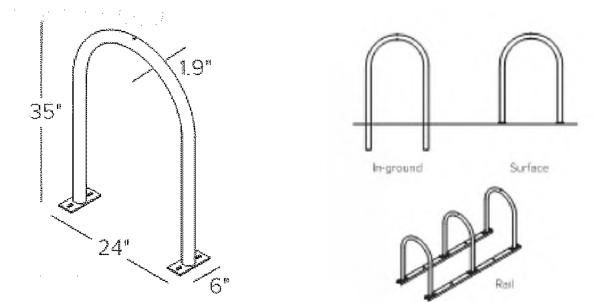


**CONFIGURATION S-COMB-4:** TYPE B,C CURB RAMP SINGLE COMPOUND. DIAGONAL, GRASS BUFFER (SINGLE COMPOUND WHEN



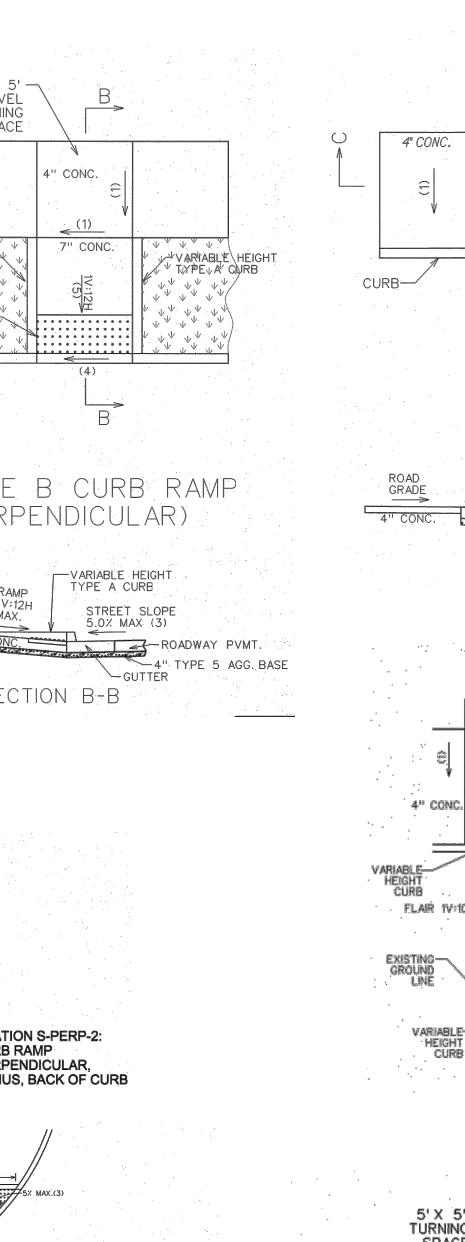
MATERIALS: 1.5" SCHEDULE 40 PIPE (1.9" OD)

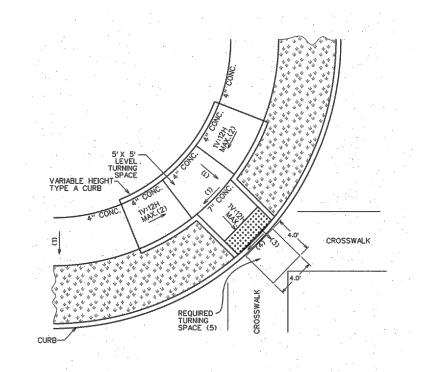
FINISHES: STAINLESS STEEL; 304 GRADE STAINLESS STEEL MATERIAL FINISHED IN EITHER A HIGH POLISHED SHINE OR A SATIN FINISH.

MOUNT OPTION: SURFACE, FOOT MOUNT HAS TWO 2.5" X 6" X 0.25" FEET WITH TWO ANCHORS PER FOOT.

**BIKE RACK DETAIL** 

DWG: PAGE SAVE I





SERVING ONLY ONE DIRECTION)

~VARIABLE HEIGHT -VARIABLE HEIGHT **TURNING** TURNING TYPE A CURB 7" CONC. 7" CONC. 7" CONC. (4) (4) 7" CONC. 7" CONC. 1V:12H (5) 6' WIDTH ' WIDTH -VARIABLE VARIABLE DETECTAL WARNING HEIGHT HEIGHT WARNING

CURB

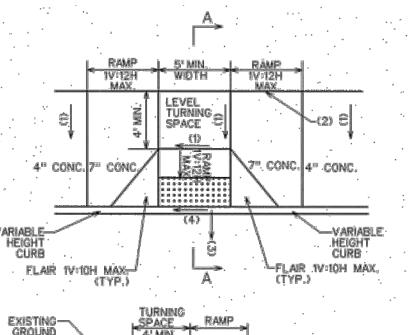
TYPE C CURB RAMP

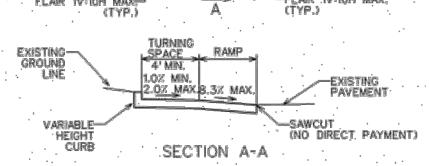
SURFACE

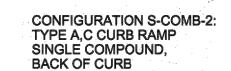
(PARALLEL) ---VARIABLE HEIGHT TYPE A CURB TYPE A CURB

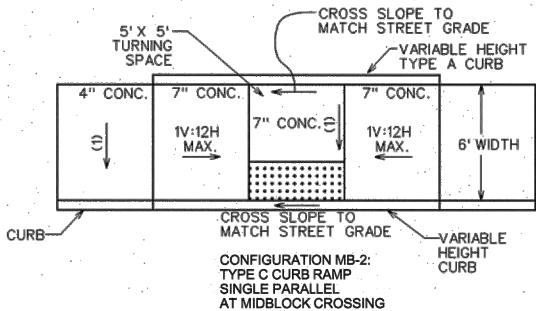
SECTION C-C

erono SECTION D-D









(2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.

TYPE D CURB RAMP

(5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.

(6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX GENERAL NOTES:

SIDEWALK AND RAMP WIDTH SHALL BE 5'MIN FOR ARTERIAL (ARS), COLLECTOR (CRS-2), AND NONRESIDENTIAL (CRS)ROADS; 4'MIN WIDTH FOR RESIDENTIAL (CRS) STREETS; 6'MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB. FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER. THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% EXCEPT WHEN MATCHING THE GRADE OF AN ADJACENT ROADWAY. A DIAGONAL RAMP IS A SINGLE CURB RAMP WHICH SERVES TWO CROSSINGS. DIAGONAL RAMPS SHALL NOT BE PERMITTED FOR NEW CONSTRUCTION OR REDEVELOPMENT PROJECTS. DIAGONAL RAMPS MAY ONLY BE USED FOR ALTERATION TYPE PROJECTS WHERE CONSTRUCTION OF SPLIT RAMPS IS NOT PRACTICABLE AS DETERMINED BY THE ENGINEER. LANDINGS, TURNING SPACES, AND CLEAR SPACES LOCATED IN THE ROADWAY MUST BE COMPLETELY CONTAINED WITHIN THE CROSSWALK. TRANSITIONS FROM SIDEWALK TO GUTTER TO ROADWAY MUST BE FLUSH DETECTABLE WARNING DEVICES ARE REQUIRED AT PUBLIC STREETS AND SIGNALIZED ENTRANCES. FOR DETECTABLE WARNING SURFACE REQUIREMENTS SEE STANDARD DRAWING C608.51 RUNNING SLOPE OF CURVED SIDEWALKS AND RAMPS SHALL BE MEASURED ON THE INSIDE EDGE OF THE CURVE, 15 FOOT RULE: THE RUNNING SLOPE FOR A CURB RAMP IS NOT LIMITED TO 8.33% MAXIMUM IF THE CONSTRUCTED CURB RAMP EXCEEDS 15 FEET IN LENGTH, THIS EXCEPTION DOES NOT APPLY TO SIDEWALK RAMPS. GRADE BREAK BETWEEN RAMP AND ADJACENT SIDEWALK MUST BE PERPENDICULAR TO THE DIRECTION OF TRAVEL. TYPE A CURB IS INCIDENTAL TO CURB RAMP CONSTRUCTION. NO ADDITIONAL PAY WILL BE PROVIDED. A CLEAR SPACE SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF ALL CURB RAMPS. THE CLEAR SPACE SHALL BE A MINIMUM OF 4 FT BY 4 FT AND RESIDE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE.

A 4'BY 4'MINIMUM TURNING SPACE SHALL BE PROVIDED AT THE BOTTOM OF ANY SINGLE RAMP WHICH SERVES MORE THAN ONE DIRECTION, REGARDLESS OF CONFIGURATION, TURNING SPACE SHALL RESIDE WHOLLY OUTSIDE OF BOTH PARALLEL VEHICLE TRAVEL LANES. A SEGMENTAL TRANSITION SHALL BE PROVIDED WHEN CONNECTING NEW PEDESTRIAN FACILITIES TO AN EXISTING ROADWAY. ALL SLOPES AND GRADES SHALL BE MEASURED WITH A CALIBRATED 2 FOOT LONG DIGITAL LEVEL. PERMEABLE PAVEMENT SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF CURB RAMPS, BLENDED TRANSITIONS, OR TURNING SPACES. ALL PROPOSED PERMEABLE PAVEMENT INSTALLATIONS SHALL REQUIRE DEPARTMENTAL

General Notes (Cont.)

10) Where a curb ramp meets the pavement, a bullnose will not be permitted.

Transition from the sidewalk to the gutter to the roadway surface must be flush. If a monolithic concrete curb is constructed, strike a dummy joint

11) Side flares of curb ramps, in the path of pedestrian travel (traversable), shall not exceed a slope of 10H:1V. Side flares outside the pedestrian path (non-traversable) may be 2H:1V slope or vertical.

12) For sidewalk locations on cul-de-sacs, refer to Pavement Construction Details (Std. Dwgs. C502.06 through C502.10). For pavement longitudinal and transverse joints and tie bar requirements and dimensions, refer to the Pavement Construction Details for "Joints and Curbs" (Std. Dwg. C502.03). For roadway cross slopes, pavement types, and thickness, refer to the necessary Standard Typical Section.

13) Landings shall be constructed at the top and/or bottom of a curb ramp wherever a turning movement or access to pedestrian push button is required, Landings located in the roadway must be completely contained within the crosswalk.

within the crosswalk.

14) Detectable Warning Surface (DWS) shall consist of a surface of truncated domes aligned in a square or radial grid pattern. The pattern shall be aligned with the edge of pavement in the direction of travel. The DWS shall extend 24 inches in the direction of travel and span the full width of the curb ramp (exclusive of flares), landing or blended transition. The DWS shall contrast visually with the ramp, landing, raised island and cut-through island surfaces, and shall be dark-on-light for light-on-dark with the approval of the engineer) (see Std. Dwg. C608.51). Truncated domes shall be aligned parallel to the running slope of a ramp, in a square grid, when installed in the direction of pedestrian travel, to permit wheels to roll between the domes. When installed on a landing or blend transition, DWS shall be aligned perpendicular or radial to the break between the ramp, landing or blended transition and the street. DWS shall be installed 6 in. to 8 in. from the face of curb (see Detail "A" on this drawing). DWS in concrete cut-through island, shall be aligned with the face of the curb of the cut-through island, shall be aligned with the face of the curb of the cut-through island (see Std. Dwg. C608.49). The Detectable Warning Surface (DWS) or Truncated Dome Mats, shall be consistent throughout the project and are required to be installed on all curb ramps at public and private street intersections; signalized entrances; and at channelized or raised islands where a curb ramp or cut-through is provided. DWS may be omitted en curb ramps adjectable warning surfaces.

15) The DWS type shall be "Cast-in-Place with Screw Anchoring" (both new and retrofit application) or "Surface Applied with Adhesive" (retrofit only), with the approved manufacturers listed on the "MoDOT Qualified Lists, Qualified Truncated Domes, FS-1067 Table 1" (also see Std. Dwg. C608.51 General Note 4). The "MoDOT Qualified Lists" are located on Internet at:

across the bottom of the ramp at the curb line.

- Concrete Curb Ramp - 12:1 Ramp Slope (Max.) \_\_\_ Truncated Dome Mat ++



EOF MIS

APRIUM

**GIESMANN** 

NUMBER

E-2001004592

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Discipline:

License No Expiration Date: April Geismann

Civil Engineer

PRINTS ISSUED

**REVISIONS:** 

SURFACE

05/11/18 - Permit Set



SHEET TITLE DETAILS

PROJECT NUMBER: 17050

SHEET NUMBER:

DRAWN BY: AMH CHECKED BY: AMG

DRAWING

C608.40

Concrete Flare (See Detail "A") Full Curb -Vertical Curb (see Std. Dag. CSSZ-03) Curb Height to Flush With Street Pavement Rolled Curb (see Std. Dag. CS02.03) Type "1" Curb Ramp Type "1" Curb Ramp (Vertical Curb - ARS, Collector & (Rolled Curb - Residential **General Notes** CRS-2 Roads Typical) \* See General Notes, Item #13 <u>Street Typical)</u> 1) Do not scale drawing, follow dimensions. 1 ft. Concrete Curb Ramp or Min. Lower Ramp Landing Min. (Width as per Approved Plans) 12 - Slope | Slope -12:1 (8.3%) , Tinch Thick Concrete 12:1 Maximum Ramp Slope Section A - A (Concrete Transition Section) Concrete Curb Ramp or 6 in. Lower Ramp Landing 6 in. (Width as per Approved Plans) Ground Line Section B - B (6 Inch Wide, Type "A" Variable Height Concrete Vertical Curb Section)

Type "2" Curb Ramp

(Vertical Curb)

Sidewalk Width 4 foot Wide (Typ. Residential),——

Sidewalk Width 5 or 6 Feet Wide (Typ.), — Per Use and Approved Plans

Concrete Ramp Concrete Curb

> All areas of the pedestrian access route must be compliant with the 'Americans with Disabilities Act Accessability Guidelines (ADAAG)'. Exceptions must be approved by the Engineer. Guidelines may be viewed online on the United States Access Board's Internet website at www.access-board.gov. It is the Contractor's responsibility to meet these guidelines. Areas of non-compliance shall be removed and corrected at the Contractor's expense. 3) The width for sidewalks shall be a minimum of 4 feet wide for residential streets and a minimum of 5 feet wide for collector or arterial roadways. The minimum width for sidewalks located adjacent to a vertical or rolled curb shall be 6 feet wide (narrow width right-of-way). Required sidewalk width will be determined during plan review and approval, and will be based on site conditions and usage. (see Standard Drawing C608.50, "Concrete Sidewalk Details") Designed ramp length may be adjusted in the field by the Contractor, as approved by the Engineer based on actual measurements of street grade, using the curb ramp length tables on drawing C608.41. 5) Ramp running slope shall be a maximum of 12:1 or 8.3%. Curb ramp landings shall have a minimum size of 4 ft. by 4 ft. (not including the truncated dome mat), with a cross slope of 1.5% (+ or - 0.5%) in any direction (Slope: 1.0% Min. to 2.0% Max.). Sidewalk cross slope shall be 1.5% (+ or - 0.5%) (Slope: 1.0% Min. to 2.0% Max.).

16) Detectable Warnings (truncated domes) shall be installed per manufacturer' recommendations and instructions (see Std. Dwg. C608.51). Truncated Domes shall span the full width of the ramp, landing or cut-through island. Stamped concrete truncated domes or grooves will not be accepted. 6) All sidewalk sections shall be 4 inches thick, except where required to be thicker such as driveway crossings, etc., as shown on other Standard Drawings or approved plans. All curb ramps, lower landings adjacent to the curb and concrete slabs containing detectable warning surface (truncated dome mat), shall be a minimum of 7 inches thick. Sidewalk joints shall be troweled or sawn with a minimum 1/2 inch depth joint. Finished sidewalk shall be a stable, slip resistant surface, and does not pond water. Pedestrian access route shall continue across driveways. 7) The running grade of a sidewalk shall not exceed 5.0% unless it is matching the grade of the adjacent roadway.

+ From Front of Curb Line ++ For Truncated Dome Mat Detail, See Std. Dwgs. C608.51

<u>Detail "A"</u>

8) Storm water inlets, signs, posts, manhole covers, pull boxes and other access lids should be avoided within the sidewalk. If such a location is necessary, the feature must meet ADA standards. Mailbox placement should also be avoided in the sidewalk. If it is necessary, use the standards shown on Standard Drawing C608.56, "Mailbox Placement Standards". Utility poles will not be allowed in the sidewalk. An accessible route must have minimum 3 foot (36 inch) clear width (ADAAG).

EPARTMENT OF HIGHWAYS AND TRAFF SIDEWALK & CURB RAMP DETAILS CONCRETE SIDEWALK AND **CURB RAMP DETAILS** (TYPES 1 & 2) 9) All sidewalk sections, bus stop pads, and landings at the top of curb ramps, shall be paid for as "Concrete Sidewalk". Curb ramps and landings at the bottom of curb ramps, shall be paid for as "Concrete Curb Ramp". No direct payment will be made for variable height curb, concrete flares, or saw cut when constructed as part of a landing or curb ramp. No direct payment will be made for pre-molded expansion joint filler with joint sealer. EVISION DATE: July 1, 2010