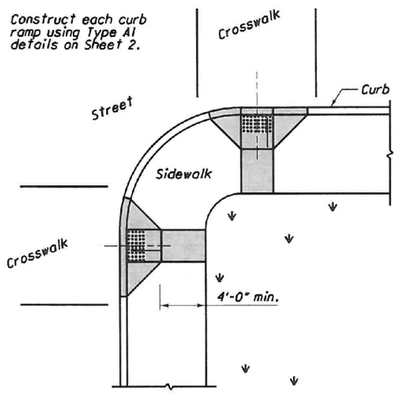
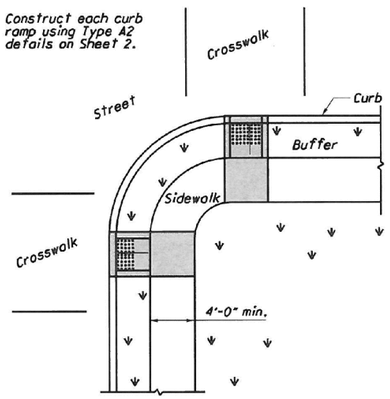
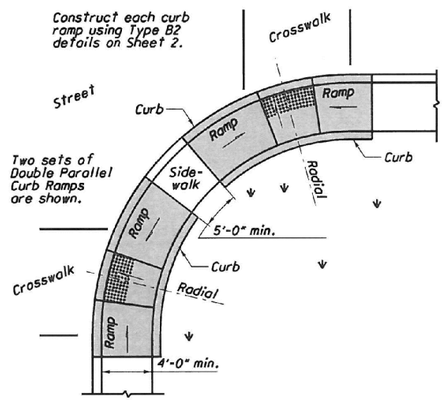


Use curb ramps with flared sides at locations with wide sidewalks.



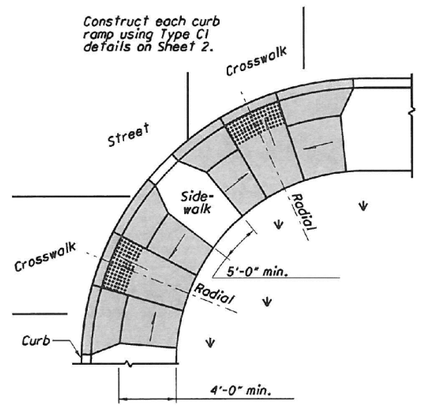
Use curb ramps with returned curbs where buffer is wide enough to accommodate ramp slope.

PERPENDICULAR CURB RAMPS



Place on streets having wide turning radius and where sidewalks are narrow.

PARALLEL CURB RAMPS



Curb ramp placement where streets have wide turning radius, and sufficient sidewalks width.

COMBINATION CURB RAMPS

PREFERRED CONSTRUCTION PLACEMENT

NOTES

GENERAL: This drawing shows curb ramp types details and placement examples for curb ramp construction, including the installation of detectable warnings.

Curb ramp types are shown on Sheet 2 and include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown on the project plans.

Curb ramps added to an existing intersection or walk should be individually detailed on the project plans to assure that the design is appropriate for site constraints and all items can be constructed to ADA standards. The contractor may adjust the placement of curb ramps if existing field conditions warrant with the approval of the Engineer.

DETECTABLE WARNINGS: Install Detectable Warnings on each curb ramp with approved materials, as shown on Sheet 3. Install these proprietary products as per manufacturer's written instructions.

DRAINAGE: Contractor is to ensure the base of each constructed curb ramp allows for proper drainage, without exceeding allowable cross slope or ramp slopes. Vertical change in level exceeding ¼" between the 1) pavement and gutter, and 2) gutter and ramp, are not allowed.

SURFACE TEXTURE: Texture concrete surfaces by coarse brooming transverse to the ramp slopes to be rougher than the adjacent walk.

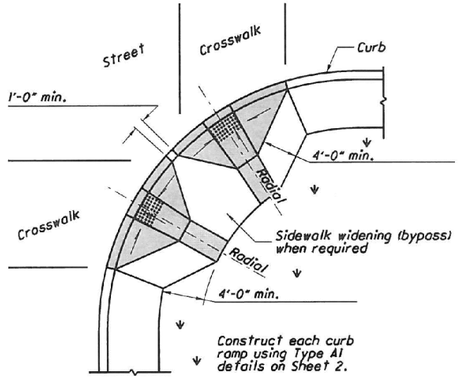
JOINTS: Provide expansion joints in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. Provide a ½" Item 705.03 expansion joint filler around the edge of ramps built in existing concrete walks. Lines shown on this drawing indicate the ramp edges and slope changes, and do not necessarily indicate joint lines.

PAYMENT: Measure and pay for the ramp area within the shaded limits of this drawing as Item 608 Curb Ramp, Square Foot. This includes the cost of the ramp curbing, detectable warnings, landing areas and any additional materials, installation, grading, forming, and finishing required within the shaded area.

Work beyond the shaded ramp/landing area is paid for as curb (609) and walk (608). Removal of existing curb, walk (or existing curb ramps) are paid under Item 202.

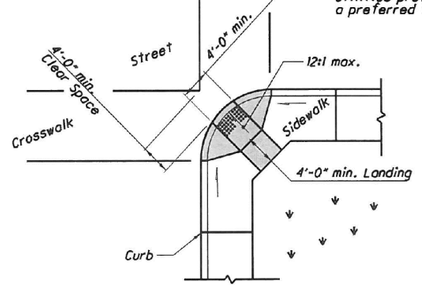
For at-grade crossing locations where only detectable warnings are required in order to acheive ADA compliance, measure and pay for the strip of detectable warnings as Item 608 Detectable Warning, Square Foot. The work to cast the tiles in place will also require removal of existing pavement (Item 202) to the nearest joint, or if no joint exists, a minimum of 4 feet.

Acceptable design on corners with wide turning radius where user is able to maneuver within crosswalk limits so as not to encroach into adjacent traveled lanes.



PERPENDICULAR RAMPS

Acceptable design for retrofit only where utilities prevent using a preferred layout.



Use this design only for existing walks, and when site constraints prohibit other designs. The diagonal type D ramp may be constructed as either a Perpendicular, Parallel or Combination curb ramp type. Avoid using where curb radii are less than 20'-0".

DIAGONAL RAMP (Type D)

ACCEPTABLE CONSTRUCTION PLACEMENT

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Dick B. Bacon — ADMINISTRATOR — 10-15-10 DATE

STDS. ENGINEER: M. Bline

OFFICE OF ROADWAY ENGINEERING

THIS DRAWING REPLACES BP-7.1 DATED 1-19-07.

STANDARD ROADWAY CONSTRUCTION DRAWING
NEW CURB RAMPS
(with Detectable Warnings)

SCD NUMBER BP-7.1

1 / 3

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MAY 2012

APPROVED BY: RMB

DRAWING FILE NAME: **ce_33.dwg**

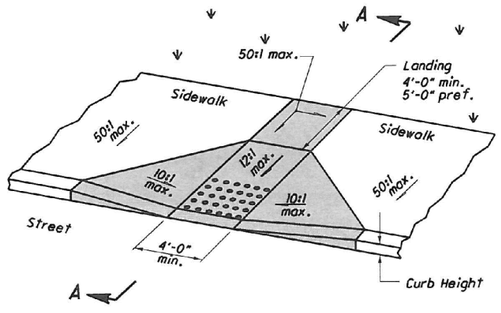
REVISIONS

DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB
WET PANELS PRIMARY DOME MAT	JAN 2015	RMB

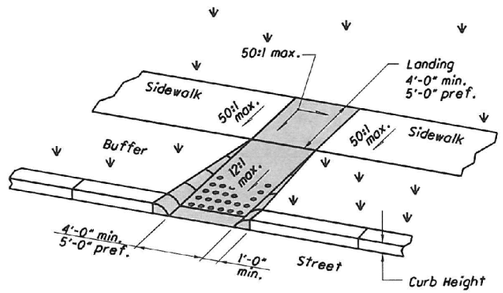
STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP

SHEET 1 OF 4

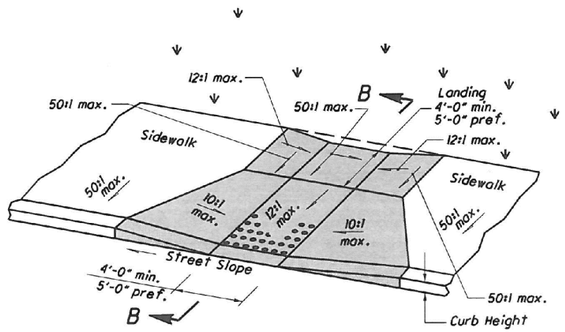


Type A1 (Perpendicular with flared sides)

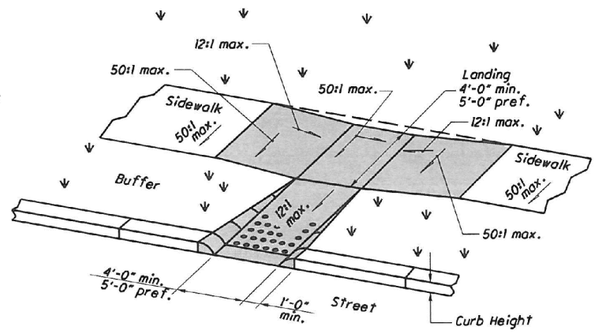


Type A2 (Perpendicular with returned curb)

PERPENDICULAR CURB RAMP DETAILS

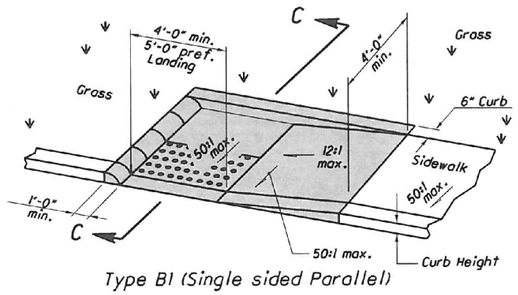


Type C1 (Combined with flared sides)

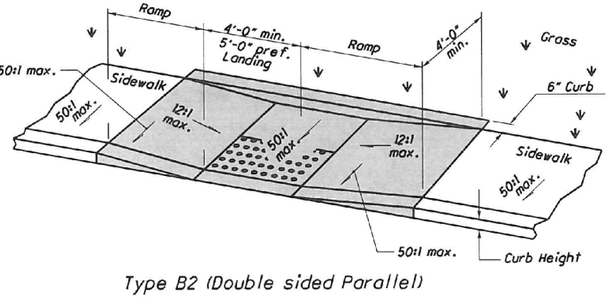


Type C2 (Combined with returned curb)

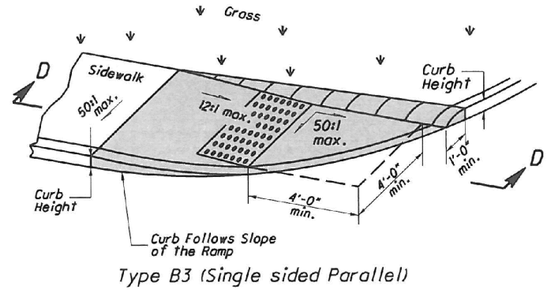
COMBINED CURB RAMP DETAILS



Type B1 (Single sided Parallel)



Type B2 (Double sided Parallel)



Type B3 (Single sided Parallel)

PARALLEL CURB RAMP DETAILS

NOTES

The running slope of the ramp is preferred to be 12:1 or flatter. In existing sidewalks, where the maximum ramp slope is not feasible due to site constraints (e.g. utility poles or vaults, right-of-way limits) it may be reduced as follows:

A) 10:1 for a max. rise of 6",
B) 8:1 for a max. rise of 3",
C) 6:1 over a max. run of 2'-0" for historic areas where a flatter slope is not feasible.

To prevent chasing the grade indefinately, the transition from exisiting sidewalk to the shaded curb ramp area is not required to exceed 15 feet in length.

While ramps may be skewed to the crosswalk, the entire lower landing area must foll within the cross walk that the ramp serves and cannot be located in the traveled lane of opposing traffic.

The counter slope of the gutter or street at the foot of a curb ramp, landing, or blended transitions shall be 20:1 ot flatter.

The bottom edge of the ramp shall change planes perpendicular to the landing.

The edge of the curb shall be flush with the edge of the adjacent pavement and gutter and surface slopes that meet grade breaks shall also be flush.

Ramp landings shall be 4' min. x 4' min. with a 50:1 or flatter cross slope and running slope.

See Sheet 3 for Sections.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Dick Bauer, ADMINISTRATOR — 10-15-10 DATE

STDS. ENGINEER: W. Bline

OFFICE OF ROADWAY ENGINEERING

STANDARD ROADWAY CONSTRUCTION DRAWING
NEW CURB RAMPS (with Detectable Warnings)

SCD NUMBER: BP-7.1

2 / 3

THIS DRAWING REPLACES BP-7.1 DATED 1-19-07.

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MAY 2012

APPROVED BY: RMB

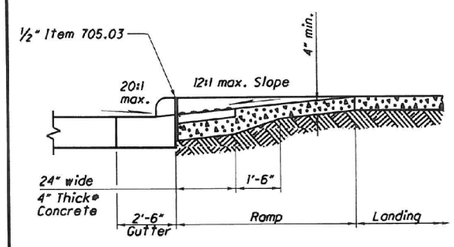
DRAWING FILE NAME: **ce_33.dwg**

REVISIONS

DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB

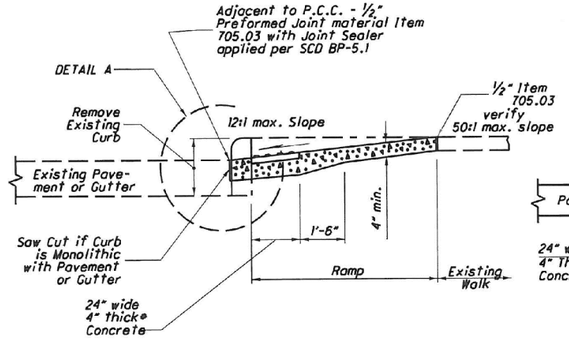
STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP

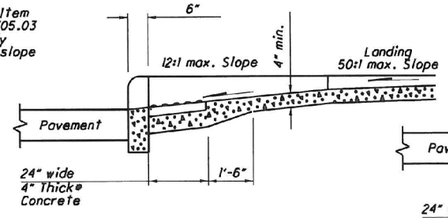


New gutter shown.

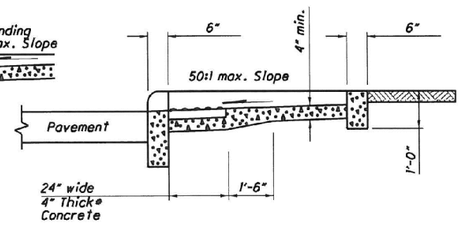
SECTION A-A
NORMAL DETAIL
See Sheet 2.



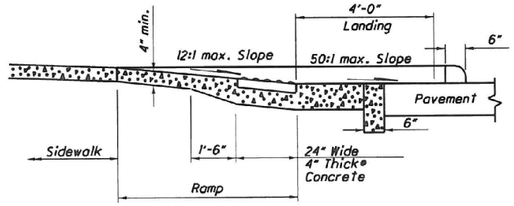
SECTION A-A
EXISTING WALK DETAIL
See Sheet 2.



SECTION B-B
See Sheet 2.

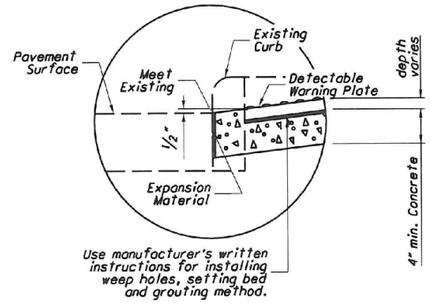


SECTION C-C
See Sheet 2.

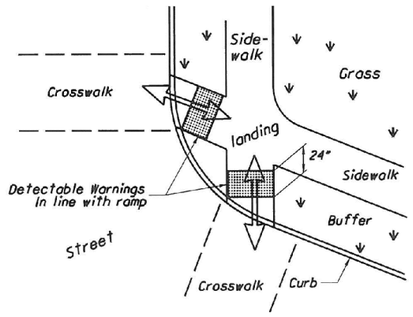


SECTION D-D
See Sheet 2.

*Where possible, pour ramp area integral with the curb, otherwise use 6" thick walk.



DETAIL A



DETECTABLE WARNING ALIGNMENT

DETECTABLE WARNINGS NOTES

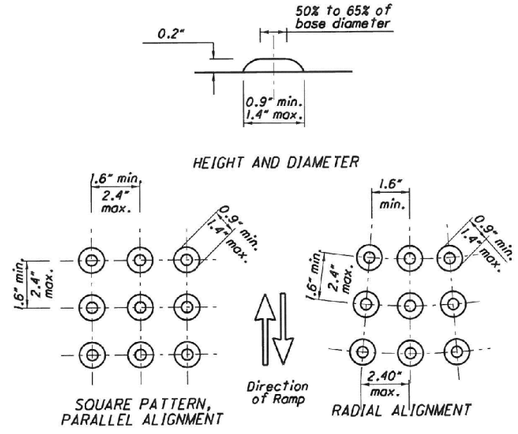
GENERAL: Detectable Warnings are a distinctive surface pattern of truncated domes which are detectable by cane or underfoot to alert people with vision impairments of their approach to streets and hazardous drop-offs.

PLACEMENT: Detectable warnings are to be installed at any location where pedestrians might cross paths with vehicular traffic lanes, such as the base of curb ramps or at blended curbs. A 24" strip of domes is to be installed for the full width of the ramp or walk. Typical street corner placement locations are shown on Sheet 1.

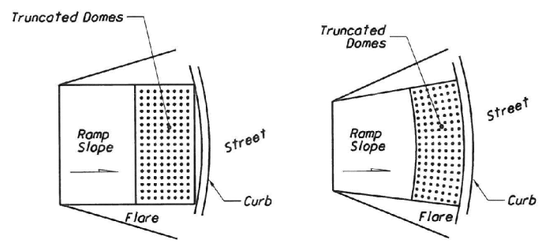
The depth of concrete underneath detectable warning products shall be a minimum of 4". See DETAIL A.

ALIGNMENT: Truncated domes should be aligned with the primary direction of the ramp as shown on the DETECTABLE WARNING ALIGNMENT Detail. Normally the detectable warnings should be flush with the back of the curb, but in skewed conditions at least one corner of the 24" strip should be adjacent to the back of curb. For non-standard layouts, detectable warning materials may have to be mitered and placed segmentally.

PRODUCTS & COLORS: Color of the detectable warnings should contrast with surrounding concrete walk and ramp. Black is not an acceptable color. Approved products and guidance on color may be found on the Office of Roadway Engineering Service's Detectable Warnings Approved List. Install products as per manufacturer's printed instructions.



TRUNCATED DOMES DETAILS



DOME ALIGNMENT ON RADIUSED CURB

SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Dick Bryan — ADMINISTRATOR — 10-15-10 DATE

STDS. ENGINEER: M. Bline

OFFICE OF ROADWAY ENGINEERING

STANDARD ROADWAY CONSTRUCTION DRAWING
NEW CURB RAMPS
(with Detectable Warnings)

SCD NUMBER BP-7.1

THIS DRAWING REPLACES BP-7.1 DATED 1-19-07.

3 / 3

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MAY 2012

APPROVED BY: RMB

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REVISIONS		
DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB

STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP

DETECTABLE WARNING DOMES

PANELS, WET SET

REPLACEABLE TRUNCATED DOME PANELS SET IN WET CONCRETE MUST BE USED IN RAMPS WITHININ THE CITY OF CANTON, UNLESS APPROVED OTHERWISED BY THE CITY ENGINEER.

Acceptable manufacturers and prducts are:

1) Armorcast Products Company
North Hollywood, CA 818-982-3800
Armorcast Detectable Warning Panels (Wet Set Panels)
24"x24", 24"x36", 24"x48"; also 6'-15' Radius
Polymer Concrete, Red Brick color

2) ADA Solutions, Inc.
N. Billerica, MA 01862
Cast-in-Place Replaceable Tactile (Wet Set)
2'x3', 2'x4', 2'x5', and 2' w/radius
Glass and Carbon Composite, Brick Red color

OR APPROVED EQUAL

BRICK PAVERS

TRUNCATED DOME BRICK PAVERS ARE ONLY TO BE USED/INSTALLED AT THE DISCRETION OR APPROVAL OF THE CITY ENGINEER.

Brick Pavers will meet ASTM C 902 Class SX, Type 1, or
C 936, or C 1272 Type R.
Acceptable manufacturers and products are:

1) Whitacre-Greer Fireproofing Company,
1400 S. Mahoning Ave, Alliance, OH, 44601, (800) WG PAVER
ADA Paver, 4"x8"x2-1/4", Clear Red (Rustic) #30.

2) The Belden Brick Company
PO Box 20910, Canton, OH 44701 330-456-0031
City Line ADA Paver, Regimental Red 2-1/4"x4"x8" or 2-1/4"x8"x8"

OR APPROVED EQUAL.

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. SWEEP POLYMERIC SAND (TECHNI SEAL OR APPROVED EQUAL) INTO JOINTS. Joint width must not exceed 1/8" or be less than 1/16" wide.

Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

The surface of any two adjacent units should not differ by more than 1/8" [3] in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during constructionn.

ADHESIVE MATS

REPLACEABLE TRUNCATED DOME MATS THAT SET ON CONCRETE RAMPS BY ADHESIVE WILL ONLY BE CONSIDERED IN THE EVENT AN EXISTING WHEEL CHAIR RAMP NEEDS DETECTABLE WARNING DOMES INSTALLED AND THE RAMP REQUIRES NO OTHER MODIFICATIONS. USE OR INSTALLATION OF ADHESIVE MATS IS SUBJECT TO THE CITY ENGINEER'S DISCRETION OR APPROVAL.

Acceptable manufacturers and prducts are:

1) Submit product specification, color and sample for review/approval by the City Engineer

OFFICE OF THE CITY ENGINEER
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APPROVED DATE: MAY 2012

APPROVED BY: RMB

DRAWING FILE NAME: **ce_33.dwg**

REVISIONS

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WET PANELS PRIMARY DOME MAT	JAN 2015	RMB

STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP