

January 28, 2010

Members of the MAG Specifications and Details Committee

Jesse Gonzales, City of Peoria, Chairman

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF AGENDA

Wednesday, February 3, 2010 at 1:30 p.m.  
MAG Office, Second Floor, Cholla Room (May be moved to Saguaro Room if necessary.)  
302 North First Avenue, Phoenix

A meeting of the MAG Specifications and Details Committee has been scheduled for the time and place noted above. Members of the MAG Specifications and Details Committee may attend the meeting either in person, by videoconference or by telephone conference call. If you have any questions regarding the meeting, please contact Committee Chair Jesse Gonzales at 623-773-7548 or Gordon Tyus, MAG staff at 602-254-6300.

Please park in the garage under the building, bring your ticket, parking will be validated. For those using transit, Valley Metro/RPTA will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Specifications and Details Committee does not meet the quorum requirement, no action can be taken. Your attendance at the meeting is strongly encouraged.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Gordon Tyus at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

It is requested (not required) that written comments on active cases be prepared in advance for distribution at the meeting.

AGENDA

<u>ITEM</u>	<u>COMMITTEE ACTION REQUESTED</u>
1. <u>Call to Order</u>	1. No action required.
2. <u>Approval of January 6, 2010 Meeting Minutes</u>	2. Corrections and approval of January 6, 2010 minutes.
3. <u>2009 &amp; 2010 Cases</u>	3. Review of 2009 & 2010 cases. New cases.
4. <u>General Discussion</u>	4. Open general discussion.
5. <u>Request for Agenda Items</u>	5. Request Desired New Agenda Items
6. <u>Adjournment</u>	6. No action required.

MEETING MINUTES FROM THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
STANDARD SPECIFICATIONS AND DETAILS COMMITTEE

January 6, 2010

Maricopa Association of Governments Office, Cholla Room  
302 North First Avenue  
Phoenix, Arizona

AGENCY MEMBERS

Jim Badowich, Avondale	Mike Samer, Mesa
Scott Zipprich, Buckeye	Jesse Gonzales, Peoria, Chairman
Warren White, Chandler	Jeff Van Skike, Phoenix (St. Trans.)
Dennis Teller, El Mirage	Jami Erickson, Phoenix (Water)
* Edgar Medina, Gilbert	Mark Palichuk, Queen Creek
Tom Kaczmarowski, Glendale	Rodney Ramos, Scottsdale
Troy Tobiasson, Goodyear, Vice Chairman	Jason Mahkovtz, Surprise
Bob Herz, MCDOT	Tom Wilhite, Tempe

ADVISORY MEMBERS

John Ashley, ACA	Jeff Hearne, ARPA
Jeff Benedict, AGC	Mike Smith, ARPA
Brian Gallimore, AGC	Paul R. Nebeker, Independent
Peter Kandarlis, SRP	

MAG ADMINISTRATIVE STAFF

Gordon Tyus

\* Members not attending or represented by proxy.

GUESTS/VISITORS

Doug Berg, Contech Construction Products  
Kwigs Bowen, NUCA  
Tony Braun, NUCA  
Bill Davis, NUCA  
Mark Hannah, Youngtown  
Ralph Luksza, Jenson Precast  
Charles Moses, Jenson Precast  
Ann Seiden, Southwest Gas  
John Stigsell, Youngtown  
Niranjan Vescio, Stronggo

1. Call to Order

Chairman Jesse Gonzales called the meeting to order at 1:32 p.m.

Jesse Gonzales, as the new committee chair, presented previous chair, Bob Herz and previous vice chair, Peter Kandaris, with certificate plaques recognizing and thanking them for their service as committee officers.

2. Approval of Minutes

The members reviewed the October 7, 2009 meeting minutes. Tom Whilite introduced a motion to accept the minutes as written. Bob Herz seconded the motion. A voice vote of all ayes and no nays was recorded.

3. 2009 Cases (old cases)

**a. Case 09-13 – ADA-Compliant Dual Sidewalk Ramps:** ADA-compliant details for 35-foot and 20-foot corner radius dual sidewalk ramps. Jesse Gonzalez described his discussions with members of the Access Board to create MAG details that achieve ADA compliance. Bob Herz submitted notes on the original case submission that provided additional ramp dimensions and details. Jesse said he would take these comments into consideration, and is planning to develop separate details for different street radii.

Rod Ramos brought up the issue of the vertical curbs on the side of the ramps and the potential tripping hazard and maintenance issues.

There was general discussion about the detectable warning domes and whether or not they were used for directional purposes, and their proper alignment to the crosswalks. The committee also discussed how bringing the ramps closer would help with the placement of crosswalks and signal timing.

Members compared draft ramp drawings with Tempe's current detail. Issues brought up included maintenance issues with trucks driving over the curb, the uses of a curb at the back of the sidewalk (including for protection of equipment) and the area needed at the top of the landing for wheelchairs to maneuver.

**b. Case 09-14 – ADA-Compliant Single Sidewalk Ramps:** Revising Details 231, 232, 233 and 234 to obtain compliance with ADA requirements. Bob Herz noted that no revisions have been made since the last meeting, but that comments from the committee were welcome. He intends to make updates to the MAG CAD detail drawings for future revisions.

**c. Case 09-15 – Revisions to Section 610.4 for Water Line Handling:** Modify Section 610.4 to clarify water line pipe protection measures at the job site prior to placement (during storage or staging) to help prevent contamination. Tom Wilhite reintroduced this case carried over from last year, without any changes. Paul Nebeker said he was in

contact with pipe manufacturers and would compile their best practices for pipe protection, and present them at a future meeting. It was clarified that this case was for supply water pipe, not sanitary pipe.

The committee discussed how watering for dust control has affected the cleanliness of pipe stored on site, and also the amount of water used to perform tests during installation. This led to discussion on whether MAG's specifications for the chlorination test should be updated. Jim Badowich said he would investigate this issue as a possible new case.

The committee noted that pipe protection was needed through all phases of manufacture, shipping, storage and installation. Ideas included wrapping pipe, capping ends, and tarping pipe on trucks during shipment.

4. 2010 Cases (new cases)

**d. Case 10-01a – Miscellaneous Bloopers:** Correct typographic errors in Section 317 Asphalt Milling. Bob Herz introduced the case to correct wording in Section 317. He noted that the handout also needed the space removed from the word "within." He also noted that he planned to introduce additional blooper cases at future meetings.

5. General Discussion:

*NUCA Representation*

At the end of 2009, NUCA's advisory membership on the committee was revoked automatically due to failure to attend the required number of meetings. This was due in part to a gap between when a former NUCA representative left, and the replacement representative, Bill Davis, began attending meetings. The MAG committee bylaws allow advisory members representation on the committee, as long as they are sponsored by a member agency and receive a 2/3 approval vote of the agency members. NUCA submitted a letter for re-admission on December 16, 2009 and was sponsored by the City of Chandler.

NUCA members Bill Davis, Kwigs Bowen, and Anthony Braun introduced themselves at the meeting. Mr. Davis stated that all three would like to attend and contribute to the committee and petitioned for reinstatement. A question was raised about the number of members an advisory organization was allowed. No official rule has been adopted, however, in the past NUCA (like AGC and ARPA) was allowed two sitting members, with the option of substitutes. Paul Nebeker warned that the committee wanted advisory member contributions, but was less enthusiastic about using membership as a means to get specific products approved in the MAG specifications, as was attempted by a previous NUCA representative. Bill Davis reiterated that their intention was to contribute to the committee and provide information back to their organization's membership.

Warren White moved to re-admit NUCA as an agency representative. The motion was seconded by Dennis Teller. A vote of 14 yes, 0 no, 0 abstention and 1 not present was recorded.

### *Supplements Working Group*

Jesse Gonzales noted that John Ashley had discussed with him re-activating the Supplements Working Group. Mr. Ashley noted that there were many supplements that only one agency had, and proposed that these supplements could be brought forward as cases by each agency. Warren White described plans to reduce the supplements in their drainage manual, and how that could tie into the process. Gordon Tyus asked if a status report updating which supplements have been addressed may be appropriate.

### *Forward to the Specifications Book*

Bob Herz mentioned the idea of revising the forward to the MAG Specifications to clarify its use with regards to public and private work. Jesse Gonzales said he was working on this.

### *MAG Manhole Covers*

Jesse Gonzales said the MAG manhole cover details need to be updated. No manufacturers in the region make them as currently specified. This has caused problems in jurisdictions that rely on the MAG standards, leading to rejection of covers by some city inspectors. Currently only foundries in India and China manufacture the covers as specified, so revised details of frames and covers that are more generic may be needed.

### *General Announcements*

Gordon Tyus asked members to review their contact information and provide him with any updates. He also asked member who wished to change how they receive their agenda packets to complete the GovDelivery preference form. Mr. Tyus announced that 2010 update packets were available to members, and would be available for purchase from MAG at the end of the week. Full books are currently being printed and a limited number would be available next week.

### *Reflective Street Markers*

Bob Herz noted that MAG does not have any standards for the placement of reflective street markers near fire hydrants, and that adding the detail should better standardize placement and reduce agency supplements. There was also discussion about the different reflective materials on the hydrants themselves. Rod Ramos volunteered to bring in Scottsdale's detail as an example for a possible new case.

### *ARPA Working Group Meeting*

Jeff Hearne announced that ARPA was having a technical working group meeting on Wednesday, January 13<sup>th</sup> at 1:30 p.m. at the ARPA office on 9<sup>th</sup> Ave and Adams, and invited members and agency technical experts to attend and contribute in a manner similar to the previous concrete working group. He said they are planning to review possible revisions to Section 728: Controlled Low Strength Materials, and new specifications for pervious concrete. Members discussed their experience with pervious concrete and noted that Glendale, Phoenix, Scottsdale and Tempe have used it in parking lots. John Ashley commented on using recycled asphalt as base material. Jesse Gonzales suggested adding this topic to the ARPA meeting agenda.

*Introductions*

Jesse Gonzales introduced potential new members from Youngtown that were in attendance, Mark Hannah and John Stigsell. He also introduced the new representative from Surprise, Jason Mahkovtz. Gordon Tyus explained the process of submitting a letter to MAG when agencies wished to gain membership on the committee or change official representatives.

6. Adjournment:

The meeting was adjourned at 3:00 p.m.

**LIST OF MEMBERS**  
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**MAG Standard Specifications and Details Committee**

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January 2010

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**MAG Standard Specifications and Details Committee**

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**LIST OF MEMBERS**  
**For**  
**MAG Standard Specifications and Details Committee**

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**LIST OF MEMBERS**  
**For**  
**MAG Standard Specifications and Details Committee**

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## 2010 PROPOSED REVISIONS TO MAG SPECIFICATIONS AND DETAILS

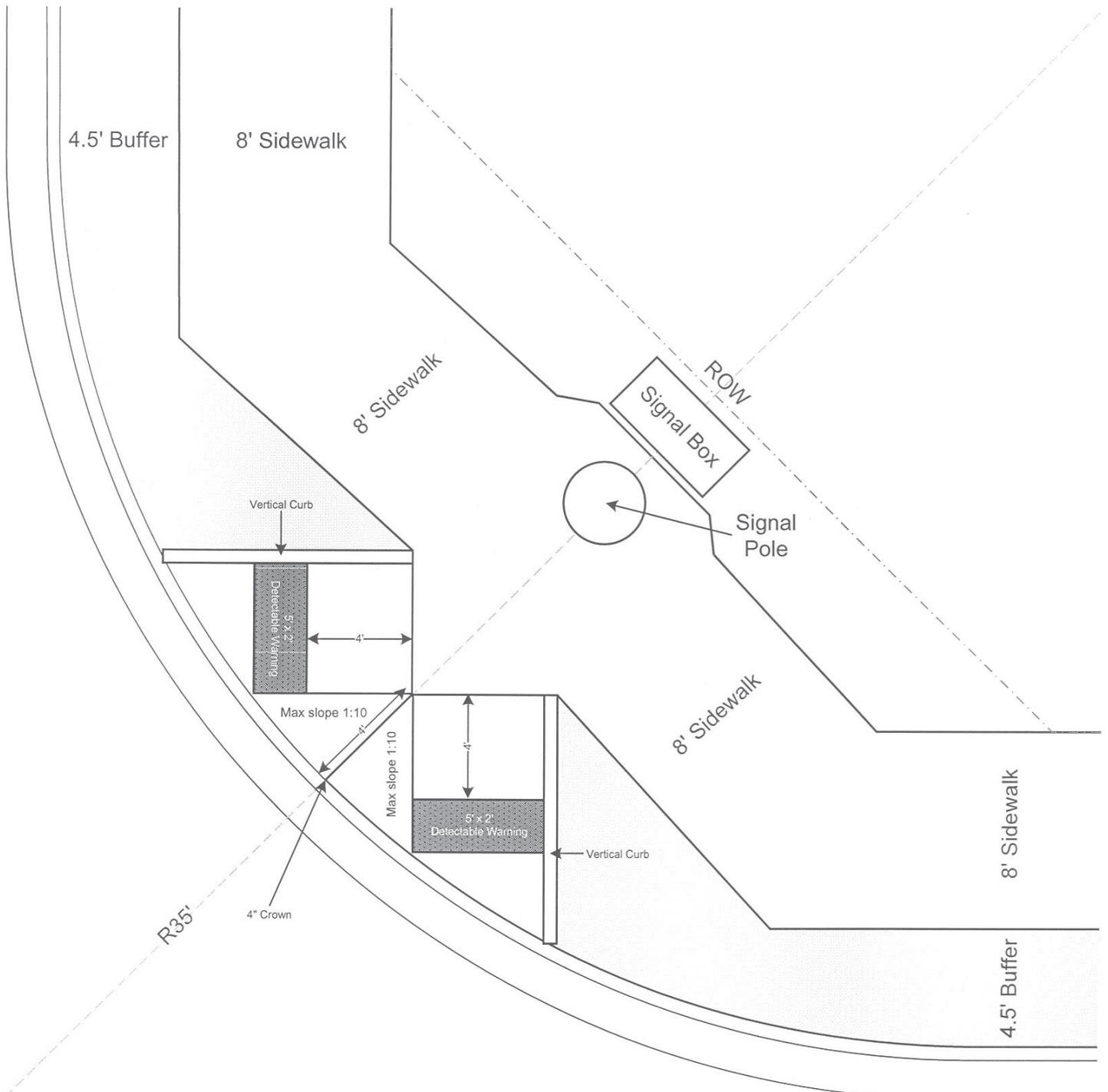
(Updated information can be found on the website: <http://www.mag.maricopa.gov/detail.cms?item=11284> )

CASE	DESCRIPTION	PROPOSED BY	MEMBER	SUBMITTAL DATE Last Revision	VOTE DATE	VOTE
09-13	<a href="#">Case 09-13</a> : Dual Curb Ramp Details	Peoria	Jesse Gonzales	07/01/2009		0 Yes 0 No 0 Abstain
09-14	<a href="#">Case 09-14</a> : Revise Ramps for ADA Compliance, Details 231, 232, 233 and 234	MCDOT	Bob Herz	07/01/2009		0 Yes 0 No 0 Abstain
09-15	<a href="#">Case 09-15</a> : Revisions to Section 610.4: Pipe Protection	Tempe	Tom Wilhite	07/01/2009		0 Yes 0 No 0 Abstain
10-01	Case 10-01: Miscellaneous Bloopers: A. Section 317 Asphalt Milling	MCDOT	Bob Herz	01/06/2010		0 Yes 0 No 0 Abstain
10-02						0 Yes 0 No 0 Abstain
10-03						0 Yes 0 No 0 Abstain
10-04						0 Yes 0 No 0 Abstain
10-05						0 Yes 0 No 0 Abstain
10-06						0 Yes 0 No 0 Abstain
10-07						0 Yes 0 No 0 Abstain

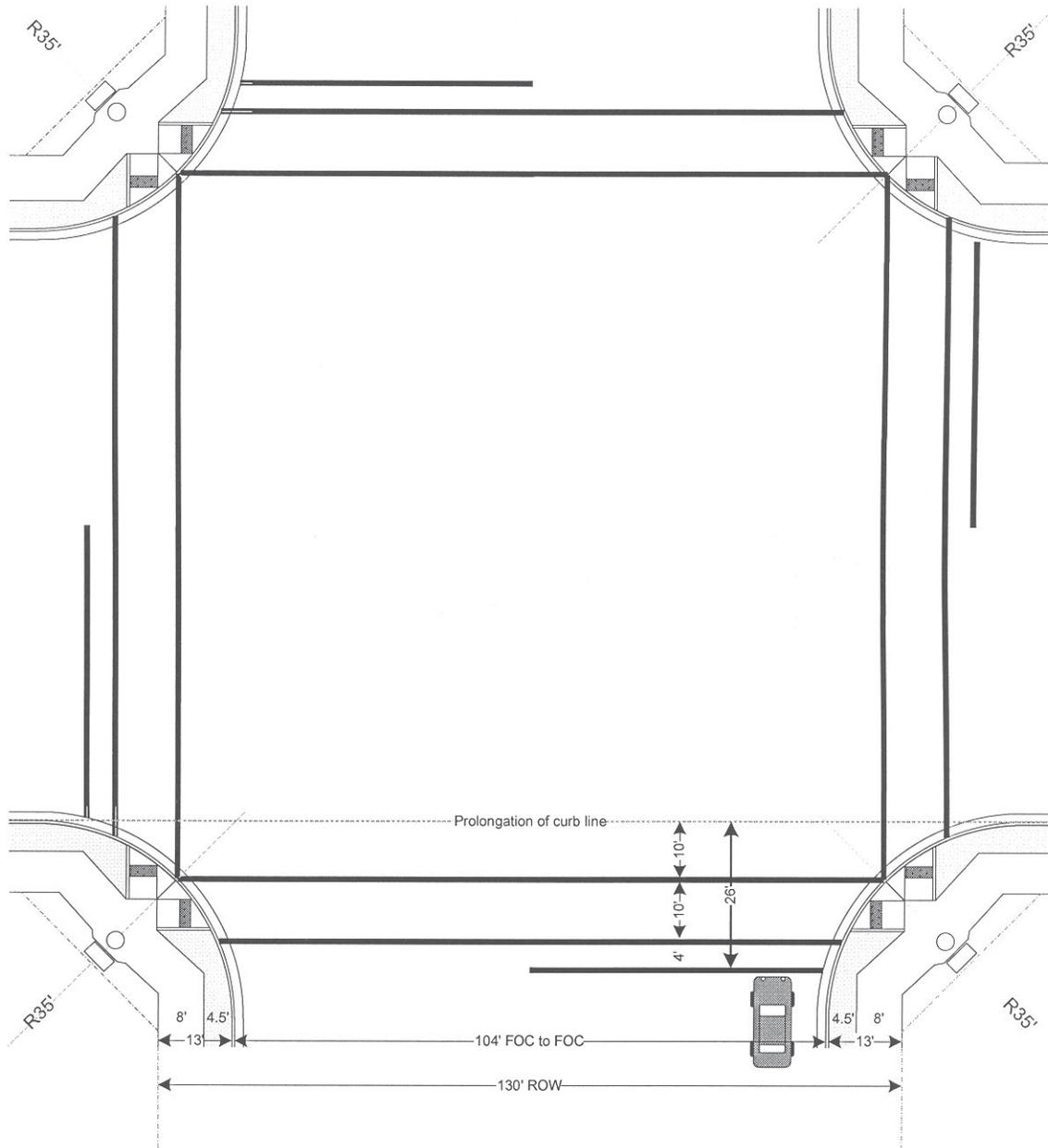
\* Case was approved with verbal modifications at time of voting.

Case 09-13

# 35' Radius Wheelchair Ramps

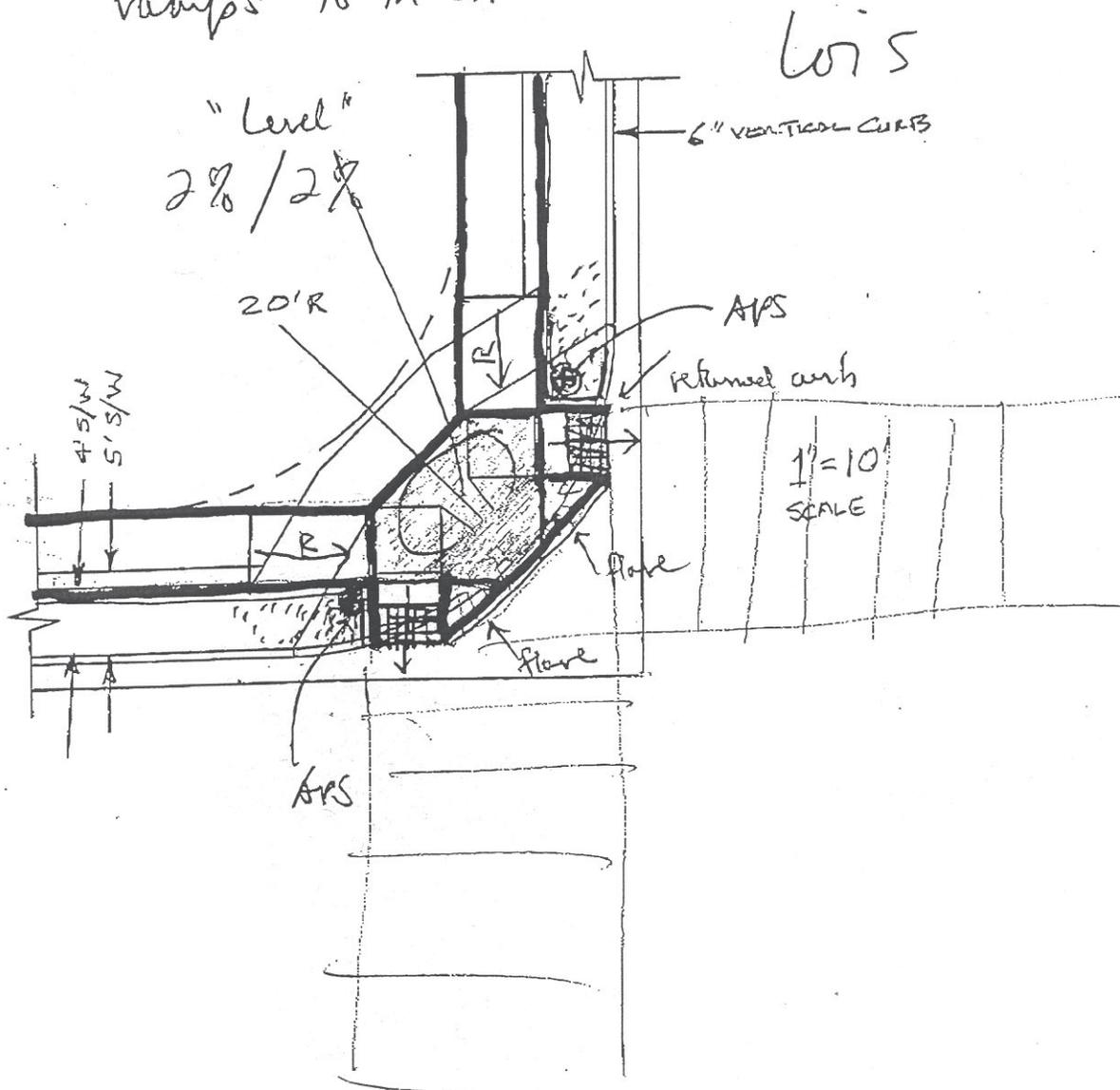


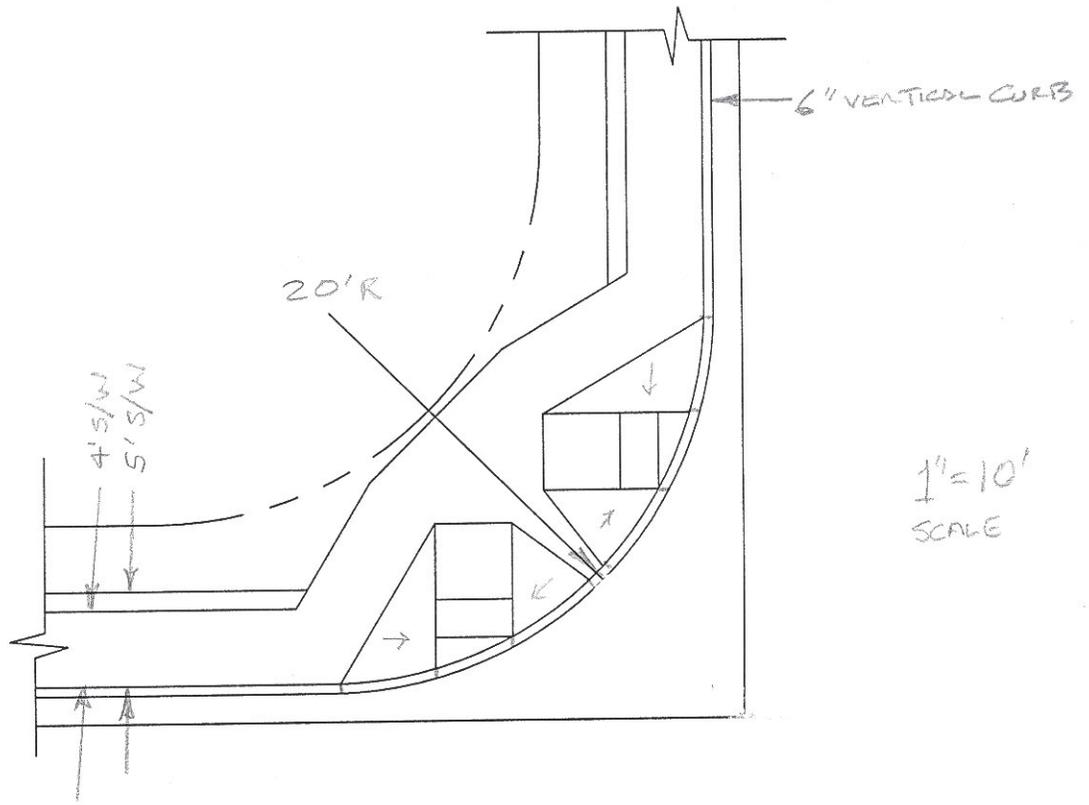
# Major Arterial Intersection

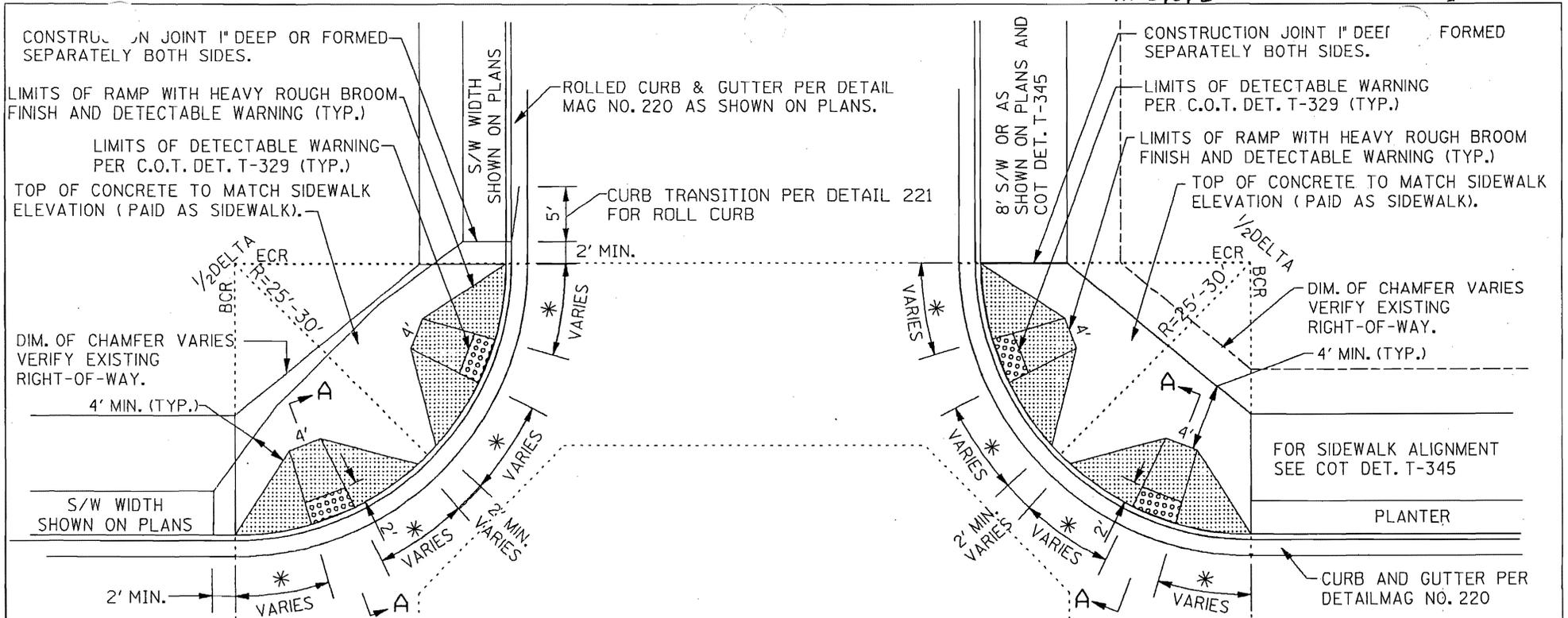


Scale 1" = 30'

This is a 'combined' ramp — you bring the sidewalk down to an intermediate leveling and then have short perpendicular ramps to the street

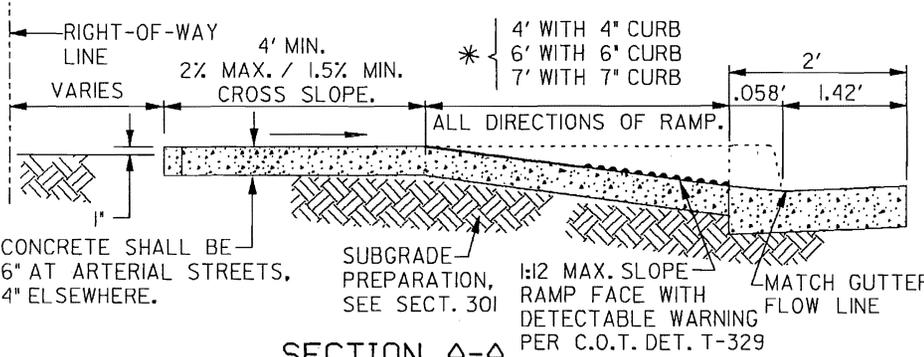






**SIDEWALK RAMP DETAIL**  
 NO PLANTERS  
 (LOCAL - LOCAL)  
 (LOCAL - COLLECTOR)

**SIDEWALK RAMP DETAIL**  
 WITH PLANTERS  
 (LOCAL - ARTERIAL)



**NOTES:**

1. RAMP PREFERENCE SEE NOTE IN DETAIL T-115. UNDER "REFER TO TEMPE STANDARD DETAILS".
2. CLASS 'B' CONC. CONSTRUCTION AS PER SECT. 725.
3. WIDTH OF CONC. SIDEWALK SHALL BE 8' ALONG ARTERIAL STREETS, 6' ELSEWHERE. 5'-6' LOCAL STREETS MAY BE APPROVED BY CITY.
4. SUFFICIENT RIGHT-OF-WAY MUST BE AVAILABLE TO CONSTRUCT RAMPS.
5. FOR SLOPING TRANSITION FROM RAMP TO CURB SEE C.O.T. DET. T-326.
6. THIS DETAIL IS APPLICABLE WHERE THE GRADE BREAK AT THE GUTTER LINE (COUNTER SLOPE) IS AT OR BELOW 11%, AND IF THE PERCENTAGE WOULD BE GREATER DUE TO AN UNUSUALLY STEEP GUTTER OR STREET CROWN, AN ALTERNATIVE DESIGN MUST BE APPROVED BY CITY.

APPROVED: Andy 7/2/07  
 DEPUTY PUBLIC WORKS MANAGER DATE  
 CITY ENGINEER





**MARICOPA COUNTY**  
*Department of Transportation*

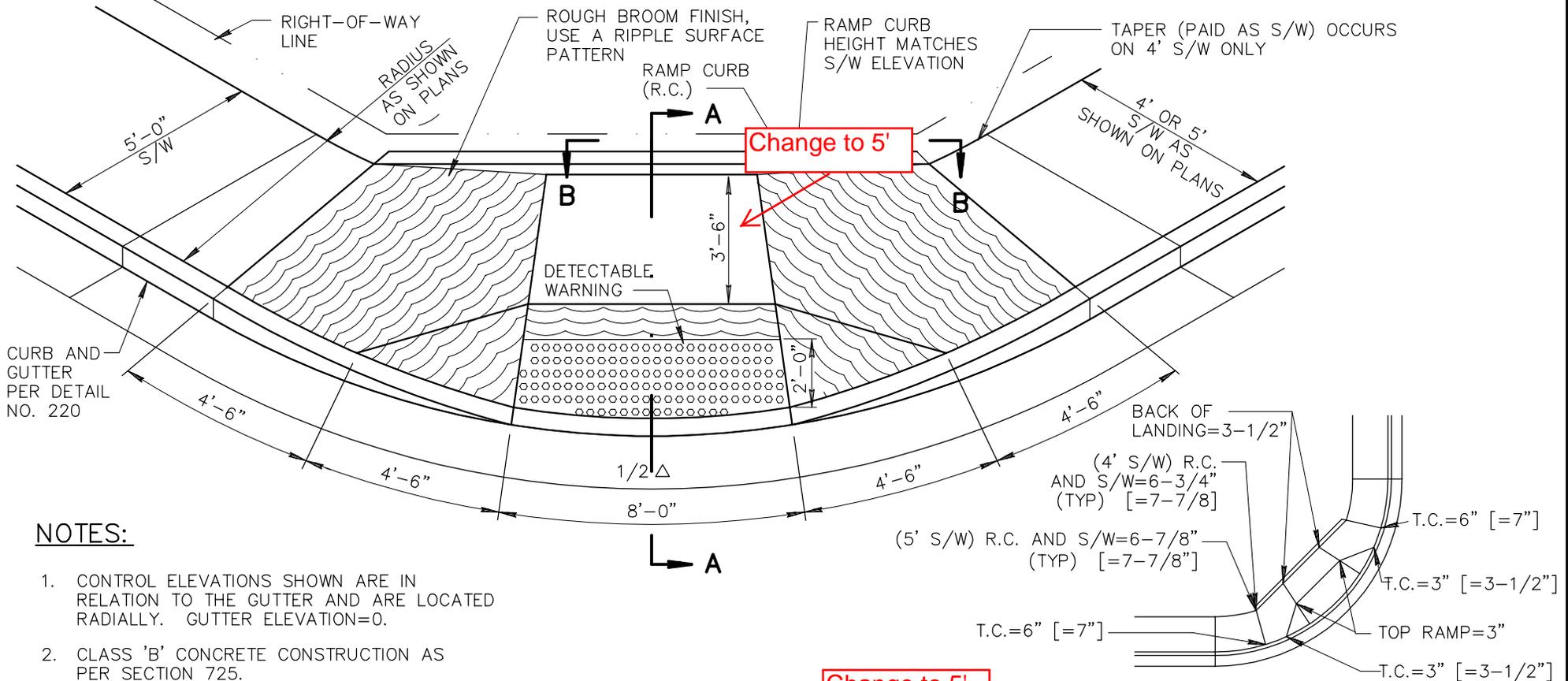
MEMORANDUM

**Date:** July 1, 2009  
**To:** MAG Specifications and Details Committee  
**From:** Robert Herz, MCDOT Representative  
**Subject:** Revise Details 231, 232, 233, and 234

**Case 09-14**

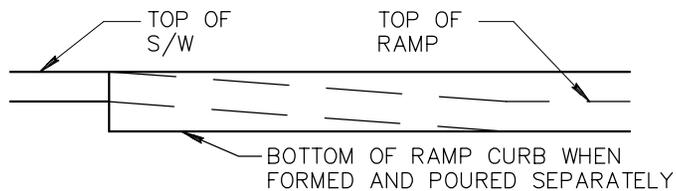
**PURPOSE:** Revise Details 231, 232, 233, and 234 to obtain compliance with ADA requirements. MAG Details 231 and 233 have undersized landing areas for turning. Details 232 and 234 are non-compliant since the path going across the ramp exceeds the allowable 2% maximum cross slope for sidewalk.

**REVISION:** Details 231 and 233 – Revise landing dimensions to obtain a 5' by 5' landing.  
Details 232 and 234 – Revise length of side ramps to obtain a 1.5% cross slope for the landing at the bottom of the ramps.

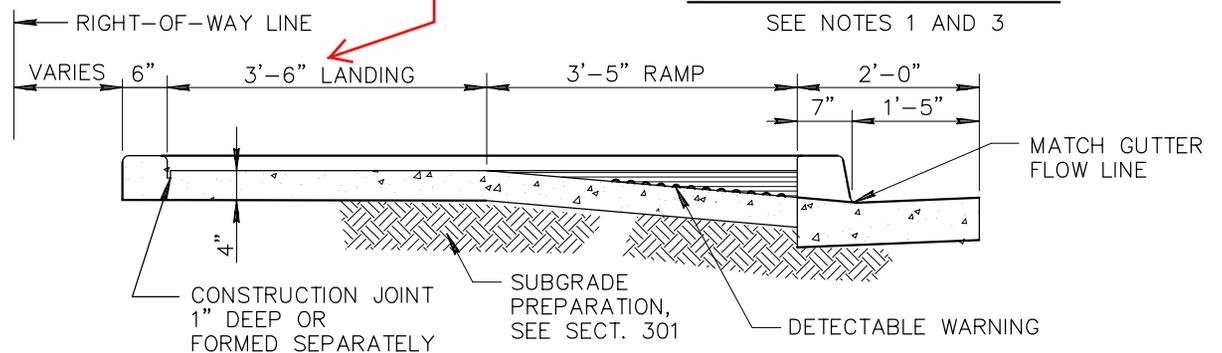


**NOTES:**

- CONTROL ELEVATIONS SHOWN ARE IN RELATION TO THE GUTTER AND ARE LOCATED RADIALLY. GUTTER ELEVATION=0.
- CLASS 'B' CONCRETE CONSTRUCTION AS PER SECTION 725.
- WHEN CURB HEIGHTS OF 7" ARE SHOWN ON PLANS, USE DIMENSIONS SHOWN IN [ ]'S.
- DETECTABLE WARNING IS TO COMPLY WITH THE JURISDICTIONAL AGENCY'S REQUIREMENTS.



**SECTION B-B**



**SECTION A-A**

**CONTROL ELEVATIONS**

SEE NOTES 1 AND 3

DETAIL NO.

**231**



**STANDARD DETAIL  
ENGLISH**

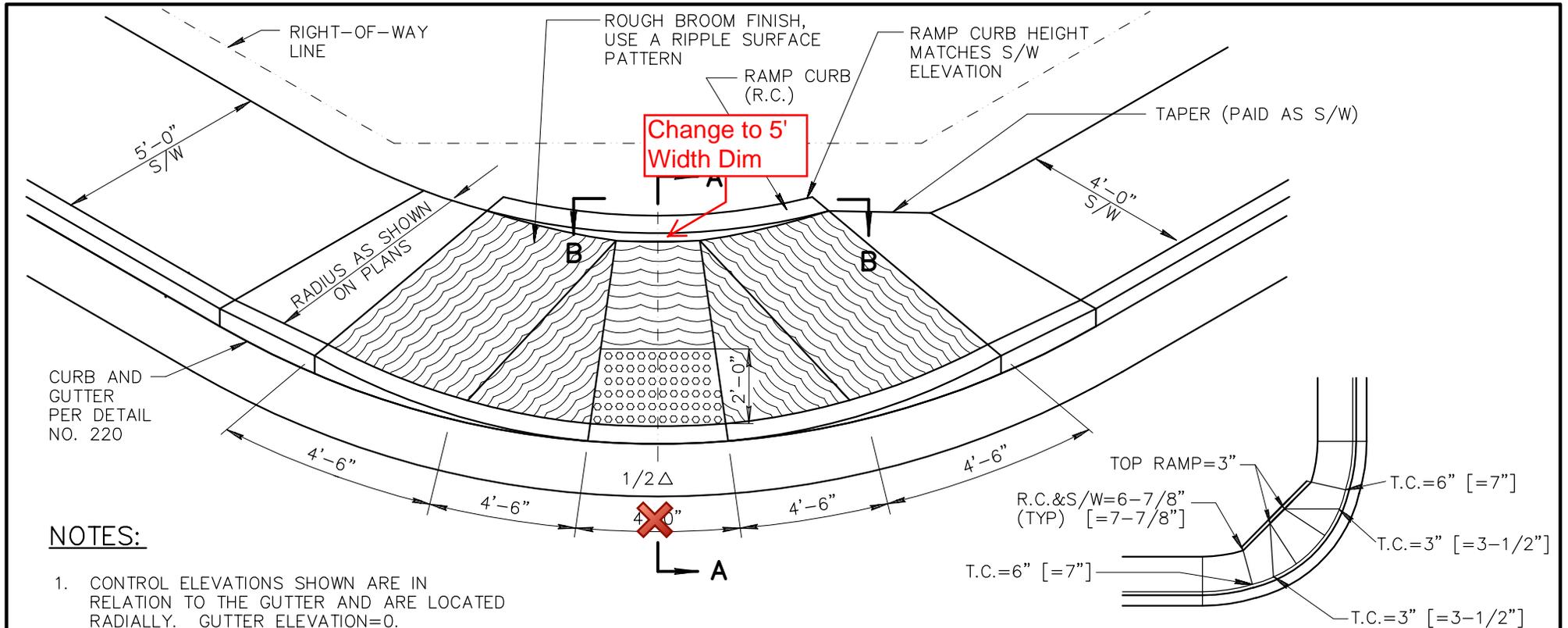
**SIDEWALK RAMPS - TYPE 'A'**

REVISED

01-01-2006

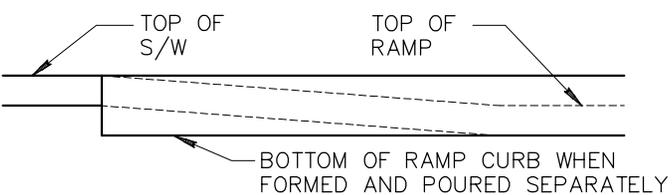
DETAIL NO.

**231**

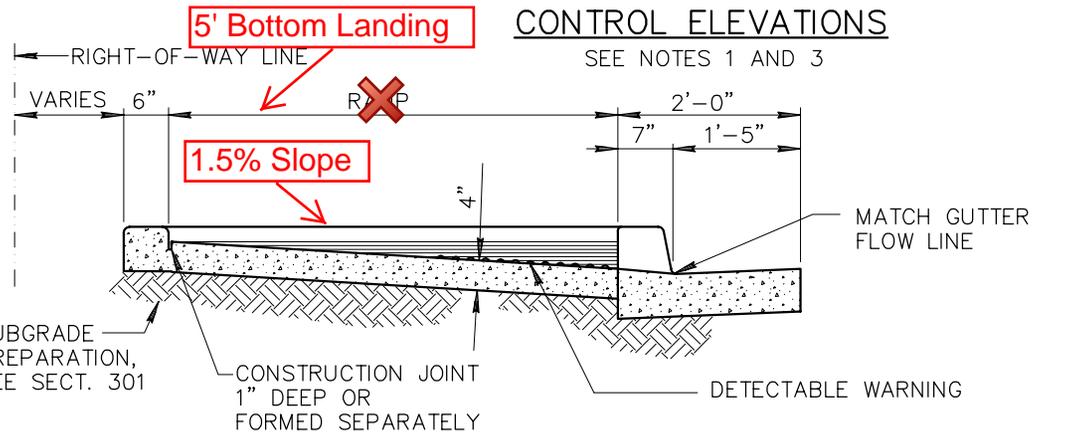


**NOTES:**

- CONTROL ELEVATIONS SHOWN ARE IN RELATION TO THE GUTTER AND ARE LOCATED RADIALLY. GUTTER ELEVATION=0.
- CLASS 'B' CONCRETE CONSTRUCTION AS PER SECT. 725.
- WHEN CURB HEIGHTS OF 7" ARE SHOWN ON PLANS, USE DIMENSIONS SHOWN IN [ ]'S.
- DETECTABLE WARNING IS TO COMPLY WITH THE JURISDICTIONAL AGENCY'S REQUIREMENTS.



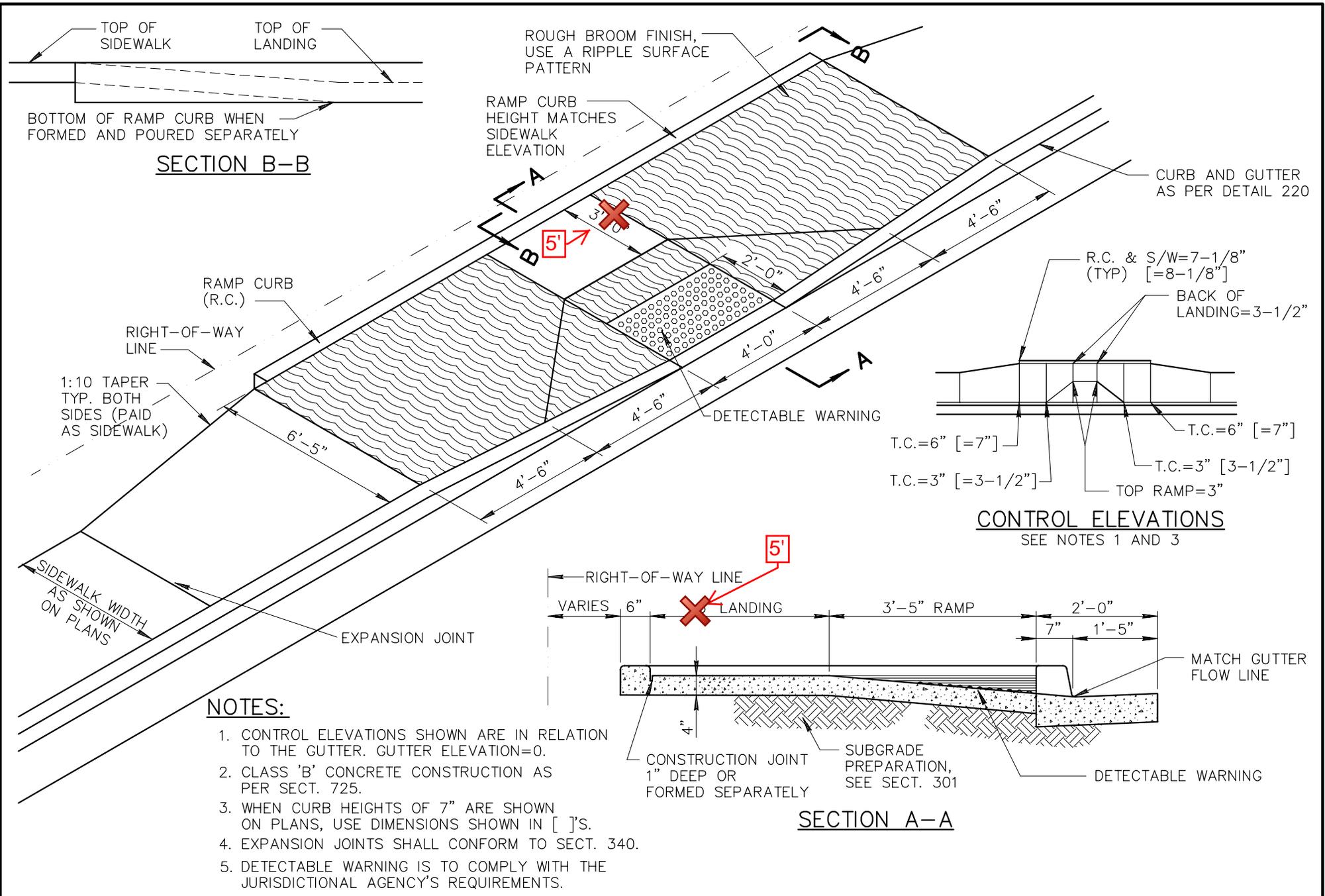
**SECTION B-B**



**CONTROL ELEVATIONS**

SEE NOTES 1 AND 3

**SECTION A-A**



**SECTION B-B**

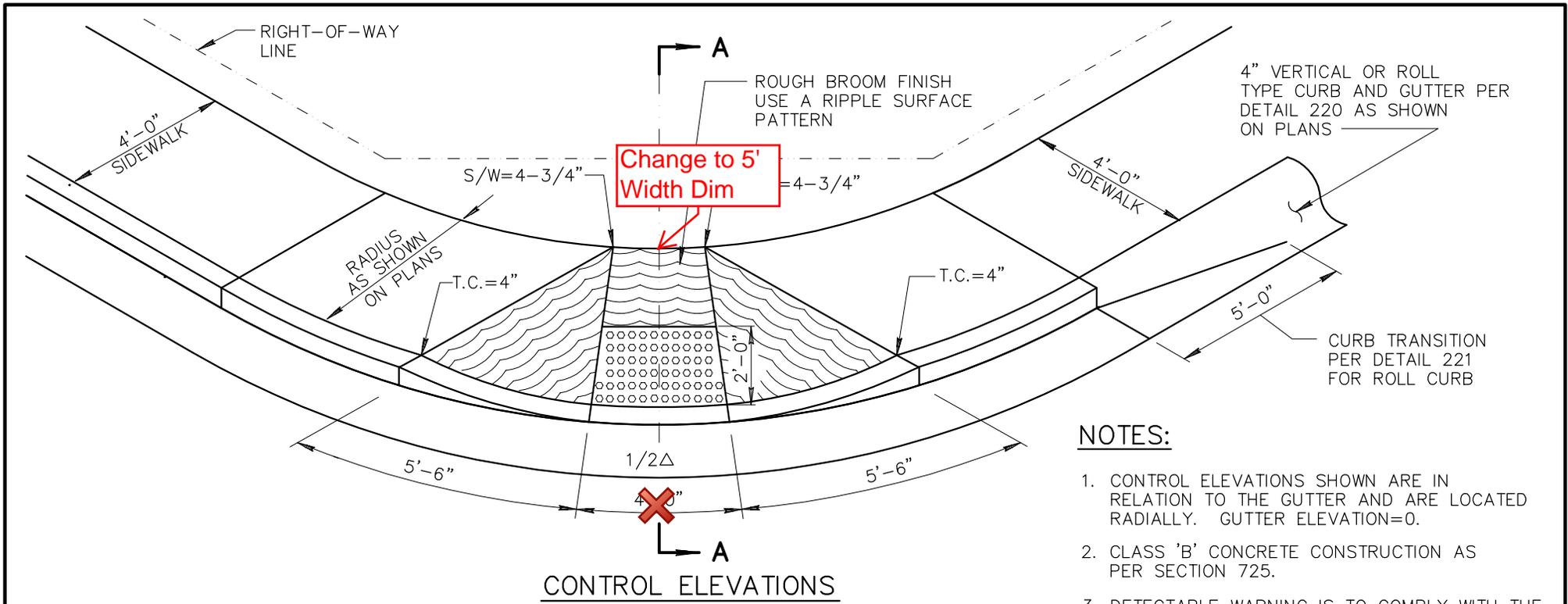
**CONTROL ELEVATIONS**

SEE NOTES 1 AND 3

**SECTION A-A**

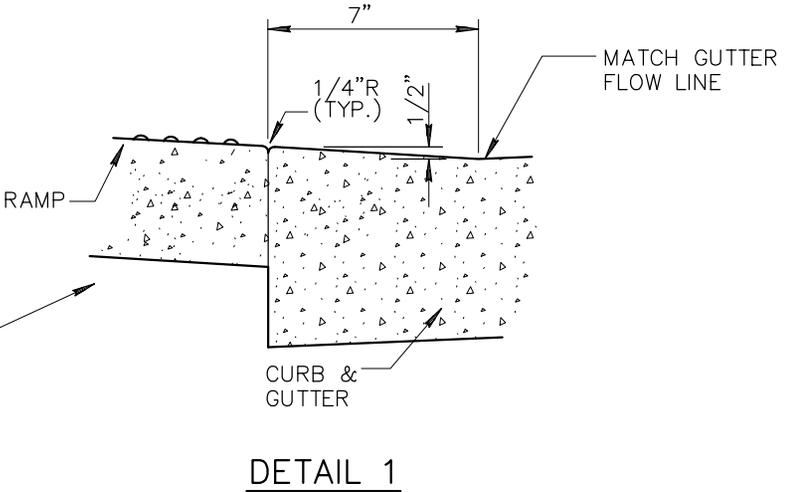
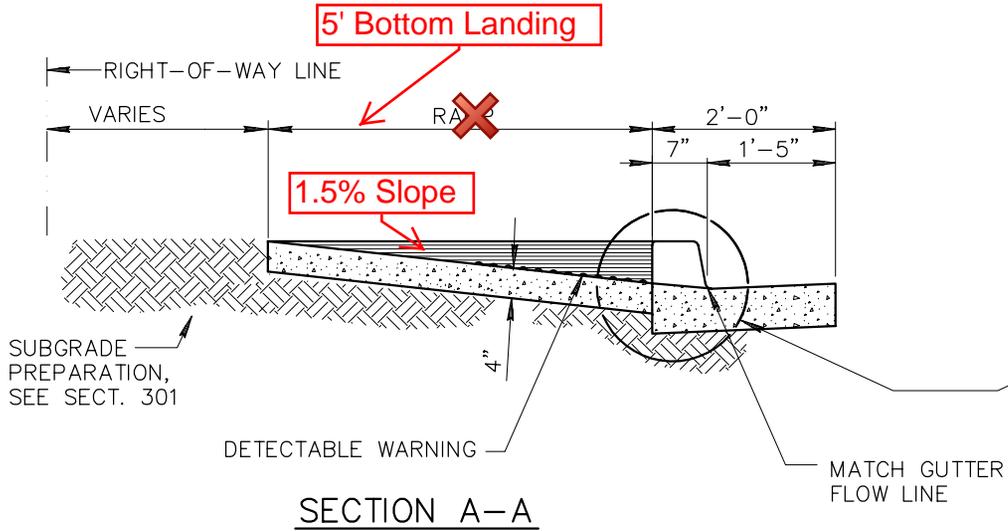
**NOTES:**

1. CONTROL ELEVATIONS SHOWN ARE IN RELATION TO THE GUTTER. GUTTER ELEVATION=0.
2. CLASS 'B' CONCRETE CONSTRUCTION AS PER SECT. 725.
3. WHEN CURB HEIGHTS OF 7" ARE SHOWN ON PLANS, USE DIMENSIONS SHOWN IN [ ]'s.
4. EXPANSION JOINTS SHALL CONFORM TO SECT. 340.
5. DETECTABLE WARNING IS TO COMPLY WITH THE JURISDICTIONAL AGENCY'S REQUIREMENTS.

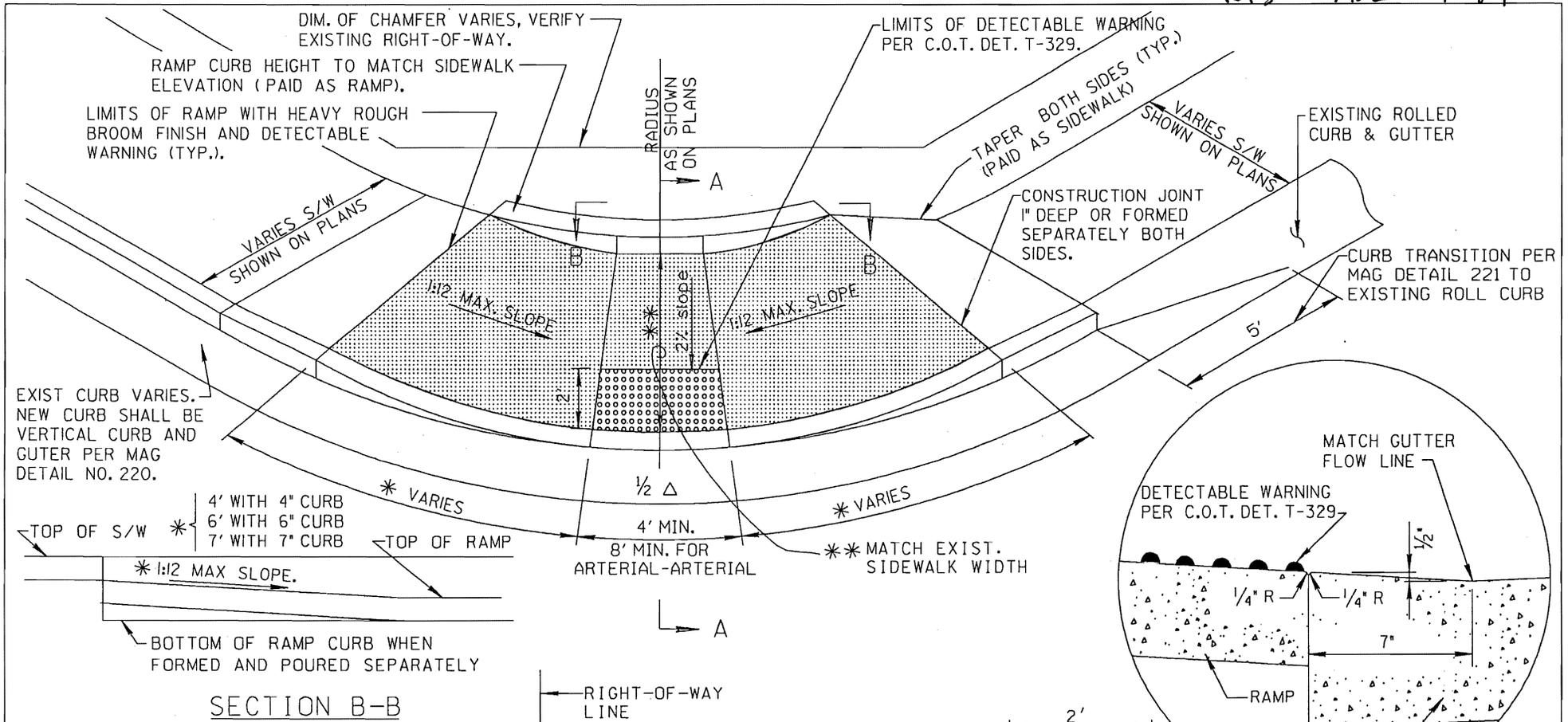


**NOTES:**

1. CONTROL ELEVATIONS SHOWN ARE IN RELATION TO THE GUTTER AND ARE LOCATED RADIALLY. GUTTER ELEVATION=0.
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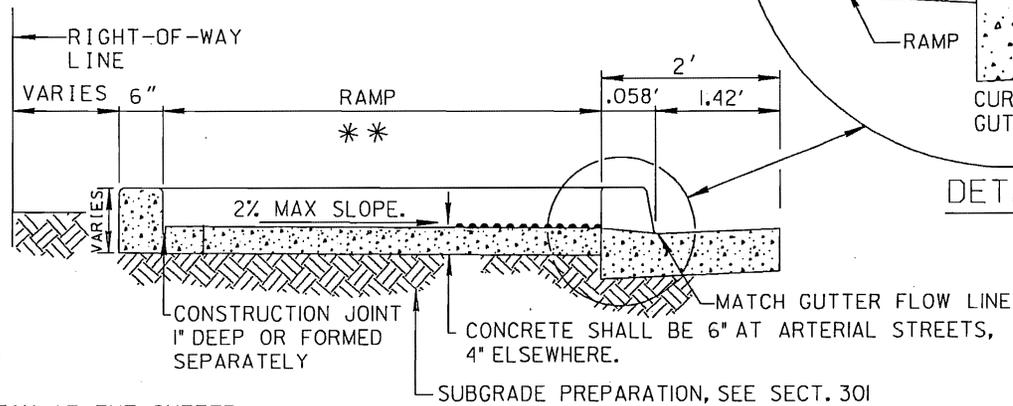
COMMENTS - CASE 09-14



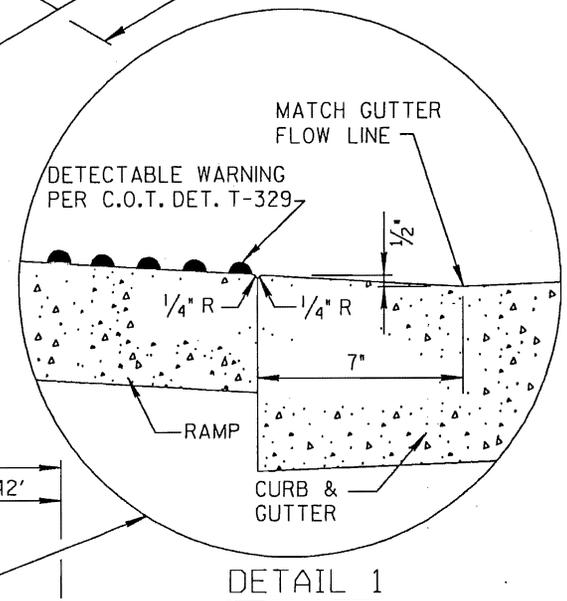
SECTION B-B

NOTES:

1. RAMP PREFERENCE SEE NOTE IN DETAIL T-115. UNDER "REFER TO TEMPE STANDARD DETAILS".
2. CLASS 'B' CONC. CONSTRUCTION AS PER SECT. 725.
3. WIDTH OF CONC. SIDEWALK SHALL BE 8' ALONG ARTERIAL STREETS, 6' ELSEWHERE. 5'-6" LOCAL STREETS MAY BE APPROVED BY CITY.
4. SUFFICIENT RIGHT-WAY-OF-WAY MUST BE AVAILABLE TO CONSTRUCT RAMPS.
5. THIS DETAIL IS APPLICABLE WHERE THE GRADE BREAK AT THE GUTTER LINE (COUNTER SLOPE) IS AT OR BELOW 11%, AND IF THE PERCENTAGE WOULD BE GREATER DUE TO AN UNUSUALLY STEEP GUTTER OR STREET CROWN, AN ALTERNATIVE DESIGN MUST BE APPROVED BY CITY.



SECTION A-A



DETAIL 1

APPROVED: Andy Cole 8/16/05  
 DEPUTY PUBLIC WORKS MANAGER DATE  
 CITY ENGINEER



**610.4 CONSTRUCTION METHODS:**

All water mains in major streets shall have a minimum cover of 48 inches over the top of the pipe. Water mains in other locations shall have a minimum cover over the top of the pipe as follows:

- (A) 36 inches for mains smaller than 12 inches.
- (B) 48 inches for mains 12 inches and larger.

Cover for water mains will be measured from existing or proposed finished grade of pavement or from natural ground, whichever is deeper.

No water main shall be deflected, either vertically or horizontally, in excess of that recommended by the manufacturer of the pipe or coupling, without the appropriate use of bends or offsets.

If adjustment of the position of a length of pipe is required after it has been laid, it shall be removed and rejoined as for a new pipe.

Every precaution shall be taken to prevent foreign material from entering the pipe. ~~The ends of the pipe shall be plugged or wrapped at all times when a pipe laying is not in progress, which includes storage and staging at the site. The open ends of each pipe section shall be protected from foreign material entering by taped closure of the polywrap when the pipe is stored or staged. The pipe line shall be protected by a water-tight plug or other means approved by the Engineer when the pipe is in the trench if pipe laying is not in progress.~~

- Deleted: while it is being placed in the line.
- Deleted: At
- Deleted: t
- Deleted: of t
- Deleted: closed
- Deleted: .

Where restrained joints are specified on mains sixteen (16) inches in diameter and smaller, ductile iron pipe shall be used with an approved joint restraint method.

On mains sixteen (16) inches in diameter and larger where plans specify welding joints and where ductile iron pipe is furnished, joints shall be restrained by an approved joint restraint method for the distance specified.

Except as otherwise required in this specification, the special provisions, or by the Engineer, trench excavation, backfilling and compaction shall be in accordance with the requirements of Section 601. Backfilling may be accomplished as soon as the pipe line has been installed to the satisfaction of the Engineer, subject to the requirements for testing, as contained below.

Hydrostatic testing shall be in accordance with this specification.

All corporation stops used for testing and chlorination shall be left in the pipe line with the stop closed and all connecting pipe removed.

Curb stops with flushing pipes or fire hydrants shall be installed at the ends of dead-end mains according to standard details.

Thrust blocks shall be installed in accordance with this specification.

Valve boxes and covers shall be according to standard details.

Asbestos-cement pipe shall be installed in accordance with AWWA C-603, except pipe and fittings shall be in accordance with Section 752.

Cast iron pipe shall be installed in accordance with AWWA C-600, except pipe and fittings shall be in accordance with Section 750.

Ductile iron pipe shall be installed in accordance with this specification and pipe and fittings shall be in accordance with Section 750.



**MARICOPA COUNTY**  
*Department of Transportation*

MEMORANDUM

**Date:** January 6, 2010  
**To:** MAG Specifications and Details Committee  
**From:** Robert Herz, MCDOT Representative  
**Subject:** Miscellaneous Bloopers

**Case 10-01A**

**PURPOSE:** Correct typographical errors.

**REVISION:** Correct wrong words in section 317.2 as indicated below:

**SECTION 317**  
**ASPHALT MILLING**

**317.1 DESCRIPTION:**

The work under this Section shall consist of milling existing asphalt concrete pavement where shown on the Plans or requested by the Engineer.

**317.2 CONSTRUCTION REQUIREMENTS**

Contractor is responsible for locating all milling hazards on and below the surface ~~withing~~within the areas to be milled including areas requiring special milling. Special milling is not a separate pay item and shall be paid for as Asphalt Milling.

The milling cut depth shall be the depth indicated on the Plans plus or minus 1/8 inch. The milling machine shall have electronic grade controls. Contractor shall remove the milled material and sweep the roadway clean with a power pick-up broom to the satisfaction of the Engineer.

Asphalt pavement adjacent to manholes, ~~value-value~~ boxes, small radius curbs and other fixed objects that produce confined area shall be removed with milling equipment specifically designed to operate in ~~restricted-constricted~~ areas. The equipment shall be capable of removing asphalt concrete of the specified thickness without damage to, or displacement of, the adjacent object(s).

The Contractor shall be responsible for continually checking the milling operation to determine that the proper depth of milling has been achieved, that the proper profile and cross slope are achieved, and that the surface texture is (a) free from longitudinal ridges, and (b) has a uniform pattern.

The Contractor shall immediately notify the Engineer when:

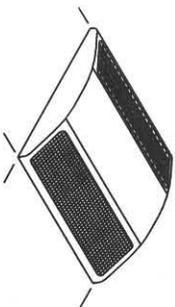
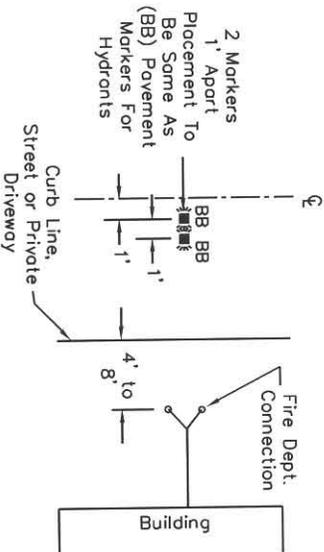
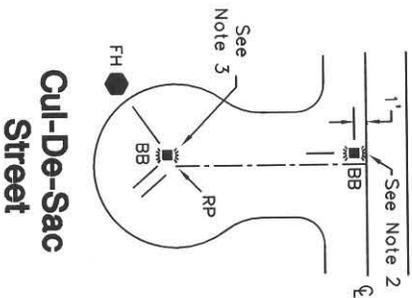
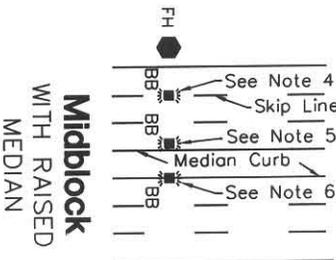
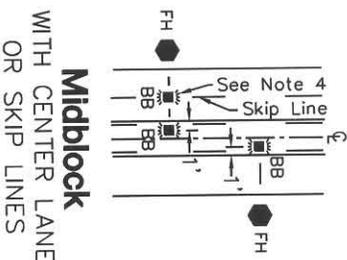
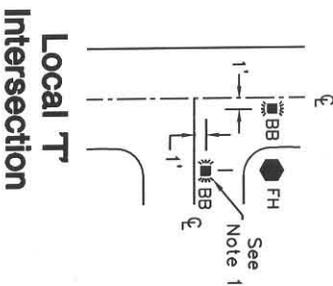
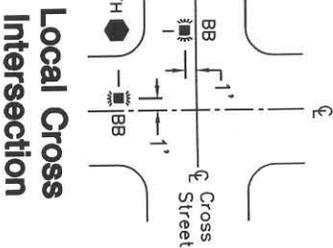
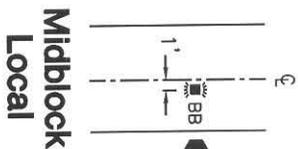
- The existing pavement thickness is found to be less than anticipated and breaking of the underlying material occurs.
- Delamination of underlying material occurs.

The work shall result in a clean milled surface to the specified depth for the area indicated by the construction documents including the areas immediately around and next to any individual hazard ~~withing~~ within the area to be milled. The edge of milled area shall form a straight clean cut line.

**317.3 MEASUREMENT AND PAYMENT:**

Measurement for Asphalt Milling will be by the square yard and shall only include area milled to the required depth and cross section.

Payment for Asphalt Milling at the contract unit price shall be full compensation for the work, complete-in-place, including all asphalt milling, milling around structures, removal and disposal of milled materials, and sweeping.



**Pavement Marker**  
(2-WAY REFLECTIVE BLUE)  
(ADOT TYPE BB)

- NOTES:
1. Not Required on Dead End Streets Without Hydrants
  2. Place on Hydrant Side of Centerline.
  3. Not Required When Cul-De-Sac is Less Than 250'.
  4. To Be Placed in Line With Skip Line.
  5. Place on Gutter or Adjacent To Curb.
  6. Place on Top of Curb. (This Location Optional)
  7. Pavement Markers Shall Not Be Placed Within One Foot of A Point Line (Center to Center).

DETAIL NO.  
**2363**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**PAVEMENT MARKERS FOR FIRE HYDRANTS**

DETAIL NO.  
**2363**