NOTICE TO BIDDERS

PROPOSAL FORM

SPECIFICATIONS

and

STANDARD CONTRACTUAL REQUIREMENTS

Construction of

FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS

Within the Cities of

**BEVERLY HILLS and WEST HOLLYWOOD,
CALIFORNIA**

PUBLIC WORKS DEPARTMENT
BEVERLY HILLS, CALIFORNIA

MARK CUNEO, P.E.
CITY ENGINEER

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Approved As To Form:

January 2014
Project No. 10101

City Attorney

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NOTICE TO BIDDERS

Construction of

FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS

Within the Cities of
BEVERLY HILLS AND WEST HOLLYWOOD, CALIFORNIA

BIDS - Sealed Proposals for the water main replacements in the locations listed below within the City of Beverly Hills, California, will be received up to the hour of 2:00 p.m., on **March 12, 2014** at the office of the City Clerk of the City of Beverly Hills, located in Room 290 of City Hall at 455 North Rexford Drive, Beverly Hills, California. Bids will be publicly opened at 2:00 p.m. on the above-mentioned date in the office of the City Clerk of said City Hall.

PROJECT WORK LOCATIONS

WM No.	Main Location	Begin	End
1	Alley West of Elm Dr.	Burton Way	Clifton Way
2	Alley West of Maple Dr.	Burton Way	Alley North of Wilshire Blvd.
3	Alley North of Wilshire Blvd	Rexford Dr.	Alley West of Whetherly Dr.
4	Alley West of Clark Dr.	Clifton Way	Alley North of Wilshire Blvd.
5	"L" Alley West of Foothill Rd.	Dayton Way	Foothill Rd.
6	Dayton Way	Rexford Dr.	Foothill Rd.
7	Elm Dr.	Clifton Way	Rexford Dr.
8	Clifton Way	Rexford Dr.	Maple Dr.
9	S. Le Doux Rd.	Wilshire Blvd.	Gregory Way
10	Alley West of Palm Dr.	Alden Dr.	Burton Way
11	Alley West of Palm Dr.	Carmelita Ave.	Alley North of SM Blvd.
12	Alley West of Maple Dr.	Elevado Ave.	Alley North of SM Blvd.
13	Alley West of Arden Dr.	Elevado Ave.	Alley North of SM Blvd.
14	Alley West of Roxbury Dr.	Sunset Blvd.	Santa Monica Blvd. (SMB)
15	Alley West of Crescent Dr.	SMB	Wilshire Blvd.
16	Orland Ave. (West Hollywood)	Melrose Ave.	Rosewood Ave.

SCOPE OF THE WORK - The work to be done shall consist of furnishing all the required labor, materials, equipment, parts, implements and supplies necessary for, or appurtenant to, the construction and completion of the waterline replacement project in accordance with Drawing No. 10391, Sheets 1 through 27 and the Specifications prepared for this project.

ITEM NO.	ESTIMATED QUANTITIES		DESCRIPTION
1	1	Lump Sum	Mobilization/Demobilization/ Traffic Control / Trench Safety Measures
2	10,000	Linear Feet	Furnish and Install 8-inch Ductile Iron Pipe-push-on joints
3	9,000	Linear Feet	Furnish and Install 8-inch Ductile Iron Pipe-restrained joints
4	1,500	Linear Feet	Furnish and Install 12-inch Ductile Iron Pipe-push-on joints
5	1,400	Linear Feet	Furnish and Install 12-inch Ductile Iron Pipe-restrained joints
6	400	Linear Feet	Furnish and Install 16-inch Ductile Iron Pipe-restrained joints
7	400	Linear Feet	Furnish and Install 16-inch Ductile Iron Pipe-push-on joints
8	100	Each	Furnish and Install 8-inch Butterfly Valve with Valve Box
9	35	Each	Furnish and Install 12-inch Butterfly Valve with Valve Box
10	4	Each	Furnish and Install 16-inch Butterfly Valve with Valve Box
11	2	Each	Furnish and Install 1-inch combination air valve assembly
12	1	Each	Furnish and Install 2-inch blow-off assembly
13	1	Each	Reconnect Sample Station
14	8	Each	Furnish and Install new fire hydrant
15	28	Each	Reconnect 2,4,6 or 8-inch Fire Service
16	200	Each	Furnish and Install new 1-inch domestic service (short)
17	240	Each	Furnish and Install new 1-inch domestic service (long)
18	35	Each	Furnish and Install new 2-inch domestic service (short)
19	60	Each	Furnish and Install new 2-inch domestic service (long)
20	200	Each	Furnish and Install traffic rated meter box with bolted lid for 1-inch service (if needed)
21	40	Each	Furnish and Install traffic rated meter box with bolted lid for 2-inch service (if needed)
22	2	Each	Furnish and Install traffic-rated meter box for 4-inch fire service (if needed)
23	2,000	Linear Feet	Remove and dispose of abandoned or interfering portions of pipe (if needed)
24	120	Each	Remodel sewer lateral connection (if needed)
25	48	Each	Remove and reconstruct 8-inch PCC alley approach (if needed)

Copies of the Plans, Specifications and Proposal Form may be inspected and obtained at the office of the City Engineer, located at 345 Foothill Rd. There is no charge or deposit required for this material; therefore, they are not to be returned to the City for

refund. Each bidder shall furnish the City the name, address, and telephone number of the firm requesting specifications.

References in the project specifications to specific sections of the Standard Specifications refer to the book of "Standard Specifications for Public Works Construction", 2012 Edition, written by a Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and Southern California District of the Associated General Contractors of California. Contractors wishing to obtain this book may purchase copies directly from the publisher, Building News, Inc., 1612 South Clementine Street, Anaheim, California, 92802; (800) 873-6397.

LIQUIDATED DAMAGES -There will be a One Thousand Dollar ($1,000) assessment for each calendar day that work remains incomplete beyond the time stated in the Proposal Form. Refer to the Proposal Form for specific details.

PREVAILING WAGES - In accordance with the provisions of Section 1770 et seq, of the Labor Code, the Director of Industrial Relations of the State of California has determined the general prevailing rate of wages applicable to the work to be done.
The Contractor will be required to pay to all workers employed on the project sums not less than the sums set forth in the documents entitled "General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code, Part 7, Chapter l, Article 2, Sections 1770, 1773, 1773.l."

A copy of said documents is on file and may be inspected in the office of the City Engineer, located at 345 Foothill Rd., Beverly Hills, California 90210.

Attention is directed to the provisions of Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him. The Contractor and any subcontractor under him shall comply with the requirements of said sections in the employment of apprentices.

Information relative to apprenticeship standards and administration of the apprenticeship program may be obtained from the Director of Industrial Relations, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

PAYROLL RECORDS - The Contractor’s attention is directed to Section 1776 of the Labor Code, relating to accurate payroll records, which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or by the Subcontractors in connection with the project. The Contractor shall agree through the Contract to comply with this section and the remaining provisions of the Labor Code.

INSURANCE AND BOND REQUIREMENTS - The Contractor shall provide insurance in accordance with Section 3-13 of the City of Beverly Hills, Public Works Department, Standard Contractual Requirements, included as part of these Specifications. All

subcontractors listed shall attach copies of the Certificate of Insurance naming the Contractor as the additional insured as part of their insurance policy coverage. In addition, the Contractor shall guarantee all work against defective workmanship and materials furnished by the Contractor for a period of one (1) year from the date the work was completed in accordance with Section 2-11 of the Standard Contractual Requirements. The Contractor's sureties for the "Performance Bond" shall be liable for any work that the Contractor fails to replace within a specified time.

GENERAL INSTRUCTIONS - Bids must be submitted on the Proposal Form prepared for this project and shall be delivered at the office of the City Clerk within a sealed envelope supplied by the City and marked on the outside as follows: "PROPOSAL FOR WATER MAIN REPLACEMENTS."

THE CITY RESERVES THE RIGHT TO REJECT ANY BID OR ALL THE BIDS AND TO WAIVE ANY INFORMALITY OR IRREGULARITY IN ANY BID, BUT IF THE BIDS ARE ACCEPTED, THE CONTRACT FOR THE IMPROVEMENT WILL BE LET TO THE LOWEST RESPONSIBLE BIDDER FOR THE PROJECT AS A WHOLE.

PROPOSAL FORM

Construction of

FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS

Within the Cities of

BEVERLY HILLS AND WEST HOLLYWOOD, CALIFORNIA

Date: _____

To the Honorable City Council Beverly Hills, California:

In compliance with advertised notice inviting sealed proposals for the water main replacements in the following alley or street locations

WM No.	Main Location	Begin	End
1	Alley West of Elm Dr.	Burton Way	Clifton Way
2	Alley West of Maple Dr.	Burton Way	Alley North of Wilshire Blvd.
3	Alley North of Wilshire Blvd	Rexford Dr.	Alley West of Whetherly Dr.
4	Alley West of Clark Dr.	Clifton Way	Alley North of Wilshire Blvd.
5	"L" Alley West of Foothill Rd.	Dayton Way	Foothill Rd.
6	Dayton Way	Rexford Dr.	Foothill Rd.
7	Elm Dr.	Clifton Way	Rexford Dr.
8	Clifton Way	Rexford Dr.	Elm Dr.
9	S. Le Doux Rd.	Wilshire Blvd.	Gregory Way
10	Alley West of Palm Dr.	Alden Dr.	Burton Way
11	Alley West of Palm Dr.	Carmelita Ave.	Alley North of SM Blvd.
12	Alley West of Maple Dr.	Elevado Ave.	Alley North of SM Blvd.
13	Alley West of Arden Dr.	Elevado Ave.	Alley North of SM Blvd.
14	Alley West of Roxbury Dr.	Sunset Blvd.	Santa Monica Blvd.
15	Alley West of Crescent Dr.	SSM Blvd.	Wilshire Blvd.
16	Orland Ave. (West Hollywood)	Melrose	Rosewood

within the City of Beverly Hills, and City of West Hollywood (Orland Avenue), California and after having carefully examined the location of the project and studied the specifications prepared for this work, the undersigned hereby agrees to enter into a contract to furnish all labor, materials, equipment, parts, implements, and supplies needed to perform the contract work to the satisfaction and under the direction of the City Engineer of the City of Beverly Hills and City of West Hollywood, said contract to be

drawn in accordance with the provisions in the Specifications, Notice to Bidders, and all the applicable clauses of the "Standard Contractual Requirements for Public Improvements in the City of Beverly Hills, California", as adopted by the Department of Public Works on November 1, 1976.

If awarded the contract, the undersigned agrees to furnish the necessary bonds and insurance as set forth in the above-mentioned Standard Contractual Requirements, within ten (10) days after the award of the contract.

Attached hereto is cash, or cashier's check, or a certified check in favor of the City of Beverly Hills, in an amount equal to at least ten percent (10%) of the total bid, or a bid bond for said amount on a form furnished by the City, with the understanding that said security shall be held by the City Clerk until the contract for doing the work has been entered into and that said security shall be forfeited to the City as liquidated damages should the undersigned fail to enter into a contract and furnish the above-mentioned bonds and insurance within the ten (10) days specified, if awarded the contract, as the undersigned agrees that in the event of such failure, the actual amount of the damage to the City would be impractical, and extremely difficult to determine. In the event cash, or cashier's check, or a certified check is furnished for the bid bond, then a letter is required from a bonding company stating that said company will furnish the necessary bonds, as specified in Paragraph 2-11 of the Standard Contractual Requirements if the undersigned is awarded the contract. The undersigned is aware of the fact that such a letter must be from a bonding company acceptable to the City of Beverly Hills, and that all bids accompanied by cash, or cashier's check, or a certified check in lieu of the bid bond must be accompanied by such a letter in order to be considered.

The undersigned certifies to have a minimum of three consecutive years of current experience in the type of work related to this project, completed the installation of at least 10,000 linear feet of water distribution main 8-inch diameter or larger within the past three years, and that this experience is in actual operation of a firm with permanent employees performing a part of the work as distinct from a firm operating entirely by subcontracting all phases of the work.

The undersigned also certifies to be properly licensed by the State of California as a contractor to perform work of this specialty and further certifies to have been so licensed for the three years immediately preceding the date of receipt of bids. The undersigned agrees to furnish the City satisfactory proof of ability to perform the work, as well as records of performance of similar jobs completed recently, if and when requested to do so by the City Engineer.

The undersigned agrees that for change orders involving extra cost, the bidder shall allow the contingency allowance indicated by the City in the following bidding schedule. Expenditures from the contingency allowances shall be made only upon written order of the City. The portion of the allowance remaining unexpended at the completion of the work shall be deducted from the final payment due the Contractor.

The undersigned agrees that the insurance and bonding requirements set forth in

Sections 2-11 and 3-13, respectively, of the City of Beverly Hills, Public Works Department, Standard Contractual Requirements can and will be fulfilled.

The undersigned hereby agrees to perform the work as described on Drawing No. 10391, Sheets 1 through 27, and in the Specifications prepared for this project, at the following prices, to wit:

ITEM NO.	EST QTY.		DESCRIPTION AND UNIT PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES	TOTAL IN FIGURES
1.	1	LS	Mobilization/demob./traffic control/trench safety measures _____ DOLLARS AND _____ CENTS lump sum	**$**_____	**$**_____
2.	10,000	LF	F&I 8-inch ductile iron pipe-push-on joints _____ DOLLARS AND _____ CENTS per linear foot	**$**_____	**$**_____
3.	9,000	LF	F&I 8-inch ductile iron pipe-restrained joints _____ DOLLARS AND _____ CENTS per linear foot	**$**_____	**$**_____
4.	1,500	LF	F&I 12-inch ductile iron pipe-push-on joints _____ DOLLARS AND _____ CENTS per linear foot	**$**_____	**$**_____
5.	1,400	LF	F&I 12-inch ductile iron pipe-restrained joints _____ DOLLARS AND _____ CENTS per linear foot	**$**_____	**$**_____

ITEM NO.	EST QTY.		DESCRIPTION AND UNIT PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES	TOTAL IN FIGURES
6.	400	LF	F&I 16-inch ductile iron pipe-restrained joints _____ DOLLARS AND _____ CENTS per linear foot	$_____	$_____
7.	400	LF	F&I 16-inch ductile iron pipe-push-on joints _____ DOLLARS AND _____ CENTS per linear foot	$_____	$_____
8.	100	EA	F&I 8-inch butterfly valve with valve box _____ DOLLARS AND _____ CENTS per each	$_____	$_____
9.	35	EA	F&I 12-inch butterfly valve with valve box _____ DOLLARS AND _____ CENTS per each	$_____	$_____
10.	4	EA	F&I 16-inch butterfly valve with valve box _____ DOLLARS AND _____ CENTS per each	$_____	$_____
11.	2	EA	F&I 1-inch combination air valve assembly _____ DOLLARS AND _____ CENTS per each	$_____	$_____

ITEM NO.	EST QTY.		DESCRIPTION AND UNIT PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES	TOTAL IN FIGURES
12.	1	EA	F&I 2-inch blow-off assembly _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
13.	1	EA	Reconnect sample station _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
14.	8	EA	F&I new fire hydrant _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
15.	28	EA	Re-connect 2, 4, 6, or 8-inch fire service _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
16.	200	EA	F&I new 1-inch domestic service (short) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
17.	240	EA	F&I new 1-inch domestic service (long) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____

ITEM NO.	EST QTY.		DESCRIPTION AND UNIT PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES	TOTAL IN FIGURES
18.	35	EA	F&I new 2-inch domestic service (short) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
19.	60	EA	F&I new 2-inch domestic service (long) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
20.	200	EA	F&I traffic rated meter box with bolted lid for 1-inch service (if needed) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
21.	40	EA	F&I traffic rated meter box with bolted lid for 2-inch service (if needed) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
22.	2	EA	F&I traffic-rated meter box for 4-inch fire service (if needed) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____

ITEM NO.	EST QTY.	DESCRIPTION AND UNIT PRICE WRITTEN IN WORDS	UNIT PRICE IN FIGURES	TOTAL IN FIGURES
23.	2,000 LF	Remove and dispose of abandoned or interfering portions of pipe (if needed) _____ DOLLARS AND _____ CENTS per linear foot	**$**_____	**$**_____
24.	120 EA	Remodel sewer lateral connection (if needed) _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____
25.	48 EA	Remove and reconstruct 8-inch pcc alley approach _____ DOLLARS AND _____ CENTS per each	**$**_____	**$**_____

TOTAL BID PRICE FOR THE ENTIRE CONTRACT WORK including the cost of labor, materials, equipment, parts, implements and supplies necessary to complete the project, as based on the City Engineer's estimate of quantities of work to be done (Summation of preceding subtotal of Items 1 through 25 inclusive including any contingency allowance)

_____ DOLLARS
AND
_____ CENTS $ _____

All blank spaces appearing in the foregoing must be filled in. In case of discrepancy between words and figures, the words shall prevail.

The undersigned hereby declares that the cost of all necessary items for completion of this project are included in the unit prices quoted, all incidental costs having been taken into consideration even though said incidentals are not specifically listed in the specifications or shown on the plan. The undersigned is likewise aware of the fact that distances, quantities, and other estimated figures appearing on the plans or mentioned

in the specifications or on this Proposal form are only approximate and declares that the unit prices shown above for the various items of work are based on distances and quantities calculated as the result of actual measures performed at the site of the project.

TIME FOR COMPLETION - The work on this project shall start within 7 calendar days from the date of receipt of written notice to proceed from the City Engineer and the Contractor agrees to complete the entire work within **300 working days** from Notice to Proceed. In case all the work called for is not completed in all parts and requirements within the time specified, the City shall have the right to grant or deny an extension of time for completion, as may best serve the interest of the City. The Contractor shall not be assessed with penalties during the delay in the completion of the work caused by acts of God or of the Public Enemy, acts of the State, fire not due to acts of contractors or subcontractors, floods, epidemics, quarantine, restrictions, strikes, freight embargo or unusually severe weather, or delays of subcontractors due to such causes provided that the Contractor shall, within ten (10) calendar days from the beginning of such delay, notify the City, in writing of the cause of the delay. The City will ascertain the facts and the extent of the delay, and the findings thereon shall be final and conclusive.

LIQUIDATED DAMAGES - Time is of the essence on this contract and should the Contractor fail to finish the work on or before the time stated above, the Contractor shall be charged by the City, as liquidated and ascertained damages, the sum of One Thousand Dollars ($1,000) assessment for each calendar day that the work remains incomplete beyond the time specified (subject, however, to extension of time duly granted in the manner and for the causes specified in the Special Provisions) it being hereby expressly impracticable and extremely difficult to fix the actual damage which would or will be suffered in the event that the Contractor should fail fully to complete the work within the time specified, and it would be further agreed that the charges per day as aforementioned shall be reasonable and proper in premise. The amount so charged shall be deducted by the City from any monies which otherwise are or become payable to the Contractor.

LIST OF SUBCONTRACTORS - The undersigned is required to fill in the following blanks in accordance with the provisions of Section 4104 of the Public Contract Code of the State of California and Section 2-3 of the Standard Specifications.

Name Under Which Subcontractor is Licensed	**License No.**	**Location of the Place of Business**	**Specific Subcontract**

Subcontractors listed in accordance with the provision of Section 2-3 of the Standard Specifications must be properly licensed under the laws of the State of California for the type of work which they are to perform. Do not list alternate subcontractors for the same work. All subcontractors listed shall attach copies of the Certificate of Insurance naming the Contractor as additional insured as part of their policy coverage.

The undersigned agrees to furnish proof that all contractors and subcontractors performing any work related to this improvement are complying with all the requirements of Social Security Legislation, both State and Federal, and also agrees to conform with the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code, as amended, concerning subcontractors and subcontracts.

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California
County of_____

_____, being first duly sworn, deposes and says that he or she is _____ of the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true, and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

_____
Contractor

_____

_____

(attach appropriate notary acknowledgments)

Respectfully submitted,

Dated_____

FIRM NAME _____

SIGNATURE _____
Bidder

ADDRESS _____

_____

TELEPHONE: BUSINESS_____
RESIDENCE_____

CONTRACTOR'S LICENSE NO._____ CLASS___ EXPIRATION DATE_____

Bidder is *_____ If a partnership, names of partners; If a corporation, names of President **or** Vice President, **and** the Secretary **or** Assistant Secretary

NAME	ADDRESS
_____	_____
_____	_____
_____	_____

I (we) hereby state and declare under the penalty of perjury under the laws of California, that the representations made herein are true and correct.

Executed on _____ 20___ at _____California

*By: _____ *By: _____

Title: _____ Title: _____

* Please state whether the bidder is an individual, a partnership, a corporation, or an individual doing business under a fictitious name. If the bidder is a corporation, the following is required: 1) signatures of two corporate officers; or 2) a certified copy of the corporation bylaws, and a resolution of the Board of Directors which gives authority to the officers signing this agreement to execute contracts on behalf of the corporation. Also, refer to Paragraph 2-01 of the Standard Contractual Requirements.

SPECIFICATIONS

Construction of

FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS

Within the City of

BEVERLY HILLS AND WEST HOLLYWOOD, CALIFORNIA

SECTION 1

GENERAL PROVISIONS

1-01 WORK TO BE DONE - The contract work to be done under these Specifications shall consist of furnishing all the required labor, materials, equipment, parts, implements and supplies necessary for, or appurtenant to water main replacements in the following locations within the City of Beverly Hills, California in accordance with Drawing No. 10391, Sheets 1 to 27:

WM No.	Main Location	Begin	End
1	Alley West of Elm Dr.	Burton Way	Clifton Way
2	Alley West of Maple Dr.	Burton Way	Alley North of Wilshire Blvd.
3	Alley North of Wilshire Blvd	Rexford Dr.	Alley West of Whetherly Dr.
4	Alley West of Clark Dr.	Clifton Way	Alley North of Wilshire Blvd.
5	"L" Alley West of Foothill Rd.	Dayton Way	Foothill Rd.
6	Dayton Way	Rexford Dr.	Foothill Rd.
7	Elm Dr.	Clifton Way	Rexford Dr.
8	Clifton Way	Rexford Dr.	Elm Dr.
9	S. Le Doux Rd.	Wilshire Blvd.	Gregory Way
10	Alley West of Palm Dr.	Alden Dr.	Burton Way
11	Alley West of Palm Dr.	Carmelita Ave.	Alley North of SM Blvd.
12	Alley West of Maple Dr.	Elevado Ave.	Alley North of SM Blvd.
13	Alley West of Arden Dr.	Elevado Ave.	Alley North of SM Blvd.
14	Alley West of Roxbury Dr.	Sunset Blvd.	Santa Monica Blvd.
15	Alley West of Crescent Dr.	SSM Blvd.	Wilshire Blvd.
16	Orland Ave. (West Hollywood)	Melrose	Rosewood

The work generally consists of installation of 8” waterlines, fire hydrants, water services and associated valves and meter boxes, fittings and accessories as shown on the plans. As required, the work shall include pavement removal and reconstruction, curb, gutter and sidewalk removal and reconstruction, driveway and alley approach removal and reconstruction, traffic striping, traffic loop installation with conduit and pull boxes, and traffic control.

1-02 STANDARD CONTRACTUAL REQUIREMENTS - The provisions of the "Standard Contractual Requirements for Public Improvements in the City of Beverly Hills", as adopted by the Department of Public Works on November 1, 1976, a copy of which is attached hereto and incorporated herein by reference, shall be applicable to the work covered by these Specifications.

1-03 REFERENCE SPECIFICATIONS

1-03.1 GENERAL - The following referenced specifications, including all amendments thereto issued prior to the date of the bid opening, shall be a part of these specifications, the same as though contained fully herein.

1-03.2 STANDARD SPECIFICATIONS - The words "Standard Specifications" when used in these Specifications or in the contract, refer to the "Standard Specifications for Public Works Construction", 2012 Edition written by a Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and Southern California District of the Associated General Contractors of California.

1-03.3 BEVERLY HILLS STANDARD DRAWINGS FOR WATERLINE INSTALLATIONS - The current City of Beverly Hills Standard Drawings are provided in Appendix A and can be downloaded from the City website. A copy of Specifications for Construction of Water Pipeline Installations is no longer available and has been superseded by Section 3 of these specifications.

1-03.4 APWA STANDARD PLANS - See Appendix B.

1-03.5 CALTRANS STANDARD SPECIFICATIONS - The July, 2001, State of California, Department of Transportation (Caltrans) Standard Specifications and Standard Plans. See Appendix C.

1-03.6 BEVERLY HILLS UPDATED METER BOX DETAILS- See Appendix D.

SECTION 2

SPECIAL PROVISIONS

2-01 TIME FOR COMPLETION AND LIQUIDATED DAMAGES

2-01.1 TIME FOR COMPLETION - The work on this project shall start within 7 calendar days from the date of receipt of written notice to proceed from the City Engineer and the Contractor agrees to complete the entire work within **300 working d**ays from Notice to Proceed.

In case all the work called for is not completed in all parts and requirements within the time specified, the City shall have the right to grant or deny an extension of time for completion as may best serve the interest of the City. The Contractor will not be assessed with liquidated damages during the delay in the completion of the work caused by acts of God or of the Public Enemy, acts of the State, fire not due to acts of contractors or subcontractors, floods, epidemics, quarantine, restrictions, strikes, freight embargo or unusually severe weather, or delays of subcontractors due to such causes provided that the Contractor shall within ten (10) days from the beginning of such delay notify the City, in writing, of the cause of the delay. The City will ascertain the facts and the extent of the delay, and the findings thereon shall be final and conclusive.

2-01.2 LIQUIDATED DAMAGES - Time is of the essence on this contract, and should the Contractor fail to finish the work on or before the time stated above, the Contractor shall be charged by the City, as liquidated and ascertained damages, the sum of One Thousand Dollars ($1,000) assessment for each calendar day that the work remains incomplete beyond the time specified (subject, however, to extension of time duly granted in the manner and for the causes specified in the Special Provisions) it being hereby expressly impracticable and extremely difficult to fix the actual damage which would or will be suffered in the event that the Contractor should fail fully to complete the work within the time specified, and it would be further agreed that the charges per day as aforementioned shall be reasonable and proper in premise. The amount so charged shall be deducted by the City from any monies which otherwise are or become payable to the Contractor.

2-02 PLANS AND SPECIFICATIONS - The plans and specifications showing location, character of the work, and details of construction are on file at the office of the City Engineer, located at 345 Foothill Road, Beverly Hills, California. The plans for this project are:

A. Drawing No. 10391, Sheets 1 through 27

B. Applicable Caltrans Standard Plans and Specifications for street stripping (if required)

C. Beverly Hills Standard Drawings

D. Standard Plans and Specifications for Public Works Construction,"Green Book"
E. Applicable American Water Works Association Standards and Design Manuals: C105, C105, C110, C115, C150, C153, C503, C504, C512, C600, C602, C651 and M41.

The construction of this project shall be in accordance with the notes and details shown on the Plans, the provisions of these Specifications, referenced and applicable sections of the Standard Specifications, and all other applicable references contained in the above items. References in these Specifications to Sheet No's. refer to Sheet No's. of the project drawings listed above.

Estimates of quantities appearing on the Plans, in these Specifications, Notice to Bidders and Proposal Form are merely entered for the convenience of the contractors bidding on this project. An independent check of the estimate is required by the contractor prior to submitting its bid. It must be understood that payment to the successful contractor will be made on the basis of the unit prices bid for the various items of work and on the actual quantities of work done as measured in the field by the City Engineer.

AMENDMENTS - The following is in addition to the provisions of the Greenbook:

The following is in addition to the provisions of Section 2-9.1:

The Contractor is required to locate and tie out survey monuments in the project area prior to construction involving street and highways, and to file with the County Surveyor a Corner Record of any such work. Prior to the issuance of a completion certificate, the Contractor is required to file a Corner Record for survey monumentation that is replaced. All such survey work shall be performed under the supervision of a California licensed Land Surveyor or a Civil Engineer authorized to perform such work.

The Contractor shall provide the City a copy of the office calculations and documents submitted to the County for filing in connection with the aforementioned work.

The payment for surveying, related professional services, office calculation, and furnishing all labor, materials, equipment, tools and incidentals, and for doing work involved shall be considered as included in the various items of work, and no additional compensation will be allowed therefore.

The following is in deletion and addition to the provisions of Section 3-2.2.1:
The second paragraph of Section 3-2.2.1 "Contract Unit Prices, of the Standard Specifications for Public Works Construction is deleted.

The fourth paragraph of Section 3-2.2.1 "Contract Unit Prices", of the Standard Specifications for Public Works Construction is deleted and replaced by the following: "Should any Contract item be deleted in its entirety, no payment will be made to Contractor for that Bid item".

The following will revise Section 3-3.2.3 of the Greenbook:

A. Work by Contractor. An allowance for overhead and profit shall be added to the Contractor's cost as determined under 3-3.2.2 and shall constitute the full and complete markup for all overhead and profit on extra work performed by the Contractor. The Contractor shall be compensated for the actual increase in the Contractor's bond premium caused by the extra work. For costs determined under each subsection in 3-3.2.2, the markup shall be:

1. Labor 20%
2. Materials 15%
3. Tools & Equipment Rental 15%
4. Other Items 15%

B. Work by Subcontractor. When any of the extra work is performed by a Subcontractor, the markup established in 3-3.2.3(a) shall be applied to the Subcontractor's costs as determined under 3-3.2.2. An allowance for the Contractor's overhead and profit shall be added to the sum of the Subcontractor's costs and markup and shall constitute the full and complete markup for all overhead and profit for the Contractor on work by the Subcontractor. For Contractor markup of Subcontractor's costs, the allowance shall be 10% on the first $2,000 or portion thereof, and 5% on costs in excess of $2,000.

Copies of the plans, specifications and proposal form may be inspected and obtained at the office of the City Engineer.

Contractors wishing to obtain the book "Standard Specifications for Public Works Construction", 2012 Edition, may purchase copies directly from the publisher, Building News, Inc., 1612 South Clementine Street, Anaheim, California, 92802; (800) 873-6397.

2-03 SPECIAL WORK REQUIREMENTS AND WORK SCHEDULE

2-03.1 SEQUENCE OF WORK – The work on this project shall be completed during the hours of Monday thru Friday, 8 AM – 6 PM; tie-ins on high traffic streets/intersections shall be done Saturday thru Sunday 9 AM – 6 PM; and as specified in Section 2-03.2 SPECIAL WORK REQUIREMENTS.

Prior to beginning construction the Contractor shall submit a written schedule detailing the Contractor's proposed sequence of work for each watermain segment for City approval. The Contractor shall stage the work such that only one-half of the roadway is closed at a time. The Contractor shall provide for two-way traffic in the remaining portion of the roadway.

The Contractor shall make the necessary efforts to insure that at the end of each workday, the intersections are safe for traffic to travel at the posted speed limit.

All personnel, equipment and materials are to be removed from the roadway by designated quitting time each work night or work day.

The activities of the Contractor shall not interfere with access to the front or back of any business, or business or residential driveway, outside the specified construction hours.

2-03.2 SPECIAL WORK REQUIREMENTS - The following special work requirements shall be adhered to and full compensation for conforming to all of the special work requirements shall be included in the items of work for this contract and no additional compensation will be made therefore:

A. The Contractor is prohibited from working on the following days, during which the Contractor shall secure, protect and maintain the construction area:

HOLIDAY	2014	2015
New Year's Day	Jan 1 (Wed)	Jan 1 (Thurs)
Martin Luther King Day	Jan 20 (Mon)	Jan 19 (Mon)
President's Day	Feb 17 (Mon)	Feb 16 (Mon)
Passover	April 14 (Mon), April 15 (Tues), April 21 (Mon), April 22 (Tues)	April 3 (Fri), April 4 (Sat), April 10 (Fri), April 11 (Sat)
Good Friday	April 18 (Fri)	April 3 (Fri)
Memorial Day	May 26 (Mon)	May 25 (Mon)
Independence Day	Jul 4 (Fri)	Jul 4 (Sat)
Labor Day	Sept 1 (Mon)	Sept 7 (Mon)
Rosh Hashanah	Sept 24 (Wed)	Sept 13 (Sun),
Yom Kippur	Oct 3 (Fri)	Sept 22 (Tues)
Veteran's Day	Nov 11 (Tues)	Nov 11 (Wed)
Thanksgiving Day	Nov 27 (Thurs), Nov 28 (Fri)	Nov 26 (Thurs), Nov 27 (Fri)
Christmas Day	Dec 25 (Thurs)	Dec 25 (Fri)

The Contractor is prohibited from working during the City's Holiday Season typically between November 10, 2014 to January 5, 2014 in the City designated area between Charleville Blvd., South Santa Monica Blvd., and Rexford Drive. The area includes the water main replacement project in the alley west of Crescent Drive.

B. Payment for excavation, pavement removal, backfill, and pavement replacement required for water pipeline installations shall be included under the various bid items for the pipelines.

C. The new water mains must be installed, chlorinated and tested before any tie-ins and connections are completed.

D. The Contractor shall hire a reputable Bacti testing company with a minimum of 5 years relevant project experience. Bacti testing shall be compliant with AWWA C651. The testing company must be approved by the City. Bacti and pressure procedures and tests shall be approved by the City Engineer prior to any testing and placement of the permanent street resurfacing. A test pressure of 250 psi shall be used, and shall be performed per City Specifications and as directed by City Engineer.

E. Saturday and Sunday Work shall be done concurrently with weekday work.

F. All trenches within City streets shall have a T-section (existing pavement cut back greater than trench width) and be backfilled with 2-sack cement slurry mixture per Greenbook and City Standard Drawings.

G. The Contractor shall place steel plates across trenches to facilitate access for all residences and places of business. AC wedges must be placed at every driveway or alley approach entrance (as necessary) to allow each resident access to their driveway or alley at the end of each workday unless approved otherwise by the City Engineer.

H. All steel plates for trenches within alleys shall be wedged and secured with temporary AC as necessary. All steel plates for trenches within street travel lanes shall be either fully recessed or wedged with temporary AC, as instructed by the City Engineer or authorized representative. At the direction of the City Engineer, the Contractor may be required to weld steel plates to minimize rattling. Steel plates shall not restrict drainage flow along alley centerline gutters. The Contractor is responsible for sweeping up loose gravel from temporary AC pavement and maintaining the work area in a clean condition at all times. All steel plates shall be removed as soon as possible and the asphalt concrete base course placed. During non-construction hours, the Contractor shall make personnel available for securing or repairing plates.

I. The Contractor shall limit open trench excavation to 200 feet in advance of pipelines unless approved otherwise by the City Engineer. All streets and sidewalks must be plated, cleaned up and ready for vehicle and pedestrian traffic at the end of each workday.

J. Traffic signal loops shall be installed the immediate weekend after completion of final AC paving.

K. Thermoplastic striping and markings may be applied on the same day as the paving operations.

L. The Contractor shall furnish and install all necessary striping, markings and plastic reflective pavement markers (white or yellow) to provide temporary pavement striping, markers and markings while construction operations are completed. The temporary pavement markers shall be placed ten (10) feet on center. The temporary striping, markers and markings shall be maintained until the permanent striping and markings are applied. The work to furnish, install and maintain ALL temporary striping, markers and markings shall be included under the various items of work. The work to furnish and install ALL permanent striping, markers and markings shall also be included under the various items of work.

M. The Contractor shall maintain the construction site during non-working hours in a clean and safe condition. The Contractor shall be available for immediate mitigation measures should the City Engineer decide that appropriate action is necessary during non-working hours.

N. All excavated material shall be loaded into hauling vehicles as the material is excavated. Stockpiling of excavated material in the public right of way is not allowed

O. Underground Service Alert (USA) markings shall be removed by the Contractor at the end of the construction project at the direction of the City Engineer.

P. Dirt and/or debris not removed by conventional sweeping will require washdown at the direction of the City Engineer.

Q. All runoff from washdown shall be vacuumed using a wet/dry vacuum truck. No runoff from washdown will be allowed to drain into the storm drain system.

R. All dirt on construction vehicle tires shall be removed prior to leaving the construction site.

S. Loose gravel shall be removed at the direction of the City Engineer (may require sweeping several times per day).

T. The Contractor is responsible for relocating Grunger trash containers in the alleys as necessary for construction operations. The Contractor must place all Grungers back in the exact initial location at the end of each workday.

U. The City requires the Contractor to furnish a pager number and cellular phone number that will be furnished to residents with questions or complaints regarding the Contractor's work. The Contractor should designate a public liaison person to handle all resident inquiries. The Contractor shall respond to residents' inquiries within one hour of the call during normal working hours. When dealing with residents, common courtesy is required.

V. The Contractor shall repair and replace all landscaped areas damaged by construction activity, including irrigation, within 48 hours to the satisfaction of the City Engineer. The Contractor shall re-sod lawns (with like materials) that have been damaged or removed using suitable topsoil. Plant material shall be replaced with like size and material.

W. The Contractor shall clean and sweep all work areas by the end of each workday. All debris (including tree roots that have been cut) shall be removed by the Contractor by the end of each workday. The Contractor shall remove any barricades used to protect the construction site in a timely fashion. No open excavation will be permitted to extend into a weekend except that work which is noted in Section 2-03.1 of these specifications.

X. The Contractor shall replace any damaged house numbers painted on the curb with like color and lettering size.

Y. Adequate delineation and barricades for traffic detour and traffic control signs shall be provided at all times.

Z. The Contractor may be required to tunnel under recently installed traffic-rated meter boxes to install water main.

AA. No water valves shall be installed within driveway approaches, alley approaches, sidewalks or concrete gutters.

BB. New driveway approaches shall be installed at all locations where existing valves are to be removed or abandoned, and where existing meter boxes are replaced from within existing driveway approaches.

CC. Some residents may not be able to park in their driveways due to construction work that may be done adjacent to their residence. These residents will have to park on the opposite side of the street with special City-issued parking passes. **It is critical that the Contractor notify the Inspector at least one week in advance of proceeding to the next scheduled project location (on a street by street basis) so that parking permits and construction notification letters can be issued to the residents.**

DD. For work within the City of Beverly Hills, the Contractor will be responsible for delivering construction notification letters to all residents on the affected street where work will take place, at least 48 hours in advance of work. The Contractor must notify the affected residents (at least verbally) prior to any work that may interfere with the resident's driveway, sidewalk or curb and gutter on the scheduled workday. The Contractor is encouraged to be flexible in scheduling the necessary work by accommodating the residents where possible. The Contractor is responsible for replacing any work damaged as a result of inadequate notification of the affected resident. The Contractor shall note that notification letters to all residents will be required for waterline construction (specify working hours/days and duration).

EE. The Contractor shall submit for approval by the City Engineer a detour plan and work schedule three (3) working days prior to the pre-construction meeting. The job foreman must be present at this meeting.

FF. The contractor is required to visit all project locations prior to bid. City records indicate that the existing structural sections vary as follows:

Roadway Description	**Estimated Structural Section**
Alley	6" plus or minus 1" AC or PCC over Agg. Base or native soil
Street	8" plus or minus 1" AC over Agg. Base or native soil
West Hollywood	8" plus or minus 1" AC/ over Agg. Base or native soil

GG. Reflective tape shall be used at the edges of all steel plates in sidewalk or crosswalk areas. The Contractor shall control his work so as to minimize the use of steel plates within sidewalk and crosswalk areas.

HH. The Contractor shall provide access to all fire hydrants, valves, vaults, meters and pull boxes at all times. Traffic signals, pedestrian signals and stop signs shall remain unobstructed at all times.

II. The Contractor will encounter existing 2-sack slurry backfill. The Contractor is not entitled to any additional compensation as a result of encountering slurry backfill.

JJ. The Contractor is responsible for replacing all striping and markings on street pavement. Thermoplastic striping and markings shall be used and may be applied on the same day as the paving operations. Raised pavement markers shall be applied one week after paving operation.

KK. The Contractor shall furnish adjustable water valve can extension sleeves as needed to raise all affected water valve covers to finish grade.

LL. Construction vehicles are not allowed to travel along residential streets except those under construction.

MM. The Contractor shall schedule the work in such a manner that no construction vehicle shall traverse any newly laid street pavement.

NN. Contractor will be responsible for maintaining the streets and sidewalks in a clean and safe manner. This will include placing temporary AC at all grade transition areas. Contractor will be responsible for street sweeping (several times a day if necessary) as required by the City Engineer. All catch basin inlets shall be protected from construction debris and runoff.

OO. The Contractor will be required to be flexible in accommodating physically disabled residents that may be affected by the construction and are not able to park their vehicles at any adjoining street and easily access their residences.

PP. In all areas where removal of the existing pavement structural section or waterline work will occur, the Contractor shall pothole all utilities to verify their exact location(s). The Contractor shall notify the City Engineer in the event of a conflict between the proposed improvements and the existing utilities.

QQ. The City has documented all survey markers within the project limits. Any survey monument disturbed by the Contractor shall be replaced at the Contractor's expense.

RR. The Contractor shall install Megalug thrust restraining devices, by EBAA Iron, Inc. in locations shown on the construction drawings. Concrete thrust blocks shall only be installed where specifically approved by the City Engineer, or shown in the plans.

2-03.3 TIME SCHEDULE - The Contractor shall submit to the City Engineer a schedule indicating the sequence of work, a detour plan, estimated time for completion of each phase of the project and the method of operation required to complete the project in the time specified. The Contractor's work schedule and detour plans shall be submitted to the City Engineer three (3) working days prior to preconstruction conference.

2-04 LIMITS OF EXISTING PAVEMENT PUNCTURED, CUT OR REMOVED

2-04.1 BREAKING PAVEMENT IN ADVANCE OF EXCAVATION - The Contractor will not be permitted to puncture, break up or remove in any manner the existing pavement in excess of 200 feet in advance of the open trench, except by special permission from the City Engineer.

2-05 TRAFFIC CONTROL

2-05.1 NOTIFICATION - The Contractor shall notify the following City Departments 48 hours prior to the start of work on this project, and 72 hours prior to the closing or opening of a street, alley, driveway, or building access within the City of Beverly Hills.

BEVERLY HILLS PUBLIC WORKS DEPARTMENT
Notify Public Works Inspector (310) 285-2504

BEVERLY HILLS POLICE DEPARTMENT
Notify Traffic Division (310) 285-2193,2194 or 2196

BEVERLY HILLS FIRE DEPARTMENT
Notify Dispatcher's Office (310) 550-4900

BEVERLY HILLS SIGNAL SHOP
Notify Signal Superintendent (310) 285-2477

BEVERLY HILLS SANITATION DEPARTMENT
Notify Superintendent (310) 285-2466

The City will furnish to the Contractor "TEMPORARY NO PARKING - TOW AWAY" signs. The Contractor will be responsible for posting and removing these signs as required for this project.

2-05.2 GENERAL - All Streets and alleys where construction is in progress shall be kept open and in passable condition for emergency vehicles at all times. All major streets where construction is in progress shall maintain two-way traffic at all times. All streets outside the construction area shall be kept open at all times. The closure of any street shall apply only to that portion of the street where construction is actually in progress.

The Contractor shall provide signs for all streets and alleys where trenching and water main replacement is in progress. At a minimum, the following signs shall be provided.

C23B - "WATER MAIN REPLACEMENT -
UNEVEN PAVEMENT –
USE EXTREME CAUTION"

C27 - "OPEN TRENCH"

Prior to the end of each working day, the street block closed shall be made useable and signed (C3A -"ROAD CLOSED TO THROUGH TRAFFIC") to allow residents within the block to park within their driveway and/or garage. The Contractor shall place a "wedge" of temporary asphalt concrete to allow each resident access to his/her driveway, at the end of each working day.

Traffic signal loop replacement and traffic striping and markings shall be by single lane closure, flagger(s), and flashing arrow sign control.

When a street is closed at its intersection with the construction work, the Contractor shall provide the traffic control signs, barricades and flashing arrow signs as shown on the plans. When a sidewalk or crosswalk is closed, the Contractor shall provide signs to redirect pedestrians to available sidewalks.
When an alley is closed at its intersection with the construction work, the Contractor shall provide, as a minimum, the following signs on barricades at the intersection in advance of closure.

C18 - "ROAD CONSTRUCTION AHEAD"
C2 - "ROAD CLOSED"

When a street is closed only to through traffic, the following signs on barricades shall be provided at the intersection(s) of closure (C3A -“ROAD CLOSED TO THROUGH TRAFFIC”).

When an alley is closed only to through traffic, the Contractor shall provide the following special construction sign:

“ALLEY UNDER CONSTRUCTION – SPEED LIMIT 5 MPH”

When a sidewalk is under construction, the Contractor shall provide the following special construction sign on barricades in advance of closure:

“SIDEWALK UNDER CONSTRUCTION – USE EXTREME CAUTION”

2-05.3 TRAFFIC REQUIREMENTS - All lanes for moving traffic shall be at least 10 feet in width, with clearance of 2 feet from any vertical obstruction and 3 feet from any open excavation.

Adequate advance warning shall be given in advance of the detour and the direction of travel shall be properly delineated for the motorist to proceed in a safe, convenient and orderly manner through the construction area to the satisfaction of the City Engineer.

The Contractor shall be responsible for installing and maintaining the traffic cones in their proper locations as well as the traffic control signs on the approaches and throughout the project.

ALL LANE AND STREET CLOSURES REQUIRE 24 HOUR BATTERY OPERATED FLASHING ARROW SIGNS.

2-05.4 DETOUR AND TRANSITION - All detours and transitions shall be installed prior to and be approved by the City Engineer before any construction begins within the roadway. The Contractor shall be responsible for installing and maintaining traffic cones and barricades in their proper locations as well as traffic control signs on the

approaches and throughout the construction area.

A. Street Closures and Detours.

B. The Contractor shall provide delineation, barricades and necessary signs for street closures detours and for grinding and AC overlay operations.

C. Thermoplastic Striping and Marking Detours, Final AC Paving, and Round Inductive Loop Installation.

The Contractor shall provide the necessary delineation, flagger(s) and flashing arrow sign control for final AC paving, striping, providing pavement markings and installing round inductive loops on any street within the project limits.

Cones or delineators shall be used to protect the work area, close left turn lanes at adjoining streets and at other locations required by the City Engineer, and shall be spaced a maximum of 10 feet apart unless noted otherwise on the plans. Provide the following signs at each approach in advance of the work area:

1 - C18 "ROAD CONSTRUCTION AHEAD"
1 - C1 "DETOUR AHEAD"

2-05.5 CONSTRUCTION SIGNS - All signs used by the Contractor shall conform to the latest standards of the "Manual on Uniform Traffic Control Devices", issued by the Department of Transportation, State of California, current edition. All warning, regulatory and construction signs shall be fully reflectorized. The traffic cones to be used shall be 28 inches in height, rubber, or plastic and be reflectorized.

2-05.6 USE OF FLAGPERSON - To properly move traffic through the construction area, flagger(s) shall be posted to slow down and reroute traffic during final AC paving, striping and marking, inductive loop installation, and if in the opinion of the City Engineer, at other phases of construction work. Flagger(s) shall be on duty the entire period the roadway is constricted.

2-05.7 CONTRACTOR'S RESPONSIBILITY - The Contractor shall take all necessary measures to obtain a normal flow of traffic to prevent accidents and to protect the work throughout the construction stages until completion of the work. The Contractor shall make the necessary arrangements to provide and maintain barriers, cones, guards, barricades and construction warning and regulatory signs. The Contractor shall take measures necessary to protect all other portions of the work during construction and until completion, providing and maintaining all necessary barriers, barricade lights, guards, temporary crossovers and watchmen.
In addition to the foregoing traffic control and safety measures, the Contractor shall undertake immediately to implement any measures requested by the City Engineer, as deemed necessary to ensure the proper flow of traffic and the protection of the public and the safety of the workers. The Contractor shall maintain at all times the ability to respond to calls from the Beverly Hills Police Department during non-working hours to

replace or provide additional traffic control or safety devices as shall be required by the Police Department.

2-05.8 PAYMENT - The entire cost for traffic control as detailed in this section and as required for this construction shall be included in the unit prices bid for the various items of work.

2-06 UTILITIES

2-06.1 CONTRACTOR'S RESPONSIBILITY - The Contractor shall verify the location of all underground utilities and services before proceeding with excavation work, requesting in advance the services of inspectors from the utility companies in order to ascertain said locations. Damage to underground utilities resulting from neglect on the part of the Contractor shall be corrected and paid for by the Contractor.

2-06.2 NOTIFICATION - The contractor shall schedule, notify and obtain City approval of the sequence of construction and all required shutdown of existing mains or services at the beginning of the project and a minimum of seven working days before the time of any shutdown. The sequence of work and scheduled shut-downs shall be submitted in written form to the City for review and approval prior to beginning any construction. The City inspector may postpone or reschedule any shutdown operation if for any reason he feels that the contractor is improperly prepared with competent personnel, equipment, or materials to proceed with the connection work.

The Contractor shall notify all owners of public utilities 48 hours in advance of excavating around any of their substructures, and shall also provide the same notice to Underground Service Alert of Southern California, Telephone No. 1800-422-4133. Upon request, the City Engineer will furnish the Contractor a list of the various offices and numbers to call.

The Contractor shall notify property owners adjacent to the site and property owners located on streets that will be closed or restricted by the Work. Notification shall be in the form of a letter, reviewed and approved by City and delivered a minimum of 15 and 1 days before construction is scheduled to commence. The Contractor shall be available to attend one community meeting to answer public questions regarding the project if required. The meeting time, date and location will be provided by City for inclusion in the notification letter.

2-06.3 INTERFERENCE (UTILITIES IN USE) - Utilities which are found by exploratory location or by excavation to interfere with the construction of this project will be relocated, altered, or reconstructed by others, or the City Engineer may order changes in location, line or grade of the project structure, to be built or being built in order to avoid said utility.

The Contractor shall also verify utility depths in intersections to be reconstructed, prior to beginning any pavement removal.

2-06.4 INTERFERENCE (ABANDONED UTILITIES) - Abandoned utilities which interfere with the construction of any portion of this project may be cut by the Contractor, the interfering portion of the utility removed, and open ends of the pipe sealed with a suitable plug or cap. The cost of this work shall be included in the unit prices bid for the particular items of work where such interference occurs unless otherwise specified.

2-07 BUSINESS LICENSES - The Contractor is required to have a current City of Beverly Hills business license issued through the City of Beverly Hills Building & Safety and/or Finance Administration Departments. This license shall be obtained by the Contractor at no fee from the City.

2-08 CONNECTIONS TO EXISTING FACILITIES - Unless otherwise indicated on the Approved Plans or specifically directed by the City Engineer, all connections to existing facilities, cut-in installations, shall be performed by contractor. All types of connections to existing water facilities shall be performed in strict accordance with the following procedures. The City Engineer must approve all work performed by Contractor prior to allowing access to the work site by City personnel.

Prior to construction, Contractor shall pothole all existing utilities and sub structures within the pipe trench of the new water main and at the locations of the proposed tie-in connections. In addition the Contractor shall locate and pothole all existing watermain services, including but not limited to fire and service connections. The City Engineer may inspect the excavations prior to Contractor's repair of trench. Contractor shall record the following information for ordering materials and as-built drawings:

A. Pipe size, outside diameter.

B. Pipe Roundness

C. Pipe type such as ACP, PVC, Ductile-Iron or Steel.

D. Pipe class and/or pressure rating.

E. Elevation, grade, and alignment.

F. Location of collars, pipe bells, fittings or couplings, if found.

G. Potential conflicts with existing utilities.

H. Locate all existing isolation valves required for the Work.

I. Have the City test the existing isolation valves a minimum of 5 days prior to the scheduled cut-in connection construction.

J. If the valves cannot be operated, Contractor shall meet with the City and Engineer to determine if the valves must be replaced, or if plugs can be used for the Work.

2-08 PERMITS

2-08.1 - Prior to the commencement of work, the Contractor shall obtain construction permits from the City of Beverly Hills and the City of West Hollywood Public Works Permit Counter, located at 455 North Rexford Drive and 8300 Santa Monica Blvd. West Hollywood. Each permit shall be kept in a readily available place on the job site at all times during construction. While no fee will be charged for this permit, no permit will be issued unless the Contractor provides a code reference number from Underground Service Alert (U.S.A.) confirming that they have received appropriate advance notification and provides evidence of a current City of Beverly Hills and West Hollywood business license.

2-08.2 -The Contractor shall obtain an after-hours permit from the Building and Safety Department, 455 North Rexford Drive, for construction operations to be performed during Saturdays and Sundays. There will be no charge for this permit.

2-09 ADDITIONAL WORK AND EXTRA WORK - The City reserves the right to order additional work over and above the quantities listed in the Proposal Form. In the event that additional work is required and is so ordered by the City Engineer, payment to the Contractor will be based on the actual quantity of additional work ordered and measured in the field by the City Engineer and will be paid for at the unit price bid by the Contractor. Likewise, the City reserves the rights to order extra work not shown on the plans and not listed in the Proposal Form. Whenever extra work is found to be necessary, the procedure described in Paragraph 5-11 of the Standard Contractual Requirements shall be followed.

2-10 SAFETY REGULATIONS AND SHORING OF EXCAVATIONS

2-10.1 SAFETY REGULATIONS - The Contractor shall comply with the requirements set forth in Section 7-10.4.1 of the Standard Specifications.

2-10.2 SHORING OF EXCAVATIONS - The requirements for shoring excavations shall conform to the Construction Safety Orders of the Division of Industrial Safety. OSHA permits must be on the job site at any time, work requiring trenching and or shoring operations exists.

Prior to the start of work, the Contractor will be required to obtain a permit from the Office of the Division of Occupational Safety and Health. The office serving the Beverly Hills area is at 6150 Van Nuys Boulevard, Van Nuys, California 91401, Tel. No. (818) 901-5403.

The Contractor shall provide the City Engineer's office with a copy of the permit prior to the start of excavation.

Where excavation of any trench 5 feet or more in depth is required, the Contractor shall submit to the City Engineer for review and acceptance, in writing, two weeks in advance of excavation, a detailed plan showing the design of shoring bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench. The plan shall be approved and signed by a registered Civil or Structural Engineer.

2-11 AVOIDANCE OF DUST NUISANCE - During the process of breaking and removal of any material from the site of the project and until completion of the contract work, the Contractor shall take all necessary measures in order to avoid the nuisance of excessive dust. Refer to Section 7-8.1 of the Standard Specifications.

Contractor shall sweep the project area free of all dust and debris at the conclusion of each working day prior to opening the construction area to traffic.

2-12 RECYCLING OF MATERIALS AND NONSTORMWATER DISCHARGES

2-12.1 RECYCLING OF MATERIALS - The Contractor is encouraged to recycle all materials. The Contractor shall provide the City all documentation as to the weight of the material in accordance with the requirements of AB 939.

2-12.2 DISCHARGES INTO STORM DRAIN SYSTEM -Storm water/urban runoff discharges to the public storm drainage system shall be prohibited for all discharges not wholly comprised of storm water, or not permitted by a valid National Pollution Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board. “Storm drain system” includes all roads with drainage systems, municipal streets, catch basins, curbs, gutter, ditches, man-made channels, or storm drains. The Contractor shall prevent all non-storm water discharges from the construction site (i.e. mixing and cleaning of construction materials, concrete washout, disposal of paints, adhesives, solvents and landscape products).

2-13 SHOP DRAWING SUBMITTALS

2-13.1 The Contractor shall submit to the City Engineer within seven (7) calendar days after the notice to proceed of the contract for review five (5) copies of each shop drawing as specified in Section 3 of these Specifications. Shop drawing submittals shall include detailed design calculations, shop drawings, fabrication and installation drawings, catalog sheets, data sheets and similar items. The City Engineer shall review the shop drawings and return them to the Contractor within fourteen (14) calendar days.

2-13.2 Fabrication and/or purchase of an item may be commenced only after the City Engineer has reviewed the pertinent submittals and returned them to the Contractor marked either “NO EXCEPTIONS TAKEN” or “MAKE CORRECTIONS NOTED.” Corrections indicated on the submittals shall be considered as changes necessary to meet the requirements of the specifications and shall not be taken as the basis of claims for extra work.

2-13.3 The City Engineer's review of shop drawing submittals shall not relieve the Contractor of the entire responsibility for the correctness of details and dimensions. The Contractor shall assume all responsibility and risk for any misfits due to any errors in Contractor submittals. The Contractor shall assume all responsibility for the dimensions and the design of adequate connections and details.

2-14 ITEMS OF WORK

2-14.1 ITEM 1. TRENCH SAFETY MEASURES, MOBILIZATION, DEMOBILIZATION, and TRAFFIC CONTROL - Under Item 1 the lump sum bid price shall include the cost of equipment, materials, and design, for the traffic control, shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of traffic and caving ground during the excavation of trenches. Item 1 also includes obtaining of all bonds, insurance, and permits; moving onto and from the site all materials and equipment; and the furnishing and erecting of storage yards, temporary buildings, and other construction facilities; and all traffic control; all as required for the proper performance and completion of the Work.

2-14.2 ITEMS 2, 3, 4, 5, 6, AND 7. FURNISH AND INSTALL 8-INCH, 12-INCH, and 16-INCH DUCTILE IRON PIPE, CLASS 52 Under Items 2, 3, 4, 5, 6, and 7 the unit price bid per linear foot shall include the cost of but not limited to potholing, pavement cutting and removal, excavating, tunneling, hauling, disposal, furnishing and placing blocking under pipe, furnishing and installing pipe, couplings, reducers, bends, adapters, tees, crosses, polyethylene encasement around ductile iron pipe and fittings, joint restraints per plans, thrust blocks (where approved by the City Engineer or shown in plans), chlorinating for disinfection, temporary blow piping, pressure testing, connecting to existing pipelines, temporary bulkheads, 2 sack slurry backfilling, temporary and permanent pavement resurfacing, thermoplastic traffic striping and markings, pavement markers, loop detectors, traffic control, dewatering, flushing and disinfecting, bacti tests, hydrostatic test, concrete cap where indicated on the plans, removal and replacement where required of existing improvements (exclusive of utilities) testing, removal and replacement where required of existing improvements which interfere with construction (includes all existing improvements located inside and outside the traveled roadway, such as pavement, curb, gutter, cross gutters, catch basin aprons, sidewalk, driveways, sprinklers, irrigation boxes, irrigation piping, parkways, landscaping, trees, fencing, steel traffic posts, etc.), abandoning or removing existing valves and abandoning piping in-place, removing existing service piping, maintaining continuous water service including all costs of highlining services (if necessary), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of the pipe, complete in place.

2-14.3 ITEM 8, 9, and 10. FURNISH AND INSTALL 8-INCH, 12-INCH, and 16-INCH BUTTERFLY VALVES - Under Item 8 thru 10 the unit price bid for each valve shall include the cost of but not limited to furnishing and installing a butterfly valve, installation hardware, anchor blocks, valve box and cover, slurry backfilling, pavement restoration, and all other labor, equipment and material incidental to the installation of the valve, complete in place.

2-14.4 ITEM 11. FURNISH AND INSTALL 1-INCH COMBINATION AIR VALVE ASSEMBLY - Under Item 11 the unit price bid per each shall include furnishing and installing combination air valve assembly as shown on the plans. The work under this item shall also include the cost of but not limited to pavement cutting and removal, excavation, shoring, tunneling, furnishing and installing all piping and fittings, corporation stops, valves, valve boxes, valve cans, thrust blocks, service saddles, slurry backfilling, temporary resurfacing, permanent resurfacing, placing the concrete pad, traffic control, flushing and disinfecting, testing, painting, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as curb, sidewalk, driveways, irrigation piping, irrigation boxes, sprinklers, parkways, etc.), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of the combination air release and vacuum valve assembly, complete in place.

2-14.5 ITEM 12. FURNISH AND INSTALL 2-INCH BLOW-OFF ASSEMBLY - Under Item 12, the unit price bid per each shall include furnishing and installing a 2-inch blow-off assembly as shown on the plans. The work under this item shall also include the cost of but not limited to pavement cutting and removal, excavating, shoring, tunneling, furnishing and installing all pipe, fittings, valves, valve cans, corporation stops, saddles, restrained joints, slurry backfilling, meter boxes, temporary resurfacing, permanent resurfacing, traffic control, flushing and disinfecting, testing, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as curb, sidewalk, driveways, irrigation piping, irrigation boxes, sprinklers, parkways, etc.), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of the end of line flush-out assemblies, complete in place.

2-14.6 ITEMS 13. RE-CONNECT SAMPLE STATION - Under Item 13 the unit price bid per each service re-connection shall include the cost of but not limited to pavement cutting and removal, excavating, shoring, tunneling, furnishing and installing all tubing, fittings, corporation stops, service saddles, butterfly valve, valve box and cover, restrained joints, connecting to all existing services, abandoning existing services, slurry backfilling, temporary resurfacing permanent resurfacing, traffic control, flushing and disinfecting, hydrostatic test, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as curb, sidewalk, driveways, sprinklers, parkways, etc.), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the re-connection of 1, 2, 3 and 4inch services complete in place

2-14.7 ITEM 14. FURNISH AND INSTALL FIRE HYDRANT -Under Item 14, the unit price bid for furnishing and installing each fire hydrant assembly as shown on the plans. The work under this item shall include the cost of but not limited to pavement cutting and removal, excavating, shoring, tunneling, furnishing and placing concrete brick blocking under pipe, furnishing and installing pipe, couplings, restrained joints, butterfly

valve, valve box and cover, slurry backfilling, temporary and permanent pavement resurfacing, traffic control, flushing and disinfecting, bacti test, flow test, hydrostatic test, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as concrete curb and gutter, sidewalk, driveways, sprinklers, parkways, etc.), disposing and salvaging of existing fire hydrants and respective pipe, materials and concrete or thrust blocks, disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of fire hydrant assembly, complete in place. Where a valve assembly is installed within concrete gutter, the Contractor shall replace a minimum of 6 linear feet of curb and gutter, in kind, with no additional compensation. Resod all lawns that may have been damaged or removed using suitable topsoil.

2-14.8 ITEMS 15. FURNISH AND INSTALL NEW 2-INCH, 4-INCH, 6-INCH, or 8-INCH FIRE SERVICES TO EXISTING FIRE SYSTEM PIPING - Under Item 15, the unit price bid for each fire service shall include the locating and replacing all existing fire services with new, fully-restrained piping from the new water main to existing fire service piping at the property line. The unit price shall include the cost of but not limited to pavement cutting and removal, excavating, shoring, tunneling, furnishing and placing concrete brick blocking under pipe, furnishing and installing new pipe, couplings, restrained joints, butterfly valve, valve box and cover, slurry backfilling, temporary and permanent pavement resurfacing, traffic control, flushing and disinfecting, bacti test, flow test, hydrostatic test, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as concrete curb and gutter, sidewalk, driveways, sprinklers, parkways, etc.), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the re-connection of fire service, complete in place.

2-14.9 ITEMS 16, 17, 18, and 19. FURNISH AND INSTALL NEW 1 AND 2-INCH DOMESTIC SERVICES (SHORT AND LONG) - Under Items 16, 17, 18, and 19 the unit price bid per each service installation shall include the locating and replacing all existing water services. The unit price shall include the cost of but not limited to pavement cutting and removal, excavating, shoring, tunneling, furnishing and installing all tubing, fittings (transition fittings), corporation and angle ball valves, service saddles, connecting to all existing services from the new main to the City side of the meter, removing existing water service piping, slurry backfilling, temporary resurfacing permanent resurfacing, traffic control, flushing and disinfecting, hydrostatic test, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as curb, sidewalk, driveways, sprinklers, parkways, etc.), disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation or connection of 1 and 2-inch services complete in place.

2-14.10 ITEMS 20 AND 21. FURNISH AND INSTALL TRAFFIC RATED METER BOX WITH BOLTED COVER FOR 1" AND 2" SERVICES (if needed) - Under Items 20 and 21, the unit price bid per each shall include the cost of but not limited to pavement cutting and removal, excavating, furnishing and placing gravel bedding and PCC concrete, furnishing and installing meter boxes with traffic rated bolted cover, couplings, plugs, connecting to existing pipelines, temporary bulkheads, slurry backfilling, temporary resurfacing, permanent resurfacing, traffic control, dewatering, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing driveways, sprinklers, irrigation boxes, irrigation piping, parkways, etc.), disposing of all excess excavated or removed material and all other labor, equipment and material incidental to the installation of the meter boxes, complete in place. Resod all lawns that may have been damaged or removed with suitable top soil.

2-14.11 ITEM 22. FURNISH AND INSTALL TRAFFIC RATED METER BOX AND COVER FOR 4" SERVICES (if needed) - Under Items 22, the unit price bid per each shall include the cost of but not limited to pavement cutting and removal, excavating, furnishing and placing gravel bedding, furnishing and installing meter boxes with traffic rated cover, couplings, plugs, connecting to existing pipelines, temporary bulkheads, slurry backfilling, temporary resurfacing, permanent resurfacing, traffic control, dewatering, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing driveways, sprinklers, irrigation boxes, irrigation piping, parkways, etc.), disposing of all excess excavated or removed material and all other labor, equipment and material incidental to the installation of the meter boxes, complete in place. Resod all lawns that may have been damaged or removed with suitable top soil.

2-14.11 ITEMS 23. REMOVAL AND DISPOSAL OF ABANDONED OR INTERFERING PORTIONS OF PIPE (if needed) – Under Items 23 the unit price per linear foot shall include the cost of but not limited to the removal and disposal of pipe, service laterals, and fire hydrant laterals, slurry and concrete encasement, including hauling and disposal fees, and all other labor, equipment and material incidental to the removal and disposal of the pipe.

2-14.12 ITEM 24. REMODEL SEWER HOUSE CONNECTION (if needed) – Under item 24, the unit price bid per each location shall include the cost of but not limited to pavement cutting and the removal, excavating, shoring, tunneling, furnishing and installing all piping and materials required to remodel sewer house connections in accordance with Standard Plans For Public Works Construction (Greenbook) Standard Plan 223-2, 2-sack slurry backfilling, temporary and permanent pavement resurfacing, thermoplastic traffic striping and markings, pavement markers, loop detectors, traffic control, dewatering, hydrostatic test, removal and replacement where required of existing improvements (exclusive of utilities) which interfere with construction (includes all existing improvements located outside the traveled roadway, such as curb, gutter, cross gutters, catch basin aprons, sidewalk, driveways, sprinklers, parkways, landscaping, steel traffic posts, fences, etc.), maintaining continuous sewer, removing existing slurry backfill, disposing of all excess excavated or removed material, and all

other labor, equipment and material incidental to the remodeling of sewer house connections, complete in place.

This item of work will be used when the new water line interferes with the alignment of an existing sewer house connection. The size and type of material of house connections are unknown. The Contractor shall determine the size (probably 4 or 6inch) and type (probably concrete, VCP or cast iron).

2-14.13 ITEM 25. REMOVE AND RECONSTRUCT 8" PCC ALLEY APPROACH (if needed) – The contractor shall make every attempt to tunnel under driveway approaches. If cutting the approach is unavoidable, the approach shall be replaced entirely. Under Item 25 the unit price bid per each shall include the cost of but not limited to all the work involved in saw cutting, breaking, removal, and hauling away of existing alley approaches and the construction of new PCC alley approaches, in accordance with Beverly Hills Standard Plans (BH108). Contractor shall use Type III cement for this bid item. The work under this item shall include the following:

A. Saw cutting, breaking, removal, hauling away and disposing of existing concrete alley approach, which may vary from 8" to 10" in thickness.

B. Excavation or fill required. Fine grading of the subgrade. Fill material shall be crushed miscellaneous base. Backfill material (if required) adjacent to new alley approach and areas disturbed during construction operations shall be Class A topsoil.

C. Raising and/or adjusting to new grade all existing valve sleeve and covers within the limits of the alley approach.

D. Removal and haul away of interfering tree and ground cover roots under the supervision of the Recreation and Parks Department. Contact Recreation and Parks Department 24 hours prior to removal.

E. Protection of existing streetlights and street lighting conduits, traffic signals, ornamental light conduits, landscape planting (including turf) and irrigation and curb drains. Repairs to damaged irrigation lines and/or sprinkler heads shall be made within 72 hours. Resod lawns that may have been damaged or removed using suitable top soil.

F. Protection, and if necessary, the removal and replacement or relocation of any obstruction to the work such as water meter boxes, and valves, gas valves, utility boxes and vaults, etc. If the Contractor has not used reasonable care in protecting any of the obstructions, full replacement costs shall be borne by the Contractor.

G. All work involved in the removal and reconstruction of asphalt concrete or Portland cement concrete work at slot adjacent to new gutters shall be included under this item.

2-15 AS-BUILT DRAWINGS

As-built drawings shall be maintained by the Contractor during construction. As-built set of drawings shall depict the actual as-built conditions of the completed construction. As-built drawings shall include all changes in Plans, including those issued as Change Orders, Plan Clarifications, Addenda, Notice to Bidders, responses to Requests for Information, and any additional details needed for the construction of the Project.

As-built drawings shall be marked with red ink on one (1) set of full size prints to produce a record of the complete installation. The as-built drawings shall be kept by the Contractor in the Contractor's jobsite office, shall be updated during construction, and shall be available for the Engineer's inspection and copying at all ties.

SECTION 3

CONSTRUCTION REQUIREMENTS AND MATERIALS

3-01 REMOVAL AND DISPOSAL OF MATERIALS

All materials removed must be hauled away from the project site on the same working day and legally disposed of and/or recycled at a site located outside the City limits of Beverly Hills. The Contractor shall recycle materials whenever possible. If the Contractor recycles materials in accordance with the requirements of AB 939, the City shall be provided documentation as to the weight of the material.

Except as otherwise specifically authorized by the City Engineer, all self-propelled equipment used by the Contractor in excavation, breaking and removal operations for street improvement work shall be equipped with rubber tires.

3-02 AVOIDANCE OF DUST NUISANCE

The Contractor shall take all necessary measures in order to avoid the nuisance of excessive dust resulting from the process of breaking, reconstructing and removing any materials on the project site. Such measures shall be employed for the duration of the contract work. Refer to Section 7-8.1 of the Standard Specifications.

3-03 STORAGE OF MATERIALS IN PUBLIC STREETS

The Contractor shall not store equipment or material within public streets or right-of-ways outside of the specified working hours.

3-04 PCC SPECIFICATIONS

The Contractor shall comply with the requirements set forth in Section 303-5 of the Standard Specifications for the construction of PCC improvements. Curb, gutter, curb ramps, sidewalk, driveway approaches shall be Class 520 C 2500 concrete. Alley gutter, cross gutter, local depression, alley approaches, appurtenances and foundations for water system appurtenances shall be Class 560 C 3250 concrete. Concrete shall have two percent (2%) calcium chloride additive by weight and shall be placed in accordance with the requirements of Section 302-6 of the Standard Specifications.

The use of calcium chloride additive shall not be used for concrete containing any reinforcing metal.

The Contractor shall use Type III cement (High Early Strength) in accordance with Section 201-1.1.1 of the Standard Specifications for driveway and alley approaches, cross gutters and alley centerline gutters.

PCC improvements shall be constructed in accordance with the requirements above, and the following requirements:

A. The City will mark the removal area at each location.

B. Score lines shall match adjacent markings.

C. The Contractor shall trim or cut and remove all interfering tree roots under the supervision of the Recreation and Parks Department.

D. The Contractor will be responsible for all markings on newly laid concrete. (The City Engineer may require removal and reconstruction of marked or damaged work).

3-05 SHOP DRAWINGS AND SUBMITTALS

The Contractor shall submit shop drawings for all project materials. Each submittal must be clean, legible and easy to follow, including, but not limited to the following items in accordance with Section 2-5.3 “Shop Drawings and Submittals” of the Standard Specifications:

A. Pipe Material and Certificate of Compliance

B. All Valves

C. Fire Hydrants

D. Asphalt Concrete Mix

E. Portland Cement Concrete Mix

F. Asphalt Concrete Pavement

G. Traffic Signal Loop Detectors

H. Thermoplastic Material

I. Line Stops

J. Service Lateral Piping

As a part of the above-required shop drawing submittal the Contractor shall include the following:

A. The Contractor shall submit completed material lists for the work of this section. Such lists shall state manufacturer and brand name of each item or class of material. The Contractor shall also submit shop drawings for all grounding work not specifically shown.

B. Shop Drawings shall provide sufficient information to evaluate the suitability of the proposed material or equipment for the intended use, and for compliance with these specifications.

C. All Contractor submittals shall be carefully reviewed against the contract documents by an authorized representative of the Contractor, prior to submittal to the Engineer. A letter shall be included with each submittal stating the contract documents have been reviewed and the submitted product is correct for the project application and in strict conformance with the contract documents. The letter affidavit must be dated and signed by both the Contractor and the product manufacturer or service provider. In the case of shop drawings, each sheet shall be so dated and signed for approval. No consideration for review by the Engineer of any Contractor submittals will be made for any items which are not accompanied by affidavit by the Contractor. All submittals without an affidavit will be returned to the Contractor without action taken by the Engineer, and any delays caused thereby shall be the total responsibility of the Contractor.

D. The Engineer's review of Contractor submittals shall not relieve the Contractor of the entire responsibility for the correctness of details and dimensions. The Contractor shall assume all responsibility and risk for any misfits due to any errors in Contractor submittals. The Contractor shall be responsible for the dimensions and the design of adequate connections and details.

3-06 QUALITY ASSURANCE

A. Field control of Location and Arrangement: The drawings diagrammatically indicate the desired location and arrangement of piping, conduit runs, equipment and other items. Exact locations shall be determined by the Contractor in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations shown on the Drawing, however, shall be adhered to as closely as possible.

B. Workmanship: All materials and equipment shall be installed in accordance with printed recommendations of the manufacturer that have been reviewed by the City Engineer. The installation shall be accomplished by workmen skilled in this type of work and installation shall be coordinated in the field with other trades so that interferences are avoided.

C. All work, including installation, connection, calibration, testing and adjustment, shall be accomplished by qualified, experienced personnel working under continuous, competent supervision. The completed installation shall display component work, reflecting adherence to prevailing industrial standards and methods.

D. Protection of Equipment and Materials: The Contractor shall provide adequate means for and shall fully protect all finished parts of the materials and equipment against damage from any cause during the progress of the work and until acceptable by the City Engineer.

E. All materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. All moving parts shall be kept clean and dry.

F. The Contractor shall replace or have refinished by the manufacturer, all damaged materials or equipment at no expense to the Owner.

G. Tests: The Contractor shall make all tests required by the City Engineer or other authorities having jurisdictions. All such tests shall be performed in the presence of the City Engineer. Certification of instrument calibration shall be submitted to the City for approval and acceptance. The Contractor shall furnish all necessary testing equipment and pay all costs of tests, including all replacement parts and labor necessary due to damage resulting from damaged equipment or from test and correction of faulty installation.

H. Standard test reports for mass-produced equipment shall be submitted along with the shop drawing for such equipment. Test reports on testing specifically required for individual pieces of equipment shall be submitted to the City Engineer for review prior to final acceptance of the project.

I. Any test failure shall be corrected in a manner satisfactory to the City Engineer at no additional cost to the City.

3-07 ASPHALTIC CONCRETE PAVEMENT

3-07.1 GENERAL -The asphaltic concrete pavement shall be placed in accordance with the typical sections shown on the plans.

3-07.2 MATERIAL -Asphalt concrete to be placed shall conform to the requirements of Section 203-6 of the Standard Specifications. AC wearing surface course shall be in accordance with the surfaces as per City of Beverly Hill Standard Drawings BH114 and BH 710. All hot tack coated surfaces must be covered at end of each day's work.

3-07.3 CONSTRUCTION DETAILS - Asphalt concrete material shall be laid in accordance with the requirements of Section 302-5 of the Standard Specifications.

3-08 PRUNING TREE ROOTS

The Contractor shall remove interfering tree roots in accordance with the following:

Tree roots shall be severed cleanly by using a speed saw and/or ax only. The use of a backhoe shall not be permitted to pull the tree roots. Tree root cuts shall be kept moist and covered with burlap to maximize protection.

The Recreation and Parks Inspector shall be notified prior to the removal of roots 4 inches in diameter or larger.

3-09 THERMOPLASTIC TRAFFIC STRIPING AND PAVEMENT MARKINGS

The Contractor shall refer to Appendix C for street stripping repair and replacement.

3-09.1 MATERIALS -The thermoplastic material shall conform to State Specification 8010-21C-19. Materials shall be of the "ALKYD" type. "HYDRO CARBON" material types will not be accepted. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of State Specification 8010-11E-22 (Type II).

State Specifications for thermoplastic material and glass beads may be obtained from the Transportation Laboratory, P.O. Box 19128, Sacramento, CA 95819, Telephone No. (916) 739-2400.

3-09.2 APPLICATION - Existing surfacing which is to receive the thermoplastic material shall be mechanically wire brushed to remove all dirt and contaminants. Surfaces of new Portland cement concrete pavement to receive the thermoplastic material shall be mechanically wire brushed or abrasive blast cleaned to remove all laitance and curing compound.

Existing pavement markers which are damaged by blast cleaning or wire brushing shall be removed and replaced by the Contractor at his expense.

Thermoplastic material shall be applied only to dry pavement surfaces and only when the pavement surface temperature is above 50 degrees Fahrenheit.

A primer, of the type recommended by the manufacturer of the thermoplastic material, shall be applied to all asphaltic surfaces over 6 months old and to all Portland cement concrete surfaces. The primer shall be applied immediately in advance of, but concurrent with, the application of thermoplastic material. The primer shall be applied at the application rate recommended by the manufacturer and shall not be thinned.

Preheaters with mixers having 360-degree rotation shall be used to preheat material.

The thermoplastic material shall be applied to the pavement at a temperature between 400 degrees Fahrenheit and 425 degrees Fahrenheit unless a different temperature is recommended by the manufacturer.

The thermoplastic material shall be applied by either spray or extrusion methods in a single uniform layer.

Stencils shall be used when applying thermoplastic material for pavement markings.

The pavement surface to which thermoplastic material is applied shall be completely coated by the material and the voids of the pavement surface shall be filled.

Unless otherwise specified in the special provisions, the thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.060-inch. Thermoplastic material for pavement markings shall be applied at a thickness of 0.100-to 0.150-inch. Glass beads shall be applied immediately to the surface of the molten thermoplastic material at a rate of not less than 8 pounds per 100 square feet. The amount of glass beads applied shall be measured by stabbing the glass bead tank with a calibrated rod.

All drips, smudges and overpour shall be corrected immediately.

3-10 TRAFFIC SIGNAL LOOP DETECTORS

3-10.1 VEHICLE DETECTORS – Inductive-loop detectors shall be used.

3-10.2 CONSTRUCTION MATERIALS - Detector lead-in cable shall be four pair polyethylene insulated, individually twisted, individually shielded, filled (water-blocked), black high density polyethylene jacketed, with 300 volt dielectric rating.

The number of pairs in the detector lead-in cable shall be determined by meeting the requirements that there shall be a maximum of two detectors per pair of channel for presence or call detector loops, and one detector per pair or channel for advance loops.

Conductor: #18 AWG 7/26 stranded tinned copper per ASTM B-286.

Insulation: High-density polyethylene compound which meets the requirements of ASTM D-1248, Type III, Class A, Category 5, Grade E-8, with a .013" nominal wall thickness.

Twist Shield and Drain: The insulated conductors shall be twisted into pairs with a lay not to exceed six inches. Each pair helically applied alum/mylar with #20-7/28 TC drain under shield.

Cable Assembly: The shielded pairs shall be assembled to form a substantially cylindrical core.

Fill: All interstices shall be "Water-Blocked" with an Amorphous Jelly Compound.

Shield: A longitudinally applied aluminum mylar shield shall be applied over the filled core with an overlap.

Jacket: Black high-density polyethylene jacketing grade compound with a .030" minimum wall thickness.

Electrical Characteristics: Voltage rating - 300 volts minimum; mutual capacitance 27 picofarads per foot, 10%.

Color Code:

Two Pair -Blue/white and orange/white;
Three Pair -Blue/white, orange/white, and green/white;
Four Pair -Blue/white, orange/white, green/white, and brown/white.

Each cable shall be identified by the installation of a rigid plastic tag held in place by two nylon ties.

3-10.4 INSTALLATION DETAILS -Inductive loop detectors shall be 6-foot diameter circular loops. Slots for the loops shall be core drilled with a 6-foot diameter core bit or other method approved by the City Engineer. No holes for anchoring a router or flat saw to perform the cut will be accepted. All slots shall be vertical with a maximum width of 1/2-inch, cut to a minimum depth of 4-inches. In no case shall any cut exceed the depth of the existing pavement.

All cuts shall be washed clean. Water and slurry shall be vacuumed out or blown dry with compressed air, leaving a clean and dry loop area.

A 6-foot diameter loop consisting of 3 turns of Detecta Duct or Type 2 loop wire stacked one wire on top of another shall be installed in slot. A prewound loop wire shall be used in slots greater than 1/4-inch in width. **Loops shall be installed on the same day in which loop slots are cut.**

All slots shall be filled with hot melt rubberized asphalt sealant in accordance with the provisions in Section 86-5.01A, Installation Details of the State Specifications and the City of Beverly Hills Standard Plan BH1-5.

Sawcut homerun to the appropriate pull box within 50 feet. The homerun slot shall be 1/4 inch in width and 4 inches in depth. The homerun of the loop shall be twisted clockwise (at least 2 turns per foot) into a pair, numbered, and identified in the pull box. If the stub-out excavation area adjacent to the gutter for loop homeruns is greater than 6” in diameter, it shall be backfilled with asphalt concrete. If excavation area is less than 6” in diameter, seal area with hot melt rubberized asphalt sealant.

All lead-ins shall enter the pull box and shall be numbered and identified in accordance to the Round Inductive Loop Installation Detail BH1-5 in these specifications.

New 2-inch GRS conduits stub outs between pull box and loop detector hand hole shall be installed when noted on the plans. Compensation for all materials and work shall be included in the bid price for loops.

All installations of Traffic Signal Loop detector cable shall conform to the City of Beverly Hills Public Works Department detail and Standard Specifications for Public Works

Construction.

The Contractor shall obtain approval for exact loop location prior to final placement, and shall perform preliminary striping layout prior to loop detector layout. Loop detectors shall be 6’ round with 9’ spacing between adjacent loops in the same lane, except as noted on the plans. Center loops in the traveled portion of the lane, and extend limit line loops 1’ from the limit line, except as shown on the plans.

3-11 PAVEMENT MARKERS

Pavement markers shall conform to the State Standard Plans and Standard Specifications, Section 84 and 85, "Pavement Markers", July 1992, except as noted on the Plans and in these Special Provisions.

Cost for removing, furnishing and installing reflective, non-reflective, and two-way blue reflective pavement markers shall be considered as included in the unit price bid for "Striping" and no additional compensation shall be allowed therefore.

3-12 DUCTILE IRON PIPE

Ductile-iron pipe shall be Class 52 manufactured per AWWA C111, C115, C150, and C151 and shall be installed per AWWA C600.

Ductile-iron pipe shall be provided in standard 5.49m (18’) or 6.10m (20’) lengths unless otherwise detailed or required on the Approved Plans. When deep trenches or shoring restrictions hinder the use of the standard length sections, shorter lengths shall be allowed with the concurrence of the City Engineer. Random lengths are not allowed.

The minimum length of ductile-iron pipe sections used for tie-ins and stub-outs shall be three (3) times the nominal pipe diameter or 1200mm (48”), whichever is longer, unless otherwise approved by the District Engineer.

Joints for ductile-iron pipe shall be mechanical, flanged, or push-on in accordance with AWWA C110, C111, and C153, unless otherwise indicated on the Approved Plans. Joints that are aboveground, within structures, or submerged shall be flanged unless otherwise shown on the Approved Plans.

Except as amended herein, or otherwise shown on the Approved Plans, joints for ductile-iron pipe shall have a pressure rating equal to or greater than the adjacent piping.

Horizontal Radius and Pipe Deflections: In locations where it is required to lay ductile-iron pipe along curves or install pipe deflections, ductile-iron pipe shall be deflected at joints in accordance with the requirements of AWWA C600 and no more than 80% the manufacturer’s recommendations.

Plain ends of ductile-iron pipe shall conform to the requirements of AWWA C151 to accept mechanical or push-on joints, flanged coupling adaptors, flexible couplings, or grooved couplings.

All ductile-iron pipe shall be cement-mortar lined, **double thickness**, with seal coat in accordance with AWWA C104.Cement-mortar shall be in accordance with ASTM C 150, Type II or Type V.

Ductile-iron fittings shall be manufactured per AWWA C110 and C153. Gray-iron or cast-iron fittings shall not be used. Gray iron or cast-iron flanges shall not be used.

Ductile-iron fittings shall be mechanical, flanged, or push-on joints in accordance with AWWA C110, and C153.

Except as amended herein, or otherwise shown on the Approved Plans, joints for ductile-iron fittings shall have a pressure rating equal to or greater than the adjacent piping.

Unless otherwise specified, ductile-iron flanged fittings shall be integrally cast in accordance with AWWA C110, rated at a working pressure of 1,724 KPa (250 psi). Gray-iron or cast-iron flanged fittings are not permitted.

The exterior surfaces of all ductile-iron fittings shall be factory-coated with a minimum one (1) mil thick petroleum asphaltic material per AWWA C110 and C153.

All ductile-iron fittings shall be cement-mortar lined and seal-coated in accordance with AWWA C104. Cement-mortar shall be in accordance with ASTM C 150, Type II or Type V.
All materials in contact with water shall be certified to meet the requirements of ANSI/NSF Standard 61. Push-on pipe and fittings shall be TYTON as manufactured by U.S. Pipe, or approved equal.

Where the plans call for “Fully Restrained Pipe,” restrained push-on gaskets or mechanical joint pipe and fittings shall be utilized. Restrained joints shall be designed for a minimum water working pressure of 250 psi. Restraint shall be accomplished by utilizing Field-Lok gaskets, EBAA Iron joint restraints with Mega-Bond coating, or a restrained joint and fitting system such as TR-Flex, or approved equal. Refer to Specification Section 3-21.

3-12.1 PIPE JOINT LUBRICANT

All pipe lubricant shall be suitable for municipal potable water systems and certified compliant with NSF/ANSI 61 and Annex G, NSF14 and Drinking Water System Components-Health effects, in addition to the requirements of the Safe Drinking Water Act.

The pipe lubricant shall be formulated to prevent turbidity, taste, and odor problems and shall not promote bacterial growth in new main installations.

The lubricant shall be safe for the use with metal or plastic rubber gasketed pipe.

The consistency shall be smooth and must remain a paste at temperatures above 150°F (66° C). The temperature range for use shall be 7°F (-14° C) to 150°F (66° C).

The lubricant shall be non-corrosive and nonflammable and shall not swell rubber gaskets.

Provide Affidavit of Compliance per submittal requirements.

3-12.2 POLYETHYLENE ENCASEMENT

Polyethylene encasement shall be used for all ferrous metal materials that are not coated with epoxy or cement mortar.

A. Polyethylene wrap or sleeves shall be used for the protection of buried ductile-iron pipe, appurtenances, and valves.

B. Polyethylene sleeves shall be used for the protection of buried ductile iron pipe and fittings. Where the use of a sleeve is not practical, the fittings may be wrapped. Additionally, all bolted connections shall be coated with wax tape.

C. Polyethylene wrap or sleeves may also be installed around buried PVC pipe for recycled water identification.

D. Polyethylene encasement shall be as indicated below and shall be selected from the Approved Materials List. Polyethylene materials shall be kept out of direct sunlight exposure.

1. Polyethylene wrap and sleeves shall be a minimum 0.008" thick linear low density polyethylene film in accordance with AWWA C105.

2. Polyethylene wrap and sleeves shall be clear for use with potable water and purple for use with recycled water.

3. Polyethylene or vinyl adhesive tape a minimum of 2" wide or plastic tie straps shall be used to secure polyethylene encasement.

4. Polyethylene wrap and sleeves shall be clear for use with potable water and purple for use with recycled water.

5. Installation Methods and shall comply with AWWA C105. Method A is preferred.

6. Polyethylene encasement shall be secured with 50mm (2”) wide polyethylene or vinyl adhesive tape or with plastic tie straps.

E. Provide Affidavit of Compliance per submittal requirements.

3-12.3 WARNING/IDENTIFICATION TAPE

Warning/identification tape shall be used to identify location of underground utilities and to act as a warning against accidental excavations of buried utilities. Warning identification tape shall be used on all underground water and recycled water mains, potable and recycled water irrigation systems, sewer mains, and all related appurtenances. Warning/identification tape shall also be used on cathodic protection wiring systems and tracer wire brought into and out of access ports.

Warning/identification tape shall be as indicated below and in accordance with the Approved Materials List.

1. Tape shall be an inert, non-metallic plastic film formulated for prolonged underground use that will not degrade when exposed to alkalis, acids and other destructive substances commonly found in soil.

2. Tape shall be puncture-resistant and shall have an elongation of two times its original length before parting.

3. Tape shall be colored to identify the type of utility intended for identification. Printed message and tape color shall be as follows:

Printed Message	Tape Color
Caution: Potable Waterline Buried Below	Blue
Caution: Recycled Waterline Buried Below	Purple
Caution: Sewerline Buried Line	Green
Caution: Cathodic Protection Cable Buried Below	Red
Caution: Electric Line Buried Below	Red

   Ink used to print messages shall be permanently fixed to tape and shall be black in color with message printed continuously throughout.

4. Tape shall be minimum 0.102mm (0.004” or 4 mil) thick x 150mm (6") wide with a printed message on one side. Tape used with the installation of onsite potable and recycled water irrigation systems shall be a minimum of 75mm (3”) wide.

Provide Affidavit of Compliance per submittal requirement.

3-13 BUTTERFLY VALVES

Butterfly valves specified herein shall conform to the latest edition of AWWA C504 short body valves. Unless otherwise specified in the plans, valves shall be suitable for a maximum steady-state fluid working pressure of 150 psig. Valves shall be bubble-tight at the rated pressure class in either direction, and shall be satisfactory for applications involving throttling service and for applications requiring valve actuation after long periods of inactivity. Valve discs shall rotate 90 degrees from the full open position to the tight shut position. All bolts and accessories shall be Type 316 stainless steel. The resilient valve seat shall be secured either to the valve disc or the valve body.

End Connections: Valves adjacent to fittings shall be flanged, flanged by push-on, or flanged by mechanical joint.

Shaft: The shaft shall be of one-piece construction of Type 316 stainless steel.

Bearings: The shaft bearings shall be corrosion-resistant and self-lubricating, made of Type 316 stainless steel backed with TFE, or Type 316 stainless steel.
Packing: The shaft packing shall be adjustable and field-replaceable of TFE chevron type design or PTFE V-flex style.

Buried Operators: Buried operators shall be of the traveling nut type, sealed, gasketed, and lubricated for underground service, and provided with a 2-inch square operating nut. Operator shall be capable of withstanding an overload input torque of 450 ft-lbs at full-open or full-closed position without damage to the valve operator. Actuators shall allow for positive throttling and locking in any position between open and closed.

Disc: The valve disc shall be constructed from high strength cast iron ASTM A-126, or high strength ductile iron ASTM A-536. Disc and shaft connection shall be made with stainless steel pins.

Testing: Factory hydrostatic and leakage tests shall be conducted in strict accordance with AWWA Standard C504.

Coating: Valve interior and exterior surfaces shall be coated with a polyamide cured epoxy, factory applied over a sand blasted “new white metal surface” per SSPC-SP10, to a minimum thickness of 10 mils, in accordance with AWWA C-550.

Henry Pratt "Groundhog" for Class 150 valves or "Triton HP-250" for Class 250 valves.

DeZurik AWWA Butterfly Valves (BAW) for Class 150 or Class 250 valves.

Mueller "Lineseal III" for Class 150 valves or "Lineseal XP" for Class 250 valves.

3-14 EXTENSION STEMS FOR BURIED VALVE OPERATORS

Where the depth of the valve is such that its operating nut is more than 3 feet below grade, provide operating extension stems to bring the operating nut to a point between 24 to 36 inches below the surface of the ground and/or box cover. Extension stems shall be steel, and shall be complete with 2-inch square operating nut. Provide stem with a 1/8-inch center guide to keep stem centered.

3-15 COMBINATION AIR VALVES

Combination Air Valves shall be of the single housing style that combines the operating features of both an Air/Vacuum and Air Release Valve. The Air/Vacuum portion shall automatically exhaust large quantities of air during the filling of the pipeline and automatically allows air to re-enter the pipeline when the internal pressure of the pipeline approaches a negative value. The Air Release portion shall automatically release small pockets of air from the pipeline while the pipeline is in operation and under pressure.

The Combination Air Valves shall have threaded inlet and outlet connections and be designed for a water working pressure of 150 psi. Valve bodies, covers, and lever frames shall be constructed of cast iron. Needle and seat shall be Buna-N synthetic rubber. Float and all other trim shall be 316 stainless steel.

Valves shall be Val-Matic Series 200, Dezurik/APCO Series 140C, or approved equal.

3-16 FIRE HYDRANTS

3-16.1 FIRE HYDRANT INSTALLATION IN BEVERLY HILLS - Fire hydrants within the City of Beverly Hills shall be installed in accordance with the current Beverly Hills Standard Drawings and Specifications for Construction of Water Pipeline Installations.

3-17 NO LEAD BRASS FITTINGS AND VALVES

All brass valves and fittings for service lines shall be provided under this contract.

A. All fittings and valves shall be manufactured in accordance with AWWA Standard C-800, latest revision, and as further specified in these technical specifications.

   1. Exception: Any brass part of the fitting or valve in contact with potable water shall be made of a “No-Lead Brass”, defined for this specification as UNS Copper Alloy No. C89520 or C89833 in accordance with the chemical and mechanical requirements of ASTM B584 and AWWA C-800. This “No-Lead Brass” alloy shall not contain more than nine one hundredths of one percent (0.09% or less) total lead content by weight.

2. Any Brass part of the fitting or valve **not** in contact with potable water shall be made of 85-5-5- 5 brass as defined for this specification as UNS Copper Alloy C83600 per ASTM B62, ASTM B584 and AWWA C-800.

B. All brass fittings and valves shall be certified by an ANSI accredited test lab per NSF/ANSI Standard 61, Drinking Water Components – Health Effects, Section 8 or NSF/ANSI Standard 372, Drinking Water System Components – Lead Content. Proof of certification is required.

C. Brass fittings and valves shall comply with the United States Of America Safe Drinking Water Act, and the U.S. Environmental Protection Agency.

D. All brass fittings and valves shall have the manufacturers name or trademark permanently stamped or cast on it. Another marking identifying the “no lead” brass alloy, e.g., ‘NL’, shall be cast or permanently stamped on the fitting or valve.

E. An affidavit certifying compliance with these standards and specifications shall be signed and submitted by the manufacturing firm’s Quality Assurance or Engineering Manager.

F. The brass fittings and valves shall be produced by a manufacturer in the United States of America or Canada.

3-17.1 CORPORATION BALL VALVE

Corporation stop shall be a ball-type valve with straight through design, double O-ring stem seals, PTFE coated ball, 300-psi maximum working pressure, with iron pipe inlet threads (AWWA “IP”), and conductive compression connection outlet for CTS O.D. tubing (Mueller 110). Valve shall be Mueller B-25028-N, or approved equal.

3-17.2 CURB STOP

Curb stop shall be a ball-type valve constructed of with straight through design, double O-ring stem seals, PTFE coated ball, 300-psi maximum working pressure, with conductive compression connection inlet and outlet for CTS O.D. tubing (Mueller 110), except where shown otherwise in the plans, or where other end connections are required to connect to adjacent equipment. Valve shall be Mueller B25209-N, or approved equal.

3-17.3 ANGLE METER STOP

Angle meter stop shall be a ball-type valve constructed with double O-ring stem seals, quarter turn check lock wing, PTFE coated ball, 300-psi maximum working pressure, with conductive compression connection inlet for CTS O.D. tubing (Mueller 110), meter swivel nut outlet. Valve shall be Mueller B-24258-N (1-inch), B-24276-N (2-inch), or approved equal.

3-17.4 COPPER PIPE AND TUBING

Copper pipe and tubing shall meet the requirements of ASTM B 88, be cylindrical, of uniform wall thickness, and free from any cracks, seams, or other defects. Piping located above floors or suspended from ceilings shall be Type “L” hard. Piping buried or located beneath floor slab shall be Type “K” soft. Copper tubing shall be joined using Mueller 110 Compression Connection Series fittings, or approved equal. No soldered or flared joints are permitted.

3-18 METER BOXES AND VAULTS

All meter boxes installed in alleys, roadways, driveways, or called out as traffic rated on the plans, shall be H-20 traffic rated. Meter boxes installed behind curbs or within sidewalks shall be non-traffic rated, unless called out as traffic rated in the plans.

3-18.1 1-INCH AND 2-INCH SERVICES

A. Traffic Rated

1. Meter boxes shall be reinforced concrete, provided with fabricated black steel checker plate covers with heavy duty 7”x13” polymer concrete reader lids, rated for AASHTO H-20 loading, and suitable for installation within roadways and alleyways. Meter boxes for services smaller than 1-inch shall be Christy/Oldcastle Precast B1017BOX (Caltrans No. 3-1/2T traffic box), with modified cover B1017-51E-BH Logo.

2. Meter boxes for 1, 1.5, or 2-inch services shall be Christy/Oldcastle Precast B1324BOX (Caltrans No. 5T traffic box), with modified cover B1324-51E-BH Logo. The contractor and inspector shall field verify the appropriate use of this size box.

3. Meter boxes and covers for 2-inch services shall be Christy/Oldcastle Precast B1730BOX (Caltrans No. 6T traffic box), with modified cover B1730-51E –BH Logo.

4. Reading lids shall be fabricated with the Beverly Hills logo as shown in Appendix E.

5. Boxes shall be encased and bedded upon 6-inches of concrete per Beverly Hills standard drawing BH 2-3, and lids shall be bolted down with two (2) 3/8-inch diameter Type 316 stainless steel hex head bolts.

6. Refer to Appendix E for detailed product information and Logo information.

B. Non-Traffic Rated

Meter boxes and covers shall be constructed from heavy duty polymer concrete, rated for incidental AASHTO H-20 loading, and suitable for installation behind curbs, or within sidewalks. Meter boxes and covers for 1-inch services shall be Carson H1324-15. Meter boxes and covers for 2-inch services shall be Carson H1730-18.

Covers shall be fabricated with the Beverly Hills logo as shown in Appendix D.

3-18.2 3-INCH SERVICES AND LARGER

A. Traffic and Non-Traffic Rated

1. Meter vaults shall be precast concrete with galvanized steel covers, rated for AASHTO H-20 loading, and suitable for installation within alleyways, behind curbs, or within sidewalks.

2. Vaults for 3-inch services shall be 2-ft x 3-ft x 33-in deep interior dimension flat wall water vaults as manufactured by Jensen Precast.

3. Vaults for 4-inch services shall be 2.5-ft x 4-ft x 33-in deep interior dimension flat wall water vaults as manufactured by Jensen Precast.

4. Covers shall be provided with circular access opening per Beverly Hills requirements, and include the Beverly Hills logo as shown in Appendix D.

3-19 SLEEVED TYPE COUPLINGS

A. Sleeve type couplings include straight couplings, transition couplings, reducing couplings and flange coupling adapters and will be used to connect all combinations of ductile iron, cast iron, steel and ACP pipe.

B. All sleeve couplings shall meet the latest revision of AWWA C219 standards.

C. Center ring shall be:

1. Ductile Iron per ASTM A536, 65-45-12

2. Steel per ASTM A283 Grade C or equivalent with a minimum yield of 30,000 psi.

D. End rings shall be:

1. Ductile Iron per ASTM A536, 65-45-12.

2. Steel per ASTM A576-Grade 1020 or equivalent have a minimum

yield of 54,000 psi.

E. Coupling flanges shall have the same bolt pattern and equal or exceed pressure rating of the connecting flange. Refer to Section 2.10 for flange coupling adapter flange requirements.

F. The location and number of each type of sleeve coupling shall be determined from the construction drawings

G. The product shall be certified compliant with NSF/ANSI 61, Drinking Water System Components-Health effects, in addition to the requirements of the Safe Drinking Water Act.

H. The pipe material and nominal pipe sizes are shown on the plans and it shall be field verified prior to ordering any type of couplings.

I. All couplings shall be pressure rated for a minimum of 250 psi or the rating of the pipe (whichever is greater) and shall with operate with manufacturer guarantee at the water system design pressures.

J. The water system operating temperature range is between 32 – 150°F.

K. The minimum wall thickness of the sleeve coupling shall be ¼ inch and the minimum center sleeves length shall comply with Table 2 of AWWA C219. Manufacturer shall confirm the minimum length is sufficient for each application. Minimum lengths for reducing couplings shall be 12-inches.

L. Allowable angular pipe deflections shall not exceed 80 % of the manufacturer's recommendation and conform to Section 4.5 and Table 3 of AWWA C219.

M. Coatings thickness shall be a minimum of 16 mils of either shop applied liquid or fusion bonded epoxy in accordance with AWWA C210 or AWWA C213.

N. Gasket materials shall Buna N Grade 60 and/or exceed or meet the requirements AWWA C219 Section 4.23 and ASTM D2000.

O. Flange bolts and nuts shall conform to the requirements of Section 2.03. End ring bolts and nuts shall conform to AWWA C219 Section 4.2.4 and AWWA C111.

P. All couplings shall clearly be marked with a pressure rating per AWWA C219 Section 6.1.4.

Q. Affidavits of Compliance (Certifications) per the submittal requirements.

3-20 JOINT RESTRAINT SYSTEMS

Joint restraint systems shall be used for rubber ring joint pipe. Joint restraint systems shall be used in conjunction with, concrete thrust blocks unless otherwise directed. Restrained joint systems shall be wax tape coated and polyethylene encased. Contractor shall submit manufacturer produced shop drawings, calculations, and catalog data for each joint restraint systems. All products shall be installed per manufacturer's recommendations including all referenced AWWA standards.

3-20.1 MECHANICAL JOINT RESTRAINT DUCTILE IRON PIPE AND PVC

A. Restraint devices for joining plain end pipe to mechanical joint fittings and appurtenances shall conform to either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53. Restraint devices shall be Listed by Underwriters Laboratories (3-inch through 24-inch size) and approved by Factory Mutual (3- inch through 12-inch size).

B. Restraint devices for nominal pipe sizes 3-inch through 48-inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.

C. The devices shall have a working pressure rating of 350 psi for 3-inch through 16-inch and 250 psi for 18-inch through 48-inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.

D. Gland body, wedges, and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.

E. Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN.

F. All wedge assemblies and related parts shall be processed through a phosphate wash, rinse and drying operation prior to coating application. The coating shall consist of a minimum of 12 mils of coats of liquid or fusion bonded thermoset epoxy coating per AWWA 210 or AWWA 213.

G. All casting bodies shall be surface pretreated with a phosphate wash, rinse and sealer before drying. The coating shall be electrostatically applied and heat cured. The coating shall be a polyester based powder to provide corrosion, impact and UV resistance.

H. All components shall be manufactured and assembled in the United States. The purchaser shall, with reasonable notice, have the right to plant visitation at his/her expense.

I. Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly. Manufacturer installation recommendations shall be followed.

J. Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts.

K. Approved Materials are EBAA Iron Inc. Megalug Series 1100 (Ductile Iron), Megalug Series 2000 (PVC), or approved equal (prior to Bid).

3-20.2 STRAIGHT AND TRANSITION COUPLINGS

A. Joint restraint to prevent axial separation shall be incorporated into the design of the sleeve or coupling used to connect two plain pipe ends. The working water pressure shall be rated for 250 psi minimum and all higher design pressures per Section 15000.1.06. For ductile iron pipe, the flange adapter shall have a safety factor of 2:1 minimum.

B. The restraint mechanism shall consist of a plurality of individually actuated gripping surfaces to maximize restraint capability.

C. Torque limiting twist off nuts shall be used to insure proper actuating of the restraint devices.

D. The restraint devices shall be coated with 12 mils of Fusion-Bonded Epoxy Coating (AWWA C213-07).

E. Ductile iron components shall be of a minimum of 65-45-12 ductile iron meeting the requirements of ASTM A536 of the latest revision and shall be tested in accordance with the stated standard.

F. The restrained joining system shall meet the applicable requirements of AWWA C219, ANSI/AWWA C111/A21.11, and ASTM D2000.

G. Approved Materials are EBAA Iron Inc. Megalug Series 3800 or approved equal (prior to Bid).

3-20.3 RESTRAINED FLANGED COUPLING ADAPTERS

A. Restrained flange adapters shall be used in lieu of threaded, or welded, flanged spool pieces. Flange adapters shall be made of ductile iron conforming to ASTM A536 and have flange bolt circles that are compatible with ANSI/AWWA C110/A21.10.

B. Restraint for the flange adapter shall consist of a plurality of individual actuated gripping wedges to maximize restraint capability. Torque limiting actuating screws shall be used to insure proper initial set of gripping wedges.

C. The flange adapter shall be capable of deflection during assembly, or permit lengths of pipe to be field cut, to allow a minimum of 0.6” gap between the end of the pipe and the mating flange without affecting the integrity of the seal.

D. For PVC pipe, the flange adapter will have a pressure rating equal to the pipe.

E. The restraint shall be manufactured of ductile iron conforming to ASTM A536 and rated for a minimum of 250 psi and all higher design pressures per Section 15000.1.06. For ductile iron pipe, the flange adapter shall have a safety factor of 2:1 minimum.

F. The restraint devices shall be coated with liquid or fusion bonded epoxy per AWWA C210 or AWWA C213.

G. Approved Materials are EBAA Iron Inc. Megalug Series 2100 or approved equal (prior to Bid).

3-20.4 COUPLING RESTRAINER FOR ASBESTOS PIPE

Restrainer for use over A/C coupling, MJ Couplings, and mechanical couplings use JCM Industries model JCM 631ACP/DIP RESTRAINED COUPLING.

3-20.5 PROVIDE AFFIDAVIT OF COMPLIANCE FOR ALL RESTRAINING DEVICES PER SUBMITTAL REQUIREMENTS.

STANDARD CONTRACTUAL REQUIREMENTS

FOR PUBLIC IMPROVEMENTS
IN THE CITY OF BEVERLY HILLS CALIFORNIA

AS ADOPTED BY
THE DEPARTMENT OF PUBLIC WORKS
ON NOVEMBER 1, 1976

PART I

GENERAL PROVISIONS

1-01 APPLICABILITY - Whenever these Standard Contractual Requirements are referred to in any proposal form, specifications, or contract for any work of public improvement proposed to be made by the City of Beverly Hills, they are made an integral part of all such documents pertaining to such work and are incorporated in each of such documents by reference as though set forth at length therein.

1-02 DEFINITION OF TERMS - The following terms, unless the context requires a different meaning, when used herein or in the proposal form, specifications, or the contract, shall have the following meanings:

BIDDER - Any individual, firm, partnership, corporation, or combination thereof, submitting a proposal for work contemplated.

BIDDER'S SECURITY - The cash, cashier's or certified check, or bidder's bond accompanying the proposal submitted by the bidder, as a guaranty that the bidder will enter into a contract with the City for the performance of the work if the contract is awarded to the bidder.

CITY - The City of Beverly Hills, California.

CITY ATTORNEY - The City Attorney of the City.

CITY CLERK - The City Clerk of the City.

CITY ENGINEER - The City Engineer of the City

CITY COUNCIL - The Council of the City of Beverly Hills.

CODE - The terms Business and Professions Code, Civil Code, Government Code, Labor Code, and Streets and Highways Code refer to codes of the State of California.

CONTRACT DOCUMENTS - The written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. The contract shall include the notice to bidders, proposal, plans, specifications, these Standard Contractual Requirements, and contract bonds; also any and all supplemental agreements amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner.

CONTRACTOR - The person or persons, firm, partnership, corporation, or combinations thereof, which have entered into a contract with the City, as party or parties of the second part.

INSPECTOR - The Inspector of the Department of Public Works of the City, authorized by the City Engineer to represent him in the field during the performance of the work.

NOTICE TO BIDDERS - The public advertisement through which the City invites bids for the performance of specific work.

PLANS - The official project drawings and Standard Drawings, profiles, cross sections, working drawings and supplemental drawings, or reproductions thereof, approved by the City Engineer, which show the location, character, dimensions, and details of the work to be performed.

PROJECT DRAWINGS - The project drawings are specific details and dimensions to the work and are supplemented by the Standard Drawings insofar as the same may apply.

PROPOSAL OR BID - The offer of the bidder for the work when made out and submitted on the prescribed proposal form, properly signed and guaranteed.

PROPOSAL FORM - The form furnished to prospective bidders by the City, for use by the bidder in preparing and submitting a bid.

PUBLIC UTILITIES - Railroad tracks, overhead or underground wires, pipe lines, conduit, ducts or structures owned, operated or maintained along or across a public right of way, including such installations owned by the Water Department, the Fire Department or the Police Department of the City, but excluding sewers, storm drains, street lighting systems and traffic signal systems owned by the City and operated or maintained by the Department of Public Works.

PUBLIC WORKS DIRECTOR - The Public Works Director of the City.

REFERENCE SPECIFICATIONS - Bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to on the plans or in the specifications, copies of which are on file in the office of the City Engineer.

ROADWAY - That portion of a street or alley reserved for vehicular use.

SPECIFICATIONS - The project specifications prepared for the proposed work, and specifications included therein by reference, including standard specifications of other agencies, and any other specifications contained or referred to in supplemental agreements between the Contractor and the City.

STANDARD DRAWINGS - Plans of structures or devices adopted for work in the City and referred to on the plans or in the specifications by title or index number, or standard drawings or plans of other agencies which are referred to on the plans or in the specifications.

STATE - The State of California.

STREET SUPERINTENDENT - The City Engineer who has been authorized by the City Council to act in the capacity of Street Superintendent in the course of improvements carried under the proceedings of the Improvement Act of 1911, as amended, now a part of the Streets and Highways Code, as amended.

SUBCONTRACTOR - The person or persons, firm, partnership, corporation or combinations thereof, which have entered into a contract with the Contractor to perform part of the work.

SUBGRADE - The surface to be used as a base for the pavement, gutter sidewalk, conduit, pipe, or structure proposed to be installed.

SURETY - Any individual, firm or corporation, bound with and for the Contractor for the acceptable performance, execution, and completion of the work, and for the satisfaction of all obligations incurred.

WORK, PROJECT OR IMPROVEMENT - All the work specified, indicated, shown or contemplated in the contract to construct the improvement including all alterations, amendments, or extensions thereto made by change order or other written orders of the City Engineer.

The meaning of any other word not mentioned herein shall be clarified by the City Engineer at the request of the Contractor, who shall accept the furnished interpretation as representing the true meaning of such word.

1-03 ABBREVIATIONS - Following is a list of the most common abbreviations and symbols used on the plans and in the specifications.

ABBREVIATIONS	WORD or WORDS
AC	Asphalt concrete
ASTM	American Society for Testing Materials
BC	Beginning of curve
BCR	Beginning of curb return
BHW	Beverly Hills Water Department
BM	Bench mark
BVC	Beginning of vertical curve
CB	Catch basin
CC or C/C	Center to center
CF	Curb face
cfs	Cubic feet per second
CIP	Cast iron pipe
CL or C	Center line
CMP	Corrugated metal pipe
Conc.	Concrete
Cu.	Cubic
D	Diameter of pipe
Dia.	Diameter
Dr	Drive
DW&P	Los Angeles Department of Water & Power
Dwy.	Driveway
EC	End of curve
ECR	End of curb return
EG	Edge of gutter
Elev.	Elevation
EVC	End of vertical curve
Ex or Exist.	Existing
FB	Field Book
FH	Fire hydrant
FL	Flow line
fps	Feet per second
FS	Finished surface
Ft.	Foot or feet
Galv.	Galvanized
GL	Ground line
Gr	Grade
H	High or height

HC	House connection (sewer)
Hor.	Horizontal
ID	Inside diameter
JC	Junction chamber
JS	Junction structure
L	Length
LACFCD	Los Angeles County Flood Control District
L&T	Lead and tack
LD	Local depression
Lin	Linear
Long	Longitudinal
MH	Manhole
MTD	Multiple tile duct
MWD	Metropolitan Water District
No.	Number
OD	Outside diameter
OLC	Ornamental lighting conduit
PCC	Portland cement concrete or point of compound curvature
PI	Point of intersection
PL	Property line
PP	Power pole
PRC	Point of reverse curvature
Prop.	Proposed
psi	Pounds per square inch
PT	Point of tangency
PT&T	Pacific Telephone & Telegraph Co.
Pvmt.	Pavement
Q	Rate of flow
R	Radius
RC	Reinforced concrete
RCP	Reinforced concrete pipe
Rdwy	Roadway
R&O	Rock and oil
R/W	Right of way
S	Slope
San.	Sanitary
SCE	Southern California Edison Company
SCG	Southern California Gas Company
SD	Storm drain
Spec.	Specifications
SPCo	Southern Pacific Company
Sq.	Square
SS	Sanitary sewer
St.	Street
Sta.	Station

Std.	Standard
Str.Gr.	Straight Grade
T	Tangent distance
TC	Top of curb
TS	Traffic signal or transition structure
TSC	Traffic signal conduit
USC&GS	United States Coast and Geodetic Survey
USGS	United States Geological Survey
V	Depth of catch basin
v	Velocity
VC	Vertical curve
Vert.	Vertical
W	Width
WS	Water surface or wearing surface
Yd	Yard or yards

The meaning of any other symbol or abbreviation not shown on the preceding list and not clarified in the plans, specifications, or contract, shall be interpreted by the City Engineer at the request of the Contractor, who shall accept such interpretation as representing the true meaning thereof.

REV 10-30-80
REV 10-12-88
REV 07-17-90
REV 03-13-91

PART 2

PROPOSAL REQUIREMENTS

2-01 PROPOSAL FORMS - All bids must be submitted on the proposal form attached to the specifications for a given project, and shall be delivered at the office of the City Clerk of Beverly Hills, located at 455 North Rexford Drive, Beverly Hills, California 90210.

All proposals must give the prices bid, both in written words and in figures, and must be signed by the bidder, who must state his/her address. If the proposal is made by an individual, his/her name, post office address, and telephone number must be given. If made by a firm or partnership, the proposal must show the name, post office address, and telephone number of each member of the firm or partnership must be shown. If made by a corporation, the proposal must show the name of the state under the laws of which the corporation was chartered, and the names, title and business addresses of the president, secretary and treasurer.

2-02 REJECTION OF PROPOSALS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES - Proposals may be rejected by the City Council if they show any alterations of form, additions not called for, conditional or alternative bids, incomplete bids, erasures or irregularities of any kind. The City reserves the right to reject any or all bids, and to waive any informality or irregularity in any bid.

2-03 BIDDER'S SECURITY - Each bid submitted must be accompanied by cash, cashier's check, or certified check made payable to the City, or a bidder's bond in favor of the City, in the form set forth in Exhibit "A" attached hereto. Any of the foregoing types of bidder's security must be in an amount equal to at least ten percent (10%) of the total bid submitted by the bidder for the project. A bidder's bond shall be executed by a corporate surety acceptable to, and approved by, the City Attorney. A bid will not be considered unless one of the above-mentioned forms of bidder's security is enclosed with it.

2-04 FORFEITURE OF THE BIDDER'S SECURITY - If the successful bidder fails to execute the contract and furnish the necessary bonds and insurance within ten (10) days from the date of award of the contract, the bidder's security shall be forfeited to the City as liquidated damages.

2-05 BONDING LETTER - If cash, or cashier's check, or a certified check is furnished for the bid bond, a letter is required from a bonding company stating that in the event the contract is awarded to the bidder the bonding company will furnish, at the bidder's expense, the bonds required by Paragraph 2-11 hereof.

2-06 WITHDRAWAL OF BIDS - A bid may be withdrawn by a bidder prior to, but not after, the date and hour fixed for the opening of the bids, as said date and hour are specified in the Notice to Bidders.

2-07 JURISDICTION OF THE CITY COUNCIL REGARDING BIDS - All bids shall be under the jurisdiction of the City Council and subject to final acceptance or rejection until after the City Council has awarded the contract and said contract has been duly entered into with the successful bidder.

2-08 DECISION AS TO WHICH CONTRACTOR IS THE LOWEST AND BEST BIDDER - All bidders must submit with their proposal satisfactory evidence that they are capable of performing the work in accordance with the plans and specifications. The City Engineer may require any bidder bidding on any public improvement to submit experience records covering a three-year period. The City Council may reject the bid of any bidder who has been delinquent or unfaithful in the performance of any previous contract work. The decision of the City Council as to which bidder is considered the "lowest responsible bidder" will be based not only on the actual amount of the bid but also on the relative competence and experience of the bidders, with particular regard to the quality of performance of any work done by them for the City in the past, and such decision shall be final and binding upon all persons.

2-09 AWARDS - A decision with reference to the acceptance of bid and the award of a contract will be made by the City Council within sixty (60) days after the opening of bids.

2-10 EXECUTION OF THE CONTRACT - The contract, in the form set forth in Exhibit "C" attached hereto, shall be executed by the successful bidder, in accordance with the instructions set forth in Exhibit "B" attached hereto, and returned to the City for execution by the City, and shall be accompanied by the bonds required in Paragraph 2-11 hereof and the evidence of insurance required by Paragraph 3-12 hereof, all within ten (10) days after the bidder has received notice of the award of the contract. No bid or proposal shall be considered binding upon the City until such time as it has been executed by the City. The failure of the successful bidder to execute the contract and to submit acceptable bonds and evidence of insurance as, and within the time, required shall be cause for the annulment of the award and the forfeiture of the bidder's security.

2-11 CONTRACT BONDS - The successful bidder shall furnish to the City, at his own expense, two surety bonds. One bond shall be in the amount of One Hundred percent (100%) of the contract price, in the form set forth in Exhibit "D" attached hereto, to guarantee faithful performance of the contract work. The "Performance Bond" shall guarantee that all materials and workmanship will be free from original or developed defects. The "Performance Bond" must remain in effect until the end of all warranty periods set forth in the contract.
All work shall be guaranteed by the Contractor against defective workmanship and materials furnished by the Contractor for a period of one (1) year from the date the work was completed. The Contractor shall replace or repair any such defective work in a manner satisfactory to the City Engineer, after notice to do so from the City Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repairs within the time specified in the notice, the City may perform this work and the Contractor's sureties shall be liable for the cost thereof.

The other bond, in an amount not less than One Hundred percent (100%) of the

contract price in the form set forth in Exhibit "E" attached hereto, shall be furnished as required by Section 2-4 of the latest edition of the "Standard Specifications for Public Works Construction", adopted by a Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and Southern California District of the Associated General Contractors of California.

Each bond shall be executed in accordance with the instructions set forth in Exhibit "E" attached hereto, and each bond shall be executed by a corporate surety acceptable to, and approved by, the City Attorney.

2-12 RETURN OF BIDDER'S SECURITY - If cash, or cashier's check, or certified check is furnished as bidder's security, the City Clerk will return the bidder's security (excepting anyone subject to forfeiture) upon the occurrence of either of the following: the decision of the Council not to award a contract, or the compliance by a successful bidder with Paragraph 2-10 hereof.

2-13 EXAMINATION OF THE SITE OF THE WORK, PLANS AND SPECIFICATIONS - Before submitting their bids, all bidders are required to examine carefully the site of the project and the proposal, plans, specifications, and contract forms for the work contemplated, and it will be assumed that all bidders have investigated and are satisfied with the conditions to be encountered as to the character, quality, and quantities of work to be performed and materials to be furnished, as well as to the requirements of the plans, specifications, and the contract. Quantities and dimensions, as shown on the plans, specifications, and proposal form, shall be considered as being only approximate and merely intended to assist the bidders in checking their own figures as ascertained at the site of the proposed work. The submission of a proposal shall constitute a representation and warranty by the bidder that the bidder has made such an examination.

2-14 COMPLIANCE WITH THE PROVISIONS OF THE GOVERNMENT CODE All contractors shall conform with the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code, as amended, concerning subcontractors and subcontracts.

2-15 REJECTION OF BIDS - Proposals may be rejected by the City Council, whereupon evidence of prior performance of the bidder, the City Council has made a finding that within a three-year period prior to the bid opening the bidder is not a responsible contractor because of past unsatisfactory performance with the City or with other public entities.

2-16 COMPLIANCE WITH PROVISIONS OF THE FEDERAL EQUAL EMPLOYMENT OPPORTUNITY BID CONDITIONS - All bidders to be eligible for the federally-assisted or non-exempt federal construction contracts in the area of jurisdiction of the Los Angeles Building and Construction Trades Council must comply with the provisions of the greater Los Angeles Plan or the affirmative action program, both of which are set forth in the Federal Equal Employment Opportunity Bid Conditions incorporated by reference herein and attached hereto as Exhibit "H" pursuant to the
U.S. Department of Labor Orders dated September 23, 1971.

NOTE: Exhibit "H" will not be attached hereto for projects which are not financed with federal funds.

2-17 INTERPRETATION OF CONTRACT DOCUMENTS - No oral interpretations will be made to any bidder as to the meaning of the contract documents. Should a prospective bidder discover discrepancies or omissions in the contract documents or should a bidder be in doubt as to the meaning of the contract documents, the bidder shall request clarification or modification from the City. Request for an interpretation shall be made in writing and delivered to the City at least 10 days (240 hours) before the time announced for opening the proposals. Interpretations by the City will be in the form of an addendum to the contract documents and, when issued, will be sent as promptly as is practical to all parties to whom the contract documents have been issued. All such addenda shall become part of the contract. The submission of a proposal by the bidder shall constitute the acknowledgment that if awarded the contract, the bidder has carefully reviewed the contract documents, based a bid solely on these documents, found them free of any ambiguity and sufficient for bid purposes, and has not relied on any explanations or interpretations from any other source except as provided for herein.

REV 10-30-80
REV 10-12-88
REV 08-19-91
REV 11-22-95

PART 3

LEGAL RELATIONS AND RESPONSIBILITY TO THE CITY

3-01 LAWS TO BE OBSERVED - The Contractor shall be knowledgeable of all existing and pending State and national laws and all municipal ordinances and regulations of the City, which in any manner affect those employed in the work, or the material used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having jurisdiction or authority over the same. The Contractor shall particularly observe all ordinances of the City in relation to the obstruction of streets or conduct of the work, keeping open passageways and protecting the same where they are exposed or dangerous to traffic.

3-02 SOCIAL SECURITY REQUIREMENTS - The Contractor shall furnish to the City satisfactory evidence that he/she and all subcontractors are complying with all requirements of the Federal and State Social Security legislation. The Contractor, at any time on request, shall satisfy the City that the Social Security and Withholding Tax are being properly reported and paid.

3-03 PREVAILING WAGES - In accordance with the provisions of Section 1770 et seq., of the Labor Code, the Director of the Department of Industrial Relations of the State of California has ascertained the general prevailing rate of wages applicable to the work to be done under contract for public improvement. The Contractor will be required to pay to all employees on the project sums not less than the sums set forth in the documents entitled "General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1."

A copy of said documents is on file and may be inspected in the office of the City Engineer in Room G10 of the Beverly Hills City Hall located at 455 North Rexford Drive, Beverly Hills, California 90210.

3-04 PENALTIES - The Contractor shall comply with Labor Code Section 1775 and shall forfeit, as a penalty to the City, the sum of twenty-five ($25.00) dollars for each calendar day or portion thereof during which the Contractor or any subcontractor has paid to any worker employed in the project an amount less than that required by the provisions of the preceding Paragraph 3-03.

3-05 PAYROLL RECORDS - The Contractor's attention is directed to Section 1776 of the Labor Code, relating to accurate payroll records, which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or by the subcontractors in connection with the project. The Contractor shall agree through the Contract to comply with this section and the remaining provisions of the Labor Code.

3-06 WORKING HOURS - The Contractor shall forfeit, as penalty to the City, the sum of twenty-five ($25.00) dollars for each worker employed in the execution of the contract

by the Contractor or subcontractors for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, in violation of the provisions of Article 3, Chapter 1, Part 7, Division 2 of the Labor Code (Section 1810 et seq.).

3-07 APPRENTICES - Attention is directed to the provisions of Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor. The Contractor and all subcontractors shall comply with the requirements of said sections in the employment of apprentices.

Information relative to apprenticeship standards and administration of the apprenticeship program may be obtained from the Department of Industrial Relations, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

3-08 COLLUSION IN BIDDING - Any collusion between bidders bidding on the work and limiting free competition in bidding, shall be considered unlawful and may prevent a Contractor who has been a party thereto from receiving payment under the contract.

3-09 REGISTRATION OF CONTRACTORS - Only a Contractor licensed in accordance with the provisions of Chapter 9, Division 3 of the Business and Professions Code shall be permitted to enter into a contract with the City for any public improvement.

3-10 PERMITS AND LICENSES - The Contractor shall procure all permits and licenses, pay all charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the work.

3-11 PATENTS - The Contractor shall assume all responsibility arising from the use of any patented, or allegedly patented, materials, equipment, devices, or processes used on or incorporated in the work, and shall defend, indemnify, and hold harmless the City, and each of its officers, agents, and employees from and against any and all liabilities, demands, claims, damages, losses, costs, and expenses, of whatsoever kind or nature, arising from such use.

3-12 INDEMNITY - The Contractor agrees to defend, indemnify, and save harmless the City and each of its officers, agents, and employees, from and against any and all liabilities, demands, claims, damages, losses, costs and expenses of whatsoever kind or nature, including, but not limited to, any and all direct and indirect cost of defense (including attorney fees and court costs), made against, or incurred or suffered by, any such indemnity as a direct or indirect consequence of entering into this contract or of injury, sickness, or disease, including death, to persons or injury to, or destruction of, property, including, but not limited to, the loss of use of property, resulting directly or indirectly from, or in any manner connected with or pertaining to any and all operations, and any and all activities, omissions and conditions in any manner connected therewith or pertaining thereto, of the Contractor under the contract.

3-13 INSURANCE AND WORKER'S COMPENSATION - Contractor shall procure and maintain for the duration of the contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work by the Contractor, his agents, representatives, employees or subcontractors, pursuant to contractor's bid or any subsequent contract. Insurance, together with an endorsement in substantially the form set forth in Exhibit "F", attached hereto, shall be of the type, in the amounts and subject to the provisions described below.

A. Commercial general liability coverage at least as broad as Insurance Services Office Commercial General Liability occurrence coverage ("occurrence" form CG0001, Ed. 11/88) with a limit of not less than $2,000,000 per occurrence. If the insurance includes a general aggregate limit, that limit shall apply separately to this contract or it shall be at least twice the required per occurrence limit.

B. Business automobile liability insurance at least as broad as Insurance Services office form CA 0001 (Ed. 12/90) covering Automobile Liability, code 1 "any auto" and endorsement CA 0029 (Ed. 12/88) with a limit not less than $1,000,000 per accident.

C. Workers Compensation Insurance as required by the State of California and employers liability insurance with a limit not less than $1,000,000 per accident in substantially the form set forth in Exhibit "G", attached hereto.

D. Evidence of Coverage:
   1. Prior to commencement of work under this contract, or within 10 days of notification of award of contract, whichever is shorter, Contractor shall file certificates of insurance with original endorsements evidencing coverage in compliance with this contract and in a form acceptable to City. The certificate shall be on the City's standard proof of insurance form.
   2. Contractor shall provide to City, on request, a complete copy, including all endorsements and riders, of any insurance policy.
   3. During the term of this agreement, Contractor shall maintain current valid proof of insurance coverage, with City at all times. Proof of renewals shall be filed prior to expiration of any required coverage and shall be provided on the City's standard proof of insurance form.
   4. Failure to submit any required evidences of insurance within the required time period shall be cause for termination for default, and shall be cause for forfeiture of this bidder's bid security, if applicable.
   5. In the event Contractor does not maintain current, valid evidence of insurance on file with City, City may, at its option, withhold payment of any moneys owed to Contractor, or which it subsequently owes to Contractor, until proper proof is filed.

E. All insurance coverage shall be provided by insurers with a rating of B+; VII, or better in the most recent edition of Best's Key Rating Guide, Property-Casualty Edition.

F. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided or canceled and shall not be reduced in coverage

or limits except after 45 days prior written notice provided to the City. Upon prior request of the carrier, the notice period may be reduced to 10 days in the event of non-payment of premium.

G. All liability coverage shall name the City, its City Council and every officer, agent and employees of the City as additional insured with respect to work under this bid or any subsequent contract.

H. Contractor's insurance and any insurance provided in compliance with these specifications, shall be primary with respect to any insurance or self-insurance programs covering the City, its City Council and any officer, agent or employee of City.

I. Where available, the insurer shall agree to waive all rights of subrogation against the City, its City Council and every officer, agent and employee of City.

J. Any deductibles or self-insured retentions shall be declared to and must be approved by City. At the option of the City, either the insurer shall reduce or eliminate the deductibles or self-insured retentions as respects the City, or the Contractor shall procure a bond guaranteeing payment of losses and expenses.

K. In the event that Contractor does not provide continuous insurance coverage, the City shall have the right, but not the obligation, to obtain the required insurance coverage at Contractor's cost, and the City may deduct all such costs from moneys the City owes to the Contractor or from moneys which it subsequently owes the Contractor.

REV 11-10-97

PART 4

PROSECUTION AND PROGRESS OF THE WORK

4-01 WORK SCHEDULE -As soon as notified of the award of the contract, the Contractor shall prepare and submit to the City Engineer a work schedule for accomplishing the work. Said schedule must show the dates of the expected start and completion of the various items of the contract work. During a scheduling conference between the Contractor and the City Engineer, the work schedule will be discussed and modified, if necessary, by mutual agreement. The work schedule must be carefully conceived and adhered to, because it will be the basis for the contents of letters addressed to owners of property adjoining the work area, giving them an understanding of the dates on which their street will be under construction and that they may be prevented from using their driveways during the Contractor's operations. Should it become necessary for the City to delay temporarily the work schedule agreed upon during the scheduling conference, every effort will be made to permit a new work schedule at the time most convenient to the Contractor, thus permitting the project to proceed with the shortest intramural movement of equipment. The Contractor shall notify the City Engineer in all such cases, in order to arrive at a mutually satisfactory schedule.

4-02 SUBLETTING AND ASSIGNMENT - The Contractor shall give personal attention to the fulfillment of the contract and shall be in control of the work. The Contractor shall not assign, transfer nor sublet any part of the work without the written consent of the City by the City Engineer and of the Surety of the Contractor's bond, and such consent of Surety, together with a copy of the subcontract, shall be filed with the City Engineer. No assignment, transfer or subletting, even though consented to, shall relieve the Contractor of liability under the contract. Subcontractors shall not be recognized as such, and all persons engaged in the project will be considered as employees of the Contractor, their work being subject to the provisions of the contract and the specifications. Should any subcontractor fail to perform work to the satisfaction of the City Engineer, said subcontractor shall be removed immediately from the project upon request by the City Engineer and shall not again be employed on the work, and the Contractor shall be held liable for the deficient work.

The Contractor shall submit to the City a list with the names, addresses, and telephone numbers of all subcontractors, as a part of, and in addition to the requirements set forth in Paragraph 2-14 hereof.

4-03 CHARACTER OF WORKMAN -The Contractor shall employ none but competent foremen, laborers, and mechanics. Any overseer, superintendent, laborer or other person employed on the work by the Contractor who is intemperate, incompetent, troublesome, or otherwise undesirable, or who fails or refuses to perform the work in the manner specified herein, shall be discharged immediately and such person shall not again be employed on the work.

4-04 AGENTS OR FOREMAN - In the absence of the Contractor from the site of the project, even if such is only of a temporary duration, the Contractor must provide and leave at the site a competent and reliable agent or foreperson in charge. All notices, communications, orders, or instructions given, sent to, or served upon, such agent or foreperson by the City Engineer shall be considered as having been served upon the Contractor.

4-05 TEMPORARY STOPPAGE OF CONSTRUCTION ACTIVITIES - The City Engineer shall have the authority to suspend the contract work wholly or in part, for such a period of time as he may deem necessary, due to unsuitable weather, or to such other conditions as he considers unfavorable for the proper prosecution of the work, or for such time as he may deem necessary due to failure on the part of the Contractor to carry out orders or to perform any of the requirements of the contract. The Contractor shall immediately comply with such an order from the City Engineer and shall not resume operations until so ordered in writing.

4-06 TIME OF COMPLETION AND LIQUIDATED DAMAGES - If all the contract work is not completed in all parts and requirements within the time specified in the proposal form, the City shall have the right to grant or deny an extension of time for completion, as may seem best to serve the interest of the City. The Contractor shall not be assessed with liquidated damages during any delay in the completion of the work caused by acts of God or of the Public Enemy, acts of the State, fire not due to acts of contractors or subcontractors, floods, epidemics, quarantine, restrictions, strikes, freight embargo or unusually or severe weather, or delays of subcontractors due to such causes, provided that the Contractor shall, within ten (10) days from the beginning of such delay, notify the City, in writing, of the cause of the delay. The City will ascertain the facts and the extent of the delay, and the findings thereon shall be final and conclusive.

4-07 SUSPENSION OF CONTRACT - If at any time, in the opinion of the City Council, the Contractor fails to supply an adequate working force, manufactured articles, or material of proper quality, or has failed in any other respect to prosecute the work with the diligence and force specified and intended in and by the terms of the contract, notice thereof in writing will be served upon the Contractor, and should the Contractor neglect or refuse to provide means for a satisfactory compliance with the contract within the time specified in said notice and as directed by the City Engineer, City Council shall have the power to suspend the operation of the contract and discontinue all work or any part thereof. Thereupon, the Contractor shall discontinue such work, or such part thereof as the City may designate, and the City may thereupon, by contract or otherwise, as it may determine, complete the work or such part thereof, and charge the entire expense of so completing the work or any part thereof to the Contractor, and for such completion the City itself or its contractors may take possession of and use, or cause to be used in the completion of the work, or any part thereof, any such materials, implements and tools of every description as may be found at the place of such work. All expense charged under this paragraph shall be deducted and paid for by the City out of any monies then due or to become due the Contractor under the contract, or any part thereof, and in such accounting the City shall not be held to obtain the lowest figure for

the work for completing the contract, or any part thereof, or for insuring its proper completion, but all sums paid therefor shall be charged to the Contractor. In case the expenses so charged are less than a sum which would have been payable under the contract, if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference, and in case such expense shall exceed the amount payable under the contract, then the Contractor shall pay the amount of the excess to the City, upon completion of the work, without further demand being made therefor. In the determination of the question as to whether or not there has been any such noncompliance with the contract as to warrant the suspension or annulment thereof, the decision of the City Council shall be binding on all parties to the contract.

PART 5

CONTROL OF THE WORK

5-01 AUTHORITY OF THE CITY ENGINEER - The City Engineer shall decide any and all questions that may arise as to the quality and acceptability of materials furnished and work performed, as to the manner of performance and rate of progress of the work, and any and all questions which may arise as to the interpretation of the plans and specifications. The City Engineer shall likewise decide any and all questions as to the acceptable fulfillment of the contract on the part of the Contractor, and all questions as to claims and compensations. The decision of the City Engineer shall be final and he shall have relative authority to enforce and make effective such decisions and actions if the Contractor fails to carry out promptly.

5-02 CONFORMITY WITH PLANS AND ALLOWABLE VARIATION - Finished surfaces shall in all cases conform with the lines, grades, cross-sections and dimensions shown on the plans. Minor deviations from approved plans, whenever required by the exigencies of construction, shall be determined in all cases by the City Engineer and authorized in writing.

5-03 PROGRESS OF THE WORK - The Contractor shall begin work on the date agreed upon following the scheduling conference mentioned in Paragraph 4-01 hereof, and shall diligently prosecute the same to completion before the expiration of the time limit appearing in the specifications and in the proposal form.

5-04 SAMPLES - The Contractor shall furnish all products and materials required to complete the work. All materials and products must be of the specified quality and fully equal to samples, when samples are required. Whenever required, the Contractor shall submit to the City Engineer for test, and free of charge, samples of any one of the materials or products proposed to be used in the work. Said samples shall be delivered by the Contractor to the place within the City designated by the City Engineer. Rejected material must be immediately removed from the work by the Contractor and shall not again be brought back to the site.

5-05 TRADE NAMES AND ALTERNATIVES - For convenience in designation on the plans or in the specifications, certain equipment or articles or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and his catalog information. The use of an alternative equipment or an article or equipment which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the approval of the City Engineer, in accordance with the following requirements.

The burden of proof as to the comparative quality and suitability of alternative equipment or articles or materials shall be upon the Contractor and he shall furnish, at his own expense, all information necessary or related thereto as required by the City Engineer. The City Engineer shall be the sole judge as to the comparative quality and

suitability of alternative equipment or articles or materials and his decision shall be final. All requests for substitution shall be submitted seven (7) days in advance of bid opening to permit, if the request is approved, an addendum to be issued to all bidders.

5-06 PROTECTION OF THE WORK - The Contractor shall continuously maintain adequate protection of all work from damage, and the City will not be held responsible for the care or protection of any material, equipment, or parts of work, except as expressly provided for in the specifications.

5-07 ACCESS TO RESIDENTS DRIVEWAYS - The Contractor shall notify residents of property adjoining the location of the work, sufficiently in advance of construction, as of the date when such construction work will start. In case of work requiring excavation of the roadway which may interfere with the use by residents of their driveways, suitable provisions shall be made by the Contractor to make it possible for residents to gain access to their driveways until such time as the exigencies of construction may demand a temporary blocking of said driveways. Efforts shall be made by the Contractor to minimize the duration of said blocking and to notify the residents of this need well in advance, thus allowing them to make suitable arrangements to keep their automobiles elsewhere.

5-08 CONFLICT OF TERMS - The notice to bidders, proposal, plans, specifications, and Standard Contractual Requirements are essential parts of the contract for a given project. These documents, together with the necessary bonds and bidder's guarantee, constitute the contract as defined herein and a requirement included in one document shall be as binding as though included in all, as they are intended to be cooperative and to provide a description of the work to be done. Should there be any conflict or discrepancy between terms used, then the specifications shall govern over the plans, and change orders and supplemental agreements shall govern over any other contract document.

Special specifications of other agencies, engineering societies or industrial associations and Standard Drawings of the City or of other agencies referred to in the specifications or on the plans shall also be considered as essential parts of the contract. Where a given specification is incorporated by reference, said reference shall apply to the latest modification, unless otherwise shown on the plans or in the specifications. Whenever an object, thing, or work of any kind is indicated only on either the plans or in the specifications, it shall be deemed that the intent was to show said item in both places, and the work shall be done in the place where it is shown. In case of doubt about the meaning of any contracting clause the interpretation shall be made by the City Engineer and shall be so accepted by the Contractor.

5-09 INTERPRETATION OF PLANS AND SPECIFICATIONS - Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained on the plans or in the specifications, the Contractor shall request the City Engineer for such further explanation as may be necessary, and shall conform to such explanation or interpretation as part of the contract, so far as may be consistent with the intent of the original specifications. In the event of doubt or question relative to the true

meaning of the specifications, reference shall be made to the City Council, whose decision thereon shall be final.

5-10 ALTERATIONS, INCREASES AND DECREASES OF WORK TO BE DONE
The City reserves the right to increase or decrease the quantity of any item or portion of the work described on the plans, the specifications, or the proposal form or to omit portions of the work so described as may be deemed necessary or expedient by the City Engineer and the Contractor shall agree not to claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any kind of work to be done. By mutual consent of the parties signatory to the contract, alterations, modifications or deviations from the type of work described on the plans, specifications, or on the proposal form, may be made without in any way making the contract void. The price to be paid by the City to the Contractor for such altered or modified work shall be agreed upon in writing, endorsed upon the original contract and signed by the proper parties to said contract.

Whenever, during the progress of the work, such changes or modifications are deemed necessary by the City Engineer and agreed upon, as aforesaid, said deviations shall be considered and treated as though originally contracted for, and shall be subject to all the terms, conditions and provisions of the original contract.

5-11 CHANGE ORDERS - If for any reason it may become desirable during the course of the Work to change the alignment, dimensions or design of the Work, the City reserves the right to issue change orders in writing to give effect to such changes as may be necessary or desirable. The changes may or may not result in a change in the amount of Work. When the Contractor considers that any change order in writing by the City involves extra work, the Contractor shall immediately notify the City in writing as to when and where extra work is to be performed and shall make claim for compensation therefor each month not later than the first day of the month following that in which the work claimed as extra work was performed. If the changes do, in the opinion of the City, change the amount of Work, the Contract Price shall be adjusted as "extra work", pursuant to Section 6-01.

New and unforeseen work will be classed as extra work only when said work is not covered and cannot be paid for under any of the various items or combination of items for which a bid price appears on the proposal form. The Contractor shall not do any extra work except upon written order from the City Engineer. Compensation for such extra work shall be previously agreed upon in writing between the Contractor and the City Engineer.

5-12 LINES AND GRADES - Except when, as per orders from the City Engineer, minor changes in the work are to be made by the Contractor, all work shall, during its progress and upon completion, conform to the lines, grades and elevations shown on the plans. All distances and measurements are given thereon and will be made in a horizontal plane. Three consecutive points shown on the same rate of slope must be used in common in order to detect any variation from a straight line, and in case any such discrepancy exists, it must be reported to the City Engineer. Failure to make this report

shall make the Contractor responsible for any error in the finished work.

5-13 GRADE STAKES - The Contractor shall give at least twenty-four (24) hours' notice in writing prior to requiring the services of the City Engineer for laying out any portion of the work, and shall dig all holes necessary for line and grade stakes. The Contractor shall preserve all stakes set for the lines, grades or measurements of the work in their proper place until authorized to remove them by the City Engineer. Any expense incurred in replacing said stakes as the Contractor may have failed to preserve shall be borne by the Contractor.

5-14 PROTECTION OF SURVEY MONUMENT - All survey monuments existing along the portions of any street where work is to be done shall be carefully protected and preserved by the Contractor. Any displacement or damage to said monuments resulting from carelessness in spotting their location during the progress of the work or from negligent use of equipment in their vicinity shall be corrected by the Contractor at the Contractor's expense.

5-15 PUBLIC UTILITIES - In case it should be necessary to remove the property of a public utility or franchise, such owner will, upon proper application by the Contractor, be notified by the City Engineer to move such property within a reasonable time and the Contractor shall not interfere with said property until after the expiration of the time specified. The right is reserved to the owners of public utilities or franchises to enter upon the streets for the purpose of making repairs or changes in their property which may be necessary as a result of the work. Employees of the City shall likewise have the privilege of entering upon the streets for the purpose of making any necessary repairs or replacements.

5-16 UNIDENTIFIED EXISTING UTILITIES - The City shall be responsible for the timely removal, relocation or protection of existing main or trunk line utility facilities located on the site, if such utilities are not identified by the City in the plans and specifications made a part of the invitation for bids. The Contractor will be compensated by the City for the costs of locating repairing damage not due to failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications, with reasonable accuracy, and for equipment on the project necessarily idled during such work.

The Contractor shall not be assessed for liquidated damages for delay in completion of the project, when such delay was caused by failure of the City or owner of the utility to provide for removal or location of such utility facilities. This shall not be deemed to require the City to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes on or adjacent to the side of the construction; provided, however, nothing herein shall relieve the City from identifying main or trunk lines in the plans and specifications. If the Contractor performing services required under the contract discovers utility facilities not identified by the City in the contract plan and specifications, the Contractor shall immediately notify the City and the utility in writing. The City, if it is the owner of the

public utility shall have the sole discretion to perform repairs or relocation work or permit the contractor to do such repairs or relocation at a reasonable price.

5-17 REMOVAL OF INTERFERING OBSTRUCTIONS -The Contractor shall remove and dispose of all debris, abandoned structures, tree roots, and obstructions of any character met during the process of excavation, it being understood that the cost of said removals are made a part of the unit price bid by the Contractor under the item for excavation or removal of existing work.

5-18 PROCEDURE IN CASE OF DAMAGE TO ADJOINING WORK - Any portions of adjoining curb, gutter, sidewalk or any other City improvements damaged by the Contractor during the course of construction shall be replaced by the Contractor at the Contractor's expense, free of all charges to the City. The cost of additional replacement of curb, gutter or sidewalk in excess of the estimated quantities shown in the proposal form and specifications, and found necessary during the process of construction, (but not due to damage resulting from carelessness on the part of the Contractor during operations), shall be paid to the Contractor at the unit prices submitted in the bid.

5-19 AVOIDANCE OF PATCHWORK APPEARANCE - New PCC work shall conform in grade, finish and color to the adjoining portions. Any sections of said work having a patchwork appearance will be rejected by the City Engineer and the Contractor shall replace them at the Contractor's expense. To insure a neat break line between existing and new portions of PCC work, the Contractor will be required to use a concrete cutting saw of a type approved by the City Engineer. The cost of saw cutting shall be included by the Contractor in the unit prices bid for removal of existing work. Likewise, whenever adjoining PCC work is damaged during the process of new construction, the damaged portions shall be removed in such a way that a neat, straight joint is provided between the new portions and existing work.

5-20 CARE OF GUTTERS ADJACENT TO AREAS TO BE PAVED - During the process of resurfacing the roadways or construction of new pavement, the Contractor shall exercise particular care to remove all excess resurfacing material which may be deposited upon the PCC gutters. Whenever specifications call for the resurfacing material to overlap the existing gutters the overlapping portions shall not exceed the dimensions shown on the plans and a wavy overlapping line shall be avoided. Any undulation of the overlapping line accidentally resulting from the application of the paving or resurfacing material shall be corrected by the Contractor before the work is accepted by the City Engineer.

5-21 DEPTH OF THE REQUIRED EXCAVATION - When the contract work requires excavation and removal of existing pavement and excess of underlying soil, these materials shall be removed to the depth shown on the plans. Whenever the subgrade exposed after the removal of the excess underlying soil is found to be of the desirable kind, excavation need not proceed below the depth specified on the plans. However, if the excavation discloses the fact that there is mud or any other soft material in the subgrade, said material shall be removed to a minimum depth of six inches (6"), at the discretion of the City Engineer. Backfill of the additional excavated portions shall be

made with select material removed from other portions of the work, provided said material is found suitable by the City Engineer. The volume in place of the additional soil excavation will be determined by the field representatives of the City Engineer, and the Contractor will be entitled in this case to extra payment based on the additional number of cubic yards excavated, at the unit price bid under the item for excavation in the proposal form. Should imported material be required for the backfill, the unit cost per cubic yard of said imported material shall be agreed in advance, in writing, between the Contractor and the City Engineer, and extra payment for said material will be made to the Contractor for the actual volume used, as verified in the field by representatives of the City Engineer.

5-22 SEQUENCE OF THE WORK OF EXCAVATION - Whenever the contract work calls for excavation of existing pavement and excess soil and for construction of base material, the process of excavation shall be conducted by the Contractor so that, at the end of any working day, the area where excavation is proceeding shall not be more than 300 feet in advance of the area where the untreated rock base over sections already excavated is being laid, unless otherwise indicated in the specifications.

5-23 AVOIDANCE OF DUST NUISANCE - During the process of breaking, excavating and removing any material from the site of the project and until completion of the work, the Contractor shall take every precaution to avoid the nuisance of unnecessary dust by using any measures advocated by the City Engineer.

5-24 MAINTENANCE OF TRAFFIC AND SAFETY REQUIREMENT - Any Contractor performing work in a street right-of-way shall conduct operations so as to cause the least possible obstruction and inconvenience to public traffic and safety, and shall take all necessary measures to maintain an adequate traffic flow, to prevent accidents and to protect the site of the work. During construction the Contractor shall, as far as practicable, keep the project free of rubbish and debris and in as clean a condition as possible.

A suitable width of any intersecting street shall be kept in reasonably good condition for traffic, including the necessary provisions for proper drainage. Should the requirements of construction demand closing the full width of an intersection, such closing shall be allowed only after the Contractor has secured permission from the City Engineer and the duration of the closing must be for the minimum length of time possible. After said permission is granted, the Contractor shall make the necessary arrangements to provide temporary crossings, or to reroute traffic away from said intersection and provide and maintain barriers, guards, directional signs, watchpersons, and lights at all detour points, in order to give adequate warning to the public at all times that the streets are under construction and of the dangerous conditions as a result thereof. The Contractor shall also erect and maintain such additional warning and directional signs as may be furnished by the City.

5-25 BARRIERS, LIGHTS, ETC. - The above-mentioned barriers, safety lights, warning and regulatory signs, guards, temporary crossovers, and watchpersons shall also be provided and maintained by the Contractor at the Contractor’s expense over all portions

of the work during construction and until completion. Provisions shall be made by the Contractor to insure operation of the safety lights throughout the evenings without interruption. No safety lights using the inflammable liquids shall be permitted during the progress of the work, and only electric battery operated safety lamps will be approved for this purpose.

5-26 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK - It is the intent of the specifications that only first class work, materials, and workmanship will be acceptable. All work which is defective in its construction or deficient in any of the requirements of the specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed for such correction. Any work done beyond the lines shown on the plans or established by the City Engineer, or any extra work done without written authority will be considered as unauthorized and will not be paid for. Upon failure on the part of the Contractor to comply forthwith with any order of the City Engineer made under the provisions of this paragraph, the City Engineer shall have authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, and to deduct the costs thereof from any monies due or to become due the Contractor. If the work is found to be in compliance with these specifications, the City Engineer will furnish the Contractor with a certificate to that effect.

5-27 SUPERVISION - All manufactured products, materials, and appliances used and installed and all details of the work done shall at all times be subject to the supervision, test, and approval of the City Engineer or his authorized representatives. The City Engineer or his authorized representatives shall have access to the work at all times during construction, and shall be furnished with every reasonable facility for securing full knowledge with regard to the progress, workmanship and character of the materials used or employed in the work.

5-28 INSPECTORS - The Contractor shall prosecute work only in the presence of Inspectors appointed by the City Engineer and any work done in the absence of said Inspectors will be subject to rejection. All instructions given to the Contractor by such assistants shall be regarded as having been given directly by the City Engineer. The Contractor shall make a written application for an Inspector at least twenty-four (24) hours before his services are required on the work. Whenever the cost of an improvement or the cost of any portion thereof is defrayed from the Gas Tax Funds allocated to the City by the County of Los Angeles, or by the State of California, Inspectors appointed by the State or County shall likewise be given full access to the site of the work in order that they may perform their inspection duties efficiently and without interference. The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the contract as prescribed. Defective work shall be made good and unsuitable materials rejected, notwithstanding the fact that such defective work and unsuitable materials may have been previously overlooked by the Inspectors and accepted or estimated for payment.

5-29 FINAL CLEANING UP - Upon completion of the project and before making application to the City Engineer for acceptance of the work, the Contractor shall clean

all the streets and grounds occupied by him in connection with the project, of all rubbish, debris, excess material, temporary structures and equipment, leaving the entire site of the work in a neat presentable condition.

5-30 LOSS OR DAMAGE - Any loss or damage arising from any omission or act of the Contractor or any agent or person employed by him or by any action which had not been authorized in the provisions of the specifications, shall be sustained by the Contractor.

PART 6

MEASUREMENT AND PAYMENT

6-01 EXTRA WORK - Extra work as hereinbefore defined, when ordered and accepted, shall be paid for under a written work order in accordance with the terms therein provided. Payment for extra work will be made at the unit price or lump sum previously agreed upon between the Contractor and prepared by the City Engineer. All extra work shall be adjusted daily upon report sheets prepared by the City Engineer, furnished to the Contractor, and signed by both parties, and said daily reports shall be considered thereafter the true record of extra work done.

6-02 PAYMENTS - Monthly payments will be made to the Contractor in amounts equal to ninety percent (90%) of the value of all work done during the preceding calendar month, calculated at the unit price bid by the Contractor for the work and on the basis of the percentage of work performed, as estimated by the representative of the City Engineer, it being understood that the sums thus figured to be due the Contractor will become payable thirty (30) days after the approval and acceptance of said estimate by the City Engineer. The Contractor shall submit an invoice for all payments requested. No such estimate of work done or payment to be made shall be required when, in the judgment of the City Engineer, the work is not proceeding in accordance with the provisions of the contract, or when the total value of the work done since the beginning of the project or since the preceding monthly payment is estimated to amount to less than three hundred ($300.00) dollars.

After completion of the project, the City Engineer will make a final inspection of its site and, if the work is found satisfactory, he will recommend the official approval of the contract work. The City Engineer will also make a final estimate of the actual amount of work done on each item appearing on the proposal form, including extra work, if any, and of the value of such work, and the City will pay the entire sum so found to be due after deducting therefrom all previous payments and ten percent (10%) to be retained. All previous partial estimates shall be subject to correction in the final estimate and payment. The ten percent (10%) retained shall not be due and payable until the Notice of Completion of the project has been filed by the City Clerk with the Los Angeles County Recorder and until after the expiration of thirty-five (35) days after the date of the official approval of the work by the City Council.

In accordance with Government Code Section 4590, the Contractor will be paid the amount of any funds retained by the City, if the Contractor so requests in writing, and the Contractor provides to the Director of Finance Administration a bank or savings and loan certificate of deposit or a security as described in Government Code Section 16430 in the amount equivalent to the amount withheld as determined by the Director of Finance Administration. In lieu of providing such securities to the Director of Finance

Administration, the Contractor may deposit such security with a state or federally chartered bank as an escrow agent, said escrow agreement to be satisfactory to the City Attorney. The escrow shall provide that payment of the funds shall not be made to the Contractor until satisfactory completion of the contract as provided in this Section above and shall include the satisfaction of any Stop Notices filed as provided by law and the satisfaction by the Contractor assessed against the Contractor as provided for herein. Any such security shall be provided by the Contractor at the sole expense of the Contractor and the Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest therein. To cover the expenses of the City in processing any request by Contractor for payment of funds retained pursuant to this subsection, Contractor shall pay City the amount of One Hundred ($100.00) Dollars for processing the first application for withdrawal of funds retained and the amount of Fifty ($50.00) Dollars for each additional withdrawal of funds retained.

It shall be mutually agreed between the parties to the contract that no certificate given, with the exception of the certificate of final payment, shall be conclusive evidence of the faithful performance of the contract, either in whole or in part, and that no payment shall be construed to be in acceptance of any defective work or improper materials.

PUBLIC WORKS DEPARTMENT
CITY OF BEVERLY HILLS

REV 01-22-82
REV 12-10-86
REV 08-19-91
STDCREQ

BIDDER'S BOND

(Public Contract)

KNOW ALL MEN BY THESE PRESENTS: That

as Principal (herein called "Principal") and

as surety (herein called "Surety") are held and firmly bound unto the CITY OF BEVERLY HILLS, a municipal corporation of the State of California (herein called "Obligee"), in just and full sum of ten per cent (10%) of the total amount of the bid of Principal for the herein described work of improvement,

lawful money of the United States of America, for the payment of which, well and truly to be made, we hereby bind ourselves and our, and each of our, heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That

WHEREAS, Principal is bidding, or is about to bid, for the following described work of improvement, all in a accordance with the Notice to Bidders, Proposal form, Improvement Map, Specifications, and Standard Contractual Requirements of Obligee therefor: **FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS**

NOW, THEREFORE, if Obligee shall make an award to Principal for said work of improvement according to the terms of such bid, and Principal shall duly execute, or cause to be executed, and delivered to Obligee the Contract, bonds, and evidence of insurance coverage as, and within the time, required by the Standard Contractual Requirements, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

No extension of time granted to the Principal and no change or alteration in any of the terms of the bid or the bid requirements, whether made after notice or not, shall release or otherwise affect the obligations of the Surety hereunder, and the Surety waives notice of any such extension, change, or alteration. The Surety, by the execution of this bond, represents and warrants that this bond has also been duly executed by the Principal with proper authority, and the Surety hereby waives any defense which it might have by reason of any failure of the Principal to execute or properly execute this bond.

In the event suit is brought upon this bond by the Obligee and judgement is recovered by the Obligee, court costs, including reasonable attorney's fees, shall be an additional obligation of this bond for which Principal and Surety shall be liable.

Signed and sealed the _____ day of _____, 20___.

_____ _____

_____ _____

PRINCIPAL SURETY

A P P R O V E D A S T O F O R M :
City Attorney

NOTE TO SURETY COMPANY: The following form of acknowledgement should be used. If any other form of acknowledgement is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

By: _____

_____20____.

_____

(SURETY CO. ATTORNEY-IN-FACT)

STATE OF CALIFORNIA: COUNTY OF LOS ANGELES: SS.

On _____, before me, the undersigned, a Notary Public in and for said County and State, personally appeared _____, known to me to be the duly authorized attorney-in-fact of the corporate surety named in the within Instrument, known to me to be authorized to execute said Instrument on behalf of said corporation, known to me to be the person whose name is subscribed to said Instrument as the attorney-in-fact of said corporation, and acknowledged to me that he (she) subscribed the name of said corporation thereto as surety, and his (her) own name as attorney-in-fact and that said corporation executed the same.

WITNESS my hand and official seal _____

(Seal) Notary Public on and for said County and State

EXHIBIT "A"

INSTRUCTIONS FOR EXECUTION OF INSTRUMENTS

1. **By an Individual.** The individual must sign the instrument, and if he is doing business under a fictitious name, the fictitious name must be set forth. **The signature must be acknowledged before a Notary public.**

2. **By a Partnership.** The name of the partnership must be set forth followed by the signature of all of the partners. **The signatures must be acknowledged before a Notary Public.** The signatures of less than all of the partners will be acceptable only if submitted with evidence of authority to act on behalf of the partnership.

3. **By a Corporation.** The name of the corporation must be set forth, followed by the signatures of the President or Vice-President and Secretary or Assistant Secretary. **The signatures must be acknowledged before a Notary Public, using in substance the following form of acknowledgement:**

"STATE OF _____)
) ss.
COUNTY OF _____)

On _____, 20___, before me the undersigned Notary Public, personally appeared _____, known to me to be the (President) (Vice President), and _____, known to me to be the (Secretary) (Assistant Secretary), of the corporation that executed the within instrument, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my signature and seal.

(Seal) _____
Notary Public

4. **By a Surety.** The name of the surety must be set forth, followed by an authorized signature. **The signature must be acknowledged before a Notary Public.**

5. **By an Insurance Company.** The name of the company must be set forth, followed by an authorized signature. **The signature must be acknowledged before a Notary Public.**

EXHIBIT "B"

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between the CITY OF BEVERLY HILLS, a municipal corporation, hereinafter referred to as "City", and

hereinafter referred to as "Contractor";

W I T N E S S E T H

In this consideration of their covenants the parties hereto agree as follows:

1. Contractor shall furnish all labor, materials and equipment necessary to perform the following work in the City of Beverly Hills, California, strictly in accordance with the Notice to Bidders, Proposal form, Plans and Specifications for such improvement, Standard Contractual Requirements and inclusive of Addendums, each of which documents are made a part of this Contract as though fully set forth herein:

2. In consideration of such work City agrees to pay Contractor and Contractor agrees to accept the sum of

in the manner provided in subject Plans and Specifications and subject to adjustment provided therein.

3. Concurrently with the execution of this Contract, Contractor shall file with the City the bonds and certificates of insurance specified in said Standard Contractual Requirements.

4. This Contract shall not be assigned without the written permission of the City Council.

IN WITNESS WHEREOF, the parties hereto have executed this instrument the day and year first above written.

ATTEST:

CITY OF BEVERLY HILLS,
A municipal corporation

_____
BYRON POPE, City Clerk

_____
JOHN A. MIRISH, Mayor

APPROVED AS TO CONTENT:

CONTRACTOR:

_____
JEFF KOLIN, City Manager

_____

_____
KARL KIRKMAN, Risk Manager

_____

_____
DAVID LIGHTNER, Director
of Capital Assets

APPROVED AS TO FORM:

FUNDS AVAILABLE:

_____
LAURENCE S. WIENER, City Attorney

_____
DON RHOADS, Director of Administrative Services/Chief Financial Officer

EXHIBIT "C"

PERFORMANCE BOND

(Public Contract)

KNOW ALL MEN BY THESE PRESENTS: That

as Principal (herein called "Principal") and

as surety (herein called "Surety") are held and firmly bound unto the CITY OF BEVERLY HILLS, a municipal corporation of the State of California (herein called "Obligee"), in just and full sum **xxxxxxxxxx Dollars ($xxxxxxx.00)** lawful money of the United States of America, (said sum being equal to 100% of the estimated amount payable by the terms of the hereinafter described Contract) for the payment of which, well and truly to be made, we hereby bind ourselves, and our, and each of our, heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That

WHEREAS, Principal has been awarded a Contract for the following described work of improvement and is required by Obligee to give this bond in connection with the execution of the written Contract therefor: **FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS**

NOW, THEREFORE, if Principal shall well and truly do and perform each and all of the covenants, conditions, and agreements of said Contract on the Principal's part to be done and performed, and any and all alterations thereof made as therein provided, at the time and in the manner therein specified, and shall indemnify and save harmless the Obligee, its officers, agents, and employees, as therein stipulated, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

No extension of time granted to the Principal and no change or alteration in any of the terms of the Contract or the Contract documents or the work to be performed thereunder, whether made after notice or not, shall release or otherwise affect the obligation of the Surety hereunder, and the Surety waives notice of any such extension, change, or alteration. The Surety, by the execution of this bond, represents and warrants that this bond has also been duly executed by the Principal with proper authority, and the Surety hereby waives any defense which it might have by reason of any failure of the Principal to execute or properly execute this bond.

In the event suit is brought upon this bond by the Obligee and judgment is recovered by the Obligee, court costs, including reasonable attorney's fees, shall be an additional obligation of this bond for which Principal and Surety shall be liable.

Signed and sealed the _____ day of _____, 20___.

_____ _____

_____ _____

PRINCIPAL SURETY

A P P R O V E D A S T O F O R M :
City Attorney

By: _____

NOTE TO SURETY COMPANY: The following form of acknowledgement should be used. If any other form of acknowledgement is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

_____20____.

_____

ATTACH APPROPRIATE JURAT

EXHIBIT "D"

CONTRACTOR'S PAYMENT BOND
(Public Contract)

KNOW ALL MEN BY THESE PRESENTS: That

as Principal (herein called "Principal") and

as Surety (herein called "Surety") are held and firmly bound unto the CITY OF BEVERLY HILLS, a municipal corporation of the State of California (herein called "Obligee"), in just and full sum of **XXXXXXX Dollars ($XXXXXXXX)**,
lawful money of the United States of America, (said sum being equal to 100% of the estimated amount payable by the terms hereinafter described Contract) for the payment of which, well and truly to be made, we hereby bind ourselves, and our, and each of our, heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That

WHEREAS, Principal has been awarded a Contract for the following described work of improvement and is required by Obligee to give this bond in connection with the execution of the written Contract therefor: **FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS**

NOW, THEREFORE, if Principal or his subcontractors shall fail to pay for any materials, provisions, provender or other supplies, or teams, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, the surety will pay for the same, in an amount not exceeding the sum specified above, and also in case suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond shall insure to the benefit of any and all persons entitled to file claims under the Civil Code so as to give a right of action to them or their assigns in any suit brought upon the bond.

No extension of time granted to the Principal and no change or alteration in any of the terms of the Contract or the Contract documents or the work to be performed thereunder, whether made after notice or not, shall release or otherwise affect the obligation of the Surety hereunder, and the Surety waives notice of any such extension, change, or alteration. The Surety, by the execution of this bond, represents and warrants that this bond has also been duly executed by the Principal with proper authority, and the Surety hereby waives any defense which it might have by reason of any failure of the Principal to execute or properly execute this bond.

Signed and sealed the _____ day of _____, 20___.

_____ _____

_____ _____

PRINCIPAL SURETY

NOTE TO SURETY COMPANY: The following form of acknowledgement should be used. If any other form of acknowledgement is used, there must be submitted a certified copy of unrevoked resolution of authority for the attorney-in-fact.

A P P R O V E D A S T O F O R M :
City Attorney

By: _____

_____20____.

_____

ATTACH APPROPRIATE JURAT

EXHIBIT "E"

CERTIFICATE OF INSURANCE
(PUBLIC LIABILITY)

This is to certify that the following endorsement is part of the policy(ies) described below:

Named Insured (Contractor)

Address

Companies Affording Coverage
A.

B.

C.

Policy Number	Company A,B,C	Coverage	Expiration Date	B.I.	Limits P.D.	Aggregate
		[ ] Automobile Liability				
		[ ] General Liability				
		[ ] Products/Completed Operations				
		[ ] Blanket Contractual				
		[ ] Contractor's Protective				
		[ ] Personal injury				
		[ ] Other				
		[ ] Excess Liability				
		[ ] Workers' Compensation				

It is hereby understood and agreed that the City of Beverly Hills, its City Council and each member thereof and every officer and employee of the City shall be named as a joint and several assureds with respect to claims arising out of the following project**: FY 2013-14 WATER MAIN REPLACEMENTS – VARIOUS LOCATIONS within the Cities of Beverly Hills and West Hollywood, California**

It is further agreed that the following indemnity agreement between the City of Beverly Hills and the named insured is covered under the policy: Contractor agrees to indemnify, hold harmless and defend City, its City Council and each member thereof and every officer and employee of City from any and all liability or financial loss resulting from any suits, claims, losses or actions brought against and from all cost and expenses of litigation brought against City, its City Council and each member thereof and any officer or employee of City which results directly or indirectly from the wrongful or negligent actions of contractor's officers, employees, agents, or others employed by contractor while engaged by contractor in the (performance of this agreement) construction of this project.

It is further agreed that the inclusion of more than one assured shall not operate to increase the limit of the company's liability and that insurer waives any right on contribution with insurance which may be available to City of Beverly Hills.

In the event of cancellation or material change in the above coverage, the company will give 45 days' written notice of cancellation or material change to the certificate holder.

Except to certify that the policy(ies) described above have the above endorsement attached, this certificate or verification of insurance is not an insurance polity and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, condition of any contract or other document with respect to which this certification or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

DATE _____ BY _____
AUTHORIZED INSURANCE REPRESENTATIVE

AGENCY _____ TITLE _____

_____ ADDRESS _____

_____ _____

EXHIBIT "F"

CERTIFICATE OF INSURANCE
(Worker's Compensation)

WHEREAS, the City of Beverly Hills has requires certain insurance to be provided by:

_____

_____

NOW, THEREFORE, the undersigned insurance company does hereby certify that it has issued the policy or policies described below to the following named insureds and that the same are in force at this time.

1. This certificate is issued to: City of Beverly Hills, City Hall, 455 North Rexford Drive, Beverly Hills, California.
2. The insureds under such polity or policies are:

   _____

   _____

3. Worker's Compensation Policy or Policies in a form approved by the Insurance Commissioner of California covering all operations of the named insureds, as follows:

POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Said policy or policies shall not be canceled, nor shall there by any reduction in coverage or limits of liability, unless and until thirty days written notice thereof has been served upon the City Clerk of the City of Beverly Hills.

_____

_____

By_____
Its Authorized Representative

Approved as to form:

_____ 20 ____

_____
LAURENCE S. WIENER, City Attorney

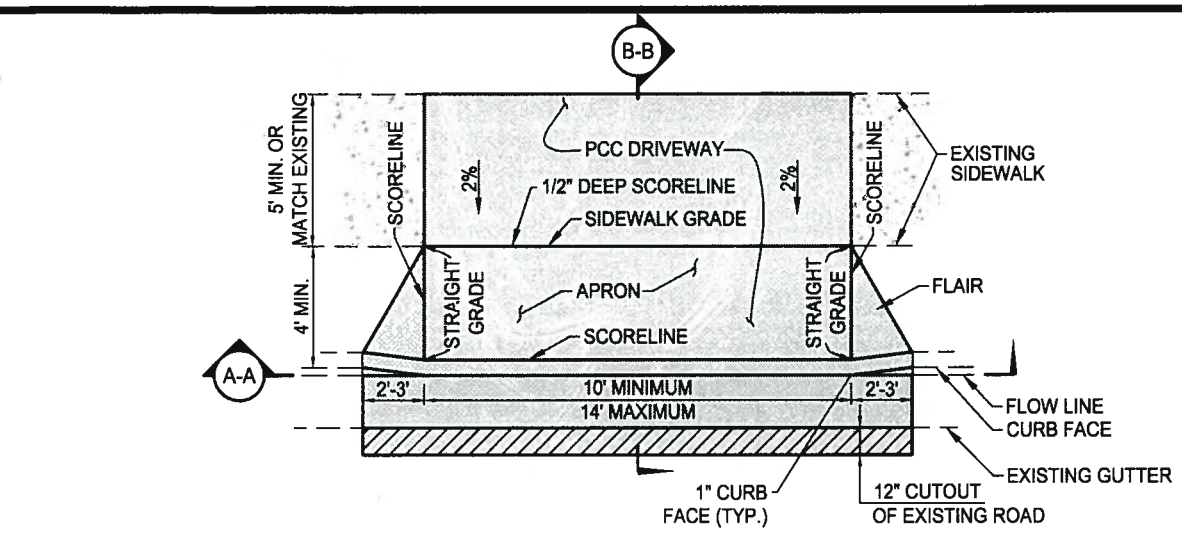
By: _____

EXHIBIT "G"

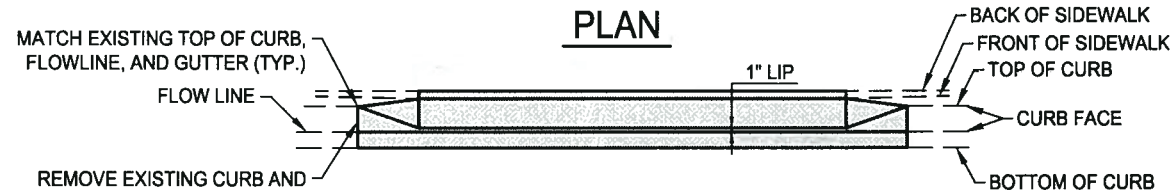
APPENDIX A

Section I

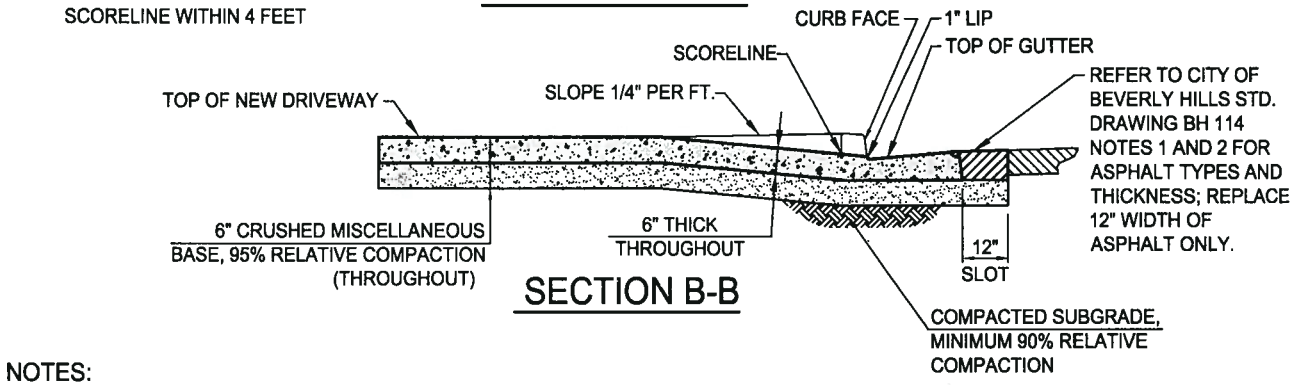
Street Improvements



PLAN



ELEVATION A-A



SECTION B-B

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
1	11/4/2010	NO JOINT BETWEEN CURB AND GUTTER

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR 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 Aborist.

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

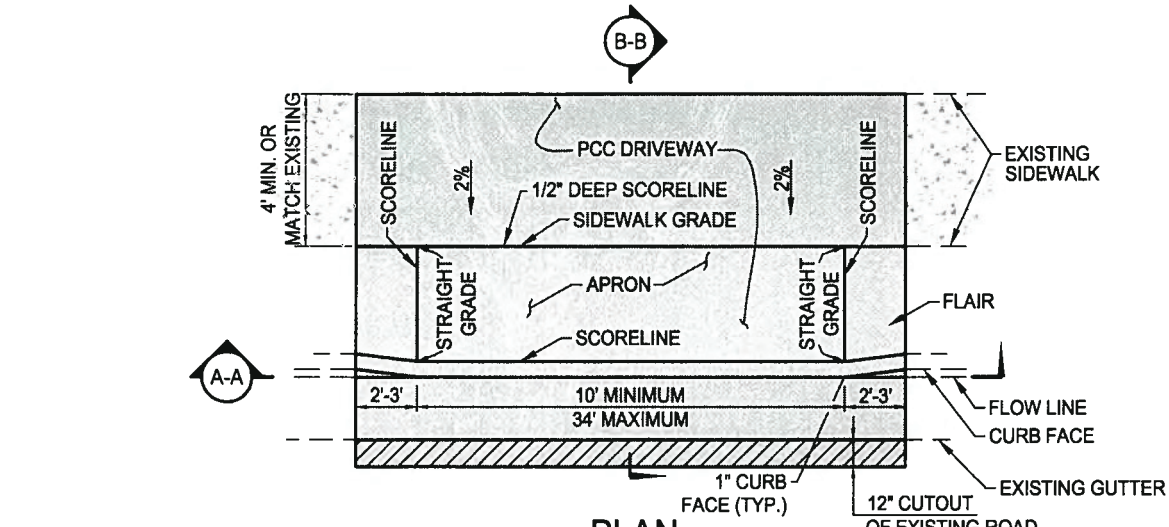
REVISIONS		
MARK	DATE	DESCRIPTION

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

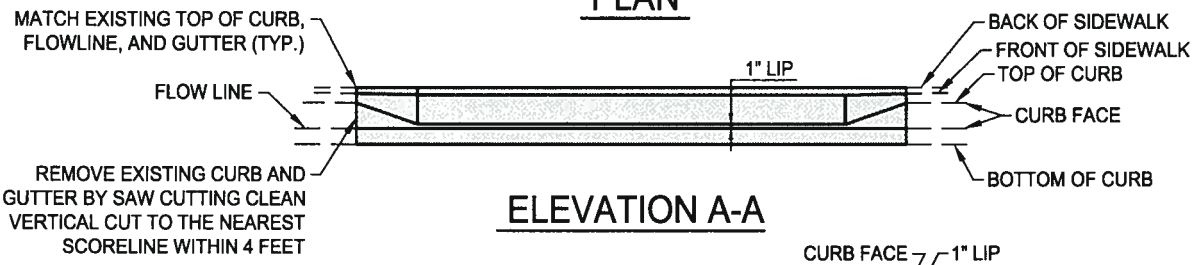
RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-10

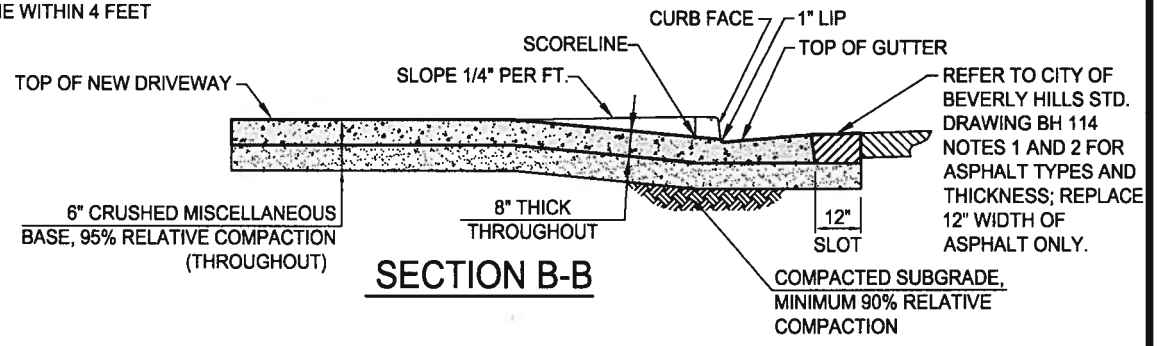
STANDARD DRAWING
BH 101
SHEET 2 OF 2



PLAN



ELEVATION A-A



SECTION B-B

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
1	11/4/2010	NO JOINT BETWEEN CURB AND GUTTER

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-10

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

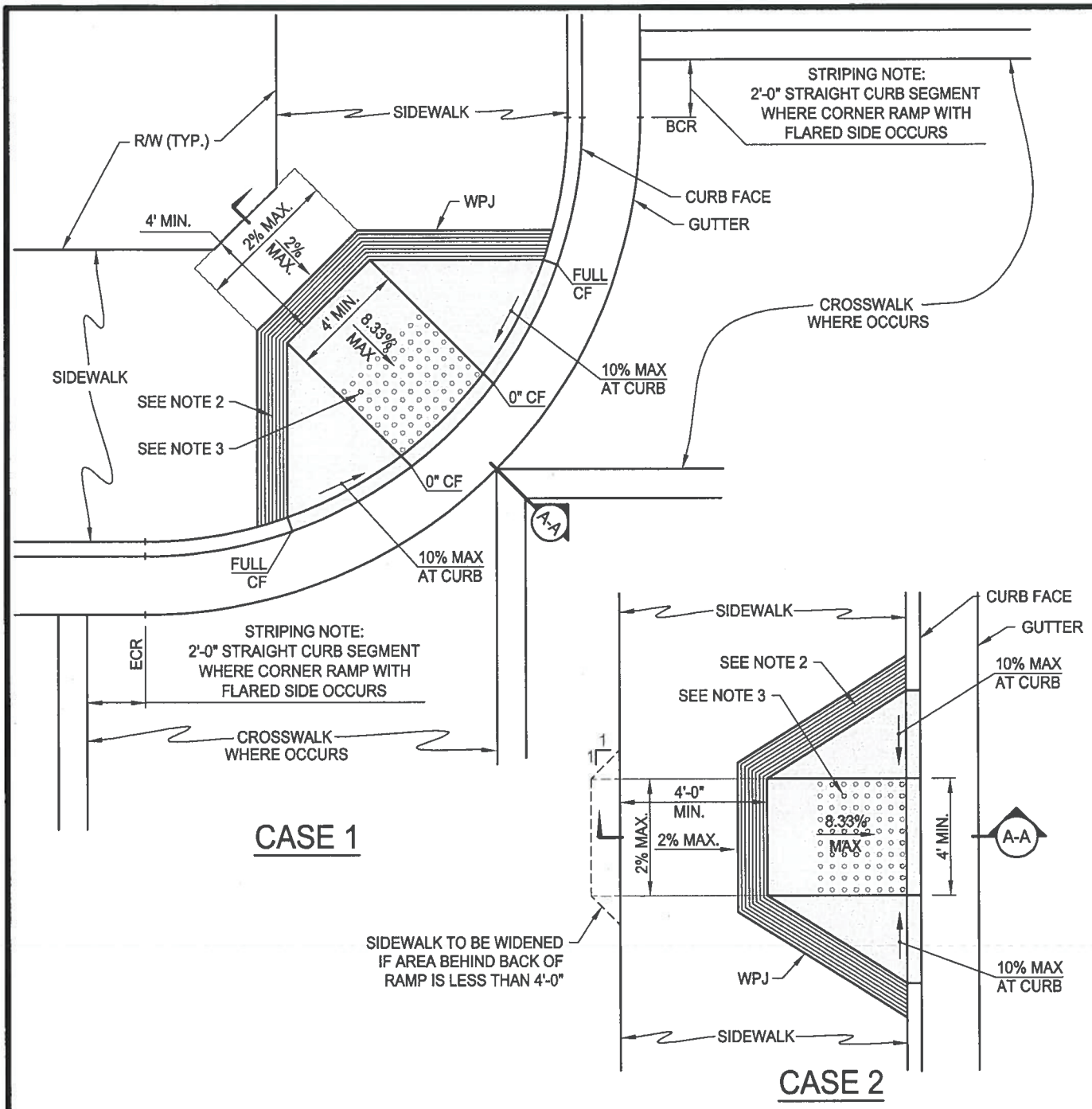
REVISIONS		
MARK	DATE	DESCRIPTION

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 102
SHEET 2 OF 2



CURB RAMPS

REVISIONS		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

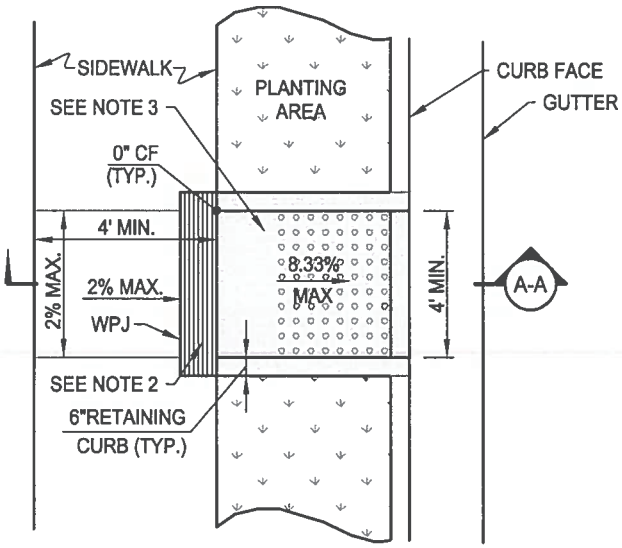
RECOMMENDED _____ CITY ENGINEER DATE 11/18/2011

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-11

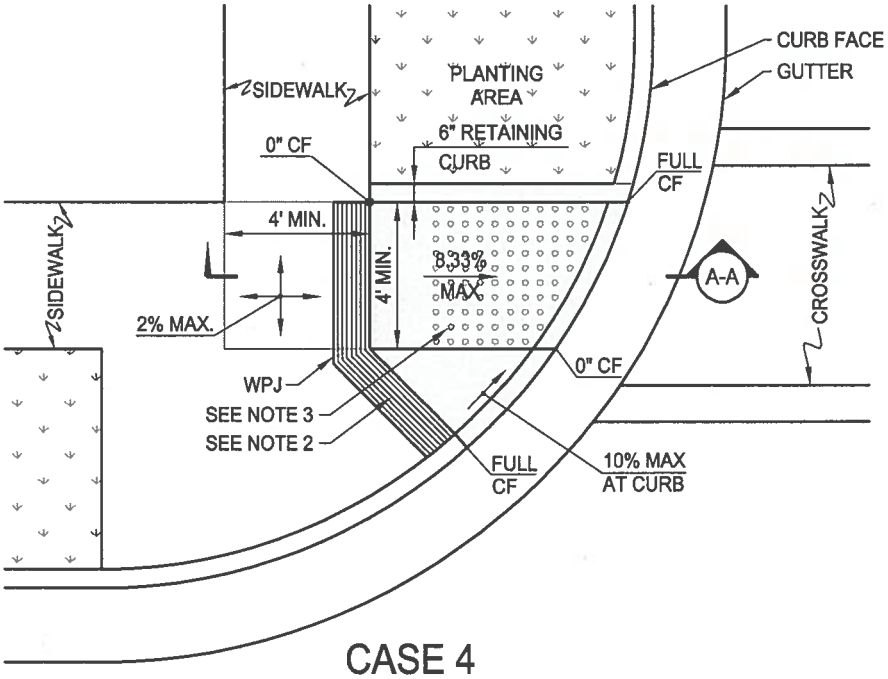
STANDARD DRAWING

BH 103

SHEET 1 OF 4



CASE 3



CASE 4

CURB RAMPS

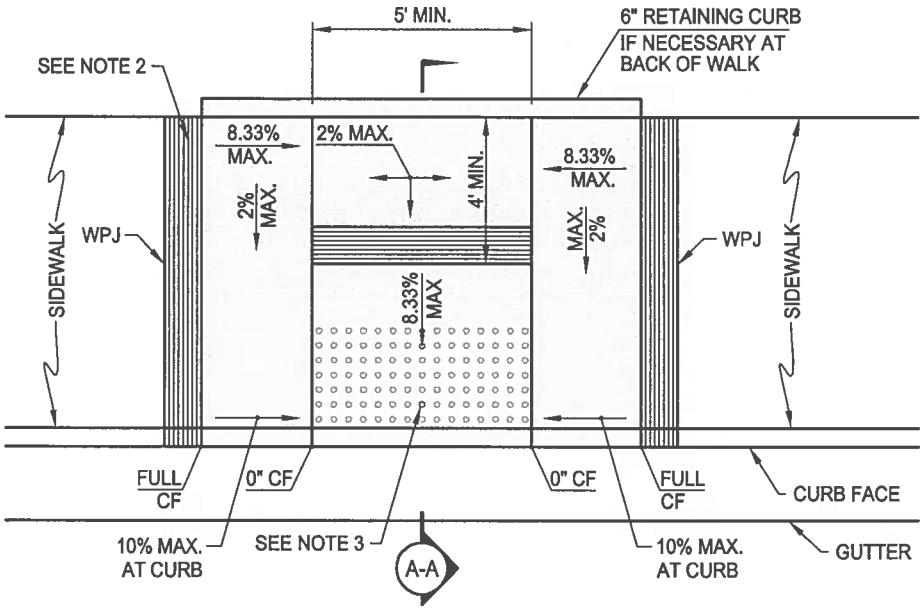
REVISIONS		
MARK	DATE	DESCRIPTION

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

RECOMMENDED _____ CITY ENGINEER DATE 11/18/2011

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-11

STANDARD DRAWING
BH 103
SHEET 2 OF 4



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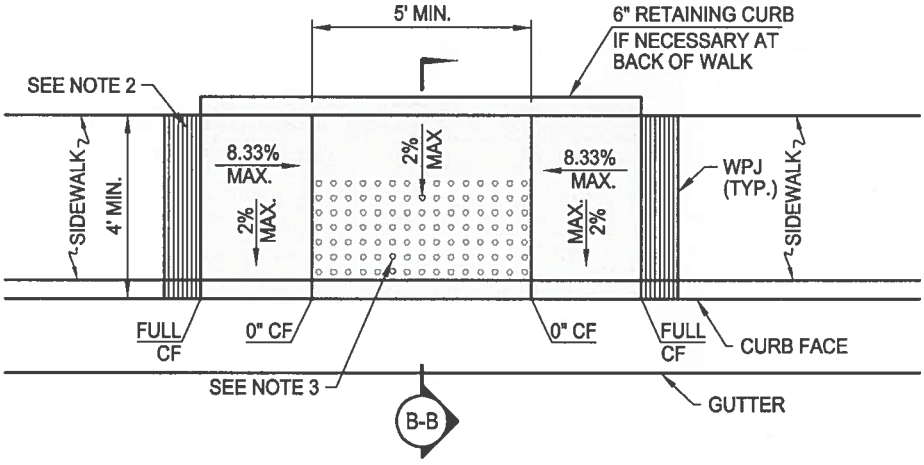


CASE 6

CURB RAMPS

REVISIONS		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

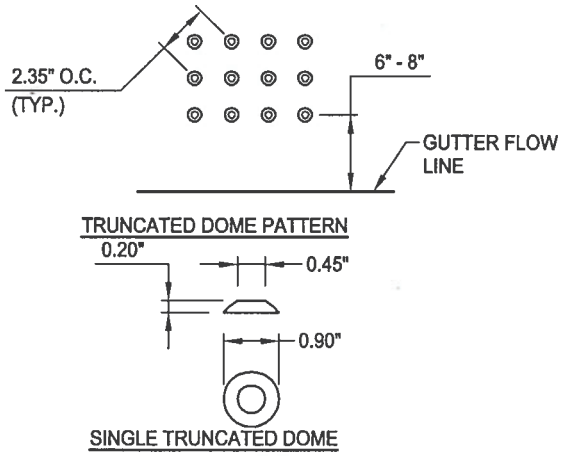
RECOMMENDED _____ CITY ENGINEER DATE 11/18/2011

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-11

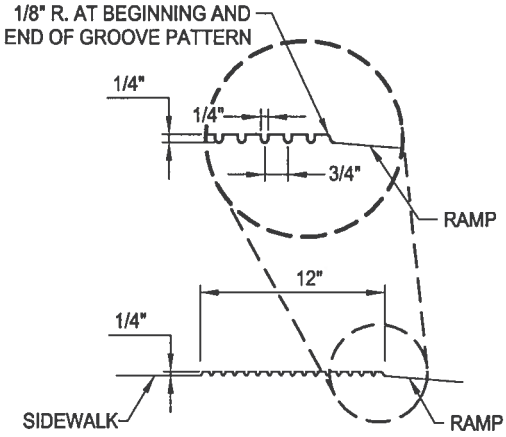
STANDARD DRAWING
BH 103
SHEET 3 OF 4

NOTES:

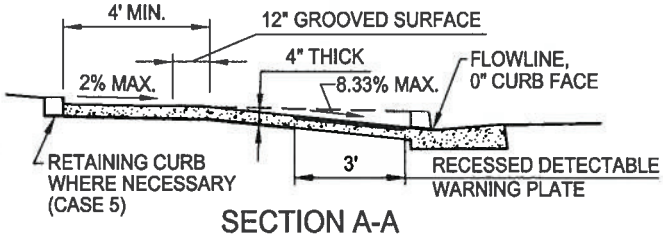
1. CONCRETE SHALL BE CLASS 520-C-2500 AND SHALL BE 4" THICK OVER 4" CRUSHED MISCELLANEOUS BASE AT 90% RELATIVE COMPACTION.
2. THE CURB RAMP SHALL BE OUTLINED, AS SHOWN WITH A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.
3. CURB RAMPS SHALL HAVE A RECESSED YELLOW 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.



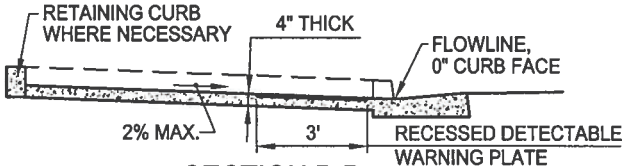
DETECTABLE WARNING DETAIL



GROOVING DETAIL



SECTION A-A



SECTION B-B

CURB RAMPS

REVISIONS		
MARK	DATE	DESCRIPTION

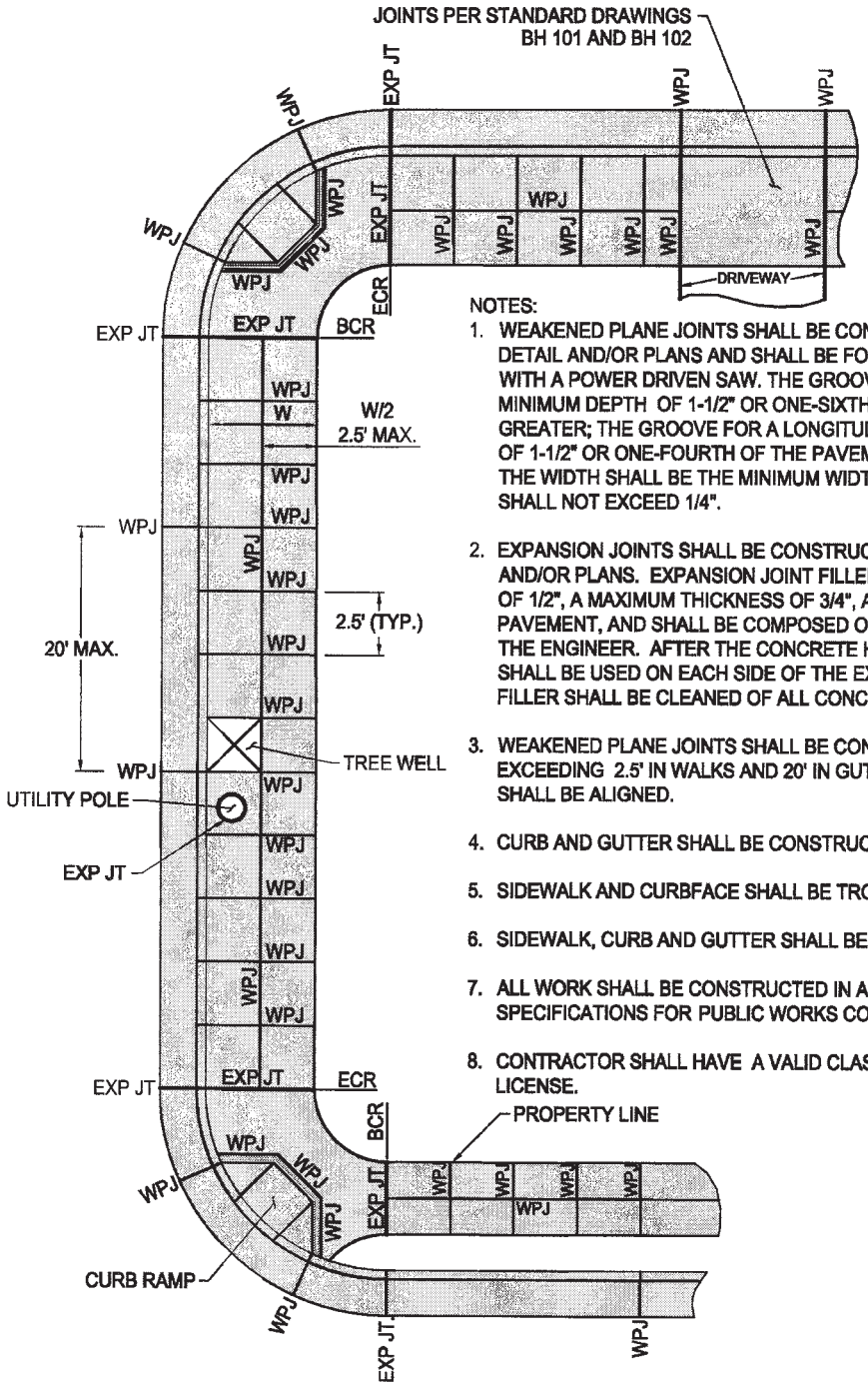
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 11/18/2011

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-11

STANDARD DRAWING
BH 103
SHEET 4 OF 4



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

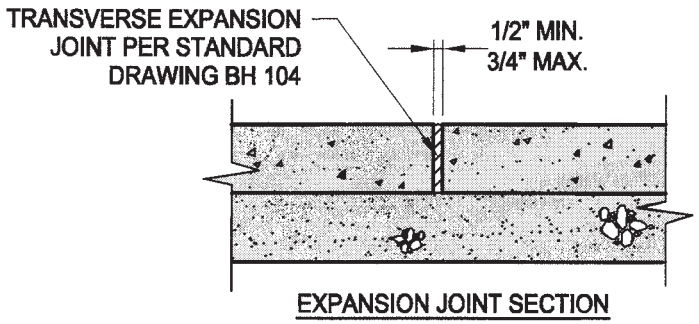
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

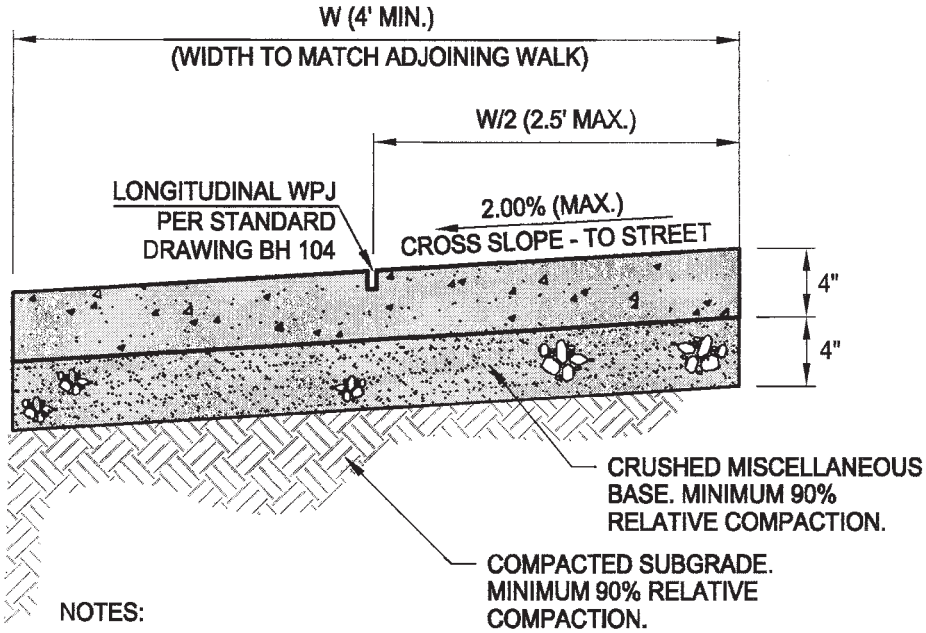
RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

STANDARD DRAWING
BH 104
SHEET 1 OF 1



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

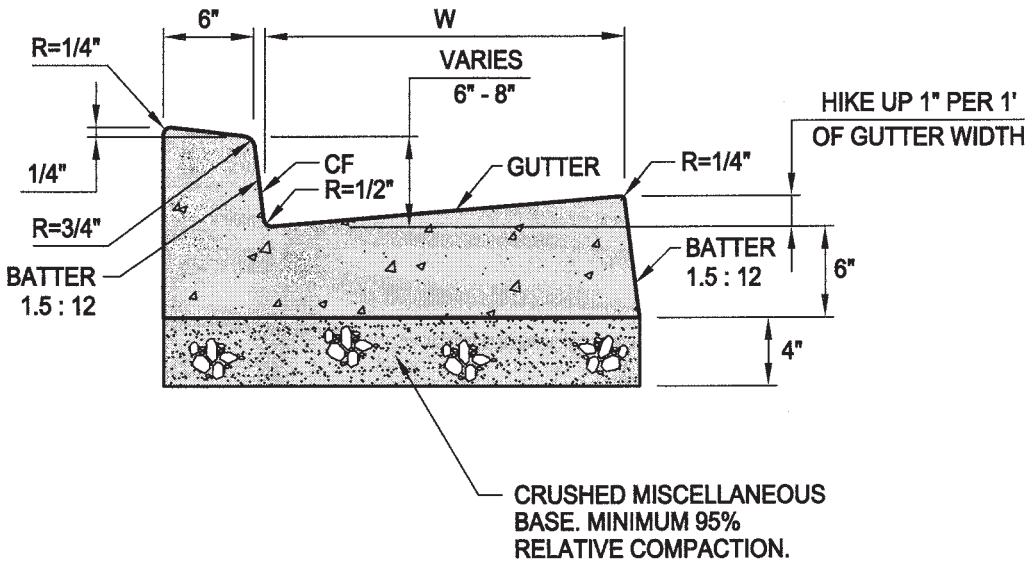
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ 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		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

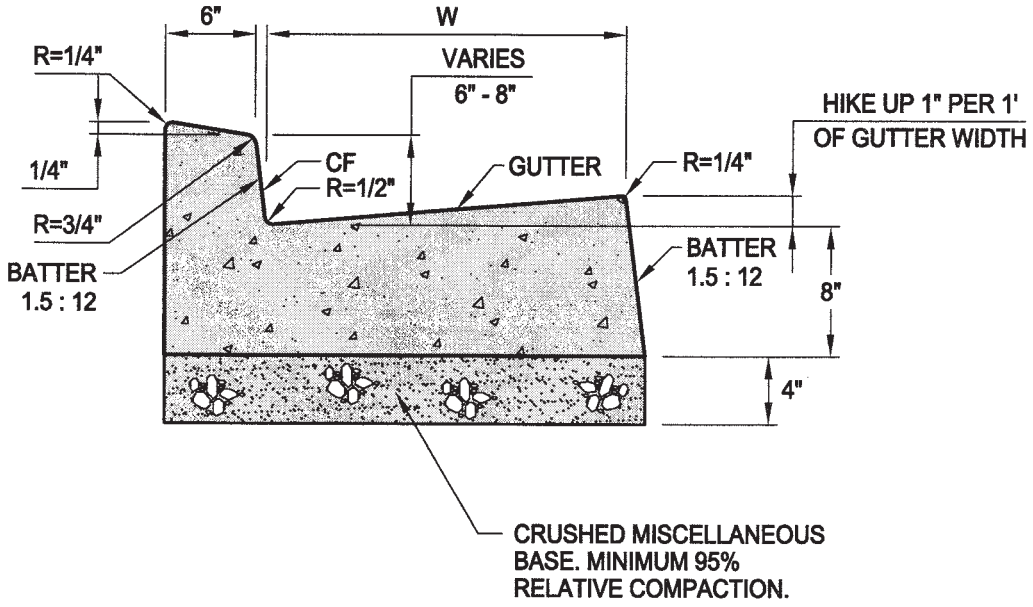
RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

STANDARD DRAWING

BH 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

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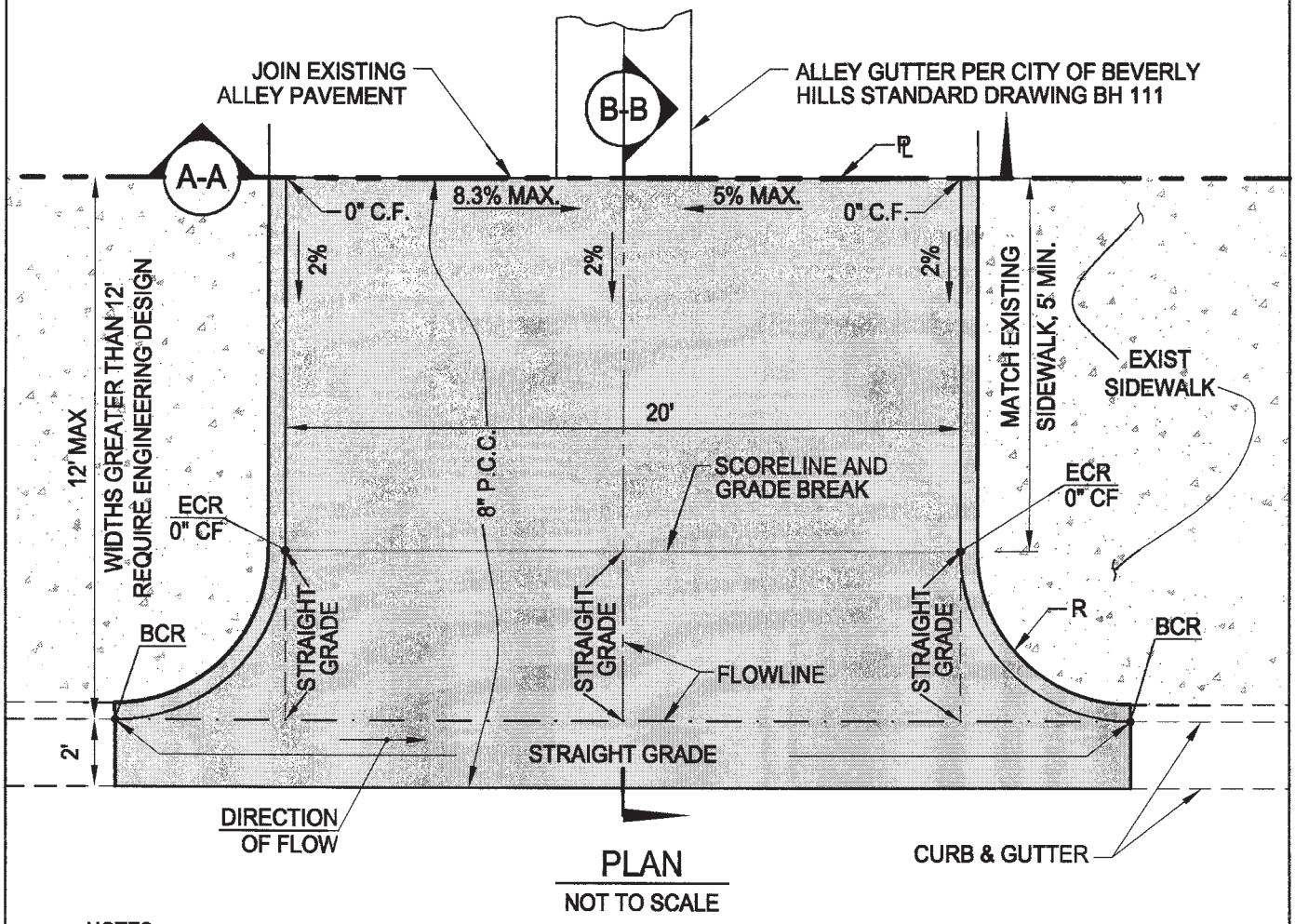

PLAN

NOT TO SCALE

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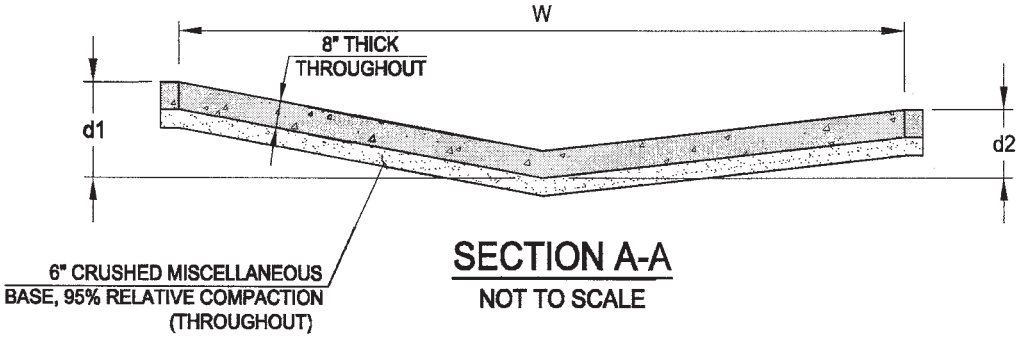
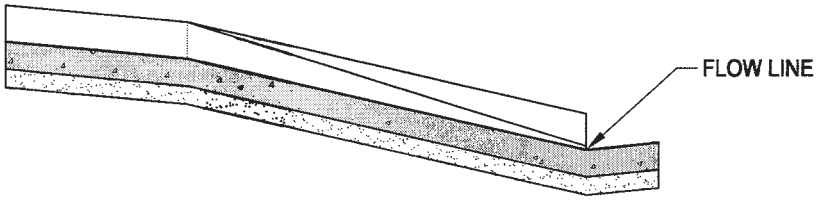
W	8'	10'	15'	20'	25'	30'
d1, MAX	4"	5"	7.5"	10"	12.5"	15"
d2, MIN	2"	3"	3"	3"	3"	3"



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

ALLEY APPROACH DETAIL

REVISIONS		
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CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
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CITY ENGINEER

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PUBLIC WORKS DIRECTOR

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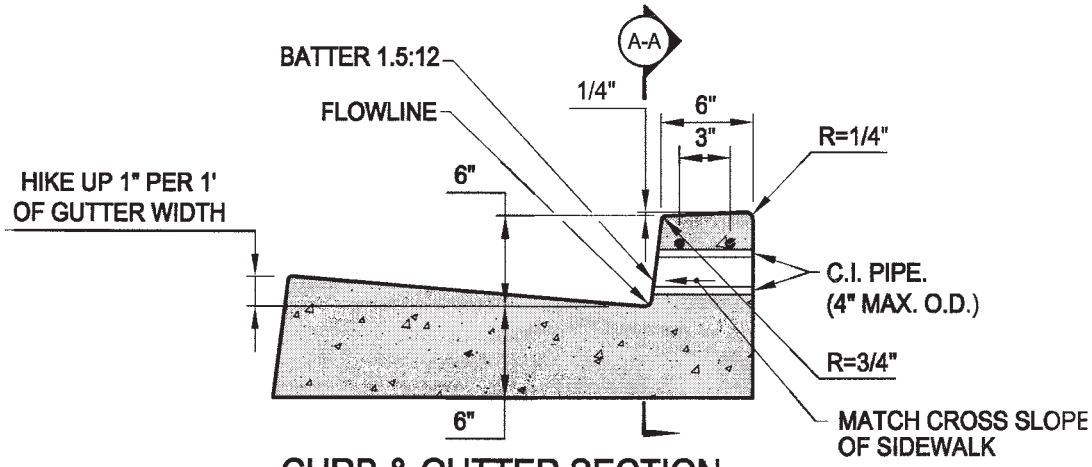
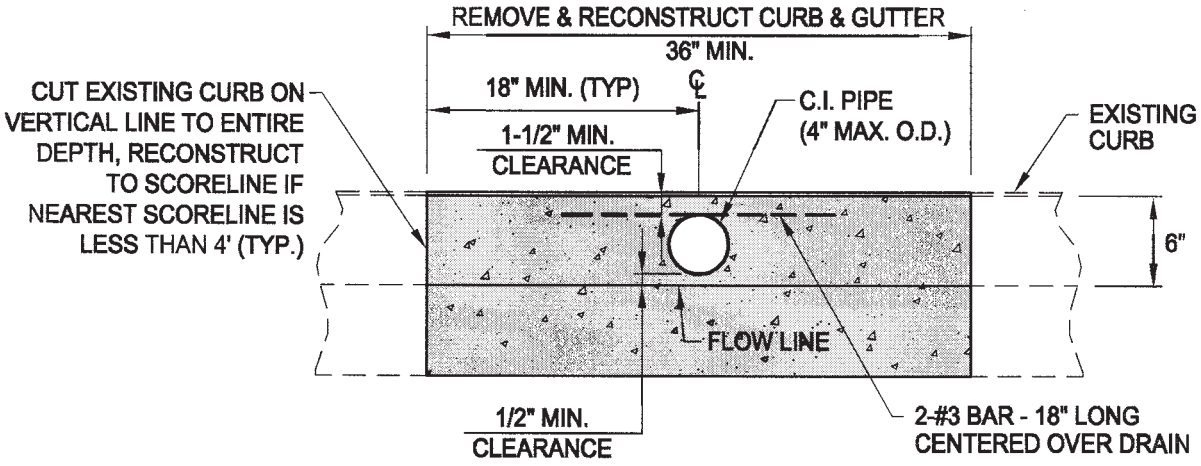


CURB & GUTTER SECTION

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

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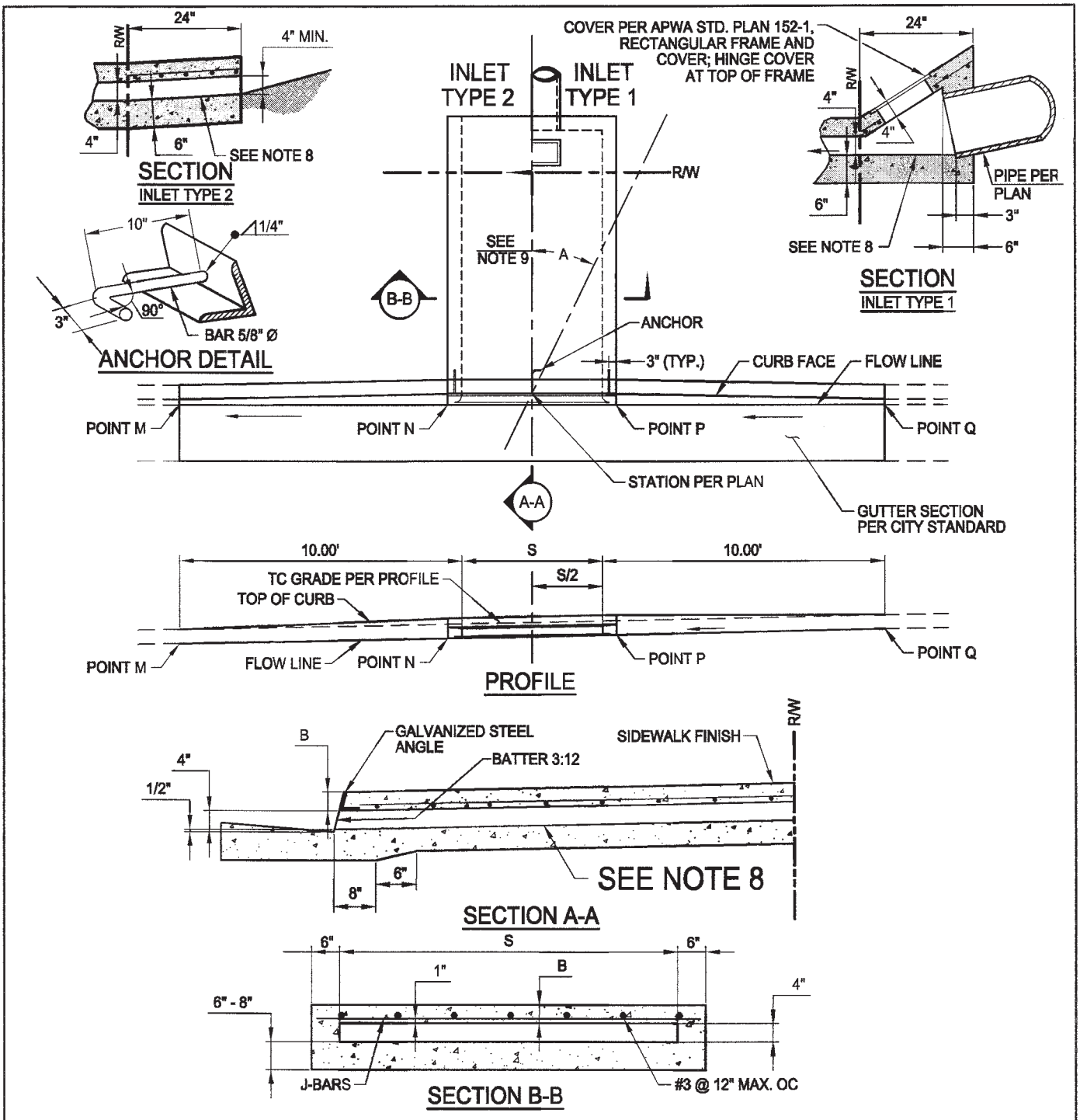

PARKWAY DRAIN

REVISIONS		
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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

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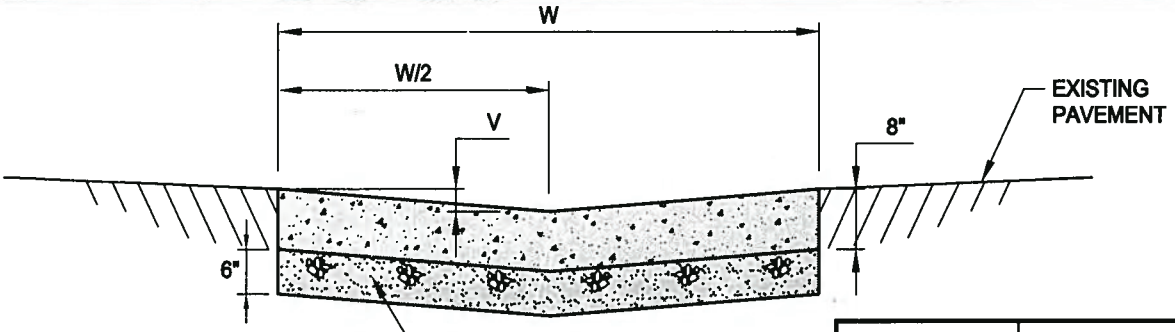
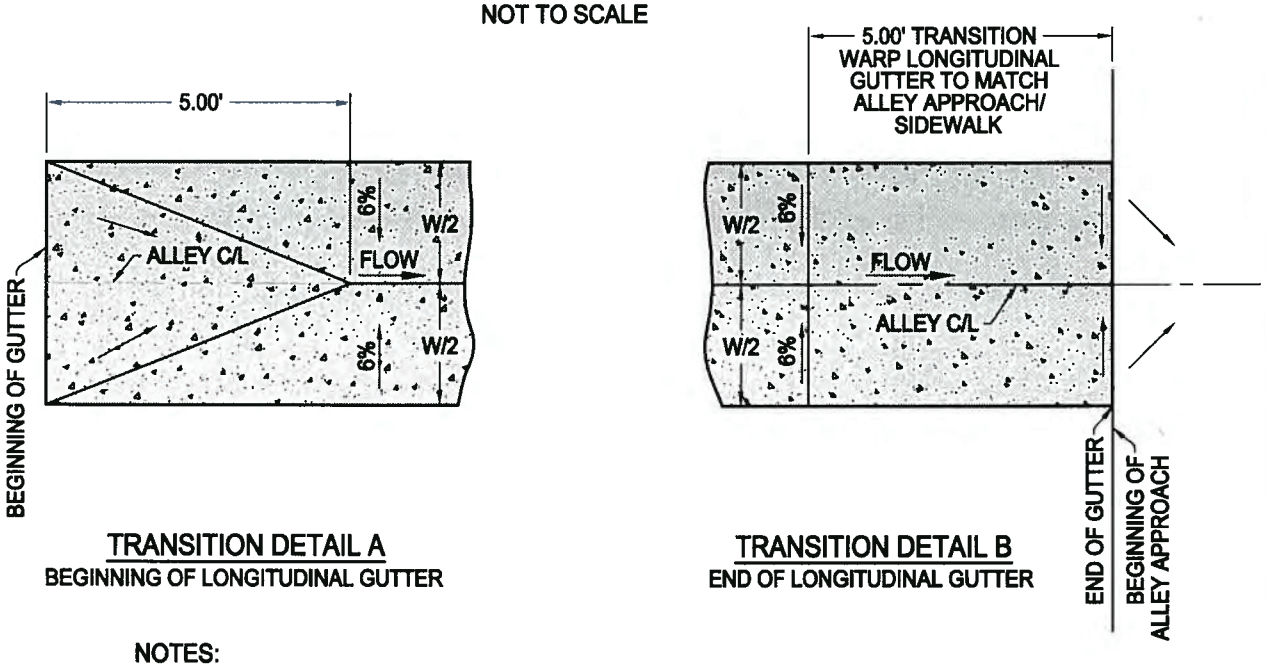


W	V
2' - 0"	3/4"
4' - 0"	1-1/2"

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

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STANDARD DRAWING

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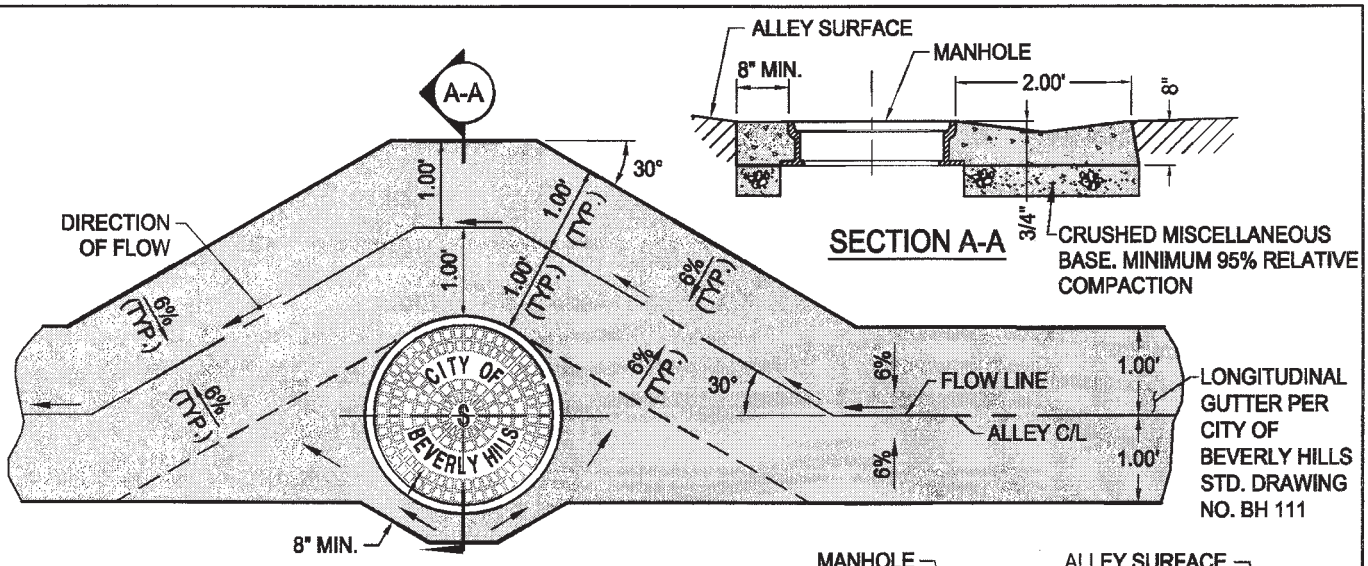
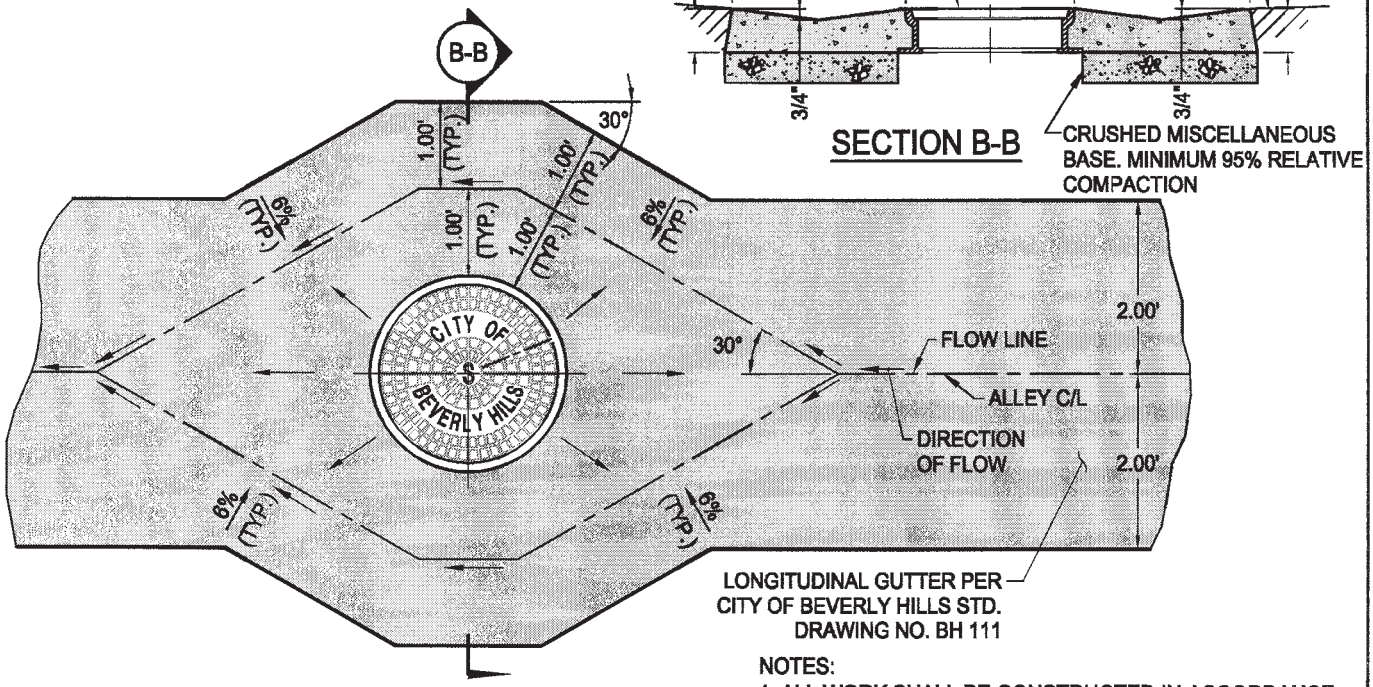
SHEET 1 OF 1



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

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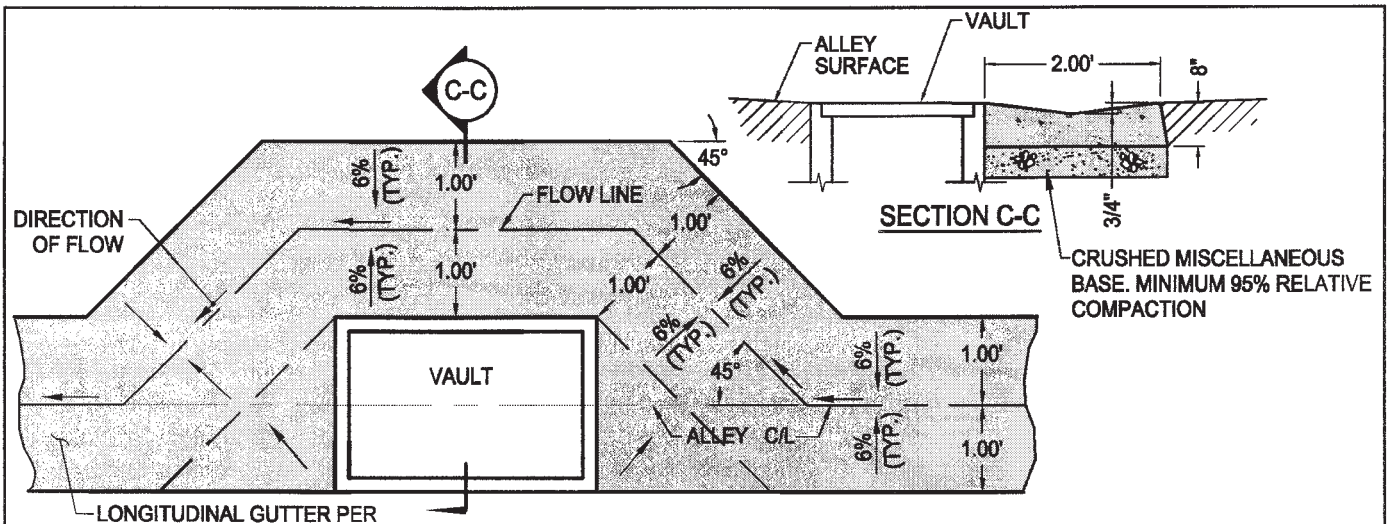
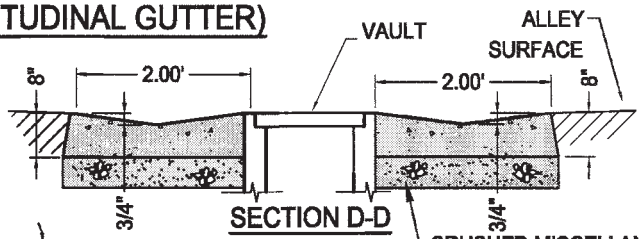
SHEET 1 OF 2



CASE 3 (2'-0" LONGITUDINAL GUTTER)

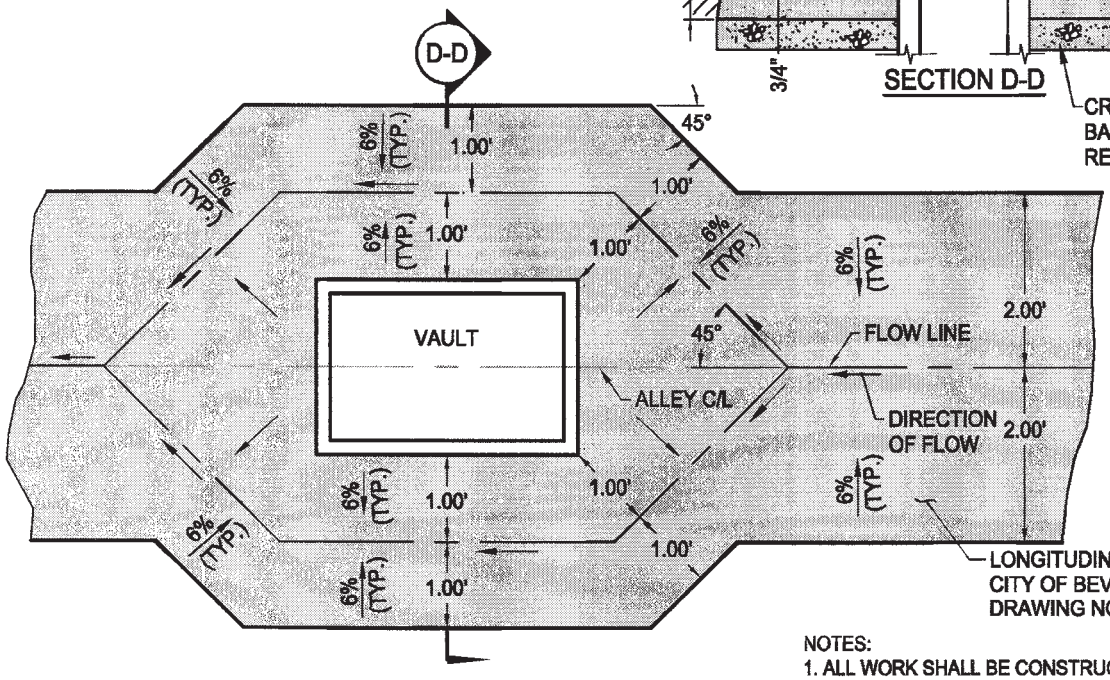
SECTION C-C

CRUSHED MISCELLANEOUS BASE. MINIMUM 95% RELATIVE COMPACTION



SECTION D-D

CRUSHED MISCELLANEOUS BASE. MINIMUM 95% RELATIVE COMPACTION



CASE 4 (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 VAULT

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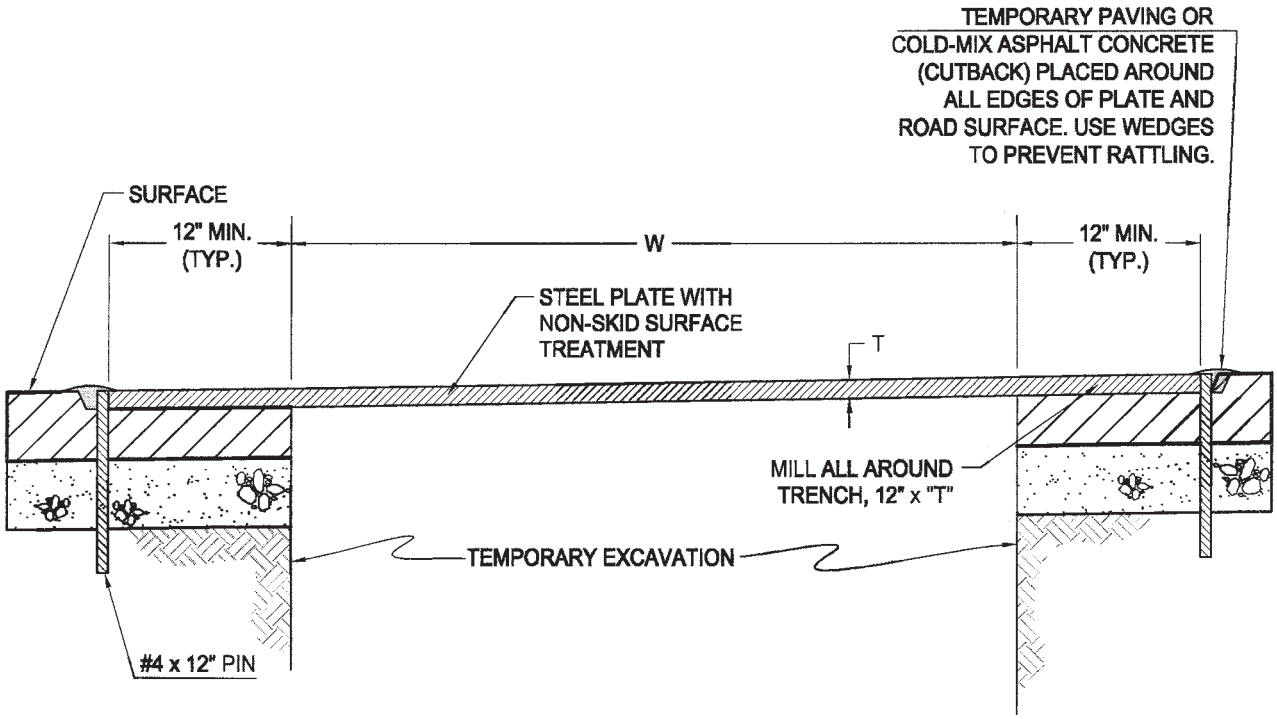

"W" TRENCH WIDTH	"T" MINIMUM STEEL PLATE THICKNESS
≤3' - 0"	1 INCH
>3' - 0", UP TO 4' - 0"	1-1/4 INCH

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

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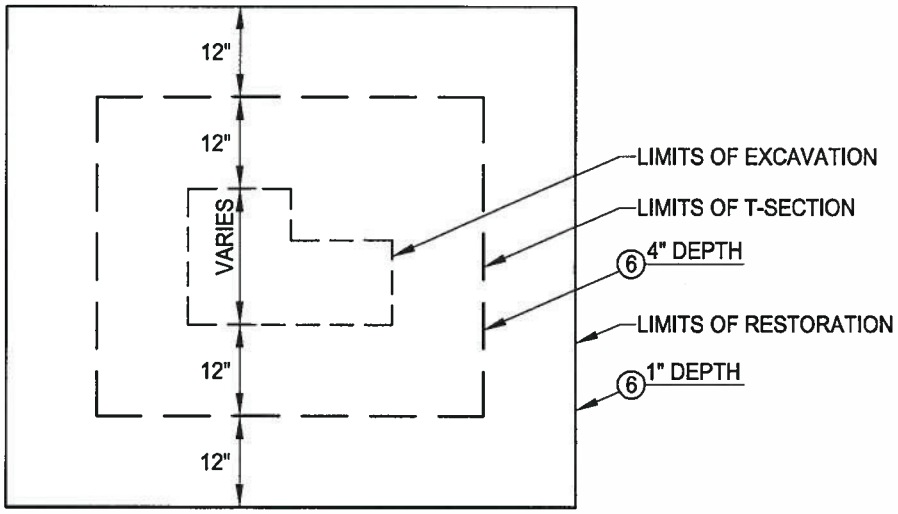
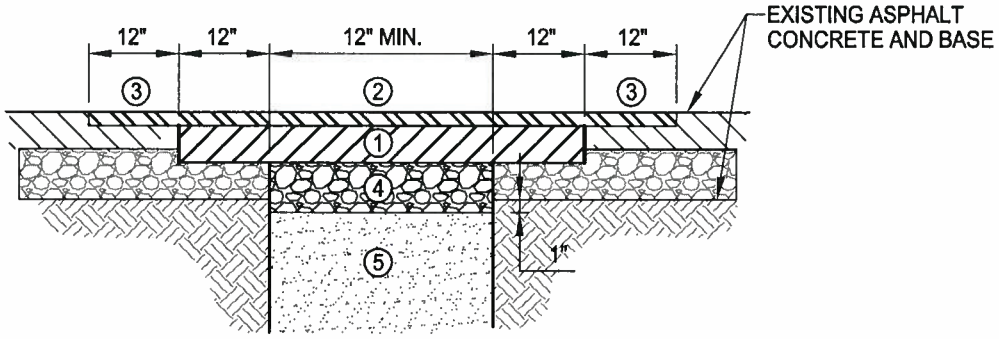


CASE I - PLAN



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		
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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

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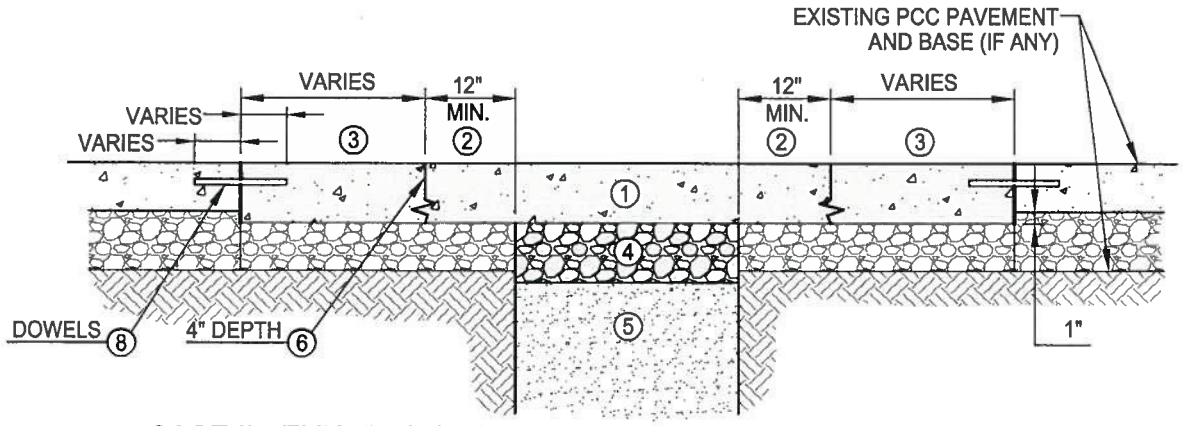
SHEET 2 OF 4



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

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MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA
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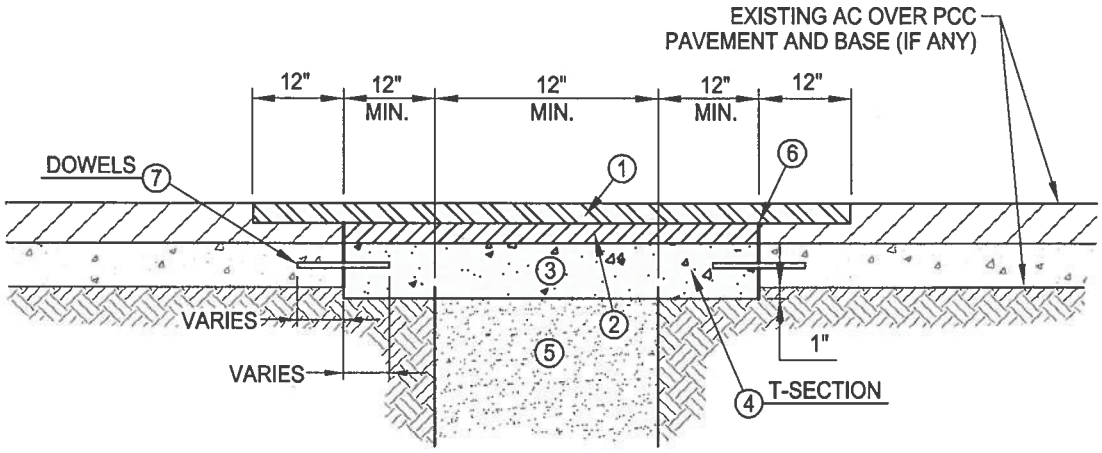


CASE III - EXISTING SECTION: ASPHALT OVER CONCRETE

① CONSTRUCT 1" NEW ASPHALT CONCRETE WEARING COURSE TYPE D2, PG 64-10. FOR STREETS WITH RUBBERIZED ASPHALT USE ARHM-GG PG-64-16, 2" MIN.

② CONSTRUCT NEW ASPHALT CONCRETE BASE COURSE, TYPE B, PG 64-10.

③ CONSTRUCT NEW PCC PAVEMENT BASE, 560-C-3250, 1" THICKER THAN THE EXISTING CONCRETE, 6" MINIMUM. ASPHALT CONCRETE LAYERS SHALL BE COMPACTED TO 95% OF MAXIMUM THEORETICAL SPECIFIC GRAVITY.

④ 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.

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 III

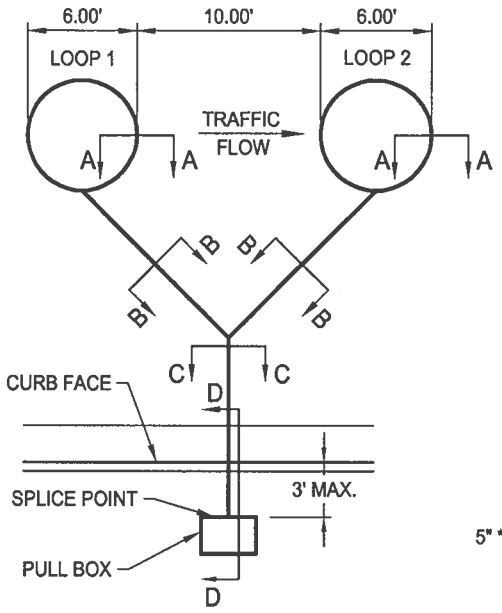
REVISIONS		
MARK	DATE	DESCRIPTION

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

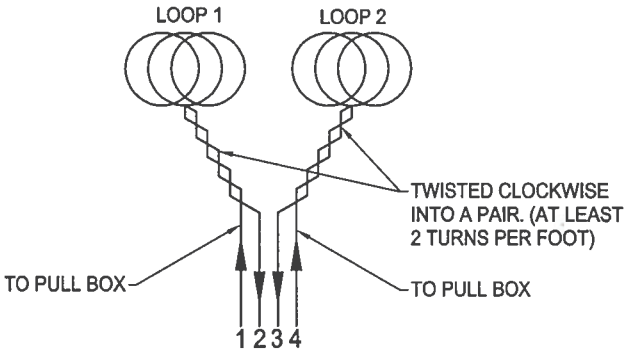
RECOMMENDED _____ CITY ENGINEER DATE 11/14/2011

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-11

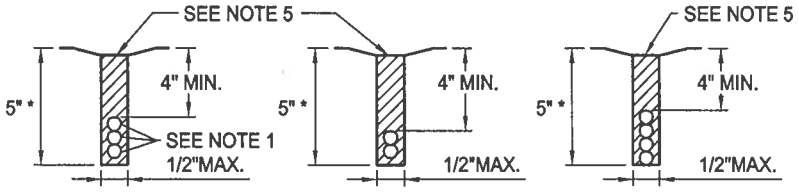
STANDARD DRAWING
BH 114
SHEET 4 OF 4



PLAN
NOT TO SCALE



WINDING DETAIL
NOT TO SCALE

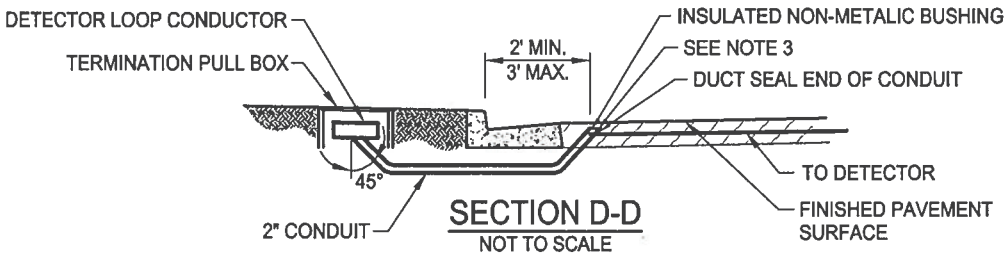


* DEPTH OF SLOT NOT TO EXCEED DEPTH OF PAVEMENT

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 _____ CITY ENGINEER DATE 11/18/2011

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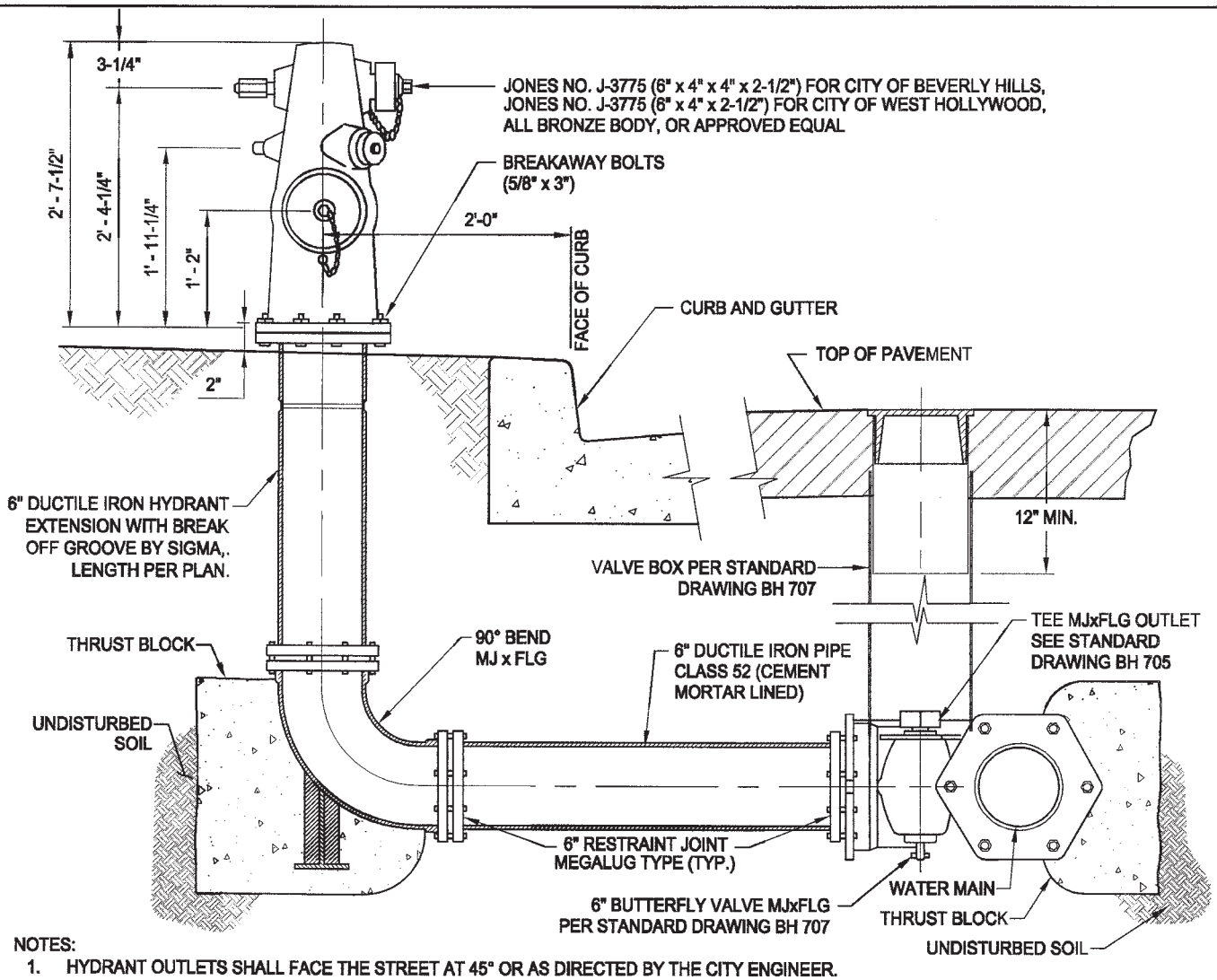
STANDARD DRAWING
BH 401
SHEET 1 OF 1



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

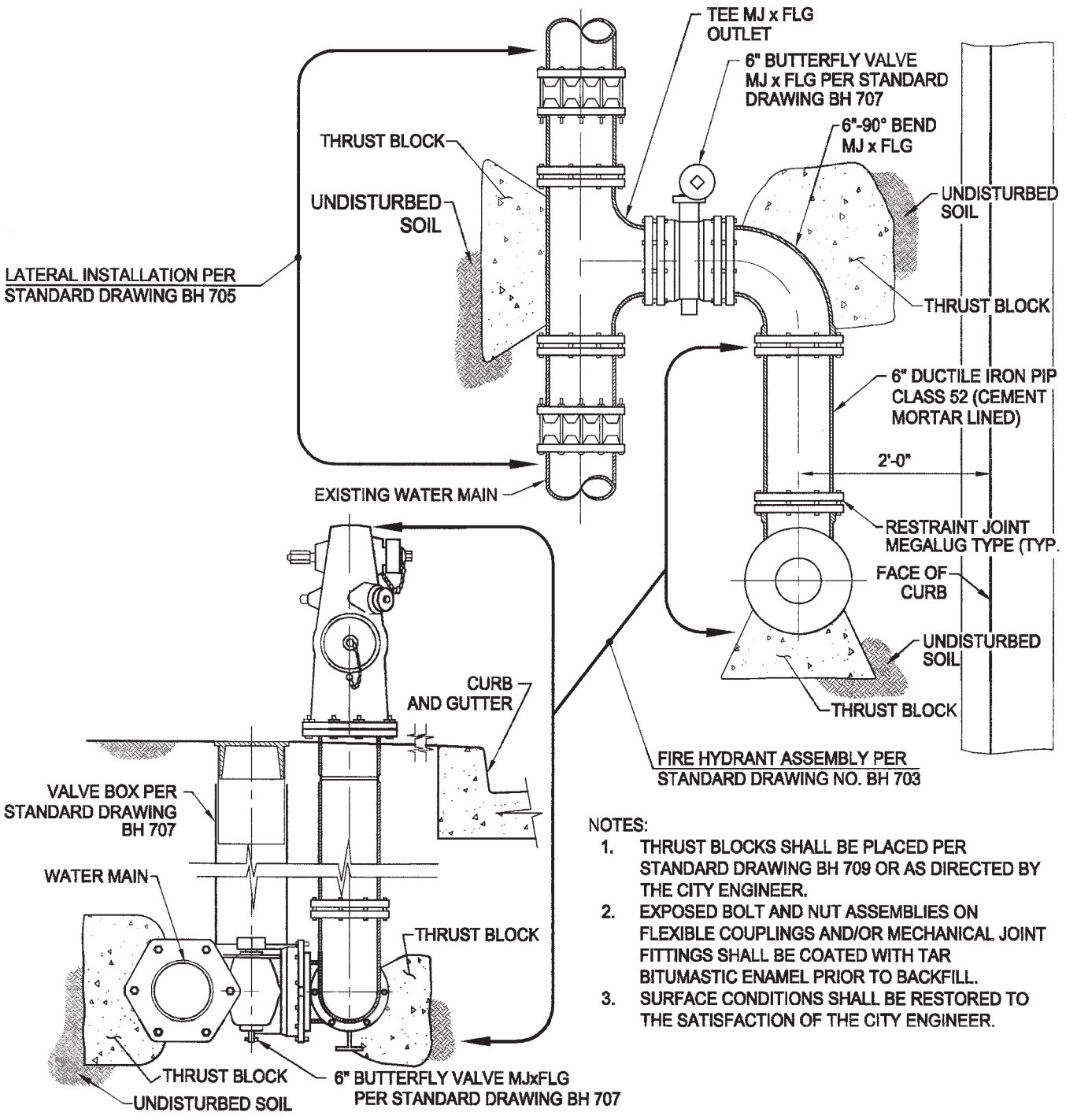
RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

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. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT INSTALLATION

WITH WATER MAIN BEHIND THE CURB

REVISIONS		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

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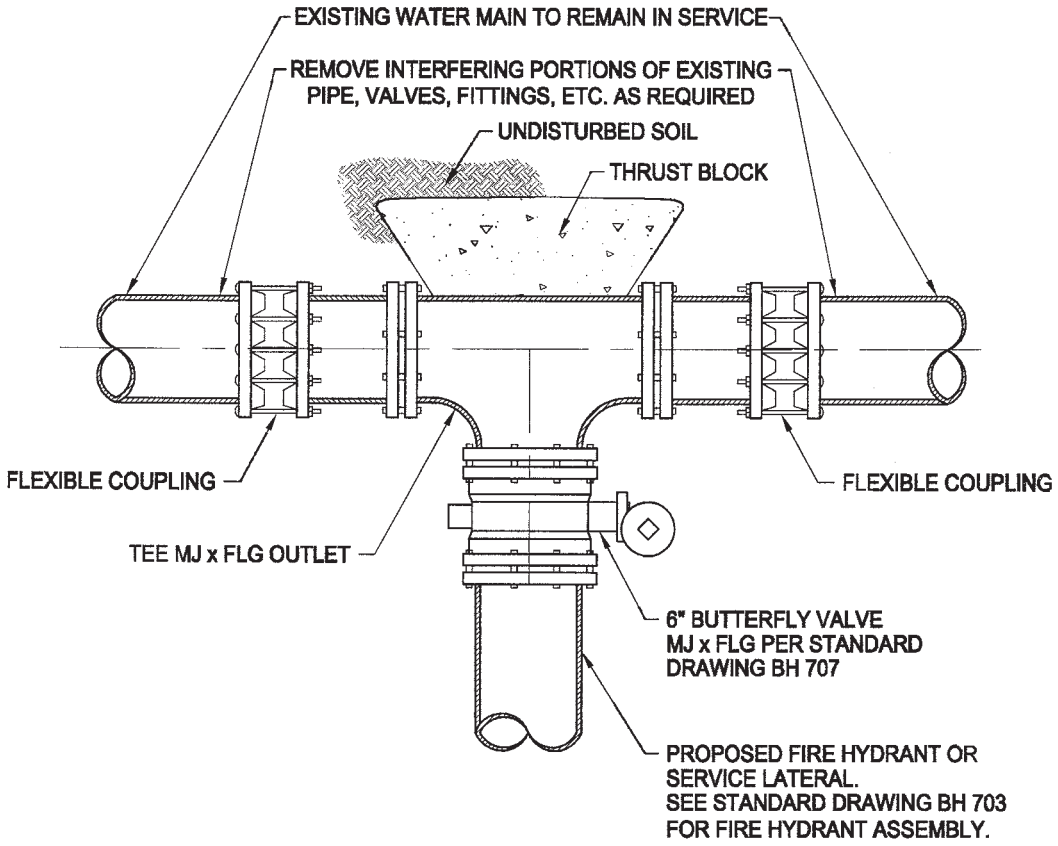
STANDARD DRAWING

BH 704

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 _____ CITY ENGINEER DATE 7-30-09

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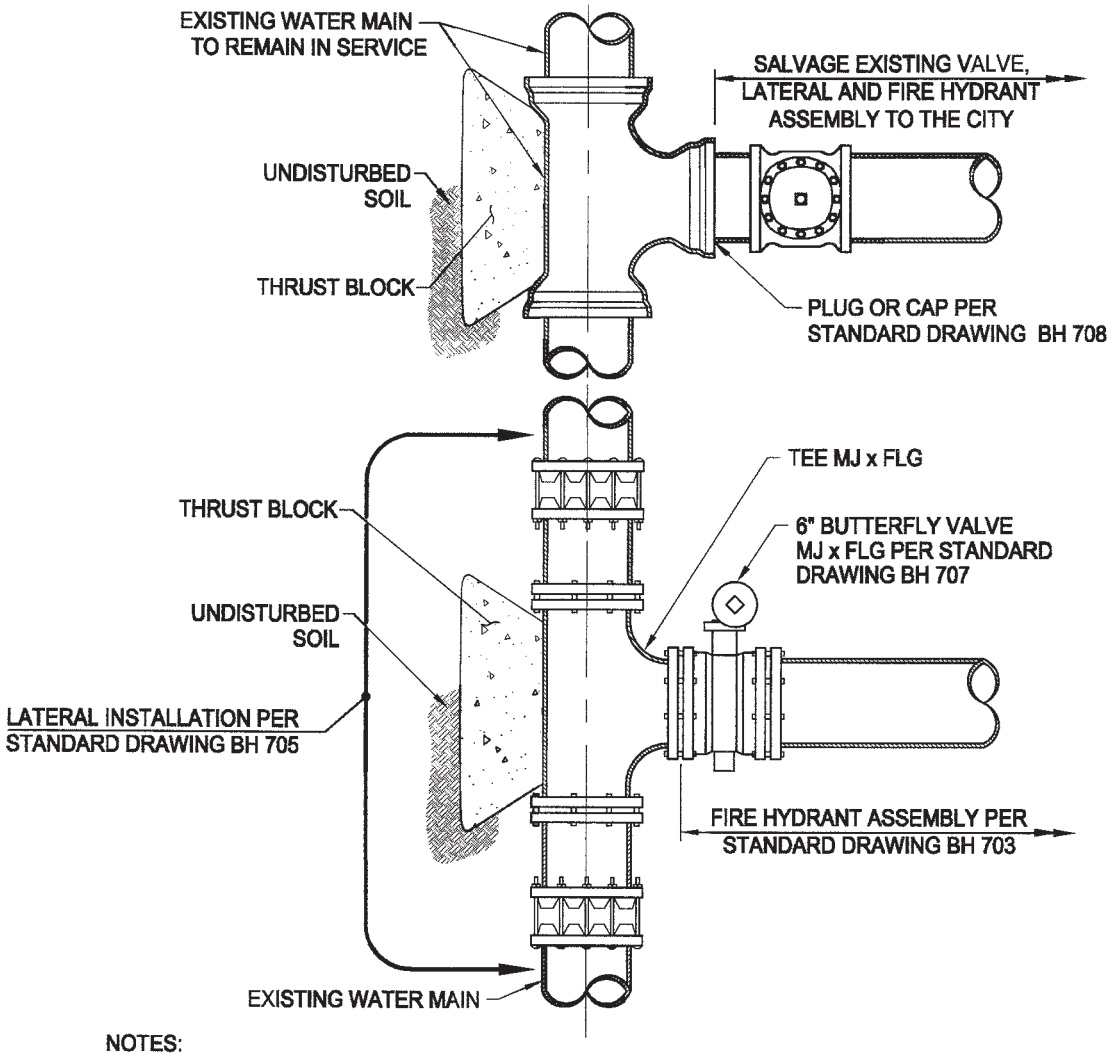
STANDARD DRAWING
BH 705
SHEET 1 OF 1



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

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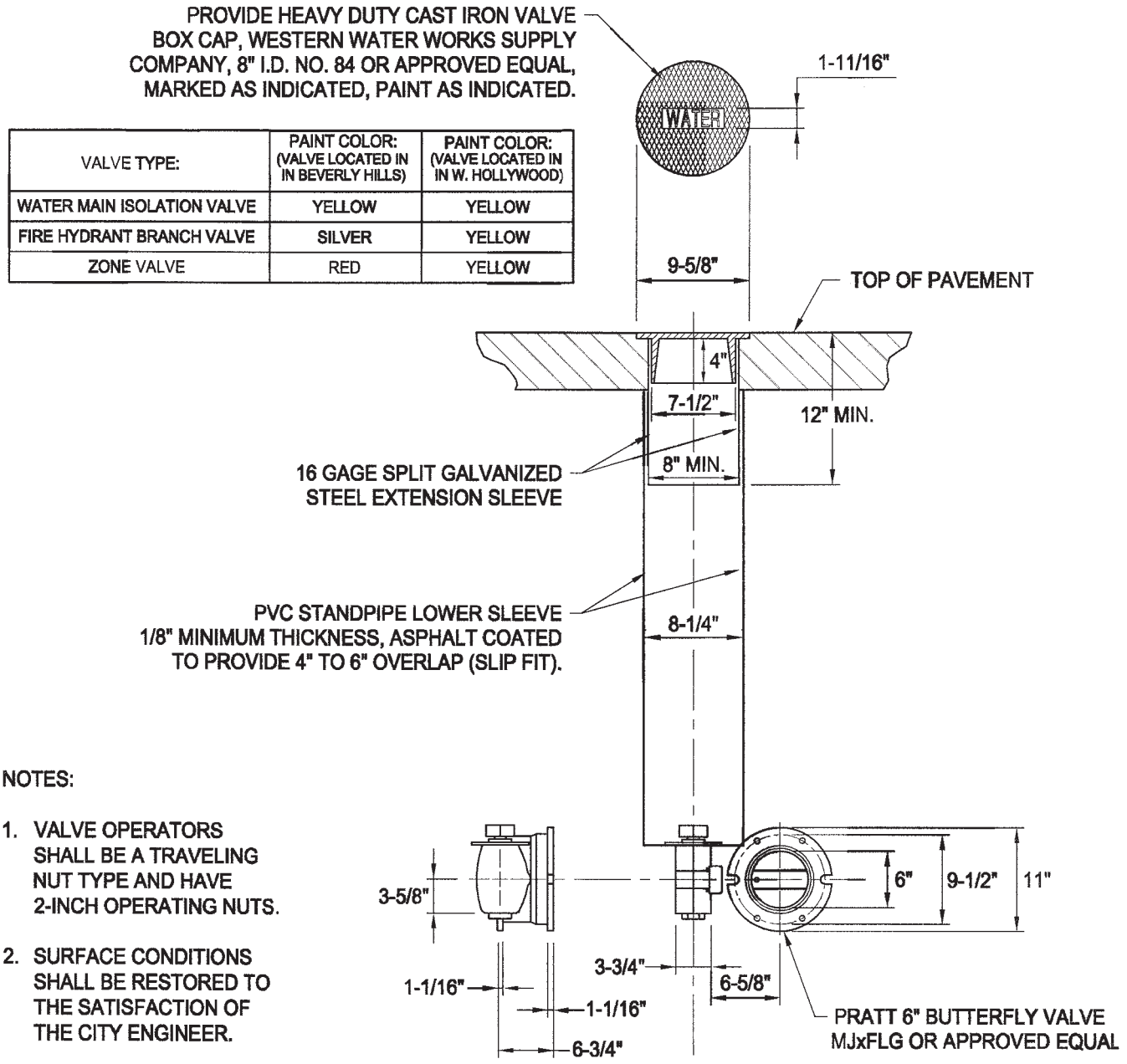
STANDARD DRAWING

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

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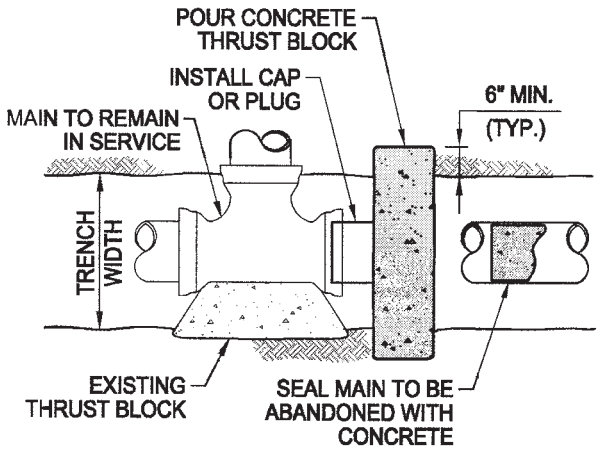
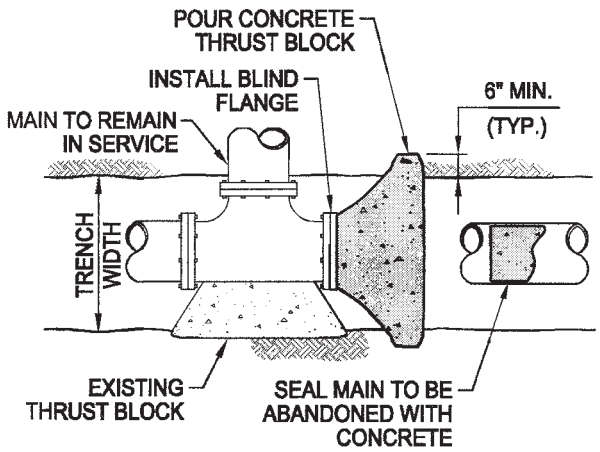
STANDARD DRAWING

BH 707

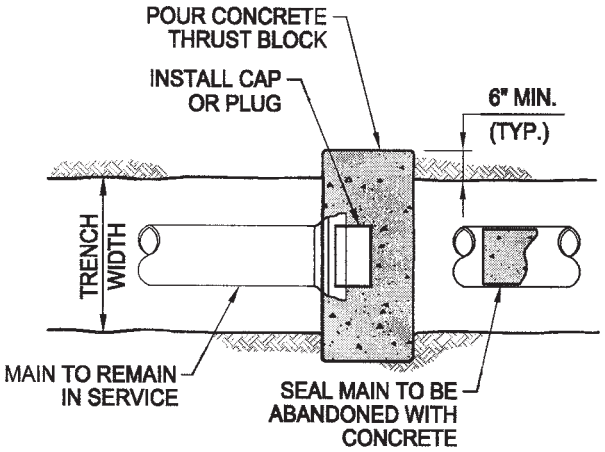
SHEET 1 OF 1



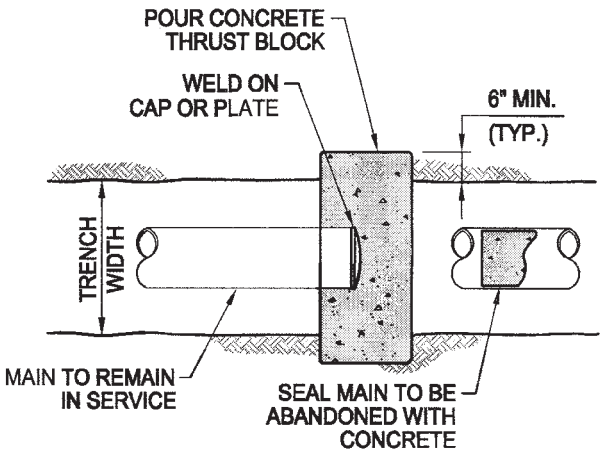
HUB-END OR RING-TITE FITTING OR VALVE



FLANGED FITTING OR VALVE



DUCTILE OR CAST IRON MAIN



STEEL MAIN

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 _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

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	C
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	C
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 OR 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 IS 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		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

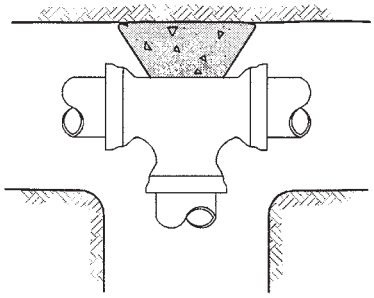
RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

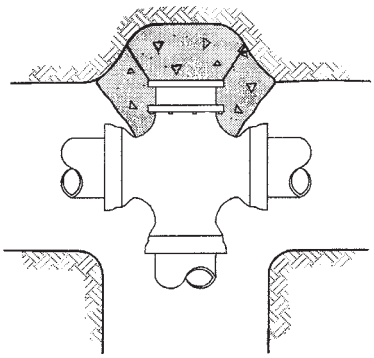
STANDARD DRAWING

BH 709

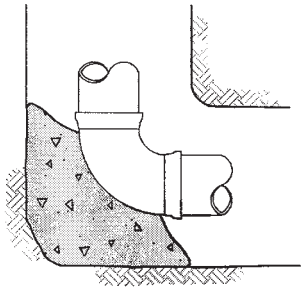
SHEET 1 OF 4



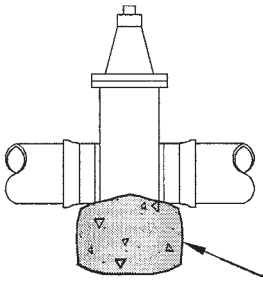
TEE



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

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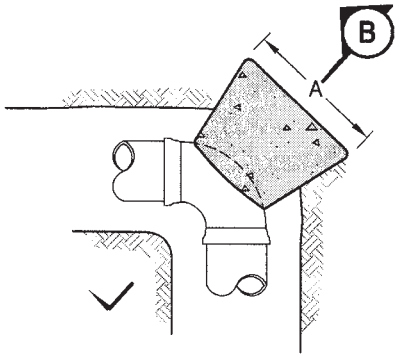
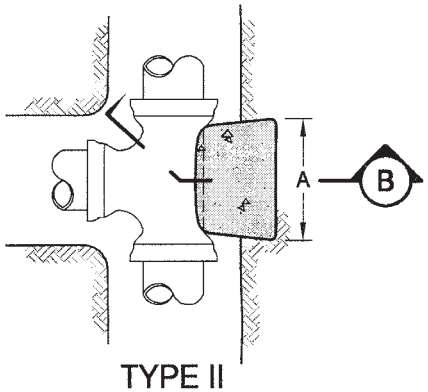
STANDARD DRAWING

BH 709

SHEET 2 OF 4



TYPE I



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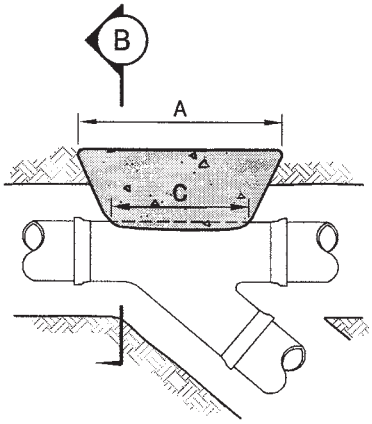
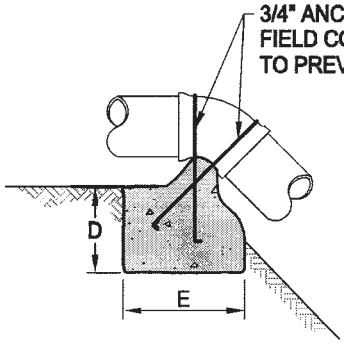
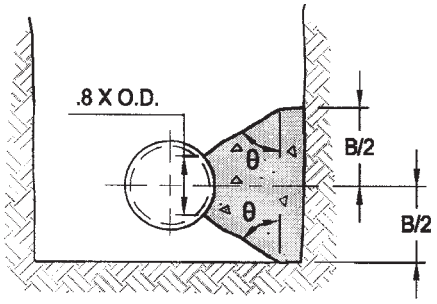


TYPE III



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

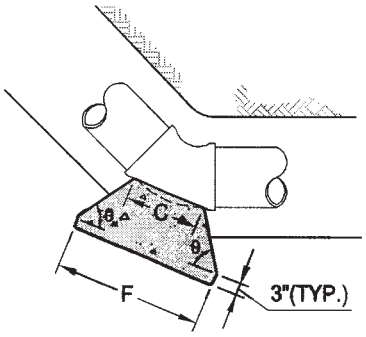
RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 7-31-09

STANDARD DRAWING

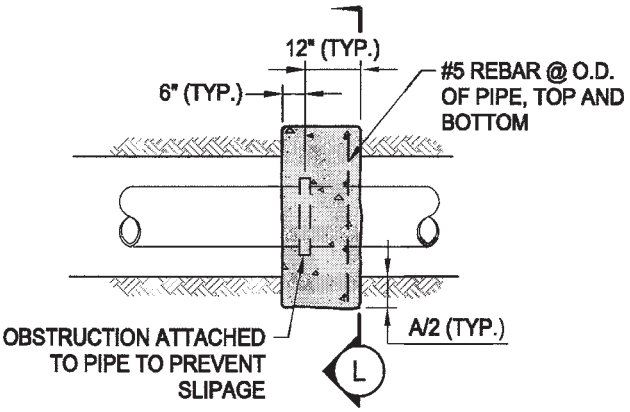
BH 709

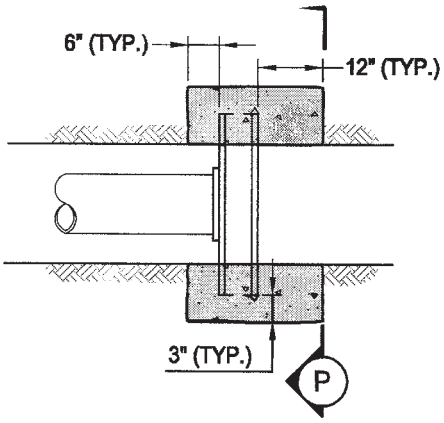
SHEET 3 OF 4

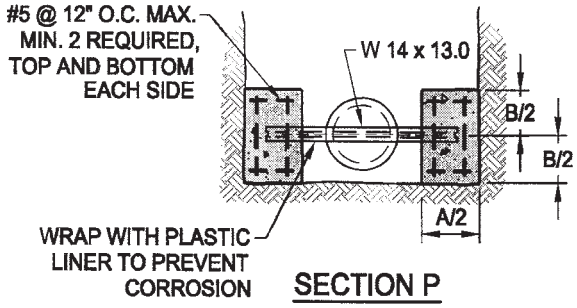


MAKE BLOCK FULL WIDTH OF TRENCH

TYPE V

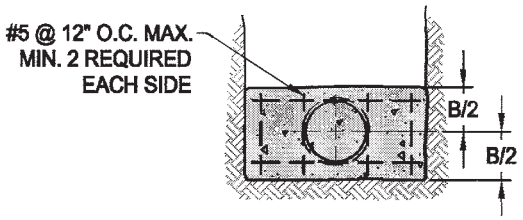






SECTION P

TYPE VII



SECTION L

TYPE VI

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 _____ CITY ENGINEER DATE 7-30-09

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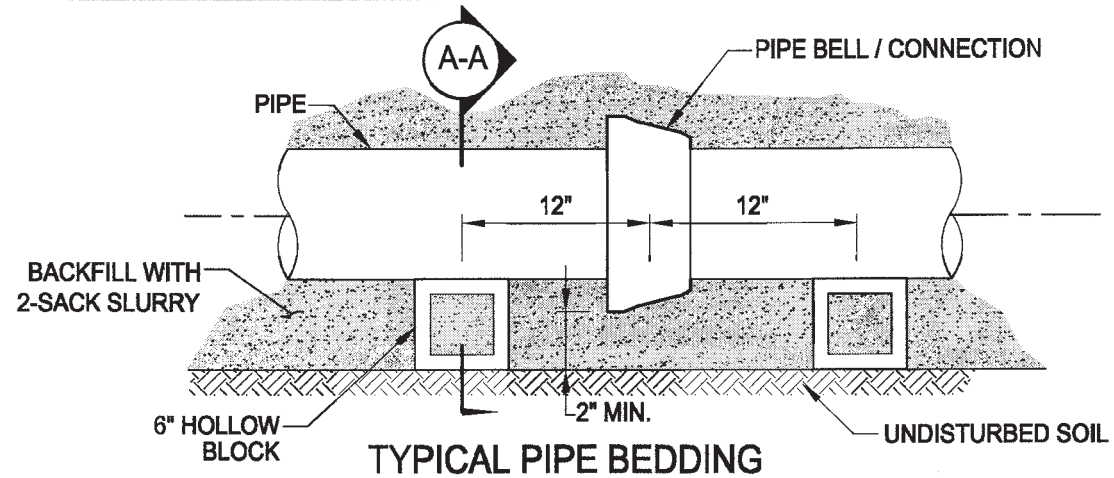
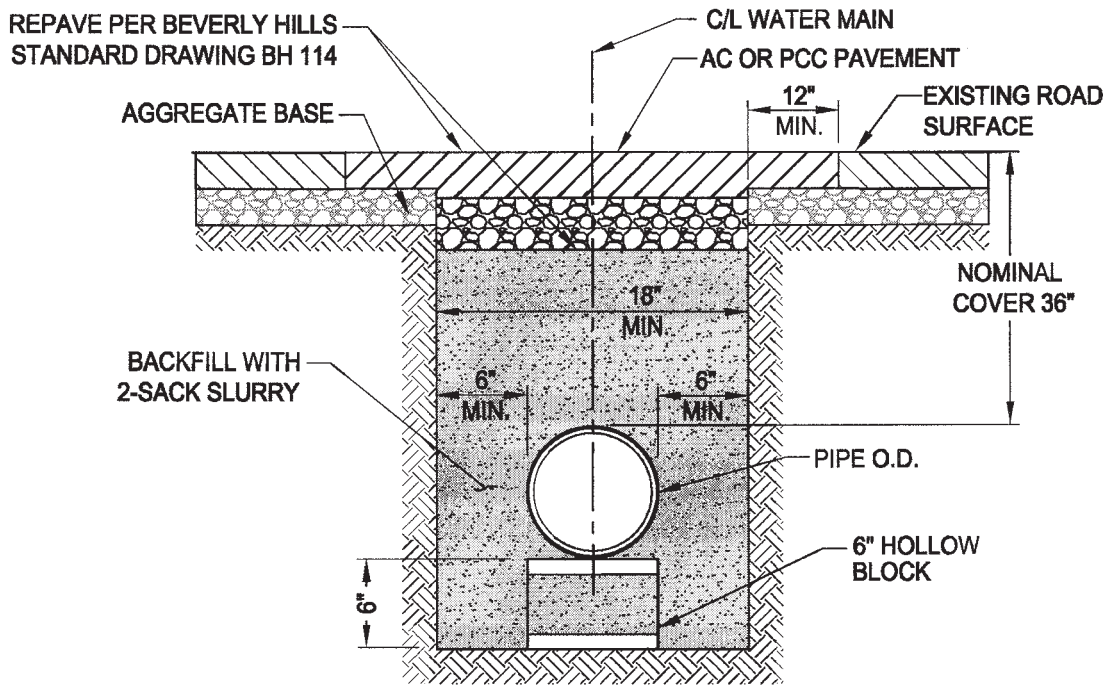
STANDARD DRAWING

BH 709

SHEET 4 OF 4



TYPICAL PIPE BEDDING



TRENCH SECTION "A-A"

NOT TO SCALE

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

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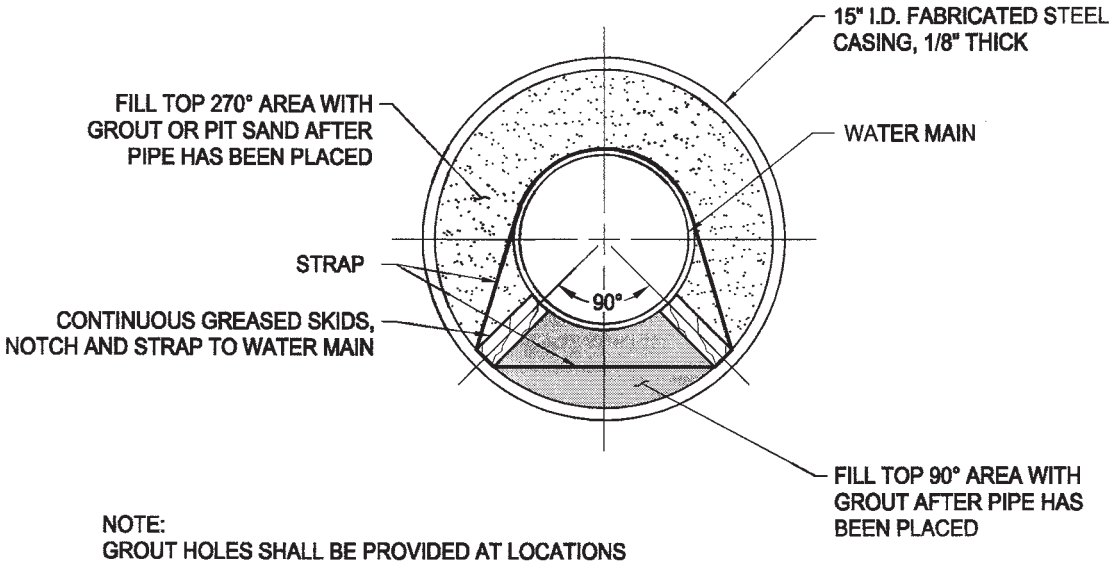
STANDARD DRAWING

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		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ CITY ENGINEER DATE 7-30-09

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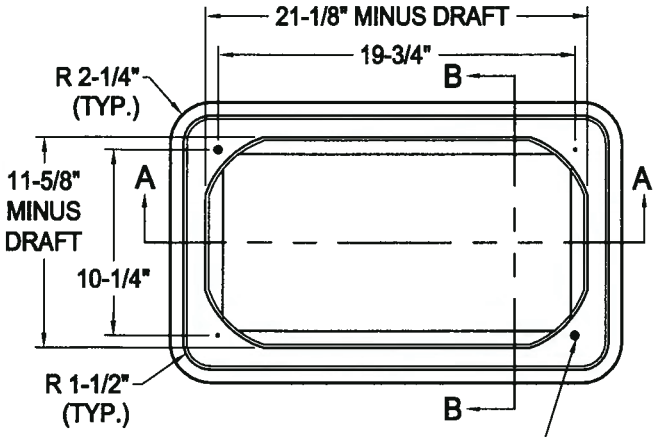
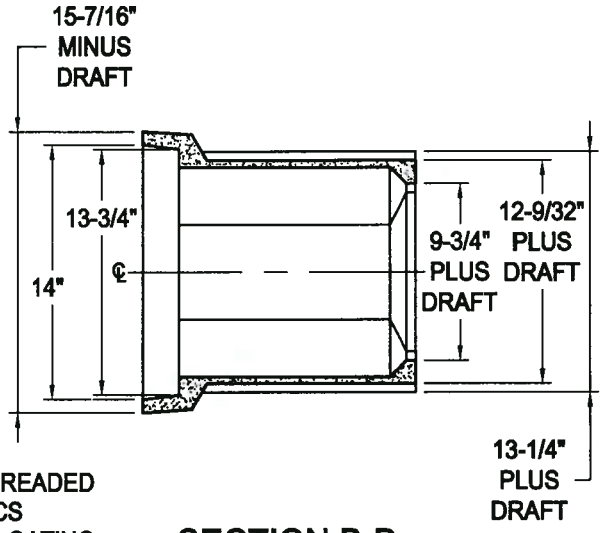
STANDARD DRAWING

BH 711

SHEET 1 OF 1

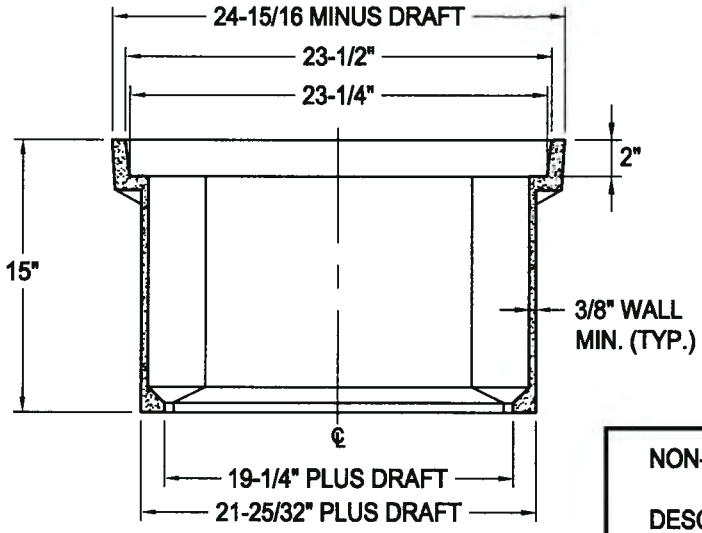


PLAN VIEW

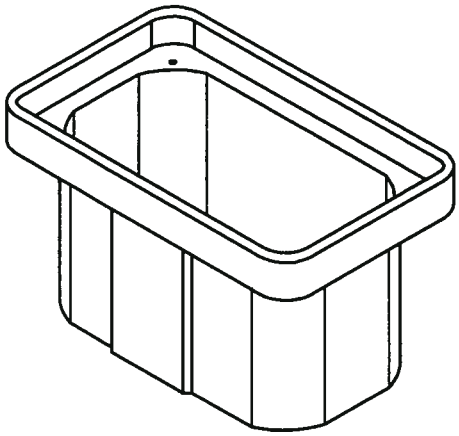


SECTION B-B

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

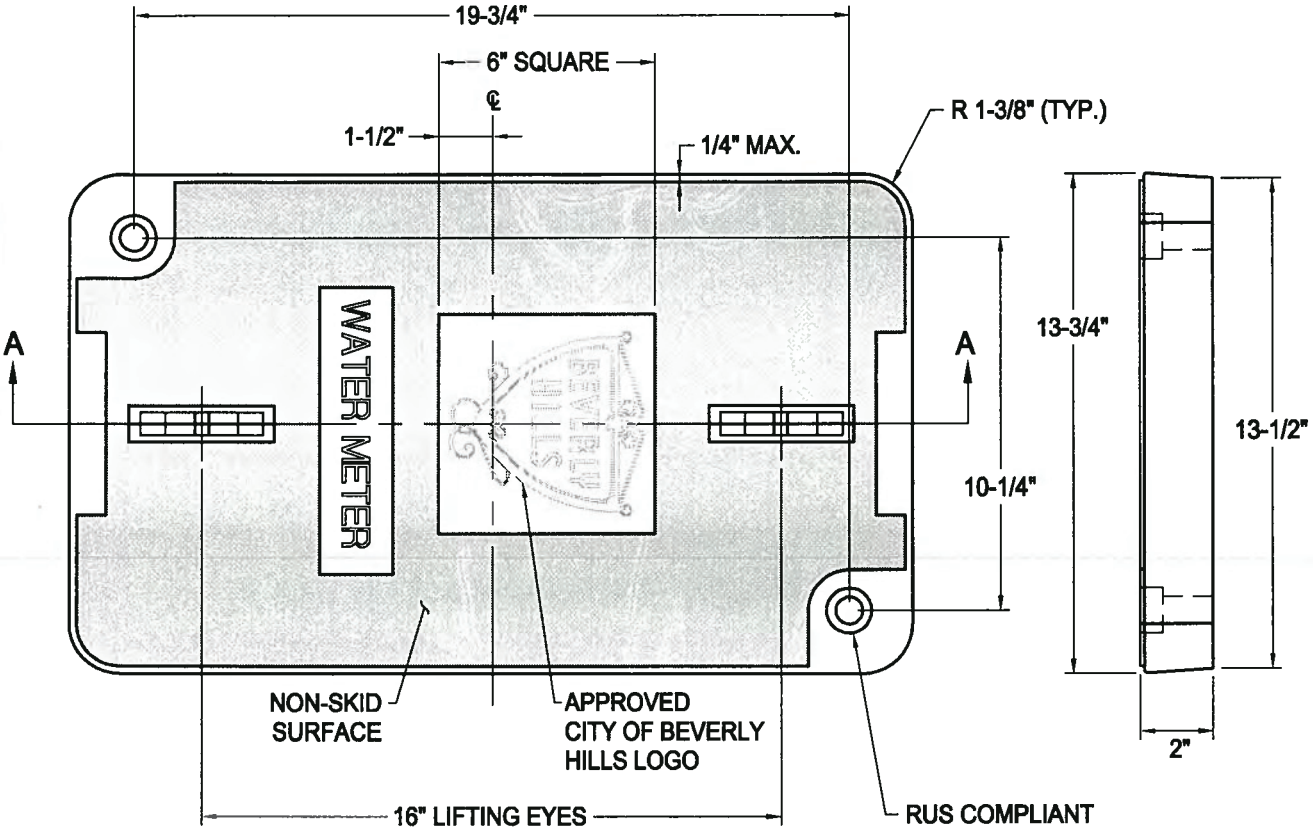
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

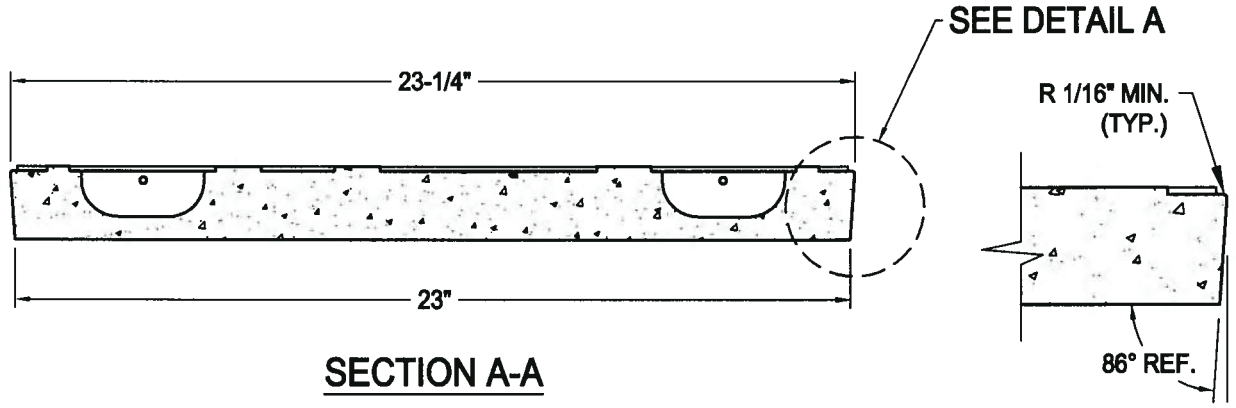
RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-10

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

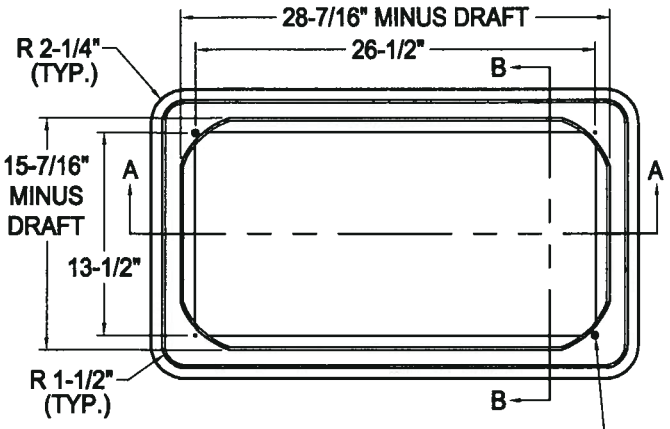
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

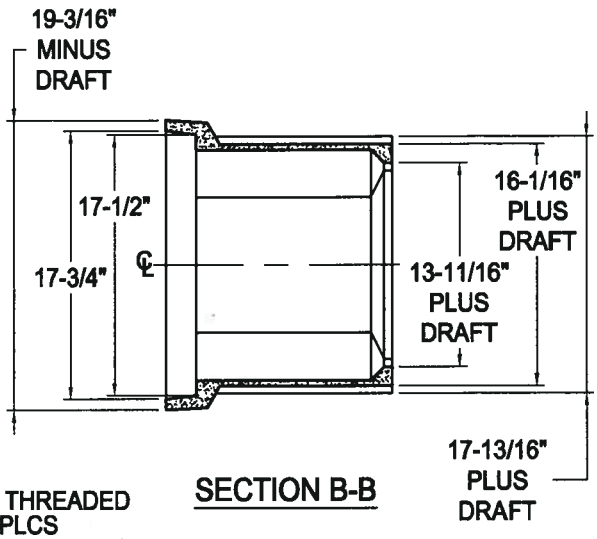
RECOMMENDED _____ DATE 11-8-10
CITY ENGINEER

APPROVED _____ DATE 11-18-10
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 712
SHEET 2 OF 2

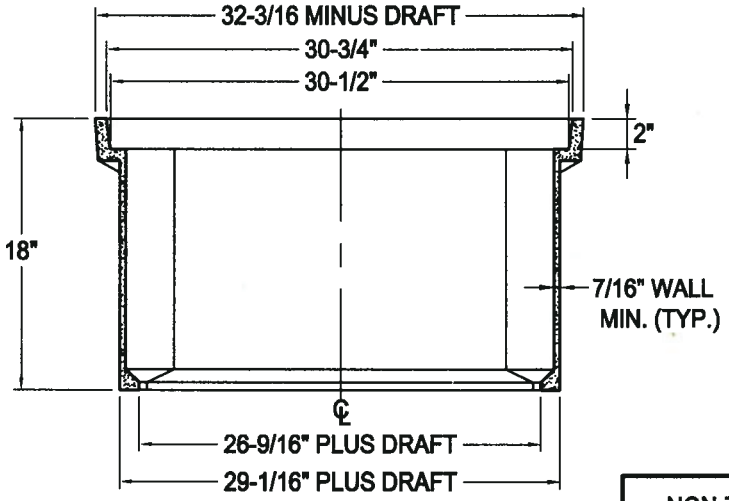


PLAN VIEW

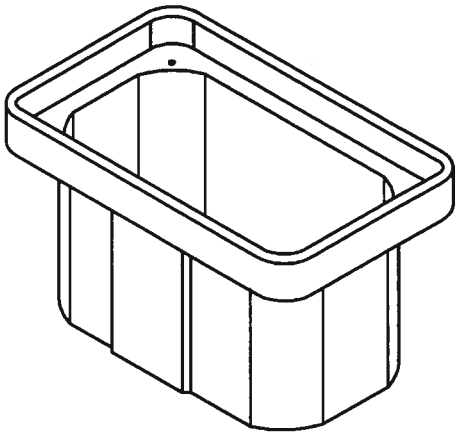


SECTION B-B

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:	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 _____ CITY ENGINEER DATE 11-18-10

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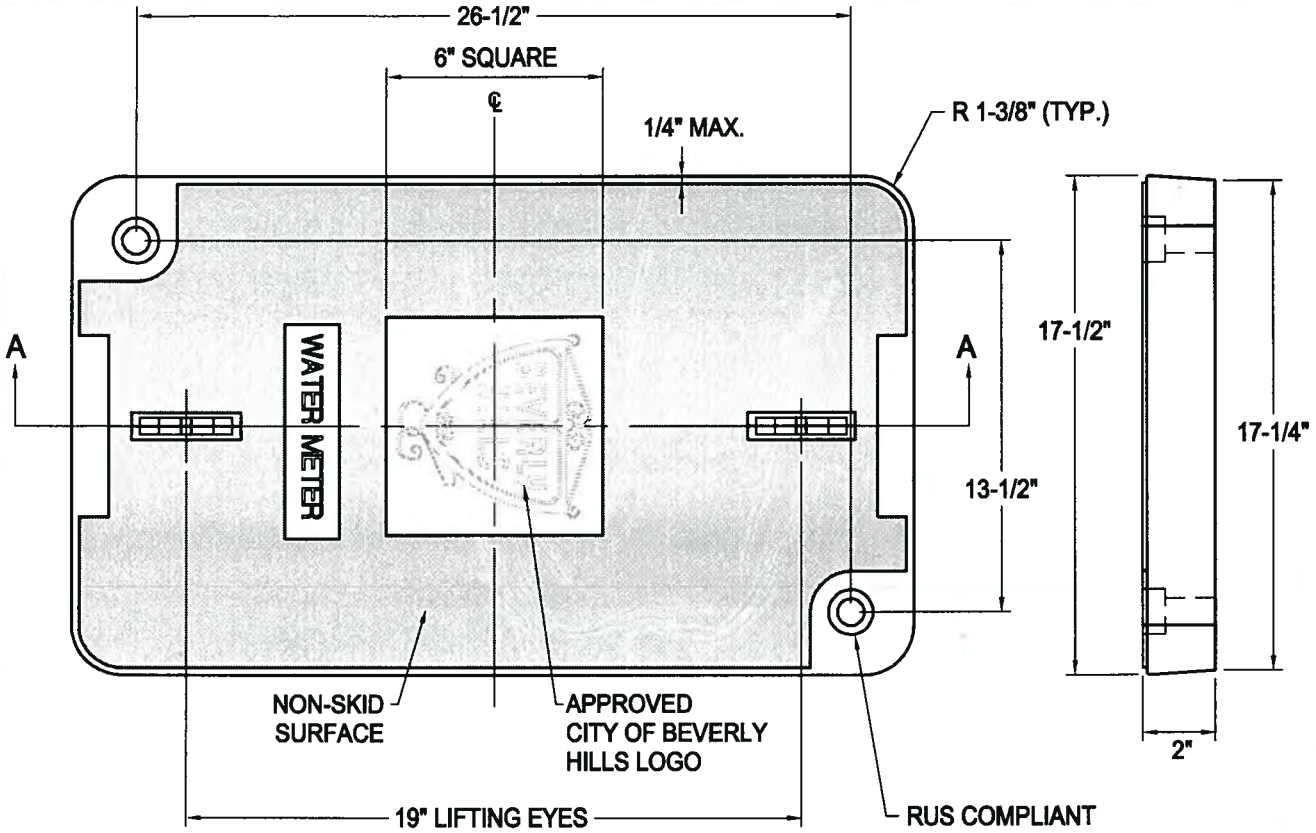
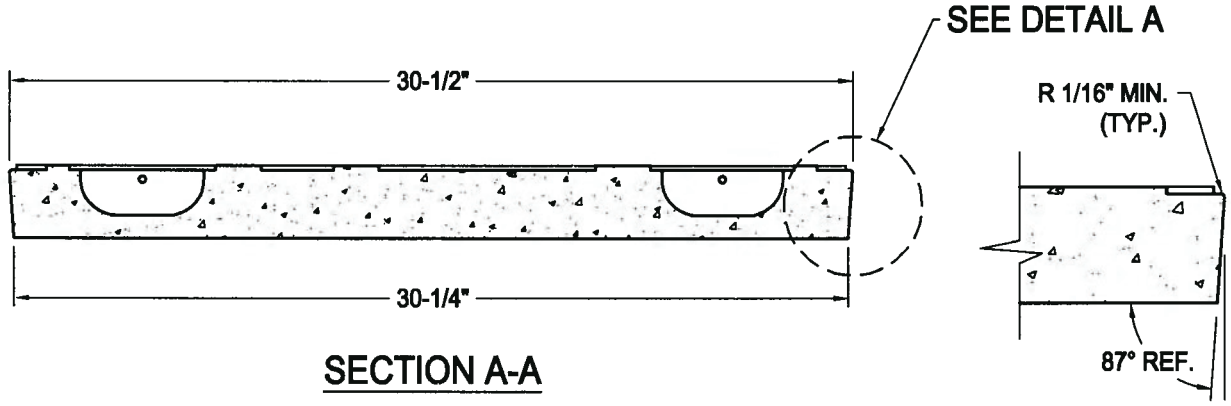
STANDARD DRAWING
BH 713
SHEET 1 OF 2



PLAN VIEW



SECTION A-A

DETAIL A

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 _____ CITY ENGINEER DATE 11-18-10

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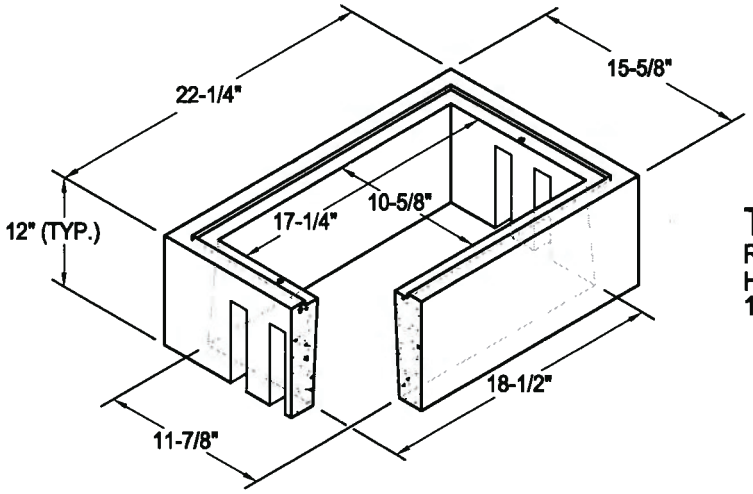
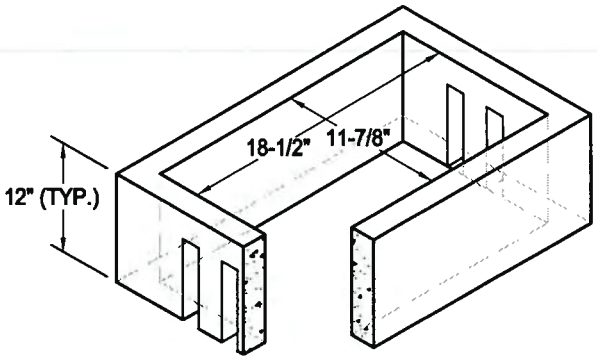
STANDARD DRAWING

BH 713

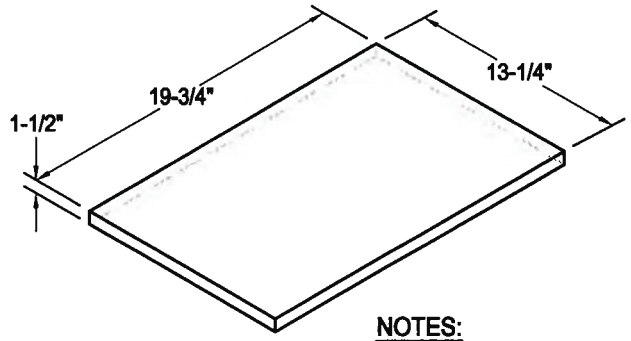
SHEET 2 OF 2



TRAFFIC BOX
REINFORCED CONCRETE
H-20 LOADING
130 lbs.



EXTENSION
REINFORCED CONCRETE
H-20 LOADING
129 lbs.



SLAB
REINFORCED CONCRETE
32 lbs.

NOTES:

1. 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 _____ CITY ENGINEER DATE 11-18-10

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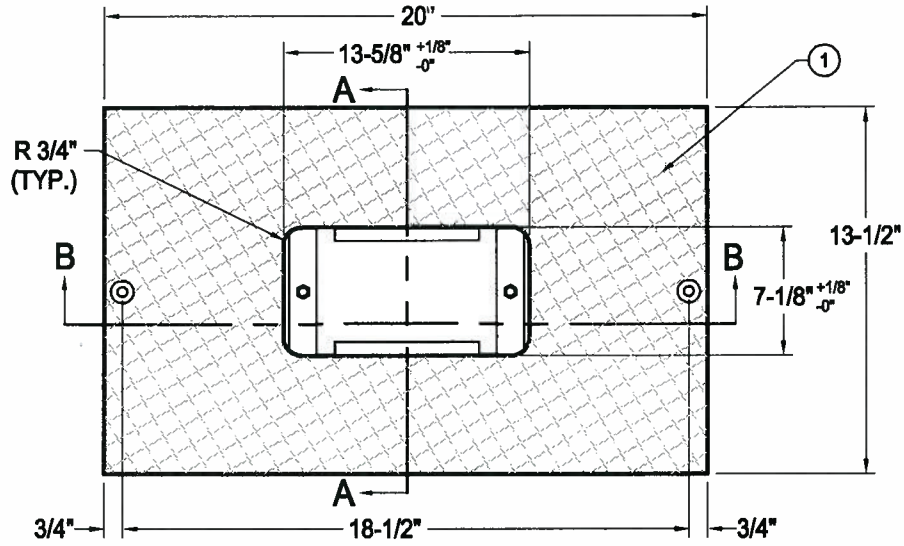
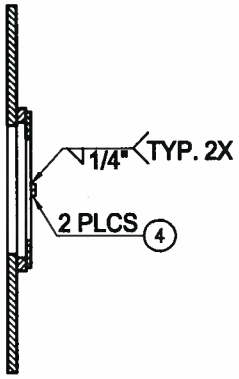
STANDARD DRAWING
BH 714
SHEET 1 OF 2

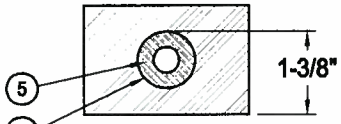


PLAN VIEW

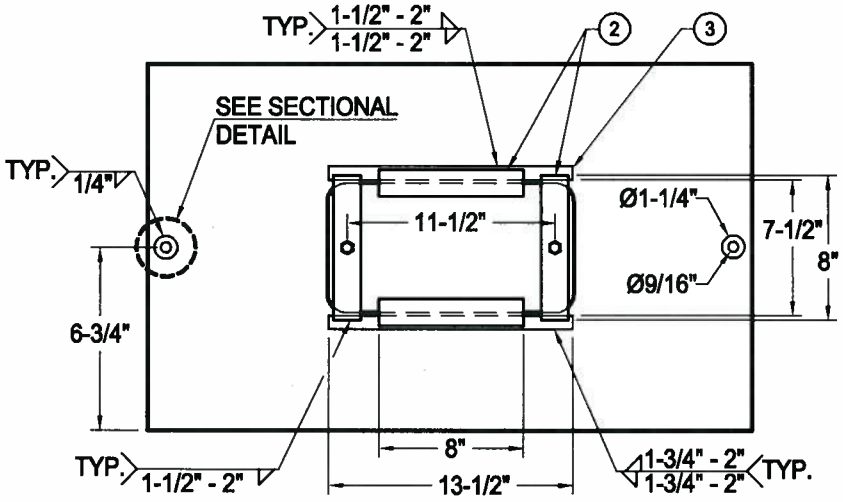


SECTION A-A

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

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 _____ CITY ENGINEER DATE 11-18-10

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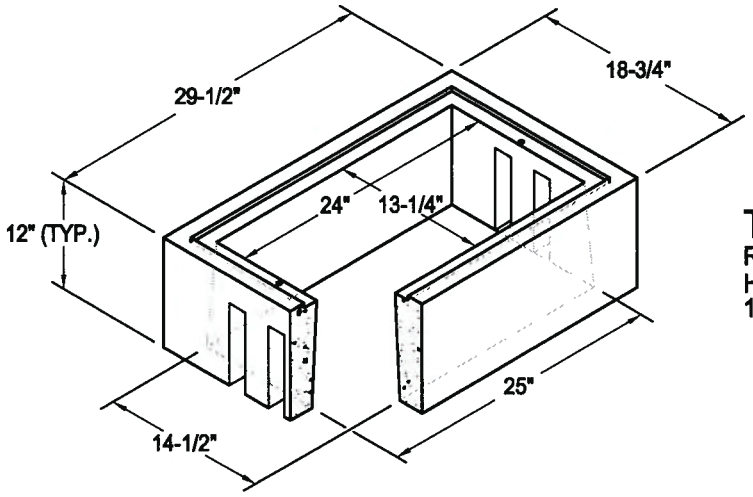
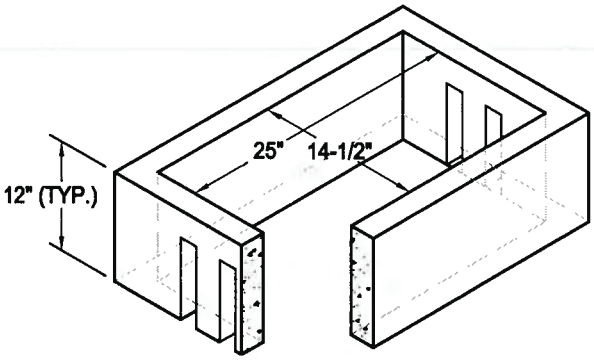
STANDARD DRAWING

BH 714

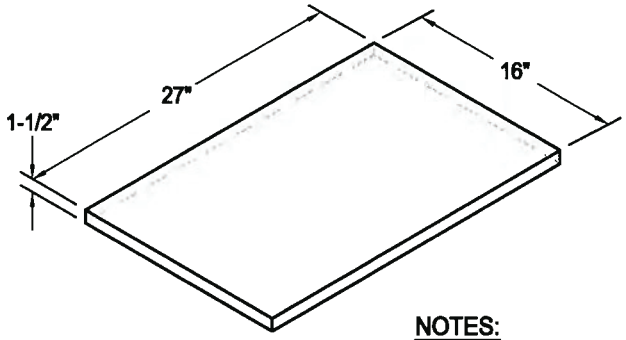
SHEET 2 OF 2



TRAFFIC BOX
REINFORCED CONCRETE
H-20 LOADING
166 lbs.



EXTENSION
REINFORCED CONCRETE
H-20 LOADING
163 lbs.



SLAB
REINFORCED CONCRETE
52 lbs.

NOTES:

1. 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 _____ CITY ENGINEER DATE 11-18-10

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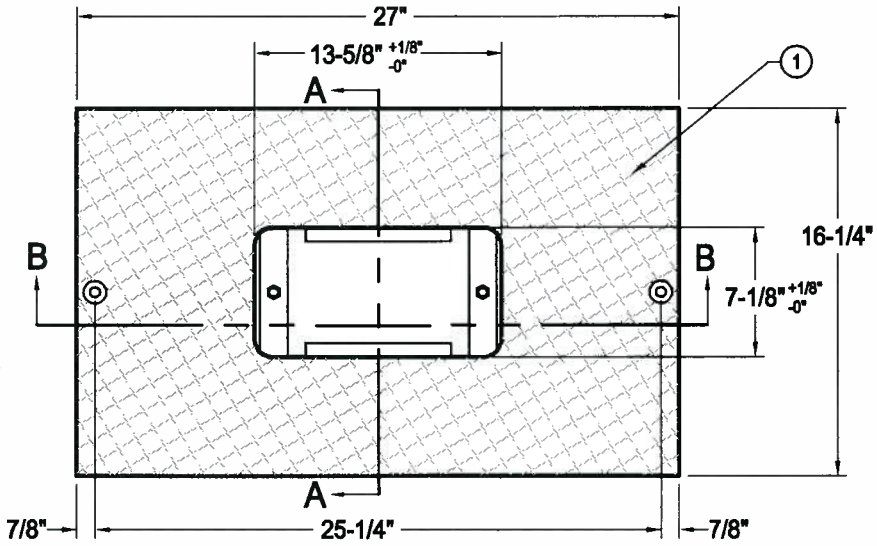
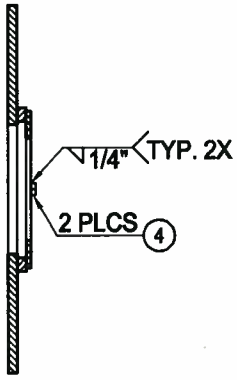
STANDARD DRAWING
BH 715
SHEET 1 OF 2

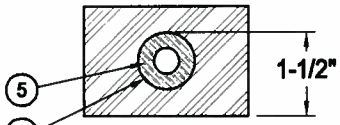


PLAN VIEW

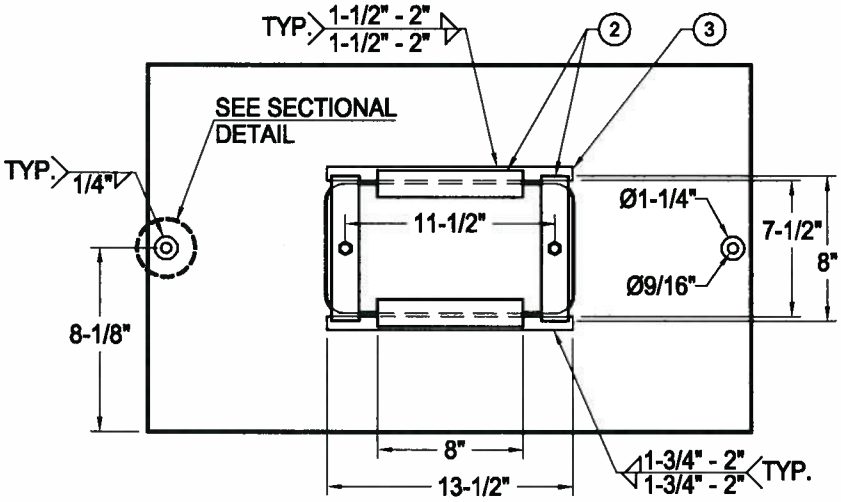


SECTION A-A

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

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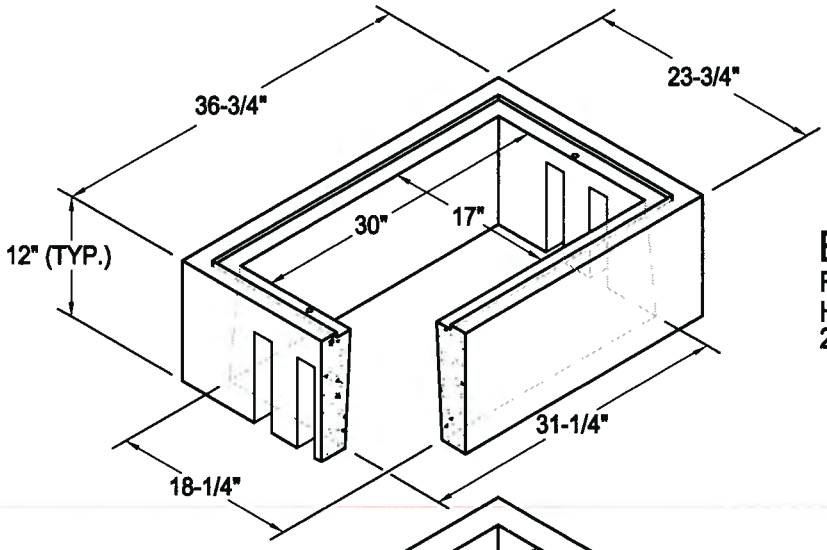
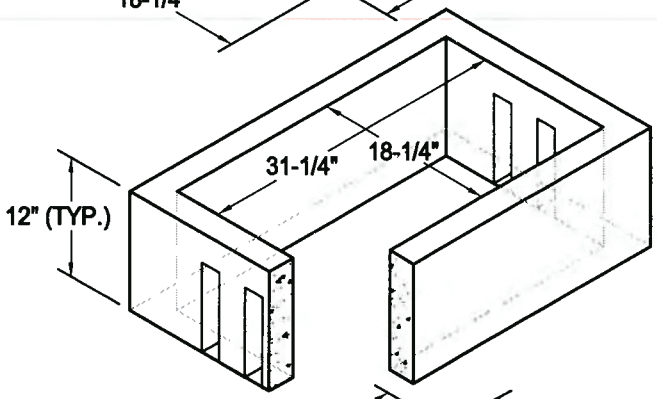
STANDARD DRAWING

BH 715

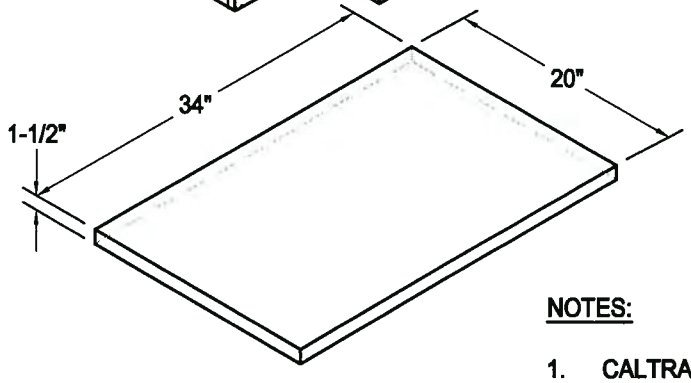
SHEET 2 OF 2



BOX
REINFORCED CONCRETE
H-20 LOADING
268 lbs.



EXTENSION
REINFORCED CONCRETE
H-20 LOADING
250 lbs.



SLAB
REINFORCED CONCRETE
108 lbs.

NOTES:

1. 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 _____ CITY ENGINEER DATE 11-18-10

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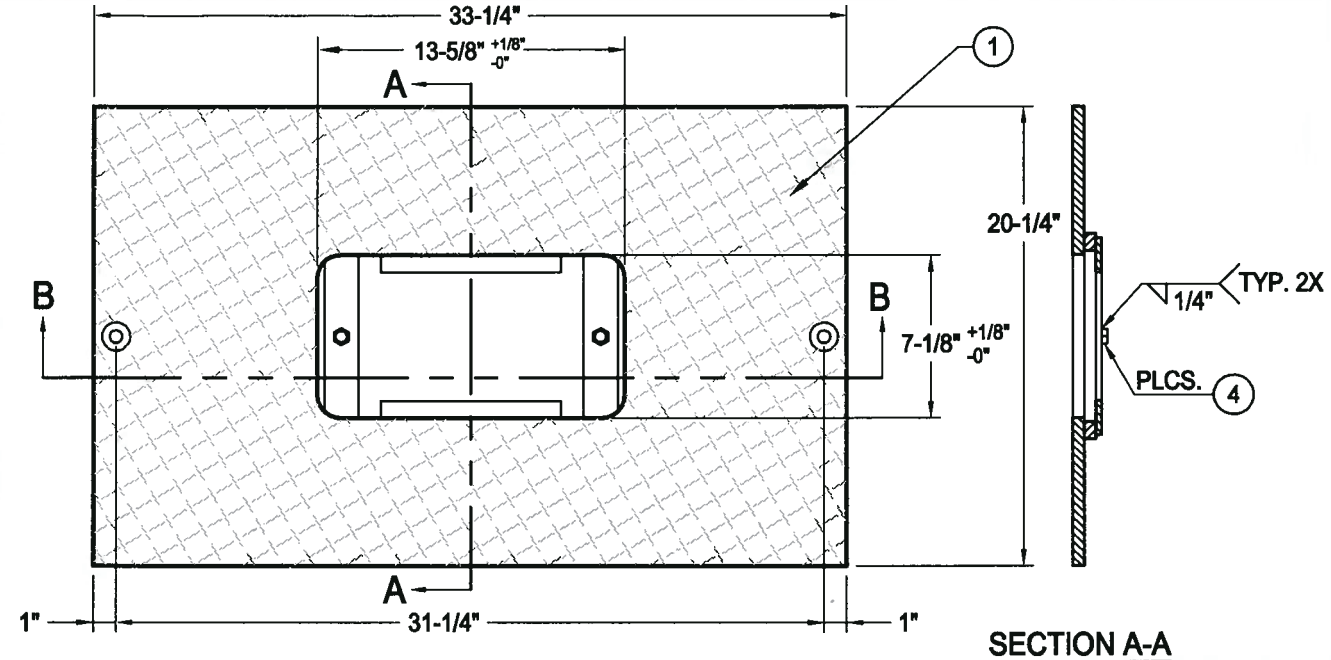
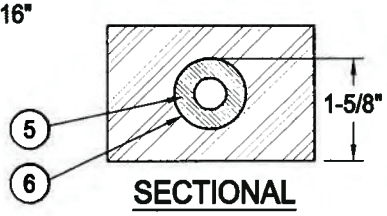
STANDARD DRAWING
BH 716
SHEET 1 OF 2



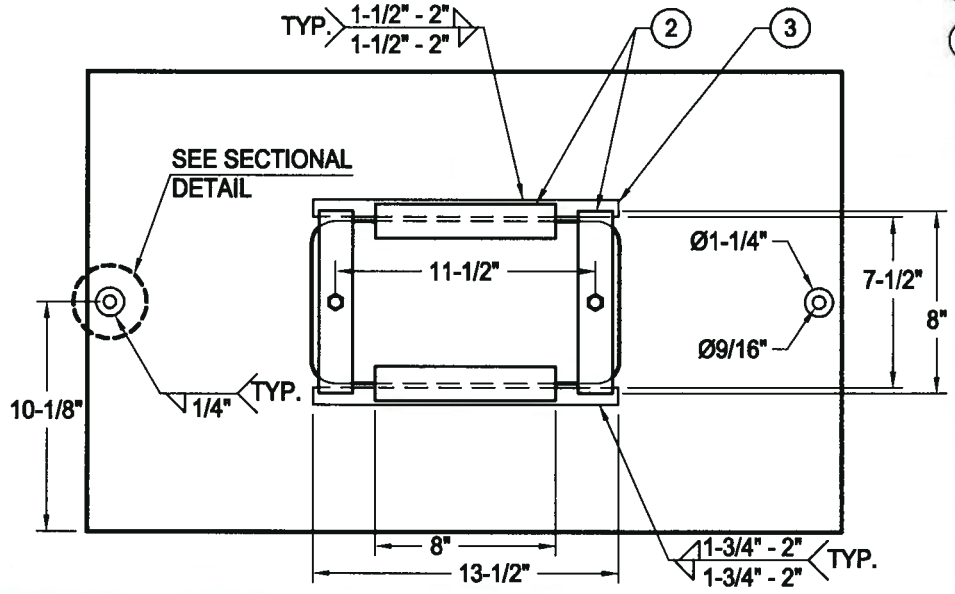
PLAN VIEW

SECTION A-A



SECTIONAL DETAIL

SECTION B-B



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

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

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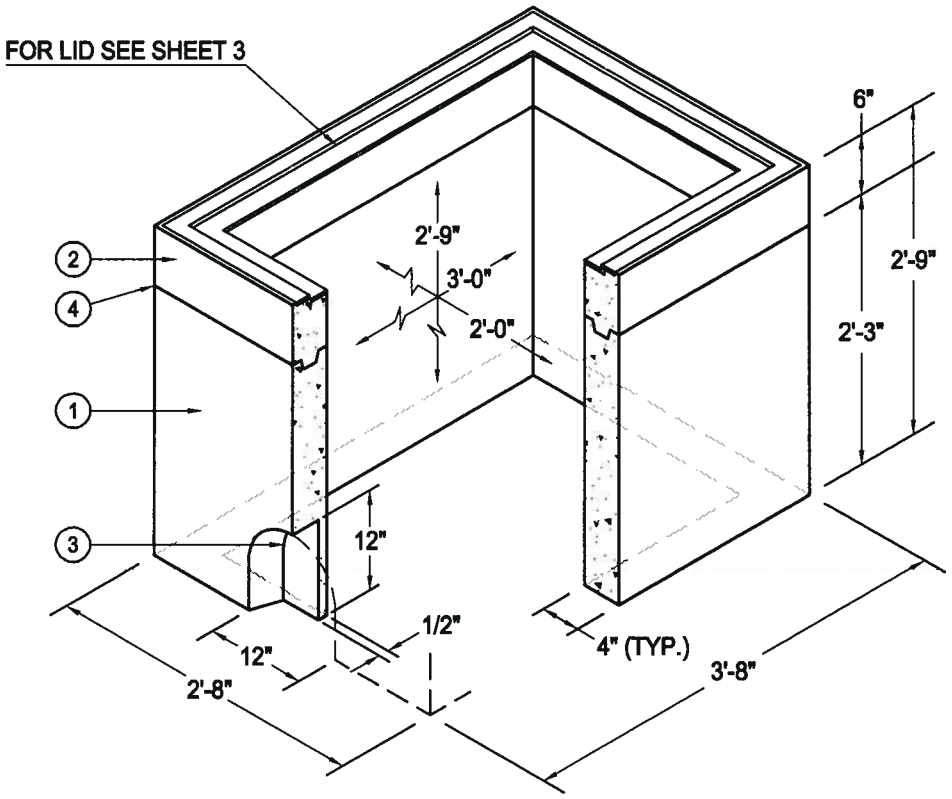
STANDARD DRAWING

BH 716

SHEET 2 OF 2



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.

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 Fy = 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.

2' x 3' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

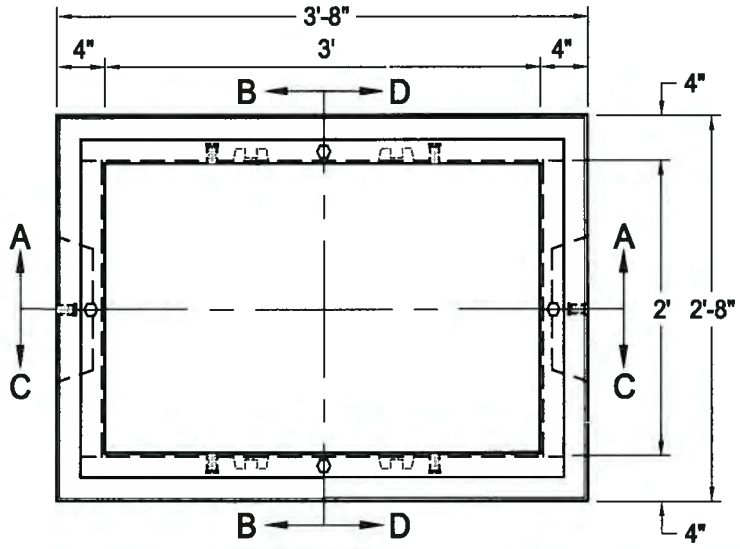
RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-10

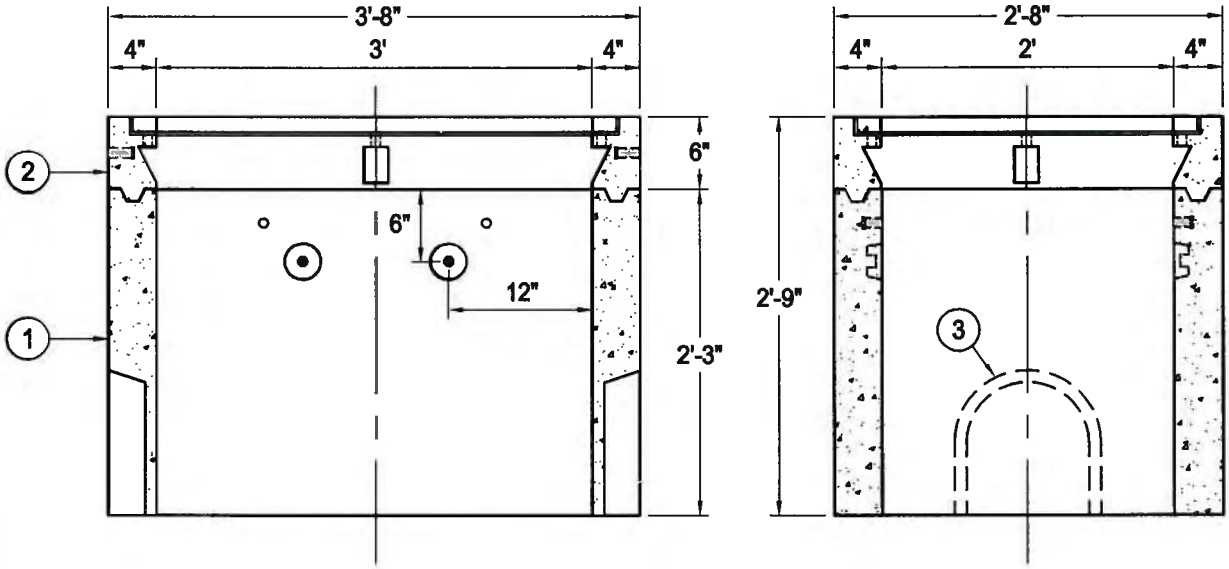
STANDARD DRAWING

BH 717

SHEET 1 OF 3



PLAN VIEW



SECTION A-A / C-C

SECTION B-B / D-D

2' x 3' WATER VAULT BOX & LID

REVISIONS		
MARK	DATE	DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

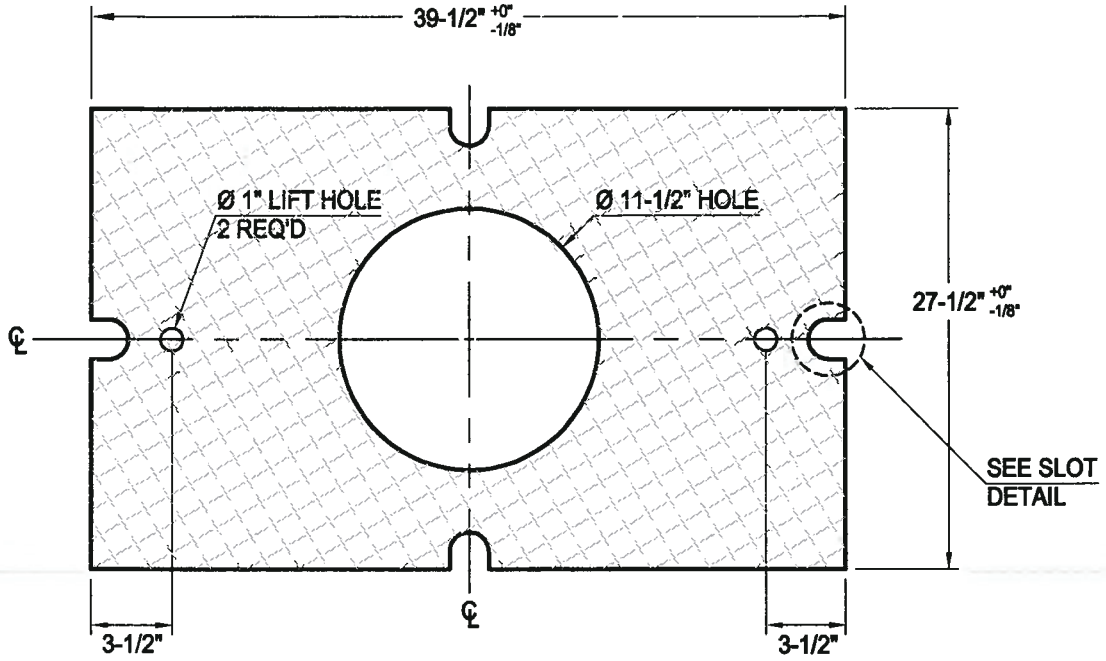
RECOMMENDED _____ CITY ENGINEER DATE 11-18-10

APPROVED _____ PUBLIC WORKS DIRECTOR DATE 11-18-10

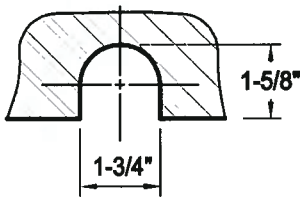
STANDARD DRAWING

BH 717

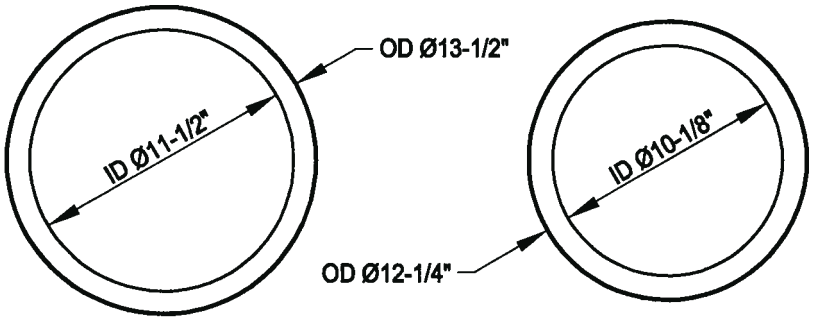
SHEET 2 OF 3



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 _____ CITY ENGINEER DATE 11-18-10

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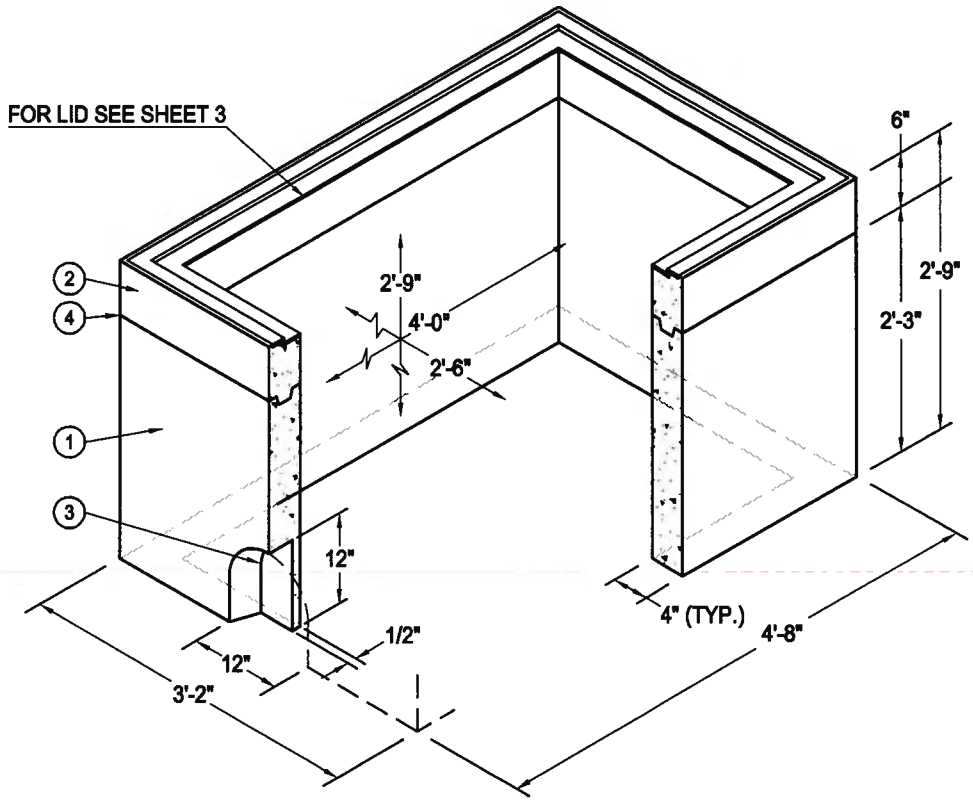
STANDARD DRAWING
BH 717
SHEET 3 OF 3



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.

NOTES:

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

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2. CONCRETE COMPRESSIVE STRENGTH F'c = 5500 PSI.

3. REINFORCEMENT IN ACCORDANCE WITH ASTM A-706 WITH A YIELD STRENGTH OF Fy = 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.

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 _____ CITY ENGINEER DATE 11-18-10

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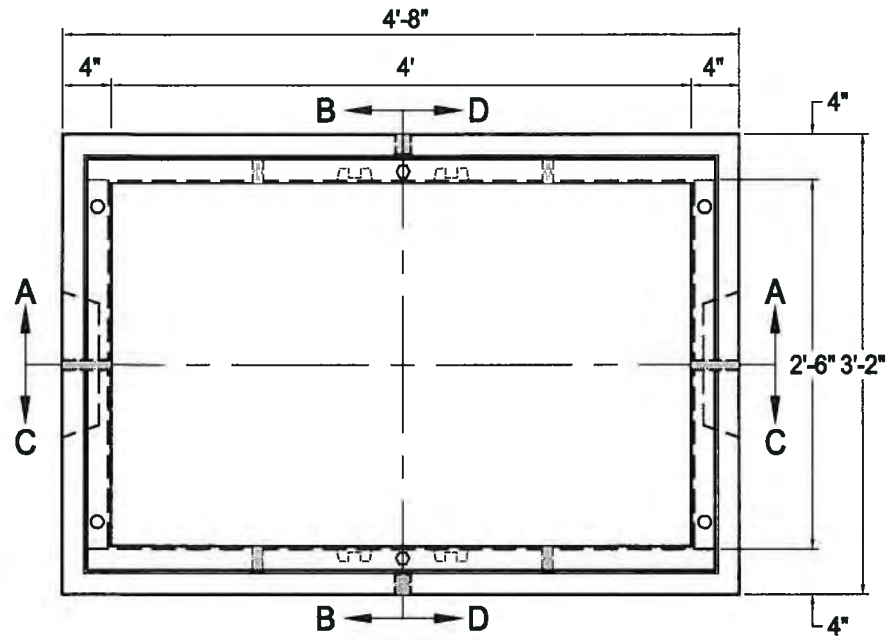
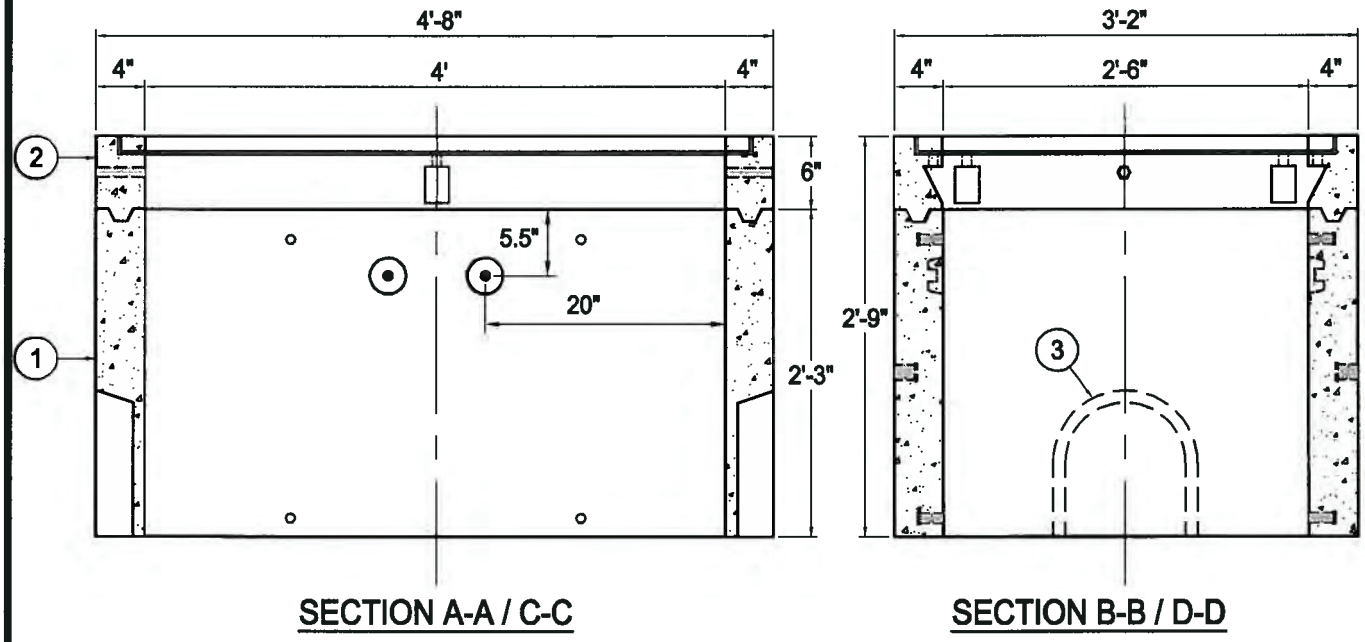
STANDARD DRAWING

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 _____ CITY ENGINEER DATE 11-18-10

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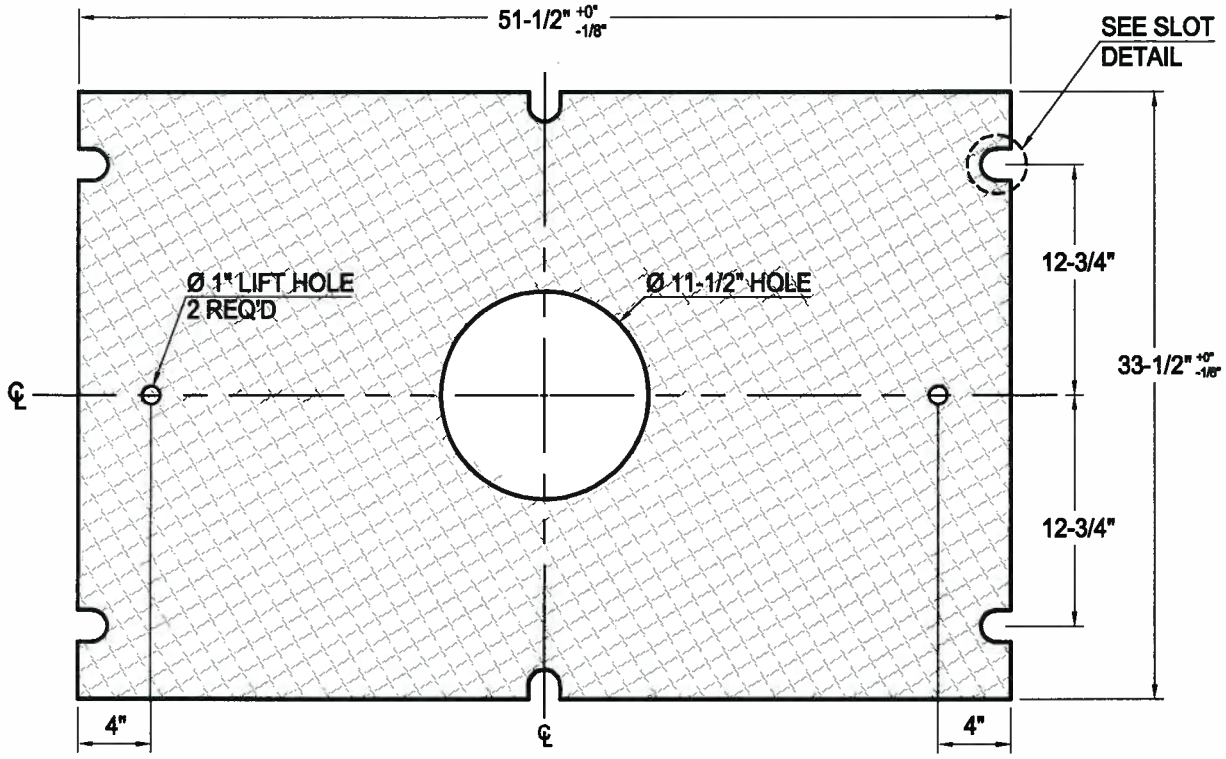
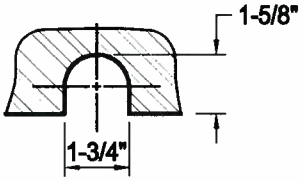
STANDARD DRAWING

BH 718

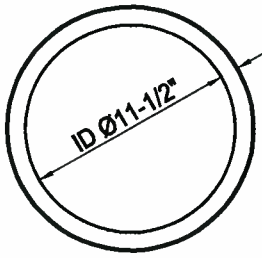
SHEET 2 OF 3



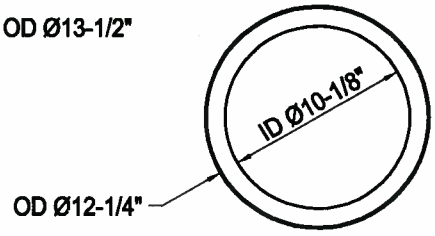
PLAN VIEW



SLOT DETAIL
6 PLACES



1/4" PLATE (1)



1/4" PLATE (1)

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

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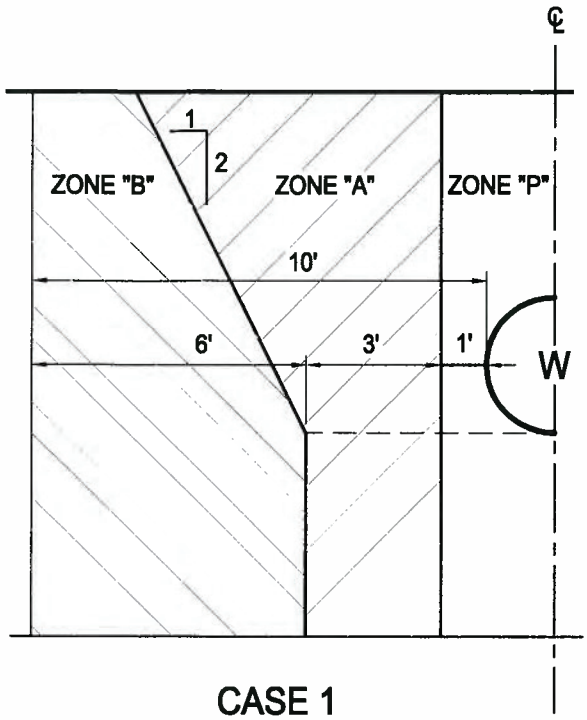
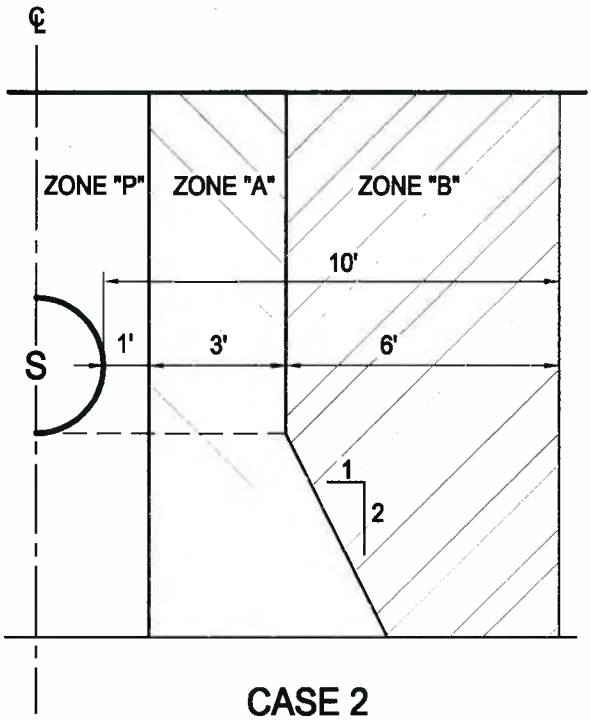
STANDARD DRAWING
BH 718
SHEET 3 OF 3



CASE 1

NEW SEWER

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.



CASE 2

NEW WATER MAIN

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 _____ CITY ENGINEER DATE 11-18-10

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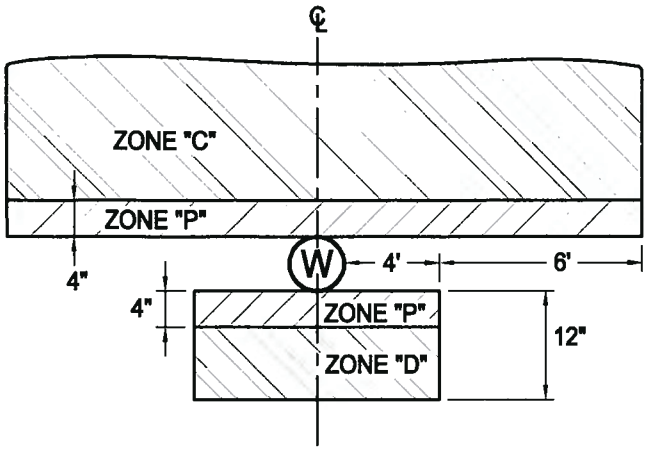
STANDARD DRAWING

BH 719

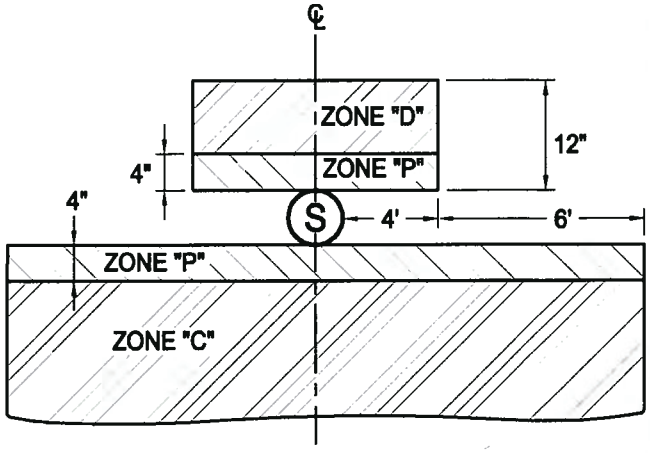
SHEET 1 OF 2



CASE 1

NEW SEWER

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.



CASE 2

NEW WATER MAIN

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

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STANDARD DRAWING

BH 719

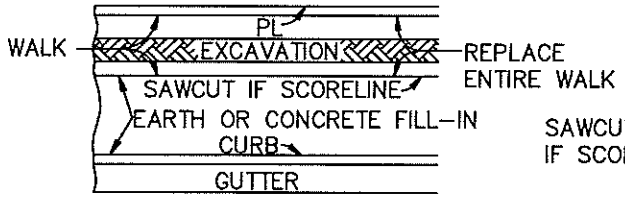
SHEET 2 OF 2

APPENDIX B

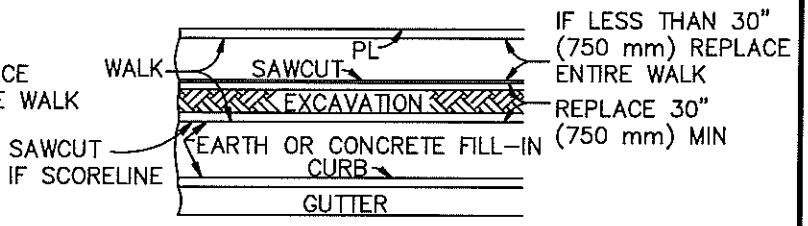
WALK OR FILL–IN REPLACEMENT FOR EXCAVATIONS MADE PARALLEL TO CURB OR PROPERTY LINE

WALK ADJACENT TO PROPERTY LINE

WALK LESS THAN 5' (1500 mm) WIDE

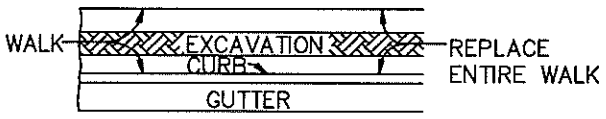


WALK 5' (1500 mm) WIDE OR MORE

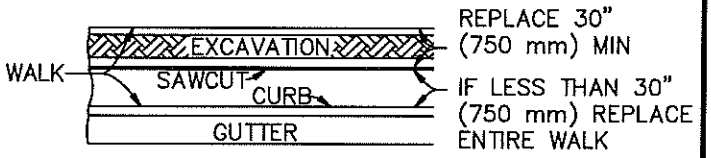


WALK ADJACENT TO CURB

WALK LESS THAN 5' (1500 mm) WIDE

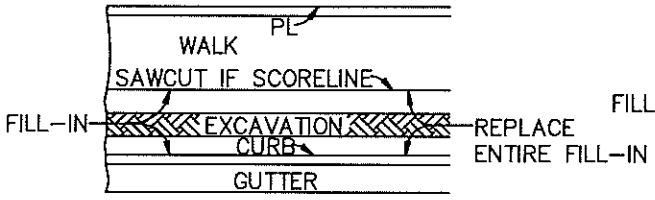


WALK 5' (1500 mm) WIDE OR MORE

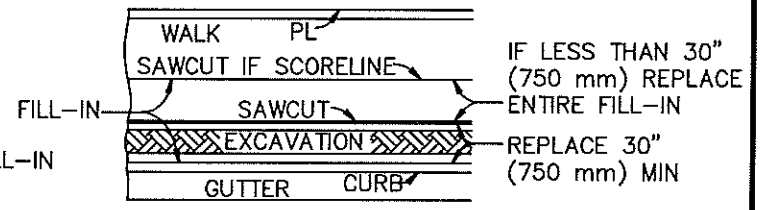


FILL–IN REPLACEMENT

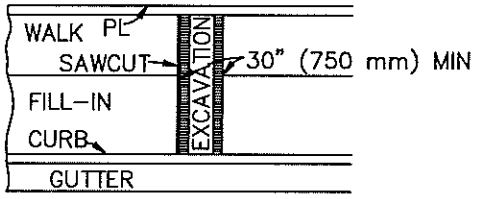
FILL–IN LESS THAN 5' (1500 mm) WIDE



FILL–IN 5' (1500 mm) WIDE OR MORE



WALK OR FILL–IN REPLACEMENT FOR EXCAVATIONS MADE NORMAL TO CURB OR PROPERTY LINE



THESE REQUIREMENTS ALSO APPLY TO ENDS OF PARALLEL EXCAVATIONS.

IF AN EXCAVATION FALLS WITHIN 30" (750 mm) OF AN EXPANSION JOINT, CONSTRUCTION JOINT, WEAKENED PLANE JOINT, OR EDGE, THE CONCRETE SHALL BE REMOVED AND REPLACED TO THE JOINT OR EDGE.

IF AN EXCAVATION FALLS WITHIN 12" (300 mm) OF A SCORELINE, THE CONCRETE SHALL BE REMOVED AND REPLACED TO THE SCORELINE. THE SCORELINE SHALL BE SAWCUT BEFORE CONCRETE REMOVAL.

THE MINIMUM LENGTH OF REPLACEMENT IN BOTH CASES SHALL BE 30" (750 mm).

NOTES

1. CONCRETE WALK, FILL–IN AND DRIVEWAYS REMOVED IN CONNECTION WITH CONSTRUCTION SHALL BE REPLACED TO NEATLY SAWED EDGES. ALL CUTS SHALL BE PARALLEL TO OR PERPENDICULAR TO THE CURB; ON CURVES, THE CUT SHALL BE RADIAL TO THE CURB.

2. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS LESS THAN 11' (3300 mm) SHALL BE REPLACED IN THEIR ENTIRETY IF CUT IN ANY AREA.

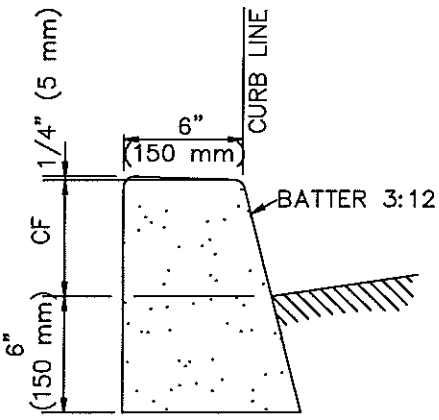
3. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS 11' (3300 mm') OR MORE MAY BE CUT WITHIN THE "W" SECTION. THE MINIMUM REPLACEMENT SHALL BE 30" (750 mm) IN LENGTH. THE MINIMUM DISTANCE ALLOWED BETWEEN SUCH CUTS SHALL BE 14' (4200 mm').

4. DRIVEWAY APRONS IN WHICH THE "W" DISTANCE IS 11' (3300 mm) OR MORE MAY BE CUT IN THE "X" OR "R" SECTION. REPLACEMENT SHALL BE THE ENTIRE "X" OR "R" SECTION.

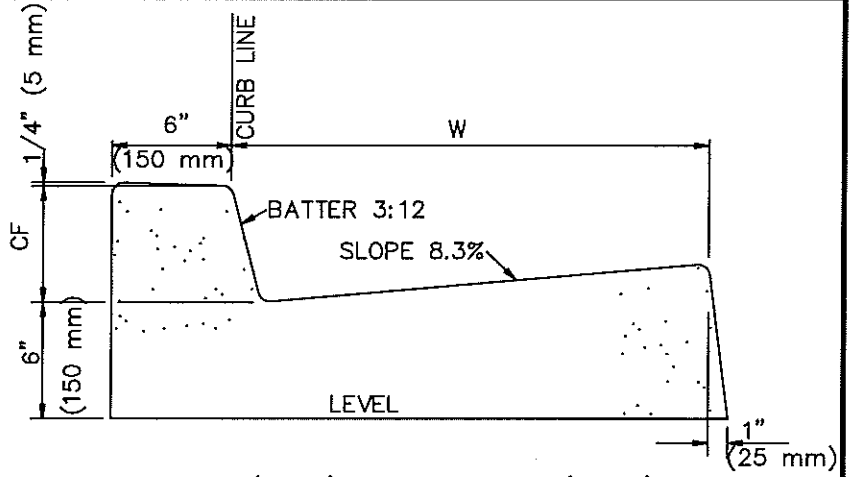
5. DRIVEWAY APRONS SHALL BE REPLACED FROM THE BACK OF THE CURB TO THE FRONT EDGE OF THE WALK, EXCEPT, WHERE WALK IS ADJACENT TO CURB, REPLACEMENT SHALL BE FROM BACK OF CURB TO BACK OF WALK.

6. WALK PORTIONS OF DRIVEWAYS SHALL BE REPLACED AS SHOWN ABOVE FOR EXCAVATIONS MADE PARALLEL OR NORMAL TO CURB.

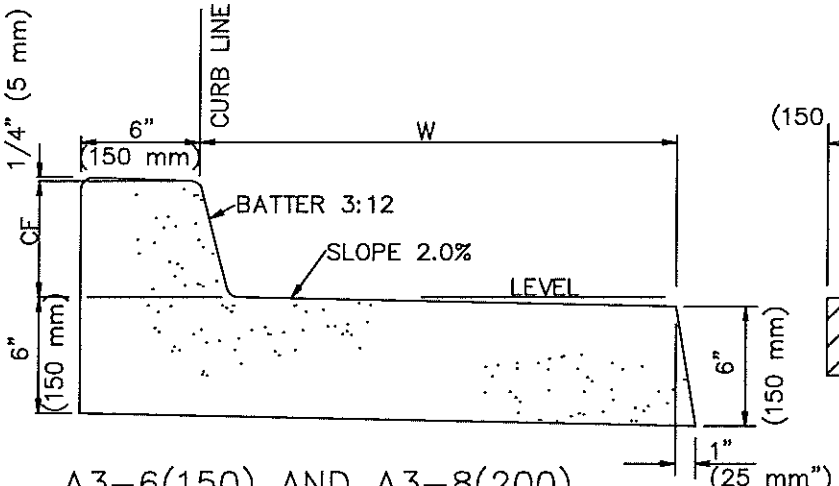
7. REPLACEMENT OF THE "X" OR "R" SECTION SHALL MATCH EXISTING CONSTRUCTION.



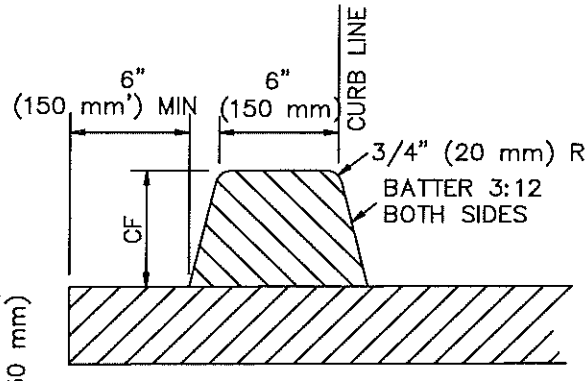
A1–6(150) AND
A1–8(200)



A2–6(150) AND A2–8(200)



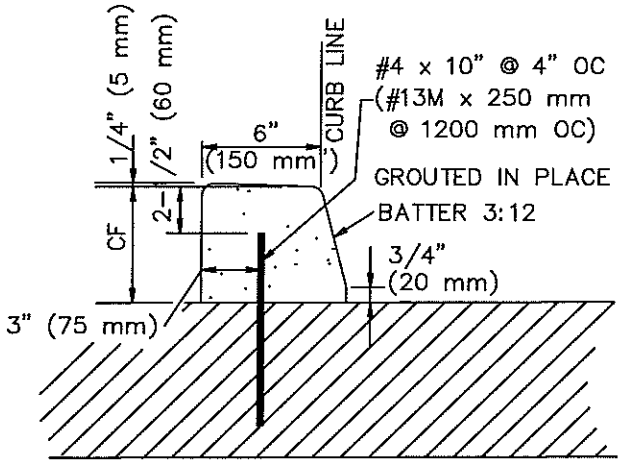
A3–6(150) AND A3–8(200)



D1–6(150) AND
D1–8(200)

NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, INCHES (mm).
2. GUTTER WIDTH, W, IS 24" (600 mm) UNLESS OTHERWISE SPECIFIED.
3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 1/2" (15 mm) RADIUS.



C1–6(150) AND C1–8(200)

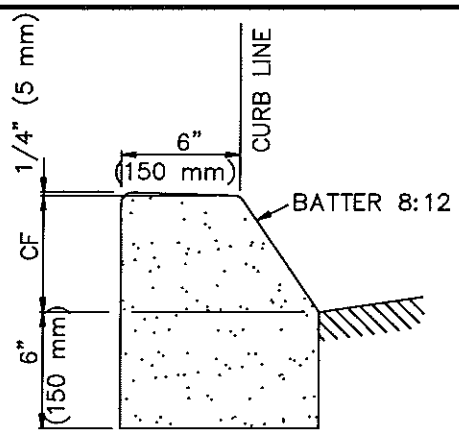
STANDARD PLAN FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
1984
REV. 1996, 2009

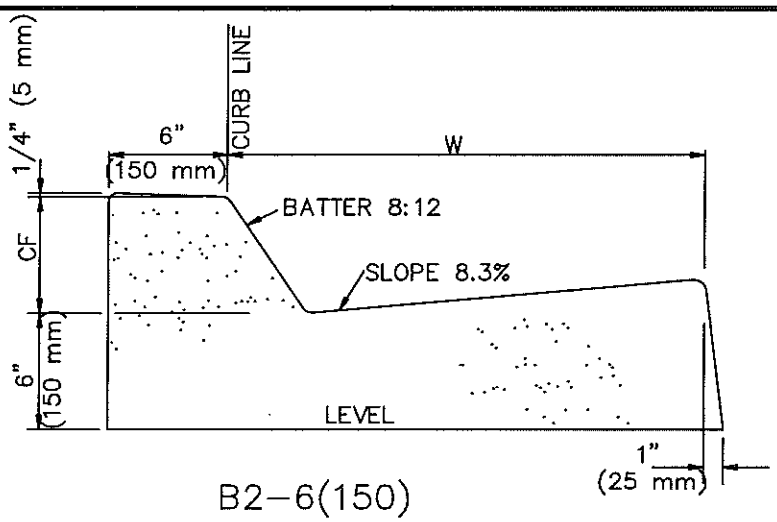
CURB AND GUTTER – BARRIER

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

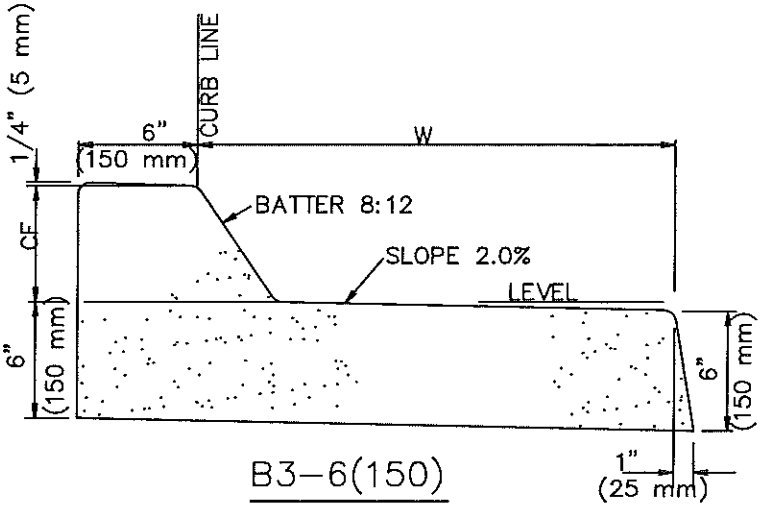
STANDARD PLAN
120–2
SHEET 1 OF 1



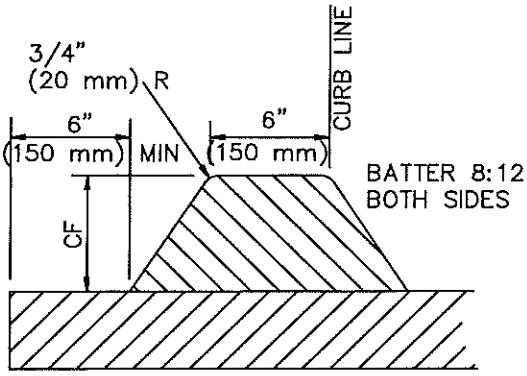
B1–6(150)



B2–6(150)



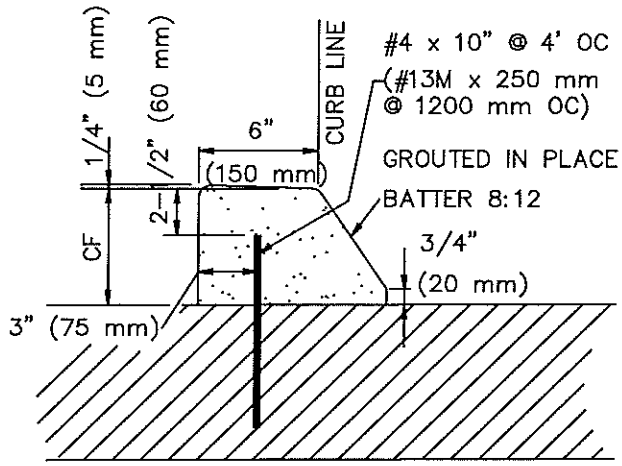
B3–6(150)



D2–6(150)

NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, INCHES (mm).
2. GUTTER WIDTH, W, IS 24" (600 mm) UNLESS OTHERWISE SPECIFIED.
3. TYPES B1, B2, B3 AND C2 SHALL BE CONSTRUCTED FROM PCC.
4. TYPE D2 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
5. TYPE C2 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 1/2" (15 mm) RADIUS.



C2–6(150)

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

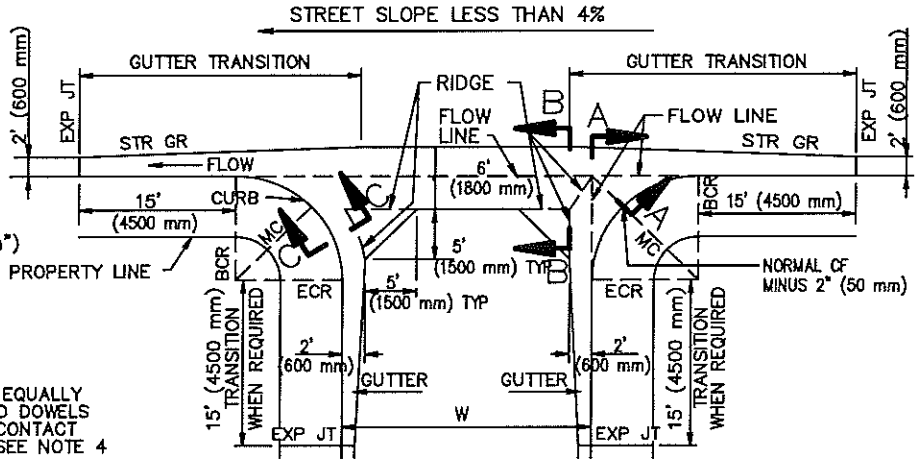
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996, 2009

CURB AND GUTTER–MOUNTABLE

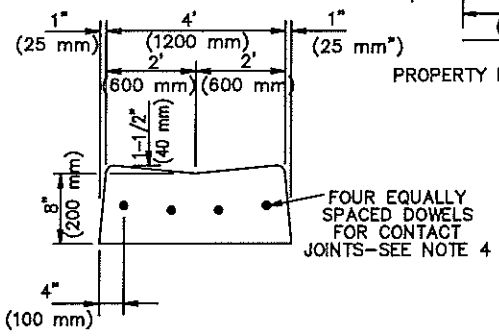
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 121–2

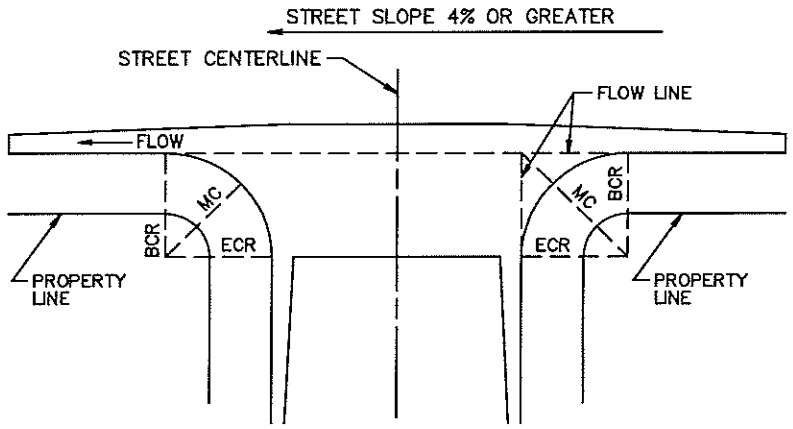
SHEET 1 OF 1



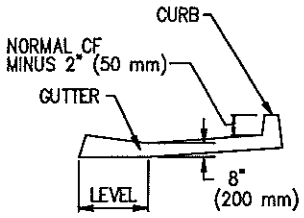
TYPICAL CROSS GUTTER PLAN
STREET SLOPE LESS THAN 4%



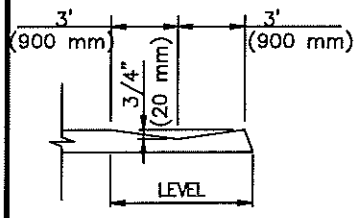
LONGITUDINAL GUTTER



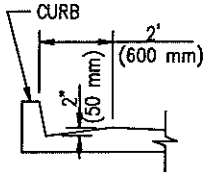
TYPICAL CROSS GUTTER PLAN
STREET SLOPE MORE THAN 4%



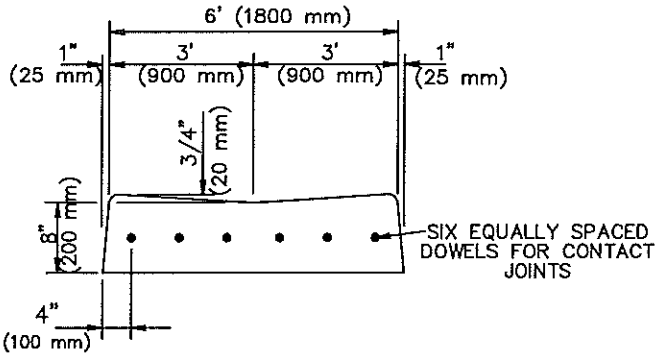
SECTION A–A



SECTION B–B



SECTION C–C



SECTION D–D

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

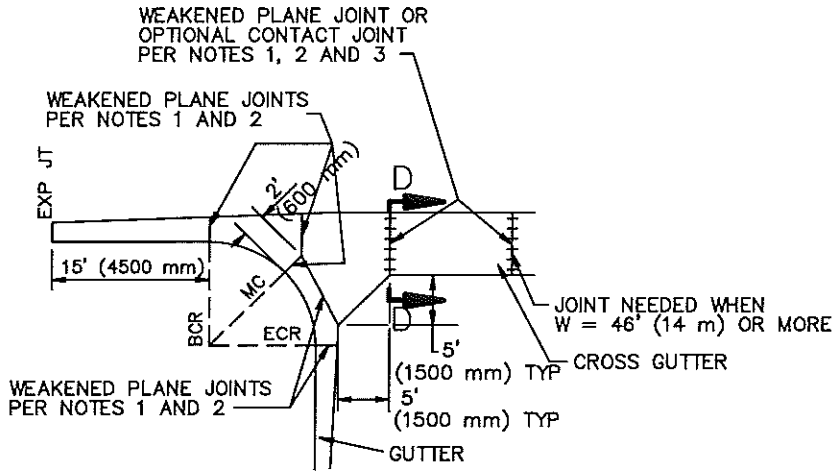
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996, 2009

CROSS AND LONGITUDINAL GUTTERS

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 122–2

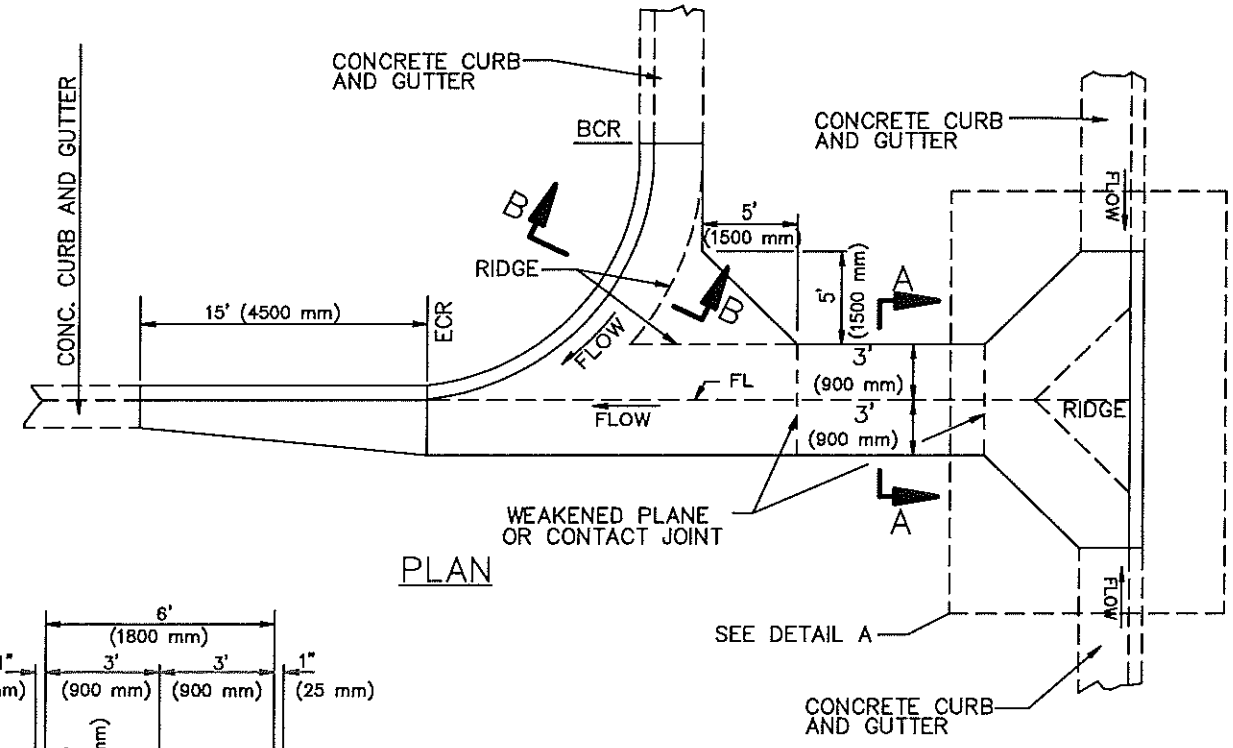
SHEET 1 OF 2



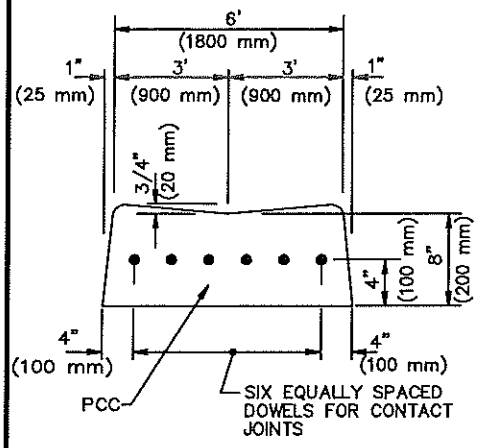
TYPICAL JOINT PLAN

NOTES:

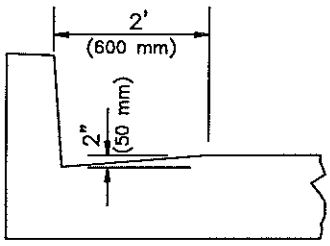
1. WEAKENED PLANE AND/OR CONTACT JOINTS SHALL BE PLACED IN CURB AND GUTTER AT LOCATIONS SHOWN ON THE TYPICAL JOINT PLAN HEREON.
2. WEAKENED PLANE JOINTS SHALL BE PLASTIC CONTROL JOINTS OR 1–1/2" (40 mm) DEEP SAW CUTS. CONCRETE SAWING SHALL TAKE PLACE WITHIN 24 HOURS AFTER CONCRETE IS PLACED.
3. DOWELS FOR CONTACT JOINTS SHALL BE #4 BARS 18" LONG (#13M BARS 450 mm LONG).
4. PLACE A WEAKENED PLANE OR CONTACT JOINT WHERE LONGITUDINAL ALLEY GUTTER JOINS CONCRETE ALLEY INTERSECTION.
5. ALL EXPOSED CORNERS ON PCC GUTTERS SHALL BE ROUNDED WITH 1/2" (15 mm) RADIUS.
6. CONCRETE SHALL BE INTEGRAL WITH CURB UNLESS OTHERWISE SPECIFIED.



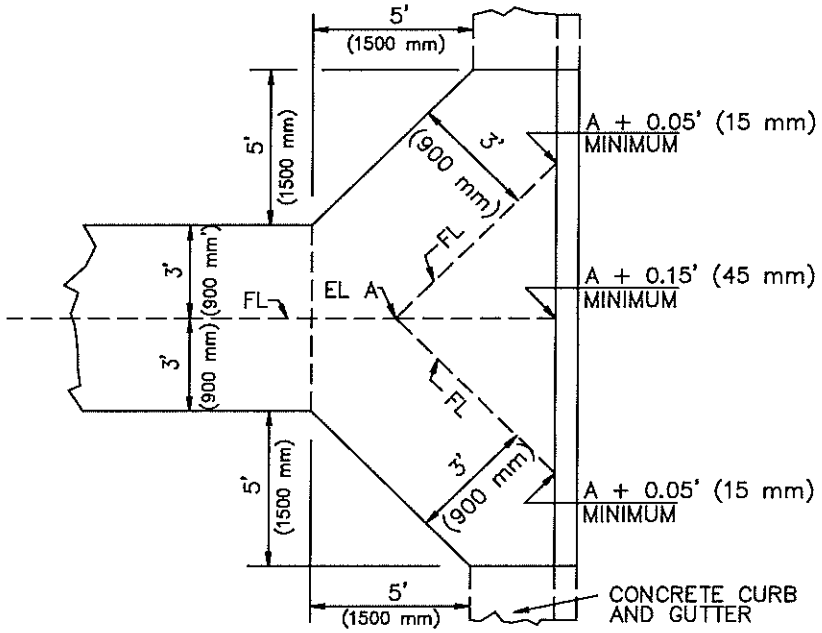
PLAN



SECTION A–A



SECTION B–B



DETAIL A

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
1993
REV. 1996, 2009

CROSS GUTTER AT T INTERSECTIONS

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN
123–2
SHEET 1 OF 2

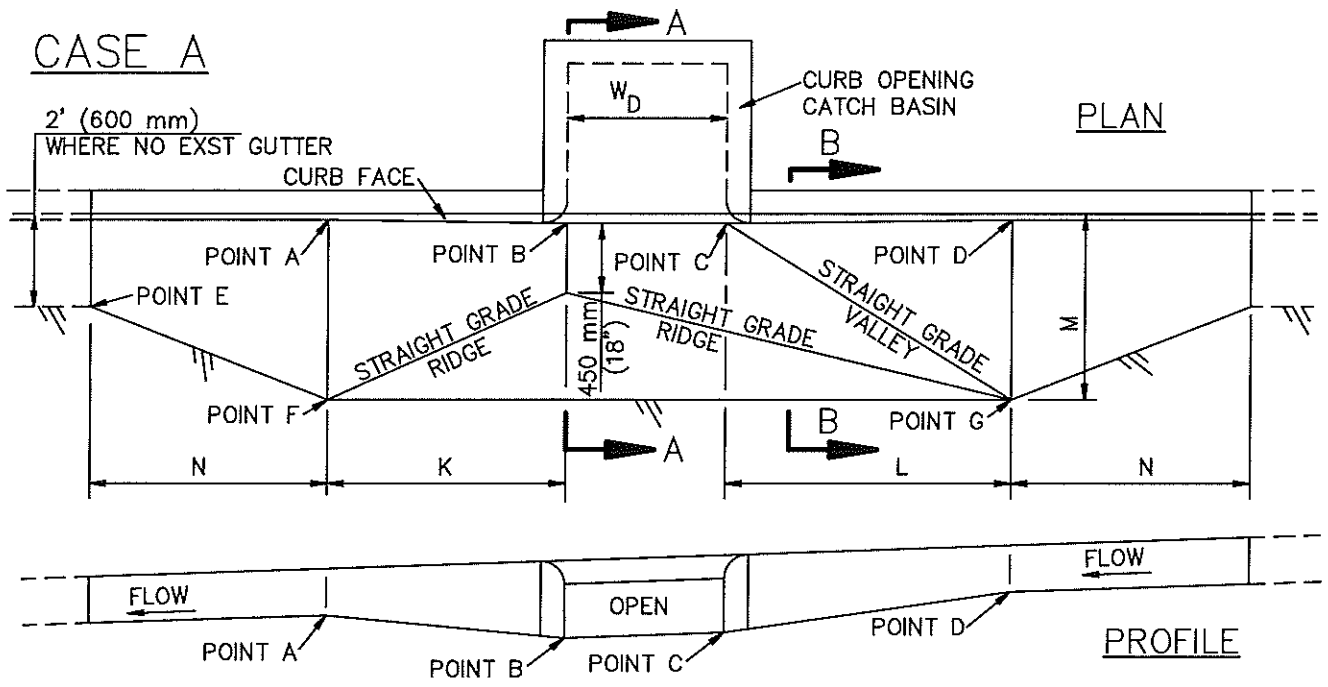
NOTES:

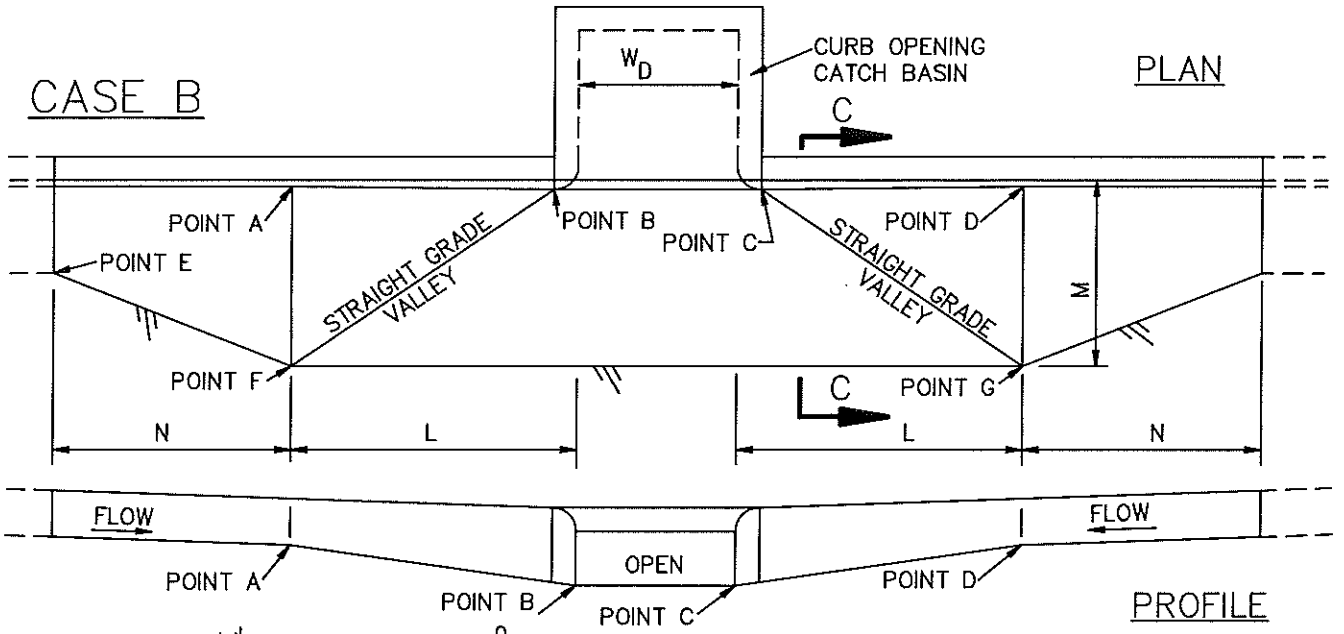
1. WEAKENED PLANE JOINTS SHALL BE PLASTIC CONTROL JOINTS OR 1–1/2" (35 mm) DEEP SAW CUTS. CONCRETE SAWING SHALL TAKE PLACE WITHIN 24 HOURS AFTER CONCRETE IS PLACED.

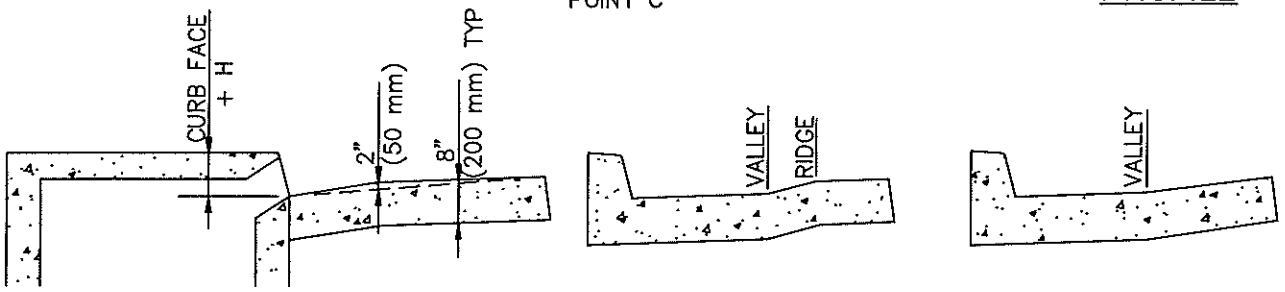
2. DOWELS FOR CONTACT JOINTS SHALL BE #4 BARS 18" LONG (#13M BARS 450 mm LONG).

3. ALL EXPOSED CORNERS SHALL BE ROUNDED WITH 1/2" (15 mm) RADIUS.

4. CONCRETE SHALL BE INTEGRAL WITH CURB UNLESS OTHERWISE SPECIFIED.







SECTION A–A SECTION B–B SECTION C–C

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

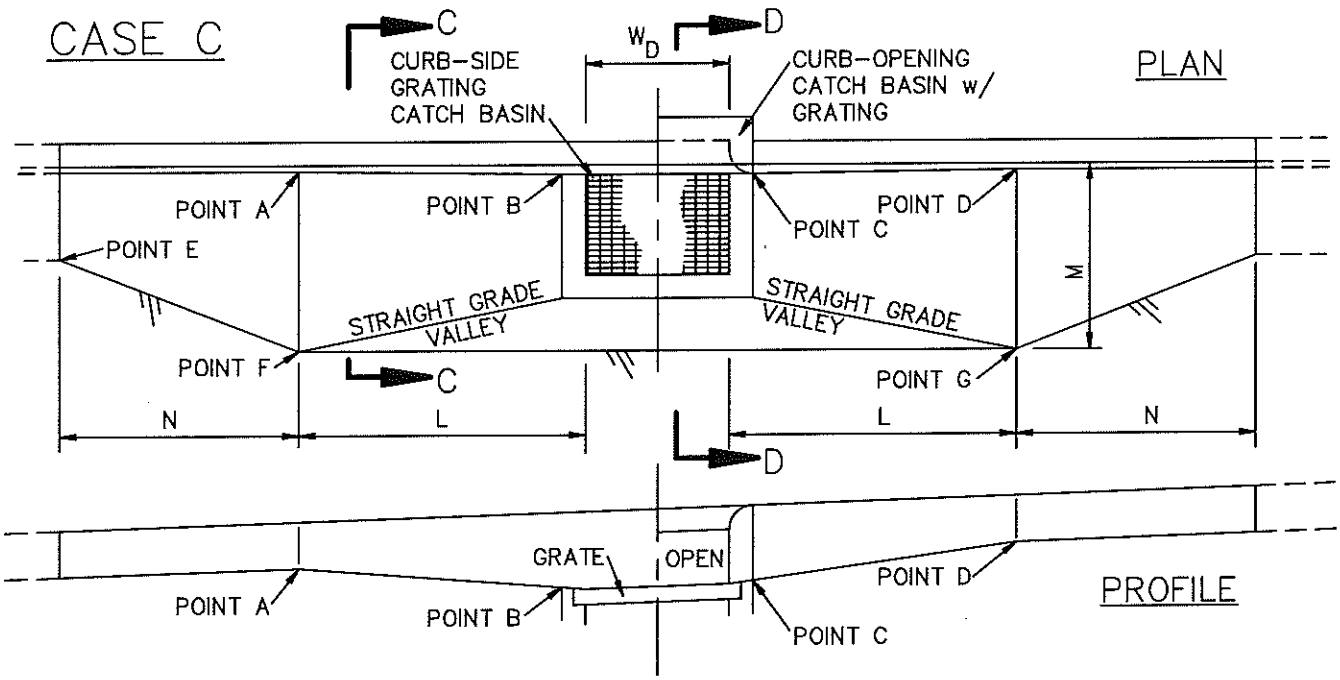
PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
1984
REV. 1996, 2005, 2009

LOCAL DEPRESSIONS AT CATCH BASINS

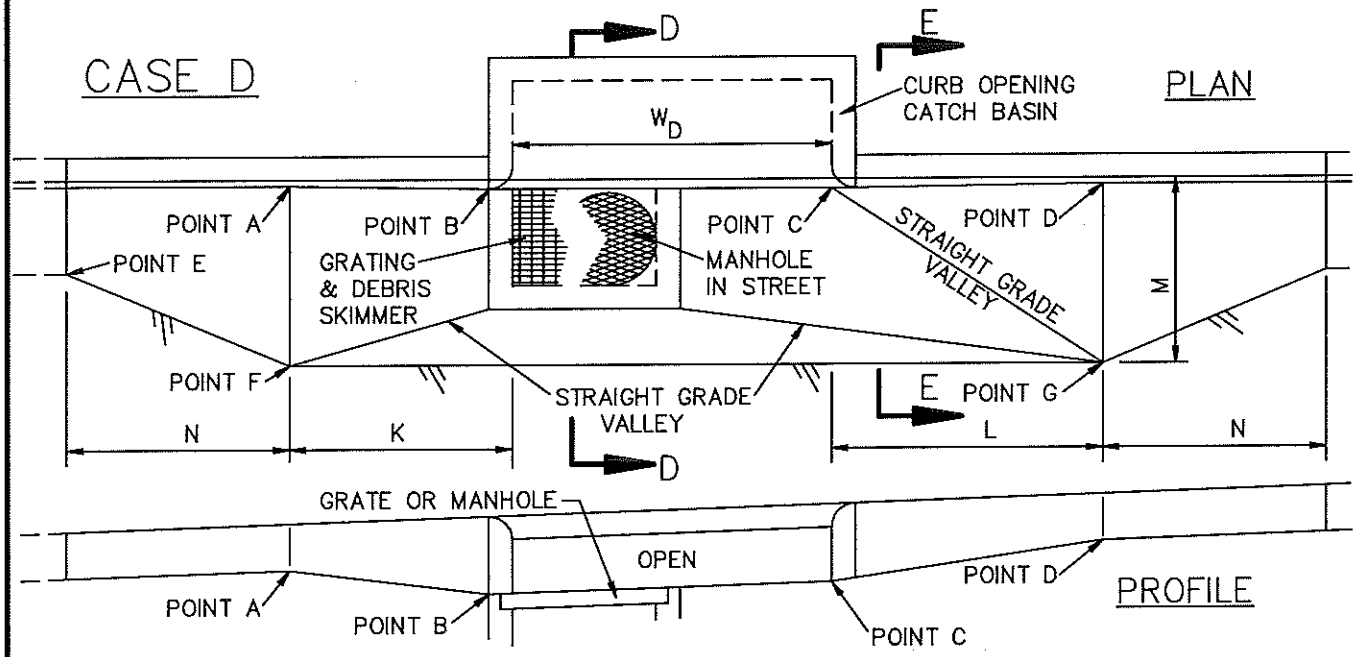
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

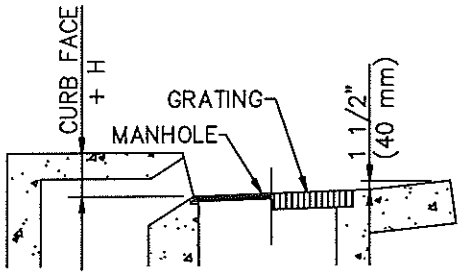
STANDARD PLAN
313–3
SHEET 1 OF 4

CASE C

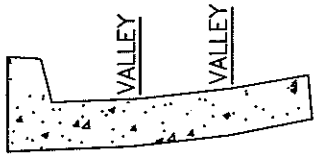


CASE D





SECTION D–D

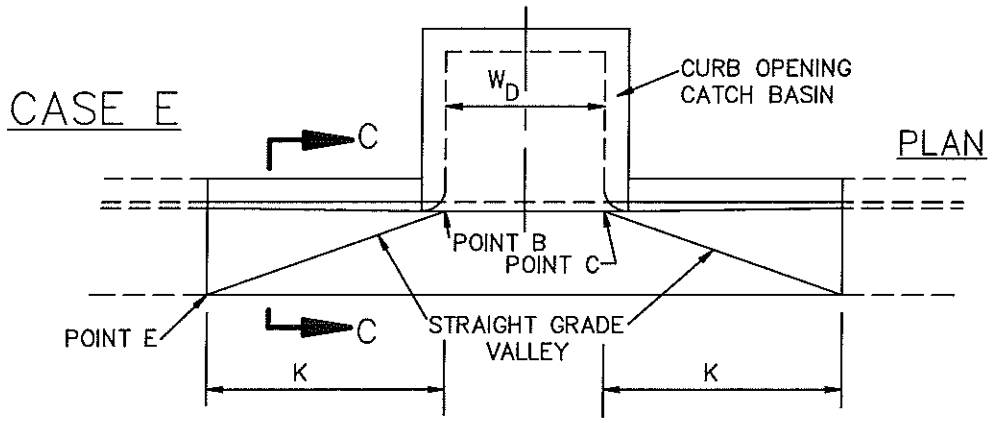


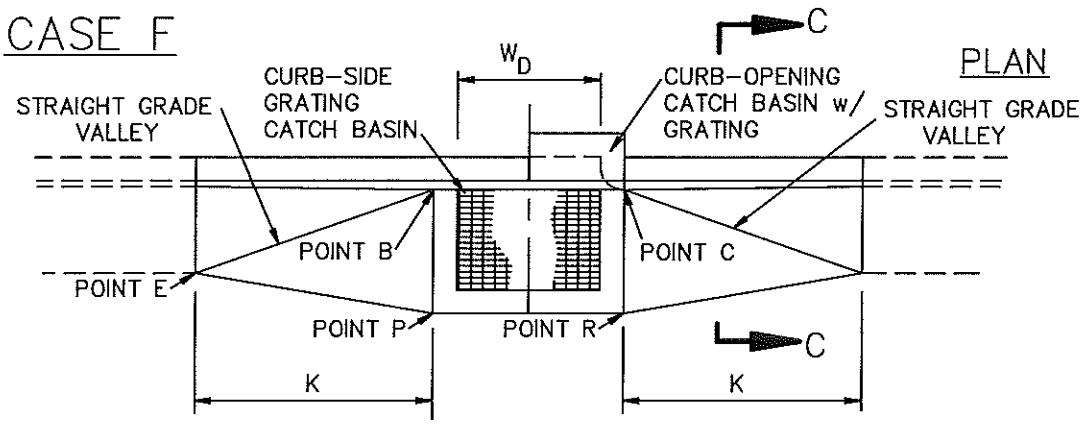
SECTION E–E

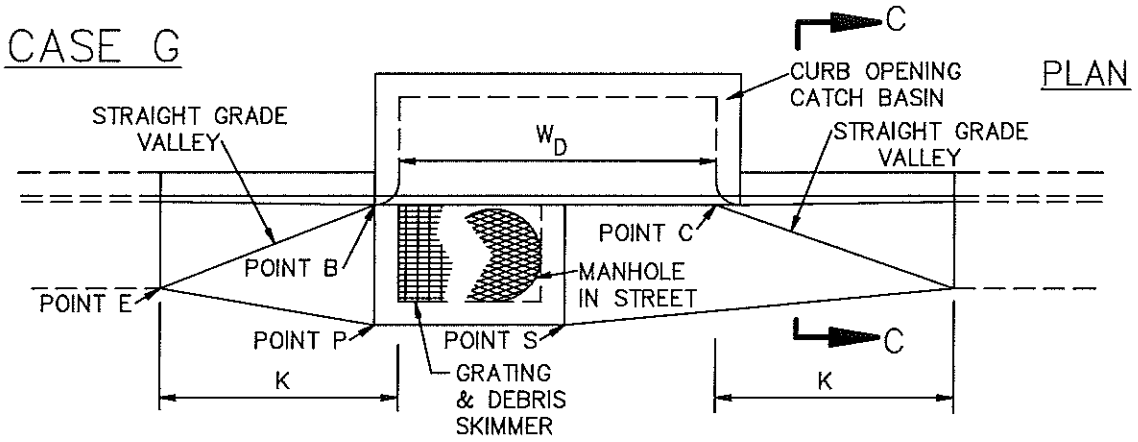
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

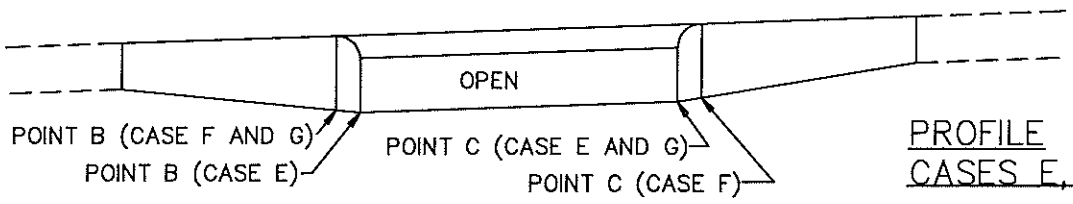
LOCAL DEPRESSIONS AT CATCH BASINS

STANDARD PLAN
313–3
SHEET 2 OF 4









STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	STANDARD PLAN
LOCAL DEPRESSIONS AT CATCH BASINS	313–3
	SHEET 3 OF 4

NOTES:

1. ALL EXPOSED EDGES SHALL BE ROUNDED TO A 1/2" (15 mm) RADIUS.

2. THE CURB FACE AT POINTS A AND D SHALL BE THE NORMAL CURB FACE OF THE ADJACENT CURB. AT POINTS B AND C, THE CURB FACE SHALL BE THE NORMAL CURB FACE OF THE ADJACENT CURB PLUS H. (SEE APPLICABLE CATCH BASIN STANDARD PLAN.)

3. IN EXISTING STREETS WHERE NO PAVEMENT RECONSTRUCTION IS SPECIFIED ON THE PLANS, THE ELEVATION OF THE OUTER EDGE OF THE LOCAL DEPRESSION SHALL MEET THE FINISHED STREET SURFACE.

4. IN NEW STREETS OR IN EXISTING STREETS WHERE PAVEMENT RECONSTRUCTION IS SPECIFIED ON THE PLANS:

   THE ELEVATIONS OF POINTS F AND G SHALL BE SET H1 HIGHER THAN THE GUTTER FLOW LINE ELEVATIONS AT POINTS A AND D, RESPECTIVELY.

   THE ELEVATIONS OF POINTS P AND R SHALL BE SET H2 HIGHER THAN THE GUTTER FLOW LINE ELEVATIONS AT POINTS B AND C, RESPECTIVELY.

   THE ELEVATION OF POINT S SHALL BE SET H2 HIGHER THAN THE ELEVATION AT THE NEAREST GUTTER FLOW LINE.

   WHERE THERE IS NO GUTTER ADJACENT TO THE LOCAL DEPRESSION, THE ELEVATION OF POINT E SHALL BE SET H3 HIGHER THAN THE ELEVATION AT THE NEAREST TOE OF CURB.

5. DIMENSIONS:

   H, H1, H2 AND H3 SHALL BE AS NOTED ON THE PLANS.

   G = 24" (600 mm)

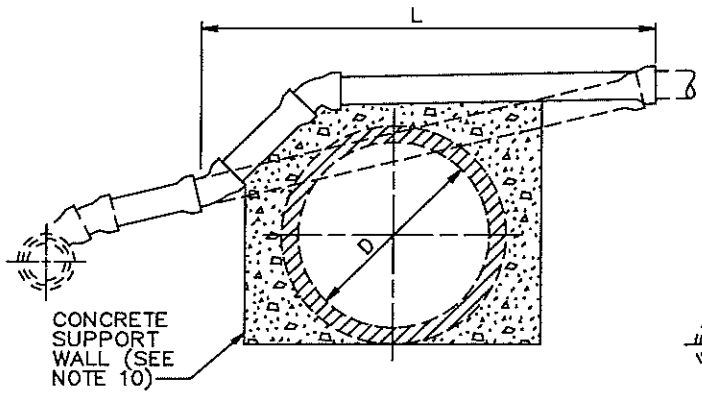
   K = 5'–0" (1500 mm)

   L = 6'–0" (1800 mm)

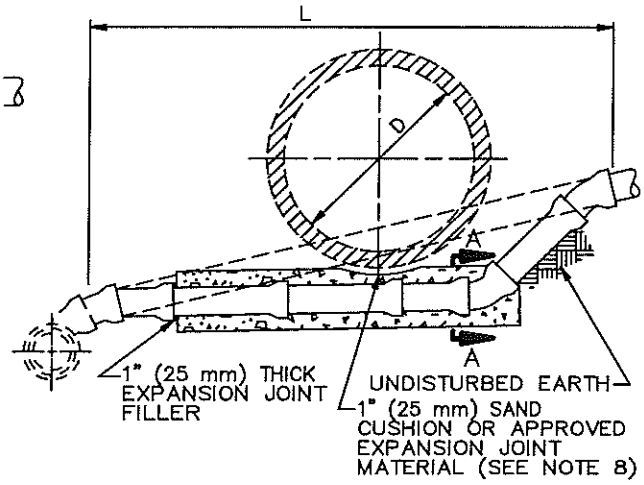
   M = 4'–0" (1200 mm)

   N = 5'–0" (1500 mm)

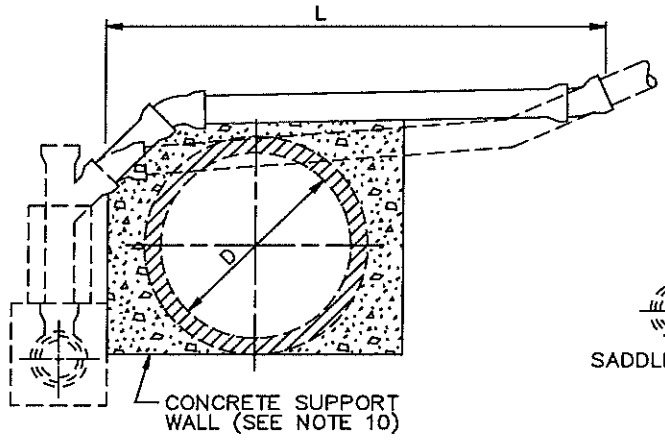
   W_D = CATCH BASIN W FOR SINGLE CATCH BASIN OR DISTANCE BETWEEN EXTREME END WALLS FOR MULTIPLE CATCH BASINS.



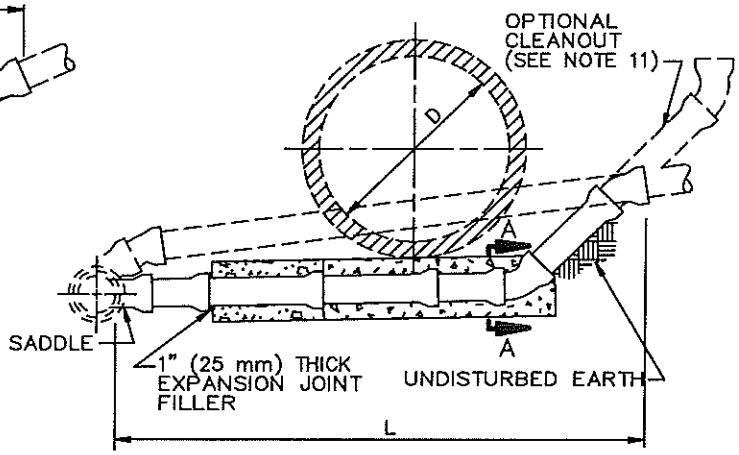
CASE A



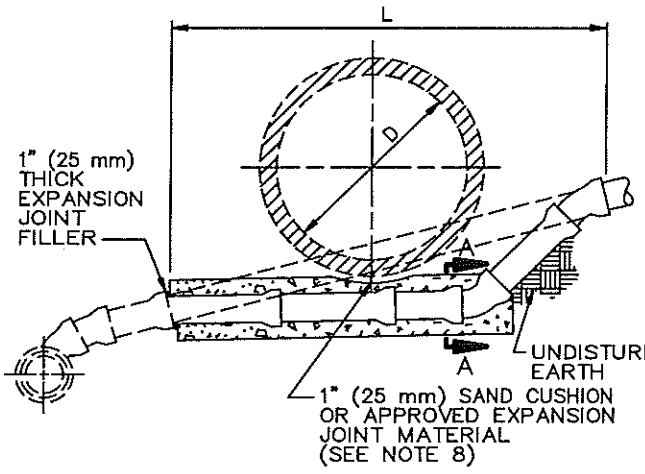
CASE D



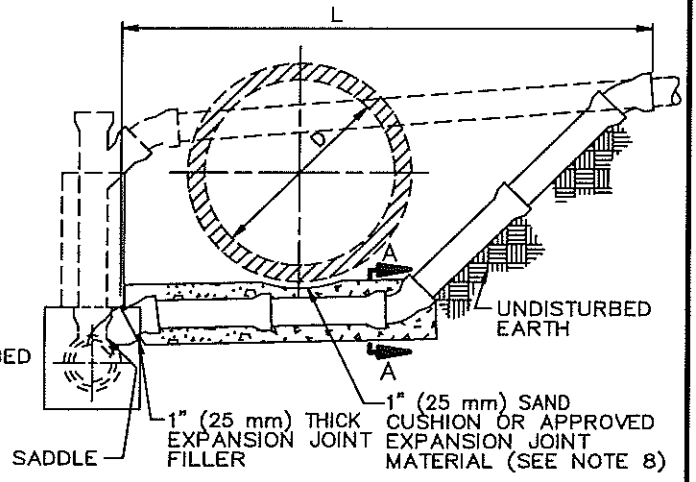
CASE B



CASE E



CASE C



CASE F

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

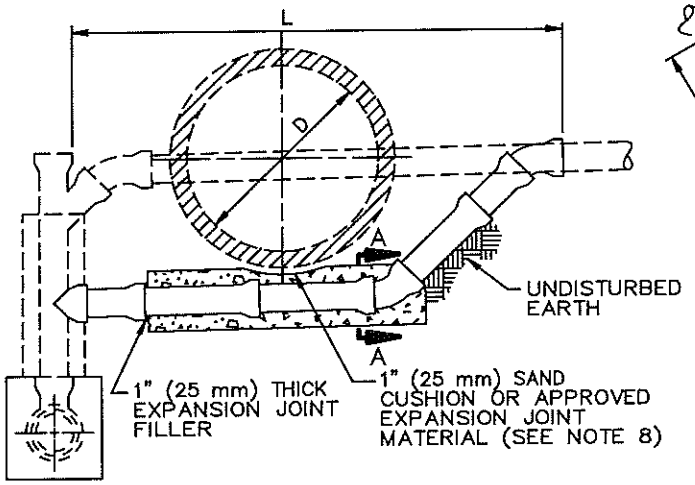
PROMULGATED BY THE PUBLIC WORKS STANDARD, INC. GREENBOOK COMMITTEE 1984 REV. 1996, 2009

HOUSE CONNECTION REMODELING

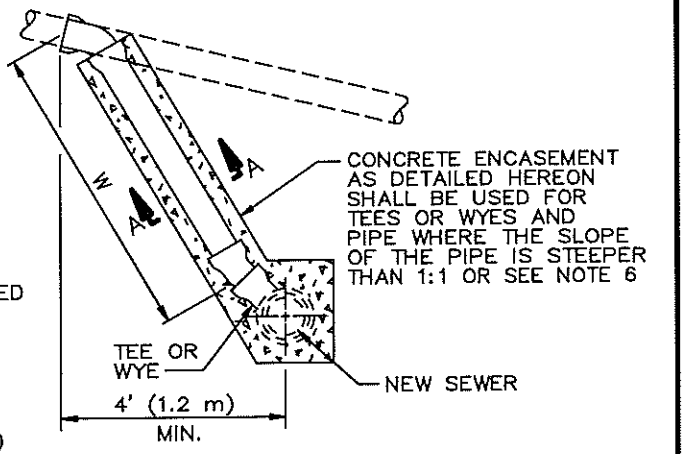
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN 223-2

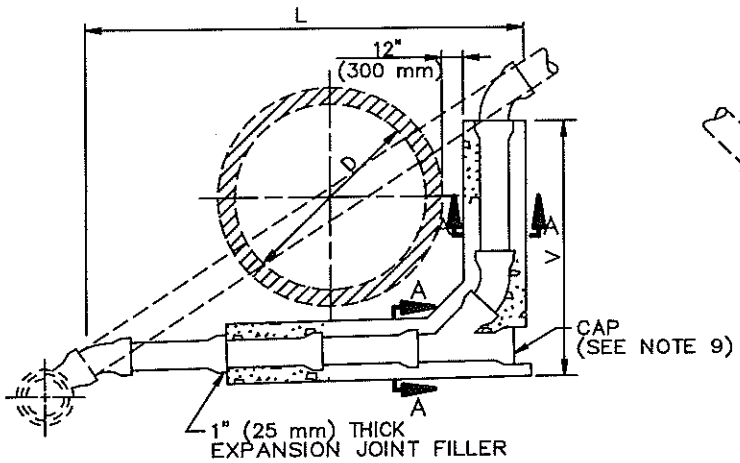
SHEET 1 OF 3



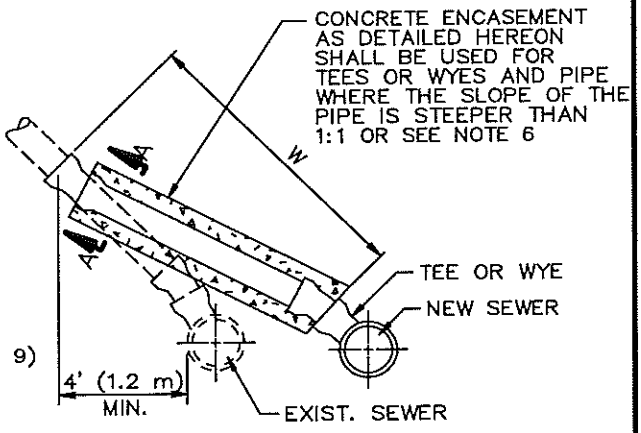
CASE G



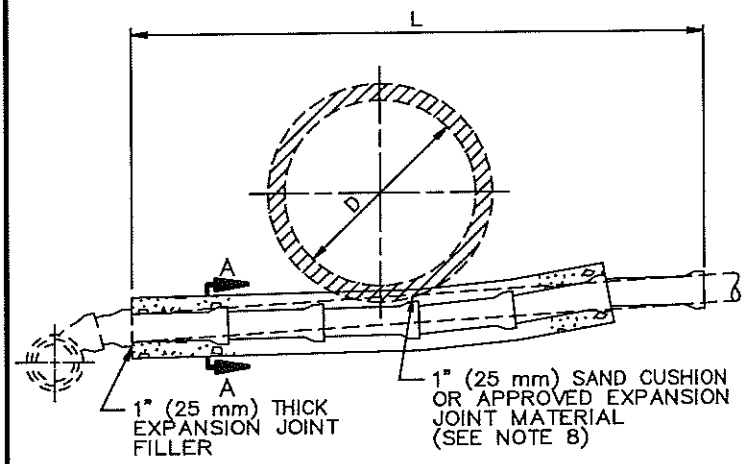
CASE R



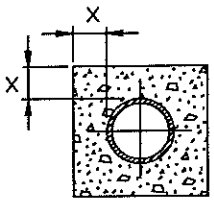
CASE H



CASE S



CASE K



NOMINAL DIAMETER OF PIPE INCHES (mm)	MINIMUM DIMENSIONS X INCHES (mm)
6 (150)	3 (75)
8 (200)	4 (100)
10 (250)	5 (125)
12 (300)	6 (150)

SECTION A–A
CONCRETE ENCASEMENT DETAIL
(SEE NOTE 5)

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

HOUSE CONNECTION REMODELING

STANDARD PLAN
223–2
SHEET 2 OF 3

NOTES

1. EXCEPT AS OTHERWISE INDICATED HEREON OR ON THE PLANS, ALL HOUSE CONNECTION REMODELING SHALL CONFORM TO THE APPLICABLE PORTIONS OF SPPWC 222, HOUSE CONNECTION SEWER.

2. SEE PROJECT PLANS FOR VALUES OF D, L, V, AND W. (DIMENSION L IS THE HORIZONTAL LENGTH OF THE HOUSE CONNECTION REMODELING).

3. EXISTING SEWERS ARE INDICATED BY DASHED LINES. HOUSE CONNECTION SEWERS TO BE CONSTRUCTED ARE INDICATED BY SOLID LINES AND SHALL BE OF THE SAME MATERIAL AS THE EXISTING SEWER. THE CONTRACTOR MAY CONSTRUCT THE SEWER WITH OTHER MATERIALS ALLOWED BY SPPWC 222 PROVIDED APPROVED ADAPTORS ARE UTILIZED.

4. 1/16 (22.5°) OR 1/8 (45°) BENDS SHALL BE USED TO REMODEL OR CONSTRUCT ANY SEWER ON A CURVE OR AT ANY CHANGE IN ALIGNMENT. WHERE PHYSICAL OR GEO-METRIC LIMITATIONS PRECLUDE THE USE OF 1/16 (22.5°) OR 1/8 (45°) BENDS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE PROPOSED METHOD OF REMODELING OR CONSTRUCTION.

5. ALL HOUSE CONNECTION SEWERS TO BE CONSTRUCTED UNDER A PROPOSED CONDUIT SHALL BE ENCASED IN CONCRETE AS SHOWN HEREON. WHEN THE HOUSE CONNECTION SEWER SLOPE EXCEEDS 1:1 THE CONTRACTOR MAY, AT ITS OPTION, PLACE A CIRCULAR CROSS SECTION WITH MINIMUM COVER EQUAL TO DIMENSION "X" AS SHOWN ON SECTION A-A HEREON IN LIEU OF A SQUARE CROSS SECTION OF CONCRETE. CONCRETE BEDDING AND ENCASEMENT SHALL BE CLASS 450-C-2000 (250-C-14) AND SHALL EXTEND TO THE FIRST PIPE JOINT AT LEAST 1' (300 mm) BEYOND THE OD OF EACH SIDE OF THE PROPOSED CONDUIT.

6. FOR CASE R AND S, WHEN THE SLOPE OF THE PIPE EXCEEDS 1:1, THE CONTRACTOR MAY, AT ITS OPTION, CONSTRUCT A CHIMNEY CONFORMING TO SPPWC 220 ON THE NEW SEWER IN LIEU OF CONSTRUCTING THE ENCASEMENT SHOWN HEREON.

7. FOR CASES E AND F, SADDLES SHALL BE CONNECTED EITHER TO THE LENGTH OF PIPE CONTAINING THE EXISTING TEE OR WYE OR TO THE ADJACENT DOWNSTREAM PIPE LENGTH.

8. CONDUITS TO BE INSTALLED OVER OR WITHIN 1" (25 mm) OF ANY CONCRETE ENCASEMENT OR STRUCTURE, WHETHER EXISTING OR TO BE PLACED IN CONFORMITY WITH THE REQUIREMENTS HEREIN, SHALL BE INSTALLED ON A 1" (25 mm) SAND CUSHION OR APPROVED EXPANSION JOINT MATERIAL. CONCRETE ENCASEMENT INSTALLED PURSUANT TO THIS STANDARD PLAN SHALL BE SEPARATED FROM EXISTING CONDUIT WITH 1" (25 mm) THICK EXPANSION JOINT MATERIAL.

9. THOSE PORTIONS OF AN ABANDONED PIPE LOCATED BENEATH OR WITHIN 6" (150 mm) OF A RELOCATED HOUSE CONNECTION SEWER SHALL BE REMOVED. THE EXCAVATION SHALL BE REFILLED TO THE GRADE OF THE NEW PIPE INVERT WITH CLASS 100-E-100 (60-E-0.7) CONCRETE. THE CONTRACTOR MAY, AT ITS OPTION, SUBSTITUTE MECHANICALLY COMPACTED BACKFILL IN LIEU OF THE CLASS 100-E-100 (60-E0.7) CONCRETE. THOSE PORTIONS OF ABANDONED PIPE NOT REMOVED SHALL BE SEALED. WHERE CAPS ARE USED, THEY SHALL BE SEALED BY FILLING THE SPACE ABOVE THE CAP WITH SAND AND A 1" (25 mm) THICK COATING OF TYPE "F" MORTAR.

10. SUPPORT WALLS SHALL CONFORM TO SPPWC 224.

11. WHEN INDICATED ON THE PLANS OR THE SPECIAL PROVISIONS, A CLEANOUT SHALL BE CONSTRUCTED IN CONJUNCTION WITH CASE E AS FOLLOWS:

    A. SUBSTITUTE A "Y" FOR THE 45° BEND.
    B. PLACE A 45° BEND ON THE UPPER END OF THE "Y".
    C. CAP TOP OF 45° BEND WITH A CAP AND SEAL WITH 1" (25 mm) THICK TYPE "F" MORTAR AROUND THE CIRCUMFERENCE OF THE CAP.

APPENDIX C

A

aggregate base	
asbestos bonded bituminous coated	
air-blown mortar	
abandon	
abutment	
asphalt concrete	
asphalt concrete base	
asbestos cement pipe	
added dead load	
adjust	
alternative flared end section	
ahead	
alternate	
time from midnight to noon	
alternative pipe	
alternative pipe culvert	
approximate	
alternative pipe underdrain	
acceleration response spectrum	
aggregate subbase	
aluminum spiral rib pipe	
assembly	
asphalt treated permeable base	
asphalt treated permeable material	
avenue	
average	
at	

B

bridge approach guard railing	
beginning of bridge	
back-to-back	
begin horizontal curve	
begin curb return	
begin	
bituminous coated	
back	
backfill	
building	
bridge-log mile	
boulevard	
bench mark	
bottom	
bridge	
bearing	
british thermal unit	
begin vertical curve	
barbed wire	

C

cable anchor assembly	
calorie	
corrugated aluminum pipe	
corrugated aluminum pipe arch	
construction area sign	
concrete barrier	
concrete block wall	
center to center	
center of gravity	
Chnl	channel
CI	cast iron
CIDH	cast-in-drilled-hole
CIP	cast-in-place, cast iron pipe
CIPCP	cast in place concrete pipe
CISS	cast-in-steel-shell
CJP	complete joint penetration
CL	chain link
CL-6	chain link fence (6 ft)
Cl	class
Clr	clear, clearance
CM	corrugated metal
cm	centimeters
CMP	corrugated metal pipe
Co	county
Col	column
Conc	concrete
Cond	conduit
Conn	connector
Const	construct, construction
Cont	continuous
Coord	coordinate
CP	candlepower
Cr	creek
CRSP	concreted rock slope protection
CSP	corrugated steel pipe
CSPA	corrugated steel pipe arch
CTB	cement treated base
CTPB	cement treated permeable base
CTPM	cement treated permeable material
Ctrs	centers
Culv	culvert
℄	centerline

D

D	depth
DD	downdrain
Dbl	double
Deg	degree
Del	delineator
Det	detail, detour
DF	douglas fir
DI	drainage inlet, drop inlet
Dia	diameter
Diaph	diaphragm
Dist	distance, district
DMBB	double metal beam barrier
Dr	drive
DTBB	double thrie beam barrier
Dwy	driveway

E

E	east
EA	each
Ease	easement
EB	end of bridge, eastbound
EC	end horizontal curve
ECR	end curb return
ED	edge drain
EDC	edge drain cleanout
EDO	edge drain outlet
EDV	edge drain vent
Elec	electrolier
Elect	electric
Elev	elevation
Emb	embankment
Engr	Engineer
EOD	edge of deck
EP	edge of pavement
Eq	equation
ES	edge of shoulder
ETW	edge of traveled way
EVC	end vertical curve
EW	endwall
Exc	excavation
Exist, (E)	existing
Exp	expansion, expressway
Exp Jt	expansion joint
Ext	exterior

F

F & C	frame and cover
F & G	frame and grate
FB	floor beam
Fdn	foundation
FEBT	facing eastbound traffic
FES	flared end section
FF	filter fabric
FG	finished grade
FH	fire hydrant
Fig	figure
FL	flow line
FNBT	facing northbound traffic
FOB	free on board
FOC	face of concrete
Fr Rd	frontage road
FS	for side, finished surface
FSBT	facing southbound traffic
Ftg	footing
FWBT	facing westbound traffic
Fwy	freeway

G

g	acceleration due to gravity
Ga	gage
Galv	galvanized
GP	grading plane
GR	guard railing
GSP	galvanized steel pipe
Gtr	gutter

H

H	height
h, hr	hour
HD	horizontal drain
hdwl	headwall
Hex Hd	hexagonal head
Horiz	horizontal
HP	hinge point, horsepower
HPS	high performance steel
HS	high strength
HW	headwall, high water
HWM	high water mark
Hwy	highway

I

IB	imported borrow
ID	inside diameter
IF	inside face
Int	interior
Inv	invert
Irr	irrigation

J

Jct	junction
JP	joint pole
JPCP	jointed plain concrete pavement
JS	junction structure
Jt	joint

K

km	kilometer (always lower case)
KP	kilometer post

L

L	length
Lat	latitude
LCB	lean concrete base
Ln	lane
Loc	location
LOL	layout line
Long	longitude
Longit	longitudinal
LS	lump sum
Lt	left

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

July 1, 2004
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — James Wong — 54638 — Exp. 12-31-04 — CIVIL — STATE OF CALIFORNIA

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

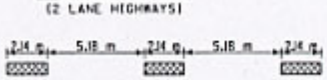
ACRONYMS AND ABBREVIATIONS (A-L)

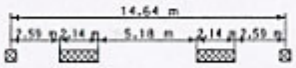
NO SCALE

A10A

2004 Std PLAN A10A

CENTERLINES
(2 LANE HIGHWAYS)





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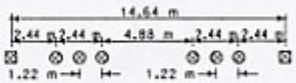
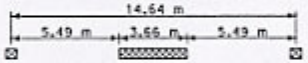
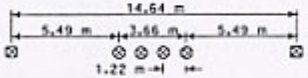
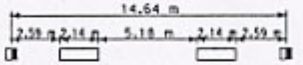
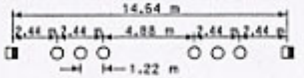


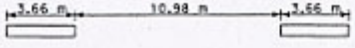




LANELINES
(MULTILANE HIGHWAYS)

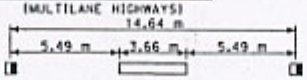






LANELINES (CONT)
(MULTILANE HIGHWAYS)

DETAIL 12



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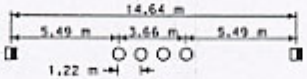

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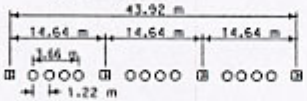
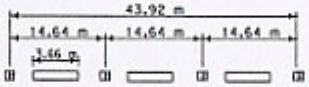
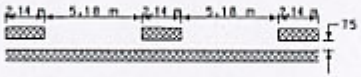


DETAIL 14A



NO PASSING ZONES-ONE DIRECTION

DETAIL 15



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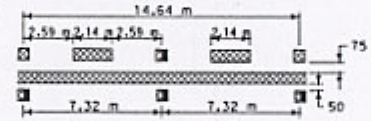

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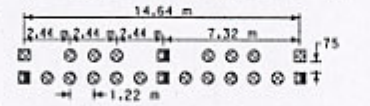

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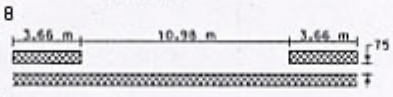

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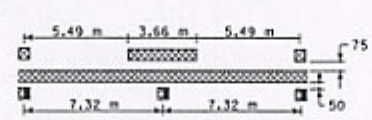

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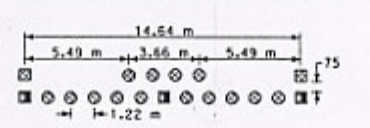
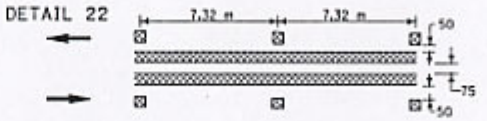


NO PASSING ZONES-TWO DIRECTION

DETAIL 21

DETAIL 22



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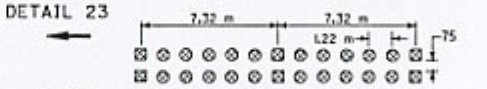


LEGEND

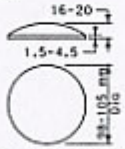
MARKERS

- TYPE A White Non-reflective
- TYPE AY Yellow Non-reflective
- TYPE C Red-clear Retroreflective
- TYPE D Two-way Yellow Retroreflective
- TYPE G One-way Clear Retroreflective
- TYPE H One-way Yellow Retroreflective

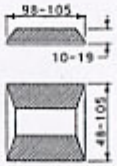
LINES

- 100 mm White
- 100 mm Yellow
- Direction of Travel

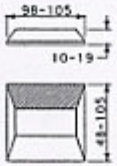
MARKER DETAILS



TYPE A & TYPE AY

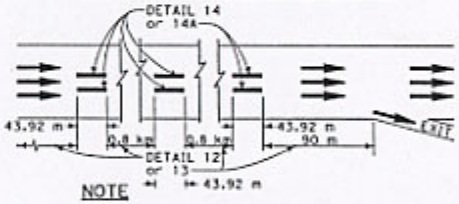


TYPE C & TYPE D



TYPE G & TYPE H

TYPICAL LANE LINE DELINEATION IN ADVANCE OF EXIT RAMP



NOTE

Detail 14 is to be used in combination with Detail 13. Detail 14A is to be used in combination with Detail 12.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Shaw
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

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Donald E. Shaw
C46402
3-31-07
CIVIL
STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

A20A

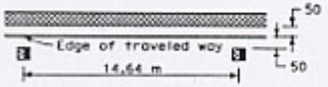
2004 Std PLAN A20A

LEFT EDGELINES

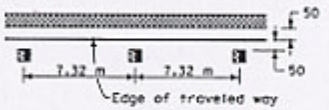
(DIVIDED HIGHWAYS)

24

25



25A



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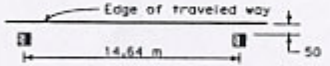

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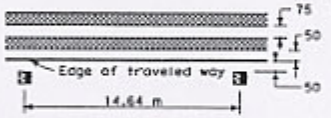
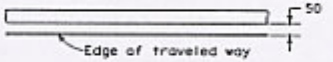


RIGHT EDGELINES

27A

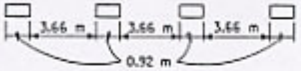
Detail 27A deleted

27B



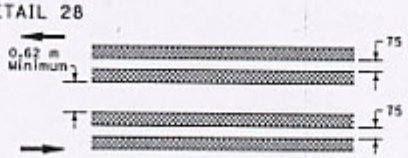
T EDGELINE EXTENSION THROUGH INTERSECTIONS

27C

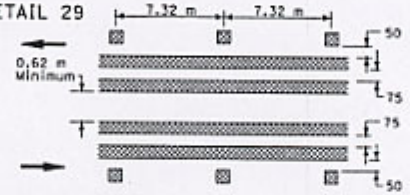


MEDIAN ISLANDS

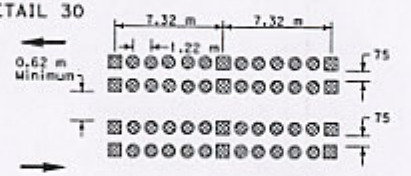
DETAIL 28



DETAIL 29



DETAIL 30



LEGEND

MARKERS

- TYPE AY Yellow Non-reflective
- TYPE D Two-way Yellow Retroreflective
- TYPE H One-way Yellow Retroreflective

LINES

- 100 mm White
- 100 mm Yellow
- Direction of Travel

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

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Donald E. Howe, C46402, Exp. 3-31-05, CIVIL, State of California

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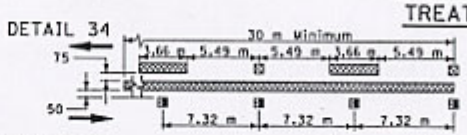
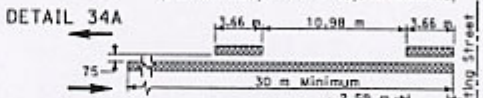
INTERSECTION TREATMENTS

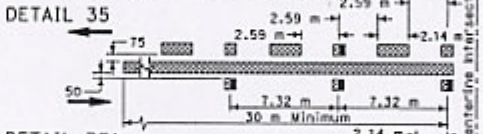
DETAIL 34



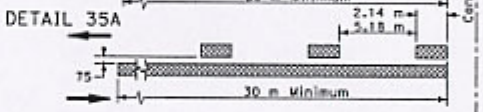
DETAIL 34A



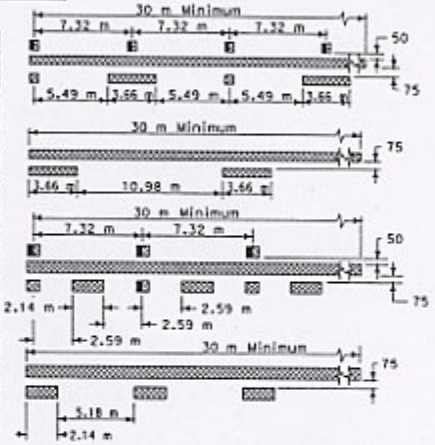
DETAIL 35



DETAIL 35A

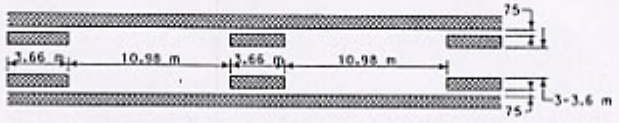


Centerline Intersecting Street

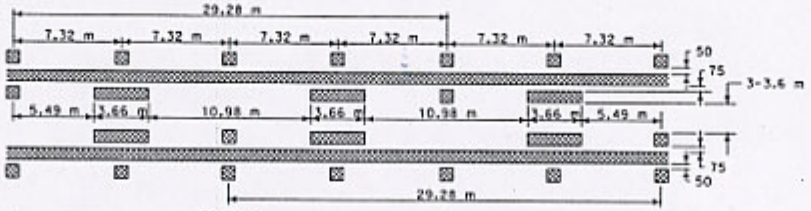


TWO-WAY LEFT TURN LANES

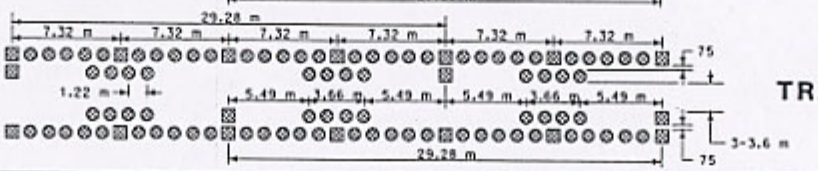
DETAIL 31



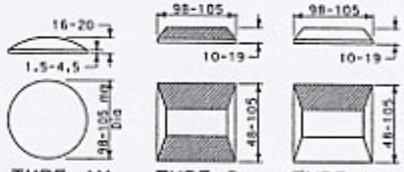
DETAIL 32



DETAIL 33



MARKER DETAILS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

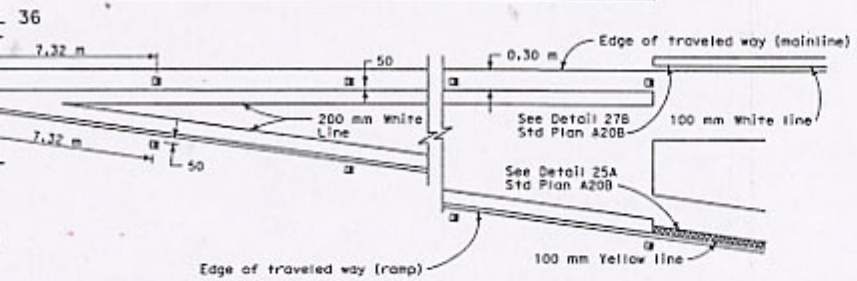
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

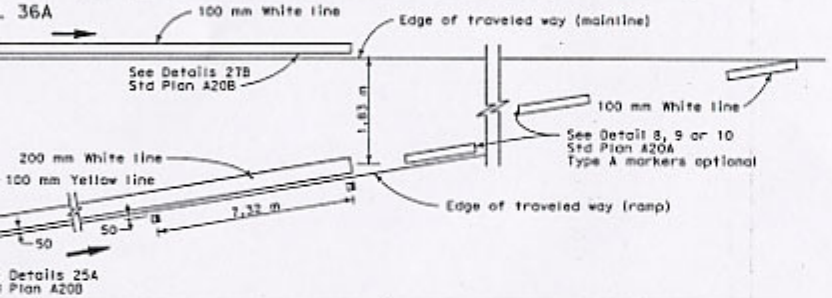
A20B

2004 Std PLAN A20B

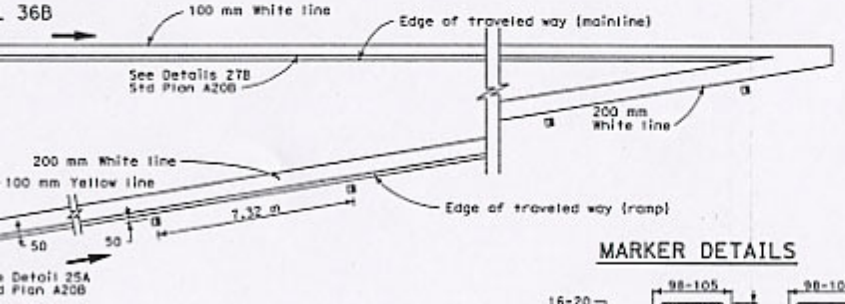
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



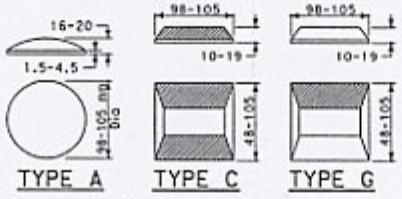
ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT



MARKER DETAILS



LEGEND

MARKERS

- TYPE A White Non-reflective
- TYPE C Red-clear Retroreflective
- TYPE G One-way Clear Retroreflective
- Direction of Travel

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

Donald E. Howe, C46422, Exp. 3-31-05, CIVIL, STATE OF CALIFORNIA

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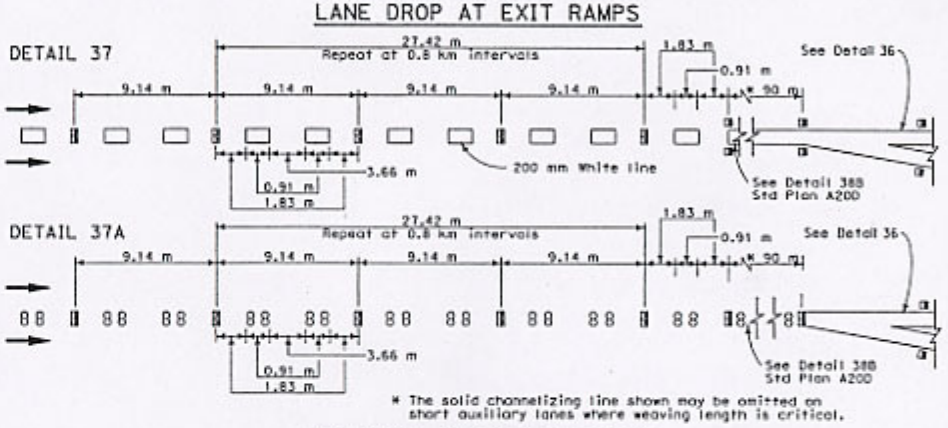
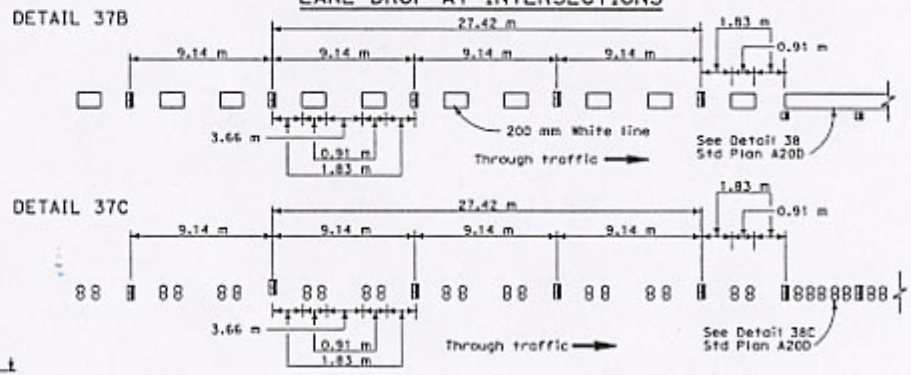
LANE DROP AT EXIT RAMPS



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

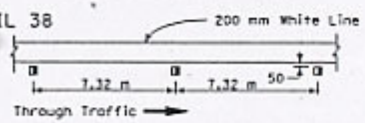
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

A20C

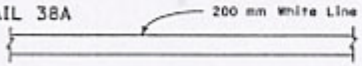
2004 Std PLAN A20C

CHANNELIZING LINE

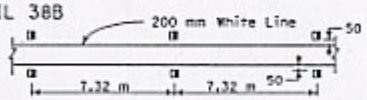
AIL 38



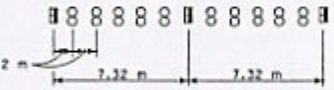
AIL 38A



AIL 38B

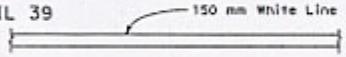


AIL 38C



BIKE LANE LINE

AIL 39



INTERSECTION LINE BIKE LANE

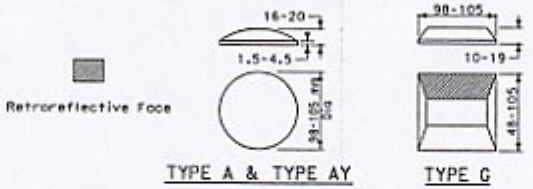
AIL 39A

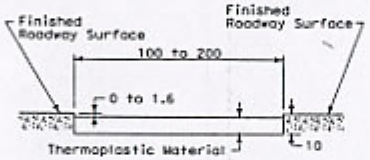
LEGEND

MARKERS

- TYPE A White Non-reflective
- TYPE AY Yellow Non-Reflective
- TYPE G One-way Clear Retroreflective
- 100 mm Yellow Line
- Direction of Travel

MARKER DETAILS





DETAIL FOR RECESSED THERMOPLASTIC TRAFFIC STRIPE

See Notes A and B.

RECESSED THERMOPLASTIC NOTES

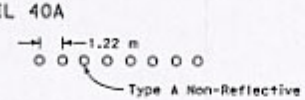
A. See typical traffic line details for pavement marking patterns.

B. The top of the thermoplastic installed in recessed pavement shall be 0 to 1.6 mm below the pavement surface.

LANE LINE EXTENSIONS THROUGH INTERSECTIONS

AIL 40

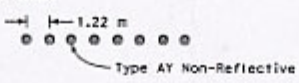
DETAIL 40A



CENTER LINE EXTENSIONS THROUGH INTERSECTIONS

AIL 41

DETAIL 41A



Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST / TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — Donald E. Howe — No. C66402 — Exp. 3-31-05 — CIVIL — STATE OF CALIFORNIA

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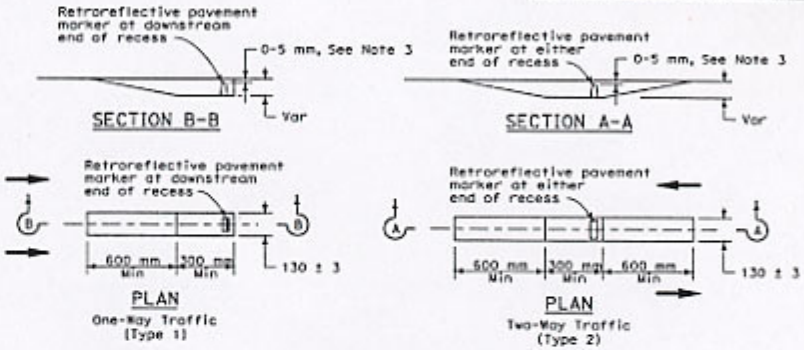
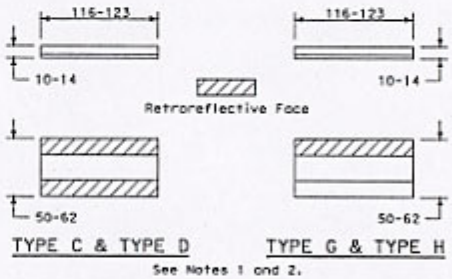


RECESS DETAIL FOR RETROREFLECTIVE PAVEMENT MARKER



See Notes 1 and 2.

RECESSED MARKER NOTES

1. See typical traffic line details for marker patterns to be used with recessed pavement markers. Detail 14 requires a Type 2 recess.
2. The retroreflective pavement markers shown for recessed installations are not to be used for non-recessed installations.
3. The top of pavement markers installed in recesses shall be 0-5 mm below the pavement surface.

RETROREFLECTIVE PAVEMENT MARKER FOR RECESSED INSTALLATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

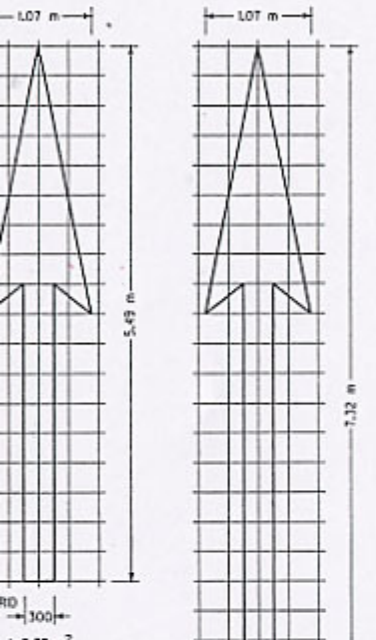
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

A20D

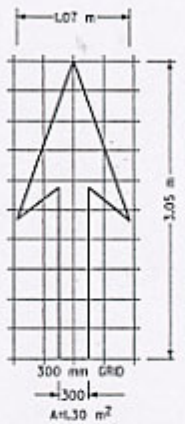
2004 Std PLAN A20D

04-22-04

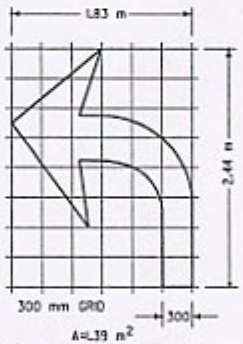


(5.49 m) ARROW

TYPE I (7.32 m) ARROW

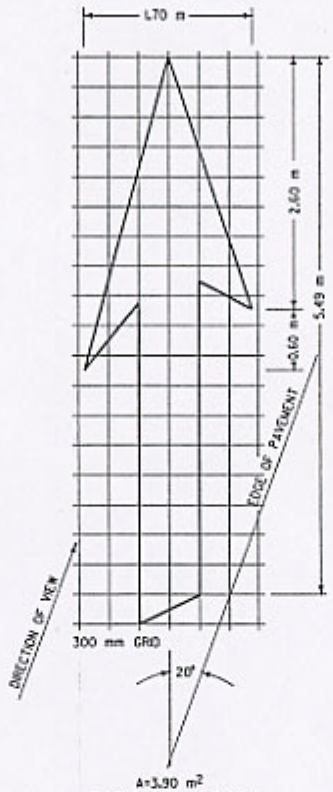


TYPE I (3.05 m) ARROW



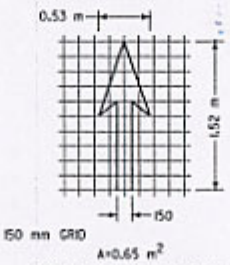
TYPE IV (L) ARROW

(FOR TYPE IV(R) ARROW, USE MIRROR IMAGE)

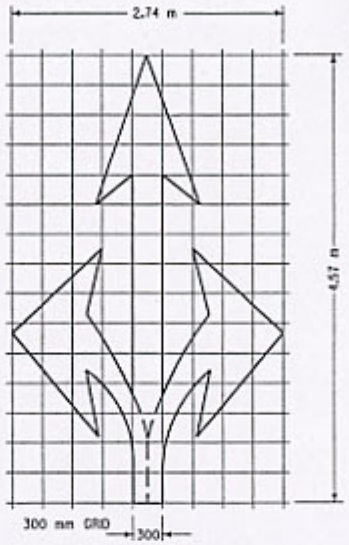


TYPE VI ARROW

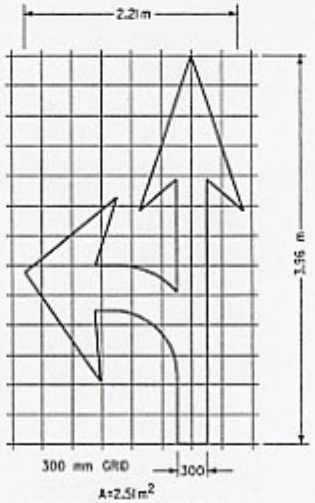
RIGHT LANE DROP ARROW (FOR LEFT LANE, USE MIRROR IMAGE)



BIKE LANE ARROW



TYPE VIII ARROW



TYPE VII (L) ARROW

(FOR TYPE VII(R) ARROW, USE MIRROR IMAGE)

NOTE

MINOR VARIATIONS IN DIMENSIONS MAY BE ACCEPTED BY THE ENGINEER.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

Donald E. Howe C46402 Exp. 3-31-07 CIVIL STATE OF CALIFORNIA

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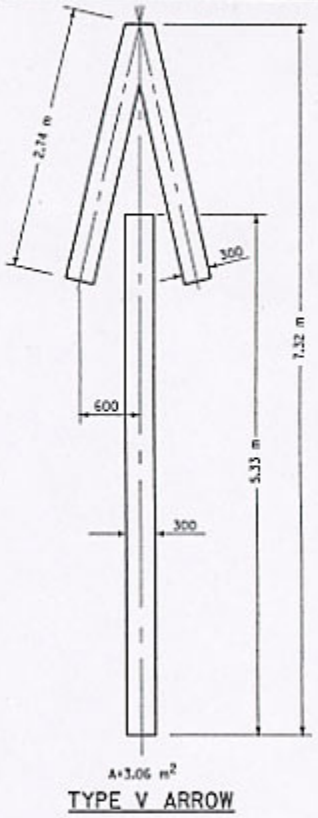


TYPE V ARROW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

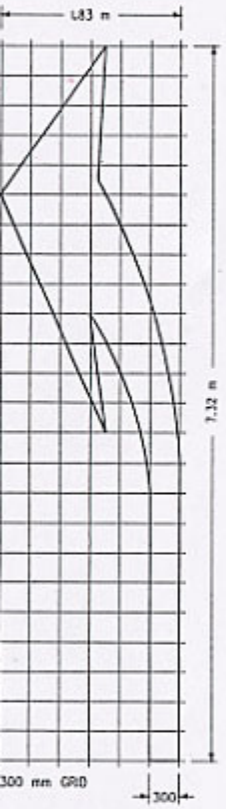
PAVEMENT MARKINGS ARROWS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

A24A

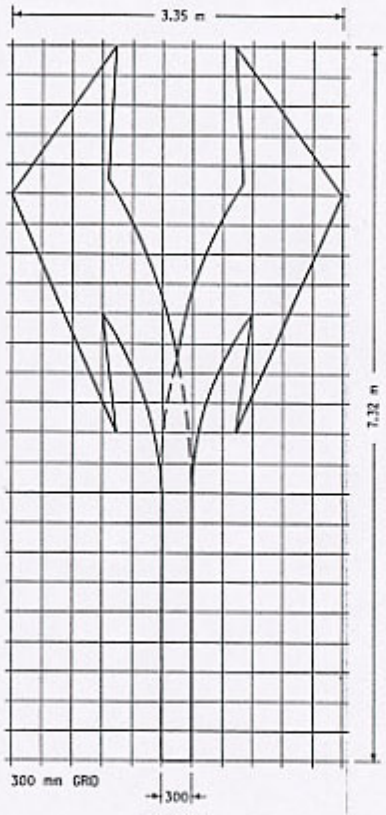
2004 Std PLAN A24A



A=3.90 m²

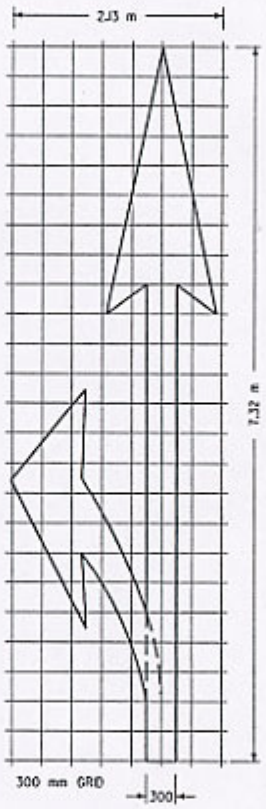
TYPE III(L) ARROW

(TYPE III(R) USE MIRROR IMAGE)



A=6.78 m²

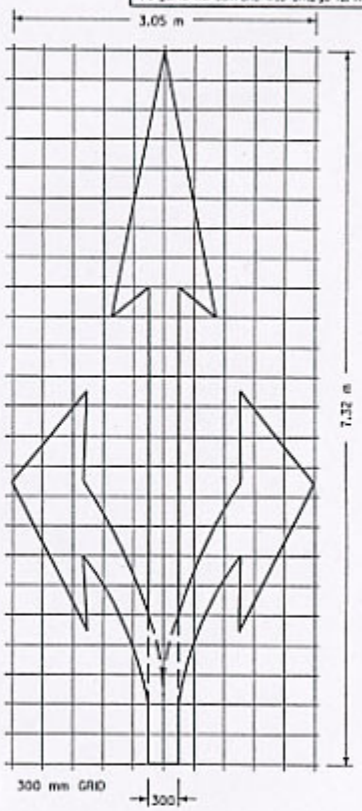
TYPE III(B) ARROW



A=4.38 m²

TYPE II(L) ARROW

(FOR TYPE II(R) USE MIRROR IMAGE)



A=5.48 m²

TYPE II(B) ARROW

NOTE

MINOR VARIATIONS IN DIMENSIONS MAY BE ACCEPTED BY THE ENGINEER.

Caltrans Metric

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Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS ARROWS

NO SCALE

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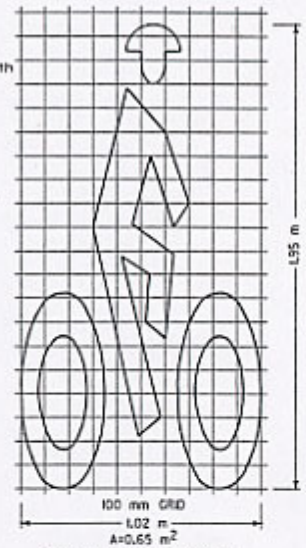
A24B

2004 Std PLAN A24B

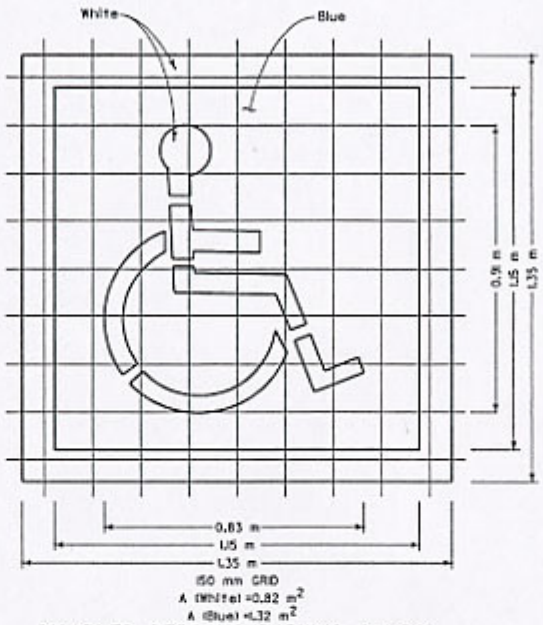
OAD CROSSING SYMBOL

ES NOT INCLUDE THE 0.6 m x VARIABLE NSVERSE LINES.



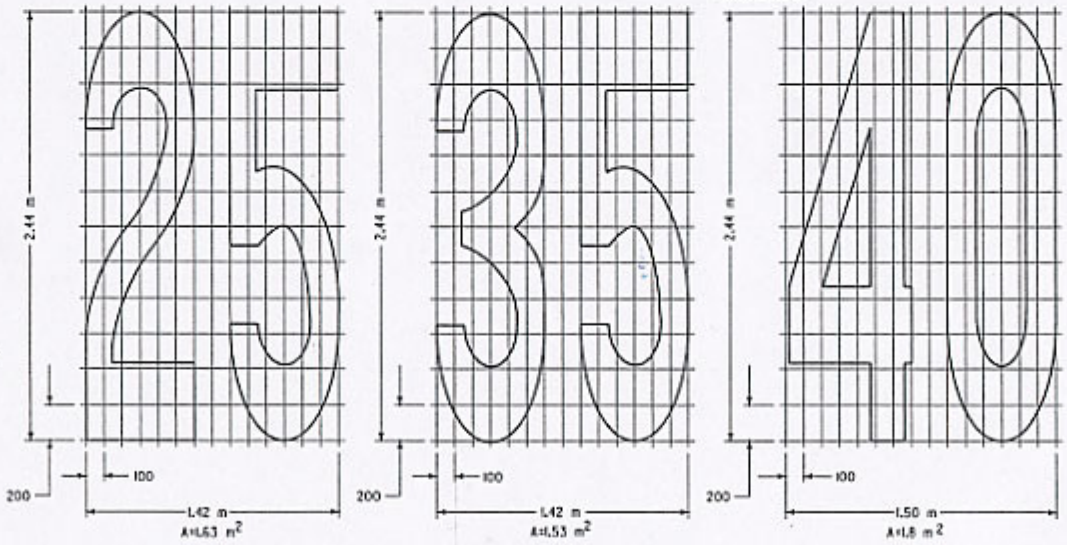
BIKE LANE SYMBOL

DIAMOND SYMBOL

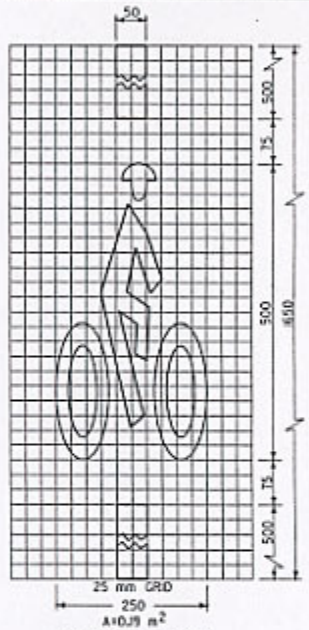


DISABLED PERSONS PARKING SYMBOL

See Note 2



NUMERALS



BICYCLE LOOP DETECTOR SYMBOL

NOTES

1. Minor variations in dimensions may be accepted by the Engineer.
2. This parking symbol is also known as the International Symbol of Accessibility (ISA)

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

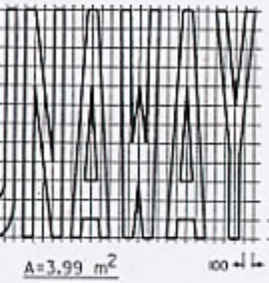
PAVEMENT MARKINGS SYMBOLS AND NUMERALS

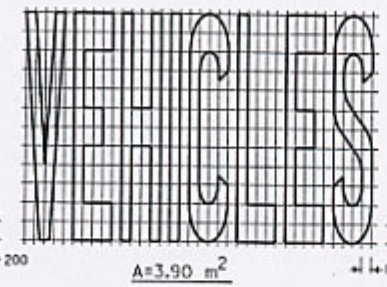
NO SCALE

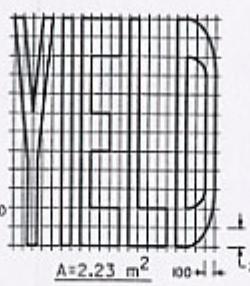
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

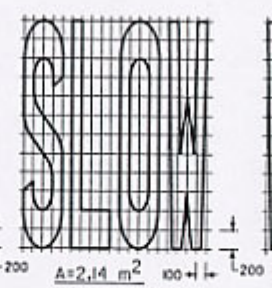
A24C

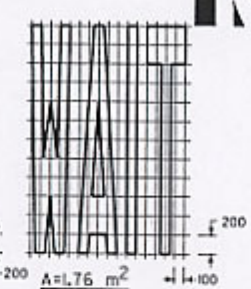
2004 Std PLAN A24C

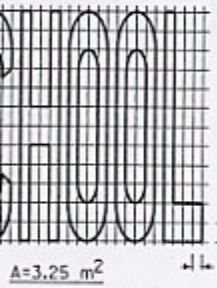


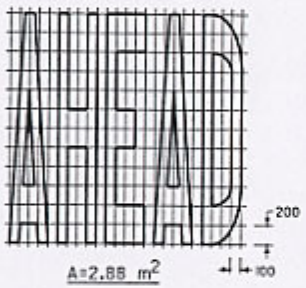


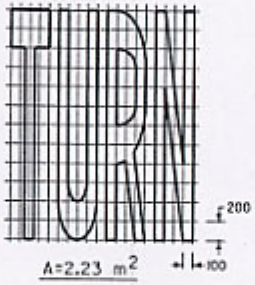


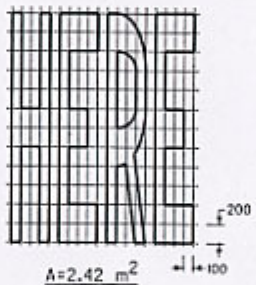


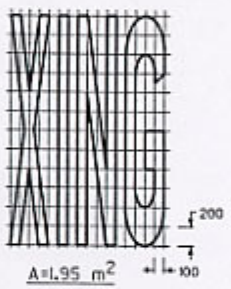


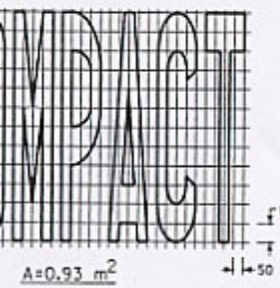


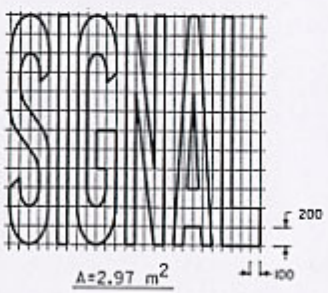


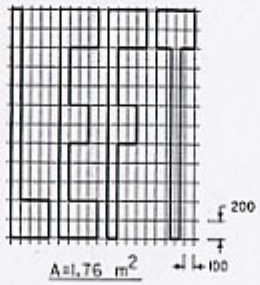


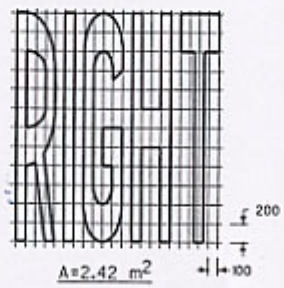


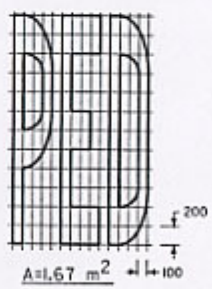


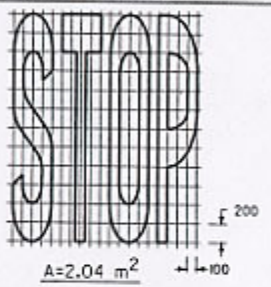


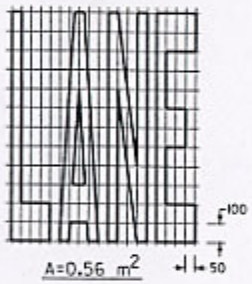


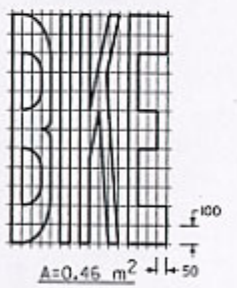












message consists of more than one word, it should "UP", i.e., the first word should be nearest the driver.

space between words should be at least four times height of the characters for low speed roads, but more than ten times the height of the characters. space may be reduced appropriately where there is ed space because of local conditions.

(3) Minor variations in dimensions may be accepted by the Engineer.

(4) Portions of a letter, number or symbol may be separated by connecting segments not to exceed 50 mm in width.

WORD MARKINGS

ITEM	m²	ITEM	m²	ITEM	m²	ITEM	m²
XING	1.95	YIELD	2.23	BIKE	0.46	PED	1.67
AHEAD	2.88	SCHOOL	3.25	SLOW	2.14	COMPACT	0.93
WAIT	1.76	SIGNAL	2.97	STOP	2.04	RUNAWAY	3.99
LANE	0.56	TURN	2.23	LEFT	1.76	VEHICLES	3.90
RIGHT	2.42	HERE	2.42				

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST / TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
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2004 Std PLAN A24D

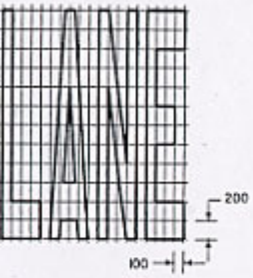
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS WORDS

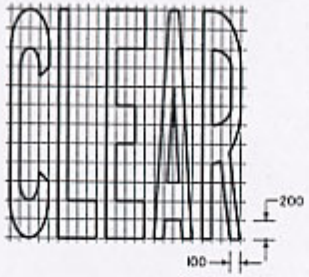
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

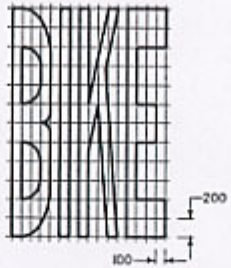
A24D



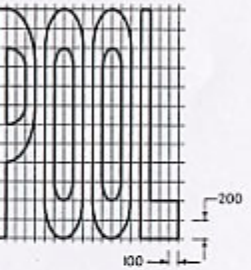
A=2.23 m²



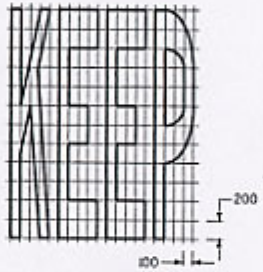
A=2.51 m²



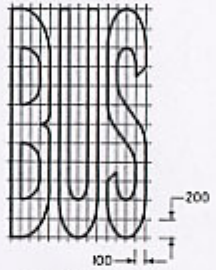
A=1.95 m²



A=2.14 m²

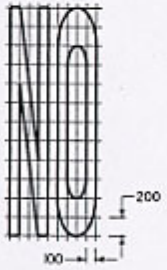


A=2.23 m²

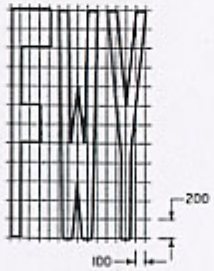


A=1.86 m²

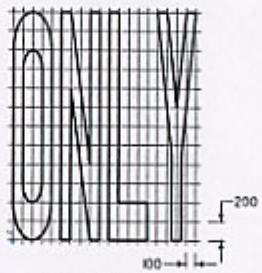
A=1.58 m²



A=1.30 m²



A=1.49 m²



A=2.04 m²

A=0.21 m²

See Notes 6 and 7

sage consists of more than one word, it should read "UP", first word should be nearest the driver.

e between words should be at least four times the height characters for low speed roads, but not more than ten times ht of the characters. The space may be reduced ately where there is limited space because of local conditions.

riations in dimensions may be accepted by the Engineer.

of a letter, number or symbol may be separated by connecting not to exceed 50 mm in width.

5. Crosswalks contiguous to school grounds are to be 300 mm yellow lines in place of 300 mm white shown.

6. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.

7. The words "NO PARKING", shall be painted in white letters no less than 300 mm high on a contrasting background and located so that it is visible to traffic enforcement officials.

WORD MARKINGS			
ITEM	m²	ITEM	m²
LANE	2.23	NO	1.30
POOL	2.14	BIKE	1.95
CAR	1.58	BUS	1.86
CLEAR	2.51	ONLY	2.04
KEEP	2.23	FWY	1.49

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Donald E. Howe
REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

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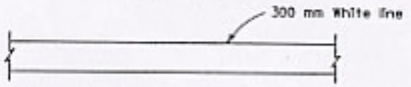
CROSSWALK AND LIMIT LINE

See Note 5



YIELD LINE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

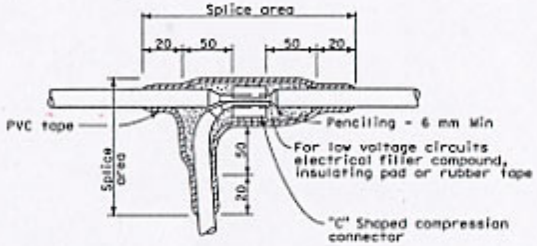
PAVEMENT MARKINGS WORDS AND CROSSWALKS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

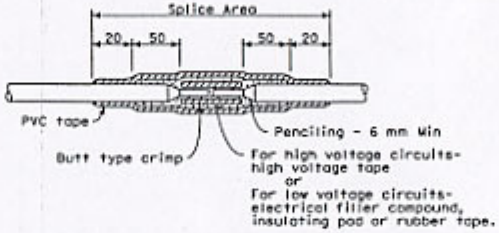
A24E

2004 Std PLAN A24E



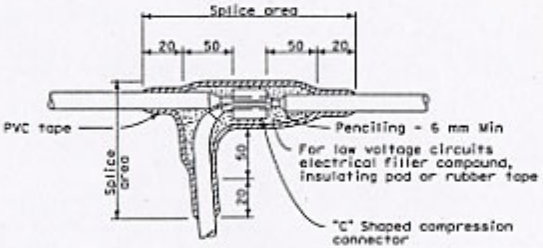
TYPE "C" SPLICE

Between 1 free-end and 1 through conductor



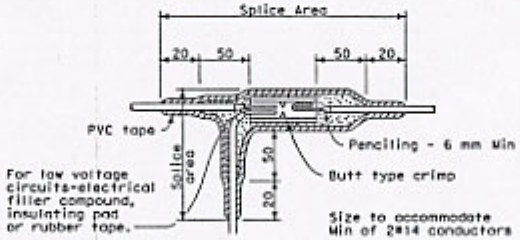
TYPE "S" SPLICE

Between 2 free-ends



TYPE "T" SPLICE

For 3 free-ends



TYPE "ST" SPLICE

NOTES

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.

INSULATION METHODS

Low Voltage Circuits (0-600 V)

METHOD "B"

1. Completely cover the splice area with electrical insulating coating and allow to dry.
2. Apply 2 layers of electrical insulating pad with minimum thickness of 4 mm each layer or 2 layers, half lapped, synthetic oil resistant, self fusing rubber tape.
3. Apply 3 layers half lapped polyvinyl chloride tape.
4. Cover entire splice with electrical insulating coating and allow to dry.

High Voltage Circuits (Over 600 V)

1. Completely cover the splice area with electrical insulating coating and allow to dry.
2. Apply high voltage tape to a minimum thickness equal to original insulation.
3. Apply 3 layers half lapped polyvinyl chloride tape.
4. Cover entire splice with electrical insulating coating and allow to dry.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST / TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER

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2004 Std PLAN ES-13A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

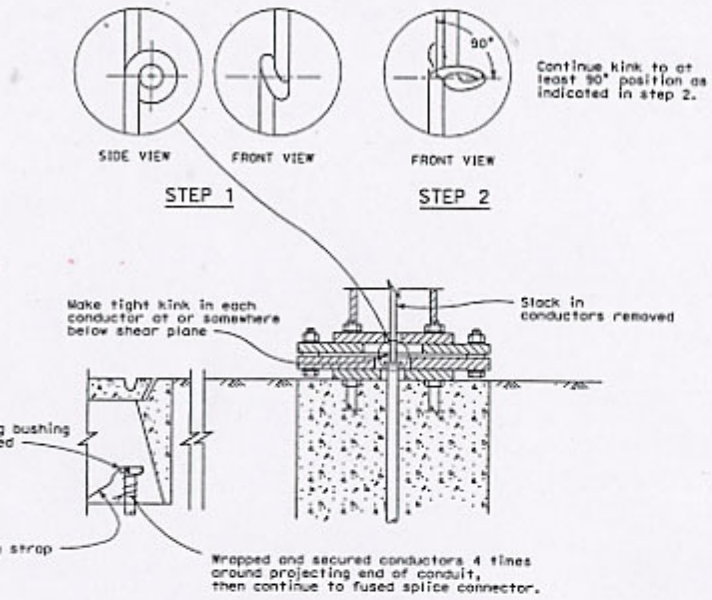
ELECTRICAL SYSTEMS (SPLICING DETAILS)

NO SCALE

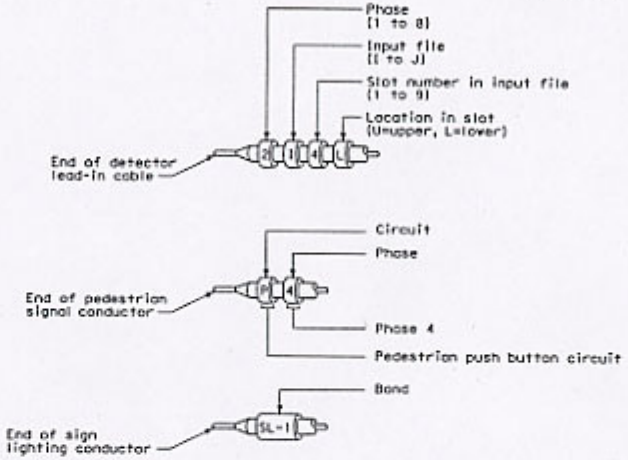
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-13A

21-21-04



KINKING DETAIL FOR SLIP BASE STANDARDS



TYPICAL BANDING OF CONDUCTOR ENDS

Primary lines of multiple ballasts shall be provided with fused connectors.
Fuse ratings shall be as noted below.

CIRCUIT VOLTAGE	FUSE VOLTAGE RATING	FUSE CURRENT RATING															
		HPS LAMP BALLAST							LOW PRESSURE SODIUM BALLAST					INDUCTION SIGN LIGHTING	MULTIPLE TO MULTIPLE TRANSFORMERS (PRIMARY SIDE)		
		70 W	100 W	150 W	200 W	250 W	310 W	400 W	35 W	55 W	90 W	135 W	180 W	85 W	1 kVA	2 kVA	3 kVA
120 V	250 V	5	5	5	5	6	10	10	5	5	8	10	10	5	10	25	35
240 V	250 V	5	5	5	5	5	5	5	3	3	4	5	5	5	6	10	20
480 V	500-600 V	5	5	5	5	5	5	5	2	2	2	3	3	1*	3	6	10

* See Standard Plan ES-150, Type SC3 Control.

FUSE RATINGS FOR FUSED CONNECTORS

LUMINAIRE BALLAST FUSING

DIST	COUNTY	ROUTE	KILOMETER POST / TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (WIRING DETAILS AND FUSE RATINGS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-13B

2004 Std PLAN ES-13B

OP INSTALLATION PROCEDURE

Loops shall be centered in lanes.

Saw slots in pavement for loop conductors as shown in details.

Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 600 mm minimum. Distance between lead-in saw cuts shall be 150 mm minimum.

Bottom of saw slot shall be smooth with no sharp edges.

Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.

Adjacent loops on the same sensor unit channel shall be wound in opposite directions.

Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.

Install loop conductor in slot using a 5 mm to 6 mm thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.

No more than 2 twisted pairs shall be installed in one sawed slot.

Allow additional 1.5 m of slack length of conductor for the lead-in run to pull box.

The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per meter minimum) before being placed in the slot and conduit leading to pull box.

Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.

Fill slots as shown in details.

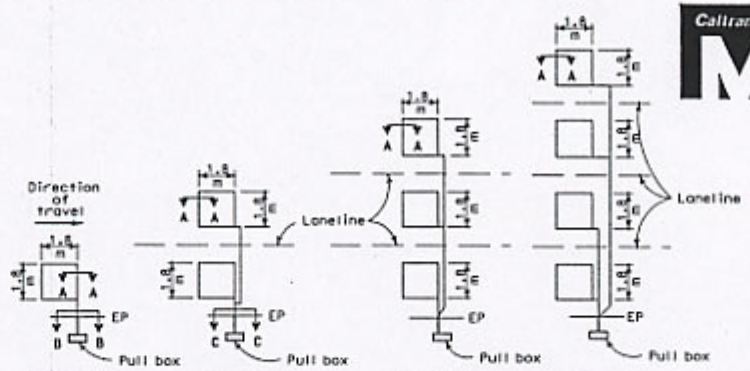
Splice loop conductors to lead-in cable. Splices shall be soldered.

End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.

Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.

Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.

Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.

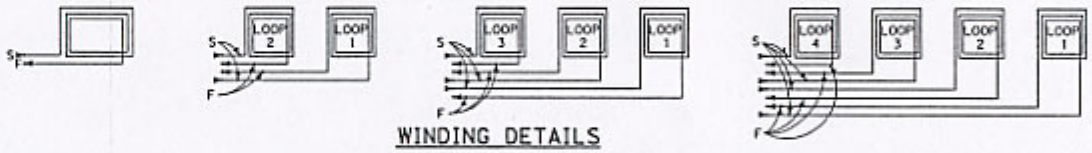


TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

SAWCUT DETAILS

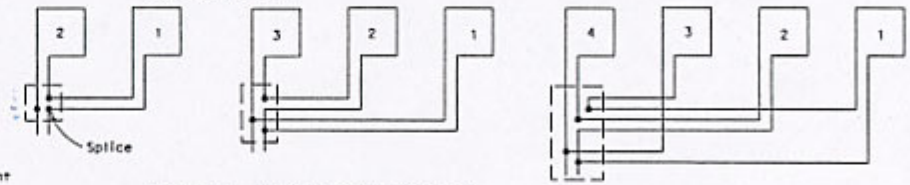
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 1G thru 4G = 1 Type G loop configuration in each lane.
   (Use Type A, B, C, D, E or G loop detector configurations only when specified or shown on plans)



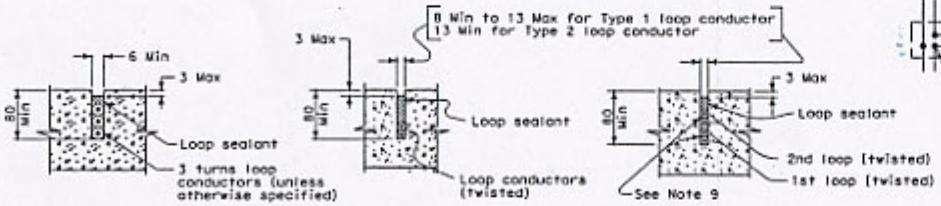
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A | SECTION B-B | SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

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July 1, 2004
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2004 Std PLAN ES-5A

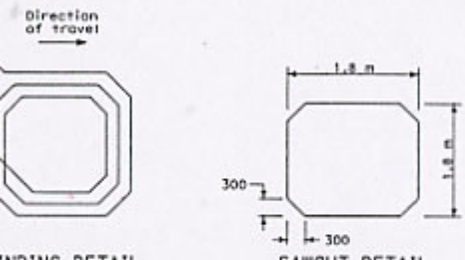
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

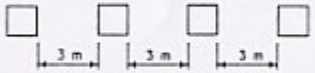
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-5A



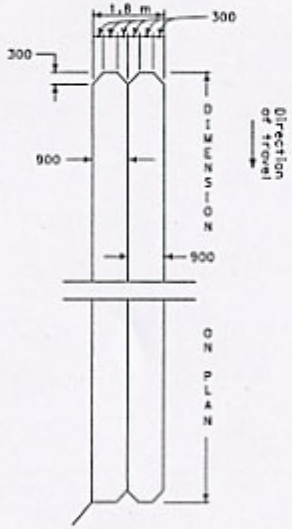
WINDING DETAIL SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION



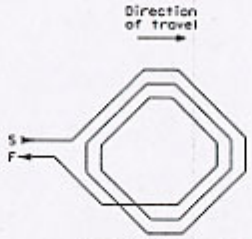
TYPICAL TYPE A INSTALLATION

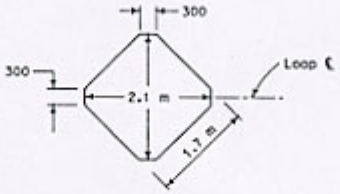
Single Lane



WINDING DETAIL SAWCUT DETAIL

C LOOP DETECTOR CONFIGURATION



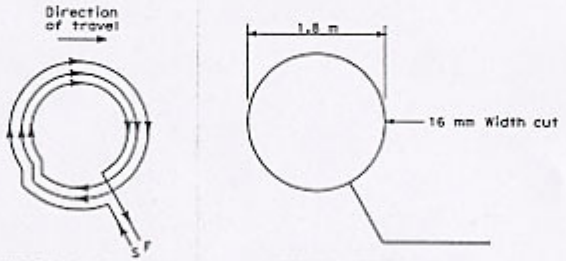


WINDING DETAIL SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION

TYPICAL TYPE B INSTALLATION

Single Lane

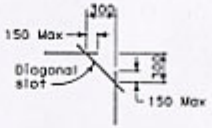


WINDING DETAIL SAWCUT DETAIL

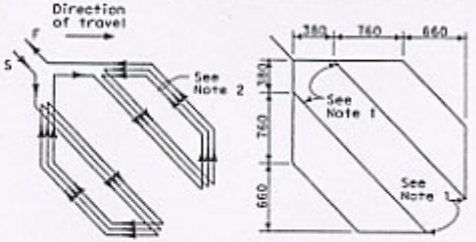
TYPE E LOOP DETECTOR CONFIGURATION

TYPICAL TYPE E INSTALLATION

Single Lane



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

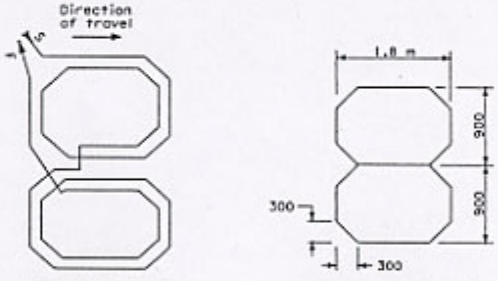


WINDING DETAIL SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION

NOTES

1. Round corners of acute angle sawcuts to prevent damage to conductors.
2. Install 3 turns when only one Type D loop is on a sensor unit channel. Install 5 turns when one Type D loop is connected with 3 additional 1.8 m x 1.8 m loops on a sensor unit.



WINDING DETAIL SAWCUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Mark X. Starr
REGISTERED ELECTRICAL ENGINEER
E13758
Exp. 6-30-05
ELECTRICAL

July 1, 2004
PLANS APPROVAL DATE

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To get to the Caltrans web site, go to http://www.dot.ca.gov

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

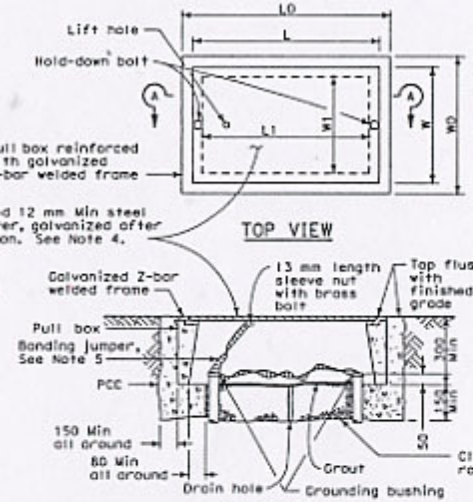
ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-5B

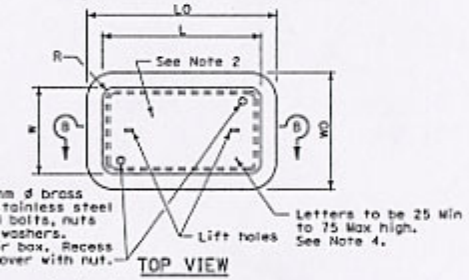
2004 Std PLAN ES-5B



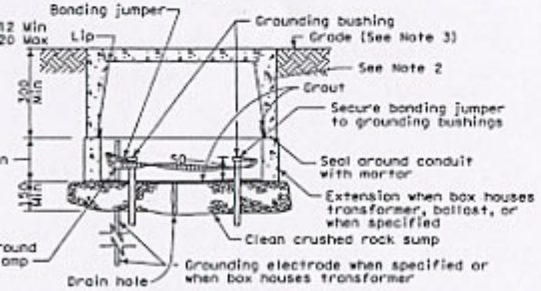
TOP VIEW

SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX



TOP VIEW



SECTION B-B

INSTALLATION DETAILS

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Martin Yeager
REGISTERED ELECTRICAL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

Martin V. Stec
No. E13738
Exp. 6-30-07
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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DIMENSION TABLE

PULL BOX	CONCRETE BOX				NON-PCC BOX		CONCRETE OR NON-PCC COVERS				
	Minimum * Thickness	Minimum Depth Box and Extension	WO (mm)	LO (mm)	Minimum ** Thickness	Minimum Depth Box and Extension	L ** (mm)	W ** (mm)	R (mm)	Edge Thickness	Edge Taper
No. 3½	25 mm	No Extension	260	510	8 mm	No Extension	390	260	30	45 mm	3 mm
No. 5	25 mm	560 mm	460	710	8 mm	510 mm	590	350	32	50 mm	3 mm
No. 6	40 mm	600 mm	580	910	10 mm	510 mm	780	450	32	50 mm	3 mm

* Excluding conduit web ** Top dimension

DIMENSION TABLE

PULL BOX	CONCRETE BOX						NON-PCC BOX		CONCRETE OR NON-PCC COVERS				
	Minimum * Thickness	Minimum Depth Box and Extension	WO (mm)	LO (mm)	WI (mm)	LI (mm)	Minimum ** Thickness	Minimum Depth Box and Extension	L ** (mm)	W ** (mm)	R (mm)	Edge Thickness	Edge Taper
No. 3½(T)	40 mm	300 mm	430 ± 25	530 ±	370 ±	270 ± 25	Does Not Apply		510 ±	350 ±	0	13 mm	None
No. 5(T)	45 mm	300 mm	600 ± 25	750 ±	480 ±	330 ± 25	Does Not Apply		690 ±	410 ±	0	13 mm	None
No. 6(T)	50 mm	300 mm	760 ± 25	900 ±	600 ±	430 ± 25	Does Not Apply		840 ±	510 ±	0	13 mm	None

* Excluding conduit web ** Top dimension

NOTES ON PULL BOXES

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Top of pull boxes shall be flush with surrounding grade or top of adjacent curb, except that in unpaved areas where pull box is not immediately adjacent to and protected by a concrete foundation, pole or other protective construction, the box shall be placed with its top 30 mm above surrounding grade. Where practicable, pull boxes shown in the vicinity of curbs shall be placed adjacent to the back of curb, and pull boxes shown adjacent to standards shall be placed on side of foundation facing away from traffic, unless otherwise noted. When pull box is installed in sidewalk area, the depth of the pull box shall be adjusted so that the top of the pull box is flush with the sidewalk.
4. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.

   a) No. 3½ pull box.

      1) "SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.

      2) "ST LIGHTING" Street or sign lighting circuits where voltage is under 600 V.

   b) No. 5, 6, 9 or 9A pull box.

      1) "TRAFFIC SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.

      2) "STREET LIGHTING" Street or sign lighting circuits where voltage is under 600 V.

      3) "STREET LIGHTING-HIGH VOLTAGE" Street or sign lighting circuits where voltage is above 600 V.

      4) "IRRIGATION" Circuits to irrigation controller 120 V or more.

      5) "RAMP METER" Ramp meter circuits.

      6) "COUNT STATION" Count or speed monitor circuits.

      7) "COMMUNICATION" Communication circuits.

      8) "TOS COMMUNICATIONS" TOS communications line

      9) "TOS POWER" TOS power.

      10) "TDC POWER" Telephone demarcation cabinet power.

      11) "CCTV" Closed circuit television circuits.

      12) "TMS" Traffic monitoring station circuits.

      13) "CMS" Changeable message sign circuits.

      14) "HAR" Highway advisory radio circuits.

5. Bonding jumper for metal covers shall be 1 m long, minimum.
6. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 3 mm greater.
7. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 3 mm. Top outside edge of concrete covers and pull boxes shall have a 6 mm minimum radius.
8. Pull box shall not be installed within the boundaries of new or existing curb ramps.
9. Pull boxes for electroliers, post and signal standards shall be located ± 1.5 m from the station of the adjacent electroller, post or signal standard. Pull boxes shall be placed adjacent to back of curb or edge of shoulder except where this is impractical, a box may be placed in another suitable protected and accessible location.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (PULL BOX DETAILS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-8

2004 Std PLAN ES-8

07-28-04

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

July 1, 2004
PLANS APPROVAL DATE

Greg W. Debolds
No. C36386
Exp. 6-30-06
CIVIL
STATE OF CALIFORNIA

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TYPICAL LANE CLOSURE

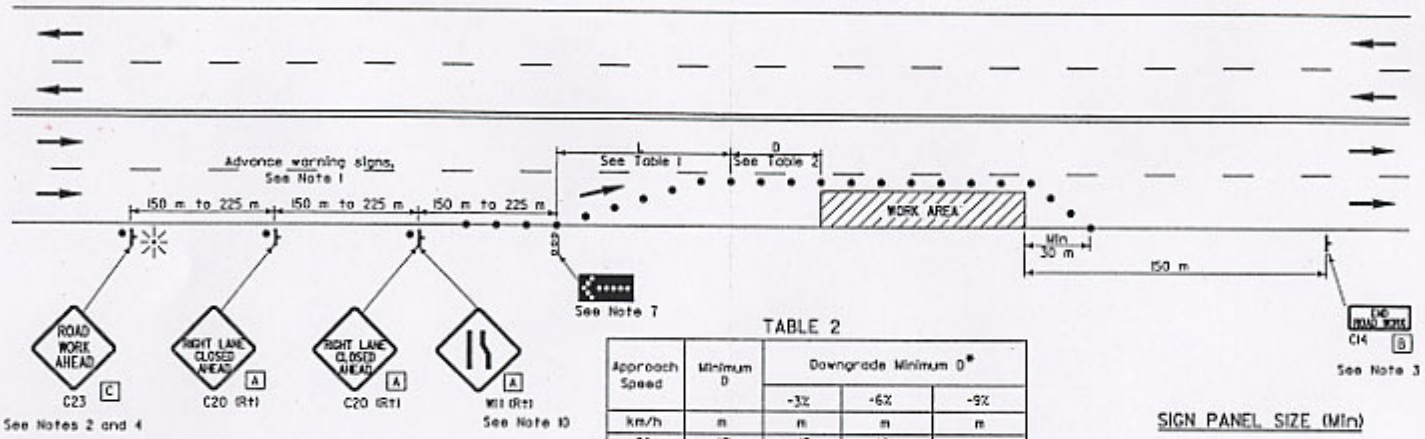

TABLE 2

Approach Speed	Minimum D	Downgrade Minimum D*		
		-3%	-6%	-9%
km/h	m	m	m	m
30	45	45	45	45
40	45	50	50	53
50	45	66	70	74
60	45	87	92	97
70	65	110	116	124
80	85	135	144	154

* Use on sustained downgrade steeper than or equal to grades shown and longer than 1.6 km.

SIGN PANEL SIZE (Min)

- A 914 mm x 914 mm
- B 914 mm x 457 mm
- C 762 mm x 762 mm

LEGEND

- Traffic Cone
- Portable Sign
- Direction of Travel
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Portable Flashing Beacon

S

re approach speeds are low, advance warning s may be placed at 90 m spacing and placed er in urban areas.

advance warning sign shall be equipped with east two flags for daytime closure. Each flag be at least 400 mm x 400 mm in size and shall range or fluorescent red-orange in color. ing beacons shall be placed at the locations ated for lane closure during hours of darkness.

"END ROAD WORK" sign, as appropriate, be placed at the end of the lane closure s the end of work area is obvious, or ends in a larger project's limits.

e C23 sign would follow within 600 m of ationary C23 or CII "ROAD WORK NEXT ___ MILES", use a C20 sign for the first nce warning sign.

ones used for lane closures during the s of darkness shall be fitted with retroreflective ls for sleeves) as specified in the specifications.

6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.

7. Flashing arrow sign shall be either Type I or Type II.

8. The maximum spacing between cones along a tangent shall be 15 m and along a taper shall be approximately as shown in Table L

9. For approach speeds over 80 km/h, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.

10. When specified in the special provisions, a W11 "LANE ENDS" symbol sign is to be used in place of the C20 "RIGHT LANE CLOSED AHEAD" sign.

TABLE 1

Approach Speed	* Minimum L	** Max spacing of cones along taper
km/h	m	m
30	38	6
40	38	8
50	98	10
60	98	12
70	183	14
80	183	15
Over 80	See Note 9	

* Use L for lane widths less than or equal to 3.6 m.

** See Note 8

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

T11

2004 Std PLAN T11

LEGEND

- Traffic Cone
- Portable Sign
- Direction of Travel
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Portable Flashing Beacon

TABLE 1

Approach Speed	* Minimum L	** Max spacing of cones along taper
km/h	m	m
30	38	6
40	38	8
50	98	10
60	98	12
70	183	14
80	183	15
Over 80	See Note 11	

* Use L for lane widths less than or equal to 3.6 m.

** See Note 10

TABLE 2

Approach Speed	Minimum D	Downgrade Minimum D*		
		-3%	-6%	-9%
km/h	m	m	m	m
30	45	45	45	45
40	45	50	50	53
50	45	66	70	74
60	45	87	92	97
70	65	110	116	124
80	85	136	144	154

* Use an sustained downgrade steeper than or equal to grades shown and longer than 1.6 km.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Registered Civil Engineer

July 1, 2004
PLANS APPROVAL DATE

Greg W. Edwards
No. C36386
Exp. 6-30-06
CIVIL
STATE OF CALIFORNIA

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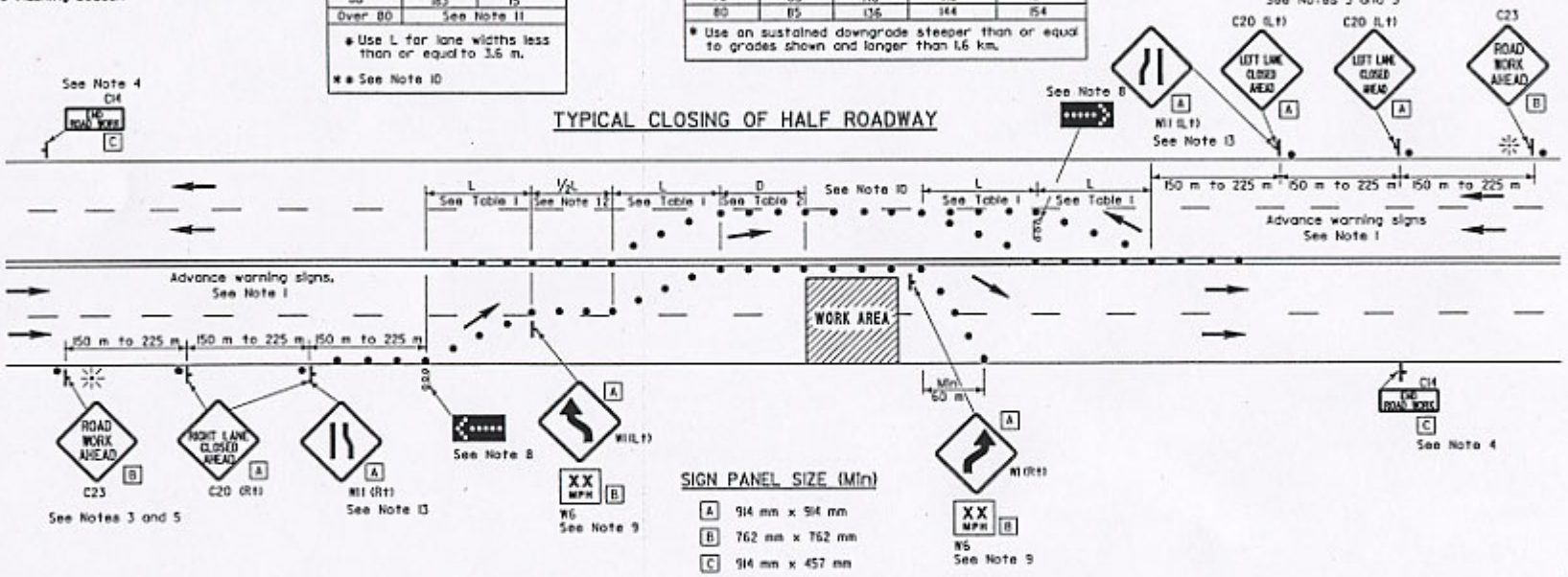
TYPICAL CLOSING OF HALF ROADWAY



SIGN PANEL SIZE (Min)

- A 914 mm x 914 mm
- B 762 mm x 762 mm
- C 914 mm x 457 mm

S

e Approach speeds are low, advance ing signs may be placed at 90 m spacing placed closer in urban areas.

east one person shall be assigned to provide time maintenance of traffic control devices lane closure unless, otherwise directed by Engineer.

advance warning sign in each direction travel shall be equipped with at least two s for daytime closure. Each flag shall be at t 400 mm x 400 mm in size and shall be nge or fluorescent red-orange in color. shing beacons shall be placed at the locations cated for lane closure during hours of kness.

4 "END ROAD WORK" sign, as appropriate, l be placed at the end of the lane closure ss the end of work area is obvious, or ends in a longer project's limits.

5. If the C23 sign would follow within 600 m of a stationary C23 or C11 "ROAD WORK NEXT _____ MILES", use a C20 sign for the first advance warning sign.

6. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.

7. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.

8. Flashing arrow signs shall be either Type I or Type II.

9. Advisory speed will be determined by the Engineer. The W6 Sign will not be required when advisory speed is more than the posted or maximum speed limit.

10. The maximum spacing between cones along a tangent shall be 15 m and along a taper shall be approximately as shown in Table 1.

11. For approach speeds over 80 km/h, use the "Traffic Control System For Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.

12. Unless otherwise specified in the special provisions, the (½ L) shown between the two (L) lane closure tapers shall be used.

13. When specified in the special provisions, a W1 "Lane Ends" symbol sign is to be used in place of the C20 "RIGHT (LEFT) LANE CLOSED AHEAD" sign.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

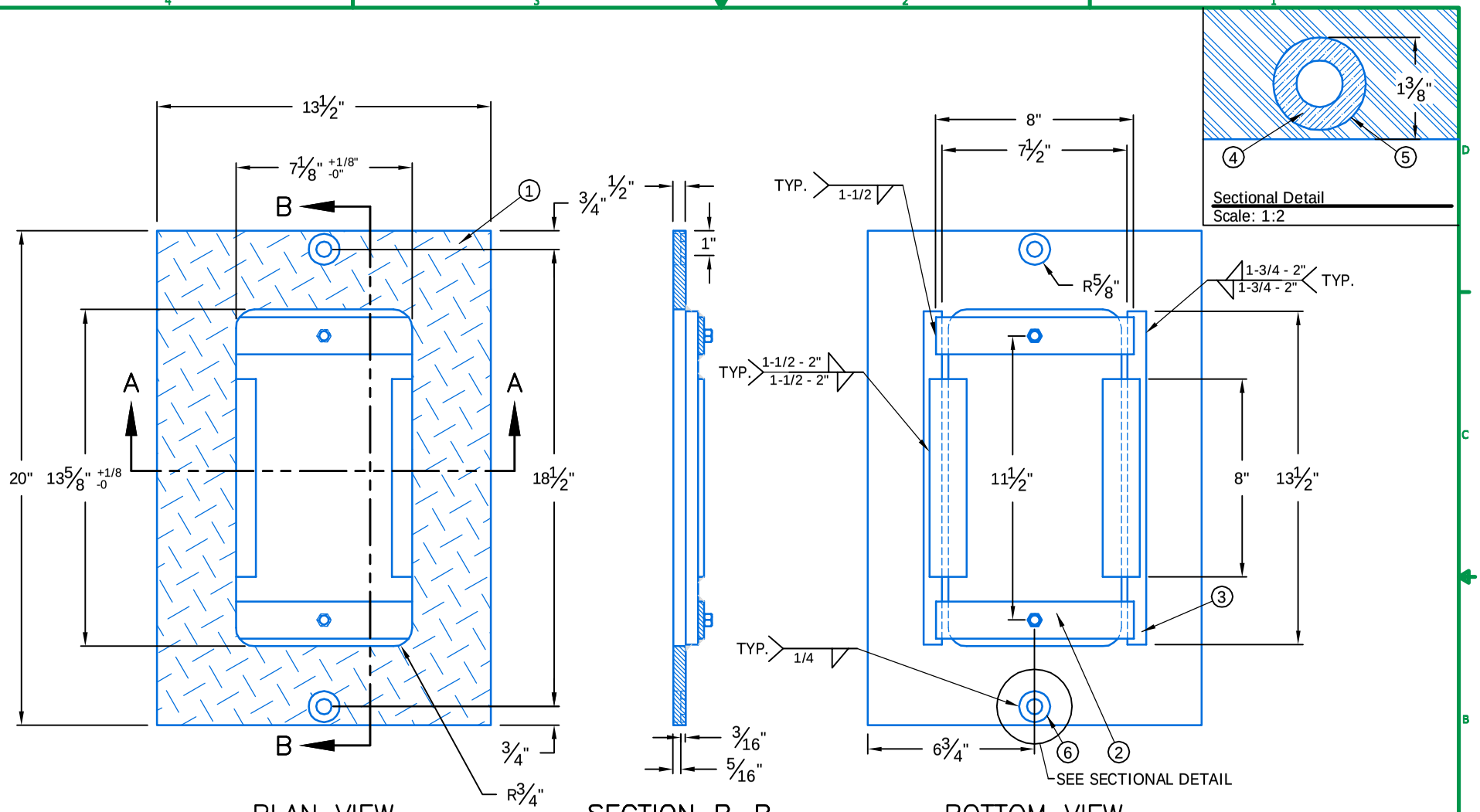
NO SCALE

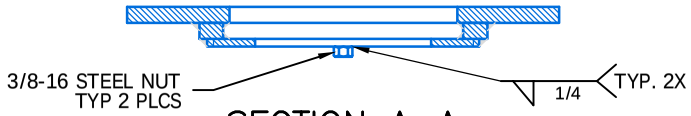
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

T12

2004 Std PLAN T12

APPENDIX D





SECTION A–A

NOTES: UNLESS OTHERWISE SPECIFIED.

1. MATERIAL: ½" DIAMOND CHECKER PLATE.
2. MATERIAL: ¼" x 1½" STEEL FLAT STOCK.
3. MATERIAL: ¾" x ½" STEEL FLAT STOCK.
4. MATERIAL: 3/16" STEEL FLAT STOCK.
5. 3/16" WASHER TO BE WELDED PER ASTM A-706
6. SURFACE AROUND WELD TO BE FLAT.

Oldcastle Precast
801 S. Pine St
Madera, CA 93637

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/16
ANGLE = +/- 1°

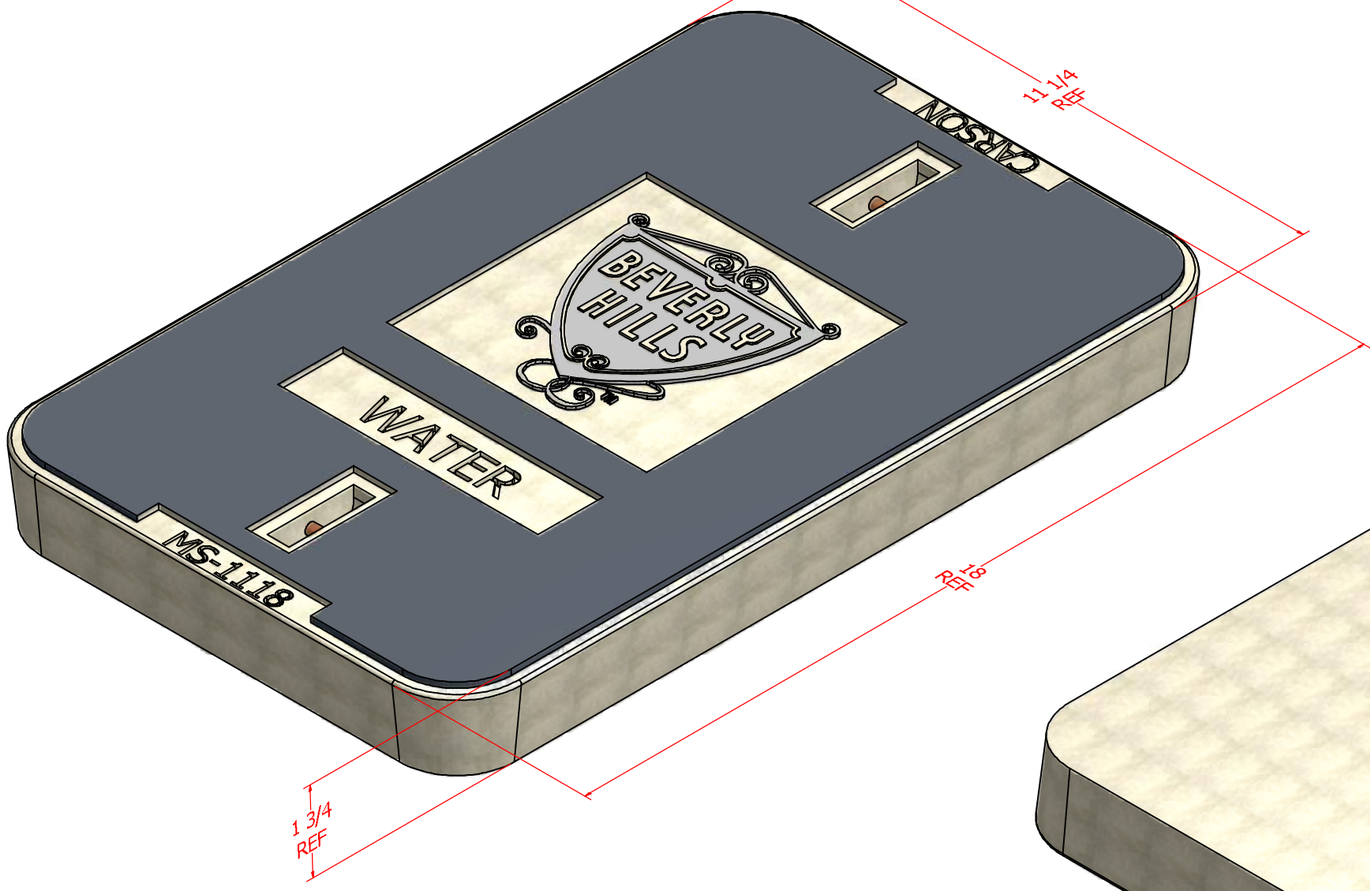
DRAWN	T. BARKER	07/06/09
CHECKED	A. LOUCKS	
QA		
MFG		
APPROVED		

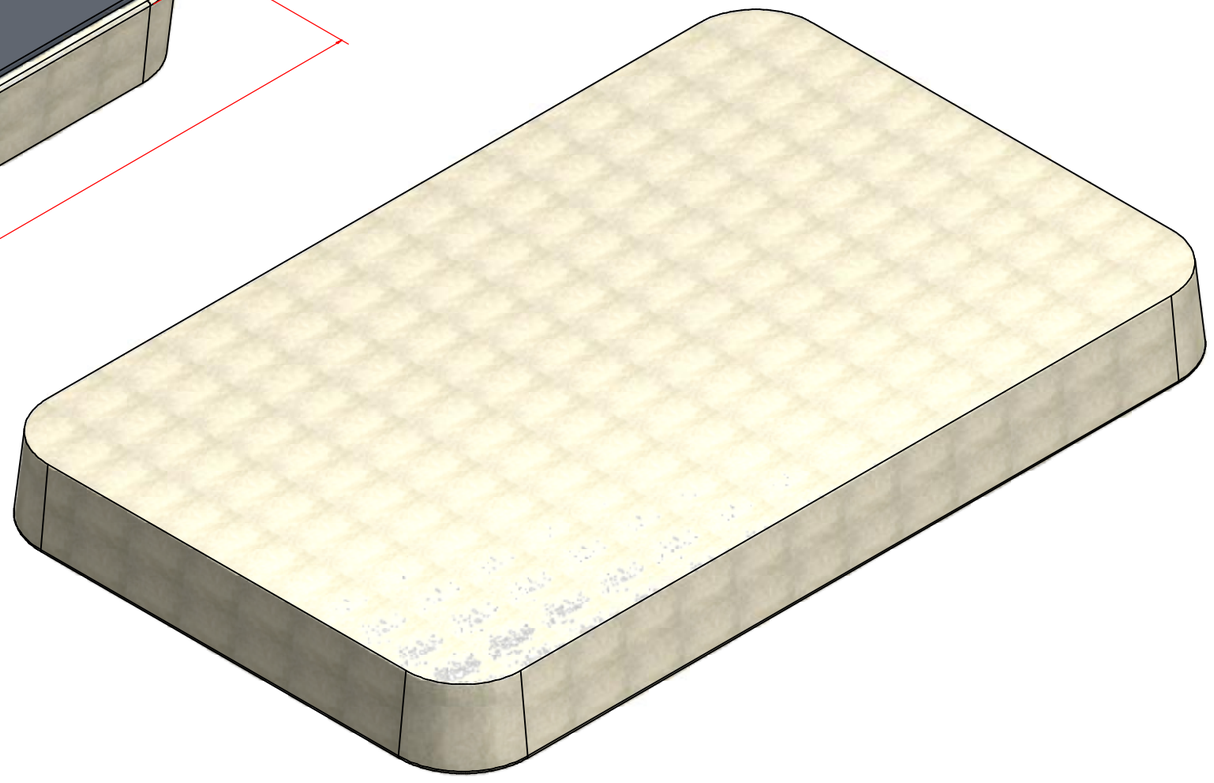
TITLE: B1017-51E w/ 7x13 POLYMER CONCRETE READER

SIZE	DWG NO	REV
A	1017-E-STEELCOVER-E	E

SCALE 2" = 1'-0" SHEET 1 OF 1

REVISION				
REV	DESCRIPTION	BY	DATE	APPROVED
-A-	ADDED NOTES 1 &2	JV	APR 14, 09	NTD





CUSTOMER FORMAT DRAWING

ESTIMATED PART WEIGHT: 25 lbs.

NOTES:

1. COVER SHALL BE CONSTRUCTED OF REINFORCED POLYMER CONCRETE WITH A COMPRESSIVE STRENGTH GREATER THAN 11,000 PSI. TWO CONTINUOUS SHEETS OF WOVEN AND STICHED BOROSILICATE GLASS CLOTH SHALL REINFORCE THE UPPER, AND LOWER CROSS SECTIONS.

2. COEFFICIENT OF FRICTION SHALL BE GREATER THAN 0.5 (ASTM C-1028-96).

MATERIAL: POLYMER CONCRETE GRAY

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

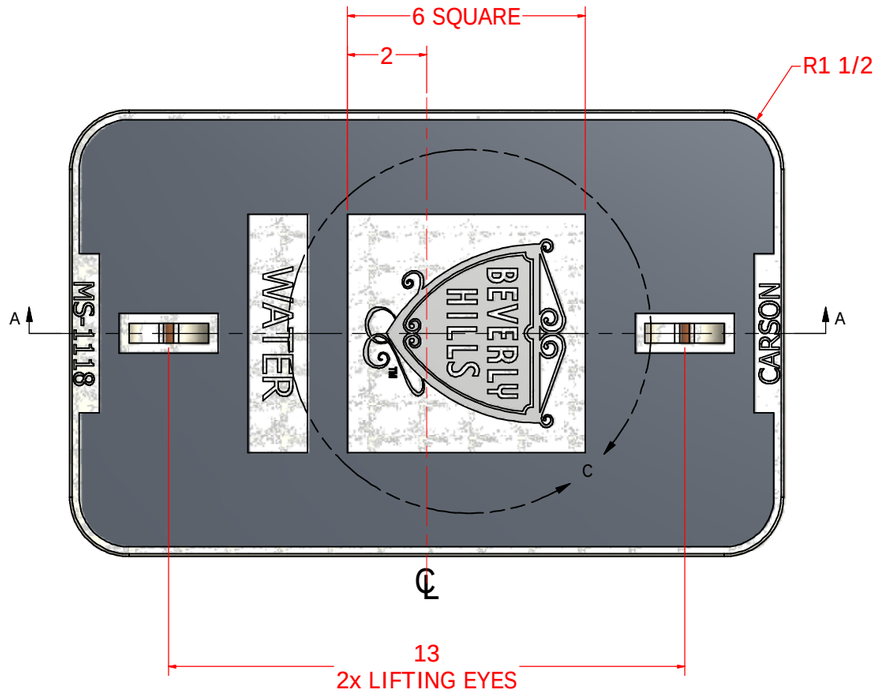
DRAWN	jvelazquez	2/26/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	

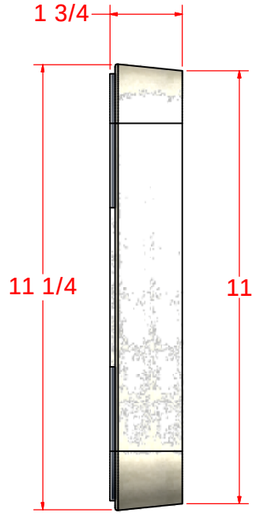
Oldcastle Precast ENCLOSURE SOLUTIONS
1960 RICOLE CT.
DUBROCA, CA 91748
909-592-4272
CARSON

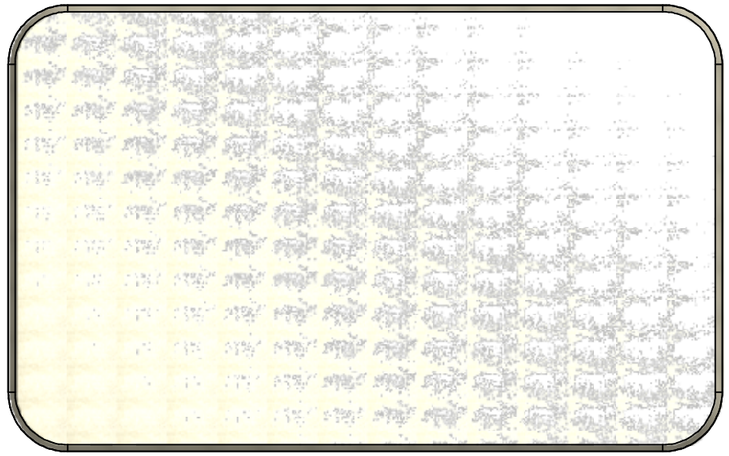
TITLE
1118 PC FLUSH COVER BEVERLY HILLS
WATER 2x LIFTING EYES 0x BOLT HOLES

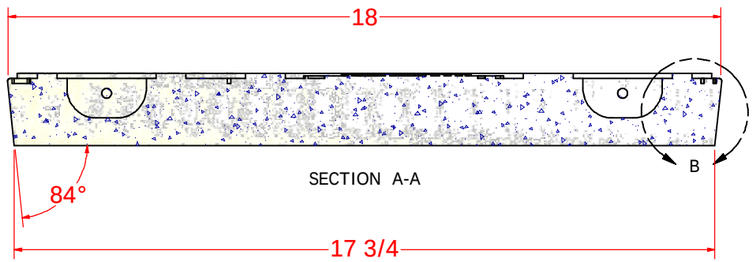
SIZE	DWG NO	REV
D	11185013	-A-

SCALE
SHEET 1 OF 2

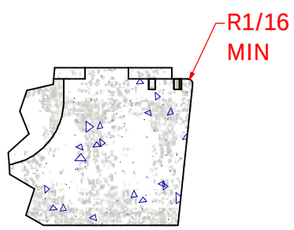




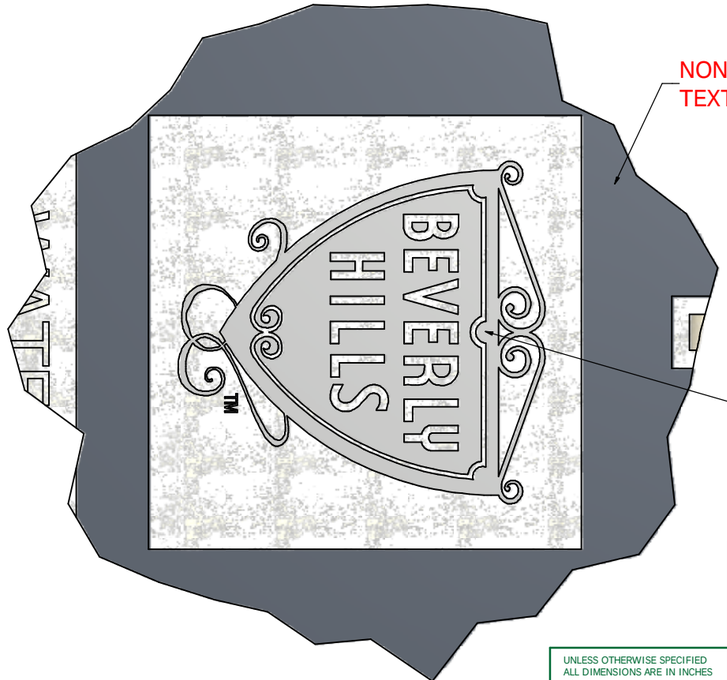




SECTION A-A



DETAIL B



DETAIL C

CUSTOMER FORMAT DRAWING

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

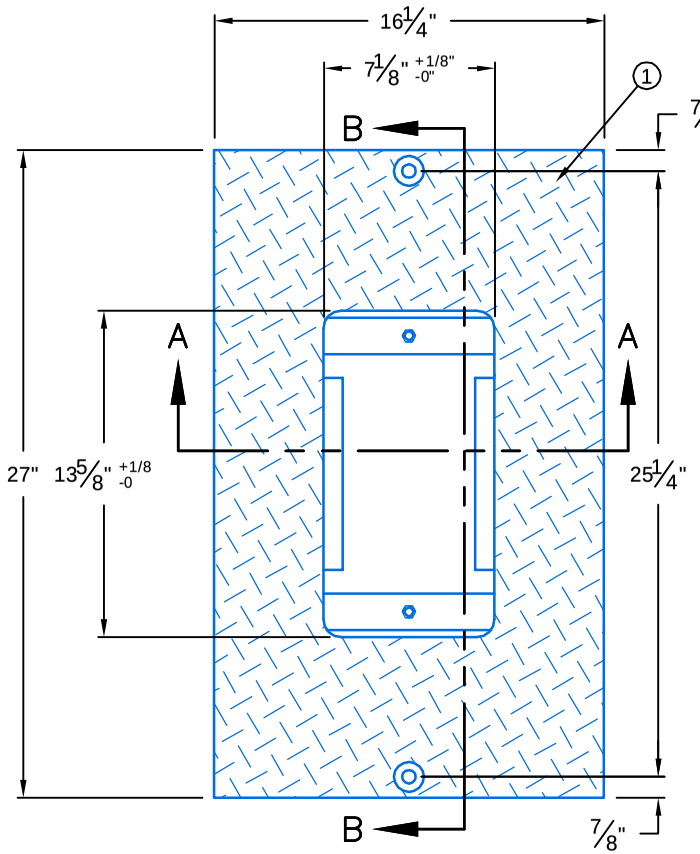
DRAWN	jvelazquez	2/26/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	

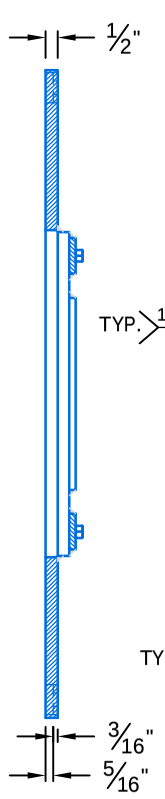
Oldcastle Precast ENCLOSURE SOLUTIONS
CARSON

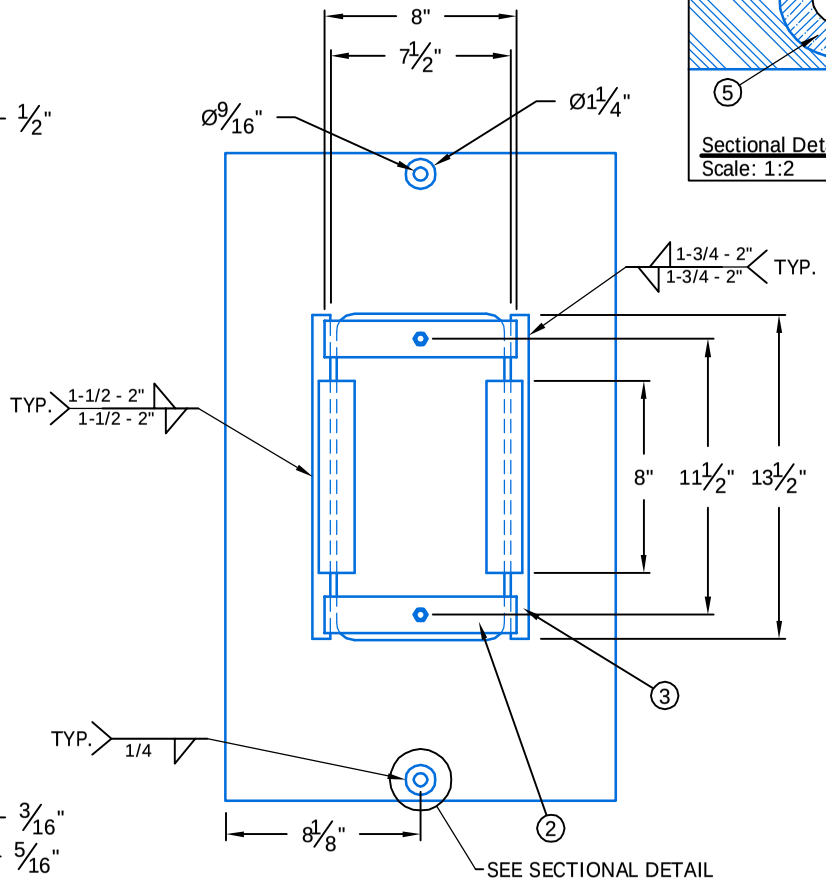
TITLE: 1118 PC FLUSH COVER BEVERLY HILLS WATER 2x LIFTING EYES 0x BOLT HOLES

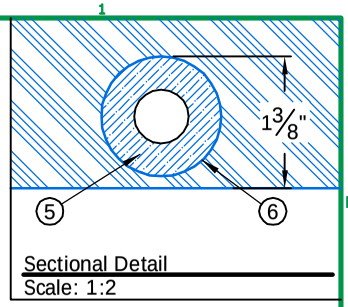
SIZE	DWG NO	REV
D	11185013	-A-

SCALE | SHEET 2 OF 2









NOTES: UNLESS OTHERWISE SPECIFIED.

1. MATERIAL: ½" DIAMOND CHECKER PLATE.
2. MATERIAL: ¼" x 1½" STEEL FLAT STOCK.
3. MATERIAL: ¾" x ½" STEEL FLAT STOCK.
4. MATERIAL: ⅜"-16 STEEL NUT.
5. 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6. SURFACE AROUND WELD TO BE FLAT.

Oldcastle Precast
801 S. Pine St
Madera, CA 93637

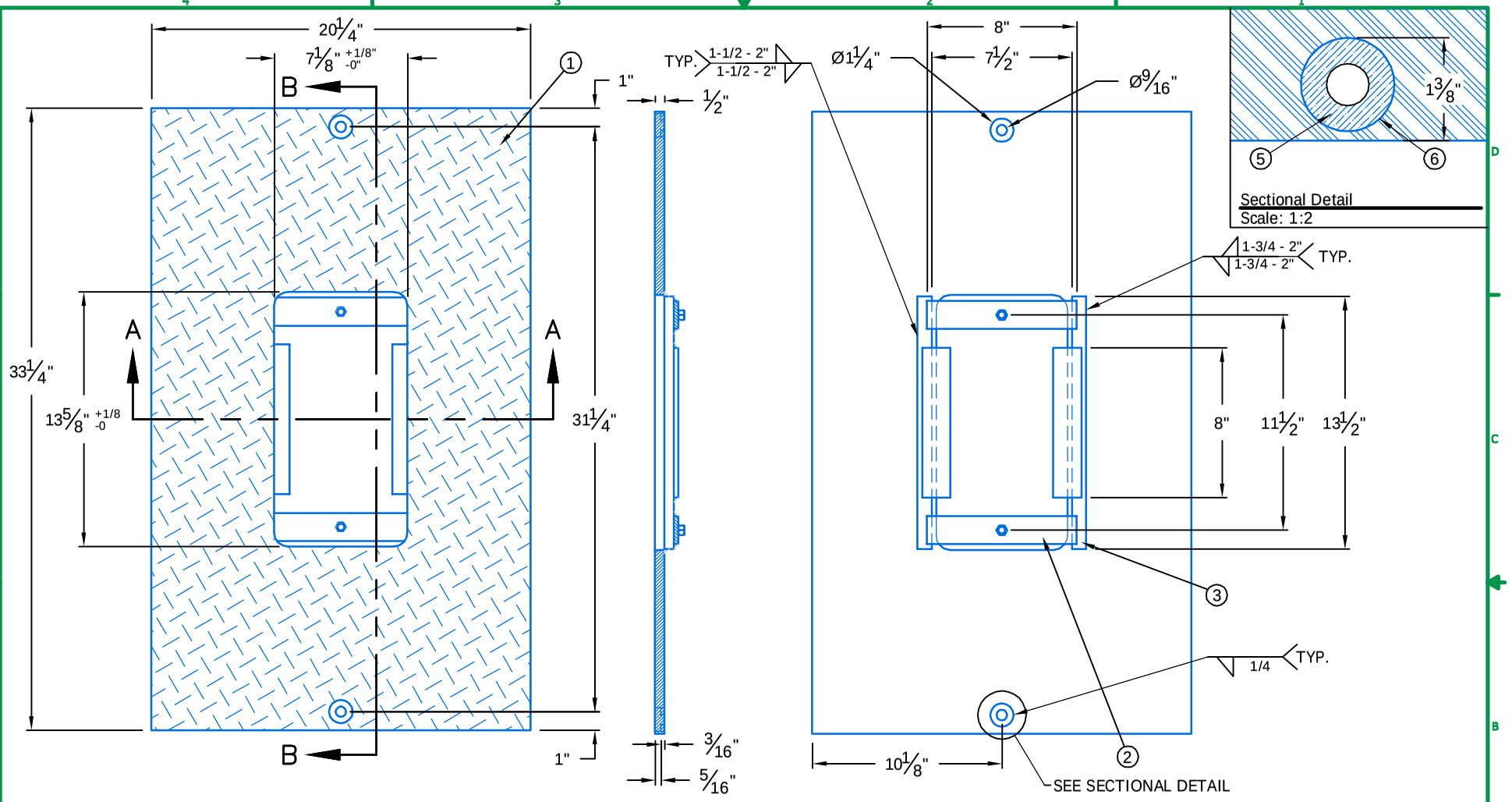
UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/16
ANGLE = +/- 1°

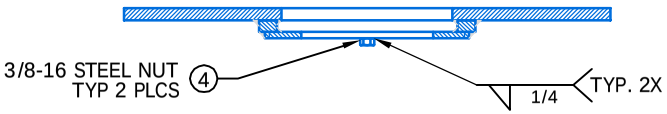
DRAWN	T. BARKER	07/29/09
CHECKED	A. LOUCKS	
QA		
MFG		
APPROVED		

TITLE: B1324-51E w/ 7X13 POLYMER CONCRETE READER - 2001341

SIZE	DWG NO	REV
A	1324-E-STEELCOVER-A	A

SCALE 1-1/2" = 1'-0" SHEET 1 OF 1





SECTION A–A

NOTES: UNLESS OTHERWISE SPECIFIED.

1. MATERIAL: ½" DIAMOND CHECKER PLATE.
2. MATERIAL: ¼" x 1½" STEEL FLAT STOCK.
3. MATERIAL: ¾" x ½" STEEL FLAT STOCK.
4. MATERIAL: ⅜"-16 STEEL NUT.
5. 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6. SURFACE AROUND WELD TO BE FLAT.

Oldcastle Precast
801 S. Pine St
Madera, CA 93637

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/16
ANGLE = +/- 1°

DRAWN	T. BARKER	07/29/09
CHECKED	A. LOUCKS	
QA		
MFG		
APPROVED		

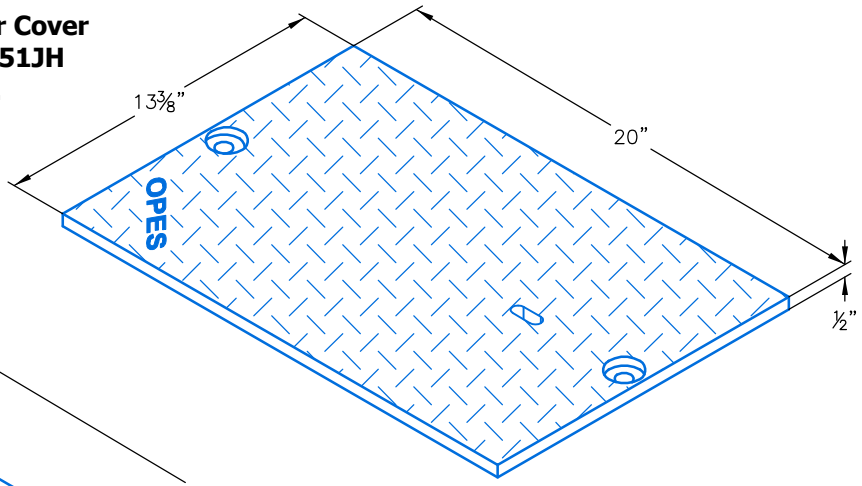
TITLE: B1730-51E w/ 7x13 PLOYMER CONCRETE READER - 2002036

SIZE	DWG NO	REV
A	1730-E-STEELCOVER-A	A

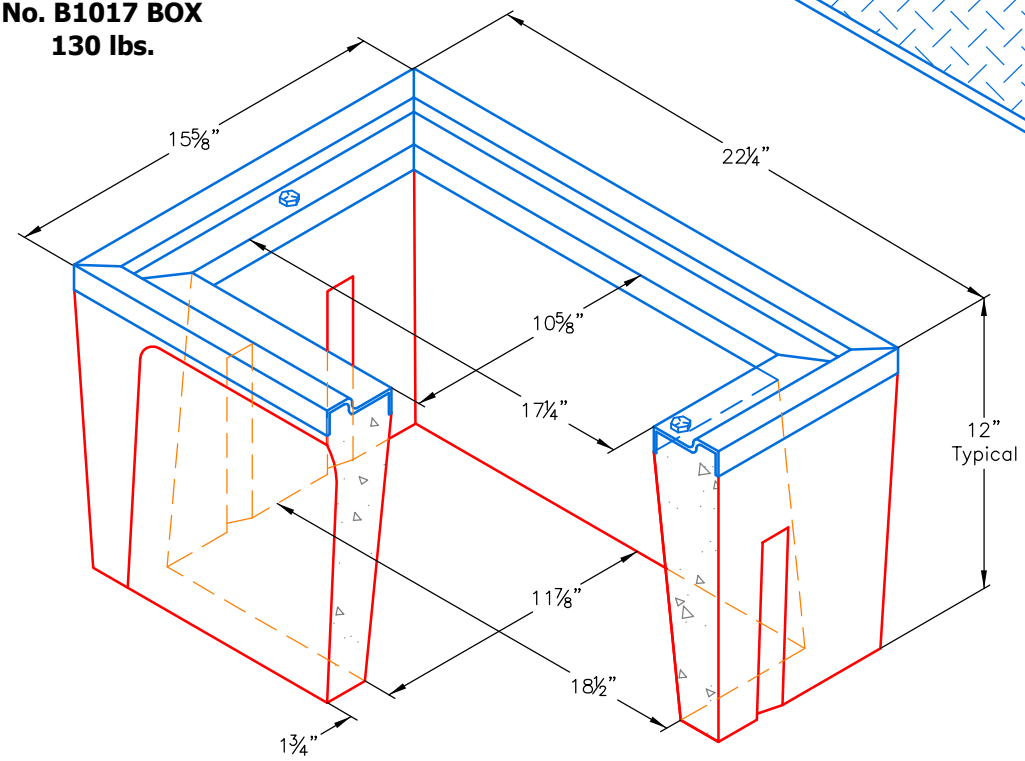
SCALE 1-1/2" = 1'-0" SHEET 1 OF 1

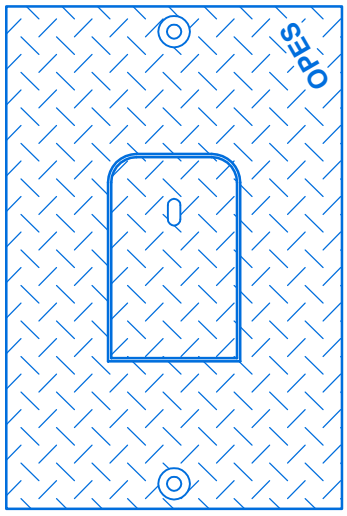
Traffic Box
Caltrans No. 3-1/2T State Specs

Steel Checker Cover
No. B1017-51JH
44 lbs.



Traffic Box
No. B1017 BOX
130 lbs.





B1017-51GH

A high density reinforced concrete box with non–settling shoulders positioned to maintain grade and facilitate back filling. Hex–Head Bolts are included with Box. Approximate dimensions and weight shown.

Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
B1017BOX	BOX	130 lbs.	B1017 Utility Box (10⅝" x 17¼") H/20 Loading w/ Bolts – 20 per pallet
B1017–51JH	COVER	44 lbs.	Steel Checker Plate, H/20, Bolt Down
B1017–51GH	COVER	46 lbs.	Steel Checker Plate, H/20 with 5" x 8" Reading Lid
B1017X12	EXTENSION	129 lbs.	12" Reinforced Concrete H/20 Loading – 20 per pallet
B9SL	SLAB	32 lbs.	Reinforced Concrete (13¼" x 19¾")
Galvanizing available on all steel covers			

Oldcastle Precast®
Enclosure Solutions
Phone: (800) 486–7070 Fax: (800) 486–6804

B1017 BOX

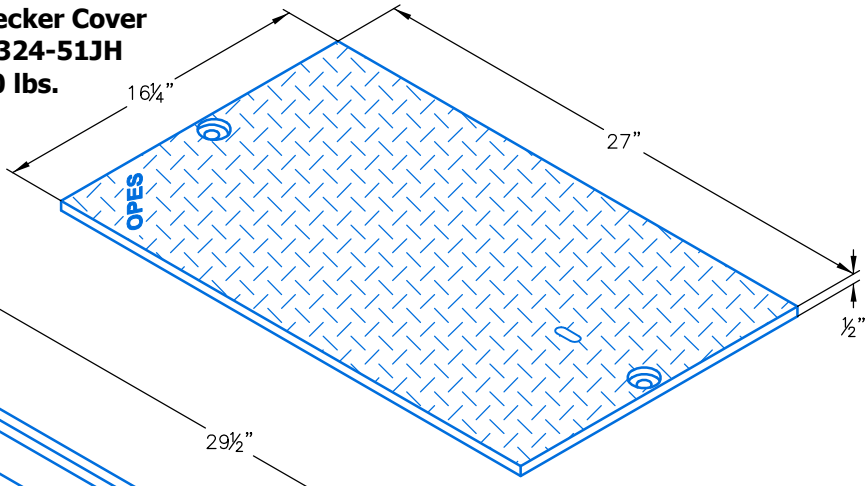
FILE NAME: B1017_ISO
ISSUE DATE: January, 2011
www.oldcastleprecast.com

B1017 BOX H/20 LOADING
10-5/8" x 17-1/4"

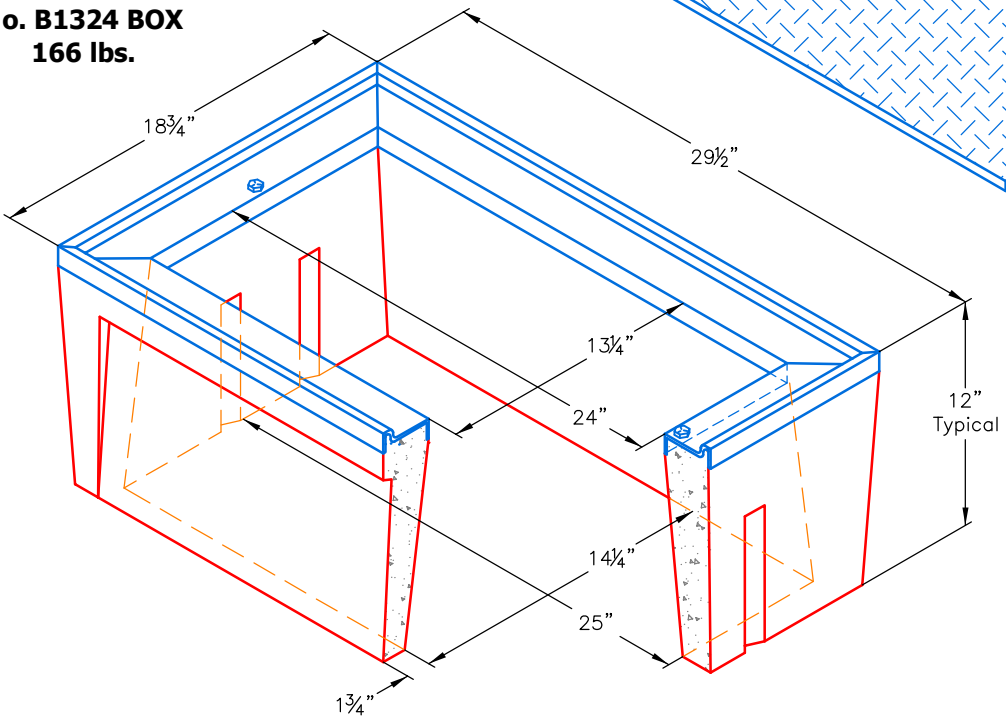
Christy®

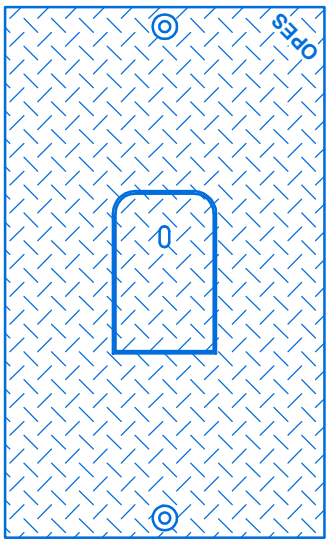
Traffic Box
Caltrans No. 5T State Specs

Steel Checker Cover
No. B1324-51JH
70 lbs.



Traffic Box
No. B1324 BOX
166 lbs.





B1324-51GH

A high density reinforced concrete box with non–settling shoulders positioned to maintain grade and facilitate back filling. Hex–Head Bolts are included with Box. Approximate dimensions and weight shown.

Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
B1324BOX	BOX	166 lbs.	B1324 Utility Box (13¼" x 24") H/20 Loading w/ Bolts – 16 per pallet
B1324–51JH	COVER	70 lbs.	Steel Checker Plate, H/20, Bolt Down
B1324–51GH	COVER	72 lbs.	Steel Checker Plate, H/20 with 5" x 8" Reading Lid
B1324X12	EXTENSION	163 lbs.	12" Reinforced Concrete H/20 Loading – 16 per pallet
B30SL	SLAB	52 lbs.	Reinforced Concrete (16" x 28")
Galvanizing available on all steel covers			

Oldcastle Precast®
Enclosure Solutions
Phone: (800) 486–7070 Fax: (800) 486–6804

B1324 BOX

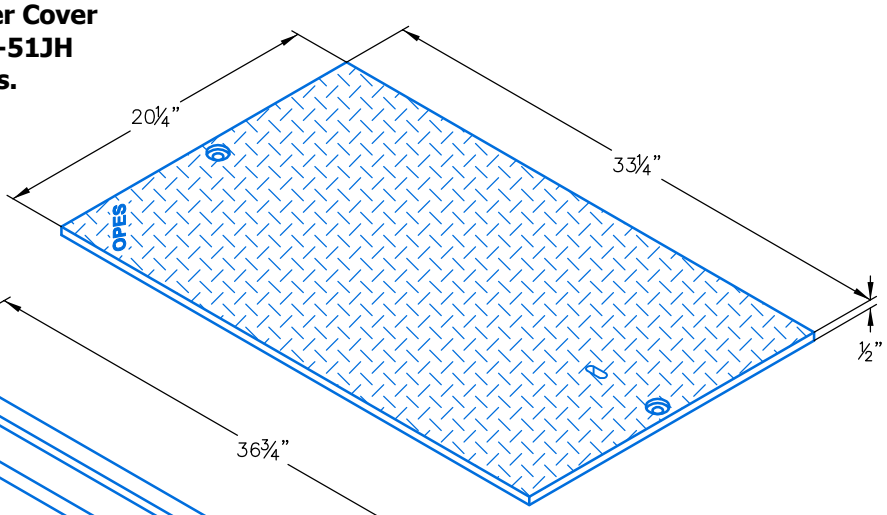
FILE NAME: B1324_ISO
ISSUE DATE: January, 2011
www.oldcastleprecast.com

B1324 BOX H/20 LOADING
13-1/4" x 24"

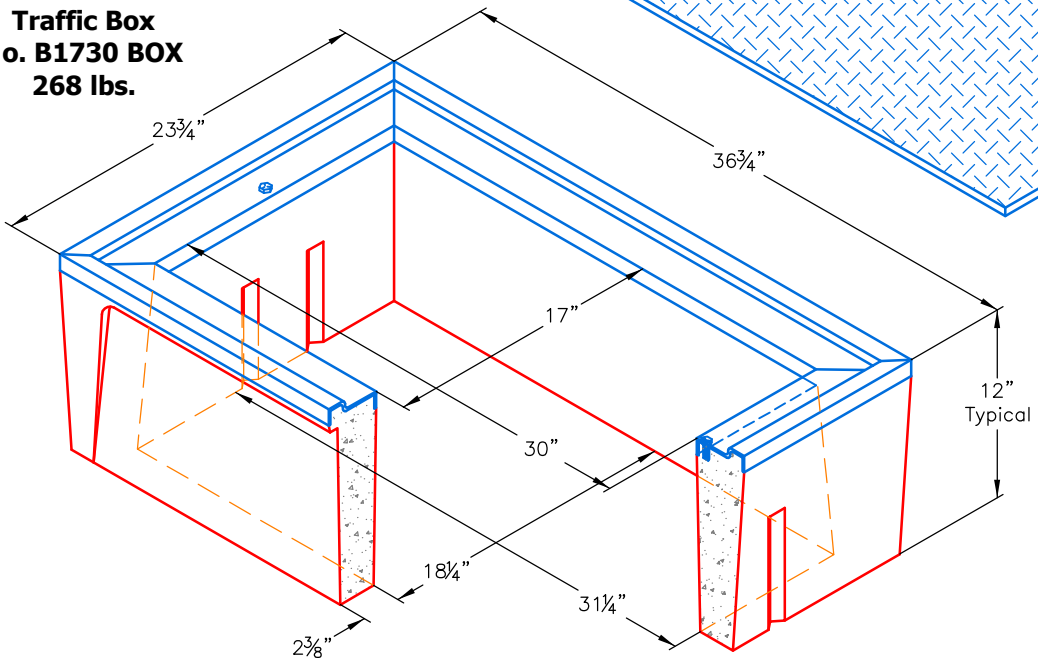
Christy®

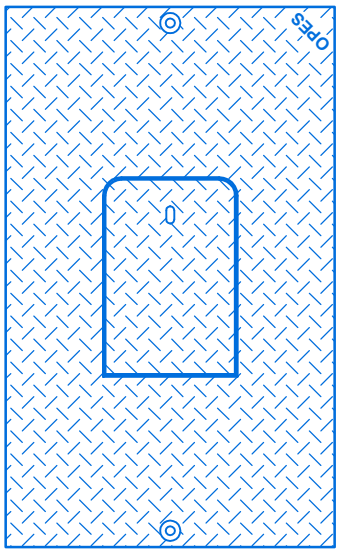
Traffic Box
Caltrans No. 6T State Specs

Steel Checker Cover
No. B1730-51JH
111 lbs.



Traffic Box
No. B1730 BOX
268 lbs.





B1730-51GH

A high density reinforced concrete box with non–settling shoulders positioned to maintain grade and facilitate back filling. Head–Head Bolts are included with Box. Approximate dimensions and weight shown.

Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
B1730BOX	BOX	268 lbs.	B1730 Utility Box (17" x 30") H/20 Loading w/ Bolts – 6 per pallet
B1730–51JH	COVER	111 lbs.	Steel Checker Plate, H/20, Bolt Down
B1730–51GH	COVER	112 lbs.	Steel Checker Plate, H/20 with 8" x 12" Reading Lid
B1730X12	EXTENSION	250 lbs.	12" Reinforced Concrete H/20 Loading – 6 per pallet
B36SL	SLAB	108 lbs.	Reinforced Concrete (20" x 34")
Galvanizing available on all steel covers			

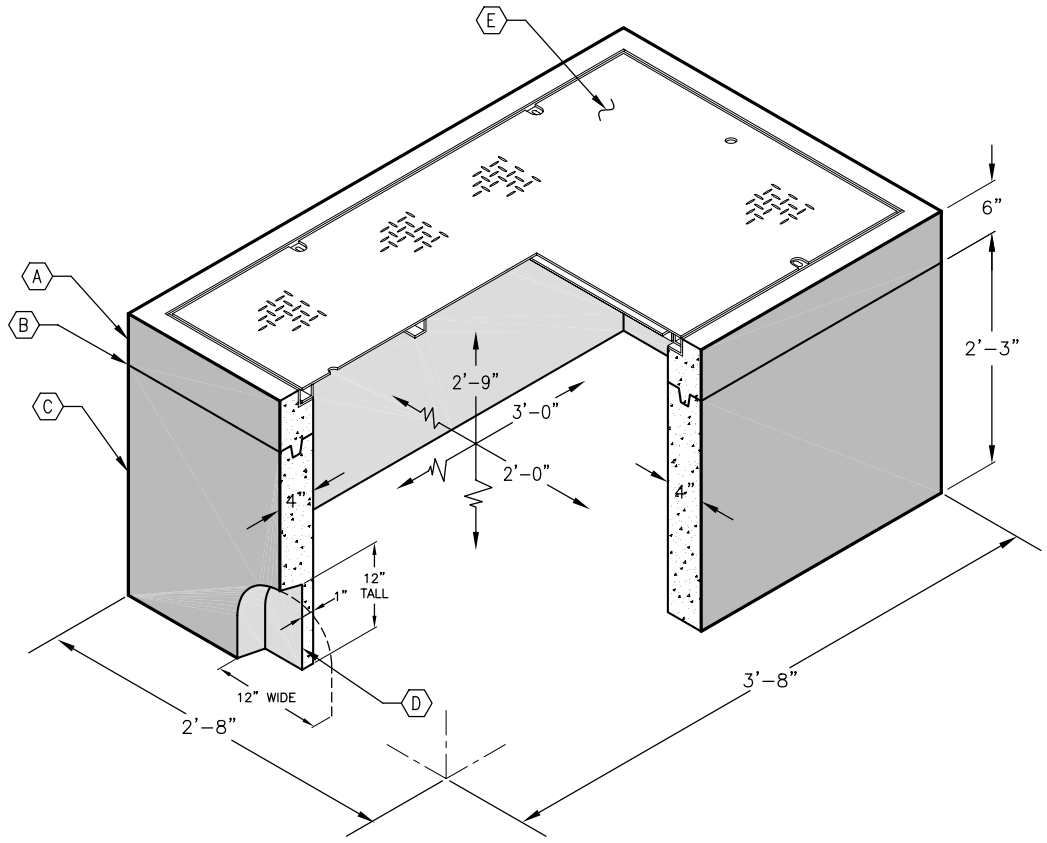
Oldcastle Precast®
Enclosure Solutions
Phone: (800) 486–7070 Fax: (800) 486–6804

B1730 BOX

FILE NAME: B1730_ISO
ISSUE DATE: January, 2011
www.oldcastleprecast.com

B1730 BOX H/20 LOADING
17" x 30"

Christy®



■ ILLUSTRATION IS TYPICAL ONLY OF GENERAL SERIES CONFIGURATION: FOR SPECIFIC CONFIGURATION, CALL JENSEN PRECAST.

MINIMUM EXCAVATION SIZE:
3'-2" x 4'-2" x DEPTH REQUIRED.

Ⓐ 6" TOP SECTION WT.= 200 Lbs.

Ⓑ 6" OR 12" EXTENSION SECTIONS AVALIABLE.

Ⓒ BOTTOM SECTION WT.= 1,200 Lbs.

Ⓓ 10" WIDE X 10" TALL PIPE KNOCKOUT ON EACH END WALL, CUSTOM SIZES AVALIABLE UPON REQUEST.

Ⓔ FOR COVERS: SEE COVER AND NECKING SECTION.

■ DESIGNED FOR PEDESTRIAN OR LIGHT TRAFFIC LOADING.

■ PLEASE CALL WITH DEPTH REQUIREMENTS, OTHER SIZES ARE AVALIABLE THAN WHAT IS SHOWN.

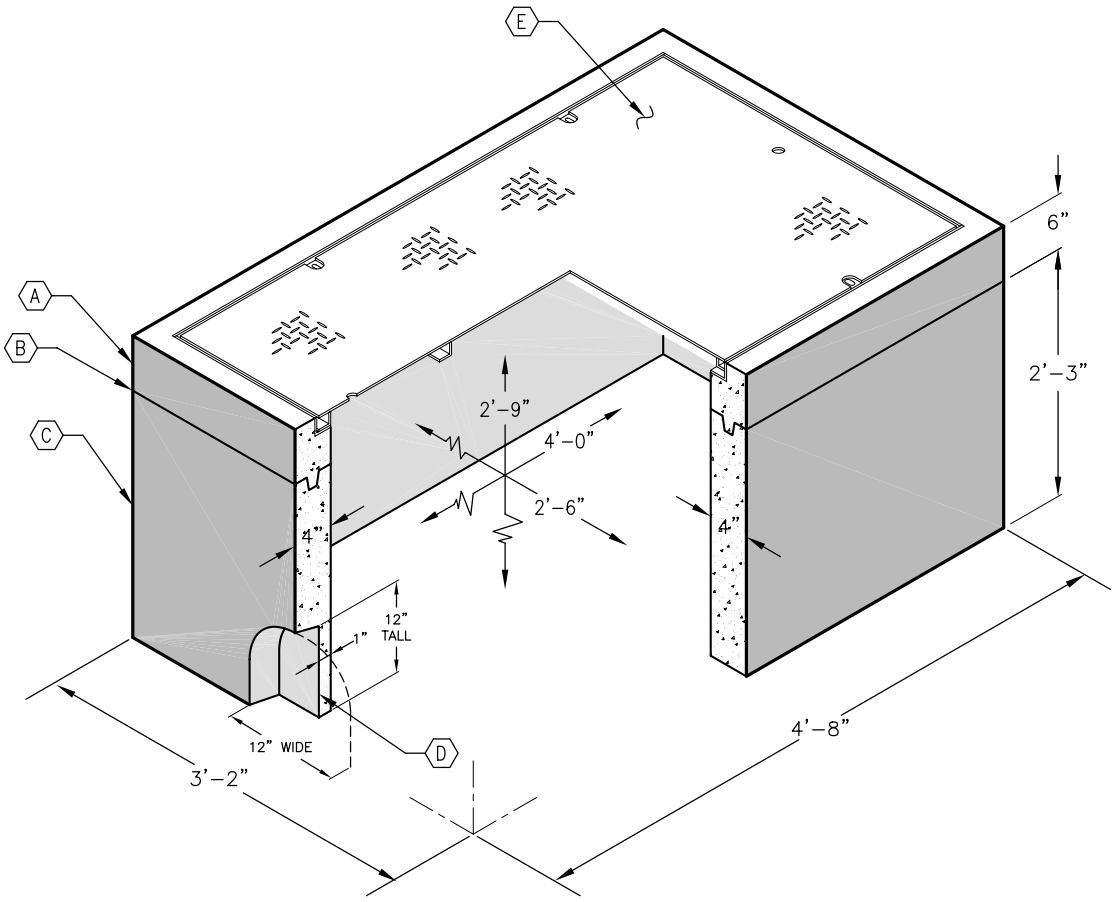
2'-0" x 3'-0" VARIABLE DEPTH FLAT WALL WATER / GAS VAULT

ORG. DWG. DATE: **08-01-04**

REV. DWG. DATE:

JENSEN PRECAST®

W-2436 SERIES



■ ILLUSTRATION IS TYPICAL ONLY OF GENERAL SERIES CONFIGURATION: FOR SPECIFIC CONFIGURATION, CALL JENSEN PRECAST.

MINIMUM EXCAVATION SIZE:
3'-8" x 5'-2" x DEPTH REQUIRED.

Ⓐ 6" TOP SECTION WT.= 230 Lbs.

Ⓑ 6" OR 12" EXTENSION SECTIONS AVALIABLE.

Ⓒ BOTTOM SECTION WT.= 1,674 Lbs.

Ⓓ 10" WIDE X 10" TALL PIPE KNOCKOUT ON EACH END WALL, CUSTOM SIZES AVALIABLE UPON REQUEST.

Ⓔ FOR COVERS: SEE COVER AND NECKING SECTION.

■ DESIGNED FOR PEDESTRIAN OR LIGHT TRAFFIC LOADING.

■ PLEASE CALL WITH DEPTH REQUIREMENTS, OTHER SIZES ARE AVALIABLE THAN WHAT IS SHOWN.

2'-6" x 4'-0" VARIABLE DEPTH FLAT WALL WATER / GAS VAULT

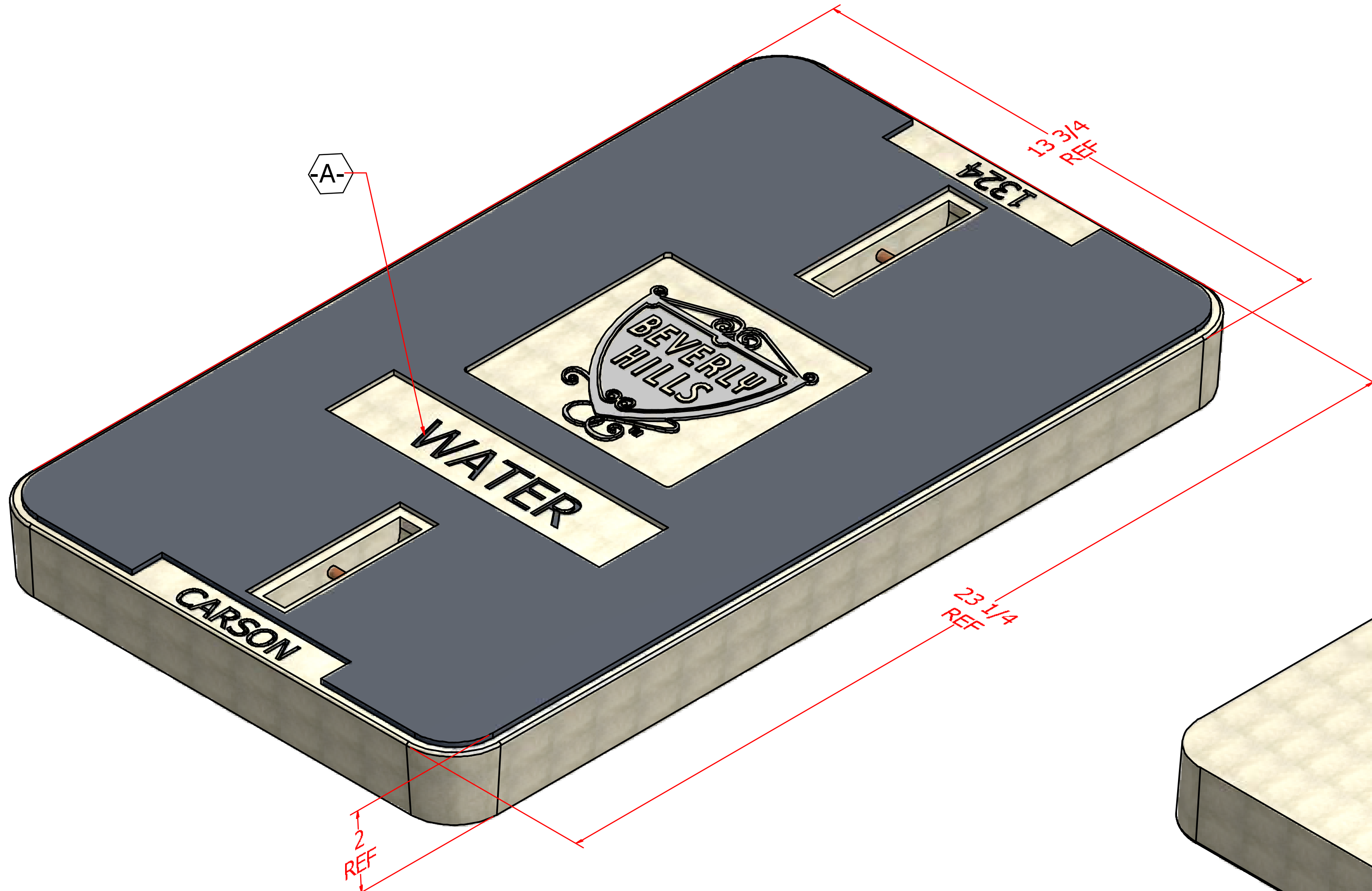
JENSEN PRECAST®

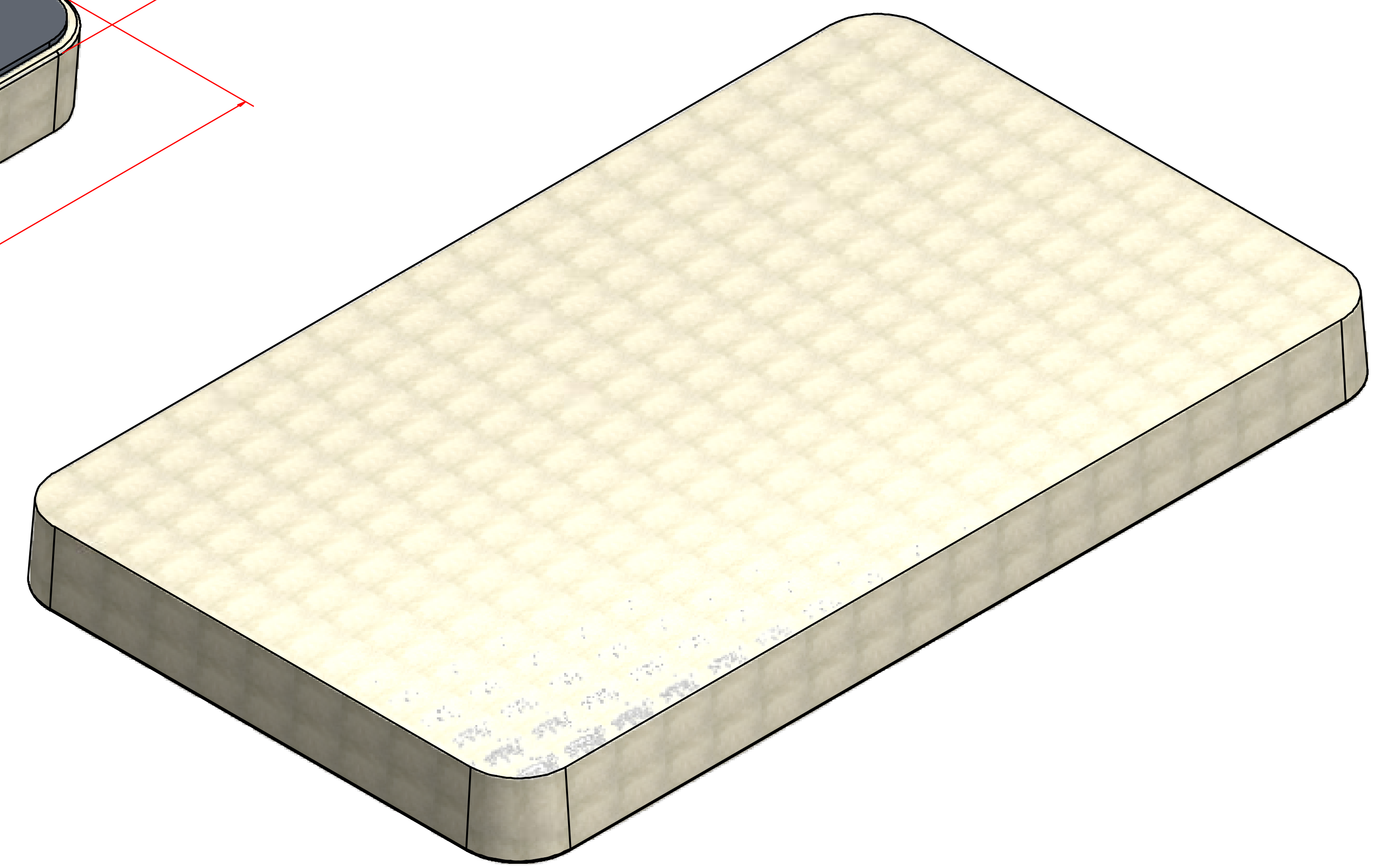
W-3048 SERIES

ORG. DWG. DATE: 08-01-04

REV. DWG. DATE:

REVISIONS				
REV	DESCRIPTION	BY	DATE	APPROVED
-A-	MARKING "WATER" WAS "WATER METER"	JV	MAR 02, 09	NTD
-B-	ADDED NOTES 1 & 2	JV	APR 14, 09	NTD





CUSTOMER FORMAT DRAWING

ESTIMATED PART WEIGHT: 44 lbs.

-B- NOTES:

1. COVER SHALL BE CONSTRUCTED OF REINFORCED POLYMER CONCRETE WITH A COMPRESSIVE STRENGTH GREATER THAN 11,000 PSI. TWO CONTINUOUS SHEETS OF WOVEN AND STICHED BOROSILICATE GLASS CLOTH SHALL REINFORCE THE UPPER, AND LOWER CROSS SECTIONS.

2. COEFFICIENT OF FRICTION SHALL BE GREATER THAN 0.5 (ASTM C-1028-96).

MATERIAL: POLYMER CONCRETE GRAY

Oldcastle Precast® ENCLOSURE SOLUTIONS

CARSON

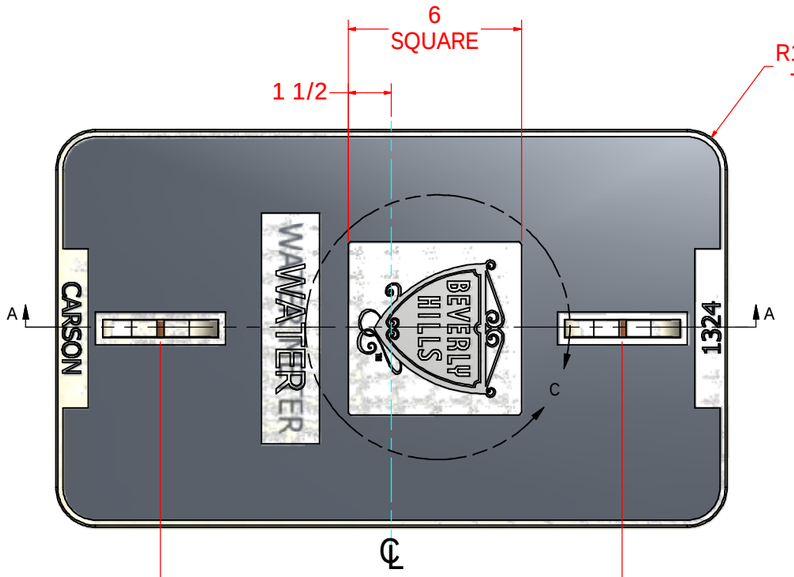
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

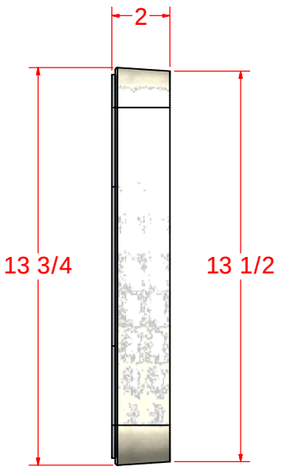
DRAWN	jvelazquez	2/19/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	2/20/2009

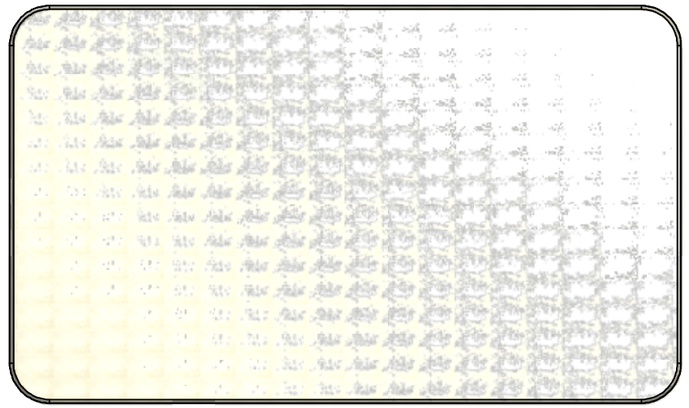
TITLE: 1324 BC FLUSH COVER PC BEVERLY HILLS WATER 2x LIFTING EYES 0 BOLT HOLES

SIZE	DWG NO	REV
D	13245067	-B-

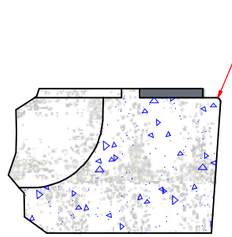
SCALE | SHEET 1 OF 2



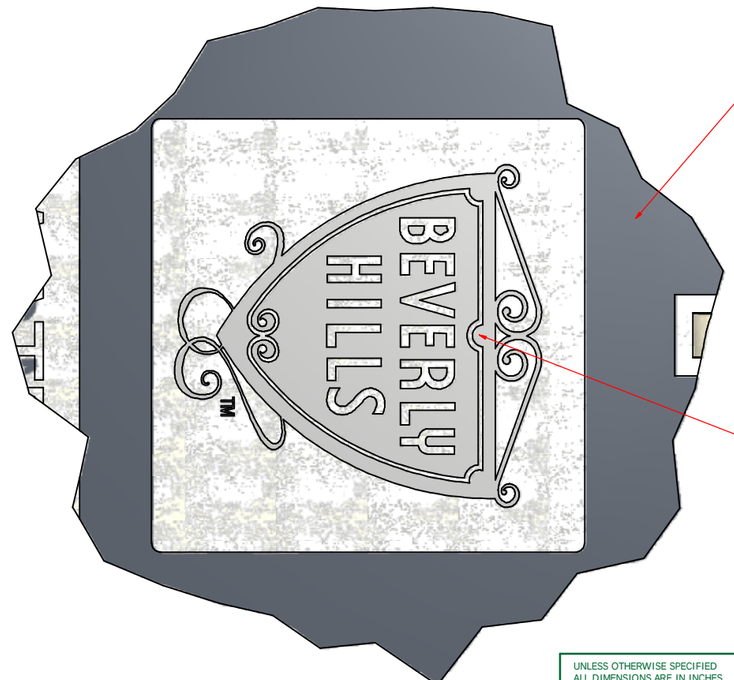




SECTION A-A



DETAIL B



DETAIL C

CUSTOMER FORMAT DRAWING

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

DRAWN	jvelazquez	2/19/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	2/20/2009

Oldcastle Precast
ENCLOSURE SOLUTIONS
1960 RIDDLE CT.
DUNSMUIR, CA 91748
909-592-4272

CARSON

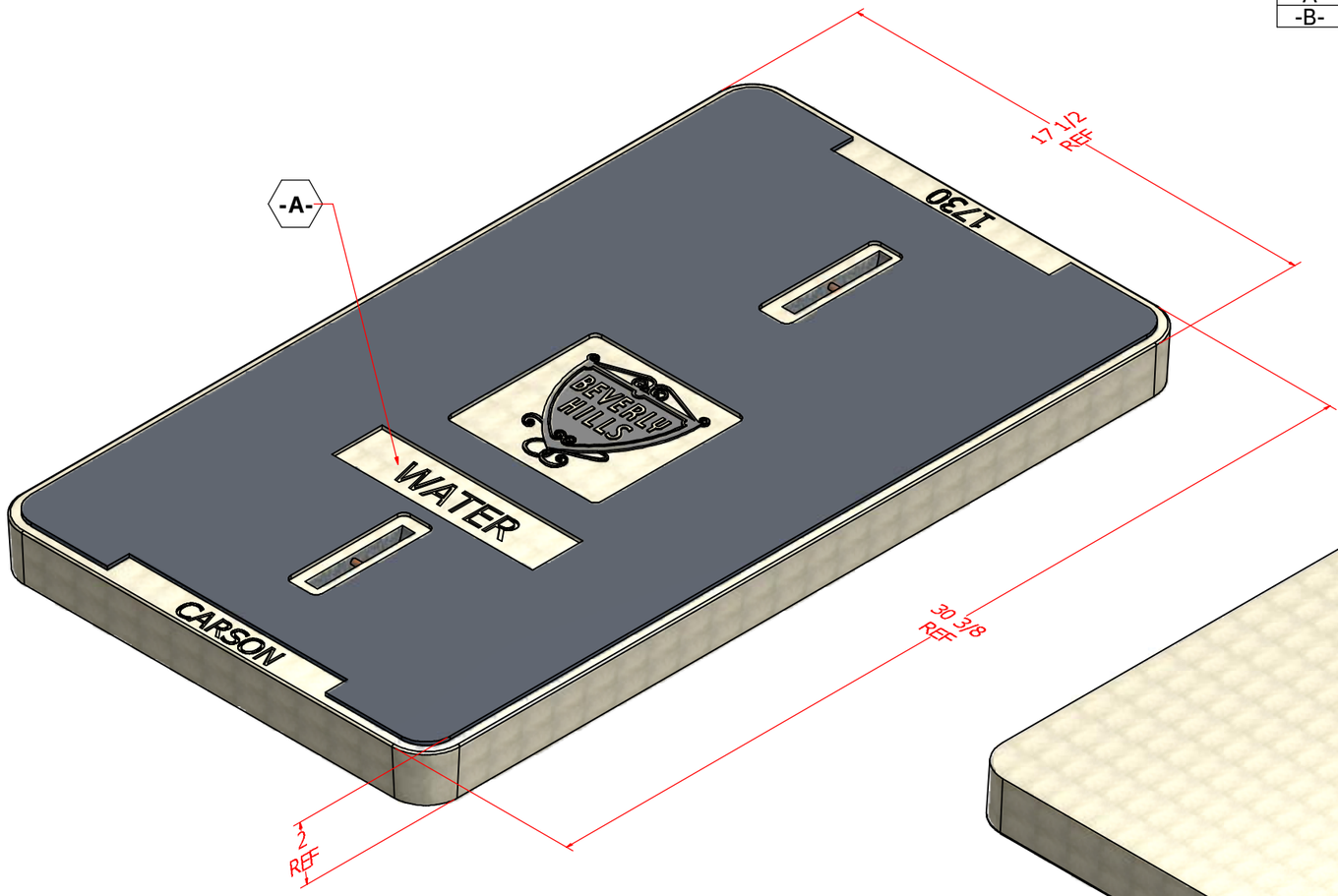
TITLE
1324 BC FLUSH COVER PC BEVERLY HILLS
WATER 2x LIFTING EYES 0 BOLT HOLES

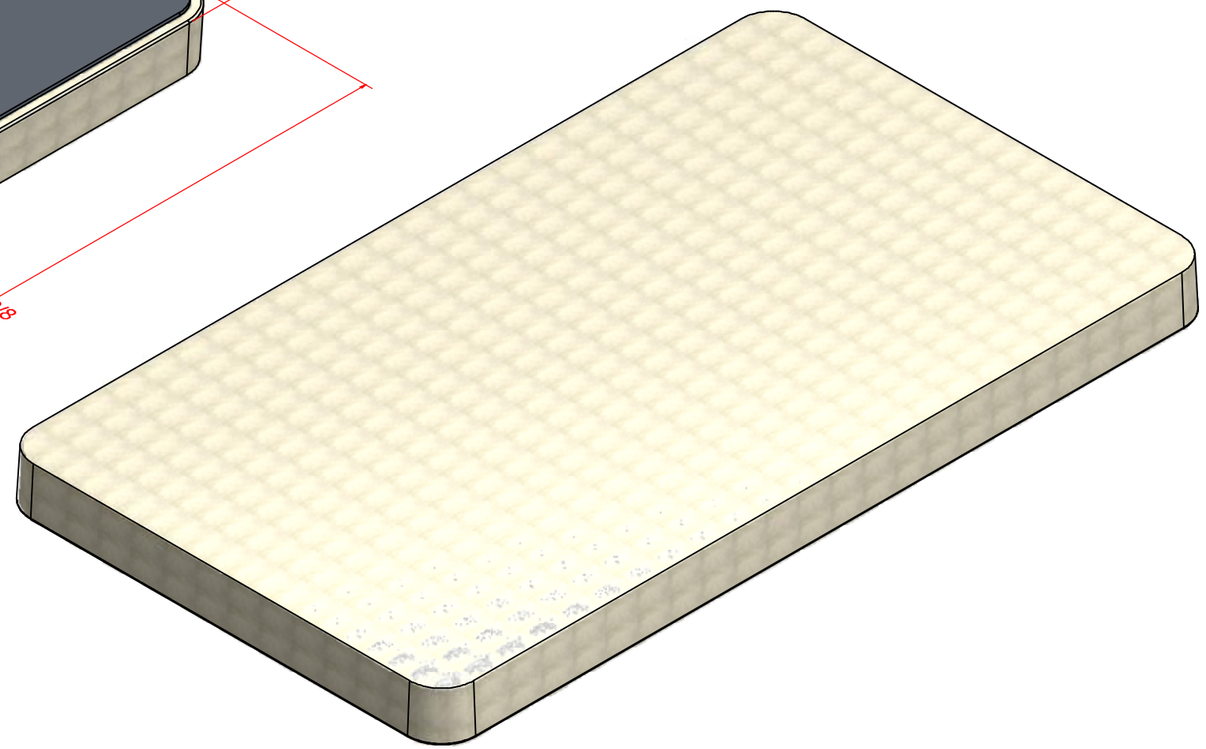
SIZE	DWG NO	REV
D	13245067	-B-

SCALE

SHEET 2 OF 2

REVISIONS				
REV	DESCRIPTION	BY	DATE	APPROVED
-A-	MARKING "WATER" WAS "WATER METER"	JV	MAR 02,09	NTD
-B-	ADDED NOTES 1 & 2	JV	APR 14, 09	NTD





CUSTOMER FORMAT DRAWING

ESTIMATED PART WEIGHT: 74.5 lbs.

MATERIAL: POLYMER CONCRETE GRAY

-B-

NOTES:

1. COVER SHALL BE CONSTRUCTED OF REINFORCED POLYMER CONCRETE WITH A COMPRESSIVE STRENGTH GREATER THAN 11,000 PSI. TWO CONTINUOUS SHEETS OF WOVEN AND STICHED BOROSILICATE GLASS CLOTH SHALL REINFORCE THE UPPER, AND LOWER CROSS SECTIONS.

2. COEFFICIENT OF FRICTION SHALL BE GREATER THAN 0.5 (ASTM C-1028-96).

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

Oldcastle Precast ENCLOSURE SOLUTIONS
1960 RICHLIE CT.
DUARTE, CA 91746
909-592-4273

CARSON

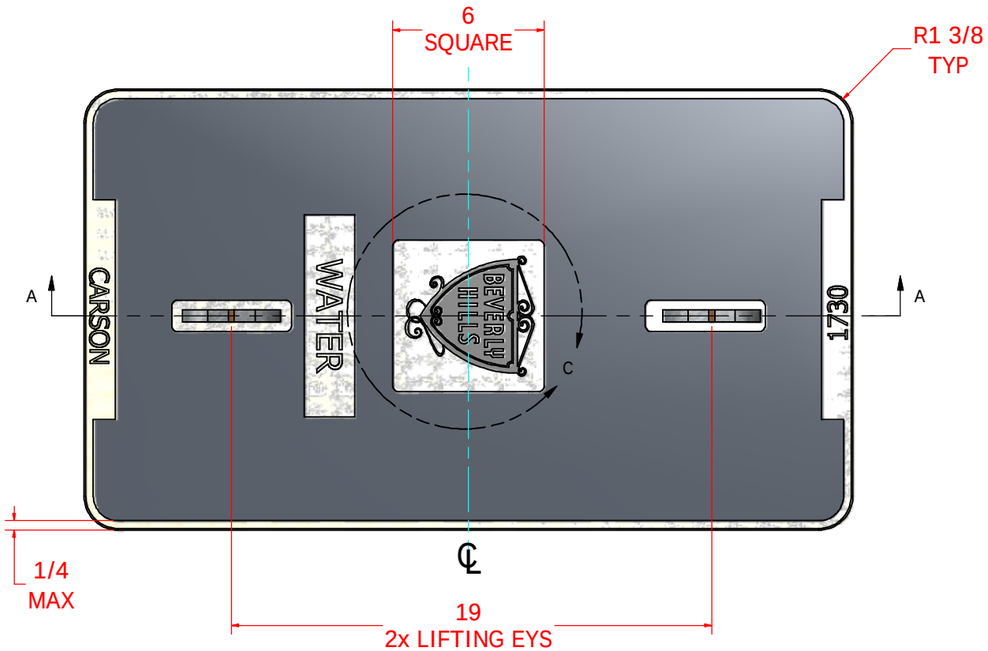
DRAWN	jvelazquez	2/18/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	2/20/2009

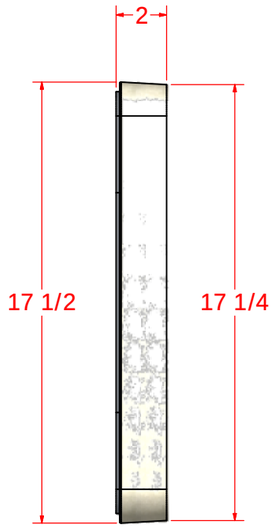
TITLE: 1730 BC FLUSH COVER PC BEVERLY HILLS WATER 2x LIFTING EYES 0x BOLT HOLES

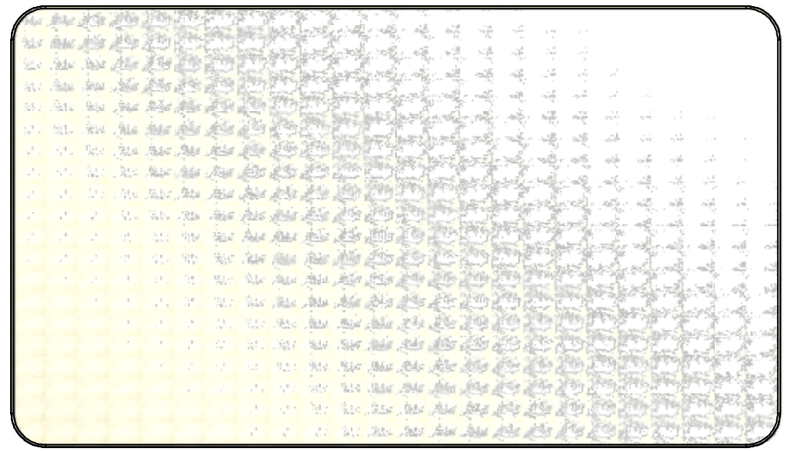
SIZE	DWG NO	REV
D	17305311	-B-

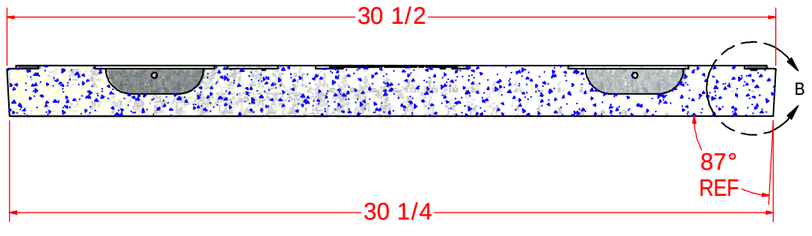
SCALE

SHEET 1 OF 2

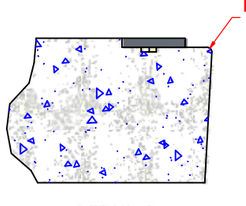




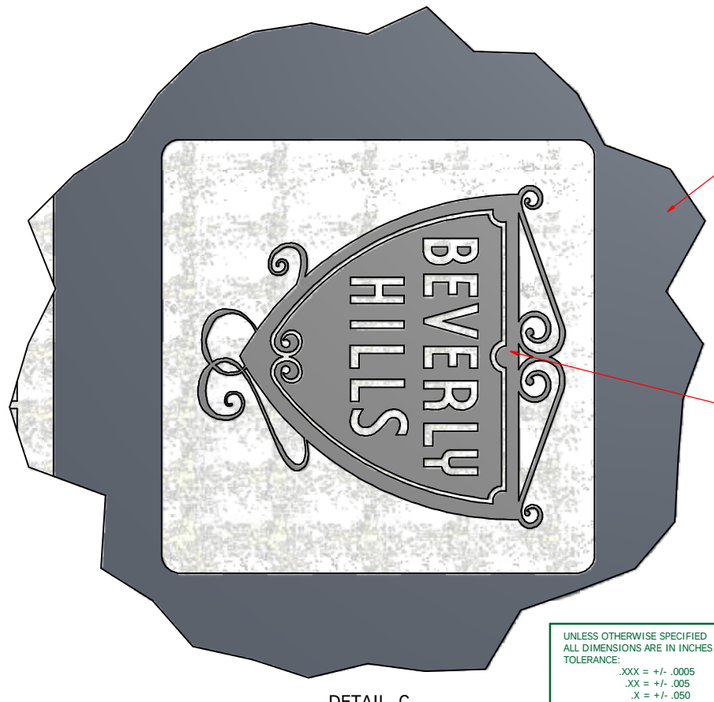




SECTION A-A



DETAIL B



DETAIL C

CUSTOMER FORMAT DRAWING

Oldcastle Precast
ENCLOSURE SOLUTIONS
1960 RICON-E CT.
GLENDORA, CA 91740
909-592-4122

CARSON

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
TOLERANCE:
.XXX = +/- .0005
.XX = +/- .005
.X = +/- .050
FRACTION = +/- 1/8
ANGLE = +/- 1°

DRAWN	jvelazquez	2/18/2009
CHECKED		
QA		
MFG		
APPROVED	JK Pickrell	2/20/2009

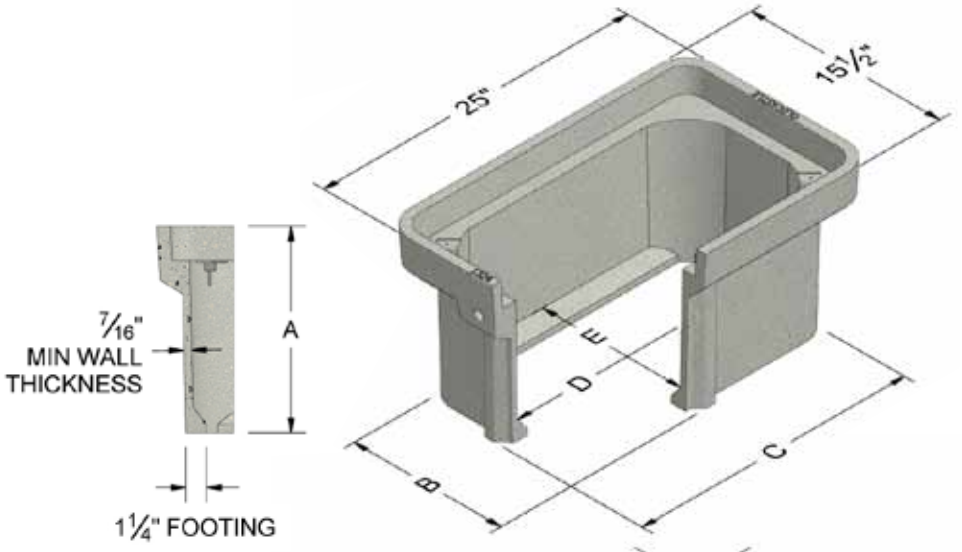
TITLE
1730 BC FLUSH COVER PC BEVERLY HILLS
WATER 2x LIFTING EYES 0x BOLT HOLES

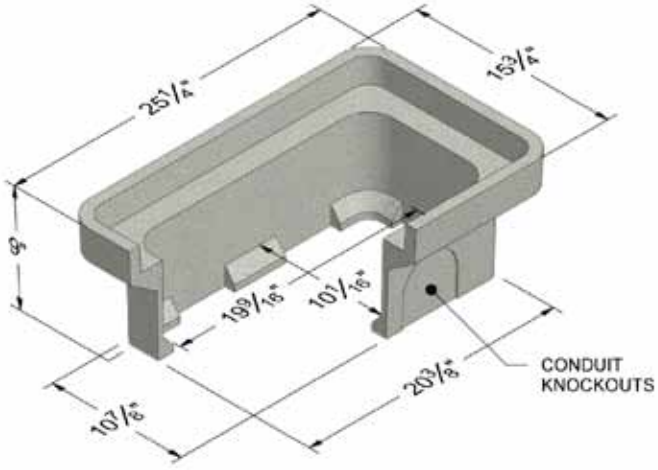
SIZE	DWG NO	REV
D	17305311	-B-

SCALE
SHEET 2 OF 2

1324

Bolt Down Detail





	A	B	C	D	E
1324-12	12"	13 ½"	23"	20 ⅞"	11 ⅜"
1324-18	18"	13 ⅜"	22 ⅞"	20 ⅝"	11 ⅛"
1324-24	24"	13 ¼"	22 ¾"	20 ⅜"	10 ⅞"

* Surface demonstrates a coefficient of friction, both wet and dry, > 0.6 when tested by ASTM C1028.
Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location.

Contact your Oldcastle Precast Enclosure Solutions Distribution Center for specific information and additional options.

COVER:

Style:	Flush Solid
Material:	Polymer Concrete
Weight:	Tier 15: 38 lbs
	Tier 22: 51 lbs
Std. Fasteners:	3/8-16 Stainless Steel Hex Head
	Bolt, Washer and Floating Nut
Options:	Logos and Special Markings
Surface:	Slip Resistant & Marked*

BODY:

Material:	Polymer Concrete
Size:	13" x 24" (L x W)
Weight:	12" Depth: 51 lbs
	18" Depth: 69 lbs
	24" Depth: 88 lbs
Wall Type:	Straight
Performance:	Tier 22, WUC Category 3, ASTM C857 A-16

EXTENSION:

Material:	Polymer Concrete
Size:	13" x 24" (L x W)
Weight:	9" Depth: 33 lbs

Heavy Duty:
Incidental, Non-deliberate Traffic

For use in non-vehicular traffic situations only.

Actual load rating is determined by the box and cover combination

Weights and dimensions may vary slightly

1324

Options:

Available Polymer Covers:
Flush Solid (Standard)

Available Steel Covers:
One Piece

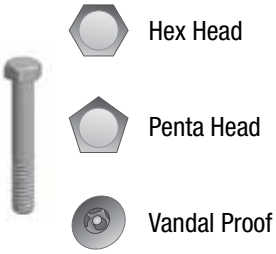
Fastener Options for Polymer Covers:
Penta Head Bolt
Oldcastle Enclosures Vandal Proof Bolt
Penta Coil Thread Bolt
Captive Bolt Retainer

Custom Options for Polymer Covers:
4" x 8" Plate with Custom Markings
EMS Markers

Custom Options for H-Series Bodies:
Ground Bus
Mouseholes/Knockouts
Pulling Eye
Dividers
Solid Bottom
Bodies are Stackable (with tallest body on bottom)

Polymer Cover


Steel Cover



Raw Material Specifications:

Standard Test Method	Properties of Raw Material	ASTM Designation	Test Results
Compressive Strength of Polymer Concretes	Compressive Strength	C 579	> 11,000 psi
Flexural Properties of Plastic Materials	Flexural Strength	D 790	> 3,000 psi
Resistance of Plastics to Chemical Reagents	Chemical Resistance	D 543	Retain > 75% of original strength
Impact Resistance by Means of a Falling Weight	Impact Resistance	D 2444	> 70 ft-lb
Static Coefficient of Friction	Friction Coefficient	C 1028	> 0.6
ASTM Specifications shall be the current revision			
Test Reports available on request			

The Rural Utility Service (RUS) is a department of the US Department of Agriculture organized to facilitate rural developments. You will find Oldcastle Enclosure Solutions brand enclosures listed by the RUS. All Oldcastle Enclosure Solutions brand enclosures conform to the RUS "Tamper Resistant" fastener design for buried pedestals.

Product Load Rating:

Heavy Duty : Non-deliberate Traffic
For use in non-vehicular traffic situations only.

Note:

Actual load rating is determined by the box and cover combination. Weights and dimensions may vary slightly

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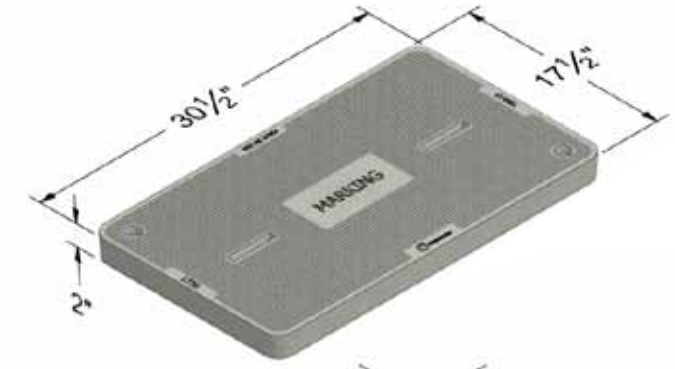
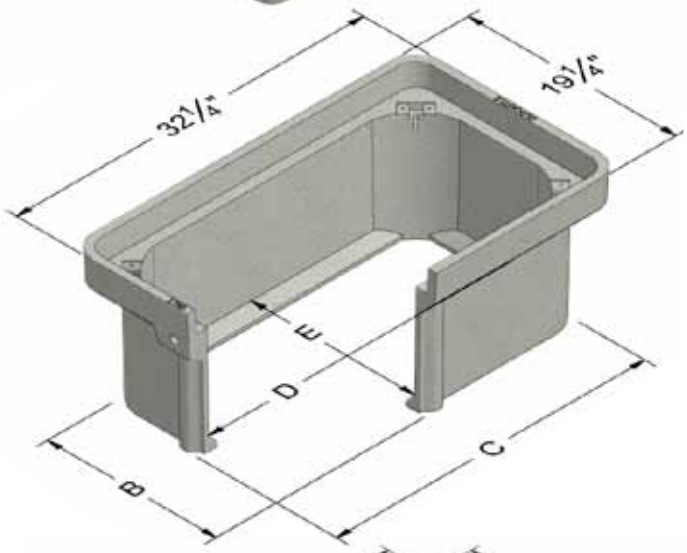
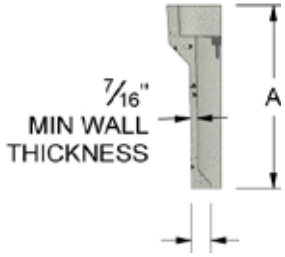
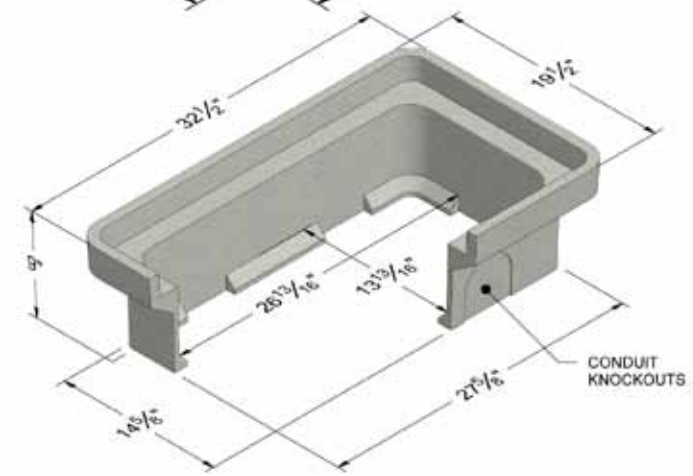
1730

Bolt Down Detail









COVER:

Style:	Flush Solid
Material:	Polymer Concrete
Weight:	Tier 15: 62 lbs
	Tier 22: 85 lbs
Std. Fasteners:	3/8-16 Stainless Steel Hex Head
	Bolt, Washer and Floating Nut
Options:	Logos and Special Markings
Surface:	Slip Resistant & Marked*

BODY:

Material:	Polymer Concrete
Size:	17" x 30" (L x W)
Weight:	12" Depth: 65 lbs
	18" Depth: 88 lbs
	24" Depth: 114 lbs
Wall Type:	Straight
Performance:	Tier 22, WUC Category 3, ASTM C857 A-16

EXTENSION:

Material:	Polymer Concrete
Size:	17" x 30" (L x W)
Weight:	9" Depth: 45 lbs

	A	B	C	D	E
1730-12	12"	17 ¼"	30 ¼"	28 3/16"	15 3/16"
1730-18	18"	17 ⅛"	30 ⅛"	28"	15"
1730-24	24"	17"	30"	27 ¾"	14 ¾"

* Surface demonstrates a coefficient of friction, both wet and dry, > 0.6 when tested by ASTM C1028.
Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location.

Contact your Oldcastle Precast Enclosure Solutions Distribution Center for specific information and additional options.

Heavy Duty:
Incidental, Non-deliberate Traffic

For use in non-vehicular traffic situations only.

Actual load rating is determined by the box and cover combination

Weights and dimensions may vary slightly

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Options:

Available Polymer Covers:
Flush Solid (Standard)
Flush (2 Piece) Uni-Half
Pedestal Provisions

Available Steel Covers:
One Piece

Fastener Options for Polymer Covers:
Penta Head Bolt
Oldcastle Enclosures Vandal Proof Bolt
Penta Coil Thread Bolt
Captive Bolt Retainer

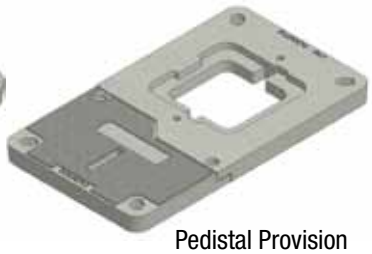
Custom Options for Polymer Covers:
4" x 8" Plate with Custom Markings
EMS Markers

Custom Options for H-Series Bodies:
Ground Bus
Cable Rack
Mouseholes/Knockouts
Pulling Eye
Universal Mounting Plate
Dividers
Solid Bottom
Bodies are Stackable (with tallest body on bottom)

Polymer Cover


Steel Cover


Uni-Half Cover


Pedestal Provision


Uni-Half Detail


Hex Head

Penta Head

Vandal Proof

Raw Material Specifications:

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