


COUNTY OF IMPERIAL  
DEPARTMENT OF PUBLIC WORKS



ENGINEERING DESIGN GUIDELINES MANUAL  
FOR THE PREPARATION AND CHECKING OF  
STREET IMPROVEMENT, DRAINAGE AND  
GRADING PLANS WITHIN  
"THE GATEWAY OF THE AMERICAS  
SPECIFIC PLAN AREA"

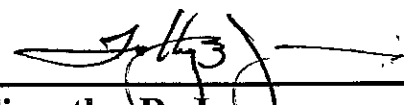
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Recommended  
for Approval By:

  
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Approved By:

  
Timothy B. Jones  
Director of Public Works



# FOREWORD

## **Purpose**

This manual was prepared by the Department of Public Works (DPW) under the direction of the Imperial County Road Commissioner. It establishes uniform engineering design guidelines for the preparation and plan checking of street improvement plans, drainage and grading plans, and includes standards and design guidelines for use within the "Gateway of the Americas Specific Plan Area".

The enclosed material is to assist the engineer/architect in preparing these plans for private development projects within the Gateway of the Americas Specific Plan Area, to assist the DPW staff for their review of the same, and to provide standards and specifications that meet current engineering standards of practice.

The approval by the Imperial County Road Commissioner is made for the protection and maintenance of the public streets, roads, highways and sidewalks as necessary for the protection and convenience of the public using such facilities.

This manual is neither a textbook nor a substitute for engineering knowledge, experience, or judgment.

# TABLE OF CONTENTS

	<u>Page No.</u>
<b>I. Introduction.....</b>	<b>I-1</b>
<b>A. Gateway SPA Development Responsibilities.....</b>	<b>I-2</b>
<b>B. Gateway County Service Area(CSA) Structure.....</b>	<b>I-3</b>
<b>C. (Required Checklists).....</b>	<b>I-4</b>
<b>D. Other Documents and Standards.....</b>	<b>I-5</b>
<b>II. Street Improvements</b>	
<b>A. Note .....</b>	<b>II-1</b>
<b>B. General Requirements.....</b>	<b>II-1</b>
<b>C. Title Sheet.....</b>	<b>II-4</b>
<b>D. Improvement Sheets.....</b>	<b>II-4</b>
<b>E. Sample Letters and Plan Declarations Required.....</b>	<b>II-5</b>
<b>F. Street Improvement General Notes.....</b>	<b>II-7</b>
<b>G. Street Classifications.....</b>	<b>II-11</b>
<b>H. Street Structural Sections.....</b>	<b>II-11</b>
<b>I. Encroachment Permits.....</b>	<b>II-11</b>
<b>J. Street Improvement Specifications.....</b>	<b>II-12</b>
<b>K. Miscellaneous Standards.....</b>	<b>II-13</b>
<b>L. Modification Processing Procedures.....</b>	<b>II-14</b>
<b>M. Traffic Mitigation Fee.....</b>	<b>II-15</b>
<b>III. Drainage Improvements</b>	
<b>A. General Requirements.....</b>	<b>III-1</b>
<b>B. Hydrology.....</b>	<b>III-3</b>
<b>C. Hydraulics.....</b>	<b>III-3</b>
<b>D. Inlets.....</b>	<b>III-4</b>
<b>E. Storm Drains.....</b>	<b>III-4</b>
<b>F. Drainage Specifications and Design Standards.....</b>	<b>III-5</b>
<b>IV. Grading Plans</b>	
<b>A. General Requirements.....</b>	<b>IV-1</b>
<b>B. Title Grading Sheet.....</b>	<b>IV-2</b>
<b>C. Grading Sheets.....</b>	<b>IV-2</b>
<b>D. Sample Letters and Plan Declarations Required.....</b>	<b>IV-3</b>
<b>E. Grading Plan General Notes.....</b>	<b>IV-6</b>
<b>F. Storm Water Controls.....</b>	<b>IV-8</b>
<b>G. Grading Ordinance .....</b>	<b>IV-8</b>
<b>V. Utilities</b>	
<b>A. Utility General Requirements .....</b>	<b>V-1</b>
<b>B. Water General Notes.....</b>	<b>V-1</b>
<b>C. Potable Water Specifications.....</b>	<b>V-3</b>
<b>D. Sewer General Notes .....</b>	<b>V-6</b>
<b>E. Sanitary Sewer Specifications.....</b>	<b>V-8</b>
<b>F. Water Plant.....</b>	<b>V-10</b>
<b>VI. Required Checklists (attachment A)</b>	
<b>VII. Gateway Standard Drawings (attachment B)</b>	



## **I. Introduction**

The Gateway of the Americas Specific Plan Area ("Gateway") is comprised of private property ownerships as well as those controlled by Federal, State, and local agencies. The Gateway is located adjacent to the International Boundary approximately 6 miles east of the City of Calexico. The planning area includes approximately 1,775 gross acres which are bounded on the west by the Ash Canal, on the north by a line parallel to and approximately one-quarter mile north of the centerline of State Route (SR) 98, on the east by the west bank of the Alamo River and on the south by the northern right-of-way of the All American Canal.

The "Gateway" surrounds the new 87-acre International Port of Entry (POE) on the U.S. side of the border. This Federal facility will ultimately be the largest land crossing located along the 2,000-mile Republic of Mexico/United State border. The POE was completed and became fully operational on December 2, 1996.

The "Gateway" is designed to support and maximize the economic benefits associated with the POE and the international commerce that it encourages. The "Gateway" is a very unique area because of its location adjacent to the international border and the POE, its direct access to Mexico, and its abundance of large tracts of readily developable land. The "Gateway" has the potential of becoming a major industrial/commercial center for Imperial County and the southwestern United States.

Gateway of the Americas is designed as a master-planned industrial and commercial complex consisting of 1,570 gross developable acres in private ownership. It is intended to provide for a full range of industrial uses, emphasizing base-sector manufacturing and also including wholesaling and distribution, assembly operations, transportation infrastructure and related support services, including retail commercial. All or part of the Specific Plan area may be designated a Foreign Trade Zone. With potential rail access and because of its strategic location adjacent to the Port of Entry, it has an exceptional marketing presence and draw for Imperial Valley.

The site was designated a Specific Plan Area (East Border Crossing SPA) by the County's Board of Supervisors on November 9, 1993 as part of an overall update of Imperial County's General Plan. It is suggested that the Design Engineer review the Gateway Specific Plan for additional information that he may find useful in preparing projects for County approval.

In order to better serve the private development needs of the region, the Public Works Department has several consulting firms to provide expeditious plan checking to ensure private development projects meet current County standards. This manual also serves to ensure plan check reviews are done in a consistent manner so that all private development projects are reviewed the same.

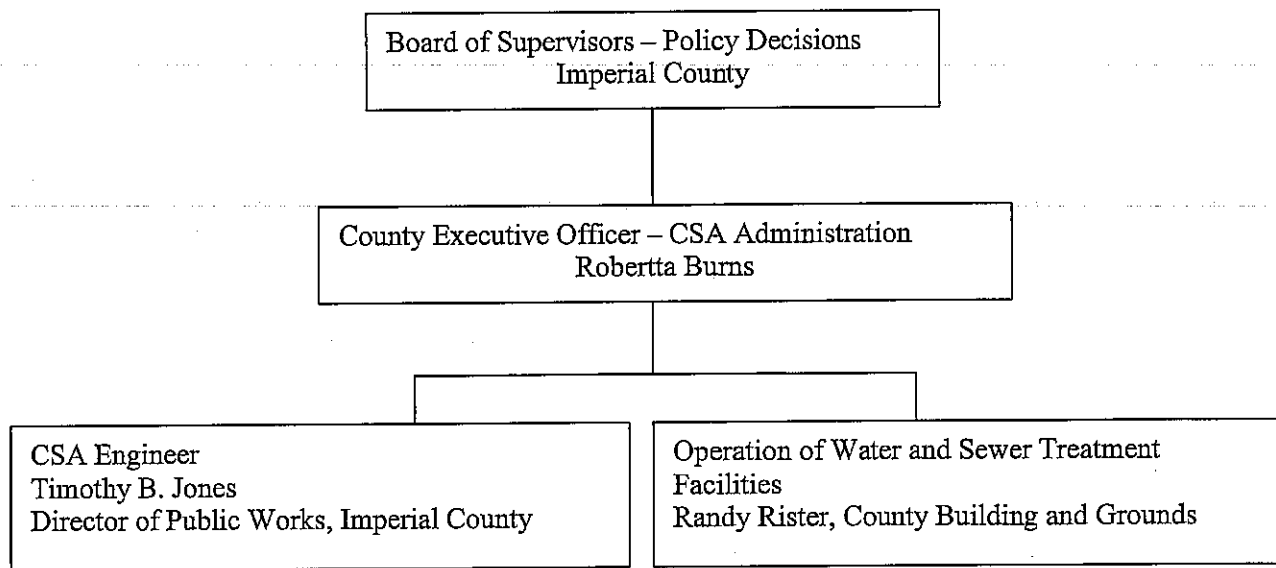
## **IA.- Gateway SPA Development Responsibilities**

1. Contact County Planning Department  
Jurg Heuberger, Director County Planning
  - Pre-application Meeting
  - Site Plan Review
  - Coordination with CSA & Other County Departments
  - Conditions on Project
  
2. Contact County Public Works Department
  - Conditions on Project
  - Submit plans for approval
  - Obtain Encroachment Permit (Public Works and CSA)
  - Traffic Mitigation Fee
  
3. Construct
  - Comply with approved plans
  - Comply with encroachment permit(s)
  - Comply with Conditions of Approval for project

## **IB. - Gateway County Service Area (CSA) Structure**

The Gateway of the Americas County Service Area was established by resolution of the County of Imperial Board of Supervisors on November 18, 1997. The Gateway CSA was formed to provide an entity that will be responsible for the management, construction and operation of public facilities and infrastructure in the area, and was established under the provisions of Title 3, Division 2, Part 2, of Chapter 3, of the Government Code (commencing with Section 25210.10 et. seq.)

The following organizational chart depicts the primary responsibilities of all key personnel involved with management and operation of the CSA.



1. The County of Imperial Board of Supervisors will make policy decisions regarding the management of the Gateway CSA. The County's Executive Officer, Ms. Robertta Burns will be responsible for carrying out the Board policies and for overseeing the administration of the Gateway CSA.
2. The County of Imperial intends to contract out the management of the Gateway CSA and the operations of the public water and sewer system to the Management firm Water Treatment Services of Seeley, CA. Specifically, Mr. Rocky Vandergriff will be the manager in charge of the day-to-day operations.
3. The CSA Engineer is the County Director of Public Works, Timothy B. Jones.

**IC. - (REQUIRED CHECKLISTS)**

See Attachment 'A'



## **ID. OTHER DOCUMENTS AND STANDARDS**

The following documents are referred to in this manual or may be applicable and are on file in the Office of the Public Works Director. References are to current editions unless specified otherwise.

1. **A Policy on Geometric Design of Highways and Streets**, American Association of State Highway and Transportation Officials (AASHTO).
2. **General Plan, County of Imperial** (Circulation Element) and Title 9 Land Use Ordinance.
3. **Guide to Utility Location**, San Diego/Imperial Counties Chapter of the American Public Works Association.
4. **Highway Capacity Manual**, Transportation Research Board, National Research Council.
5. **Highway Design Manual**, CALTRANS.
6. **Hydrology Manual**, Imperial Irrigation District.
7. **Manual on Uniform Traffic Control Devices for Streets and Highways**, U.S. Department of Transportation, Federal Highway Administration.
8. **Planning and Design Criteria for Bikeways in California**, CALTRANS.
9. **Standard Specifications**, CALTRANS.
10. **Standard Plans**, CALTRANS
11. **Standard Specifications for Highway Bridges**, American Association of State Highway and Transportation Officials, (AASHTO).
12. **Traffic Manual**, CALTRANS.
13. **County of Imperial Storm Water Management Program**
14. **Gateway of the Americas Specific Plan**

## **II. STREET IMPROVEMENTS**

## II A. NOTE

All standards and Design Guidelines related to street improvements are for use by individuals who as a result of the land development process desire to have the Board of Supervisors accept Public Works improvements into the County's System of maintained public roads. The purpose of these standards and design guidelines are to provide for the regulation of improvements to be dedicated to the public and accepted by the County as a result of the Land Development process. They are intended to keep the cost of maintaining public facilities at a reasonable level and at the same time provide for the service and protection of the public. It is not possible to anticipate all situations that may arise and to prescribe standards applicable to every situation. These Standards and Design Guidelines for Street Improvements will be applicable to the vast majority of cases, but they are not inflexible rules to which there is no exception. Occasionally, the Director of Public Works, acting as Road Commissioner, may make exceptions where the application of the Standards and Design Guidelines for Street Improvements are impractical or results in unreasonable hardship. Procedures for processing a modification request are provided elsewhere in this manual.

## II B. GENERAL REQUIREMENTS

1. These requirements shall apply to all Public Works development projects within the County of Imperial Gateway Specific Plan Area, which are subject to review and approval by the County Engineer/Road Commissioner.
2. All drawings shall be on standard size sheets (24" x 36"). All lettering shall be 1/8" or larger with hand lettering, 1/10" or larger for machine lettering.
3. All title sheets shall include a key map clearly indicating the sheet number issued. All key maps shall be drawn showing overall layout of the water, sewer, storm drain, fire hydrants, street signing and street lighting systems.
4. Each sheet for plan review must have the seal and license number of a Registered Civil Engineer. All calculations submitted to support the improvement design (structural, electrical or mechanical) that must also have the seal and license number of a Registered Civil, Electrical or Mechanical Engineer as appropriate.
5. Revisions made after original approval by the County Engineer shall be initiated by the engineer of work and submitted to the County Engineer for approval. All revisions must be signed off by the County Engineer or designee prior to construction of the revised improvement.
6. All improvements are to be designed and constructed in accordance with this manual as well as other applicable standards or specifications acceptable to the Director, including but not limited to Standard Specifications for Public Works construction, California Department of Transportation Traffic and Highway Design Manuals and AASHTO Design Policies.
7. Profiles shall be shown on the top half of each sheet. Vertical curves shall show curve length and P.I. elevation, in addition to normal stationing and elevations.
8. Normally, the scale for improvement plans shall be 1"=40' for the horizontal and 1"= 4' for the vertical. The vertical scale should be changed to 1"=8' or other appropriate scales where grades are steep. For complex plans, the horizontal scale shall be 1"=20' or larger for clarity.

9. Improvement plans shall be prepared in ink on Mylar drafting film or reproduced by photo Mylar (sepia, ammonia mylar or vellum are not accepted) unless otherwise approved by the County Engineer.
10. Hydrology and hydraulic/drainage calculations and maps shall accompany all plans submitted for checking, unless the requirement is specifically waived.
11. The following items must accompany the first plan check:
  - See Section IC, "Required Checklists" for detailed information.
12. A striping/signage plan shall be required if required by the County Traffic Engineer.
13. All plans, calculations and reports are to be checked by the Engineer of Work for consistency, accuracy, clarity and conformity with the County of Imperial Standards, drawings and design criteria before submission for approval.
14. Subsequent Plan Checks shall include a transmittal letter addressing each plan review comment provided by County.
15. All plans, specifications and supporting documents shall be signed and sealed by the Engineer of Work prior to the County Engineer's approval as per the Professional Engineer's and Land Surveyors Act. Prior to County Engineer's approval of plans involving water, sewer, storm drain, lighting and fire services, approval must be obtained from the CSA Engineer and the County Fire Department as applicable.
16. The original Mylar drawings shall become the property of the County of Imperial upon approval and execution by the County Engineer. The developer shall obtain the approval of said plans and obtain necessary permits prior to commencing any construction.
17. The Engineer of Work shall revise the original Mylar drawings to reflect a construction change or as-built conditions prior to final acceptance of the work by the County Engineer.
18. The original improvement plans, when approved, are kept on file by the Department of Public Works as a permanent public record.
  - a. The improvement plans shall not be released unless authorized by the Public Works Director.
  - b. Prior to construction or while the construction is active the improvement plans may be released to the Engineer of Work for plan changes. The Engineer of Work shall review proposed changes with the Department of Public Works before the original plans are released. No plan changes shall be used or the original plans changed until approved by the County.
  - c. At the completion of construction, the Engineer of Work shall prepare and submit for approval a "record plan" or "as built plan" showing the actual improvements constructed.
19. All right-of-ways are to be cleared of any surface and subsurface structures. Tile lines within right-of-ways must be removed and plugged at the right-of-way line. Tile lines should also be plugged at property lines at avoid cross parcel drainage from occurring below ground.
20. All engineered grading, drainage or improvement plans shall use a Benchmark that is a County or Imperial Irrigation District (IID) recognized Benchmark. Any assumed

Benchmark used must be tied into one of these recognized Benchmarks. When permanent benchmarks become available in the SPA, the SPA datum must be used.

21. The developer shall install all necessary regulatory, warning and street name signs at locations specified by the Director of Public Works. At street intersections, one street sign required, except that for four lane roads, two street name signs are required.
22. Payment of a Traffic Mitigation Fee is required for all Gateway SPA projects. This fee was adopted September 25, 2001 by the County Board of Supervisors. For further details see Section II M elsewhere in this manual.
23. A Soils Report is required for each Tract Map or Subdivision. The report must have been prepared within two years of submittal of plans for review or an update letter from the Soils Engineer is required.
24. The latest approved copy of the County Circulation Element (December 2003) is incorporated herein by reference. This document details policies and guidelines related to street right-of-way, layout, dedications, required improvements, and other issues of importance to development. Should any conflict between the Circulation Element and this manual be found, the more stringent shall apply.
25. An Encroachment Permit issued by County Public Works Department is required for all work within County road right of way. Should Encroachment Permit conditions and provisions differ from Conditions of Approval or approved plans, the Encroachment Permit conditions and provisions shall apply. The Director of Public Works, acting as Road Commissioner shall have final authority on decisions in County right of way.

END OF SECTION II B

## II C. TITLE SHEET

A typical Title Sheet of a set of improvement plans include the following:

- General Notes
- Engineer's Notes
- Key Map
- Key Map Legend
- Vicinity Map
- Plan Sheet Index
- Legend
- Legal Description
- Assessor's Parcel Number
- Declaration of Responsible Charge
- Engineer of Design
- Engineer of Work
- Title Agency Title Block
- Engineer's Name/Address Title Block
- County Approved Changes Title Block
- Typical Street Sections
- Typical Details
- Specific Conditions Notes
- Gateway County Service Area (CSA) title/signature block
- CSA Water and Sewer Notes (if applicable)
- Special Notes (if any)

## II D. IMPROVEMENT SHEETS

A typical improvement plan sheet includes the following:

- a) Plan View
  - North Arrow and bar scale
  - Engineer's name, address, telephone number, signature, wet stamp and expiration date
  - Bench Mark Information
  - All Existing Improvements (i.e. power poles/utilities/trees, etc.)
  - Centerline Information (bearing, radius, length) Stationing
  - Show length of vertical curves, BVC, EVC
  - Curb, Gutter, Date (if applicable) Edge of Pavement
  - Public Drainage Easements
  - Width of the Road (centerline to right-of-way and centerline to curb line), Width of Sidewalk
  - Sight Distance
  - Street Lights
  - Street Name Signs
  - Sewer Line Information, radius, delta or bearing, length, manholes, cleanouts, pipe classification, sewer laterals to each lot(s)
  - Water Line Information, Pipe Classification, Water Lateral to each Lot(s)
  - Fire Hydrant Location/Assembly
  - Lot Numbers (if applicable), site address and/or assessor parcel number
  - Curb Return Information and Stations
  - Show special use permit, parcel map or tract map number.
  - Cul-de-sac 50' minimum paved radius, subject to OES/Fire Dept. requirements.
  - Barricades at street ends.

**b) PROFILE**

- Existing Grade at Centerline
- Centerline Profile (grade – vertical curves-stationing)
- Proposed Finish Grade at Centerline
- Top of Curb Profile or Equation
- Waterline Profile (minimum clearance from top of waterline to proposed finish grade)
- Waterline Classification
- Waterline Blowoff (if possible)
- Sewer Line Profile and Grade (slope)
- Sewer Manholes/Cleanouts and Stationing
- Sewer Line Invert Elevations
- Sewer Line Classification
- Storm Drain Profile (cleanouts/catch basins/curb inlets)
- Hydraulic Grade Line/Energy Grade Line
- Storm Drain Pipe Classification/Velocity/Flow (cfs) – Pipe line grade, slope, length
- Curb Return Profile
- Cul-de-sac Profile
- Details
- Utility Crossings
- Geometric Sight Distance Issues

**II E. SAMPLE LETTERS AND PLAN DECLARATIONS REQUIRED**

**(1) SAMPLE SIGHT DISTANCE LETTER – PUBLIC TO PUBLIC & PRIVATE TO PUBLIC**

Timothy B. Jones, Director  
County of Imperial  
Department of Public Works  
155 South 11<sup>th</sup> Street  
El Centro, CA 92243

SIGHT DISTANCE LETTER (Project Number)

Dear Mr. Jones:

I, (Engineer Name), R.C.E. (Number) state that physically, there will be a minimum of \_\_\_\_\_ feet to the (north, south, east or west) unobstructed sight distance in both directions from future (road name) along (road name), per Caltrans Highway Design Manual Standards for a \_\_\_\_\_ mph design speed.

Sincerely yours,

\_\_\_\_\_  
Engineer's Name  
R.C.E Number  
Expiration Date





II F. STREET IMPROVEMENT GENERAL NOTES

1. COUNTY ENCROACHMENT PERMIT CONDITIONS AND PROVISIONS SHALL TAKE PRECEDENCE OVER THE APPROVED PLANS AND SPECIFICATIONS FOR ANY CONFLICTS.
2. THE STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH IMPERIAL COUNTY STANDARDS (OR CALTRANS IF IN STATE ROW) AND AS APPROVED BY THE PUBLIC WORKS DIRECTOR (OR CALTRANS).
3. APPROVAL OF THESE IMPROVEMENT PLANS AS SHOWN DOES NOT CONSTITUTE APPROVAL OF ANY CONSTRUCTION OUTSIDE THE PROJECT BOUNDARY.
4. ALL UNDERGROUND UTILITIES WITHIN THE STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED, CONNECTED AND TESTED PRIOR TO CONSTRUCTION OF BERM, CURB, CROSS-GUTTER AND PAVING.
5. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS. HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
6. LOCATION AND ELEVATION OF IMPROVEMENTS TO BE MET BY WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK. CONTRACTOR WILL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
7. UTILITIES COORDINATION

NO LESS THAN 3 WORKING DAYS PRIOR TO ANY EXCAVATION OR TRENCHING, EACH CONTRACTOR DOING SUCH WORK SHALL CONTACT THE FOLLOWING AGENCIES SO THAT EXISTING UNDERGROUND UTILITIES MAY BE LOCATED. THE AGENCY MAY REQUIRE AN INSPECTOR TO BE PRESENT.

- |   |       |                         |
|---|-------|-------------------------|
| 1. GATEWAY CSA (PUBLIC WORKS)           | (760) | 482-4462                |
| 2. IMPERIAL IRRIGATION DISTRICT (POWER) | (760) | 339-9280                |
| 3. IMPERIAL IRRIGATION DISTRICT (WATER) | (760) | 339-9263                |
| 4. PACIFIC BELL                         | (800) | 422-4133                |
| 5. THE GAS CO.                          | (800) | 422-4133/(800) 227-2600 |
| 6. ADELPHIA CABLE                       | (800) | 626-6299                |

## EXISTING UNDERGROUND UTILITIES

BEFORE EXCAVATING FOR THIS CONTRACT, VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM AVAILABLE RECORDS ONLY AND MAY NOT REFLECT ALL EXISTING UTILITIES. LOCATION OF ALL EXISTING UTILITIES SHALL BE CONFIRMED BY FIELD MEASUREMENTS BY CONTRACTOR PRIOR TO CONSTRUCTION OF WORK.

CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

ACCURATE VERIFICATION AS TO SIZE, LOCATION AND DEPTH OF EXISTING UNDERGROUND SERVICES SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL NOTIFY THE SOUTHERN CALIFORNIA GAS COMPANY, PACIFIC BELL, TELEPHONE COMPANY, IMPERIAL IRRIGATION DISTRICT AND ANY OTHER AFFECTED UTILITY AGENCIES PRIOR TO STARTING HIS WORK NEAR SUCH UTILITY FACILITIES AND SHALL COORDINATE HIS WORK WITH UTILITY REPRESENTATIVES. FOR LOCATION OF UNDERGROUND UTILITIES AND APPURTENANCES, CONTACT "UNDERGROUND SERVICE ALERT" AT 1-800-422-4133.

8. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO CONTACT THE UTILITY AGENCIES, ADVISE THEM OF THE PROPOSED IMPROVEMENTS AND BEAR THE COST OF RELOCATIONS, IF NEEDED.
9. CONSTRUCT A PUBLIC STREET LIGHT SYSTEM CONFORMING TO APPROPRIATE STANDARDS AND STREET LIGHT SPECIFICATIONS. POWER SOURCES AND RUNS SHALL BE SHOWN ON THE "AS-BUILT" IMPROVEMENT DRAWINGS. ALL POWER SOURCES SHALL BE LOCATED WITHIN THE DEDICATED RIGHT-OF-WAY.
10. NO PAVING SHALL BE DONE UNTIL EXISTING POWER POLES ARE RELOCATED OUTSIDE THE AREAS TO BE PAVED.
11. PRIVATE ROAD IMPROVEMENTS SHOWN HEREON ARE FOR INFORMATION ONLY. COUNTY OFFICIALS SIGNATURE HEREON DOES NOT CONSTITUTE APPROVAL OR RESPONSIBILITY OF ANY KIND FOR THE DESIGN OR CONSTRUCTION OF THESE PRIVATE IMPROVEMENTS.
12. ALL SIGNS TO BE ALUMINUM WITH 3M HIGH INTENSITY TYPE REFLECTIVE FACE OR EQUIVALENT.

13. CONTRACTOR WILL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY STRIPING, PAVEMENT MARKERS, OR LEGENDS OBLITERATED BY THE CONSTRUCTION OF THIS PROJECT.
14. THE CONTRACTOR SHALL DO ALL NEW STRIPING AND SANDBLASTING OF REDUNDANT STRIPING.
15. THE CONSTRUCTION OF ONE PCC STANDARD DRIVEWAY PER LOT, LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER OF WORK. PCC SURFACING OF DRIVEWAY TO EXTEND FROM CURB TO PROPERTY LINE UNLESS OTHERWISE SHOWN.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AN ENCROACHMENT PERMIT FROM THE COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS FOR ANY EXCAVATION OR CONSTRUCTION WITHIN COUNTY ROAD RIGHT-OF-WAY. FOR INSPECTIONS, 48 HOUR MINIMUM NOTICE IS REQUIRED, (760) 482-4462. ADDITIONALLY, UNDERGROUND SERVICE ALERT (USA) MUST BE CALLED TWO WORKING DAYS BEFORE THE CONTRACTOR MAY EXCAVATE. THEY'RE CONTACT NUMBER (800) 227-2600. ALL WORK AND MATERIALS ARE SUBJECT TO THE INSPECTION AND APPROVAL FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS OR THEIR REPRESENTATIVE.
17. NO REVISIONS OF ANY KIND SHALL BE MADE TO THESE PLANS WITHOUT THE PRIOR WRITTEN APPROVAL OF BOTH THE COUNTY ENGINEER (OR HIS REPRESENTATIVE) AND THE ENGINEER OF RECORD. A REPRODUCIBLE AS-BUILT PLAN SET WILL BE PROVIDED TO THE PUBLIC WORKS DEPARTMENT AS A CONDITION OF SUBSTANTIAL CONSTRUCTION COMPLETION AND PRIOR TO ACCEPTANCE.
18. ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, THE IMPERIAL COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND ENCROACHMENT PERMIT CONDITIONS, ANY REFERENCED STANDARDS AND SPECIFICATIONS AND THE SPECIFICATIONS & THE REQUIREMENTS OF THE AGENCIES REFERRED TO HEREIN. ALL WORK SHOWN OR INDICATED BY THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARDS, POLICIES AND REGULATIONS OF IMPERIAL COUNTY; WHERE, OR IF, CONFLICTS OCCUR, THEN THE IMPERIAL COUNTY REQUIREMENTS SHALL GOVERN.
19. UNLESS SPECIFICALLY INDICATED OTHERWISE METHODS EMPLOYED AND MATERIAL USED IN THE CONSTRUCTION OF ALL OFFSITE IMPROVEMENTS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE "STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JULY 1999". ALL WORK IS SUBJECT TO INSPECTION AND APPROVAL AS REQUIRED.

20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF SAFETY AND TO ADHERE TO ALL PROVISIONS OF THE STATE CONSTRUCTION SAFETY ORDERS AND STANDARDS.
21. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT FROM THE STATE WATER RESOURCES CONTROL BOARD DIVISION OF WATER QUALITY, CONTACT "STATE WATER RESOURCES CONTROL BOARD, DIVISION OF WATER QUALITY, ATTENTION: STORM WATER PERMIT UNIT, P.O. BOX 1977, SACRAMENTO, CALIFORNIA, 95812.
22. CONSTRUCTION PROJECTS DISTURBING MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. OWNER/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD, PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.
23. AS DETERMINED BY THE COUNTY PUBLIC WORKS DIRECTOR/ROAD COMMISSIONER, THE DEVELOPER IS RESPONSIBLE, AS A MINIMUM, FOR ROAD IMPROVEMENTS TO CENTERLINE, AND MAY BE REQUIRED TO RECONSTRUCT EXISTING PAVEMENT, INCLUDING BASE, AND MATCHING OVERLAY REQUIRED TO MEET THE STRUCTURAL STANDARDS FOR THE CURRENT ASSIGNED TRAFFIC INDEX.
24. EXISTING STORM DRAIN PIPES/CULVERTS WHETHER TO BE CONNECTED TO, EXTENDED, ADJUSTED, DRAINED TO, OR JUST IN PROJECT VICINITY SHALL BE REPAIRED AND/OR CLEANED TO MAKE THEM FUNCTIONAL AND ACCEPTABLE AS DIRECTED BY THE PUBLIC WORKS DIRECTOR.
25. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT WORK AREA TRAFFIC CONTROL HANDBOOK OR AS DIRECTED BY THE IMPERIAL COUNTY TRAFFIC ENGINEER.
26. ANY EXISTING SURVEY MONUMENTS OR COUNTY RECOGNIZED BENCHMARKS SHALL BE PROTECTED BY THE CONTRACTOR. SHOULD ANY SUCH MONUMENTS OR BENCHMARKS BE REMOVED, DAMAGED, OBLITERATED OR ALTERED BY THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER RESETTING OF THE SAME AS PER THE SUBDIVISION MAP ACT, THE PROFESSIONAL LAND SURVEYORS ACT AND TO THE SATISFACTION OF THE COUNTY SURVEYOR/ DIRECTOR OF PUBLIC WORKS.
27. THE NOTES LISTED ABOVE ARE A MINIMUM LIST. THIS DOES NOT RELIEVE THE ENGINEER FROM COMPILING ADDITIONAL NOTES THAT MAY BE REQUIRED FOR THE PROJECT.

END OF SECTION II - F

**II G. STREET CLASSIFICATIONS**

The Gateway SPA has six (6) typical street cross-sections for four (4) typical road classifications. Although typical, changes in right-of-way requirements may be needed and requested by the Director of Public Works to accommodate special circumstances or conditions. This can include but not be limited to accommodate future medians, turn lanes, bicycle lanes, bus turnouts, slopes, drainage structures on street parking and/or other required improvements.

Gateway street classifications are shown in Section VI, "Gateway Standard Drawings".

**II H. STREET STRUCTURAL SECTION**

The minimum structural section within the Gateway SPA shall conform to the following table unless a project soils report, based on soil type and the highest traffic index (TI) expected to occur during a 20 year period following construction indicates a thicker section is required. The TI value must be approved by the Director.

Street	Classification	Structural Section
102' Right of Way	(Gateway Major Arterial)	5.5" AC over 12" AB
84' Right of Way	(Gateway Collector/Secondary Arterial)	4.5" AC over 12" AB
70' Right of Way	(Gateway Local/Industrial)	4.0" AC over 11" AB

Note: AB indicates Class 2 Aggregate Base

**Interim Phase 1 Improvements:**

Portions of existing infrastructure provided an interim paving section that requires an overlay or resurfacing over the existing roadway as well as addition of lanes as needed when development occurs. These include portions of Carr Road, Rood Road, Menvielle Road, Maggio Road and Gateway (Nassif) Road. The resurfacing thickness shall conform to the following table:

Street	Required Resurfacing
102'-112' Right of Way	2 ½ inches AC
84'-96' Right of Way	1 ½ inches AC

Responsibility for the additional resurfacing lies with the fronting project owner and shall be provided when requested by the Public Works Director. For additional information, refer to "Gateway of the Americas: Phase I Infrastructure Plans", approved by the County February 10, 1999. Plans prepared by Project Design Consultants (PDC).

Gateway Street Structural Section is also shown on Section VI, "Gateway Standard Drawings".

**II I. ENCROACHMENT PERMITS**

An encroachment permit is required from the County Public Works Department for any work onto, into or within the County road or street right of way. This includes placement of curbs, gutters, and sidewalks, above and below ground storm drains, utilities and appurtenances within right-of-way. The adjacent property owner is responsible for maintenance of the frontage sidewalk and all driveways. The Gateway County Service Area (CSA) is responsible for maintenance of street lighting, traffic signals, public water, sewer and storm drain lines, associated appurtenances and retention basins. The County Public Works Department is responsible for street maintenance, including striping, signing, curb and gutters after construction by developer.

In some areas of the Gateway SPA existing infrastructure improvements may not have curb, gutter and sidewalk and may only have minimal paving. The developer will be required to

provide curb, gutter, sidewalk and paving improvements for full width along the project frontage. Also, some areas of the Gateway SPA will require an overlay to bring the structural section to the original design recommendation. This is discussed in Section II H above.

Details of items needed to process an encroachment permit can be obtained from the Department of Public Works. Basic requirements include:

1. Approved Plans. Plans may require approval from the County Planning and Building Department, Environmental Health Service Department ( if applicable), County Fire Department and CSA as applicable and approval from the County Department of Public Works.
2. Detailed Quantity Estimate of all encroachments within County road right of way. This includes surface improvements and underground utility pipelines and appurtenances.
3. Hold Harmless Agreement and proof of liability insurance with the County listed as additionally insured.

All provisions of a County Encroachment Permit shall govern and supercede any conflicting positions of the approved Plans & Specifications unless otherwise determined by the Director of Public Works.

See Section IC and Attachment 'A', "Required Checklists" elsewhere in this manual.

## II J. STREET IMPROVEMENT SPECIFICATIONS

Asphalt Concrete – Type A or Type B shall conform to Section 39, "Asphalt Concrete" of the Caltrans Standard Specification, July 1999 Edition.

Aggregate Base – Class 2 Aggregate Base shall conform to Section 26, "Aggregate Bases" of the Caltrans Standard Specifications, July 1999 edition and these specifications.

Aggregate for Class 2 Aggregate base shall be 1 ½" maximum or at option of the Contractor, ¾" maximum. No Class 2 Aggregate Base utilizing recycled materials will be permitted in the Gateway SPA. All Class 2 Aggregate base shall also comply with the following:

1. A Certificate of Compliance shall be provided to the Engineer prior to use ensuring the Class 2 Aggregate Base Material complies with the provisions of Section 26 of the Standard Specifications.
2. Class 2 Aggregate Base Material for use in this project shall be tested by the contractor at his expense prior to approval for use on the project site by the engineer. Stockpile locations shall also be made available to the engineer to perform his own independent testing. Testing by the contractor shall include R-value, sand equivalent and durability index tests as per the standard Specifications.

Any base material that does not comply with the provisions for testing, gradation, compaction or any other requirement in Section 26 of the Standard Specification or these special provisions shall not be used and if already in place shall be removed by the contractor at his sole expense. Under no circumstances will any material not meeting these specifications be permitted to remain in place.

Concrete Sidewalk – to be added

Concrete Driveways – to be added

Underground Pipe Materials –

1. All pipes in road right-of-way shall meet or exceed standards for schedule 40 PVC wall thickness and SDR values. Thirty inches (30") minimum cover depth is required, except for water lines. Waterlines shall have thirty six inches (36") minimum cover depth.
2. Storm drain in road right-of-way shall be either rubber gasket reinforced concrete pipe (RCP) Class III or PVC schedule 40 wall thickness and SDR value minimum. Class IV RCP would be required for applications with less than 30 inches of cover.
3. For all gravity flow PVC applications:
  - 12" diameter PVC – SDR 26 minimum
  - 18" and greater diameter PVC – SDR 35 minimum
4. For pressure water and pressure sewer applications:
  - \*up to and including 12" diameter PVC – Class 150 (DR18) minimum.
  - \*greater than 12" diameter PVC – Class 235 (DR 14) minimum.
  - \* unless otherwise accepted by appropriate water utility agency (CSA)
5. For other non conveyance PVC applications:
  - 4" Diameter PVC – SDR 18 minimum
  - 6" Diameter PVC – SDR 21 minimum
  - 8", 10" and 12" Diameter PVC – SDR 26 minimum
  - 18" and greater diameter PVC – SDR 35 minimum
6. Any applications for any underground pipe, which will result in less than 30 inches of cover will require structural assistance. This could include concrete cradle caps or slurry backfill depending upon circumstances. Approval by the County Engineer will be required prior to covering of pipes with insufficient cover. Structural assistance is not to be construed as a quick fix for a poor design at project inception.

## II K. MISCELLANEOUS STANDARDS

1. Roadway lighting
  - a. All developments shall provide street lighting as required by the County CSA and/or the Director of Public Works. Additionally all street lighting electrical appurtenances shall have Imperial Irrigation District (IID) written approvals.
2. Intersections -- to be added

END OF SECTION II K

## II L. MODIFICATION PROCESSING PROCEDURES

In recognition that strict adherence to these standards in every situation might result in impractical applications and unreasonable hardships, the following procedure is provided to properly respond to unique situations. A project proponent may request a modification by completing a "Request for a Modification to a Road Standard" form which details the location of the requested modification, alternatives considered, hardship of compliance with standard, and cost estimates. In some instances, it may be necessary for the applicant to provide an engineer's sketch to properly describe the requested modification. In addition to engineering and regulatory concerns, the following factors may be considered: consistency with existing road characteristics in the project vicinity, likelihood of future public or private upgrades to the affected roads, access points to and from individual properties, established front-yard setbacks, potential environmental impacts, utility relocation, project and plan submittals made prior to the adoption of these standards and established community character guidelines in the area.

County staff will assess the appropriateness of the requested modification. The Director will then review County staff's assessment and make the final decision regarding the modification request. Prior to making his final decision, the Director may also obtain input from the Planning Director, the general public and/or other agencies. The Director's final decision will be in the form of a letter to the applicant and project engineer explaining the decision and the justifications used in making that decision. A copy of the Director's final decision, along with the completed application will be forwarded to the DPW Project Manager, the project inspector and the project file.

In cases where strict adherence to these standards will be extremely difficult to achieve, staff will prepare the draft conditions of approval so to include a modification. In these cases, the specific modification will be identified in the draft conditions. Absence of any such specific modification in the conditions will mean that, unless a modification is later granted, the Imperial County Gateway Public Road Standards apply to all affected public roads.

Modification requests, which are not associated with a discretionary permit application, will be processed separately according to applicable County guidelines. For instance, a modification request associated with a change to a condition of approval of a tentative map may require a resolution amendment or a map modification. These permits are applied and processed through the County Planning Department.



**County of Imperial  
Department of Public Works**

**Request for a  
Modification to a Road Standard**

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Date of Request \_\_\_\_\_

Project Number (Tract Map, Parcel Map, CUP No., etc) \_\_\_\_\_

Assessors Parcel Number \_\_\_\_\_

Requestor Name \_\_\_\_\_ Telephone Number \_\_\_\_\_

Address \_\_\_\_\_

Requested Modification (attach engineering sketches showing existing layout, details and notes)

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Reason for requested Modifications (provide attachment if additional space is required)

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List alternatives that could mitigate the requested Modification (attach engineering sketches showing proposed layouts, details and notes)

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Describe the hardships(s) to the property owners(s) and/or neighbor(s) if the request is not approved. (See Note 3)

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Provide Design and Cost Estimate for meeting the Condition (see Note 3)

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## Special Notes

The following guidelines apply to this request:

1. Incomplete and unclear requests or requests that are not supported by appropriate documents will be returned as incomplete applications. Requests must be specific and clear.
2. This request must be completed and submitted with supporting attachments. Attachments may consist of documents from relevant County departments, regulatory agencies, utility agencies and/or districts, planning groups, etc. Photos, plan and profile sketches, diagrams, engineering studies, certifications, cost estimates, and/or other pertinent information may also be included.
3. Provide detailed cost estimates for work included in this request. Single figure summary and "bottom line" cost estimates will not be accepted. *Please note that financial hardship cannot be the sole basis of an exception request.*
4. The applicant will be contacted if additional information or clarification is required. The Public Works project team responsible for the project area will evaluate the request and make a recommendation to the Director of Public Works through the Deputy Director. The Director's decision, which is final, will be conveyed to the applicant in writing, with copies to all parties and agencies concerned.
5. Requests take an average of fifteen (15) working days to process. They may take longer if submitted without the proper supporting documents or if there is insufficient fund balance in the project account.
6. Staff time to process this request will be charged against the project account. The applicant will be contacted for additional funds if the account balance is insufficient to cover the estimated charges for processing the request.
7. Request for modifications to conditions of approval of a recorded map, in most cases, requires a map modification process, which is a separate process.

## II M. TRAFFIC MITIGATION FEE

A traffic mitigation fee for the Gateway of the Americas Specific Plan No. 97-0001 was adopted September 25, 2001. According to the Environmental Impact Report (EIR) for the Specific Plan, the Gateway Project will eventually affect traffic circulation in a number of locations outside the project boundary. Both documents anticipated the need for the significant number of offsite improvements to mitigate traffic issues raised during the environmental review. The traffic mitigation fee is a result and will provide a long term funding mechanism for the required transportation related improvements. At adoption in 1002, the fee was determined to be \$70 per ADT generated by each project. The County Public Works Department collects this fee prior to the Planning Department issuance of building permits.

The fee is updated on a yearly basis using the Engineering News Building Cost Index (BCI) on July 1 of each year. The Director of Public Works adjusts said fee and the developer should contact the Public Works Department to see what the actual fee is at the time of development. Current Department Policy requires use of "Guide of Vehicular Traffic Generation Rates of San Diego Region" most current edition by SANDAG for ADT calculation. This will be considered the minimal acceptable ADT to be used for the traffic mitigation fee. If another, acceptable source is used for a project, including a traffic study it will need to be compared with the SANDAG table. Whichever yield a higher ADT will be used. All ADT's are rounded up to nearest 0.5 ADT.

The Public Works Department will not assess a probable mix or calculate the percentage of mixed uses in a building. It is the Developer's responsibility to provide a proposed Traffic Mitigation Fee Calculation based on the building usage. If the Building Department assesses building permit fees on mixed uses or some other format, Public Works will then evaluate the request with the Director of the Planning and Building Department.

### Example Traffic Mitigation Fee Calculation

1. Warehousing usage
2. From SANDAG trip generation table, 5 ADT/1000 sq. ft.
3. Building size 50,000 S.F.
4. Fee =  $\$70 * 5 / 1000 * 50,000 = \underline{\$17,500}$

\* - Use current unit fee in effect at time of development.

Specific to commercial/retail and/or restaurant land uses only, utilization of the "primary" trip categories percentage will be allowed for determining ADT's using the SANDAG rates.

## **III. DRAINAGE IMPROVEMENTS**

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.
10. An oil/water separator or equivalent is required prior to permitting onsite lot drainage from entering the Gateway street right of way or public storm drain system. A maximum 6" drain lateral can be used to tie into existing adjacent street curb inlets with some exceptions. Approval from the Director of Public Works is required.
11. The County is implementing a storm water quality program as required by the State Water Resources Control Board which may modify or add to the requirements and guidelines presented elsewhere in this document.

This can include ongoing monitoring of water quality of storm drain runoff, implementation of Best Management Practices (BMPs) to reduce storm water quality impacts downstream or along adjacent properties.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, offsite hydrology, onsite hydrology, hydraulic calculations and a hydrology map.

13. Specific to small Parcel Map developments:

- A. For individual lots, sufficient storage volume must be available on a portion of the proposed parcel to accommodate a three (3) inch precipitation minimum covering the entire area. The resulting storage volume should be accommodated in a single retention basin. However, this office will consider a combination of a retention basin and onlot storage.
- B. Remaining portions of the parcel or agricultural parcels that are not being developed should also provide for onsite retention or assurances that the resulting storm runoff does not impact adjacent parcels.
- C. Finish pad elevations should be indicated on the plans, which are at or above the 100 year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100 year flood elevation.
- D. Onsite driveways should be designed and constructed such that they are at least 3 inches above the 100 year frequency flood elevation identified for the parcel.
- E. Septic system manhole access, water systems and other associated electrical appurtenances should also have finish elevations indicated on the plans that are at least 6" above the 100 year frequency flood elevation identified for the parcel.
- F. Retention basins should empty within 72 hours in order to provide mosquito abatement. This can be accomplished by either draining, evaporation or infiltration, or any combination thereof. If this is not possible, then the owner should be made aware of a potential need to address mosquito abatement to the satisfaction of the Environmental Health Services Department. Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #A above. This would allow for a saturation condition of the soil due to a 5" storm track.

### III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the Imperial Irrigation District (IID) "Draft" Hydrology Manual as a basis for the Gateway of the Americas project and the requirements of the County Engineer and based on full development of upstream tributary basins.
2. Public drainage facilities shall be designed to carry the ten-year six-hour storm underground, the 25-year storm between the top of curbs provided two 12' minimum width dry lanes exist and the 100-year frequency storm between the right of way lines with at least one 12' minimum dry lane open to traffic. All culverts shall be designed to accommodate a 100-year frequency storm.
3. Permanent drainage facilities and right of way, including access, shall be provided from development to point of satisfactory disposal.
4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.

There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a 3-inch precipitation over the project site.

5. Retention basins should empty within 72 hours and no sooner than 24 hours in order to provide mosquito abatement. This can be accomplished by draining, evaporation or infiltration, or any combination thereof. If this is not possible then the owner should be made aware of a potential need to address mosquito abatement to the satisfaction of the Environmental Health Services Department. Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #4 above. This would allow for a saturation condition of the soil due to a 5" storm track.
6. The minimum finish floor elevation shall be 12" above top of fronting street curb unless property is below street level and/or 6" above the 100-year frequency storm event or storm track. A local engineering practice is to use a 5" precipitation event as a storm track in the absence of detailed flood information.

The 100 year frequency storm would be required for detention calculations.

7. Finish pad elevations should be indicated on the plans, which are at or above the 100 year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100 year flood elevation.
8. The developer shall submit a drainage study, plans and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, such plans and specifications shall provide a drainage system capable of handling and disposing of all surface waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the CSA to properly handle the drainage on-site and off-site.

### III B. HYDROLOGY

1. Off-site, use a blue line or Xerox prints of the subdivision or tract map. Show existing culverts, cross-gutters and drainage courses based on field review. Indicate the direction of flow; clearly delineate each drainage basin showing the area and discharge and the point of concentration.
2. On-site, use the grading plan. If grading is not proposed, then use a 100-scale plan or greater enlargement. Show all proposed and existing drainage facilities and drainage courses. Indicate the direction of flow. Clearly delineate each drainage basin showing the area and discharge and the point of concentration.
3. Use the rational formula  $Q$  (flow (cfs))= $C I A$  (area/acreage) for watersheds less than 0.5 square mile unless an alternate method is approved by the County Engineer. For watersheds in excess of 0.5 square mile, the method of analysis shall be approved by the County Engineer prior to submitting calculations.

### III C. HYDRAULICS

All facilities that convey drainage must have calculations to support its use. Those facilities include streets, culverts, storm drains, channels, catch basins, inlets, etc.

1. Street – provide:
  - a) Depth of gutter flow calculation.
  - b) Inlet calculations.
  - c) Show gutter flow  $Q$ , inlet  $Q$ , and bypass  $Q$  on a plan of the street.
2. Storm drain pipes and open channels – provide:
  - a) Hydraulic loss calculations for: entrance, friction, access holes, junctions, bends, angles, reduction and enlargement.
  - b) Analyze existing conditions upstream and downstream from proposed system, to be determined by the County Engineer on a case-by-case basis.
  - c) Calculate critical depth and normal depth for open channel flow conditions.
  - d) Design for non-silting velocity of 4 feet per second in a two-year frequency storm unless otherwise approved by the County Engineer.
  - e) All pipes and outlets shall show HGL (hydraulic grade line); velocity and  $Q$  value(s) for which the storm drain is designed to discharge.
  - f) Confluence angles shall be maintained between 45° and 90° from the main upstream flow. Flows shall not oppose main line flows.

### III D. INLETS

1. Curb inlets at a sump condition should be designed for two CFS (cubic feet per second) per lineal foot of opening when headwater may rise to the top of curb.
2. Curb inlets on a continuous grade should be designed based on the following equation:

$$Q=0.7 L (a+y) * 3/2$$

Where: y = depth of flow in approach gutter in feet  
a = depth of depression of flow line at inlet in feet  
L = length of clear opening in feet (maximum 30 feet)  
Q = flow in CFS

3. Grated inlets should be avoided when possible. When necessary, the design should be based on the Bureau of Public Roads Nomographs (now known as the Federal Highway Administration). All grated inlets shall be bicycle proof.
4. All catch basins shall have an access hole in the top unless access through the grate section is satisfactory to the County Engineer.
5. Catch basins/curb inlets shall be located so as to eliminate, whenever possible, cross gutters. Catch basins/curb inlets shall not be located within 5 feet of any curb return or driveway.
6. Minimum connector pipes for public drainage systems shall be 18 inches.
7. Flow through inlets may be used when pipe size is 24 inches or less and open channel flow characteristics exist.

### III E. STORM DRAINS

1. Minimum pipe slopes shall be 0.001 (0.1%) unless otherwise approved by the County Engineer.
2. Minimum storm drain, within public right of way, size shall be 18 inch diameter.
3. Provide cleanouts at 300 feet maximum spacing and at angle points and at breaks in grade greater than 10°. For pipes 48 inches in diameter and larger, a maximum spacing of 500 feet may be used.
4. The material for storm drains in right-of-way shall be rubber gasket reinforced concrete pipe or poly vinyl chloride pipe designed in conformance with Imperial County design criteria.
5. Horizontal and vertical curve design shall conform to manufacturer recommended specifications.
6. The pipe invert elevations, slope, and pipe profile line shall be delineated on the Mylar of the improvement plans.

The strength classification of any pipe shall be shown on the plans. Minimum strength for RCP shall be Class III in all County streets or future right of way. Minimum strength for depths less than 2 feet, if allowed, shall be Class V or greater.



PVC pipe must meet or exceed standards for schedule 40-wall thickness and SDR values. Thirty (30) inches minimum cover depth is required. (See Section II J.)

7. For all drainage designs that are not covered in these standards, other established standard practice criteria could be used as approved by the Director of Public Works.
8. For storm drain discharging into unprotected or natural channel, proper energy dissipation measures shall be installed to prevent damage or erosion.
9. The use of detention basins to even out storm peaks and reduce piping is permitted with substantiating engineering calculations and proper maintenance agreements.
10. Desiltation measures for silt caused by development shall be provided and cleaned regularly and after major rainfall as required by the County Engineer or his designated representative. Adequate storage capacity as determined by the County Engineer shall be maintained at all times.
11. Protection of downstream or adjacent properties from incremental flows (caused by change from an underdeveloped to a developed site) shall be provided. Such flows shall not be concentrated and directed across unprotected adjacent properties unless an easement and storm drains or channels to contain flows are provided.
12. Storm drain pipe under pressure flow for the design storm, i.e., HGL above the soffit of the pipe, shall meet the requirements of ASTM C76, C361, and C443 for water-tight joints in the section of pipe calculated to be under pressure.

### III F. DRAINAGE SPECIFICATIONS AND DESIGN STANDARDS

“To be Added”

## **IV. GRADING PLANS**

#### IV A. GENERAL REQUIREMENTS

The requirements for grading plans and permits shall be in conformance with the Imperial County grading ordinance and this manual.

1. When a grading permit is required, a grading plan must be prepared by a registered civil engineer. A preliminary sketch may be submitted to obtain the County Engineer's acceptance of the proposed grading design after which the grading plan will be prepared.
2. All drawings shall be standard size sheets (24"x 36" or 8 ½" x 11" or 8 ½" x 14"). All lettering shall be 1/8" or larger with hand lettering, 1/10" or larger for machine lettering.
3. All title sheets shall have an index or key map clearly indicating the sheet numbers issued. All index maps shall be drawn showing overall layout of the water, sewer (including future extensions).
4. Each sheet is to be signed and sealed by a Registered Civil Engineer. The Registered Engineer doing the design shall also sign complex structural designs such as retaining walls. When a soils report is required, the Soils Engineer and/or Geologist shall sign grading plans. In addition, all calculations, plans and reports shall be signed by and sealed by the engineer responsible for the design prior to the County approving the plans.
5. Revisions made after original approval by the County Engineer shall be initiated by the Engineer of Work and submitted to the county for approval. The County Engineer prior to construction of the revised improvements must sign off plan revisions. Depending upon complexity, construction changes and/or as built plans may be required prior to Public Works final acceptance and approval of construction.
6. All public and private road/utility and drainage easements shall be shown on the grading plan.
7. Drainage calculations and maps shall accompany all grading plans submitted for checking, unless the requirement is specifically waived.
8. Plans submitted shall be accompanied by the appropriate checklist; see Section IC and Attachment 'A', "Required Checklists" elsewhere.
9. All applicable plan check deposits/fees shall be paid with the first submittal package.
10. The original check prints (if provided) shall accompany revised plans resubmitted for checking.
11. All plans, specifications and supporting documents shall be signed and sealed by the Engineer in responsible charge of the work prior to County Engineer's approval as per the Professional Engineers and Land Surveyors Act.
12. A letter of permission shall be required for any grading that encroaches into adjacent properties.

#### IV B. TITLE GRADING SHEET

The typical title sheet for a set of grading plans typically includes the following:

- Specific Conditions Notes
- General Notes
- Engineer's Note
- Declaration of Responsible Charge
- Engineer's name, address, telephone number, signature, wet stamp and expiration date
- Key Map (if required)
- Vicinity Map
- Work To Be Done
- Owner/Developer Name/Address
- Owner/Permittee's Name/Address/Telephone Number
- Site Address
- Assessor's Parcel Number
- Show Special Use Permit, Parcel Maps or Tract Map
- Legal Description
- Soils Engineer's Registration Number/Address
- Bench Mark
- Details
- Typical Pad Grading (if Applicable)
- Earthwork Information
- Slope Ratios
- Name and Telephone Number of All Utility Agencies
- Basis of Bearings

#### IV C. GRADING SHEETS

A typical grading sheet includes the following:

1. Subdivision boundary or property lines.
2. All existing and proposed road, utility, drainage and open space easements.
3. Proposed and existing contour lines and/or elevations.
4. Contours shall extend beyond limits of grading at least 100 feet or sufficient distance to show on-site and off-site drainage.
5. Spot elevations shall be shown to clarify any land surface not readily discernible from a study of contour lines.
6. Location and graphic representation of all existing natural and proposed man-made drainage facilities.
7. Detailed plans of all surface and subsurface drainage devices, walls, cribbing and other protective devices to be constructed with or as a part of the grading plan.
8. Location and graphic representation of proposed excavations and fills, of on-site storage of soil and other earth material and of on-site disposal.
9. Location of final surface runoff, erosion and sediment control measures.

10. Location of all proposed buildings or structures on property where the work is to be performed and the location of all buildings or structures on land of adjacent owner which are within 15 feet of the property or which may be affected by proposed grading operations.
11. Appurtenant structures, retaining walls, drainage facilities or other grading appurtenances.
12. Grading details along the property line to insure no possible problems are created by the proposed development to the adjoining property owners.
13. Retaining walls with top and bottom of wall elevations shall be called out on the plan. (All retaining walls require County Building Inspection approval).
14. Proper set back from property lines per County Ordinance.
15. Location of cut and placement of fill ("Daylight" and limit lines)
16. Typical lot drainage, lot grading, grading of street section.
17. Typical berm, swale at top of fills slopes and brow ditch.
18. Percent of grade of streets and driveways, length of vertical curves, B.V.C and E.V.C.
19. Caution notes for all existing telephone, gas and utility lines.
20. Lot numbers, lot slopes, lot dimensions and pad elevations.
21. Top and toe of slopes, grade breaks.
22. Benchmark that is a County or Imperial Irrigation District (IID) recognized Benchmark. Any assumed Benchmark used must be tied into one of these recognized Benchmarks. When permanent benchmarks become available in the SPA, the SPA datum must be used.

IV D. **SAMPLE LETTERS AND DECLARATIONS REQUIRED**

These are just samples of permission to grade letters. They can be put in a different format, but the information listed in them must be included.

1. PERMISSION TO GRADE

Mr. Timothy B. Jones  
Director of Public Works  
County of Imperial  
Department of Public Works  
155 S. 11<sup>th</sup> Street  
El Centro, CA 92243

Dear Mr. Jones:

PERMISSION TO GRADE IN CONJUNCTION WITH A LAND DEVELOPMENT PROJECT

(I/We) (am/are) the owner(s) of (lot no., block, subdivision name and Map no.), Assessor's Parcel Number (APN no.) which is adjacent to the (northerly/westerly/southerly/easterly) property line of the proposed project on (lot no., block, subdivision name and Map no.). (I/We) have reviewed the proposed grading on (my/our) property and do hereby grant permission to grade as shown on (grading/improvement) plan prepared by (Engineering Company).

By: \_\_\_\_\_

(Letter must be notarized)

Date: \_\_\_\_\_

2. PERMISSION TO GRADE AND CONSTRUCT

Mr. Timothy B. Jones  
Director of Public Works  
County of Imperial  
Department of Public Works  
155 S. 11<sup>th</sup> Street  
El Centro, Ca 92243

PERMISSION TO GRADE AND CONSTRUCT IN CONJUNCTION WITH A LAND DEVELOPMENT PROJECT

(I/We) (am/are) the owner(s) of (lot no., block, subdivision name and Map no.), Assessor's Parcel Number (APN no.) which is adjacent to the (northerly/westerly/southerly/easterly) property line of the proposed project on (lot no., block, subdivision name and Map no.). (I/We) have reviewed the proposed grading on (my/our) property and do hereby grant permission to grade as shown on (grading/improvement) plan prepared by (Engineering Company).

By: \_\_\_\_\_

(Letter must be notarized)

Date: \_\_\_\_\_

3. DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF IMPERIAL IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

(Engineer's Company Name  
Address and Telephone Number)

\_\_\_\_\_  
(Engineer's Name and Title)  
(Registration Number)  
Expiration Date \_\_\_\_\_

\_\_\_\_\_  
DATE

IV-E GRADING PLAN GENERAL NOTES

1. APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE APPROVAL OF VERTICAL OR HORIZONTAL ALIGNMENT OF ANY PRIVATE ROAD SHOWN HEREON FOR COUNTY ROAD PURPOSES.
2. FINAL APPROVAL OF THESE GRADING PLANS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB GRADE ELEVATIONS MAY REQUIRE CHANGES IN THESE PLANS.
3. IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AN ENCROACHMENT PERMIT FROM THE COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS FOR ANY EXCAVATION OR CONSTRUCTION WITHIN COUNTY ROAD RIGHT-OF-WAY. FOR INSPECTIONS, 48 HOUR MINIMUM NOTICE IS REQUIRED, (760) 482-4462. ADDITIONALLY, UNDERGROUND SERVICE ALERT (USA) MUST BE CALLED TWO WORKING DAYS BEFORE THE CONTRACTOR MAY EXCAVATE. THEIR CONTACT NUMBER (800) 227-2600. ALL WORK AND MATERIALS ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.
5. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. NOTICE OF PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES:

GAS	TELEPHONE NO. <u>(800) 422-4133/(800) 227-2600</u>
IID POWER:	TELEPHONE NO.: <u>(760) 339-9280</u>
IID WATER	TELEPHONE NO. <u>(760) 339-9263</u>
PACIFIC TELEPHONE:	TELEPHONE NO. <u>(800) 422-4133</u>
CATV:	TELEPHONE NO. <u>(800) 626-6299</u>
SEWER: (CSA)	TELEPHONE NO. <u>(760) 482-4462</u>
WATER: (CSA)	TELEPHONE NO. <u>(760) 482-4462</u>

6. A SOILS REPORT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
7. APPROVAL OF THESE PLANS BY THE DIRECTOR OF PUBLIC WORKS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND VALID GRADING PERMIT HAS BEEN ISSUED BY THE COUNTY PLANNING DEPARTMENT.
8. THE DIRECTOR OF PUBLIC WORKS' APPROVAL OF THESE PLANS DOES NOT CONSTITUTE COUNTY BUILDING OFFICIAL APPROVAL OF ANY FOUNDATION FOR STRUCTURES TO BE PLACED ON THE ITEMS COVERED BY THESE PLANS.
9. ALL MAJOR SLOPES SHALL BE ROUNDED INTO EXISTING TERRAIN TO PRODUCE A CONTOURED TRANSITION FROM CUT OR FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SURFACES.
10. NOTWITHSTANDING THE MINIMUM STANDARDS SET FORTH IN THE GRADING ORDINANCE AND NOTWITHSTANDING THE APPROVAL OF THESE GRADING



PLANS, THE PERMITTEE IS RESPONSIBLE FOR THE PREVENTION OF DAMAGE TO ADJACENT PROPERTY. NO PERSON SHALL EXCAVATE ON LAND SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY SUCH PROPERTY FROM SETTLING, CRACKING, EROSION SILTING, SCOUR OR OTHER DAMAGE, WHICH MIGHT RESULT FROM THE GRADING DESCRIBED ON THE PLAN. THE COUNTY WILL HOLD THE PERMITTEE RESPONSIBLE FOR CORRECTION OF NON-DEDICATED IMPROVEMENTS WHICH DAMAGE ADJACENT PROPERTY.

11. SPECIAL CONDITION: IF ANY ARCHEOLOGICAL RESOURCES ARE DISCOVERED ON THE SITE OF THIS GRADING OPERATION, SUCH OPERATION WILL CEASE IMMEDIATELY AND THE PERMITTEE WILL NOTIFY THE DIRECTOR OF THE PLANNING DEPARTMENT AND THE DISCOVERY. GRADING OPERATION WILL NOT RECOMMENCE UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE DIRECTOR OF PLANNING TO DO SO.
12. THE CONSTRUCTION OF ONE PCC STANDARD DRIVEWAY PER LOT, LOCATION TO BE DETERMINED IN THE FIELD BY ENGINEER OF WORK AND APPROVED BY COUNTY PUBLIC WORKS INSPECTOR. PCC SURFACING OF DRIVEWAY TO EXTEND FROM CURB TO PROPERTY LINE.
13. ALL GRADING SHALL CONFORM TO THE UNIFORM BUILDING CODE APPENDIX CHAP. 33, AS AMENDED BY TITLE 9 LAND USE ORDINANCE.
14. ALL PROPERTY CORNERS SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION AND/OR GRADING.
15. DURING ROUGH GRADING OPERATIONS AND PRIOR TO THE CONSTRUCTION OF ANY PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHALL BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO CONTIGUOUS PROPERTIES.
16. DUST SHALL BE CONTROLLED IN ACCORDANCE WITH THE APPROVED PM10 PLAN. APPROVAL SHALL BE BY IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT.
17. NO FILL SHALL BE PLACED ON EXISTING GROUND UNTIL THE EXISTING GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELITERIOUS MATERIAL.
18. THE MAXIMUM ALLOWABLE CUT AND FILL SLOPES ARE 2:1, UNLESS A SLOPE STABILITY ANALYSIS AUTHORIZES A STEEPER SLOPE AND HAS BEEN APPROVED.
19. A 5' WIDE BY 1' HIGH BERM, OR EQUIVALENT, SHALL BE CONSTRUCTED ALONG THE TOP OF ALL FILL SLOPES OVER 5' IN VERTICAL HEIGHT. ALL SLOPES LESS THAN OR EQUAL TO 5' SHALL HAVE A BERM TO PREVENT DRAINAGE FROM ERODING SAME.
20. A BROW DITCH DESIGNED TO HANDLE THE FLOWS (Q) FROM A 100-YR. STORM EVENT SHALL BE CONSTRUCTED ALONG THE TOP OF ALL CUT SLOPES.
21. NO OBSTRUCTION OF FLOOD PLAINS OR NATURAL WATER COURSES WILL BE PERMITTED.
22. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUNCTION DURING STORM CONDITIONS. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT CONTIGUOUS PROPERTIES DURING GRADING OPERATIONS.

23. THE FINISED GRADE SHALL BE SLOPED AWAY FROM ALL EXTERIOR BUILDING WALLS AT NOT LESS THAN 4% (1/2" PER FOOT) FOR A MINIMUM OF 3 FEET, UNLESS A SOIL REPORT PROVIDES ALTERNATE RECOMMENDATIONS.
24. A SUTABLY QUALIFIED AND REGISTERED PROFESSIONAL SHALL SUBMIT A WRITTEN CERTIFICATION TO THE PUBLIC WORKS DEPARTMENT THAT THE FINAL GRADING HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS FOR ALL GRADING DESIGNATED AS "ENGINEERED GRADING". AS-BUILT PLANS SHALL BE PROVIDED PRIOR TO FINAL ACCEPTANCE.
25. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF REQUESTING A FINISH LOT GRADE AND DRAINAGE INSPECTION. THIS INSPECTION MUST BE APPROVED PRIOR TO THE BUILDING PERMIT FINAL INSPECTION BY PUBLIC WORKS FOR EACH LOT.
26. THE CONTRACTOR SHALL NOTIFY "UNDERGROUND SERVICE ALERT" AT (800) 422-4133 A MINIMUM OF TWO DAYS PRIOR TO THE COMMENCEMENT OF ANY DIGGING OR EXCAVATION.

IV F. **STORM WATER CONTROLS**

~~TO BE ADDED~~

IV G. **GRADING ORDINANCE:**

-TITLE 9, DIVISION 10, CHAPTER 10  
(ATTACHED)  
-2001 UNIFORM BUILDING CODE

**NOTE THAT ALL GRADING PERMITS ARE ISSUED BY THE COUNTY BUILDING DEPARTMENT. NOTE ALSO THAT ALL GRADING AND DRAINAGE PLANS MUST BE REVIEWED AND APPROVED BY THE COUNTY PUBLIC WORKS DEPARTMENT.**

**TITLE 9**

**LAND USE ORDINANCE**

for the  
County of Imperial

Prepared By:

**IMPERIAL COUNTY PLANNING/BUILDING DEPARTMENT**

Approved By:

**The Planning Commission  
(Originally approved November 12, 1998)**

**Approved by Board of Supervisors  
Originally by M. O. #16**

*Original Effective Date November 24, 1998*

**JURG HEUBERGER, AICP, CEP, CBO  
PLANNING DIRECTOR**

# CAUTION

# CAUTION

Attn: CD VERSION USERS  
Hard Copy Users

This copy of the Imperial County Land Use Ordinance contained on this C.D. or in "hard copy" was initially enacted in a full update on November 24, 1998. Ordinances can and do change, therefore before relying on this version, please verify with the Planning/Building Department whether any updates have been made. This CD/Hard Copy was created on January 18, 2004 and at anytime thereafter changes may be made.

You are free to use, copy or print this Ordinance for your own use, not for distribution to others.

Thank You

Jurg Heuberger, AICP, CEP  
Planning Director

## TITLE 9

### DIVISION 10: BUILDING, SEWER & GRADING REGULATIONS

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#### CHAPTER 10: GRADING REGULATIONS

§ 91010.00	WHEN PERMIT REQUIRED, EXCEPTIONS
§ 91010.01	APPLICATION FOR PERMIT
§ 91010.02	PERMIT, CONDITIONS REQUIRED FOR ISSUANCE
§ 91010.03	DECISION AS TO ISSUANCE, APPEAL TO BOARD
§ 91010.04	APPLICANT'S LIABILITY
§ 91010.05	VIOLATIONS
§ 91010.06	VIOLATIONS

#### § 91010.00 WHEN PERMIT REQUIRED, EXCEPTIONS

- A. No person, firm, association, corporation or organization except public entities and their officers, employees or contractors who are performing work within publicly owned rights-of-way, shall, within the unincorporated territories of the County of Imperial, do any grading, excavation or earthwork construction without having first obtained a permit therefore from the County Engineer.
- B. This Chapter does not apply to performing the following work:
1. An excavation which is less than two (2) feet in depth.
  2. The placing of a fill of a depth of one (1) foot or less placed on natural terrain with a slope having a ratio of more than five (5) feet horizontally to one (1) foot vertically.
  3. Excavation authorized by a valid building permit.
  4. Construction of irrigation and drainage appurtenances.
  5. Agricultural land leveling.

#### § 91010.01 APPLICANT FOR PERMIT

Applicants for permits shall apply to the Imperial County Engineer and shall submit detailed plans of all existing and proposed elevations and structures; property lines; irrigation and drainage systems; protective devices, including fences and barricades, used in connection with the proposed work. The Imperial County Engineer may require, in addition, an engineers geological report and a soil engineering report in connection with the proposed work.

#### § 91010.02 PERMIT, CONDITIONS REQUIRED FOR ISSUANCE

- A. After the data required to be submitted pursuant to Section 91010.01 has been reviewed by the County Engineer, he may issue a grading permit if all of the following conditions exist:

1. If the proposed grading, excavation or earthwork construction is of irrigateable land, that said grading will not cause said land to be unfit for agricultural use.
2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tile in irrigated lands.
3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area.
4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1 ½ feet on the horizontal plane to one (1) foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

B. The Imperial County Engineer shall specify the duration of the permit. Permits may be renewed upon application to the Imperial County Engineer.

**§ 91010.03 DECISION AS TO ISSUANCE, APPEAL TO BOARD OF SUPERVISORS**

The County Engineer shall consider such application, pursuant to policies established by the Board of Supervisors and either grant to the permit, subject to any condition designed to accomplish the purpose of this Chapter or deny the same or refer the matter to the Board of Supervisors with or without recommendations. The denial of such application or the imposition of any conditions by the County Engineer shall be final unless within ten (10) days after such action the applicant shall appeal therefrom in writing to the Board of Supervisors by presenting such appeal to the Clerk of said Board. At its next regular meeting after the filing of such appeal with the Board of Supervisors, it shall consider the appeal, and any recommendations submitted therewith from the County Engineer. Said Board of Supervisors may issue such permit, if, in the opinion of said Board, the proposed grading, excavation or earthwork construction or use will not be in conflict with the purposes of this Chapter. The Board of Supervisors may refuse to issue such permit or may issue such permit subject to specified conditions designed to accomplish the purpose of this Chapter.

**§ 91010.04 APPLICANT'S LIABILITY**

No person, firm, organization or corporation shall be relieved from responsibility or liability in connection with any grading, earthwork construction or excavation undertaken by it by reason of the issuance of the permit by the Imperial County Engineer.

**§ 91010.05 VIOLATIONS**

It shall be unlawful for any person, firm, organization or corporation to violate any of the provisions of this Chapter.

**§ 91010.06 CITATION(S)**

The Building Official or his designee(s) having the authority by Division 13 to issue citations against any person, firm or corporation that is in violation of any provision of this ordinance and/or any section, article, or regulation of the adopted codes, may issue a citation to effect compliance with all applicable laws, ordinances, and/or regulations.

The citation shall be issued only by duly qualified personnel and upon the format approved by the Courts.

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## TITLE 9

### DIVISION 10: BUILDING, SEWER & GRADING REGULATIONS

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#### CHAPTER 3: CALIFORNIA BUILDING CODE

§ 91003.00	ADOPTION OF THE CALIFORNIA BUILDING CODE
§ 91003.01	MODIFICATION OF THE CALIFORNIA BUILDING CODE
§ 91003.02	UNDERGROUND STORAGE TANKS (HAZARDOUS SUBSTANCES)
§ 91003.03	FEES
§ 91003.04	CITATIONS

#### § 91003.00 ADOPTION OF THE CALIFORNIA UNIFORM BUILDING CODE

The California Building Code 2001 Edition or later version as adopted by the Building Standard Commission of the State of California, is hereby incorporated by reference and adopted as part of the Building Regulations of the County of Imperial, except as provided by Section 91003.01.

#### § 91003.01 MODIFICATIONS OF THE CALIFORNIA BUILDING CODE

- A. Sections 104.1 and 105 of the 2001 California Building Code shall be excluded from application as part of the Building Regulations of the County of Imperial.
- B. Appendix Chapter 33 of the 2001 California Building Code shall not apply to land leveling for agricultural purposes, and Section 3306.2 is hereby deleted from this chapter.
- C. Finish floor elevations in new residential (Group "R" Occupancy) shall be:
  - 1. Eighteen inches (18") above average lot elevation and/or twelve inches (12") above crown of adjacent street.
  - 2. In lieu of Subsection C(1) above, a grading plan to show adequate drainage away from said structure, signed by a Registered Civil Engineer or Architect may be provided.
- D. Finish floor elevations in all non-group "R" Occupancies (except structures used to store agricultural produce or animal pens/buildings) shall be a minimum of 6" above adjacent street crown or 12" above average lot elevation.
- E. Swimming Pools; Fencing and Gates.
  - 1. Definition. For the purposes of this section, a swimming pool is any confined body of water, exceeding one hundred fifty (150) square foot in surface area and two (2) feet in depth, used or intended to be used for swimming or bathing purposes.



## Appendix Chapter 33 EXCAVATION AND GRADING

### SECTION 3304 — PURPOSE

The purpose of this appendix is to safeguard life, limb, property and the public welfare by regulating grading on private property.

### SECTION 3305 — SCOPE

This appendix sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction.

The standards listed below are recognized standards (see Sections 3503 and 3504).

#### 1. Testing.

- 1.1 ASTM D 1557, Moisture-density Relations of Soils and Soil Aggregate Mixtures
- 1.2 ASTM D 1556, In Place Density of Soils by the Sand-Cone Method
- 1.3 ASTM D 2167, In Place Density of Soils by the Rubber-Balloon Method
- 1.4 ASTM D 2937, In Place Density of Soils by the Drive-Cylinder Method
- 1.5 ASTM D 2922 and D 3017, In Place Moisture Contact and Density of Soils by Nuclear Methods

*The following California section replaces the corresponding model code section for applications specified by law for the Department of Housing and Community Development and the Office of Statewide Health Planning and Development.*

### SECTION 3305a — SCOPE

*[For HCD 1, OSHPD 1 & 2] This chapter sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments, and provides for approval of plans and inspection of grading construction.*

### SECTION 3306 — PERMITS REQUIRED

**3306.1 Permits Required.** Except as specified in Section 3306.2 of this section, no person shall do any grading without first having obtained a grading permit from the building official.

**3306.2 Exempted Work.** A grading permit is not required for the following:

1. When approved by the building official, grading in an isolated, self-contained area if there is no danger to private or public property.
2. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation or exempt any excavation having an unsupported height greater than 5 feet (1524 mm) after the completion of such structure.
3. Cemetery graves.

4. Refuse disposal sites controlled by other regulations.

5. Excavations for wells or tunnels or utilities.

6. Mining, quarrying, excavating, processing or stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property.

7. Exploratory excavations under the direction of soil engineers or engineering geologists.

8. An excavation that (1) is less than 2 feet (610 mm) in depth or (2) does not create a cut slope greater than 5 feet (1524 mm) in height and steeper than 1 unit vertical in 1½ units horizontal (66.7% slope).

9. A fill less than 1 foot (305 mm) in depth and placed on natural terrain with a slope flatter than 1 unit vertical in 5 units horizontal (20% slope), or less than 3 feet (914 mm) in depth, not intended to support structures, that does not exceed 50 cubic yards (38.3 m<sup>3</sup>) on any one lot and does not obstruct a drainage course.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of this jurisdiction.

### SECTION 3307 — HAZARDS

Whenever the building official determines that any existing excavation or embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the building official, shall within the period specified therein repair or eliminate such excavation or embankment to eliminate the hazard and to be in conformance with the requirements of this code.

### SECTION 3308 — DEFINITIONS

For the purposes of this appendix, the definitions listed hereunder shall be construed as specified in this section.

**APPROVAL** shall mean that the proposed work or completed work conforms to this chapter in the opinion of the building official.

**AS-GRADED** is the extent of surface conditions on completion of grading.

**BEDROCK** is in-place solid rock.

**BENCH** is a relatively level step excavated into earth material on which fill is to be placed.

**BORROW** is earth material acquired from an off-site location for use in grading on a site.

**CIVIL ENGINEER** is a professional engineer registered in the state to practice in the field of civil works.

**CIVIL ENGINEERING** is the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works.

**COMPACTION** is the densification of a fill by mechanical means.

**EARTH MATERIAL** is any rock, natural soil or fill or any combination thereof.

**ENGINEERING GEOLOGIST** is a geologist experienced and knowledgeable in engineering geology.

**ENGINEERING GEOLOGY** is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

**EROSION** is the wearing away of the ground surface as a result of the movement of wind, water or ice.

**EXCAVATION** is the mechanical removal of earth material.

**FILL** is a deposit of earth material placed by artificial means.

**GEOTECHNICAL ENGINEER.** See "soils engineer."

**GRADE** is the vertical location of the ground surface.

**Existing Grade** is the grade prior to grading.

**Finish Grade** is the final grade of the site that conforms to the approved plan.

**Rough Grade** is the stage at which the grade approximately conforms to the approved plan.

**GRADING** is any excavating or filling or combination thereof.

**KEY** is a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

**PROFESSIONAL INSPECTION** is the inspection required by this code to be performed by the civil engineer, soils engineer or engineering geologist. Such inspections include that performed by persons supervised by such engineers or geologists and shall be sufficient to form an opinion relating to the conduct of the work.

**SITE** is any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

**SLOPE** is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

**SOIL** is naturally occurring superficial deposits overlying bedrock.

**SOILS ENGINEER (GEOTECHNICAL ENGINEER)** is an engineer experienced and knowledgeable in the practice of soils engineering (geotechnical) engineering.

**SOILS ENGINEERING (GEOTECHNICAL ENGINEERING)** is the application of the principles of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection or testing of the construction thereof.

**TERRACE** is a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

## SECTION 3309 — GRADING PERMIT REQUIREMENTS

**3309.1 Permits Required.** Except as exempted in Section 3306 of this code, no person shall do any grading without first obtaining a grading permit from the building official. A separate permit shall be obtained for each site, and may cover both excavations and fills.

**3309.2 Application.** The provisions of Section 106.3.1 are applicable to grading. Additionally, the application shall state the estimated quantities of work involved.

**3309.3 Grading Designation.** Grading in excess of 5,000 cubic yards (3825 m<sup>3</sup>) shall be performed in accordance with the approved grading plan prepared by a civil engineer, and shall be designated as "engineered grading." Grading involving less than 5,000 cubic yards (3825 m<sup>3</sup>) shall be designated "regular grading" unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading.

**3309.4 Engineered Grading Requirements.** Application for a grading permit shall be accompanied by two sets of plans and specifications, and supporting data consisting of a soils engineering report and engineering geology report. The plans and specifications shall be prepared and signed by an individual licensed by the state to prepare such plans or specifications when required by the building official.

Specifications shall contain information covering construction and material requirements.

Plans shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give location of the work, the name and address of the owner, and the person by whom they were prepared.

The plans shall include the following information:

1. General vicinity of the proposed site.
2. Property limits and accurate contours of existing ground and details of terrain and area drainage.
3. Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction.
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drains.
5. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners that are within 15 feet (4572 mm) of the property or that may be affected by the proposed grading operations.
6. Recommendations included in the soils engineering report and the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference.
7. The dates of the soils engineering and engineering geology reports together with the names, addresses and phone numbers of the firms or individuals who prepared the reports.

**3309.5 Soils Engineering Report.** The soils engineering report required by Section 3309.4 shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by soils engineering factors, including the stability of slopes.

**3309.6 Engineering Geology Report.** The engineering geology report required by Section 3309.4 shall include an adequate description of the geology of the site, conclusions and recommen-

dations regarding the effect of geologic conditions on the proposed development, and opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors.

**3309.7 Liquefaction Study.** The building official may require a geotechnical investigation in accordance with Sections 1804.2 and 1804.5 when, during the course of an investigation, all of the following conditions are discovered, the report shall address the potential for liquefaction:

1. Shallow ground water, 50 feet (15 240 mm) or less.
2. Unconsolidated sandy alluvium.
3. Seismic Zones 3 and 4.

**3309.8 Regular Grading Requirements.** Each application for a grading permit shall be accompanied by a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site.
2. Limiting dimensions and depth of cut and fill.
3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet (4572 mm) of the proposed grading.

**3309.9 Issuance.** The provisions of Section 106.4 are applicable to grading permits. The building official may require that grading

operations and project designs be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued.

The building official may require professional inspection and testing by the soils engineer. When the building official has cause to believe that geologic factors may be involved, the grading will be required to conform to engineered grading.

**SECTION 3310 — GRADING FEES**

**3310.1 General.** Fees shall be assessed in accordance with the provisions of this section or shall be as set forth in the fee schedule adopted by the jurisdiction.

**3310.2 Plan Review Fees.** When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be as set forth in Table A-33-A. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

**3310.3 Grading Permit Fees.** A fee for each grading permit shall be paid to the building official as set forth in Table A-33-B. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. There shall be no separate charge for standard terrace drains and similar facilities.

**TABLE A-33-A—GRADING PLAN REVIEW FEES**

50 cubic yards (38.2 m <sup>3</sup> ) or less	No fee
51 to 100 cubic yards (40 m <sup>3</sup> to 76.5 m <sup>3</sup> )	\$23.50
101 to 1,000 cubic yards (77.2 m <sup>3</sup> to 764.6 m <sup>3</sup> )	37.00
1,001 to 10,000 cubic yards (765.3 m <sup>3</sup> to 7645.5 m <sup>3</sup> )	49.25
10,001 to 100,000 cubic yards (7646.3 m <sup>3</sup> to 76 455 m <sup>3</sup> )—\$49.25 for the first 10,000 cubic yards (7645.5 m <sup>3</sup> ), plus \$24.50 for each additional 10,000 yards (7645.5 m <sup>3</sup> ) or fraction thereof.	
100,001 to 200,000 cubic yards (76 456 m <sup>3</sup> to 152 911 m <sup>3</sup> )—\$269.75 for the first 100,000 cubic yards (76 455 m <sup>3</sup> ), plus \$13.25 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	
200,001 cubic yards (152 912 m <sup>3</sup> ) or more—\$402.25 for the first 200,000 cubic yards (152 911 m <sup>3</sup> ), plus \$7.25 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	
<b>Other Fees:</b>	
Additional plan review required by changes, additions or revisions to approved plans	\$50.50 per hour*
(minimum charge—one-half hour)	

\*Or the total hourly cost to the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.

TABLE A-33-B—GRADING PERMIT FEES<sup>1</sup>

50 cubic yards (38.2 m <sup>3</sup> ) or less .....	\$23.50
51 to 100 cubic yards (40 m <sup>3</sup> to 76.5 m <sup>3</sup> ) .....	37.00
101 to 1,000 cubic yards (77.2 m <sup>3</sup> to 764.6 m <sup>3</sup> )—\$37.00 for the first 100 cubic yards (76.5 m <sup>3</sup> ) plus \$17.50 for each additional 100 cubic yards (76.5 m <sup>3</sup> ) or fraction thereof.	
1,001 to 10,000 cubic yards (765.3 m <sup>3</sup> to 7645.5 m <sup>3</sup> )—\$194.50 for the first 1,000 cubic yards (764.6 m <sup>3</sup> ), plus \$14.50 for each additional 1,000 cubic yards (764.6 m <sup>3</sup> ) or fraction thereof.	
10,001 to 100,000 cubic yards (7646.3 m <sup>3</sup> to 76 455 m <sup>3</sup> )—\$325.00 for the first 10,000 cubic yards (7645.5 m <sup>3</sup> ), plus \$66.00 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	
100,001 cubic yards (76 456 m <sup>3</sup> ) or more—\$919.00 for the first 100,000 cubic yards (76 455 m <sup>3</sup> ), plus \$36.50 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	
<b>Other Inspections and Fees:</b>	
1. Inspections outside of normal business hours .....	\$50.50 per hour <sup>2</sup> (minimum charge—two hours)
2. Reinspection fees assessed under provisions of Section 108.8 .....	\$50.50 per hour <sup>2</sup>
3. Inspections for which no fee is specifically indicated .....	\$50.50 per hour <sup>2</sup> (minimum charge—one-half hour)

<sup>1</sup>The fee for a grading permit authorizing additional work to that under a valid permit shall be the difference between the fee paid for the original permit and the fee shown for the entire project.  
<sup>2</sup>Or the total hourly cost to the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.

**SECTION 3311 — BONDS**

The building official may require bonds in such form and amounts as may be deemed necessary to ensure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions.

In lieu of a surety bond the applicant may file a cash bond or instrument of credit with the building official in an amount equal to that which would be required in the surety bond.

**SECTION 3312 — CUTS**

**3312.1 General.** Unless otherwise recommended in the approved soils engineering or engineering geology report, cuts shall conform to the provisions of this section.

In the absence of an approved soils engineering report, these provisions may be waived for minor cuts not intended to support structures.

**3312.2 Slope.** The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than 1 unit vertical in 2 units horizontal (50% slope) unless the permittee furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property.

**SECTION 3313 — FILLS**

**3313.1 General.** Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section.

In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

**3313.2 Preparation of Ground.** Fill slopes shall not be constructed on natural slopes steeper than 1 unit vertical in 2 units horizontal (50% slope). The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil

and other unsuitable materials scarifying to provide a bond with the new fill and, where slopes are steeper than 1 unit vertical in 5 units horizontal (20% slope) and the height is greater than 5 feet (1524 mm), by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of a fill on a slope steeper than 1 unit vertical in 5 units horizontal (20% slope) shall be at least 10 feet (3048 mm) wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of fill shall be at least 10 feet (3048 mm) wide but the cut shall be made before placing the fill and acceptance by the soils engineer or engineering geologist or both as a suitable foundation for fill.

**3313.3 Fill Material.** Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the building official, no rock or similar irreducible material with a maximum dimension greater than 12 inches (305 mm) shall be buried or placed in fills.

**EXCEPTION:** The building official may permit placement of larger rock when the soils engineer properly devises a method of placement, and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. Rock sizes greater than 12 inches (305 mm) in maximum dimension shall be 10 feet (3048 mm) or more below grade, measured vertically.
3. Rocks shall be placed so as to assure filling of all voids with well-graded soil.

**3313.4 Compaction.** All fills shall be compacted to a minimum of 90 percent of maximum density.

**3313.5 Slope.** The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than 1 unit vertical in 2 units horizontal (50% slope).

**SECTION 3314 — SETBACKS**

**3314.1 General.** Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site

boundary. Setback dimensions shall be as shown in Figure A-33-1.

**3314.2 Top of Cut Slope.** The top of cut slopes shall not be made nearer to a site boundary line than one fifth of the vertical height of cut with a minimum of 2 feet (610 mm) and a maximum of 10 feet (3048 mm). The setback may need to be increased for any required interceptor drains.

**3314.3 Toe of Fill Slope.** The toe of fill slope shall be made not nearer to the site boundary line than one half the height of the slope with a minimum of 2 feet (610 mm) and a maximum of 20 feet (6096 mm). Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the building official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

1. Additional setbacks.
2. Provision for retaining or slough walls.
3. Mechanical or chemical treatment of the fill slope surface to minimize erosion.
4. Provisions for the control of surface waters.

**3314.4 Modification of Slope Location.** The building official may approve alternate setbacks. The building official may require an investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the intent of this section has been satisfied.

## SECTION 3315 — DRAINAGE AND TERRACING

**3315.1 General.** Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than 1 unit vertical in 3 units horizontal (33.3% slope).

**3315.2 Terrace.** Terraces at least 6 feet (1829 mm) in width shall be established at not more than 30-foot (9144 mm) vertical intervals on all cut or fill slopes to control surface drainage and debris except that where only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 60 feet (18 288 mm) and up to 120 feet (36 576 mm) in vertical height, one terrace at approximately midheight shall be 12 feet (3658 mm) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36 576 mm) in height shall be designed by the civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of 5 percent and must be paved with reinforced concrete not less than 3 inches (76 mm) in thickness or an approved equal paving. They shall have a minimum depth at the deepest point of 1 foot (305 mm) and a minimum paved width of 5 feet (1524 mm).

A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1254.2 m<sup>2</sup>) (projected) without discharging into a down drain.

**3315.3 Subsurface Drainage.** Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.

**3315.4 Disposal.** All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the building official or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of nonerosive down-drains or other devices.

Building pads shall have a drainage gradient of 2 percent toward approved drainage facilities, unless waived by the building official.

**EXCEPTION:** The gradient from the building pad may be 1 percent if all of the following conditions exist throughout the permit area:

1. No proposed fills are greater than 10 feet (3048 mm) in maximum depth.
2. No proposed finish cut or fill slope faces have a vertical height in excess of 10 feet (3048 mm).
3. No existing slope faces steeper than 1 unit vertical in 10 units horizontal (10% slope) have a vertical height in excess of 10 feet (3048 mm).

**3315.5 Interceptor Drains.** Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet (12 192 mm) measured horizontally. Interceptor drains shall be paved with a minimum of 3 inches (76 mm) of concrete or gunite and reinforced. They shall have a minimum depth of 12 inches (305 mm) and a minimum paved width of 30 inches (762 mm) measured horizontally across the drain. The slope of drain shall be approved by the building official.

## SECTION 3316 — EROSION CONTROL

**3316.1 Slopes.** The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

**3316.2 Other Devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

## SECTION 3317 — GRADING INSPECTION

**3317.1 General.** Grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Section 3317.5 for engineered grading and as required by the building official for regular grading.

**3317.2 Civil Engineer.** The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

**3317.3 Soils Engineer.** The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

**3317.4 Engineering Geologist.** The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of

the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

**3317.5 Permittee.** The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

**3317.6 Building Official.** The building official shall inspect the project at the various stages of work requiring approval to determine that adequate control is being exercised by the professional consultants.

**3317.7 Notification of Noncompliance.** If, in the course of fulfilling their respective duties under this chapter, the civil engineer, the soils engineer or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official.

**3317.8 Transfer of Responsibility.** If the civil engineer, the soils engineer, or the engineering geologist of record is changed during grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the building official in writing of such change prior to the recommencement of such grading.

## SECTION 3318 — COMPLETION OF WORK

**3318.1 Final Reports.** Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is performed for regular grading, as applicable.

1. An as-built grading plan prepared by the civil engineer retained to provide such services in accordance with Section 3317.5 showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and of the outlets of subsurface drains. As-constructed locations, elevations and details of subsurface drains shall be shown as reported by the soils engineer.

Civil engineers shall state that to the best of their knowledge the work within their area of responsibility was done in accordance with the final approved grading plan.

2. A report prepared by the soils engineer retained to provide such services in accordance with Section 3317.3, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved soils engineering investigation report. Soils engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions of this chapter.

3. A report prepared by the engineering geologist retained to provide such services in accordance with Section 3317.5, including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved engineering geologist report and applicable provisions of this chapter.

4. The grading contractor shall submit in a form prescribed by the building official a statement of conformance to said as-built plan and the specifications.

**3318.2 Notification of Completion.** The permittee shall notify the building official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved grading plan, and the required reports have been submitted.

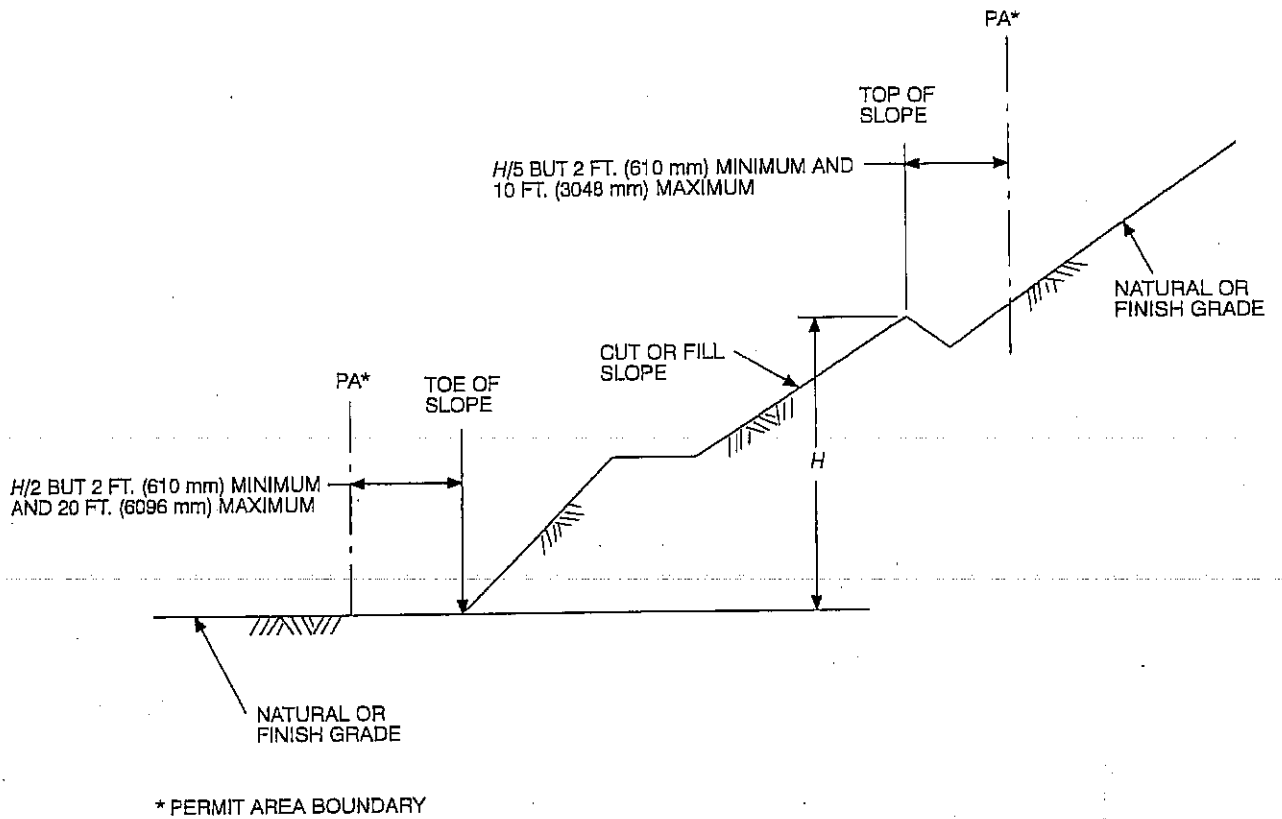


FIGURE A-33-1—SETBACK DIMENSIONS

## V. UTILITIES



**V A. UTILITY GENERAL REQUIREMENTS**

The Public Works Department typically reviews plans for conformance to accepted standards for road design, encroachments in right of way and grading/drainage considerations. Adequacy of fire flows, potable water and sewer utilities, appurtenances including pressure flow analyses or capacities, street light layout or signal light plans will be reviewed by the Gateway CSA. If this is not possible an outside, independent plan checking service may be employed on behalf of the CSA to perform this at developer expense.

**V B. WATER GENERAL NOTES (TYPICAL)**

Check with related water agency (Gateway of the Americas CSA) for additional specific water notes

1. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE MOST CURRENT EDITION OF THE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION. CONTRACTOR SHALL HAVE A CURRENT COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
2. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE CONSTRUCTION MEETING WITH THE CSA DISTRICT'S INSPECTOR.
3. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF COUNTY AND CSA INSPECTOR. INSPECTOR'S SCHEDULING MUST BE 24-48 HOURS IN ADVANCE OF WORK.
4. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 36-INCHES MINIMUM BELOW CENTERLINE OF FINISH GRADE OF STREET.
5. INSTALL A WATER SERVICE TO EACH LOT SIZE AND TYPE PER GATEWAY CSA. METER TO BE LOCATED 5-FEET FROM A SIDE LOT LINE. THE LETTER "W" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL WATER SERVICE CROSSINGS. SIZES WILL NOT BE LESS THAN 1 1/2" HIGH AND 3/16" DEEP.
6. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS AND BLOW-OFFS AT ALL LOW POINTS IN THE WATER MAIN PROFILE. FIRE HYDRANTS MAY BE USED IN LIEU OF MANUAL AIR RELEASE OR BLOW-OFF WHEN LOCATED AT OR NEAR HIGH OR LOW POINTS, AS APPROVED BY THE CSA REPRESENTATIVE.
7. UNLESS OTHERWISE NOTED, CONNECTION TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE CSA. CSA SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
8. CONTRACTOR SHALL COORDINATE WITH CSA ALL ARRANGEMENTS FOR HIGH-LINING TEMPORARY SERVICES, ETC., PRIOR TO SHUTDOWNS. NO SHUTDOWNS WILL BE SCHEDULED ON A FRIDAY.
9. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED ON THE PROLONGATION OF THE STREET RIGHT-OF-WAY WHENEVER POSSIBLE.

10. FIRE HYDRANTS, AS APPROVED BY THE APPROPRIATE FIRE MARSHALL AND MEETING THE CSA STANDARD SPECIFICATIONS, ARE TO BE INSTALLED AT LOCATIONS SPECIFIED BY THE FIRE MARSHALL.
11. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE CSA PRIOR TO CONSTRUCTION.
12. ALL EXISTING FACILITIES, WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS, OR UTILITIES WITHIN 10-FEET OF PROPOSED WATER MAINS, SHALL BE SHOWN ON IMPROVEMENT PLANS.
13. ALL WATER SERVICES FOR IRRIGATION, MULTIPLE RESIDENTIAL COMPLEXES (IF APPLICABLE) AND COMMERCIAL OR INDUSTRIAL DEVELOPMENTS SHALL HAVE AN APPROVED BACKFLOW PREVENTION DEVICE ON CUSTOMER'S SIDE OF WATER METER.
14. ~~THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPES, VALVES (CLOSED) AND APPURTENANCES.~~
15. CONTRACTOR TO TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
16. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4" MAXIMUM DEFLECTION PER COUPLING (2" PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.
17. THE CONTRACTOR SHALL FURNISH AND INSTALL, PER SPECIFICATION, THE APPROPRIATE BURIED UTILITY WARNING IDENTIFICATION TAPE AND METALLIC WIRE ABOVE ALL PUBLIC WATERLINES INCLUDING WATER AND FIRE LATERALS LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENT. IN ALL EASEMENTS, FLEXIBLE HIGH VISIBILITY IDENTIFICATION MARKERS ARE ADDITIONALLY REQUIRED PER CSA REQUIREMENTS.
18. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE OF THE WORK BY THE CSA AND COUNTY AND SHALL REPAIR OR REPLACE ANY OR ALL SUCH WORK, TOGETHER WITH ANY OTHER WORK WHICH MAY BE DISPLACED IN SO DOING, THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE 1 YEAR PERIOD FROM DATE OF ACCEPTANCE WITHOUT EXPENSE WHATSOEVER TO THE CSA AND THE COUNTY, ORDINARY WEAR AND TEAR, UNUSUAL ABUSE OR NEGLIGENCE EXCEPTED.

V C POTABLE WATER SPECIFICATIONS

1. STANDARDS – STANDARD TO BE USED SHALL MEAN THOSE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION IN EFFECT ON JANUARY 1, 1999. SAID STANDARDS ARE AVAILABLE FROM THE BOOKSTORE OF SAID ASSOCIATION, 6666 W. QUINCY AVENUE, DENVER, CO 80235 (800) 926-7337.
2. MATERIALS OF CONSTRUCTION – ALL WATER PIPE, FITTINGS AND APPURTENANCES CALLED FOR IN THESE CONTRACT DOCUMENTS SHALL CONFORM TO THE FOLLOWING STANDARDS, THOSE OTHER STANDARDS THEREIN REFERENCED AND THESE SPECIAL PROVISIONS.
  - A. PIPE: AWWA C-900 AND C-905. PIPE 12 INCHES AND SMALLER SHALL BE CLASS 150, DR-18; LARGER PIPE SHALL BE 235 PSI, DR-18. ALL PIPES SHALL HAVE BELL AND SPIGOT, ELASTOMERIC GASKETED JOINTS. PIPE SHALL BE SUPPLIED WITH AN AFFIDAVIT OF COMPLIANCE.
  - B. FITTINGS: AWWA C-153 AND C-104. FITTINGS SHALL BE CEMENT-MORTAR LINED. UNLESS OTHERWISE SHOWN OR INDICATED BY THE CONTRACT DRAWINGS, ~~BENDS SHALL BE FURNISHED WITH MECHANICAL JOINT ENDS; TEES AND CROSSES SHALL BE FURNISHED WITH FLANGED JOINT ENDS.~~ FLANGE TO MECHANICAL JOINT ADAPTERS SHALL BE FURNISHED TO CONNECT PIPE TO TEES AND CROSSES WHERE VALVES DO NOT OCCUR. GLANDS SHALL BE OF THE SAME MANUFACTURER AS FITTINGS.
  - C. GATE VALVES: AWWA C-509. VALVES 12 INCHES AND SMALLER SHALL BE RESILIENT-SEALED GATE, FUSION-BONDED EPOXY COATED INSIDE AND OUT; AND, UNLESS OTHERWISE SHOWN OR INDICATED BY THE CONTRACT DRAWINGS, SHALL BE FURNISHED WITH A MECHANICAL JOINT ONE END AND A FLANGED JOINT THE OTHER. VALVES, WHEN CLOSED, SHALL PROVIDE A BUBBLE-TIGHT SEAL AGAINST LEAKAGE AND SHALL BE OF THE TYPE AND DESIGN THAT ALLOWS REPLACEMENT OF ALL INTERNAL PARTS WITHOUT REMOVING THE VALVE BODY FROM THE PIPELINE. ALL INTERNAL PARTS SHALL BE MATERIALS SUITABLE FOR EXPOSURE TO WATER CONTAINING CHLORINE AS A DISINFECTANT AT VARIOUS CONCENTRATIONS. VALVES SHALL BE SUPPLIED WITH AN AFFIDAVIT OF COMPLIANCE.
  - D. BUTTERFLY VALVES: AWWA C-504. VALVES LARGER THAN 12 INCHES SHALL BE RESILIENT SEATED BUTTERFLY, FUSION-BONDED EPOXY COATED INSIDE AND OUT; AND, UNLESS OTHERWISE SHOWN OR INDICATED BY THE CONTRACT DRAWINGS, SHALL BE FURNISHED WITH A MECHANICAL JOINT ONE END AND A FLANGED JOINT THE OTHER END. THE CONTRACTOR MAY, IN LIEU OF THE MECHANICAL JOINT, PROVIDE A FLANGED JOINT WITH A FLANGED BY MECHANICAL JOINT ADAPTER. ALL INTERNAL PARTS, INCLUDING THE RESILIENT SEAL, SHALL BE OF MATERIALS SUITABLE FOR EXPOSURE TO WATER CONTAINING CHLORINE AS A DISINFECTANT AT VARIOUS CONCENTRATIONS. VALVES SHALL, WHEN CLOSED, PROVIDE A BUBBLE-TIGHT SEAL AGAINST LEAKAGE AND SHALL BE SUPPLIED WITH AN AFFIDAVIT OF COMPLIANCE.
  - E. DOMESTIC MANUFACTURERS: ALL PIPEFITTINGS AND VALVES SHALL BE THE PRODUCT OF A DOMESTIC (USA) MANUFACTURER.
  - F. FIRE HYDRANTS: AWWA C-503. FIRE HYDRANTS SHALL BE OF THE WET-BARREL TYPE EQUIPPED WITH A BREAK-OFF CHECK VALVE, ALL EQUAL TO THAT

CALLED OUT IN THE CONTRACT DRAWINGS. THE BURY-ELL, RISERS AND DOUBLE GROOVED BREAK-OFF SPOOLS SHALL BE OF EPOXY COATED INSIDE, DUCTILE IRON. ALL BOLTS USED IN THE FIRE HYDRANT ASSEMBLY SHALL BE OF APPROVED STAINLESS STEEL.

THE BURY-ELL SHALL BE SUPPLIED WITH A MECHANICAL JOINT INLET AND FOR CONNECTION OF THE PIPE AND INSTALLATION OF JOINT RESTRAINT DEVICE. ALL HYDRANTS SHALL BE FURNISHED WITH OUTLET CAPS WITH CHAIN AND AN AFFIDAVIT OF COMPLIANCE.

- G. BOLTS: ALL BOLTS USED FOR INSTALLATION OF UNDERGROUND FITTINGS AND VALVES SHALL BE EITHER TEXLAN COATED OR OF APPROVED STAINLESS STEEL.
- H. AIR VALVES: AWWA C-512. ALL AIR-RELEASE VALVES, AIR-VACUUM VALVES AND COMBINATION AIR VALVES SHALL BE OF CAST-IRON BODY WITH INTERNAL PARTS OF STAINLESS STEEL, BUNA-M, DERLIN OR OTHER SIMILAR CORROSION RESISTANT MATERIALS, SUITABLE FOR EXPOSURE TO WATER CONTAINING CHLORINE AS A DISINFECTANT IN VARIOUS CONCENTRATIONS. AIR-VALVES SHALL BE EQUAL TO THAT CALLED OUT IN THE CONTRACT DRAWINGS.
- I. JOINT RESTRAINT DEVICES: ALL MECHANICAL JOINTS INCORPORATED INTO THE CONTRACT PROJECT SHALL BE FITTED WITH JOINT RESTRAINT DEVICES EQUAL TO THOSE MANUFACTURED BY EBA-IRON OF EASTLAND, TEXAS AND SOLD AS THE ~~2000 PV SERIES; INSTALLED IN FULL CONFORMANCE TO THE~~ MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL SERIES 1600 AND 2800 PIPE JOINT HARNESSSES ON A SUFFICIENT NUMBER OF JOINTS AWAY FROM THE JOINT RESTRAINT DEVICE TO INSURE AGAINST SEPARATION OF THE PIPE. A SOIL FRICTION OF 150 PSF MAY BE USED FOR CALCULATING THE NUMBER OF PIPE JOINTS TO WHICH A HARNESS MUST BE APPLIED. FOR 12-INCH PIPE, ALL JOINTS WITHIN 45 FT. MUST BE HARNESSSED; FOR 18-INCH PIPE, ALL JOINTS WITHIN 65 FT. MUST BE HARNESSSED.
- J. EPOXY COATINGS: AWWA C-550. EPOXY COATING CALLED FOR IN THESE SPECIAL PROVISIONS SHALL BE FUSION-BONDED AT THE FACTORY.
- K. PIPE BEDDING AND BACKFILL: GRANULAR MATERIAL FOR PIPE BEDDING AND PIPE ZONE BACKFILL TO NO LESS THAN 12 INCHES ABOVE TOP OF PIPE, SHALL CONSIST OF SAND FREE FROM CLAY OR ORGANIC MATERIAL, 90 TO 100 PERCENT PASSING THE NO. 4 SIEVE BUT NO MORE THAN 5 PERCENT PASSING THE NO. 200 SIEVE, HAVING A SAND EQUIVALENT OF NO LESS THAN 35. THE MATERIAL SHALL BE SUITABLE FOR THE COMPACTION METHODS USED TO OBTAIN NO LESS THAN 90% OF MAXIMUM RELATIVE DENSITY.
- L. CONCRETE: CONCRETE REQUIRED FOR THRUST BLOCKS SHALL BE TRANSIT MIXED, PORTLAND CEMENT CONCRETE, HAVING A SLUMP AT TIME PLACEMENT NOT EXCEEDING 6 INCHES AND CONTAINING SUFFICIENT CEMENT TO PROVIDE A COMPRESSIVE STRENGTH OF NO LESS THAN 2000 PSI IN 28 DAYS.
- 3. PIPELINE CONSTRUCTION - ALL WATER PIPE, FITTINGS AND APPURTENANCES CALLED FOR SHALL BE INSTALLED, DISINFECTED AND TESTED IN ACCORDANCE WITH THE FOLLOWING REFERENCED STANDARDS, THOSE OTHER STANDARDS THEREIN REFERENCED, THE WRITTEN RECOMMENDATIONS OF THE MANUFACTURER AND THESE SPECIAL PROVISIONS.
  - A. INSTALLATION: AWWA C-600 AND C-605. EXCESS EARTH FROM EXCAVATIONS SHALL BE REMOVED FROM THE ROADWAY SECTION AND DISPOSED OF. A TRACING WIRE AND APPROPRIATE UTILITY WARNING IDENTIFICATION TAPE SHALL BE PLACED IMMEDIATELY ABOVE THE PIPE

ZONE BACKFILL. THE TEST PRESSURE FOR PIPE STRENGTH AND LEAKAGE SHALL BE NO LESS THAN 150 PSI. IN ALL EASEMENTS, FLEXIBLE HIGH VISIBILITY IDENTIFICATION MARKERS ARE ADDITIONALLY REQUIRED.

- B. POLYETHYLENE WRAPPING: AWWA C-105. ALL FITTINGS AND APPURTENANCES INCLUDING BUT NOT LIMITED TO, VALVES, TEES, CROSSES, BENDS, TAPPED COUPLINGS, PIPE JOINT HARNESSSES, JOINT RESTRAINT DEVICES, AND JOINT ADAPTERS, SHALL BE ENCASED WITHIN A WRAPPING OF LOW-DENSITY, MINIMUM 10 MIL THICK, POLYETHYLENE SHEETING LOOSELY PLACED AND TAPED TO THE BODY OF THE CONNECTED PIPE(S).
  
- C. DISINFECTION: AWWA C-651. THE CONTRACTOR MAY EMPLOY ANY ONE OF THE DISINFECTION METHODS PROVIDED FOR, SUBJECT TO THE CSA ENGINEER'S REVIEW AND APPROVAL OF THE CONTRACTOR'S PROCEDURES, EQUIPMENT AND PROPOSED MEANS OF DISPOSING OF THE CHLORINATED WATER. THE DEVELOPER OR CONTRACTOR SHALL ARRANGE AND PAY FOR BACTERIOLOGICAL TESTING OF THE DISINFECTION EFFORTS. DISINFECTING SHALL CONTINUE UNTIL TESTING RESULTS ARE FOUND ACCEPTABLE TO THE CSA ENGINEER.
  
- D. COMPACTION TESTING: TESTING OF TRENCH BACKFILL FOR DENSITY SHALL BE NO LESS OFTEN THAN ONCE IN THE PIPE ZONE AND ONCE FOR EACH 24 INCHES OF DEPTH AT SPACING NOT TO EXCEED 150 FT. FAILING TEST SHALL BE RETESTED AFTER RECOMPACTION. RETESTING SHALL INCLUDE TWO ADDITIONAL TEST, ONE EACH LOCATED 50 FT. BOTH WAY FROM THE FAILING TEST LOCATION UNTIL ALL TESTS SHOW CONFORMING DENSITIES.
  
- E. VALVE BOXES: ALL VALVES SHALL BE INSTALLED WITH VALVE BOXES AS SHOWN OR CALLED FOR BY THE CONTRACT DRAWINGS.

V D. SEWER GENERAL NOTES (TYPICAL)

Check with related sewer agency (Gateway of the Americas CSA) for specific sewer notes.

UNLESS OTHERWISE INDICATED HEREIN, ALL WORK SHALL BE DONE ACCORDANCE WITH:

- A. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) LATEST APPROVED EDITION.
- B. THE REGIONAL SUPPLEMENTAL AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- C. THIS PROCEDURE MANUAL.

AND THE FOLLOWING SPECIAL PROVISIONS:

1. TRENCH WIDTH SHALL BE PER GATEWAY CSA STANDARDS UNLESS COUNTY ENCROACHMENT PERMIT ADDRESSES THIS.
2. PIPE AND BEDDING CONDITIONS SHALL BE PER GATEWAY CSA STANDARDS UNLESS ENCROACHMENT PERMIT ADDRESSES THIS.
3. ~~AFTER COMPLETION OF PIPE LAYING, ALL MAIN LINE SEWERS, SERVICE LATERAL AND STRUCTURE SHALL BE TESTED IN THE PRESENCE OF THE INSPECTOR. AIR PRESSURE TEST, PER SSPWC SECTION 306-1.4.1, AND MANDREL TEST, PER SECTION 306-1.212 SHALL BE USED UNLESS OTHERWISE DIRECTED BY THE INSPECTOR. FINAL ACCEPTANCE OF SEWER LINES MAY BE SUBJECT TO INTERNAL TELEVISION INSPECTION. IT WILL BE THE PERMITTEE'S RESPONSIBILITY TO PAY FOR THE COST OF THIS WORK.~~
4. THE CONSTRUCTION OF PCC SEWER MANHOLE, POURED-IN-PLACE MANHOLE BASES SHALL BE A MONOLITHIC POUR FINISHED COMPLETE AT TIME OF POUR, UNLESS OTHERWISE APPROVED.
5. THE CONSTRUCTION OF SEWER LATERAL PER GATEWAY CSA STANDARDS SHALL NOT DISCHARGE DIRECTLY INTO MANHOLE. A CLEANOUT SHALL BE INSTALLED APPROXIMATELY ONE FOOT OUTSIDE THE PROPERTY LINE.
6. ALL MAINS AND LATERALS SHALL BE CONSTRUCTED WITH 48 INCH MINIMUM COVER, PROVIDED THAT THE INVERT OF THE LATERAL AT THE PROPERTY LINE IS ABOVE THE SOFFIT LINE OF THE SEWER MAIN.
7. THE FINAL LOCATION AND ELEVATION OF SEWER AND WATER LATERALS SHALL BE SHOWN ON ORIGINAL PLANS, PRIOR TO ACCEPTANCE FOR PUBLIC USE.
8. ALL DESIGN CHANGES OF SEWER MAINS SHALL BE APPROVED BY THE CSA ENGINEER AND THE PUBLIC WORKS DIRECTOR IN WRITING PRIOR TO ACCEPTANCE FOR PUBLIC USE.
9. FILL AREAS MUST BE COMPACTED TO 90% PRIOR TO PIPE INSTALLATION.
10. THE CONTRACTOR SHALL NOTIFY THE CSA INSPECTION DEPARTMENT 48 HOURS IN ADVANCE OF BEGINNING WORK TO ARRANGE FOR INSPECTION OF PROJECT.
11. THE CONTRACTOR SHALL PURCHASE A PERMIT FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS AND THE CSA FOR ANY EXCAVATION OR ANY WORK WITHIN EXISTING COUNTY RIGHT-OF-WAY OR PUBLIC EASEMENT.

12. CONTRACT RECORD DRAWINGS MUST BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK. THEY MUST REFLECT POST CONSTRUCTION VERIFICATION OF PIPE LENGTHS AND INVERT ELEVATIONS.
13. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE OF THE WORK BY THE CSA AND COUNTY AND SHALL REPAIR OR REPLACE ANY OR ALL SUCH WORK, TOGETHER WITH ANY OTHER WORK WHICH MAY BE DISPLACED IN SO DOING, THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE 1 YEAR PERIOD FROM DATE OF ACCEPTANCE WITHOUT EXPENSE WHATSOEVER TO THE CSA AND THE COUNTY, ORDINARY WEAR AND TEAR, UNUSUAL ABUSE OR NEGLIGENCE EXCEPTED.
14. THE CONTRACTOR SHALL FURNISH AND INSTALL, PER SPECIFICATIONS, THE APPROPRIATE BURIED UTILITY WARNING IDENTIFICATION TAPE AND METALLIC TRACING WIRE ABOVE ALL PUBLIC SEWER LINES INCLUDING SEWER LATERAL LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENT. IN ALL EASEMENTS, FLEXIBLE HIGH VISIBILITY IDENTIFICATION MARKERS ARE ADDITIONALLY REQUIRED PER CSA REQUIREMENTS.
15. AT ALL MANHOLES, THE MINIMUM FALL ACROSS MANHOLES SHALL BE 0.1 FT. ~~RIGHT ANGLES LARGER THAN 45 DEGREES, ALLOW 0.2 FT. OF FALL.~~

V E. **SANITARY SEWER SPECIFICATIONS**

1. STANDARD SPECIFICATIONS SHALL MEAN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION, PUBLISHED BY BUILDING NEWS, A DIVISION OF BNI PUBLICATIONS, INC., 1612 CLEMENTINE STREET, ANAHEIM, CA 92802, (714) 517-0970.
2. MATERIALS OF CONSTRUCTION – ALL SEWER PIPE, FITTINGS AND APPURTENANCES CALLED FOR IN THESE CONTRACT DOCUMENTS SHALL CONFORM TO THE FOLLOWING SECTIONS OF THE GREENBOOK, THOSE OTHER SECTIONS THEREIN REFERENCED AND THESE SPECIAL PROVISIONS.
  - A. PIPE: 207-17.1 THROUGH 207-17.6; EXCEPT, ALL PIPE INCLUDING PIPE IN SERVICE LATERAL, SHALL HAVE GASKETED JOINTS. ALL PIPES SHALL BE THE PRODUCT OF A DOMESTIC (USA) MANUFACTURER.
  - B. MANHOLES: MANHOLES SHALL BE OF REINFORCED, PRECAST CONCRETE SECTIONS, CONES AND GRADE RINGS CONFORMING TO ASTM C-748, INSTALLED ON CAST-IN-PLACE CONCRETE FOUNDATIONS. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF NO LESS THAN 4000 PSI. ALL MANHOLE JOINTS, INCLUDING THE JOINT BETWEEN THE FIRST SECTION AND FOUNDATION, SHALL BE OF THE TONGUE AND GROOVE DESIGN. MANHOLES SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE STEPS, FACTORY INSTALLED AT 12 INCHES ON CENTERS.
  - C. MANHOLE JOINT SEALANT: ALL JOINTS IN MANHOLES SHALL BE SEALED WITH A PREFORMED JOINT SEALANT OF BUTYL RUBBER EQUAL TO CPS-210 MANUFACTURED BY THE PRESS-SEAL GASKET CORPORATION, CONCRETE PRODUCTS SUPPLY COMPANY, FORT WAYNE, IN. 46804.
  - D. MANHOLE COATING: ALL EXPOSED, INTERIOR CONCRETE SURFACES OF MANHOLES SHALL BE COATED WITH NO LESS THAN TWO – 10 MIL THICK COATS OF A COAL-TAR EPOXY EQUAL TO KOPPERS BITUMASTIC 300-M.
  - E. PIPE BEDDING: 200-1.2 AND TABLE 200-1.2 (A) AS CALLED FOR IN TABLE 306-1.2.13(B).
  - F. MANHOLE FRAME AND COVER SETS: 206-3.1 THROUGH 206-3.6. COVERS SHALL BE EQUAL TO THOSE CALLED FOR IN THE CONTRACT DRAWINGS, SHALL BE MARKED “SEWER” AND SHALL INCLUDE A ¾” PICK HOLE.
3. PIPELINE CONSTRUCTION – ALL SEWER PIPE, FITTINGS AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE FOLLOWING REFERENCED, THE WRITTEN RECOMMENDATIONS OF THE MANUFACTURER AND THESE SPECIAL PROVISIONS.
  - A. INSTALLATION: 3.06-1.1 THROUGH 306-1.6: EXCEPT, COMPACTION OF TRENCH BACKFILL, INCLUDING PIPE ZONE BACKFILL, SHALL BE AS CALLED FOR BY THE PLANS AND OR AS SUPERCEDED BY THE COUNTY ENCROACHMENT PERMIT PROVISIONS. EACH MANHOLE SHALL BE INDEPENDENTLY TESTED FOR WATER EXFILTRATION. THERE SHALL BE NO MEASURABLE LEAKAGE FROM MANHOLE WHEN TESTED WITH A HEAD OF WATER NO LESS THAN 4 FEET ABOVE THE ADJACENT GROUNDWATER LEVEL OR 4 FEET ABOVE THE TOP OF PIPE, WHICHEVER PROVIDES THE GREATER HEAD. THE CONTRACTOR SHALL PROVIDE ALL TESTING EQUIPMENT AND DEVICES INCLUDING ALL



MEASURING DEVICES. THE CONTRACTOR SHALL ALSO PROVIDE ALL EQUIPMENT AND PERFORM ALL OPERATIONS REQUIRED TO MANDREL ALL PIPES.

- B. COMPACTION TESTING: TESTING OF TRENCH BACKFILL FOR DENSITY SHALL BE NO LESS OFTEN THAN ONCE IN THE PIPE ZONE AND ONCE FOR EACH 24 INCHES OF DEPTH AT SPACINGS NOT TO EXCEED 150 FT. FAILING TESTS SHALL BE RETESTED AFTER RECOMPACTION. RETESTING SHALL INCLUDE TWO ADDITIONAL TESTS, ONE EACH LOCATED 50 FT. BOTH WAYS FROM THE FAILING TEST LOCATION UNTIL ALL TESTS SHOW CONFORMING DENSITIES.
  
- C. THE CONTRACTOR SHALL FURNISH AND INSTALL THE APPROPRIATE BURIED UTILITY WARNING IDENTIFICATION TAPE AND METALLIC TRACING WIRE ABOVE ALL PUBLIC SEWER LINES INCLUDING SEWER LATERAL LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENT. WITHIN ALL EASEMENTS, FLEXIBLE HIGH VISIBILITY IDENTIFICATION MARKERS ARE ADDITIONALLY REQUIRED.

V F. WATER PLANT

The water treatment and distribution system has been constructed in phases determined by the rate of development within the Gateway CSA. Initially, the first phase consists of the construction of a 130,000-gallon per day (GPD) package water treatment plant, consisting of modular units that can be expanded up to the ultimate plant capacity of 1.0 million gallons per day (MGD). The design engineer has estimated water demand to be 700 GPD/acre. Based on the Gateway Spa Land Use Plan, the total area designated for commercial use is 281 acres and for industrial use is 1,140 acres for a total of 1,421 Acres. At ultimate buildout, which is predicted to occur in 30 years, the ultimate water demand will be 994,700 GPD.

The treated water is stored in two tanks; a 500,000 – gallon bolted steel tank and a 1,000,000 gallon welded tank. From these tanks the water is then pumped into the distribution system by a syncro-flow 1800-GPM four-pump station. The operating pressure for the system is 80-85 PSI. The water treatment plant provides potable water for public use for the Gateway of the Americas SPA.

The mainline leaving the plant is an 18” diameter pipe.

Important Note:

It is the responsibility of each developer to ensure the existing water distribution system is capable of supplying their development. Complete engineering calculations should be provided to ensure adequate supply fire flow in buildings as well as fire hydrant pressure is maintained.

**VI. REQUIRED CHECKLISTS**  
**(Attachment A)**

September 14, 2004

To all Surveyors, Architects, Engineers, Developers and the General Public performing work in the County of Imperial:

**SUBJECT:** Public Works New Engineering Design Guidelines and Standards for Improvement Plans and Grading/Drainage Plans (Engineering); Encroachment Permits (Construction Engineering) and Survey Maps (Surveying); Revised September 14, 2004

Dear Sir or Madam:

Effective immediately the enclosed checklists will be required by this Department in order to process the above-mentioned plans and permits. Please also note that an "Engineering and Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County" is now available from the Public Works Department.

Any projects without complete submittals will be returned incomplete for processing.

Should you have any questions, please contact Gloria E. Moreno, Administrative Analyst II of this Department at (760) 482-4462.

Sincerely yours,

Timothy B. Jones  
Director of Public Works

ff/ga

CC: Robertta Burns, County Executive Officer  
Jurg Heuberger, Imperial County Planning Director

**County of Imperial Department of Public Works  
Initial Submittal Application and Checklist  
For  
Improvement and Site Development Plans**

<b>PROJECT INFORMATION</b>	DATE	REFERENCE NO. (TM, PM, CUP, ETC.)
PROJECT NAME / DESCRIPTION		LEGAL DESCRIPTION
BUILDING PERMIT NO.		ASSESSOR'S PARCEL NUMBER (APN)

<b>ENGINEER</b>		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

<b>APPLICANT</b>		
NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE & REFUNDS (UNLESS OTHERWISE NOTED)		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

<b>OWNER</b>		
NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE & REFUNDS (UNLESS OTHERWISE NOTED)		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

**1. IMPROVEMENT PLAN SUBMITTALS**

- \_\_\_\_\_ Cover letter or transmittal
- \_\_\_\_\_ Checklist completely filled out
- \_\_\_\_\_ Copy of an approved Tentative Map
- \_\_\_\_\_ Copy of Resolution of Approval with Conditions
- \_\_\_\_\_ 3 Bluelines of improvement plans
- \_\_\_\_\_ 3 Copies of Hydraulic and Hydrological calculations report
- \_\_\_\_\_ 3 Copies of other supporting calculations for water, sewer and pavement section (if applicable)
- \_\_\_\_\_ 3 Copies of Improvement plan quantity estimate
- \_\_\_\_\_ 2 Copies of Soils Report, current within one year of submittal

**2. GRADING / DRAINAGE PLANS**

- \_\_\_\_\_ Cover letter or transmittal
- \_\_\_\_\_ Checklist completely filled out
- \_\_\_\_\_ Copy of an approved Tentative Map (if applicable)
- \_\_\_\_\_ Copy of Resolution of Approval with Conditions (if applicable)
- \_\_\_\_\_ Copy of Building Permit application for grading
- \_\_\_\_\_ 2 Bluelines of grading plans
- \_\_\_\_\_ 3 Copies of Hydraulic and Hydrological calculations report
- \_\_\_\_\_ 2 Copies of Soils Report, current within one year of submittal (if applicable)

**3. PLAN CHECK FEE DEPOSIT**

Initial plan check will be performed by Department staff and/or the Department's consultant plan checking service. Approximate turnaround time is 10 working days from submittal acceptance date, barring unusual circumstances and depending upon complexity and number of plan sheets. All plan checking and review of grading and improvement plans for Parcel Maps, Tract Maps, Conditional Use Permits and/or grading permits will be billed directly to the private developer/owner. A plan check deposit is required specifically for this by Public Works and will be billed against during the plan approval process. Minimum deposit for plan checking for the consultant plan checking service is \$1,000 for one-sheet grading permit plans, minor subdivisions with one-sheet grading only or minor CUPs. Minimum deposit for multi-sheet grading, minor subdivisions with multi-sheet grading or improvements, major subdivisions or major CUPs shall require a minimum of \$2,500. The Public Works Director may approve lower minimum plan check deposits depending upon circumstances. Please note that the final plan check and signoff is by the County.

Plan Check Deposit enclosed for Consultant plan checking service \_\_\_\_\_

**Encroachment Permit Information-** an Encroachment Permit is required for all improvements and work within County road right of way. Normally permits are processed AFTER plan approval by this Department, necessitating permit application by the applicant and several weeks of Department processing. Should the applicant elect to have the encroachment permit processed concurrently with the plans please indicate so below and include an \$85 basic permit fee as an initial deposit specifically for the encroachment permit. Please also completely fill out an Encroachment Permit Initial Submittal Checklist and also an Encroachment Permit Application. This Department will have the encroachment permit ready for issuance within seven (7) working days after approval of the plans provided all necessary instruments of Liability/Surety and Traffic Control have been submitted and approved.

**Choose one:** Process Encroachment Permit concurrently YES \_\_\_\_\_  
 NO \_\_\_\_\_

I, the undersigned Applicant, so verify that all items necessary for this project and checked above are attached. I understand that if any of the above required items, are not provided the Department reserves the right to reject the submittal without performing any plan checks. Receipt of submittal package does not guarantee acceptance for plan checking. If submittal is deemed incomplete, notification to applicant and engineer within one working day by fax and telephone will be made indicating unchecked submittal is available for pick up.

---

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Name Printed or Typed**

<b>For County Use Only</b>		
<b>Date Received:</b>	<b>Date accepted for processing:</b>	<b>Accepted for processing Yes No</b>
<b>By: Print</b>	<b>Signature:</b>	<b>Date:</b>

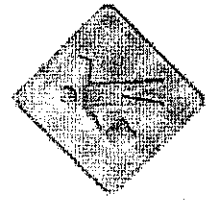
**COUNTY OF  
IMPERIAL**

**PUBLIC WORKS  
DEPARTMENT**

**ENCROACHMENT**

**PERMITS**

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**ONE OF THE MOST IMPORTANT  
THINGS TO REMEMBER BEFORE  
DIGGING IN THE PUBLIC RIGHT-OF-  
WAY**

You want to remember the following points before digging in the public right-of-way:

Delineate the site: it is suggested that the proposed excavation site be outlined with white paint or stakes.

Call before you dig: Section 4216/4217 of California Government Code requires a Dig/Alert Identification Number be issued before a "permit to excavate" is valid. To obtain a Dig Alert Identification Number, call underground Service Alert at TOLL FREE 1-800-227-2500, no sooner than fourteen and no later than two days prior to commencing excavation activities.

Everyone must call DigAlert, not just professionals. Calling is just as important for property owners as it is for plumbers, electricians, contractors, landscapers, swimming pool builders or anyone else.

Benefits of obtaining DigAlert Number: Planned excavation can proceed with confidence because underground facilities have been marked as required by law. Disruption of service, accidents, injuries or unnecessary repair costs may be prevented.

Large fines are levied against contractors or individuals who fail to notify Dig-Alert and subsequently damage underground facilities during excavation.

If you have any questions about encroachment permits, please call (760) 482-4462 or write to : Imperial County Department of Public Works 155 S. 11<sup>th</sup> Street, El Centro, CA 92243

**OTHER INFORMATION AVAILABLE**

Oversized vehicle transportation permits. Schedule of solid waste facilities hours of operations and fees.

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**COUNTY OF IMPERIAL  
PUBLIC WORKS DEPARTMENT**  
155 S. 11<sup>th</sup> Street  
El Centro, CA 92243  
(760) 482-4462 Phone  
(760) 352-1272 FAX

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*September 2003*

g:\road\encroach\flyer\digalert



**HOW TO APPLY FOR AN ENCROACHMENT PERMIT**

**WHEN IS AN ENCROACHMENT PERMIT REQUIRED?**

An encroachment permit is required from the County Department of Public Works when work is done within the public right-of-way, County owned land and/or within County easement/right-of-way(s). Encroachment permits are not issued for work done on private property. This type of work is handled through the Planning and Building Department. However, where work to be performed within a County right-of-way(s) easement, which is on private property, the permit application would be handled through the County Public Works Department with input from the Planning and Building Department.

**WHAT DOES AN ENCROACHMENT PERMIT CONSIST OF?**

Encroachment permits are comprised of three different sections: the request, general and special conditions and date of completion. The three sections are self-explanatory; the County Public Works Department must issue a permit number and execute the document before a permit is considered valid. Only licensed contractors, utility agencies, or private homeowners doing work to improve their own property may be issued a permit.

**HOW LONG IS AN ENCROACHMENT PERMIT VALID?**

The length of time that a permit is valid is generally six months, but can vary. If an extension of time is desired, there is a nominal fee and it must be requested before the permit expires. Once the permit expires, a new encroachment permit application must be filed. The County Department of Public Works can elect to issue permits for longer periods of time such as annual permits. Annual permits, which are issued to utility companies on occasion, all expire on December 31<sup>st</sup> of the year the permit was issued.

**HOW MUCH DOES A PERMIT COST?**

The cost of an encroachment permit varies depending upon the type and cost of the improvements being constructed. The basic fee for a permit is \$85.00. A fee schedule is available from the County Department of Public Works to calculate the cost for specific permits.

**WHERE DO I APPLY FOR AN ENCROACHMENT PERMIT?**

Encroachment permits can be obtained from the Imperial County Public Works Department, 155 S. 11<sup>th</sup> Street, El Centro, CA 92243 on weekdays, between 8:00 a.m. and 5:00 p.m. or call (760) 482-4462.

**WHAT ELSE DO I NEED IN ORDER TO COMPLY WITH ENCROACHMENT PERMIT CONDITIONS?**

In order to issue a valid encroachment permit, the County Department of Public Works will typically require insurance in many instances where the County Road Commissioner determines the public is at risk from the work being performed. A traffic control plan will be required if the work site substantially impacts traffic conditions. The traffic control plan will be required to meet the standards set forth in the State of California Manual of Traffic Controls, a copy of which can be obtained from B.N.I. Publications, 1612 South Clementine, Anaheim, CA 92802 or call (800) 873-6397



**County of Imperial Department of Public Works  
Initial Submittal Checklist  
For  
Encroachment Permits**

<b>PROJECT INFORMATION</b>	DATE	REFERENCE NO. (TM, PM, CUP, ETC.)
PROJECT NAME / DESCRIPTION		LEGAL DESCRIPTION
BUILDING PERMIT NO.	ASSESSOR'S PARCEL NUMBER (APN)	

<b>ENGINEER</b>		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

<b>APPLICANT</b>		
<small>NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE &amp; REFUNDS (UNLESS OTHERWISE NOTED)</small>		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

<b>OWNER</b>		
<small>NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE &amp; REFUNDS (UNLESS OTHERWISE NOTED)</small>		
NAME		
ADDRESS		
CITY / STATE / ZIP CODE		
PHONE	FAX NUMBER	CONTACT PERSON

**1. ENCROACHMENT PERMIT CHECKLIST**

- \_\_\_\_\_ Application completely filled out
- \_\_\_\_\_ Copy of Planning Commission Approval with Conditions (if applicable)
- \_\_\_\_\_ 1 Blueline of improvement plans if coordinated through the Engineering Division
- \_\_\_\_\_ OR
- \_\_\_\_\_ 2 Bluelines of improvement plans if permit is processed separately
- \_\_\_\_\_ 1 Copy of improvement plan quantity estimate

**2. ENCROACHMENT PERMIT FEE DEPOSIT**

Encroachment permits include an \$85 basic permit fee that is required for initial processing. Additional fees include and Inspection Fee, Plan Check Fee which is separate from the plan check fees by the Engineering division and other fees as may be required in the Encroachment Permit Fees adopted by the County Board of Supervisors, Ordinance No. 1370. A copy is included in the permit application. One of the following must be checked:

Encroachment Permit **Deposit** for Processing \$85 \_\_\_\_\_ (check if attached)  
 \_\_\_\_\_ (check if provided with Improvement  
 and Site Development Plan submittal

During processing and prior to issuance of permit, applicant shall be notified of additional required fees to be paid.

**3. PERMIT PROCESSING TIMES**

Processing time varies with complexity of project and whether approval of engineering plans are required. If the project is reviewed through the engineering division the applicant can elect to have the encroachment permit processed concurrently with the plans. If this is done the Department can have the permit ready for issuance within seven (7) working days from the date the plans are approved for construction provided all necessary instruments of Liability/Surety and Traffic Control have been submitted and approved. Otherwise permits are normally processed AFTER plan approval. This necessitates permit application by applicant and several weeks of Department processing. If the encroachment permit does not require engineering plan approval, permit can be ready for issuance within seven (7) working days from the date of permit application acceptance provided all necessary instruments of Liability/Surety and Traffic Control have been submitted and approved. Please be advised that acceptance is determined after reviewing the application and that the application may be returned unaccepted if incomplete.

I, the undersigned Applicant, so verify that all items necessary for this project and checked above are attached. I understand that if any of the above required items, are not provided the Department reserves the right to reject the submittal without performing any permit processing. Receipt of submittal package does not guarantee acceptance for plan checking. If submittal is deemed incomplete, notification to applicant and engineer within one working day by fax and telephone will be made indicating unchecked submittal is available for pick up.

**Signature**

**Date**

**Name Printed or Typed**

<b>For County Use Only</b>		
<b>Date Received:</b>	<b>Date accepted for processing:</b>	<b>Accepted for processing Yes No</b>
<b>By: Print</b>	<b>Signature:</b>	<b>Date:</b>

**County of Imperial Department of Public Works**  
**Encroachment Permit Application Package**

(Ordinance No. 1370, adopted August 12, 2003 and effective September 11, 2003)

Following items are attached for your use in obtaining an Encroachment Permit from this Department:

1. Application for Encroachment Permit. (Required for all permits)
2. Encroachment Permit Fee Schedule.
3. Encroachment Permit informative brochure.
4. Hold Harmless/Indemnity Statement (required on case by case basis). Intended for projects which may subject the public to potential liability or harm.
5. Certificate of Liability Insurance Sample (required on case by case basis as mentioned in item 4 above). County, its employees and agents in conducting of Encroachment Permit field inspection and review duties shall be listed as additional insured on certificate. Dollar amount of general liability shall be provided as recommended by the County Road Commissioner/Director of Public Works in coordination with the County Risk Manager.

Following is a step by step summary of the Encroachment Permit Process:

1. Applicant submits an Encroachment Permit Application.
2. Public Works staff reviews information provided and proceeds as follows:
  - a. Review application and additional information for completeness, making recommendations/changes to meet this Department's requirements.
  - b. Check for any Conditions of Approvals or other requirements associated with the site, including, but not limited to; Conditional Use Permits, Parcel Maps, Zone Changes or Building Permits, etc.
  - c. Ensure Conditions of Approvals or other requirements such as Right-of-Way dedications, Grading and Drainage Plans/Studies or other Road Improvement Plans have been approved. If not, the applicant will be contacted and informed of outstanding items to be completed prior to issuance of the permit.
  - d. Determine the amount of permit fees and request fees from applicant. The applicant will be required to submit quantities and "take offs" along with drawings to expedite the process. This information provides data for determination of the required fees.
  - e. When item "C" and "D" above have been addressed, staff writes up permit and contacts applicant to provide Hold Harmless Agreement and Insurance Certificates (if required).
  - f. After the above items have been addressed and are completed, the Department sends the applicant the Encroachment Permit with attached conditions/stipulations. As Built Plans will be required in most cases.
3. After construction, and if the permit was made out to the contractor (on a large project), then the owner must obtain an Operation and Maintain Permit. This is a condition of the Construction Encroachment Permit. The fee is the "Basic Permit Fee", which is \$85.00 at the present time unless the fee schedule is updated.
4. Encroachment Permits are typically issued for a 6 month period. Time extensions may be granted as necessary for the current extension fee in effect.

Contact information as to status of Encroachment Permits can be directed to Mr. Bob Gray, Construction Engineer Coordinator of the Public Works Department at (760) 482-4462.

**APPLICATION FOR ENCROACHMENT PERMIT**  
(Ordinance No. 1370, adopted August 12, 2003 and effective September 11, 2003)

To the Imperial County Road Commissioner  
Imperial County, California

The undersigned hereby applies for permission to excavate, construct and/or otherwise encroach on County right-of-way by performing the following work:

\_\_\_\_\_  
\_\_\_\_\_

Attach sketch or submit detailed plans. Engineered plans may be required depending upon complexity and type of work. Attach quantity estimate of improvement for fee calculation. Attach scope of work.

Work will take place at the following location/address \_\_\_\_\_

\_\_\_\_\_

\*Required if encroachment is for a specific property.

\*Reference No.: (CUP, PM, etc.) \_\_\_\_\_

\*Assessors Parcel No. \_\_\_\_\_

Owner of Improvement, address, and phone number:

\_\_\_\_\_  
\_\_\_\_\_

And agrees to do the work in accordance with your terms, conditions, restrictions, rules and regulations and subject to your inspection and approval.

Date work to be completed: \_\_\_\_\_

Amount of Bond (Cashier's Check, Certified Check or Surety Bond) Recommended by Road Commissioner (To be completed by Department).

\$ \_\_\_\_\_

<p>Applicant will print or type name _____</p> <p>Address: _____</p> <p>_____</p> <p>_____</p> <p>Phone/fax: _____</p>	<p>_____</p> <p>Date _____ Signature of Applicant _____</p>
--	---

## ENCROACHMENT PERMIT APPLICATION ATTACHMENT

(Effective September 11, 2003)

Quantity Estimate Note: A quantity estimate of all items within public road right of way must be provided. The estimate shall be prepared by a licensed engineer. The only exception is if the encroachment is for a single residential driveway access, unless otherwise accepted by the Road Commissioner. The estimate should be attached to the Encroachment Permit Application. Public Works staff shall review the estimate and compare as necessary to the approved plans. If there is any difference in interpretation from staffs calculation and the estimate resulting in staffs determination that the quantity is greater than shown in the estimate, the engineer will be contacted to provide more detail to staff. If staff cannot agree, the Road Commissioner or his designee shall have the final decision in quantity to be used for permit fee calculations.

Sufficient breakdown of both, dry and wet utility line crossings at roadways and lines paralleling roads are primarily required, additionally, lineal footage of curbs, gutters, and sidewalks; driveway width and whether residential or commercial/industrial should be made. If the project includes roadwork, include square yardage of asphalt to be placed. Estimate should be broken down in a manner that is easy to compare with the approved plans. All appurtenances including, fire hydrants, valves, meters, manholes, catch basins, etc. must also be itemized.

Scope of Work Note: A brief concise written scope of work of all proposed encroachments into public right-of-way must be included in the application. This detailed summary can be written in one or two paragraphs.

PERMITTEE

**COUNTY OF IMPERIAL  
DEPARTMENT OF PUBLIC WORKS**

ENCROACHMENT PERMIT FEES EFFECTIVE September 11, 2003  
Per Ordinance No. 1370 Adopted August 12, 2003

**ESTIMATED FEE**

**A. BASIC PERMIT FEE (NON-REFUNDABLE)**

**\$85.00**

In addition to the basic permit fee, the following will apply:

**B. Inspection fee (non-refundable)**

Plow trench (longitudinal, shoulders)

000 - 500' → \$0.20 linear foot, minimum \$ 100.00 \_\_\_\_\_ ft. \$

501'-1000' → \$0.10 ea. Additional foot over 500' \_\_\_\_\_ ft. \$

1001'-4000' → \$0.05 ea. Additional foot over 1000' \_\_\_\_\_ ft. \$

over 4000' → \$0.03 ea. Additional foot over 4000' \_\_\_\_\_ ft. \$

Open trench (longitudinal, shoulders)

000 - 500' → \$0.25 linear foot, minimum \$50.00 \_\_\_\_\_ ft. \$

over-500' → \$0.15 ea. Additional foot over 500' \_\_\_\_\_ ft. \$

Underground road crossing (Longitudinal and Perpendicular)

Paved road trench → \$3.00 linear foot, minimum \$200.00 \_\_\_\_\_ ft. \$

boring/jack → \$1.00 linear foot, minimum \$100.00 \_\_\_\_\_ ft. \$

Unpaved rd. → \$2.00 linear foot, minimum \$100.00 \_\_\_\_\_ ft. \$

Driveway

→ commercial, \$100.00 minimum per driveway # \_\_\_\_\_ \$

→ residential \$85.00 minimum per driveway # \_\_\_\_\_ \$

inspection fee subtotal (total of all B.)

\$ \_\_\_\_\_

**C. Plan check fee (non-refundable)**

50% of inspection fee or \$85.00 minimum.

\$ \_\_\_\_\_

**D. Blanket permit \$7.50 per location in reporting period # location \_\_\_\_\_**

\$ \_\_\_\_\_

**E. Any unusual permit can require a deposit for estimated inspection time at the option of the Director of Public Works. A final billing will be made upon completion of all work. A refund will be made or additional charges assessed at that time. See attached breakdown of estimate.**

\$ \_\_\_\_\_

**F. Work done without a permit, except as authorized under emergency**



circumstances, will be charged at double the above fees.

\$ \_\_\_\_\_

G. Reactivating an expired permit or extending the completion time period will have an additional \$50.00 fee.

\$ \_\_\_\_\_

H. Public agency applicants for either a routine permit or a major or blanket permit may elect to have the routine permit billed to them for an additional charge of \$15.00 per permit.

\$ \_\_\_\_\_

Grand total permit fees (total of A through H)

\$ \_\_\_\_\_

Work order # _____	date approved _____	approved by _____
inspection by construction _____	field _____	trust fund permit yes _____ no _____

**LIABILITY FOR DAMAGES:** \_\_\_\_\_ hereinafter referred to as "the Permittee," is responsible for all liability for personal injury or property damage which may arise out of work herein permitted, or which may arise out of failure on the Permittee's part to perform his obligations under this permit in respect to maintenance or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or at any subsequent time work is being performed under the obligations provided and contemplated by the permit. The Permittee shall be responsible for any liability imposed by law for injuries to or death of any person, including but not limited to the Permittee, persons employed by the Permittee, persons acting in behalf of the Permittee or damages to property arising out of work permitted and done by the Permittee under a permit.

By acceptance of receipt of this encroachment permit the Permittee agrees to indemnify and save harmless the County of Imperial and all officers, agents and employees thereof, including but not limited to the Board of Supervisors and the Director of Public Works, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the Permittee, person employed and/or contracted by the Permittee, persons acting on behalf of the Permittee and the public or damage to property resulting from the performance of work under the permit, or arising out of the failure on the Permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or at any subsequent time work is being performed under the obligations provided and contemplated by the permit, except as otherwise provided by statute. The duty of the Permittee to indemnify and save harmless includes the duties to defense as set forth in California Civil Code §2778. The Permittee waives any and all rights to any type of express or implied indemnity against the County of Imperial, its officers or employees.

It is the intent of the County of Imperial and the Permittee that the Permittee will indemnify and save harmless the County of Imperial, its officers and employees from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the party of the Permittee, persons employed and/or contracted by the Permittee or persons acting on behalf of the Permittee.

**RESPONSIBILITY FOR DAMAGES:** The County of Imperial and all officers, agents and employees thereof, including but not limited to the Board of Supervisors and the Director of Public Works, shall not answer to, nor be held accountable in any manner for, the following: injury to or death of any person, including but not limited to the Permittee, persons employed by the Permittee or persons acting in behalf of the Permittee; or damage to property from any cause which might have been prevented by the Permittee, those persons employed by the Permittee or persons acting on behalf of the Permittee.

**INSURANCE:** This permit shall not be effective for any purpose unless and until the Permittee files with the County of Imperial, as the grantor, an insurance policy which shall have limits

in the amount of no less than \_\_\_\_\_ dollars (\$\_\_\_\_\_) and a deductible amount of no greater than \_\_\_\_\_ dollars (\$\_\_\_\_\_) (\*Please note- The Insurance amounts stated above shall be determined on an individual permit basis by the Imperial County Risk Management Department). The County of Imperial, its officers, agents and employees shall be expressly listed as named insured under this insurance policy and the policy shall provide coverage for general negligence claims and for claims of errors and omissions. The Permittee shall be responsible to keep this insurance policy in full force and effect until final completion of the work contemplated in the request for an encroachment permit. The cost of any and all premiums for this insurance policy shall be borne by the Permittee. In the event of claims against the policy, the Permittee shall be responsible for payment of any deductible amounts. A Certificate of Insurance shall be provided to the Director of Public Works for the County of Imperial and shall verify that the insurance coverage may not be cancelled without thirty (30) days written notice to the Director of Public Works for the County of Imperial.

STATEMENT OF ACCEPTANCE OF THE CONDITIONS FOR ISSUANCE OF THE ENCROACHMENT PERMIT: I have read and understand each of the conditions set forth for issuance of this Encroachment Permit and on behalf of \_\_\_\_\_, and being duly authorized to do so, I accept the encroachment permit subject to these conditions.

\_\_\_\_\_  
Witness                                  Date

\_\_\_\_\_  
(Signature)                                  Date

On behalf of  
\_\_\_\_\_

**ACORD** **CERTIFICATE OF LIABILITY INSURANCE** DATE (MM/DD/YY)

**PRODUCER** THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

	COMPANIES AFFORDING COVERAGE
<b>INSURED</b>	COMPANY <b>A</b>
	COMPANY <b>B</b>
	COMPANY <b>C</b>
	COMPANY <b>D</b>

**COVERAGES**  
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE 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. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input checked="" type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT				GENERAL AGGREGATE \$ PRODUCTS - COM/OP AGG \$ PERSONAL & ADV INJURY \$ EACH OCCURRENCE \$ FIRE DAMAGE (Any one fire) \$ MED EXP (Any one person) \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE \$
	<b>GARAGE LIABILITY</b> <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EACH ACCIDENT \$ AGGREGATE \$
	<b>EXCESS LIABILITY</b> <input type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$ AGGREGATE \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER EL EACH ACCIDENT \$ EL DISEASE - POLICY LIMIT \$ EL DISEASE - EA EMPLOYEE \$
	OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER	CANCELLATION
	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE

**County of Imperial Department of Public Works  
Initial Submittal Checklist  
For  
Survey Maps for Plan Check**

<b>PROJECT INFORMATION</b>	<b>DATE</b>	<b>REFERENCE NO. (TM, PM, CUP, ETC.)</b>
<b>PROJECT NAME / DESCRIPTION</b>	<b>LEGAL DESCRIPTION</b>	
<b>BUILDING PERMIT NO. (IF APPLICABLE)</b>	<b>ASSESSOR'S PARCEL NUMBER (APN)</b>	

<b>ENGINEER /SURVEYOR</b>		
<b>NAME</b>		
<b>ADDRESS</b>		
<b>CITY / STATE / ZIP CODE</b>		
<b>PHONE</b>	<b>FAX NUMBER</b>	<b>CONTACT PERSON</b>

<b>APPLICANT</b>		
<b>NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE &amp; REFUNDS (UNLESS OTHERWISE NOTED)</b>		
<b>NAME</b>		
<b>ADDRESS</b>		
<b>CITY / STATE / ZIP CODE</b>		
<b>PHONE</b>	<b>FAX NUMBER</b>	<b>CONTACT PERSON</b>

<b>OWNER</b>		
<b>NOTE: THE APPLICANT WILL RECEIVE ALL BILLINGS, CORRESPONDENCE &amp; REFUNDS (UNLESS OTHERWISE NOTED)</b>		
<b>NAME</b>		
<b>ADDRESS</b>		
<b>CITY / STATE / ZIP CODE</b>		
<b>PHONE</b>	<b>FAX NUMBER</b>	<b>CONTACT PERSON</b>

**1. ALL MAPS**

- \_\_\_\_\_ Cover letter or transmittal
- \_\_\_\_\_ Checklist completely filled out
- \_\_\_\_\_ Fees per attached list of fees
- \_\_\_\_\_ Preliminary Title Report
- \_\_\_\_\_ 1 copy of traverse calculation closure sheet and point sheet

**2. RECORD OF SURVEYS**

- \_\_\_\_\_ 3 copies of Record of Survey Map

Secondary Documents

- Survey swing tie cards
- Copy of applicable deeds

**3. PARCEL MAPS**

- \_\_\_\_\_ 1 Copy of an approved Tentative Map
- \_\_\_\_\_ 1 Copy of Resolution of Approval with Conditions
- \_\_\_\_\_ 3 Copies of Parcel Map
- \_\_\_\_\_ Drainage/Grading plan submittal or evidence of previous submittal acceptance

Secondary Documents

- 2 copies of Environmental Constraint Map, if required
- Right-of-way documents
- Survey swing tie cards
- Land Owners agreement, if required
- Copy of applicable deeds

**4. FINAL TRACT MAPS**

- \_\_\_\_\_ 1 Copy of an approved Tentative Map
- \_\_\_\_\_ 1 Copy of Resolution of Approval with Conditions
- \_\_\_\_\_ 3 Copies of Tract Map
- \_\_\_\_\_ Drainage/Grading plan submittal or evidence of previous submittal acceptance

Secondary Documents

- 2 Copies of Environmental Constraint Map, if required
- Right-of-way documents
- Survey swing tie cards
- Land Owners agreement, if required
- Copy of applicable deeds

## 5. PLAN CHECK PROCESSING TIMES

### Initial Map Check with Response Letter

- Record of Survey by State Statute, 20 working days
- Parcel Map, 20 working days unless noted otherwise
- Tract Map, 30 working days unless noted otherwise

I, the undersigned Applicant, so verify that all items necessary for this project and checked above are attached. I understand that if any of the above required items, are not provided the Department reserves the right to reject the submittal without performing any plan checks. Receipt of submittal package does not guarantee acceptance for plan checking. If submittal is deemed incomplete, notification to applicant and engineer within one working day by fax and telephone will be made indicating unchecked submittal is available for pick up.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Name Printed or Typed**

<b>For County Use Only</b>		
<b>Date Received:</b>	<b>Date accepted for processing:</b>	<b>Accepted for processing</b> Yes No
<b>By: Print</b>	<b>Signature:</b>	<b>Date:</b>

September 12, 2004

**SUBJECT:** Public Works Schedule of Fees for Reproduction of Maps and Records and Fee for Review of Various Survey Related Documents

To all Surveyors, Engineers, Architects, Developers and General Public performing work in the County of Imperial:

This is a **corrected fee schedule** to reflect the correct Legal description fee of Item #3 on Page 2.

For your information and files the following fee schedule was enacted on May 1, 2000 and October 15, 2002. Should any information be requested by attorneys or will be used for potential litigation a written request is mandatory. Research, if necessary and in excess of a reasonable time period will be charged at \$35.00 per hour.

1. **Flood Zone Determination** - \$15.00 minimum charge per request. If a copy of the FIRM map is required, an additional \$5.00 charge per map will be made.
2. **Road Improvement Plans (Including County Road Maps)** - \$5.00 per "As Built" sheet for the first ten sheets and \$3.50 per sheet thereafter.
3. **USGS Topographic Maps** - \$5.00 per sheet for the first ten sheets and \$3.50 per sheet thereafter.
4. **Soils Reports** - A charge of \$0.25 per 8 ½" x 11" page.
5. **Private Development Plans** - \$5.00 per sheet for the first ten sheets and \$3.50 per sheet thereafter.
6. **Earthquake Fault Zone Maps** - \$5.00 per sheet for the first ten sheets and \$3.50 per sheet thereafter.
7. **Gateway of Americas specific plan areas, procedure and design guidelines manual** - \$20.00.
8. **Survey Record information.**

Microfiche Copies Full Size - \$3.50 per sheet.

Full-Size Plan Sheets (Including Aerial Photos) - \$5.00 per sheet for the first ten sheets and \$3.50 per sheet thereafter.

8 ½" x 11" Copies - \$0.25 Per page.

11" x 17" Copies - \$1.00 per page.

Field Notes - \$0.50 per page.

Set of Corner Record Cards \$75.00.

8 ½" x 18" Copies for GLO Notes - \$0.50 per page.



The following review fees for maps, legal descriptions, etc. The new fees went into effect October 15, 2002.

1.	Deposit for Parcel Maps	\$400.00 and time and material
2.	Deposit for Tract Maps	\$600.00 and time and material
3.	Legal Descriptions	\$250.00
4.	Annexation Map Review	Time and material
5.	Environmental Constraint Sheet	\$250.00
6.	Amending Certificate	\$125.00
7.	Amending Map	\$250.00
8.	Corner Record Card	\$ 7.00
9.	Record of Surveys	\$400 + \$100 per sheet*
10.	Subsidence Monitoring 1-39 benchmarks	\$150.00 plus \$6.00 per benchmark and 40-01 more benchmarks \$175.00 plus \$5.00 per benchmark
*	Discretion of the County Surveyor	

Please be advised that Public Works office hours are 7:00 a.m. to 5:00 p.m. The hours for researching maps are:

- **Mondays, Wednesdays and Fridays from 1 p.m. to 4 p.m. and;**
- **Tuesdays and Thursdays from 8 a.m. to 4 p.m., closed 12 p.m. to 1 p.m.**

Should you have any questions, please call (760) 482-4462.

Sincerely yours,

Timothy B. Jones  
Director of Public Works

TBJ:gem

attachment

cc: Jurg Heuberger, County Planning Department

# County of Imperial Department of Public Works Development Tracking Checklist For Gateway of the Americas Specific Plan Area

Issue date: June 3, 2003

Special Note: Items in this checklist are provided to assist in tracking of Public Works Department (Department) approvals. They will also ensure that Department concerns are met for appropriate plan approvals, encroachment permit issuance and Department signoff for Building Permits and Certificates of Occupancies. Department staff specifically authorized to sign off these items include the Director and Deputy Director of Public Works – Engineering at this time.

Project Name \_\_\_\_\_  
 Project Address \_\_\_\_\_  
 Owner \_\_\_\_\_  
 Tract Map, Unit, Subdivision and Lot No. \_\_\_\_\_

Engineering File No.: \_\_\_\_\_ Encroachment Permit No. \_\_\_\_\_  
 Gateway CSA File No. \_\_\_\_\_

**I. Development/Engineer package**

- Provide Engineer/Architect/Developer with Developers Information Package to include this checklist as well as encroachment permit package. This will also advise that project must utilize the "Procedure and Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within the Gateway of the Americas Specific Plan Area".
 

Transmitted By	Date
Not Requested	
  
- Provide Engineer/Architect/Developer with County's "Construction Site and Development BMP Guidelines (to be developed by Department staff as part of County's Storm Water Management Program)
 

Transmitted By	Date
Not Requested	

**II. Required Checklist Items for Building Permit Signoff by Department**

- Site Plan Review by County Planning Department. (This may include Department comments or requested conditions for driveway or entrance improvements)
 

Approved By	Date
  
- Grading and Drainage Plan Approval by Department (should be same date as the approved plan by Director)
 

Approved By	Date
  
- Regional Water Quality Control Board NOI Submitted (include RWQCB tracking number)
 

Approved By	Date

- |                          |  |                      |               |
|--------------------------|--|----------------------|---------------|
| <input type="checkbox"/> | Encroachment Permit Issuance by Department<br>(May require street improvement drawing approval, will require grading and drainage plan approval, applicant must submit complete package with fees) | _____<br>Approved By | _____<br>Date |
| <input type="checkbox"/> | Gateway of the Americas SPA Traffic Mitigation Fee Paid  | _____<br>Approved By | _____<br>Date |
| <input type="checkbox"/> | Building Permit signoff approved   | _____<br>Approved By | _____<br>Date |

**III. Required Checklist Items for Certificate of Occupancy Signoff by Public Works**

- |                          |   |                      |               |
|--------------------------|---|----------------------|---------------|
| <input type="checkbox"/> | All Grading and Drainage Plan issues constructed  | _____<br>Approved By | _____<br>Date |
| <input type="checkbox"/> | Post Construction Stormwater controls acceptable  | _____<br>Approved By | _____<br>Date |
| <input type="checkbox"/> | Receipt of Final Approved As-Built Plans for street improvements<br>This includes water, sewer, storm drains and laterals; street lights, curb and gutter, Sidewalk, driveways and any other work within road right of way. Two Mylar's are required, one for the Department and one for the Gateway CSA. | _____<br>Approved By | _____<br>Date |
| <input type="checkbox"/> | Certificate of occupancy signoff approval   | _____<br>Approved By | _____<br>Date |

**Notes/Comments**

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**VII. GATEWAY  
STANDARD DRAWINGS  
(Attachment B)**

## GATEWAY 100 SERIES – WATER

<u>NUMBER</u>	<u>ITEM</u>	<u>ISSUE DATE</u>	<u>LAST REVISED</u>
100	Thrust Blocks	8/29/02	8/6/03
105	Thrust Block at Tee	7/23/02	
110	Temporary Thrust Block	8/29/02	
115	2" Copper Service Installation	8/29/02	8/6/03
120	Water Service Pipe Xing	8/29/02	8/6/03
125	Line Valve and Valve Box install.	8/29/02	8/6/03
130	Steel Casing Details	8/29/02	
135	2" ARV Assembly	7/23/02	
140	2" BO Assembly	8/29/02	
141	Stubout BO Assembly	8/29/02	
142	Vertical Stormline Crossing	8/29/02	8/6/03
145	Hydrant Installation	8/29/02	
150	Fire Service Installation	8/29/02	

## GATEWAY 200 SERIES – SEWER

<u>NUMBER</u>	<u>ITEM</u>	<u>ISSUE DATE</u>	<u>LAST REVISED</u>
204	4' Diameter MH	8/29/02	7/23/03
205	5' Diameter MH	9/9/02	7/23/03
210	Sewer Lateral	8/29/02	
215	Deep Cut Sewer Lateral	8/29/02	
220	Force Main Connection	8/29/02	

## GATEWAY 300 SERIES – STORM

<u>NUMBER</u>	<u>ITEM</u>	<u>ISSUE DATE</u>	<u>LAST REVISED</u>
300	Storm Drain Junction Box	8/29/02	
310	Temporary Plug	8/29/02	

## GATEWAY 400 SERIES – SURFACE IMPROVEMENTS

<u>NUMBER</u>	<u>ITEM</u>	<u>ISSUE DATE</u>	<u>LAST REVISED</u>
400	Curb and Gutter	11/05/02	
410	Driveway Access	8/29/02	8/6/03
414	Accessibility Ramp	9/9/02	9/09/04
415	Mid Block Cross gutter	9/9/02	
420	Contiguous Sidewalk	8/29/02	
425	Meandering Sidewalk	9/9/02	
430	Street X Sections 70' ROW	11/18/02	
432	Street X Sections 84' ROW	8/29/02	
434	Street X Sections 102'/108' ROW	8/29/02	
436	Street Cross Sections 126'/132' ROW	8/29/02	
440	Street Structural Section	8/29/02	7/23/03

# INDEX FOR GATEWAY STANDARD DRAWINGS AND DETAILS

GATEWAY 100-SERIES	-----	WATER
GATEWAY 200-SERIES	-----	SEWER
GATEWAY 300 SERIES	-----	STORM
GATEWAY 400-SERIES	-----	SURFACE IMPROVEMENTS
GATEWAY 500-SERIES	-----	MISCELLANEOUS
GATEWAY 600-SERIES	-----	ELECTRICAL

## SPECIAL NOTE:

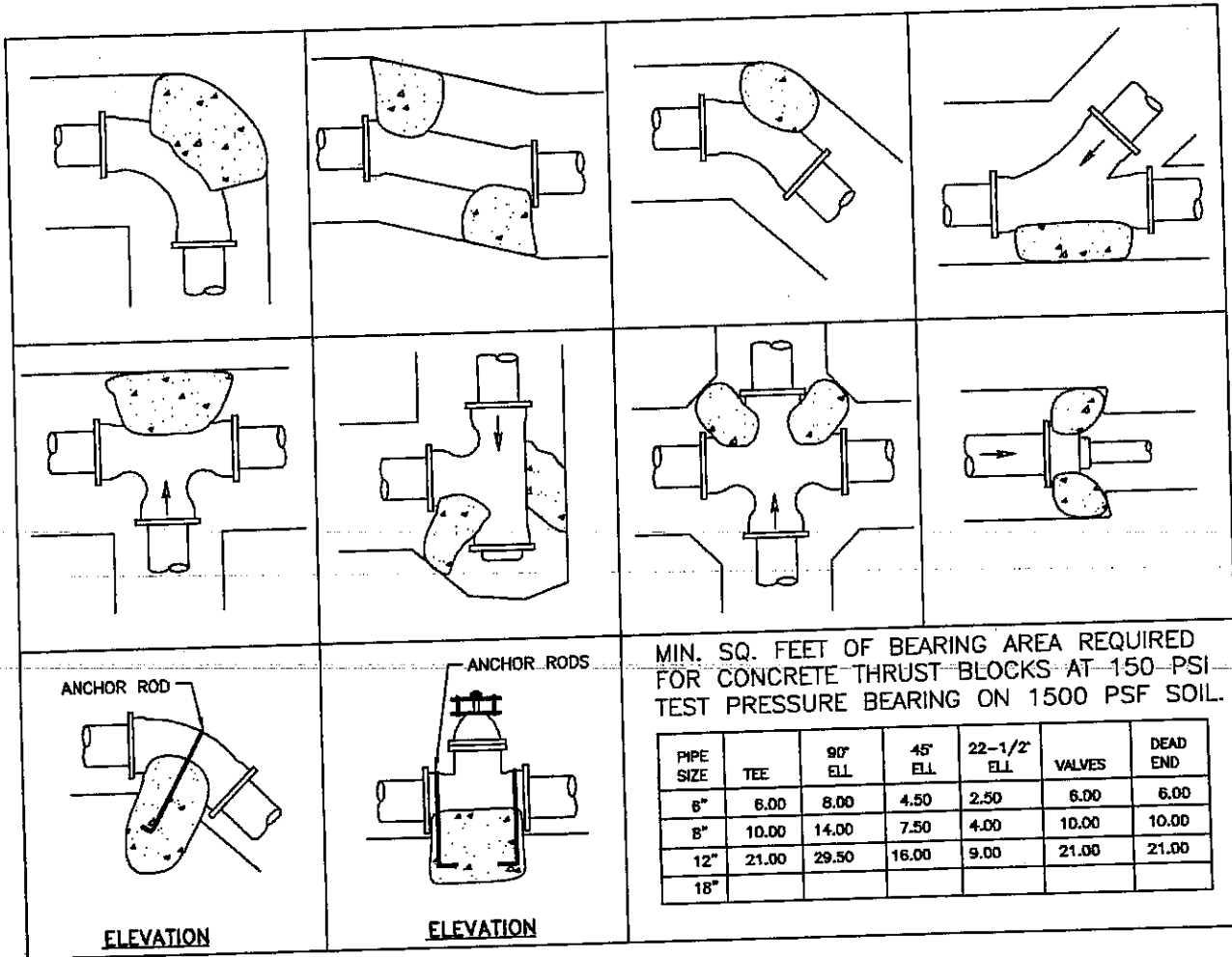
All Gateway Standard Drawings and Details shall be used in conjunction with specifications for Street Improvements, Drainage, Potable Water and Sanitary Sewer and the Engineering Design Guidelines Manual For the Preparation and Checking of Street Improvements, Drainage and Grading Plans within the Gateway of the Americas Specific Plan Area.

**GATEWAY 500 SERIES – MISCELLANEOUS**

<b><u>NUMBER</u></b>	<b><u>ITEM</u></b>	<b><u>ISSUE DATE</u></b>	<b><u>LAST REVISED</u></b>
500	Trench	8/29/02	
505	Trench Resurfacing	8/29/02	
510	Street Name Sign	8/29/02	9-09-04
515	Barricade	8/29/02	
520	Utility Sleeve	11/18/02	

**GATEWAY 600 SERIES – ELECTRICAL**

<b><u>NUMBER</u></b>	<b><u>ITEM</u></b>	<b><u>ISSUE DATE</u></b>	<b><u>LAST REVISED</u></b>
610	Street Light	8/29/02	7/23/03



**NOTES:**

1. ALL PRESSURE PIPE TO BE INSTALLED ACCORDING TO THESE DETAILS UNLESS NOTED OR DETAILED.
2. THE PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE CLASS "C" 2000 PSI CONCRETE.
3. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL, 1/2" DIAMETER MINIMUM, WRAPPED AROUND PIPE. MEGA-LUGS SHALL BE USED IN ADDITION TO TIE DOWN STRAPS.
4. THRUST BLOCKS SHALL BE USED FOR PLASTIC PIPES WITH A 3" DIAMETER OR LARGER AND AT THE END OF ALL MAINS.
5. FLOW DIRECTION SHOWN BY →
6. ALL VIEWS ARE PLAN UNLESS NOTED OTHERWISE.
7. ALL CONCRETE THRUST BLOCKS TO BEAR ON UNDISTURBED SOIL IN EACH DIRECTION OF THRUST.
8. TRENCH TO BE BACKFILLED AT 90% COMPACTION TESTED RANDOMLY.
9. MEGA-LUG ADAPTERS MAY BE USED IN ADDITION TO THRUST BLOCKS OF REDUCED SIZE, UPON WRITTEN APPROVAL OF THE ENGINEER. APPROVAL MUST BE OBTAINED PRIOR TO CONSTRUCTION. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT DEVICES.
10. DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE WRAPPED PER PROJECT SPECIFICATIONS.
11. CONTRACTOR SHALL ADJUST BEARING AREA FOR SOIL CONDITIONS AND PROJECT-TEST PRESSURE AND SHALL OBTAIN APPROVAL OF BEARING AREA CALCULATIONS PRIOR TO PLACING THRUST BLOCKS.
12. SEE ALSO GATEWAY STD. DWGS. 105 & 110

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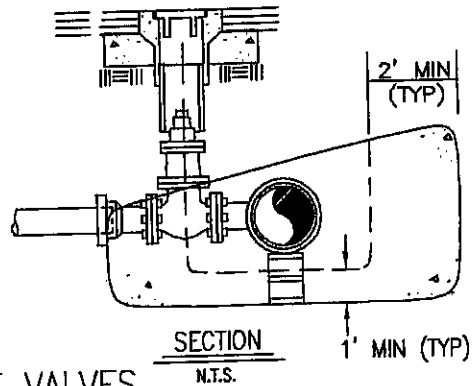
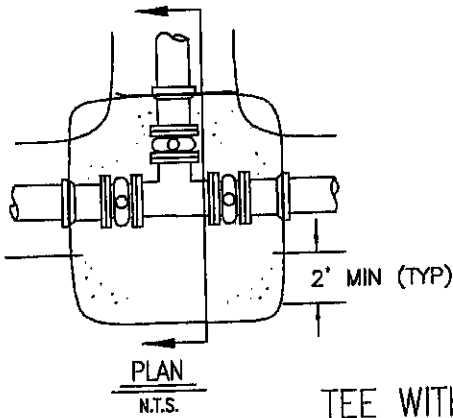
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**THRUST BLOCKS**

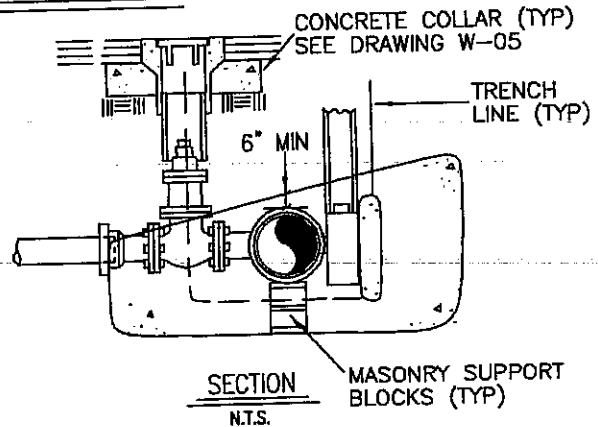
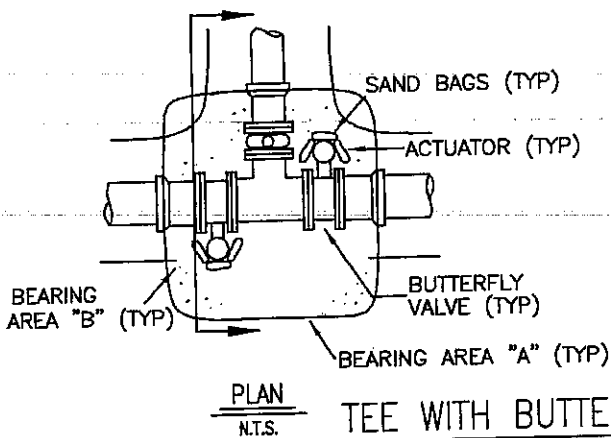
NOT TO SCALE

DATE: 08/06/03  
 DRAWN: O. Espinoza  
 CHECKED: F. Fiorenza  
 DWG No. Gateway-100

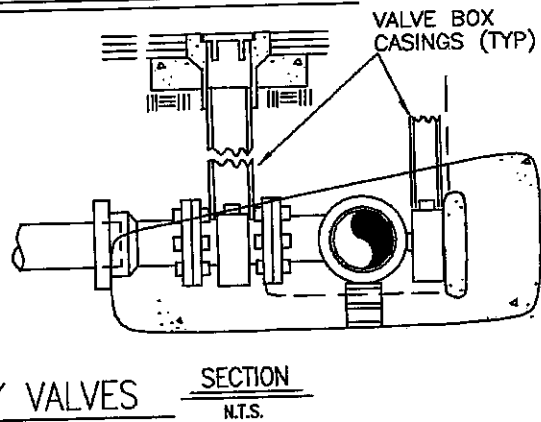
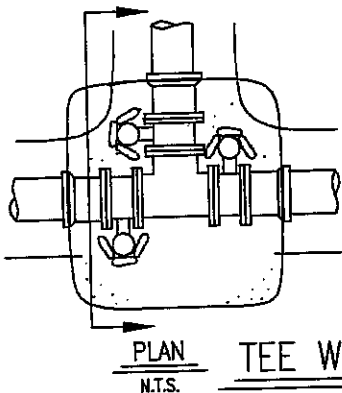




TEE WITH GATE VALVES



TEE WITH BUTTERFLY VALVES ON MAIN



TEE WITH BUTTERFLY VALVES

- NOTES:
1. THE PROJECT ENGINEER HAS THE FINAL AUTHORITY IN DETERMINING THE BEARING AREA OF ALL THRUST BLOCKS, AND THE REBAR PLACEMENT.
  2. BEARING AREA A & B ARE TO BE SIZED USING THE THRUST BLOCK DETAIL.
  3. INSTALL SAND BAGS AROUND BUTTERFLY VALVE ACTUATOR TO ISOLATE IT FROM CONCRETE.
  4. DISTURBED TRENCH AREAS CANNOT BE USED IN BEARING CALCULATIONS.

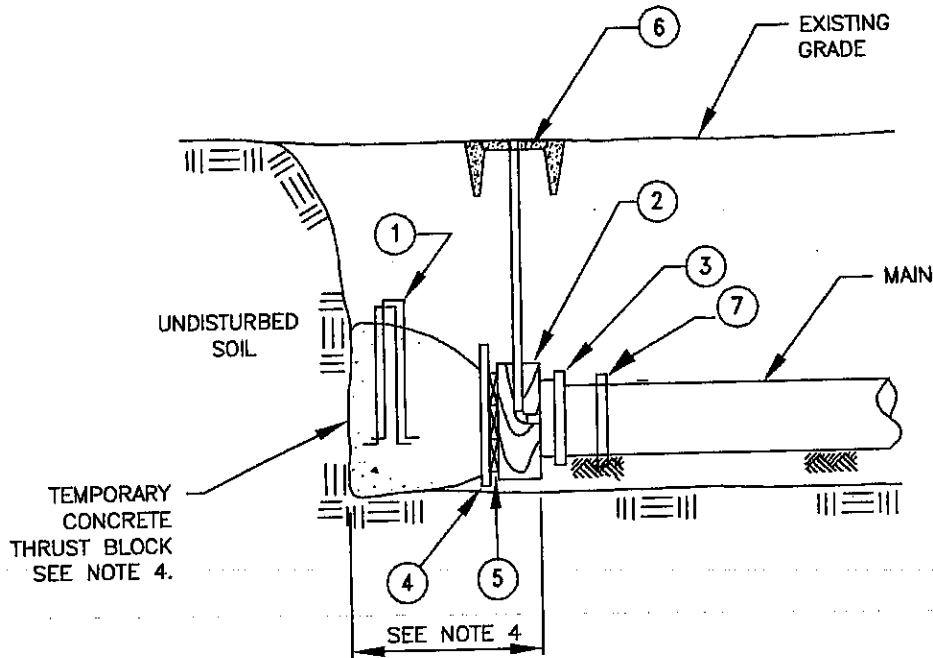


IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**THRUST BLOCK  
AT TEE (TYP.)**

NOT TO SCALE

DATE:	07/23/02
DRAWN:	O. Espinoza
CHECKED:	M. Ortiz
DWG No.	Gateway-105



PROFILE

CONSTRUCTION NOTES

1. ALL MATERIAL TO BE NAILED OR SECURED TO MAINTAIN RIGIDITY.
2. THE LINE SHALL BE DRAINED BY THE CONTRACTOR PRIOR TO THE TIE-IN TO THE MAIN.
3. THE INTENT IS TO PROVIDE A BOND BREAK BETWEEN THE CONCRETE THRUST BLOCK & THE END CAP & BLOWOFF. THE CONTRACTOR MAY USE ALTERNATE DESIGN WITH THE APPROVAL OF THE ENGINEER.
4. THE TEMPORARY CONCRETE THRUST BLOCK SHALL BE SIZED ACCORDING TO SOIL & THRUST REQUIREMENTS. THE THRUST BLOCK SIZE SHALL NOT EXCEED 10% OF THE MAXIMUM SIZE REQUIRED.

ITEM #	SIZE & DESCRIPTION
1.	(2)-#5 REINFORCING BARS, 18" MIN EMBEDMENT (TO FACILITATE BLOCK REMOVAL)
2.	SOLID HARD WOOD TIMBERS OR STEEL BEAM SPACERS (TO STRADDLE BLOW-OFF)
3.	CAP, END-2" TAP-MECH. JOINT
4.	3/4" PLYWOOD
5.	2 x WOOD BLOCKING (TO SPAN SPACERS)
6.	2" BLOWOFF (SEE DETAIL)
7.	JOINT RESTRAINT DEVICE

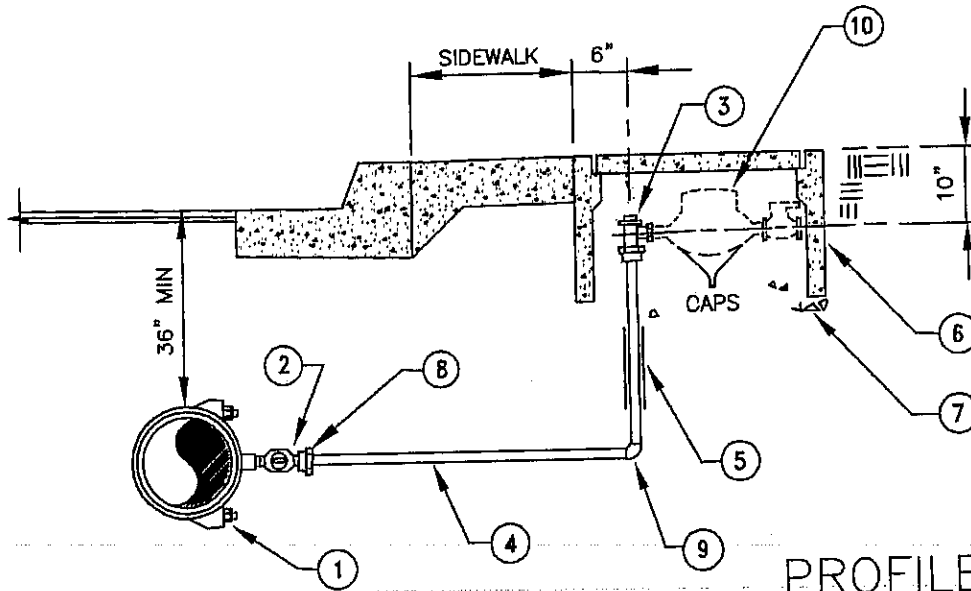


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**TEMPORARY THRUST BLOCK**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-110



**PROFILE**

**CONSTRUCTION NOTES**

**ITEM # SIZE & DESCRIPTION**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 18" OF VALVE, JOINT OR FITTING. USE SINGLE STRAP UP TO 12" MAIN SIZE. USE DUCTILE IRON TAPPED TEE FOR PVC SIZES 14" THRU 24".</li> <li>2. INSTALL CORPORATION STOP WITH KEY SIDWAYS IN OPEN POSITION, AT SPRING LINE OF THE MAIN.</li> <li>3. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR CURB AS SHOWN ON DRAWING W-48</li> <li>4. THE CORPORATION STOP TAP SHALL BE MADE AS SPECIFIED BY THE PIPE MANUFACTURER'S INSTALLATION GUIDE. ALL TAPS SHALL BE MADE WITH MACHINE GUIDE OR PILOT TAP. PVC TAPS SHALL BE MADE WITH PROPER SHELL CUTTER.</li> <li>5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP AND SHALL HAVE A MINIMUM OF 30" COVER.</li> <li>6. SPLICES OF COPPER TUBING SHALL NOT BE ALLOWED, EXCEPT AS APPROVED BY THE DISTRICT ENGINEER.</li> <li>7. POLY-SLEEVE COLORS REQUIRED<br/>BLUE = POTABLE WATER SERVICE</li> <li>8. SEE APPROVED MATERIAL LIST.</li> <li>9. DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE COATED OR WRAPPED PER PROJECT SPECIFICATIONS.</li> <li>10. LETTER "W" SHALL BE STAMPED OR CHISLED IN TOP OF CURB OVER THE SERVICE NOT LESS THAN 1-1/2" HIGH AND 3/16" DEEP.</li> </ol> | <ol style="list-style-type: none"> <li>1. SINGLE WIDE ALL BRONZE SERVICE SADDLE W/2" I.P. OUTLET THRU 12" PVC</li> <li>1. DUCTILE IRON TAPPED TEE W/2 1/2" I.P. OUTLET FOR 14" THRU 24" PVC WITH NYLON BUSHING</li> <li>2. 2" CORPORATION STOP-M.I.P. x COMPRESSION</li> <li>3. 2" ANGLE METER STOP-LOCKWING-FLANGED</li> <li>4. 2" COPPER TUBING - K SOFT</li> <li>5. 2" POLY-SLEEVE - 6 MIL</li> <li>6. METER BOX 2" BROOK E PRODUCTS NO. 66 TR OR EQUAL</li> <li>7. 6" BASE OF 3/8" ROCK</li> <li>8. 2" COPPER ADAPTOR M.I.P. x SWEAT OR COMPRESSION</li> <li>9. 2" COPPER ELL 90 SWEAT</li> <li>10. FUTURE METER</li> </ol> |
|--|---|

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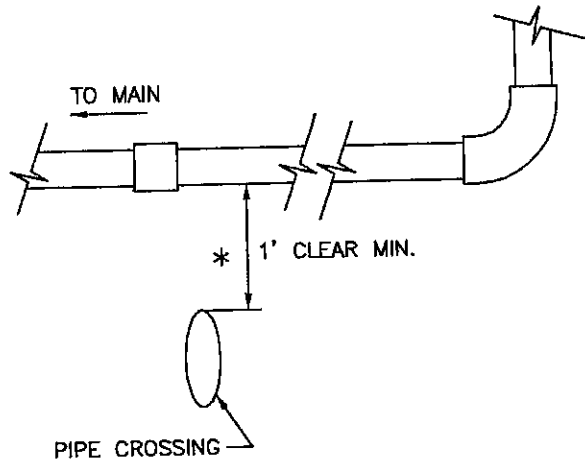


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

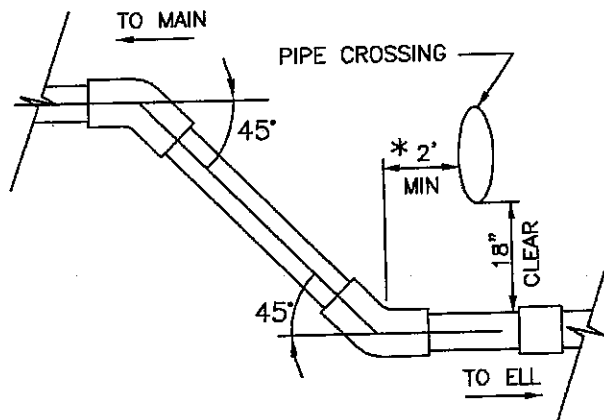
**2" COPPER SERVICE INSTALLATION**

NOT TO SCALE

DATE:	08/06/03
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-115



DETAIL 'A'



DETAIL 'B'

\* DESIGN ENGINEER OF RECORD SHALL VERIFY WITH CALIFORNIA DEPT. OF HEALTH SERVICES ADEQUACY OF WATER LINE CROSSINGS TO ENSURE COMPLIANCE WITH REGULATORY REQUIREMENTS OF TITLE 22CCRS FOR WATER MAIN INSTALLATION INCLUDING LATEST REVISION.

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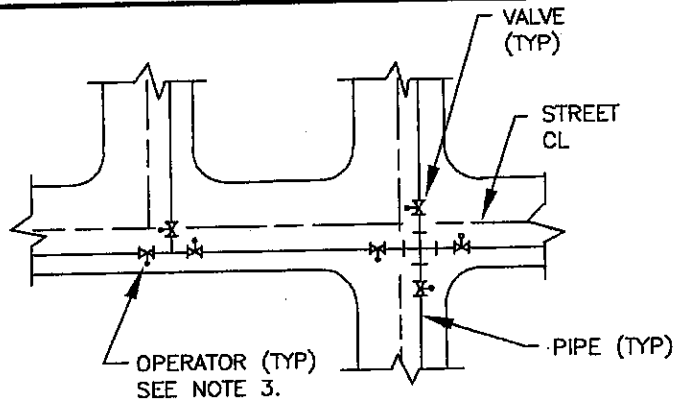
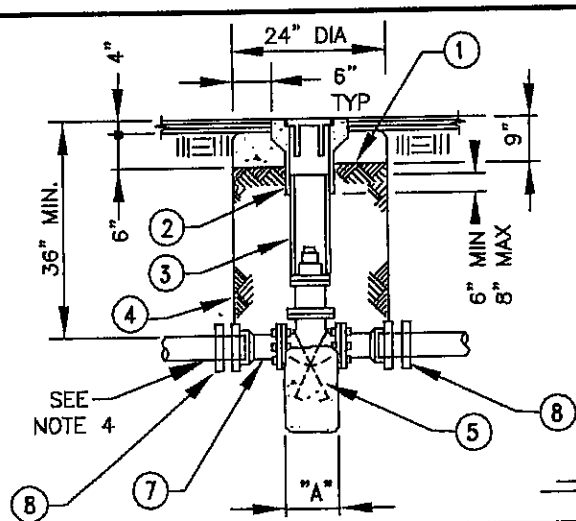


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
 EL CENTRO, CALIFORNIA

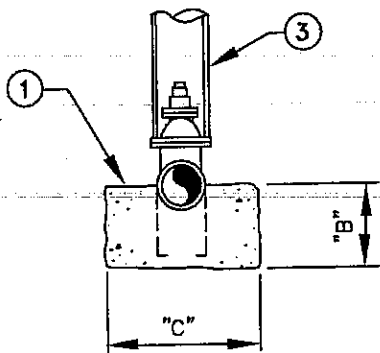
**WATER SERVICE**  
**PIPE CROSSING**

NOT TO SCALE

DATE:	08/06/03
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-120

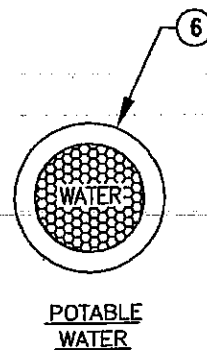


TYP BUTTERFLY VALVE OPERATOR POSITION



VALVE SIZE	DIMENSION	
	"A"	"B"
6"	12"	12"
8"	13"	14"
10"	14"	16"
12"	14"	18"
18"	16"	20"

DIMENSION "C" = TRENCH WIDTH PLUS 2x PIPE DIA.



- NOTES:
1. PROVIDE VALVE STEM EXTENSION IF DEPTH TO VALVE NUT EXCEEDS 5 FEET.
  2. BUTTERFLY VALVE OPERATORS SHALL BE LOCATED ON THE RIGHT SIDE OF THE VALVE LOOKING TOWARD TEE OR CROSS.
  3. SEE APPROVED MATERIAL LIST.
  4. USE 6'-0" SHORT LENGTHS OF PVC IN & OUT OF FITTINGS & VALVES.
  5. RESTRAINT PIPE JOINTS MIN. 50 FT. EACH WAY FROM VALVE

ITEM #	SIZE & DESCRIPTION
1.	CONCRETE-450-C-2000
2.	VALVE BOX BROOKE PRODUCTS 1-RT OR EQUAL
3.	8" PVC PIPE-SEWER-SDR 35
4.	BACKFILL WITH COMPACTED BEDDING MATERIAL
5.	#5 STEEL REINFORCING BARS
6.	VALVE COVER MARKED "WATER"
7.	ADAPTOR-MECH. JOINT x FLANGED (TYP BOTH SIDES)
8.	JOINT RESTRAINT DEVICE



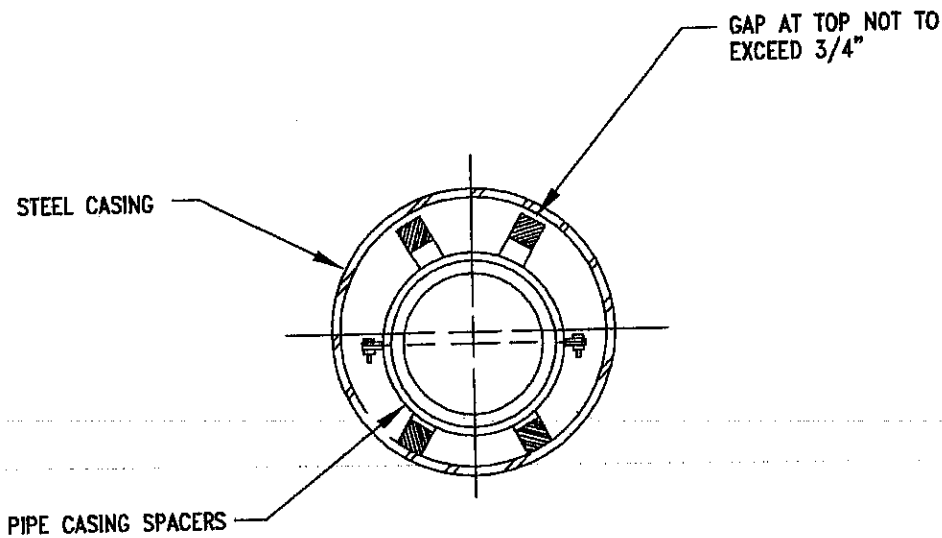
IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**LINE VALVE AND VALVE BOX INSTALLATION**

NOT TO SCALE

DATE:	08/06/03
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-125

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## STEEL PIPE CASING CROSS SECTION

- NOTES:**
1. CASING SPACERS SHALL BE PER THE APPROVED MATERIAL LIST.
  2. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. THE SHELL SHALL BE LINED WITH A PVC LINER .090" THICK WITH 85-90 DUROMETER. ALL NUTS AND BOLTS ARE TO BE 18-8 STAINLESS STEEL. RUNNERS SHALL BE MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER WITH INHERENT HIGH ABRASION RESISTANCE AND LOW COEFFICIENT OF FRICTION. RUNNERS SHALL BE SUPPORTED BY RISERS MADE OF HEAVY T-304 STAINLESS STEEL. THE SUPPORTS SHALL BE WELDED TO THE SHELL AND WELDS SHALL BE PASSIVATED. THE HEIGHT OF SUPPORTS AND RUNNERS COMBINED SHALL BE SUFFICIENT TO KEEP THE CARRIER PIPE AT LEAST 3/4" FROM THE CASING PIPE WALL AT ALL TIMES.
  3. CASING SPACERS SHALL BE THE RESTRAINED POSITION TYPE.
  4. SEE APPROVED MATERIALS LIST—"PIPE, CASING SPACERS"



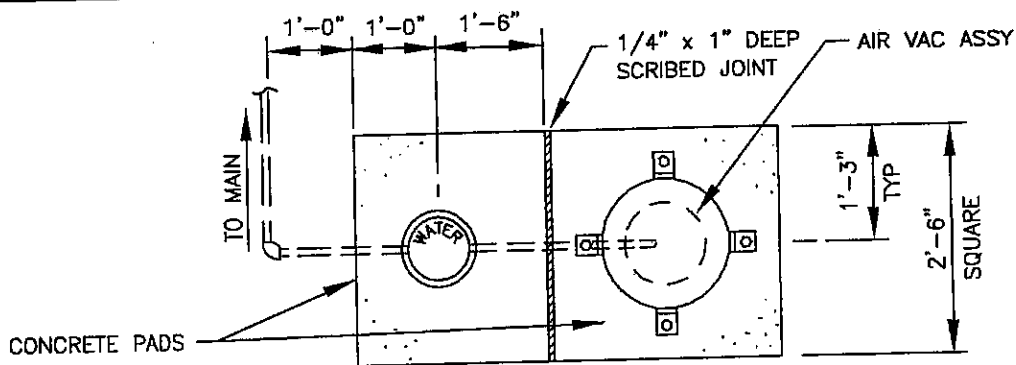
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

### **STEEL CASING DETAILS**

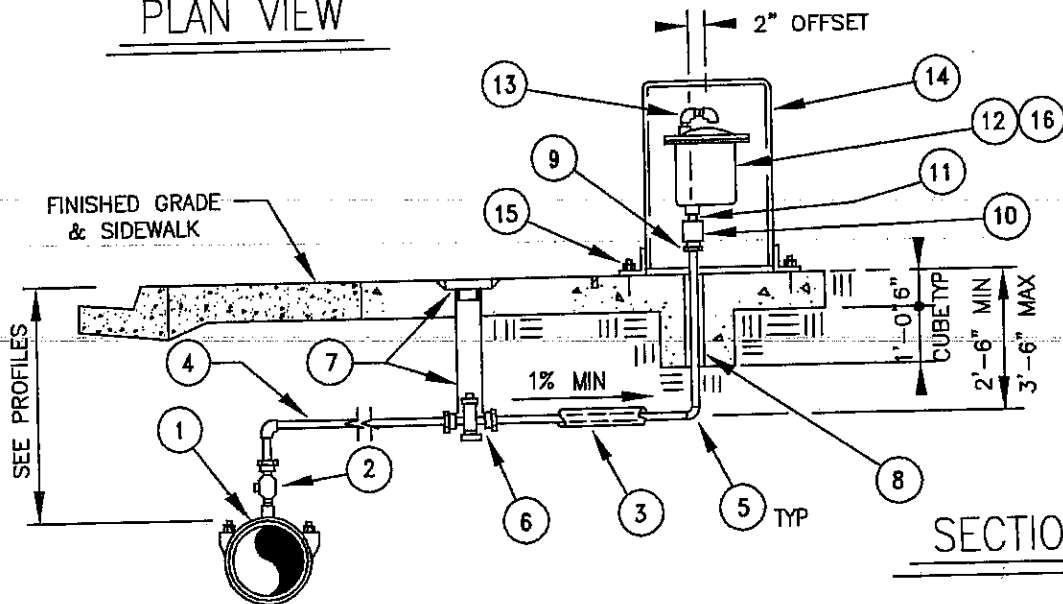
NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-130

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PLAN VIEW



SECTION

FOR APPLICABLE CONSTRUCTION NOTES SEE 2" COPPER SERVICE INSTALLATION.

ITEM # SIZE & DESCRIPTION

1. SINGLE WIDE S.S. STRAP BRONZE SERVICE SADDLE  
2" OUTLET THRU 12" PVC
1. DUCTILE IRON TAPPED TEE W/ 2 1/2" I.P. OUTLET  
FOR 14" THRU 24" PVC W/NYLON BUSHING.
2. 1" OR 2" BRONZE CORPORATION STOP M.I.P. THREAD  
x COMPRESSION
2. 1" OR 2" BRONZE CORPORATION STOP M.I.P. x FLARE  
NUT
3. POLY SLEEVE 6 MIL - COLOR PER SPECS.
4. 2" COPPER TUBING TYPE K SOFT
5. ELL 90 COPPER SWEAT OR COMPRESSION
6. BRONZE INLINE BALL VALVE-COMPRESSION INLETS 2"

ITEM # SIZE & DESCRIPTION

7. 4" SDR 35 PVC SEWER PIPE & 4" C.I. CAP
8. FOAM SLEEVE - 1/2" THICK
9. MALE ADAPTOR - SWEAT OR COMPRESSION
10. DI-ELECTRIC COUPLING 2"
11. BLACK IRON NIPPLE (2") x 3"
12. AIR & VACUUM RELIEF VALVE - 2" CLA-VAL  
MODEL 36 OR EQUAL
13. 2-PVC SCH 80 STREET ELLS W/SCREEN-2"
14. AIR-VAC VALVE COVER PIPELINE  
PRODUCTS OR EQUAL
15. 1/2" x 3 1/2" 304 S.S. SLEEVE EXPANSION  
ANCHORS
16. FIELD PAINT - FIRE HYDRANT YELLOW

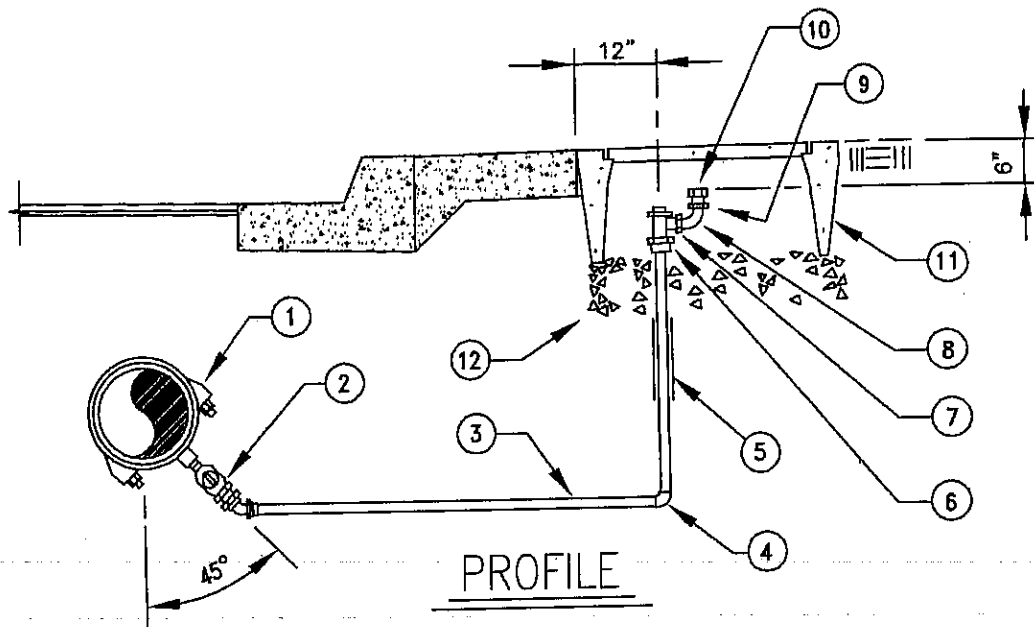


IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**2" AIR VACUUM RELIEF  
VALVE ASSEMBLY**

NOT TO SCALE

DATE:	07/23/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-135



**CONSTRUCTION NOTES**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 18" OF VALVE, JOINT OR FITTING. FOR STEEL PIPE FITTING. USE SINGLE STRAP UP TO 12" SIZE MAIN. USE DUCTILE IRON TAPPED TEE FOR SIZES 14" THRU 24".
2. INSTALL CORPORATION STOP WITH KEY SIDEWAYS IN OPEN POSITION.
3. SET TOP OF METER BOX FLUSH WITH SIDEWALK.
4. THE CORPORATION STOP TAP SHALL BE MADE AS SPECIFIED BY THE PIPE MANUFACTURER'S INSTALLATION GUIDE. PVC TAPS SHALL BE MADE WITH PROPER SHELL CUTTER.
5. SPLICES OF COPPER TUBING SHALL NOT BE ALLOWED, EXCEPT AS APPROVED BY THE ENGINEER.
6. THE TOP OF THE METER BOX SHALL BE PAINTED WITH FIRE HYDRANT YELLOW.
7. POLY-SLEEVE COLORS REQUIRED  
BLUE = POTABLE WATER SERVICE
8. SEE APPROVED MATERIALS LIST.
9. DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE COATED OR WRAPPED PER PROJECT SPECIFICATIONS.

**ITEM #**

**SIZE & DESCRIPTION**

1. SINGLE WIDE ALL BRONZE SERVICE SADDLE W/2 I.P. OUTLET THRU 12" PVC
1. DUCTILE IRON TAPPED TEE W/2 1/2" I.P. OUTLET FOR 14" THRU 24" PVC W/NYLON BUSHING.
2. 2" BRONZE CORPORATION STOP I.P. x 1/8 FLARE BEND.
3. 2" COPPER TUBING-K SOFT
4. 2" COPPER 90° ELL, SWEAT x SWEAT
4. 2" 90° ELL-COMPRESSION
5. 2" POLY-SLEEVE - 6 MIL
6. 2" ANGLE METER STOP-COMPRESSION x FLANGE
6. 2" ANGLE METER STOP M.I.P. x FLANGE W/SWEAT x M.I.P. ADAPTOR
7. 2" METER FLANGE-OVAL
8. 2" BRASS STREET ELL
9. 2" x 2 1/2" ADAPTOR-MIP x MFHT-BRASS
10. 2 1/2" HYDRANT HOSE CAP
11. METER BOX INSTALLATION BROOKE PRODUCTS 33 MB-S OR EQUAL (SEE NOTES 3 & 6).
12. 6" BASE OF 3/8" ROCK

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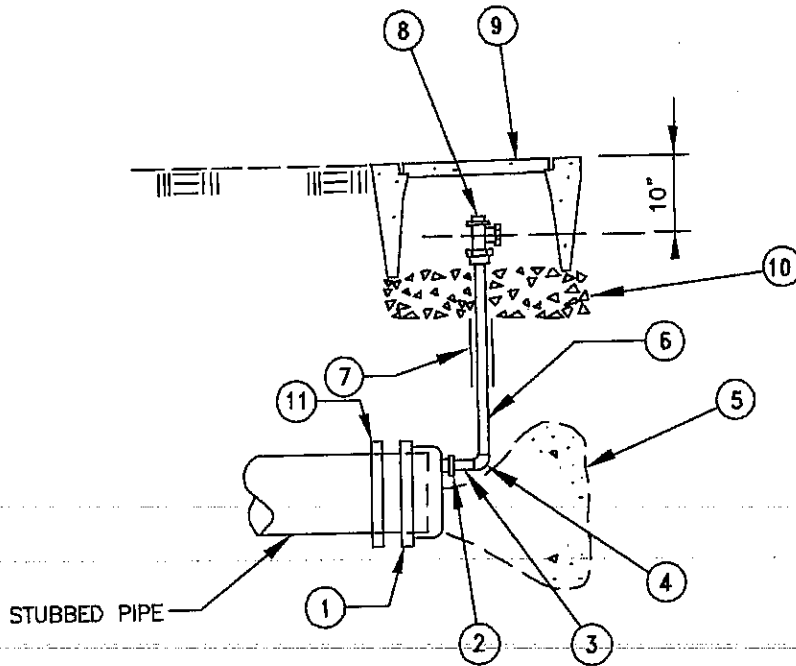
**IMPERIAL COUNTY**  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**2" BLOWOFF ASSEMBLY**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-140





PROFILE

CONSTRUCTION NOTES

ITEM # SIZE & DESCRIPTION

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. SET TOP OF METER BOX FLUSH WITH SIDEWALK.</li> <li>2. SPLICES OF COPPER TUBING SHALL NOT BE ALLOWED.</li> <li>3. POLY-SLEEVE COLORS REQUIRED<br/>BLUE = POTABLE WATER SERVICE</li> <li>4. METER BOX TO BE PAINTED OSHA SAFETY YELLOW - 2 COATS.</li> <li>5. INSTALL THRUST BLOCK PER TEMPORARY THRUST BLOCK DRAWING.</li> <li>6. IF BENDS ARE REQUIRED IN COPPER, USE 12" MINIMUM RADIUS.</li> <li>7. SEE APPROVED MATERIAL LIST.</li> <li>8. DO NOT PLACE CONCRETE ON COPPER OR PIPE.</li> </ol> | <ol style="list-style-type: none"> <li>1. TAPPED CAP, DUCTILE IRON WITH OFFSET 2" OPENING, MJ</li> <li>2. 2" x 1" NYLON BUSHING</li> <li>3. 1" SWEAT x M.I.P. ADAPTOR</li> <li>3. 1" COMPRESSION x M.I.P.</li> <li>4. 1" COPPER ELL 90°</li> <li>4. 1" ELL 90° COMPRESSION</li> <li>5. THRUST BLOCK</li> <li>6. 1" COPPER TUBING K SOFT</li> <li>7. 1" POLY-SLEEVE - 6 MIL-BLUE</li> <li>8. 1" METER STOP, ANGLE-COMPRESSION OR FLARE</li> <li>9. METER BOX BROOKE PRODUCTS NO.37 OR EQUAL</li> <li>10. 6" BASE OF 3/8" ROCK</li> <li>11. JOINT RESTRAINT DEVICE</li> </ol> |
|---|---|

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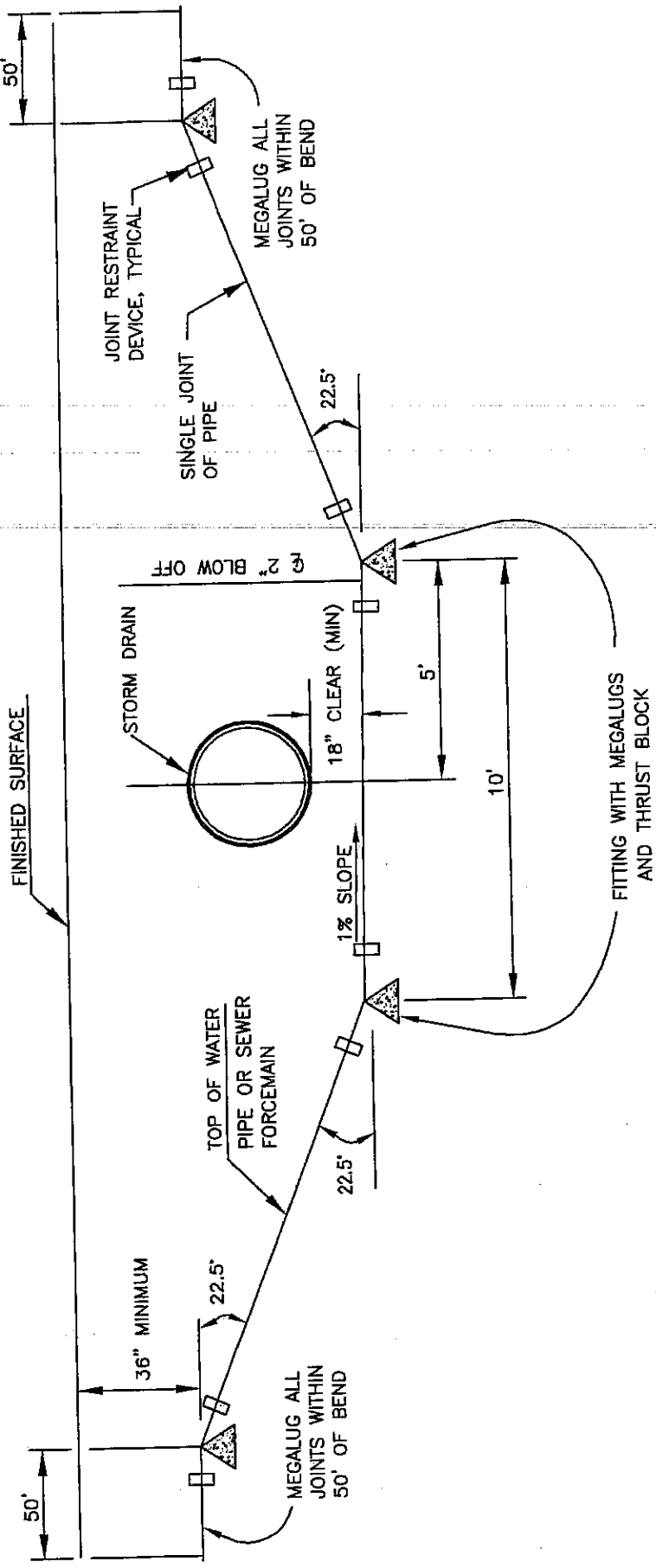



**IMPERIAL COUNTY**  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**STUB-OUT BLOWOFF ASSEMBLY**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-141




**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

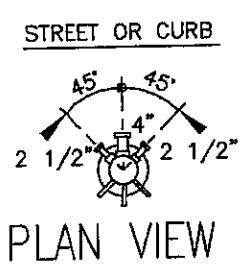
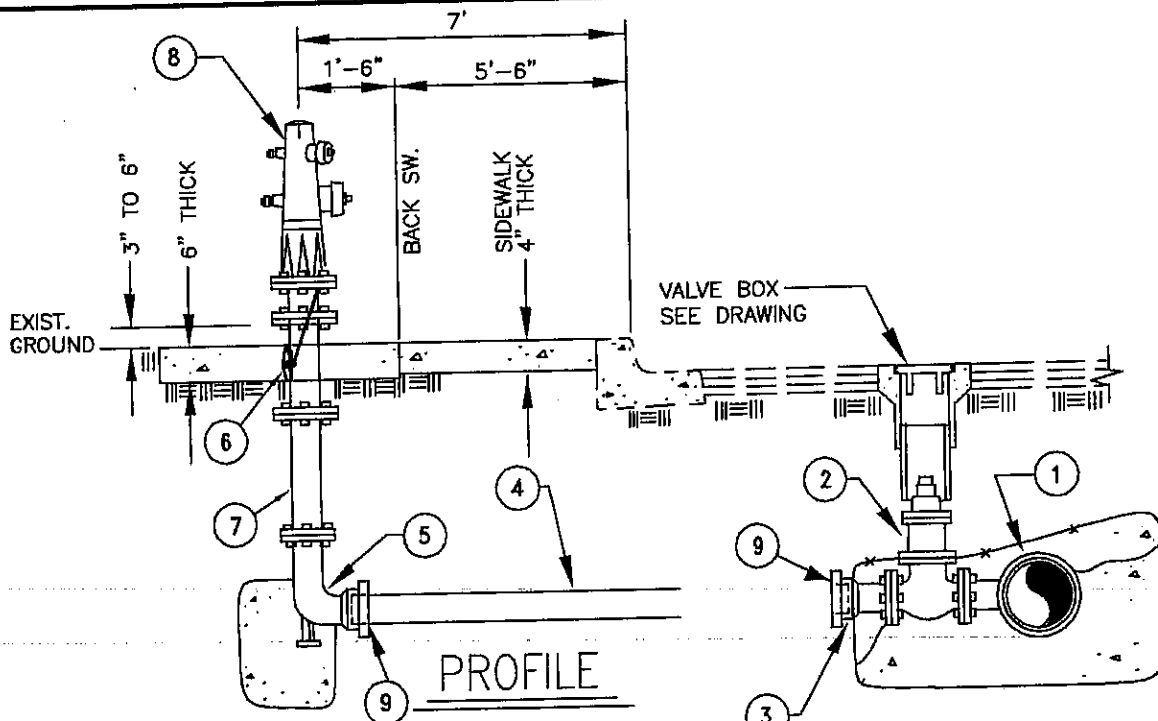
<b>DATE:</b>	08/06/03
<b>DRAWN:</b>	O. ESPINOZA
<b>CHECKED:</b>	F. FIORENZA
<b>DWG No.</b>	Gateway-142

**VERTICAL STORM  
LINE CROSSING**

NOT TO SCALE

**NOTES:**

1. MEGALUG ALL JOINTS WITHIN VERTICAL LOOP. MEGALUGS ARE TO BE INSTALLED FOR TWO DIRECTION THRUST.
2. BLOW OFF ASSEMBLY REQUIRED AT LOW POINT.
3. AIR RELEASE VALVE REQUIRED AT HIGH POINT.



**CONSTRUCTION NOTES**

1. RUN FROM MAIN TO BURY ELL TO BE HORIZONTAL.
2. INSTALL BOLTS AND NUTS WITH NUTS ON BOTTOM OF LOWER FLANGE.
3. HYDRANT RUNS 5 FEET DEEP OR GREATER SHALL USE A SHORT RADIUS 6" x 30" OR 36" BURY ELL. THE MAXIMUM NUMBER OF UNSCORED SPOOLS UNDERGROUND IS TWO (2).
4. FIELD PAINT EXTERIOR OF HYDRANT PER SPECIFICATION.
5. SEE THRUST BLOCK DRAWING FOR SIZING.
6. SEE MATERIALS LIST.
7. NO VERTICAL OBJECTS WITHIN 6 FEET OF FIRE-HYDRANT
8. TRENCH TO BE BACK FILLED PER TRENCH DETAIL AND TESTED AT EACH F.H. LOCATION.
9. MEGA-LUGS SHALL BE USED IN ADDITION TO TIE DOWN STRAPS.
10. ALL DUCTILE IRON, CAST IRON, AND STEEL COMPONENTS SHALL BE POLYETHYLENE WRAPPED

- | ITEM # | SIZE & DESCRIPTION  |
|--------|---|
| 1.     | TEE - RINGTITE x RINGTITE x FLANGED   |
| 2.     | 6" GATE VALVE-R.S.-FLANGED  |
| 3.     | ADAPTOR-MECH. JOINT x FLANGED D.I. 6"   |
| 4.     | PIPE - SAME MATERIAL AS MAIN  |
| 5.     | HYDRANT BURY ELL-6 x VARIOUS (24-54) STANDARD RADIUS- FLANGED x MECH. JOINT   |
| 6.     | HYDRANT EXTENSION-ONE KNOCKOFF SCORED-6 HOLE PATTERN (6"x6") CAST IRON  |
| 7.     | HYDRANT EXTENSION-UNSCORED-6 HOLE PATTERN (6" x VARIOUS LENGTHS) DUCTILE IRON   |
| 8.     | FIRE HYDRANT - HYDRANTS TO BE LONG BEACH IRON WORKS MODEL #430 OF BRONZE CONSTRUCTION INDUSTRIAL STYLE WET BARREL PIPE OR APPROVED EQUAL. EQUIPPED WITH: <ul style="list-style-type: none"> <li>a. LONG BEACH IRON WORKS MODEL #LB400 BREAK-OFF CHECK VALVE.</li> <li>b. ONE 4" AND TWO 2-1/2" DISCHARGE PORTS.</li> <li>c. FIRE HYDRANT TO BE PAINTED NFPA CHROME YELLOW.</li> </ul> |
| 9.     | JOINT RESISTANT DEVICE  |



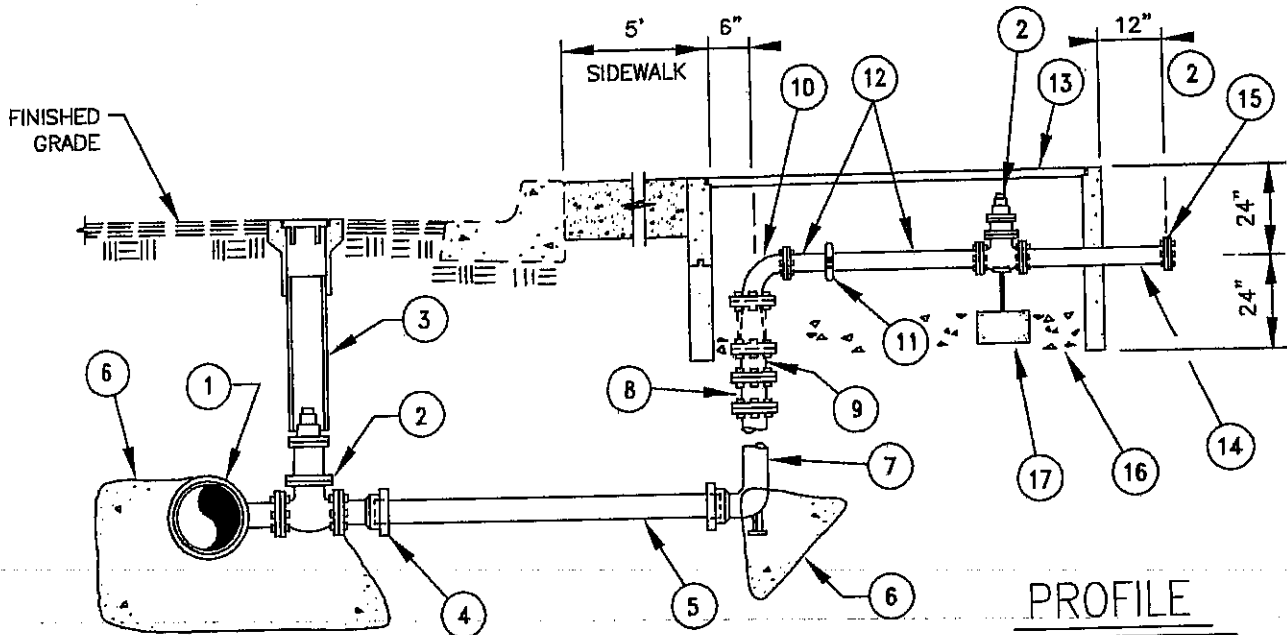
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
 EL CENTRO, CALIFORNIA

**HYDRANT INSTALLATION**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-145

V: C:\STD.DWG5-DETAILS\100-DTTL5\Gateway-145.dwg



PROFILE

**NOTES:**

1. PACK WITH NON-SHRINK GROUT WHERE PIPING PROTRUDES THROUGH VAULT WALL.

**ITEM # SIZE & DESCRIPTION**

1. CAST OR DUCTILE IRON TEE
2. GATE VALVE-RS FLANGED
3. VALVE BOX INSTALLATION - SEE VALVE BOX DETAIL
4. ADAPTOR-RINGTITE x FLANGED
5. 6" PIPE-CLASS 150, C900 PVC
6. CONCRETE THRUST BLOCK
7. 6" HYDRANT BURY ELL, STANDARD RADIUS
8. ADAPTOR-6 TO 8 HOLE-CAST IRON
9. 6" .250" WALL STEEL PIPE CML & C WITH WELDED FLANGES
10. ELL-6"
11. VICTAULIC COUPLING
12. SPOOL: 1/4" WALL x 4" LONG (TYP 2 PLACES) (EPOXY LINED & COATED) FLG x VIC
13. METER VAULT- BROOKE PRODUCTS NO. 724-A OR EQUAL
14. SPOOL 1/4" x 2' CONCRETE WALL EPOXY LINED & COATED
15. BLIND FLANGE
16. 6" BASE OF 3/8" ROCK
17. 12" x 12" x 6" THK CONC PAD w/PIPE SUPPORT
18. DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE COATED OR WRAPPED PER PROJECT SPECIFICATIONS.

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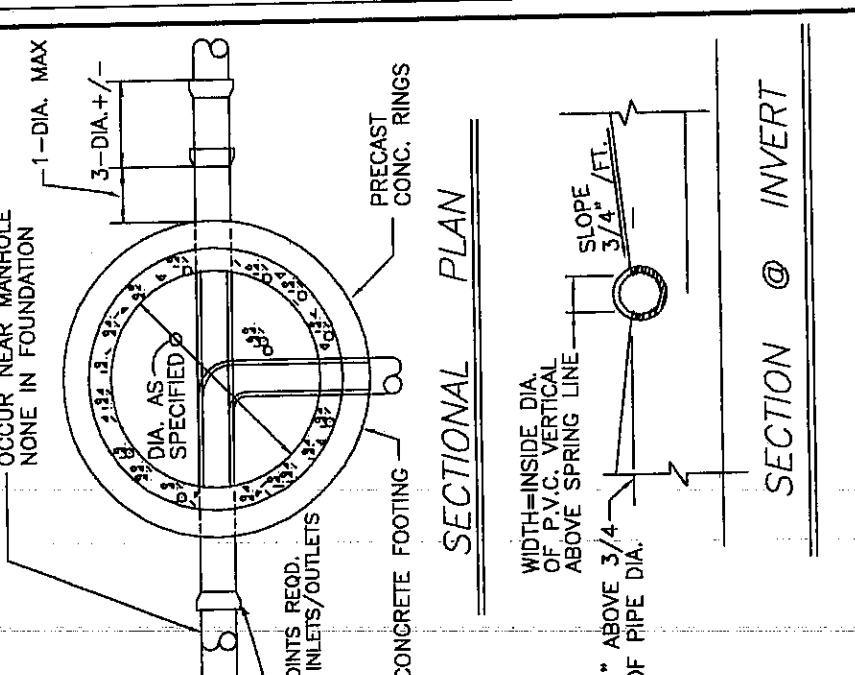


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**FIRE SERVICE INSTALLATION**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-150

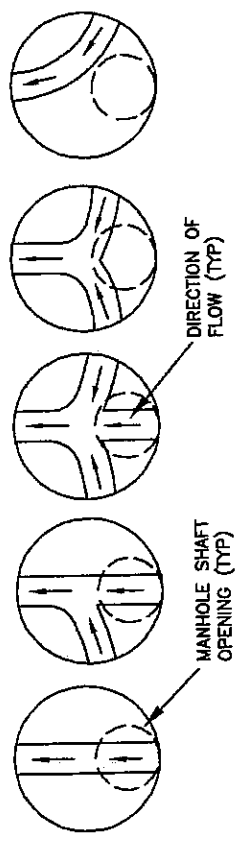
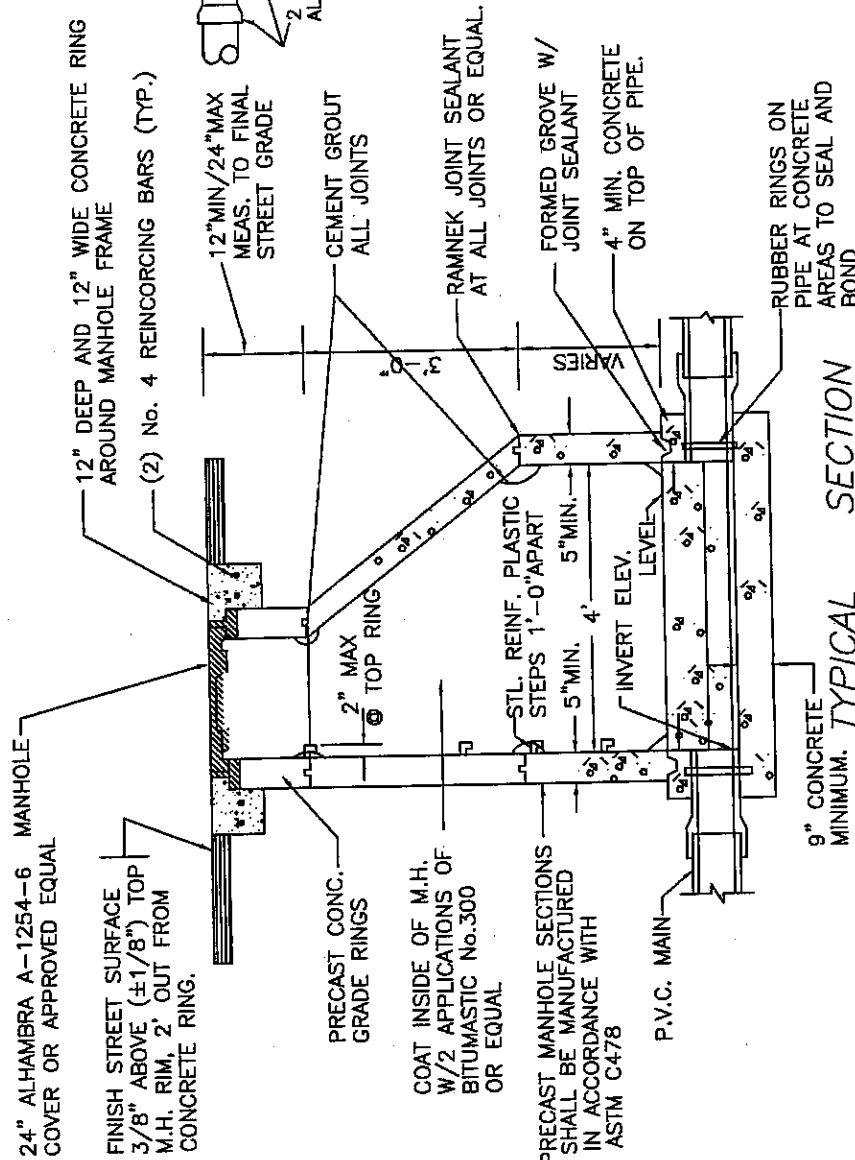


MANHOLE BASE SHALL BE CONSTRUCTED SUCH THAT PIPES OF DIFFERENT SIZES ENTERING THE MANHOLE MATCH CROWN ELEVATIONS

**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

DATE: 07/23/03  
 DRAWN: O. ESPINOZA  
 CHECKED: F. FIORENZA  
 DWG No. Gateway-204

**4' DIAMETER MANHOLE DETAIL**  
 NOT TO SCALE



**NOTE**

THIS DETAIL APPLICABLE FOR 21" MAX. DIAM. PIPE OR WHERE MAXIMUM HEIGHT IS 12' DEEP. IF DIAMETER IS IN EXCESS OF 21" OR HEIGHT IS GREATER THAN 12' USE 5' DIAMETER MANHOLE (205 Detail).

36" MANHOLE COVER TO BE APPROVED BY CSA ENGINEER

FINISH STREET SURFACE 3/8" ABOVE (±1/8") TOP M.H. RIM, 2' OUT FROM CONCRETE RING.

PRECAST CONC. GRADE RINGS

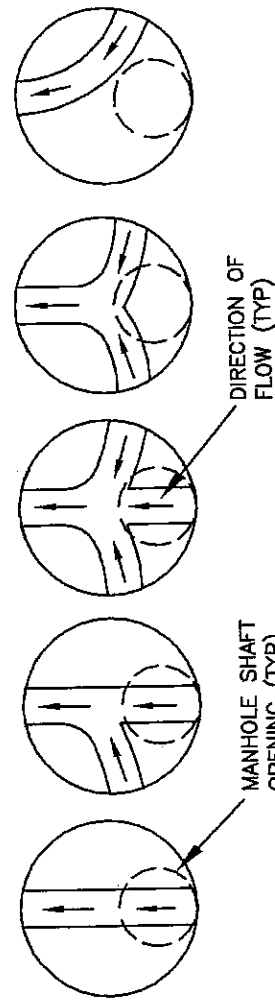
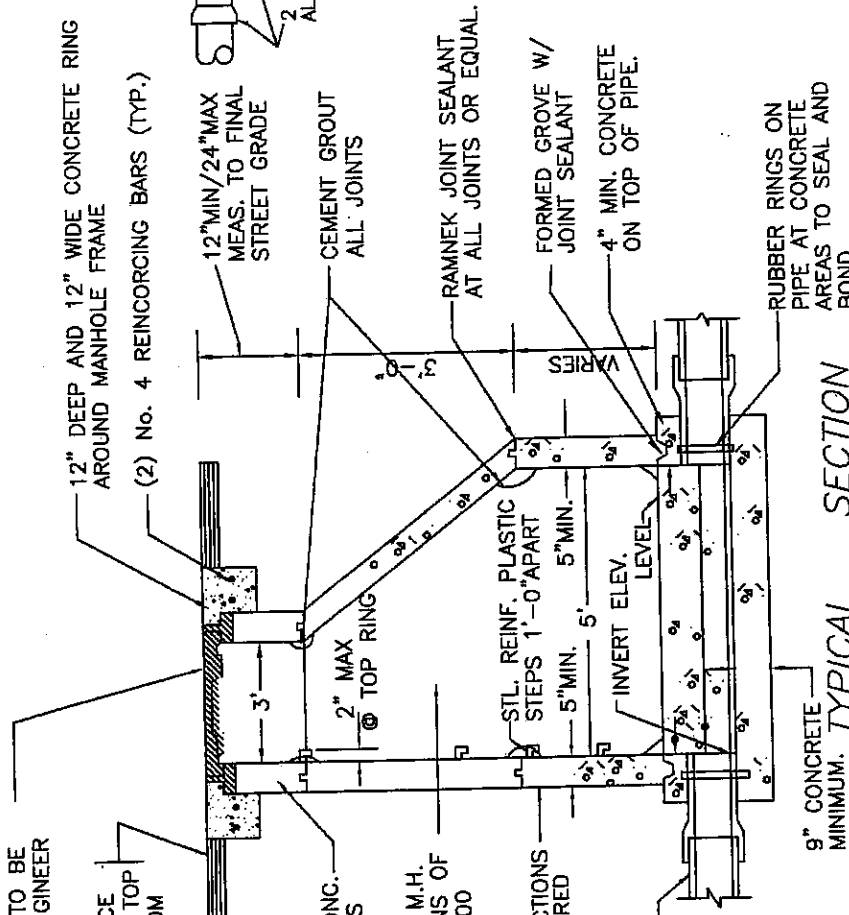
COAT INSIDE OF M.H. W/2 APPLICATIONS OF BITUMASTIC No.300 OR EQUAL

PRECAST MANHOLE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478

P.V.C. MAIN

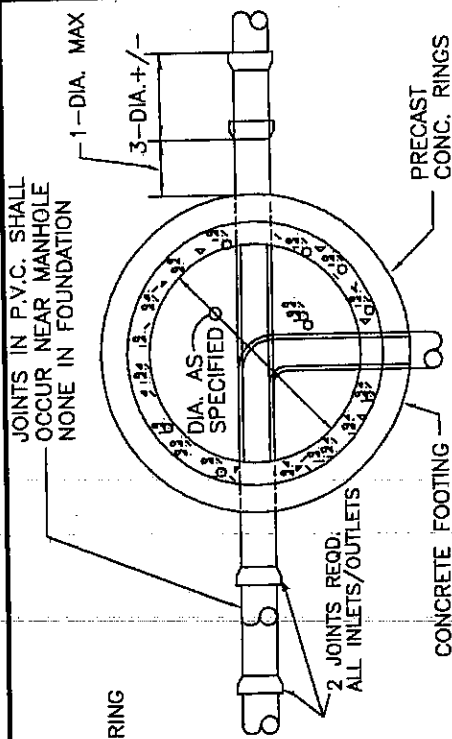
9" CONCRETE MINIMUM.

TYPICAL SECTION

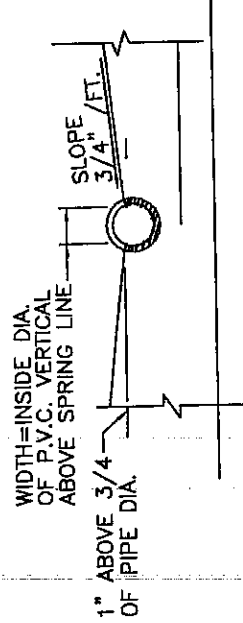


MANHOLE ACCESS LOCATION PLAN VIEW

NOTE: THIS DETAIL APPLICABLE FOR PIPE DIAMETER 24" OR LARGER OR WHERE HEIGHT IS GREATER THAN 12'.




SECTIONAL PLAN



SECTION @ INVERT

MANHOLE BASE SHALL BE CONSTRUCTED SUCH THAT PIPES OF DIFFERENT SIZES ENTERING THE MANHOLE MATCH CROWN ELEVATIONS

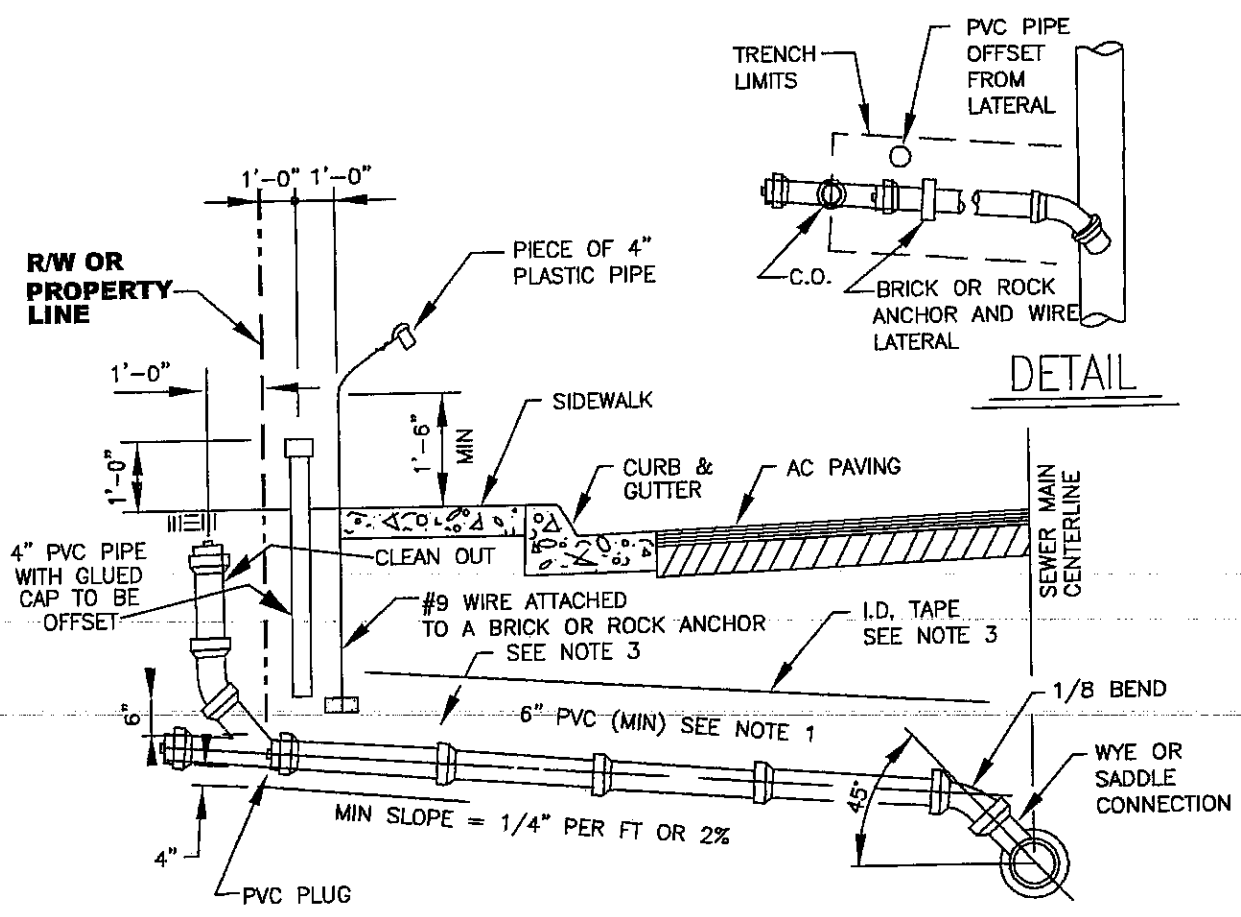


**IMPERIAL COUNTY**  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE: 07/29/03  
DRAWN: O. ESPINOZA  
CHECKED: F. FIORENZA  
DWG No. Gateway-205

**5' DIAMETER MANHOLE DETAIL**

NOT TO SCALE



## SEWER LATERAL PROFILE

- NOTES:
1. LATERAL SIZE SHALL BE 6" MIN OR AS SHOWN ON THE APPROVED PLANS.
  2. LATERAL SHALL BE INSTALLED TO PROPERTY LINE. AS SHOWN W/C.O. ON-SITE
  3. PLACE GRANULAR BEDDING 1'-0" OVER TOP AND 4" UNDER BOTTOM OF LATERAL. INSTALL DETECTABLE I.D. TAPE 2'-0" ABOVE TOP OF THE GRAVEL FROM THE MAIN TO THE END OF THE LATERAL.
  4. SEE MATERIALS LIST FOR APPROVED MATERIALS.
  5. SEWER LATERAL SHALL HAVE A 10'-0" MINIMUM SEPARATION FROM WATER LATERAL.
  6. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE BELL & SPIGOT WITH RUBBER RING.
  7. LETTER "S" SHALL BE STAMPED OR CHISELD ON TOP OF CURB OVER THE LATERAL, NOT LESS THAN 1 1/2" HIGH AND 3/16" DEEP.

V:\C:\STD.DWG-DETAILS\200-DTL\Gateway-210.DWG

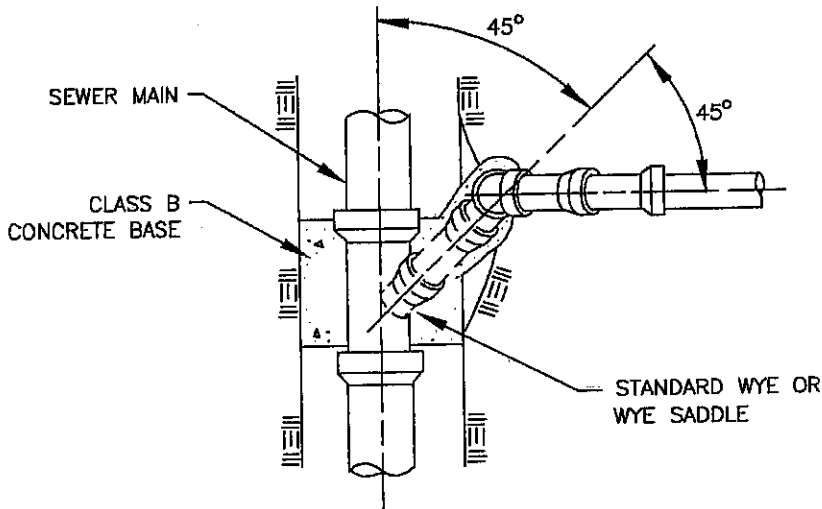


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

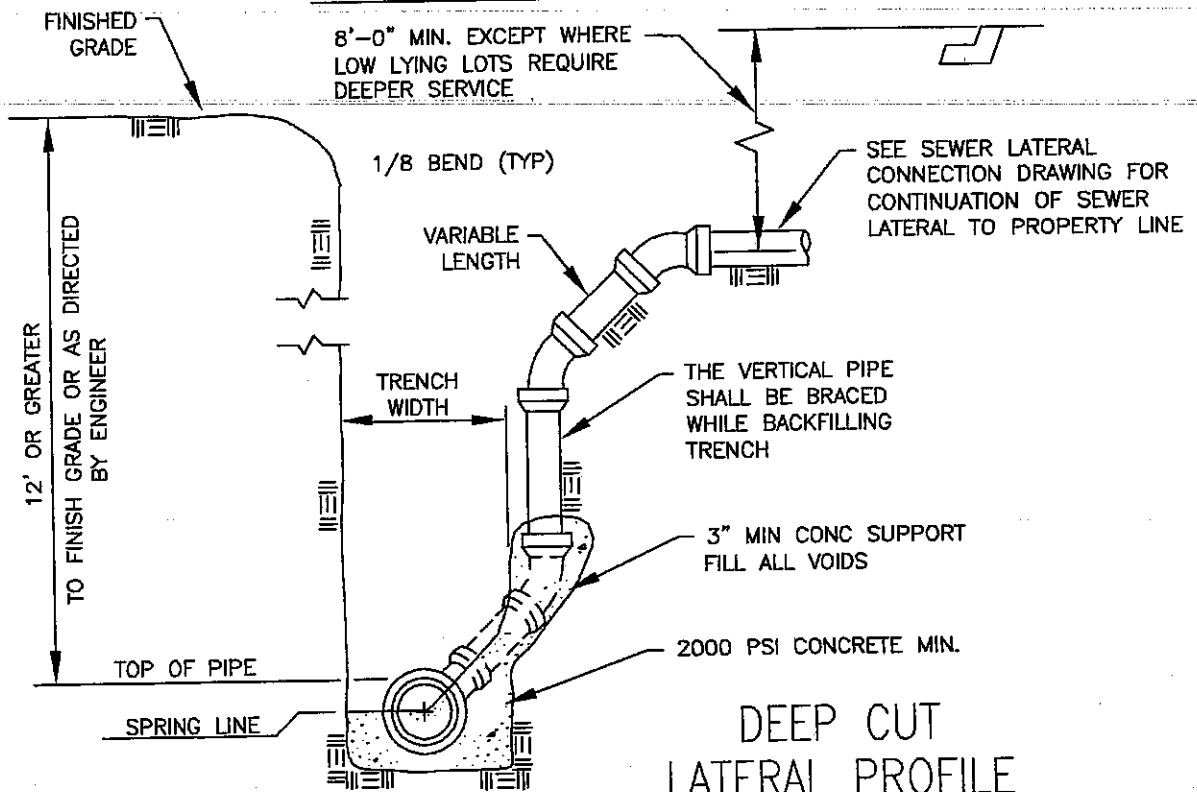
## SEWER LATERAL DETAILS

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-210



PLAN VIEW



DEEP CUT LATERAL PROFILE

NOTE: 1. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE BELL & SPIGOT WITH RUBBER RING.

V:\C:\STD.DWG-DETAILS\200-DTILS\Gateway-215.dwg



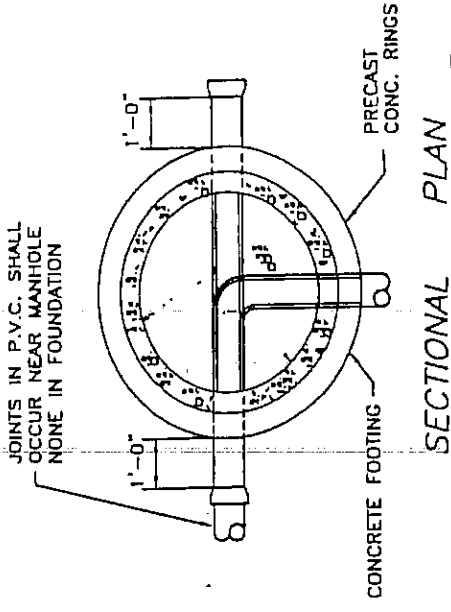
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**DEEP CUT SEWER LATERAL**

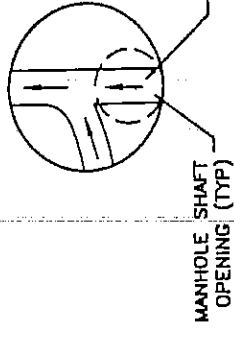
NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-215

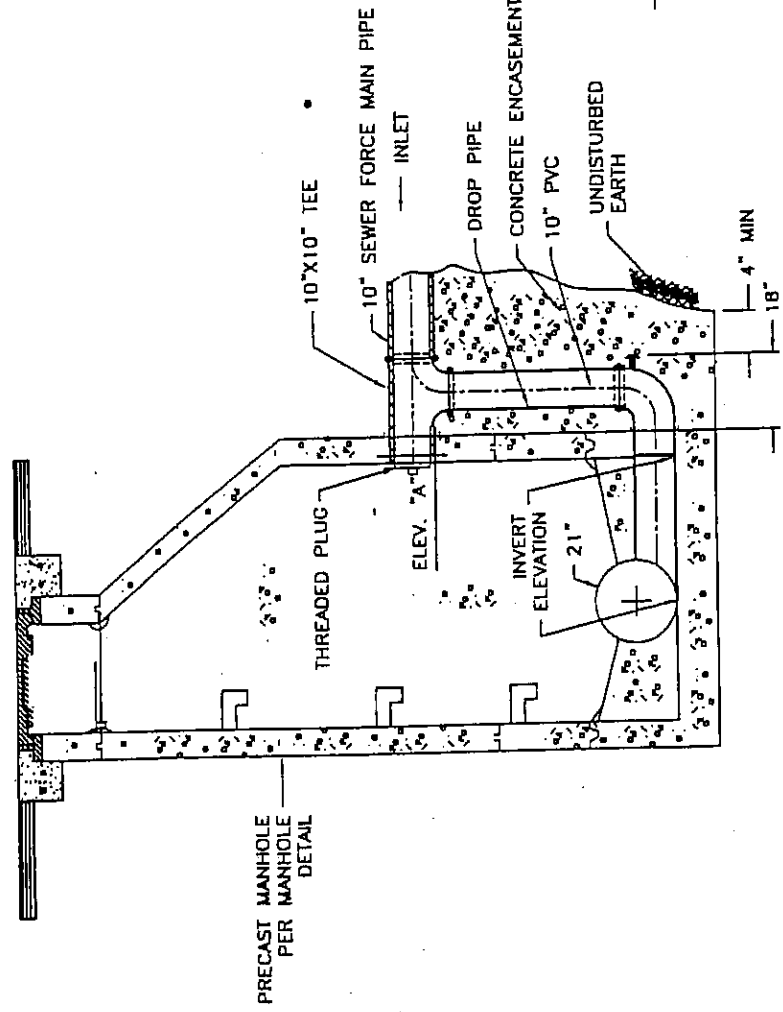




SECTIONAL PLAN



MANHOLE ACCESS LOCATION PLAN VIEW



TYPICAL SECTION



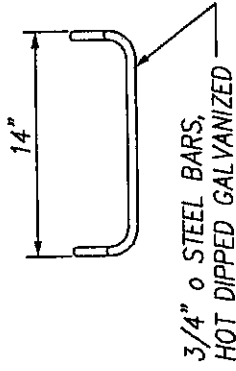
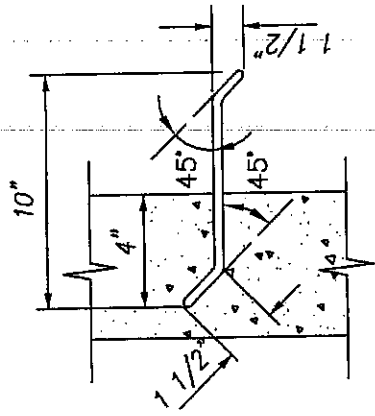
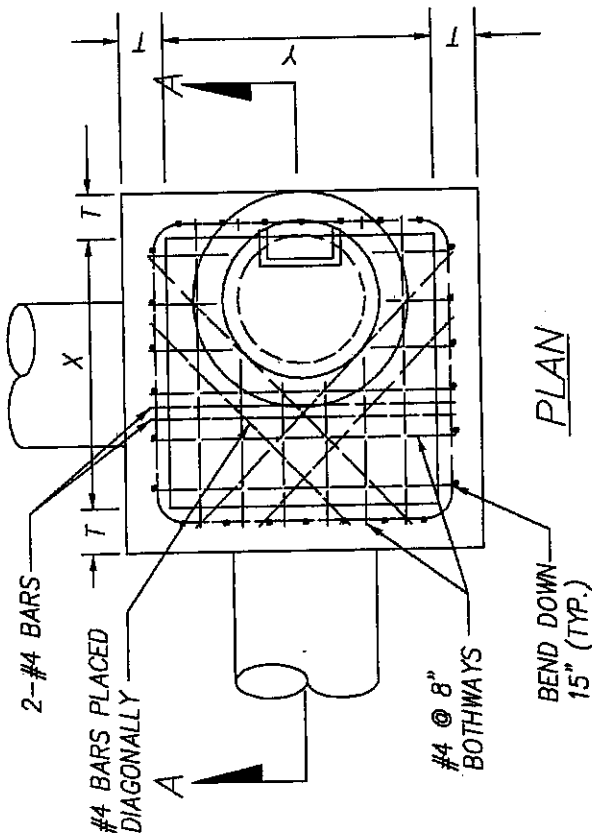
IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-220

**FORCE MAIN CONNECTION  
TO MANHOLE DETAIL**

NOT TO SCALE

NOTE: FORCE MAIN SIZE MAY VARY.



STEP DETAIL

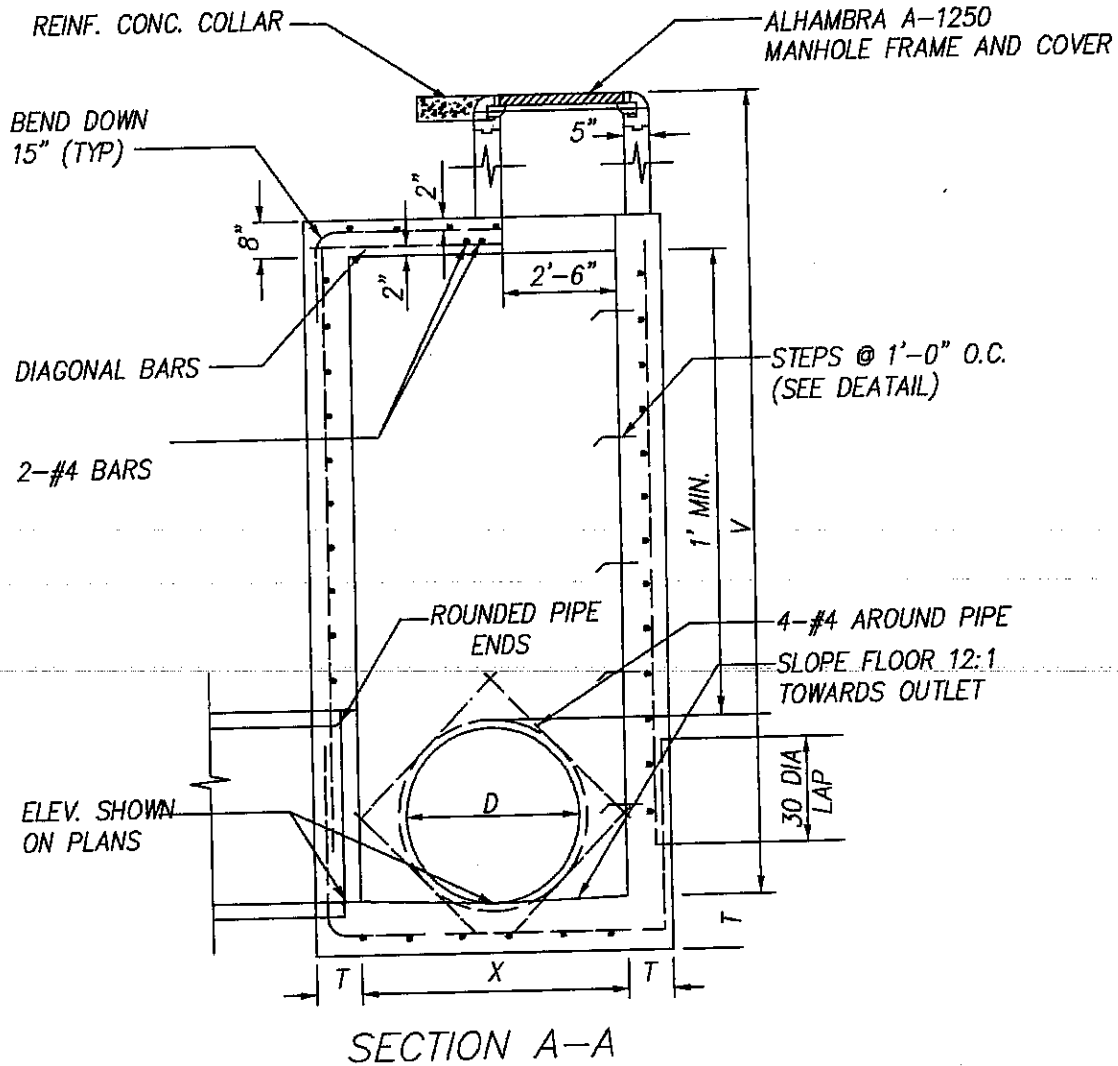


IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

<b>STORM DRAIN JUNCTION BOX</b>  NOT TO SCALE	DATE: 08/29/02
	DRAWN: O. ESPINOZA
	CHECKED: M. ORTIZ
	DWG No. Gateway-300 (1 of 3)

NOTES

1. CONCRETE SHALL BE 4000 PSI
2. ALL PRECAST COMPONENTS SHALL BE REINFORCED WITH 1/4" DIAMETER STEEL, WOUND SPIRALLY ON 4" CENTERS.
3. ALL JOINTS SHALL BE SET IN CLASS C MORTAR
4. MAINTAIN 3" MIN. CLEAR SPACING BETWEEN REINFORCING AND SURFACE UNLESS OTHERWISE NOTED.
5. EXPOSED EDGES OF CONCRETE SHALL BE ROUNDED WITH A RADIUS OF 1/2".



**NOTES**

1. CONCRETE SHALL BE 4000 PSI
2. ALL PRECAST COMPONENTS SHALL BE REINFORCED WITH 1/4" DIAMETER STEEL, WOUND SPIRALLY ON 4" CENTERS.
3. ALL JOINTS SHALL BE SET IN CLASS C MORTAR
4. MAINTAIN 3" MIN. CLEAR SPACING BETWEEN REINFORCING AND SURFACE UNLESS OTHERWISE NOTED.
5. EXPOSED EDGES OF CONCRETE SHALL BE ROUNDED WITH A RADIUS OF 1/2".

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**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**STORM DRAIN  
 JUNCTION BOX**

NOT TO SCALE

DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	M. Ortiz
DWG No.	Gateway-300 (2 of 3)

### SECTION A-A

MAXIMUM SPAN X OR Y	DEPTH V	THICK- NESS T	HOR. & FLR. REINF.
3'-0" TO 4'-0"	4'-0"	6"	# 4 @ 18"
4'-1" TO 7'-0"		6"	# 4 @ 12"
7'-1" TO 8'-0"		6"	# 4 @ 8"
3'-0" TO 4'-0"	4'-1" TO	6"	# 4 @ 18"
4'-1" TO 5'-0"		6"	# 4 @ 12"
5'-1" TO 6'-0"		6"	# 4 @ 8"
6'-1" TO 8'-0"	8'-0"	6"	# 4 @ 6"
8'-1" TO 10'-0"		6"	# 5 @ 8"
3'-0" TO 4'-0"	8'-1" TO	6"	# 4 @ 15"
4'-1" TO 5'-0"		8"	# 4 @ 12"
5'-1" TO 6'-0"		8"	# 4 @ 8"
6'-1" TO 8'-0"	12'-0"	8"	# 4 @ 6"
3'-0" TO 4'-0"		6"	# 4 @ 12"
4'-1" TO 5'-0"	12'-1" TO	8"	# 4 @ 12"
5'-1" TO 6'-0"		8"	# 4 @ 8"
6'-1" TO 7'-0"	16'-0"	8"	# 4 @ 6"
7'-1" TO 8'-0"		8"	# 4 @ 8"
3'-0" TO 4'-0"		8"	# 4 @ 12"
4'-1" TO 5'-0"	16'-1" TO	10"	# 4 @ 12"
5'-1" TO 6'-0"		10"	# 4 @ 8"
6'-1" TO 7'-0"	20'-0"	10"	# 4 @ 6"
7'-1" TO 8'-0"		10"	# 4 @ 8"
3'-0" TO 4'-0"	20'-1" TO	8"	# 4 @ 12"
4'-1" TO 5'-0"		10"	# 4 @ 12"
5'-1" TO 6'-0"		10"	# 4 @ 8"
6'-1" TO 7'-0"	24'-0"	10"	# 4 @ 6"
7'-1" TO 8'-0"		12"	# 4 @ 8"

PIPE DIA.	X	Y
UP TO 39"	4'	4'
42" TO 48"	5'	4'
59" TO 60"	6'	4'
63" TO 72"	7'	4'
75" TO 84"	8'	4'

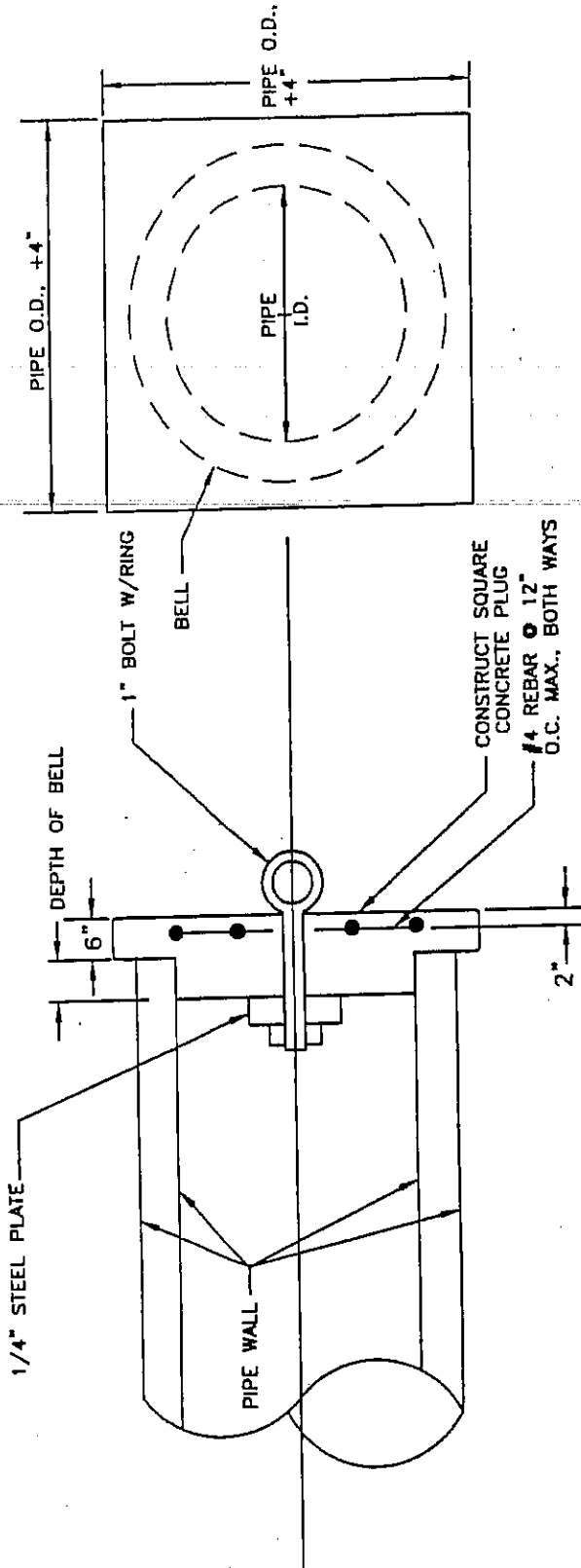


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
 EL CENTRO, CALIFORNIA

## STORM DRAIN JUNCTION BOX

NOT TO SCALE

DATE: 08/29/02  
 DRAWN: O. Espinoza  
 CHECKED: M. Ortiz  
 DWG No. Gateway-300 (3 of 3)



**NOTE:**

THE CONTRACTOR MAY USE THIS DETAIL FOR TEMPORARY PLUGS OR MAY SUBMIT AN ALTERNATE DETAIL AND RECEIVE APPROVAL OF SAME PRIOR TO CONSTRUCTION.



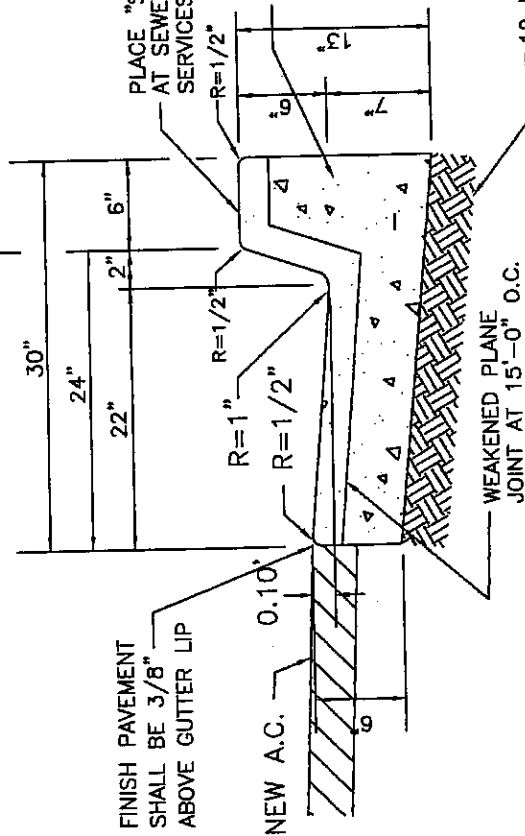
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

DATE:	08/29/02
DRAWN:	O. Espinosa
CHECKED:	F. Fiorenza
DWG No.	Gateway-310

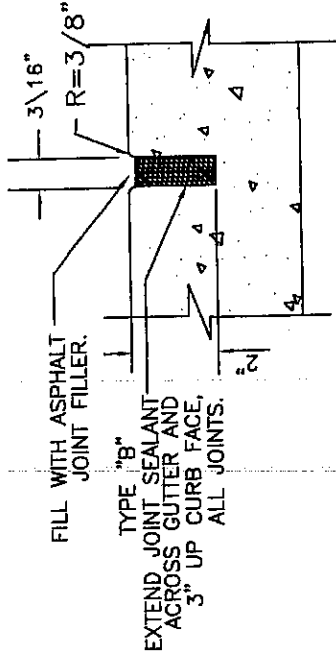
**TEMPORARY PLUG**  
**DETAIL - S.D. FOR R.C.P.**

NOT TO SCALE

PLAN DIMENSIONAL  
REFERENCE POINT

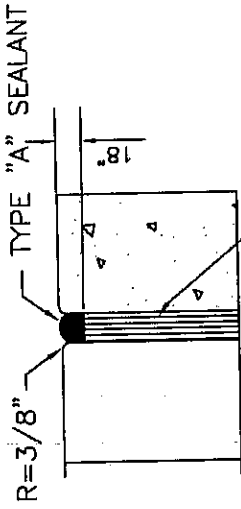


**CURB AND GUTTER SECTION**



**WEAKENED PLANE JOINT**

AT 15'-0" O.C. (TYP.)



**EXPANSION JOINT**

AT 45'-0" O.C. (TYP.)

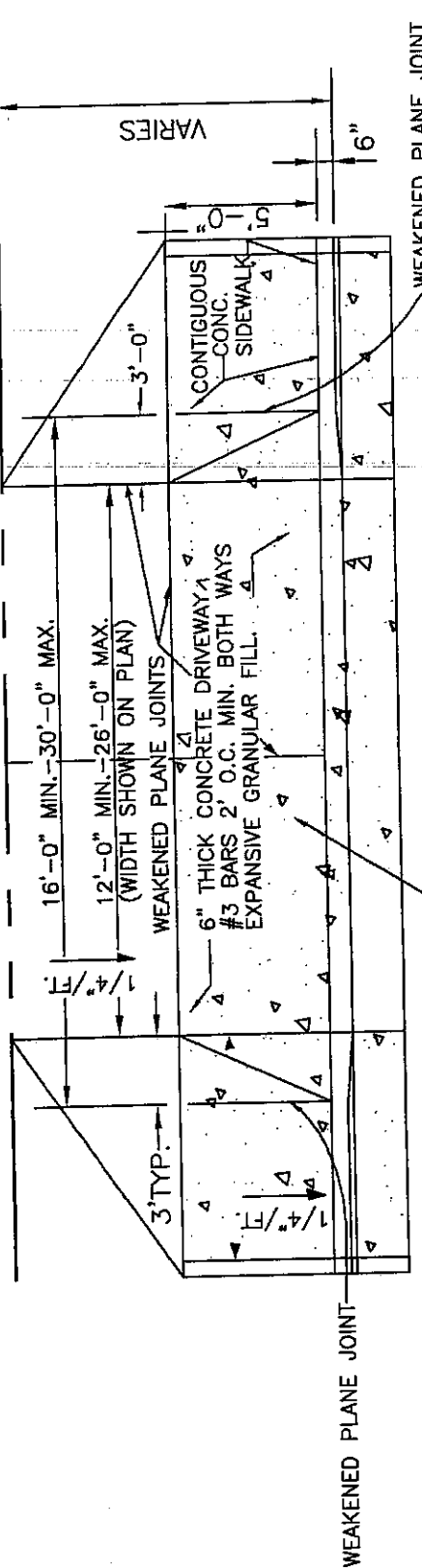
- NOTES
- EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S CURB RETURNS AND STRUCTURES IN ADDITION TO 45' O.C.



**IMPERIAL COUNTY**  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

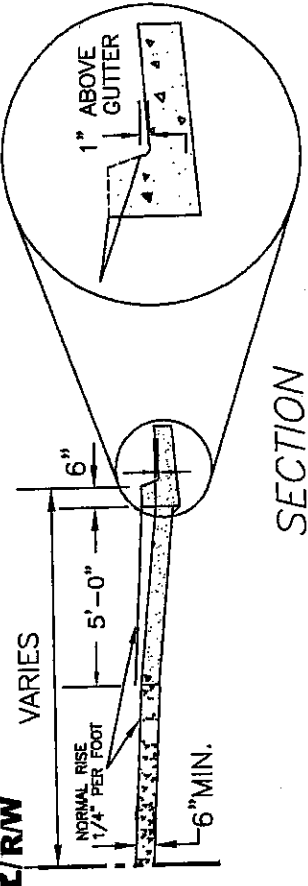
<b>CURB AND GUTTER DETAIL</b>	
DATE:	11/05/02
DRAWN:	O. ESPINOZA
CHECKED:	F. Fiorenza
DWG No.	Gateway-400
NOT TO SCALE	

PROPERTY LINE/ R/W LINE



PLAN

R/W



SECTION

ELEVATION

NOTE:

1. SUBGRADE TO BE 12" COMPACTED TO 90% OF MAXIMUM DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% +/-2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
2. WEAKENED PLANE JOINTS REQUIRED ON DRIVEWAY CENTER LINE
3. FOR JOINTS DETAILS SEE GATEWAY STD. DWG. 400
4. WIDTH AND LOCATION AS DIRECTED BY OWNER AND APPROVED BY THE COUNTY ENGINEER OR HIS REPRESENTATIVE.
5. ENCROACHMENT PERMIT REQUIRED FROM COUNTY PUBLIC WORKS DEPT. FOR DRIVEWAY. FOR FUTURE MAINTENANCE OF DRIVEWAY AND SIDEWALK IS THE RESPONSIBILITY OF FRONTING LANDOWNER.

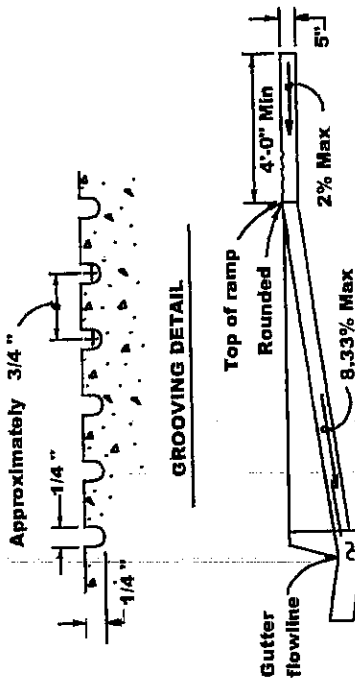


IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

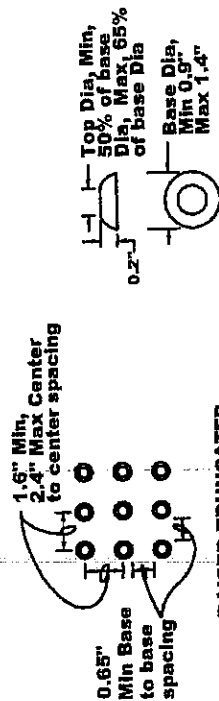
**DRIVEWAY  
ACCESS DETAIL**

NOT TO SCALE

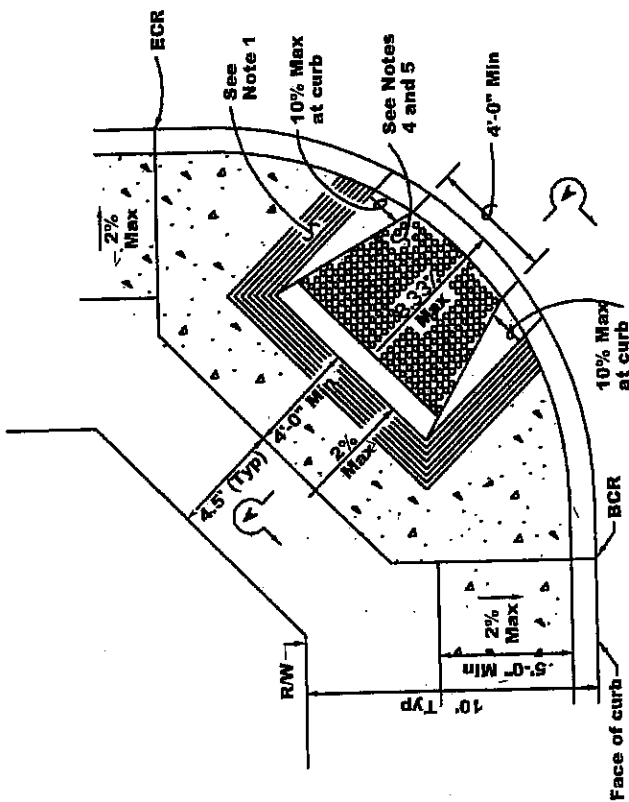
DATE:	08/06/03
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-410



**SECTION A-A**



**RAISED TRUNCATED DOME PATTERN (IN-LINE) DETECTABLE WARNING SURFACE**  
See Note 4



**NOTES**

1. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL
2. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
3. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE HERRINGBONE PATTERN WITH 1/4" CURB RAMP AND CONTINUOUS PASSAGE TO THE CURB RAMP SHALL NOT EXCEED 5 PERCENT WITHIN 4' OF THE TOP OR BOTTOM OF THE CURB.
4. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3' DEPTH OF THE CURB RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE DETAILS ON THIS PLAN AND THE REQUIREMENTS IN THE SPECIAL PROVISIONS.
5. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
6. UTILITY PULL BOXES, MANHOLES, VAULTS AND ALL OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP WILL BE RELOCATED OR ADJUSTED TO GRADE BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, CURB RAMP CONSTRUCTION.
7. ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK 4000 PSI PORTLAND CEMENT CONCRETE OVER CLASS 2 AGG. BASE OR PIT RUN GRAVEL SAND W/SAND EQUIVALENT >30. (for leveling purposes)
8. RAMPS LOCATED OTHER THAN SHOWN SHALL BE APPROVED BY THE COUNTY ENGINEER.
9. SUBGRADE (8" MINIMUM) TO BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY (ASTM D1557) AND MAINTAIN A MOISTURE CONTENT OF 18% (+/- 2%) FOR CLAY SOILS ONLY FOR ALL LOCATIONS UNDERNEATH CONCRETE STRUCTURES.
10. FOR OTHER APPLICATIONS, SEE RSP AB8A OF CALTRANS STD. PLANS, 04-08-04



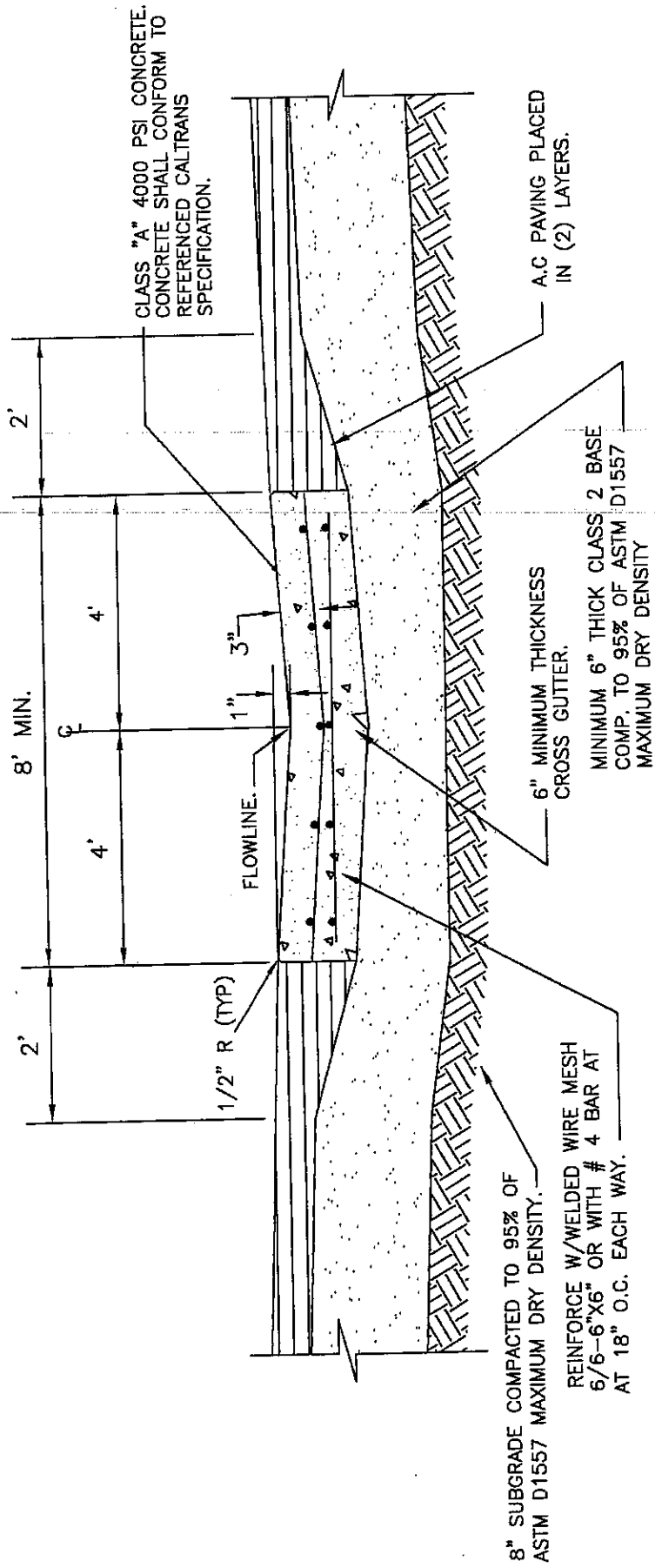
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

DATE:	09/09/04
DRAWN:	O. Espinoza
CHECKED:	F. Florenza
DTG No.	Gateway 414

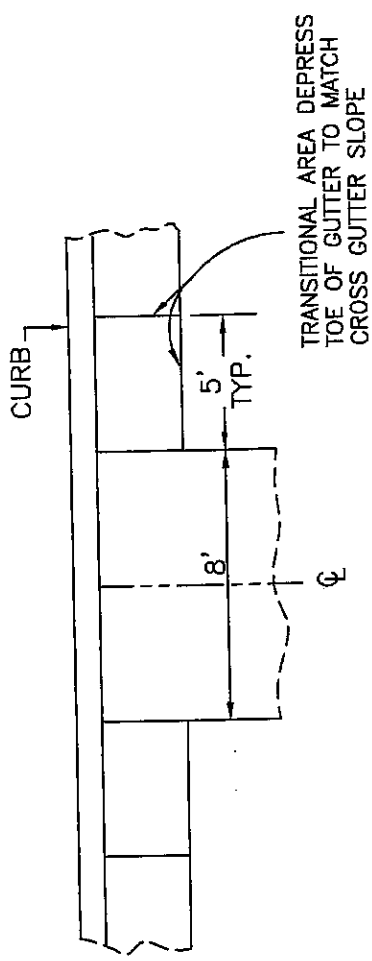
**PEDESTRIAN RAMP AND CURB RETURN**

NOT TO SCALE





ELEVATION



PLAN

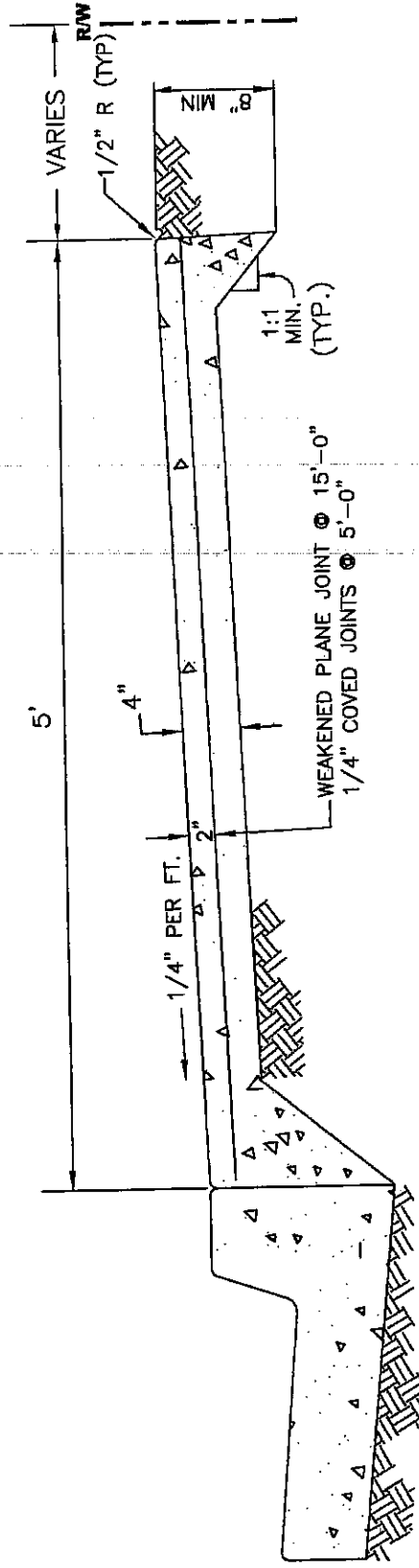
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**



DATE:	09/09/02
DRAWN:	O. ESPINOZA
CHECKED:	F. Fiorenza
DWG No.	Gateway-415

**MID-BLOCK  
 CROSS GUTTER DETAIL**

NOT TO SCALE



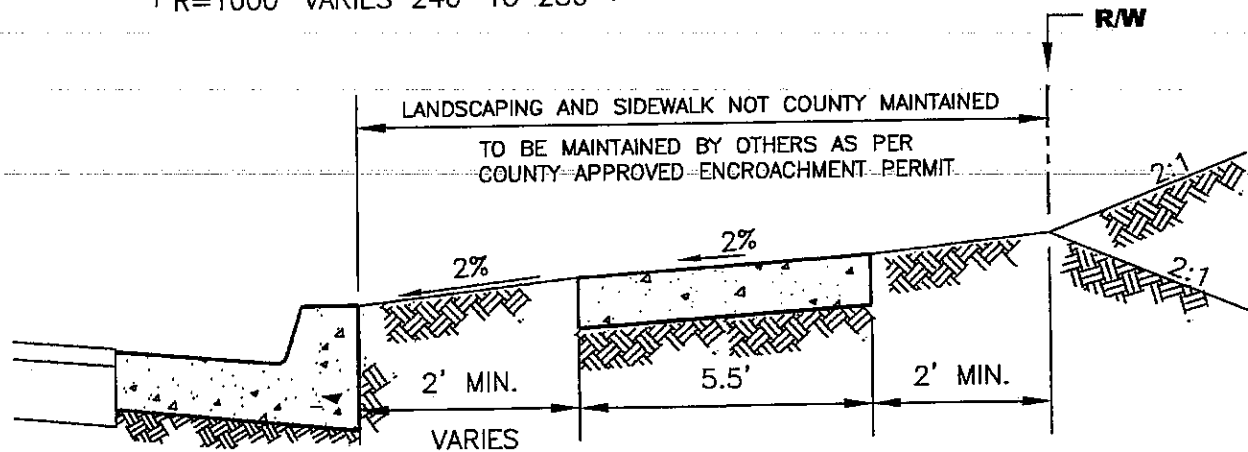
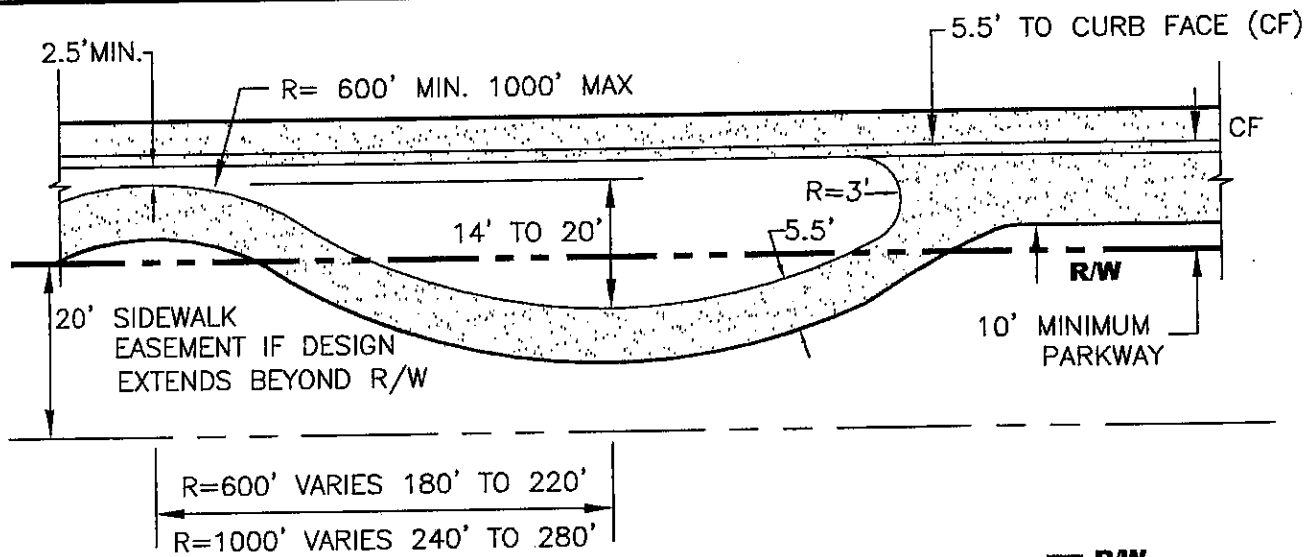
NOTES

1. EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO 45' O.C.
2. FOR JOINTS DETAILS SEE GATEWAY STD. DWG. 400
3. SIDEWALK AND CURB NON-MONOLITHIC POUR
4. SUBGRADE SHALL BE 8" INCHES MINIMUM OF 95% OF ASTM D1557 MAXIMUM DRY DENSITY



IMPERIAL COUNTY  
 PUBLIC WORKS DEPARTMENT  
 EL CENTRO, CALIFORNIA

DATE: 08/29/02	<b>CONTIGUOUS SIDEWALK DETAIL</b>
DRAWN: O. Espinoza	
CHECKED: F. Fiorenza	
DWG No. Gateway-420	
NOT TO SCALE	



- NOTES:
1. RADII FOR CURVED SIDEWALK SHALL BE BETWEEN 600' AND 1000'.
  2. ALL RADII SHALL BE STAGGERED.
  3. EASEMENT REQUIRED FOR SIDEWALK THAT EXTENDS BEYOND RIGHT OF WAY LINE
  4. SIDEWALK SHALL BE A MINIMUM OF 5.0' IN WIDTH ADJACENT TO CURB, 5.5' AWAY FROM CURB.
  5. SIDEWALK SHALL BE 2.5' AWAY FROM CURB FACE EXCEPT AT CURB RETURNS AND BUS STOPS.
  6. SIDEWALK LAYOUT ON PLANS IS CONCEPTUAL ONLY. APPROVAL OF THE FINAL SIDEWALK LAYOUT SHALL BE MADE IN THE FIELD AND ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AS APPROVED BY THE INSPECTOR PRIOR TO FINAL CONSTRUCTION.
  7. ALL NOTES SHOWN ON GATEWAY STD. DWGS. 420 SHALL ALSO APPLY.
  8. SUBGRADE SHALL BE 8 INCHES MINIMUM OF 95% OF ASTM D1557 MAXIMUM DRY DENSITY.

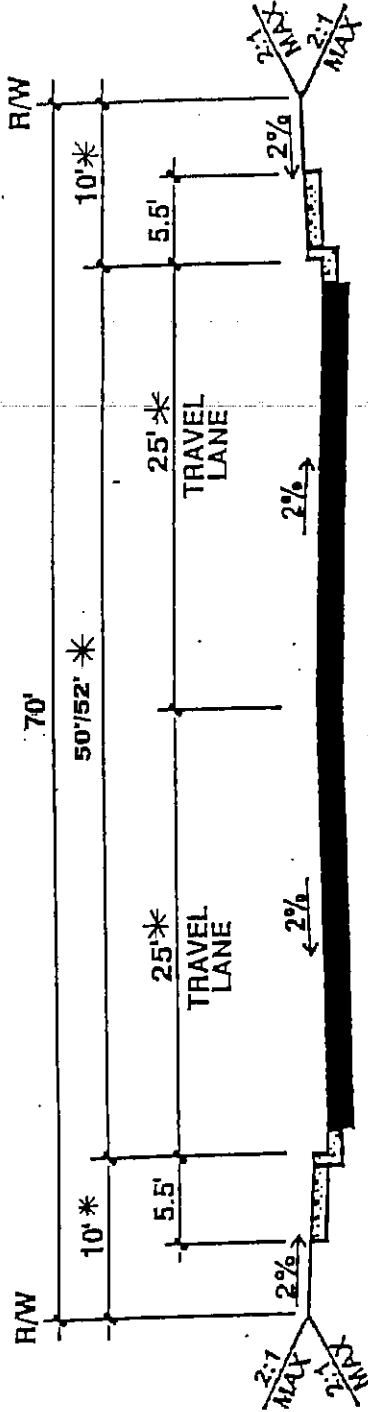


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

## MEANDERING SIDEWALK

NOT TO SCALE

DATE: 09/09/02  
 DRAWN: O. Espinoza  
 CHECKED: F. Fiorenza  
 DWG No. Gateway-425



## 2 LANE LOCAL STREET - NO PARKING

THIS MAY BE 26'/9' OR 52' AS APPROVED BY PUBLIC WORKS DEPARTMENT

**NOTE:**

1. SEE APPROVED PLANS AND GATEWAY STD. DETAIL 440 FOR ROAD STRUCTURAL SECTIONS

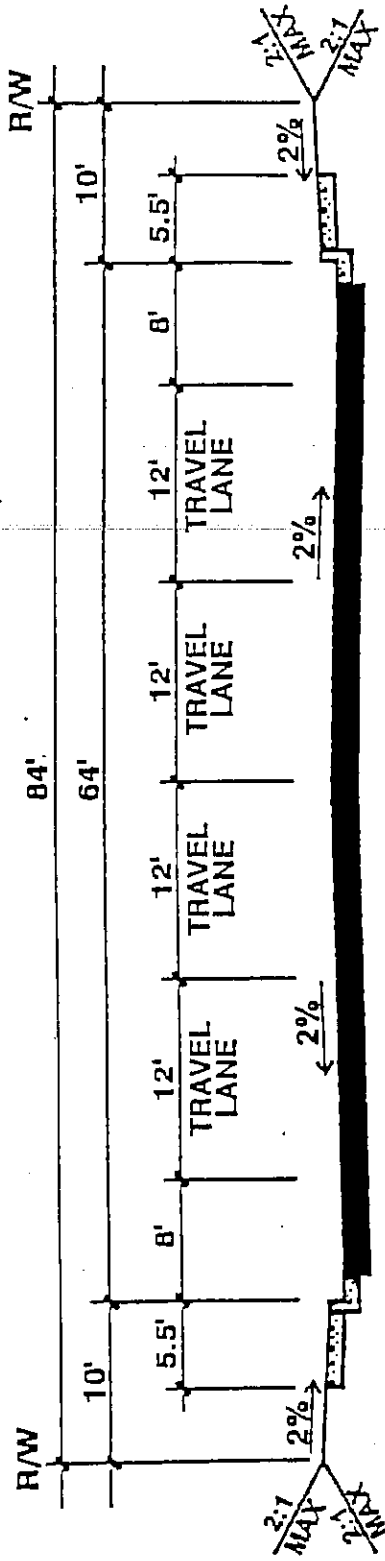


IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE:	11/18/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-430

### TYPICAL STREET CROSS SECTIONS

NOT TO SCALE



## 4 LANE COLLECTOR (SECONDARY ARTERIAL)

NOTE:

1. SEE APPROVED PLANS AND GATEWAY ST. DETAIL 440 FOR ROAD STRUCTURAL SECTIONS



IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE: 08/29/02

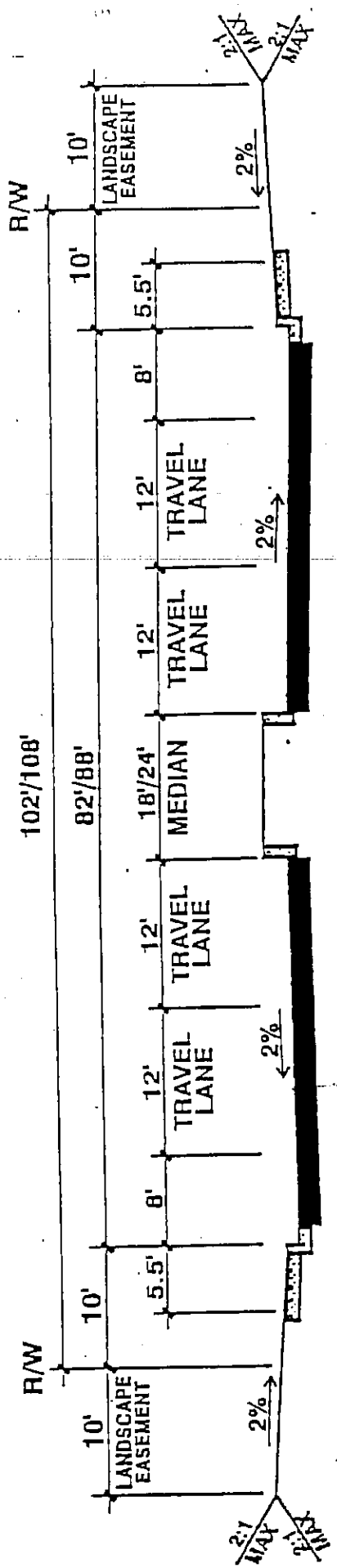
DRAWN: O. Espinoza

CHECKED: F. Fiorenza

DWG No. Gateway-432

### TYPICAL STREET CROSS SECTIONS

NOT TO SCALE



**4 LANE MAJOR ARTERIAL (MEDIAN WITH SINGLE OR DUAL LEFT TURN)**

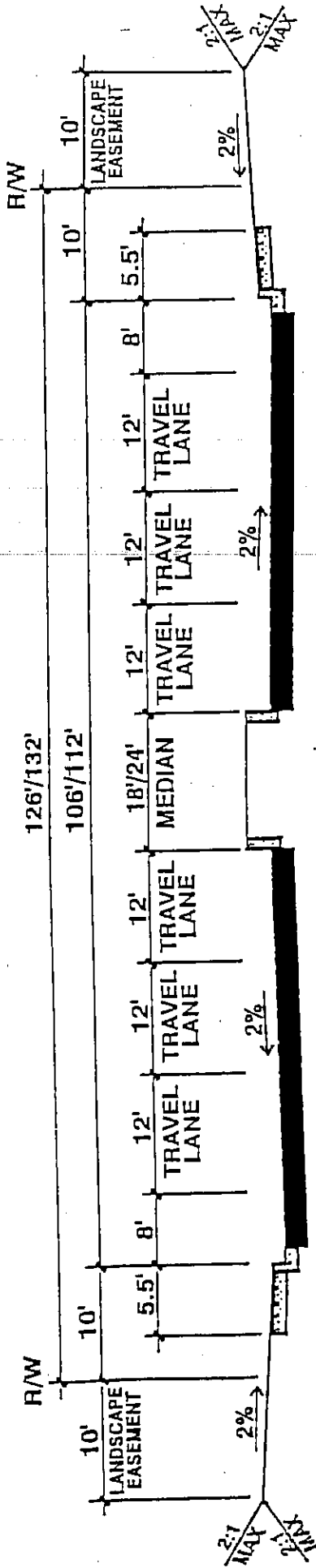
NOTE:

1. SEE APPROVED PLANS AND GATEWAY STD. DETAIL 440 FOR ROAD STRUCTURAL SECTIONS



**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

<b>TYPICAL STREET CROSS SECTIONS</b>	
NOT TO SCALE	
DATE:	08/29/02
DRAWN:	O. Espinoza
CHECKED:	F. Fiorenza
DWG No.	Gateway-434



**PRIME ARTERIAL ( MEDIAN WITH SINGLE OR DUAL LEFT TURN)**

NOTE:

1. SEE APPROVED PLANS AND GATEWAY STD. DETAIL 440 FOR ROAD STRUCTURAL SECTIONS



IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE: 08/29/02

DRAWN: O. Espinoza

CHECKED: F. Fiorenza

DWG No. Gateway-436

**TYPICAL STREET  
CROSS SECTIONS**

NOT TO SCALE

MINIMUM TRAFFIC INDEX	STREET CLASSIFICATION	RIGHT OF WAY	STRUCTURAL SECTION
10.5	MAJOR ARTERIAL	102'	5.5" A.C. OVER 12" CLASS 2 AB
9.5	COLLECTOR/SECONDARY ARTERIAL	84'	4.5" A.C. OVER 12" CLASS 2 AB
8.5	LOCAL/ INDUSTRIAL	70'	4" A.C. OVER 11" CLASS 2 AB

**NOTES:**

- 1) Asphaltic concrete should be Caltrans Type A or B,  $\frac{3}{4}$  in. maximum-medium grading, compacted to a minimum of 95 % of the HVEEM or 75 - blow Marshall density (ASTM D1559).
- 2) Aggregate base should be Caltrans Class 2 (  $\frac{3}{4}$  in. maximum), compacted to a minimum of 95 % of ASTM D1557 maximum dry density. (No Recycled Base).
- 3) All pavements should be placed on 8 inches of moisture conditioned, (minimum of optimum) native soils compacted to a minimum of 95 % of ASTM D1557 maximum dry density.
- 4) For road rights of way differing for those shown above see section 11 H, " Street Structural Section" in the Procedure and Design Guidelines Manual for the SPA.



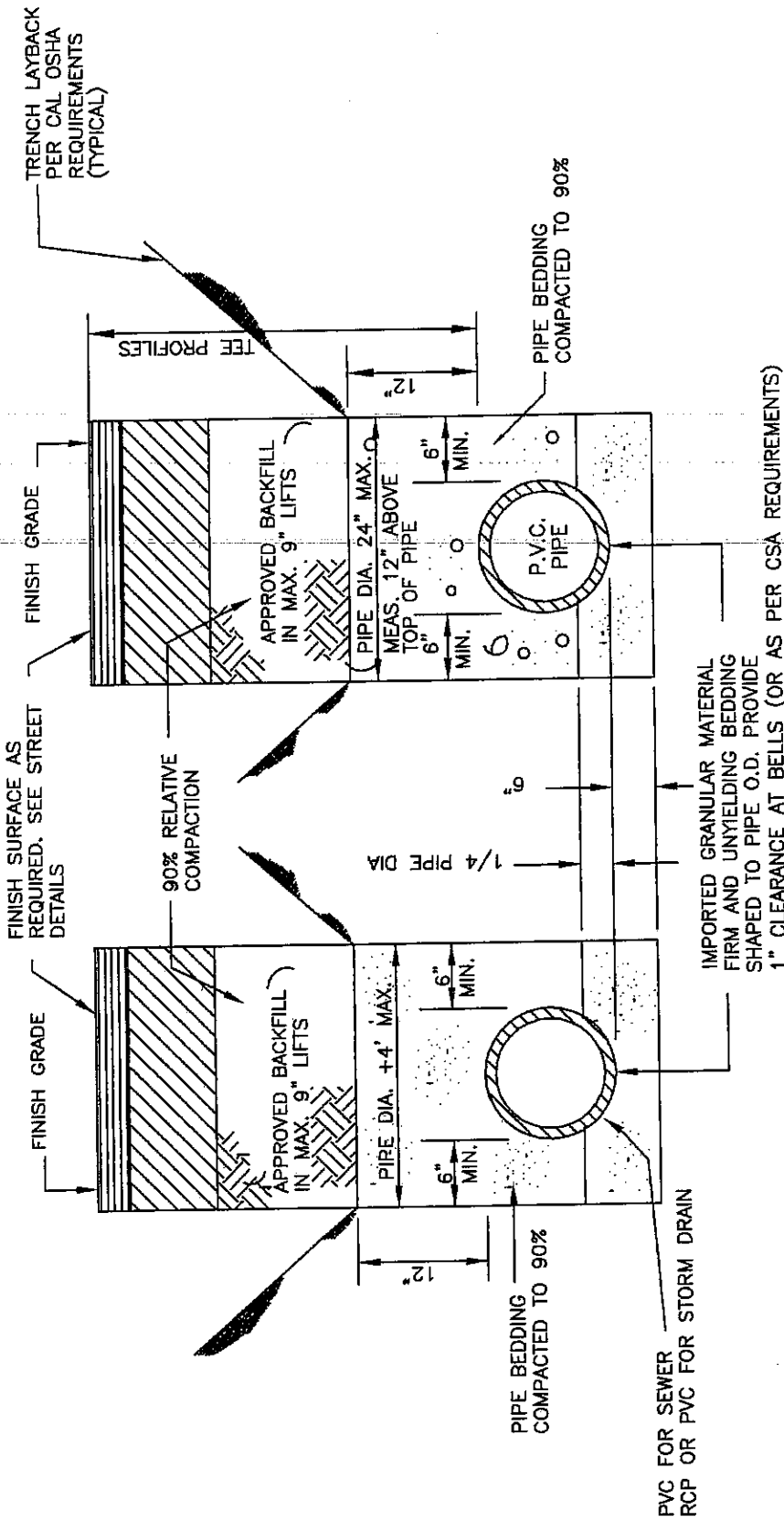
IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

**GATEWAY STREET  
STRUCTURAL SECTION**

NOT TO SCALE

DATE: 08/29/02  
DRAWN: O. Espinoza  
CHECKED: F. Fiorenza  
DWG No. Gateway-440





**NOTES**

1. FOR TRENCHING ON IMPROVED STREETS SEE GATEWAY STD. DWG. DETAIL No. 502
2. PIPE BEDDING AND APPROVED BACKFILL SHALL BE SHALL BE AS DETERMINED BY THE COUNTY DIRECTOR OF PUBLIC WORKS



**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
 EL CENTRO, CALIFORNIA

DATE:	08/29/02
DRAWN:	O. ESPINOZA
CHECKED:	F. FIORENZA
DWG No.	Gateway-500

**TRENCH DETAILS**

NOT TO SCALE

12" MIN (TYP.) FEATHER TO MEET EXISTING PAVING

6" MIN (TYP)

ASPHALT CONCRETE

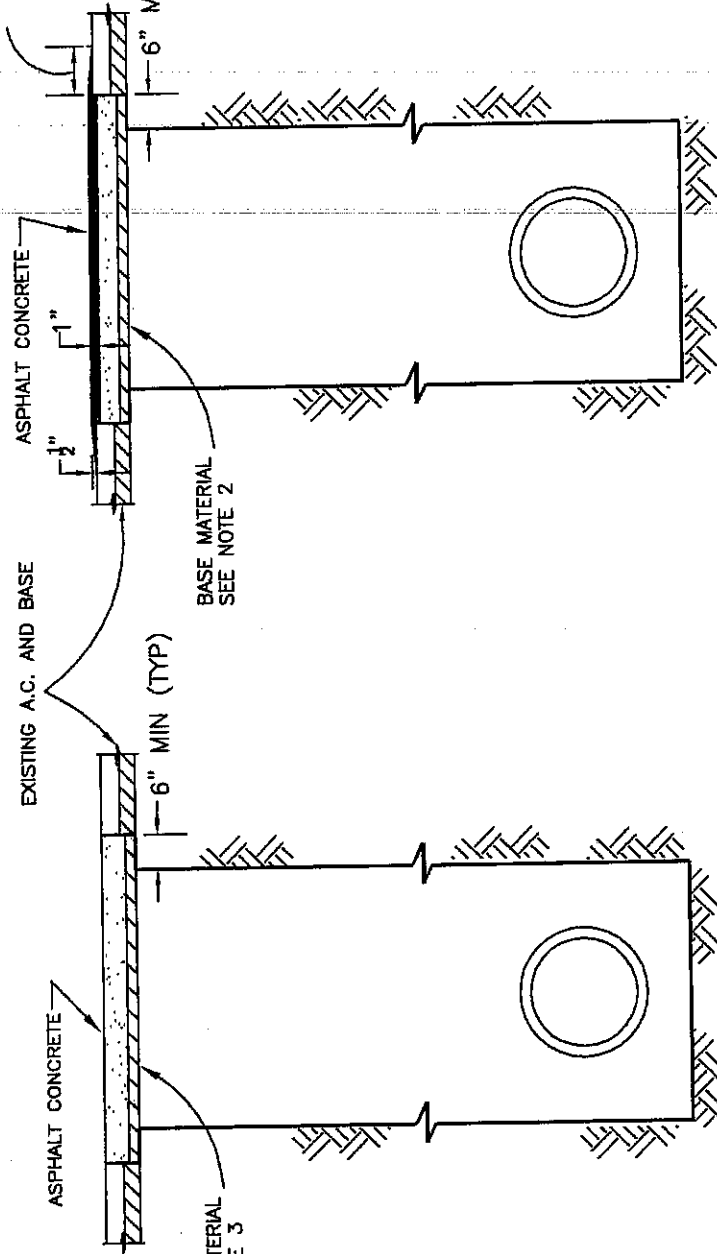
EXISTING A.C. AND BASE

ASPHALT CONCRETE

6" MIN (TYP)

BASE MATERIAL  
SEE NOTE 2

BASE MATERIAL  
SEE NOTE 3



TYPE B

TYPE A

**NOTES**

1. THIS DETAIL APPLICABLE TO ALL TRENCHING WITHIN IMPROVED STREETS FOR ANY TYPE OF PIPE WITH COVER DEPTH GREATER OR EQUAL TO 30 INCHES.
2. EXISTING A.C. SHALL BE SAWCUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR, BULGE OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO STREET CENTERLINE, WHEN PRACTICAL.
3. BASE MATERIAL TO BE REPLACED TO DEPTH OF EXISTING BASE. A.C. MAY BE SUBSTITUTED FOR BASE MATERIAL.
4. A TACK COAT OF ASPHALTIC EMULSION OR PAVING ASPHALT SHALL BE APPLIED TO EXISTING A.C. AT ALL CONTACT SURFACES, PRIOR TO RESURFACING.
5. ASPHALTIC CONCRETE RESURFACING:
  - A) MINIMUM TOTAL THICKNESS SHALL BE ONE INCH GREATER THAN EXISTING A.C.
  - B) A.C. SHALL BE HOT PLANT MIX.
  - C) FINISH COURSE FOR TYPE B RESURFACING SHALL BE LAID DOWN USING A SPREADER BOX.
6. ALL A.C. RESURFACING SHALL BE SEAL COATED WITH AN EMULSIFIED ASPHALT AND COVERED WITH SAND. CHIP SEALING SHALL BE APPLIED AS REQUIRED BY AGENCY.
7. TYPE B NOT TO BE USED ON LATERAL CROSSINGS.



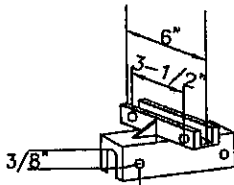
**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
 EL CENTRO, CALIFORNIA

DATE:	08/29/02
DRAWN:	O. ESPINOZA
CHECKED:	F. FIORENZA
DWG No.	Gateway-505

**TRENCH RESURFACING DETAIL**

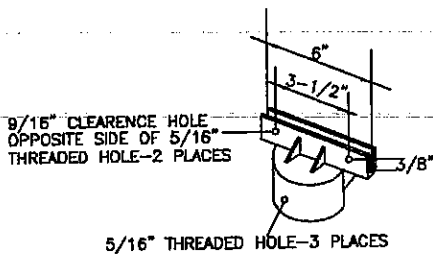
NOT TO SCALE

**CROSSES AVAILABLE**  
90°



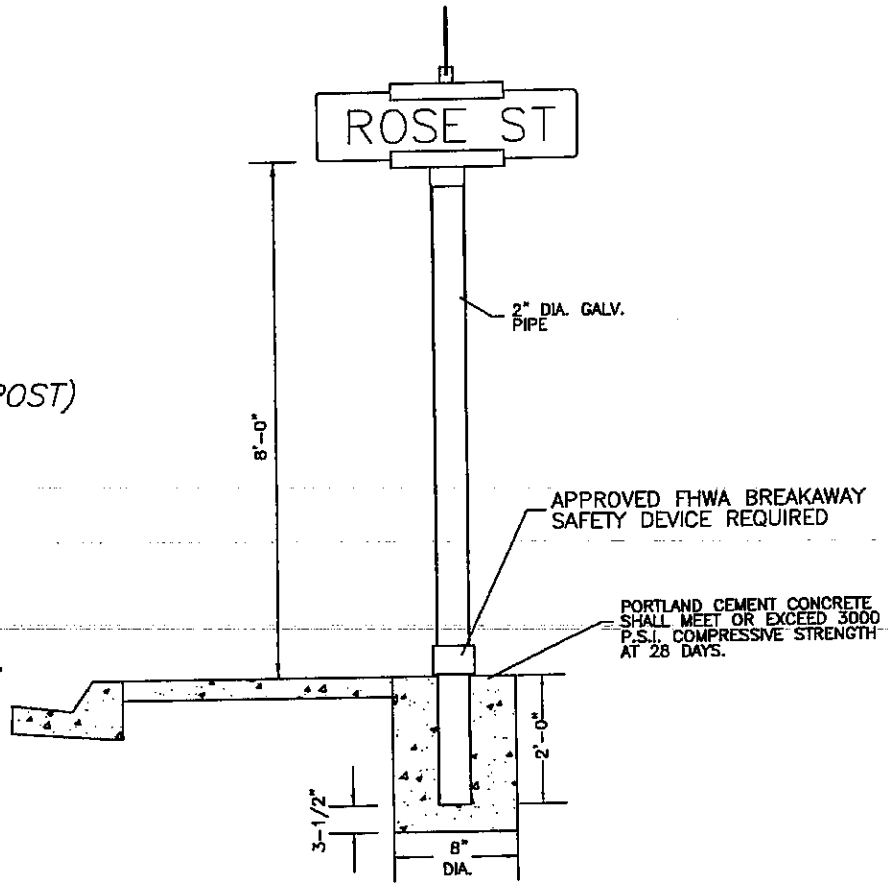
9/16" CLEARANCE HOLE,  
OPPOSITE SIDE OF 5/16"  
THREADED HOLE-4 PLACES

**CAPS AVAILABLE**  
2" (FOR 2 3/8" O.D. POST)  
U-CHANNEL CAP 180°  
U-CHANNEL CAP 90°



9/16" CLEARANCE HOLE,  
OPPOSITE SIDE OF 5/16"  
THREADED HOLE-2 PLACES

5/16" THREADED HOLE-3 PLACES



APPROVED FHWA BREAKAWAY  
SAFETY DEVICE REQUIRED

PORTLAND CEMENT CONCRETE  
SHALL MEET OR EXCEED 3000  
P.S.I. COMPRESSIVE STRENGTH  
AT 28 DAYS.

**HARDWARE AVAILABLE**

- STANDARD SET SCREWS
- VANDAL PROOF (VP) SET SCREWS
- TS12 BOLTS AND SET SCREWS
- VANDAL PROOF BOLTS AND VP SET SCREWS

**STREET SIGN NOTES**

- 1 THE STREET NAME SHALL CONSIST OF THE SPECIFIED POST, STREET NAME SIGN AND MOUNTING COMPLETELY INSTALLED AND PAINTED PER COUNTY ENGINEER'S SPECIFICATIONS AND BRAND.
- 2 STREET NAME SIGN SHALL BE A DOUBLE FACED FLAT BLADE, HIGH INTENSITY GRADE, REFLECTIVE SHEETING SIZE 9"x24".
- 3 WHITE LETTERS 6" HIGH, SHALL INCLUDE BLOCK NUMBER.
- 4 BACKGROUND MATERIAL SHALL BE PORCELAIN GREEN WITH REFLECTIVE LETTERS, AND BORDER.
- 5 BACKGROUND MATERIAL AND LETTERS SHALL BE APPLIED BY MECHANICAL APPLICATION.
- 6 POST SHALL BE 2" IRON PIPE, GALV., 10'-0" LONG WITH ONE END FINISHED TO RECEIVE MOUNTING FITTINGS.
- 7 SIGN SHALL BE INSTALLED AT THE APPROACHING STREET INTERSECTION'S BEGINNING OF CURB RETURN UNLESS OTHERWISE NOTED ON THE PLAN.

**NOTE:**

- SPECIAL MACHINING AVAILABLE
- O.D. (OUTSIDE DIAMETER OF POST)
- FOR SET SCREW APPLICATION 25-40 INCH POUNDS PRESSURE IS SUFFICIENT TO SECURE SIGN BLANK IN BRACKET.

ACAD: \\STD.DWG\$-DETAILS\francis\ST.DW.COUNTY\Gateway-510.dwg

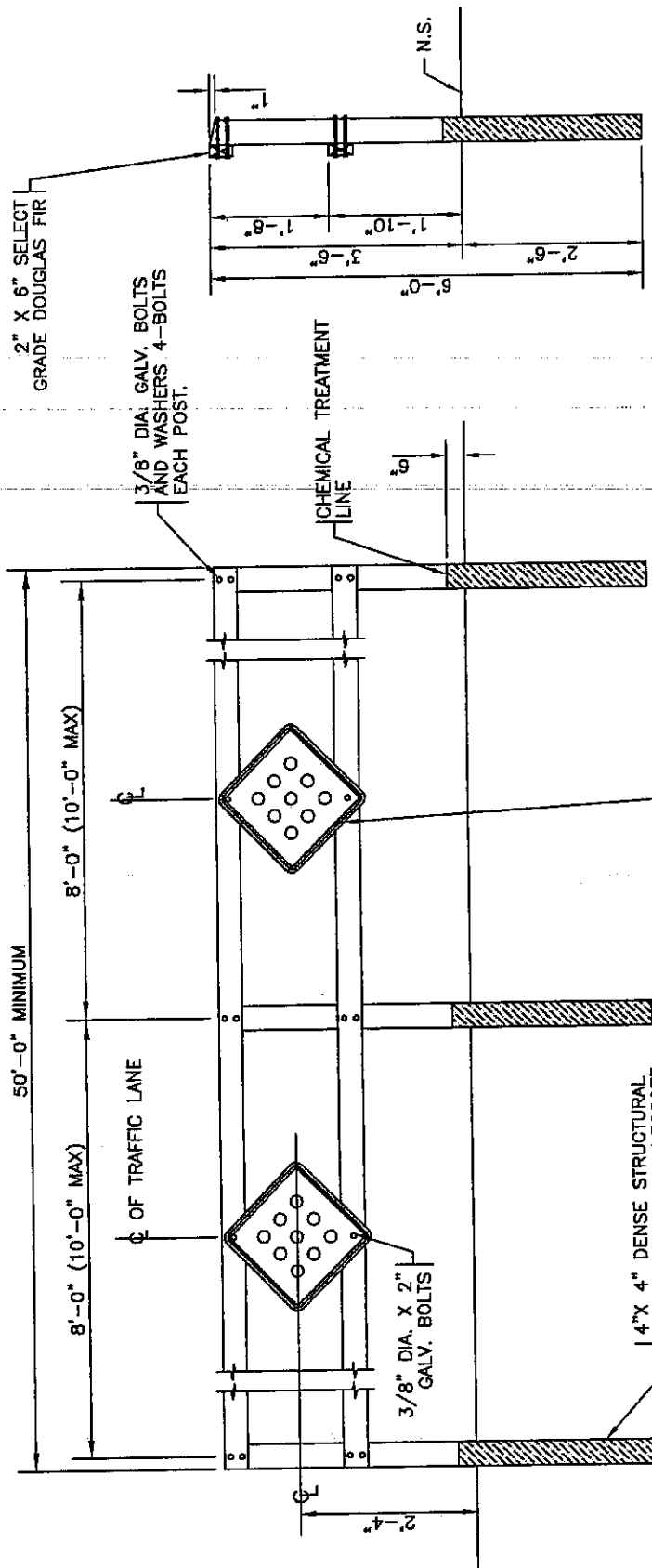


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

**SUBDIVISION  
STREET NAME  
SIGN DETAIL**

NOT TO SCALE

DATE:	09/09/04
DRAWN:	J. GARCIA
CHECKED:	F. FIORENZA
DWG No.	Gateway 510



REFLECTOR SIGN - CALIF. CODE TYPE N-1, SIZE IS 18" X 18" ALUMINUM DIAMOND SHAPE, BLANK, 0.8 GAUGE THICK W/ SCOTCH LITE OR ANY EQUIVALENT BRAND (STATE APPROVED ONLY). SIGN SURFACE SHALL BE FULLY REFLECTIVE YELLOW FACE W/ 1/2" BLACK BORDER RECESS 1/4" FROM EDGE OF METAL BLANK.

**END VIEW**

**FRONT VIEW**

NOTE: PAINT ALL EXPOSED WOOD SURFACE WITH 2 COATS OF EXTERIOR WHITE ENAMEL.

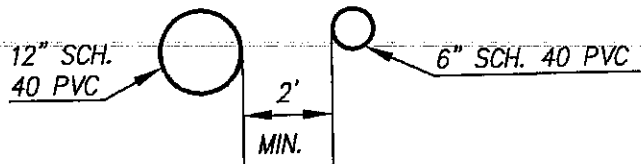
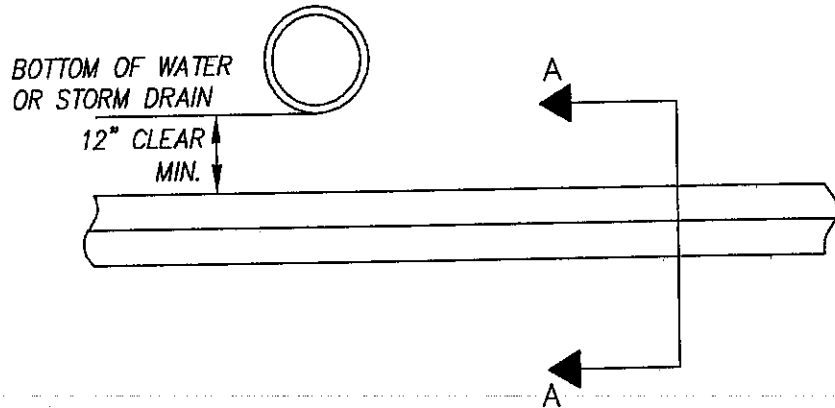


**IMPERIAL COUNTY**  
**PUBLIC WORKS DEPARTMENT**  
**EL CENTRO, CALIFORNIA**

DATE: 08/29/02
DRAWN: O. ESPINOZA
CHECKED: F. FIORENZA
DWG No. Gateway-515


**BARRICADE DETAIL**

NOT TO SCALE



SECTION A-A  
 BACKFILL PER  
 TRENCH DETAIL

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 **IMPERIAL COUNTY**  
 PUBLIC WORKS DEPARTMENT  
 EL CENTRO, CALIFORNIA

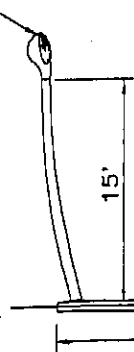
**UTILITY  
 SLEEVE DETAIL**

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NOT TO SCALE

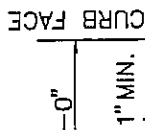
DATE:	11/18/02
DRAWN:	O. Espinoza
CHECKED:	M. Ortiz
DWG No.	Gateway-520

LUMINAIRE HIGH PRESSURE SODIUM VAPOR W/PHOTOCELL 10,000 LUMINS, TYPICAL



ROUND MONOTUBE STEEL POLE TO BE HOT DIPPED GALVANIZED.

30'-0" MINIMUM



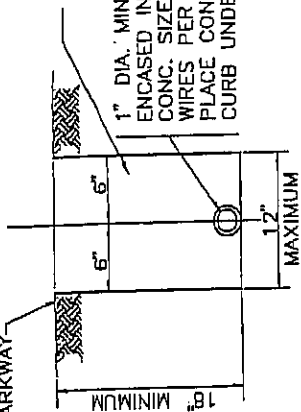
ELEVATION

24" MIN.

NOTES:

- 250 WATTS LUMINAIRE @ STREET INTERSECTIONS OR IN FRONT OF INTERSECTION & 100 WATTS @ OTHER LOCATIONS
- # 4 TIES TO BE @ 12" MIN. SEPARATION FROM TOP TO BOTTOM. SIDEWALL REBAR TO BE 2" OR MORE FROM EXCAVATION WALLS AND BOTTOM.

N.S. PARKWAY



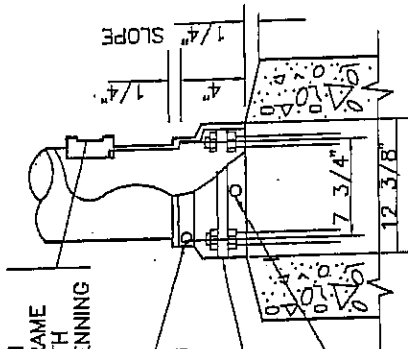
TRENCH

HANDHOLE WITH REINFORCED FRAME AND COVER WITH 4" X 6" / 2" OPENNING

(4)-1/4" X 20" HEX SOCKET HEAD SCREWS

ALUMINUM BASE COVER (4)-QTR. SECTIONS.

VENT HOLE



BASE DETAIL

#4 BARE SINGLE STRAND CONDUIT WIRE (MECH.GRD. TO POLE) EXTEND 18" ABOVE FOUNDATION.

(4)-1" X 3/4" GALVANIZED ABOVE (3 3/4" THREADED) W/GALVANIZED NUTS AND WASHERS.

1" X 11" X 1 1/2" POLE BASE PLATE

CONC. BASE 1" ABOVE SIDEWALK

CONDUIT SIZE AS REQUIRED (1" MIN.) SEE TRENCH DETAIL

4-#4 BARS

2" OR MORE

#4 TIES TOP AND BOTTOM

3500 PSI MINIMUM COMPRESSIVE STRENGTH

6" SAND FILL

5 FT. COIL

FOUNDATION



IMPERIAL COUNTY  
PUBLIC WORKS DEPARTMENT  
EL CENTRO, CALIFORNIA

DATE:

08/29/02

DRAWN:

O. Espinoza

CHECKED:

F. Fiorenza

DWG No.

Gateway-610

STREET LIGHT

NOT TO SCALE