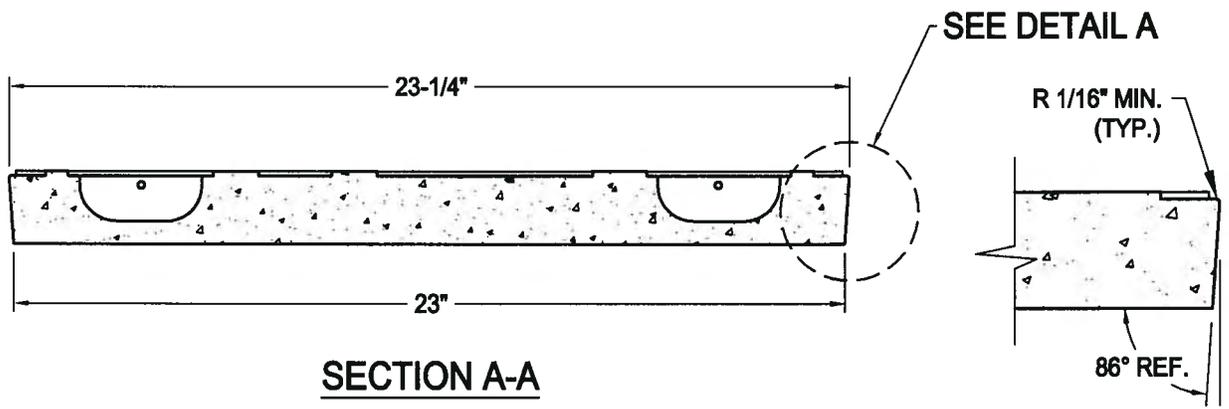
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *Chris T...* DATE 11-18-10
CITY ENGINEER
APPROVED *...* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 712
SHEET 1 OF 2



PLAN VIEW



SECTION A-A

DETAIL A

WATER METER BOX & LID - 13" x 24"

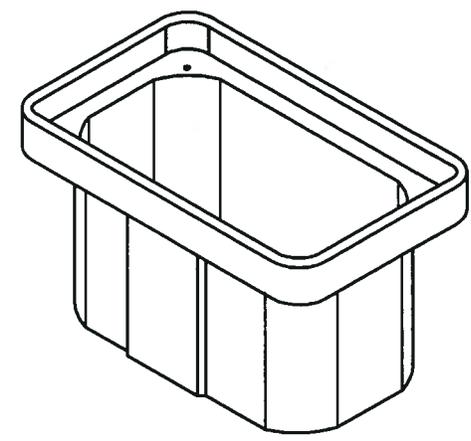
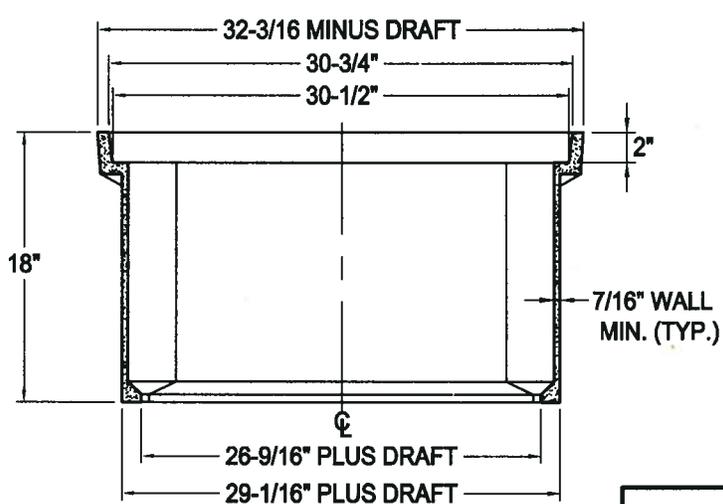
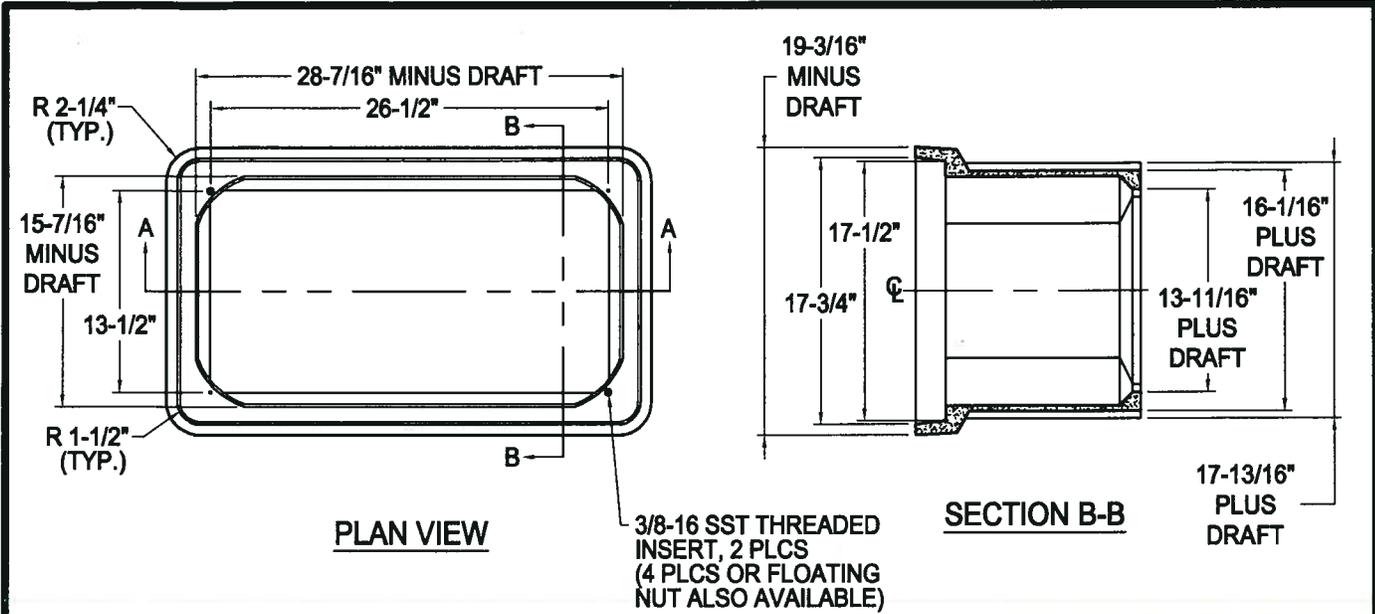
REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *Christina* DATE *11-8-10*
 CITY ENGINEER
 APPROVED *Russell* DATE *11-18-10*
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 712
 SHEET 2 OF 2



NON-TRAFFIC RATED	
DESCRIPTION OF MATERIAL:	POLYMER CONCRETE (GRAY)
TOLERANCE:	±1/8"
ESTIMATED PART WEIGHT:	99.0 LBS.

WATER METER BOX & LID - 17" x 30"

REVISIONS		
MARK	DATE	DESCRIPTION

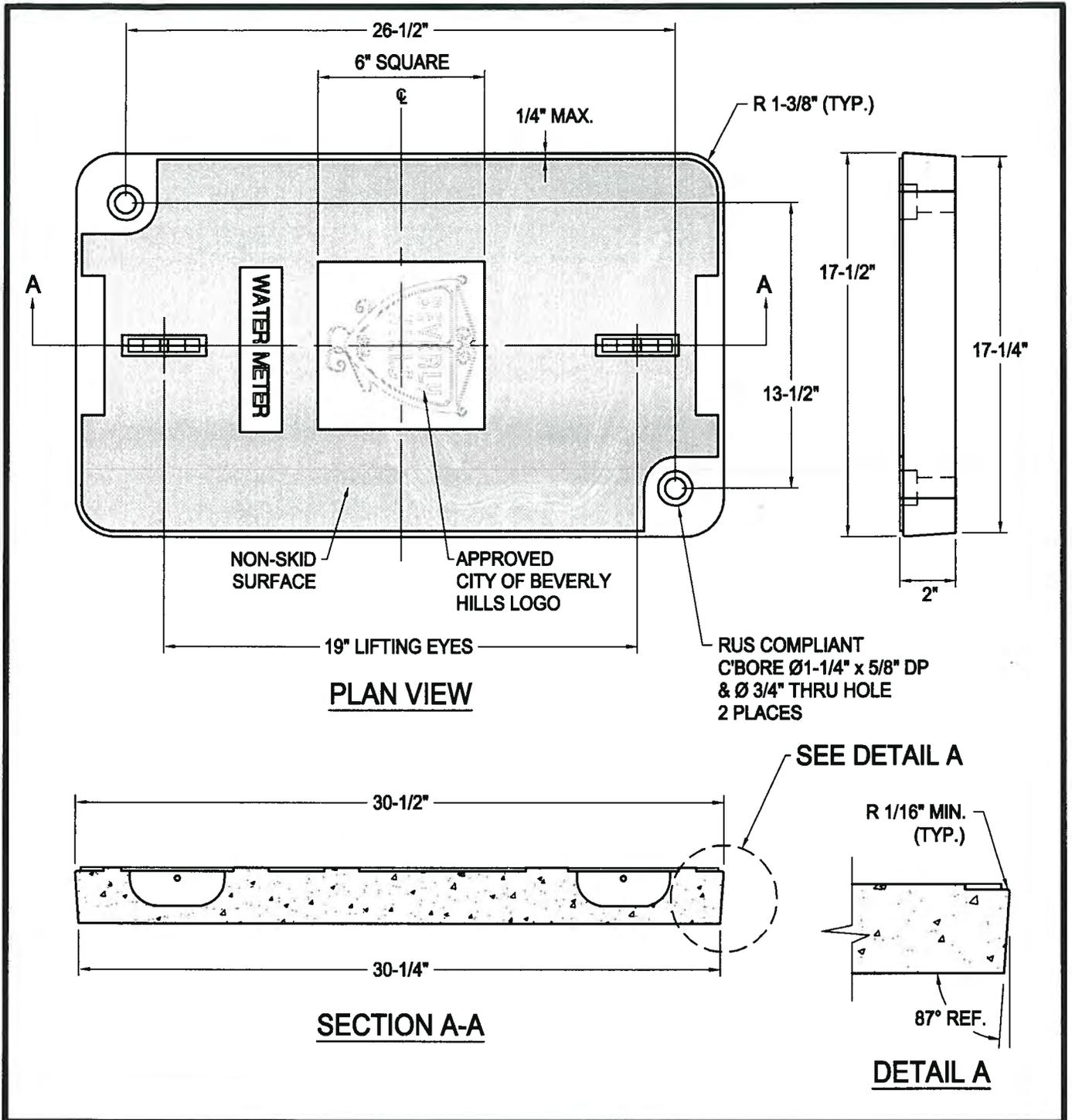


CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 713
 SHEET 1 OF 2



WATER METER BOX & LID - 17" x 30"

REVISIONS		
MARK	DATE	DESCRIPTION



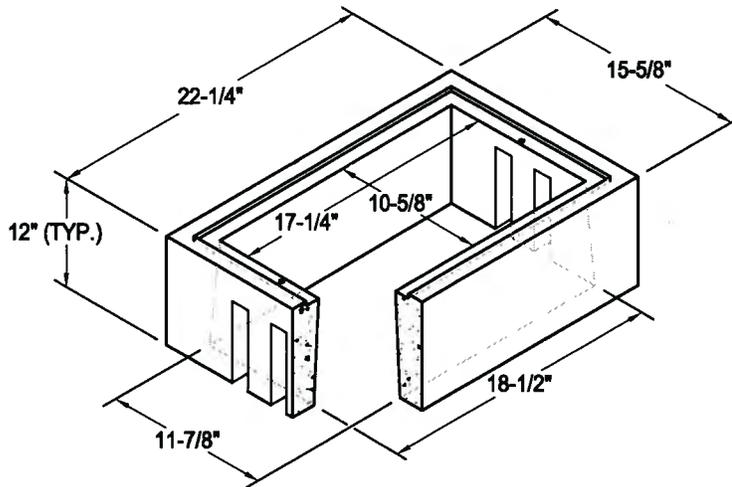
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

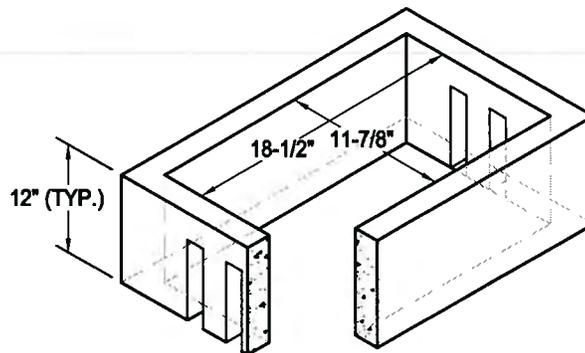
RECOMMENDED *[Signature]* DATE *11-18-10*
CITY ENGINEER

APPROVED *[Signature]* DATE *11-18-10*
PUBLIC WORKS DIRECTOR

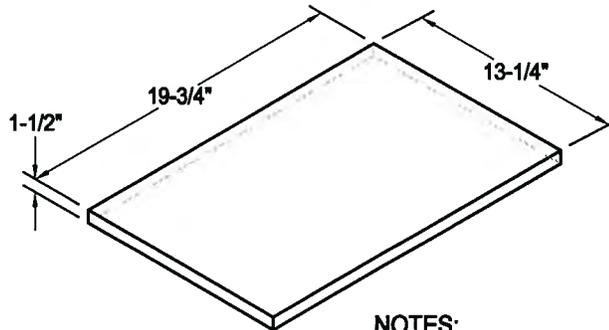
STANDARD DRAWING
BH 713
SHEET 2 OF 2



TRAFFIC BOX
 REINFORCED CONCRETE
 H-20 LOADING
 130 lbs.



EXTENSION
 REINFORCED CONCRETE
 H-20 LOADING
 129 lbs.



SLAB
 REINFORCED CONCRETE
 32 lbs.

NOTES:

- CALTRANS No. 3-1/2T STATE SPECIFICATIONS.

10" x 17" WATER METER BOX & LID - H/20 LOADING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

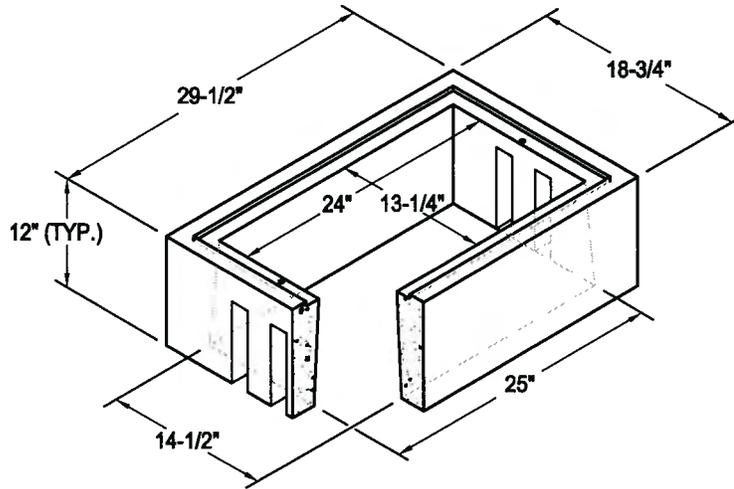
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *Christina* DATE *11-18-10*
CITY ENGINEER
 APPROVED *Mark Cut* DATE *11-18-10*
PUBLIC WORKS DIRECTOR

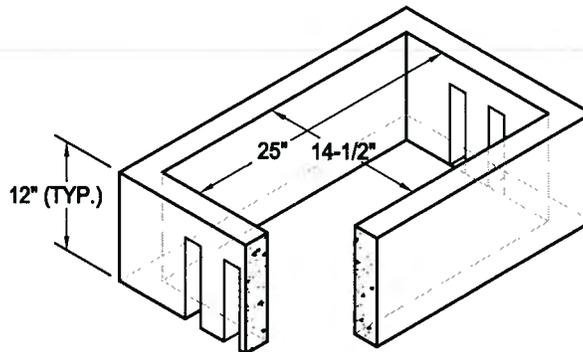
STANDARD DRAWING

BH 714

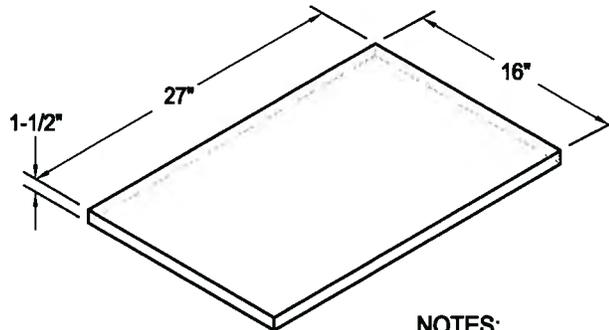
SHEET 1 OF 2



TRAFFIC BOX
 REINFORCED CONCRETE
 H-20 LOADING
 166 lbs.



EXTENSION
 REINFORCED CONCRETE
 H-20 LOADING
 163 lbs.



SLAB
 REINFORCED CONCRETE
 52 lbs.

NOTES:

- CALTRANS No. 5T STATE SPECIFICATIONS.

13" x 24" WATER METER BOX & LID - H/20 LOADING

REVISIONS		
MARK	DATE	DESCRIPTION



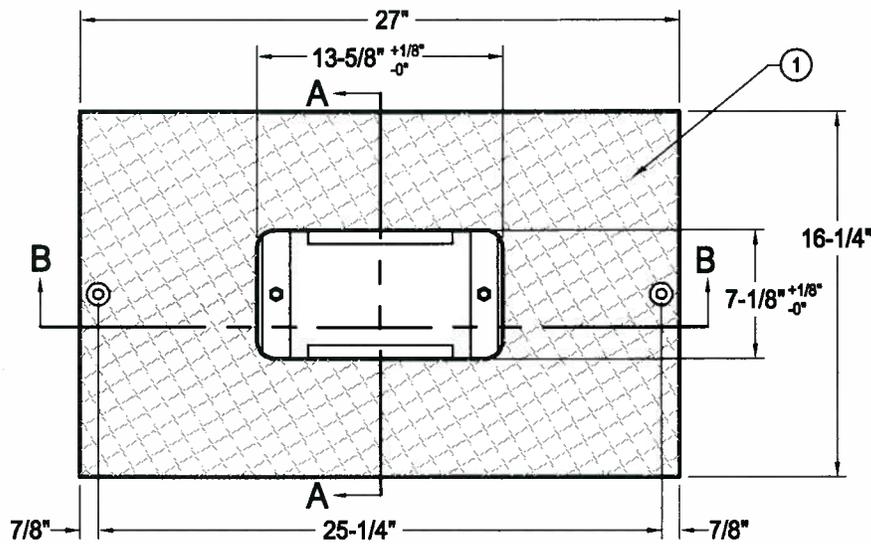
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

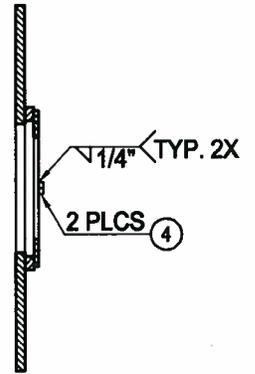
RECOMMENDED *[Signature]*
 CITY ENGINEER
 APPROVED *[Signature]*
 PUBLIC WORKS DIRECTOR

DATE 11-18-10
 DATE 11-18-10

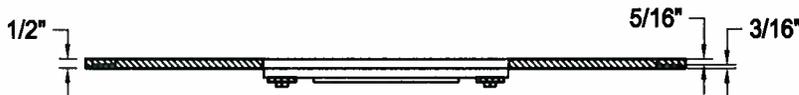
STANDARD DRAWING
BH 715
 SHEET 1 OF 2



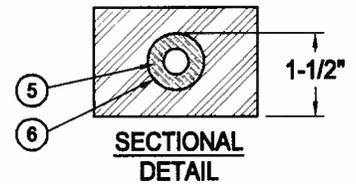
PLAN VIEW



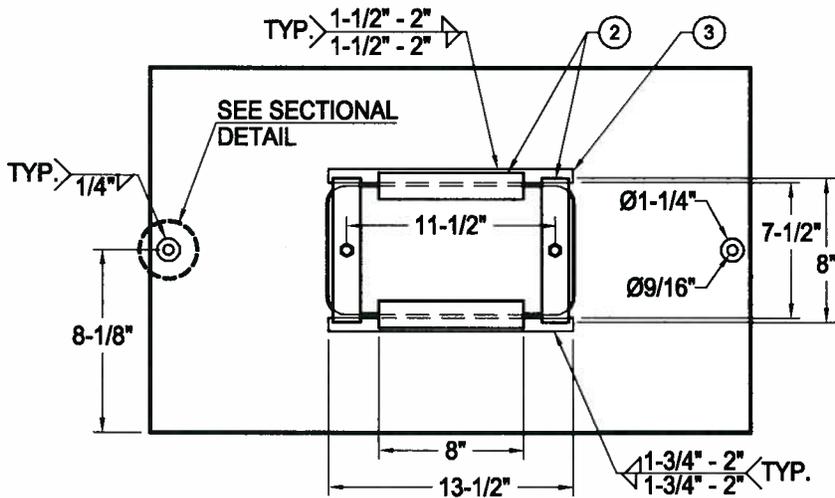
SECTION A-A



SECTION B-B



SECTIONAL DETAIL



MATERIALS

- ① - 1/2" DIAMOND CHECKER PLATE
- ② - 1/4" x 1-1/2" STEEL FLAT STOCK
- ③ - 3/4" x 1/2" STEEL FLAT STOCK
- ④ - 3/8" - 16 STEEL NUT
- ⑤ - 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
- ⑥ - SURFACE AROUND WELD TO BE FLAT

13" x 24" WATER METER BOX & LID - H/20 LOADING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

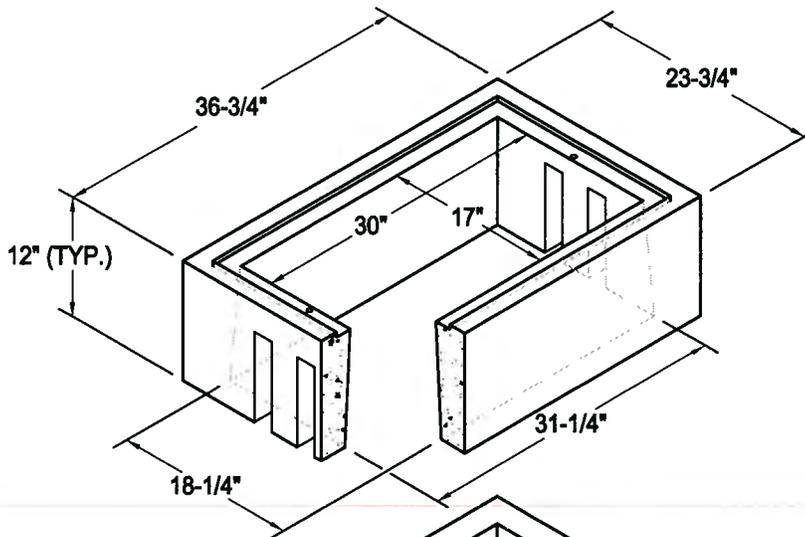
RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

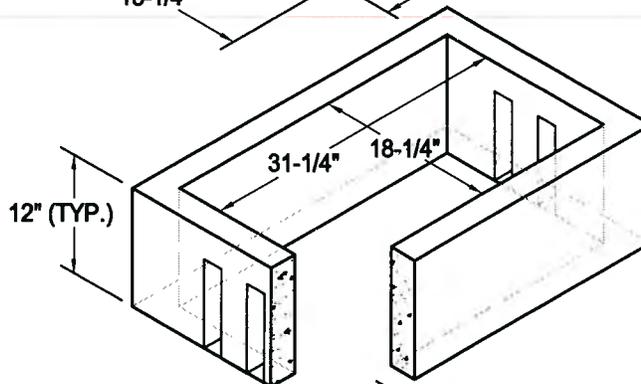
DATE 11-18-10

DATE 11-18-10

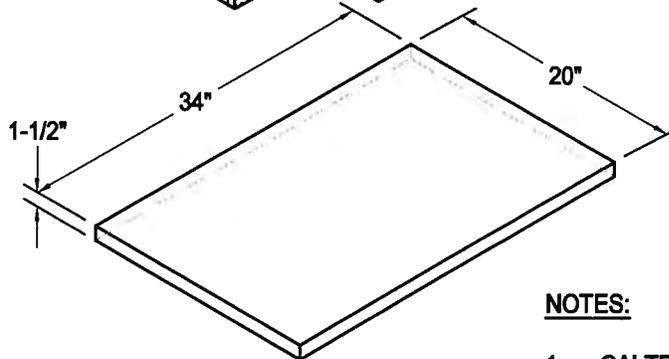
STANDARD DRAWING
BH 715
SHEET 2 OF 2



BOX
 REINFORCED CONCRETE
 H-20 LOADING
 268 lbs.



EXTENSION
 REINFORCED CONCRETE
 H-20 LOADING
 250 lbs.



SLAB
 REINFORCED CONCRETE
 108 lbs.

NOTES:

- CALTRANS No. 6T STATE SPECIFICATIONS.

17" x 30" WATER METER BOX & LID - H/20 LOADING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

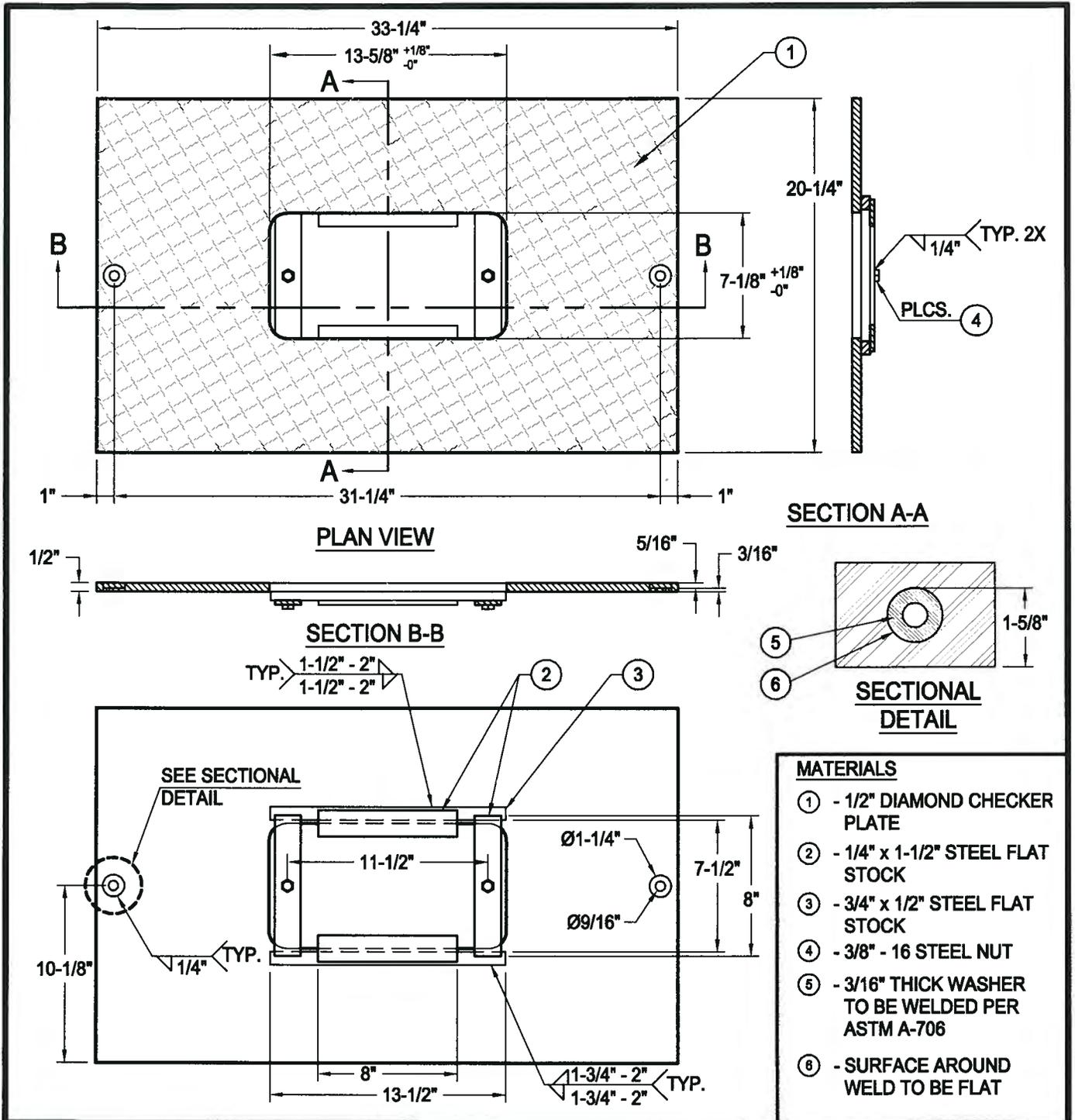
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE *11-18-10*
 CITY ENGINEER
 APPROVED *[Signature]* DATE *11-18-10*
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 716

SHEET 1 OF 2



17" x 30" WATER METER BOX & LID - H/20 LOADING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

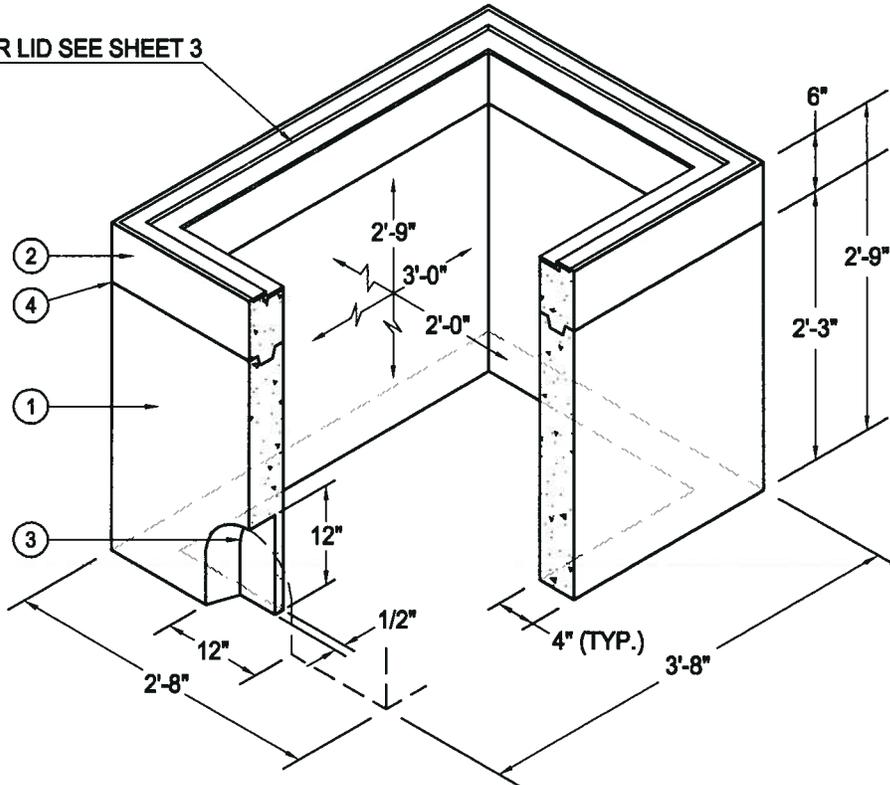
RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

DATE 11-18-10

STANDARD DRAWING
BH 716
SHEET 2 OF 2

FOR LID SEE SHEET 3



NOTES:

1. DESIGNED FOR PEDESTRIAN/PARKWAY LOADS OR TRAFFIC AASHTO H20 FOR USE IN OFF-STREET LOCATIONS ONLY.

STRUCTURE DESIGNED IN ACCORDANCE WITH:
 - AASHTO H-20 TRAFFIC BRIDGE LOADING
 - ASTM C-857 STANDARD PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
 - AMERICAN CONCRETE INSTITUTE ACI 318-05
2. CONCRETE COMPRESSIVE STRENGTH $F_c = 5500$ PSI.
3. REINFORCEMENT IN ACCORDANCE WITH ASTM A-706 WITH A YIELD STRENGTH OF $F_y = 60,000$ PSI.
4. 6" MINIMUM COMPACTED GRANULAR MATERIAL RECOMMENDED FOR SUB-BASE FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.
5. MINIMUM EXCAVATION SIZE: 3'-2" x 4'-2" x REQUIRED DEPTH.

MATERIALS:

- ① 27" HIGH LOWER SECTION.
- ② 6" TOP SECTION WITH GALVANIZED CAST-IN FRAME.
- ③ 12" x 12" KNOCK OUT x 3-1/2" DEEP ON EACH END WALL
- ④ 6" OR 12" EXTENSION SECTIONS AVAILABLE.

2' x 3' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



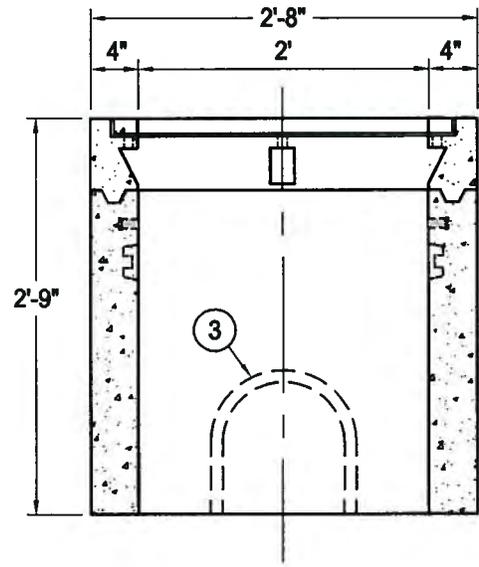
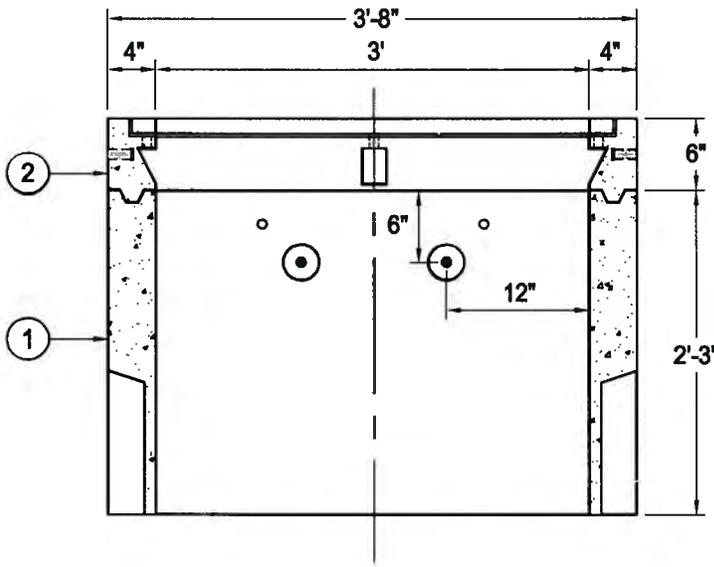
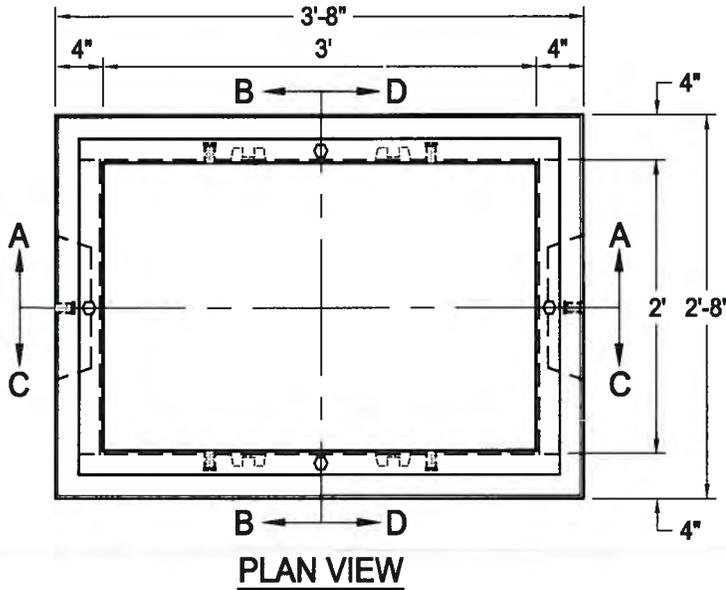
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED DATE 11-18-10
CITY ENGINEER

APPROVED DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 717
 SHEET 1 OF 3



2' x 3' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

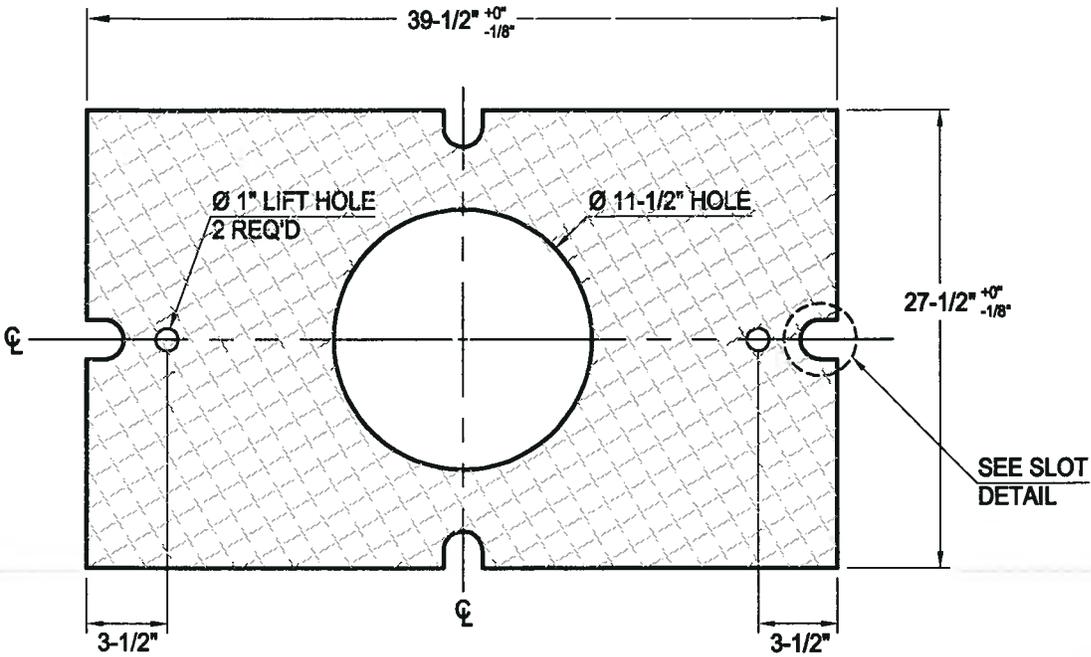
RECOMMENDED *[Signature]*
CITY ENGINEER

APPROVED *[Signature]*
PUBLIC WORKS DIRECTOR

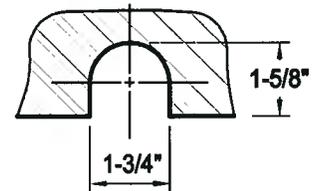
DATE 11-18-10

DATE 11-18-10

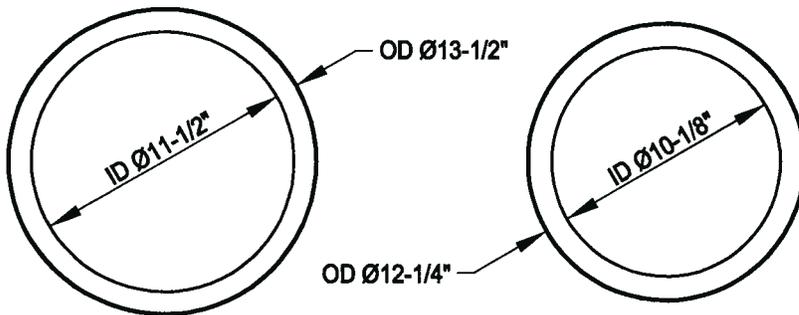
STANDARD DRAWING
BH 717
SHEET 2 OF 3



PLAN VIEW



SLOT DETAIL
4 PLACES



1/4" PLATE (1)

1/4" PLATE (1)

APPROX. 104 lbs.

QTY.	MATERIALS
1	5/16" DIAMOND PLATE 27-1/2" x 39-1/2"
1	10-1/8" ID x 12-1/4" OD 1/4" PLATE
1	11-1/2" ID x 13-1/2" OD 1/4" PLATE

2' x 3' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE

11-18-10

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

DATE

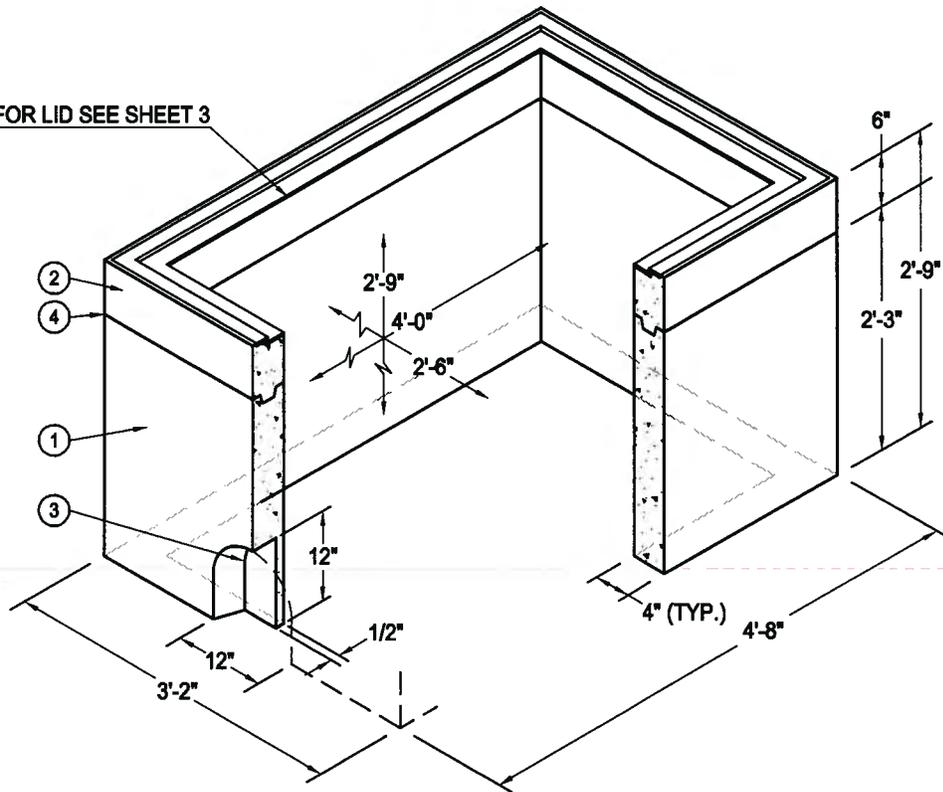
11-18-10

STANDARD DRAWING

BH 717

SHEET 3 OF 3

FOR LID SEE SHEET 3



NOTES:

1. DESIGNED FOR PEDESTRIAN/PARKWAY LOADS OR TRAFFIC AASHTO H20 FOR USE IN OFF-STREET LOCATIONS ONLY.

STRUCTURE DESIGNED IN ACCORDANCE WITH:
 - AASHTO H-20 TRAFFIC BRIDGE LOADING
 - ASTM C-857 STANDARD PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
 - AMERICAN CONCRETE INSTITUTE ACI 318-05
2. CONCRETE COMPRESSIVE STRENGTH $F_c = 5500$ PSI.
3. REINFORCEMENT IN ACCORDANCE WITH ASTM A-706 WITH A YIELD STRENGTH OF $F_y = 60,000$ PSI.
4. 6" MINIMUM COMPACTED GRANULAR MATERIAL RECOMMENDED FOR SUB-BASE FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.
5. MINIMUM EXCAVATION SIZE: 3'-8" x 5'-2" x REQUIRED DEPTH.

MATERIALS:

- ① 27" HIGH LOWER SECTION.
- ② 6" TOP SECTION WITH GALVANIZED CAST-IN FRAME.
- ③ 12" x 12" KNOCK OUT x 3-1/2" DEEP ON EACH END WALL
- ④ 6" OR 12" EXTENSION SECTIONS AVAILABLE.

2'-6" x 4' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

[Signature]
CITY ENGINEER

DATE

11-18-10

APPROVED

[Signature]
PUBLIC WORKS DIRECTOR

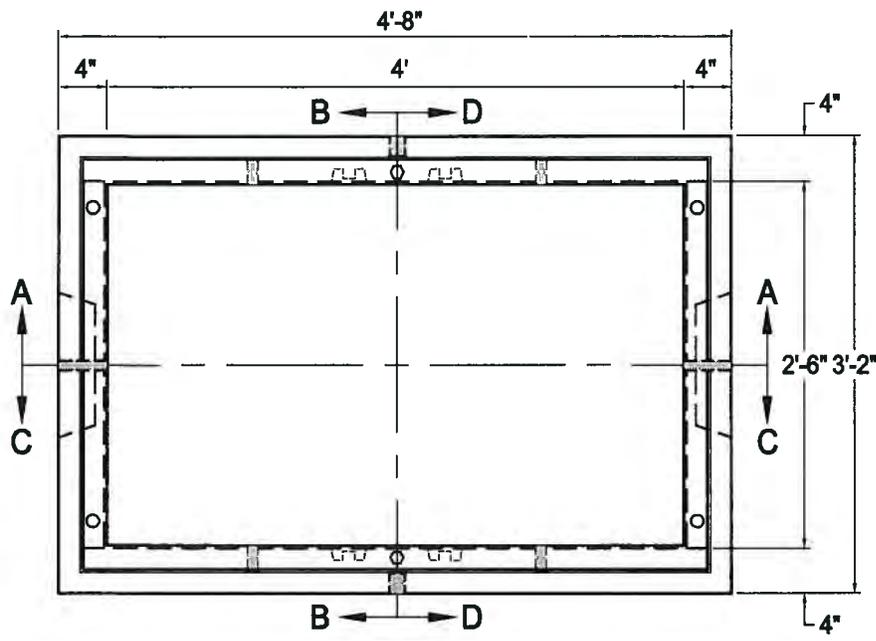
DATE

11-18-10

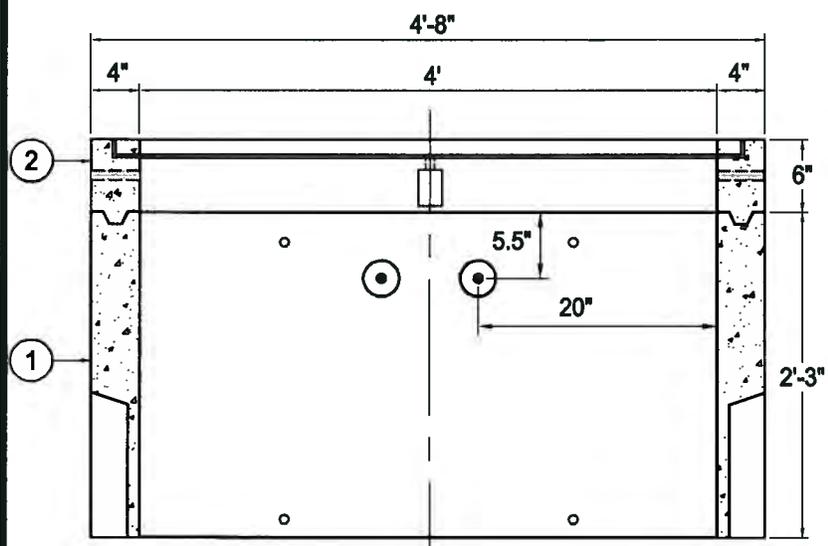
STANDARD DRAWING

BH 718

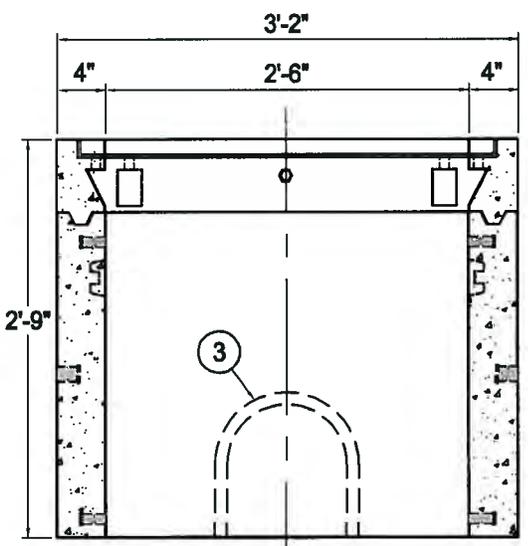
SHEET 1 OF 3



PLAN VIEW



SECTION A-A / C-C



SECTION B-B / D-D

2'-6" x 4' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION

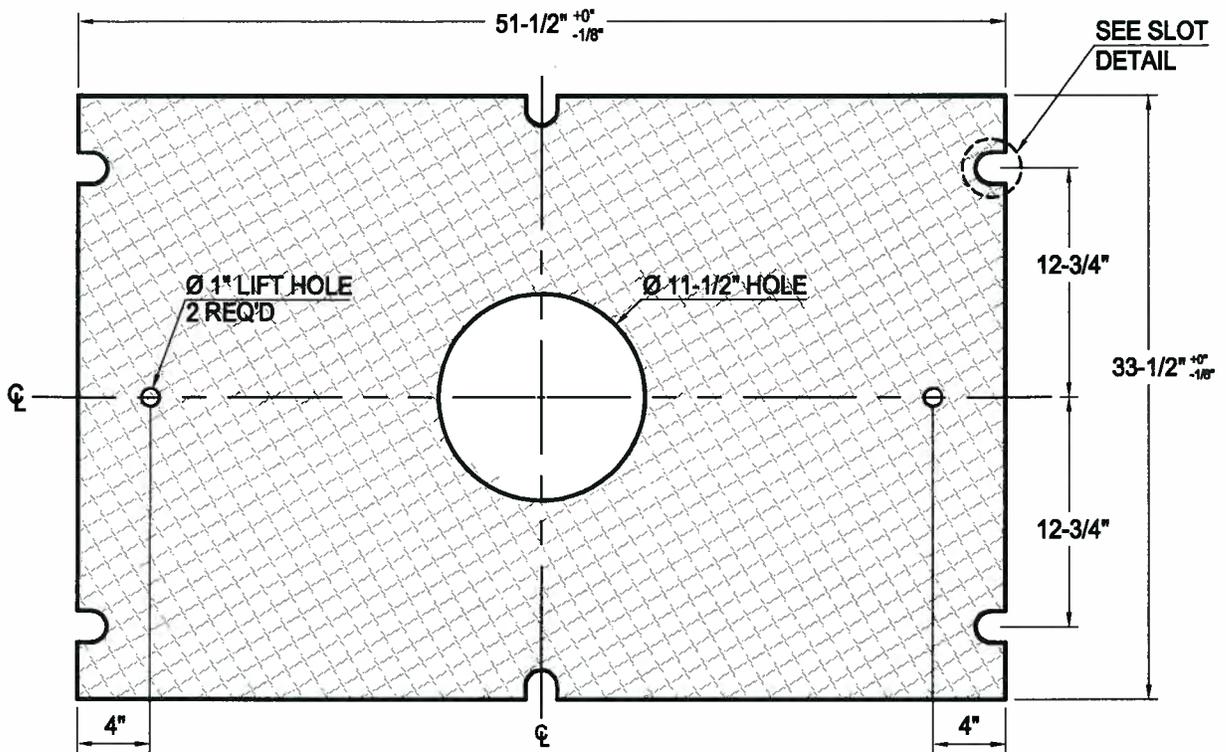


CITY OF BEVERLY HILLS, CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

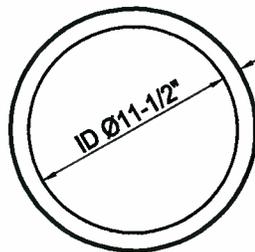
RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

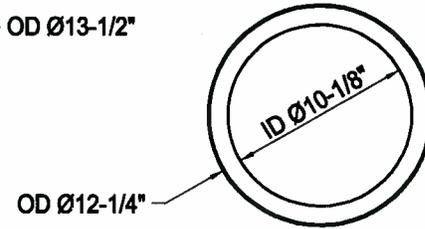
STANDARD DRAWING
BH 718
 SHEET 2 OF 3



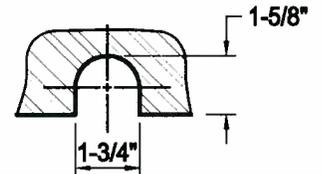
PLAN VIEW



1/4" PLATE (1)



1/4" PLATE (1)



SLOT DETAIL
6 PLACES

QTY. MATERIALS

1	5/16" DIAMOND PLATE 33-1/2" x 51-1/2"
1	10-1/8" ID x 12-1/4" OD 1/4" PLATE
1	11-1/2" ID x 13-1/2" OD 1/4" PLATE

2'-6" x 4' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION



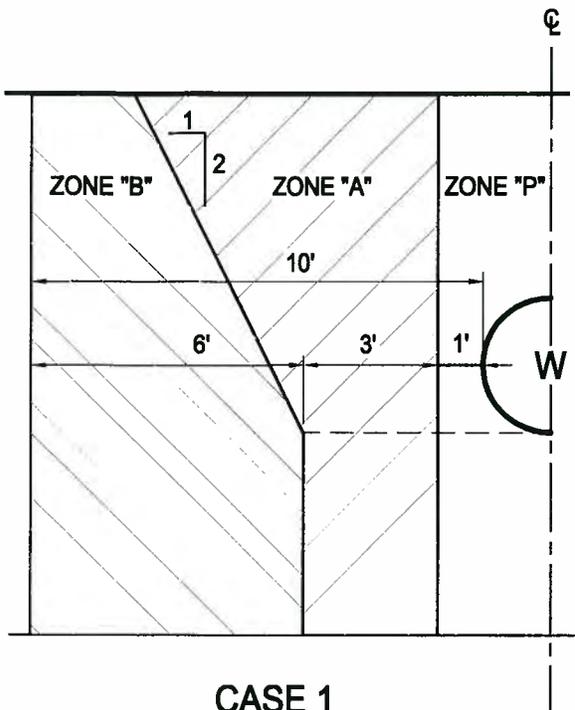
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

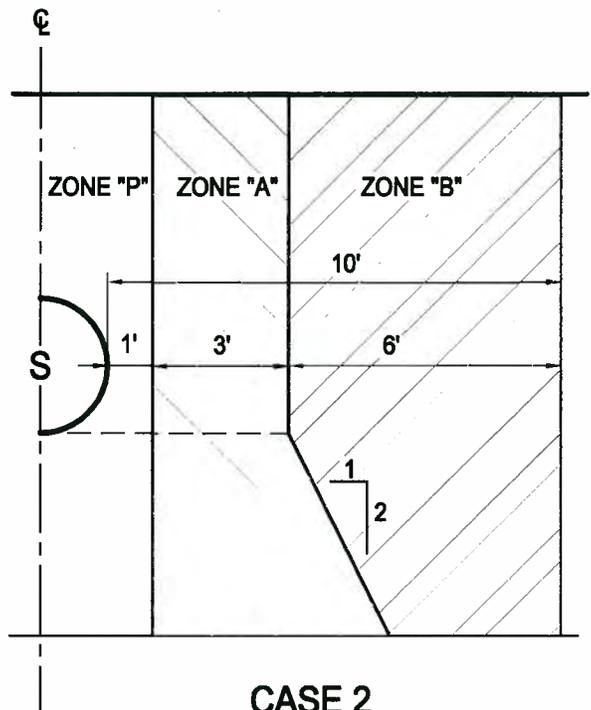
RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 718
SHEET 3 OF 3



CASE 1
NEW SEWER



CASE 2
NEW WATER MAIN

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF:
 1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS.
 2. PLASTIC SEWER PIPE WITH RUBBER RING JOINTS (PER ASTM D 3034) OR EQUIVALENT.
 3. CAST OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
 4. REINFORCED CONCRETE PRESSURE PIPE WITH COMPRESSION JOINTS (PER AWWA C302-74).
- P. PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A WATER LINE PLACED PARALLEL TO A SEWER LINE SHALL BE CONSTRUCTED OF STEEL PIPE, CML, AND CMC WITH WELDED JOINTS.
- P. PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

1. ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES,
2. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
3. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
4. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN PARALLEL SEPARATION < 10'

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

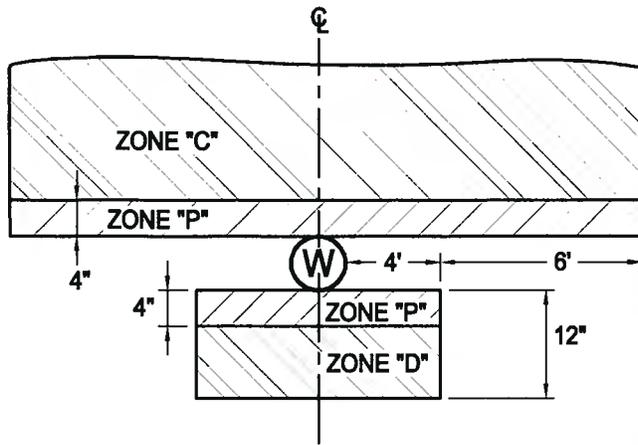
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER
 APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

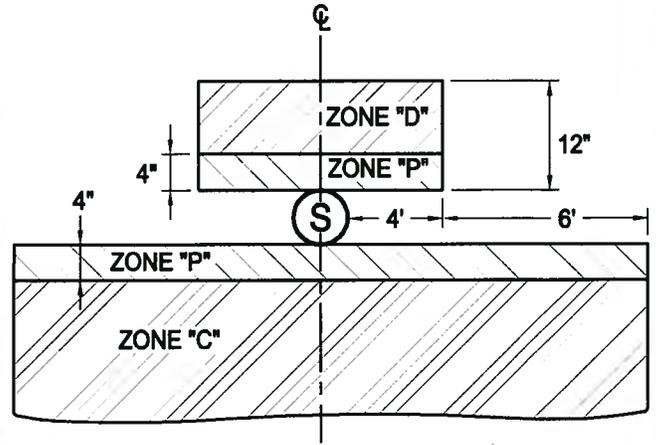
STANDARD DRAWING

BH 719

SHEET 1 OF 2



CASE 1
NEW SEWER



CASE 2
NEW WATER MAIN

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- C. A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:
1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS.
 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA 0990) PLASTIC PIPE OR EQUIVALENT. CENTERED OVER THE PIPE BEING CROSSED.
 3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302-74) CENTERED OVER THE PIPE BEING CROSSED.
 4. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE.
- D. A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:
1. A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING.
 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA 0990) PLASTIC PIPE OR EQUIVALENT. CENTERED OVER THE PIPE BEING CROSSED.
 3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302-74) CENTERED OVER THE PIPE BEING CROSSED.
 4. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE
 5. ANY SEWER PIPE SEPARATED BY A 10"x10"x4" THICK REINFORCED CONCRETE SLAB.
- P. PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- C. NO JOINTS WITHIN 10 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.
- D. NO JOINTS WITHIN 4 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML, AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML, AND CMC.
- P. PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

1. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
2. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
3. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN PERPENDICULAR SEPARATION < 10'

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED *[Signature]* DATE 11-18-10
CITY ENGINEER

APPROVED *[Signature]* DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 719

SHEET 2 OF 2