

**ITEM NO. RR 436
CONCRETE VALLEY GUTTERS**

436.1 Description

Construct concrete valley gutters in conformity to the lines, grades, and details indicated on the drawings or as established by the Engineer.

436.2 Submittals

The submittal requirements of this Item include:

- A. Class A concrete mix design, in accordance with Item No. 421, "Hydraulic Cement Concrete"
- B. Construction details (i.e., reinforcing steel, curing membrane, etc.),

436.3 Materials

Furnish materials conforming to:

- A. Item No. 421, "Hydraulic Cement Concrete", Class A.
Use Class A concrete or material specified on the drawings. Use Grade 8 coarse aggregate for extruded Class A concrete. Use other grades if approved.
- B. Item No. 440, "Reinforcement for Concrete", grade 60 or above. Do not use welded wire fabric for concrete reinforcement.
- C. When approved for use, TxDOT DMS-4550, "Fibers for Concrete", to replace reinforcing steel in Class A concrete. Dose fibers in accordance with TxDOT's MPL of pre-qualified fibers for concrete.
- D. DMS-6310, "Joint Sealants and Fillers", Class 4, 5, or 7 low modulus silicone sealant.
- E. DMS-4650 "Hydraulic Cement Concrete Curing Materials", Type 2.

436.4 Construction Methods

Mix, place, and cure concrete in accordance with Item No. 420, "Concrete Substructures".

A. Subgrade Preparation

Where a stabilized subbase is not provided, excavate the subgrade in accordance with Item No. 110, "Excavation" to remove all unstable or otherwise objectionable material and fill all holes, ruts and depressions with approved material.

Perform proof rolling in accordance with Item No. 210, "Rolling", to the extent indicated on the drawings or directed. Complete the roadbed to the typical sections, lines and grades shown on the drawings or as established by the Engineer to conform with Item No. 132, "Embankment".

B. Forms

Provide forms of metal, well-seasoned wood or other approved material. Provide wood forms for straight sections of not less than 2 inches nominal thickness. Use forms that are clean, straight, free from warp and of a depth equal to the thickness of the finished work. Securely stake all forms to line and grade and maintain in a true position during the placement of concrete. If necessary, provide light form oil prior to placement of concrete.

C. Reinforcing Steel

Install reinforcement to conform to the details shown on the drawings or as directed by the Engineer. Exercise care to keep the reinforcement chaired in its proper position during the placement of concrete.

D. Joints

Install joints of the type and spacing shown on the drawings. Provide expansion joint material 1/2 inch thick as shown on the drawings. Place expansion joint material vertically to extend the full depth of the concrete. Provide weakened plane joints on 10 foot centers, 1/4 inch wide and 3/4 inch deep.

E. Placement and Finishing

Place the concrete in the forms and properly consolidate until it entirely covers the surface and has a monolithic finish. Screed the top surface and float to a uniform smooth surface, and then finish with a medium broom finish. Round the outer edges of concrete with approved tools to a 1/4 inch radius.

F. Curing

Protect the surface at the proper time after finishing by placing a membrane-curing compound in accordance with DMS 4650 "Hydraulic Cement Concrete". Curing Materials and Evaporation Retardants" or by wet cotton or burlap mats. Either method will be subject to approval by the Engineer. Barricade traffic from using the concrete valley gutter for a minimum of 72 hours after initial placement or upon achieving design strength. The gutter may be opened to traffic only with the approval of the Engineer.

436.5 Measurement

This Item will be measured by the square yard of surface area of concrete valley gutter. The square yard measurement will include the reinforced monolithic curb placed at the ends of the valley gutter.

436.6 Payment

The work performed and materials furnished in accordance with this Item will be paid for at the unit price bid for "Concrete Valley Gutters". This price is full compensation for surface preparation of the subgrade and base material; equipment, labor, materials, tools, and incidentals.

Payment will be made under:

Concrete Valley Gutters Per Square Yard

Unless otherwise specified, all excavation, filling and grading of the subgrade will be considered incidental work pertaining to this item, and will not be paid for directly.

End

<u>SPECIFIC</u> CROSS REFERENCE MATERIALS
Specification Item No. 436, "P.C. CONCRETE VALLEY GUTTERS"

City of Round Rock Standard Specifications	
<u>Designation</u>	<u>Description</u>
RR 201	Subgrade Preparation
TxDOT Standard Specifications	
<u>Designation</u>	<u>Description</u>
Item No. 110	Excavation
Item No. 132	Embankment
Item No. 210	Rolling
Item No. 420	Concrete Substructures
Item No. 421	Hydraulic Cement Concrete
Item No. 440	Reinforcement for Concrete

TxDOT Department Material Specification

DMS-6310 Joint Sealants and Fillers
DMS-4650 Hydraulic Cement Concrete Curing Materials and Evaporation
 Retardants

**ITEM NO. RR 439
PARKING LOT BUMPER CURBS**

439.1 Description

Install parking lot bumper curbs for placement on gravel, asphalt and concrete surfaces as shown on the drawings.

439.2 Submittals

The submittal requirements of this Item include:

- A. Class A concrete mix design, in accordance with Item 421, "Hydraulic Cement Concrete"
- B. Reinforcing steel details.

439.3 Materials

- A. Item 421, "Hydraulic Cement Concrete", Class A.
- B. Grade 60, #3 reinforcing steel in accordance with Item 440, "Reinforcement of Concrete".
- C. All parking lot bumper curbs shall be precast. Do not use cast-in-place concrete.

439.4 Construction Methods

Provide precast concrete parking lot bumper curb, trapezoidal in cross-section, complying with the dimensions shown in Table 1, and including a minimum of two #3 bars placed in the longitudinal direction at one half of the thickness. Attach bumper curbs to the parking surface with two #4 bars, 18 inches in length. Install with bars through prefabricated anchor holes a minimum of 3/4 inches in diameter spaced a minimum of 14 inches from each end of the bumper curb.

Place parking lot bumper curbs at the locations shown on the drawings

Table 1- Parking Lot Bumper Curb Dimensions

Description	Dimension
Length	6 feet
Width (Base)	10 inches
Width (Top)	4 inches min, 5 inches max
Height	4 inches min, 6 inches max

439.5 Measurement

This Item will be measured by each bumper curb.

439.6 Payment

The work performed and materials furnished in accordance with this Item will be paid for at the unit price bid price for "Parking Lot Bumper Curbs". This is full compensation for all equipment, labor, materials, tools, and incidentals. Payment will be made under:

Parking Lot Bumper Curbs - Per Each.

End

<i>SPECIFIC</i> CROSS REFERENCE MATERIALS
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Specification Item No. 439, "PARKING LOT BUMPER CURBS"
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Texas Department of Transportation: Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges

<u>Designation</u>	<u>Description</u>
Item 421	Hydraulic Cement Concrete
Item 440	Reinforcement for Concrete

Standard Specifications Manual Change Control Record
<u>SERIES 400 – Concrete Structures and Miscellaneous Concrete</u>

CoRR Item	Title	Revision	Status	TxDOT Item	Title
401	Structural Excavation Backfill	5/21/2018	Replaced	Item 400	Excavation and Backfill for Structures
402	Controlled Low Strength Material	5/21/2018	Replaced	Item 401	Flowable Backfill
403	Concrete for Structures	5/21/2018	Replaced	Item 421	Hydraulic Cement Concrete
404	Pneumatically Placed Concrete	5/21/2018	Replaced	Item 431	Pneumatically Placed Concrete
405	Concrete Admixtures	5/21/2018	Deleted	-	Refer to applicable Specification Item and DMS 4640 Chemical Admixtures for Concrete
406	Reinforcing Steel	5/21/2018	Replaced	Item 440	Reinforcement for Concrete
407	Fibrous Concrete	5/21/2018	Deleted	-	Refer to Applicable Specification Items and DMS-4550 Fibers for Concrete
408	Concrete Joint Materials	5/21/2018	Replaced	Item 438	Cleaning and Sealing Joints and DMS-6310 Joint Sealants and Fillers
409	Membrane Curing	5/21/2018	Deleted	-	Refer to Applicable Specification Items and DMS-4650 Hydraulic Cement Concrete Curing Materials and Evaporation Retardants
410	Concrete Structures	5/21/2018	Replaced	Item 420 Item 422	Concrete Substructures Concrete Superstructures
411	Surface Finishes for Concrete	5/21/2018	Replaced	Item 427	Surface Finishes for Concrete
413	Cleaning and/or Sealing Joints and Cracks (Portland Cement Concrete)	5/21/2018	Replaced	Item 713	Cleaning and Sealing Joints and Cracks (Concrete Pavement)

City of Round Rock
 DACS Update

414	Concrete Retaining Walls	5/21/2018	Replaced	Item 423	Retaining Walls
416	Waterstops	5/21/2018	Deleted		Refer to applicable Specification Items and DMS-6160 Water Stops, Nylon Reinforced Neoprene Sheet, and Elastomeric Pads
420	Drilled Shaft Foundations	5/21/2018	Replaced	Item 416	Drilled Shaft Foundations; use of belled drilled shafts will be discontinued
424	Prestressed Concrete Planks	5/21/2018	Replaced	Item 424 Item 425	Precast Concrete Structural Members (Fabrication); Precast Prestressed Concrete Structural Members
425	Prestressed Concrete Structures	5/21/2018	Replaced	Item 424 Item 425	Precast Concrete Structural Members (Fabrication); Precast Prestressed Concrete Structural Members
430	P.C. Concrete Curb and Gutter	5/21/2018	Replaced	Item 529	Concrete Curb, Gutter and Combined Curb and Gutter
431	Machine Laid PCC Curb and Gutter	5/21/2018	Deleted	Item 529	Concrete Curb, Gutter and Combined Curb and Gutter
432	P.C. Concrete Sidewalks	5/21/2018	Replaced	Item 531	Sidewalks
433	P.C. Concrete Driveways	5/21/2018	Replaced	Item 530	Intersections, Driveways, and Turnouts
434	P.C. Concrete Medians and Islands	5/21/2018	Replaced	Item 536	Concrete Medians and Directional Islands
435	P.C. Concrete Steps	5/21/2018	Deleted	-	-
RR 436	P.C. Concrete Valley Gutters	5/21/2018	Revised 5/1/2018	-	-
438	Elastomeric Materials	5/21/2018	Replaced	Item 434	Bridge Bearings
RR 439	Parking Lot Bumper Curbs	5/21/2018	Revised	-	-
461	Trash and Litter Coffins	5/21/2018	Deleted	-	-
470	Curb Cuts for Sidewalk Ramps and Driveways	5/21/2018	Deleted	-	-
480	Concrete Paving Units	5/21/2018	Replace	Item 528	Colored Textured Concrete and Landscape Pavers
485	Concrete Paving Units for Sidewalk Ramps	5/21/2018	Deleted	-	Refer to Item 531 Sidewalks, Design Standard Drawing "Pedestrian Facilities Curb Ramps" and DMS-4350 "Detectable Warning Material"