

1 When barrier is being constructed near traffic, do not start installation of the precast concrete
 2 barrier until all components are prepared for a complete continuous installation, including the
 3 guardrail and guardrail anchors approaching the barrier. Once work has begun on a barrier
 4 installation, continue the work to its completion unless weather or other conditions beyond the
 5 control of the Contractor interfere with the work.

6 Use any of the several alternate delineator types for barrier shown in the plans, but only one
 7 delineator type for barrier at any one time throughout the project.

8 The delineators consist of a reflector and base or casing. Attach the delineator to the barrier
 9 as shown in the plans. Only one attachment position will be permitted throughout the project
 10 length.

11 Position delineators perpendicular to the centerline of the road. Use yellow delineators in the
 12 median and on the left side of one-way ramps, loops or other one-way facilities. Use crystal
 13 delineators on the right side of divided highways, ramps, loops and all other one-way or
 14 two-way facilities. In all cases, the color of the delineator shall supplement the color of the
 15 adjacent edgelines.

16 **857-4 MEASUREMENT AND PAYMENT**

17 There will be no measurement made of barrier delineators as they are incidental to the other
 18 pay items in this specification.

19 *Precast Reinforced Concrete Barrier, Single Faced* will be measured and paid in linear feet of
 20 barrier that has been completed, placed on the road and accepted. Measurement will be made
 21 along the top surface at the centerline of the barrier with no deduction made for joints. Price
 22 includes, but is not limited to, furnishing and placing concrete and reinforcing steel,
 23 transporting and placing precast units, grout, joint filler, hardware, galvanizing, constructing
 24 joints and furnishing and installing barrier delineators.

25 *Concrete Barrier Transition Section* will be paid in accordance with Section 854.

26 Payment will be made under:

Pay Item	Pay Unit
Precast Reinforced Concrete Barrier, Single Faced	Linear Foot

27 **SECTION 858** 28 **ADJUSTMENT OF CATCH BASINS, MANHOLES, DROP INLETS,** 29 **METER BOXES AND VALVE BOXES**

30 **858-1 DESCRIPTION**

31 Raise or lower existing catch basins, manholes, drop inlets, meter boxes and valve boxes
 32 encountered within the limits of the project to match the adjacent finished work.

33 **858-2 MATERIALS**

34 Refer to Division 10.

Item	Section
Asphalt Plant Mix	1020
Brick	1040-1
Concrete Block	1040-2
Curing Agents	1026
Joint Fillers	1028-1
Joint Sealers	1028
Mortar	1040-9
Portland Cement Concrete, Class B	1000
Precast Risers	1077

Section 858

Item	Section
Reinforcing Steel	1070
Steps	1074-8

1 858-3 CONSTRUCTION METHODS

2 Perform the adjustment with brick masonry, block masonry or Portland cement concrete on
3 existing walls in accordance with Subarticle 840-3(C).

4 Adjust manholes, meter boxes and valve boxes as provided above by using approved fittings.
5 When fittings are used, leave the existing walls in place and securely attach the fittings to the
6 existing walls or install in a manner that will eliminate movement of the fitting.

7 Backfill excavated areas in an existing pavement with Portland cement concrete. High early
8 strength concrete may be used. Wait at least 72 hours after the placement of the concrete
9 before placing any surfacing or resurfacing material over the concrete. This time period will
10 not be required where the strength of the concrete is at least 2,500 psi as evidenced by
11 nondestructive tests made in place by a rebound hammer in accordance with ASTM C805.
12 Thoroughly compact backfill of other excavated areas.

13 In areas to be opened to traffic, construct a temporary ramp of asphalt plant mix 360° around
14 the adjusted structures within one calendar day after completing the adjustment. Construct
15 the ramp with a tapered slope of not less than one foot per inch of height in traffic sections
16 with a speed limit of less than 35 mph and 1.5 ft per inch of height to a maximum of 3 ft from
17 the structure in traffic sections with a speed limit of 35 mph or higher. Construct the ramp
18 using any type of asphalt surface course plant mix meeting the requirements of any job mix
19 formula issued by the Department for a Department project. Compact to an approved density.

20 Place bituminous plant mix flush with the top of the raised structure within 7 days after
21 raising the structure.

22 Make the adjustments before the final layer of surfacing material is placed in areas to be
23 surfaced or resurfaced. Salvage and reuse existing frames, grates, manhole covers, rings,
24 meter boxes and valve boxes in the adjustment.

25 858-4 MEASUREMENT AND PAYMENT

26 *Adjustment of Catch Basins* will be measured and paid in units of each for catch basins
27 satisfactorily adjusted.

28 *Adjustment of Drop Inlets* will be measured and paid in units of each for drop inlets
29 satisfactorily adjusted.

30 *Adjustment of Manholes* will be measured and paid in units of each for manholes satisfactorily
31 adjusted.

32 *Adjustment of Meter Boxes or Valve Boxes* will be measured and paid in units of each for
33 meter boxes or valve boxes satisfactorily adjusted.

34 Where any catch basin, drop inlet, manhole, meter box or valve box is adjusted more than
35 once because of milling operations, multiple adjustments will be counted as one adjustment.

36 Where a catch basin, manhole, drop inlet, meter box or valve box is raised more than 2 ft, the
37 number of linear feet exceeding 2 ft that such structure has been raised will be measured and
38 paid per linear foot as provided in Article 840-4 for *Masonry Drainage Structure*.
39 Measurement will be made by subtracting the elevation at the highest point of the original
40 structure from the elevation at the highest point of the adjusted structure and then subtracting
41 2 ft from the results.

1 Such price includes, but is not limited to, excavation and backfilling, removal of a portion of
 2 the existing structure, brick masonry, mortar, grout, concrete, reinforcing steel, fittings,
 3 furnishing and hauling asphalt plant mix and any other materials and placing, maintaining,
 4 removing and disposing of traffic ramps.

5 Payment will be made under:

Pay Item	Pay Unit
Adjustment of Catch Basins	Each
Adjustment of Drop Inlets	Each
Adjustment of Manholes	Each
Adjustment of Meter Boxes or Valve Boxes	Each

6 **SECTION 859**
 7 **CONVERTING EXISTING CATCH BASINS, DROP INLETS AND**
 8 **JUNCTION BOXES**

9 **859-1 DESCRIPTION**

10 Convert existing catch basins, drop inlets and junction boxes to catch basins, drop inlets or
 11 junction boxes, including all necessary construction and reconstruction in accordance with the
 12 contract.

13 **859-2 MATERIALS**

14 Refer to Division 10.

Item	Section
Brick	1040-1
Concrete Block	1040-2
Curing Agents	1026
Joint Fillers	1028-1
Joint Sealers	1028-3
Mortar	1040-9
Portland Cement Concrete, Class B	1000
Reinforcing Steel	1070
Steps	1074-8
Stone, No. 78M	1005
Structural Steel	1072

15 **859-3 CONSTRUCTION METHODS**

16 Perform work in accordance with Article 840-3 and the details shown in the plans. Raise or
 17 lower the existing catch basins and drop inlets as required by the plans and provisions.

18 **859-4 MEASUREMENT AND PAYMENT**

19 *Convert Existing Catch Basin to Junction Box* will be measured and paid in units of each
 20 drainage structure that has been acceptably converted.

21 *Convert Existing Catch Basin to Drop Inlet* will be measured and paid in units of each
 22 drainage structure that has been acceptably converted.

23 *Convert Existing Catch Basin to Junction Box with Manhole* will be measured and paid in
 24 units of each drainage structure that has been acceptably converted.

25 *Convert Existing Drop Inlet to Junction Box* will be measured and paid in units of each
 26 drainage structure that has been acceptably converted.

27 *Convert Existing Drop Inlet to Catch Basin* will be measured and paid in units of each
 28 drainage structure that has been acceptably converted.