GENERAL STRUCTURAL NOTES:

CONSTRUCTION SPECIFICATIONS

All construction shall be in accordance with the City of Tuscan/Fline County Standard Specifications for Public Improvements, 2003 Edition.

DESIGN SPECIFICATIONS


DESIGN LOADING

Live Load: AASHTO HL-93

CONCRETE

1. All concrete shall be Class 7 unless noted otherwise with a minimum 28 day compressive strength of 3500 psi.

2. Concrete shall not be dropped more than four feet vertically.

3. Mechanically vibrate all concrete when placed except slabs on grade, 4 inches or less. In thickness, need be vibrated only at areas of reinforcement, thickened areas and adjacent to penetrations.

4. Concrete footings and pads may be poured against near excavations, provided plain dimensions are adhered to.

5. All reinforcing bars, dowels, anchor bolts, and other concrete inserts shall be secured in position prior to placing concrete.

6. Openings, pockets, etc., shall not be placed in concrete slabs, walls, beams, joists, columns, etc., unless specifically detailed on the structural drawings. Notify the Structural Engineer, prior to construction, when drawings by Others show openings, pockets, etc., which are not shown on the structural drawings, but which are thought to be required in structural members.

7. Conduit, Plumbing, etc. shall not be cast in concrete unless specifically indicated on the Structural Drawings.

8. Provide sleeves for plumbing and electrical openings in concrete prior to placing concrete. Do not cut any reinforcing which may conflict. Coring of concrete is not permitted. Notify the Engineer in advance of construction of conditions not shown on drawings.

9. Backfill material shall not be placed against any cast in place concrete structures until the concrete has developed its full design strength.

10. Once the hole is made for dowel, before placing epoxy, the hole shall be free of the loose material and cleaned with high pressure air.

REINFORCING STEEL

1. All reinforcing steel shall be detailed and placed in conformance with the City of Tuscan/Fline County Standard Specifications for Public Improvements and as modified by the Drawings.

2. Reinforcing bars shall conform to the requirements of ASTM A-615, Grade 60 for all bars and the requirement of Section 2003 of the City of Tuscan/Fline County Standard Specifications for Public Improvements.

3. Reinforcing steel to be welded, where approved by the Engineer, shall conform to ASTM A500.

4. Dowels between footings and walls shall be the same grade, size, spacing and number as the vertical reinforcing above.

5. All reinforcing bar bends and hooks shall be C.R.S.I. Standard or unless specifically noted otherwise on Structural Drawings.

6. All bend dimensions for reinforcing steel shall be cut-to-cut of bars. All placement dimensions for reinforcing steel shall be center-to-center of bars unless noted otherwise.

7. All reinforcing steel to be 2" clear cover unless noted otherwise.

8. Provide minimum lap length as follows:

   - 6 bars = 1'-9"
   - 6 bars = 2'-0" each Face

STRUCTURAL STEEL

1. All structural shapes and plates shall conform to ASTM A36 (Fy=36,000 psi), unless noted otherwise.

2. Anchor bolts and plain or threaded bars and anchors shall conform to ASTM A325.


4. All steel used for the steps shall conform to ASTM A-36 and steel to be hot-dip galvanized after fabrication in accordance with ASTM A-123.

DIMENSIONS

1. Contractor shall verify all dimensions and conditions at job site before commencing work and shall report any discrepancies to the Engineer.

2. Omissions or conflicts between the various elements of the drawings, notes and details shall be brought to the attention of the Engineer and resolved before proceeding with the work.

3. Do not use scaled dimensions, use written dimensions or where no dimension is provided, consult with the Engineer for clarification before proceeding with the work.

4. All exposed corners shall be formed with ½" chamfer unless noted otherwise.

5. Shop Drawings

   - Shop Drawings are to be submitted to the Engineer for review and compliance with the contract documents prior to fabrication, installation or commencement of the work. Portions of the work which require shop drawings include but are not limited to the following:
     - Concrete Mix Designs
     - Bill of Reinforcing and Layout
     - Insat Frame and List
     - Metal Shop
     - Miscellaneous Metals and Bolts
     - Bolt/Casting/Installation Details

6. All Junction structures shall be paid for under bid Item No. 5030000

   - Junction Structure, Manhole, Manhole Cover

   - Cost associated with pipe penetrations & steel rungs shall be considered incidental to the structure.

7. Plan View

   - TYP. PIPE PENETRATION DETAIL

   - No Scale

   - TYP. SECTION AT CORNERS OF JUNCTION STRUCTURE

   - No Scale

8. Steel Run Details

   - ½" x 1'-0" x 1'-0" x 1'-0"

   - 3/4" Round Bar

   - Face of Wall

   - SECTION

   - As Noted

   - Sheet DD01 of 206

   - Page 136 of 213
Notes:

1. For General Notes, see Sheet D001.

2. For Storm Drain frame and cover, see PC/DOT Std. Detail 304.

3. For additional corner reinforcement of Junction Box walls, see General Notes, Detail 2, Sheet D001.

4. For additional reinforcement around CMP, see General Notes, Detail 1, Sheet D001.

5. Contractor shall verify RCBC & CMP's location & elevations before construction.

6. Contractor shall notify the Engineer if elevation of existing RCBC is different from what is shown on the Plans for adjustment of Junction Box bottom side.

Scale: As Noted  Sheet DD02 of DD06 Page 137 of 271
Elevation 2592.55

Elevation 2592.55

Notes:

1. For General Notes, see Sheet D001.
2. For Storm Drain Frame & Cover, see PC/DDT Std. Detail 304.
3. For additional corner reinforcement of Junction box walls, see General Notes, Detail 2 Sheet D001.
4. Contractor shall verify location & elevation of existing 42" CMP before construction.
5. Contractor shall notify the Engineer if elev. of 72" CMP is different than what is shown on the plans for adjustment of junction box bottom slab.
6. For additional reinforcement around 42" CMP, see General Notes, Detail 1 Sheet D001.
Notes:
1. For General Notes, see Sheet D001.
2. For Storm Drain Framing & Cover, see PC/D07 Std. Detail 304.
3. For additional corner reinforcement at junction box walls, see General Notes, Detail 2 Sheet D001.
4. For additional reinforcement around CMP & RCP, See General Notes, Detail 1 Sheet D001.
5. Contractor shall verify location & elevation of existing 72° CMP before construction.
6. Contractor shall notify the Engineer if elev. of 72° CMP is different than what is shown on the plans for adjustment of junction box bottom slope.
7. *° Elevation and dimensions are given at face of junction box walls (East or West walls).
SECTION A-A
(FLOW THROUGH CATCH BASIN
SINGLE WING WALL)

CB  | Station  | Offset  | W
--- | -------- | -------- | ---
6   | 42+50    | 43.0' OL | 2'-5"
4   | 42+50    | 46.0' RR | 4'-0"
7   | 42+02    | 46.0' RR | 4'-0"
12  | 42+60    | 43.0' OL | 2'-5"
14  | 43+59    | 43.0' RR | 2'-9"
22  | 44+27    | 42.0' RR | 2'-9"
35  | 47+48    | 57.0' RR | 4'-0"
36  | 47+50    | 60.7' RR | 2'-9"
39  | 47+65    | 61.0' RR | 2'-9"

NOTES:
1. For Reinforcing In Roof Slab and Catch Basin Walls, See PC/COT Std. Bk. 306.
3. All Type 3 Catch Basins with Modified Wings shall be built under bid item No. 5230778
   Catch Basin (Special No. 3).

DETAIL DD05
TYPE 3 CATCH BASIN
WITH MODIFIED WING
NOTES:
1. Refer to Standard Details 308 & 309 for Apron Depression and Construction Notes.
2. Shanklings for Catch Basin Located at Center of Sump of Curb Horizontal Control Point.
3. Cost Associated with this Detail shall be considered Incident to the Cost of the respective Catch Basin Plan Item.

LEGEND:
- Normal Pavement or Flow Line Elevation
- Inlet Elevation
- Straight Grade with Downward Slope

EXTRACTION 0 to 2592x1584
**DETAIL DD10**

**MODIFIED CATCH BASIN**

1. All Type 3 Catch Basins with Modified Wings shall be Poured Under Bid Item No. 5030775 Catch Basin (Special No. 1).

**SECTION A-A**

CB-33
STA 468+54 (43.2' RT)

*See General Note No.8 PC/CAT Std. Dth. 306

**NOTES:**

1. **ROUGH RIPRAP PROTECTION FOR INLETS, OUTLETS, HEADWALLS AND CATCH BASINS**

2. All Rock Riprap shall be Apache Brown.

3. Rock Riprap for erosion control shall be angular shaped, crushed rock materials, medium size=6", minimum size=4", and maximum size=8".

4. Embed rock within traffic recovery area/clear zone into the finished grade so that any portion of the rock above the grade will be less than 4" in height.
SECTION A-A

NOTES:
1. All Concrete Shall be 1" = 3000 psi
2. All Work Shall be In accordance with PC/COT Std. Specifications
3. All Reinforcing Steel Shall be Grade 40 or 60 and Steel Shall be In accordance with ASTM A 36
4. Grating Units Shall be Neenah R-3233 Type A Grates Or Approved Equal. Metal Frames Shall be Fabricated Per Details 1 & 2. Manufacturer’s Dimensions may vary.
5. All Welding Shall be In accordance With Standard Welding Specifications
6. All Grates and Frames Are to Remain Bolted or Welded together During Installation
7. Trench Drain to be Paved Under Bid Item No. 5030201

DETAIL 2
STEEL ANGLE GRATE FRAME
MITERED AND WELDED AT CORNERS
N.T.S.

DETAIL DD12
TRENCH DRAIN

SECTION B-B
SUMP WALL DETAIL
N.T.S.

SECTION C-C
SIDE WALL DETAIL
N.T.S.

DETAIL 1
NEENAH R-3233 TYPE A GRATE
OR APPROVED EQUAL
N.T.S.
**NOTES:**

1. See ADOT Std., Ch. C-13.60 For Additional Slot Drain Details.
2. Slot Drain to be Piled Under Bid Item No. 50350020 Pipe, Slot, 18" Diameter.

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**DETAIL DD13**

**SLOTTED DRAIN**

**SLOTTED DRAIN AT DRIVEWAY**

NOTES:

1. See ADOT Std., Ch. C-13.60 For Additional Slot Drain Details.
2. Slot Drain to be Piled Under Bid Item No. 50350020 Pipe, Slot, 18" Diameter.

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**DETAIL DD14**

**CONNECTION TO EXISTING STRUCTURE**

NOTES:

1. Saw Out Opening In Manhole or Box Culvert Wall For New Pipe Connection, Form Up Inside Wall of Structure and Pour Concrete Collar.
2. See ADOT Std., Ch. C-13.80 For Additional Pipe Collar Details.
3. Cost Associated with this Detail Shall be Considered Incidental to the Cost of Pipe.

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**DETAIL DD15**

**CONCRETE APRON**

NOTES:

1. See PCDOT Std., Ch. 309 For Additional Concrete Apron Notes and Details.
2. Concrete Apron to be Piled Under Bid Item No. 6000720.
3. Riprap (Dumped) to be Piled Under Bid Item No. 9300001.
4. Grate to be considered Incidental to the Cost of the Box Culvert.
NOTES:
2. Headwall, Wingwall, and Apron to be Paid Under Bid Item No. 6015087 Concrete Headwall.
NOTES:
1. Headwall, Wingwall and Apron shall be ADOT Std. B-11.14 Modified as shown.
   See ADOT Std. B-11.14 for Additional Information.
2. Headwall, Wingwall, and Apron to be Field Under Bid Item No. 60169RT Concrete Headwall.

DETAIl DD17
MODIFIED INLET HEADWALL
AND WINGWALL
APPRAOCH PAVEMENT MARKING QUANTITIES

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ALL PAVEMENT MARKING LENGTHS ARE 4" EQUIVALENT QUANTITIES

Mogollón Rd.
Westbound Lanes

Verde's

Eastbound Lanes

TAMAGUE ROAD TYPICAL PAVEMENT MARKING DIMENSIONS

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<th>PATTERN</th>
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LINE STYLE DESIGNATION

SEE 2008 PINA COUNTY AND CITY OF TUCSON PAVEMENT MARKING DESIGN MANUAL FOR FURTHER DESCRIBITIONS.