



CERTIFICATE OF APPROPRIATENESS PLACARD

for Raleigh Historic Resources

MULTIPLE INTERSECTIONS - R.O.W

Address

BOYLAN HEIGHTS

Historic District

Historic Property

137-14-MW

Certificate Number

9/18/2014

Date of Issue

3/18/2015

Expiration Date

Project Description:

- [After-the-Fact] Alter existing sidewalk ramps to meet ADA requirements:
- re-pour concrete walks;
- install new detectible surfaces.

This card must be kept pasted in a location within public view until all phases of the described project are complete. The work must conform with the code of the City of Raleigh and laws of the state of North Carolina. When your project is complete, you are required to ask for a final zoning inspection in a historic district area. Telephone the RHDC office at 832-7238 and commission staff will coordinate the inspection with the Inspections Department. If you do not call for this final inspection, your Certificate of Appropriateness is null and void.

Signature, _____

Raleigh Historic Development Commission

Pending the resolution of appeals, commencement of work is at your own risk.



Planning & Development

Development Services
 Customer Service Center
 One Exchange Plaza
 1 Exchange Plaza, Suite 400
 Raleigh, North Carolina 27601
 Phone 919-996-2495
 eFax 919-996-1831

Raleigh Historic Development Commission – Certificate of Appropriateness (COA) Application



- Minor Work (staff review) – 1 copy
- Major Work (COA Committee review) – 13 copies
 - Most Major Work Applications
 - Additions Greater than 25% of Building Square Footage
 - New Buildings
 - Demo of Contributing Historic Resource
- Post Approval Re-review of Conditions of Approval

Group 337102

For Office Use Only

Transaction # 408299

File # 137-14-MW

Fee N/A CR

Amt Paid _____

Check # _____

Rec'd Date 9/9

Rec'd By Mr. Bride

• If completing by hand, please use BLACK INK. Do not use blue, red, any other color, or pencil as these do not photocopy.

Property Street Address W. Cabarrus Street from S. Boylan Avenue to Dorothea Drive

Historic District Boylan Heights

Historic Property/Landmark name (If applicable) _____

Owner's Name City of Raleigh

Lot size NA (width in feet) _____ (depth in feet) _____

For applications that require review by the COA Committee (Major Work), provide addressed, stamped envelopes to owners of all properties within 100 feet (i.e. both sides, in front (across the street), and behind the property) not including the width of public streets or alleys:

Property Address	Property Address
Cabarrus St/Boylan Av	Cabarrus St/Cutler St
Cabarrus St/Lenoir St	Cabarrus St/South St

I understand that all applications that require review by the commission's Certificate of Appropriateness Committee must be submitted by 4:00 p.m. on the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.

Type or print the following:

Applicant Stan Harward, Transportation Inspector Supervisor, City of Raleigh, Public Works, Street Division

Mailing Address 1027 N. West St

City <u>Raleigh</u>	State <u>NC</u>	Zip Code <u>27603</u>
Date <u>9/2/2014</u>	Daytime Phone <u>919-996-5751</u>	

Email Address stanley.harward@raleighnc.gov

Signature of Applicant *Stan Harward*

Minor Work Approval (office use only)

Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until 9/3/15. Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor work projects not approved by staff will be forwarded to the Certificate of Appropriateness Committee for review at the next scheduled meeting.

Signature *[Signature]* Date 9/18/14

Project Categories (check all that apply):

- Exterior Alteration
- Addition
- New Construction
- Demolition

Will you be applying for state or federal rehabilitation tax credits for this project?

- Yes
- No

(Office Use Only)

Type of Work 82, 59

Design Guidelines Please cite the applicable sections of the design guidelines (www.rhdc.org).

Section/Page	Topic	Brief Description of Work
2/9	Public Rights-of Way	Upgrade sidewalk ramps to meet ADA requirements

		N/A	TO BE COMPLETED BY CITY STAFF		
			YES	NO	N/A
Attach 8-1/2" x 11" sheets with written descriptions and drawings, photographs, and other graphic information necessary to completely describe the project. Use the checklist below to be sure your application is complete.					
Minor Work (staff review) – 1 copy					
Major Work (COA Committee review) – 13 copies					
1. Written description. Describe clearly and in detail the nature of your project. Include exact dimensions for materials to be used (e.g. width of siding, window trim, etc.)	<input checked="" type="checkbox"/>				
2. Description of materials (Provide samples, if appropriate)	<input checked="" type="checkbox"/>				
3. Photographs of existing conditions are required.	<input checked="" type="checkbox"/>				
4. <u>Paint Schedule</u> (if applicable)	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
5. <u>Plot plan</u> (if applicable). A plot plan showing relationship of buildings, additions, sidewalks, drives, trees, property lines, etc., must be provided if your project includes any addition, demolition, fences/walls, or other landscape work. Show accurate measurements. You may also use a copy of the survey you received when you bought your property. Revise the copy as needed to show existing conditions and your proposed work.	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
6. Drawings showing proposed work <input type="checkbox"/> Plan drawings <input type="checkbox"/> Elevation drawings showing the new façade(s). <input type="checkbox"/> Dimensions shown on drawings and/or graphic scale. <input type="checkbox"/> 8-1/2" x 11" reductions of full-size drawings. If reduced size is so small as to be illegible, make 8-1/2" x 11" snap shots of individual drawings on the big sheet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
7. Stamped envelopes addressed to all property owners within 100 feet of property not counting the width of public streets and alleys. (Required for Major Work)	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
8. Fee (<u>See Development Fee Schedule</u>)	<input type="checkbox"/>	N/A			

Tully, Tania

From: Tully, Tania
Sent: Tuesday, September 16, 2014 4:55 PM
To: Harward, Stanley
Cc: Nance, George; McGee, Chris
Subject: RE: Side Walk Step in Boylan Heights

Hi Stanley –

Thanks for submitting the COA application for the ADA ramp modifications in Boylan Heights. Based on the photos provided it appears that the intersections already have some form of a ramp and the proposed work is either an upgrade to the existing detectable warning surface or installation of a new one. This would include re-pouring the concrete. Please confirm that I am reading this properly and that no other changes are proposed.

Thanks!
Tania

Tania Georgiou Tully, Preservation Planner
Long Range Planning Division
Raleigh Department of City Planning
919.996.2674
919.516.2684 (fax)
tania.tully@raleighnc.gov

COA process information is available [here](#).

From: Harward, Stanley
Sent: Tuesday, September 02, 2014 11:30 AM
To: Tully, Tania
Cc: Nance, George; McGee, Chris
Subject: FW: Side Walk Step in Boylan Heights

Tania,

I am the project manager for the City's street resurfacing program. When streets are resurfaced, we must upgrade sidewalk access ramps to meet the current requirements of the Americans with Disabilities Act (ADA). W. Cabarrus Street from S. Boylan Avenue to Dorothea Drive was one of the streets we resurfaced this year which required sidewalk access ramp upgrades. The scope of work for the resurfacing project does not include removing the step at 1030 W. South Street referenced below.

I have completed and attached a Certificate of Appropriateness Application. I do not have any existing condition photographs but I did include a Word document with some Google Street View screen shots. Please contact me if you have any questions.

Stan Harward
Transportation Inspector Supervisor
City of Raleigh
919.996.5751

From: Donald M Davis [mailto:donalddmdavis@bellsouth.net]
Sent: Thursday, August 21, 2014 12:14 PM
To: Tully, Tania
Subject: Side Walk Step in Boylan Heights

Hi Tania,

This is just a follow-up to the issue I spoke with you about yesterday. As part of the city sidewalk repair, the step in front of 1030 S South St. is going to be removed to make the sidewalk more accessible. The repairmen told the homeowner that removing the step will also mean the removal of part of the low concrete wall that surrounds her property. The home owner would like to retain the wall. I suspect, but am not certain, that the wall is in the right-of-way. I have attached a few pictures.

The house is on the corner of W South St and W Cabarrus St.

While I am reporting things.

A tree in the right-of-way next door to me at 609 S Boylan was badly hacked a couple weeks ago. All the branches that hung over the street (and went through the utility lines) were cut off. There was no COA, nor do I think there was any permit under the city tree ordinance. I assume the landlord authorized the "trimming" since no other trees on the street have been trimmed. Parks and Rec came by the next day and took pictures and told us it was a major no-no. Presumably they are following-up.

I attached a picture of that too, although it was difficult to get a good shot of the damage.

I am not sure what is done after the fact on something like this.

<IMG_9150.JPG>

<IMG_9151.JPG>

<IMG_9153.JPG>

<142-94-CA.pdf>

<040-00-MW_curb_ramps.pdf>

Tully, Tania

From: Harward, Stanley
Sent: Wednesday, September 17, 2014 10:55 AM
To: Tully, Tania
Cc: Nance, George; McGee, Chris
Subject: RE: Side Walk Step in Boylan Heights
Attachments: PW2014-2_CabarrusStreet_SWR_Upgrades.docx

Tania,

The Google Street View screen shots I previously submitted were existing conditions prior to upgrades. The existing ramps did not meet current ADA requirements. Sidewalk ramps must now include a 2'x4' detectable warning surface with truncated domes. When I received your first email, ramp upgrades were already under construction. All locations required the placement of new concrete. Attached are pictures of the upgraded sidewalk ramp locations. Please contact me if you have any questions.

Stan Harward
Transportation Inspector Supervisor
City of Raleigh
919.996.5751
stanley.harward@raleighnc.gov

From: Tully, Tania
Sent: Tuesday, September 16, 2014 4:55 PM
To: Harward, Stanley
Cc: Nance, George; McGee, Chris
Subject: RE: Side Walk Step in Boylan Heights

Hi Stanley –

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Thanks!
Tania

Tania Georgiou Tully, Preservation Planner
Long Range Planning Division
Raleigh Department of City Planning
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tania.tully@raleighnc.gov

COA process information is available [here](#).

PROJECT SPECIAL PROVISIONS

PW 2014-2

SECTION 2**SIDEWALK ACCESS RAMPS AND CURB AND GUTTER CONSTRUCTION****1. Work**

The Contractor shall complete the work in this contract in strict accordance with City Standards. This project consists of constructing or retrofitting identified intersections with sidewalk access ramps. The location of each facility may vary due to existing catch basins, fire hydrants, poles, etc. Prior to beginning any construction, each work site shall be examined by the Contractor and the Public Works Director, at which time the Public Works Director will give specific direction as to the concrete removal limits and location of the new facility.

2. Sidewalk Access Ramps Curb and Gutter Construction

Sidewalk access ramp curb and gutter shall conform to the slopes and dimensions as indicated on the details or as directed by the Public Works Director.

Curb and gutter construction shall be accomplished, when applicable, by the use of a machine sawed cut, utilizing equipment which has been specifically designed for this purpose and approved by the Public Works Director. **A smooth transition shall be provided between the gutter section and the curb section. Also all sharp edges, which were created by the cutting operations, shall be beveled. Grinding if required shall be utilized to accomplish these items.** Concrete debris shall be immediately removed from the job site.

The newly cut curb shall be protected by placing reflectorized traffic cones, barrels or barricades. A minimum of two cones, one barrel or one barricade shall be utilized. The Contractor shall maintain these warning devices, along with any additional warning devices until all sidewalk construction is completed. If any asphalt patching is needed due to damage during construction, the Contractor shall be responsible for repair of these items using hot plant mixed asphalt. If pavement patching is necessary, it shall be incidental to the work and not a pay item.

Curb and gutter which cannot be adequately cut utilizing specialized equipment as noted above shall be removed and replaced by conventional methods. Payment for this item shall include removal, disposal and replacement of new curb and gutter in accordance with the specified slopes, dimensions, etc.

Curb and gutter removal and replacement in areas other than access ramps shall be constructed in accordance with City Standards and shall be of the same type as adjacent curb and gutter.

3. Sidewalk Removal

The Contractor shall be advised that when a portion of any area of concrete sidewalk must be removed, all areas to be removed shall be defined by a machine sawed joint before removal.

Disposal of all waste material from construction sites shall be made in strict accordance with all City ordinances pertaining to disposal of construction waste. It shall be the responsibility of the Contractor to secure the necessary permits and provide all information required to secure said permits. The Contractor shall designate the disposal site prior to beginning construction, and in the event waste material is to be disposed of on private property, a letter from the property owner shall be furnished to the Public Works Director granting the Contractor or their agent such permission and listing the requirements made by the property owner or the Contractor, if any.

The Contractor shall not use the right-of-way for storage of equipment or materials, etc.

4. Sidewalk Access Ramps

Sidewalk access ramps shall be constructed in accordance with City of Raleigh Standard Details which are incorporated into the contract documents. Sidewalk access ramps shall be Single Type N-1A or R-1 and Double Type N-2, N-3, or N-3A at the majority of locations. Types N-2 and N-3 shall utilize flared wings as illustrated in Type N-1A. Existing curb cuts will be utilized where possible. Pay limits are identified on the details however the shaded gutter section of the details will be paid at the curb and gutter removal / replacement rate when applicable. Sidewalk removal and replacement within the pay limits shall be included in the concrete sidewalk access ramp unit rate. Sidewalk removal and replacement outside the pay limits will be paid at the appropriate contract unit rate.

Some locations will require retro-fitting existing sidewalk access ramps with a 2' x 4' detectable warning surface panel. Construction shall include sawing an area at least 2'6" x 4'6" in the existing ramp. Concrete shall be removed and excavated to a depth of 6". A ½ inch expansion joint will be required where new concrete abuts existing concrete. New concrete shall be placed with a 2' x 4' cast-in-place detectable warning surface imbedded into the fresh concrete. New concrete area shall include up to 2.5 square yards. Any additional concrete shall be paid at the 4" or 6" sidewalk replacement rate as applicable.

The detectable warning surface for new and retro-fit ramps shall be cast-in-place and approved by the North Carolina Department of Transportation.

5. Subcontractors

The Contractors (bidders) are advised that subcontractors will be limited to a maximum of 50 percent (50%) of this contract. The successful bidder shall abide by the requirements set forth in Article 37 Subcontractors of the General Conditions.

6. Traffic Control

In addition to items set forth in the General Conditions, Articles 44 and 59, the Contractor shall provide adequate reflectorized barrels, barricades and traffic cones as directed by the Public Works Director, to protect the traveling public as well as pedestrian traffic. In addition, the Contractor will install sidewalk closed signs at every location in which the construction activity may interfere with pedestrian traffic.

7. Granite Curb



The Contractor shall reshape the granite curb, in place, to the grade required by the detail drawings. This work will involve sawing, and or grinding to achieve the desired grade and a texture consistent with the original granite curb.

8. Measurement and Payment

Sidewalk Removal will be measured and paid in square yards, measured along the surface of the actual sidewalk removed. Such price includes, but is not limited to, sawing the existing sidewalk, excavating, removal, disposal, backfilling, seeding, and mulching.

4" Sidewalk Replacement will be measured and paid in square yards, measured along the surface of the completed and accepted work. Such price includes, but is not limited to, forming, furnishing and placing concrete, finishing, constructing and sealing joints, backfilling, seeding, and mulching.

6" Sidewalk Replacement will be measured and paid in square yards, measured along the surface of the completed and accepted work. Such price includes, but is not limited to, forming, furnishing and placing concrete, finishing, constructing and sealing joints, backfilling, seeding, and mulching.

Sawcut and Removal of Concrete Curb will be measured and paid in linear feet, measured along the surface of the top of the concrete curb. Such price includes sawing the existing curb, removal of debris, and beveling or grinding sharp edges.

Sawcut and Removal of Granite Curb will be measured and paid in linear feet, measured along the surface of the top of the granite curb. Such price includes sawing the existing curb, removal of debris, and beveling or grinding sharp edges.

Curb and Gutter Removal / Replacement will be measured and paid in linear feet, accepted in place. Measurement will be made along the surface of the top of the curb. Such price includes sawing the existing curb and gutter, removal of debris, forming, furnishing and placing concrete, finishing, constructing and sealing joints, backfilling, seeding, and mulching.

Concrete Sidewalk Access Ramps will be measured and paid in units of each. Ramps shall be constructed in accordance with the Standard Details. Pay limits are identified on the Standard Details and in Section 4. Single ramps shall be paid as 1 unit and double ramps shall be paid as 2 units. Such price includes, but is not limited to, sawing the existing sidewalk or driveway, removal and disposal of sidewalk, excavating; forming, furnishing and placing concrete, furnishing and installing detectable warning surface, constructing and sealing joints, backfilling, seeding, and mulching.

Retro-Fit Detectable Warning Surface will be measured and paid in units of each. Ramps shall be constructed as described in Section 4. Such price includes, but is not limited to, sawing the existing ramp, removal and disposal of concrete, excavating, furnishing and placing concrete, furnishing and installing detectable warning surface, constructing and sealing joints, and removal of debris.

SIDEWALK ACCESS RAMPS SPECIFICATIONS

1. North Carolina General Statute 136-44.14 requires that all street curbs being constructed or reconstructed for maintenance procedures, traffic operations, repairs, corrections of utilities, or altered for any reason after September 1, 1973 shall provide sidewalk access ramps for the physically handicapped at all intersections where both curb and gutter and sidewalks are provided and at the other points of pedestrian flow.

In addition, Section 228 of the 1973 Federal Aid Highway Safety Act requires provision of curb ramps on any curb construction after July 1, 1976 whether a sidewalk is proposed initially or is planned for a future date.

The Americans with Disabilities Act (ADA) of 1990 extends to individuals with disabilities comprehensive civil rights protections similar to those provided to persons on the basis of race, sex, national origin, and religion under the civil rights act of 1964. The adopted curb ramps have been designed to comply with Title III of the ADA that became effective on January 26, 1992.

City of Raleigh standard curb ramps have been developed in accordance with the Americans with Disabilities Act (ADA) and Public Right of Way Access Guidelines (PROWAG).

2. Sidewalk access ramps shall be provided at locations as shown on the plans or as directed by the Public Works Director. Sidewalk access ramps shall be located as indicated in these details; however, the location may be adjusted as directed by the Public Works Director where existing light poles, fire hydrants, drop inlets, etc. affect placement.
The Contractor shall at no time remove any street sign without prior approval from the Public Works Director.
3. Subgrade Preparation: The subgrade for sidewalks and access ramps shall be formed by excavating to the required depth, shaped to the proper cross-section, and shall be thoroughly compacted by rolling or tamping before placing any concrete.
4. Forms: Forms used in constructing sidewalks shall be of wood or metal, of the full depth of the concrete, straight, free from warp, and of sufficient strength, and/or of a flexible material pre-approved before construction by the Public Works Director as to allow for narrowing, mounding, and curving of walks. They shall be staked securely enough to resist the pressure of the concrete without springing.

If of wood, they shall be of two (2) inch surfaced plank. All forms shall be subject to the approval of the Public Works Director. All wood forms shall be thoroughly wetted and metal forms oiled before placing concrete. All forms shall be thoroughly cleaned before re-use.
5. Placing Concrete: No concrete shall be placed until the forms and subgrades have been approved by the Public Works Director. The subgrade shall be thoroughly wetted and the concrete shall be placed thereon in one course to the required depth. The concrete shall be consolidated and struck off with a template to the required grade and cross section.
6. Joints: Contraction joints shall be provided uniformly to separate the slab and shall be cut in a straight line to a depth equal to at least one-third (1/3) of the total slab thickness. The joint shall be not less than one-eighth (1/8) inch no more than one-fourth (1/4) inch in width.
7. Finishing: After the freshly poured concrete has been brought to at the established grade, it shall be floated to produce a surface free from irregularities. The final surface shall be obtained by troweling with a steel trowel or hand float and brushing lightly with a light weight brush in a transverse direction so as to produce a uniform gritty surface of the proper texture. All edges and joints shall be rounded to one-fourth (1/4) of an inch.
8. Cold Weather Pouring: Concreting operations shall not be undertaken or continued when the surrounding air temperature is below 40°F or the local weather reports indicate the possibility of temperatures of 32°F or lower within the ensuing 24 hours unless provisions are made to insulate or heat the concrete in a manner satisfactory to the Public Works Director. In any event, the Contractor shall plan and protect his/her work in a manner which will assure satisfactory results. Any concrete damaged by freezing shall be removed and replaced by the Contractor at his/her own expense.

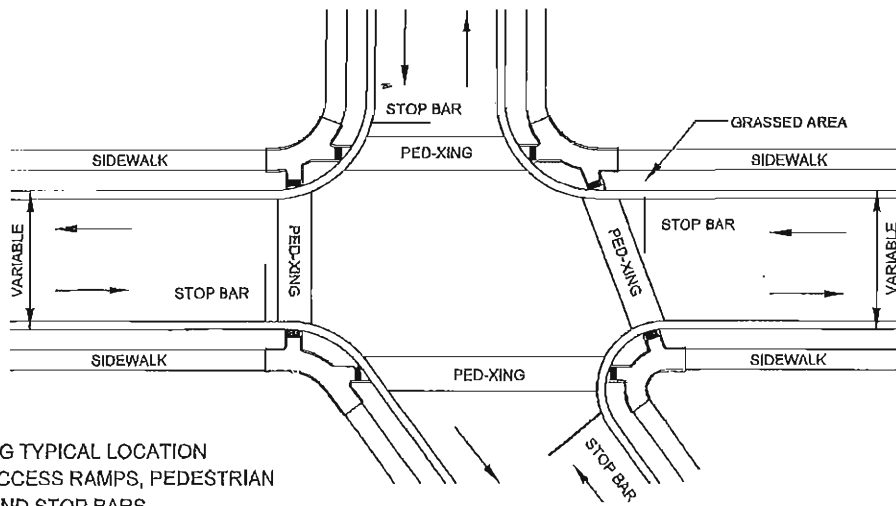
Concrete, when deposited in the forms, shall have a temperature of not less than 50°F nor more than 90°F. The concrete shall be maintained at a temperature of not less than 50°F for a period of at least 72 hours in the case of normal concrete or 24 hours when high early cement is used. Concrete shall not be deposited on a frozen subgrade.

The North Carolina Department of Transportation Standard Specifications for Roads and Structures, Latest Edition Section 420-7 "Placing Concrete in Cold Weather" (A), (B), and (C) will be strictly adhered to for this alternate, unless directed by the Public Works Director.

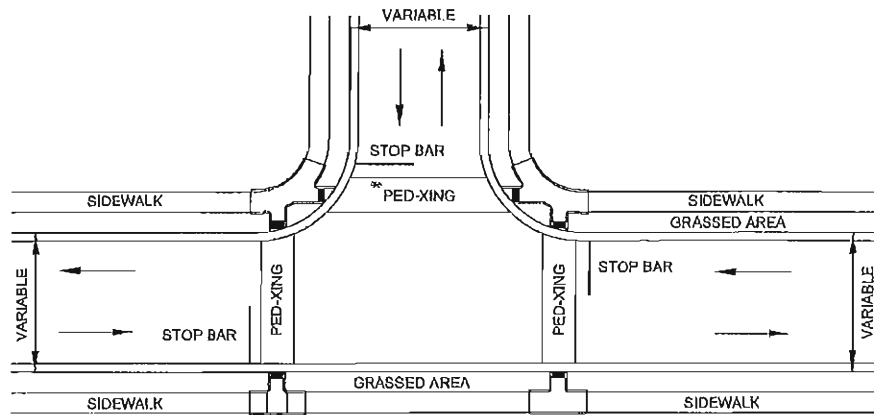
9. Removal of Forms and Backfilling: After the concrete has set sufficiently the forms shall be removed and the spaces on both sides shall be immediately backfilled with suitable earth, uniformly spread and compacted. The areas between the curb and sidewalk and immediately back of the sidewalk shall be left in a smooth, neat, and workmanlike condition. When necessary the backfill material will be sloped further to account for change in slope or grade as directed by the Public Works Director.

Special attention shall be given in the seeding and mulching in the established areas. **Lawn quality care shall be taken and appropriate seed used to match existing lawn types on a lot per lot basis.** Seeding, mulching, and seedbed preparation shall be approved by the Public Works Director prior to acceptance and payment. Backfilling, seeding and mulching is considered incidental to the completion of the sidewalk access ramp and as such no separate pay item is included.

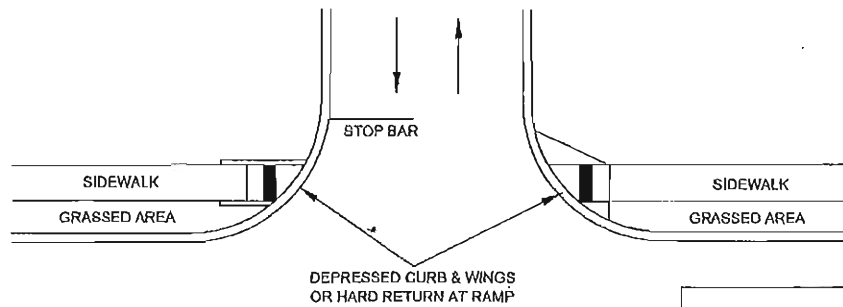
10. Removal of Defective/Damaged Work: The Public Works Director shall have the authority to and shall require the removal of any sidewalk laid under these specifications which does not conform to the requirements as set forth herein or existing sidewalk damaged by the Contractor. Upon notification by the Public Works Director, the Contractor shall take immediate action to correct the faulty work, or damaged work, at the Contractor's own expense.
11. Construction Water:
- A. Contractors are responsible for securing adequate construction water for their job sites.
 - B. All construction water usage must be metered and will be billed to the Contractor. The Contractor must contact the Public Utilities Department, Meter Services Division (250-2737) to make the applicable arrangements for billing the water usage. The Contractor may not provide his/her own meter. Upon advance notice to the Public Utilities Department, a meter equipped with a backflow device can be rented at the expense of the Contractor.
 - C. Construction water for all City contract projects shall be billed by the City of Raleigh, Public Utilities Department.
 - D. Contractors must furnish the following information for water usage.
 - 1. Meter location and project name.
 - 2. Address where applicable and responsible party name.
 - 3. Duration of use and frequency of meter reading.



DETAIL SHOWING TYPICAL LOCATION OF SIDEWALK ACCESS RAMPS, PEDESTRIAN CROSSWALKS AND STOP BARS.



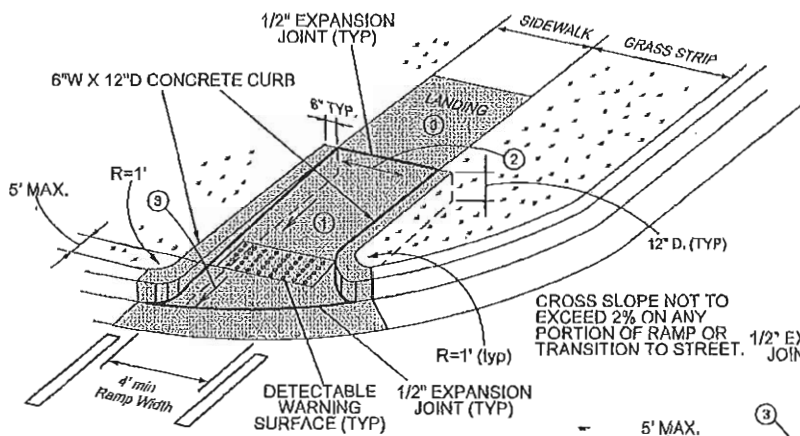
DETAIL SHOWING TYPICAL LOCATION OF SIDEWALK ACCESS RAMPS PEDESTRIAN CROSSWALKS AND STOP BARS FOR TEE INTERSECTION.



FOR RAMPS AT ASPHALT TO ASPHALT STREET TYPE DRIVEWAYS OR PRIVATE STREET TIE IN.

SHEET 1 OF 6

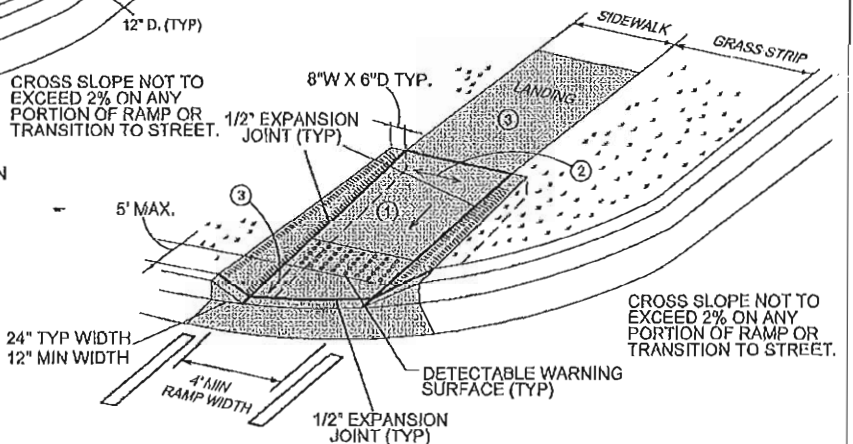
CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 01/13	NOT TO SCALE
	CURB RAMPS	
	T-20.01.1	



CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"

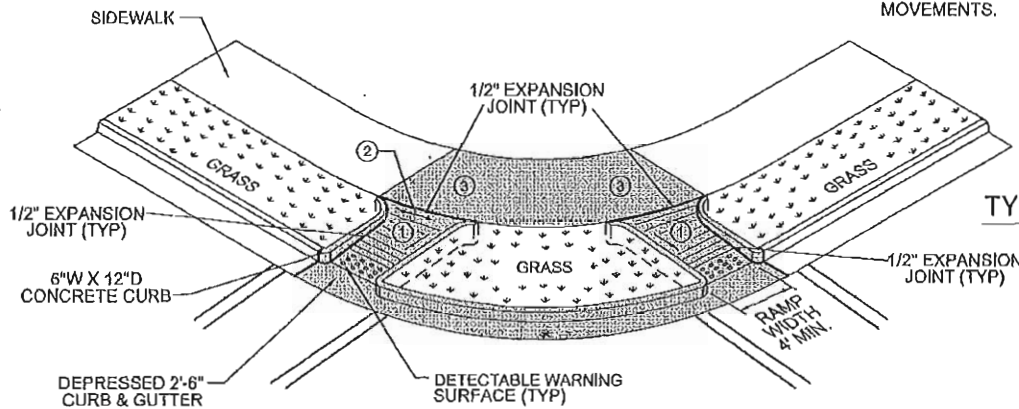
TYPE N-1 (CURB TYPE)

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



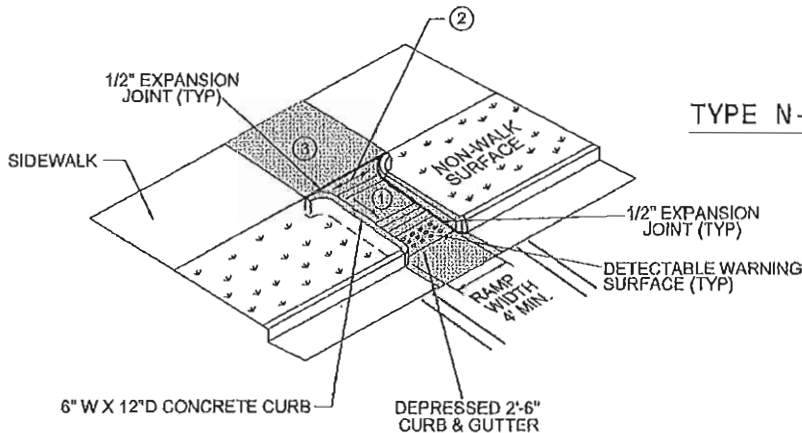
TYPE N-1A (FLARE TYPE)

NOTE: USE SMALL FLARES ONLY WHEN A CURB TYPE DIRECTLY CONFLICTS WITH APPROACHING VEHICULAR TURNING MOVEMENTS.



TYPE N-2 (RADIUS)

CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"



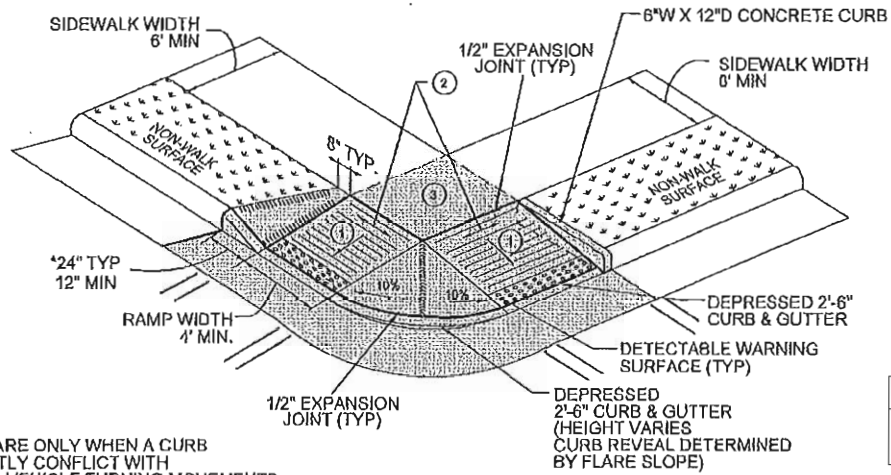
TYPE N-2 (TEE INTERSECTION)

SHEET 2 OF 6

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 9/1/13	NOT TO SCALE
CURB RAMPS (NEW DEVELOPMENT)		
T-20.01.2		



PAY LIMITS FOR CURB RAMP

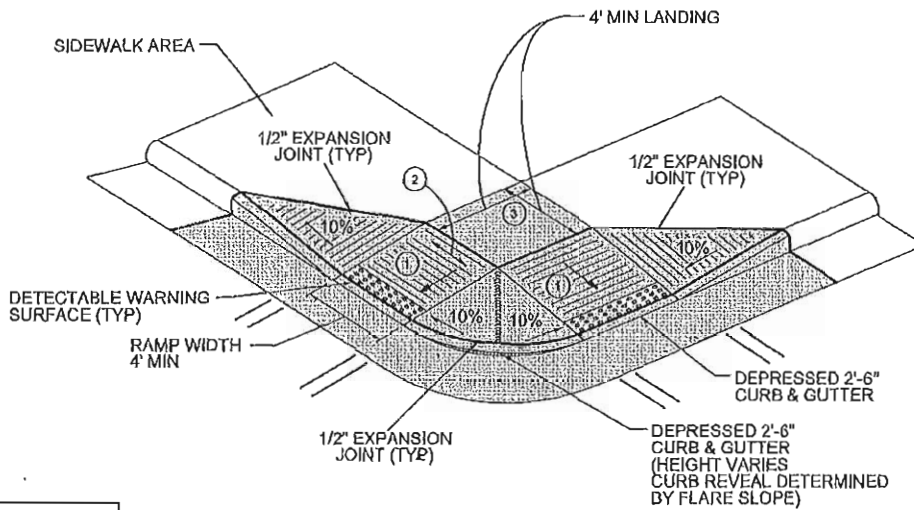


NOTE: * USE SMALL FLARE ONLY WHEN A CURB WOULD DIRECTLY CONFLICT WITH APPROACHING VEHICLE TURNING MOVEMENTS.

CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"

TYPE N-3

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

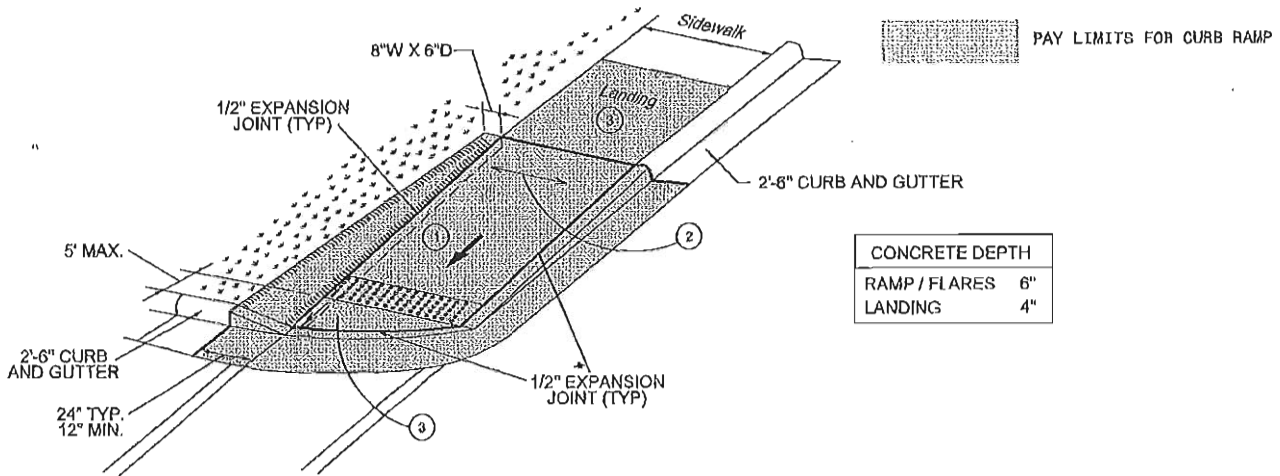


CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"

TYPE N-3A (COMMERCIAL/RETAIL USE)

SHEET 3 OF 6

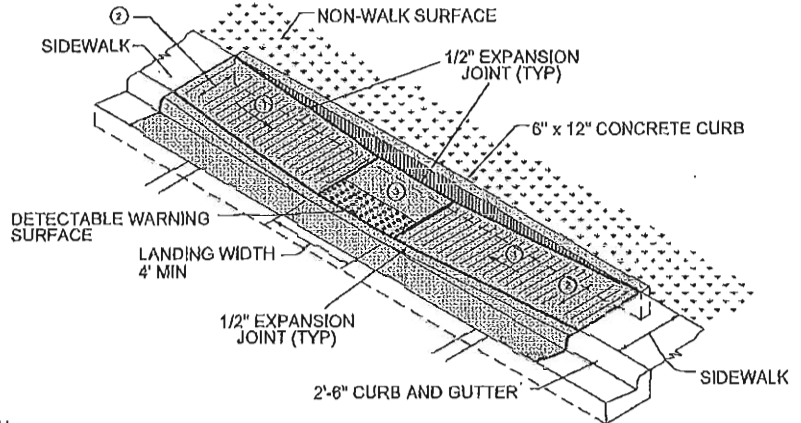
CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 9/1/13	NOT TO SCALE
SIDEWALK ACCESS RAMPS		
T-20.01.3		



TYPE R-1

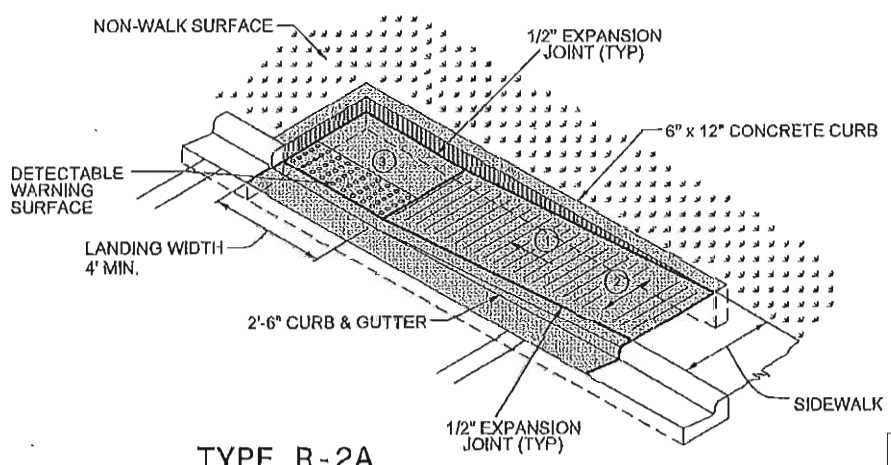
CONCRETE DEPTH	
RAMP / FLARES	6"
LANDING	4"

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE R-2

(USE ONLY WHERE WATER WILL NOT POND WITHIN LANDING)



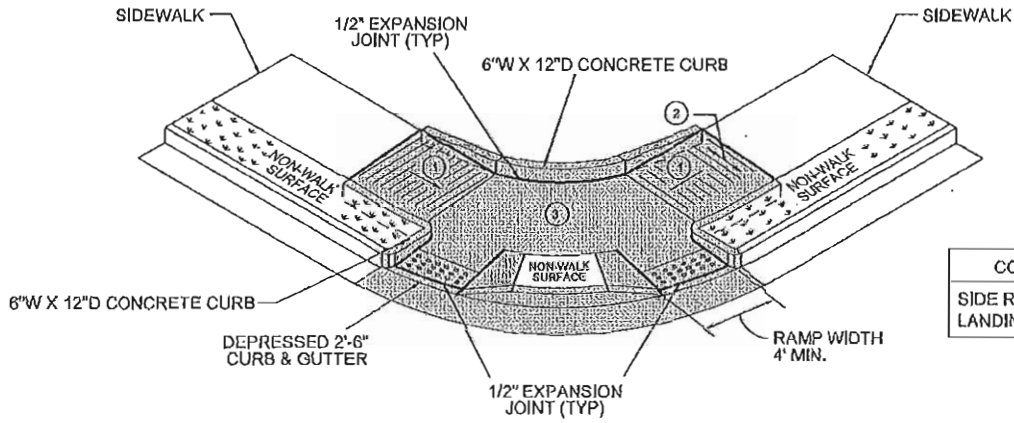
TYPE R-2A

CONCRETE DEPTH	
RAMP	4"
LANDING	4"

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 9/1/13	NOT TO SCALE
CURB RAMPS (RETROFIT)		
T-20.01.4		



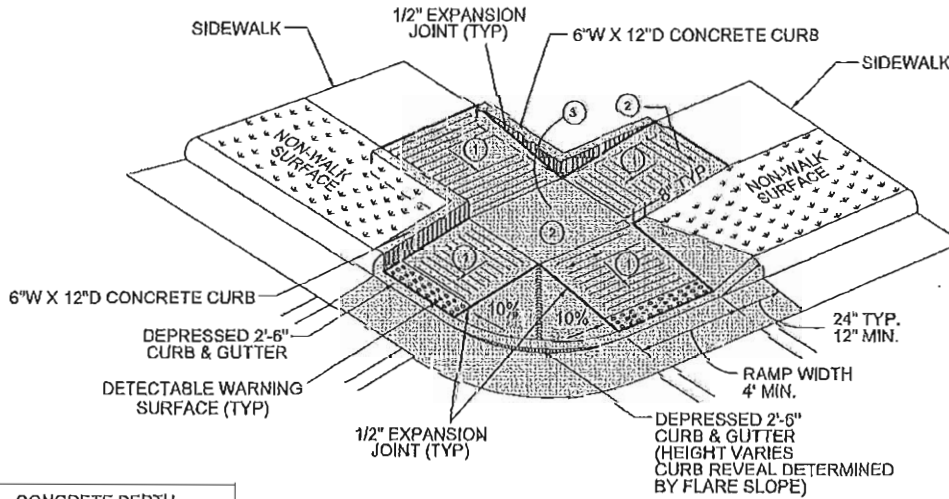
PAY LIMITS FOR CURB RAMP



CONCRETE DEPTH	
SIDE RAMPS	4"
LANDING & OPENINGS	6"

TYPE R-3

- ① 8.33% (12:1) MAX RAMP SLOPE
- ② CROSS SLOPE: 2.00%
- ③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



CONCRETE DEPTH	
SIDE RAMPS	4"
LANDING & CURB RAMPS	6"

TYPE R-4

SHEET 5 OF 6

CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT

REVISIONS	DATE: 01/13	NOT TO SCALE

CURB RAMPS
(RETROFIT)

T-20.01.5

CITY OF RALEIGH
CURB RAMPS
GENERAL NOTES

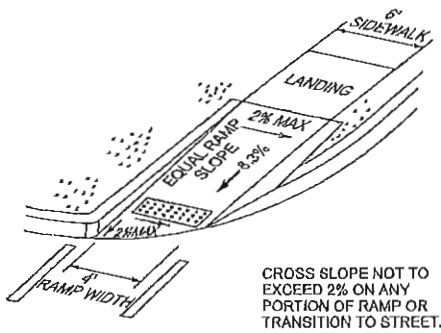
1. CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
2. CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.

DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.
3. THE WALKING SURFACE SHALL BE SLIP RESISTANT. COLORS FOR THE DETECTABLE WARNING AREA SHALL BE DARK CHARCOAL GRAY FOR CONTRAST WITH LIGHT PATHWAY COLORS AND LIGHT CONCRETE GRAY FOR CONTRAST WITH DARK PATHWAY COLORS.
4. NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1"/FT (12:1) IN RELATIONSHIP TO THE GRADE OF THE STREET.
5. IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" HOWEVER, RAMP MAY EXCEED 48".
6. USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
7. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
8. CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

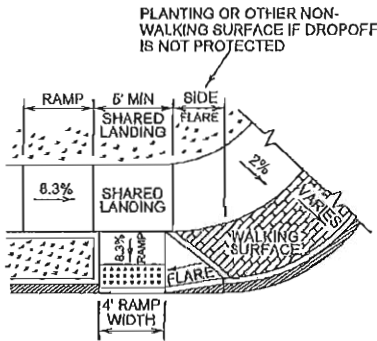
SHEET 6 OF 6

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT	
REVISIONS	DATE: 9/1/13 NOT TO SCALE
	CURB RAMP NOTES
T-20.01.6	

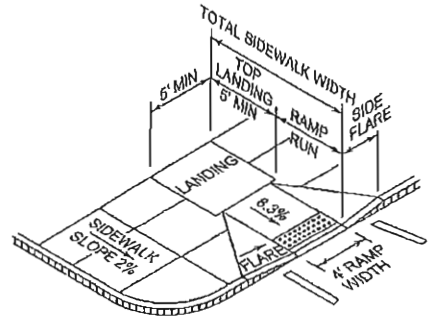
TYPE N-1 & N-1A



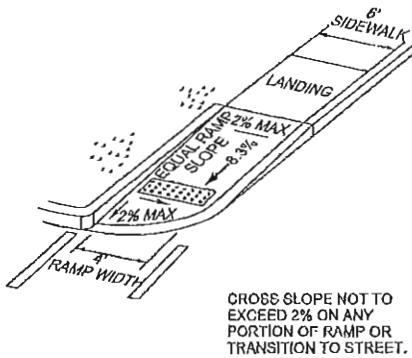
TYPE N-2 & N-3



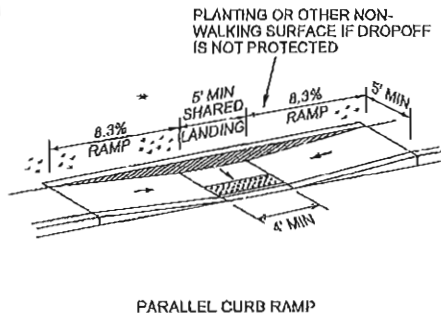
TYPE N-3A



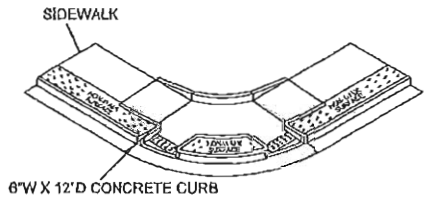
TYPE R-1



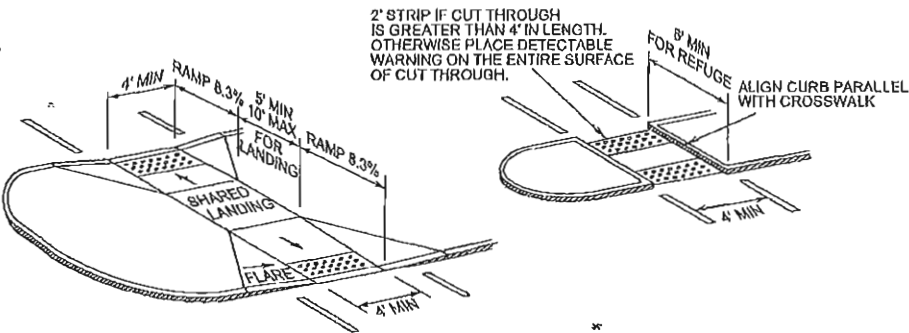
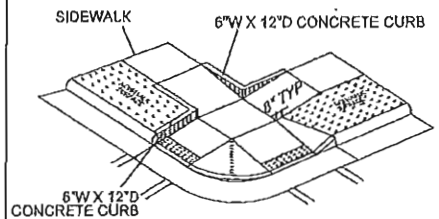
TYPE R-2



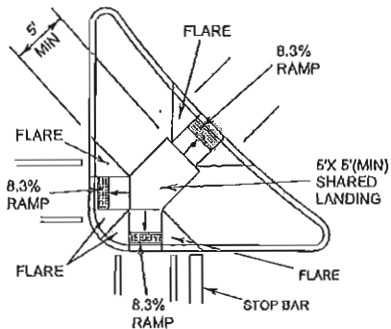
TYPE R-3



TYPE R-4



CURB RAMP AT MEDIAN ISLANDS



DETECTABLE WARNING SURFACE SHALL EXTEND FULL WIDTH OF SIDEWALK OR RAMP

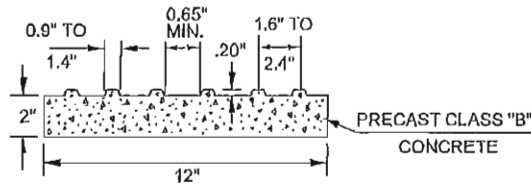
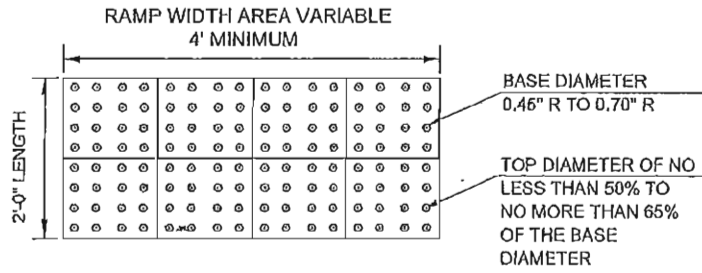
SHEET 1 OF 4

CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT

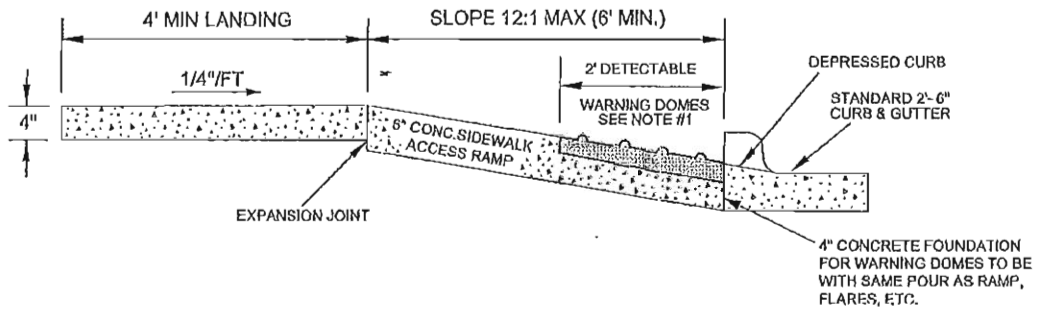
REVISIONS DATE: 9/1/13 NOT TO SCALE

DETECTABLE WARNING SURFACE PLACEMENT

T-20.04.1



DETECTABLE WARNING
DOMES CONCRETE PAVER



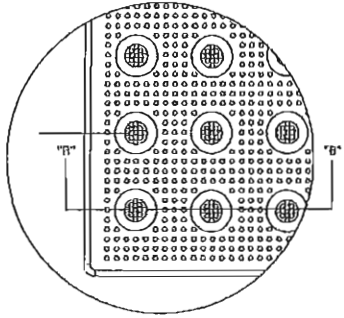
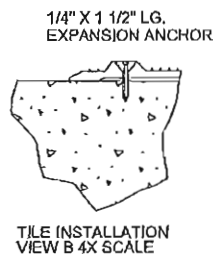
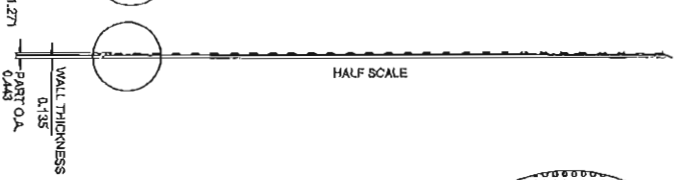
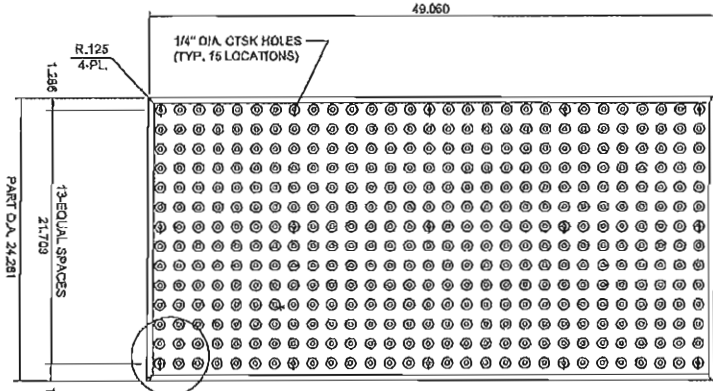
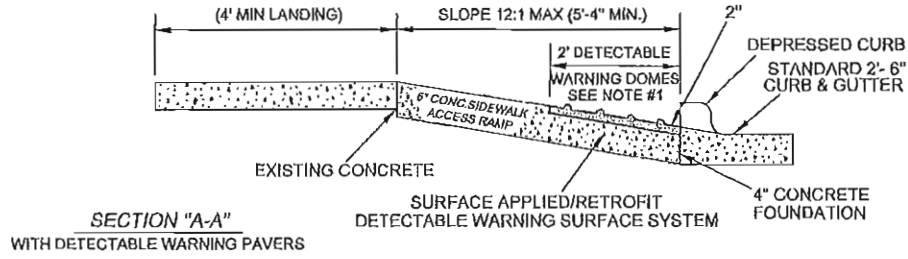
RAMP SECTION
WITH DETECTABLE WARNING PAVERS

NOTES:

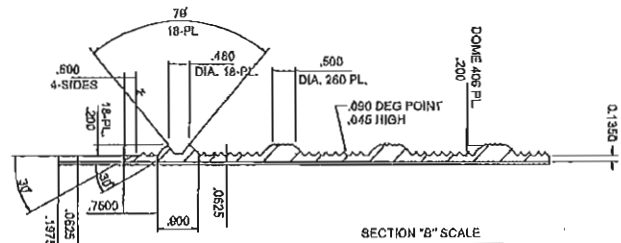
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL. SIZE OF PAVER SHALL BE 1' X 1'.
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT ON DARK, OR DARK ON LIGHT SEQUENCE COVERING THE DETECTABLE WARNING AREA.

SHEET 2 OF 4

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 8/1/13	NOT TO SCALE
	DETECTABLE WARNING SURFACE PAVERS	
	T-20.04.2	



NOTE:
THIS APPLICATION ONLY TO BE USED
WHEN RETRO FITTING EXISTING
BARRIER FREE RAMPS

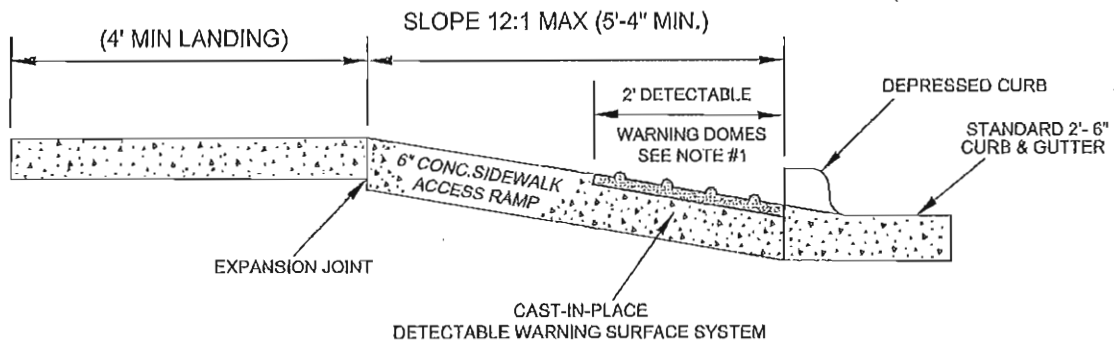


SHEET 3 OF 4

- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.
 2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT ON DARK, OR DARK ON LIGHT SEQUENCE COVERING THE DETECTABLE WARNING AREA.

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 8/11/13	NOT TO SCALE
DETECTABLE WARNING SURFACE, SURFACE APPLIED (RETROFIT ONLY)		
T-20.04.3		

RAMP SECTION
WITH DETECTABLE WARNING SURFACE
CAST-IN-PLACE SYSTEM



NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT ON DARK, OR DARK ON LIGHT SEQUENCE COVERING THE DETECTABLE WARNING AREA.

SHEET 4 OF 4

CITY OF RALEIGH PUBLIC WORKS DEPARTMENT		
REVISIONS	DATE: 9/1/13	NOT TO SCALE
		DETECTABLE WARNING CAST-IN-PLACE
		T-20.04.4

CABARRUS ST/BOYLAN AV, NW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/BOYLAN AV, NW



CABARRUS ST/BOYLAN AV, SW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/BOYLAN AV, SW



CABARRUS ST/CUTLER ST, NE



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/CUTLER ST, NE



CABARRUS ST/CUTLER ST, NW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/CUTLER ST, NW



CABARRUS ST/CUTLER ST, SE



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/CUTLER ST, SE



CABARRUS ST/CUTLER ST, SW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/CUTLER ST, SW



CABARRUS ST/LENOIR ST, NE



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/LENOIR ST, NE



CABARRUS ST/LENOIR ST, NW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/LENOIR ST, NW



CABARRUS ST/LENOIR ST, SE



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/LENOIR ST, SE



CABARRUS ST/LENOIR ST, SW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/LENOIR ST, SW



CABARRUS ST/SOUTH ST, SW



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/SOUTH ST, SW



CABARRUS ST/SOUTH ST, SE



CABARRUS STREET SIDEWALK RAMP UPGRADES

CABARRUS ST/SOUTH ST, SE

