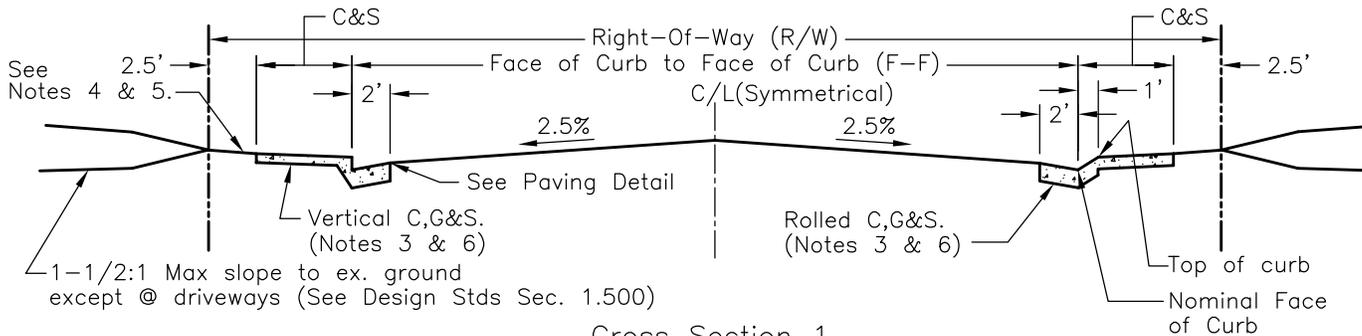




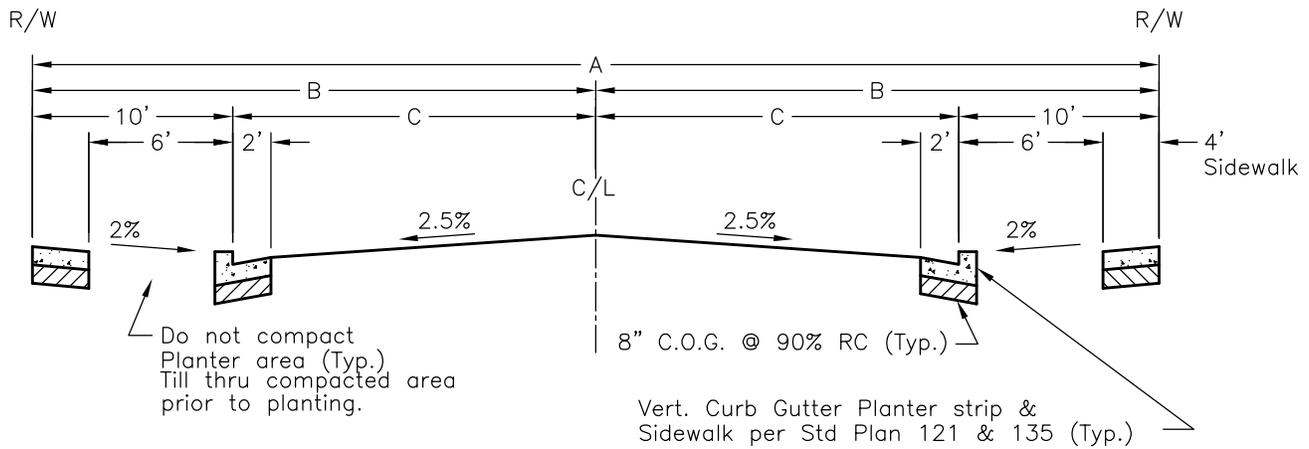
CITY OF LODI

PUBLIC WORKS DEPARTMENT

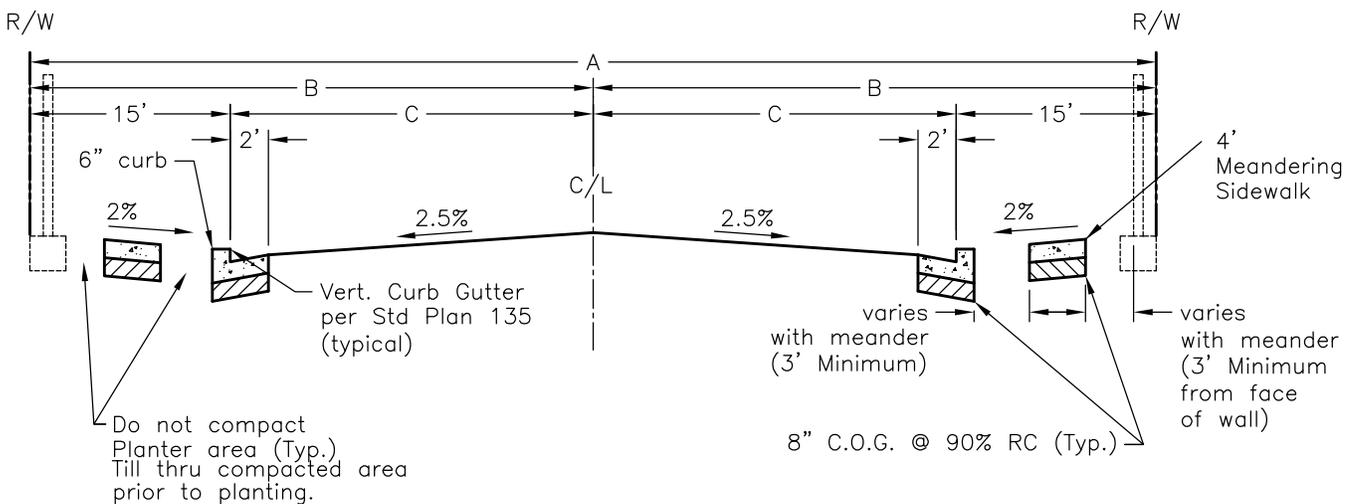
STREET SECTIONS



Cross Section 1



Cross Section 2



Cross Section 3

Sheet 1 of 2

Dr. KT	No. 1	Date 2/05	Revision ADDED CROSS SECTION 3	Appr.	Approved By: <i>F. Wally Sandelin</i>	Date 2/2/05
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	
Date 12/00						

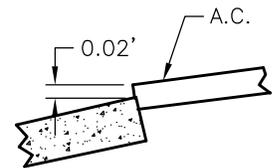
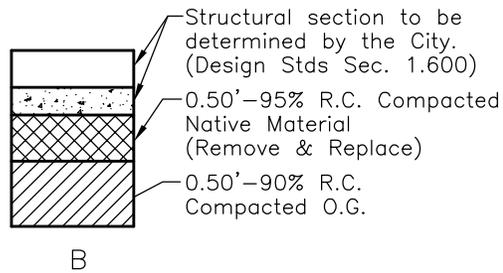
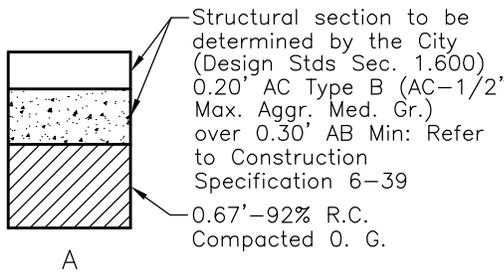
STD PLAN

101



Section Dimension Table

<u>Street Classification</u>	(A) <u>R/W</u>	(2xC) <u>F-F</u>	<u>Min. C&S</u>	<u>Cross Section</u>	<u>Structural Section</u>
Minor Residential	50'	34'	5.5' Rolled	1	A
Minor Residential	50'	30'	4.0' sidewalk SW w/ 0.5' Vertical curb	2	A
Standard Residential	55'	39'	5.5' Rolled	1	A
Standard Residential	55'	35'	4.0' sidewalk SW w/ 0.5' Vertical curb	2	A
Minor Collector	60'	44'	5.5' Vertical	1	B
Major Collector	68'	52'	5.5' Vertical	1	B
Industrial (Local)	66'	52'	4.5' Vertical	1	B
Secondary Arterial	80'	64'	5.5' Vertical	1	B
Four-Lane Undivided					
Minor Arterial	94'	78'	5.5' Vertical	1	B
Four-Lane Divided					
Major Arterial	118'	102'	5.5' Vertical	1	B
Six-Lane Divided					
Minor Arterial w/ RW frontage wall	108'	78'	4.0' meandering SW w/ 0.5' Vertical curb	3	B



Structural Section

Paving Detail at TOE

Notes:

1. See City Public Improvement Design Stds. Sec. 1 for general design requirements.
2. Widening at intersections to provide additional lanes may be required.
3. See Std. Plans 135 and 136 for Vertical and Rolled C,G&S respectively.
4. The area between the R/W and back of sidewalk and between face of walk and back of curb shall be graded to 0.02' per ft. Where wider sidewalk is required (ie. commercial areas, around hydrants, poles etc) sidewalk specifications apply.
5. Private use of the R/W subject to Encroachment Permit requirements and Design Standards Sections 1.400 & 1.500.
6. See Design Stds. Section 1.500 for curb & gutter type criteria.

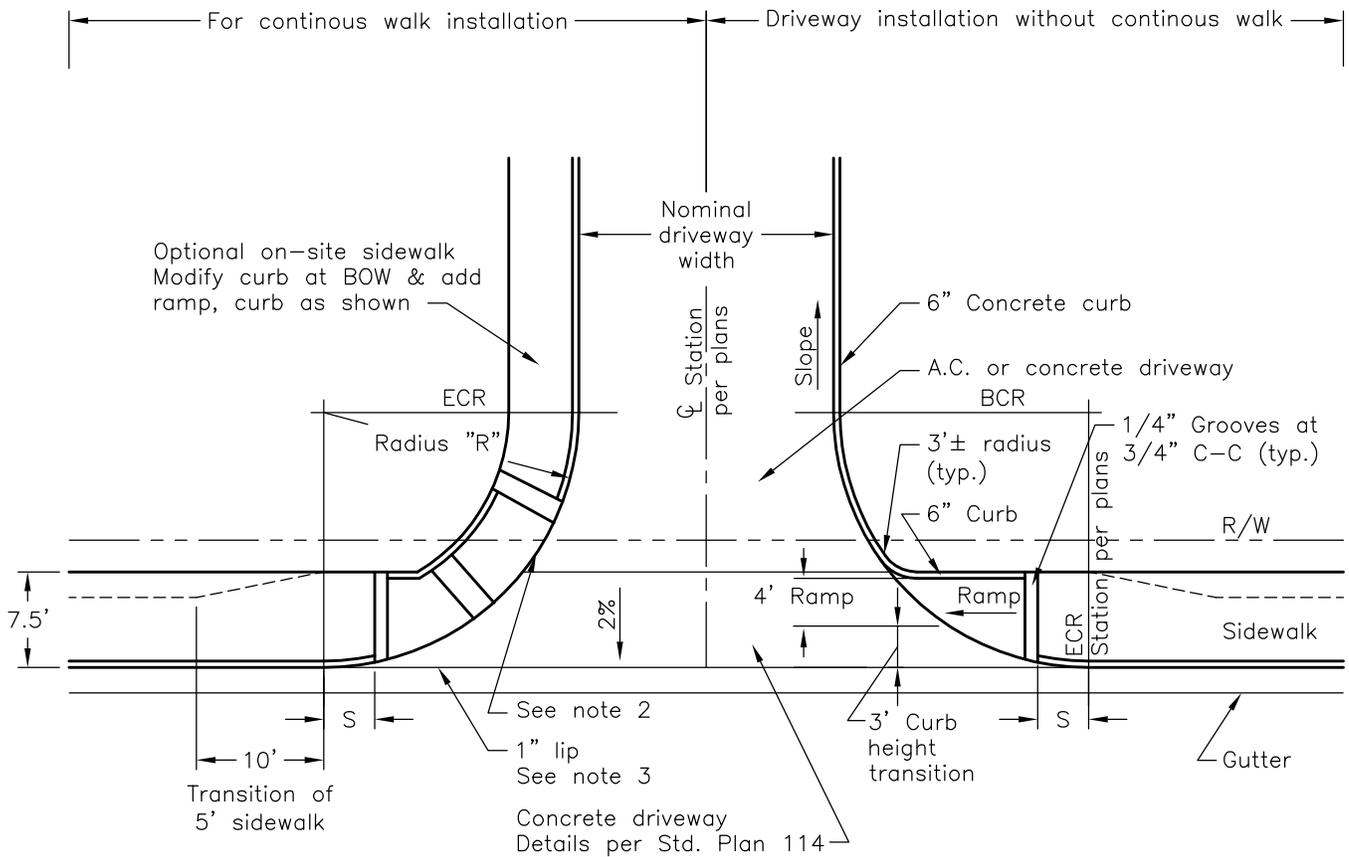
Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS	1	2/05	ADDED MEANDERING WALK		<i>F. Wally Sandelin</i>	101
Date 7/08					F. Wally Sandelin City Engineer R.C.E. 39895	2/2/05 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Special Commercial Driveway



Plan

"R"	"S"
15'	3'
20'	4'
25'	5'
30'	6'
35'	7'

Notes:

1. Special Commercial Driveway to be used only where required or specifically approved by the Public Works Director.
2. See Std. Plan 132 for wheelchair ramp details.
3. Provide in-line catch basin if depth of flow in gutter exceeds 3".

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN
Ch. WS					12/28/00	111
Date 12/00					Date	

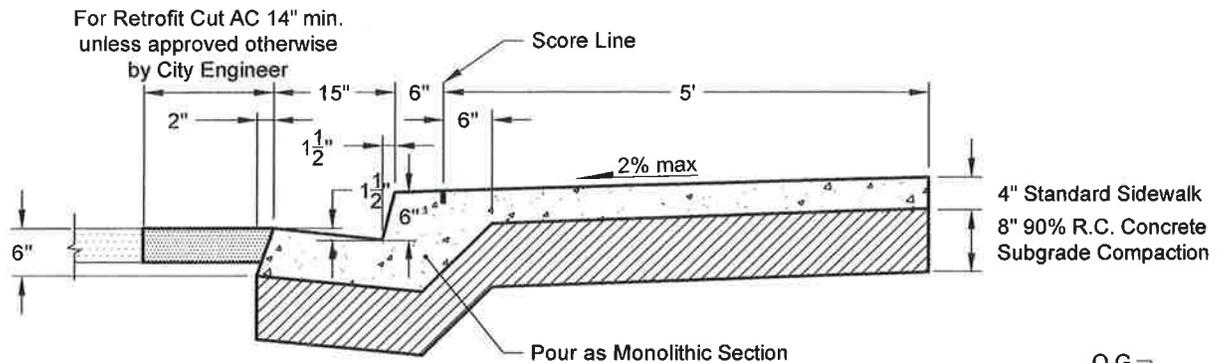
F. Wally Sandelin
City Engineer
R.C.E. 39895



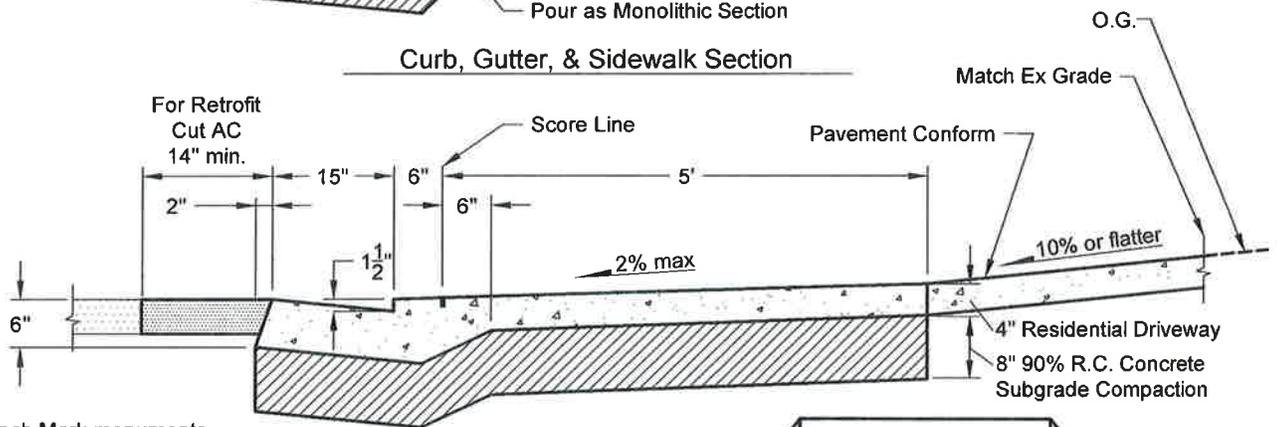
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Square-Type Curb, Gutter, Sidewalk and Residential

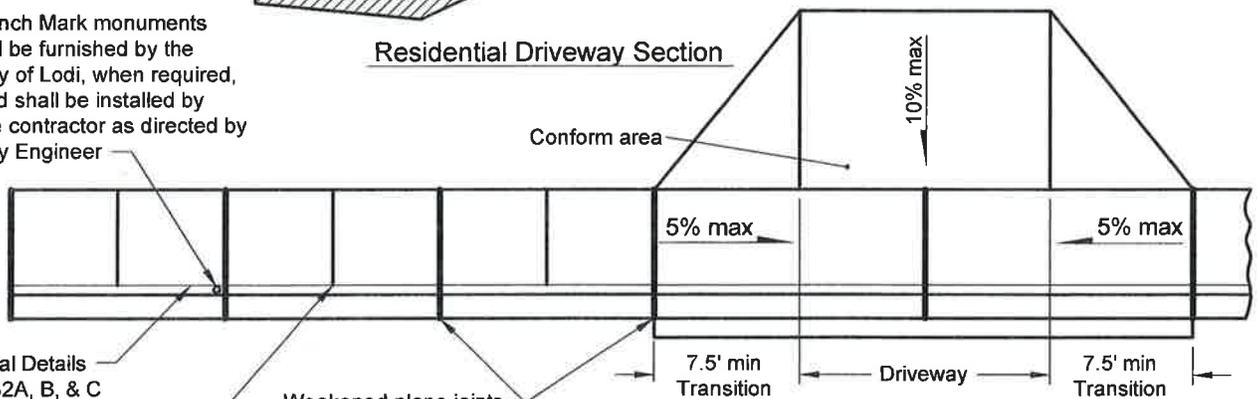


Curb, Gutter, & Sidewalk Section



Residential Driveway Section

Bench Mark monuments will be furnished by the City of Lodi, when required, and shall be installed by the contractor as directed by City Engineer



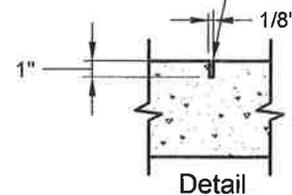
Ramp Typical Details Std. Plan 132A, B, & C

Score lines at 5.5'

Weakened plane joints See Note 1

Plan

If joint is greater than 1/4" wide it shall be filled with petrolastic material.



Detail
Weakened Plane Joint

Notes:

1. Construct weakened plane joints at 11' intervals, at ends of driveway transitions, and at center of driveway.
2. Use impervious membrane cure. Broom finish.
3. Class B concrete per Section 90 of Std. Spec., 1 1/2" max. aggregate.
4. Construct expansion joints at 200' max.
5. All exposed edges shall be rounded to 1/2" radius.

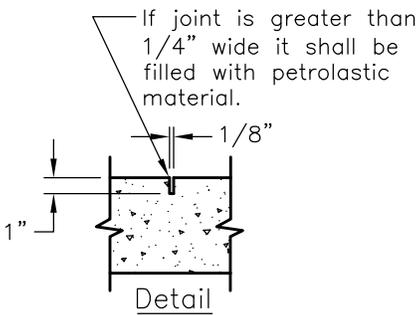
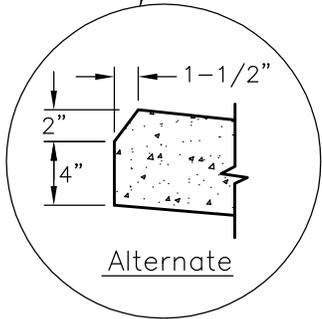
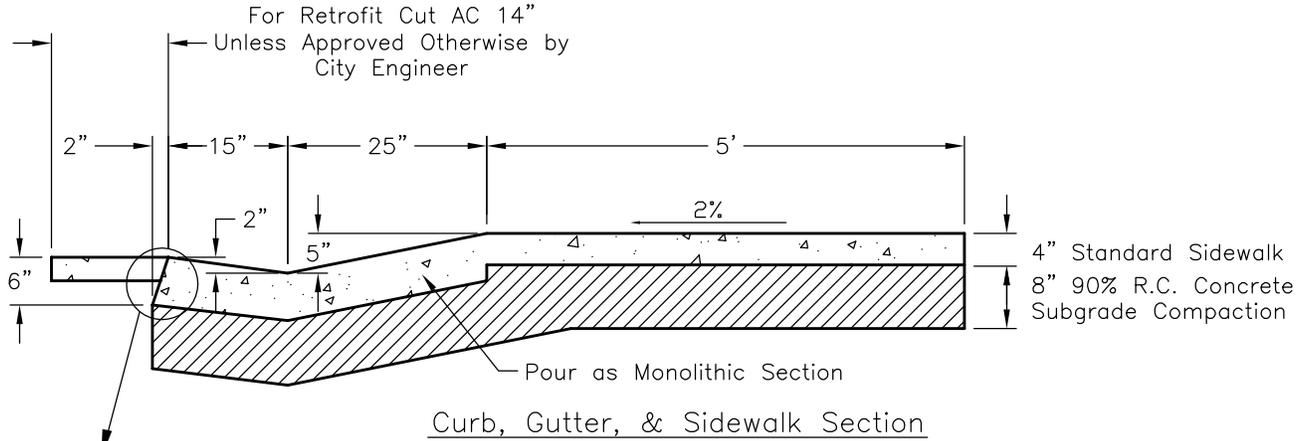
Dr. KT, JP	No. 1	Date 9/07	Revision MINOR REVISIONS	Appr.	Approved By:	STD PLAN 112
Ch. LC	No. 2	Date 9/17	Revision RAMP SLOPE FROM 8 TO 5%		11/8/17 Date	
Date					Lyman Chang City Engineer RCE No. 53149	



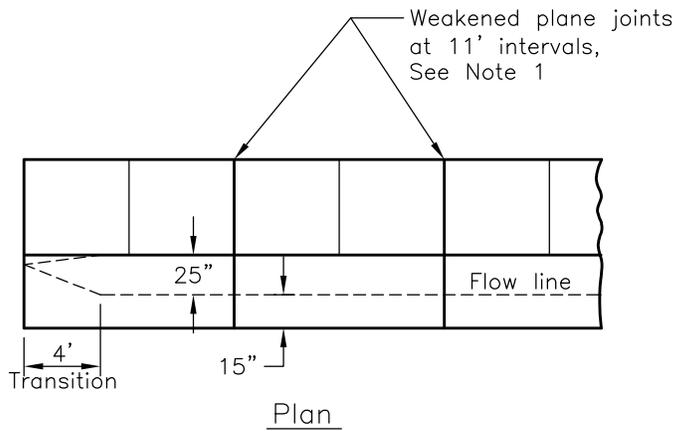
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Driveway-Type Curb, Gutter & Sidewalk



Weakened Plane Joint



Notes:

1. Construct weakened plane joints at 11' interval to match score lines.
2. Use impervious membrane cure. Broom finish.
3. Class B concrete per Section 90 of Std. Spec., 1-1/2" max. aggregate.
4. Construct expansion joints at 200' max.
5. All exposed edges shall be rounded to 1/2" radius.

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN
Ch. WS					12/28/00	113A
Date 12/00					Date	

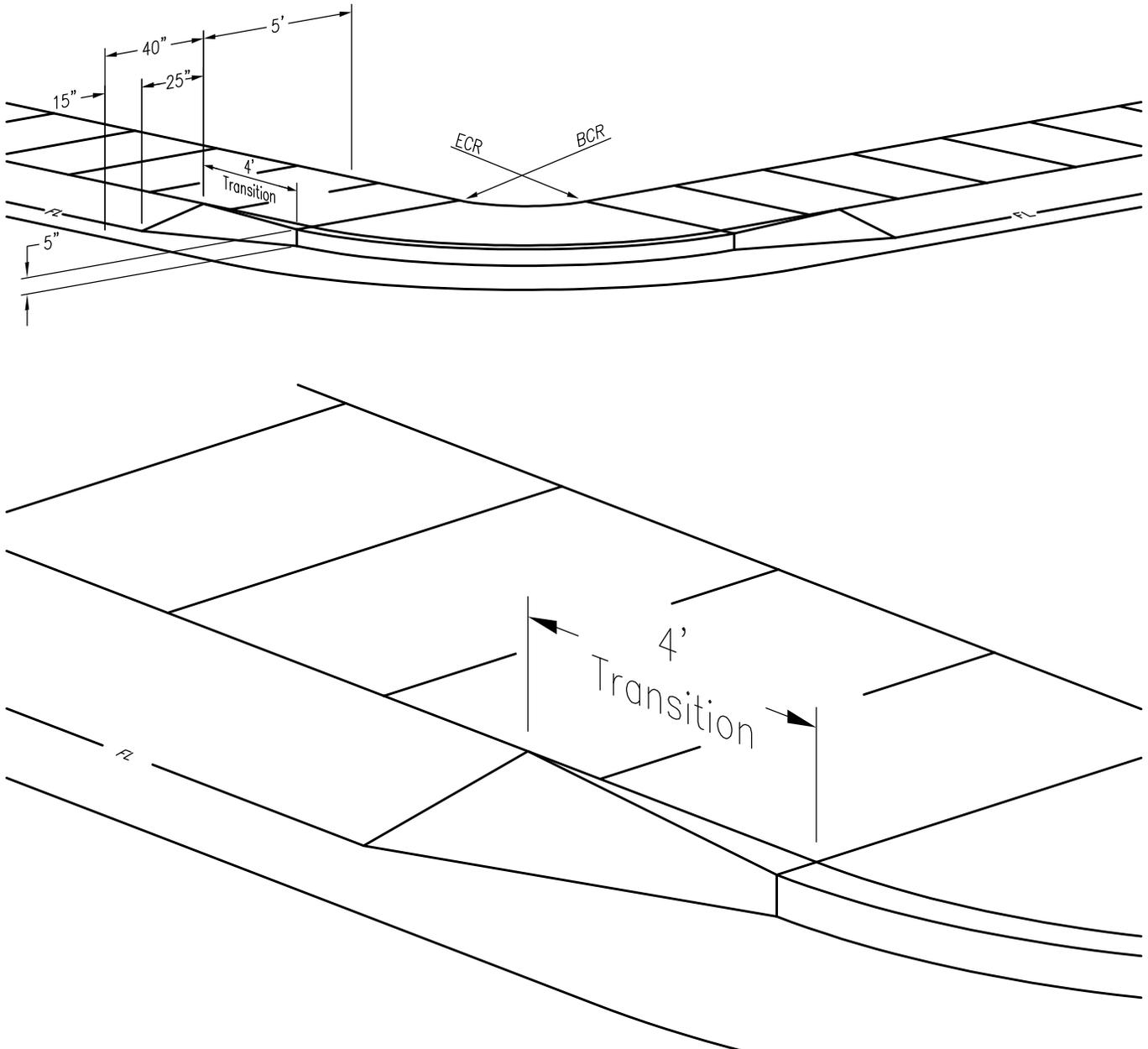
F. Wally Sandelin
City Engineer
R.C.E. 39895



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Curb Return Transition



Notes:

1. For Driveway-Type C,G & S
See Std. Plan 113A.

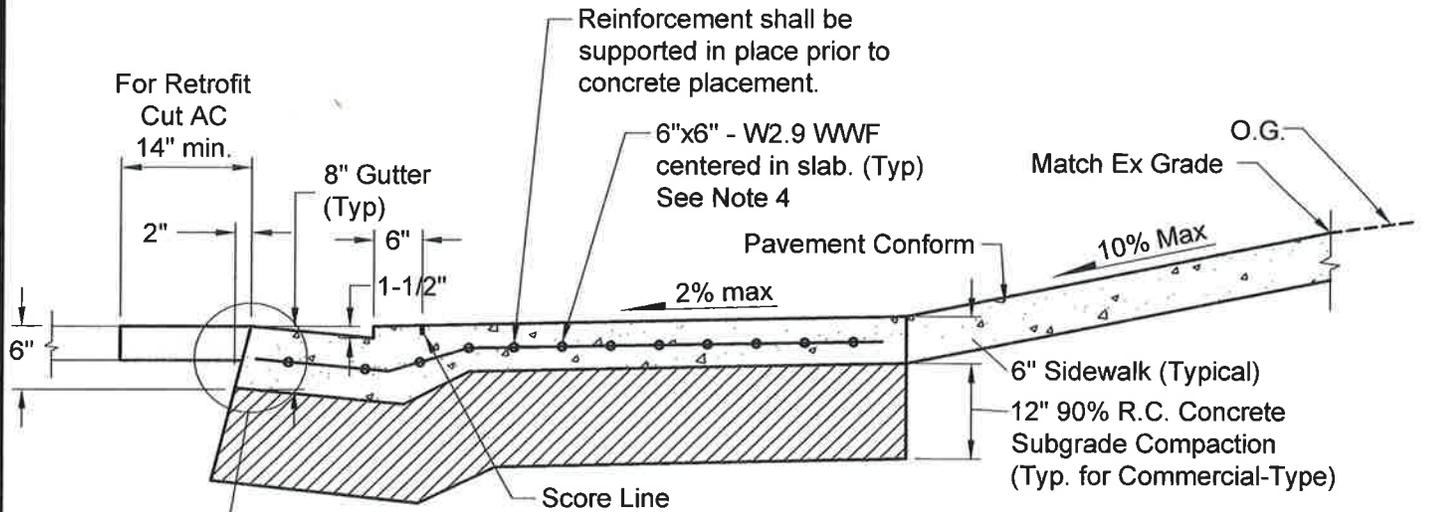
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	113B
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date



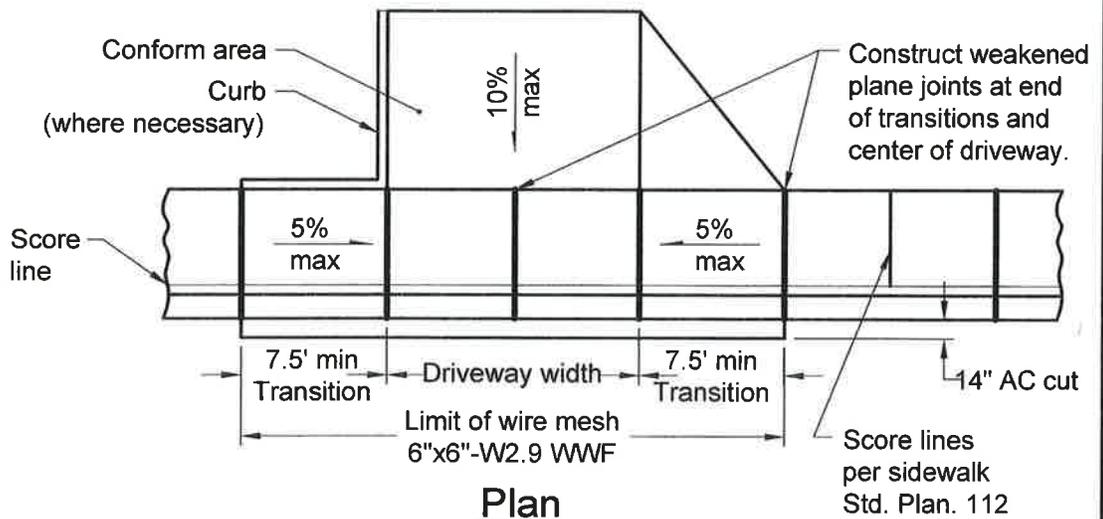
CITY OF LODI

PUBLIC WORKS DEPARTMENT

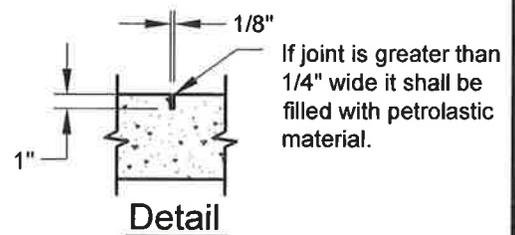
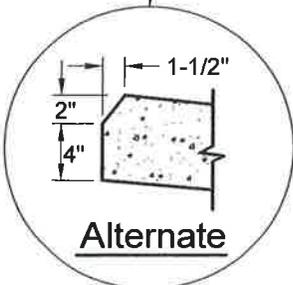
Commercial-Type Gutter & Driveway



Section



Plan



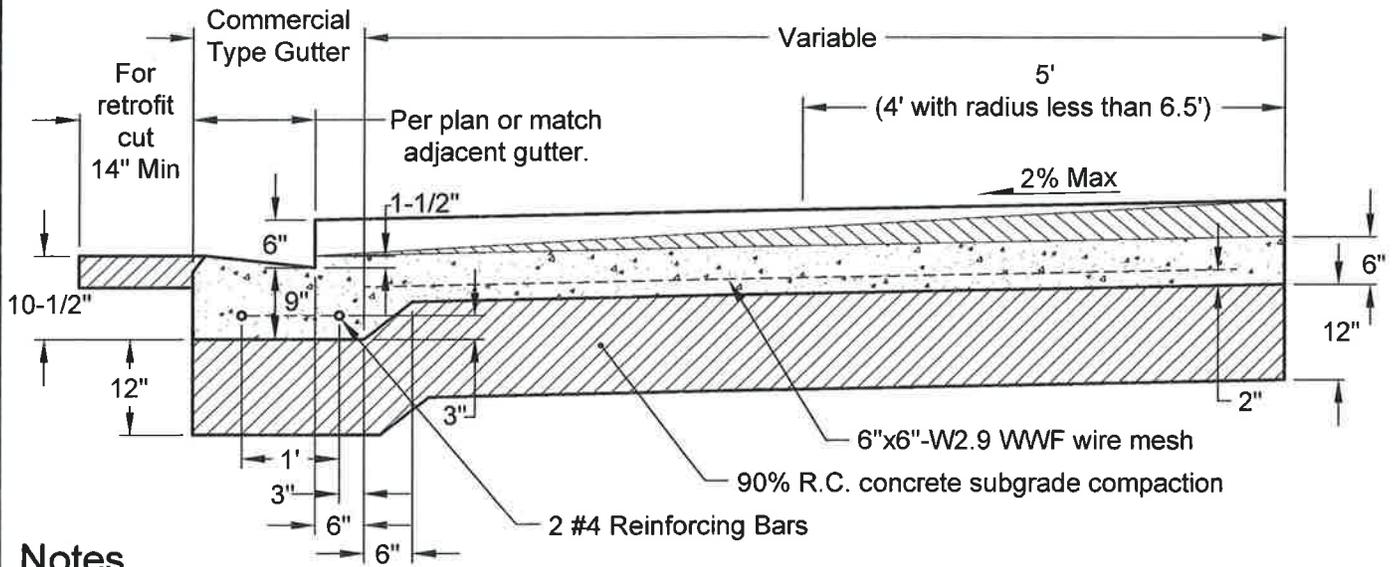
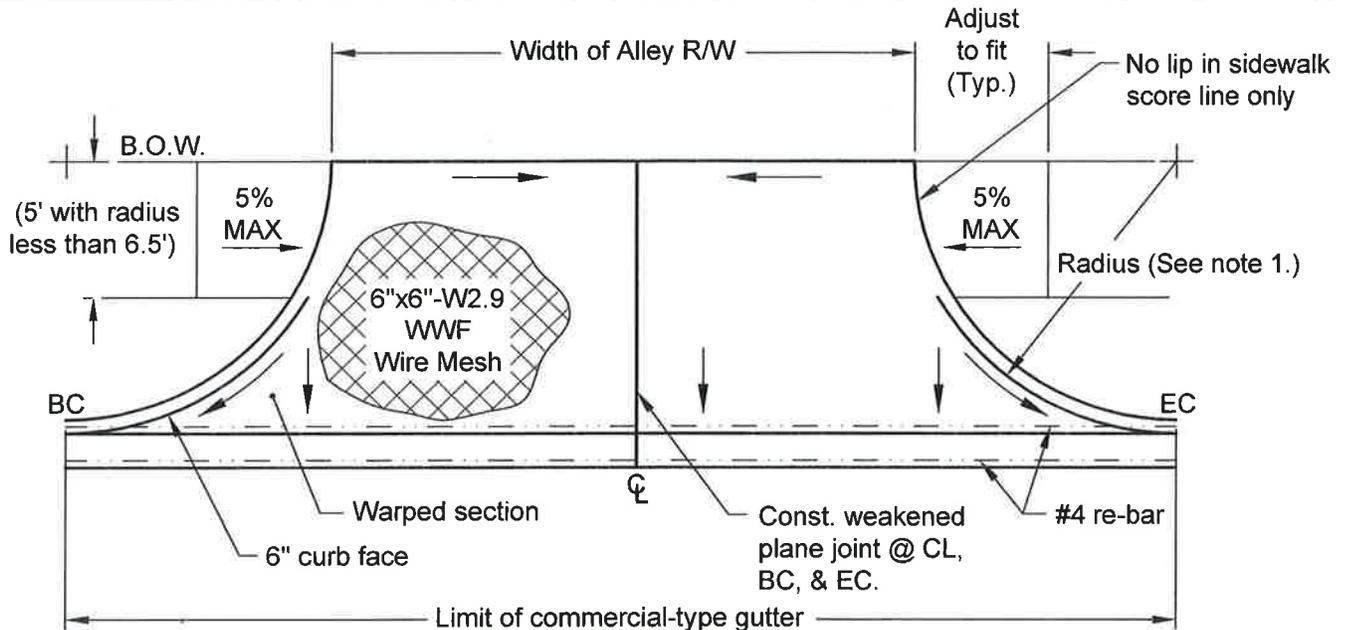
Weakened Plane Joint

Notes:

1. Use impervious membrane cure. Broom finish.
2. Class B concrete per Section 90 of Std. Spec., 1-1/2" max. aggregate.
3. All exposed edges shall be rounded to 1/2" radius.
4. #4 rebar @ 12" o.c. may be substituted for mesh when approved by the Engineer.

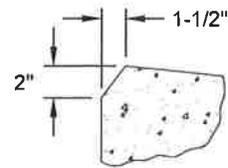
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT, JP	1	9/03	ADDED FL HEIGHT DIMENSION		 Lyman Shang City Engineer RCE No. 53149	11/8/17 Date
Ch. LC	2	9/07	MINOR REVISIONS			
Date 11/7/17	3	9/17	RAMP SLOPE FROM 8 TO 5%			

114



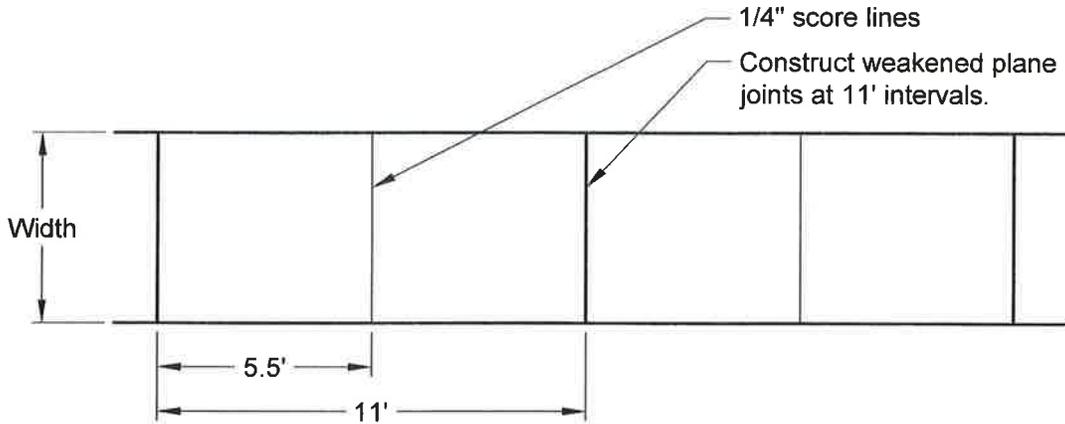
Notes

1. Radius equals distance from face of curb to back of sidewalk or from face of curb to property line if no sidewalk exists.
2. Use impervious membrane cure. Broom finish.
3. Class B concrete per Section 90 of Std. Spec., 1-1/2" max. aggregate.
4. #4 bars 12" O. C. may be substituted for mesh when approved by the Engineer.

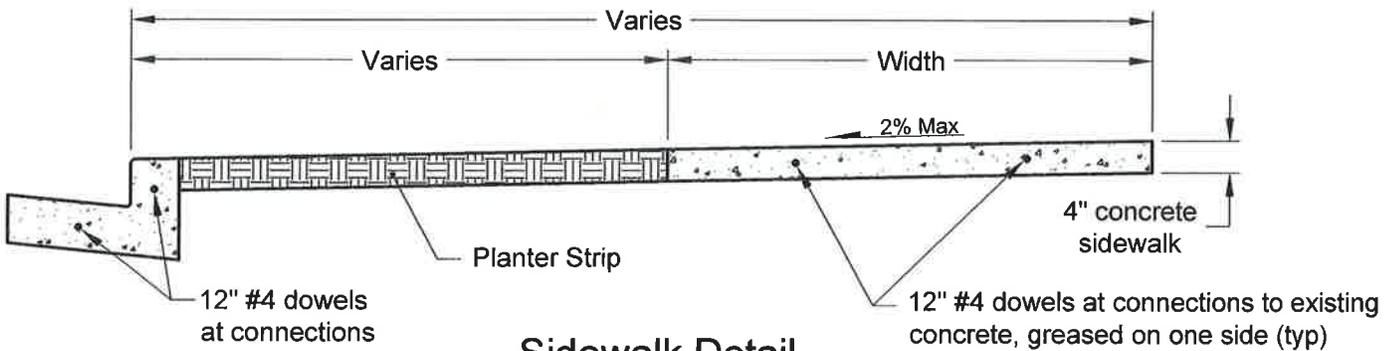


Chamfer Detail

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT, JP		12/00				
Ch. SN						
Date 11/7/17					 Lyman Chang City Engineer RCE No. 53149	11/8/17 Date
						115



Plan

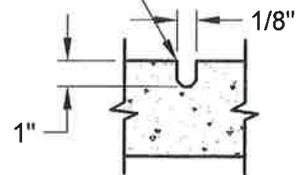


Sidewalk Detail

If joint is greater than 1/4" wide it shall be filled with petrolastic material.

Notes

1. Match width with adjacent existing sidewalk. For replacement less than 11' match scoring pattern.
2. Concrete shall be 2500 psi @ 28 days. Max. 4" slump. For jobs less than one yard, no static trailer mix, mixer trailer may be used.
3. Construct sidewalk on firm stable subgrade.
4. Light broom finish.
5. Impervious membrane cure.



Detail

Weakened Plane Joint

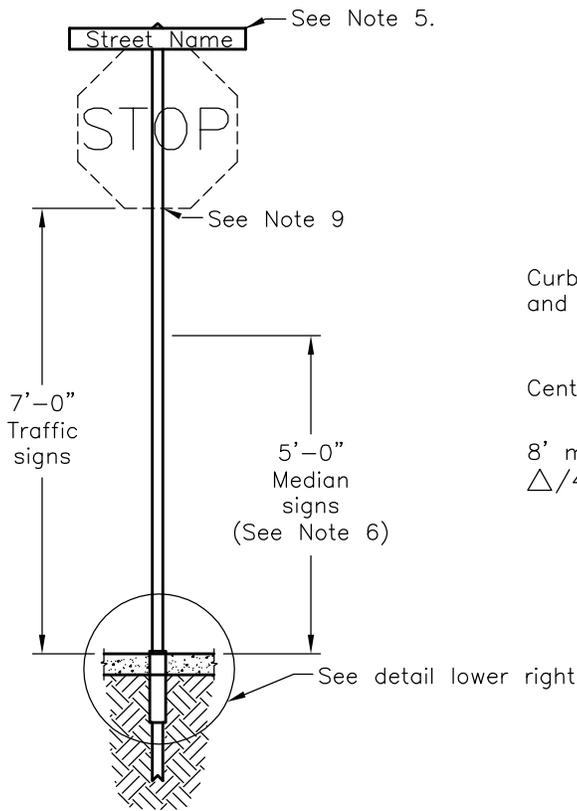
Dr. KT, JP	No.	Date	Revision	Appr.	Approved By:	 Lyman Ching City Engineer RCE No. 53149	STD PLAN
Ch. SN					4/8/17		117
Date 11/6/17					Date		



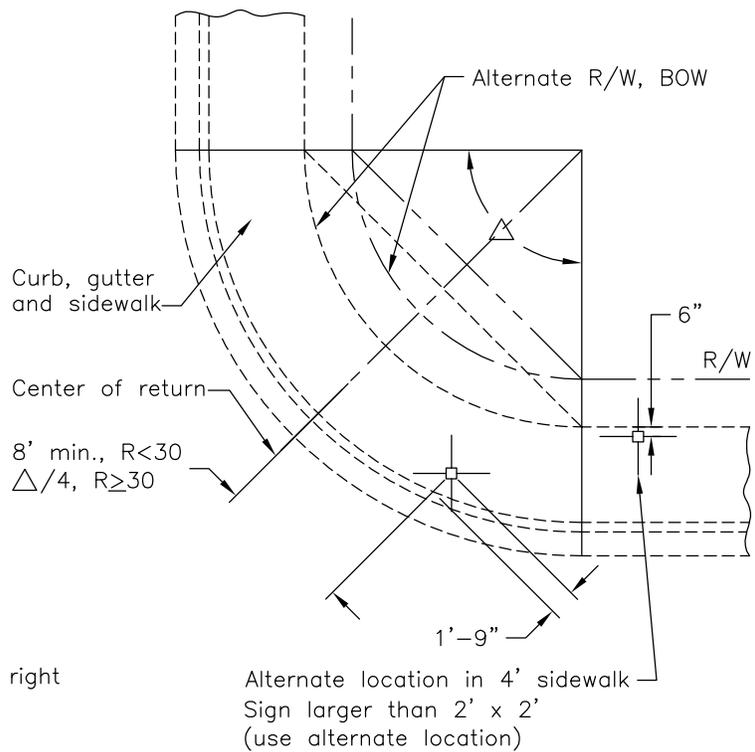
CITY OF LODI

PUBLIC WORKS DEPARTMENT

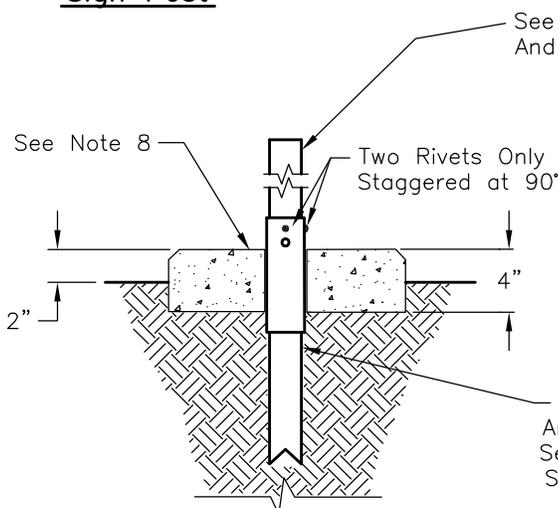
Sign Post Installation



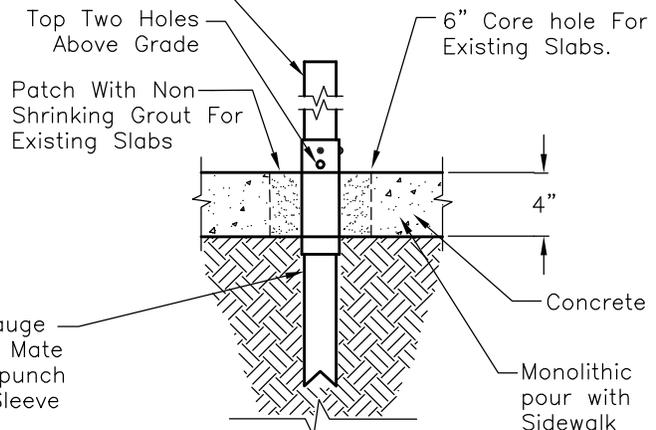
Sign Post



Sign Post Location



Dirt Location



Sidewalk Location

Dr.	KT	No.	Date	Revision	Appr.	Approved By:
Ch.	WS	1	9/03	CHANGED 2" Ø PIPE TO 2" SQ.		<i>F. Wally Sandelin</i> 2/12/04
		2	2/04	MOVED NOTES TO SECOND PAGE		
Date	12/00					Date



Notes:

1. Concrete for post installation may be Class C concrete.
2. Posts shall be new 2"x 2" 14 gauge galv. tube set plumb.
3. When Sign square footage is 7.5 square feet or more post shall be 2" x 2" 12 gauge galvanized tubing.
4. Posts Shall Be Select Punch Both Ends, 12" from bottom end and no greater than sign height at top end, on four Sides.
5. Street name and traffic signs per Std Plan 142, a min. vertical clearance of 9'-6" at locations with street name signs only.
6. R10's (one way signs) to be located 1.5' from bottom of sign when placed in the median.
7. A powder coat (Downtown Green) is required for downtown locations.
8. Form and edge 12" x 12" concrete apron 4" thick in dirt or landscaped locations.
9. Min. vertical clearance of 6'-6" at locations with multiple signs. (not including street name signs.)
10. R26 / R28 rotated 45°.

Dr. GWC, JP	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53148	11/8/17 Date	STD PLAN
Ch. SN	1	2/04	ADDITION OF SECOND PAGE					119
Date 11/6/17								

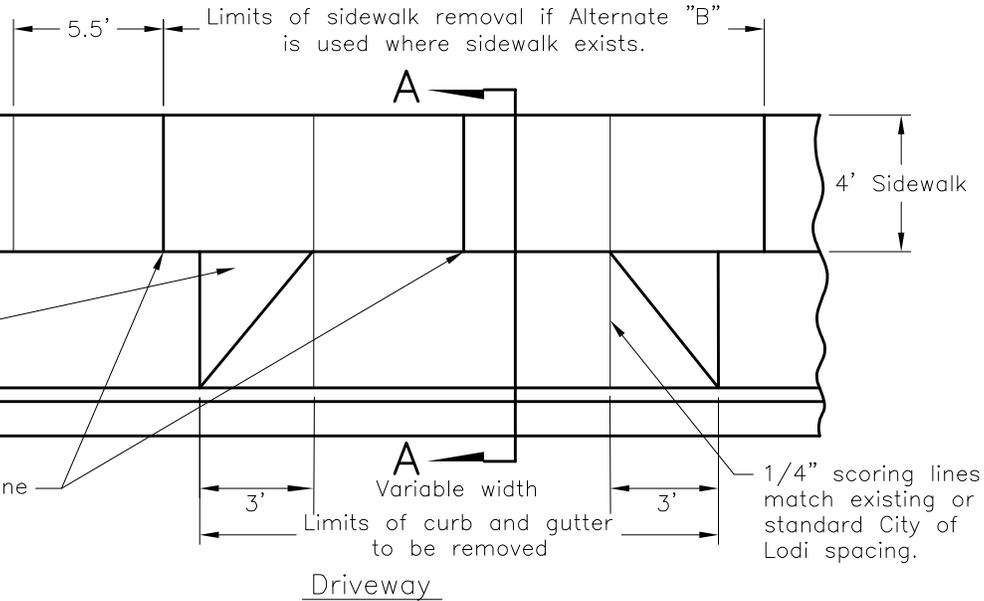


CITY OF LODI

PUBLIC WORKS DEPARTMENT

Sidewalk and Driveway with Planting Strip

1/4" scoring lines match existing or standard City of Lodi spacing.



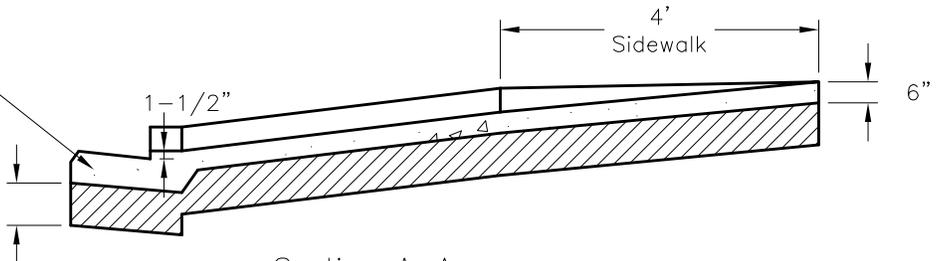
Fill both sides of driveway with concrete

Construct weakened plane joints at 11' intervals

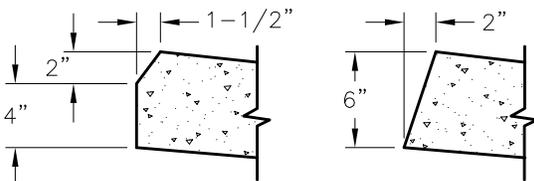
Driveway

Curb and gutter to match existing or as specified on the plans.

8"-90% R.C. Concrete
Subgrade Compaction
(See note 3)

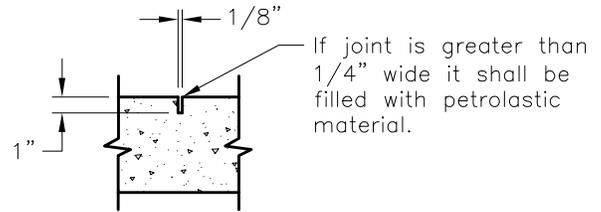


Section A-A
Alternate A



Detail

Alternate Toe Configurations

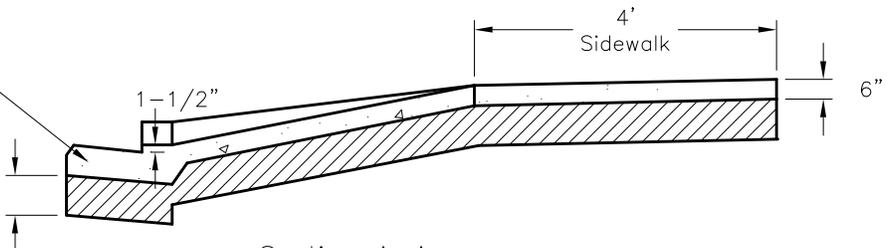


Detail

Weakened Plane Joint

Curb and gutter to match existing or as specified on the plans.

8"-90% R.C. Concrete
Subgrade Compaction
(See note 3)



Section A-A
Alternate B

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
K	1	9/03	ADDED SCORE LINES		<i>F. Wally Sandelin</i> F. Wally Sandelin City Engineer R.C.E. 39895	121
Ch.	2	2/04	ADDED FILL AREA IN PARKWAY			
Date	3	2/05	ADDED ALT. B SECTION			
					2/2/05 Date	



CITY OF LODI

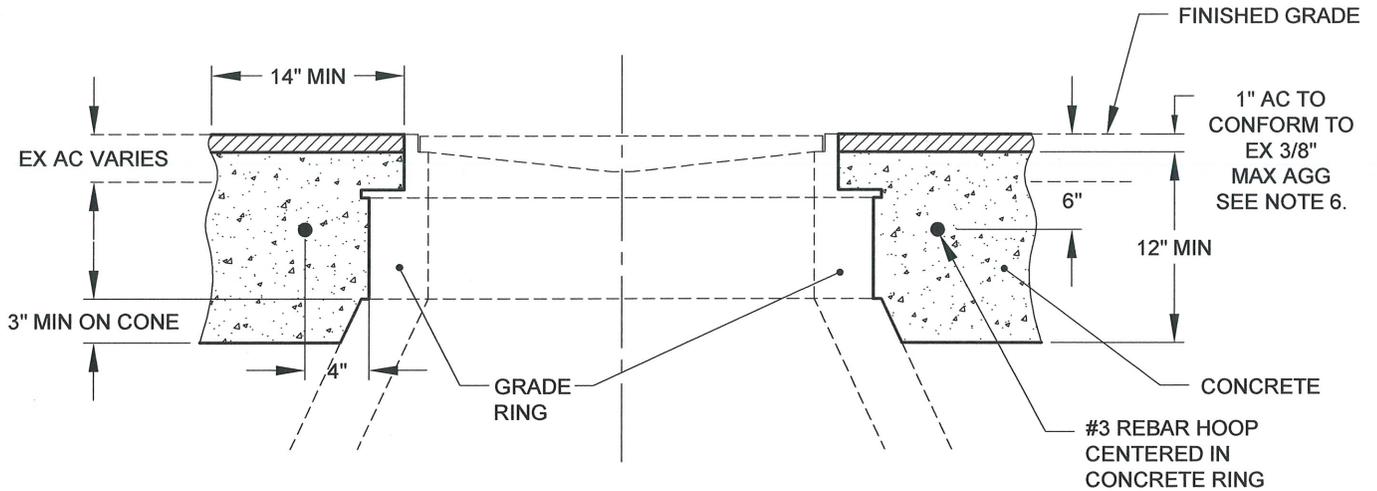
PUBLIC WORKS DEPARTMENT

Sidewalk and Driveway with Planting Strip

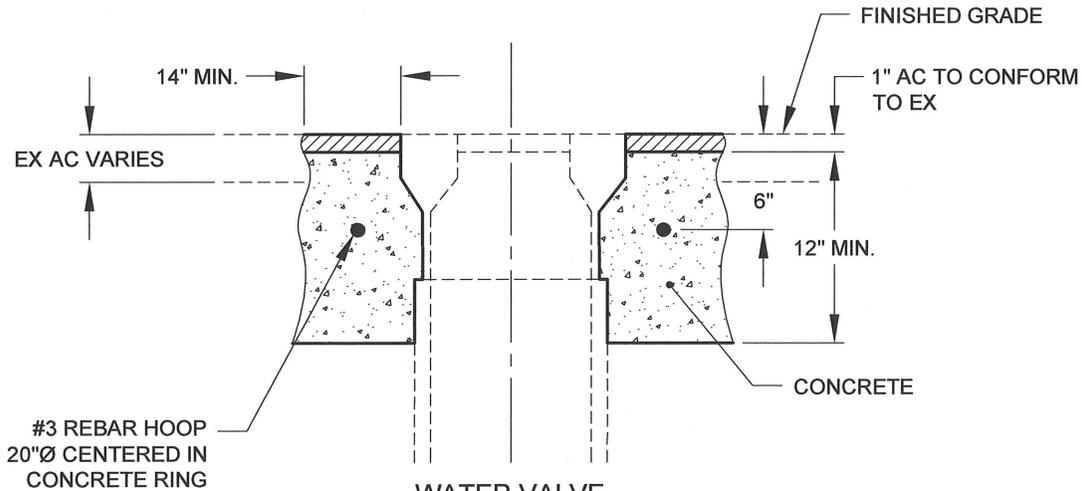
Notes:

1. Alternate "A" shall be used, except where the driveway slope approaches 3 inches per foot. It may then be necessary to use Alternate "B".
2. When Alternate "B" is used sidewalk shall be removed to nearest score-mark by sawing. When the sidewalk is replaced the existing scoring pattern shall be maintained.
3. Additional compaction is not required where existing curb and gutter, sidewalk, and/or driveway are being removed and replaced.
4. Class B concrete per Section 90 of Std. Specs, 1-1/2" max. aggregate with impervious membrane cure and light broom finish.

Dr. K	No.	Date	Revision	Appr.	Approved By:	STD PLAN
	1	9/03	ADDED SCORE LINES		<i>F. Wally Sandelin</i> F. Wally Sandelin City Engineer R.C.E. 39895	121
Ch. WS	2	2/04	ADDED FILL AREA IN PARKWAY			
Date	3	2/05	REVISED PAGE 1			
12/00					2/2/05 Date	



MANHOLE & RISER



**WATER VALVE
(MONUMENT BOX SIMILAR)**

NOTES:

1. THIS DETAIL SHALL BE USED WHERE FRAME AND COVERS ARE BEING ADJUSTED TO GRADE.
2. CLASS B CONCRETE SHALL BE USED. FINISH SHALL BE ROUGH.
3. CONCRETE SHALL BE PLACED AGAINST NEATLY EDGED EXCAVATION.
4. FRAMES SHALL MATCH EX FINISHED GRADE WITHIN 1/8".
5. TACK THE AREA TO BE PAVED, PRIOR TO PLACEMENT OF AC.
6. A.C. MAY BE 1/2" MAX. AGG. ONLY WITH PRIOR APPROVAL OF CITY ENGINEER.

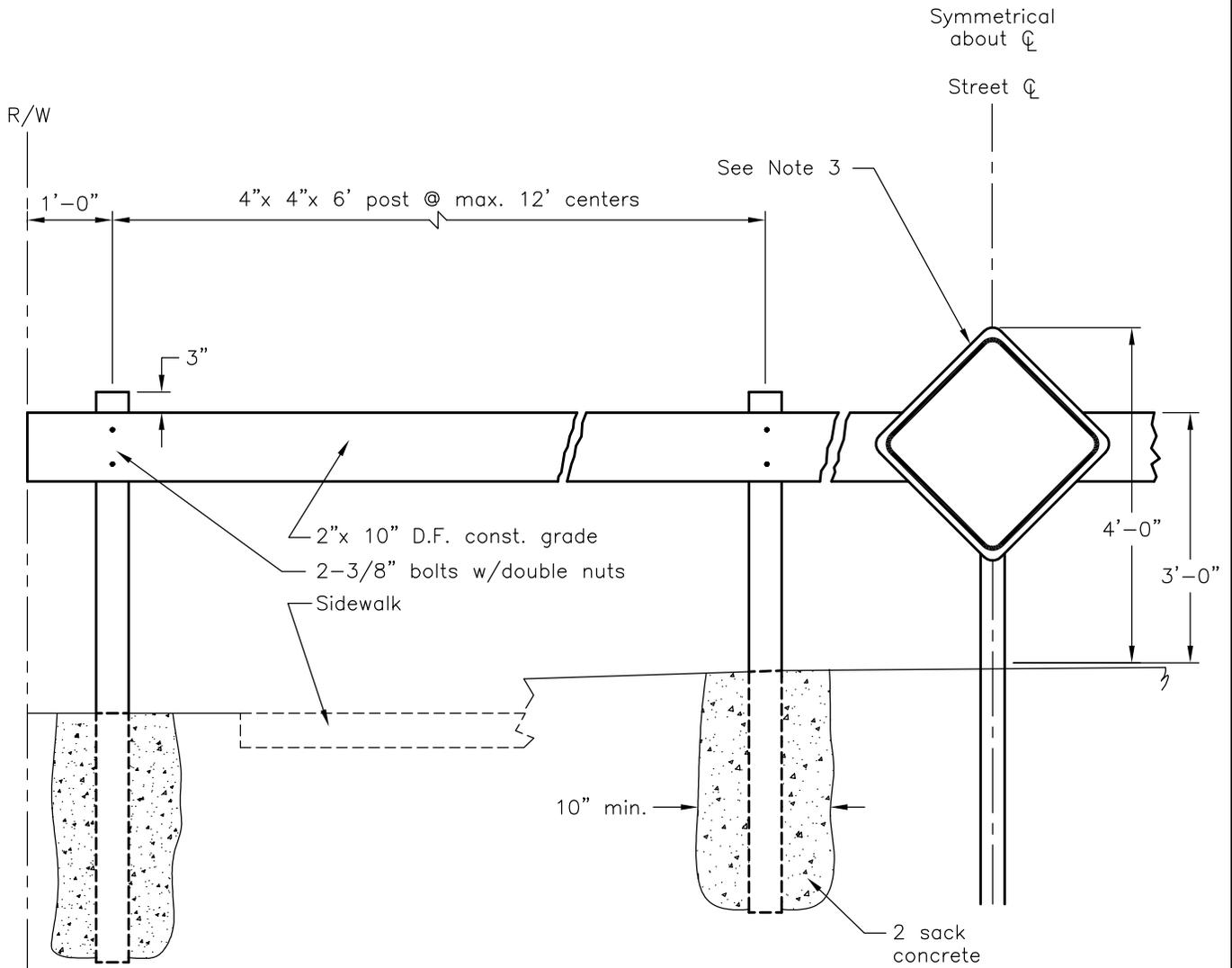
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS	1	6/2018	ADDED REBAR			123
Date	12/00					6/5/18 Date	
						Lyman Chang City Engineer RCE No. 53149	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Dead-End Barricade



Notes:

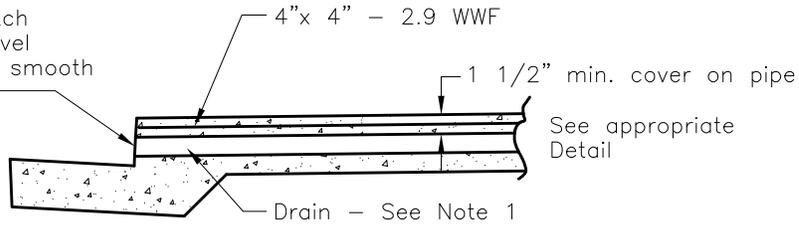
- All posts shall be redwood or plastic.
- Entire barrier shall be painted white-3 coats.
- Install one fully reflective red Type N Marker 18"x 18" at centerline. (& 12' right of CL when c-c width is over 60'.)
Backing: 0.080 in aluminum 6061T6 alloy.
Reflectorization: Wide angle flat top Scotchlite high intensity reflective sheeting.
Mount with 5/16" ϕ bolts w/double nuts.
- Servicable portions of barricades being removed may be reused at new locations as approved by the Engineer.

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	12/28/00
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date
							128



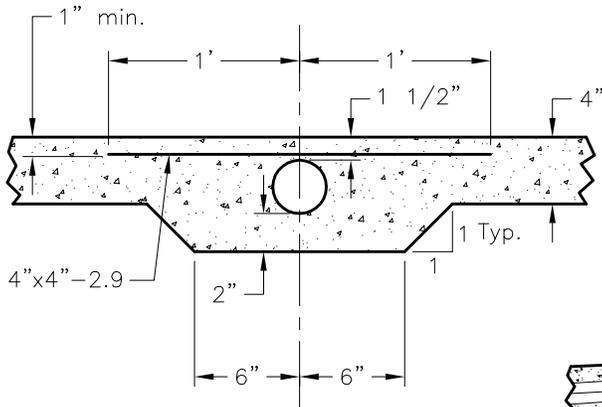
Through-the-Curb Drain

Cut pipe to match curb face or bevel 1/2" to provide smooth finish.



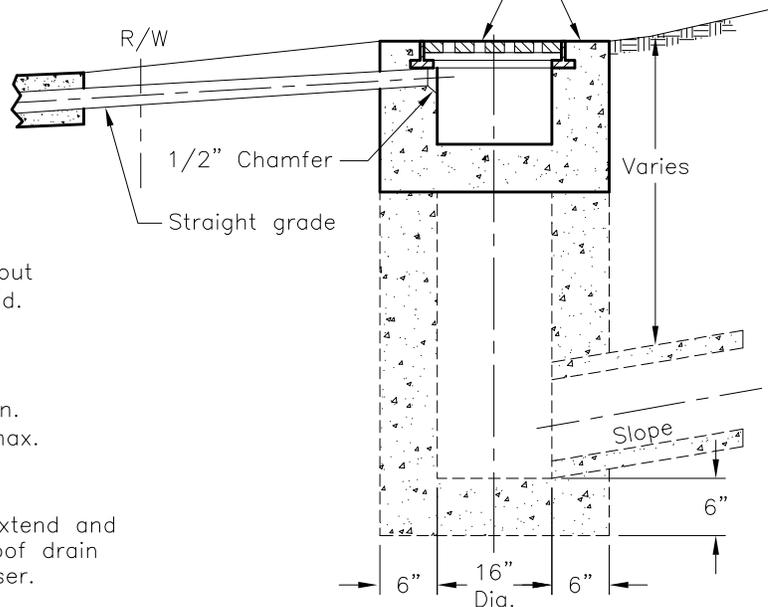
See Note 3

Section

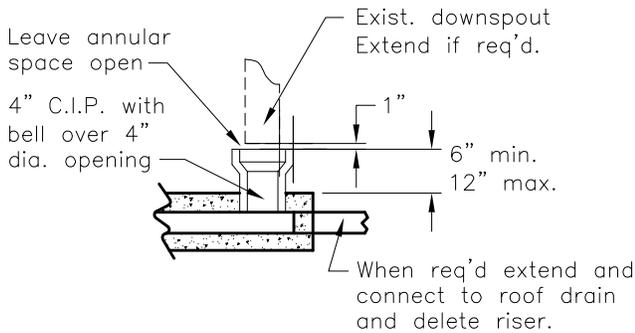


Drain Section

Minimum Top Elevation is same as top of curb
Drop inlet catch basin (See Std Plan 304) or cleanout with solid cover.



Yard Drain Detail



Roof Drain Detail

Notes:

1. Pipe alternates: 3" x 4"-26 Ga. Galv. downspout pipe
3" x 4" round pipe-Sch 40 PVC, CIP or steel
2. Curb, gutter & sidewalk dimensions to match adjacent construction.
3. For installations in existing sidewalk, saw cut and remove 20" min width of sidewalk and curb. Gutter may be left in place.

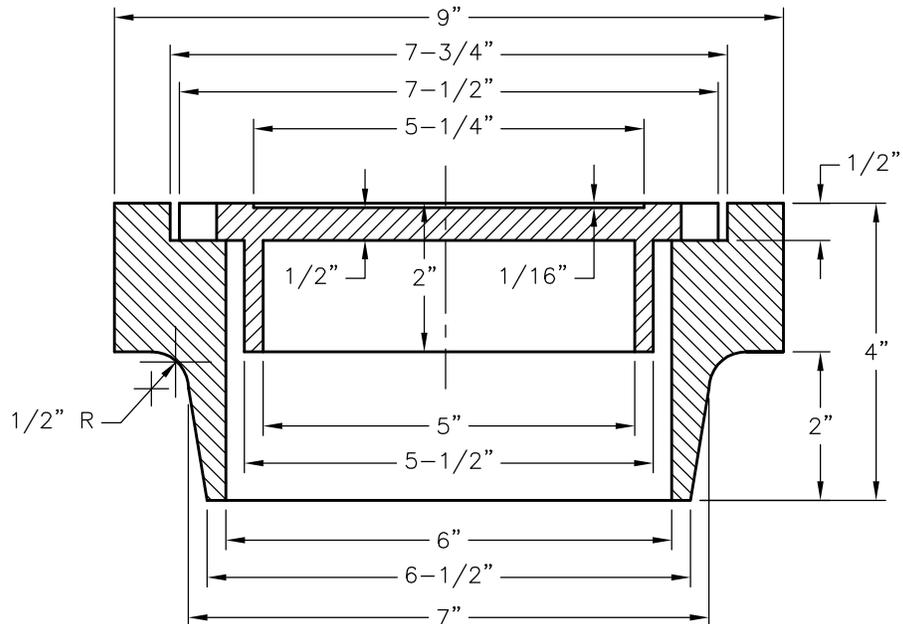
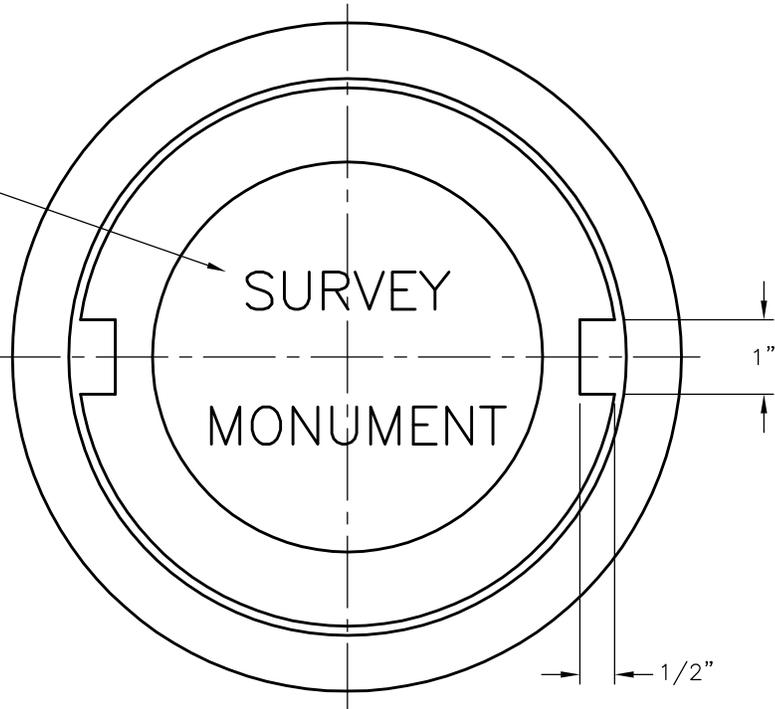
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	Date
Ch.	WS					<i>F. Wally Sandelin</i>	12/28/00
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date

STD PLAN

129



1/2" pattern letters



Notes:

1. Frame – Approx. wt. 22 lbs.
2. Cover – Approx. wt. 7 lbs.
3. Material – Cast Iron

Dr. KT	No. 1	Date 2/04	Revision REVISED FRAME DIMENSION	Appr.	Approved By: <i>F. Wally Sandelin</i>	2/12/04	STD PLAN 130
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	
Date 12/00							

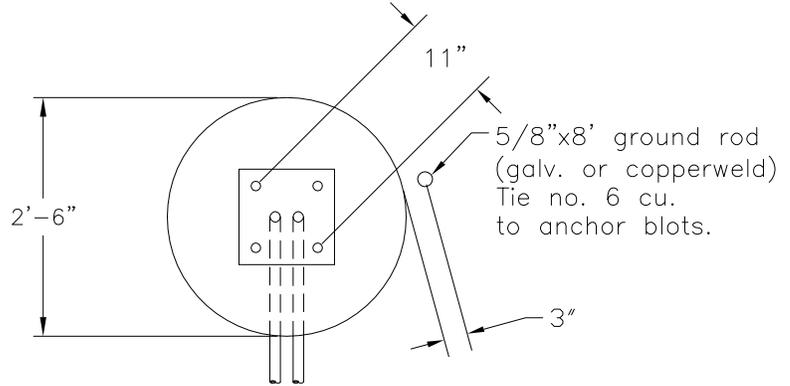


CITY OF LODI

PUBLIC WORKS DEPARTMENT

Street Light Foundation for Future Installation

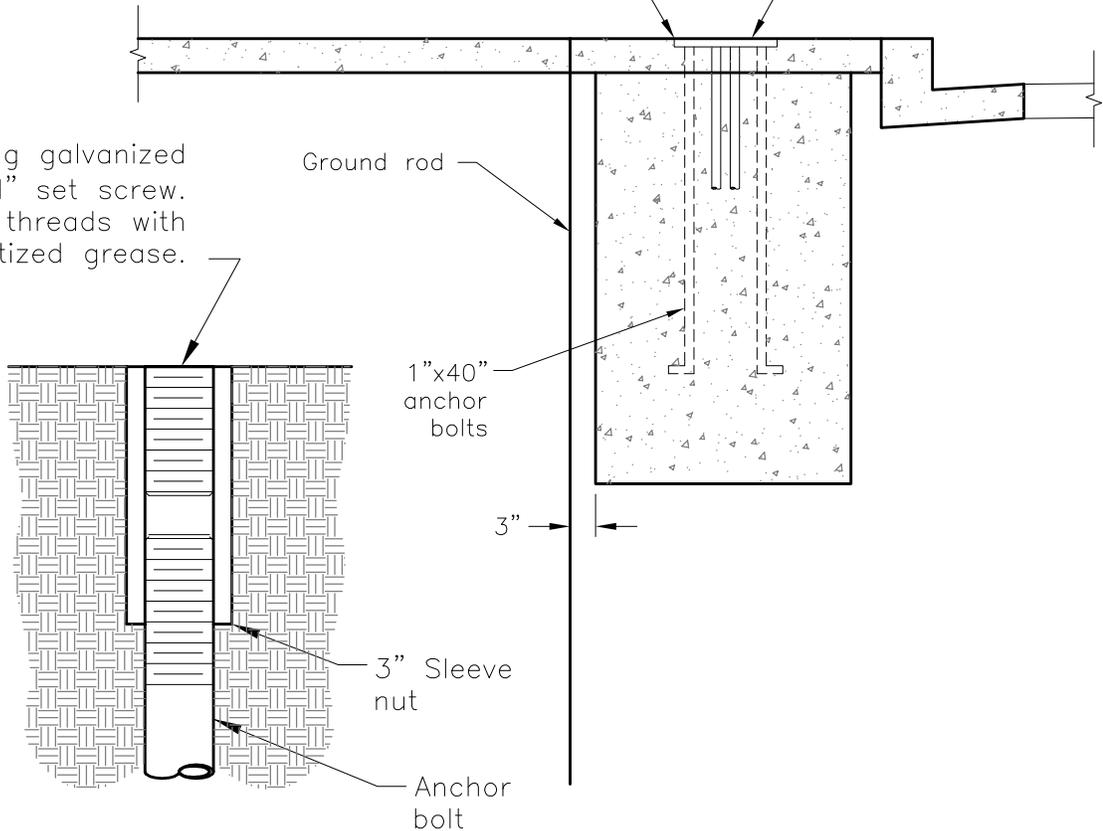
Bond all conduit and anchor bolts with no. 6 cu.



13" square level in both directions

Install conduit coupling flush with top of sidewalk, cap with recessed pipe plug, and lubricate with graphitized grease.

1-1/2" long galvanized "Allen Head" set screw. Lubricate threads with graphitized grease.



Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT					<i>F. Wally Sandelin</i>	
Ch.					F. Wally Sandelin	9/25/02
Date					City Engineer	Date
12/00					R.C.E. 39895	

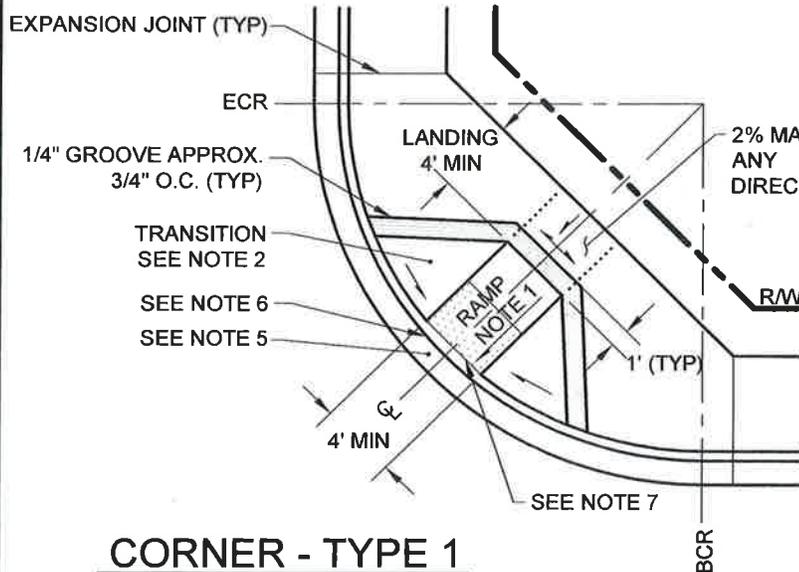
131



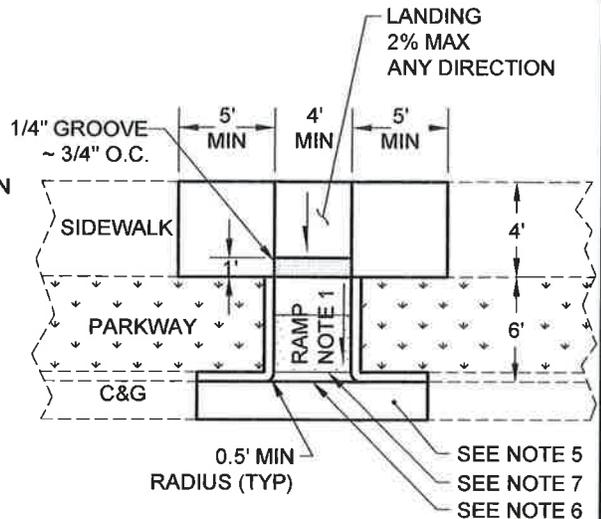
CITY OF LODI

PUBLIC WORKS DEPARTMENT

TYPE 1 CURB RAMPS



CORNER - TYPE 1



MIDBLOCK - TYPE 1

NOTES

1. RAMP SLOPE 1:12 MAXIMUM.
2. TRANSITION SLOPE 1:10 MAXIMUM.
3. SEE STD. PLAN 611 & 612 FOR CORNER LAYOUT DIMENSIONS. CURB RETURN RADIUS PER PLANS. CENTER RAMP ON MIDPOINT OF CURB RETURN.
4. THE CONCRETE FINISH OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
5. THE GUTTER PAN ACROSS THE ROUTE OF TRAVEL, FROM THE RAMP TO THE STREET, SHALL HAVE A MAXIMUM SLOPE OF 5%.
6. ALL CURB RAMPS SHALL HAVE NO LIP AND 1/4" DEEP SCORE LINE ACROSS THE RAMP AT GUTTER FLOWLINE.
7. DETECTABLE WARNING SURFACE TO BE INSTALLED 6" TO 8" FROM GUTTER FLOW LINE AND EXTEND 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP.
8. REFER TO CALTRANS STANDARD PLAN A88A FOR RAISED TRUNCATED DOME DETAILS.

Dr. LP, JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. SN					<i>[Signature]</i>	132A
Date 11/7/17					11/8/17 Date	

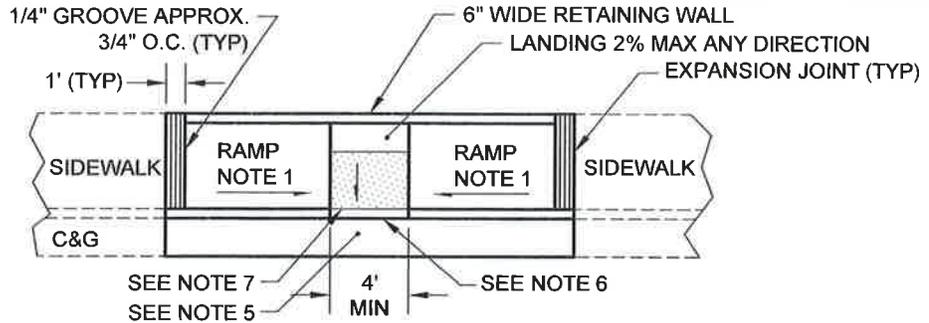
Lyman Chiang
City Engineer
RCE No. 53149



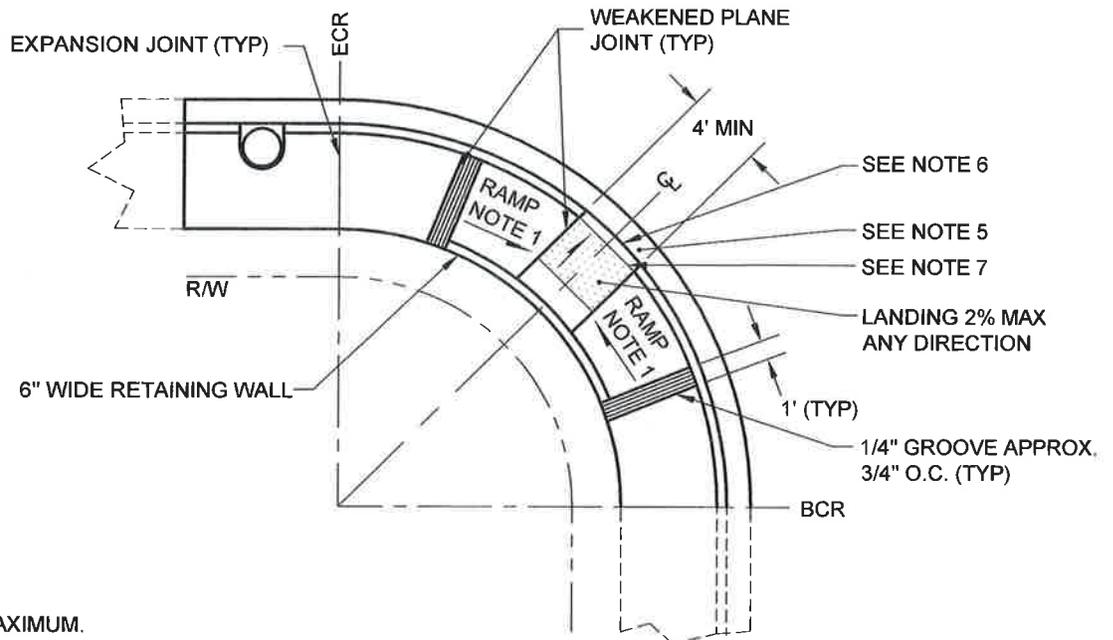
CITY OF LODI

PUBLIC WORKS DEPARTMENT

TYPE 2 CURB RAMPS



MIDBLOCK - TYPE 2



CORNER - TYPE 2

NOTES:

1. RAMP SLOPE 1:12 MAXIMUM.
2. TRANSITION SLOPE 1:10 MAXIMUM.
3. CENTER RAMP ON MIDPOINT OF CURB RETURN.
4. THE CONCRETE FINISH OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
5. THE GUTTER PAN ACROSS THE ROUTE OF TRAVEL, FROM THE RAMP TO THE STREET, SHALL HAVE A MAXIMUM SLOPE OF 5%.
6. ALL CURB RAMPS SHALL HAVE NO LIP AND 1/4" DEEP SCORE LINE ACROSS THE RAMP AT GUTTER FLOWLINE.
7. DETECTABLE WARNING SURFACE TO BE INSTALLED 6" TO 8" FROM GUTTER FLOWLINE AND EXTEND 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE LANDING.
8. REFER TO CALTRANS STANDARD PLAN A88A FOR RAISED TRUNCATED DOME DETAILS.

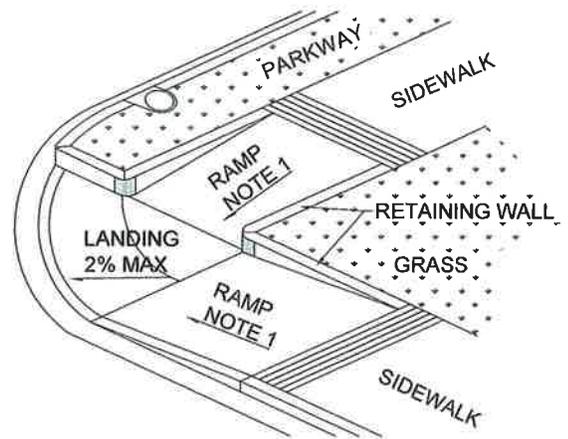
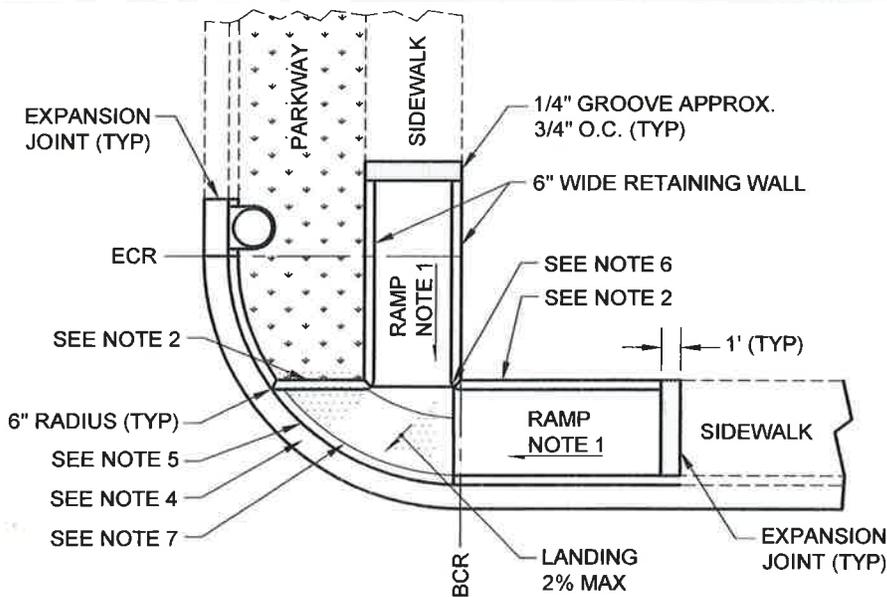
Dr.	LP, JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN					<i>Lyman Chang</i>	11/8/17
Date	11/7/17					City Engineer RCE No. 53149	132B



CITY OF LODI

PUBLIC WORKS DEPARTMENT

TYPE 3 CURB RAMP



NOTES:

1. RAMP SLOPE 1:12 MAXIMUM.
2. BACK OF CURB SHALL BE IN LINE WITH BACK OF WALK.
3. THE CONCRETE FINISH OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
4. THE GUTTER PAN ACROSS THE ROUTE OF TRAVEL, FROM THE RAMP TO THE STREET, SHALL HAVE A MAXIMUM SLOPE OF 5%.
5. ALL CURB RAMPS SHALL HAVE NO LIP AND 1/4" DEEP SCORE LINE ACROSS THE RAMP AT GUTTER FLOWLINE.
6. RETAINING WALL AT BACK OF RAMP SHALL BE CONSTRUCTED WITH A 6" RADIUS AT THE CORNER AND MAINTAIN EXISTING BACK OF WALK ELEVATIONS.
7. DETECTABLE WARNING SURFACE TO BE INSTALLED 6" TO 8" FROM GUTTER FLOWLINE AND EXTEND 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND FULL WIDTH OF LANDING.
8. REFER TO CALTRANS STANDARD PLAN A88A FOR RAISED TRUNCATED DOME DETAILS.

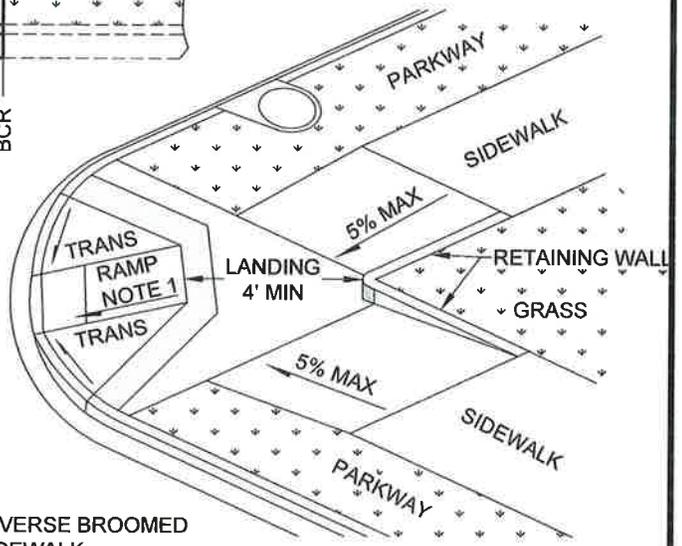
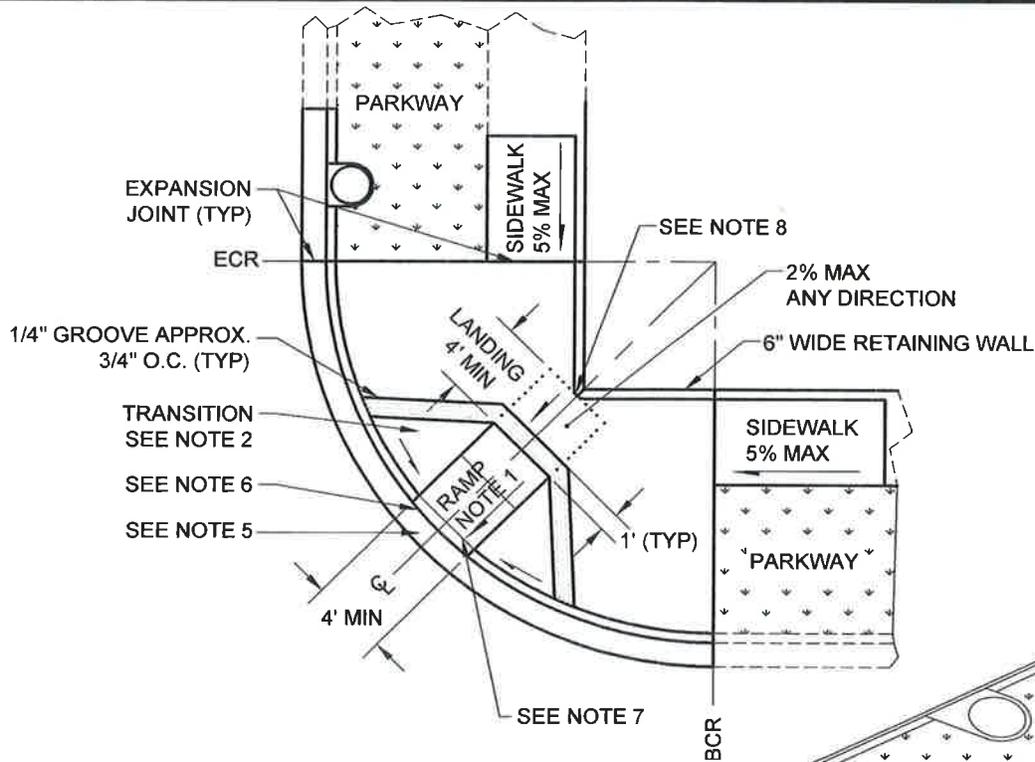
Dr.	LP, JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN					<i>Lyman Chang</i>	132C
Date	11/7/17					11/3/17 Date	
						Lyman Chang City Engineer RCE No. 53149	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

TYPE 4 CURB RAMP



NOTES:

1. RAMP SLOPE FROM 1:12 MAXIMUM TO 1:15 MINIMUM.
2. TRANSITION SLOPE 1:10 MAXIMUM.
3. CENTER RAMP ON MIDPOINT OF CURB RETURN.
4. THE CONCRETE FINISH OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
5. THE GUTTER PAN ACROSS THE ROUTE OF TRAVEL, FROM THE RAMP TO THE STREET, SHALL HAVE A MAXIMUM SLOPE OF 5%.
6. ALL CURB RAMPS SHALL HAVE NO LIP AND 1/4" DEEP SCORE LINE ACROSS THE RAMP AT GUTTER FLOWLINE.
7. DETECTABLE WARNING SURFACE TO BE INSTALLED 6" TO 8" FROM GUTTER FLOWLINE AND EXTEND 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP.
8. RETAINING WALL AT BACK OF RAMP SHALL BE CONSTRUCTED WITH A 6" RADIUS AT THE CORNER AND MAINTAIN EXISTING BACK OF WALK ELEVATIONS.
9. REFER TO CALTRANS STANDARD PLAN A88A FOR RAISED TRUNCATED DOME DETAILS.

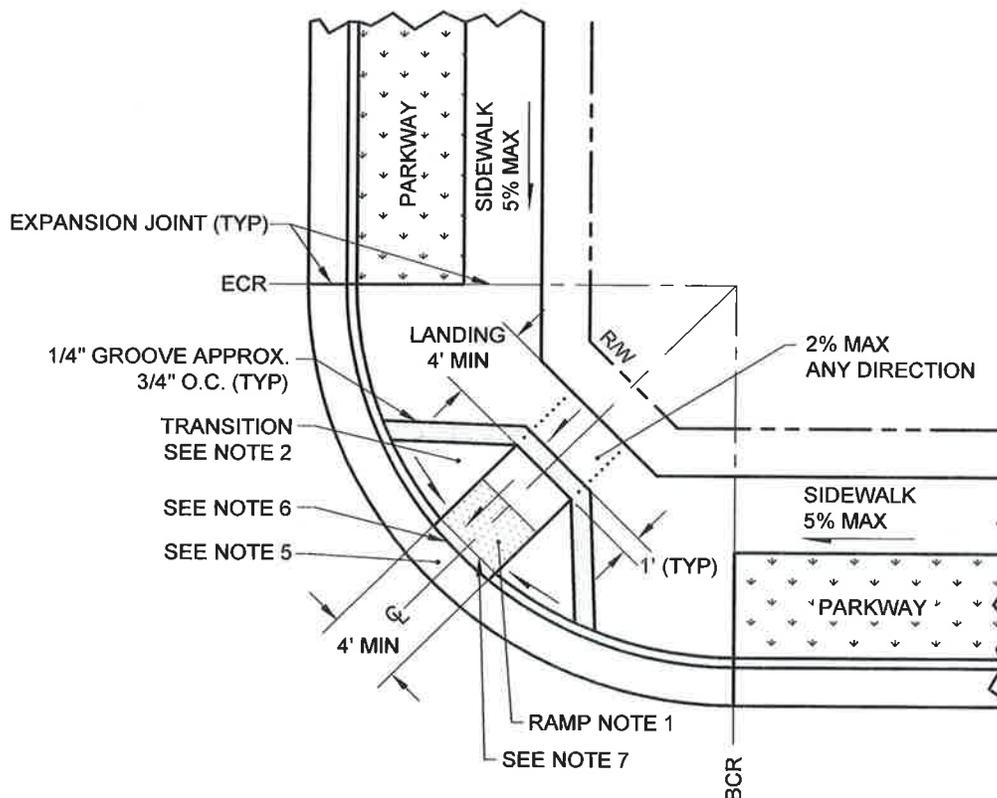
Dr. LP, JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. SN					<i>Lyman Chang</i>	132D
Date 11/7/17					11/8/17 Date	
					Lyman Chang City Engineer RCE No. 53149	



CITY OF LODI

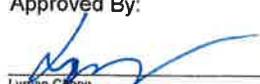
PUBLIC WORKS DEPARTMENT

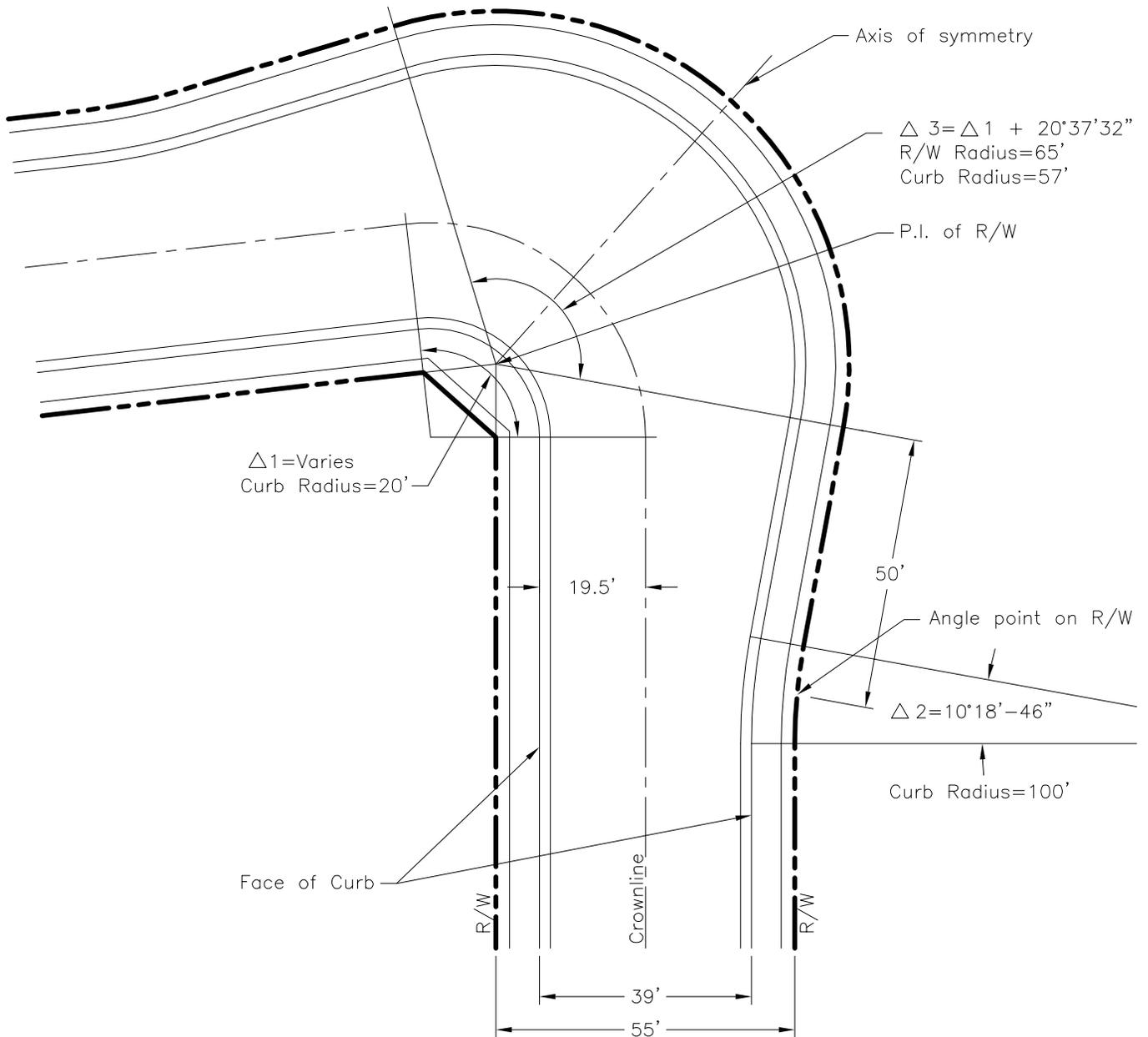
TYPE 5 CURB RAMP



NOTES

1. RAMP SLOPE 1:12 MAXIMUM.
2. TRANSITION SLOPE 1:10 MAXIMUM.
3. CENTER RAMP ON MIDPOINT OF CURB RETURN.
4. THE CONCRETE FINISH OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
5. THE GUTTER PAN ACROSS THE ROUTE OF TRAVEL, FROM THE RAMP TO THE STREET, SHALL HAVE A MAXIMUM SLOPE OF 5%.
6. ALL CURB RAMPS SHALL HAVE NO LIP AND 1/4" DEEP SCORE LINE ACROSS THE RAMP AT GUTTER FLOWLINE.
7. DETECTABLE WARNING SURFACE TO BE INSTALLED 6" TO 8" FROM GUTTER FLOWLINE AND EXTEND 36 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP.
8. REFER TO CALTRANS STANDARD PLAN A88A FOR RAISED TRUNCATED DOME DETAILS.

Dr.	LP, JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN						
Date	11/7/17					11/8/17 Date	132E
						Lynnian Chang City Engineer RCE No. 53149	



Dr.	No.	Date	Revision	Appr.	Approved By:	
KT					<i>F. Wally Sandelin</i>	12/28/00
Ch.					F. Wally Sandelin City Engineer R.C.E. 39895	Date
Date						
12\00						

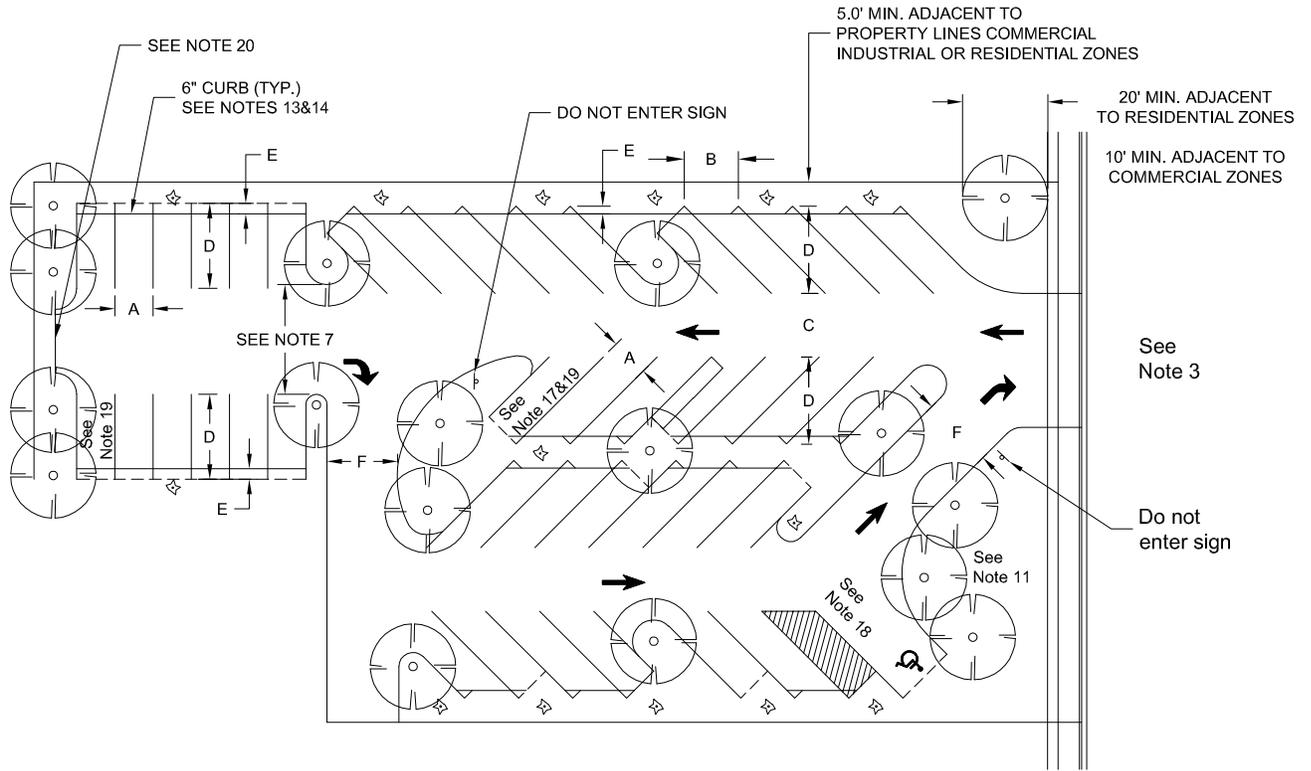
STD PLAN
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CITY OF LODI

PUBLIC WORKS DEPARTMENT

Parking Standards



Minimum Parking Lot Standards						
Parking Angle*	"A"	"B"	** "C"	"D"	"E"	"F"
Parallel Parking	10	24	14	10	3	See Note 3
45°	9	12.7	15	20.5	1.8	17
	9.5	13.4	14	20.8	1.8	17
	10	14.2	14	21.2	1.8	17
60°	9	10.5	19	21.8	2.2	14
	9.5	11	18	22.1	2.2	14
	10	11.6	18	22.3	2.2	14
90°	9	9	25	20	2.5	14
	9.5	9.5	24	20	2.5	14
	10	10	24	20	2.5	14

* Dimensions for other parking angles must be evaluated separately for approval.

** For two-way traffic minimum is 24 feet.

Sheet 1 of 2

Dr. KT	No. 1	Date 2/04	Revision REVISION PARKING LOT LAYOUT	Appr.	Approved By: <i>F. Wally Sandek</i>	7/7/11	STD PLAN 134
Ch. WS					F. Wally Sandek City Engineer R.C.E. 39895	Date	
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Parking Standards

Notes:

1. A minimum number of parking spaces required is established by the City of Lodi Ordinance.
2. All parking stalls shall be marked in an acceptable manner.
3. Lots designed for more than four cars must have two-way access.
4. Where two parking angles can be used in a single lot, they shall be located in separate areas of the lot (except as shown on layout.)
5. Any parking layout necessitating a cul-de-sac or similar type of turning facility for reversing direction of travel in order to exit from the area or any parking spaces will generally be discouraged, and it should be approved by the City Staff prior to the incorporation into the plan.
6. Residential parking for more than four cars regardless of zoning designation shall not be designed to require backing out onto any public street Rights-of-Way.
7. Two-way traffic aisles shall be a minimum of 24 feet wide.
8. In any non-residential parking condition parking or backing area within a parking lot shall not extend into the public Rights-of-Way, regardless of zoning designation.
9. When a long driveway having only a single ingress is necessary within a development, provisions should be made for the maneuvering of emergency vehicles and the arrangement approved by City Staff prior to its incorporation into the plan.
10. All parking lots shall have an adequate structural section and shall be paved with a minimum of two inches of asphalt concrete.
11. All unusable areas shall be landscaped where practical.
12. Landscaped areas within or adjacent to the parking area shall provide for a minimum of one shade tree for every four parking stalls. Depending on type and size of shade tree, requirements may be modified by the City Site Plan and Architectural Review Committee.
13. Six-inch high concrete curbs shall separate all paved and landscaped areas.
14. Concrete curbing shall be used as wheel stops where possible. The use of bumper blocks is discouraged.
15. Landscaped areas shall be provided between asphalt areas and all building structures, fences and property lines. Hardscaping may be used where pedestrian access is a necessity as determined by the City Site Plan and Architectural Review Committee.
16. Landscaping shall conform to the City of Lodi Landscape Guidelines.
17. End stalls should be protected from the turning movements of other cars with a minimum 5' landscape planter.
18. Handicapped stalls shall be a min. of 9' wide plus an adjacent 8' min. access zone to accommodate Van accessible parking. If there is more than one stall at least one must meet the Van accessible size. The additional stalls shall be a min. of 9' wide plus an adjacent 5' min. access zone, per title 24, Chapter 2-7102, California Administrative Code.
19. End stalls and stalls adjacent to curbing shall be a minimum of ten feet wide.
20. Dead end 90° parking shall be provided with adequate turning room.
21. Parking requirements for the interior of parking lots on industrial lots surrounded solely by heavy industrially zoned properties may be modified by the Site Plan and Architectural Review Committee.

Reference: Planning Commission Resolution 77-2, 7/11/77

Sheet 2 of 2

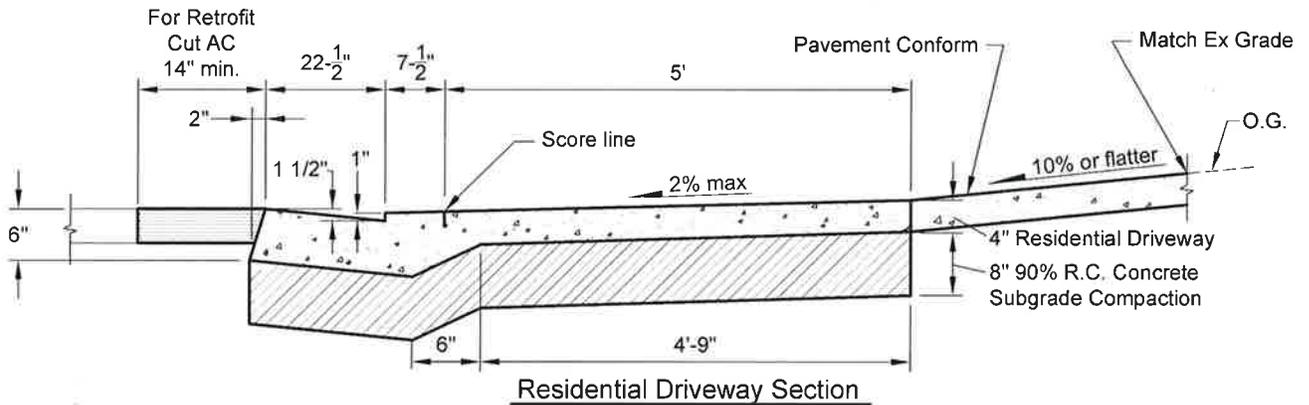
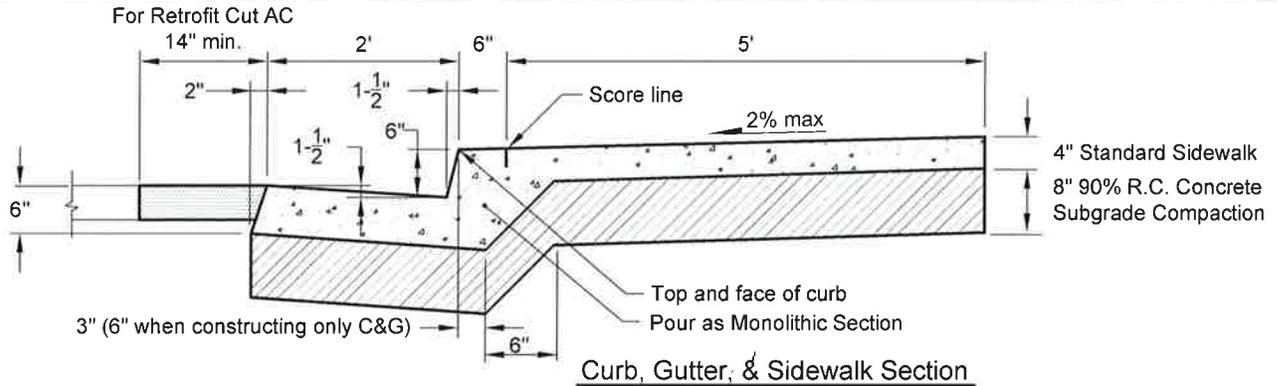
Dr.	KT	No.	Date	Revision	Appr.	Approved By:  F. Wally Sandelky City Engineer R.C.E. 39895	2/12/04 Date	STD PLAN
Ch.	WS	1	2/04	TEXT ADDITION & REVISION				134
Date	2/12/04							



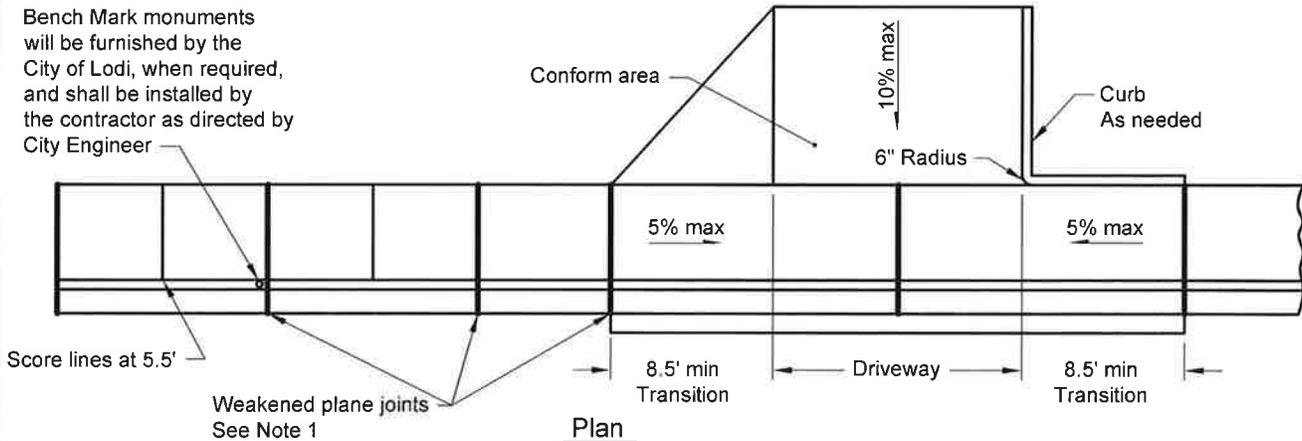
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Vertical-Type Curb, Gutter, Sidewalk and Residential Driveway

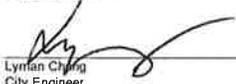


Bench Mark monuments will be furnished by the City of Lodi, when required, and shall be installed by the contractor as directed by City Engineer



Notes:

1. Construct weakened plane joints at 11' and at ends of transitions & centerline of driveway.
2. Use impervious membrane cure. Broom finish.
3. Class B concrete per Section 90 of Std. Spec., 1-1/2" max. aggregate.
4. Construct expansion material at 200' max.
5. All exposed edges shall be rounded to 1/2" radius.

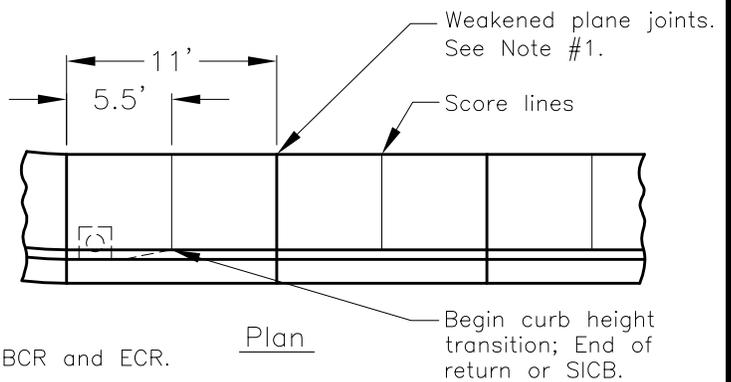
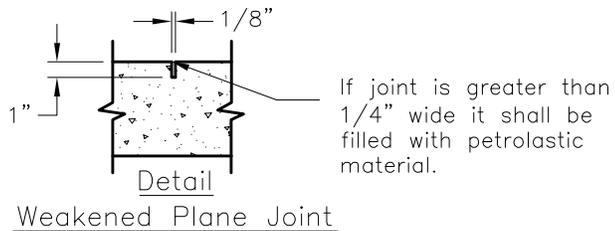
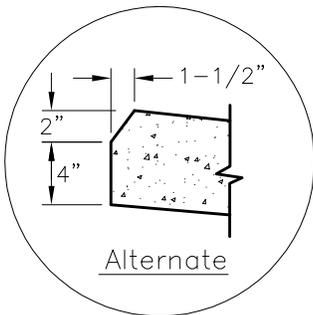
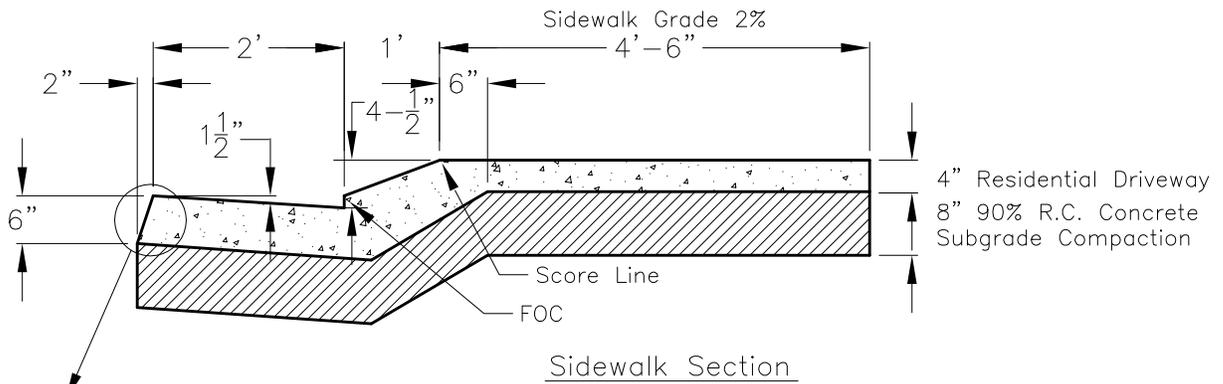
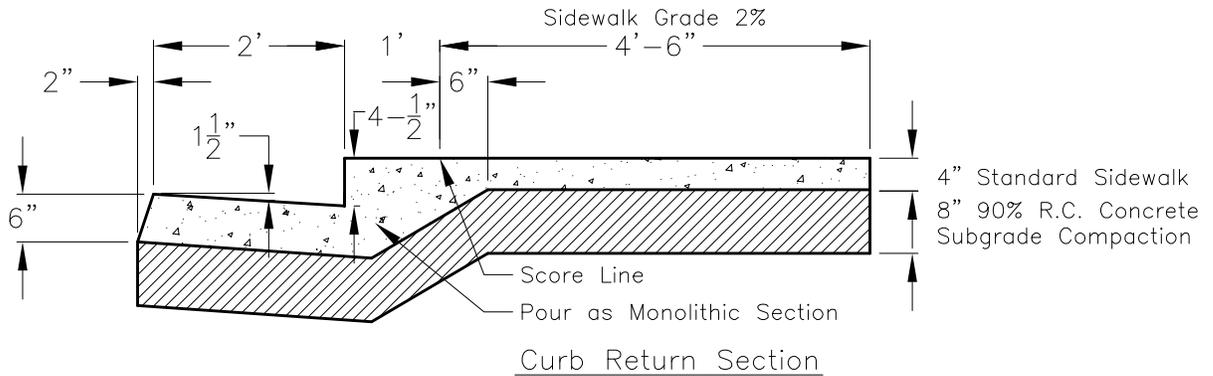
Dr.	KT, JP	No.	Date	Revision	Appr.	Approved By:	 Lynn Chen City Engineer RCE No. 53149	7/3/19 Date	STD PLAN
Ch.	SN	1	9/03	ADDED CURB HEIGHT					135
Date	6/18	2	9/07	MINOR REVISIONS					
		3	6/18	REMOVED SCORING, ADJUST TRANSITION					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Rolled Curb, Gutter & Sidewalk



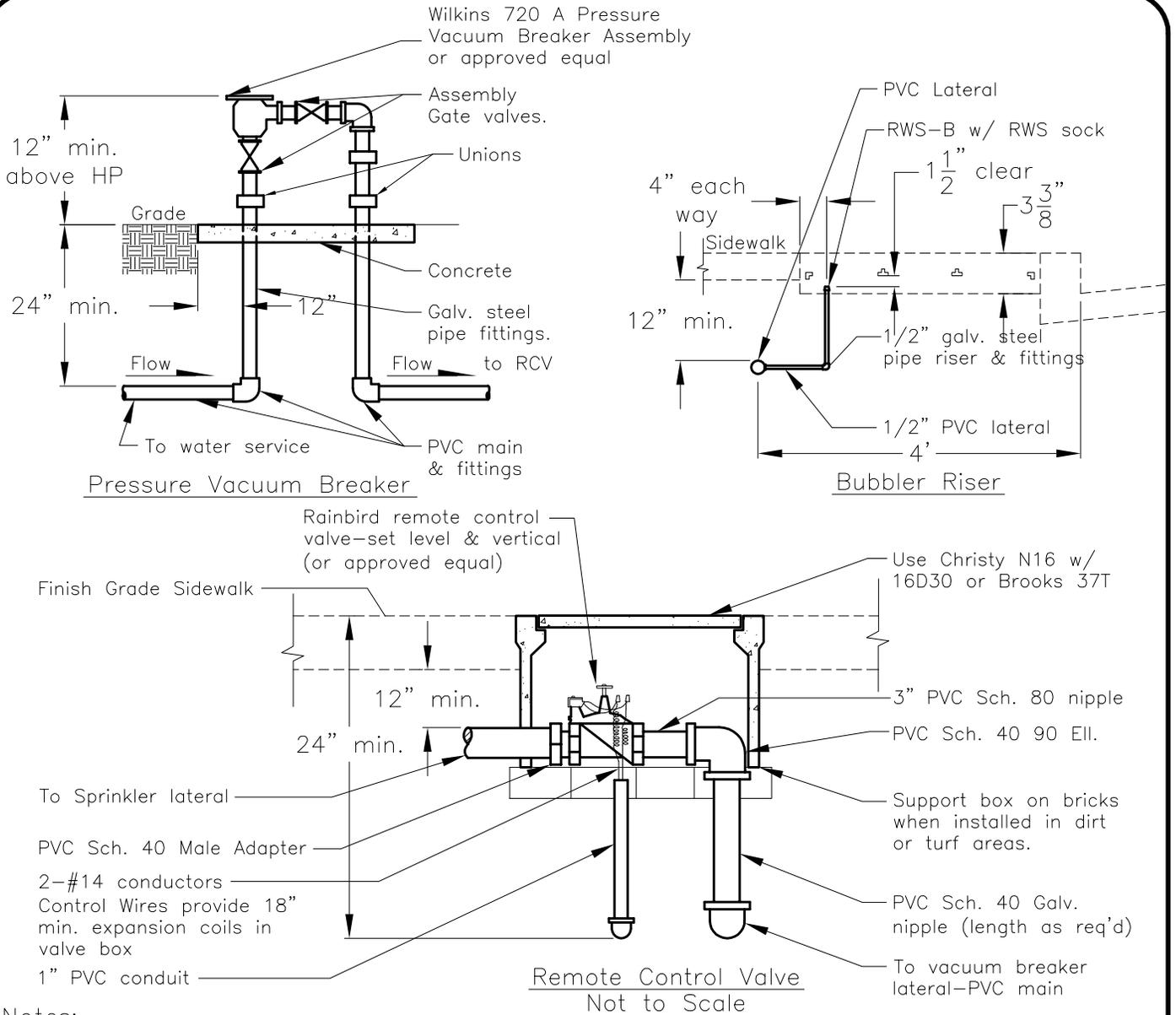
Notes:

1. Construct weakened plane joints at 11'.
2. Use impervious membrane cure. Broom finish.
3. Class B concrete per Section 90 of Std. Spec., 1-1/2" max. aggregate.
4. Construct expansion joints at 200' max. and at BCR and ECR.
5. All exposed edges shall be rounded to 1/2" radius.

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN 136
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	
Date 12/00							



**Tree Well
Sprinkler System
Installation**



Notes:

1. Use Rainbird, or Irri-trol sprinkler system controller, disconnect switch required. Install controller and disconnect in post mounted, weatherproof cabinet (w/hasp for City padlock). Breaker box must accommodate City Master padlock and must be made of metal.
2. Plastic pipe shall be Polyvinyl Chloride (PVC), Type 1120 or 1220. Class per Table. Threaded pipe shall be Schedule 80 PVC. Fittings shall be molded, medium weight, Schedule 40 PVC. Street crossings, including control wire conduit, shall be steel pipe.
3. Steel pipe shall conform to ASTM A-120 and shall be Schedule 40, galvanized. Fittings shall be 150 lbs., banded pattern, galvanized malleable iron.
4. Control wires shall be installed in 1" conduit.

Dr. KT	No. 1	Date 2/04	Revision CHANGED NOTATION AND REVISED NOTE 1	Appr.	Approved By: <i>F. Wally Sandelin</i>	2/12/04	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	137
Date 12/00							



CITY OF LODI
PUBLIC WORKS DEPARTMENT

Tree Well
Sprinkler System
Installation

PVC Pipe Class Table	
Size	Class
In turf/planter	
1/2"	Class 315 PVC
3/4"	Class 200 PVC
1"+	Class 160 PVC
Mainline (constant pressure)	
2"+	Class 200 PVC
Under concrete or paving	
All	Schedule 80

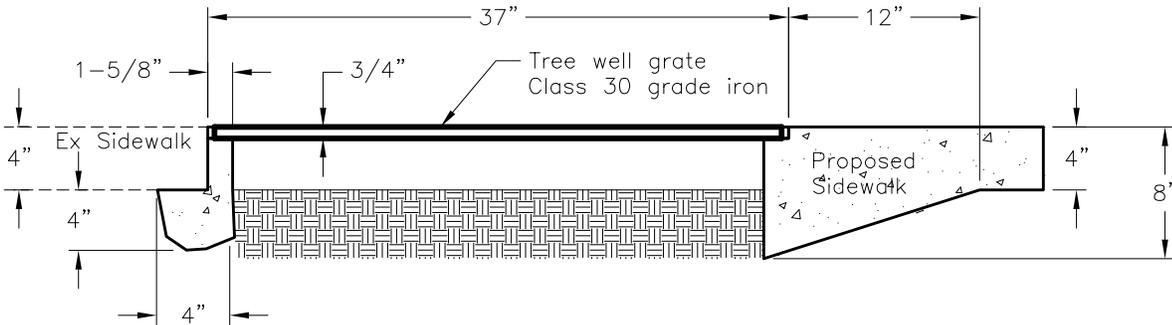
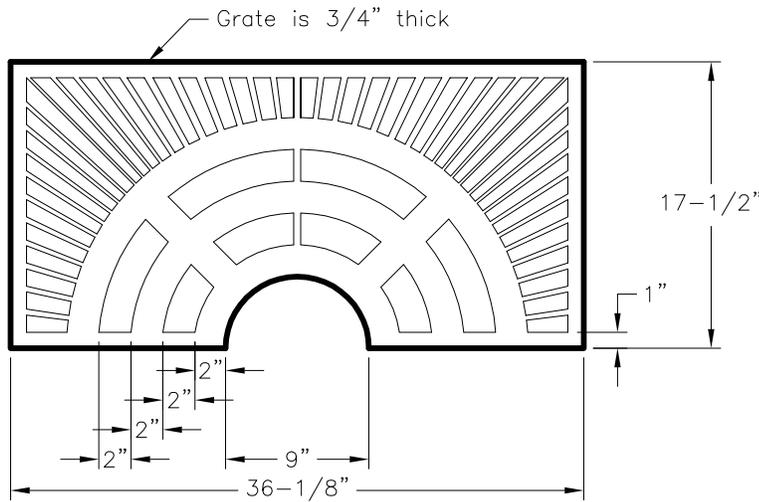
Sheet 2 of 2

Dr. KT	No.	Date	Revision	Appr.	Approved By:		STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	12/28/00	137
Date					F. Wally Sandelin City Engineer R.C.E. 39895	Date	
12/00							



CITY OF LODI
PUBLIC WORKS DEPARTMENT

Grated Tree Well



Notes:

1. If the tree is not planted, the opening shall be barricaded.
2. When tree wells are installed in the existing sidewalk, the sidewalk shall be sawed a minimum of 1-1/2" in depth.
3. Place one #4x2' rebar diagonally at each corner.
4. Reinforcing steel shall not be placed through sidewalk weakened plane joints.

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN
Ch. WS					12/28/00	138A
Date 12/00					Date	

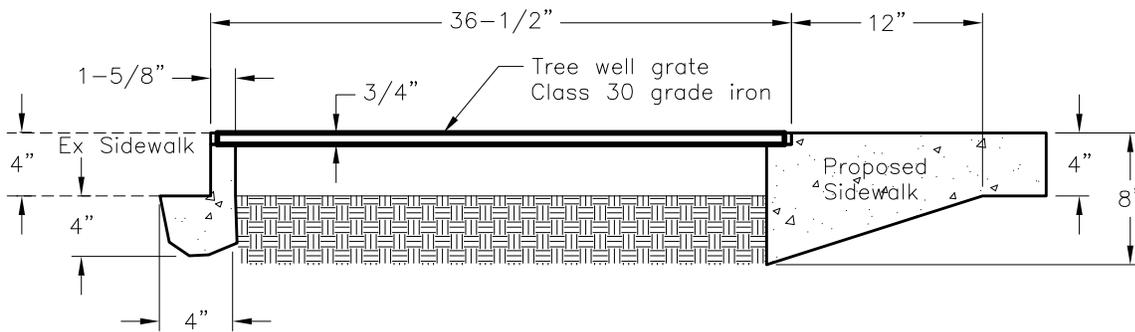
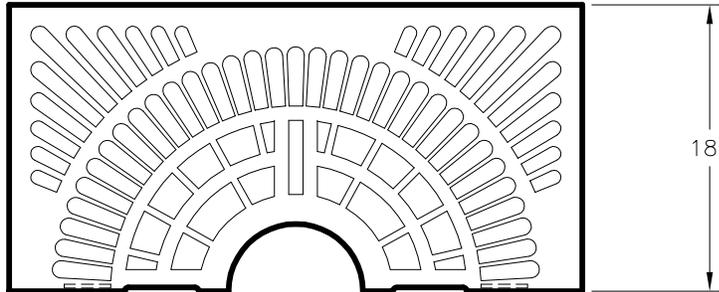
F. Wally Sandelin
City Engineer
R.C.E. 39895



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Grated Tree Well



Notes:

1. If the tree is not planted, the opening shall be barricaded.
2. When tree wells are installed in the existing sidewalk, the sidewalk shall be sawed a minimum of 1-1/2" in depth.
3. Place one #4x2' rebar diagonally at each corner.
4. Reinforcing steel shall not be placed through sidewalk weakened plane joints

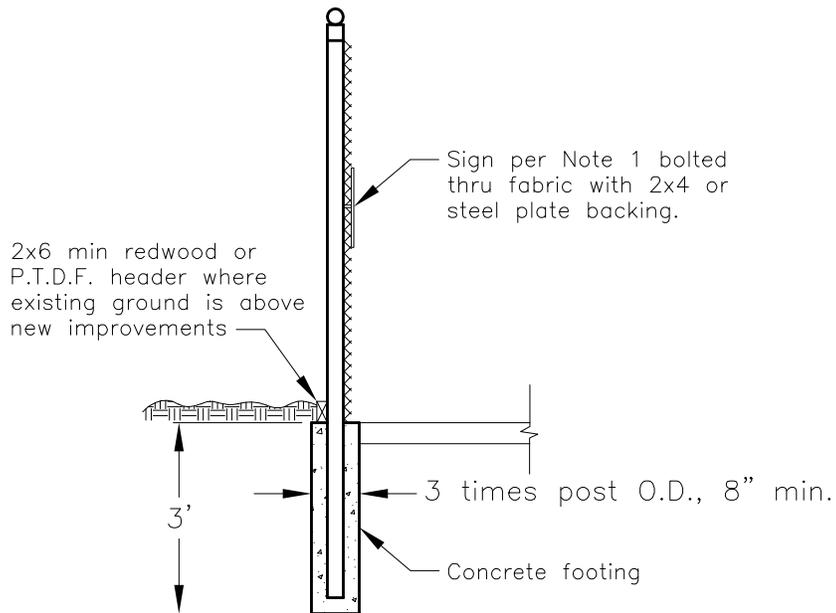
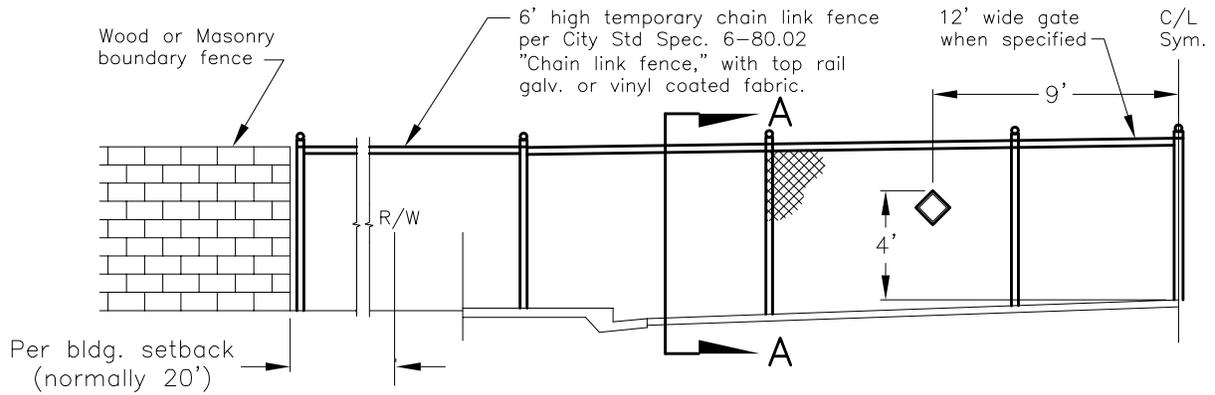
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	12/28/00
Date 12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date 12/28/00
						138B



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Dead-end Barricade (Fence Type)



Section A-A

Notes:

1. Install two fully reflective red Type N Markers, 18"x18".
Backing: 0.080" aluminum 6061T6 alloy
Reflectorization: high intensity grade
Mounting: two 5/16" bolts with double nuts and backing, bend bolts.
2. Serviceable portions of barricades being removed may be reused at new location as approved by the Engineer.

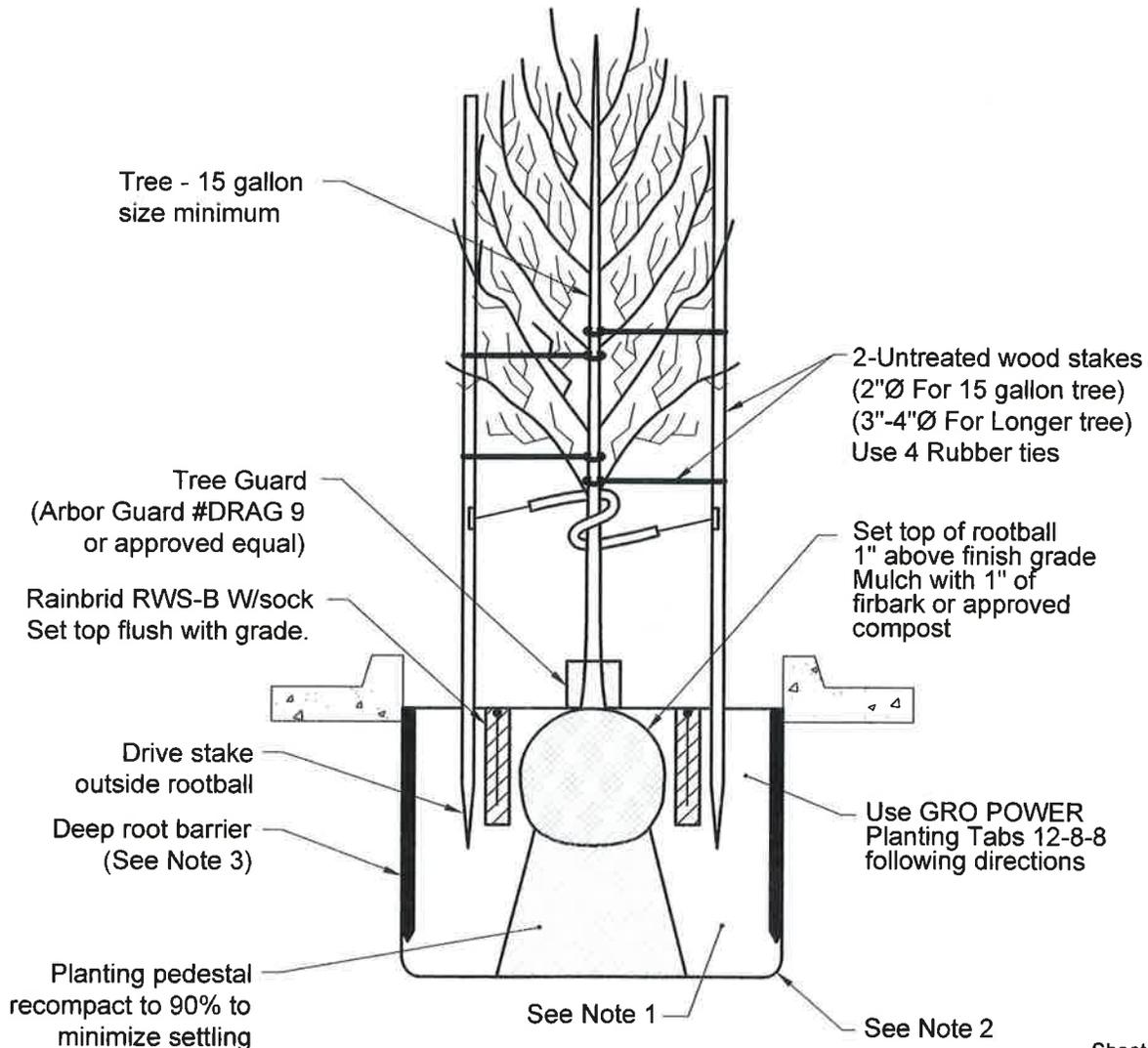
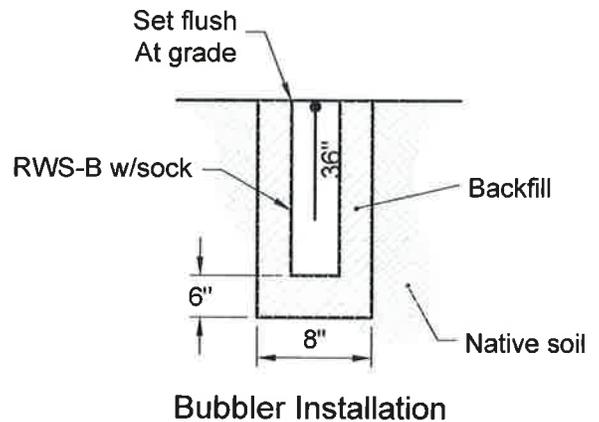
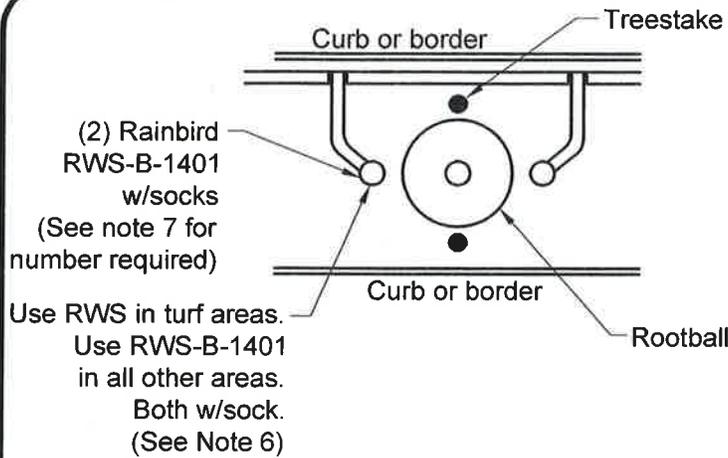
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	139
Date 12/00							



CITY OF LODI

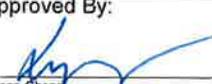
PUBLIC WORKS DEPARTMENT

Tree/Tree Well Planting and Tree Irrigation



Sheet 1 of 2

Dr.	No.	Date	Revision	Appr.
KT, JP	1	9/03	ADDED NOTES 7 THRU 10	
Ch. SN	2	2/04	REVISED BUBBLER MODEL #'S AND TREE STAKE MODEL	
Date 11/7/17	3	8/08	ADDED STAKE & TIE NOTE	

Approved By:  11/8/17
 Lyman Chang
 City Engineer
 RCE No. 53149

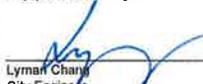
STD PLAN

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Notes

1. When soil analysis is required (by City officials prior to job commencement), all backfill soil shall have additional fertilizer and amendments per soil analysis. All backfill to be clean (preferred native, no imported soil) with 10% by volume approved compost, to be placed firmly but uncompacted. Thoroughly soak with water to settle.
2. The entire tree planting area (tree well, island, or strip) shall be free of deleterious materials including concrete and rocks. The pit shall be a minimum of two times wider and only deep enough for the tree to be 1" above grade Scarify Planting Pit And All Four Sides Of Rootball Prior To Planting.
3. Six (6) panels of 24" x 24" Deep Root root barrier (Model #DRUB24, or approved equal) will be required around tree planting area. Place 3 panels at back of curb and 3 panels along edge of sidewalk.
4. Deleted.
5. Remove nursery stake when setting new stakes.
6. Air tubes shall be set immediately next to the root ball. Apply approved pre-emergent herbicide prior to placement of fir bark or mulch.
7. Install three (3) RWS-B-1401 air tubes in tree well locations larger than 5' by 5' and install two (2) air tubes in planter strip areas or area less then 5' by 5'. Air tubes to be a minimum 36 inches in length.
8. If a discrepancy between this standard and actual on-site conditions occurs, the Contractor is to notify the City Representative immediately, before proceeding with his work, for a decision. The City reserves the right to make deletions, additions, or substitutions in the field as necessary.
9. All trees must meet the standards set forth in ANSI Z60.1 - 1996, (or latest revision) American Standards for Nursery Stock. Particular attention should be paid to section 1.4 container grown specifications. All trees will be inspected for acceptable form and condition by the City Tree Operations Supervisor prior to planting. Contact Tree Operations Supervisor at 333-6740 for tree inspection and approval. Unacceptable trees will be replaced by the contractor.
10. City Tree Operations Supervisor and Public Works Inspector shall be notified at least two working days prior to estimated time of setting-out trees so a mutually acceptable time can be scheduled for final tree placement. All trees shall be placed in approximate locations shown on plans by Contractor prior to arrival of city personnel. Final adjustments of locations shall be made by City personnel.
11. Tree spacing shall be the following minimum spacing distances:
Trees: 25'-0" O.C. min.
Trees to Street Lights 10'-0" O.C. min.
Trees to Service Laterals: 5'-0" O.C. min.

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT, JP	1	9/03	ADDED NOTES 7 THRU 10 &		 Lyman Chang City Engineer RCE No. 53149	140
Ch. SN			REVISED NOTES 3 & 4			
Date	2	2/04	REVISED NOTES 2, 4 & 7			
11/7/17	3	9/08	REVISED NOTES 1 & 4			

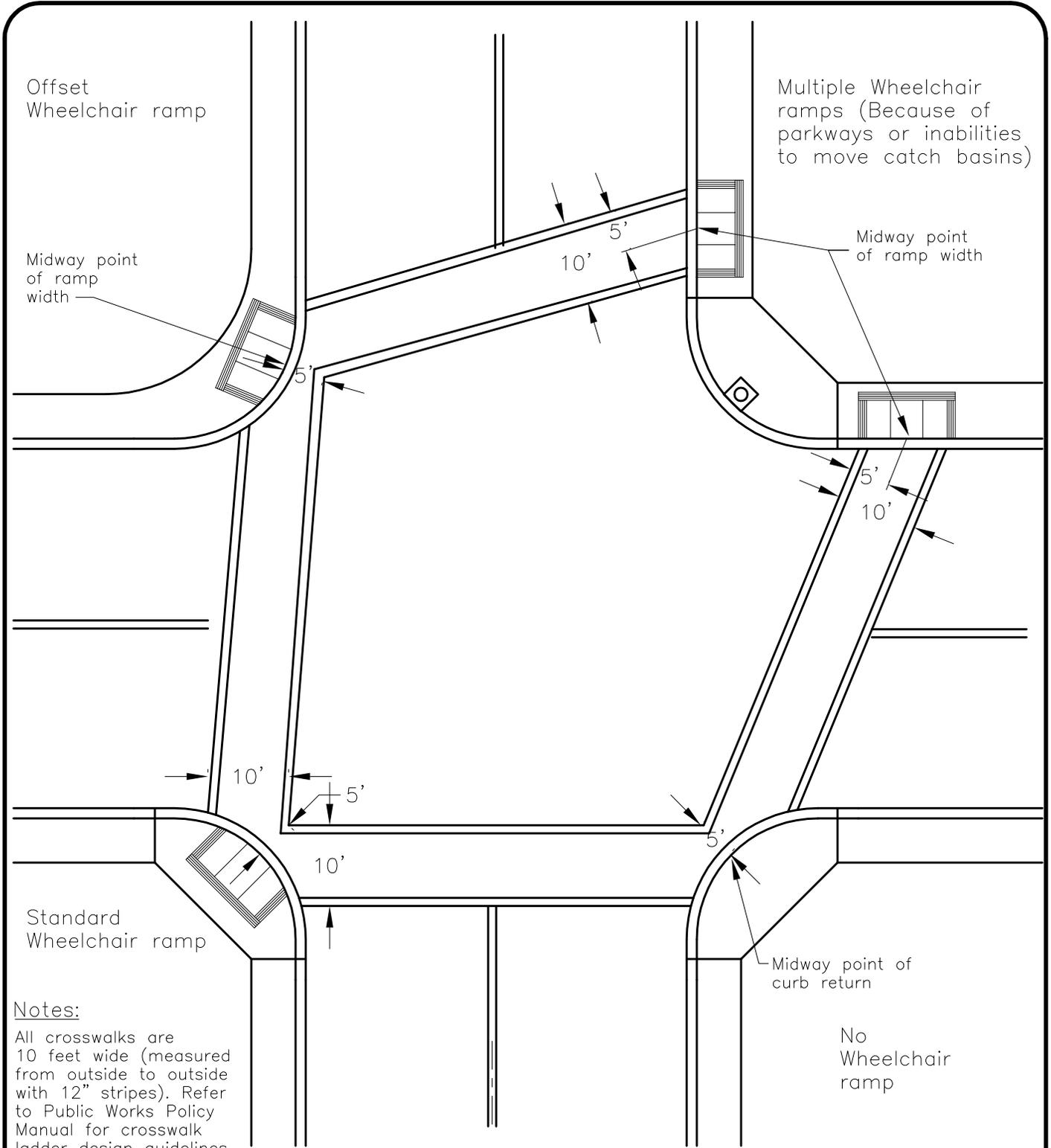
4/8/17
Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Various Crosswalk Layouts



Notes:

All crosswalks are 10 feet wide (measured from outside to outside with 12" stripes). Refer to Public Works Policy Manual for crosswalk ladder design guidelines

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00 Date	STD PLAN 141
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		
Date 12/00							

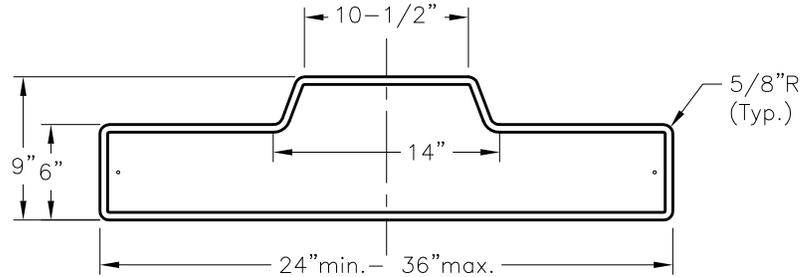


CITY OF LODI

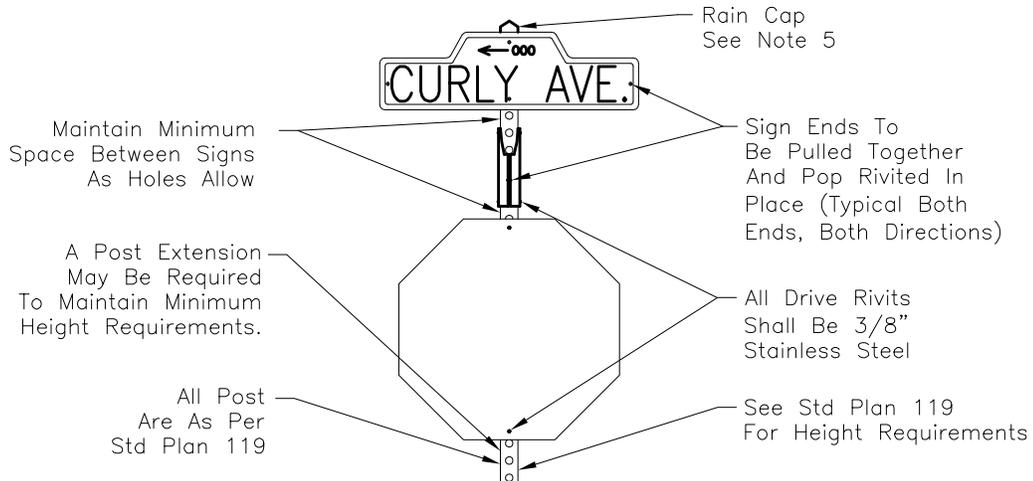
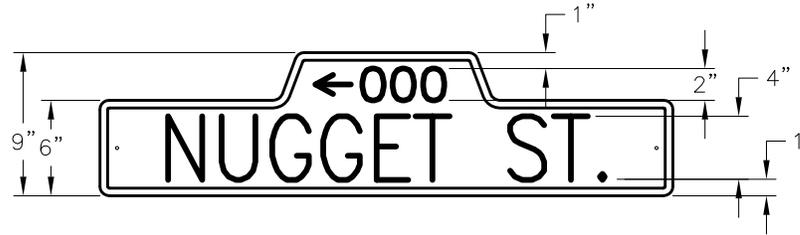
PUBLIC WORKS DEPARTMENT

Street Name Sign System

Plate: 0.063" Aluminum panel—White engineer grade reflective background with 1/4-inch non reflective black border inset 1/4-inch.



Legend: 4" upper case street name & 2" block number with 1-3/4" arrow (all black).



SIGN MOUNTING:

Notes:

1. Block Numbers Shall Be Rounded To The Nearest Hundred.
2. Block Arrow Shall Point In The Direction Of The Block; Not Across The Street.
3. When Cardinal Direction Is Part Of The Street Name, A 2" Upper Case Initial Shall Follow The Block Number, (I.E. 00N, 00S, 00E, 00W).
4. Legend Shall Be Black And Non-Reflective.
5. Cap Post With Square Rain Cap. Post Top Shall Be 1 1/2" Higher Than Top Of Sign.

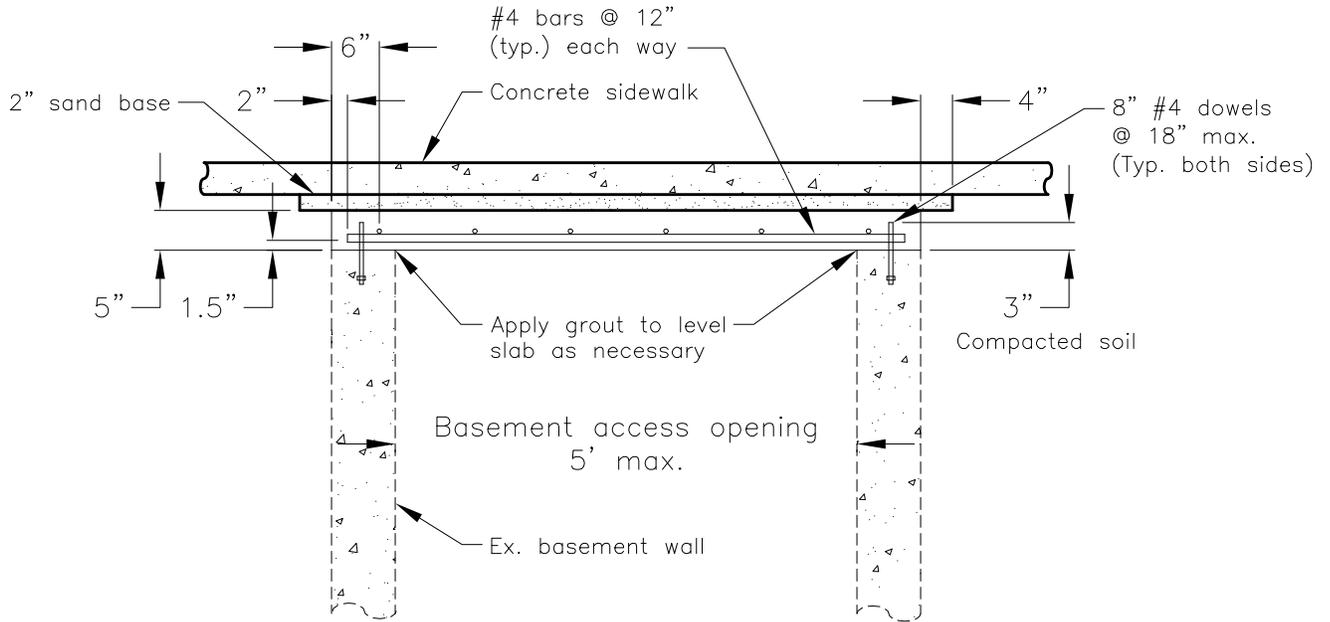
Dr. KG	No. 1	Date 9/03	Revision CHANGED TO SQ POST	Appr.	Approved By: <i>F. Wally Sandelin</i>	9/25/02	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	142
Date 12/00							



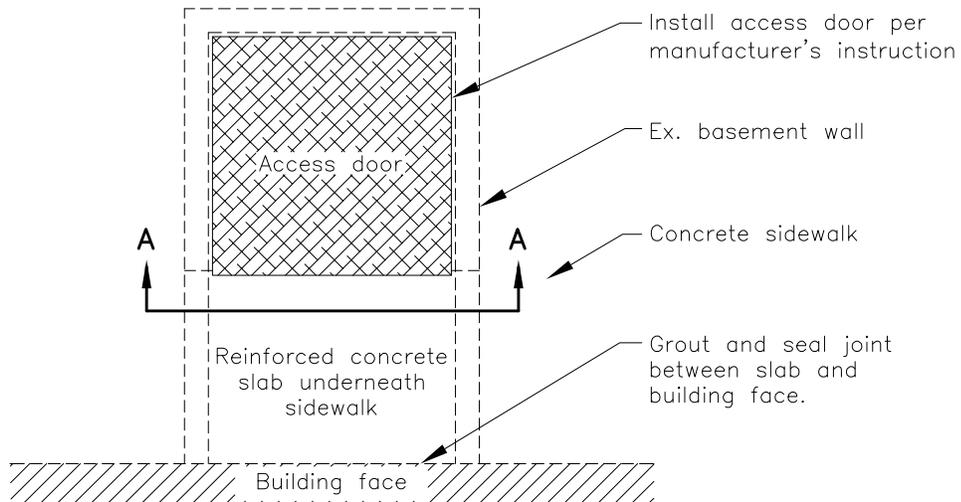
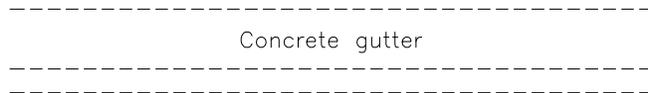
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Concrete Slab for Basement Access Spanning Detail



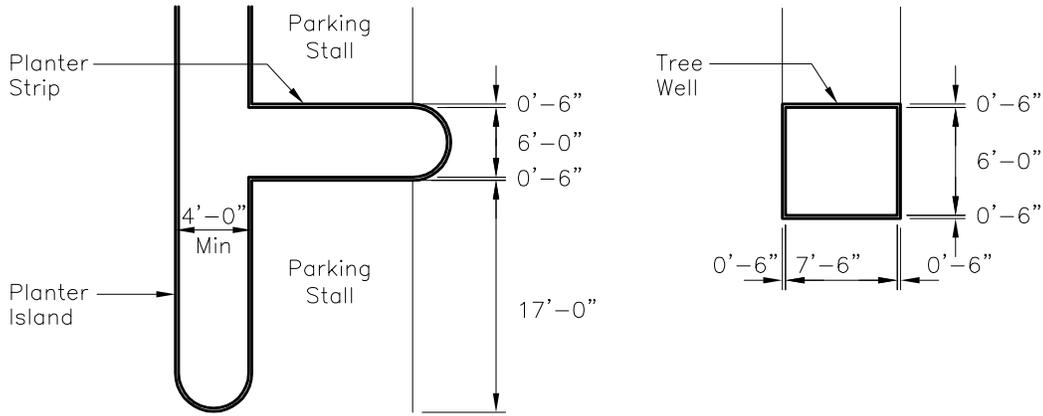
Section A-A



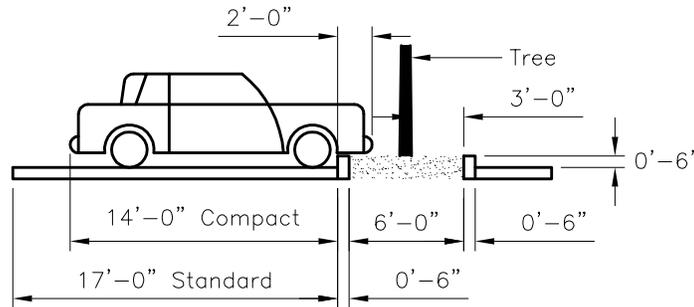
Notes:

1. All steel reinforcements shall be Grade 40 minimum.
2. All concrete shall have a minimum strength of 2,500 psi @ 28 days.

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	12/28/00
Date 12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date 12/28/00
						143



Planter Specification



Poured Curb with Overhang

Notes:

1. Minimum Planter Sizes: A minimum 6'-0" by 6'-0" planting area shall be provided for each tree planted in a tree well or planter strip. A minimum 4'-0" by 8'-0" planting area shall be provided for each tree planted in an island planter. Planter dimensions are measured from the interior side of the curb. (See illustration)
2. Tree must be planted behind the curb at a distance no less than one half the minimum planter width or otherwise recommended by the city's arborist. A 2'-0" foot overhang for vehicles into the planter area is allowed as long as it does not overhang planter width or otherwise recommended by the city's arborist. A 2'-0" foot overhang into the planter area is allowed as long as it does not overhang within the required parking lot setback area or pedestrian walkway.
3. Materials: Planters shall contain soil, shrubs and/or living ground cover with 4" of bark mulch. Interlocking pavers and decomposed granite may also be utilized in heavily used areas.

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	145
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	9/25/02 Date



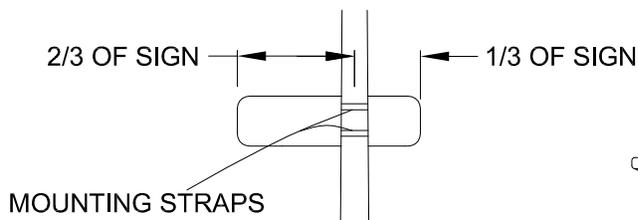
CITY OF LODI

PUBLIC WORKS DEPARTMENT

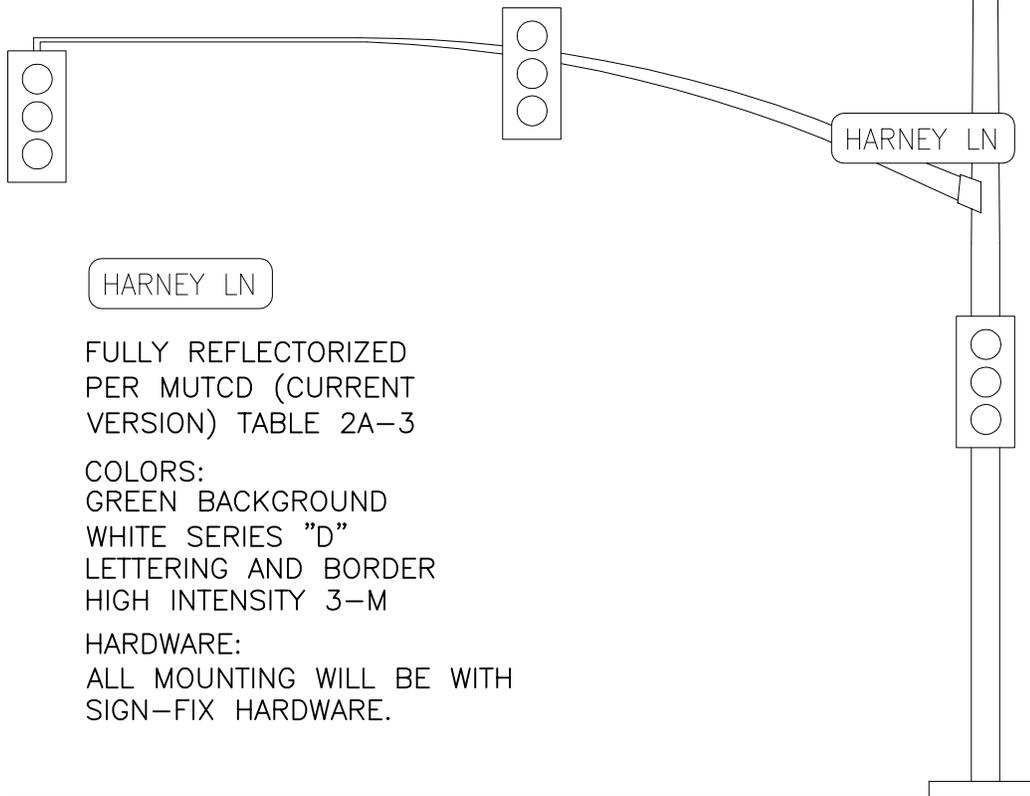
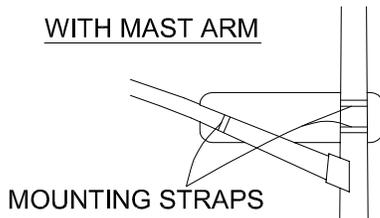
STREET NAME SIGN MAST ARM MOUNTING DETAILS

MOUNTING DETAILS

NO MAST ARM



WITH MAST ARM



FULLY REFLECTORIZED
PER MUTCD (CURRENT
VERSION) TABLE 2A-3

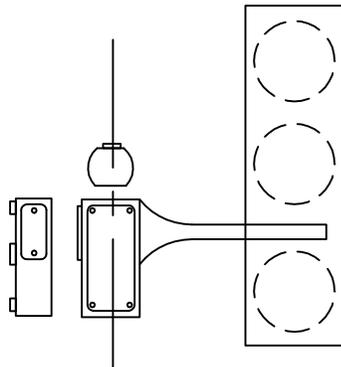
COLORS:
GREEN BACKGROUND
WHITE SERIES "D"
LETTERING AND BORDER
HIGH INTENSITY 3-M

HARDWARE:
ALL MOUNTING WILL BE WITH
SIGN-FIX HARDWARE.

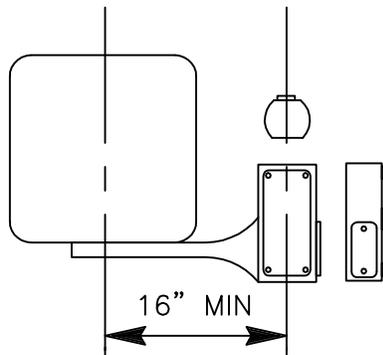
Dr.	No.	Date	Revision	Appr.	Approved By:
DK					<i>Charles Swimley</i>
Ch.					7/24/14
PJF					Charles Swimley City Engineer/Deputy Public Works Director
Date					Date
7/24/14					R.C.E. 52842

STD PLAN

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TYPICAL VEHICLE SIGNAL MOUNTING



TYPICAL PEDESTRIAN SIGNAL MOUNTING

NOT TO SCALE

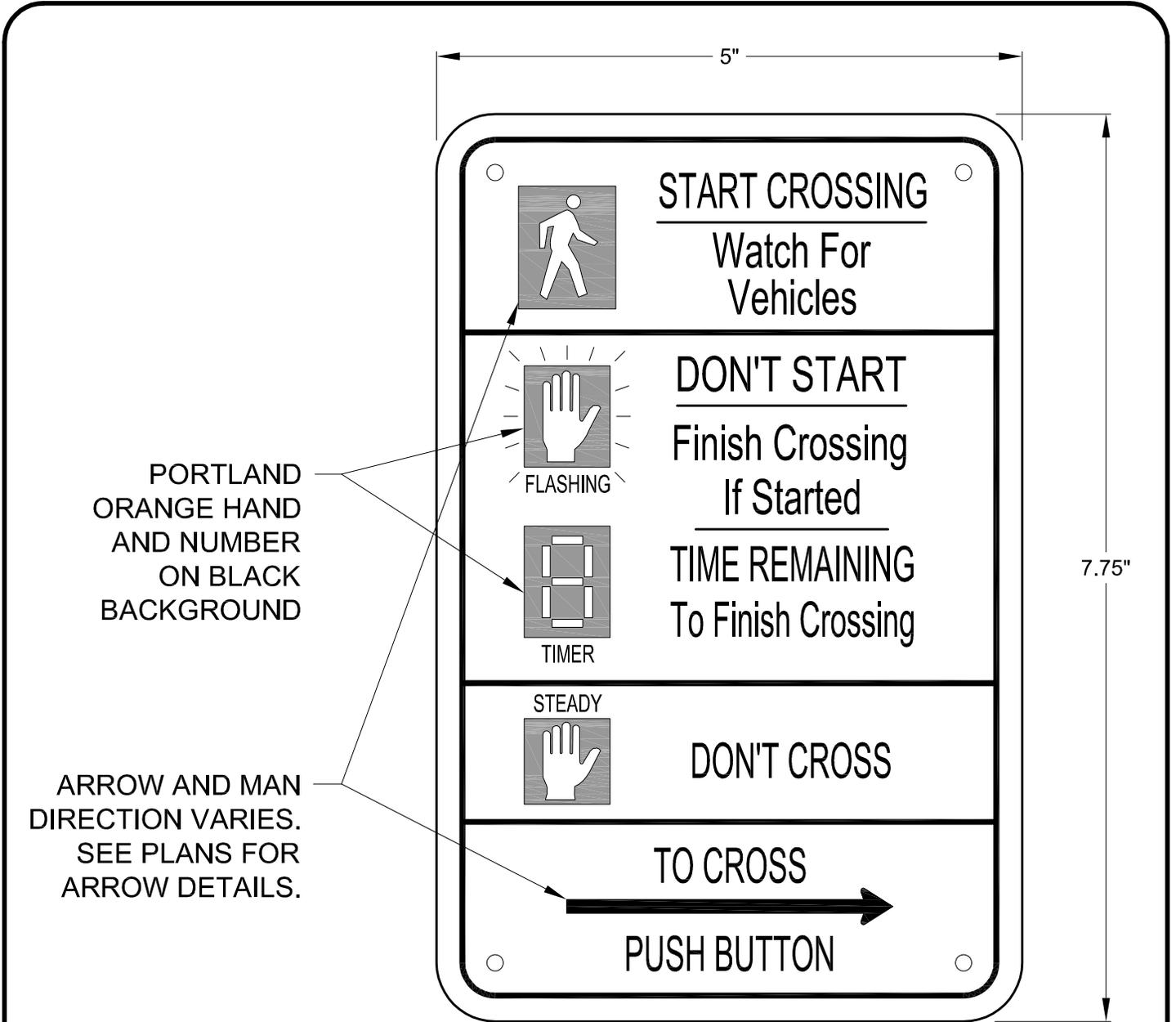
Dr. JSB	No.	Date	Revision	Appr.	Approved By:  F. Wally Sandelin City Engineer R.C.E. 39895	STD PLAN 147
Ch. PJF				2/12/04		
Date 2/04				Date		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

PEDESTRIAN PUSH BUTTON SIGN DETAIL



SPECIAL SIGN FOR PED PUSH BUTTONS

N.T.S.

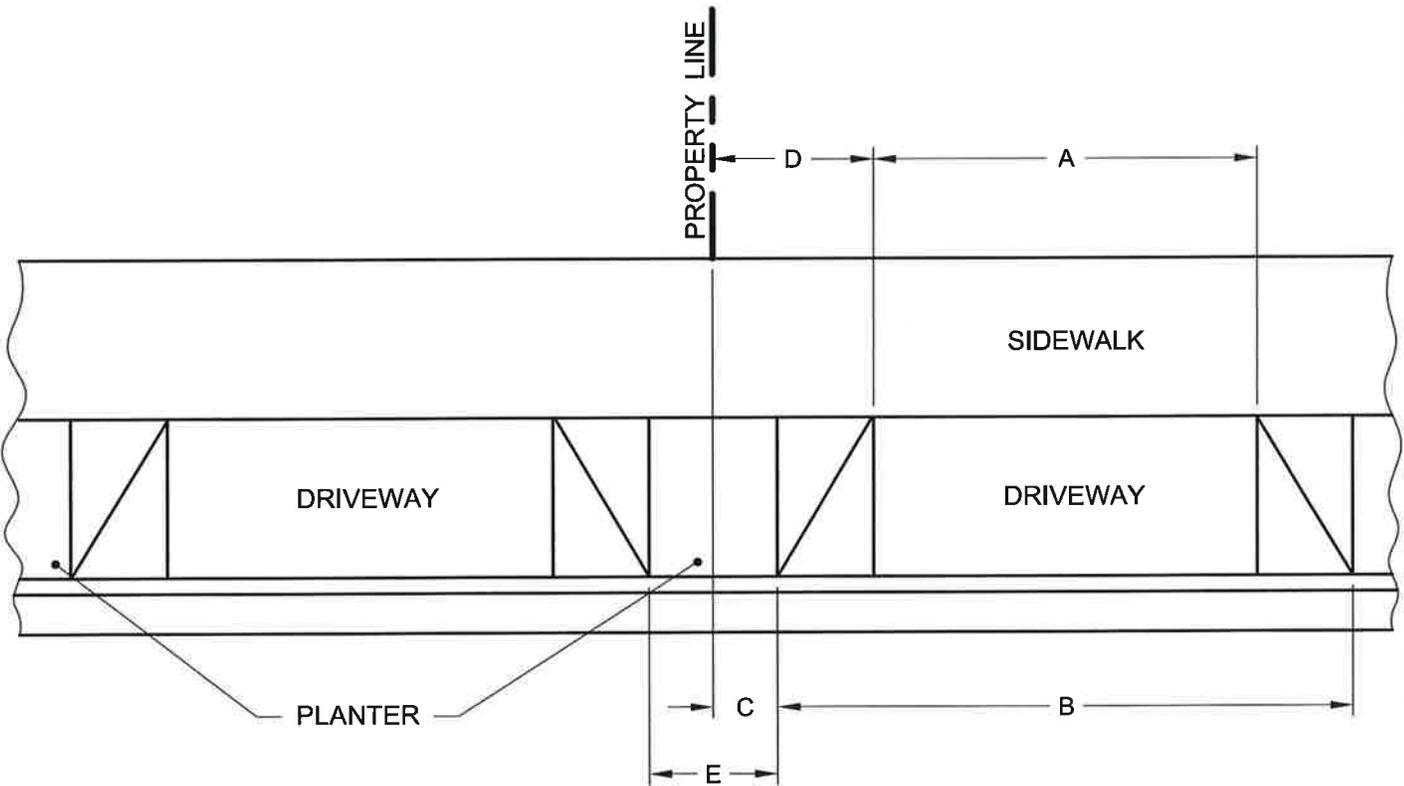
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
DK					 Lyman Chang City Engineer RCE No. 53149	148
Ch.	PJF			3/28/17		
Date	3/27/17			Date		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Standard Residential Driveway Size and Location



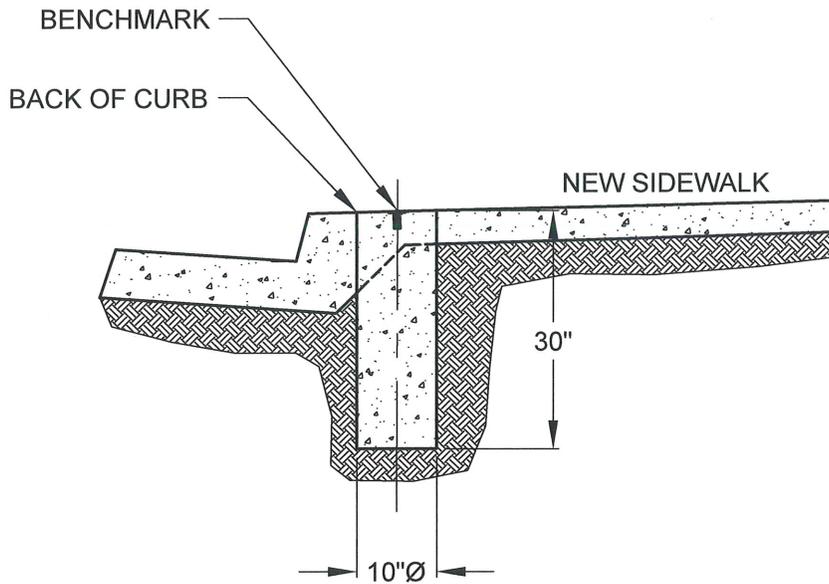
NOTE:

1. CURB RAMPS SHALL BE CONSIDERED IN A SIMILAR MANNER FOR THE PURPOSE OF DRIVEWAY LOCATIONS.
2. DEVIATION FROM THIS STANDARD PLAN REQUIRES CITY ENGINEER APPROVAL.

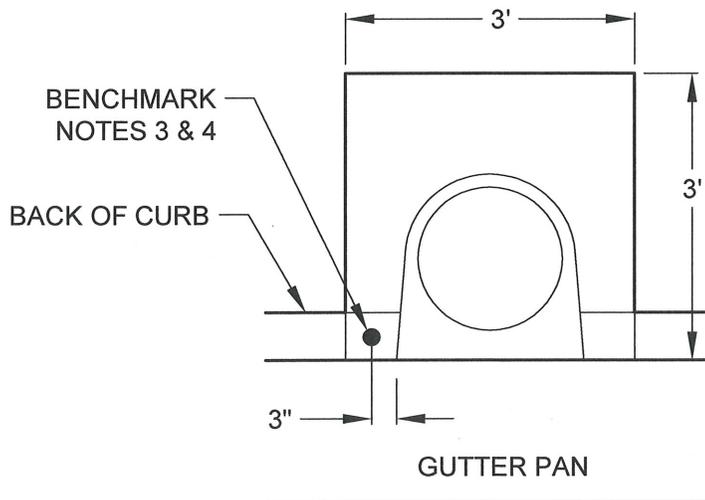
DIMENSIONS:

- A = 12' MIN, 35' MAX
- B ≤ 50% LOT FRONTAGE
- C = 2' MIN
- D = 5' MIN
- E = 4' MIN
- E ≠ 13' to 21'

Dr.	JP	No.	Date	Revision	Appr.	Approved By:	3/15/17	STD PLAN
Ch.	SN					<i>Lyman Chang</i>	Date	149
Date	3/15/17					Lyman Chang City Engineer RCE No. 53149		



MONUMENT IN NEW SIDEWALK DETAIL



MONUMENT INSTALLED WITH SIDE INLET CATCH BASIN DETAIL

NOTES:

1. BENCHMARK TO BE PROVIDED BY THE CITY.
2. BENCHMARK IS TO BE SET FLUSH IN WET CONCRETE.
3. BENCHMARK TO BE INSTALLED ON THE SIDE CLOSEST TO THE NEAREST INTERSECTION.
4. NO FOOTING NEEDED.

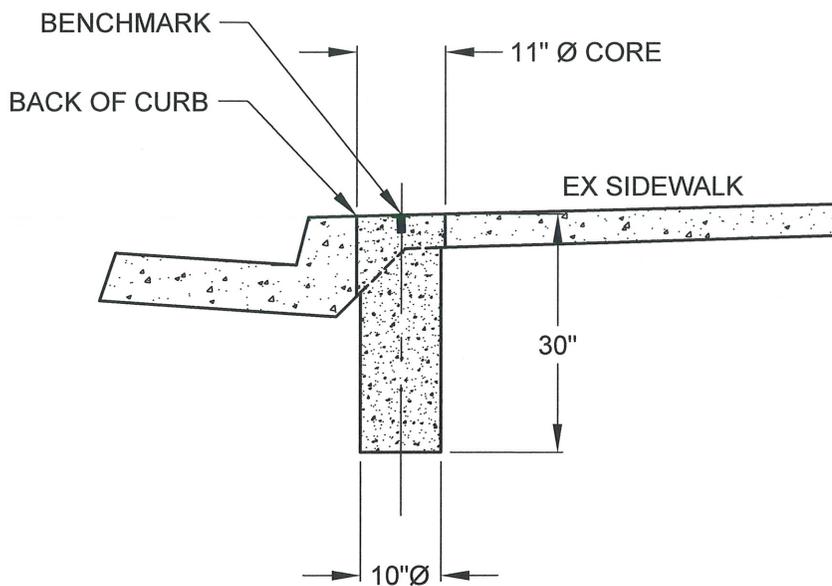
Dr.	LP	No.	Date	Revision	Appr.	Approved By:
Ch.	SN					<i>[Signature]</i> 6/5/18
Date	06/18					Date



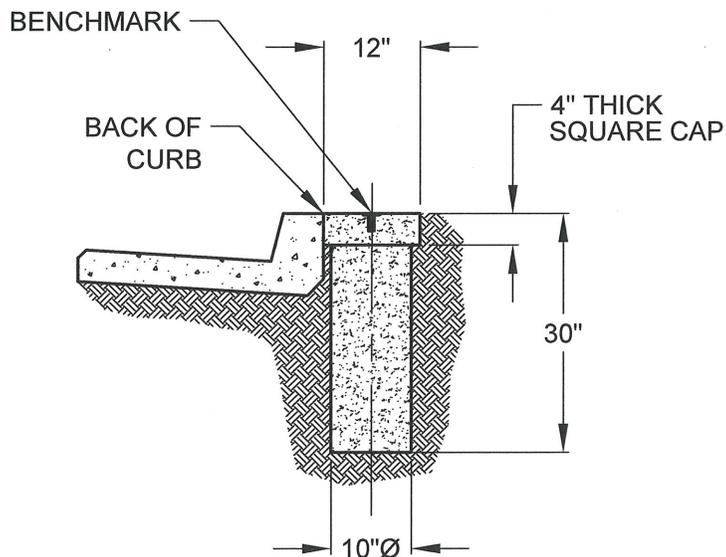
CITY OF LODI

PUBLIC WORKS DEPARTMENT

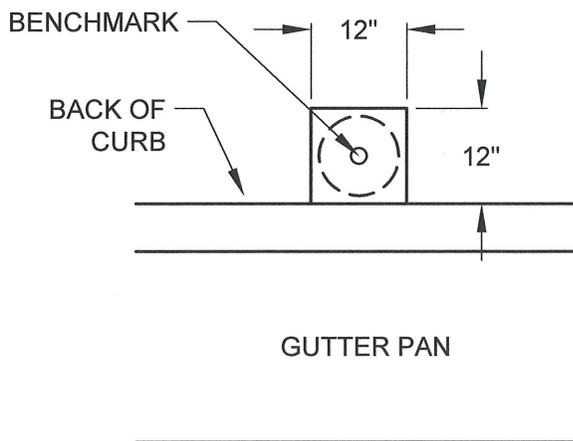
BENCHMARK INSTALLATION



MONUMENT IN EXISTING SIDEWALK DETAIL



MONUMENT IN PARKWAY DETAIL



GUTTER PAN

NOTES:

1. BENCHMARK TO BE PROVIDED BY THE CITY.
2. BENCHMARK IS TO BE SET FLUSH IN WET CONCRETE.

SHEET 2 OF 2

Dr.	LP	No.	Date	Revision	Appr.	Approved By:
Ch.	SN					<i>Lyman Chang</i> 6/5/18
Date	06/18					Date

STD PLAN

150

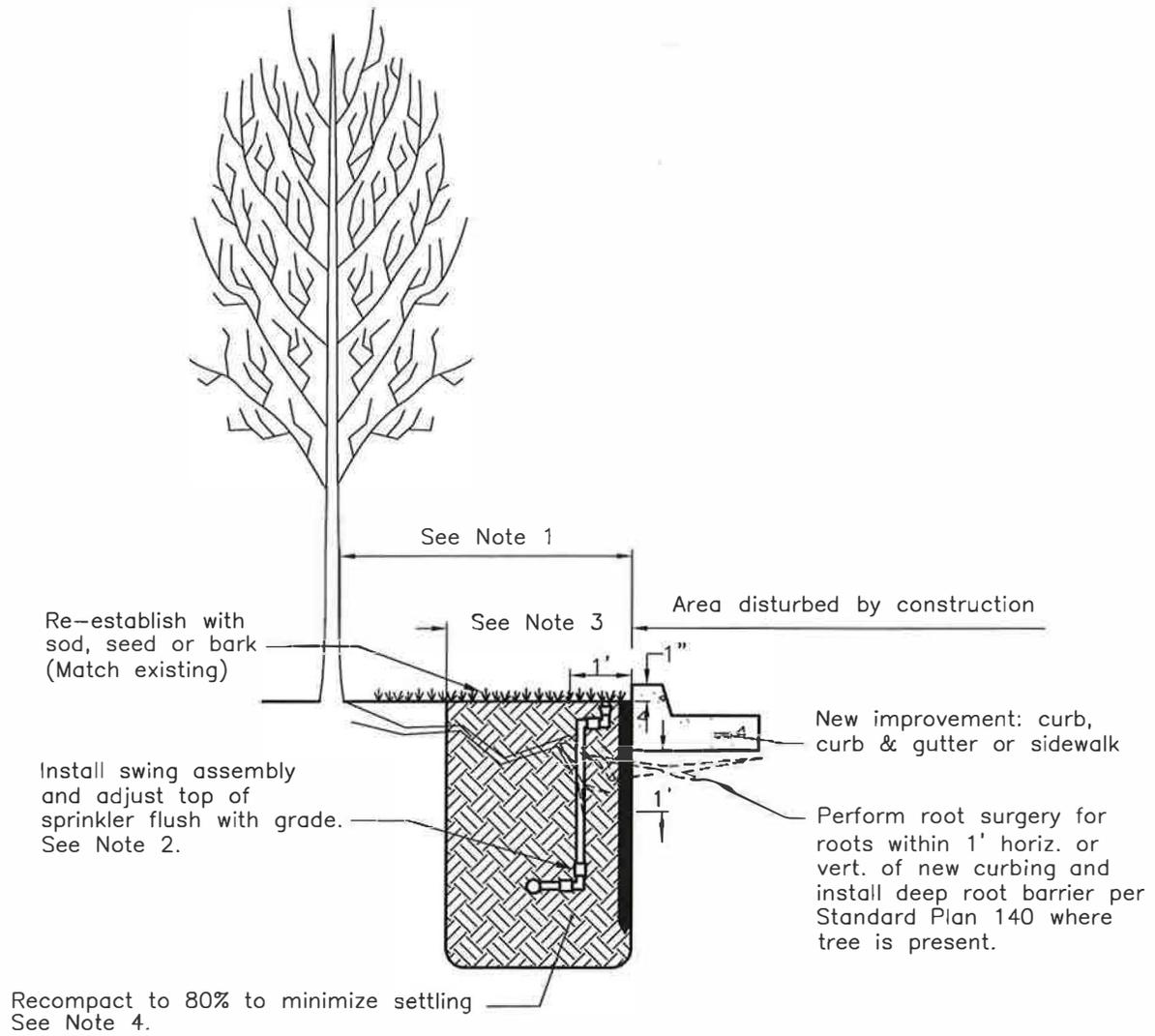
Lyman Chang
City Engineer
RCE No. 53149



CITY OF LODI

PUBLIC WORKS DEPARTMENT

EXISTING LANDSCAPE REPAIR FOR NEW CONSTRUCTION



Notes:

1. If face of existing tree is less than a distance of 2'-6" from new back of curb, parking bumpers shall be installed to protect existing trees from damage and no vehicle overhang is allowed.
2. Install a Rain Bird SA Series Swing Assembly, Rain Bird Turf Swing Joint Series or equivalent, purple components where applicable. Connect to existing lateral irrigation pipes, rotate and adjust heads behind back of curb at grade.
3. Materials: Sod or Seed shall match existing to maximum extent possible, typically a 90/10 blend which is 90% fescue and 10% Kentucky Blend or Bermuda "Celebration" variety. If no grass exists, place ground cover with 4" of bark mulch.
4. Backfill soil shall have additional fertilizer and amendments per soil analysis. All backfill to be clean (preferred native, no imported soil) with 10% by volume approved compost, to be placed firmly but uncompacted. Thoroughly soak with water to settle. Recompact to 80% R.C.

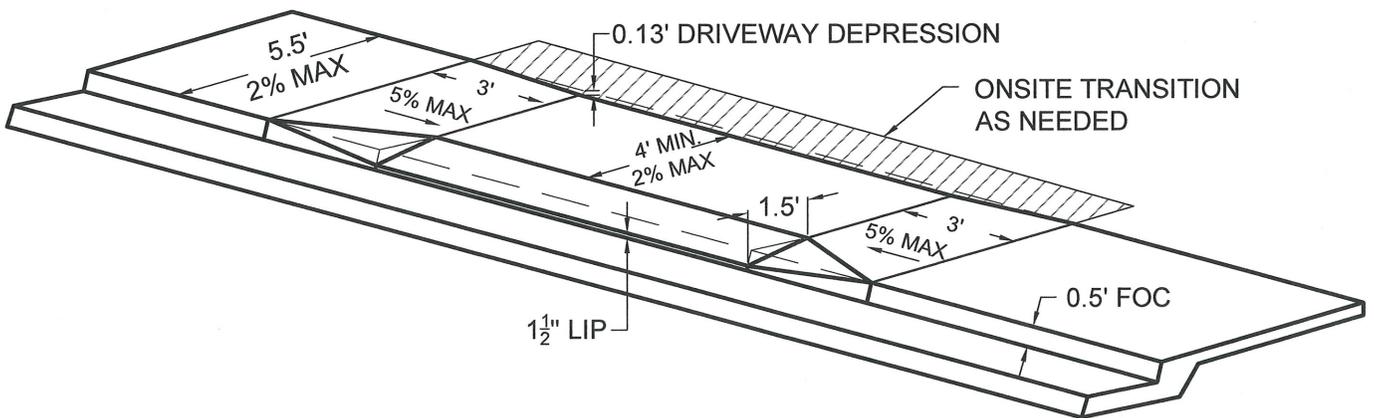
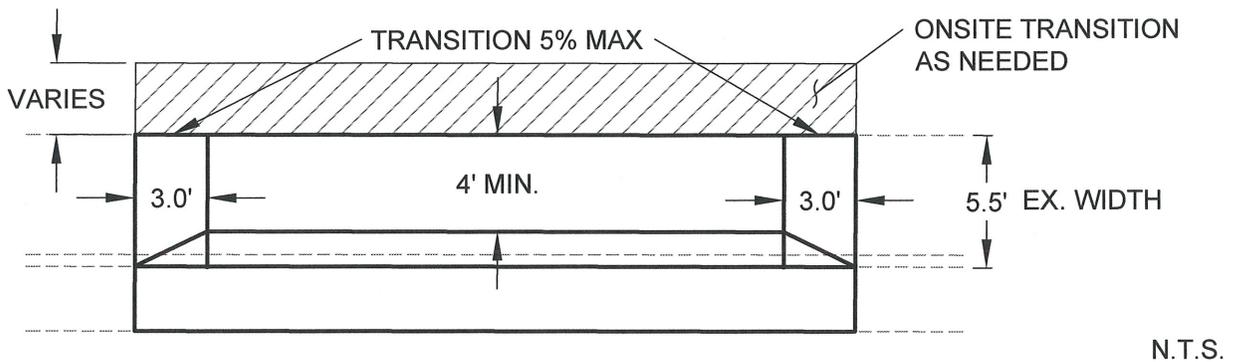
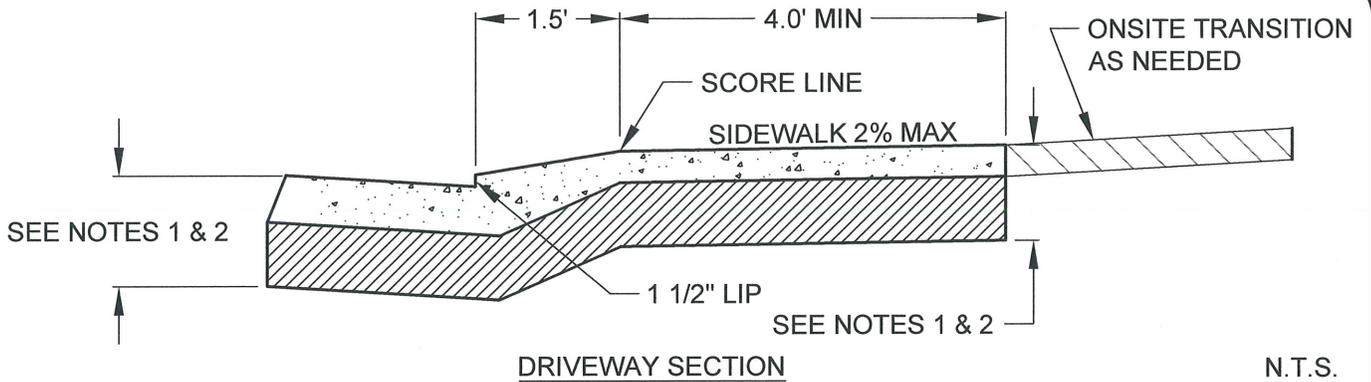
Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN						12-19-17
Date	12/15/17					Lyman Chang City Engineer RCE No. 53149	151



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WEDGE DRIVEWAY



NOTES:

1. SEE STD PLAN 135 FOR RESIDENTIAL DRIVEWAY SECTION DETAILS.
2. SEE STD PLAN 114 FOR COMMERCIAL DRIVEWAY SECTION DETAILS.

Dr.	LP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN						152
Date	06/18					6/5/18 Date	

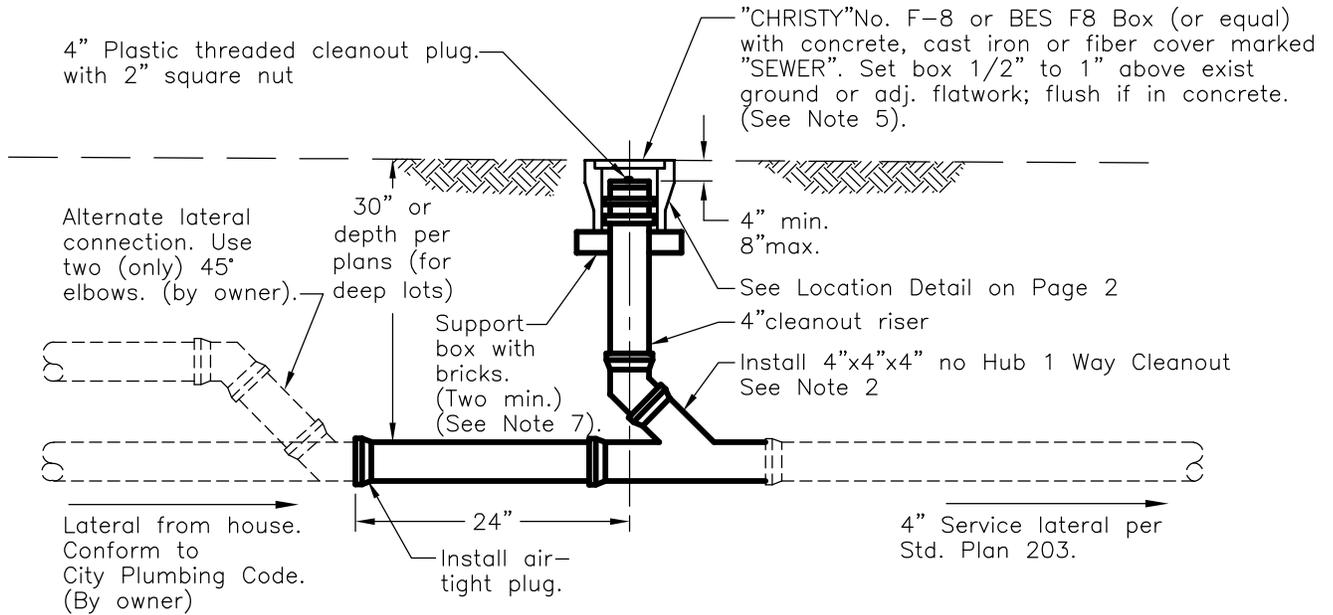
Lyman Chang
City Engineer
RCE No. 53149



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Wastewater Service Cleanout



Notes:

1. Install cleanout on all 4" wastewater services unless otherwise specified.
2. 45° Wye & 45° elbow combination shall be Polyvinyl Chloride (PVC) per ASTM D-3034 SDR 35 or Acrylonitrile-Butadiene-Styrene (ABS) per ASTM D-2751, Cast Iron Soil Pipe (ASTM A74, service unit) or Ductile Iron (ASTM A746) or VCP Wye tee ASTM C-425. See Material List Page 2.
3. Backfill shall conform to Std. Plan 501.
4. Maintenance of lateral shall be per City "Wastewater Lateral Maintenance Policy"
5. In commercial driveways. Use "Christy" G-5 box W/G-5C lid or BES equal; in residential driveways replace concrete lid with cast iron lid.
6. When service is installed with water service, terminate even with the water stub.
7. Support box not needed if set in concrete.

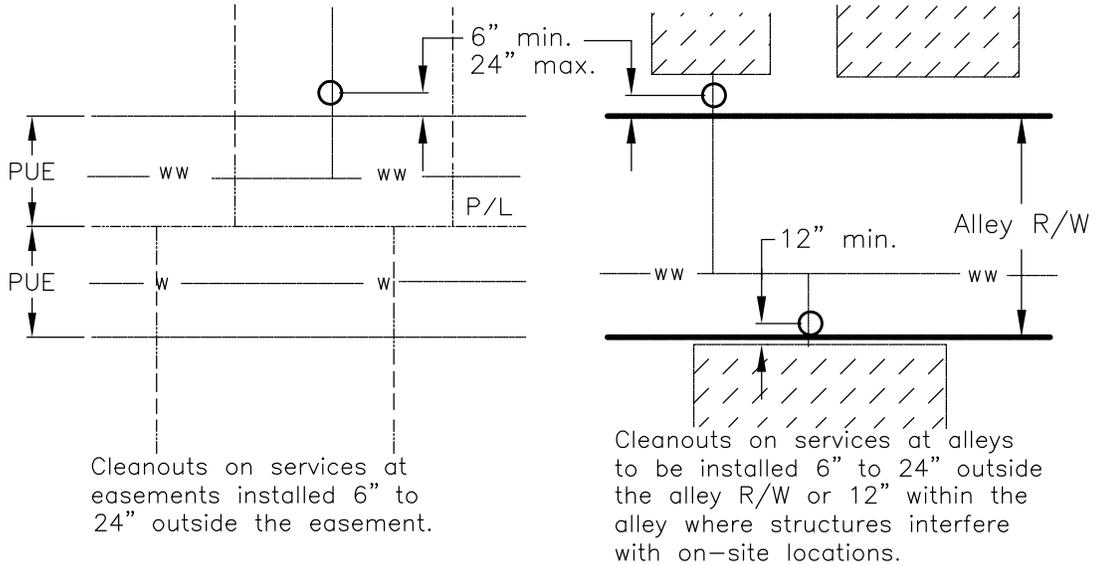
Related Plans:
203, 506

Sheet 1 of 2

Dr. KT	No. 1	Date 9/03	Revision MOVED C.O. LOCATION	Appr.	Approved By: <i>F. Wally Sandelin</i>	Date 9/25/02	STD PLAN 201
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		
Date 12/00							

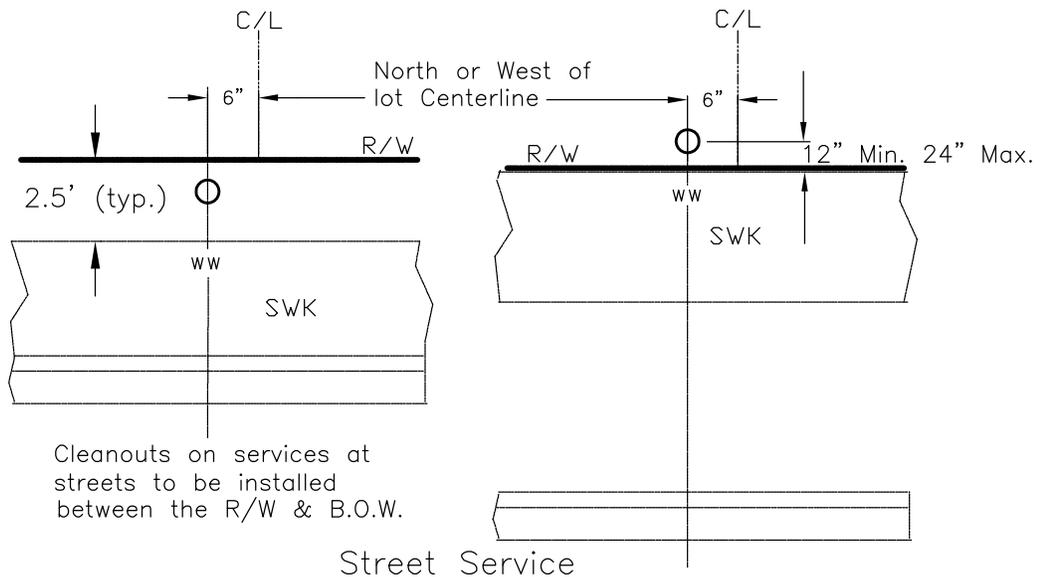


LOCATION DETAILS



Easement Service

Alley Service



Street Service

Material List for STD PLN 201
City Approved 1-Way Cleanouts (a)

GPK Products Inc.	Solvent Weld SCH 40 DWV
Mueller Industries, Inc.	TY Long Turn

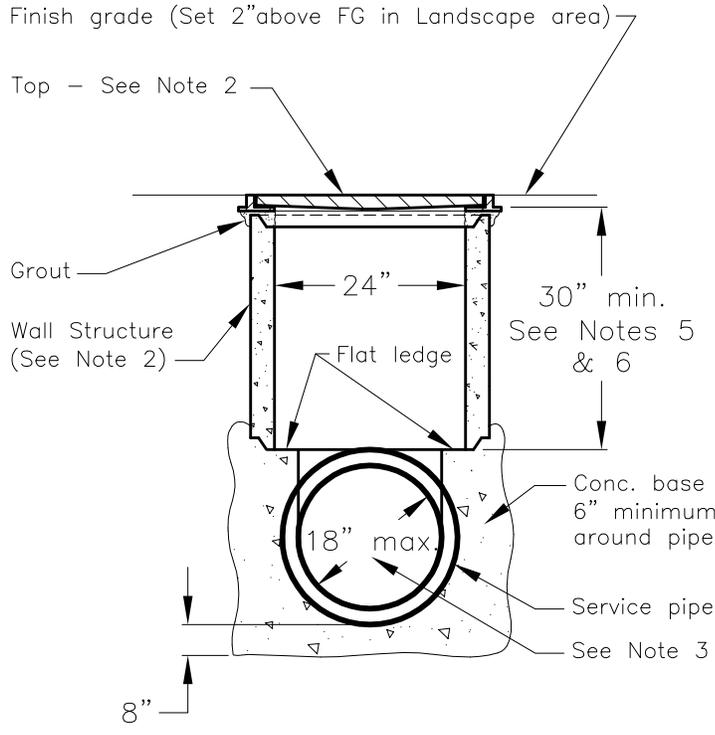
(a) or approved equal

Sheet 2 of 2

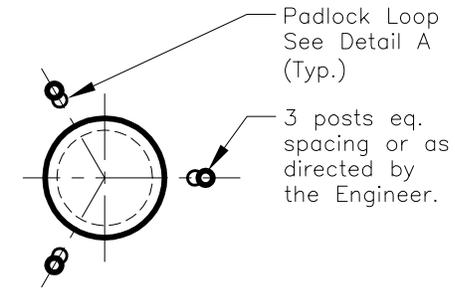
Dr.	No.	Date	Revision	Appr.	Approved By:	Date
KT	1	9/03	MOVED C.O. LOCATION		<i>F. Wally Sandelin</i>	2/12/04
WS	2	2/04	REVISED LOT DIMENSION			
Date		12/00			F. Wally Sandelin City Engineer R.C.E. 39895	

STD PLAN

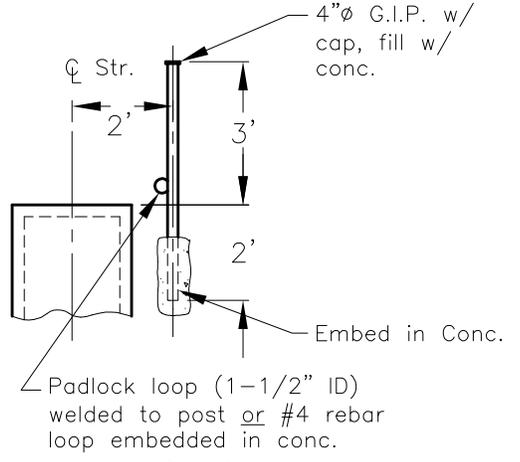
201



Section



Bollard Location Detail



Detail A

Notes:

- Monitoring structures shall be installed on storm and wastewater services when required by the Engineer or as shown on the plans. Normal location is between the back of sidewalk and the R/W.
- Construction guidelines:

Location	Wall	Top
Traffic Area	Precast conc. per ASTM C-478 or 6" CIP conc.	Frame & Cover per Std Plan 309
Landscape Area	Precast pipe - VCP, RCP or CP	Expandable Plug
- For services over 18"Ø, consult Engineering Division.
- Monitoring structure to be privately owned and maintained.
- Where 30" min. depth cannot be maintain, the structure shall be located behind the sidewalk and be installed with padlock loop per Detail A.
- Posts required when structure is less than 30" and is located in a traffic area.
- For trench backfill requirements, See Std. Pln 501.

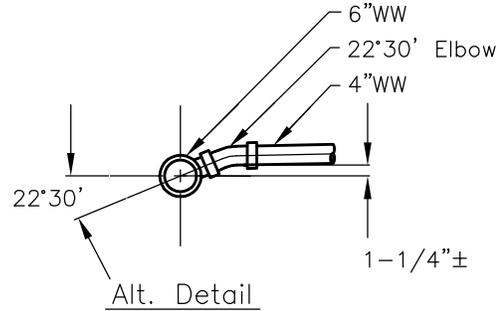
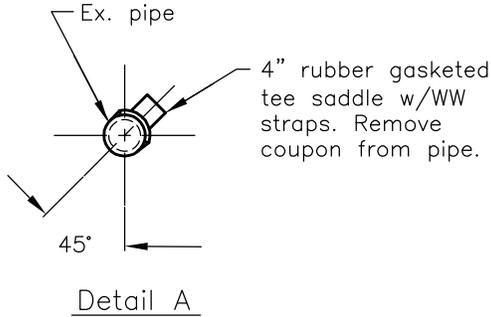
Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sangelin</i>	12/28/00
Date 12/00					F. Wally Sangelin City Engineer R.C.E. 39895	Date 12/28/00
						202



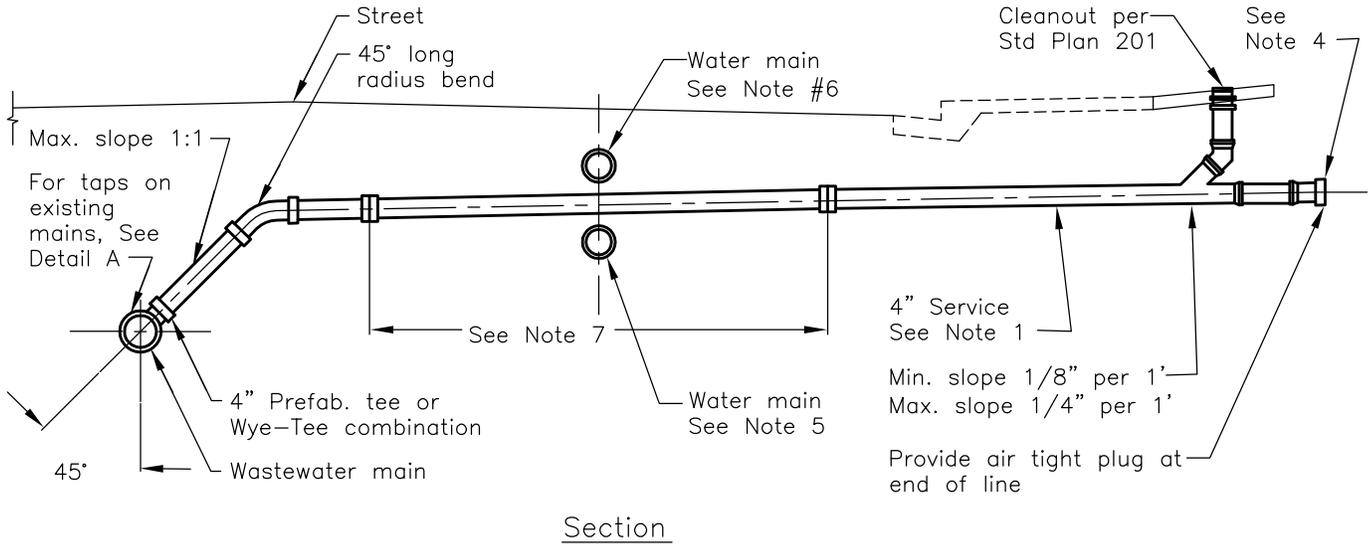
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Wastewater Service



(To be used only w/ approval of Engineer on shallow mains)



Notes:

1. Pipe shall be Vitrified Clay Pipe per ASTM C-700 with compression joint per ASTM C-425 or compression coupling per ASTM C-594; Polyvinyl Chloride Pipe per ASTM D-3034 SDR 35; or Ductile Iron Class 50 with Compression Joint and Rubber Ring per ASTM D 1869. 6" and larger services per plans and waste water main standards.
2. Backfill shall conform to Std. Plan 501.
3. Taps on existing mains shall be made by the Contractor per Detail A when shown on the plans or approved by the Engineer.
4. When service is installed with water service, terminate even with the water stub.
5. Where service crosses over WM, 4" min. clearance and special construction are required (See Note 7)
6. Where service crosses under WM with less than 12" clearance, 4" clearance and special construction are required. (See Note 7)
7. Special construction: center length of pipe on water main. Short stick clay pipe not allowed. When service constructed under this condition (See Note 1)

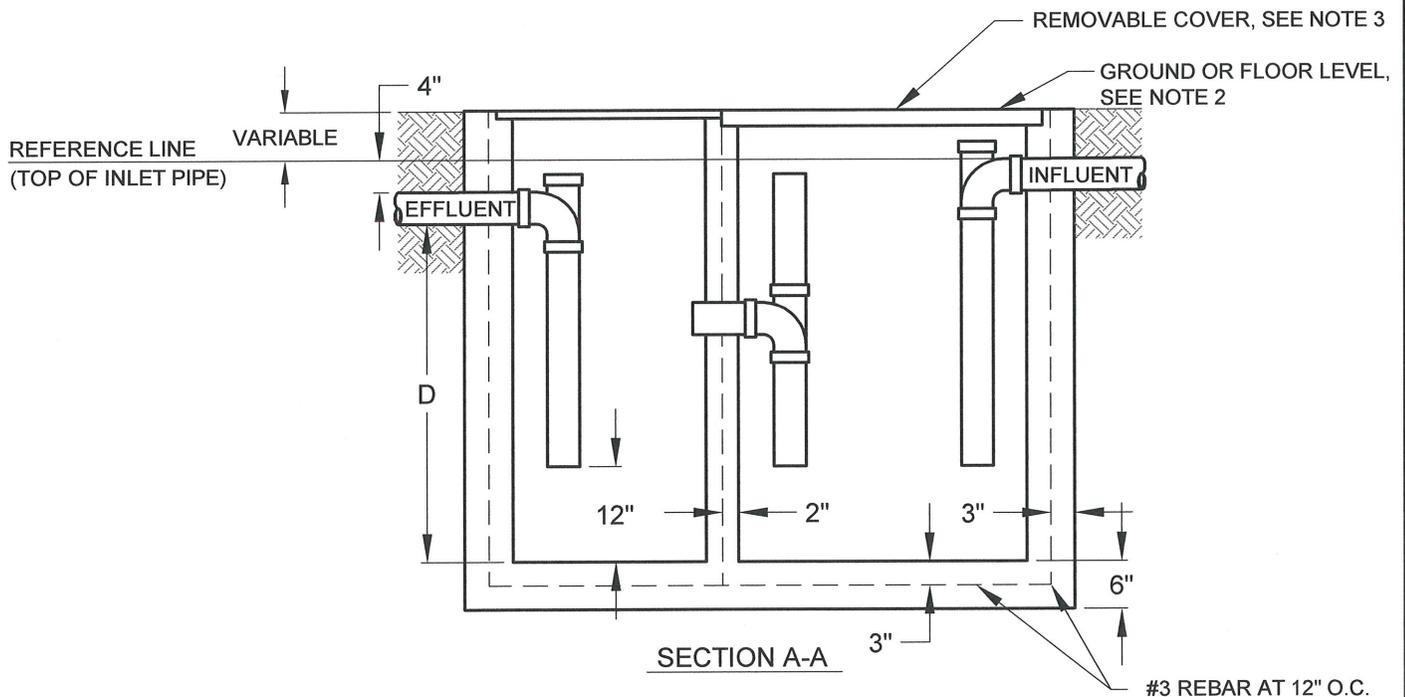
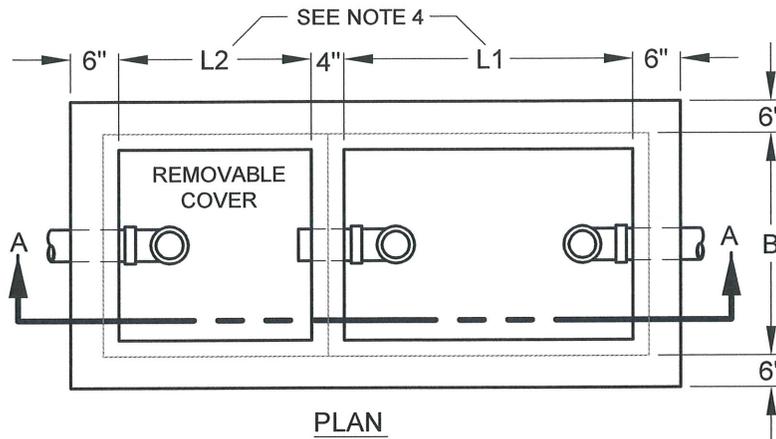
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	12/28/00
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	203



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WASTEWATER INTERCEPTOR



NOTES:

1. PRECAST COMMERCIAL UNITS ARE ACCEPTABLE WITH PRIOR APPROVAL.
2. WASTE INTERCEPTOR SHALL NOT BE LOCATED IN HEAVY TRAFFIC AREAS. INTERCEPTOR SHALL BE INSTALLED AT GROUND SURFACE ELEVATION HIGHER THAN ALL STORM SEWER INLET ELEVATIONS ON THE PROPERTY.
3. REMOVABLE COVER DESIGN SHALL BE DICTATED BY STRENGTH AND LOCATION REQUIREMENTS AS DETERMINED BY THE INSTALLER, BUT SHALL BE OF SUCH DESIGN TO PROVIDE CONVENIENT ACCESS TO EACH ENTIRE COMPARTMENT FOR CLEANING. THE COVER MAY BE SECTIONAL, BUT SHALL BE OF SOLID DESIGN, ESSENTIALLY WATERPROOF, INSTALLED AT OR NEAR GROUND OR FLOOR LEVEL AND KEPT CLEAR OF ALL OBSTRUCTIONS SO AS TO BE READILY ACCESSIBLE FOR CLEANING AND INSPECTION.
4. FOR FLOWS OVER 165 GPM THE CAPACITY OF INTERCEPTOR REQUIRED FOR WASTE SHALL BE INDIVIDUALLY DETERMINED BY PUBLIC WORKS DEPARTMENT.
5. WASTE INTERCEPTOR TO BE OUTSIDE ANY FENCING AND SUBJECT TO INSPECTION AT ALL TIMES.

SHEET 1 OF 2

Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	SN					<i>Lyman Chang</i>	204
Date	6/18					6/5/18 Date	
						Lyman Chang City Engineer RCE No. 53149	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WASTEWATER INTERCEPTOR

PEAK FLOW INTO INTERCEPTOR (GPM)	INCHES			
	B	D	L1	L2
0-67	24	30	36	24
67-112	30	30	48	30
112-165	36	36	60	36

OVER 165 GPM, SEE NOTE 4 ON SHEET 1

NOTE:

TOTAL RATED DISCHARGE CAPACITY OF ALL FIXTURES, EQUIPMENT OR APPLIANCES DISCHARGING INTO INTERCEPTOR IN ACCORDANCE WITH UNIFORM PLUMBING CODE OR ACTUAL FLOW RATE.

SHEET 2 OF 2

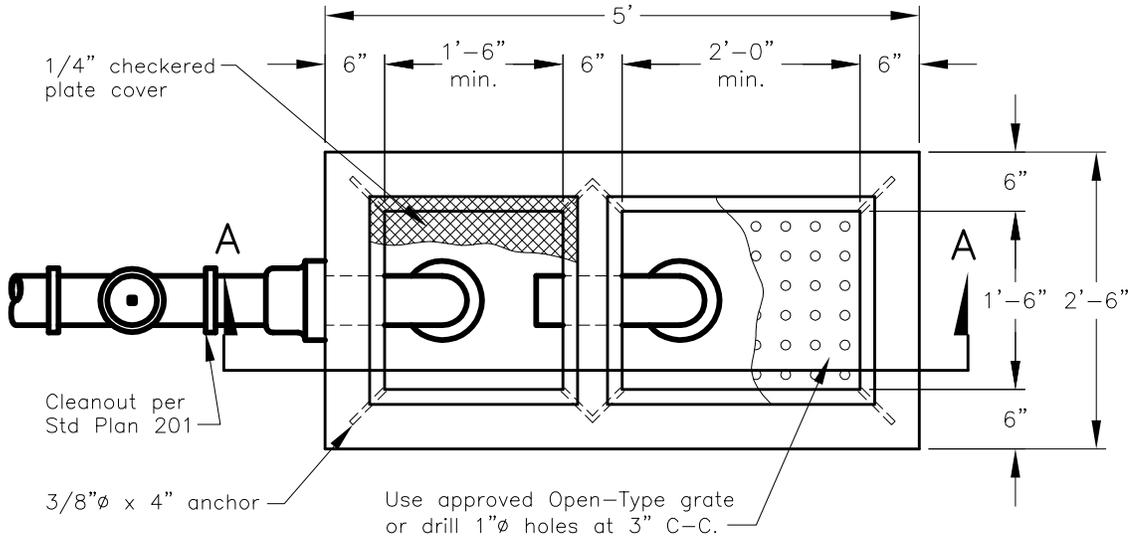
Dr. JP	No.	Date	Revision	Appr.	Approved By:  Lyman Chang City Engineer RCE No. 53149	Date 6/5/18	STD PLAN 204
Ch. SN							
Date 6/18							



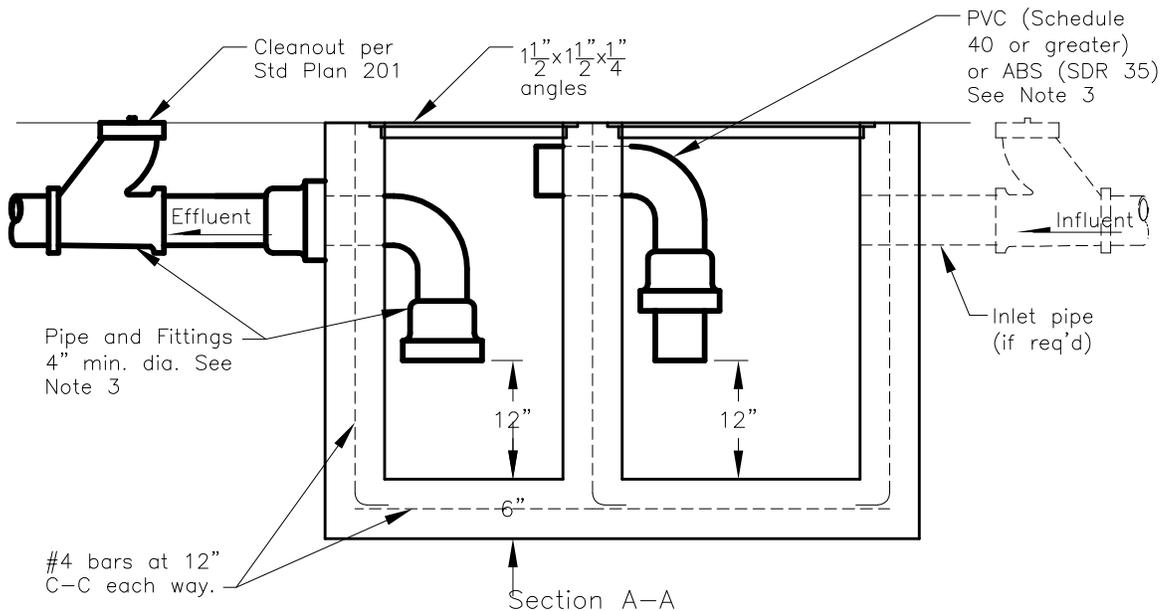
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Sand/Oil Trap



Plan



Section A-A

Notes:

1. All exposed steel to be galvanized after fabrication.
2. Precast commercial units are acceptable with prior approval.
3. For petrochemical applications cast iron fittings and piping shall be used.
4. Floor to drain to open grate or drilled plate cover.

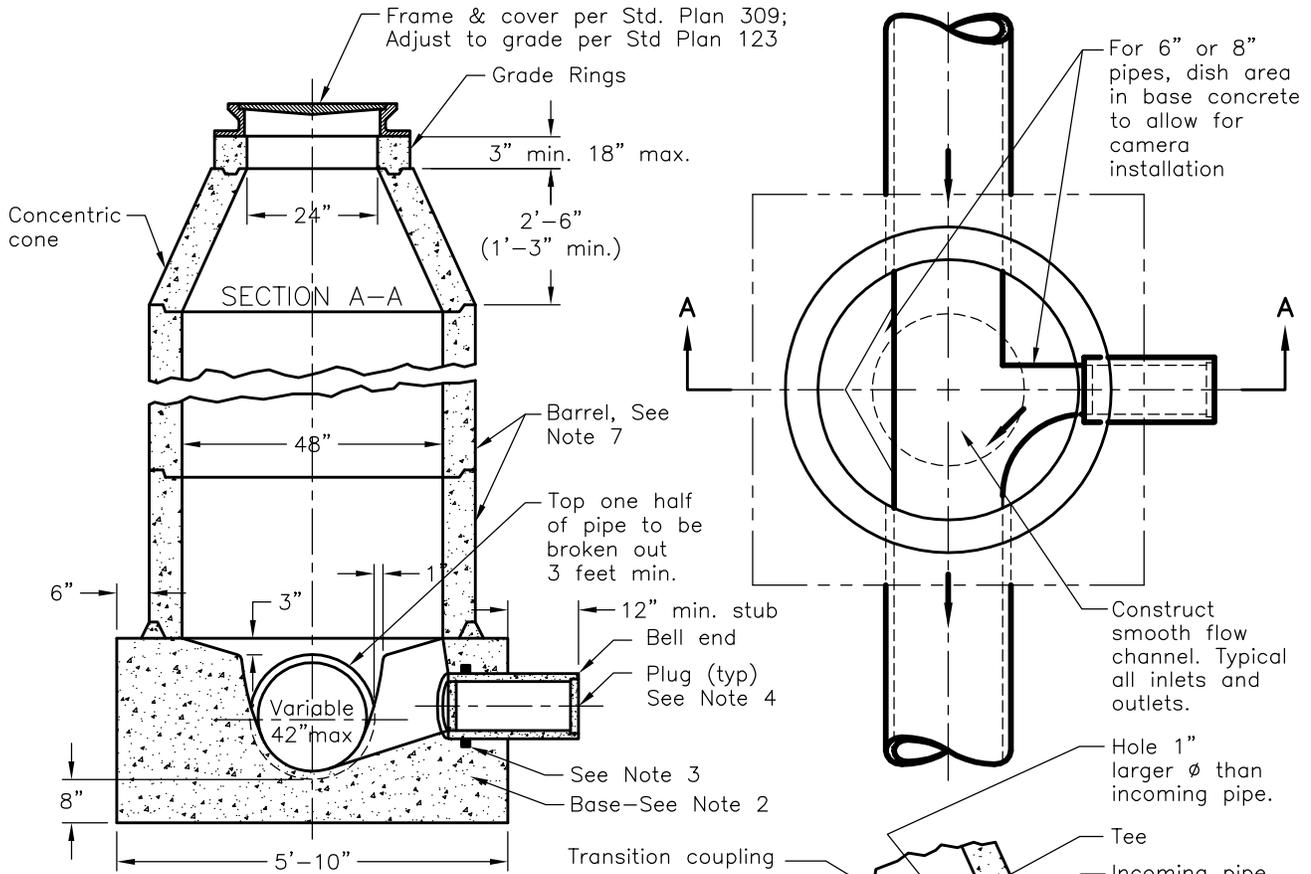
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	205
Date	12/00					12/28/00 F. Wally Sandelin City Engineer R.C.E. 39895	Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

48" Manhole



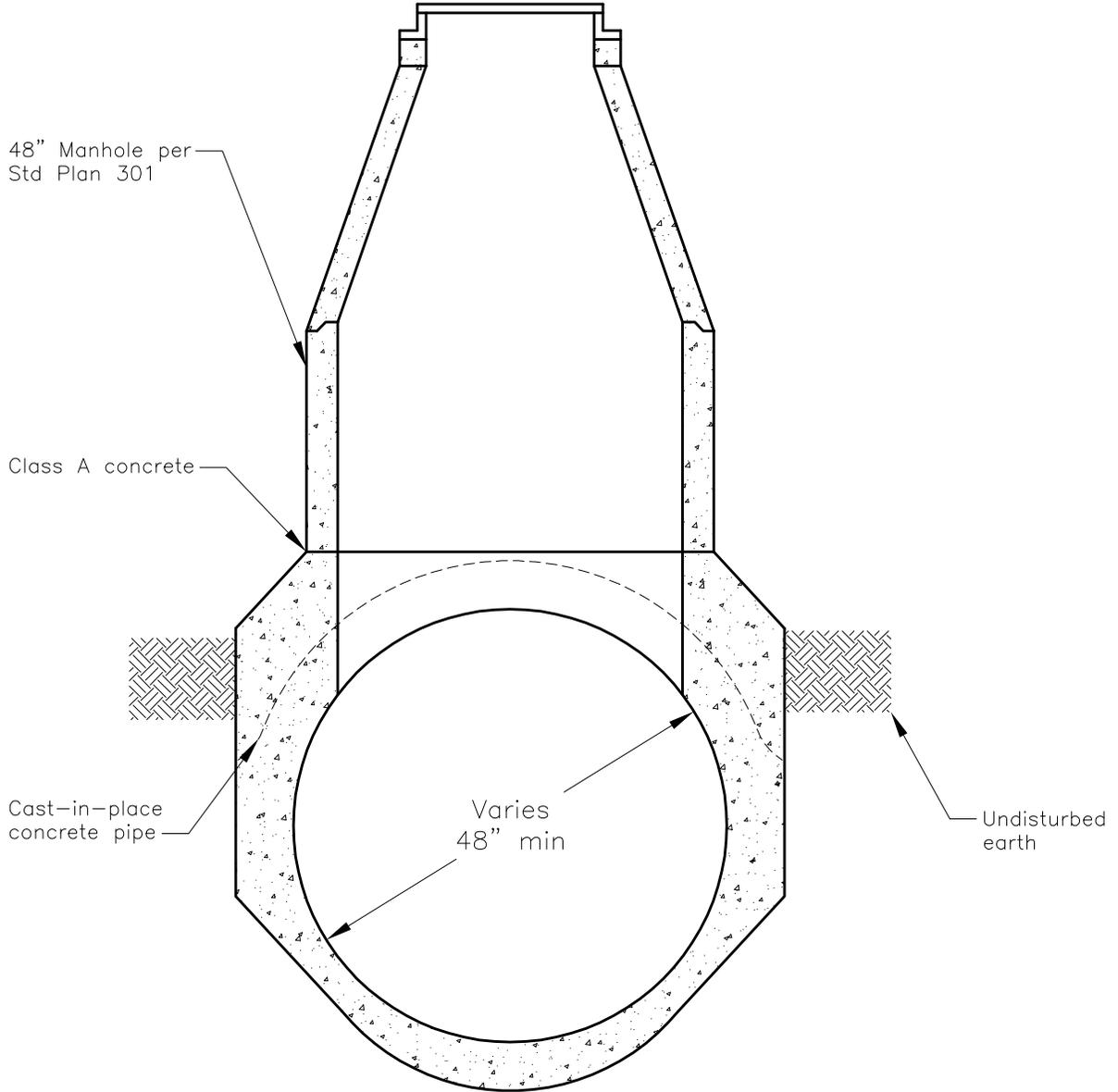
Notes:

1. Barrel, cone and grade ring sections shall conform to ASTM C478, latest revision. Manufacturer to be approved by the engineer.
2. Base shall consist of cast-in-place Class B concrete per Sec. 90 Caltrans Std Specification. Prefabricated bases shall conform to Note 1 and be placed on 4" of concrete or 3/4" Class II AB Bedding.
3. Rubber ring waterstop or manhole adapter required for PVC pipe installations.
4. Plugs shall be compression type as approved by the Engineer.
5. Backfill around MH shall be compacted to 95% R.C. min.
6. Drop connection to be used only when shown on the plans or approved by the Engineer. Drop pipe to be one size larger than the incoming pipe.
7. All barrel joints shall be grouted inside and outside or sealed Ram-nek or approved equivalent.

Drop Connection Detail
For Sanitary Sewer only

Dr.	No.	Date	Revision	Appr.	Approved By:	Date
KT					<i>F. Wally Sandelin</i>	12/28/00
Ch.	WS				F. Wally Sandelin City Engineer R.C.E. 39895	
Date	12/00					

STD PLAN
301



Notes:

1. Make manhole opening in top of pipe before concrete sets and place barrel within following 7 days.
2. Grout all joints.

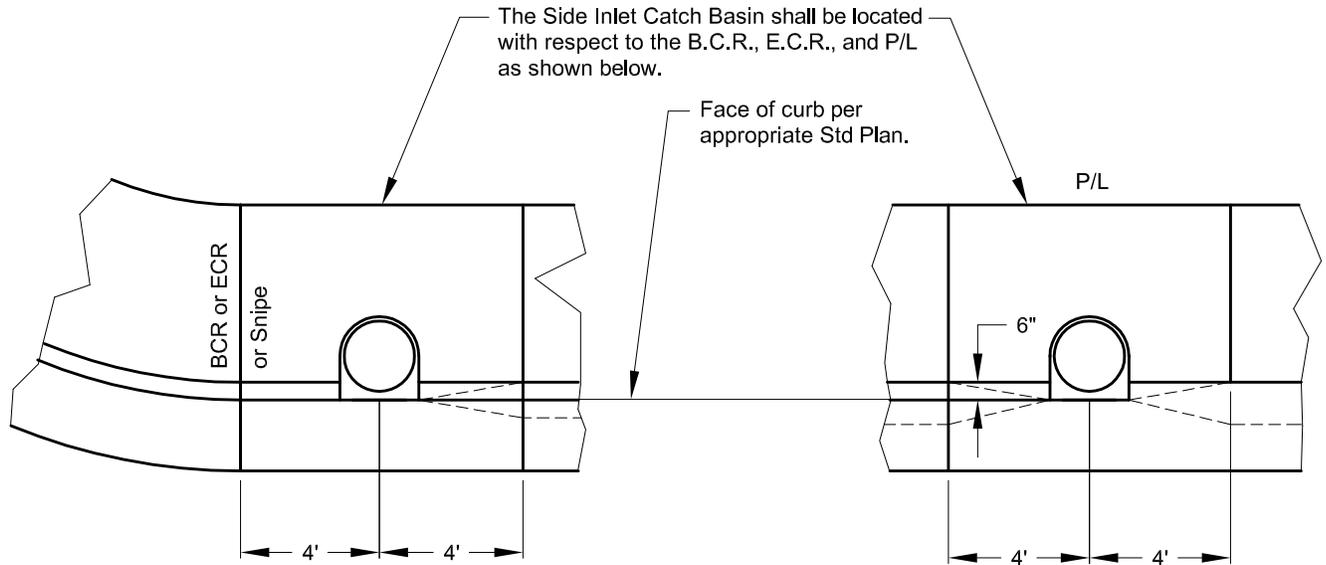
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sangelin</i>	12/28/00 Date	STD PLAN 302
Ch. WS					F. Wally Sangelin		
Date					R.C.E. 39895		
12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

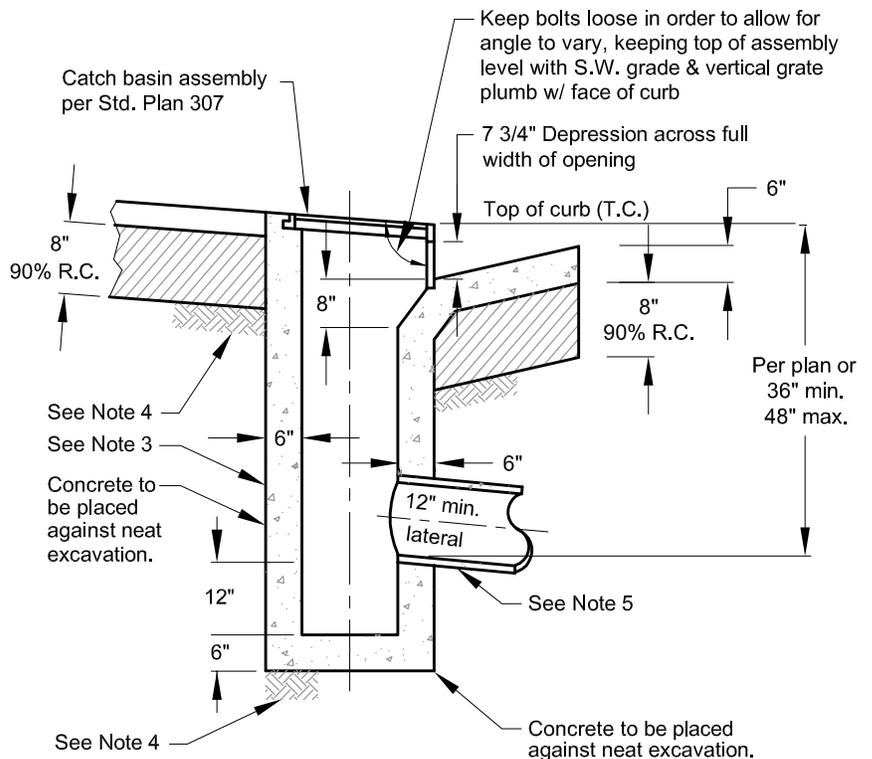
Side Inlet Catch Basin



Flowline and curb transition (typ.)

Notes:

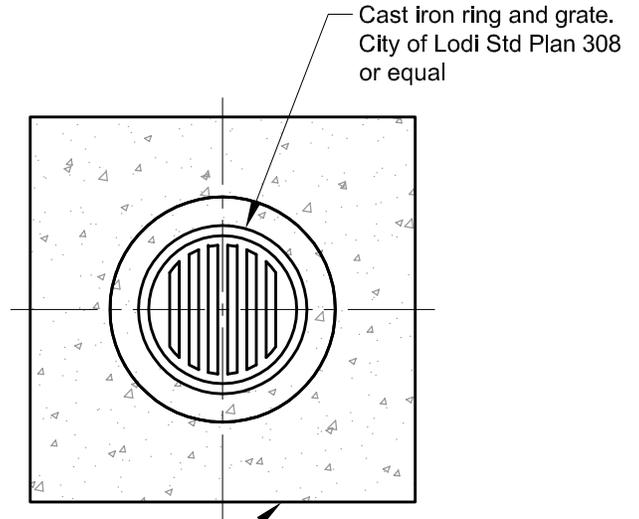
- The concrete shall conform to following criteria.
 - 2500 P.S.I. at 28 days.
 - 1 1/2" maximum aggregate.
 - 4" slump at placing site.
 - Light broom finish.
 - Impervious membrane cure.
- When catch basin is to be constructed with stub, the stub shall extend beyond the toe of the curb & gutter and plugged with precast plug.
- Barrel may be constructed with 18" R.C.P. and grouted smooth.
- Recompact over-excavated areas to 92% R.C.
- Lateral line must be ductile iron pipe when cover is 2' or less.
- For trench backfill requirements See Standard Plan 501.
- Where no sidewalk exists, a min 3'x3'x4" thick concrete apron shall be poured around the SICB.



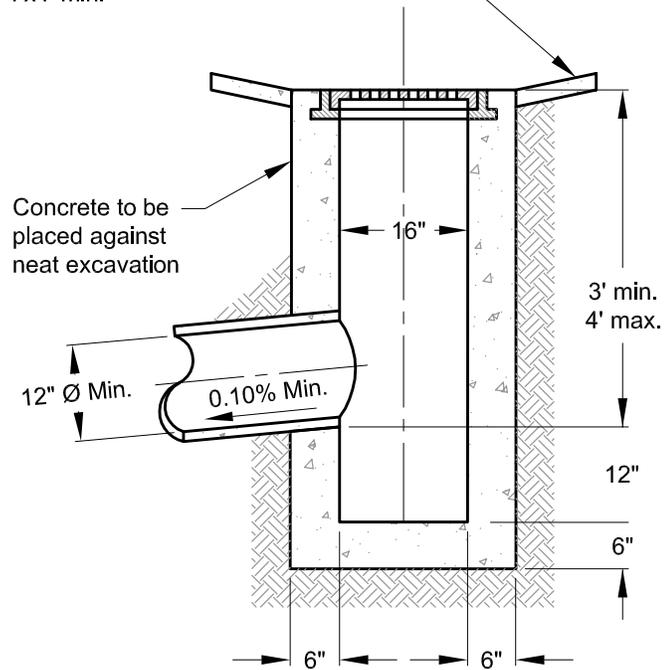
Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	7/01	UPDATE PER FIRST REVISION		 Lyman Chang City Engineer RCE No. 53149	7/22/19 Date 303
Ch.	SN	2	2/04	REVISED SICB OPENING DIM.			
		3	2/05	REVISED TRANSITION DIM.			
Date	7/19	4	7/19	ADDED NOTE 7			



Drop Inlet Catch Basin



If shown on the plan a 2" AC apron shall be placed around Drop Inlet Catch Basin.
If the size of apron is not indicated on the plan it shall be 4'x4' min.



Notes:

1. Conc. 2500 psi at 28 days
1 1/2" max. agg.
4" slump at placing site.
Light broom finish.
Impervious membrane cure.
2. For trench backfill requirements see Std Plan 501.
3. For 24" catch basin, use Std Plan 310 with slotted cover.
4. Alternate construction-use 18" RCP, grout all openings and voids smooth.

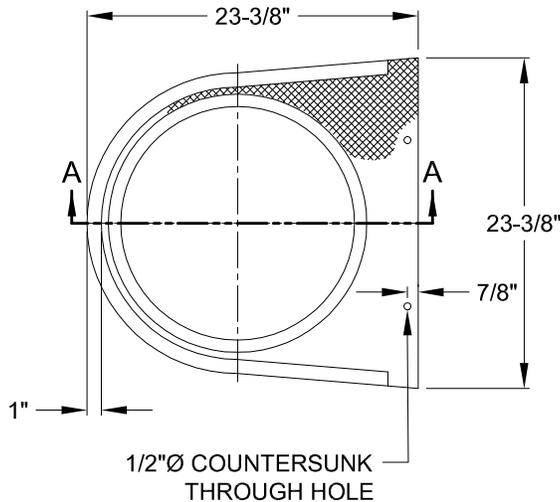
Dr.	JP	No.	Date	Revision	Appr.	Approved By:	3/7/18 Date Lyman Chang City Engineer RCE No. 53149	STD PLAN
Ch.	SN							304
Date	3/18							



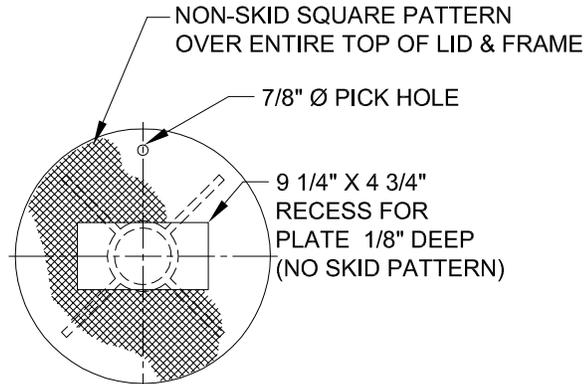
CITY OF LODI

PUBLIC WORKS DEPARTMENT

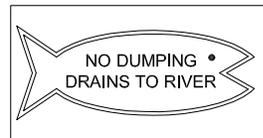
SIDE INLET CATCH BASIN ASSEMBLY



PLAN VIEW FRAME

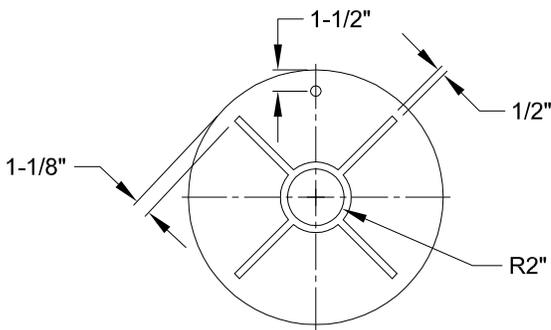


PLAN VIEW LID

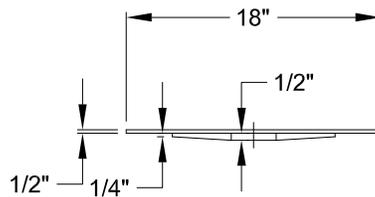


PRE-FABRICATED ALUMINUM PLATE (PROVIDED BY CITY)

PLATE DETAIL

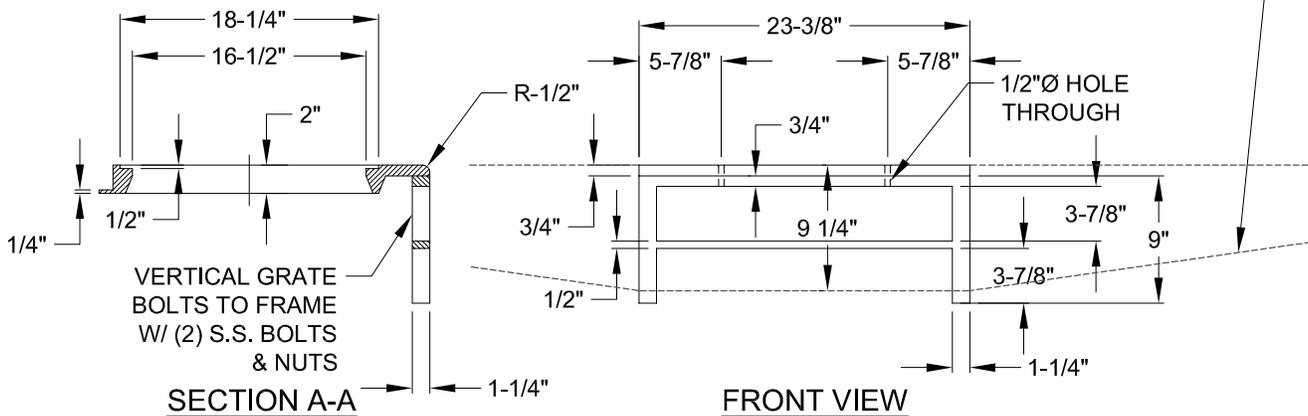


LID UNDERSIDE



SIDE VIEW LID

INSTALLATION SHALL BE AS PER STANDARD PLAN 303 & 314



SECTION A-A

FRONT VIEW

Dr.	No.	Date	Revision	Appr.	Approved By:
KG	1	2/05	NEW STANDARD PLAN		
Ch.	WS				M:\TITLEBLOCKS\Seals&Signs\Wallysign.tif
Date	6-04				F. Wally Sandelin City Engineer R.C.E. 39895

STD PLAN

2 / 2 / 05
Date

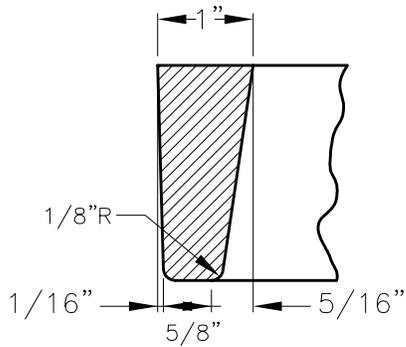
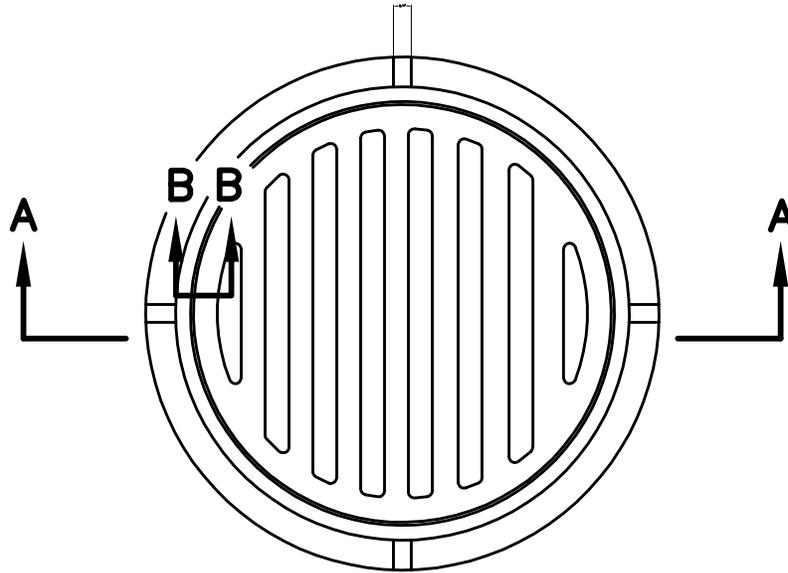
307



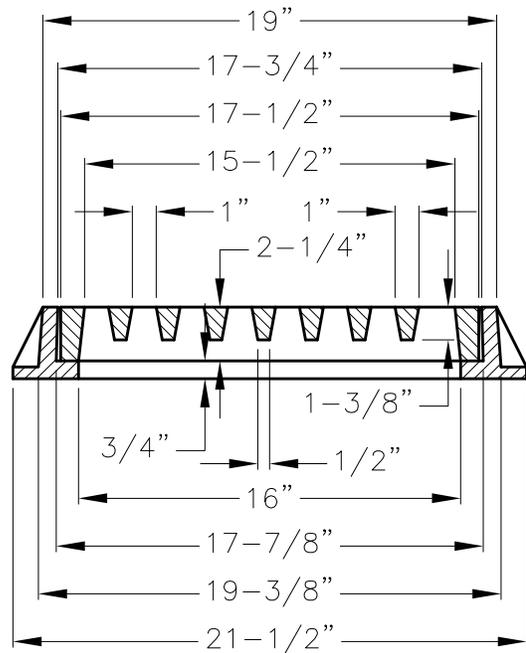
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Drop Inlet Catch Basin Assembly



Section B-B



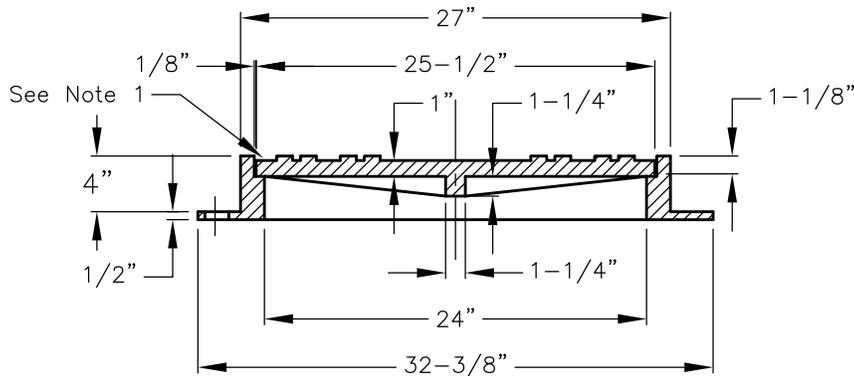
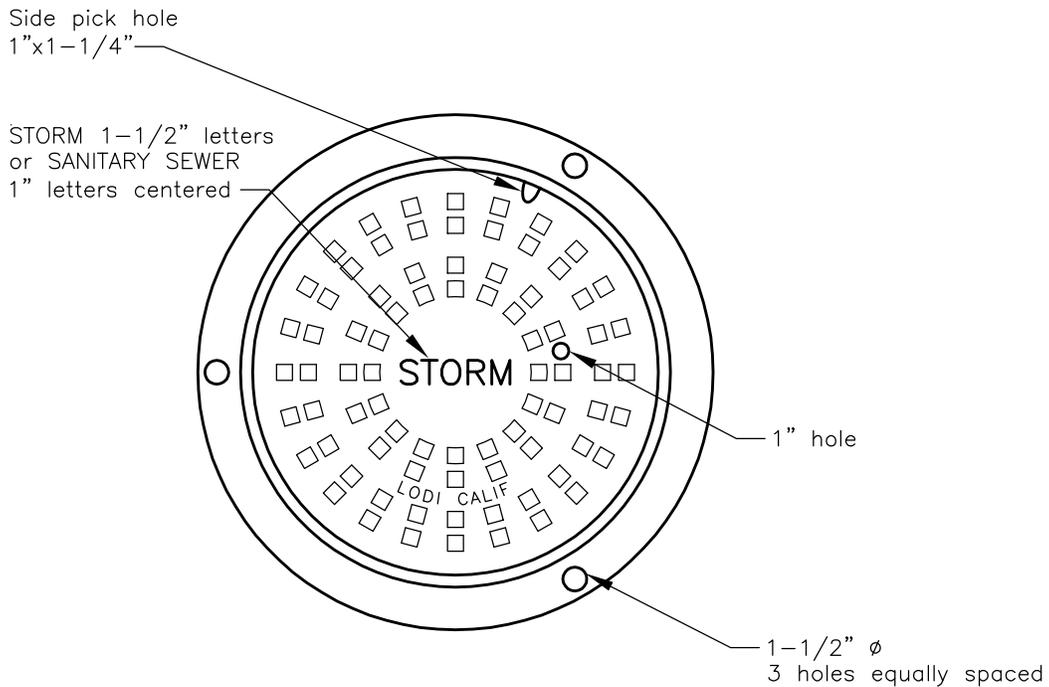
Section A-A

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT					 F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date
Ch.						
Date						
12/00						308



CITY OF LODI
PUBLIC WORKS DEPARTMENT

Manhole Assembly (24")



Notes:

1. Frame—Approx. wt. 140 lbs.
2. Cover—Approx. wt. 136 lbs.
3. Manhole cover shall be marked "STORM" or "SANITARY SEWER" as appropriate.
4. Material—Cast Iron per ASTM A-48 Class 30
5. See Std. Plan 123 for adjustment to grade.

Dr.	No.	Date	Revision	Appr.	Approved By:	Date
KT					<i>F. Wally Sandelin</i>	12/28/00
Ch.					F. Wally Sandelin City Engineer	
Date					R.C.E. 39895	
12/00						

STD PLAN

309

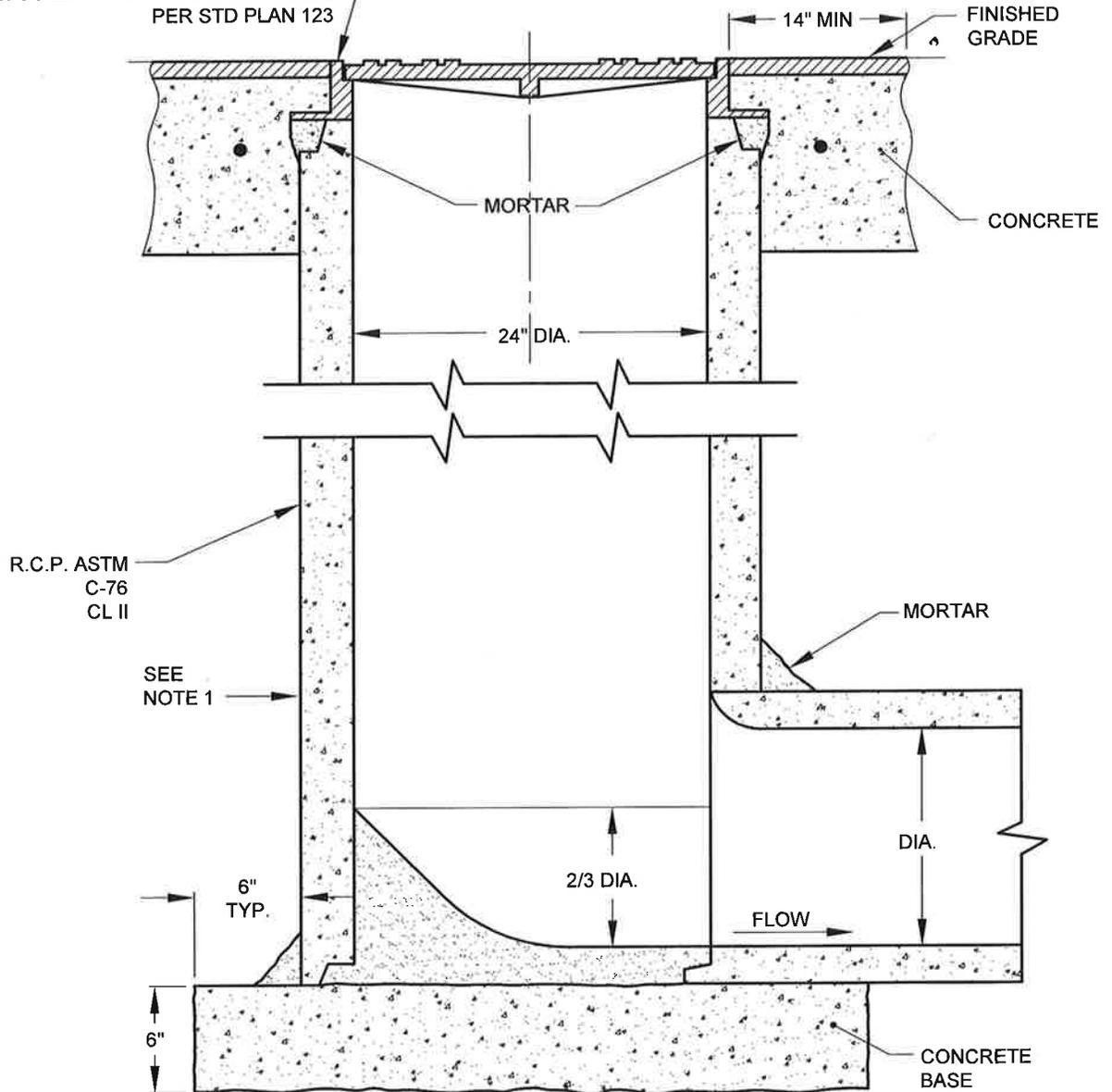


CITY OF LODI

PUBLIC WORKS DEPARTMENT

24" RISER

CAST IRON RING AND COVER PER STD PLAN 309
 CONCRETE COLLAR AND ADJUST TO GRADE
 PER STD PLAN 123



NOTES:

1. BACKFILL AROUND RISER SHALL BE A MINIMUM OF 92% R.C.
2. CONCRETE:
 - A. 2500 PSI @ 28 DAYS
 - B. 4" SLUMP MAXIMUM.
 - C. CLASS B PER SECTION 90 OF STANDARD SPECIFICATIONS. 1-1/2" MAX. AGG.
3. FOR DEPTH OVER 60", USE 48" MANHOLE, STANDARD PLAN 301.
4. FOR TRENCH BACKFILL REQUIREMENTS, SEE STANDARD PLAN 501.

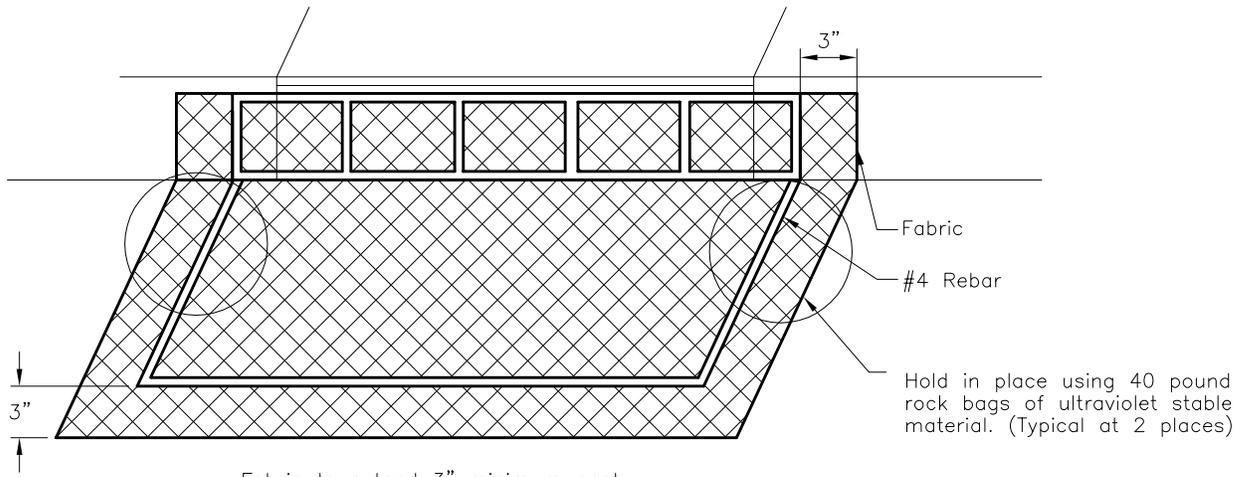
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS	1	6/17	ADDED CONCRETE COLLAR			310
Date	12/00					7/18/17 Date	
						Lyman Chang City Engineer RCE No. 53149	



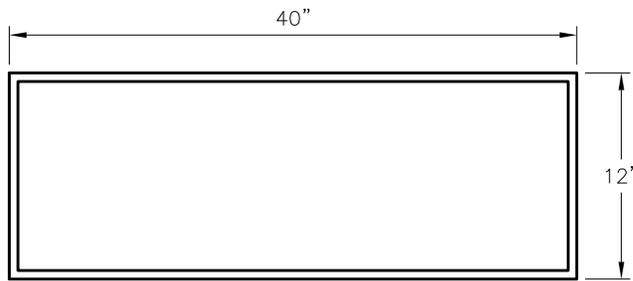
CITY OF LODI

PUBLIC WORKS DEPARTMENT

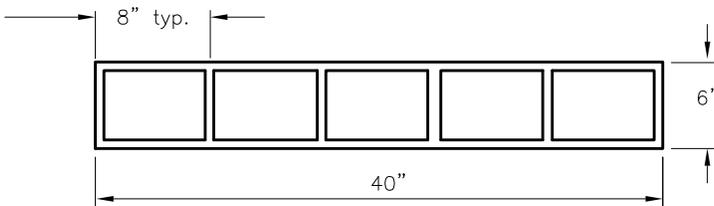
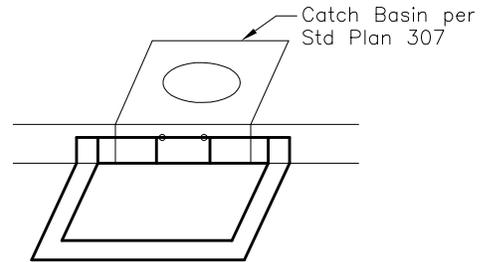
Construction Catch Basin Filter



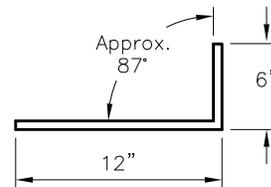
Fabric to extend 3" minimum past bar on front & sides.



Top



Front

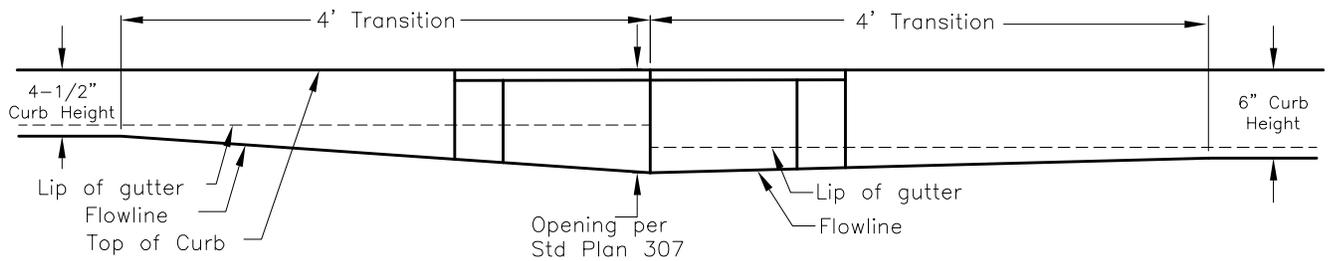


Side

Notes:

- Will be maintained weekly and/ or after every storm.

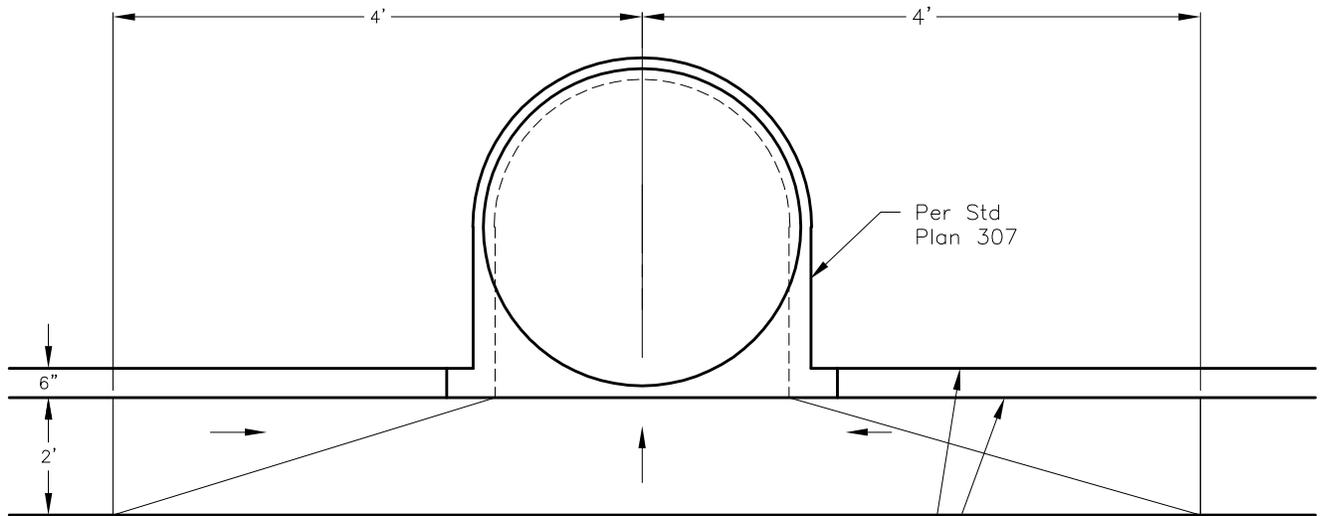
Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	313
Date 12/00					F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date



Left side for
4-1/2" Curb Height

Gutter Transition Detail

Right side for
6" Curb Height



Plan View

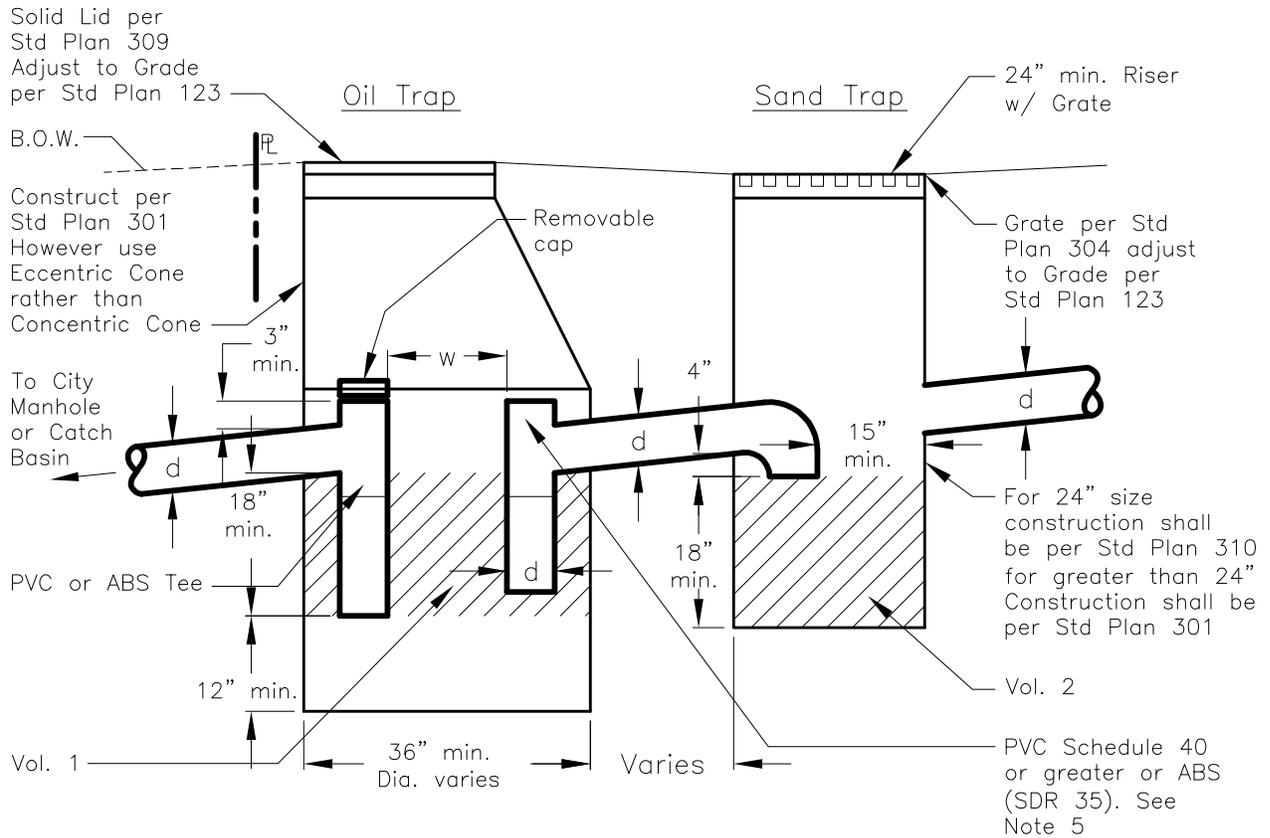
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer	Date	314
Date 12/00					R.C.E. 39895		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Sand/Oil Trap



Drainage Area (s.f.) (Excluding Landscaping)	Vol. 1 cu. ft.	d	w	Vol. 2 Combined all C.B.'S cu.ft.
0 - 20,000	3	6"	12"	Drainage Area ÷ 4000
20,000 - 40,000	6	8"	16"	
40,000 - 100,000	10	10"	20"	
100,000 - 220,000	12	12"	24"	

Notes:

1. Precast commercial units are acceptable with prior approval.
2. Oil Trap to be outside of fencing and subject to inspection at all times.
3. Larger sizes may be required based on generation of oil and/ or sand (i.e. Bulk oil facilities, Trucking firms)
4. For lower flows Standard Plan 205 can be used with City approval.
5. For petrochemical applications Cast Iron fittings and piping will be used.

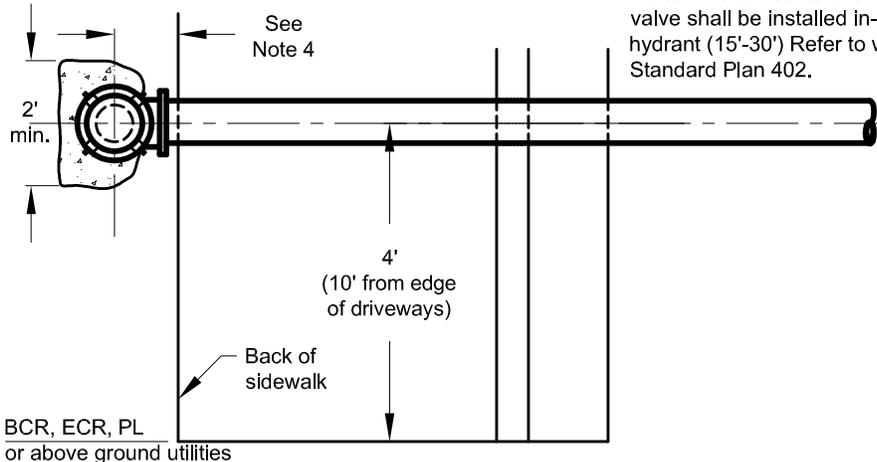
Dr. KT	No. 1	Date 2/04	Revision ADDED REMOVABLE CAP	Appr.	Approved By: <i>F. Wally Sandelin</i>	2/12/04	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	315
Date 12/00							



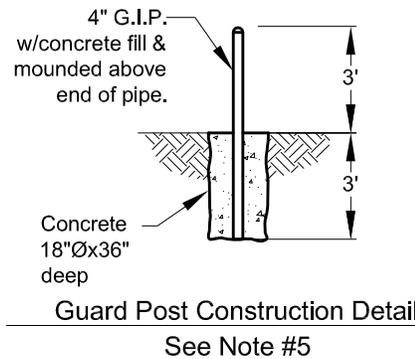
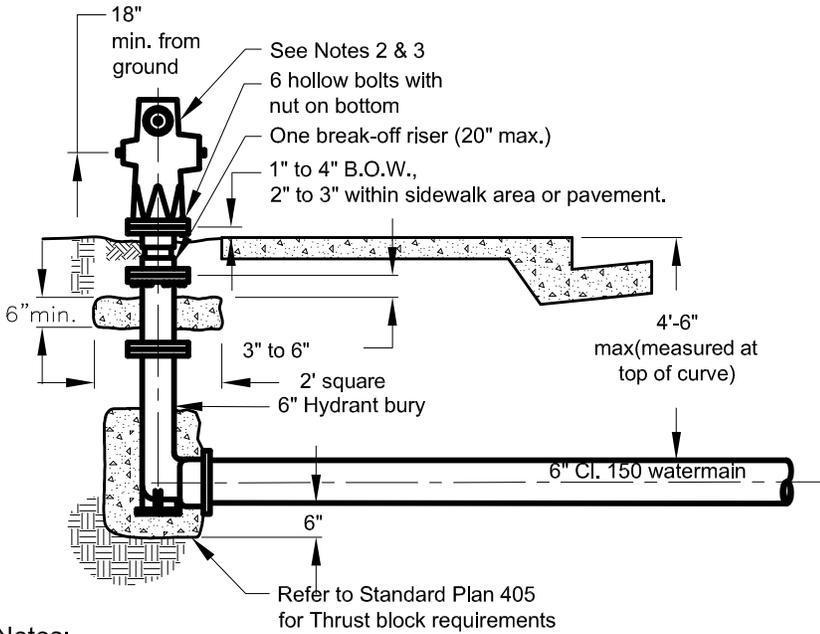
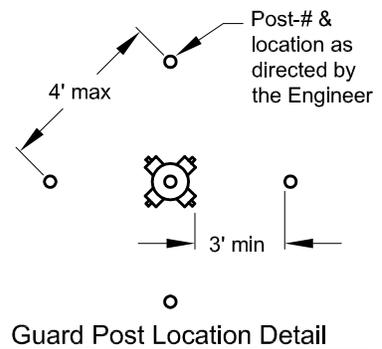
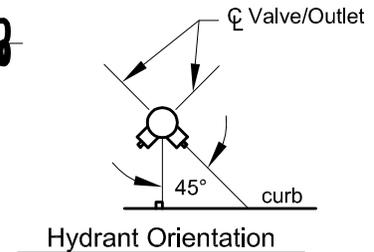
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Fire Hydrant Installation



Note: Where main is over 150' from hydrant a second valve shall be installed in-line in the vicinity of the hydrant (15'-30') Refer to water valve installation Standard Plan 402.



Notes:

- All work and material shall conform to City of Lodi Construction Specifications.
- Hydrants shall be painted Federal Yellow at the factory and furnished with National Standard Hose Thread outlets and cast iron caps.
- All Hydrants 1 4-1/2" outlet & 1 2-1/2" outlet; with fusion epoxy coated interior. Clow 850; Clow 950; AVK 24/70; Jones 4040.
- Locate C/L of hydrant per the following:
1.5' behind walk where F.O.C. to B.O.W. distance is 7.0' or less.
2.5' behind F.O.C. where F.O.C. to B.O.W. distance is greater than 7.0'
5' behind F.O.C. in planters.
- Install guard posts where hydrants are installed in paved areas accessible to traffic or in planters where hydrant is less than 3' behind the curb or when directed by the City.
- For trench backfill requirement, See Standard Plan 501.
- Install blue retroreflective hydrant pavement marker per std. plan 716.

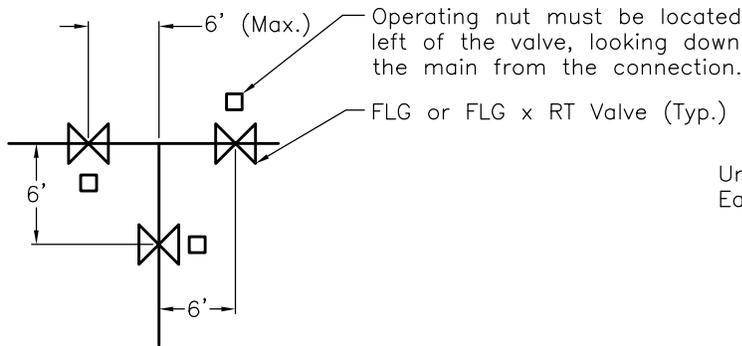
Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	ADJUSTED DIMENSION FROM PL		 Charlie Swimley City Engineer / Deputy Public Works Director RCE No. 52842	401
Ch.	LC	2	2/04	REVISED AVK MODEL NUMBER			
		3	2/05	ADDED NOTE 7			
Date	1/14	4	2/08	ADJUSTED GUARD POST DEPTH			
						1/14/14	



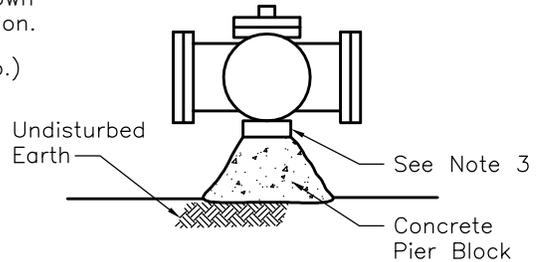
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Installation

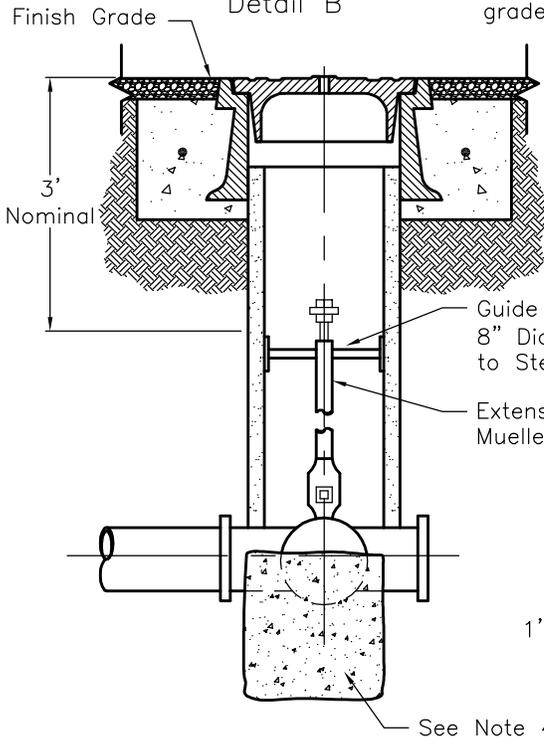


Flanged Installation
Detail B

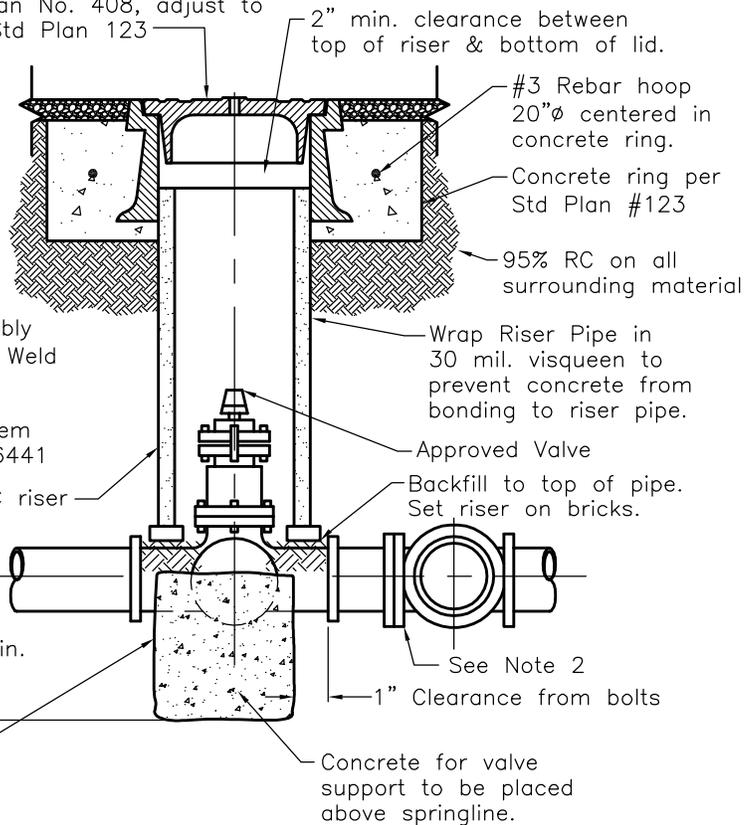


Hot Tap Valve Support
Detail C

Frame and Cover City of Lodi Standard Plan No. 408, adjust to grade per Std Plan 123



Extension Stem Detail A
See Note 1



Notes:

1. Install extension stem when distance from valve cover to operating nut is greater than 12 feet; 3' max. nominal cover per Detail A.
2. Flanged fittings shall be used where lines are to be extended at a later date or as shown on the improvement plans. Operating nuts on flanged valves must be arranged per Detail B.
3. Concrete blocks may be used for valve and riser support; thrust blocks per Standard Plan 405. For Hot Tap Valve support refer to Detail C.
4. Place Visqueen around valves before placement of concrete supports.
5. For trench backfill, see Standard Plan 501.

Sheet 1 of 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	Date
Ch.	WS					<i>F. Wally Sandelin</i>	5/28/08
Date	7/08					F. Wally Sandelin City Engineer R.C.E. 39895	Date

STD PLAN

402



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Installation Materials List

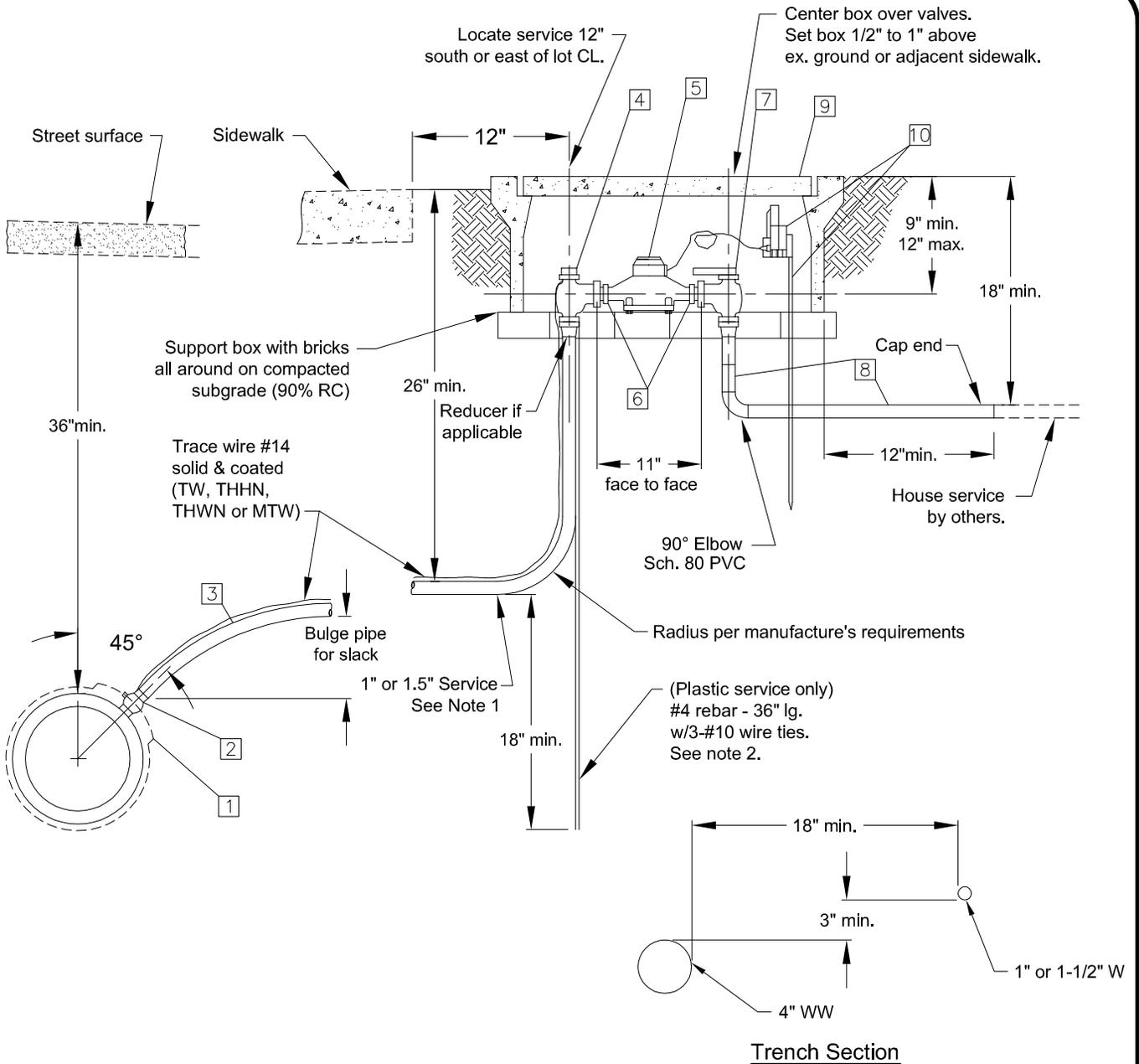
All Water Valves & Materials shall be Class 150B with 2" square operating nuts, open left (clockwise to close) and shall conform to AWWA Standard C-504 for Rubber Seated Butterfly Valves and City of Lodi Construction Specs 6-7602.

AWWA Approved Valves:

- Mueller RS and Butterfly
- M+H/Clow/Kennedy RS and Butterfly
- American Darling RS Gate valves
- Waterous RS Gate valve
- AVK RS Gate valves

Sheet 2 of 2

Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT					<i>F. Wally Sargelin</i>	12/28/00	402
Ch.					F. Wally Sargelin		
Date					City Engineer		
		12/00			R.C.E. 39895		



Notes:

- Maintain 24" clearance between tap and any coupling, fitting or adjacent tap. Plastic services shall be looped approximately 6" vertically or laterally to provide slack in the line. If the service is installed in the same trench as the sanitary service, the water service shall be installed without splices and the trench section shown applies.
- Backfill shall conform to Std. Plan 501.
- All fittings shall comply with California No-Lead brass requirements.

Dr.	No.	Date	Revision	Appr.	Approved By:		STD PLAN
JP	4	7/09	CHANGED CUSTOMER VALVE		 Lyman Chang City Engineer RCE No. 53149		403
Ch.	5	3/10	REVISED PER AB 1953 REQ'S.			7/30/18	
	6	4/11	REVISED ERT MOUNTING.			Date	
Date	7	7/18	ADDED 1.5" SERVICE OPTION				
7/18							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WATER SERVICE FOR 3/4" OR 1" METER MATERIAL LIST

Fitting (a.)	Size	Basic Feature	Inlet Connection	Outlet Connection	Manufacturer's Nos.
Saddles 1	1" or 1.5"	For C1-AC & Ductile Iron Pipe Ductile Iron Double Strap Saddle <u>No Single Strap Saddles</u>		IPT	A.Y. McDonald 4826A Smith Blair 313 Romac 202 Other manufacturers with similar designs o.k.
Saddles	1" or 1.5"	For C900 Pipe		IPT	A.Y. McDonald 4836A Romac 101S Mueller H1349
Corp. Stop 2	1" or 1.5"	Plug Style	MIP	Comp	A.Y. McDonald 74704B-22 CTS Or Approved Equal
Service Pipe 3	1" or 1.5"	Tubing			C.T.S. PE 3408 CL 160 with Tracer Wire
Angle Stop 4	1"	Full Port Angle Ball Valve	1" PE	Meter Swivel Nut	A.Y. McDonald 74602B-22 CTS Or Approved Equal
Meter 5	3/4"	Bronze 9" Long w/ Rubber Washer	IPT	IPT	Badger Model 35 Sensus Model SR II-EB Hersey Model 442
Meter 5	1"	Bronze 10 3/4" Long w/ Rubber Washer	IPT	IPT	Badger Model 55 Sensus Model SR II-EB Hersey Model 452
Meter Adaptor 6	3/4" X 1"	Bronze Meter Adaptor	MIPT	FIPT	A.Y. McDonald 710J34 Or Approved Equal
Angle Stop 7	1"	Full Port Angle Ball Valve	1" FIPT	Meter Swivel Nut	A.Y. McDonald 74604B With Handle # 6120B Or Approved Equal
Customer Pipe 8	1"	PVC Sch. 80 Pipe			IPS PVC Sch. 80 per Uniform Plumbing Code

Sheet 2 of 3

Dr. KT, JP	No.	Date	Revision	Appr.	Approved By:	 7/30/18 Date	STD PLAN 403
Ch. SN	4	7/09	CHANGED CUSTOMER VALVE				
Date	5	3/10	REVISED PER AB 1953 REQ'S.				
	6	4/11	REVISED ERT MOUNTING.				
	7	7/18	ADDED 1.5" SERVICE OPTION		Lyman Chang City Engineer RCE No. 53149		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

WATER SERVICE FOR 3/4" OR 1" METER MATERIALS LIST

Fitting (a)	Size	Basic Feature	Inlet Connection	Outlet Connection	Manufacturer's Nos.
Service Box (b) 9	N/A	All lids to read Water	N/A	N/A	Christy FL30 Box 12 (Backyard service easements, rod mounted) Christy FL30D lid (Backyard service easements, rod mounted) Christy N16 Box (All installs unless otherwise approved) Christy FL16D lid (Grass Areas, Flush Fit Driveways, Sidewalks, rod mounted ERT installs) Christy B16-61P lid (3/16" steel checker plate, Driveways, Sidewalk, Lid mounted ERT installs)
ERT (b) 10	N/A	Encoder Receiver Transmitter	N/A	N/A	ITRON 100W pit ERT w/ 1/2"Ø Fiberglass Mounting Rod 24" long. Alternate Register Bracket mount may be used upon approval of Public Works Dept

a. Alternative fittings must be approved by the City Engineer.

b. The standard installation is a N16 box with a composite (FL16D) lid and a fiberglass mounting rod. All other methods require prior approval and are meant to allow for obstructions or other unforeseen installation conditions.

Sheet 3 of 3

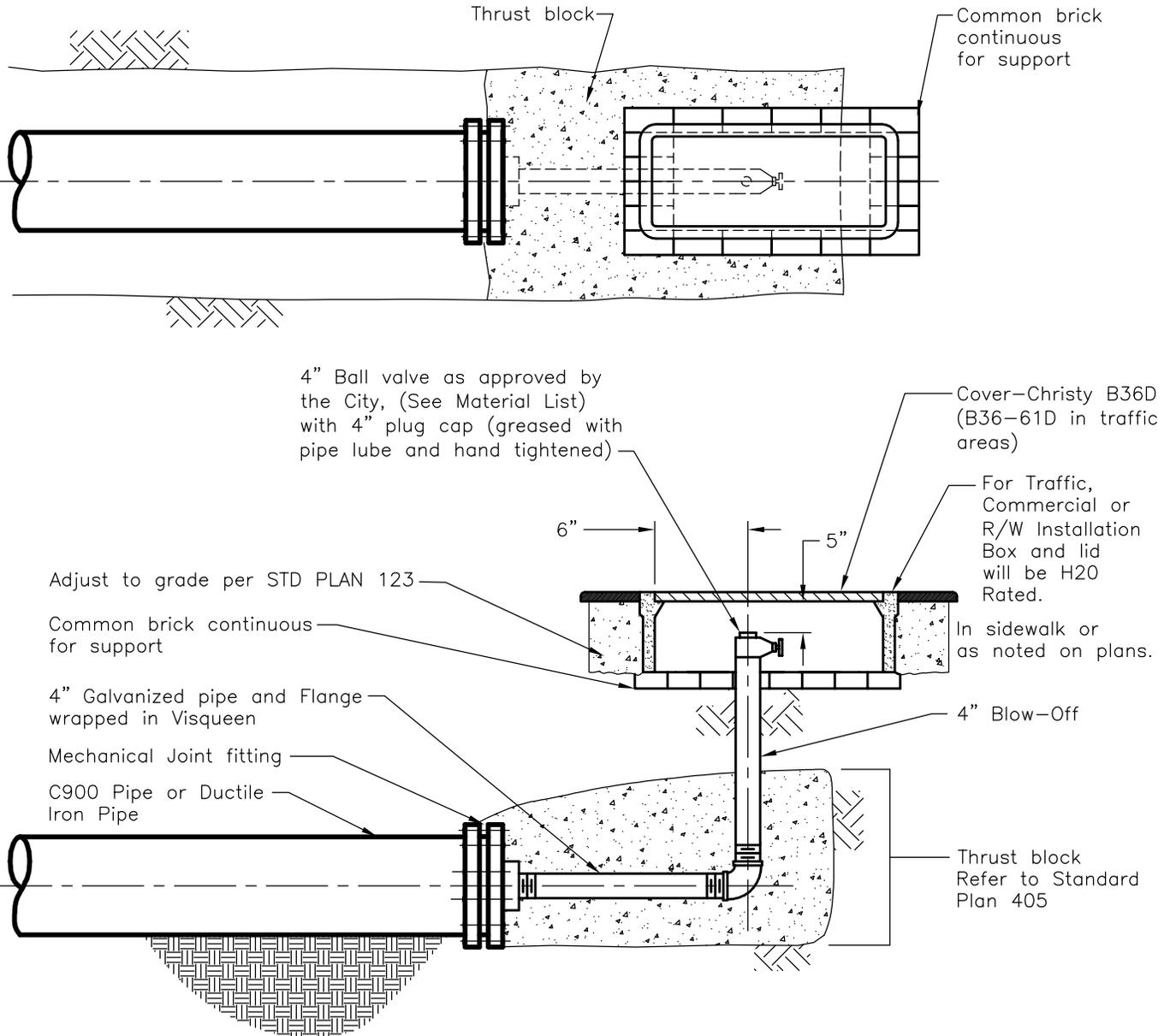
Dr. KT, JP	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53149	7/30/18 Date	STD PLAN 403
Ch. SN	4	7/09	CHANGED CUSTOMER VALVE					
	5	3/10	REVISED PER AB 1953 REQ'S.					
Date 7/18	6	4/11	REVISED ERT MOUNTING.					
	7	7/18	ADDED 1.5" SERVICE OPTION					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Blow-off Permanent



Notes:

1. No services within 3' of blow-off.

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT	1	9/03	REVISED APPROVED BALL VALVE		<i>F. Wally Sargelin</i>	404
WS	2	2/05	ADDED PLUG FOR BALL VALVE			
Date					F. Wally Sargelin City Engineer R.C.E. 39895	2/2/05 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Blow-off Permanent Material List

Material List for Standard Plan 404

City Approved Ball Valves

Flow-Teck's Forged Brass Ball Valve Model S50
Matco-Norca, Inc. Model 752 or
Watts Model 75-0211

City Approved Boxes

Box Bes C-36W or Christy B-36 or
Christy B-17 x 30

Sheet 2 of 2

Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT	1	9/03	REVISED APPROVED BALL VALVE		<i>F. Wally Sandelin</i>	2/2/05	404
WS	2	2/05	REVISED PAGE 1				
Date					F. Wally Sandelin City Engineer R.C.E. 39895		

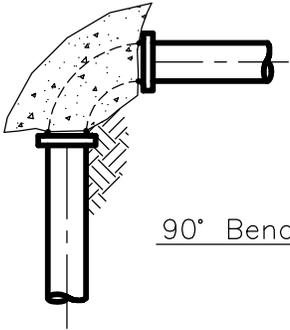


CITY OF LODI

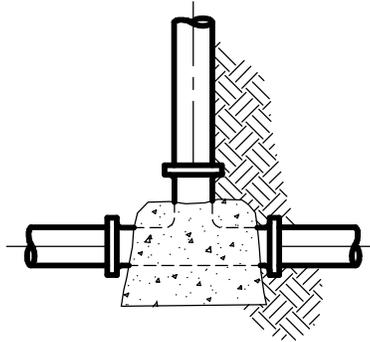
PUBLIC WORKS DEPARTMENT

Thrust Block Requirements

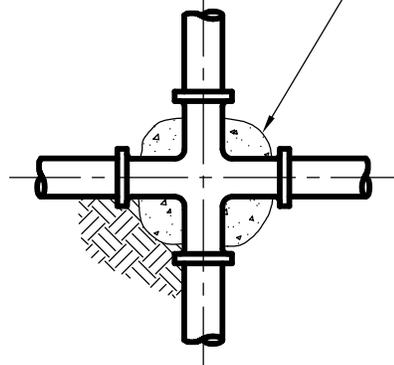
No thrusting on cross except where ends are plugged.



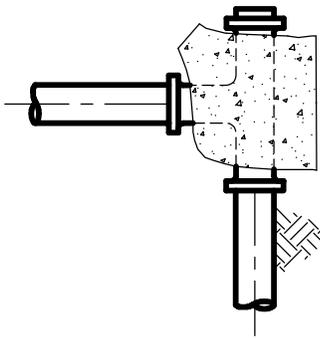
90° Bend



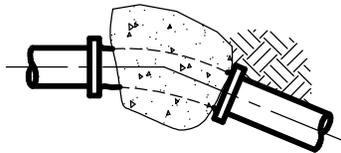
Tee



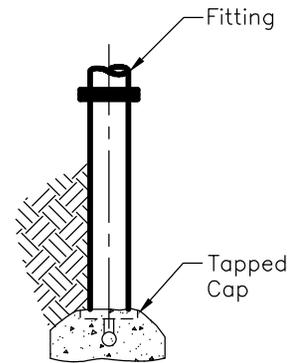
Cross



Plugged Tee

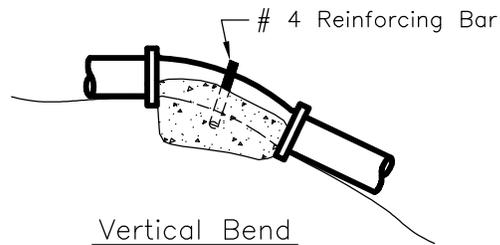


45° or 22½°
Horizontal Bend



Blow off

Minimum Thrust Block Bearing Areas In Square Feet				
Pipe Sizes	90°	45°	22½°	Tees & Blow Off
6"	3	2	2	2
8"	4	3	2	3
10"	6	4	3	4
12"	8	5	3	6
14"	12	7	4	8



Vertical Bend

Notes:

1. Concrete shall be 2000 PSI minimum at 28 days.
2. Thrust blocks shall be placed against undisturbed earth.
3. All fittings shall be supported in concrete.
4. For fire hydrant thrusting see Std. Plan 401.
5. Don't cover flange bolts with concrete.
6. Mechanically restrained joints as required by the City. See Material List Page 2.
7. Wrap all fittings and flanges with Visqueen.

Sheet 1 of 2

Dr. KT	No. 1	Date 9/03	Revision ADDED NOTE #7	Appr.	Approved By: <i>F. Wally Sargelin</i>	Date 9/25/02	STD PLAN
Ch. WS					F. Wally Sargelin City Engineer R.C.E. 39895		405
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Thrust Block Requirements Material List

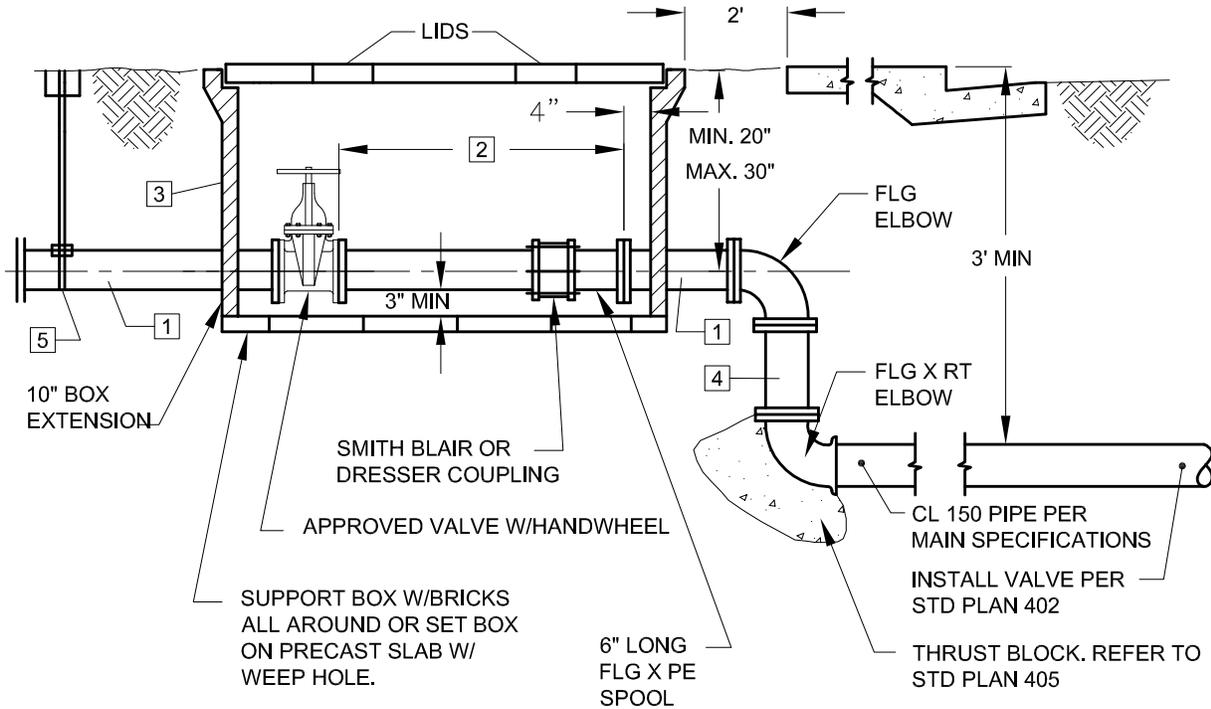
Material List for Standard Plan 405

City Approved Mechanical Restrained Joints

Pipe Material	Joint
Ductile Iron	Mega-Lug 1100
C900PVC	Mega-Lug 2000
IPS PVC	Mega-Lug 2000
PVC Bell and Spicket	Mega-Lug 1600

Sheet 2 of 2

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS	1	9/03	ADDED NOTE #7		<i>F. Wally Sargelin</i>	405
Date					F. Wally Sargelin City Engineer R.C.E. 39895	9/25/02 Date
12/00						



NOTES:

1. METER (IF REQUIRED) WILL BE FURNISHED AND INSTALLED BY CITY.
2. BYPASS MAY BE INSTALLED WITH THE SPECIFIC APPROVAL OF THE PUBLIC WORKS DIRECTOR.
3. PLUG ALL OPENINGS IN BOX.
4. BACKFILL SHALL CONFORM TO STD PLAN 501.
5. ALL FITTINGS MUST COMPLY WITH THE LATEST STATE OF CALIFORNIA NO LEAD REQUIREMENTS.

SHEET 1 OF 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53149	6/26/19 Date	STD PLAN
Ch.	WS	1	2/05	REVISED SPOOL LENGTH'S					406
Date	12/00								



CITY OF LODI

PUBLIC WORKS DEPARTMENT

DOMESTIC WATER SERVICE (3", 4", 6" & 8") MATERIALS LIST

- 1 FLG SPOOL, 24" LONG (2 EA) (C.I., D.I., OR STEEL)
- 2 FLG X PLAIN END SPOOL. LEAVE 1" GAP AT COUPLING
 - 3" - 29" LONG
 - 4" - 38" LONG ENDS OF SPOOLS
 - 6" - 43" LONG (C.I. OR STEEL)

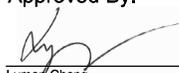
CHRISTY OR BES BOX	LID (TRAFFIC)		BOX EXTENSION
	CHRISTY	BES	
3"+4" B-48 OR C48W	B48-62D	62D85	10" BOX EXTENSION B48 X 10
6" B-52 OR C52W	B52-62D	62D90	10" BOX EXTENSION B52 X 10

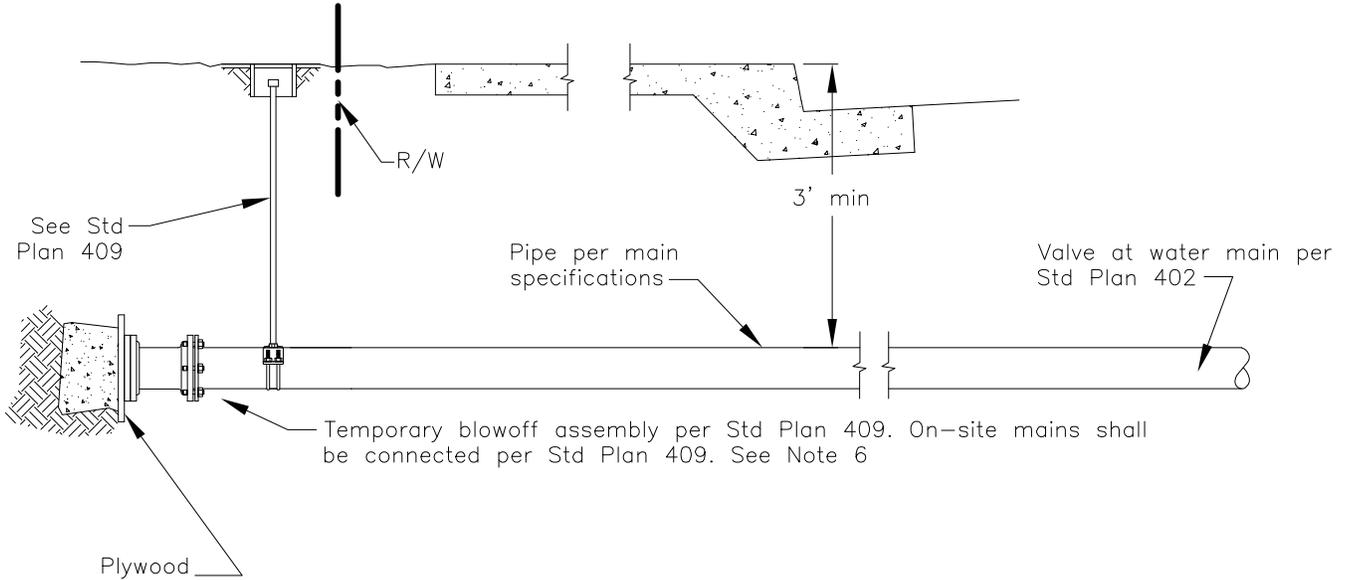
- 4 FLG SPOOL, LENGTHS AS NEEDED (OPTIONAL) (C.I., D.I., OR STEEL)
- 5 TEMPORARY BLOWOFF PER STD PLAN 409. 2" FOR 4"-6" SERVICE,
4" FOR 8" AND LARGER SERVICE.

ALL FITTINGS SHALL BE CAST OR DUCTILE IRON OR STEEL (AS NOTED) AND SHALL CONFORM TO APPLICABLE AWWA STANDARDS. (SCH. 40, 150 LB. FLG)

TRAFFIC LIDS SHALL BE USED IN ALL LOCATION.

SHEET 2 OF 2

Dr. KT	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53149	6/26/19 Date	STD PLAN 406
Ch. WS	1	2/05	REVISED SPOOL LENGTH'S					
Date 10/08	2	10/08	REVISED SPOOL LENGTH'S					



4" & Larger Service

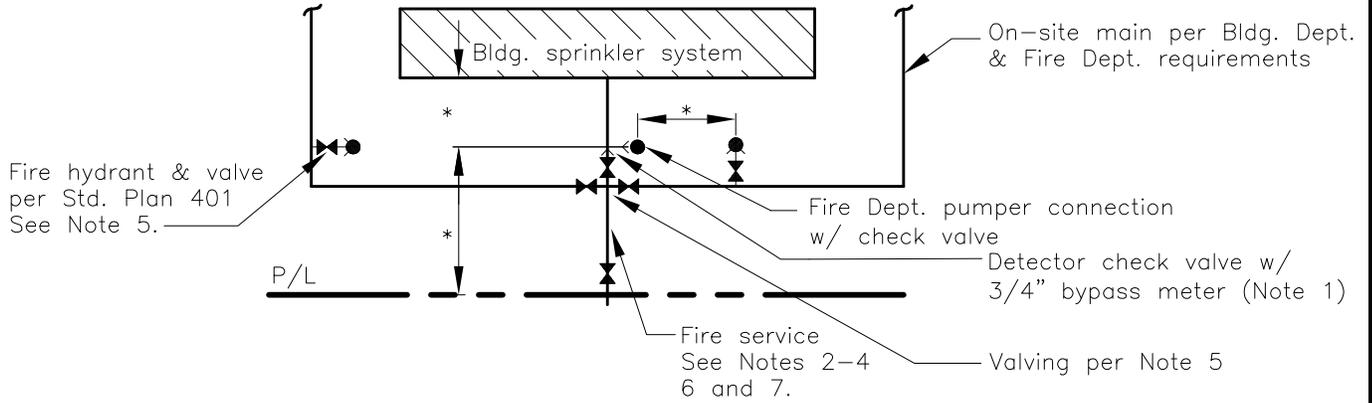
Notes:

1. If not alarmed a detector check valve w/bypass meter shall be installed at fire-sprinkler system connection only. Installation details shall conform to Fire Dept. and Bldg. Dept. requirements. (See Detail A)
2. On-site fire mains shall be completely isolated from domestic lines.
3. On-site fire mains looped to the City system must be specifically approved by the Public Works Director and must be equipped with double check valve assemblies at each connection. In such cases the services shall be installed per Std. Plan 406 with the Double Check Valve assemblies installed in an appropriately sized box at the property line.
4. Suitable backflow prevention devices will be required for fire systems having auxiliary sources of supply, elevated tanks or chemical additives, or other special conditions.
5. Sufficient valves shall be provided to separate sprinkler, hydrant and domestic systems. Additional main line valves may be required depending on the complexity of the on-site system.
6. Pressure and bacteriological tests per City of Lodi Construction Specifications are required for on-site systems unless waived by the Public Works Director.
7. Systems with booster pumps shall be equipped with a pressure sustaining valve to the approval of the Public Works Director.

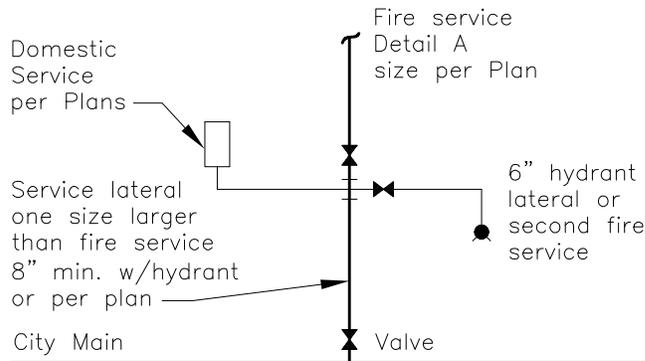
Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	REVISED F.D.C. LOCATION		<i>F. Wally Sandelin</i>	407
Ch.	WS	2	2/04	REVISED TEMP. BLOW OFF VALVE			
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	2/12/04 Date



* Locations of hydrants, Fire Dept. connections & detector checks to be determined by the Fire Marshal.



Detail A
Fire Service



Detail B
Combined Fire/Domestic Service

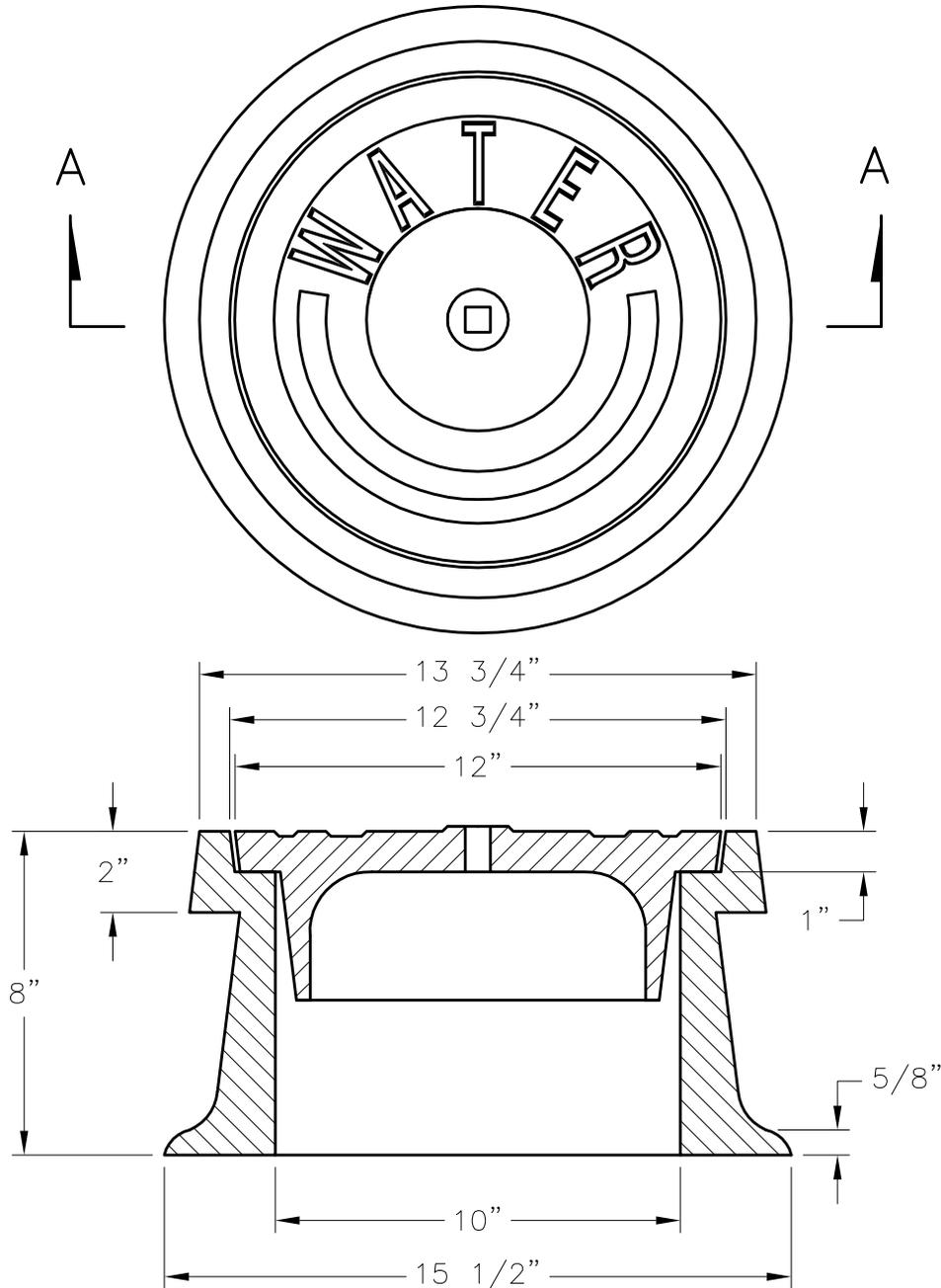
Dr. KT	No. 1	Date 9/03	Revision REVISED F.D.C. LOCATION	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN 407 Date 9/25/02
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	
Date 12/00						



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Frame & Cover



Section A-A

Notes:

1. Frame - Wt 85 Lbs.
2. Cover - Wt 40 Lbs.
3. Material - Cast Iron
4. Castings shall be dipped in black, bituminous paint.
5. Frame and cover must be H-20 wheel loading rated.

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN 408
Ch. WS					<i>F. Wally Sandelin</i>	
Date 7/08					F. Wally Sandelin City Engineer R.C.E. 39895	

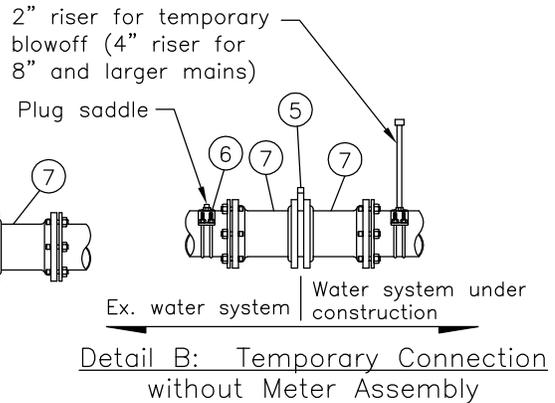
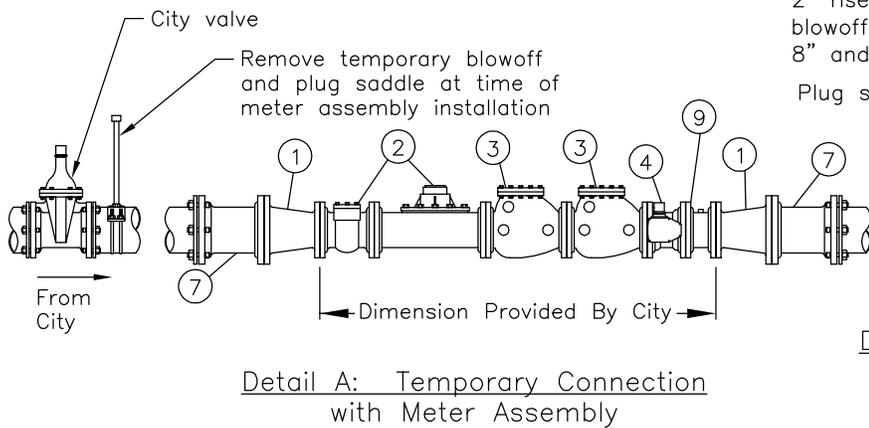
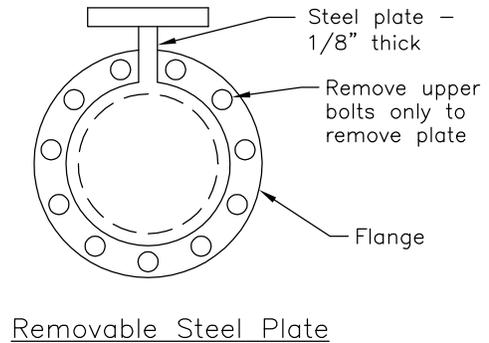
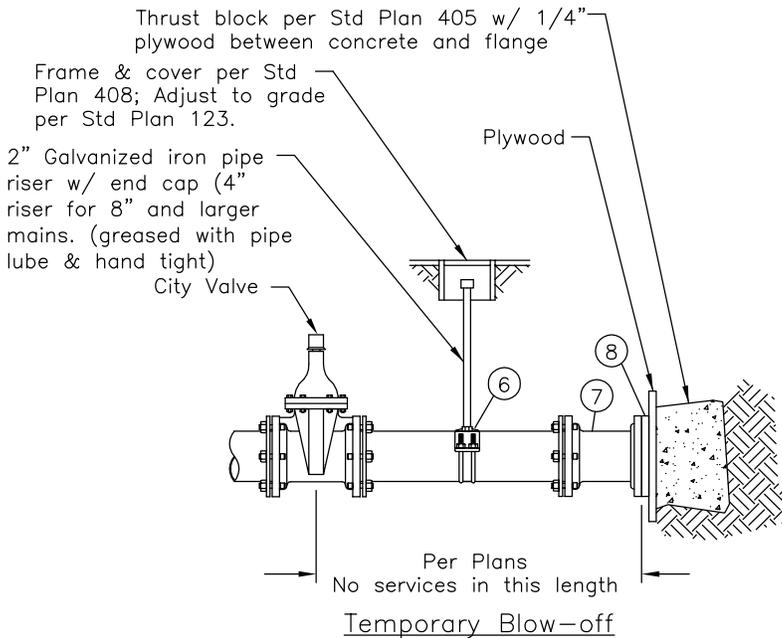
5/28/08
Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Temporary Water Blow-off and Connection Details



Notes:

1. The Contractor shall not operate any City valves. 24 hours notice is required for operation by City.
2. All connections to the existing system shall be made per Details A or B. Upon acceptance of the new system, the Contractor shall remove the riser, plug the saddles and remove the steel plate. Contractor shall also remove the meter assembly and install a flanged spool. Meter assembly shall be returned to the City.
3. Contractor shall supply and install reducers on meter assembly where main is larger than 6".
4. City shall furnish meter assembly upon receipt of deposit. Meter assembly to be installed by Contractor.

Dr. SN	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i> F. Wally Sandelin City Engineer R.C.E. 39895	2/2/05 Date	STD PLAN 409
Ch. WS	1	9/03	REDRAWN				
Date	2	2/05	REVISED METER SPOOL ASSEMBLY DIMENSION				
02/02							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Temporary Water Blow-off and Connection Details Materials List

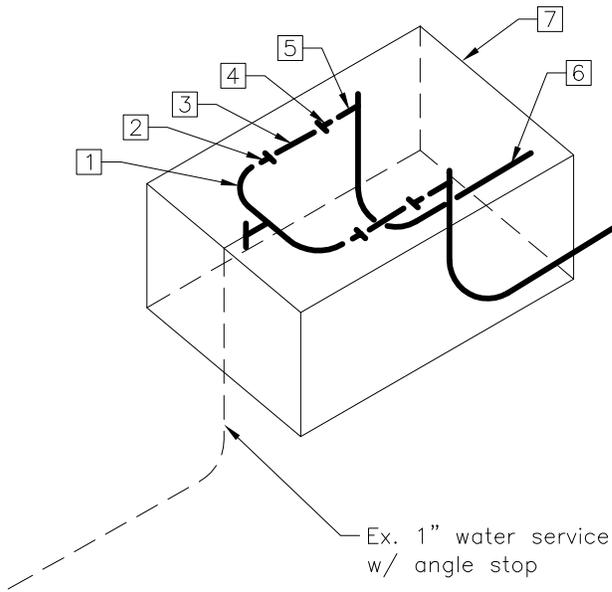
Fittings Legend:

- ① Flanged Reducer (Furnished by the Contractor)
- ② Meter with Strainer
- ③ Check Valve
- ④ Butterfly Valve
- ⑤ Removable Steel Plate.
- ⑥ Double Strap Malleable Iron Saddle
- ⑦ Adapter MJ/FLG, Full face flange only.
(Furnished by the Contractor)
- ⑧ Blind Flange
- ⑨ 6" Flg x Flg spool w/ 2" tapped fitting

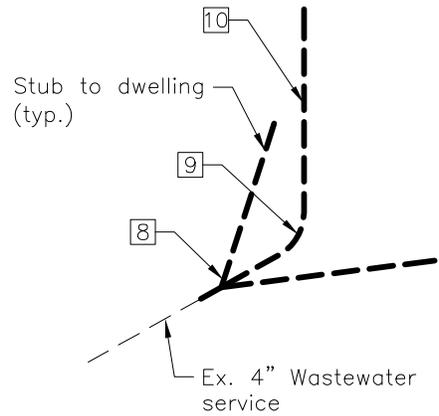
Sheet 2 of 2

Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT	1	9/03	REDRAWN		<i>F. Wally Sandelin</i>	2/2/05	409
WS	2	2/05	REVISED PAGE 1				
Date		12/00					

F. Wally Sandelin
City Engineer
R.C.E. 39895



Water Service



Wastewater Service

Notes:

1. This standard plan to be used for modification of existing Water an Wastewater services to lots being split for construction of zero lot line dwellings or where two services are sharing a tap.
2. See Std Plan 403 for water service details.
3. Wastewater materials to be ESVCP ASTM C-700, PVC ASTM D3034 SDR 35 or ABS ASTM D-2751
4. Locate service box and clean-out as close as possible to Property Line.

Sheet 1 of 2

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date
Date 12/00						

STD PLAN
410



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water & Wastewater Service Modification Materials List

Legend:

- 1 Mueller H-15364 U-Branch Connection 1" inlet 8" center to center. 3/4" outlet
- 2 Mueller H-14215 Meter Coupling catalog size 5/8"x3/4"x3/4".
- 3 9" lg. spacer per Std Plan 403
- 4 Mueller H-10890 Coupling.
- 5 3/4" Customer Valve-Stockham B-216, Mueller 8130, Nibco T-311-Y.
- 6 3/4" Sch. 40 PVC Stub.
- 7 Christy B-36 box per Std Plan 412
- 8 4" Double Wye or 2-4" Wyes in-line.
- 9 4"-90° Elbow (long bend)
- 10 Cleanout per Std Plan 201

Sheet 2 of 2

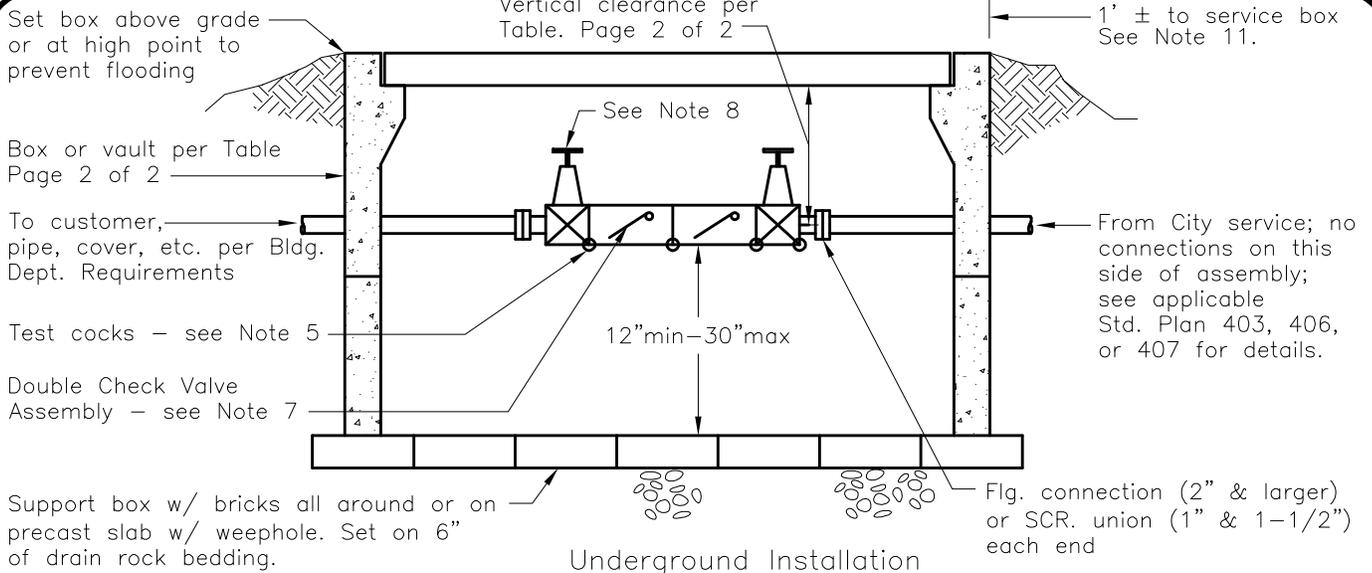
Dr. KT	No.	Date	Revision	Appr.	Approved By:		STD PLAN
Ch. WS					<i>F. Wally Sangelin</i>	12/28/00	410
Date					F. Wally Sangelin City Engineer R.C.E. 39895	Date	
12/00							



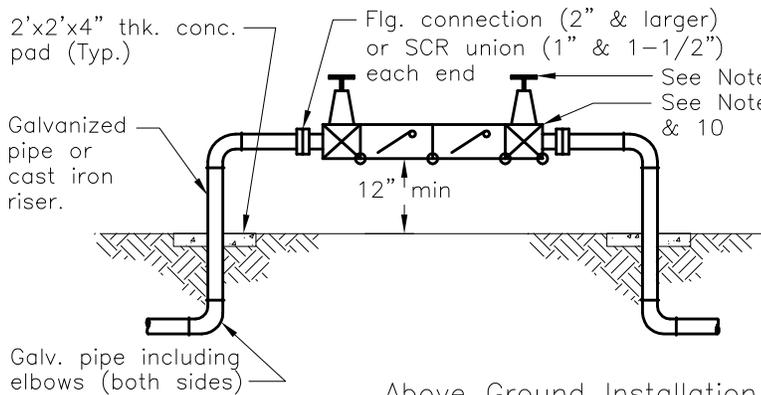
CITY OF LODI

PUBLIC WORKS DEPARTMENT

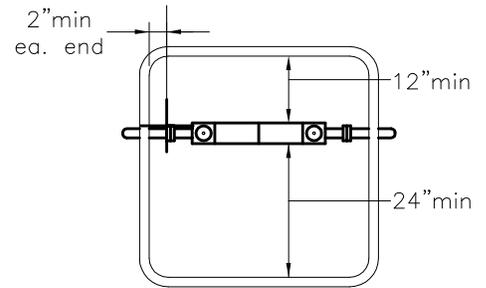
Double Check Valve Assembly



Underground Installation



Above Ground Installation



Plan

Notes:

1. It is the customer's responsibility to have the assembly tested prior to acceptance and annually by a State Certified Backflow Prevention Tester and report the results to the Public Works Department.
2. Plug all openings in box.
3. Traffic lids shall be used where applicable.
4. Vertical clearance may be increased for OS&Y valves.
5. Offset box over assembly to provide testing clearance per plan.
6. Assembly installed above ground may be enclosed with clearances similar to underground installation.
7. Use FEBCO 850 or approved equal per State Standards.
8. Valve handles may be chained & padlocked for security.
9. This plan for domestic service only. Design for fire service applications to have approval of Public Works Director and Fire Marshal.
10. Install guard posts where device is installed in paved areas accessible to traffic or in planters less than 3' behind the curb or when directed by City.
11. Locate immediately downstream of water service box.

Sheet 1 of 2

Dr. KT	No. 1	Date 2/04	Revision REVISED MODEL NUMBER ON NOTE #7	Appr.	Approved By: <i>F. Wally Sandelin</i>	Date 2/12/04	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		411
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Double Check Valve Assembly Materials List

Size	Vertical Clearance min / max	Box or Vault / Lid (See Note 3) (min)
1"	8" 18"	Christy B40 or Bes C40W Box/ Christy B40-61D or Bes 61D75
1-1/2"	10" 20"	Christy B48 or Bes C48W Box/ Christy B48-62D or Bes 62D85
2"	10" 20"	Christy B48 or Bes C48W Box/ Christy B48-62D or Bes 62D85
3"	16" 30"	4'x4' / Split, hinged lid
4"	20" 36"	4'x4' / similar to Forni-
6"	24" 40"	7'x5' / HAL-Lucero
8"	30" 48"	7'x5' / Assembly

} Christy B52 or Bes C52W box/
Christy or Bes 62D90

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date
Date 12/00						

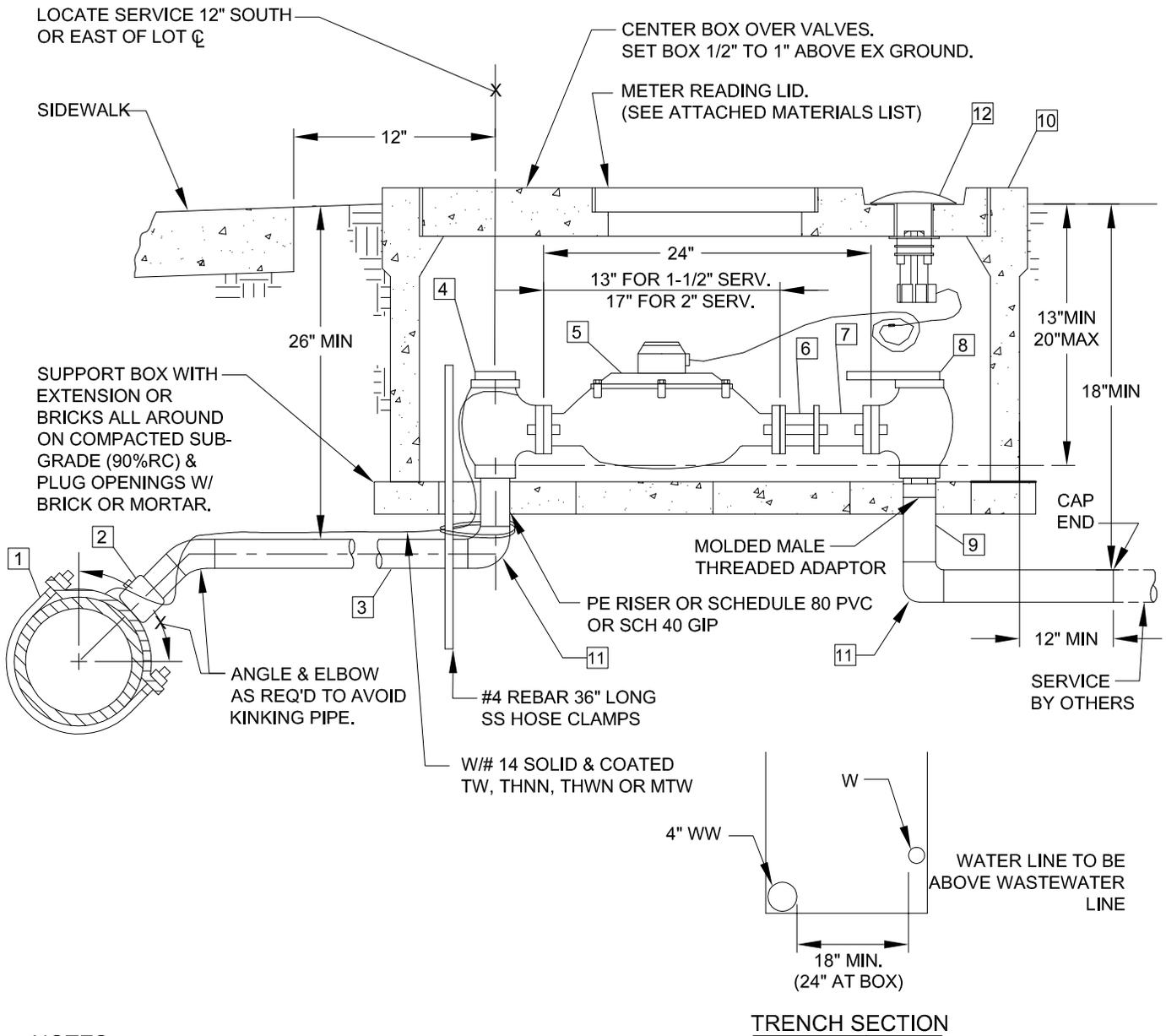
STD PLAN
411



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER W/ RADIO READ



NOTES:

1. MAINTAIN 24" CLEARANCE BETWEEN TAP AND ANY COUPLING, FITTING OR ADJACENT TAP. PLASTIC SERVICES SHALL BE INSTALLED WITH SLACK IN THE LINE. IF THE SERVICE IS INSTALLED IN THE SAME TRENCH AS SANITARY SERVICE, THE WATER SERVICE SHALL BE INSTALLED WITHOUT SPLICES AND THE TRENCH SECTION SHOWN APPLIES:
2. S.S. LINERS REQUIRED ON PE PIPE FITTINGS.
3. BACKFILL SHALL CONFORM TO STD PLAN 501.
4. ALL FITTINGS MUST COMPLY WITH THE LATEST STATE OF CALIFORNIA NO LEAD REQUIREMENTS.

SHEET 1 OF 4

Dr.	JP	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53149	8/13/18 Date	STD PLAN					
Ch.	SN	1	9/03	ADDED END CAP		 Lyman Chang City Engineer RCE No. 53149			8/13/18 Date	<h1>412</h1>				
		2	2/04	REVISED PAGE 4							 Lyman Chang City Engineer RCE No. 53149	8/13/18 Date	<h1>412</h1>	
		3	2/05	REVERSED TRENCH SECTION										 Lyman Chang City Engineer RCE No. 53149
Date		4	6/10	REVISED PER AB 1953 REQ'S.			 Lyman Chang City Engineer RCE No. 53149	8/13/18 Date						



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SADDLES 1	2"	FOR C1-AC & DUCTILE IRON PIPE DUCTILE IRON DOUBLE STRAP SADDLE <u>NO SINGLE STRAP SADDLES</u>		IPT	ROCKWELL 313 APAC 102 OTHER MANUFACTURERS WITH SIMILAR DESIGNS O.K.
SADDLES	2"	FOR C900 PIPE		IPT	ROMAC 101S MUELLER H1349 WITH 1P THREAD
CORP. STOP 2	2"	BALL VALVE	2" IPT	2" CTS COMP	A.Y. MCDONALD 4704B-22 OR APPROVED EQUAL
CORP. STOP	2"	BALL VALVE	2" IPT	2" IPT	A.Y. MCDONALD 3122B OR APPROVED EQUAL

SHEET 2 OF 4

Dr.	No.	Date	Revision	Appr.	Approved By:  Lyman Chang City Engineer RCE No. 53149	Date 8/13/18	STD PLAN 412
Ch.	1	9/03	ADDED END CAP				
WS	2	2/04	REVISED PAGE 4				
Date	3	2/05	REVISED PAGE 1				
	4	6/10	REVISED PER AB 1953 REQ'S.				



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SERVICE PIPE 3	2"				C.T.S. PE 3408 200 PSI SDR9 ASTM D-2737 SCH 80 PVC WITH TRACE WIRE, OR SCH 40 GIP
ANGLE STOP 4	2"	BALL VALVE WITH LOCKWING	2" CTS COMP.	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4602B-22 OR APPROVED EQUAL.
	2"	BALL VALVE WITH LOCKWING	2" FNPT	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4604B OR APPROVED EQUAL.
METER 5	1-1/2" OR 2"	BRONZE 13" LONG FOR 1-1/2" SERVICE 17" LONG FOR 2" SERVICE W/ RUBBER WASHER	2 HOLE FLG	2 HOLE FLG	J129 BADGER 120 OR 170 SENSUS SR-BA HERSEY 562 OR 572
COUPLING 6	1-1/2" OR 2"	FLANGED METER COUPLING ADAPTER MALLEABLE IRON	2 HOLE FLG WITHOUT RING	COMPRESSION COUPLING TO SCH. 80 NIPPLE	ROCKWELL 926 METER COUPLING
SPOOL & FLANGE 7	1-1/2" OR 2"	PVC SCH. 80 & BRONZE FLG.	2 HOLE FLG	PLAIN END	9 1/2" LONG FOR 1 1/2" METER 5 1/2" LONG FOR 2" METER
CUSTOMER VALVE 8	2"	BALL VALVE WITH LOCKWING ALL VALVES MUST HAVE BRASS HANDLE	2" FNPT	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4604B OR APPROVED EQUAL. HANDLE A.Y. MCDONALD 6120BS OR APPROVED EQUAL.
CUSTOMER STUB 9	2"	PVC SCH. 80	PLAIN END	PLAIN END	IPS PVC SCHEDULE 80 PER UNIFORM PLUMBING CODE. (SAME SIZE AS SERVICE PIPE)

SHEET 3 OF 4

Dr.	No.	Date	Revision	Appr.	Approved By:	 Lyman Chang City Engineer RCE No. 53149	8/13/18 Date	STD PLAN
Ch.	1	9/03	ADDED END CAP		<div style="font-size: 2em; font-weight: bold;">412</div>			
WS	2	2/04	REVISED PAGE 4					
Date	3	2/05	REVISED PAGE 1					
	4	6/10	REVISED PER AB 1953 REQ'S.					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SERVICE BOX 10	2"	ALL LIDS TO READ WATER & HAVE HOLES IN LIDS FOR ERT			CHRISTY B36 CHRISTY 36-R-P001BO (FLUSH FIT FOOT TRAFFIC, GRASS AREAS, LID MOUNTED ERTS ONLY) CHRISTY FL36D (FOOT TRAFFIC, GRASS AREAS, FLUSH FIT) CHRISTY B36-61P 1/4" STEEL CHECKER PLATE (DRIVEWAYS, SIDEWALKS, LID MOUNTED ERTS ONLY) CHRISTY B1730 FULL VEHICULAR TRAFFIC BOX CHRISTY B40 BOX CHRISTY B40-61D LID 1/4" STEEL PLATE (LID MOUNTED ERT'S ONLY) CHRISTY B24X36 FULL VEHICULAR TRAFFIC BOX
90° PJ ELBOW			2" PJ CTS	2" PJ CTS	2" FORD L44-77 2" MUELLER H-15526 WITH INSERT
90° ELBOW 11			2"	2"	PVC
ERT 12	N/A	ENCODER RECEIVER TRANSMITTER	N/A	N/A	ITRON 100W PIT ERT W/ THROUGH THE LID MOUNTING KIT OR 1/2" Ø FIBERGLASS MOUNTING ROD 24" LONG MAY BE USED UPON APPROVAL OF PUBLIC WORKS DEPT.

A. ALTERNATE FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.

SHEET 4 OF 4

Dr. KT	No.	Date	Revision	Appr.	Approved By:	 8/13/18 Date	STD PLAN 412
Ch. WS	1	9/03	ADDED END CAP				
	2	2/04	ADDED PVC 90 ELBOW				
Date 12/00	3	2/05	REVISED PAGE 1				
	4	6/10	REVISED PER AB 1953 REQ'S.				

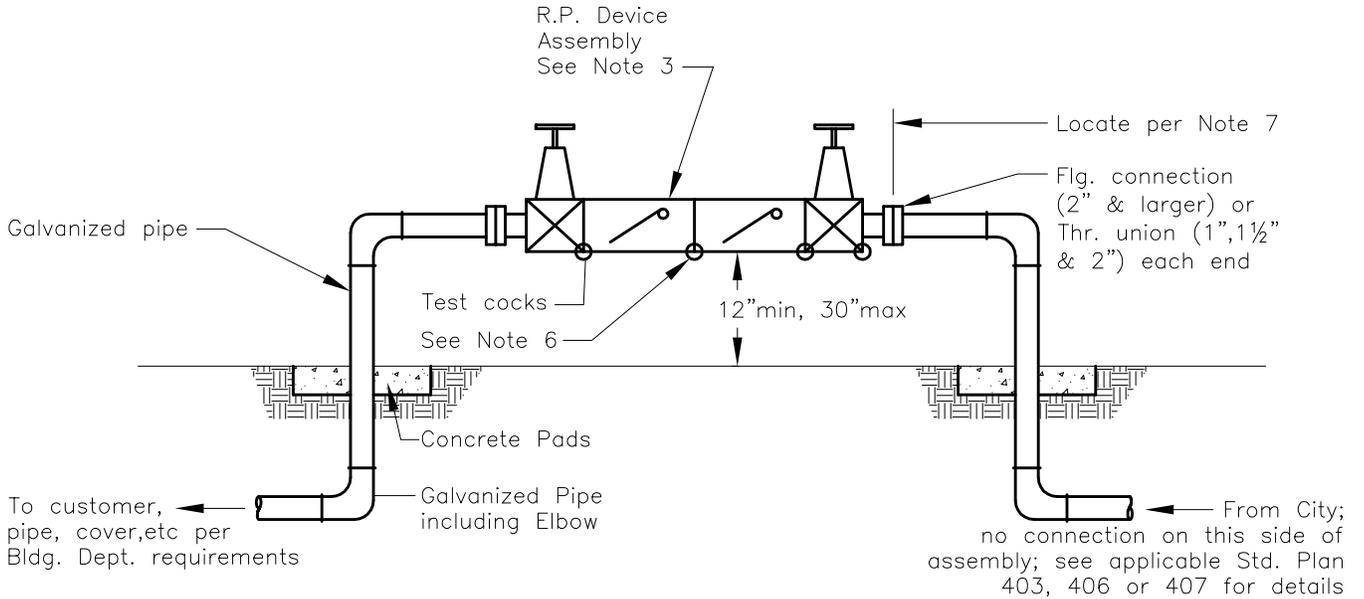
Lyman Chang
City Engineer
RCE No. 53149



CITY OF LODI

PUBLIC WORKS DEPARTMENT

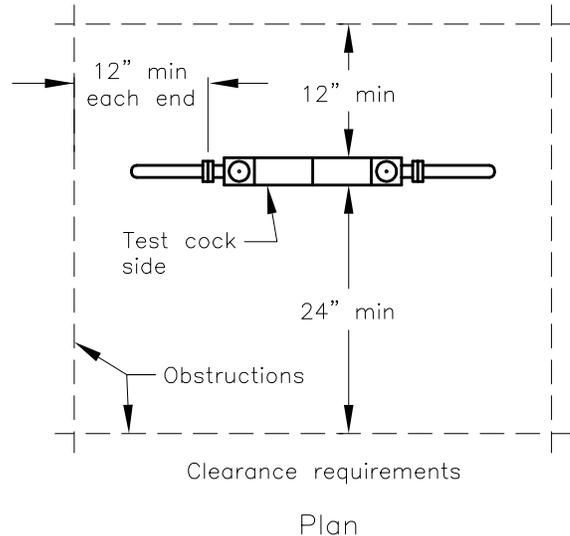
Reduced Pressure Backflow Device Assembly



Above Ground Installation

Notes:

1. It is the customers responsibility to have the assembly tested prior to acceptance and annually by a State Certified Backflow Prevention Tester and report the results to the Public Works Department.
2. Install guard posts where device is installed in paved areas accessible to traffic or in planters less than 3' behind the curb or when directed by City.
3. FEBCO 825Y or approved equal, must be on list of approved Backflow Prevention Assemblies Dept. of Health Services.
4. Valve handles may be chained & padlocked for security.
5. This plan for domestic service only. Design for fire service applications to have approval of Public Works Director and Fire Marshal.
6. Provide drainage (with air gap) for pressure relief discharge.
7. Locate assembly immediately down stream of service box.



Dr.	KT	No.	Date	Revision	Appr.	Approved By:	
Ch.	WS					<i>F. Wally Sangelin</i>	12/28/00
Date	12/00					F. Wally Sangelin City Engineer R.C.E. 39895	Date

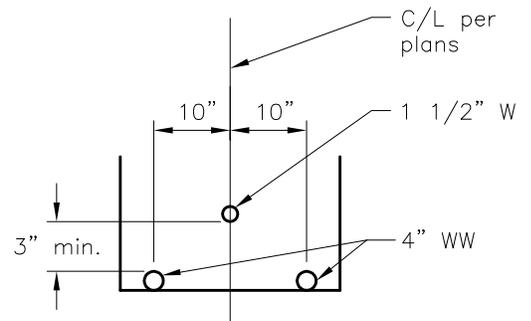
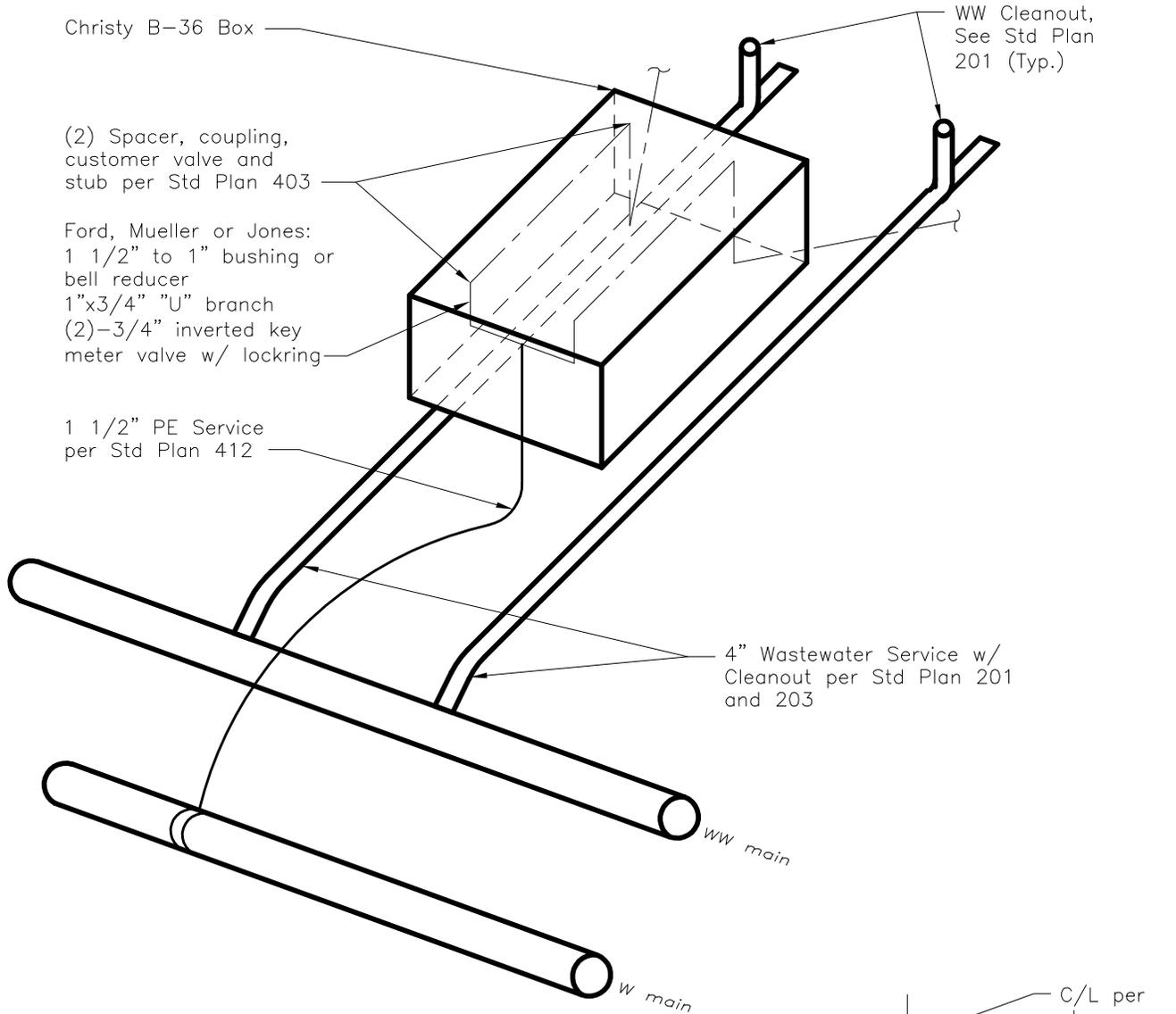
STD PLAN
413



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Dual Water & Wastewater Service



Trench Section

Notes:

1. This Std plan is to be used primarily in residential subdivisions on lot lines opposite the utility joint trench. A utility coordination plan showing service locations is required.
2. See Std Plans 201, 203, 403, and 412 for materials and installation details.

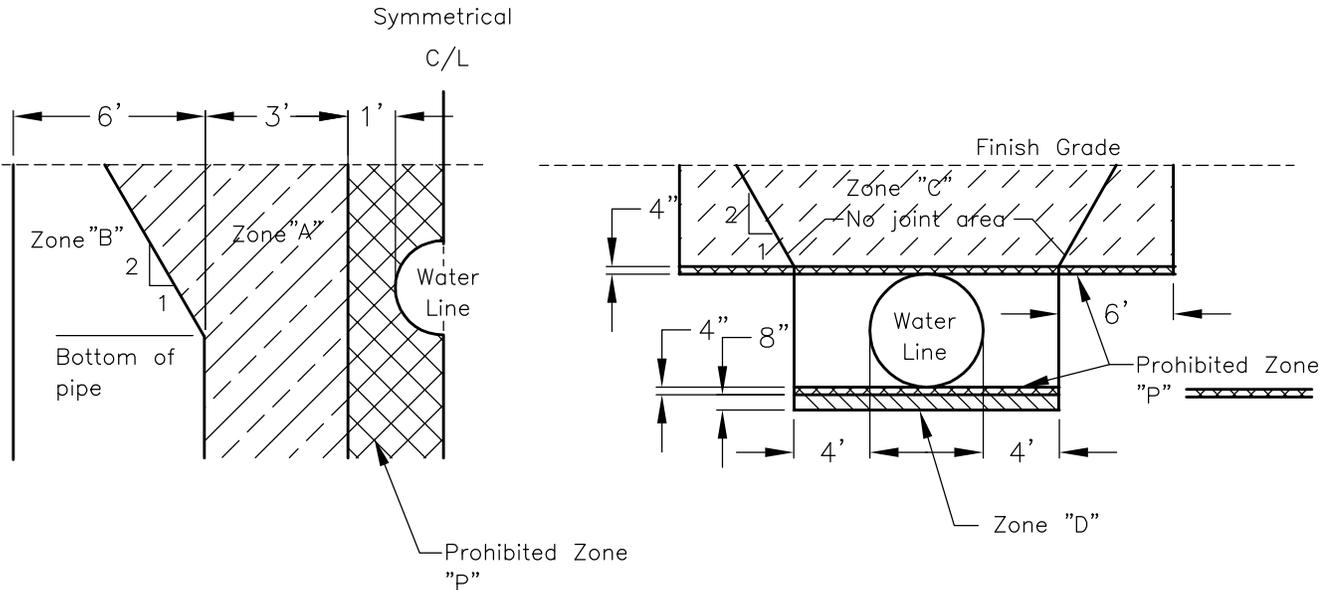
Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sanelin</i>	414
Date 12/00					City Engineer R.C.E. 39895	12/28/00 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Main Separation from Sanitary Hazard—New Wastewater Line Construction



CASE 1
New Wastewater Line
Parallel Construction

CASE 1
New Wastewater Line
Crossing

WASTEWATER LINE CONSTRUCTION REQUIREMENTS

ZONE

A	B	C	D	P
Requires specific approval of the City Engineer details on plans	Pipe: ESVCP, bell & spigot joint only; PVC water pipe; Ductile Iron pipe. (Storm Drain only—Conc. Pipe)	Pipe: Ductile Iron or Class 200 PVC water pipe centered over water main. Note the "No Joint" area over water main	Pipe: Same as Zone C, no joints allowed	Prohibited—No new wastewater line in this area

Notes:

1. This Standard Plan shows normal construction requirements/options for reduced separation of existing water mains from new sanitary sewers and storm drains (including mains & laterals). It does not apply to pipes over 24 inches in diameter, to force mains or to services crossing under a water main (see Note 3). See State Dept. of Health Services Standards for other situations and additional alternatives.
2. Plans shall reference this Standard for specific locations and shall note the zone and construction requirement, or provide details on the plans.
3. Sanitary sewer services crossing under water mains shall maintain 4" minimum clearance.
4. All pipe materials and installation shall be per City of Lodi Design Standards and Construction Specifications.

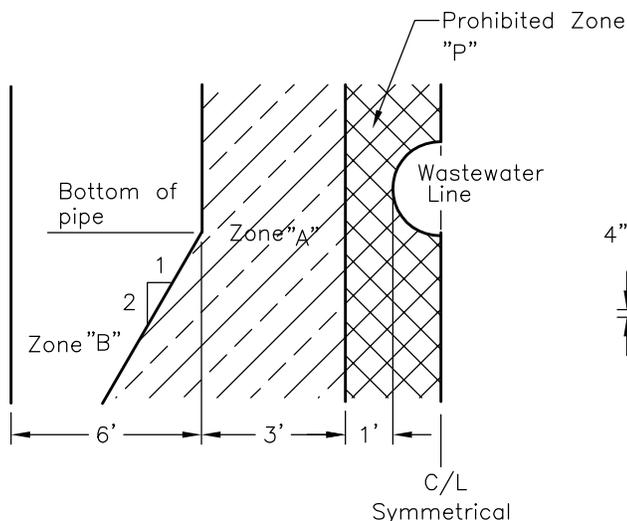
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	Date	415A
Date 12/00					F. Wally Sandelin City Engineer R.C.E. 39895		



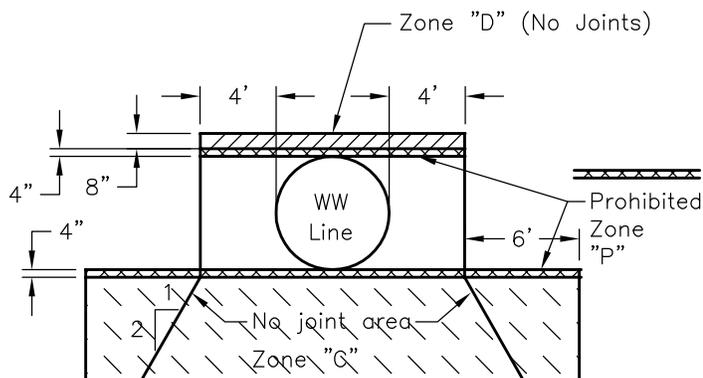
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Main Separation from Sanitary Hazard—New Water Main Construction



CASE 2
New Water Line
Parallel Construction



CASE 2
New Water Line
Crossing

WATER MAIN CONSTRUCTION REQUIREMENTS

ZONE

A	B	C	D	P
Requires specific approval of the City Engineer with details shown on the plans.	Pipe: Ductile Iron pipe; PVC, Class 200. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Pipe: Per Zone B Note "no joint" area under Wastewater line. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Pipe: Per Zone B No joint allowed. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Prohibited — No new water mains in this area.

Notes:

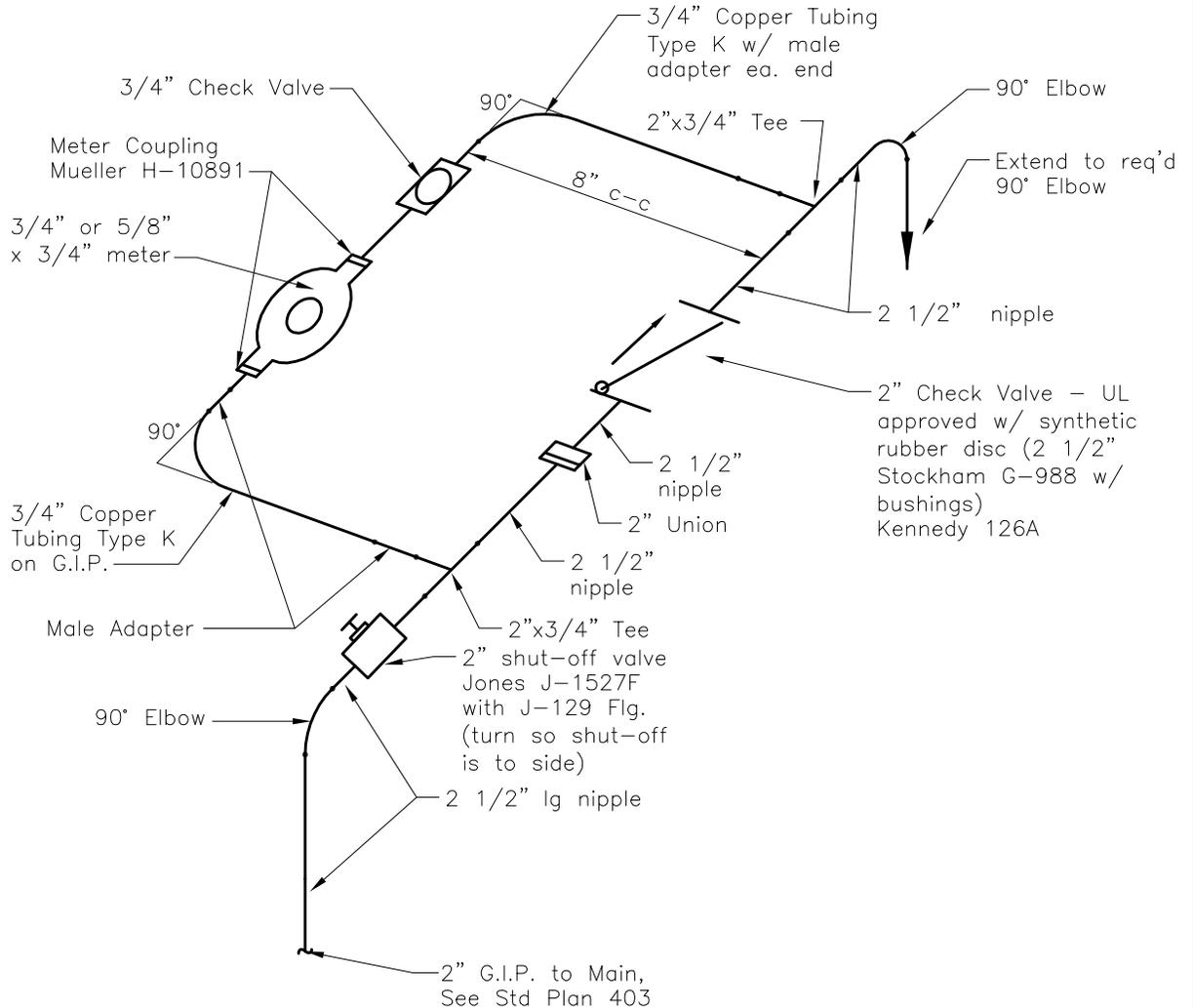
1. This Standard Plan shows normal construction requirements/options for reduced separation of new water mains from sanitary sewers (including services, see Note 3) and storm drains (including mains & laterals). It does not apply to pipes over 24 inches in diameter or to force mains. See State Dept. of Health Services Standards for other situations and additional alternatives.
2. Plans shall reference this Standard for specific locations and shall note the zone and construction requirement, or provide details on the plans.
3. Water mains crossing over services shall maintain 4" min. clearance.
4. All pipe materials and installation shall be per City of Lodi Design Standards and Construction Specifications.

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN
Ch. WS					12/28/00	415B
Date 12/00					Date	

F. Wally Sandelin
City Engineer
R.C.E. 39895



Establish for use of Copper Tubing Type K or G.I.P.



Notes:

1. Use Christy B-48 box with traffic lid per Std Plan 403. Center over fittings.
2. City service responsibility is from main to shut-off valve.
3. Meter to be Sensus SR. Support w/ brick.
4. Where Sprinkler system contains chemical additives or other possible contamination exists, Check Valves shown shall be replaced with Double Check Valve Assemblies per Std Plan 411.

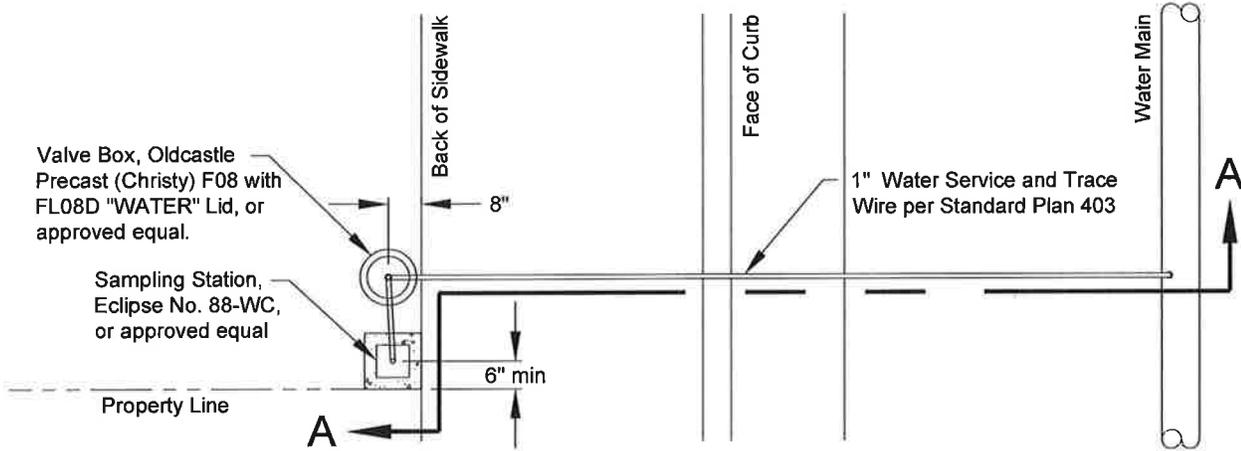
Dr. KT	No.	Date	Revision	Appr.	Approved By: F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date	STD PLAN	
Ch. WS								416
Date 12/00								



CITY OF LODI

PUBLIC WORKS DEPARTMENT

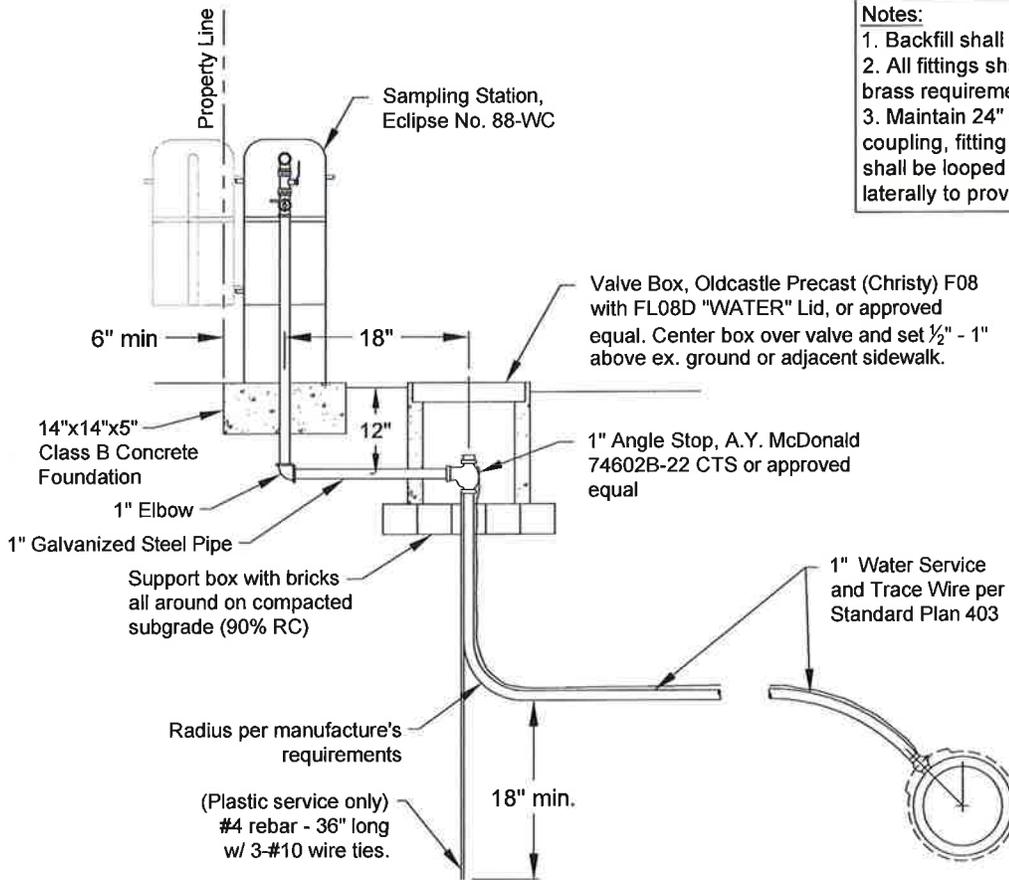
WATER SAMPLING STATION



Plan View

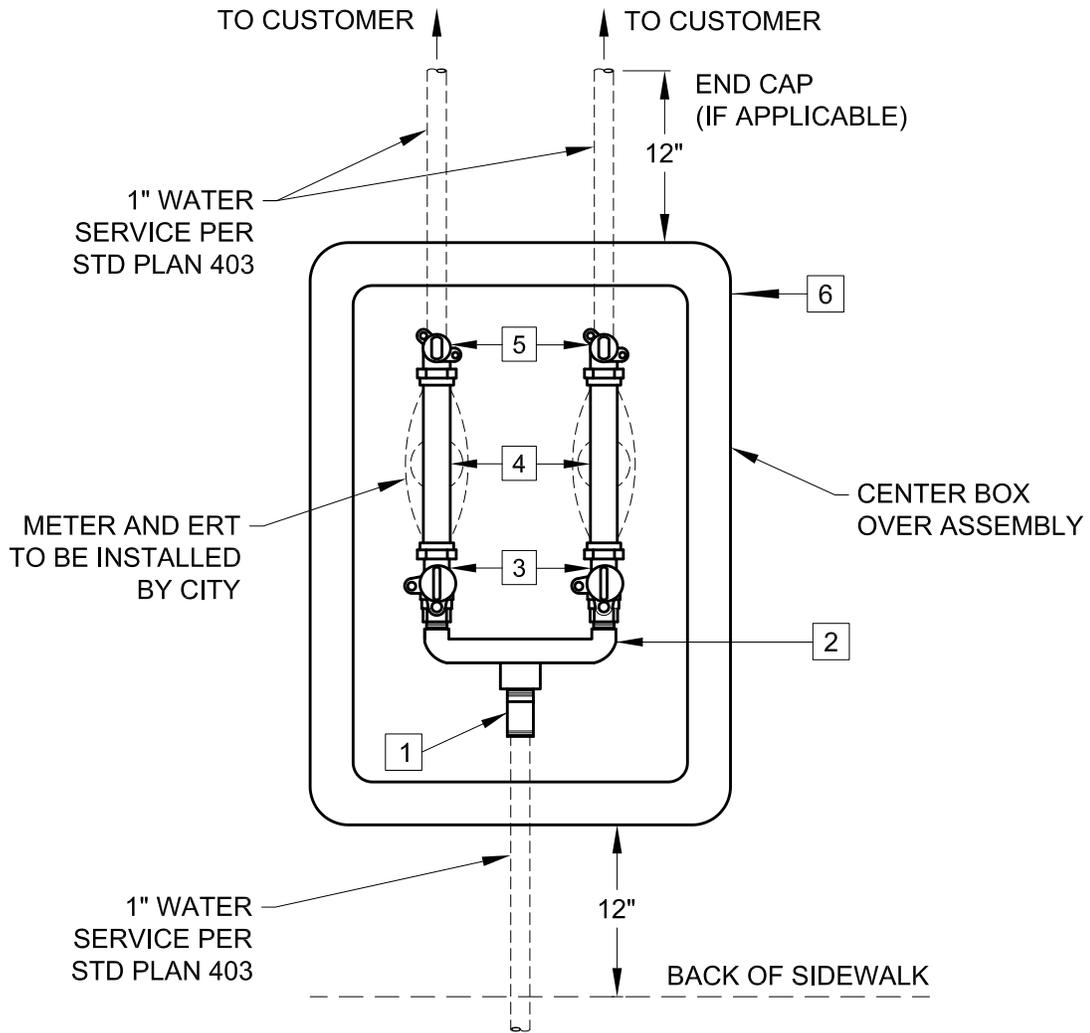
Notes:

1. Backfill shall conform to Std. Plan 501.
2. All fittings shall comply with California No-Lead brass requirements.
3. Maintain 24" clearance between tap and any coupling, fitting or adjacent tap. Plastic services shall be looped approximately 6" vertically or laterally to provide slack in the line.



Section A-A

Dr.	SN	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	LC					<i>Charles Swimley</i>	417
Date	9/13					Charles Swimley Deputy Public Works Director R.C.E. 52842	9.11.13 Date



NOTE:
INSTALLATION OF THE METER
BOX IN DRIVEWAY IS PROHIBITED
WITHOUT PRIOR APPROVAL
FROM CITY ENGINEER.



Dr.	JP	No.	Date	Revision	Appr.	Approved By:
Ch.	LC					<i>Charles Swinley</i> 2/24/14 Date
Date	1/27/14					Charlie Swinley City Engineer / Deputy Public Works Director RCE No. 52842



CITY OF LODI

PUBLIC WORKS DEPARTMENT

DUAL WATER SERVICE (DUPLEX)

MATERIAL LIST

FITTING	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOTE
1 METER COUPLING	1"	BRASS W/ NL LISTED	1" MNPT	3/4" MALE METER THREAD	McDONALD 74619 (3/4"x1"x2.18")
2 U-BRANCHES	1"	STANDARD U-BRANCH	1" MNPT	3/4" MNPT	McDONALD 709UFCW (1" x 3/4" x 6.5")
3 METER VALVE	1"	BALL VALVE WITH LOCKWING	1" PE CTS COMPRESSION	1" STRAIGHT THREAD SWIVEL NUT	McDONALD 76101MW (1" x 3/4" x 3/4")
4 METER SPOOL	1"x9"		1"	1"	1" SCH 80 PVC
5 CUSTOMER VALVE ANGLE STOP	1"	FULL PORT ANGLE BALL VALVE	METER SWIVEL NUT	1" FIPT	McDONALD 74604B WITH HANDLE #6120B
6 SERVICE BOX		LID TO READ WATER	N/A	N/A	CHRISTY B36 BOX W/ FL36D FIBRELYTE LID

2 of 2

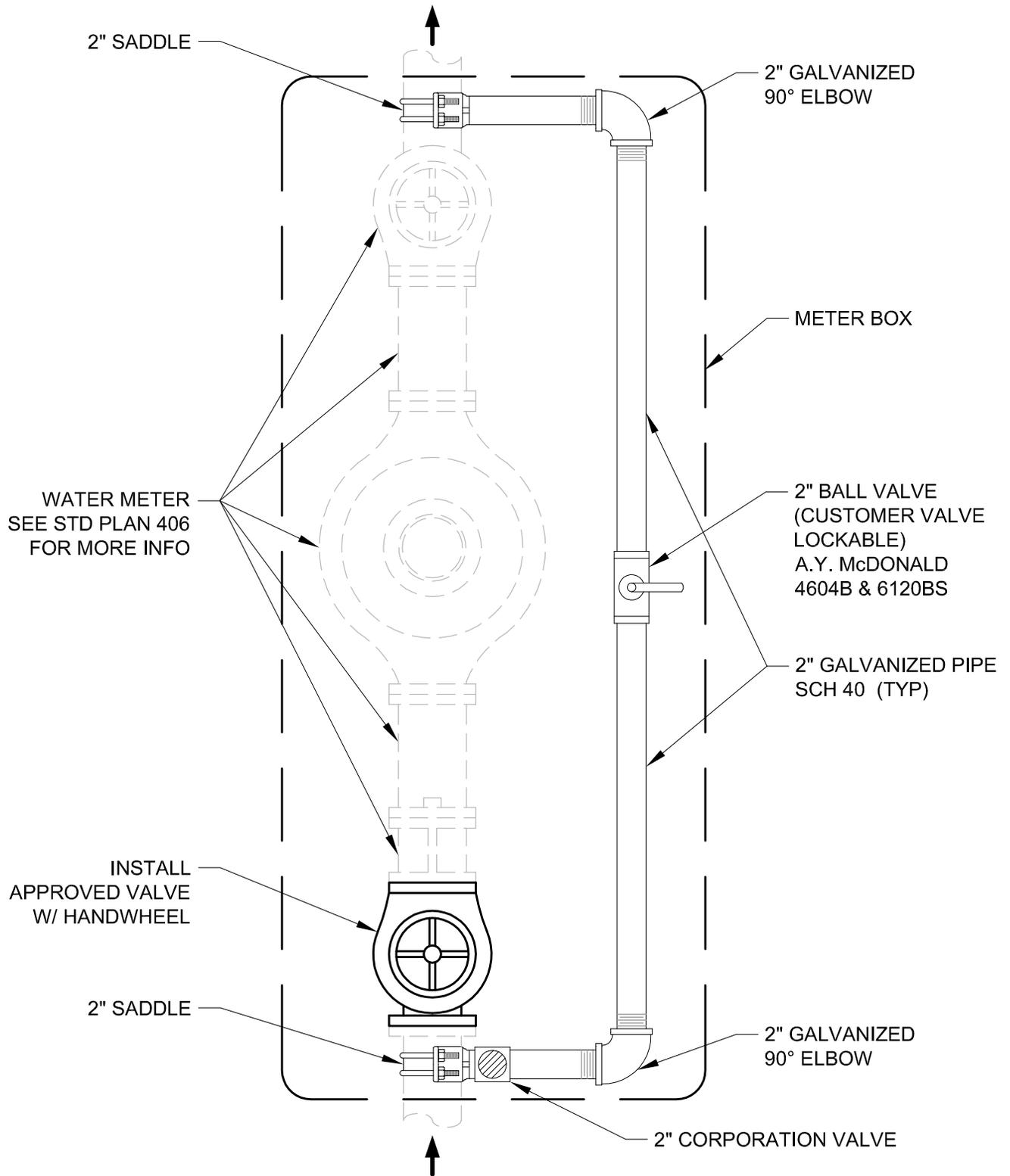
Dr. JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. LC					<i>Charles Swinley</i>	418
Date 1/23/14					2/24/14 Date	
					Charlie Swinley City Engineer / Deputy Public Works Director RCE No. 52842	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" METER BYPASS FOR LARGE WATER SERVICE



Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	LC						419
Date	3/2/17					3/2/17 Date	

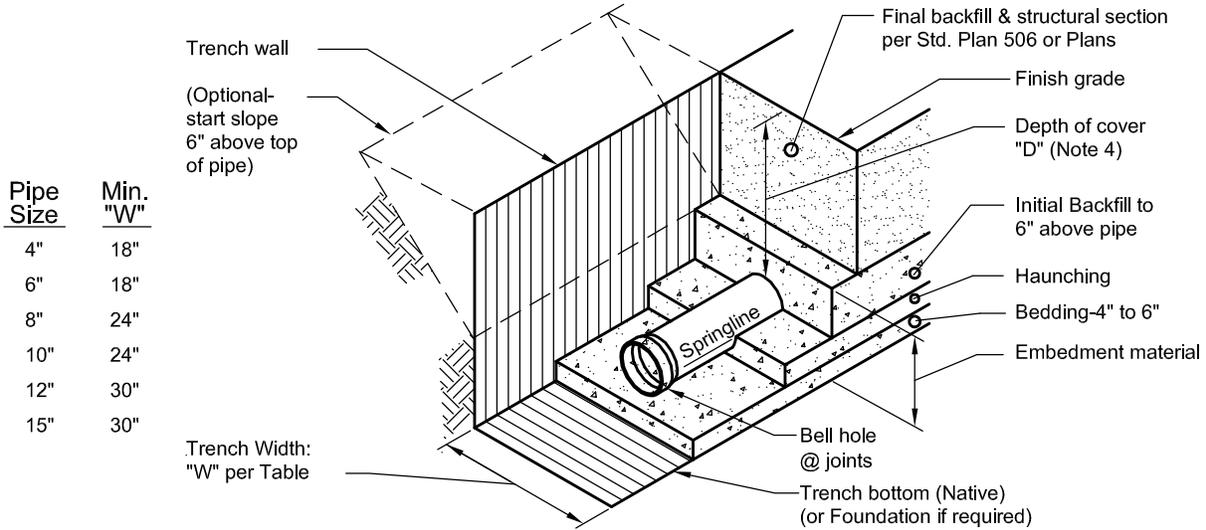
Lyman Chang
City Engineer
RCE No. 53149



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Pipe Bedding & Backfill- Flexible Pipe Trench Section



Notes:

1. This Std is for PVC SDR 35 (4" thru 15" dia), C900, & ductile iron pipe (up thru 14" dia) conforming to City Design Standards and Construction Specifications.
2. Class 1 embedment material shall be used unless specified otherwise on the plans.
3. This Std applicable only for stable trench walls where no standing water or groundwater is anticipated. Special details required for unstable soil identified in soils report. For minor occurrences of instability (sand pockets, etc), voids in the embedment zone shall be filled with the specified embedment material to at least two pipe diameters all around the pipe.
4. Minimum depth of cover for mains is 3 ft to finish grade; service laterals per plans.
5. For Water Pipes use native material for backfill.

EMBEDMENT MATERIAL

	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V
Description	Class II AB or Clean Sand	Coarse Sand & Gravel	Fine Sand Mixtures	Silt, Silty Clays	Organic Soils
USC Soil Type		GW, GP, SW, SP	GM, GC, SM, SC	MH, ML, CH, CL	OL, OH, PT
Foundation	If required, per special design to be shown on plans				
Bedding	Consolidate with vibrator or flat shovel	Compact to 85% Min. R.C.	Compact to 90% Min. R.C.	Special Design	Not Permitted
Haunching	"slicing" (See Note 5)	Cut-off dam (per Note 5)	Compact to 90% Min. R.C. in <u>two lifts</u>		
Initial Backfill	Class II AB	Compact to 85% Min. R.C. in <u>two lifts</u>	Compact to 90% Min. R.C. in <u>two lifts</u>		
Maximum Depth of Cover "D" (without special design)	20 ft	20 ft	20 ft		

Dr. JP	No. 1	Date 9/03	Revision ADDED C900 PIPE	Appr.	Approved By: <i>CSW</i> Charlie Swinley City Engineer / Deputy Public Works Director RCE NO. 52842	8/19/13	STD PLAN 501A
Ch. LC	No. 2	Date 8/13	Revision REMOVE CRUSHED ROCK MATERIAL				
Date 8/13							



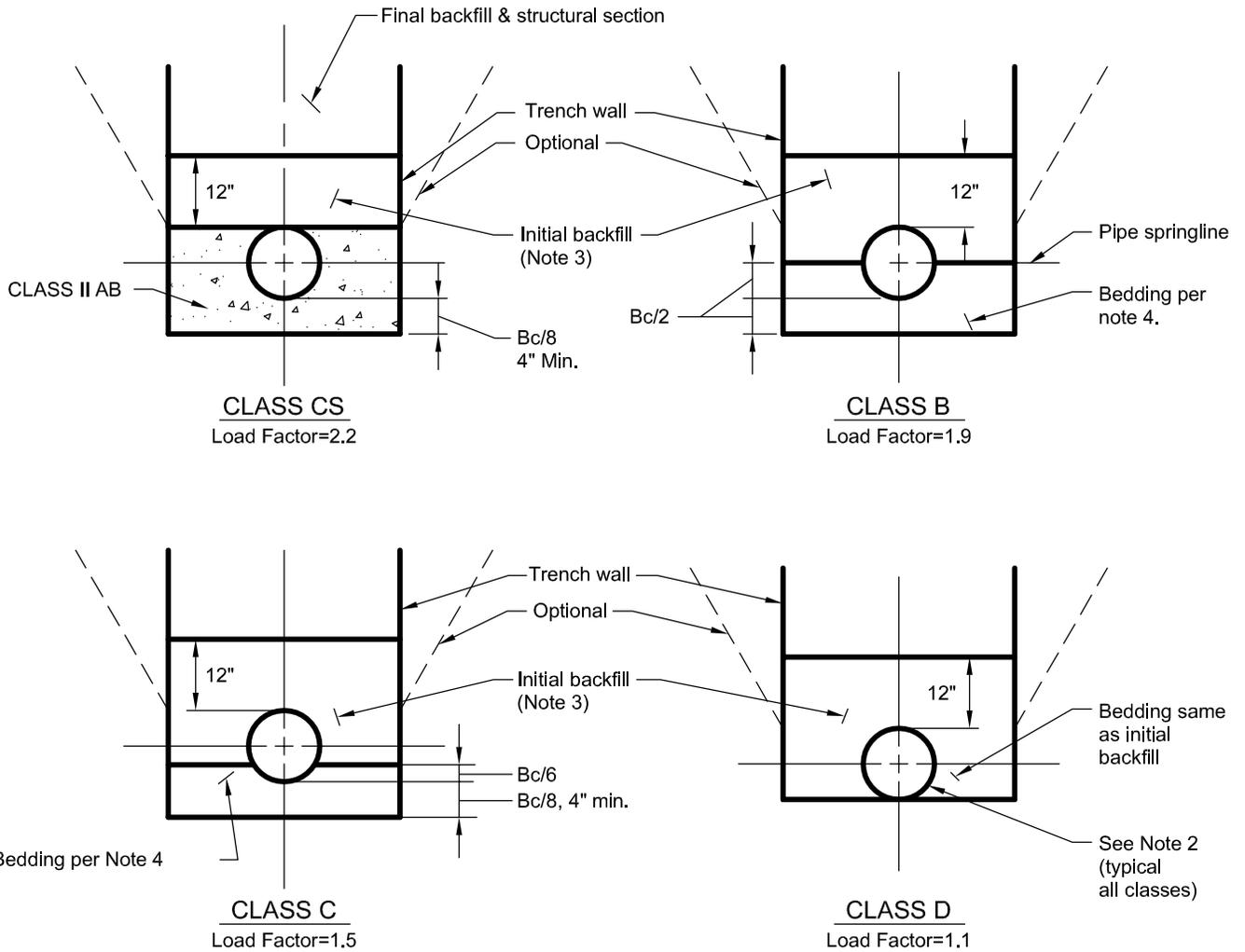
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Pipe Bedding & Backfill- Rigid Pipe Trench Section

Legend:

- D=Nominal pipe inside diameter (in.)
- Bc=Pipe outside diameter (in.)
- Bd=Trench width @ top of pipe=Bc+8" min. each side (24" total minimum)



Notes:

1. This Standard is for rigid pipes 4" & larger; conforming to City Design Stds and Construction Specifications. Use Trench Class as shown on the plans; if not specified, use appropriate class per pipe material and depth of cover per Std Plan 501C.
2. Provide uniform & continuous support of pipe barrel between bell or coupling holes.
3. Initial backfill shall be selected sandy material per Construction Spec. Sect.6-19.02 @ 90% R.C. min.
4. Class B & C bedding material to be Class II AB or sand as specified on the plans.

Dr.	JP	No.	Date	Revision	Appr.	Approved By: <i>Charles Swinley</i> Charles Swinley City Engineer / Deputy Public Works Director RCE NO. 52842	8/19/13	Date	STD PLAN 501B
Ch.	LC	1	6/00	ADDED C900 PIPE					
Date	8/13	2	8/13	REMOVE CRUSHED ROCK MATERIAL					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Pipe Bedding & Backfill— Rigid Pipe Bedding Requirements

Pipe Material	Class	Size (in.)	Minimum Trench Class per Std Plan 501B Depth of Cover (ft.)							
			3	4	5	6	7	8	9	10
Asbestos Cement, AWWA C401	150	4 thru 14	D							
Non-Reinforced Concrete, ASTM C-14	2	12	D		C			B		
		15	D		C			B		
		18	D		C			B		
	3	21	D		C			B		
		24	D		C			B		
		24	D		C			B		
Reinforced Concrete, ASTM C-76	III	12	C			B			CS	
		15	C			B			CS	
		18	C			B			CS	
		21	D		C			B		
		24	D		C			B		
	IV	27	D		C			B		
		30	D		C			B		
		12	D			C				
		15	D			C				
		18	D			C				
V	21	D			C					
	24	D			C					
	27	D			C					
	30	D			C					
	30	D			C					
Vitrified Clay Pipe, ASTM C700 Extra Strength		4 6 8 10 12 15	D							

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	501C
Date 7/08					F. Wally Sandelin City Engineer R.C.E. 39895	9/25/02 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Standard Abbreviations

Aggregate base	AB	Gas	G
American Society for Testing and Materials	ASTM	Galvanized	GALV
American Water Works Association	AWWA	Gallons per Minute	GPM
Approximately	APPROX	Gas valve	GV
Asbestos cement pipe	ACP	Global Positioning System	GPS
Asphalt concrete	AC	Grade Break	GB
		Guy pole	GP
Back of walk	BOW	High point	HP
Begin curb return	BCR	High pressure gas	HPG
Begin curve	BC	Horizontal	HOR
Begin vertical curve	BVC		
Bench mark monument	BM	Inch	IN.
Blow off	BO	Industrial waste	IW
		Inside diameter	ID
Cable Television	CATV	Invert	INV
Cast iron pipe	CIP		
Centerline	C/L	Joint use pole	JP
Center to Center	C-C		
Centimeter	cm	Kilometer	Km
Central angle	Δ		
Central California Traction Company	CCTC	Length	L
City of Lodi	COL	Lineal feet	LF
Class	CL	Low point	LP
Cleanout	CO	Low pressure gas	LPG
Commercial driveway	COMM DWY	Lump sum	LS
Compacted Original Ground	COG		
Concrete	CONC	Manhole	MH
Concrete pipe	CP	Maximum	MAX
Construct	CONST	Meter	M
Corrugated metal pipe	CMP	Millimeter	mm
Cubic feet per second	CFS	Minimum	MIN
Cubic yards	CY	Miscellaneous	MISC
Curb & gutter	C&G		
Curb, gutter & sidewalk	CG&S	North, South, East, West	N,S,E,W
		Northerly, etc.	N'LY
Diameter	DIA		
Distance	DIST	Original ground	OG
Driveway	DWY	Outside Diameter	OD
Drop inlet catch basin	DICB		
Ductile Iron	DIP	Parking meter	PM
		Pavement	PVMT
Each	EA	Pedestrian	PED
Edge of pavement	EP	Point of intersection	PI
Electric	ELEC	Point of reverse curve	PRC
Elevation	ELEV	Portland Cement Concrete	POC
End curb return	ECR	Point on tangent	POT
End curve	EC	Polyvinylchloride	PVC
End vertical curve	EVC	Pothole	PH
Existing	EX	Power poles	PP
		Property line	P/L
Feet per Second	FPS	Public utility easement	PUE
Finish grade	FG	Pull box	PB
Fire Hydrant	FH		
Flowline	FL		
Fire Service	FS		
Face of Curb	FOC		
Foot	FT		

Sheet 1 of 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS	1	6/03	ALL ABBREVIATIONS REVIEWED		<i>F. Wally Sandelin</i>	
Date	12/00					9/25/02	502
						Date	

F. Wally Sandelin
City Engineer
R.C.E. 39895



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Standard Abbreviations

Radius	R
Rehabilitate	REHAB
Reinforce,(ed), (ing)	REINF
Reinforced concrete pipe	RCP
Relative compaction	RC
Remote control valve	RCV
Residential driveway	RES DWY
Right of way	R/W
Rubberized Hot Asphalt Concrete	RHAC
Sheet	SHT
Side inlet catch basin	SICB
Sidewalk	SWK
Southern Pacific Railroad	SPRR
Specification	SPEC
Sprinkler head	SH
Square feet	SF
Square type	SQ TYPE
Standard	STD
Station	STA
Storm Drain	SDMH
Storm Drain Manhole	SD
Street Name Sign	SNS
Street light conduit	SL
Subdivision	SUBD
Survey Monument	MON
Tangent	T
Telephone (underground)	TEL
Telephone pole	TP
Top of curb	TOC
Traffic signal conduit	TS
Tree well	TW
Typical	TYP
Underground Service Alert	USA
Underground Utility Vault	UUV
Union Pacific Railroad	UPRR
Vertical curve	VC
Vitrified clay pipe	VCP
Wastewater	WW
Wastewater Manhole	WWMH
Wastewater service	WWS
Water	W
Water service	WS
Water service box	WSB
Water valve	WV
Weakened plane joint	WPJ
Woodbridge Irrigation Dist	WID
Yard	YD

Sheet 2 of 2

Dr. KT	No. 1	Date 9/03	Revision ALL ABBREVIATIONS REVIEWED	Appr.	Approved By: <i>F. Wally Sandelin</i>	9/25/02	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	502
Date 12/00							



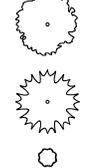
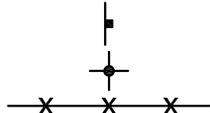
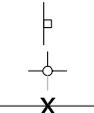
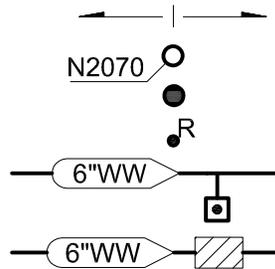
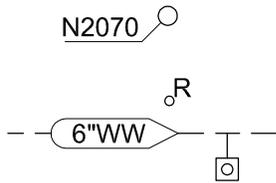
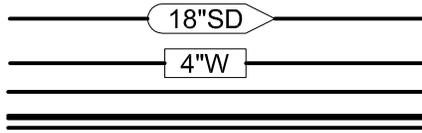
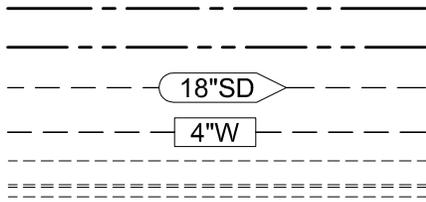
CITY OF LODI

PUBLIC WORKS DEPARTMENT

DRAFTING SYMBOLS

EXISTING

CONSTRUCT



- Centerline
- Right-of-Way / Property Line
- SD, WW or IW (noted) with direction
- W or Other Underground Utilities
- C, G & S
- High Point in Flow Line
- Manhole W/ Manhole Number
- Rehab Ex Manhole
- Riser
- WW Cleanout
- Point Repair
- Side Inlet Catch Basin
- Drop Inlet Catch Basin
- Fire Hydrant
- Water Valve
- Blow-off
- Reducer
- Water Service Shutoff
- Cap & Blind Flange
- Centerline Survey Monument
- City of Lodi Bench Mark
- Traffic Signal Head
- Pedestrian Head
- Electrolier (mast. arm type)
- Electrolier (concrete standard)
- Utility Pole (type as noted)
- Guy Anchor
- Sign (type as noted)
- Street Name Sign
- Fence (type as noted)
- Deciduous & other Leafed Trees
- Pine, Fir or Cedar Trees
- Hedge or Bush
- Slope of Pipe

Dr.	No.	Date	Revision	Appr.
KT	1	7/01	UPDATE PER FIRST REVISION	
WS	2	9/03	REVISED SICB SYMBOL	
	3	11/08	REVISED WW CLEANOUT	

Approved By: *F. Wally Sandellin* 9/25/02
 F. Wally Sandellin
 City Engineer
 R.C.E. 39895
 Date

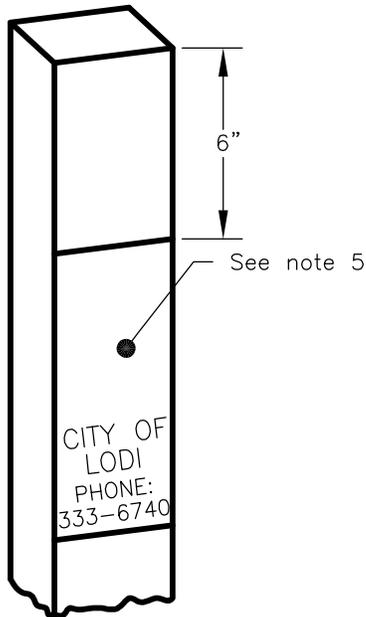
STD PLAN
503



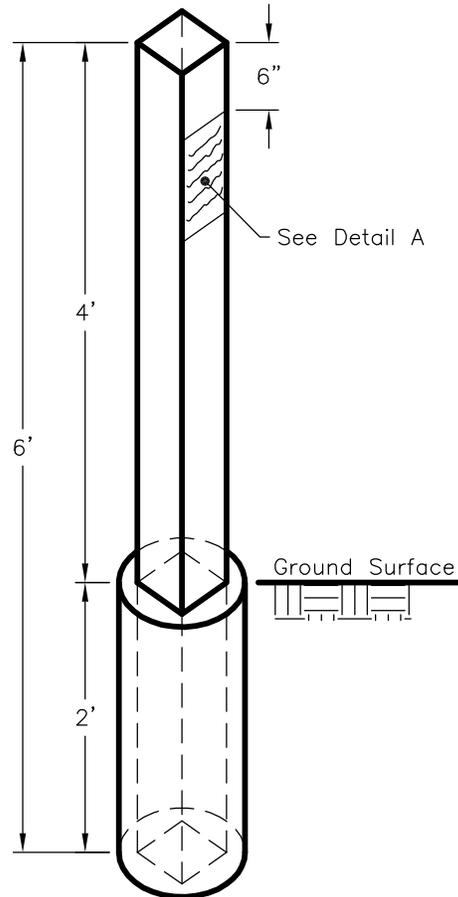
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Pipe Marker



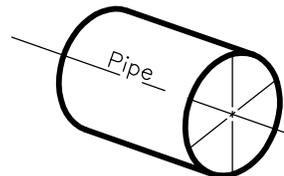
DETAIL A



Notes:

1. Posts to be 4"x4" foundation grade Redwood or pressure treated Douglas Fir
2. Posts to be encased in concrete – 8" diameter x 2' deep
3. Posts shall be painted white using 2 coats
4. Use 1/2" block black lettering on both sides of the post in line with the pipe
5. Posts shall state diameter and type of pipe as follows:

Examples: 1) 8-INCH WATER MAIN 2) 24-INCH WASTE WATER 3) 12-INCH STORM DRAIN



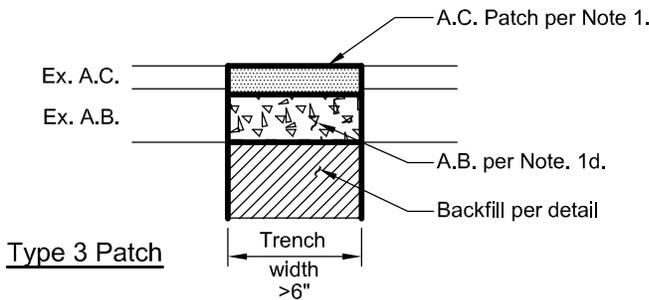
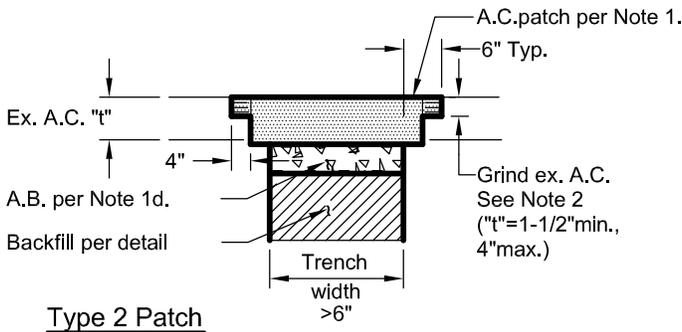
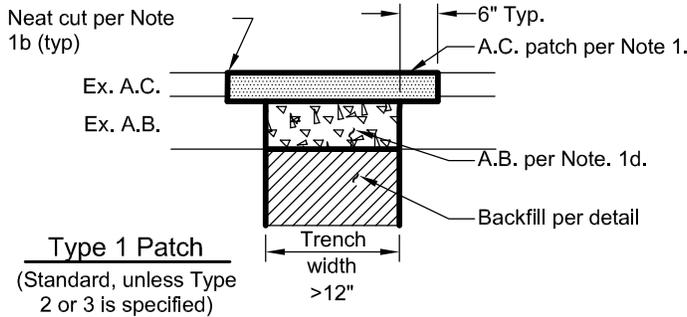
Dr.	No.	Date	Revision	Appr.	Approved By:	Date
KT					<i>F. Wally Sandelin</i>	12/28/00
Ch.	WS				F. Wally Sandelin City Engineer R.C.E. 39895	
Date		12/00				

STD PLAN

505

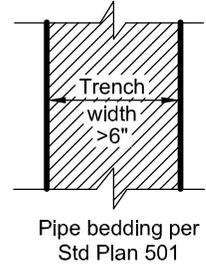


**Trench
Structural Section
Requirements**

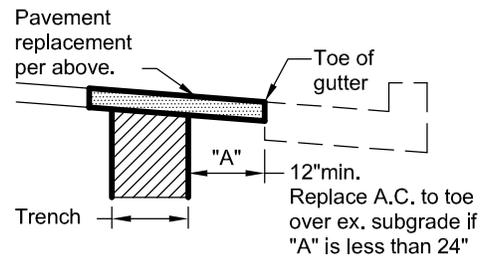
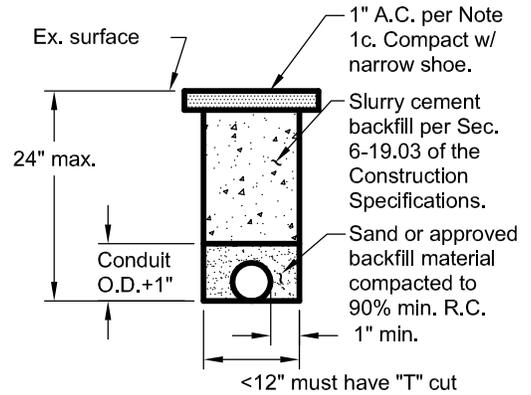


PAVEMENT REPLACEMENT

Backfill:
Native material @ 90%
R.C. except approved
select material or A.B.
Cl. 2 @ 95% required
for:
a.) Type 2 patch
b.) Excavation smaller
than 3'x3'



BACKFILL



SPECIAL CASES

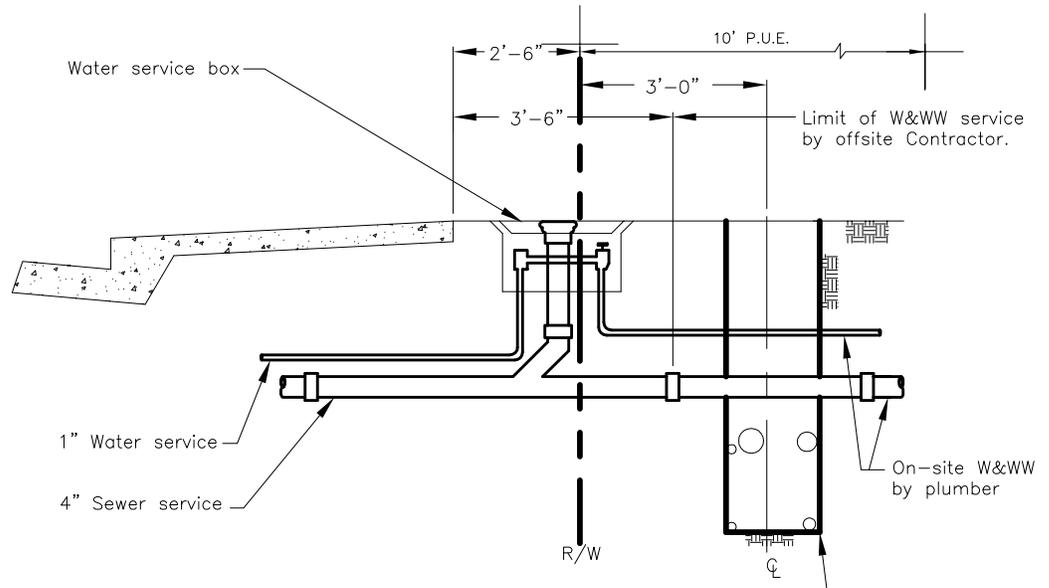
Notes:

- Type 1 Patch:
 - Total AC thickness to match existing plus 1", 4" minimum applied in two lifts.
 - Drop hammer or other rough cut allowed for initial cut along trench wall. Final AC removal per Sec. 6-15.02 "Removal Method" of the Construction Specification.
 - AC replacement per Sec. 6-39.04 "Trench Replacement and Shoulder Paving" of the Construction Specifications.
 - AB thickness per Plans. AB may be replaced by additional AC (50% of req'd AB thickness).
- Type 2 patch optional, except when required by the City. Grind depth "t" shall be adjusted to match existing overlay thickness.
- Type 3 Patch to be used when shown on the plans or as approved by the Engineer, generally on streets to be overlaid.
- Controlled density fill (CDF) may be used for backfill with the prior approval of the Engineer.

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS	1	9/03	REVISED AB PATTERN		<i>F. Wally Sandele</i>	506
Date 12/00					9/25/02 City Engineer R.C.E. 39895	Date

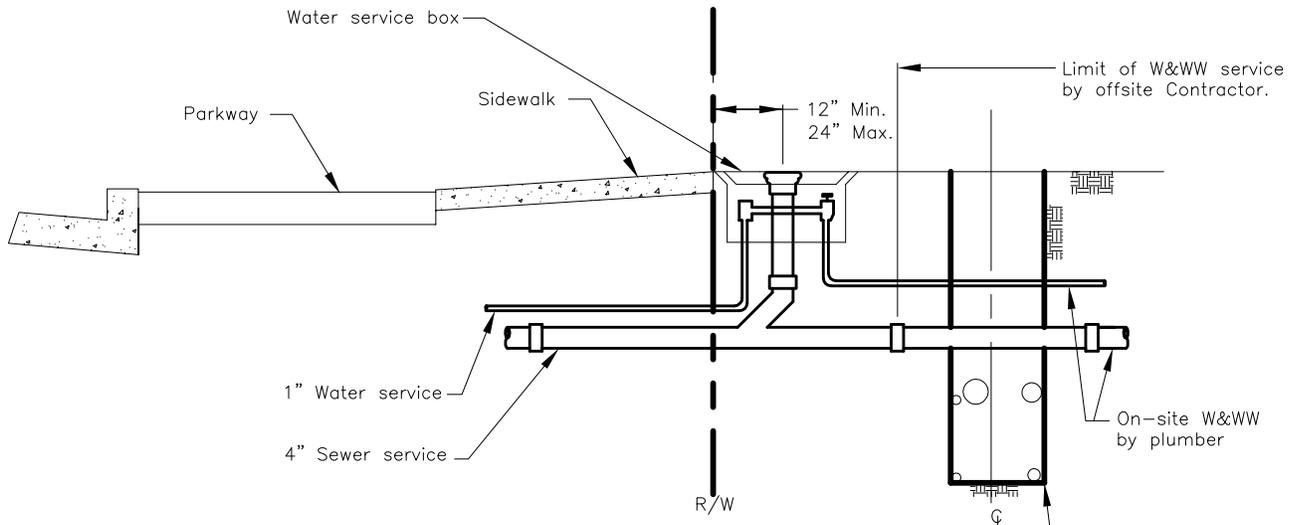


Joint Trenching Details



**Typical Trench Section
No Parkway**

See Sheet
507 2 of 2
For Details



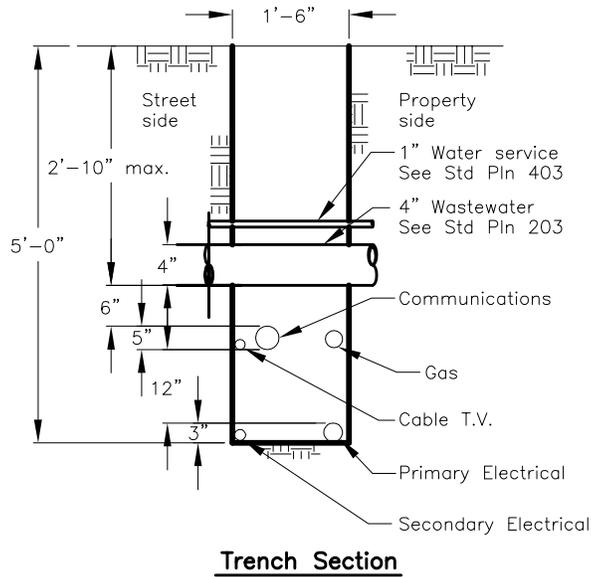
**Typical Trench Section
Parkway**

See Sheet
507 2 of 2
For Details

Note:
1. Also See Std Plans 201, 203, 403, & 414.

Dr.	KT	No.	Date	Revision	Appr.	Approved By:
Ch.	WS	1	9/03	ADDED PARKWAY LAYOUT		<i>F. Wally Sandelin</i> 9/25/02
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895

STD PLAN
507



Electric, telephone, and cable T.V. boxes to be set as determined by each agency in the 10' P.U.E.

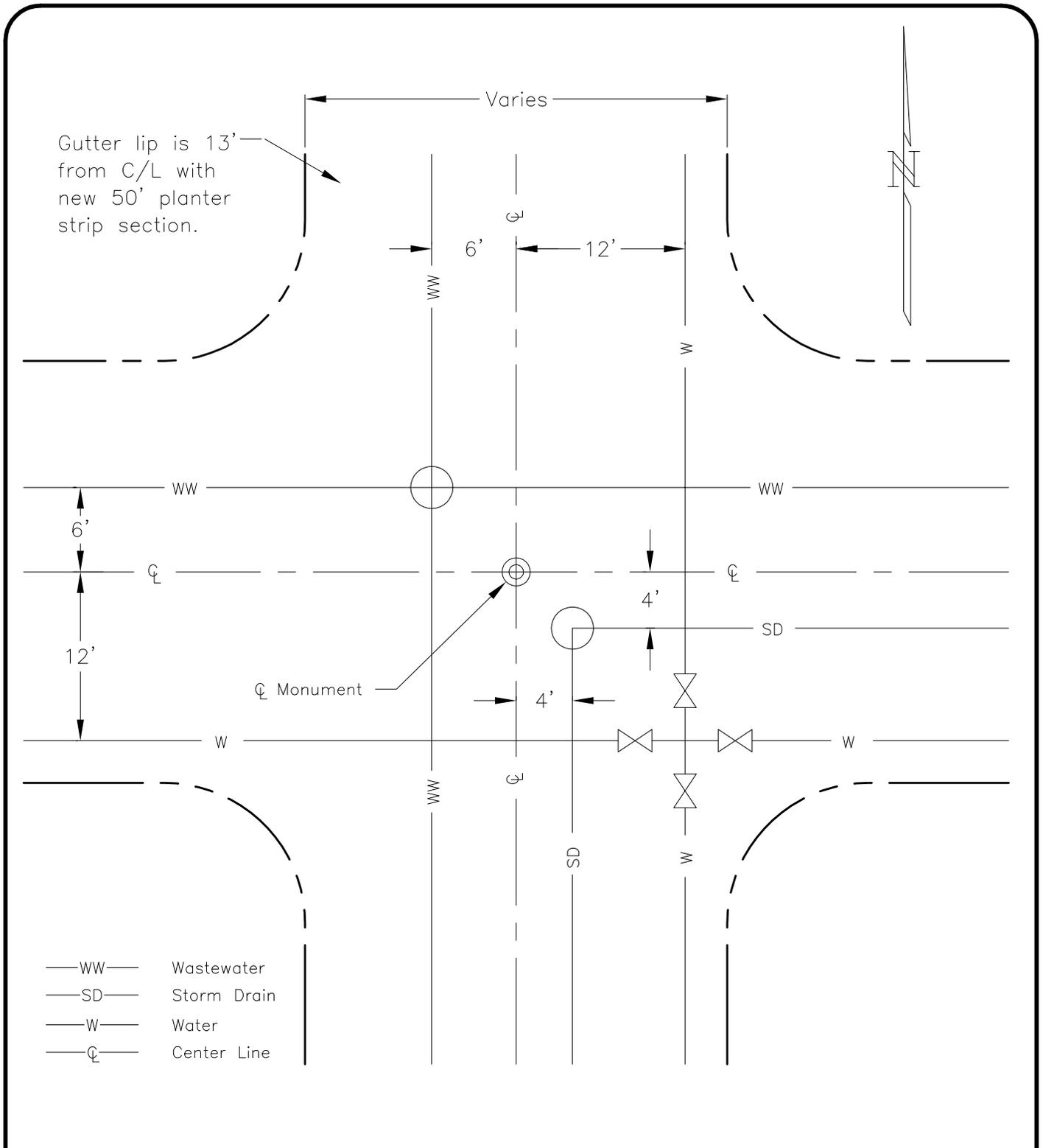
Dr. KT	No. 1	Date 9/03	Revision ADDED PARKWAY LAYOUT	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN 507
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	
Date 12/00					9/25/02 Date	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Standard Utility Locations In Streets



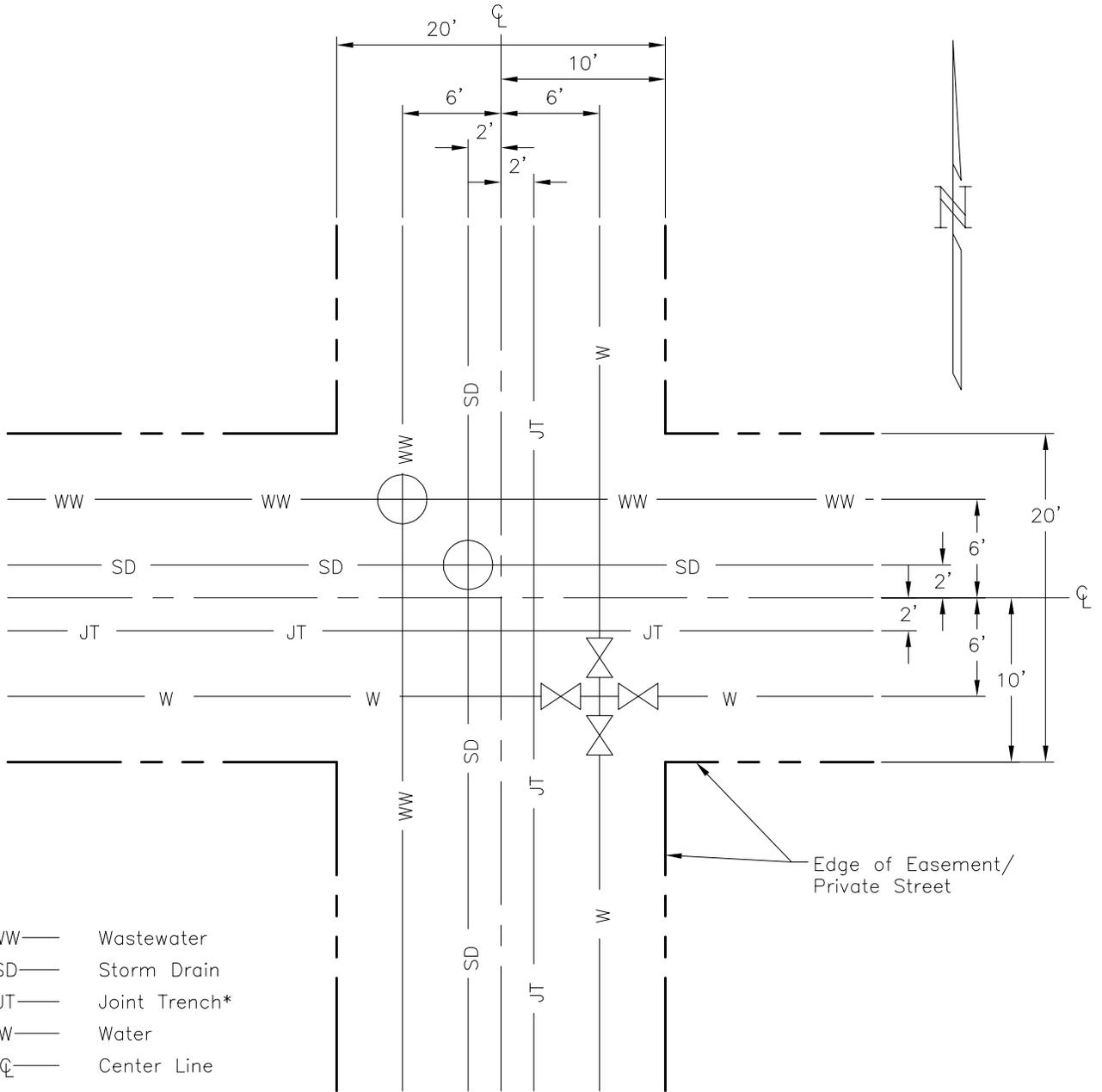
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT					<i>F. Wally Sangelin</i> F. Wally Sangelin City Engineer R.C.E. 39895	12/28/00 Date 601
Ch.	WS					
Date	12/00					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Standard Utility Locations In Easements/ Private Streets



* See Std Plan 507 for Details

Notes:

Private utilities to be located outside of limits shown unless otherwise approved by the Public Works Department.

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00 Date	STD PLAN 602
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Title Block For Private Engineers



City of Lodi Title Block

See Detail On Sheet 2 of 2

Professional Engineers Stamp

Consultant or Firm Logo
Additional space may be
used as needed to the left
of the engineers space.
(See Detail On This Sheet)

Standard City of Lodi Drawing Sheet 22"x34" or 24"x36"

4"

1-1/2"

Prepared in the office of:

Designed under the supervision of:

_____ RCE _____

Sheet 1 of 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	
		1	9/03	NEW TITLE BLOCK		<i>F. Wally Sangelin</i>	2/12/04
Ch.	WS	2	2/04	ADDED SHEET 2			
Date	12/00					F. Wally Sangelin City Engineer R.C.E. 39895	Date

STD PLAN

604



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Title Block For Private Engineers

PRINT DATE	
PLAN SET	1 OF 5
SHEET NO.	C1
DRAWING NO.	004D001-01

- Left blank for city use only
- According to number of sheets in set.
- Optional sheet numbering for engineering firm, may contain numbers and/or letters
- Must use city provided number and maintain ascending numerical sequence (ie. 01,02,03)

Notes:

- All work for the City of Lodi shall use this standard.
- All sheets within a set shall be the same size.
- City of Lodi shall provide original drawing numbers, And all sets shall be numbered according to the number of sheets in the set.
- City of Lodi will provide title blocks in AutoCAD format upon request.
- Plans shall also conform to the City of Lodi Public Improvement Design Standards section 5 & appendix A.
- If plans are to be reduced to a half scale set, 22" x 34" sheets size must be used.

Sheet 2 of 2

Dr. GWC	No. 1	Date 2/04	Revision ADDITION OF SHEET 2	Appr.	Approved By: <i>F. Wally Sangelin</i>	2/12/04	STD PLAN
Ch. WS					F. Wally Sangelin City Engineer R.C.E. 39895	Date	604
Date 2/04							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Map Statements

(PARCEL MAPS)
ENGINEER'S/SURVEYOR'S STATEMENT

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and Local ordinance at the request of _____ in _____. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any. All monuments are of the character and occupy the positions indicated and are sufficient to enable the survey to be retraced.

Dated this _____ day of _____ 20__.

 (Engineer) (Surveyor) (License No.)

(Registration) (License) expiration date: _____

(PARCEL MAPS)
PUBLIC WORKS DEPARTMENT'S STATEMENT

This map conforms with the requirements of the Subdivision Map Act and local ordinance. (Pursuant to the authority of Ordinance No. 1302 of the City of Lodi, I accept on behalf of the public for public use the offer of dedication of [all Public Utility easements] [sight-obstruction easement] [landscape easement] [all street rights-of-way] [the (width)-foot widening of right-of-way along Street name] [relinquishment to the City of Lodi all access rights of (Parcel Numbers) to and from (Street name)*(except at the approved access openings)*] all as shown on this Parcel Map.)

Dated this _____ day of _____ 20__.

 Wesley K. Fujitani, R.C.E. 30418
 Senior Civil Engineer
 Registration expiration date: 3-31-__
 [Ex Officio City Clerk of the City of Lodi]

(PARCEL MAP)
OWNER'S STATEMENT

We, the undersigned, hereby state that we are all the parties having record title interest in the land subdivided and shown on this Parcel Map and we hereby consent to the preparation and filing of this Parcel Map in the office of the County Recorder of San Joaquin County, California.

We also offer for dedication to the public for public use [all Public Utility easements] [all street rights-of-way] [the (width)-foot widening of right-of-way along (Street Name)] [to the City of Lodi lot (No.)] [relinquish to the City of Lodi all access rights of (Parcel Numbers) to and from (Street Name)] *(except at the approved access openings)*] all as shown on this Parcel Map.

Dated this _____ day of _____ 20__.

 (Print Name/Title)

 (Print Name/Title)

Use only if applicable

Dr.	KT	No.	Date	Revision	Appr.	Approved By:
		1	9/03	FULL STATEMENT REVIEW		 F. Wally Sandelin City Engineer R.C.E. 39895
Ch.	WS	2	2/04	REVISED OWNER'S STATEMENT		
Date	7/08	3	7/08	REVISED DIRECTOR'S STATEMENT		
						2/12/04 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Map Statements

(FINAL MAP, PARCEL MAP, RECORD OF SURVEY) RECORDER'S STATEMENT

Filed this _____ day of _____, 20___, at _____ M. in (Book, Volume) _____ of (Maps & Plats, Parcel Map, Record of Survey) at page _____, at the request of _____.

Fee: \$ _____

Assessor/Recorder/County Clerk

By: _____
Assistant/Deputy Recorder

ACKNOWLEDGMENT

State of California
County of _____

On _____, before me, _____,
(Insert name and title of the officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged that he/she/they executed the same in his/her,their
authorized capacity(ies), and that by his/her,their signature(s) on the instrument the person(s), or the
entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PURJURY under the laws of the State of California that the foregoing paragraph
is true and correct.

WITNESS my hand and official seal

Signature _____ (Seal)

(FINAL MAP) OWNER'S STATEMENT

We, the undersigned, hereby state that we are all the parties having record title interest in the lands
subdivided and shown on this Final Map of "Tract No. _____, Subdivisions of San Joaquin County,
(Name of Subdivision)", City of Lodi, California, and we hereby consent to the preparation and filing of this
Final Map in the office of the County Recorder of San Joaquin County, California.

We also offer for dedication to the public for public use [all Public Utility easements] [sight obstruction
easement] [landscape easement] [all street rights-of-way] [the (width)-foot widening of right-of-way
along (Street Name)] [to the City of Lodi lot (No.)] [relinquish to the City of Lodi all access rights of (Lot
Numbers) to and from (Street Name) *(except at the approved access openings)*] all as shown on this
Final Map.

Dated this _____ day of _____ 20___.

(Print Name/Title)

(Print Name/Title)

Use only if applicable

Sheet 2 of 5

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	FULL STATEMENT REVIEW		<i>F. Wally Santolin</i>	9/20/05 Date
Ch.	WS	2	9/05	GENERAL REVISIONS			
Date	7/08	3	7/08	ACKNOWLEDGEMENT REVISIONS			
							605



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Map Statements

(FINAL MAP)
[ENGINEER'S] [SURVEYOR'S] STATEMENT

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of (name of person authorizing map) on (date). I hereby state that this final map substantially conforms to the conditionally approved tentative map. I further state that all the monuments shown hereon will be of the character and occupy the positions indicated before said subdivision improvements are accepted by the City of Lodi, and that said monuments will be sufficient to enable this survey to be retraced.

Dated this _____ day of _____ 20__

 [Engineer] [Surveyor] (License No.)

[Registration] [License] expiration date: _____

(FINAL MAPS)
PUBLIC WORKS DEPARTMENT'S STATEMENT

I, Wesley K. Fujitani, hereby state that I am a Senior Civil Engineer for the City of Lodi, California and that I have examined this Final Map of "Tract No. _____, Subdivisions of San Joaquin County, (Name of Subdivision)", City of Lodi, California and that the subdivision shown hereon is substantially the same as it appeared on the tentative map, and any approved alternations thereof. I further state that this Final Map complies with all the provisions of Title 16 of the Lodi Municipal Code, and any amendments thereto, applicable at the time of approval of the tentative map.

Dated this _____ day of _____ 20__

 Wesley K. Fujitani, R.C.E. 30418
 Senior Civil Engineer
 Registration expiration date: _____

(FINAL MAPS)
CITY CLERK'S STATEMENT

This is to state that at its regularly held meeting on the _____ day of _____, 20__, the City Council of the City of Lodi, California approved this Final Map of "Tract No. _____, Subdivisions of San Joaquin County, (Name of Subdivision)", City of Lodi, California, and accepted on behalf of the public for public use the offer of dedication of [all Public Utility Easements] [sight obstruction easement] [landscape easement] [accepted on behalf of the City the relinquishment to the City of Lodi all access rights of (Lot Numbers) to and from (Street Name) * (except at the approved access openings)*] all as shown on this Final Map and accepted the offer of dedication of [all street rights-of-way] [the (width)-foot widening of right-of-way along Street name][Lot (No.)] to the City of Lodi subject to satisfactory completion of improvements thereon of said street rights-of-way [and lot (No.)] in accordance with Title 16 of the Lodi Municipal Code, and any amendments thereto, applicable at the time of approval of the tentative map.

Dated this _____ day of _____ 20__

 Randy Johl (City Clerk)
 City Clerk and Clerk of the City Council

Dr. KT	No.	Date	Revision	Appr.	Approved By:  F. Wally Santolin City Engineer R.C.E. 39895	2/12/04 Date	STD PLAN 605
Ch. WS	1	9/03	FULL STATEMENT REVIEW				
Date 7/08	2	2/04	REVISED FINAL MAP STATEMENT				
	3	7/08	REVISED DIRECTOR'S STATEMENT				



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Map Statements

* Notes (Use where applicable)

1. Refer to tentative map application No. _____
2. Requirements of the Lodi Municipal Code for the dedication of rights-of-way, easements, abandonment of underground tanks and wells, payment of fees and installation of off-site street improvements and utilities have not been met at this time and must be met prior to development or issuance of a building permit or when requested by the City (on Parcels _____).
3. The P.U.E. dedication to the City of Lodi gives the City, owners of public utilities, and owners of cable TV franchises the right to access, construct, maintain, inspect, repair, replace, remove, and operate their facilities in the P.U.E.'S. No buildings or structures shall be constructed nor shall anything be planted within the easement which would interfere with the use or operation of public utilities in the easement.
4. The sight obstruction easement grants the City of Lodi the right to maintain, repair, replace or remove obstructions, both publicly and privately owned, together with the right of access necessary for the maintaining, repairing, replacing or removing said obstructions, in, over, under and across said easement. No buildings or structures shall be constructed and no shrubbery, plantings, mounds or other obstructions over 30 inches high shall be placed within said easement which would interfere with the line of sight at the adjacent intersection. Any poles or trees shall be spaced far enough apart to provide adequate sight and tree limbs shall be at least 7 feet above the ground.
5. Lot _____ except areas covered by buildings or structures shown on the approved building permit plans and subsequent revisions thereto is hereby offered as a public utility easement. "Subsequent revisions" to the plans shall be approved by the affected utilities and any necessary utility relocations will be made at the expense of the developer/owner.
6. (For Overhead Public Utility Easements)
Buildings and structures in conformance with current zoning and building ordinances are permitted in the (north/south/west/east) feet of the (width)-foot overhead public utility to a maximum height of 23 feet.

Sheet 4 of 5

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	FULL STATEMENT REVIEW		<i>F. Wally Sandelin</i> 2/12/04	605
Ch.	WS	2	2/04	ADDED NOTE #6			
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date



CITY OF LODI
PUBLIC WORKS DEPARTMENT

Map Statements

(FINAL MAPS)

CITY CLERK'S CERTIFICATION OF ABANDONMENT OF PUBLIC (STREET/ALLEY, UTILITY) EASEMENTS

This is to certify that at its regularly held meeting on the _____ day of _____, 20___, the City Council of the City of Lodi, California, by its approval of this final map of "Tract No. _____, Subdivisions of San Joaquin County, (Subdivision Name), did abandon each and every (Street Right-of-Way/Easement, Public Utility Easement) identified in the (Parcel Map, Final Map, Easement, Deed), filed for record _____, 20___, (Book/Volume Number, Page Number, Instrument Number), San Joaquin County Records.

Dated this _____ day of _____ 20___.

(City Clerk)

City Clerk and Clerk of the City Council
of the City of Lodi, California

(FINAL MAP)

***CERTIFICATE OF DEDICATION**

(Do not combine with Owner's Statement)

The following real property is dedicated by (name and address of subdivider dedicating the property), for purpose of (name public improvement or construction of public facility):

(Legal Description)

The City of Lodi shall reconvey the property to the subdivider if the City of Lodi makes a determination pursuant to Government Code Section 66477.5 that the same public purpose for which the property was dedicated does not exist, or the property or any portion thereof, is not needed for public utilities.

*Applies only to dedication in fee (See Section 66477.5). Use only if applicable.

PUBLIC WORKS DIRECTOR'S CERTIFICATION

Abandonment only

Abandonment of (Street Right-of-Way/Easement/Public Utility Easement)

This map conforms with the requirements of the Subdivision Map Act and local ordinance. I certify that a (street/alley right-of-way easement public utility easement) accepted by record information as filed on _____ 20___, [(Instrument No. _____, Map(Book/Volume Number, Page Number)] Official Records San Joaquin County, is abandoned by the recordation of this parcel map.

Dated this _____ day of _____ 20___.

Richard C. Prima, Jr., R.C.E. 28183
Public Works Director Ex-Officio City Clerk
of the City of Lodi

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	FULL STATEMENT REVIEW		<i>F. Wally Sandelin</i> 2/12/04	605
Ch.	WS	2	2/04	REMOVED RECORD OF SURVEY			
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Rainfall Intensity

Tc = Time of Concentration in minutes (See Design Stds §3.200)
 I = Rainfall Intensity in inches per hour, 2±yr storm
 $I = 5.51 * (Tc)^{-0.63}$

Tc	I	Tc	I	Tc	I	Tc	I
10	1.29	40	0.54	90	0.32	240	0.17
11	1.22	41	0.53	95	0.31	245	0.17
12	1.15	42	0.52	100	0.30	250	0.17
13	1.09	43	0.52	105	0.29	255	0.17
14	1.04	44	0.51	110	0.29	260	0.17
15	1.00	45	0.50	115	0.28	265	0.16
16	0.96	46	0.49	120	0.27	270	0.16
17	0.92	47	0.49	125	0.26	275	0.16
18	0.89	48	0.48	130	0.26	280	0.16
19	0.86	49	0.47	135	0.25	285	0.16
20	0.83	50	0.47	140	0.24	290	0.15
21	0.81	51	0.46	145	0.24	295	0.15
22	0.79	52	0.46	150	0.23	300	0.15
23	0.76	53	0.45	155	0.23	305	0.15
24	0.74	54	0.45	160	0.23	310	0.15
25	0.73	55	0.44	165	0.22	315	0.15
26	0.71	56	0.44	170	0.22	320	0.15
27	0.69	57	0.43	175	0.21	325	0.14
28	0.68	58	0.43	180	0.21	330	0.14
29	0.66	59	0.42	185	0.21	335	0.14
30	0.65	60	0.42	190	0.20	340	0.14
31	0.63	61	0.41	195	0.20	345	0.14
32	0.62	62	0.41	200	0.20	350	0.14
33	0.61	63	0.41	205	0.19	355	0.14
34	0.60	64	0.40	210	0.19	360	0.14
35	0.59	65	0.40	215	0.19	365	0.13
36	0.58	70	0.38	220	0.18	370	0.13
37	0.57	75	0.36	225	0.18	375	0.13
38	0.56	80	0.35	230	0.18	380	0.13
39	0.55	85	0.34	235	0.18	385	0.13

Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00 Date 606
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	
Date						
12/00						



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Gutter Hydraulic Capacities

Assumptions:

Street Cross Slope = 2½%
 Manning's "n" = .015
 Pavement hike-up at toe of curb = 3/8"

DRIVEWAY-TYPE CURB & GUTTER Street Flooding

Depth (ft)	Area (SF)	from top of curb (ft.)	Q/S ^{1/2}
0.20	0.2	2.1	5.1
0.21	0.3	2.6	5.2
0.22	0.3	3.0	5.6
0.23	0.3	3.5	6.1
0.24	0.3	3.9	6.8
0.25	0.4	4.4	7.7
0.26	0.4	4.8	8.6
0.27	0.5	5.3	9.8
0.28	0.5	5.7	11.1
0.29	0.6	6.2	12.5
0.30	0.7	6.6	14.2
0.31	0.7	7.1	15.9
0.32	0.8	7.5	17.9
0.33	0.9	8.0	20.1
0.34	1.0	8.4	22.4
0.35	1.0	8.9	25.0
0.36	1.1	9.3	27.8
0.37	1.2	9.8	31.0
0.38	1.3	10.2	34.2
0.39	1.4	10.7	37.5
0.40	1.6	11.1	41.2
0.41	1.7	11.6	45.0
0.42	1.8	12.0	49.3

FLOW EXCEEDS TOP OF CURB

Q—Flow in cfs
 S—Slope in curb and gutter

SQUARE-TYPE CURB & GUTTER Street Flooding

Depth (ft)	Area (SF)	from top of curb (ft.)	Q/S ^{1/2}
0.20	0.2	3.3	3.6
0.21	0.3	3.7	4.2
0.22	0.3	4.1	5.0
0.23	0.3	4.5	5.8
0.24	0.4	4.9	6.8
0.25	0.4	5.3	8.0
0.26	0.5	5.7	9.3
0.27	0.6	6.1	10.7
0.28	0.6	6.5	12.2
0.29	0.7	6.9	14.0
0.30	0.8	7.3	15.9
0.31	0.8	7.7	17.9
0.32	0.9	8.1	20.2
0.33	1.0	8.5	22.7
0.34	1.1	8.9	25.3
0.35	1.2	9.3	28.1
0.36	1.3	9.7	31.1
0.37	1.4	10.1	34.4
0.38	1.5	10.5	37.8
0.39	1.6	10.9	41.5
0.40	1.7	11.3	45.4
0.41	1.8	11.7	49.6
0.42	1.9	12.1	54.0
0.43	2.0	12.5	58.6
0.44	2.2	12.9	63.5
0.45	2.3	13.3	68.6
0.46	2.4	13.7	73.9
0.47	2.6	14.1	79.6
0.48	2.7	14.5	85.4
0.49	2.9	14.9	91.8
0.50	3.0	15.3	98.2

FLOW EXCEEDS TOP OF CURB

Dr. KT	No. 1	Date 2/04	Revision REVISED FORMULA	Appr.	Approved By: <i>F. Wally Sandelin</i>	2/12/04	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	608
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Sanitary Sewer Leakage Test

Project _____ First Test Date _____
 Test Section _____ Station _____ MH to _____ MH
 Contractor _____ Inspector _____

HYDROSTATIC TEST

Allowable leakage shall not exceed 0.6 gallons per hour per inch diameter per 100 feet of pipe.

TAPS: Lot # _____
 TAPS: Length # _____ = _____
 Water level at start of test _____

AIR TEST

Use largest pipe size under pressure and circle below. "Holding Time" represents minimum time for pressure loss from 3.5 psi to 2.5 psi.

Pipe Size	Factor (gph/ft)		Length LF		Allowable loss in gallons
4"	0.024	x	_____	=	_____
6"	0.036	x	_____	=	_____
8"	0.048	x	_____	=	_____
10"	0.060	x	_____	=	_____
12"	0.072	x	_____	=	_____
18"	0.108	x	_____	=	_____
24"	0.144	x	_____	=	_____
30"	0.180	x	_____	=	_____
"	.	x	_____	=	_____
48"MH	0.300	x	___ high	=	_____
Allowable loss:			one hour	=	_____gal.

Pipe Size		Holding time in minutes
4"	=	2
6"	=	3
8"	=	4
10"	=	5
12"	=	6
18"	=	9
24"	=	11
30"	=	14

Date	Time	Gallon Loss: Actual/Allowable	Air Time: Actual/Required	Pass	Fail	Inspector
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

All utilities in and compaction completed: yes ___ no ___
 Remarks:

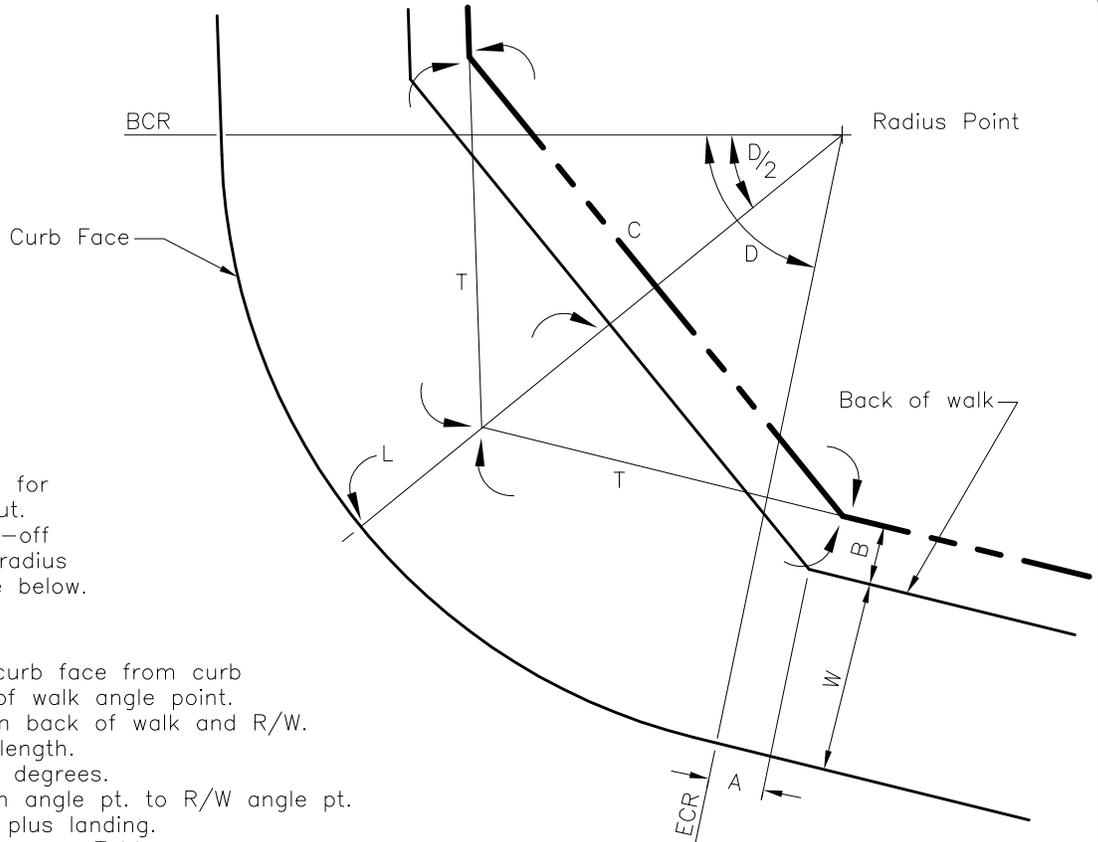
Dr. KT	No.	Date	Revision	Appr.	Approved By:	 F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date	STD PLAN			
Ch. WS	1	04/07	REVISED FACTORS		 F. Wally Sandelin City Engineer R.C.E. 39895			12/28/00 Date	610		
Date											
12/00											



CITY OF LODI

PUBLIC WORKS DEPARTMENT

R/W Corner Cut-off & Curb Return Requirements



NOTES

1. See Std. Plan 612 for curb return layout.
2. Provide corner cut-off for curb return radius required in Table below.

LEGEND

- A = Distance along curb face from curb return to back of walk angle point.
- B = Distance between back of walk and R/W.
- C = Corner cut-off length.
- D = Central angle in degrees.
- E = B.O.W. dist. from angle pt. to R/W angle pt.
- L = Length of ramp plus landing.
- R = Curb return radius per Table
- T = R/W tangent distance in ft.
- W = Distance from face of curb to back of walk in ft.

FORMULAS

$$A = \frac{R-W - [(R-L) / \cos(D/2)]}{\tan(D/2)} \text{ or } (R-W) / \tan(D/2) - (R-L) / \sin(D/2)$$

$$C = 2T \cos(D/2)$$

$$E = B \tan(D/4)$$

$$L = 10' \text{ for } R = 20' \text{ \& \ } 25'$$

$$12' \text{ for } R = 30' \text{ \& \ } 35'$$

$$T = (R-W-B) \tan(D/2) + \frac{R-W-B - [(R-L-B) / \cos(D/2)]}{\tan(D/2)}$$

CURB RETURN RADIUS TABLE

Intersection of: Face-Face	Minor Res.	Std. Res.	Minor Collector	Major Collector	Industrial (Local)	Arterial
Minor Res.	34'	20'	-	-	-	-
Std. Res.	39'	20'	20'	-	-	-
Minor Col.	44'	20'	20'	25'	-	-
Major Col.	52'	20'	20'	25'	30'	-
Ind. Local	52'	-	-	-	30'	-
Arterial	64'	25'	25'	30'	30'	35'
Other	>64'	* *	SPECIAL		DESIGN * *	

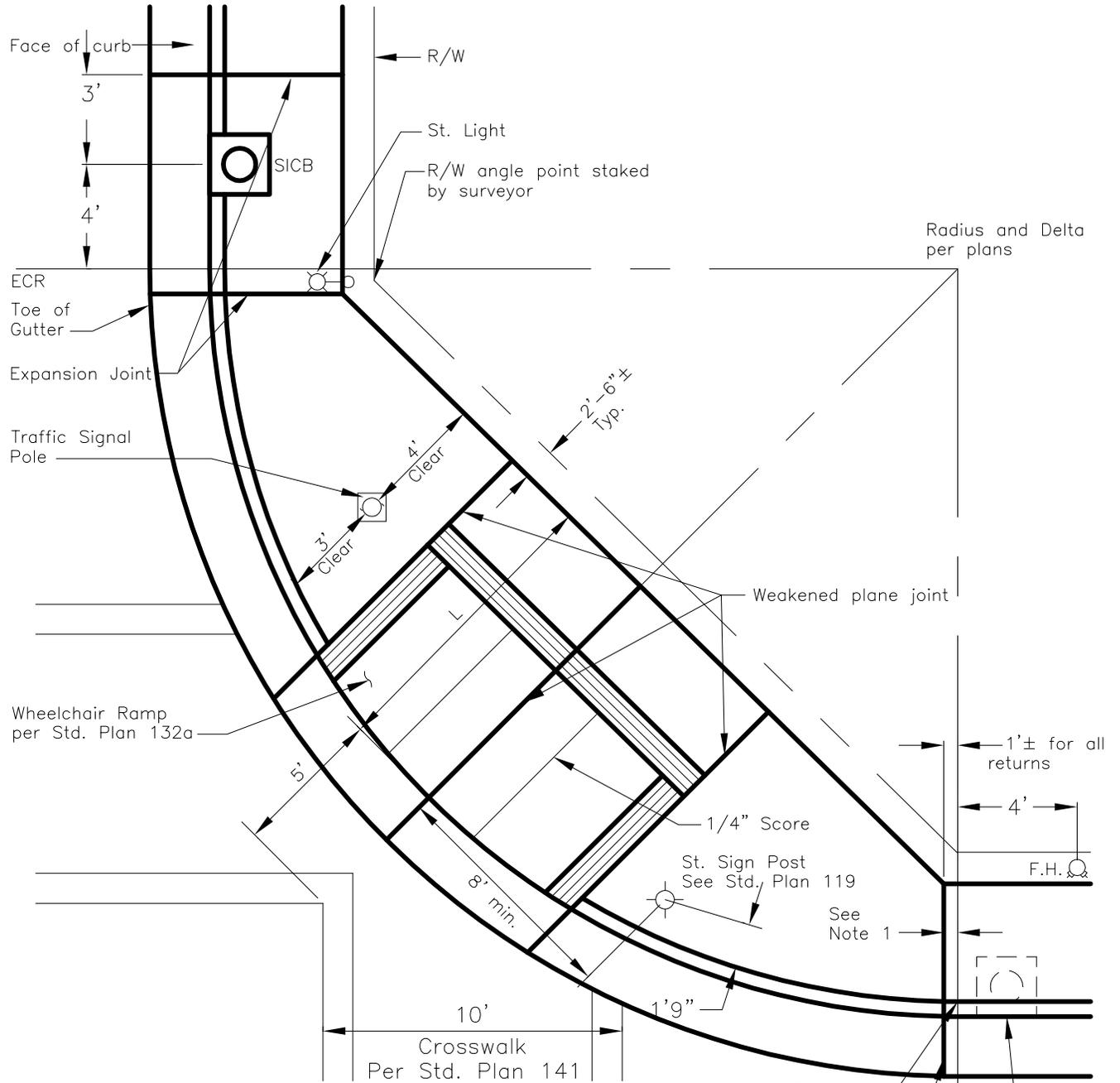
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	611
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Curb Return Layout Plan



Notes:

1. Curb return to back of walk angle point distance varies. When actual distance is less than 2', curb return shall be placed at back of walk angle point and curb return curve forced to fit.
2. BCR and ECR station per plans (nominal, see note 1)
3. L=10' for R=20' and 25'; 12' for R=30' and 35'

Expansion joint
Weakened Plane joint
BCR
Optional SICB location, joints per ECR

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	WS					<i>F. Wally Sandelin</i>	612
Date	12/00					F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

GENERAL NOTES MARKER DETAILS LEGEND

NOTES

1. MINIMUM PROJECTED AREA OF REFLECTIVE FACE = 1.00 SQUARE INCH.
2. REFLECTIVE MARKERS NEED NOT BE RECTANGULAR.

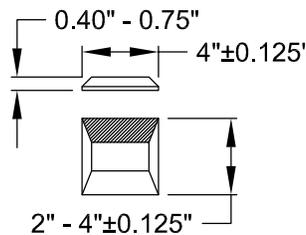
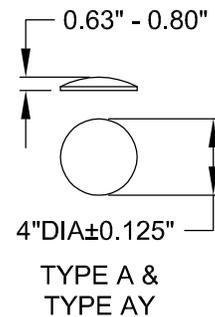
LEGEND

- TYPE A WHITE NON-REFLECTIVE
- TYPE AY YELLOW NON-REFLECTIVE
- ▤ TYPE C RED-CLEAR RETROREFLECTIVE
- ▥ TYPE D TWO-WAY YELLOW RETROREFLECTIVE
- TWO-WAY BLUE RETROREFLECTIVE
- ▧ TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- ▨ TYPE H ONE-WAY YELLOW RETROREFLECTIVE

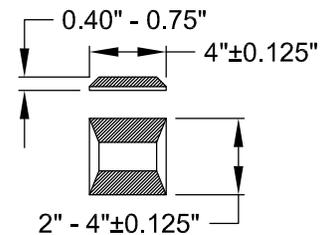
LINES

- 4" WHITE
- ▤ 4" YELLOW
- ← DIRECTION OF TRAVEL

MARKER DETAILS



TYPE G & TYPE H



TYPE C & TYPE D

Dr. JSB	No. 1	Date 2/05	Revision ADDED BLUE REFLECTOR	Appr. PJF	Approved By: <i>F. Wally Sandelin</i> F. Wally Sandelin City Engineer R.C.E. 39895
Ch. PJF					2/2/05 Date
Date 2/04					

STD PLAN

700



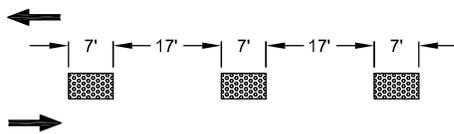
CITY OF LODI

PUBLIC WORKS DEPARTMENT

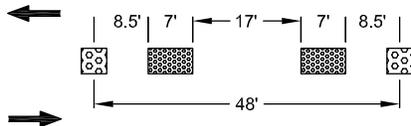
LANE STRIPING TYPICAL DETAIL FOR SPEED ZONES 40 MPH OR LESS

CENTER LINES (2 LANE HIGHWAYS)

DETAIL 1

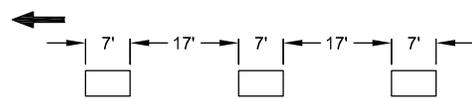


DETAIL 2

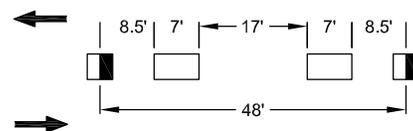


LANE LINES (MULTILANE HIGHWAYS)

DETAIL 8

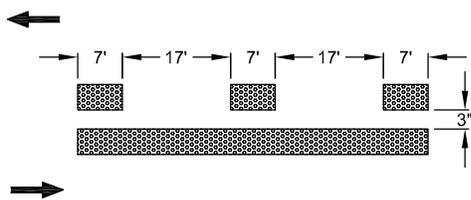


DETAIL 9

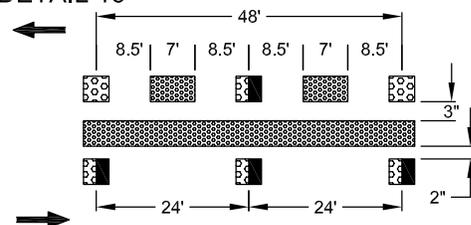


NO PASSING ZONE (ONE DIRECTION)

DETAIL 15



DETAIL 16



Dr.	No.	Date	Revision	Appr.
JSB				
Ch.	PJF			
Date				
2/04				

Approved By: *F. Wally Sandelin*
 F. Wally Sandelin
 City Engineer
 R.C.E. 39895
 2/12/04
 Date

STD PLAN
 701



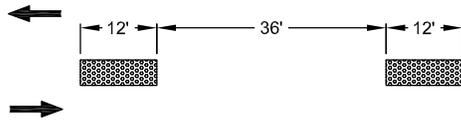
CITY OF LODI

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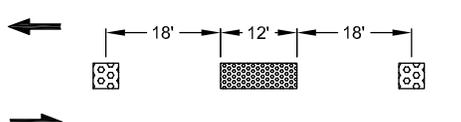
LANE STRIPING TYPICAL DETAIL FOR SPEED ZONES 45 MPH OR MORE

CENTER LINES (2 LANE HIGHWAYS)

DETAIL 5

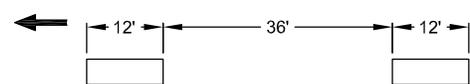


DETAIL 6

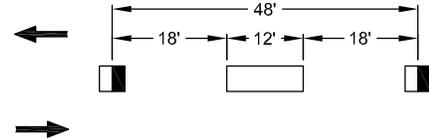


LANE LINES (MULTILANE HIGHWAYS)

DETAIL 11

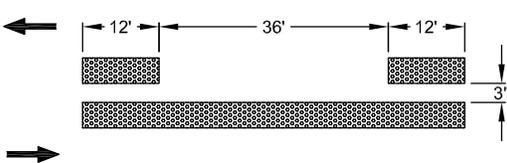


DETAIL 12

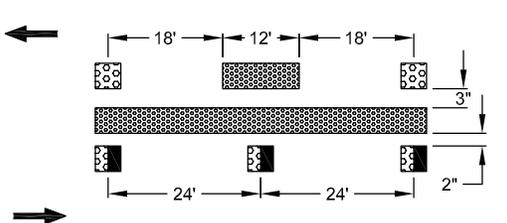


NO PASSING ZONE (ONE DIRECTION)

DETAIL 18



DETAIL 19



Dr.	No.	Date	Revision	Appr.	Approved By:
JSB					 F. Wally Sandelin City Engineer R.C.E. 39895
Ch.	PJF				
Date					

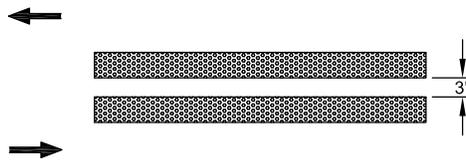
STD PLAN
702-1

2/12/04
Date



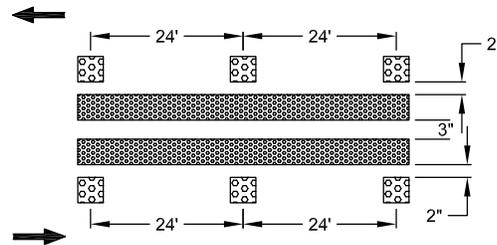
NO PASSING ZONE
(TWO DIRECTIONS)

DETAIL 21



NO PASSING ZONE
(TWO DIRECTIONS)

DETAIL 22



Dr. JSB	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandellin</i> F. Wally Sandellin City Engineer R.C.E. 39895 2/12/04 Date	STD PLAN
Ch. PJF						702-2
Date 2/04						



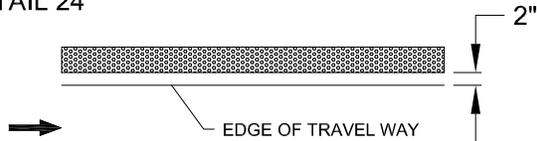
CITY OF LODI

PUBLIC WORKS DEPARTMENT

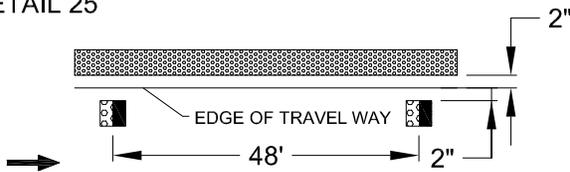
EDGE LINE AND MEDIAN LANE STRIPING TYPICAL DETAILS

LEFT EDGELINES (DIVIDED HIGHWAYS)

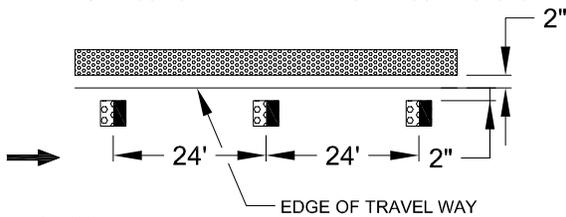
DETAIL 24



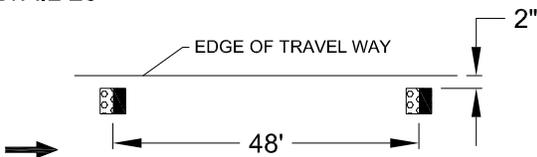
DETAIL 25



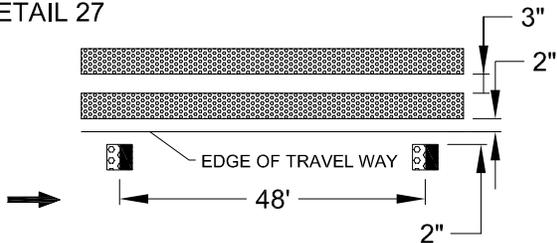
DETAIL 25A- USE ON FREEWAY RAMP AND CONNECTORS



DETAIL 26

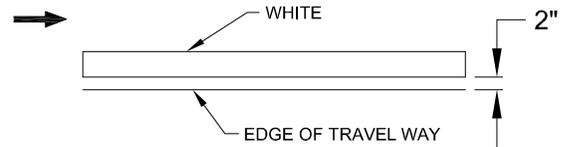


DETAIL 27



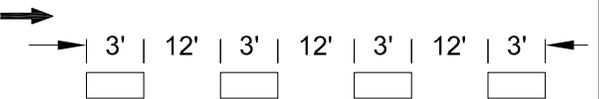
RIGHT EDGELINES

DETAIL 27B



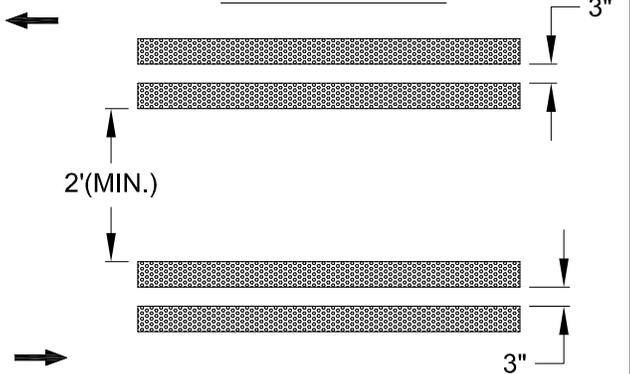
RIGHT EDGELINES (EXTENSION THROUGH INTERSECTION)

DETAIL 27C

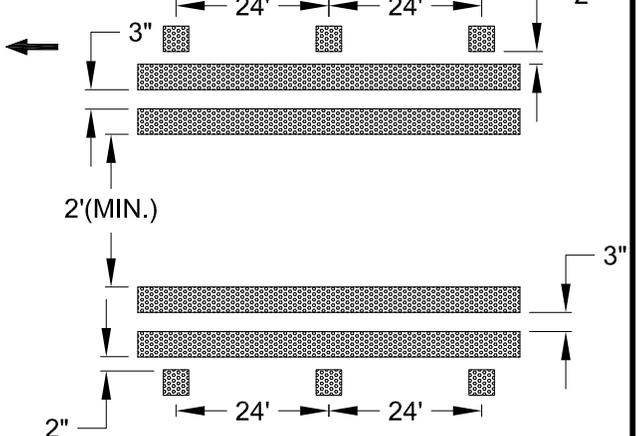


DETAIL 28

MEDIAN ISLANDS



DETAIL 29



Dr.	No.	Date	Revision	Appr.	Approved By:
JSB	1	2/05	REVISED DIMENSION		<i>F. Wally Sandellin</i>
Ch.	PJF				F. Wally Sandellin City Engineer R.C.E. 39895
Date					2/2/05 Date
2/04					

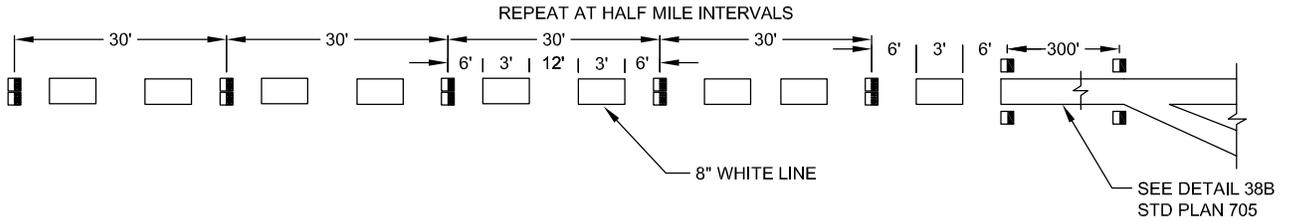
STD PLAN

703



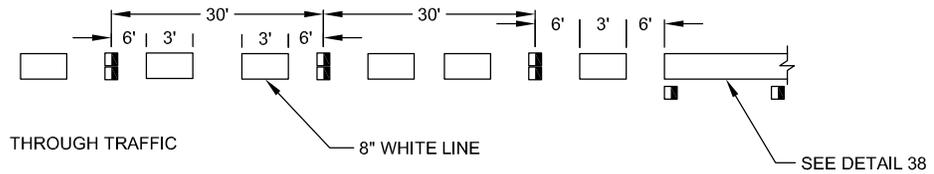
LANE DROP AT EXIT RAMP

DETAIL 37



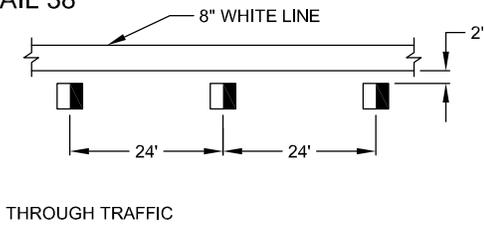
LANE DROP AT INTERSECTION

DETAIL 37B

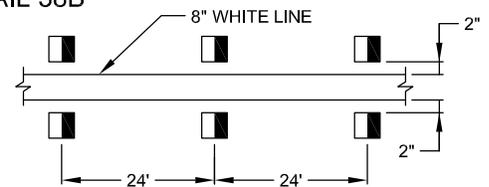


CHANNELIZING LINE

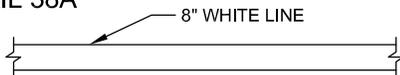
DETAIL 38



DETAIL 38B



DETAIL 38A



Dr. JSB	No. 1	Date 2/05	Revision REVISED DETAIL REFERENCE	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN 705
Ch. PJF					F. Wally Sandelin City Engineer	
Date 2/04					2/2/05 Date	
					R.C.E. 39895	



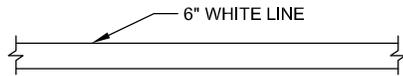
CITY OF LODI

PUBLIC WORKS DEPARTMENT

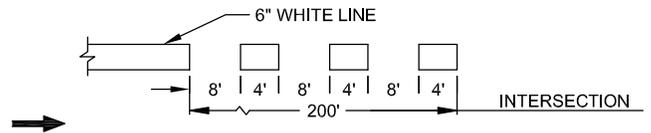
BIKE LANE LINES LANE LINE EXTENSIONS TYPICAL DETAILS

BIKE LANE LANES

DETAIL 39

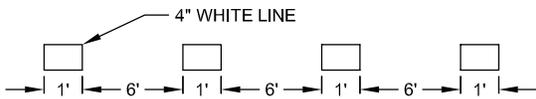


DETAIL 39A

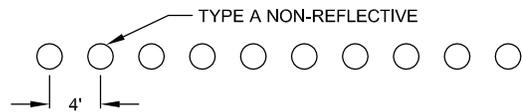


LANE LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 40



DETAIL 40



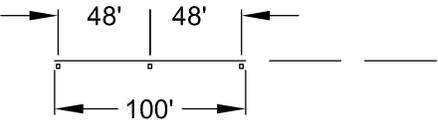
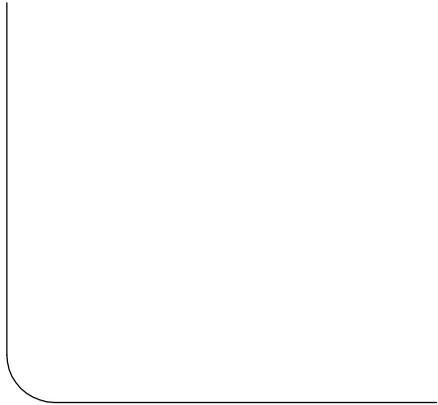
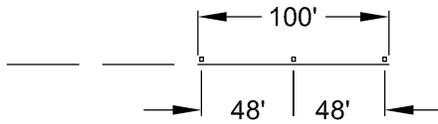
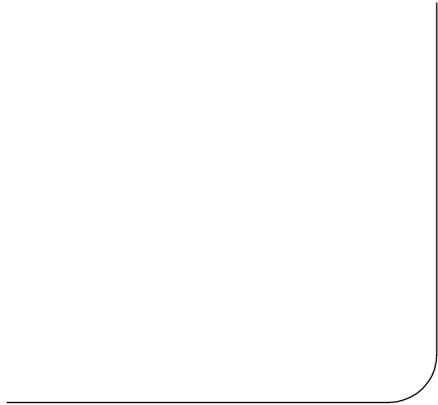
Dr. JSB	No.	Date	Revision	Appr.	Approved By: F. Wally Sandellin City Engineer R.C.E. 39895	STD PLAN 706
Ch. PJF				2/12/04		
Date 2/04				Date		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

LANE LINE STRIPING DETAIL

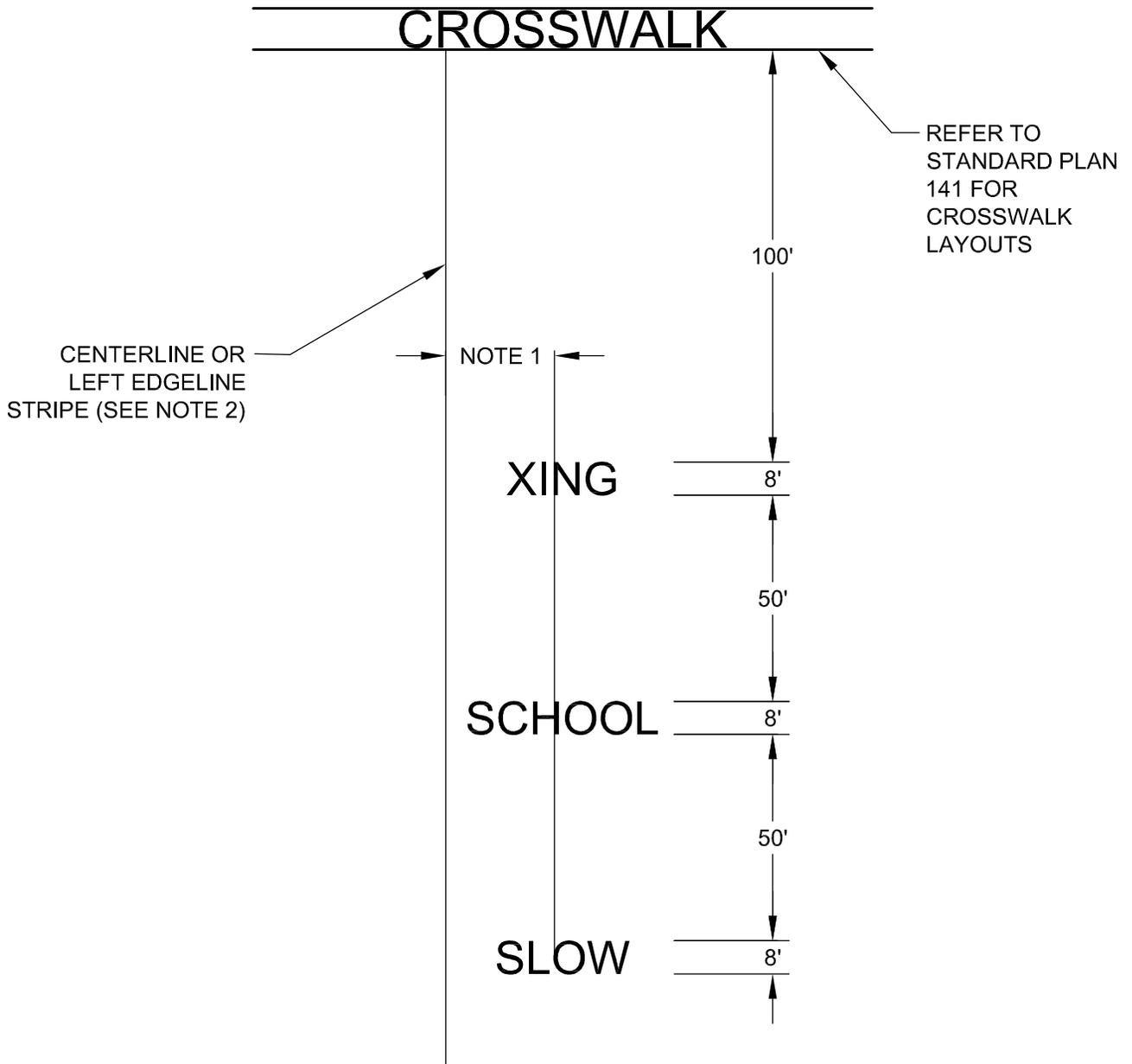


NOTES

REFER TO STANDARD PLANS FOR APPLICABLE STRIPING DETAILS

• TYPE G PAVEMENT MARKER

Dr. JSB	No. 1	Date 8/13/07	Revision ADDED TYPE G MARKER	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN 707
Ch. PJF					F. Wally Sandelin City Engineer R.C.E. 39895	
Date 2/04					8/13/07 Date	



NOTE

1. CENTER LEGEND IN TRAVEL LANE AT 6' (MAX).
2. FOR MULTIPLE LANES, CENTER THE LEGEND IN TRAVEL LANES EXCLUDING PARKING LANE. 6' (MAX)

Dr.	JSB	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandellin</i> F. Wally Sandellin City Engineer R.C.E. 39895	2/12/04 Date	STD PLAN 708
Ch.	PJF							
Date	2/04							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

STOP AHEAD PAVEMENT MARKING DETAIL

LIMIT LINE

STOP
SIGN
(R1)

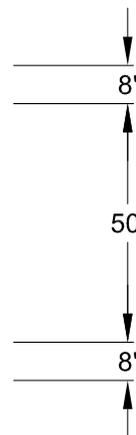
ADVANCE PLACEMENT DISTANCE*

POSTED OR 85TH PERCENTILE SPEED	STOP CONDITION
25 MPH	SEE NOTE 1
30 MPH	100 FT
35 MPH	150 FT
40 MPH	225 FT
45 MPH	300 FT
50 MPH	375 FT

SEE TABLE FOR DISTANCE

AHEAD

STOP



STOP
AHEAD
SIGN
(W17)

*REFERENCE MUTCD GUIDELINES FOR ADVANCE
PLACEMENT OF WARNING SIGN TABLE*

NOTES

1. NO SUGGESTED MINIMUM DISTANCES ARE PROVIDED FOR THESE SPEEDS, AS PLACEMENT LOCATION IS DEPENDENT ON SITE CONDITIONS AND OTHER SIGNING TO PROVIDE AN ADEQUATE WARNING FOR THE DRIVER.

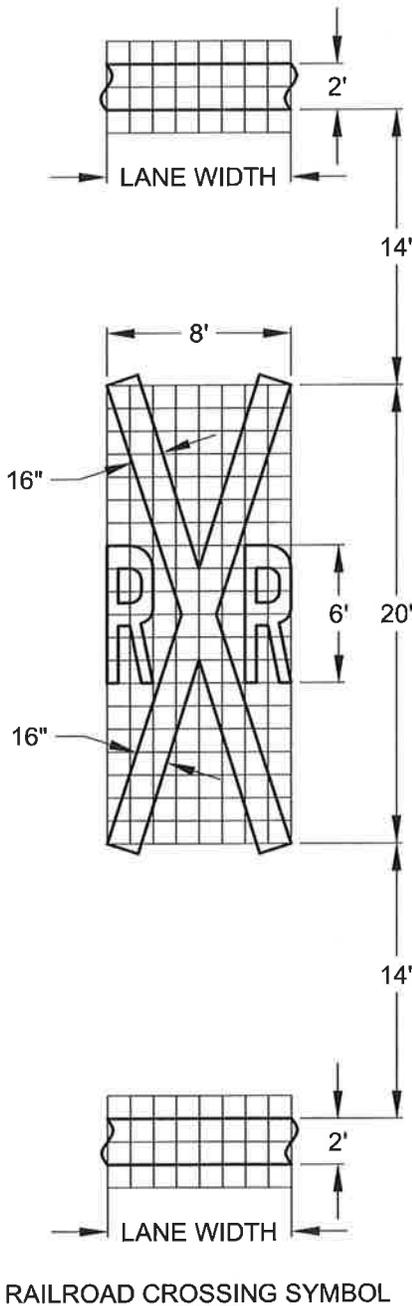
Dr. JSB	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandellin</i> F. Wally Sandellin City Engineer R.C.E. 39895	2/12/04 Date	STD PLAN 709
Ch. PJF							
Date 2/04							



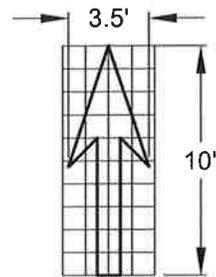
CITY OF LODI

PUBLIC WORKS DEPARTMENT

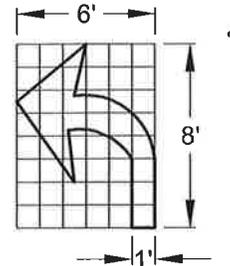
PAVEMENT MARKING DETAILS



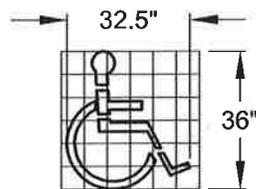
*THE 70 SQ. FT. DOES NOT INCLUDE THE 2' X LANE WIDTH TRANSVERSE LINES



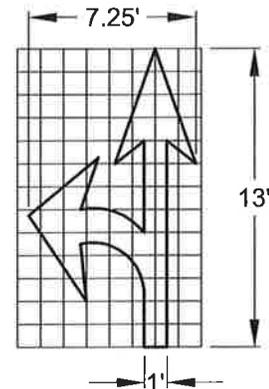
TYPE I (10) ARROW
A = 14 SQ. FT.
12 INCH GRID



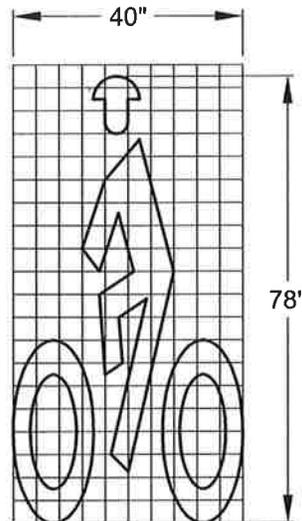
TYPE IV (L) ARROW
(FOR TYPE IV(R) ARROW USE MIRROR IMAGE)
A = 15 SQ. FT.
12 INCH GRID



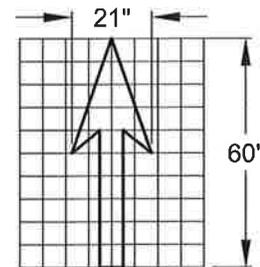
HANDICAPPED PARKING
A = 3 SQ. FT.
6 INCH GRID



TYPE VII (L) ARROW
(FOR TYPE VII(R) ARROW USE MIRROR IMAGE)
A = 27 SQ. FT.
12 INCH GRID



BIKE LANE SYMBOL
A = 7 SQ. FT.
4 INCH GRID



BIKE LANE ARROW
A = 7 SQ. FT.
6 INCH GRID

ARROWS TO BE INSTALLED 10' FROM BEGINNING OF TURN POCKET

Dr.	No.	Date	Revision	Appr.	Approved By:
JP	1	8/17	REVERSED CYCLIST DIRECTION		
Ch.	DK				8/17/17 Date
Date					

STD PLAN

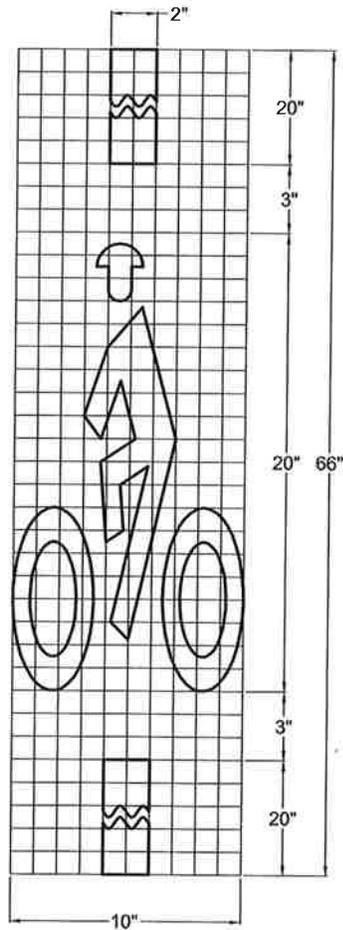
710-1



CITY OF LODI

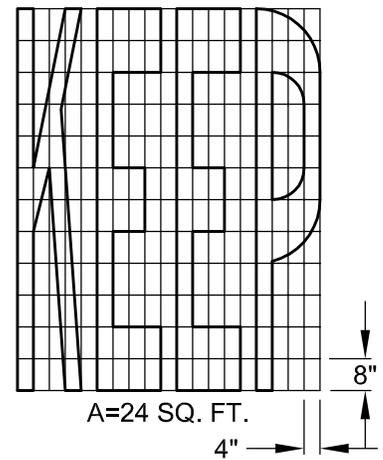
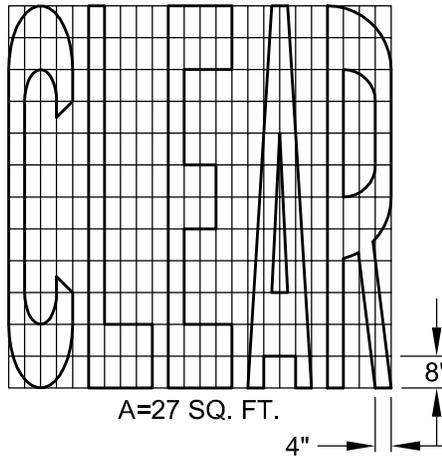
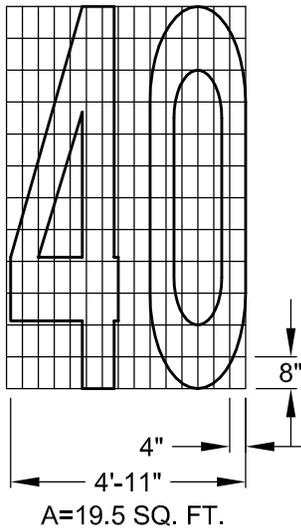
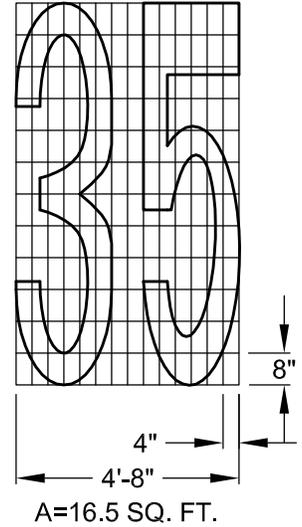
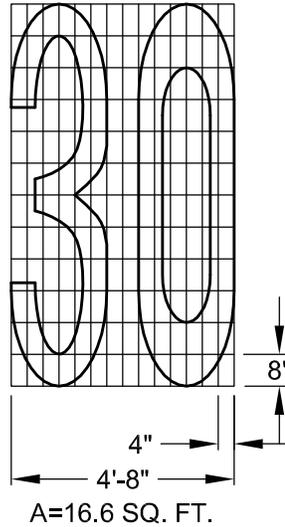
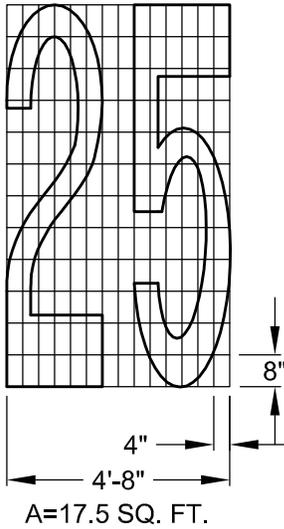
PUBLIC WORKS DEPARTMENT

PAVEMENT MARKING DETAILS



**BICYCLE LOOP
DETECTOR SYMBOL**
1 INCH GRID

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JP	1	8/17	REVERSED CYCLIST DIRECTION		<i>[Signature]</i>	
Ch.						
Date					8/17/17	
					<small>Lymen Chang City Engineer RCE No. 53149</small>	
						710-2



ALL PAVEMENT WORD HEIGHTS ARE 8' TALL UNLESS OTHERWISE NOTED.

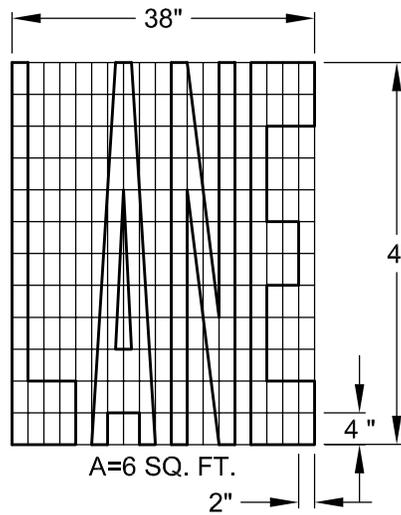
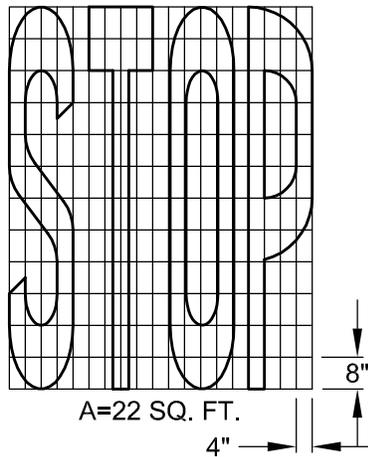
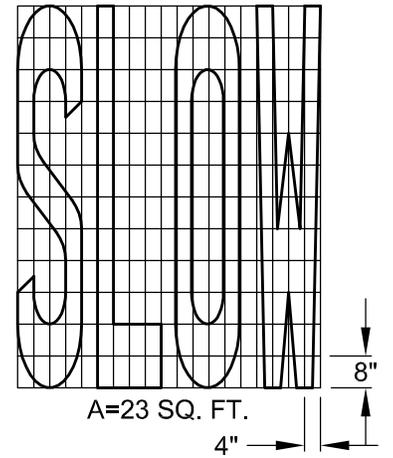
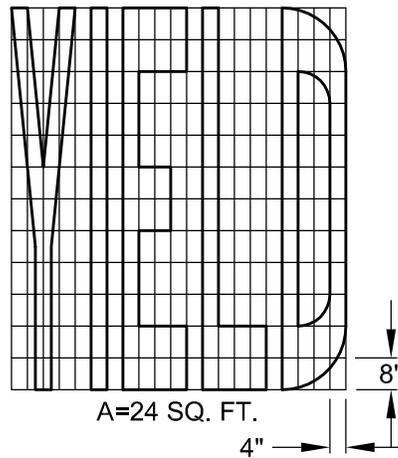
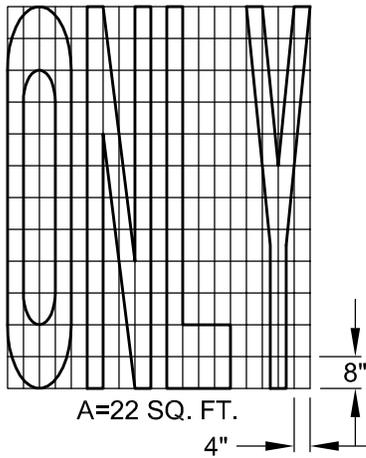
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JSB	1	8/13/07	ADDED 30 MPH LEGEND		<i>F. Wally Sandellin</i>	711-1
Ch.	PJF				F. Wally Sandellin City Engineer R.C.E. 39895	
Date					8/13/07 Date	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

PAVEMENT MARKING DETAILS



ALL PAVEMENT WORD HEIGHTS ARE 8' TALL UNLESS OTHERWISE NOTED.

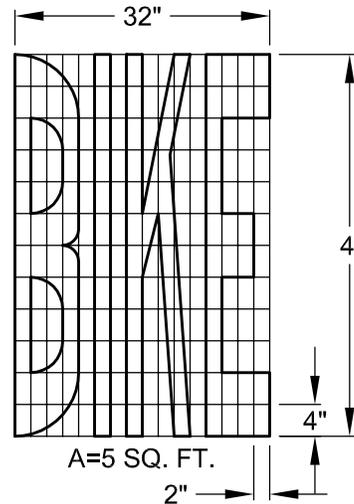
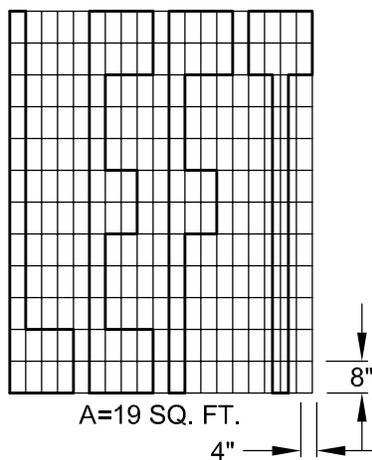
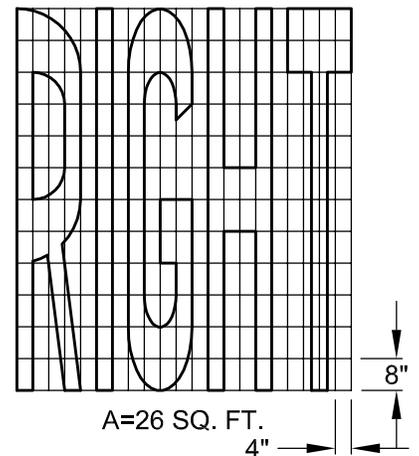
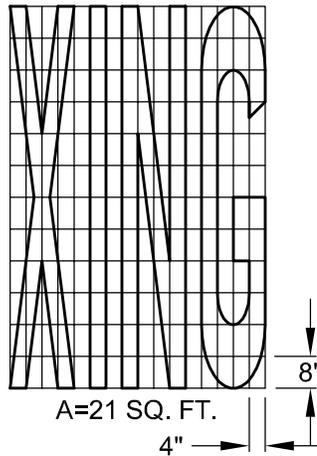
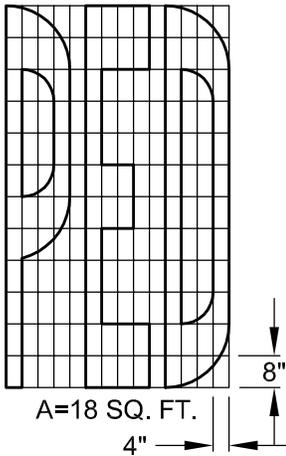
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JSB					 F. Wally Sandellin City Engineer R.C.E. 39895	711-2
Ch.						
Date						
2/04					2/12/04 Date	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

PAVEMENT MARKING DETAILS



ALL PAVEMENT WORD HEIGHTS ARE 8' TALL UNLESS OTHERWISE NOTED.

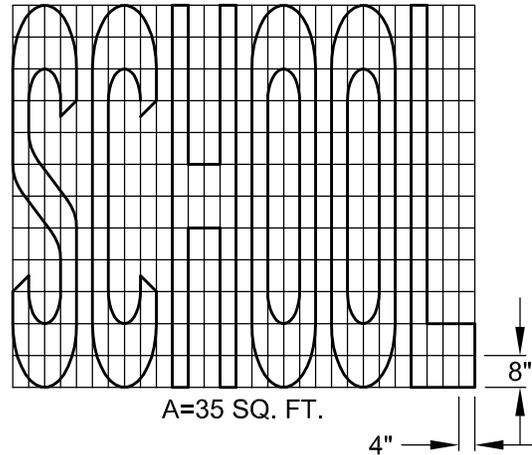
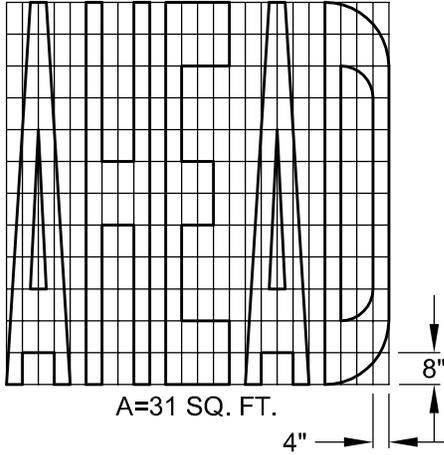
Dr.	JSB	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	PJF					 F. Wally Sandellin City Engineer R.C.E. 39895	711-3
Date	2/04				2/12/04		
					Date		



CITY OF LODI

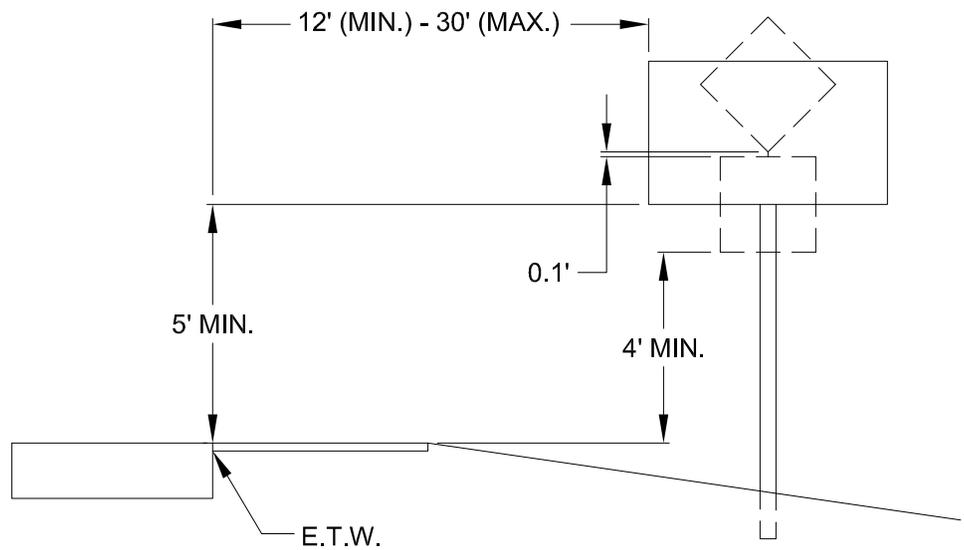
PUBLIC WORKS DEPARTMENT

PAVEMENT MARKING DETAILS



ALL PAVEMENT WORD HEIGHTS ARE 8' TALL UNLESS OTHERWISE NOTED.

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JSB					 F. Wally Sandellin City Engineer R.C.E. 39895	711-4
Ch.				2/12/04		
Date				Date		
2/04						



E.T.W.= EDGE OF TRAVEL WAY

LOCATION WITH NO CURBING/ AC BERM

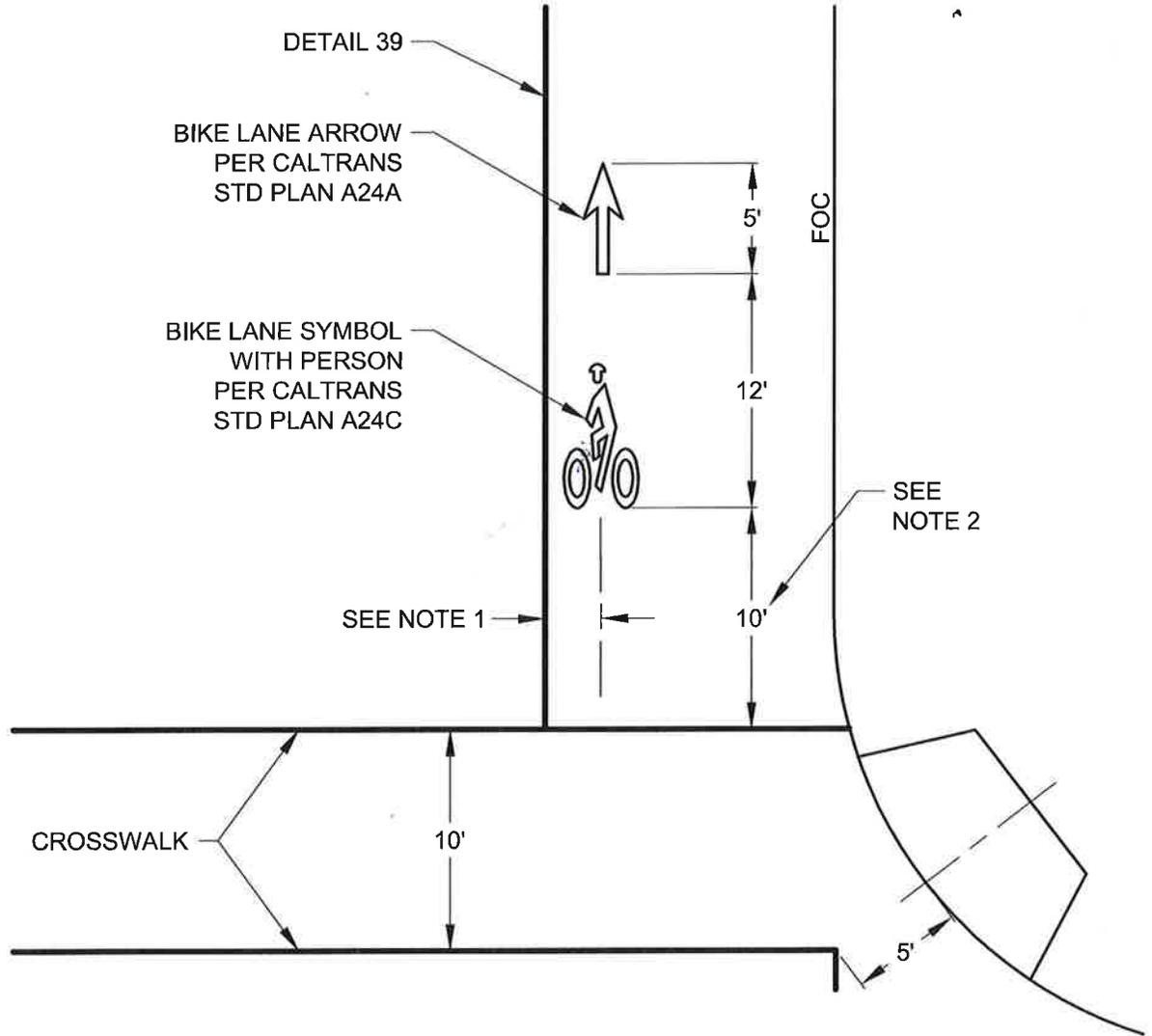
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JSB					<i>F. Wally Sandellin</i> F. Wally Sandellin City Engineer R.C.E. 39895	712
Ch.				2/11/04		
Date				Date		
2/04						



CITY OF LODI

PUBLIC WORKS DEPARTMENT

BIKE LANE PAVEMENT MARKING DETAIL



NOTES:

1. CENTER LEGEND IN BIKE LANE.
ASSUME 8' MIN PARKING LANE WIDTH IF NO PARKING LANE STRIPED.
2. AT LOCATIONS WITHOUT CROSSWALKS, USE SIMILAR DIMENSIONS AS UNMARKED CROSSWALK.

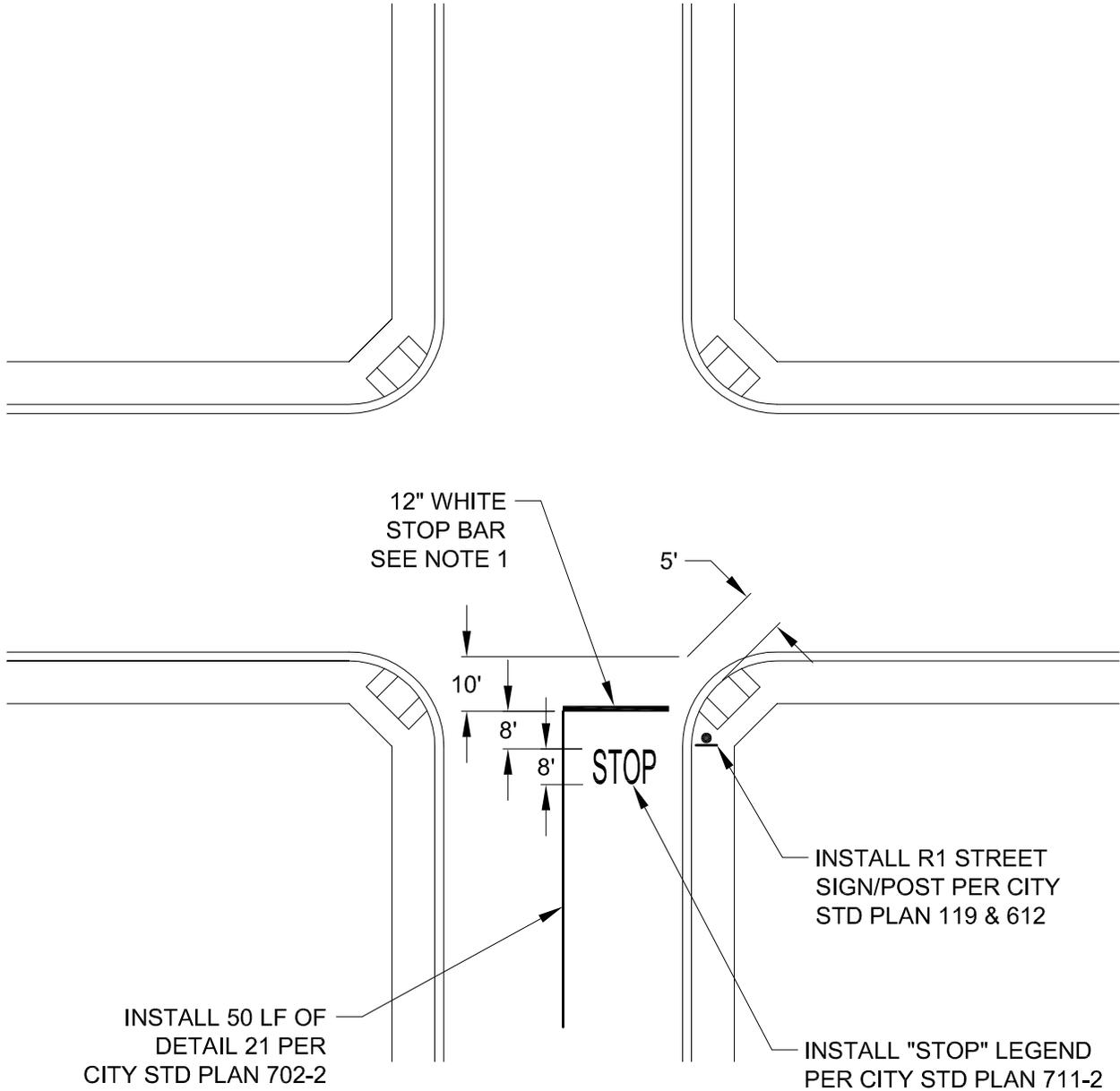
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
JP	1	4/07	ADDED NOTES			
Ch. DK	2	8/17	REMOVED "BIKE LANE"		<i>Lyman Chung</i> 8/17/17	
Date					City Engineer RCE No. 53149	
						713



CITY OF LODI

PUBLIC WORKS DEPARTMENT

STOP PAVEMENT MARKINGS AND DETAIL 21



NOTES:

1. STOP BAR MAY BE INSTALLED AT ALTERNATE LOCATION AS APPROVED BY CITY ENGINEER.

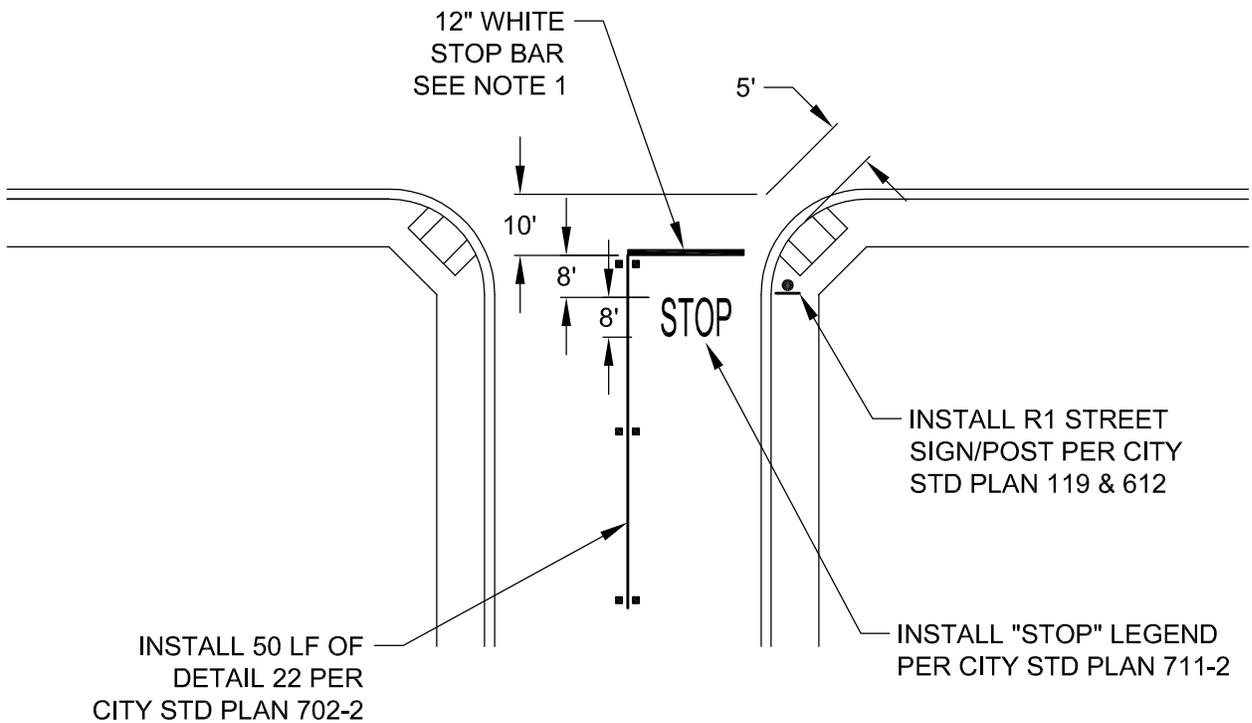
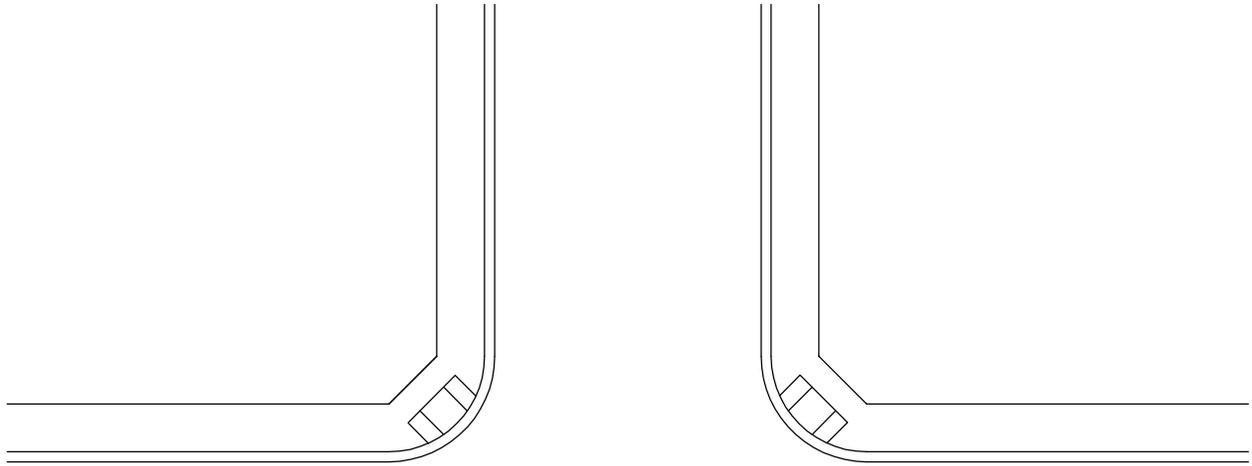
Dr.	KBG	No.	1	Date	2/05	Revision	NEW STANDARD PLAN	Appr.		Approved By:	<i>F. Wally Sandelin</i>	STD PLAN
Ch.	PJF									F. Wally Sandelin	2/2/05	714
Date	11/04									City Engineer	Date	
										R.C.E. 39895		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

STOP PAVEMENT MARKINGS AND DETAIL 22



NOTES:

1. STOP BAR MAY BE INSTALLED AT ALTERNATE LOCATION AS APPROVED BY CITY ENGINEER.

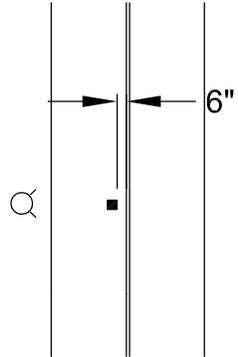
Dr.	KBG	No.	Date	Revision	Appr.	Approved By:  F. Wally Sandellin City Engineer R.C.E. 39895	2/2/05 Date	STD PLAN	
Ch.	PJF	1	2/05	NEW STANDARD PLAN				715	
Date									



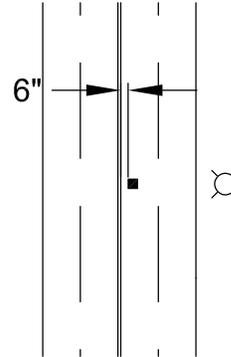
CITY OF LODI

PUBLIC WORKS DEPARTMENT

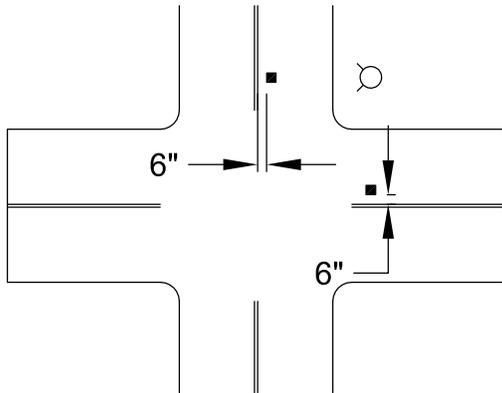
FIRE HYDRANT PAVEMENT MARKER LOCATIONS



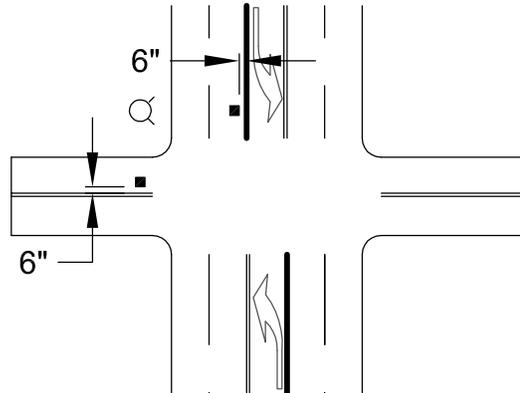
TWO LANE STREET



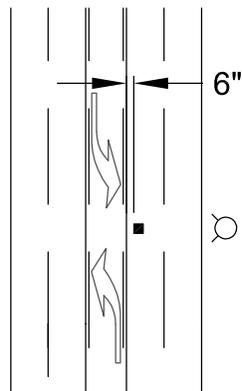
MULTI-LANE STREET



TWO LANE STREET
AT INTERSECTION



FOUR LANE STREET WITH
TURN LANE AT INTERSECTION



MULTI-LANE STREET
WITH TURN LANE

LEGEND



HYDRANT



BLUE RETROREFLECTIVE
PAVEMENT MARKER
PER STANDARD PLAN 700

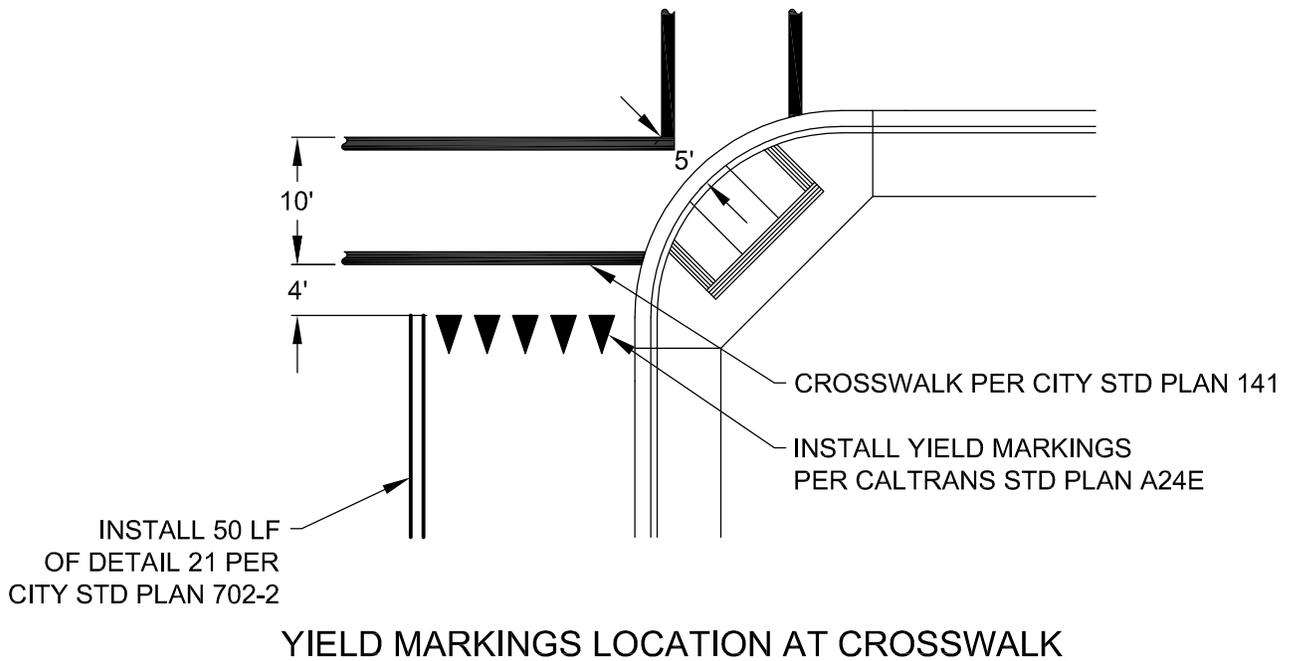
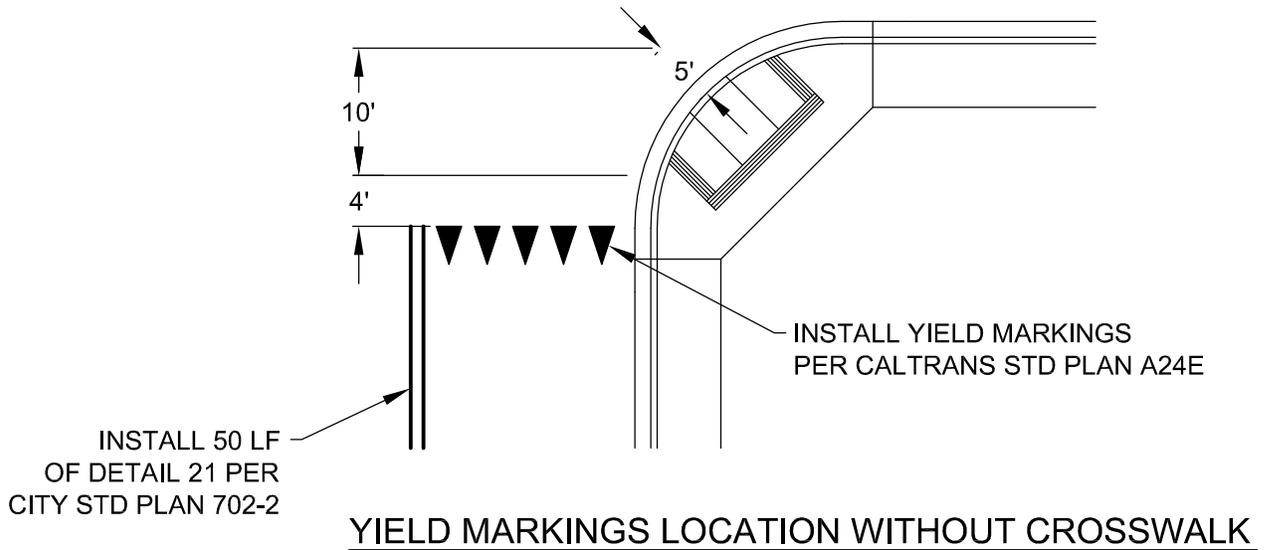
Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KBG	1	2/05	NEW STANDARD PLAN		 F. Wally Sandellin City Engineer R.C.E. 39895	716
Ch.						
Date						
11/04					2/2/05 Date	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

YIELD PAVEMENT MARKING



NOTES:

1. YIELD MARKINGS MAY BE INSTALLED AT ALTERNATE LOCATION AS APPROVED BY CITY ENGINEER.

Dr. DK	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. PJF					<i>Charlie Swimley</i>	717
Date 2/25/15					Charlie Swimley City Engineer / Deputy Public Works Director RCE No. 52842	